



Soap For Hope

Touching a Child's life one Bubble at a Time

On behalf of John and Shelley Allison,
the EnviroSpec team, and all of our little campers
we would like to take a moment to say...



...THANK YOU! THANK YOU! THANK YOU!

What is Soap for Hope?

When you purchase anything from EnviroSpec you have helped to put a smile on the face of a child who has a serious illness or care for an abused and/or hungry animal with no home.

EnviroSpec Donates 100% of the Profits
from **ALL CHEMICAL SALES** to Charities such as the ones listed below.

Meet Suzie, who inspired
John & Shelley Allison's latest project,
Suzie's Friends.

Suzie lived on her own with a dislocated leg for over 2 years until she was rescued by John and Shelley. When they found her it was too late to save the leg but just in time to make sure that the rest of Suzie's life was a little easier than her first 3 years.

When once she was dragging her leg trying to find something to eat or a warm place out of the rain and cold and living every moment of her life in pain, Suzie now lives the life that every animal dreams of.

Won't you please help a stray. Their love is unconditional.



Suzie's dream is to provide a Special Sanctuary where the hungry are fed, the homeless are sheltered, and the abused and abandoned are provided care.

Through your purchases, you are making her dream come true.

Suzie's Friends...
...thank you so much.

\$300,000.00 is our Goal in 2004 for

Soap for Hope Charities

•The Hole in the Wall Gang Camp in Ashford, Connecticut

Since opening in 1988, this nonprofit residential summer camp, founded by Paul Newman, has been a place where children with cancer or other serious blood diseases do not have to sit on the sidelines. Over 1,000 children from 7 to 15 years old come each year, free of charge, from across the United States and abroad

"It occurred to me how rewarding it might be for us of privilege if we were able to provide some few weeks for these young people where they could be together, establish a common bonding under the umbrella of an old-fashioned camp experience..." - Paul Newman"

It couldn't have been said better. Now could it?

•The Shriner's Hospital for Children in Tampa, Florida

Shriners Hospitals for Children is a network of 22 hospitals across North America providing expert medical care at no cost to children with orthopedic conditions, burns and spinal cord injuries. The Tampa Shriners Hospital, located on the University of South Florida campus, is a 58-bed facility that has treated over 26,000 patients with orthopedic problems since opening in 1985.

•Suzie's Friends, Inc. in Homerville, Georgia

The mission of Suzie's Friends is to provide a special Sanctuary in Homerville, Georgia where the hungry are fed, the homeless are sheltered, and the abused and abandoned are provided care. Suzie's Friends is for both Fidos and Felines alike who are less fortunate than other pets. No, the pictures that we see are not of "Princess" on a pillow with a diamond studded collar. Our babies are wandering the streets looking for a bite to eat, or lying in a ditch on the side of the road starving to death or bleeding as a result of abuse & neglect.

Everyone should have a favorite charity!

We think these programs are great candidates to become yours!

For more information visit our website! www.envirospec.com

CHEMICAL INDEX

PRODUCT	DESCRIPTIVE INFO	PAGE
BOND BREAKER	"Film Free" Truck Wash, Will not "dull surface"	86
CITRA-SOLV	Citrus Degreaser	88
DECK & SHAKE	Brightening Agent of Aged Wood	95
DETERGENT SCENTS	Add Scent to Detergents	89
EMULSIFIER PLUS	House Wash Detergent that is Bleach Friendly	91
GLASS DE-ETCH	Remove Etches from Glass Caused by Acids & Caustics	93
HOOD-PRO	Exhaust Hood Cleaner, Non-Caustic, #1 with the Pros	87
INTERFACE "9000"	Detergent "Horsepower" Additive	87
LIMONENE	Industry's #1 Selling House Washing with Citrus Solvents	90
MR. MUSCLE	Truck Wash, for Exhaust Carbons with Gloss Enhancers	84
NEVER DULL	Truck Wash, Aggressive Citrus Cleaner (buffered)	83
NITRO	Truck Wash, Awning Cleaner	86
OIL BUSTER	"Oil-Eating" Additive for Detergents	88
PERFORMANCE BUILDER	Ingredients so you can make your own Caustic Cleaner	88
PLEX-MASTER	Gloss Enhancing Surface Sealant	90
POWER STROKE	Concrete Cleaner for Sidewalks and Garage Floors	94
PREMIER	House Washing, Non-Solvent, Gloss Enhancers	91
PrepEZZ	Pre-Paint Surface Preparation Detergent	94
PRO BLEND	Car Wash with Gloss Enhancer	85
PRODIGY	Industry's #1 Selling Truck Wash with Gloss Enhancers	84
RELEASE	Truck & Bus Wash, Solvent Base	92
RESTORE	Deck & Wood Rejuvenator (oxygenator)	92
RIPPER	Gutter Streak Remover	91
RUST-A-WAY	Rust Remover from Concrete	95
SCUM BUSTER	Glass Cleaner. Polishing Type	93
SIL-O-WET	Sealant, House Exterior, High Yield	89
SPEED-X "777"	Rinse Aid, Cuts Rinse Time by 80%	93
VIPER	Truck Wash with Butyl	85

SAVE AN ADDITIONAL 10%

as a

PREMIER CUSTOMER

A **PREMIER CUSTOMER** is one who purchased at least \$150.00 worth of EnviroSpec Chemicals during the month.

Example: On January 1 you purchase \$150.00 in chemical and \$500.00 in parts. Your Account will be "TOGGLED ON" and you will receive an additional 10% off of the entire first sale and every other sale for the month.

(sale items and equipment excluded)

do you... Soap for Hope?



"Cosmo" & "Kramer"

PLEASE, PLEASE, PLEASE,

Please help up avoid any misunderstanding and hard feelings by reading Our Policies

AND PLEASE DON'T YELL AT US IF YOU CHOOSE NOT TO READ OUR POLICIES!

It is the
Consumers Responsibility
to provide the
CUSTOMER SERVICE REP
with the
CORRECT PART NUMBER

Remember, if you don't know what you want, the best we can do is guess right along with you. We will do everything humanly possible to help you when you have a question - but you can not hold us responsible if you ask for our help and we make a mistake. With our intense and constant training programs we feel our Customer Service Reps know as much or more about our industry than do those of our competition. However, keep in mind that YOU are the PROFESSIONAL and you should know your equipment better than anyone. If you do need assistance and would like to talk directly to our Technical Service Advisor or the Manufacturer of a particular item before ordering, please ask your Customer Service Rep for their extension or phone number. And try and remember when I was a Mobile Washer there was no such thing as an "800" number to call to get a question answered. I had to figure it out for myself and today I am glad I did. Learn your equipment. It will make you a stronger professional.

Did you know...
One female cat and
her offspring
can produce
420,000 CATS
in 7 years?
please Spay/Neuter

DISCLAIMER

Some of the pictures within this catalog are for illustration purposes only. Be sure and ask your sales representative if the item in question is represented by the picture herein. EnviroSpec reserves the right to limit quantities of any item(s) in this catalog. Prices are subject to change without notice. It is the purchasers responsibility to order by part number and to ask the sales representative to read back the order along with the current pricing and availability. This catalog is for the sole intent to sell to industry professionals only and possession of this catalog or any marketing material from EnviroSpec does not necessarily mean that we will be able to sell to you.

RESTOCKING CHARGE

Any item that is ordered incorrectly and is returned to EnviroSpec with-in 45 days of purchase and in a "not used" or "not installed" condition and where the credit is to remain on the customers account for future purchases will be credited at full purchase price. If the item in question is to be credited back to the customers credit card it will be done so less a 20%. If payment was made by check we will hold a credit in the customers account. Any credit held in a customers account must be used in it's entirety when the customer places his/her next order. Remember, Items must be returned pre-paid to EnviroSpec and must be in un-used condition and showing no signs of mounting and/or installation.

RETURNS

Items ordered and not returned within **45 days** from the original order date or items ordered that are not in our catalog **ARE NOT** returnable. If you are ordering an item that is not in our catalog and would like to talk to the manufacturer first we will gladly give you their phone number. Just ask!

TERMS

EnviroSpec accepts Master Card, VISA, Discover, and AMEX. In addition, we also offer Check by FAX. Further, we also make available to our customer "Wire Transfer" of funds from your bank account to ours. This is especially helpful when you are trying to expedite an order.

WARRANTY

All items sold in this catalog are **NEW** and not refurbished or used components. EnviroSpec does not warranty any item in this catalog except those that are manufactured by EnviroSpec. All warranties are presented to the buyer by the original manufacturer and must be returned, pre-paid, to said manufacturer for evaluation and adjustments. All returned items must be accompanied by an "RGA" (Returned Goods Authorization) which EnviroSpec will obtain for you from the manufacturer. EnviroSpec **WILL NOT** send out replacement item(s) on a "no-charge" basis while the manufacturer is evaluating a returned item. If you need an immediate replacement you will have to purchase said replacement. However, you must understand that all items are covered by a "repair" or "replace" warranty and you could wind up with two of the same items. *We like to call them "spares".*

EQUIPMENT PURCHASES

If you purchase a Pressure Washer or Hot Water Heater you do so under the same terms and conditions that a Pressure Washer Distributor would purchase said equipment. Simply put, we **DO NOT** provide any labor warranty but only a warranty on Parts and Components that go into the make-up of the final product. Also, you **MUST UNDERSTAND** that in shipping large equipment that nuts, bolts, components, etc. may work loose and adjustments may have to be made prior to using the equipment. If you indicate to us that you are familiar with the equipment so you will be able to take advantage of the Discounts and you find yourself needing a Pressure Washer Distributor in your area to make adjustment or repairs for you - you will not be entitled to ANY labor reimbursement.

Remember, you must be able to work on your equipment or you should buy from a distributor.

What it boils down to is...

...we can't fix equipment over the phone.

1-800-346-4876
VISA, AMEX,
Master Card,
Discover, Check by FAX

You can tell your customer that ALL the Profits from the Chemicals that you use go to help fund Children's Charities such as the Shriners Hospital for Children.

TABLE OF CONTENTS


Description	Page	Description	Page	Description	Page
Ball Valves	11	Hose Reels	9	Safety Engine Shut-down	22
Battery Box	22	Hose Whip	1	Safety Pressure Relief	3, 4
Battery Selector, 2-Way	22	Hose, Chemical	10, 11, 18	Sand Blast Equipment	15
Battery Terminals	22	Hose, Jumper	10	Sewer Jetting Hose	10
Blow Out Valve	27	Hose, Pressure	10	SHURflo Pumps	18
Brass Fittings	25	Hose, Unloader By-pass	4	Sight Glass, Pump	29
Burner Motor	23	Hudson Float Valve	13	Siphon Pumps	11
Burner Relay	23	Ice Walkers	14	Slide Handle, Lance	7
Burner Soot Remover	23	Injectors, Chemical	12	Solenoid, Gas Engine	22
Burner Transformer	24	Jetter Valve	27	Soot Remover	23
Burner, Complete	23	Jumper Hose	10	Speedmatic Engine Idle Down	22
Brush	14	Key-way Stock	22	Spray Flex Wand	15
Bushings & Pulleys	28	Kohler Engines	21	Sprayers, Pump-up	19
Burst Disc	4	Lance Saver Quick Connects	7	Stainless Steel Fittings	25, 26
Carts, Pressure Washer	20	Lance, Dual	7	Starter Solenoid	22
Check Valve	16	Lances, All	7	Steam Valve	16
Chemical Injectors	12	Laser Deck	16	Steel Eagle	16
Chemical Metering Valve	11, 16	Lid Remover	14	Switch, On-Off Burner	23
Chemical Mixers	14	Metering Valve, Chemical	11, 16	Switch, Press, Flow, Vac	23
Chemical Pumps	17, 18	Mixers, Chemical	14	Swivel, High Pressure	11
Chemical Spray Nozzle	18	Motor, Burner	23	Swivels, Hose Reel	9
Chemical Tanks	18	Mounting Blocks	4, 30	Tachometer, Engine	22
Chemical Trigger Guns	17, 18	Nozzle Caddy	5	Tank, Chemical	18
Clutch, Pulley	28	Nozzle Chart	5	Tank, Plastic Float	13
Coils, Replacement Burner	27	Nozzle Holders	5	Tape, Teflon - Electrical	14
Concrete Cleaning Equipment	16	Nozzle, Burner	24	Teflon Tape	14
"Couplers, ""QC""	8	Nozzle, Burner	30	Telescoping Wand	7
Dirt Killer Nozzle	6	Nozzle, Chem Spray	18	Temperature Gauge/Tester	1
Drill Mixers	14	Nozzle, Hi-Lo	6	Terminator, Engine	22
Drum Wrench	14	Nozzle, Thruster	12	Tester, Burner Transformer	24
Dual Lance	7	Nozzle, Turbo	6	Tester, Pressure	1
Easy Start Valve	22	Nozzles, Pressure & Soap	5	Tester, Pump Head Pressure	27
Electrical Tape	14	Oil, Pump	29	Thermal Relief Valve	3
Engine Terminator	22	Oil Drain Plug	22	Thermostat, Burner	24
Engines, Honda - Kohler	21	O'ring Pick	8	Throttle Control	22
Exhaust Hood Tools	15	O-Rings, Quick Connect	8	Thruster Nozzle	12
Filter, Burner Fuel	24	Packing Insertion Kit	29	Tiny Tach	22
Filter, High Pressure	6	Pick, O'Ring	8	Transformer, Burner	24
Filters, Chemical	12	"Plugs, ""QC""	8	Trigger Jet Guns	17, 18
Filters, Water	13	Polybraid Tubing	10, 12	Tubing, Polybraid	10, 12
Fittings, Brass, Stainless, H.D	25, 26	Power Broom	15	Tune-up Kits, Burner	24
Flanges, Pump Mounting	27	Power Sweep	15	Turbo Nozzle	6
Flex Coupler, Pump Mounting	27	Pressure Filter	6	Twist Fast Quick Connects	8
Float Tank	13	Pressure Reducing Valve	13	Unloader Mounting Block	4
Float Valve	13	Pressure Relief Valve	3	Unloaders	3, 4
FloJet Pump	17	Pressure Switch	23	Vac Switch	23
Flow Meter, Water	1	Pressure Tester	1	Vacuum	14
Flow Switch	23	Pressure Tester, Pump Head	27	Vacu-Booms	14
Foamers	11	PRESSURE WASHER - COLD	73 - 80	Valve Caps w/Gauge Port	27
Fuel Filter	22	PRESSURE WASHER - HOT	63-72	Valve, Ball	11
Fuel Line	22	Pressure Washer Carts	20	Valve Cap with Gauge Port	27
Fuel Pump, Burner	24	Pressure Washer, Electric, Cold	20	Valve, Check	16
Garden Hose Quick Connect	12	Pulley Clutch	28	Valve, Coil Blow Out	27
Gauge Port Valve Caps	27	Pulleys & Bushings	28	Valve, Easy Start	22
Gauge, Burner Fuel	23	Pump Gear Reducers	28	Valve, Jetter	27
Gauge, Pressure	1	Pump Oil	29	Valve, Pressure Reducing	13
Gear Reducers	28	Pump Rails	29	Valve, Steam	16
Generator	24	Pumps, Siphon	11	Vented Grip	7
Gun, Trigger	1, 2, 7	Pump-up Sprayer	19	Volt Master Generator	24
Guns, Chemical Pump	17, 18	Quick Connectors	8	Wand, Telescoping	7
Gutter Cleaning Tools	15	Quick Drain Oil Plug	22	Washers, Garden Hose	12
Heavy Duty Fittings	25	Rails, Pump	29	Water Filters	13
Hi-Limit Switch	23	Reels, Hose	9	Water Recovery Systems	14
Hi-Lo Nozzle	6	Relay, Burner	23	Whip, Hose	1
Honda Engines	21	Reusable Hose Ends	10	Winco Generator	24
Hose Ends, Reusable	10	RotoJet Nozzle	6	Wrench, Drum	14
Hose Reel Swivels	9	RotoMax Nozzle	6	Y-Connectors, Garden Hose	13

PUMPS:	Page
PUMPS, GENERAL	30-40
Pump Kits, General	29, 41, 42
Pump Breakdowns, General	124
PUMPS, A-R	43-51
Pump Kits, A-R	52
Pump Breakdowns, A-R	124
PUMPS, COMET	53-60
Pump Kits, Comet	61
Pump Breakdowns, Comet	124
PUMPS, UDOR	62
Pump Kits, Udor	62
Pump Breakdowns, Udor	124


CLEANING PROJECT:	Page
Car Washing	98
Cemetery Restoration	103
Concrete Floors	105
Convenience Stores	104, 105
Damaged Glass	99, 100
Deck Washing	102
Exhaust Hoods	106
Forklifts	108
Gas Stations	104, 105
House Washing	99
Mobile Homes	98
Restaurant Exhaust Hoods	106
Restrooms	108
Roof Cleaning	101
Sewers	107
Sidewalk Cleaning	105
Trash Shoots	102
Truck Washing	96, 97

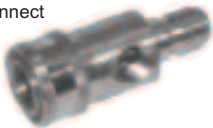
TECHNICAL:	Page
BTU - Thermal Units	109
Burner Controls	117
Chemical Storage Procedures	110
Chemical Injector Draw Rate	110, 111
Company Image	109
Hi-Lo Nozzles	111
Hose Care	116
Hose Reels	117
M.S.D.S.	110
Nozzle Care	110
Nozzles	111
Pump Troubleshooting	112, 113
Rotating Nozzles	111
Safety Data Sheets	110
Scale Removal	117
Tank Data	105 - 108
Trigger Guns	114, 115
Turbo Nozzles	111
Unloader Valves	118, 119
Water Supply	120-123

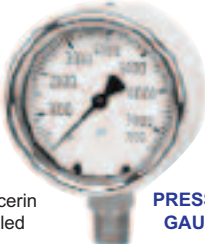
Each day 10,000 humans are born in the U.S. - and each day 70,000 puppies and kittens are born.
 As long as these birth rates exist, there will never be enough homes for all the animals.
 As a result, every year 4 to 6 million animals are euthanized because there are no homes for them.




TEMP GAUGE
 40°-600° F
 3,000 PSI Thermowell Included
#1799-200 \$14.95




6,000 PSI
 Glycerin Filled Gauge
 Brass Uni-Body
 Quick Connect

**QUICK CONNECT
 PRESSURE GAUGE TESTER**



Glycerin Filled **PRESSURE GAUGES**
STAINLESS CASE GAUGES
#1799-103 3,000 PSI \$9.95
#1799-105 6,000 PSI \$9.95
ALL STAINLESS
#1799-106 6,000 PSI \$12.95



2.5" Dial **NEW**
 -40° to 180° F
PRESSURE GAUGE
 Back Mount
 Glycerine Filled, Stainless Case
5,000 PSI
#5799-101 \$12.95




TEMP GAUGE TESTER
 40°-600° F
 3,000 PSI Thermowell Included
 Set up with Quick Connects
#1799-600 \$32.95

BRASS
#2299-999 With Gauge \$10.95
#2299-998 No Gauge \$ 4.95
STAINLESS STEEL
#2299-997 With Gauge \$12.95
#2299-996 No Gauge \$ 6.95



NEW
PRESSURE GAUGE SNUBBER
 Install Gauge into snubber to extend gauge life by reducing pressure spikes
#4799-101 \$6.95




NEW
 -40° to 180° F 2.5" Dial
PRESSURE GAUGE
 Panel Mount
 Glycerine Filled, Stainless Case
5,000 PSI
#7799-101 \$13.95



HI-TECH 100 GUN
 Straight Through, No Trigger
 8 GPM - 4100 PSI - 300° F
#2208-100 \$10.95

HOSE WHIP for TRIGGER GUNS
 Buy the WHIP by itself...
 or buy one...

NEW
 ...complete with a
 5,000 PSI Stainless Swivel
 and Quick Coupler installed
RATED TO 4500 PSI

Install Permanently or use as Test Tool
 No more guess work! Know exactly what your pump is putting out.
 If you work on Pressure Washers & you do not have this... you are just guessing!

WATER FLOW METER
 Brass
 Handles from 1-15 GPM
 3,500 PSI - 240° F **NEW**
#FM115 \$225.00



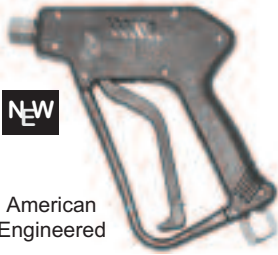
HI-TECH 702 GUN
 Front Entry Gun
 7 GPM - 2500 PSI
#2299-702 \$10.57

The purpose of the Hose Whip is to extend the life of the quick connects. When you are pulling the hose using the gun and lance for leverage you are putting the quick connect in a "metal to metal" bind. When the whip is in place the quick connect coupler and plug will always be pulling in-line with the hose.
WHIP
#2199-077 1' \$ 9.95
WHIP w/Swivel & "QC"
#6199-077 1' \$24.95
 Install a Whip on inlet side of trigger gun & extend the Quick Connect Life 10 Times

"Love animals: God has given them the rudiments of thought and joy untroubled. Do not trouble their joy, don't harass them, don't deprive them of their happiness, don't work against God's intent. Man, do not pride yourself on superiority to animals; they are without sin, and you, with your greatness, defile the earth by your appearance on it, and leave the traces of your foulness after you--alas, it is true of almost every one of us!" -- Fyodor Dostoyevsky

NEW Now Available Chlorine/Acid Guns **NEW**

NEW



American Engineered

J.E. ADAMS GUN
12 GPM - 4500 PSI - 300° F
#2299-044 \$16.95
****CHLORINE GUN****
#2299-044C \$24.95

NEW



MAGNUM 4500
8 GPM - 4500 PSI - 300° F
#2209-450 \$18.95
****CHLORINE GUN****
#2209-450C \$26.95

Safety Yellow Housing

NEW



MAGNUM 5000
8 GPM - 5000 PSI - 300° F
#2209-500 \$21.95
****CHLORINE GUN****
#2209-500C \$29.95

NEW



HI-TECH 5000
11 GPM - 5000 PSI - 320° F
#2299-500 \$19.95
****CHLORINE GUN****
#2299-500C \$27.95

NEW



YG4000S
10.5 GPM - 4050 PSI - 300° F
#2299-403 \$19.95
****CHLORINE GUN****
#2299-403C \$27.95

ALLOWS MORE CHEM FLOW W/ INJECTORS

Super Easy Pull!

NEW



HI-TECH 4100
13 GPM - 4100 PSI - 320° F
#2210-041 \$29.95
****CHLORINE GUN****
#2210-041C \$37.95

Super Easy Pull!

NEW



HI-TECH 5700
8 GPM - 5700 PSI - 320° F
#2210-055 \$33.95
****CHLORINE GUN****
#2210-055C \$41.95

NEW



HI-TECH 804
8 GPM - 4000 PSI - 300° F
#2299-804 \$17.95
****CHLORINE GUN****
#2299-804C \$25.95

NEW



SK1-HOT GUN
6.6 GPM - 3200 PSI - 320° F
#2209-320 \$12.95

NEW




AP-5000
9 GPM - 5000 PSI
300° F
#2299-593 \$14.95

NEW



YG4000
10 GPM - 4000 PSI - 320° F
#YG4000 \$26.15

NEW



Easy Access Kit Assembly

NEW



YG3600
9 GPM - 3650 PSI - 320° F
#YG3600 \$22.09

ALL STAINLESS

CHLORINE GUN with Stainless & Ceramic



HI-TECH 4700 CHLORINE GUN
11 GPM - 4660 PSI - 320° F
#2210-040 \$69.95

TRIGGER GUN for TELESCOPING LANCE




Fits most Telescoping Polls
Up to 7 GPM
Up to 4,000 PSI
#TWGUN \$34.95

NEW

HD-1000
Similar to AP-1000 but with higher chem draw
"Quick Change Kit"
12 GPM - 4500 PSI - 300° F
#2299-880 \$18.95
****CHLORINE GUN****
#2299-880C \$27.95

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)



Must be mounted with Knob UP

"HM" UNLOADER
10.8 GPM - 3,000 PSI
195° F
#1510-121 \$48.95




VRL UNLOADER
11 GPM - 5,000 PSI
194° F
#AL604 \$31.93



"PULSAR 3" UNLOADER
With Viton Packings
2.11-7.92 GPM
3,600 PSI -165° F
#ZK3608 \$57.79

An executive refused an employees request for a raise, adding, "I know you can't get married on what I pay you and someday I am sure... you will thank me."



Multi-Port By-Pass Ports


YU831
8 GPM - 4,000 PSI
195° F
#1510-831 \$33.95

CONTROL SET UNLOADER FOR A-R PUMPS

For XT & XM
#AR21036 Up to 2600 PSI, to 5.0 GPM, No Injector \$49.52
#AR21040 Up to 2650 PSI, to 4.0 GPM, W/ Injector \$56.04

For XM & RK PUMPS
#AR20081 Up to 3650 PSI, to 5.5 GPM, No Injector \$61.25
#AR20400 Up to 3650 PSI, to 5.5 GPM, W/ Injector \$63.86
#AR20992 Up to 4000 PSI, to 5.0 GPM, No injector \$68.42

For XW Pumps
#AR20802 (3/4"), Up to 3650 PSI, to 9.0 GPM, No Injector \$60.60
#AR20758 (1/2"), Up to 3650 PSI, to 9.0 GPM, No Injector \$60.60

FITS GENERAL "EZ" ONLY

CONTROL SET for "EZ" PUMPS ONLY
10 GPM - 4,500 PSI - 195° F
#YU4050KDM No Injector \$99.95

#1 Seller in 2003



SAFETY RELIEF VALVE
Fully Adjustable
6.0 GPM - 6,000 PSI
195° F
#1610-600 \$12.95



Plastic Barb

THERMAL RELIEF VALVE
Keeps Pump Head from overheating while in by-pass.
Opens at 145° F
#1410-111 \$4.33



Brass Barb

PUMP THERMAL PROTECTOR
90 Hose Barb
190° F
#100679 3/8" NPT \$ 7.27
#100680 1/2" NPT \$11.70



FITS GENERAL 47 Series EZ Series TX Series

CONTROL SET UNLOADER
7.8 GPM - 3,200 PSI - 195° F
#1599-075 No Injector \$49.95
#1599-076 W/ Injector \$54.95



SAFETY RELIEF VALVE
Fully Adjustable
2.6-21.4 GPM - 10,000 PSI
284° F
#ZKS3 \$281.65



SAFETY RELIEF VALVE
Fully Adjustable
1.3 - 10.8 GPM - up to 3,000 PSI
165° F
ZKSR \$28.92

"The easiest job in the world has to be coroner. Surgery on dead people. What's the worst thing that could happen? If everything went wrong, maybe you'd get a pulse."
- Dennis Miller

"My father used to play with my brother and me in the yard. Mother would come out and say, "You're tearing up the grass."
"We're not raising grass," Dad would reply, "we're raising boys."

Spay and neuter your pet! In addition to saving lives, spaying and neutering can also drastically improve your pet's health and life expectancy. The idea that pets become fat or lazy when they are spayed or neutered is a myth.



**SOFT TOUCH
VB-10**

HI-TECH 947 UNLOADER

8 GPM - 4,000 PSI
195° F

#1599-010 \$54.95



**SUPER HEAVY DUTY
SD5000**

SD5000 UNLOADER

9 GPM - 5,000 PSI
190° F

#SD5000 \$74.95



HI-TECH 607 UNLOADER

8 GPM - 0 up to 4500 PSI
190° F

#1599-101 \$32.95




ArrowLine **NEW**

VHP UNLOADER

11 GPM - 5,000 PSI
190° F

#AL609 \$46.92



HI-TECH "MV" UNLOADERS

8 GPM - 200° F

#1599-520	2,000 PSI	\$21.55
#1599-540	2,500 PSI	\$22.89
#1599-550	3,500 PSI	\$31.02
#1599-580	3,600 PSI	\$28.44



ALL STAINLESS STEEL

Big Volume & Higher Pressure

PA

STAINLESS UNLOADER

21 GPM - 6,500 PSI
200° F

#1510-650 \$288.82



PA

PULSAR UNLOADER

8 GPM - 4,000 PSI
195° F

#1510-110 \$39.95



The Best Large Volume Pressure Actuated Unloader in the Industry!

NEW

Knob


PA

GREEN SPRING

2140 UNLOADER

21 GPM - 4,350 PSI - 200° F

#1510-128	Unloader	\$59.95
#1510-128K	Adj. Knob	\$ 7.48




ANY K-5 \$47.95

K5 UNLOADER

Flow Actuated 3,000 PSI
165° F

#1510-050	2.1-2.9 GPM	K5.0
#EK50 Kit		\$19.95
#1510-051	2.9-4.2 GPM	K5.1
#EK51 Kit		\$19.95
#1510-052	4.2-6.6 GPM	K5.2
#EK52 Kit		\$19.95
#1510-053	6.6-10.8 GPM	K5.3
#EK53 Kit		\$19.95



EnviroSpec has installed Special Valving to help reduce Surging while in BY-PASS

ANY K-7 \$54.95

K7 UNLOADER

Flow Actuated 3,500 PSI
165° F

#1510-070	2.1-2.9 GPM	K7.0
#EK70 Kit		\$21.95
#1510-071	2.9-4.2 GPM	K7.1
#EK71 Kit		\$21.95
#1510-072	4.2-6.6 GPM	K7.2
#EK72 Kit		\$21.95
#1510-073	6.6-10.8 GPM	K7.3
#EK73 Kit		\$21.95



K10 UNLOADER

10.8 - 3,600 PSI - 165° F
One Size Fits All

For years the K-5 and K-7 Unloaders have been dominating the Flow Sensitive Unloader market. They are great unloaders with just a couple of nagging problems that have driven all of us loyal users nuts for the past 15-20 years.

You know - problems like...

- ... having to size the unloader to the Gallons Per Minute of the Machine or
- ... having to reduce the by-pass line to eliminate the "surging" while in by-pass.

#1510-100 \$49.95



Flow Actuated

K9 UNLOADER

13.2 GPM - 5,800 PSI

#1510-090 \$299.95

SOLID BRASS EnviroSpec Exclusive



Not the Cheap Stuff!

UNLOADER BLOCK

#1499-990	3/8" x 3/8" FPT	\$ 8.95
#1499-991	3/8" x 1/2" FPT	\$ 9.95
#1499-992*	1/2" x 1/2" FPT	\$12.95

*Mounts from the side (shown) or from the Top



HI-SPIKE BY-PASS HOSE

#2121-001
\$1.49 Per Foot

Flexible 1/4" for K-5 & K-7 unloaders.
1,700 PSI Working
6,000 PSI Burst

BURST DISC - BLOWS AT 8,000 PSI



Safety First! Please install a Burst Disc on your machine

Ever Had a Hot Water Coil Blow? When it does - *it goes at 22,000 PSI!*

We had 2 coils blow like a stick of Dynamite due to burner failure this year! Now we install the Burst Disc on all machines!

#1510-900 \$18.95
could save your life!

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive additional 10% OFF of every item you order for the rest of the month. (see front)

"If you have men who will exclude any of God's creatures from the shelter of compassion and pity, you will have men who will deal likewise with their fellow men."

-- St. Francis of Assisi



#1 SELLING NOZZLE HOLDER in 2003

Never, Ever Loose Another NOZZLE!

THE KEEPER


for 2 or 3 Nozzle Set Ups
Nozzles sold separately

#KB002 2 Nozzles **\$18.95**
#KB003 3 Nozzles **\$22.95**

LOOK WHAT'S NEW FOR 2004

QUADRAKEEPER

HOLDS 4 OF YOUR FAVORITE NOZZLES



NEW

Here is a typical set-up showing a bank of 4 nozzles 0, 15, 25 & 40 Degree

THE QUADRAKEEPER

Nozzles sold separately

#KB004
Holds 4 Nozzles
\$29.95

BEST INDUSTRY PRICE



HIGH PRESSURE NOZZLES
Stainless - Screw-in Type
1/4" & 1/8" MEG

Use Prefix
"NOS"
"SSN"

GENERAL PUMP \$2.69
Spraying Systems \$2.79




No Need to Keep Misplacing Nozzles!

NOZZLE CADDY

Mounts on Any Machine
Complete with Grommets and Bolts

#7739-201 Complete Holder **\$17.95**
#7739-202 Extra Grommet **\$ 1.95**



BALL TYPE NOZZLE HOLDER

8 GPM
3650 PSI

#2412-444 \$10.95

BEST INDUSTRY PRICE



COLOR CODES
0 Red
15 Yellow
25 Green
40 White

HIGH PRESSURE NOZZLES
Stainless - Quick Connect

Use Prefix
"NOQS"
"SSNQ"

GENERAL PUMP \$2.69
Spraying Systems \$2.94

Stainless Steel Professional Quality!



SEWER NOZZLES - \$12.95
Forward blast to clear debris and backward blast to flush

Part #	Thread	Nozzle
FSN-45-18	1/8	4.5
FSN-65-18	1/8	6.5
FSN-11-18	1/8	11.0
FSN-45-14	1/4	4.5
FSN-65-14	1/4	6.5
FSN-11-14	1/4	11.0



BALL TYPE NOZZLE HOLDER

10.5 GPM
2900 PSI

#2410-101 \$12.95

Note: Remember the first 2 numbers are the desired pattern and the second 2 numbers indicate the hole size. The larger the hole the less restriction and the more the injector will draw.

NOZZLE CHART

NOZZLE SIZE	100 PSI	1,000 PSI	1,500 PSI	2,000 PSI	2,500 PSI	3,000 PSI	3,500 PSI	4,000 PSI	5,000 PSI
2.0	.32	1.00	1.20	1.40	1.60	1.70	1.90	2.00	2.23
2.5	.40	1.25	1.53	1.77	1.98	2.17	2.34	2.50	2.80
3.0	.40	1.50	1.85	2.10	2.35	2.60	2.85	3.00	3.25
3.5	.45	1.70	2.17	2.45	2.73	3.05	3.32	3.50	3.90
4.0	.63	2.00	2.50	2.80	3.10	3.50	3.80	4.00	4.50
4.5	.74	2.20	2.80	3.00	3.60	3.90	4.30	4.50	5.03
5.0	.79	2.50	3.10	3.40	4.00	4.40	4.70	5.00	5.60
5.5	.87	2.80	3.40	3.80	4.40	4.80	5.20	5.50	6.20
6.0	.95	3.00	3.70	4.20	4.80	5.20	5.70	6.00	6.70
6.5	1.00	3.30	4.00	4.60	5.20	5.70	6.00	6.50	7.30
7.0	1.10	3.50	4.30	5.00	5.60	6.10	6.60	7.00	7.80
7.5	1.20	3.80	4.60	5.30	6.00	6.50	7.00	7.50	8.40
8.0	1.30	4.00	5.00	5.60	6.20	7.00	7.50	8.00	8.90
8.5	1.30	4.30	5.30	6.00	6.70	7.40	8.00	8.50	9.50
9.0	1.40	4.50	5.50	6.40	7.10	7.80	8.50	9.00	10.10
10	1.60	5.00	6.10	7.00	8.00	8.70	9.40	10.00	11.20



TWIST TYPE NOZZLE HOLDER

HP Nozzle on one side
LP Nozzle on the other

#2427-101 \$17.95

Thanks to you...

EnviroSpec is projecting to make charitable donations in excess of **\$300,000.00 in 2004**

"Life is more meaningful when you are always looking to grow and working toward a goal."

-Les Brown, Motivational Speaker

"One of the most striking differences between a cat and a lie is that a cat only has nine lives."

-- Mark Twain



TURBO SHIELD

Attaches to the Lance & Eliminates Splatters when using a Turbo Nozzle

#6006-500 \$36.95

One Smart Redneck!

"Hello, is this the FBI?"

"Yes. What do you want?"

"I'm calling to report about my neighbor Billy Bob Smith!

He is hiding marijuana inside his firewood."

"Thank you very much for the call, sir."

The next day, the FBI agents descend on Billy Bob's house.

They searched the shed where the firewood was kept. Using axes, they bust open every piece of wood, but find no marijuana.

They swore at Billy Bob and left.

The phone rings at Billy Bob's house.

"Hey Billy Bob! Did the FBI come?"

"Yeah!"

"Did they chop your firewood?" - "Yep."

"Merry Christmas Buddy"

Please remember the kids. 100% of the after tax profits from our

CHEMICAL MANUFACTURING

is donated annually to **CHILDREN'S CHARITIES.**

READY TO GO!
High Pressure Filter Installed



#1 SELLER in 2003

ROTOJET TURBO NOZZLES

3,000 PSI • 212°

Nozzle \$42.95 • Kit \$24.95

Nozzle	Size	Kit
#6119	3.0	#6219
#6120	3.5	#6220
#6121	4.0	#6221
#6122	4.5	#6222
#6123	5.0	#6223
#6124	5.5	#6224
#6125	6.0	#6225

4,000 PSI • 212°

Nozzle \$49.95 • Kit \$28.95

Nozzle	Size	Kit
#6135	4.0	#6235
#6136	4.5	#6236
#6137	5.0	#6237
#6138	5.5	#6238
#6139	6.0	#6239
#6140	7.0	#6240

5,100 PSI • 212°

Nozzle \$69.95 • Kit \$34.95

Nozzle	Size	Kit
#6126	4.0	#6226
#6127	4.5	#6227
#6128	5.0	#6228
#6129	5.5	#6229
#6130	6.0	#6230
#6131	7.0	#6231
#6132	8.0	#6232
#6133	12.0	#6233



HIGH PRESSURE FILTER

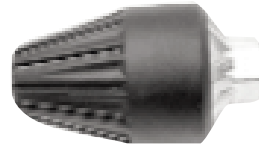
5,000 PSI RATED

SOLID BRASS

#6014-101	No Plug	\$8.95
#6014-102	with Plug	\$9.95

ALL STAINLESS STEEL

#6014-104	No Plug	\$10.95
#6014-105	with Plug	\$12.95



DIRT KILLER TURBO NOZZLES

3,200 PSI • 194°

Nozzle \$44.95 • Kit \$29.95

Nozzle	Size	Kit
#6006-101	3.0	#6006-111
#6006-102	3.5	#6006-112
#6006-103	4.5	#6006-113
#6006-104	5.5	#6006-114
#6006-105	7.0	#6006-115

4,700 PSI • 194°

Nozzle \$71.95 • Kit \$36.95

Nozzle	Size	Kit
#6006-201	3.5	#6006-211
#6006-207	4.0	#6006-217
#6006-202	4.5	#6006-212
#6006-203	5.5	#6006-213
#6006-204	7.0	#6006-214
#6006-205	8.0	#6006-215
#6006-209	9.0	#6006-219
#6006-206	10.0	#6006-216



SEVERE DUTY ROTOMAX NOZZLE

5,800 MAX PSI to 194°

#6010-201	2.3-3.7 GPM	\$74.95
#6010-202	3.3-6.6 GPM	\$74.95
#6010-203	KIT	\$29.98



VIPER TURBO NOZZLES

5,800 MAX PSI to 194°

#6010-701	#4.5 Noz.	\$62.99
#6010-701RK	Kit	\$34.95
#6010-702	#5.5 Noz.	\$62.99
#6010-702RK	Kit	\$34.95

Great for Gum Removal!



Slightly Adjustable, Tight Pattern

ROTOJET TURBO NOZZLES

3,500 MAX PSI to 194°

#6010-101	2.1-2.9 GPM	\$44.95
#6010-102	2.9-4.2 GPM	\$44.95
#6010-103	4.2-5.6 GPM	\$44.95
#6010-104	KIT	\$19.95



HI-LO NOZZLE

Variable Angle Spray - Hi & Low Settings allow for both cleaning and chemical applications.

4050 Max PSI. & 195°

Noz	Code
#2710-035	3.5 (BROWN)
#2710-040	4.0 (YELLOW)
#2710-045	4.5 (BLUE)
#2710-050	5.0 (PURPLE)
#2710-055	5.5 (RED)
#2710-060	6.0 (GREEN)
#2710-065	6.5 (LITE BLUE)
#2710-070	7.0 (ORANGE)
#2710-080	8.0 (GREY)

ANY SIZE \$11.62

Heavy Duty Hi-Low Nozzle



VAIRO-JET NOZZLE

4300 Max PSI. & 195°

Hi & Low Settings allow for both cleaning and chemical applications.

Noz	Code
#974-030	3.0 (WHITE)
#974-040	4.0 (RED)
#974-045	4.5 (BLACK)
#974-055	5.5 (BLUE)

ANY SIZE \$34.95

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"My favorite animal is the mule. He has more horse sense than a horse.
He knows when to stop eating -- and he knows when to stop working."
-- Harry S. Truman

Quick Connect Lance to the Gun or extending Lances



Extra Deep Shoulders keeps lances from breaking at the threads. Over 1/2" of inside shoulder before the threads.

LANCE SAVERS

#106061	1/4" Plated Plug	\$2.95
#106062	1/4" Brass Socket	\$3.95
#106065	1/4" Stainless Plug	\$4.95
#106066	1/4" Stainless Coupler	\$5.95



Make Up Your Own Lance!
FITS 1/4" PIPE

LANCE ACCESSORIES

These grips fit the aluminum lances above or any 1/4" water pipe and are easy to install.

#2311-101	Vented Grip	\$7.95
#7508-102	Adj. Side Handle	\$5.95

EXTRA HEAVY DUTY



SCHEDULE 80 ALUMINUM LANCES
with Molded Grips

#3924M	24"	\$12.95
#3936M	36"	\$13.95
#3948M	48"	\$14.95
#3960M	60"	\$17.95
#3996M	96"	\$19.95

Couple together for longer lengths

Without Grips

#3912	12"	\$ 9.50
#3924	24"	\$ 9.95
#3928	28"	\$ 9.95
#3932	32"	\$ 9.95
#3936	36"	\$10.95
#3948	48"	\$10.95
#3960	60"	\$13.95

Couple together for longer lengths



INDUSTRIAL GRADE STAINLESS STEEL LANCES
with Molded Grips

#2309-124	24"	\$ 9.95
#2309-136	36"	\$12.95
#2309-148	48"	\$13.95
#2309-159	59"	\$15.95
#2309-179	79"	\$17.95

SUPER HEAVY DUTY ZINC PLATED LANCES
with Molded Grips

#2308-112	12"	\$ 7.95
#2308-124	24"	\$ 8.95
#2308-136	36"	\$ 9.95
#2308-148	48"	\$10.95
#2308-160	60"	\$11.95
#2308-179	79"	\$12.95



DUAL LANCES


ZINC

#2310-105	36" General 1/8" Pipes	\$39.95
#2310-106	72" General 1/8" Pipes	\$49.95
#2308-040	40" w/Trigger 1/4" Pipes	\$34.95

STAINLESS STEEL

#2310-109	33" Deluxe 1/4" Pipes	\$39.95
#2399-101	40" Deluxe 1/4" Pipes	\$34.95

TRIGGER GUN for TELESCOPING LANCE



Fits most Telescoping Polls

Up to 7 GPM
Up to 4,000 PSI

#TWGUN \$29.95

TELESCOPING LANCE

Extends from 8' to 24' to clean those 2 & 3 story buildings

This lance is equipped complete with trigger gun, lance, inner high pressure hose and a "quick coupler" on the discharge side which will accommodate a standard "quick connect nozzle"

#TW183
18' - 3,000 PSI \$89.95

#TW243
24' - 3,000 PSI \$99.95

#TW244
24' - 4,000 PSI \$139.95

#TWBELT
Support Belt \$ 29.95

Specifically Designed for EnviroSpec to allow you to draw chemical from a Downstream Injector.



Quick Change GUTTER AND WINDOW SILL CLEANING ATTACHMENT

#EWGC

\$29.95

Over the years **ALLISON IRON HORSE** has gained the reputation of building the finest pressure washers in the world. Here are two new ones in our line-up



Our Cold Water HOUSE WASH SYSTEM

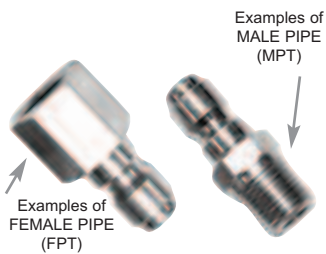
&

The New FIRE CANNON SLIMLINE Hot Water System

See Pages 68-78

"The key to everything is patience. You get the chicken by hatching the egg -- not by smashing it."
-- Arnold Glasow

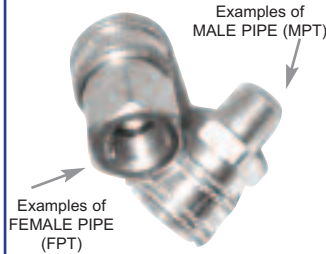
COUPLERS & PLUGS BRECO



"SUPER HARD" PLUGS

PLATED STEEL PLUGS

#QCP4F	1/4" FPT	\$1.09
#QCP4M	1/4" MPT	\$1.09
#QCP8F	3/8" FPT	\$1.19
#QCP8M	3/8" MPT	\$1.19



"HI-HEAT" COUPLERS

BRASS COUPLER

#QCS4F	1/4" FPT	\$2.49
#QCS4M	1/4" MPT	\$2.49
#QCS8F	3/8" FPT	\$2.59
#QCS8M	3/8" MPT	\$2.59



STAINLESS PLUGS

#QCP4FS	1/4" FPT	\$2.15
#QCP4MS	1/4" MPT	\$1.64
#QCP8FS	3/8" FPT	\$2.64
#QCP8MS	3/8" MPT	\$2.20



REPLACEMENT O'RINGS

BAG OF 50 (+)

for
ALL "QS" & "QC" COUPLERS

Part #	Material	Size	Price
#QOR4E	EPDM	1/4"	\$10.95
#QOR8E	EPDM	3/8"	\$10.95
#QOR4V	Viton	1/4"	\$12.95
#QOR8V	Viton	3/8"	\$12.95

NOTE:

Your Best Chemical Resistance and Heat Range is VITON

TYPICAL CHARACTERISTICS:

EPDM: *Color- Black* - up to 300°
Chemical Resistance - Moderate

VITON: *Color- Brown* - up to 400°
Chemical Resistance - Severe



TWIST FAST QUICK CONNECTS

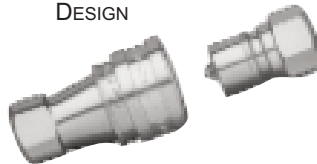
Plugs

QP4FT	1/4" FPT	\$2.00
QP4MT	1/4" MPT	\$2.00
QP8FT	3/8" FPT	\$2.00
QP8MT	3/8" MPT	\$2.00

Couplers

QS4FT	1/4" FPT	\$2.90
QS4MT	1/4" MPT	\$2.90
QS8FT	3/8" FPT	\$2.90
QS8MT	3/8" MPT	\$2.90

STRAIGHT THRU DESIGN



Zinc-plated steel socket and plugs

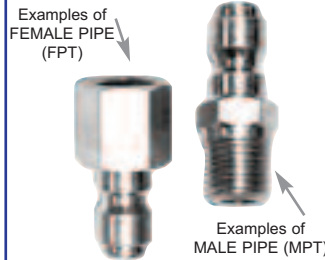
QUICK CONNECT

6,000 PSI @ 230° F

#331418	1/4" FPT Socket	\$ 8.95
#331421	3/8" FPT Socket	\$11.95
#331426	1/2" FPT Socket	\$14.95
#331518	1/4" FPT Plugs	\$ 2.95
#331521	3/8" FPT Plugs	\$ 4.95
#331526	1/2" FPT Plugs	\$ 5.95

A little boy was
overheard praying:
"Lord, if you can't make
me a better boy, don't
worry about it. I'm
having a real good time
like I am."

COUPLERS & PLUGS HI-TECH - #1 SELLER IN 2003



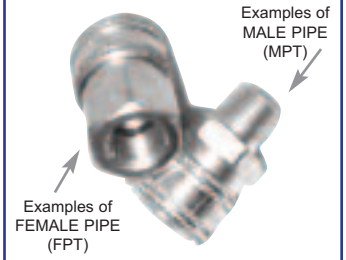
"SUPER HARD" PLUGS

PLATED STEEL PLUGS

#QP4FB	1/4" FPT	\$0.94
#QP4MB	1/4" MPT	\$0.94
#QP8FB	3/8" FPT	\$0.99
#QP8MB	3/8" MPT	\$0.99

STAINLESS PLUGS

#QP4FS	1/4" FPT	\$1.89
#QP4MS	1/4" MPT	\$1.89
#QP8FS	3/8" FPT	\$2.00
#QP8MS	3/8" MPT	\$2.00



"HI-HEAT" COUPLERS

BRASS COUPLER

#QS4FB	1/4" FPT	\$2.13
#QS4MB	1/4" MPT	\$2.13
#QS8FB	3/8" FPT	\$2.35
#QS8MB	3/8" MPT	\$2.35

STAINLESS COUPLER

#QS4FS	1/4" FPT	\$3.30
#QS4MS	1/4" MPT	\$3.30
#QS8FS	3/8" FPT	\$3.75
#QS8MS	3/8" MPT	\$3.75



O'RING PICK

#7012-729 \$3.95

WHAT GOES WHERE?

Thanks for asking...

...because we are tired of being blamed for a lot of people ordering the wrong Plugs & Couplers!

First of all, you need to know the correct starting point. Please do not rely on the pressure washer manufacturer to be able to tell you the correct Quick Connect Set Up. They have been doing it wrong for years.

Direction of Flow is commonly indicated by an arrow. Now let me ask you - which looks more like an arrow...



If you picked "A" you are correct. So why, you ask, doesn't the manufacturer put them on right? Who knows! Maybe they were never Mobile Washers.

"IF" you have your System set up correctly with the plug indicating the direction of FLOW you can use the following as a guide.

- Outlet of Coil/Pump = **Plug**
- Inlet of Injector = **Coupler**
- Outlet of Injector = **Plug**
- Inlet of HP Hose = **Coupler**
- Outlet of Hose = **Plug**
- Inlet of Trigger = **Coupler**

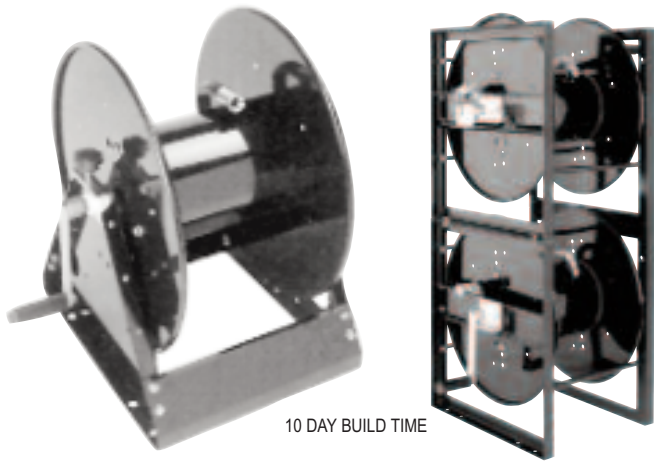
Here is the only exception:

If you are using Quick Connect Nozzles you will need a Coupler on the outlet side of the lance

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If you are a dog and your owner suggests that you wear a sweater. . . suggest that he wear a tail."

-- Fran Lebowitz



10 DAY BUILD TIME

HOSE REELS by: HOSETRACT

Capacity Based On: 1 WIRE - 3/8" Hose

COMPACT MINI REEL

M5-5-14	Hosetract Holds 75'-3/8", 50'-1/2"	\$147.50
M10-5-14	Hosetract Holds 100'-3/8", 75'-1/2"	\$157.50

Manual Rewind Reels - NOT STACKABLE

M5-5	Hosetract Holds 100'-3/8", 75'-1/2"	\$152.50
M10-5	Hosetract Holds 250'-3/8", 175'-1/2"	\$171.50
M15-5	Hosetract Holds 350'-3/8", 275'-1/2"	\$184.50
M20-5	Hosetract Holds 450'-3/8", 375'-1/2"	\$212.50
M25-5	Hosetract Holds 550'-3/8", 475'-1/2"	\$232.50

STACKABLE FRAME - Manual Rewind Reels

SFM5-5	Hosetract Holds 100'-3/8", 75'-1/2"	\$177.50
SFM10-5	Hosetract Holds 250'-3/8", 175'-1/2"	\$196.50
SFM15-5	Hosetract Holds 350'-3/8", 275'-1/2"	\$209.50
SFM20-5	Hosetract Holds 450'-3/8", 375'-1/2"	\$237.50
SFM25-5	Hosetract Holds 550'-3/8", 475'-1/2"	\$257.50

STAINLESS STEEL - Manual Rewind Reels - NOT STACKABLE

MS5-5	Hosetract Holds 100'-3/8", 75'-1/2"	\$345.50
MS10-5	Hosetract Holds 250'-3/8", 175'-1/2"	\$383.50
MS15-5	Hosetract Holds 350'-3/8", 275'-1/2"	\$391.50
MS20-5	Hosetract Holds 450'-3/8", 375'-1/2"	\$414.50
MS25-5	Hosetract Holds 550'-3/8", 475'-1/2"	\$431.50

STACKABLE STAINLESS STEEL* - Manual Rewind Reels

SFMS5-5	Hosetract Holds 100'-3/8", 75'-1/2"	\$370.50
SFMS10-5	Hosetract Holds 250'-3/8", 175'-1/2"	\$408.50
SFMS15-5	Hosetract Holds 350'-3/8", 275'-1/2"	\$416.50
SFMS20-5	Hosetract Holds 450'-3/8", 375'-1/2"	\$439.50
SFMS25-5	Hosetract Holds 550'-3/8", 475'-1/2"	\$456.50

*Powder Coated, Black Steel Frame with Stainless Reels

12 Volt Electric Reels

E15-5	Hosetract Holds 350'-3/8", 275'-1/2"	\$425.50
E20-5	Hosetract Holds 450'-3/8", 375'-1/2"	\$466.50
E25-5	Hosetract Holds 550'-3/8", 475'-1/2"	\$485.50

INDUSTRIAL HOSE REELS

SOLID STEEL CONSTRUCTION



complete with...

- Mounting Base
- 3,500 PSI Swivel
- Locking Mechanism
- Powder Coat Paint

#30001	Holds 50' of 3/8"-1 Wire	\$69.95
#30002	Holds 100' of 3/8"-1 Wire	\$79.95
#30003	Holds 150' of 3/8"-1 Wire	\$89.95
#30004	Holds 200' of 3/8"-1 Wire	\$99.95

ReelQuick Pivot Reel



TRAILER PIVOT MOUNT

270 DEGREE PIVOT
PIVOT LOCK

Model	1 wire-3/8	Price
#6413	100'	\$252.00
#6416	200'	\$270.00
#5916	400'	\$349.00



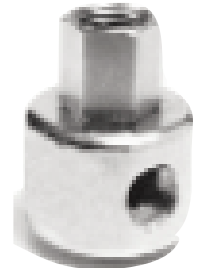
HI-TECH HOSE REEL SWIVEL 5,000 PSI

#1 SELLER IN 2003

Grease Fitting
for Extended Service Life

1/2" FPT In for HP Hose
& 1/2" FPT Out to Reel

#7455-101 \$29.95



HI-TECH HOSE REEL SWIVEL 5,000 PSI Rated

3/8" FPT Inlet for HP Hose &
1/2" FPT Out to Reel

#6550-201 \$24.95

HI-TECH HOSE REEL SWIVEL 7,000 PSI Rated

Stainless Insert
3/8" FPT Inlet for HP Hose
& 1/2" FPT Out to Reel

#6550-701 \$44.95

"A beaver does not, as legend would have it, know which direction the tree will fall when he cuts it, but counts on alacrity to make up for lack of engineering expertise."
 -- Ann Zwinger

We have handled all hose at one time or another and our customers keep saying..

SERPENTINE
 is the
VERY BEST
MONEY CAN BUY!



Best Prices Anywhere!

3,000 PSI SERPENTINE - 1 WIRE

B308-050	50'	Black	3/8"	29.95
B308-075	75'	Black	3/8"	66.95
B308-100	100'	Black	3/8"	77.95
B308-150	150'	Black	3/8"	135.95
B308-200	200'	Black	3/8"	186.95
B308-250	250'	Black	3/8"	207.95
B308-300	300'	Black	3/8"	248.95
G308-050	50'	Gray	3/8"	41.95
G308-100	100'	Gray	3/8"	80.95

4,000 PSI SERPENTINE - 1 WIRE

B408-050	50'	Black	3/8"	43.95
B408-075	75'	Black	3/8"	73.95
B408-100	100'	Black	3/8"	84.95
B408-150	150'	Black	3/8"	125.95
B408-200	200'	Black	3/8"	166.95
B408-250	250'	Black	3/8"	207.95
B408-300	300'	Black	3/8"	248.95

4,500 PSI SERPENTINE - 2 WIRE

B458-050	50'	Black	3/8"	47.95
B458-075	75'	Black	3/8"	80.95
B458-100	100'	Black	3/8"	91.95
B458-150	150'	Black	3/8"	149.95
B458-200	200'	Black	3/8"	193.95
B458-250	250'	Black	3/8"	251.76
B458-300	300'	Black	3/8"	308.95
G458-050	50'	Gray	3/8"	49.95
G458-100	100'	Gray	3/8"	96.95

Unbeatable Quality
Unbeatable Service
 only at
ENVIROSPEC

GRAY COVER HOSES ARE NON-MARKING

ALL HOSES are constructed as follows:
 The Hose Ends consist of:

- 1 ea. 3/8" MPT Swivel which is commonly attached to the Trigger end of the hose and
 - 1 ea. 3/8" Fixed that is commonly attached to the machine.
 - In addition, there are strain reliefs on both ends.



4,500 PSI HOSE REEL JUMPER HOSE

HOSE REEL JUMPER HOSE

Connects Equipment to Reel

#2112-002	2' with ends	\$ 7.95
#2112-003	3' with ends	\$ 8.95
#2112-004	4' with ends	\$ 9.95
#2112-005	5' with ends	\$10.95
#2112-006	6' with ends	\$11.95
#2112-007	7' with ends	\$12.95
#2112-008	8' with ends	\$13.95
#2112-009	9' with ends	\$14.95
#2112-010	10' with ends	\$15.95
#2112-011	11' with ends	\$16.95
#2112-012	12' with ends	\$17.95
#2112-013	13' with ends	\$18.95
#2112-014	14' with ends	\$19.95
#2112-015	15' with ends	\$20.95
#2112-016	16' with ends	\$21.95
#2112-017	17' with ends	\$22.95
#2112-018	18' with ends	\$23.95
#2112-019	19' with ends	\$24.95
#2112-020	20' with ends	\$25.95



Super Light Weight

Custom Lengths Available

DRAIN CLEANING HOSE 3,000 P.S.I.

#3316-050	3/16" x 50'	\$ 49.95
#3316-100	3/16" x 100'	\$ 78.95
#3316-150	3/16" x 150'	\$109.95
#3316-250	3/16" x 250'	\$179.95
#3125-050	1/4" x 50'	\$ 53.95
#3125-100	1/4" x 100'	\$ 89.95
#3125-150	1/4" x 150'	\$128.95
#3125-250	1/4" x 250'	\$203.95

Note: The above sewer hoses have 2 Fixed MPT on 1/8" ends.



for in-field repair of Pressure Hose

RE-USABLE HOSE ENDS

FIXED END

#2112-101	3/8" 1 Wire	\$6.95
#2112-201	3/8" 2 Wire	\$7.95

SWIVEL TYPE

#2112-102	3/8" 1 Wire	\$10.95
#2112-202	3/8" 2 Wire	\$11.95

"Time's fun... when you're having flies."
 -Kermit the Frog, Muppet

Rated #1 in Flexibility & Quality



CHEMICAL TUBING

Polybraid Reinforced

#2012-025	1/4" x 25'	\$ 7.95
#2012-050	1/4" x 50'	\$13.95
#2012-100	1/4" x 100'	\$22.95
#2012-300	1/4" x 300'	\$49.95
#2012-525	3/8" x 25'	\$ 8.95
#2012-550	3/8" x 50'	\$17.95
#2012-575	3/8" x 100'	\$33.95
#2012-600	3/8" x 300'	\$74.95

"My coat and I live comfortably together. It has assumed all my wrinkles, does not hurt me anywhere, has molded itself on my deformities, and is complacent to all my movements, and only I feel it's presence because it keeps me warm.

Old coats and old friends are the same thing."


-Victor Hugo, Novelist

"When you make a world tolerable for yourself, you make a world tolerable for others."

-Anais Nin

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"You can say any fool thing to a dog, and the dog will give you this look that says,
 'My God, you're RIGHT! I NEVER would've thought of that!'"
 -- Dave Barry




Can Be Panel Mounted

CHEMICAL METERING VALVE

4000 PSI RATED
 Stainless & Brass Construction
 Viton Gland Seals

#2912-120 \$12.95



NEW

CHEMICAL VALVES

2.6 GPM • 400 PSI • 105° F
 90° Elbow

#Y29095400 \$18.59



3-WAY 1/4" FPT

Great for setting up dual chemical injectors!

2927-104 \$19.95



5510-5599 #1 in 2003

HI-PRESSURE SWIVELS

Install a 3/8" swivel on the inlet side of the trigger gun to keep the hose from tangling and a 1/4" swivel on the outlet side of the gun for lance rotation.

HI-TECH BRAND
 Brass - 3000 PSI
#5510-101 1/4" FPTx MPT \$8.95
#5510-102 3/8" FPTx MPT \$8.95
 Stainless Steel - 5000 PSI
#5599-201 1/4" FPTx MPT \$11.95
#5599-202 3/8" FPTx MPT \$11.95


ADAMS BRAND
 Brass - 3000 PSI
#1-7480 1/4" FPTx MPT \$14.95
#2-7080 3/8" FPTx MPT \$14.95
 Stainless Steel - 5000 PSI
#3-7470 1/4" FPTx MPT \$19.95
#4-7044 3/8" FPTx MPT \$19.95



HIGH PRESSURE FOAM CANNON

Use on machines up to 6.6 GPM
 3,000 PSI Rated
 Makes Super Rich Lather for extended chemical dwell time.
 This Foam Generator meters the foaming chemical for customized foam type.

#2410-950 Injector Only \$44.95
#2410-951 Injector w/Bottle \$57.95
 5.5 Stainless Steel Nozzle




Industry's Best Siphon Pumps

The Industry's #1 Selling SIPHON PUMPS
 Dispenses 7 GPM

Can be cut down to work with 5 Gallon Containers

We highly recommend the **Extreme Duty Siphon Pump** when pumping acids, caustics and very strong alkalis

#8601-101 Heavy Duty \$ 9.95
#8601-102 Extreme Duty \$17.95



SOLID BRASS BALL VALVE
 with 1/4" Barb x 1/4" MPT

Throttle to Adjust Flow

#2927-102 \$9.95



Designed for Tight Places- Only 1-3/4" Long

Compact Knob Operation 220 PSI

BRASS - FPT x FPT

MINI BALL VALVES

Part #	Size	Price
#542	1/8"	\$5.95
#544	1/4"	\$5.95
#546	3/8"	\$5.95
#548	1/2"	\$5.95



Not the Cheap Stuff!

INDUSTRIAL BALL VALVES

FPT x FPT				
Part #	PSI	Size	Price	
#2927-101	500	1/4"	\$ 4.95	
#2927-103	500	3/8"	\$ 4.95	
#2923-101	3000	3/8"	\$22.95	



HIGH PRESSURE BALL VALVES
 7500 & 5000 PSI
Rugged Carbon Steel Construction

2-Way Valve
 Blow-out Proof Stems
 Delrin® Ball Seats
 Buna-N® O-rings

	PSI	Price
#2923-103 1/4"	7500	\$24.95
#2923-104 3/8"	7500	\$24.95
#2923-105 1/2"	5000	\$24.95



2000 PSI

STAINLESS STEEL BALL VALVES

Full Flow Ports
 Two piece 316 Stainless Bodies
 Glass-filled Teflon® Seals

	PSI	Price
180° F @	2,000	
300° F @	1,000	
350° F @	300	
#534 1/4" F x F		\$19.95
#536 3/8" F x F		\$19.95
#538 1/2" F x F		\$22.95
#540 3/4" F x F		\$29.95

Maybe, just once, someone will call me 'sir' without adding, 'you're making a scene'. -Homer Simpson

How would your marriage work?
 "Tell my wife that she looks pretty even if she looks like a truck." -Ricky, Age 10



NEW

HIGH PRESSURE 3-WAY BALL VALVES
Black Carbon Steel Construction
 Blow-out Proof Stems, Delrin® Ball Seats, Buna-N® O-rings

	PSI	Price
#5923-103 1/4"	5000	\$39.95
#5923-104 3/8"	5000	\$39.95
#5923-105 1/2"	5000	\$39.95

"Now I lay me down to sleep, I pray the Lord my soul to keep.
If I die before I wake, Feed Jake."
-- Weldon Haltom

Rated #1
in Flexibility & Quality




CHEMICAL TUBING
Polybraid Reinforced

#2012-025	1/4" x 25'	\$ 7.95
#2012-050	1/4" x 50'	\$13.95
#2012-100	1/4" x 100'	\$22.95
#2012-300	1/4" x 300'	\$49.95
#2012-525	3/8" x 25'	\$ 8.95
#2012-550	3/8" x 50'	\$17.95
#2012-575	3/8" x 100'	\$33.95
#2012-600	3/8" x 300'	\$74.95



GARDEN HOSE QUICK CONNECTOR

#1025-101	Plug	\$1.95
#1025-102	Coupler	\$2.89
#1025-103	Complete Set	\$3.95



ALL STAINLESS STEEL

"DOUBLE GULP" CHEM INJECTOR
Dramatically Increases Chemical Draw

Attach 2 Chemical Lines and place one in your favorite detergent and the other in another compatible product such as "Bleach" or "Wax" and get the best of both Cleaning Worlds!

Or you can just drop both lines in one product and dramatically increase the draw for extra cleaning performance.

#1810-901 \$74.95



THE INDUSTRY'S #1 SELLER
INCREDIBLE 20% DRAW RATE
THE BEST MONEY CAN BUY

HI-TECH 5000 SERIES
Rated up to 4500 PSI

Non-Adjustable Stainless Ball

#5000	2-3 GPM	
#5001	3-5 GPM	\$9.46
#5002	5-8 GPM	

Non-Adjustable Ceramic Ball

#5003	2-3 GPM	
#5004	3-5 GPM	\$12.95
#5005	5-8 GPM	

Adjustable with Stainless Ball

#5006	2-3 GPM	
#5007	3-5 GPM	\$14.95
#5008	5-8 GPM	

Adjustable with Ceramic Ball

#5009	2-3 GPM	
#5010	3-5 GPM	\$16.95
#5011	5-8 GPM	



CHEMICAL FILTER
PLASTIC

#1925-101	w/ Check	\$1.79
#1925-102	w/o Check	\$1.29



GARDEN HOSE FITTING
3/4" Garden Hose Inlet
1/4" By-pass Port

#100312	3/8" BSP-M Outlet	\$4.95
#100313	1/2" NPT-M Outlet	\$4.95



ALL STAINLESS INJECTOR
Great for Bleach Users!

Adjustable
NON Adjustable

Non-Adjust \$34.95

#1899-601	2-3 GPM	
#1899-602	3-5 GPM	
#1899-603	5-8 GPM	

Adjustable \$64.95

#1899-701	2-3 GPM	
#1899-702	3-5 GPM	
#1899-703	5-8 GPM	
#1899-704	Kit	\$7.95



THRUSTER NOZZLE
23% - 30% Draw Rate
Hi Impact Chemical

THROW CHEMICAL 3 STORIES UP!
Attach to the discharge side of the lance & drop a chem line into your favorite chemical...
and pull the trigger!

ALL BRASS \$49.95

#TNB-25	2-5 GPM
#TNB-58	5-8 GPM



CHEMICAL FILTER with No-Drip Check Valve
Brass with Stainless Screen

#1914-101
\$2.75



Much Larger & Heavier than many other filters

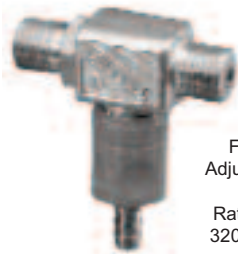
CHEMICAL FILTER
STAINLESS & BRASS with Removable Check

#1933-101 \$4.50



GARDEN HOSE WASHERS
with Filter Screen

#8102-145 \$0.39



ROBO-CHEM INJECTOR
Fully Adjustable
Rated to 3200 PSI

#1810-204	2.1-2.9 GPM	\$18.95
#1810-205	2.9-4.0 GPM	\$18.95
#1810-206	4.0-5.6 GPM	\$18.95
#1810-207	5.6-10.8 GPM	\$19.95
#1810-305	Repair Kit	\$ 4.39



CHEMICAL FILTERS
Plastic Filter
w/ 1/4" Brass Hose Barb

No Check	#ZF1	\$2.43
With Check	#ZF2	\$3.06

"I've learned that if you can't forgive and forget, you can at least forgive and move on."
- Unknown

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"Everyone wants to understand painting. Why is there no attempt to understand the song of the birds?"
- Pablo Picasso



WATER FILTER
1" I/O White
for use over 8 GPM
#1014-104 \$14.95



You Can't Buy a Better Filter... anywhere!

IRON HORSE FILTER
1" - Handles up to 15 GPM
This Filter is used on all SEVERE DUTY PRESSURE WASHERS manufactured by ENVIROSPEC
#1014-123 \$24.95
Allows more water movement



WATER FILTER WITH CONNECTOR
Handles up to 7 GPM
Built-In Garden Hose Connector
SEE-THRU, EASY CLEAN CLEAR CASE
1/2" MPT Connection to Pump
3/4" Garden Hose Connector
#1010-102 \$12.95
without by-pass ports



WATER FILTER WITH CONNECTOR
Handles up to 8 GPM
Built-In Garden Hose Connector
SEE-THRU, EASY CLEAN CLEAR CASE
1/2" MPT Connection to Pump
3/4" Garden Hose Connector
#1010-103 \$14.95
with 2 each 1/4" by-pass ports

CLEAR BOWL FILTER
1/2" I/O
#1014-101 \$12.95
Under 5 GPM
3/4" I/O
#1014-102 \$12.95
Use for 5 - 8 GPM




Y-TRAP FILTER
170 PSI @ 194°F
Brass Bodies • FPT In & Out
Stainless, 50 Mesh Screen
#2004 1/4" \$ 9.95
#2006 3/8" \$ 9.95
#2007 1/2" \$ 9.95
#2008 3/4" \$12.95
#2009 1" \$14.95



ALUMINUM FILTER
1/2" I/O
5.8 GPM
MAX 145 PSI
#1010-101 \$9.95



PLASTIC FLOAT TANK WITH LID
Molded Polypropylene
1 Gallon Tank
#7012-099 \$9.95



GARDEN HOSE CONNECTORS
#2927-106 Shut-off \$2.95
#2927-107 "Y" Shut-off \$3.99
#2927-108 "Y" Open \$2.99



INLINE PRESSURE REDUCING VALVE
• With 3/4" FPT Garden Hose Connection
• Reduces incoming city water pressure to 20 PSI.
• Protects the pump head from excessive pressure and water spikes.
#1027-102 \$14.95

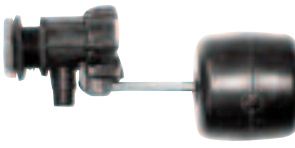


Preferred Over Typical Float Valves

HUDSON FLOAT VALVE
• No external moving parts
• No float ball or arm
• 90° or 150° F max. temp.
• All plastic, nylon, rubber & stainless steel
• 1" inlet - easy installation
• Automatic anti-siphon
1" Hudson Float Valve up to 90°
#343022 \$29.95
1" Hudson Float Valve up to 150°
#343026 \$29.95




BRASS FLOAT VALVE
• 142 PSI max. inlet pressure
• 140° F max. temperature
• 7.1 GPM @ 28 PSI
• 1/2" MPT inlet
• Positive soft Buna/brass shutoff
• Adjustable float ball settings
• Inlet nut and washer seal provided
#7012-102 \$15.95



PLASTIC FLOAT VALVE
All plastic snap-on float
Positive shut off diaphragm style
Inlet screen
• 3/4" MPT inlet
• 142 PSI Max.
• 7.86 GPM @ 28 PSI
• 6.68 GPM @ 14 PSI
• 140° F Max. Temp
#7012-100 \$10.95

"I called up the Psychic Friends Network. They said, "Why are you calling?" I said, "You tell me." - Broderick Rice



HOSE to Pump CONNECTOR for WATER FILTERS
1/2" Connector
#1027-101 \$5.95

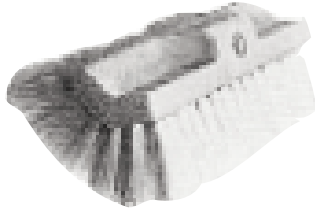
"The fact that man knows right from wrong proves his intellectual superiority to other creatures; but the fact that he can do wrong proves his moral inferiority to any creature that cannot."
 -- Mark Twain, What Is Man?

New Poly-foam Block



VEHICLE & HOUSE BRUSH
 #5055-101 10" Truck Wash \$ 9.95
 #5055-104 14" Premium \$15.95
 #5055-105 14" Fine Finish \$17.95
 #5055-102 18" Truck Wash \$16.95
 #5055-103 24" Truck Wash \$18.95

New Poly-foam Block



PREMIUM WIDE ANGLE
Holds Water Extremely Well
 Super High Fill
 Stays Wet Longer
#5055-110 \$13.95



UL Listed
ELECTRICAL TAPE
 3/4" X 60'
#7012-859 \$0.69
TEFLON TAPE
 1/2" X 520"
#8626-101 .49



"GET-A-GRIP" ICE WALKERS \$28.95

High quality, easy to put over boots. These walkers provide fantastic traction. Don't risk a fall, keep these on your truck for use in slippery conditions.

- #9500-501** Get a Grip Sm/Med
- #9500-502** Get a Grip Large
- #9500-503** Get a Grip X-Large



GUTTER & STACK BRUSH
Everyone should have this one!
 Contoured to fit
 House Gutters & Exhaust Stacks.
#5056-101 \$19.95



WORKS ON ANY PRESSURE WASHER
ROTATING BRUSH
 Max 435 PSI • 145° F
 Great for cleaning Vehicles, Siding and many other surfaces where surface agitation is required.
 Attaches to lance and the water pressure spins the brush.
 Water pressure automatically drops to a safe working pressure.
#5010-101 \$51.19



DRUM WRENCH
 Fits All 55 Gallon Drums
#5329-114 \$9.95

Change is inevitable...
 except from a vending machine.



SHUR-SURFACE BRUSHES
 It's Hard to miss any area with this brush!
#5056-102 Vehicles \$17.95



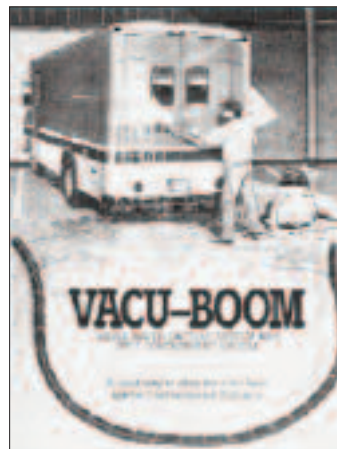
5 GALLON PAIL LID REMOVER
 With built-in Drum Wrench
#8698-102 \$3.95

mixes better than our \$1000.00 mixers!



INDUSTRIAL DRILL MIXER
 Incredible Tool that makes absolutely sure your product is mixed thoroughly.
 Attaches to any heavy duty drill.
 Thoroughly mixes product in 1/10th the time it normally takes using conventional methods.
#SM-101 1 Gallon \$ 6.95
#SM-102 5 Gallon \$ 9.95
#SM-103 5 Gallon HD \$16.95
#SM-105 55 Gallon HD \$79.95

Our #1 Selling WASTE WATER RECOVERY SYSTEM



- 20' Boom with 101 Vac #NVB20VR1 \$1895.00**
- 40' Boom with 202 Vac #NVB40VR1 \$2695.00**
- 20' Boom Only #VB20 \$895.00**
- 40' Boom Only #VB40 \$1595.00**

- 202 CFM VAC w/o Pump-out #9900-101 \$499.00**
- 101 CFM Vac with pump-out #VBVAC-101 \$1195.00**
- 202 CFM Vac with pump-out #VBVAC-202 \$1595.00**
- Tote Bag for 20" Section #VBTOTE \$69.95**

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"When counting, try not to mix chickens with blessings."

-- Unknown



Awesome Tool!



Or...



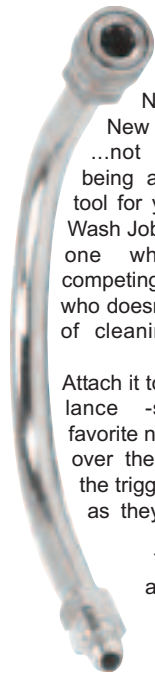
SPRAY FLEX WAND

Handles up to 3,000 P.S.I.

Bend it, Twist it, Turn it...
and it still holds it's shape
under pressure

#A0513 \$49.95

GUTTER SWEEP



Now here is a New Market in itself...
...not counting just being a great "closing" tool for your next House Wash Job. You know - the one where you are competing with "Billy Bob" who doesn't have any way of cleaning the gutters.

Attach it to the end of your lance -snap in your favorite nozzle - position it over the gutter and pull the trigger - and the rest, as they say, is history.

You just made another \$50.00!

(12" w/ quick connects)

#GSWEEP \$17.95

The Power Sweep

The Power Sweep a fantastic tool for cleaning sidewalks, garage floors and parking lots.

This awesome tool can come standard with nozzles, a 36" Lance and lance-to-sweep "quick" connects



GREAT FOR ROOFS
where deep yet gentle cleaning is required.

#PSWEEP12 12" without Nozzles or Lance \$39.95

#PSWEEP16 16" without Nozzles or Lance \$49.95

12" with 3 ea. 65° Nozzles & 36" Lance

#PSWEEP12L \$59.95

16" with 4 ea. 65° Nozzles & 36" Lance

#PSWEEP16L \$69.95

To the world you may be one person, but to one person you may be the world.

INDUSTRIAL SANDBLAST KIT



Mixes water with sand and discharges it at high pressure

Attach to end of Lance - insert probe into sand

Comes with Carbide Nozzle and Sand Probe

#2509-101 \$59.95
Pickup hose sold separately.

COMMERCIAL SANDBLAST KIT

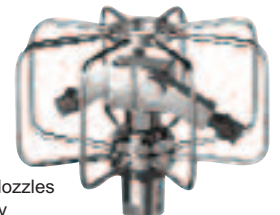
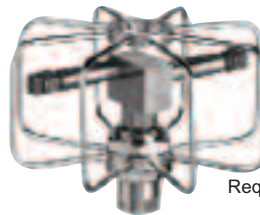


Rated to 10,000 PSI @ 0 Degrees

10 GPM Maximum - 3 GPM Min

#2509-102 \$158.95
Note: 5 GPM @ 2500 PSI will draw 9 lbs of sand per minute.

MOSMATIC EXHAUST HOOD CLEANERS



Requires 1/8" MEG Nozzles Sold Separately

2-NOZZLE HIGH SPEED SWIVELS
Fixed Nozzle - Self Rotating

#6099-072	3"	\$234.00
#6099-073	6"	\$234.00
#6099-074	12"	\$234.00
#6009-075	16"	\$244.00
#6009-076	20"	\$263.00
#6009-077	24"	\$278.00

2-NOZZLE HIGH SPEED SWIVELS
Adjustable - Self Rotating

#6099-172	3"	\$244.00
#6099-173	6"	\$244.00
#6099-174	12"	\$244.00
#6099-175	16"	\$264.00
#6009-176	20"	\$283.00
#6009-177	24"	\$288.00

3-NOZZLE HIGH SPEED SWIVELS
Fixed Nozzle - Self Rotating

#6099-372	3"	\$254.00
#6099-373	6"	\$254.00
#6099-374	12"	\$254.00
#6009-375	16"	\$254.00
#6009-376	20"	\$293.00
#6009-377	24"	\$298.00

3-NOZZLE HIGH SPEED SWIVELS
Adjustable - Self Rotating

#6099-472	3"	\$264.00
#6099-473	6"	\$264.00
#6099-474	12"	\$274.00
#6099-475	16"	\$274.00
#6009-476	20"	\$308.00
#6009-477	24"	\$308.00

Fixed Swivels are generally used on exhaust hoods where it can be lowered from the top - downward. Simply adjust the nozzles in such a manner that the swivel will PULL itself through the exhaust hood - as shown.

"And God said,
'Let there be light'
and there was light,
but the Electricity Board said he would
have to wait until Thursday to be connected."
- Spike Milligan

"Never try to out-stubborn a cat."
 -- Lazarus Long, "Time Enough for Love"



Shown with optional Trigger Gun

30" SERIES WITH WHEELS

- 30" 2 Nozzle Bar Non-Adjustable
#9874-107 \$749.95
- 30" 3 Nozzle Bar Non-Adjustable
#9874-108 \$769.95
- 30" 4 Nozzle Bar Non-Adjustable
#9874-109 \$849.95
- 30" 2 Nozzle Bar, Adjustable
#9874-104 \$849.95
- 30" - 3 Nozzle Bar, Adjustable
#9874-105 \$859.95
- 30" - 4 Nozzle Bar, Adjustable
#9874-106 \$949.95



Super Lightweight
Max Flow 4.0 GPM

STEEL EAGLE FLOATER

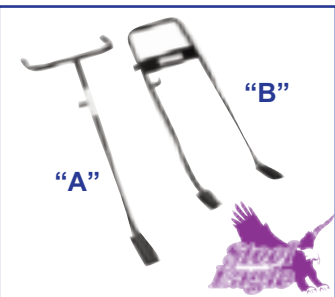
- Heavy Duty 12" & 16" floating aluminum deck
 - Super Lightweight
 - Heavy Duty Construction
 - 2-piece detachable handle
 - 3000 PSI maximum
 - 200 degree temperature
 - Heavy duty nylon brush
 - Balance spray bar
 - Powder coated handle
 - Heavy Duty Swivel
- Trigger and Nozzles sold separately
- 12" - 2 Nozzle Bar #9874-012 \$249.95
 - 16" - 2 Nozzle Bar #9874-016 \$299.95



Non-adjustable with Optional Trigger

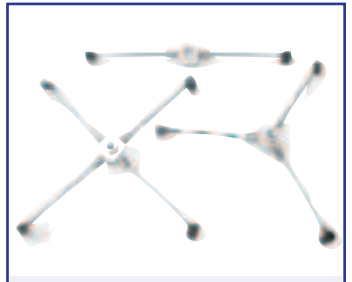
24" SERIES WITH WHEELS

- 24" Non Adjustable
- #9874-102 2 Nozzle Bar \$699.95
 - #9874-103 3 Nozzle Bar \$709.95
 - #9874-100 4 Nozzle Bar \$799.95



STEEL EAGLE OPTIONAL HANDLES

- "A" #9874A - Add \$25.00
- "B" #9874B - Add \$35.00



STEEL EAGLE

Replacement Parts

- #9874-101 24" Bar \$43.95 Per Bar
- #9874-112 30" Bar \$46.15 Per Bar

Replacement Manifolds

Manifold Only

- #9874-221 2 Bar \$ 49.95
- #9874-222 3 Bar \$ 54.95
- #9874-224 4 Bar \$149.95

Dublin Swivel

- #9874-998 New \$399.95
- #9874-999 Refurb \$299.95

Refurbished are on a "when available" basis



NEW

METERING NEEDLE VALVE

- Adj. Stainless Steel Stem
6 GPM • 4000 PSI
190° F
- #100838 \$18.14

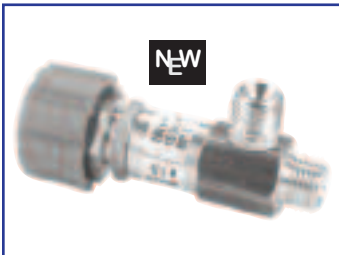


Handy tool! Keep one around!

PRECISION NEEDLE VALVES

- 1/4" FPT x 1/4" FPT
- #2923-301 90 Degree \$16.95
 - #2923-302 Straight \$14.95

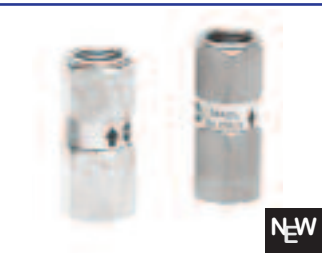
See Required Hose Barbs in the BRASS SECTION



NEW

STEAM VALVES

- 4050 PSI • 175° F
- #Y29092008 2.3 GPM \$21.88
 - #Y29092012 3.4 GPM \$21.88
 - #YC29092015 4.0 GPM \$21.88



NEW

CHECK VALVES

- Stainless • 6500 PSI • 195° F
- #YCV14FSS 6.5 GPM \$29.38
 - #YCV38FSS 10.5 GPM \$29.38
 - #YCV12FSS 21.0 GPM \$42.38

New at EnviroSpec
The ALLISON IRON HORSE Laser Deck

All Stainless Steel 2 & 3-Nozzle Arm Flat Surface Cleaner

- Includes:
 Gun Assembly
 Rebuildable Swivel with Grease Fitting
 Complete with 4 each Removable Stainless Casters for Convenient side-to-side movement or remove to make a "floater"

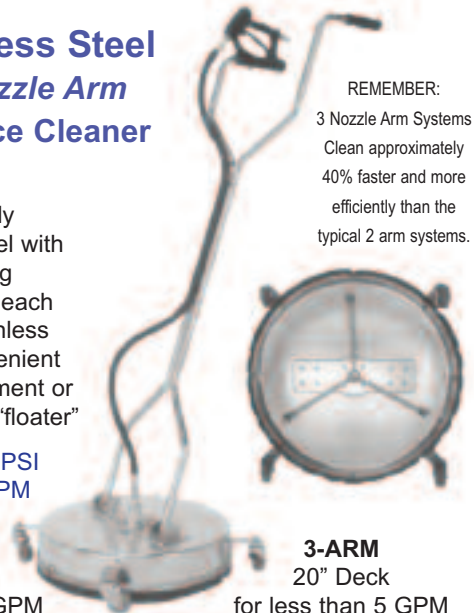
Rated to 4,000 PSI
 Rated to 10 GPM

- 2-ARM**
 20" Deck
 for less than 5 GPM
#20WAWS2 \$449.00

- 24" Deck
 for 5 GPM & Up
#24WAWS2 \$549.00

- 3-ARM**
 20" Deck
 for less than 5 GPM
#20WAWS3 \$499.00

- 24" Deck
 for 5 GPM & Up
#24WAWS3 \$599.00



REMEMBER:
 3 Nozzle Arm Systems
 Clean approximately 40% faster and more efficiently than the typical 2 arm systems.

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"I had a linguistics professor who said that it's man's ability to use language that makes him the dominant species on the planet. That may be. But I think there's one other thing that separates us from animals -- we aren't afraid of vacuum cleaners."
 -- Jeff Stilson

FLOJET PUMPS

with **Chemical Resistant Seals & Valves**



12 VOLT PUMPS

		GPM	PSI	VALVES	
1231-150F	Flojet	1.2	60	Viton	\$ 91.95
1231-101F	Flojet	1.4	60	Viton	\$ 71.95
1231-102F	Flojet	1.4	100	Viton	\$ 79.95
1231-106F	Flojet	2.0	100	Viton	\$ 79.95
1231-103F	Flojet	3.0	45	Viton	\$ 93.95
1231-104F	Flojet	3.6	45	Viton	\$ 93.95
1231-105F	Flojet	4.5	40	Viton	\$159.95

115 VOLT PUMPS

		GPM	PSI	VALVES	
1231-250F	Flojet	1.0	60	Viton	\$ 88.95
1231-201F	Flojet	1.4	60	Viton	\$ 76.95
1231-203F	Flojet	2.0	60	Viton	\$ 94.95
1231-202F	Flojet	3.2	45	Viton	\$109.95
1231-301F*	Flojet	1.6	100	EPDM	\$109.95
1231-301V	Flojet	1.6	100	Viton	\$104.95

*1231-301F has an electrical cord

*Take a good look at

#1231-105F

Extended Pump Life with the
New Flojet Variable Speed Pump
 Using a Smaller Nozzle produces less GPM's
 and the Pump Motor turns Slower

INDUSTRIAL TRIGGER JET SPRAY GUNS for FLOJET & SHURflo PUMPS



Fan Type Nozzle

NEW

Adjustable Nozzle

350 PSI Gun, Viton Gun with Poly Lance

#2214-110	30" with Fan Type Noz	\$21.95
#2214-112	30" with Adjustable Noz	\$21.95
#2214-113	53" with Adjustable Noz	\$26.95

350 PSI Gun, Viton Gun with Stainless Lance

#2214-111	30" with Fan Type Noz	\$24.95
------------------	-----------------------	----------------

580 PSI Gun - No Lance #2214-009 \$17.95

Guns have 1/2" Inlet - so if you are using a
 ...1/4" Chem Line order Brass Bar **#BRF361 \$2.09**
 ...3/8" Chem Line order Brass Barb **#BRF356 \$2.09**
 ...1/2" Chem Line order Brass Barb **#BRF362 \$3.09**



REPAIR KITS for FLOJET PUMPS

PUMP # 1231-101F

20914-002A	Valve Kit, Viton	\$14.95
21022-042A	Diaphragm & Cam Kit, Santoprene	\$32.95
02090-100	Switch Kit, 60 psi	\$17.95
DH31V501	Upper Housing Kit, Viton, 60 psi SW	\$29.95

PUMP # 1231-102F

20914-002A	Valve Kit, Viton	\$14.95
21006-033A	Diaphragm & Cam Kit, EPDM	\$24.95
02090-120	Switch Kit, 100 PSI	\$17.95
DH32V701	Upper Housing Kit, Viton, 100 PSI SW	\$35.95

PUMP # 1231-103F

20407-020	Valve Kit, Viton	\$24.95
20403-040	Diaphragm Kit, Santoprene	\$11.95
02090-103	Switch Kit, 45 PSI	\$17.95
20404-007	Upper Housing Kit, Viton, 45 PSI SW	\$39.95

PUMP # 1231-105F

20407-020	Valve Kit, Viton	\$24.95
20403-040	Diaphragm Kit, Santoprene	\$11.95

PUMP # 1231-150F

20914-002A	Valve Kit, Viton	\$14.95
21022-022A	Diaphragm & Cam Kit, Viton	\$45.90
02090-100	Switch Kit, 60 psi	\$17.95
DH31V501	Upper Housing Kit, Viton, 60 psi SW	\$29.95

PUMP # 1231-201F

20914-002A	Valve Kit, Viton	\$14.95
21022-022A	Diaphragm & Cam Kit, Viton	\$45.90
02090-100	Switch Kit, 60 PSI	\$17.95
DH31V501	Upper Housing Kit, Viton, 60 PSI SW	\$29.95

PUMP # 1231-202F

20407-020	Valve Kit, Viton	\$24.95
20403-040	Diaphragm Kit, Santoprene	\$12.95
02090-103	Switch Kit, 45 PSI	\$17.95
20404-017	Upper Housing Kit, Viton, 45 psi SW	\$39.95

PUMP # 1231-250F

20914-002A	Valve Kit, Viton	\$14.95
21022-022A	Diaphragm & Cam Kit, Viton	\$45.90
02090-100	Switch Kit, 60 PSI	\$17.95
DH31V501	Upper Housing Kit, Viton, 60 PSI SW	\$29.95

PUMP # 1231-301F

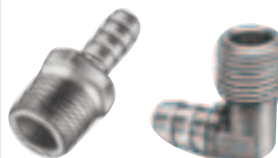
20914-003A	Valve Kit, EPDM	\$ 8.95
20914-002A	Valve Kit, Viton (Optional)	\$14.95
21006-033A	Diaphragm & Cam Kit, EPDM	\$24.95
02090-120	Switch Kit, 100 PSI	\$19.95
DH32E701	Upper Housing Kit, EPDM, 100 PSI SW	\$29.95
DH32V701	Upper Housing Kit, Viton, 100 PSI SW (Optional)	\$35.95

PUMP # 1231-301V

20914-002A	Valve Kit, Viton	\$14.95
21006-033A	Diaphragm & Cam Kit, EPDM	\$24.95
02090-120	Switch Kit, 100 PSI	\$19.95
DH32V701	Upper Housing Kit, Viton, 100 PSI SW	\$35.95

POLY FITTINGS

For Industrial Trigger Guns



#141077P	1/4" Barb x 1/4 MPT	\$2.55
#141080P	1/4 Barb x 3/8 MPT	\$2.65
#141125P	90° 1/4" Barb x 1/4 MPT	\$3.20
#141132P	3/8" Barb x 3/8" MPT	\$3.75

"Man is an animal that makes bargains; no other animal does this - one dog does not change a bone with another."
 -- Adam Smith

SHURflo PUMPS

with Chemical Resistant Seals & Valves

12 VOLT PUMPS

	GPM	PSI	Valves	
1231-150	Shurflo 1.2	60	All Viton	\$ 93.95
1231-101	Shurflo 1.4	60	Viton	\$ 66.95
1231-102	Shurflo 1.8	100	Viton	\$ 69.95
1231-200	Shurflo 1.5	150	EPDM	\$112.95
1231-103	Shurflo 3.0	45	Viton	\$ 85.95
1231-104	Shurflo 3.6	45	Viton	\$139.95

115 VOLT PUMPS

	GPM	PSI	Valves	
1231-250	Shurflo 1.0	60	Viton	\$ 121.95
1231-201	Shurflo 1.4	60	Viton	\$ 98.95
1231-202	Shurflo 3.2	45	Viton	\$121.95
1231-203	Shurflo 1.5	150	Viton	\$123.95
1231-301*	Shurflo 1.6	100	Viton	\$122.95

*1231-301 has an electrical cord



REPAIR KITS FOR SHURFLO

VALVE KITS

#1231-007	Check Valve - 8000 Series	\$14.95
#1231-008	Check Valve - 8020, 8030 Series	\$14.95
#1231-009	Check Valve - 2088 Series	\$14.95
#1231-001	By-pass, Viton, All Models	\$25.95

DIAPHRAGM KITS

#1231-002	8000 Series	\$15.95
#1231-006	2088 Series	\$24.95

PRESSURE SWITCH

#1231-003	8000, 60 PSI Series, Viton	\$30.95
#1231-004	8000, 100 PSI Series, Viton	\$32.95
#1231-005	2088, 45 PSI Series, Viton	\$27.95

20 GALLON TANK ONLY

Shown on drum dolly with chem line and gun assembly which are not included.

#9932-922
\$79.95



for SHURflo, FLOJET Pumps & Chemical Injectors

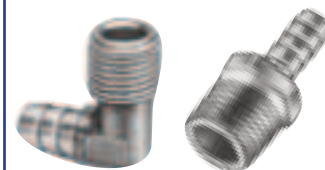
"Non-Kinking"
Clear 1/4" Polyurethane



MEMORY COIL CHEMICAL HOSE

Strain Reliefs on Both Ends
Brass 1/4" MPT Ends

#KU30 30' \$36.95
#KU50 50' \$54.95



FITTINGS for SHURflo & Flojet Pumps

Straight Thru Fittings

#141080P 3/8" MPT x 1/4" Barb \$2.65
#141082P 3/8" MPT x 3/8" Barb \$2.20

90° Fittings

#141131P 3/8" MPT x 1/4" Barb \$2.20
#141132P 3/8" MPT x 3/8" Barb \$3.75

TRIGGER GUN

"Non-Kinking" Recoil Hose

#2214-100 30' Memory Coil \$44.95
#2214-101 50' Memory Coil \$59.95



Fan Spray

for SHURflo & FLOJET Pumps



CHEMICAL TANK from ENVIROSPEC

...has been specially pre-drilled so you will be able to mount any SHURflo or FLOJET Pump in this catalog directly to the tank.

In addition there are 4 pre-drilled fittings on the bottom of the tank so you can easily mount the tank to the bed of a truck, trailer or cart.

#9932-100 14 Gallon \$43.94
#9932-101 25 Gallon \$49.44



REPLACEMENT SPRAY NOZZLE

Brass
Fully Adjustable
Cone Spray to Straight Stream

#2214-001 \$4.95

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"If your dog doesn't like someone you probably shouldn't either."

-- Unknown

CORROSION RESISTANT "AS" SERIES SPRAYERS

Designed for Maximum Chemical Resistance
Black Heavy Duty Poly Tank
Stainless Steel Pump Rod
Specially Designed Heavy Duty Valve
Highly Chemical Resistant Hose
Fully Field Repairable - No Tools Required

#2AS 2 Gallon \$41.95
#3AS 3 Gallon \$45.95

DURASPRAY "V"

Offers Good Chemical Resistance
at an Economical Price
Standard with Viton Seals and Gaskets
Adjustable Fan Spray
Extra Heavy Duty Polyethylene Tank
Fully Repairable Pump Design -
No Tools Required

#20PV 2 Gallon \$26.95
#30PV 3 Gallon \$28.95

STAINLESS "SCR" SERIES

Heavy Duty Stainless Steel Tank
Available in 2 or 3 Gallon Sizes
Celcon Fan Spray Tip
Viton Seals & Gaskets
Durable "XR" Valve and Extension
Epoxy Coated Funnel Top Design
Chemical Resistant Hose

#2SCR 2 Gallon \$ 89.95
#3SCR 3 Gallon \$103.95



B&G

INDUSTRIAL SPRAYERS

Durability
Strength
Quality



STAINLESS PRIMELINE

The Professionals First Choice
Heavy Duty Stainless Steel Tank
Exclusive Viton Soft Tip Design
Exclusive Chemical Resistant Hose
Protector Rings and functional Top Rings
Fully Repairable Pump Design
Built For the Long Haul

#N200-S 2 Gallon \$199.95

"JR1" - 1.5 QUART

Durable 1.5 Quart Tank
Adjustable Pin-to-Cone Spray Tip
Steel Pump Rod
Pump Pressure Bypass
Protector Rings and functional Top Rings
Fully Repairable Pump Design
Built For the Long Haul

#JR1 \$10.95

"KP4" BACKPACK SPRAYER

Tubular Steel Frame
4 Gallon Capacity
Chemical Resistant Viton Seals
Adjustable Shoulder Strap
Extra Long 18" Extension
Adjustable Spray Tip
Wide Mouth for Easy Filling

#KP4 \$99.95

"He who is cruel to animals becomes hard also in his dealings with men.
We can judge the heart of a man by his treatment of animals."
-- Immanuel Kant

**TRX-B EXHAUST HOOD
PRESSURE WASHER**

A-R



**GREAT FOR
AUTO DETAILING!**

**2.1 GPM
1,500 PSI**

NEW

The best system on the market for kitchen exhaust hood cleaning. Way back when we first started cleaning kitchen exhaust hoods, one of the major problems we encountered was the time it took to remove the excess water when the cleaning task was complete.

COMES EQUIPPED WITH:

- Triplex Pump w/ ceramic plungers, connecting rod system
- Pressure adjustment
- Built-in detergent suction
- Pressure Gauge
- Motor thermal protector
- 25' Hose, gun, lance
- Vari-spray nozzle head
- Garden hose adapter, Filter
- 90" GFCI Cord
- 115 Volt Motor

This the same "awesome" TRX Machine that we have carried for the last 12 years with a Brass Head Pump

All you need is a place to plug it in, domestic hot water, and chemical.

#TRXB \$499.95

**TRX EXHAUST HOOD
PRESSURE WASHER**

**2.1 GPM
1,500 PSI**



**ALSO GREAT FOR
AUTO DETAILING!**

A-R

The best system on the market for kitchen exhaust hood cleaning. Way back when we first started cleaning kitchen exhaust hoods, one of the major problems we encountered was the time it took to remove the excess water when the cleaning task was complete.

Comes Equipped With:

- Triplex Pump w/ ceramic plungers, connecting rod system
- Pressure adjustment
- Built-in detergent suction
- 18 oz. Detergent tank
- 25' Hose, gun, lance
- Vari-spray nozzle head
- Garden hose adapter, Filter
- 89" GFCI Cord
- 115 Volt Motor

The TRX has been a part of our catalog for 12 years and has become "the machine to have" in the exhaust hood cleaning and auto detailing markets.

All you need is a place to plug it in, domestic hot water, and chemical.

#TRX \$449.95

CARTS FOR PRESSURE WASHERS & CART ACCESSORIES

**SEE THE STAINLESS STEEL
BELT DRIVE CART**

- Durable Powder Coat Paint,
- Fully Pneumatic Wheels with Nickel Axle Caps,
- Rubber Foot Pads & Rubber Nozzle Grommets,
- Heavy Duty, Welded Steel Frame



102



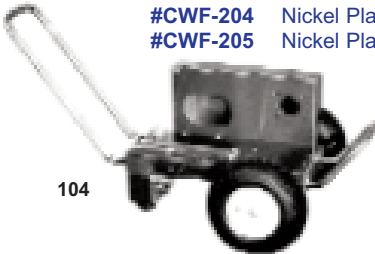
103



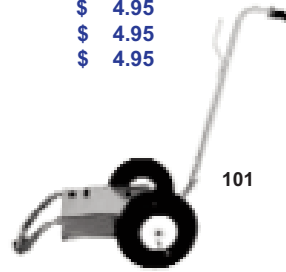
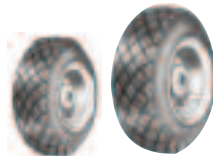
- #CWF-101
- #CWF-102
- #CWF-103
- #CWF-104
- #CWF-201
- #CWF-202
- #CWF-203
- #CWF-204
- #CWF-205

- 10" Wheels, up to 6.5 HP Gas or 56C Electric Motor
- 10" Wheels, up to 13 HP Gas Engine
- 13" Wheels, 11-20 HP Gas or 182/184T Electric Motor
- 13" Wheels, **TOTAL STAINLESS**, Belt Guard, 13 HP Gas Engine
- 10" Pneumatic Tire for 3/4" Axle
- 13" Pneumatic Tire for 3/4" Axle
- Rubber Foot with Nut, Bolt & Washer
- Nickel Plated Axle Cap, 5/8"
- Nickel Plated Axle Cap, 3/4"

- \$ 60.48
- \$ 69.44
- \$ 95.62
- \$239.78
- \$ 16.95
- \$ 17.00
- \$ 4.95
- \$ 4.95
- \$ 4.95



104



101

*Check you Index to
the*
**ALLISON
IRON HORSE
ALL
STAINLESS
GAS
ENGINE
HOT WATER
FRAMES**
that are now available

People are always blaming their circumstances for what they are. I don't believe in circumstances. The people who get on in this world are the people who get up and look for the circumstances they want, and, if they can't find them, make them. - George Bernard Shaw

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"A righteous man has regard for the life of his beast."
 -- Proverbs 12:10

KOHLER ENGINES

RUN QUIETER, LONGER

Whether your
 needs are ordinary
 or extraordinary,
 you can count on
POWER
 &
PERFORMANCE
ON DEMAND!



Exclusive
 Engine
 for
**ALLISON
 IRON HORSE
 EQUIPMENT**

The Following Engines are
 SPECIAL SPECS
 for
 IRON HORSE EQUIPMENT
 but will interchange with other engines commonly
 found on Pressure Washers

18, 22, 25 & 27 HORSEPOWER

Standard with:
 Engine Mounted Controls & Low Oil Shut-down
 Muffler sold separately

#K018	18 HP, 1.0" Shaft 25 AMP Recharge	\$1,095.00
#K022	22 HP, 1.0" Shaft 25 AMP Recharge	\$1,195.00
#K025	25 HP, 1.0" Shaft 25 AMP Recharge	\$1,295.00
#K027	27 HP, 1-7/16" Shaft, 25 AMP Rec.	\$1,595.00

MUFFLERS

As you are facing the front of the engine...

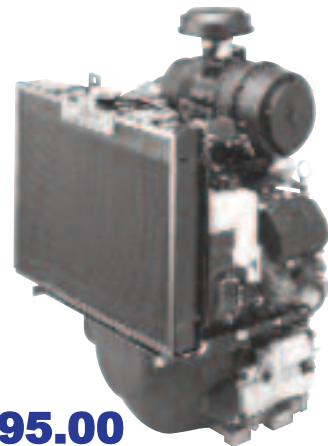
18-22 HP	#2478605S - Oil Filter Side - Top Mount	\$ 84.95
25-27 HP	#2478611S - Oil Filter Side - Top Mount	\$ 94.95
18-22 HP	#2478606S - Starter Side - Top Mount	\$ 84.95
25-27 HP	#2478612S - Starter Side - Top Mount	\$ 94.95
18-22 HP	#2478609S - Oil Filter Side - Lower Mount*	\$ 95.95
25-27 HP	#2478620S - Oil Filter Side - Lower Mount	\$154.95
18-22 HP	#2478608S - Starter Side - Lower Mount	\$109.95
25-27 HP	#2478619S - Starter Side - Lower Mount	\$144.95

* Requires #1205001S Oil Filter

THE NEW 25 HORSEPOWER WATER COOLED KOHLER

taking "COOL" in a different direction!

Get Twice
 the LIFE
 &
 PERFORMANCE
 for just
 a few bucks more!



Includes:
 Key Switch
 Throttle
 Choke Control
 & Muffler

(state discharge side)

1-1/8" x 4" Shaft

\$1595.00

#K25WC

The KOHLER AEGIS ENGINE, with its automotive style
 radiator and heavy-duty air filtration system, delivers
 superior performance custom-made for demanding
 applications.

Backed by a 3-year warranty

See for yourself why KOHLER AEGIS
 is Turning Heads!

HONDA ENGINES



MODEL	HP		PRICE
#GC160	5.0	Recoil	\$ 286.00
#GX340	11.0	Recoil	\$ 696.00
#GX390	13.0	Recoil	\$ 747.00
#GX620	20.0	20 AMP E/Start	\$1075.00
#GX670	24.0	20 AMP E/Start	\$1195.00

Includes Key Switch Package on 620 & 670
 The 20 & 24 HP requires a muffler.

MUFFLERS FOR 20 HP:


#VHSM3	Low Mnt. Oil Filter Side	\$ 133.95
#VHRM3	Hi-Mnt. Oil Filter Side	\$ 143.95
#VHLM3	Hi-Mnt. Starter Side	\$ 143.95

MUFFLERS FOR 24 HP:

#VHRM4	Top Mount Oil Filter Side	\$ 143.95
#VHLM4	Top Mount Starter Side	\$ 143.95

"Old dogs, like old shoes, are comfortable. They might be a bit out of shape and a little worn around the edges, but they fit well."
 -- Bonnie Wilcox 'Old Dogs, Old Friends'

For "DC" Current Only



Shuts Down Engine before the Pump Head Overheats

ALLISON ENGINE TERMINATOR

A "surefire" promise to save your pump from "overheat" damage. When the head of the pump sees 140-150 degrees it simply shuts down the engine. When the head cools down, the switch resets itself and you can start back to work.

#TET-101 \$39.95

Note: This is for DC Voltage Only
DO NOT install on AC current systems



Same one used on 16 HP B/S Vanguards

12 VDC STARTER SOLENOID

Universal Type for Gas Engines
5/16" Double terminal

#4612-002 \$12.95



COMMERCIAL FUEL LINE

Gas or Diesel
The Highest Quality Available
1/4" - Severe Duty Rated

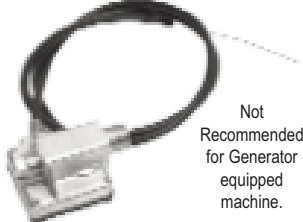
#2121-005 \$.86 p/f



QUICK DRAIN OIL PLUG

For Pumps, Gear Boxes, & Engines
Fits all engines with 3/4" plug
DOES NOT FIT HONDA!

#4616-501 \$12.95



Not Recommended for Generator equipped machine.

"IDLE-DOWN" THROTTLE CONTROL

The Speedmatic Adjustable Throttle Control is designed to reduce gas engine speed when the pump is in bypass and immediately return to full operating RPM when pump resumes. Easy to install and simple to adjust, the Speedmatic saves wear on both the pump and the engine.

#8822-101 \$44.95



EASY START VALVE

Installs on the high pressure side of the pump to reduce back pressure during start-up.

#1625-777 \$9.95



BATTERY TERMINALS

Heavy Duty Lead

#K47689 \$2.49



KEY STOCK

12" Lengths

K80014 1/4" \$4.00



MARINE BATTERY BOX

Protect Batteries on Pressure Washers, Boats, or other Equipment

#9950-10 Large Box \$12.95



REPLACEMENT KOHLER FILTERS

#52050 02-S	OIL FILTER FITS ALL PRO SERIES	\$7.95
#28060 01	SHORT OIL FILTER ALL PRO SERIES	\$7.95
#24050 02-S	FUEL FILTER	\$5.95
#24083 03-S	AIR FILTER - FITS CH25, CH27	\$9.95
#24083 05-S	PRE-CLEANER - FITS CH25, CH27	\$3.85
#47083 03-S	AIR FILTER - FITS CH18, CH20, CH22	\$9.95
#24083 02-S	PRE-CLEANER - FITS CH18, CH20, CH22	\$3.85

Special EnviroSpec Design



Installs in a heartbeat!
A Must for Every Engine

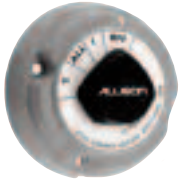
ELECTRONIC TACH & HOUR METER

If you don't know what your engine is doing you certainly can't figure out the problem!

For single & twin cylinder engines.
Simply wrap the red wire around a plug wire & ground the black wire!

#4616-502 \$36.95

12-Volt Burners suck down the "juice"!
You always need 2 batteries!



2-WAY BATTERY SELECTOR

You can - Turn your batteries off at night

- Run from Battery #1
- Run from Battery #2
- Run from Batteries #s 1 & 2

#201996 \$29.95

"We are taught you must blame your father, your sisters, your brothers, the school, the teachers - you can blame anyone, but never blame yourself. It's never your fault. But it's always your fault, because if you wanted to change, you're the one who has got to change. It's as simple as that, isn't it."

-Katharine Hepburn

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"The more people I meet the more I like my dog."

-- Unknown




FLOW SWITCHES

#4008-005 Vertical Mount (shown)
#4008-006 Vertical or Horizontal Mount

\$27.95

#1 Seller in 2003



REEDLESS FLOW SWITCH

No More Reed Problems
5,000 PSI • 8 GPM
Rated for 5 AMP

#4008-008 **\$29.86**

Works with Any Unloader!



PHOENIX INDUSTRIAL FLOW SWITCH

Super Heavy Duty Flow
Vertical or Horizontal Mount

#4010-101 **\$89.95**

Up to 250 Volts - 190° - 15 Amps




PRESSURE SWITCHES


3650 PSI • Switches @ 580 PSI
#4009-101 1/4 MPT **\$13.13**
#4009-102 3/8 MPT **\$13.13**

5800 PSI • Switches @ 650 PSI
#4009-103 1/4" MPT **\$51.38**

HIGH AMP BURNER RELAYS



WR1

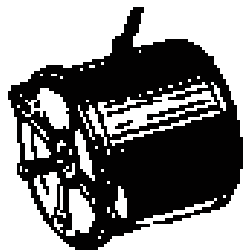


B01

You should also install a Hi Amp Relay to cushion electrical shock

If you are having problems with your 12-Volt Burner it could be caused by a heavy inrush (spike) of electricity. This condition reduces the life of 12 Volt Motors and igniters up to 80%. It is one of the most common problems on ALL 12-Volt Burner systems.

Part #	AMPs	Spike AMPs	Price
#WR1-001	80 Continuous	300	\$16.95
#B01-001	40 Continuous	45	\$14.95



BURNER MOTORS

#4215-755 120 Volt AFG **\$66.95**
#4215-756 120 Volt SM **\$69.95**
#4215-757 12 Volt ADC **\$84.95**
#4215-758 12 Volt SDC **\$159.95**



VAC SWITCHES

#4012-101
For Gas Eng Systems

#4012-102
For Electric Motor Systems

\$14.95



BURNER SWITCH

50 AMP @ 12 VOLT
On/Off Positioning

#4212-825 **\$9.95**

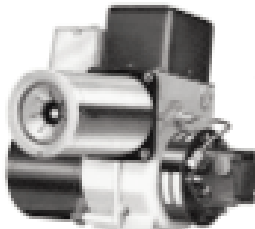


ABS Plastic Case

FUEL PRESSURE GAUGE

Rated to 200 PSI

#1751-200 **\$6.95**



NEW 12 VOLT AMP SAVER DUAL LOCK-OUT ENERGY SAVER SYSTEM

BECKETT OIL BURNERS

The "S" Series have a larger frame, fan and burner motor and can take a fuel nozzle up to 3.25 GPH whereas the "A" Series will only handle a 2.25 GPH nozzle.


Generally speaking, if your pressure washer is 5.0 GPM or less you need to install an "A" Series. If it is greater than 5.0 install the "S" Series. Unlike other Burners commonly found in the marketplace we have ours manufactured to our own specifications.

With the EnviroSpec specification - the burner will draw much fewer amps. This is achieved by using a unique ignition controller and cad cell so when the cell sees the flame the ignition shuts down thus drawing fewer amps. This feature is a definite PLUS when using a 12 Volt Burner since there will be much less draw on the battery.

Yes, our burners are a few bucks more but you will be glad you made the additional investment.

#4215-011 12 Volt ADC **\$299.95**
#4215-012* 12 Volt SDC **\$349.95**
*the standard 12V Burner on Iron Horse Pressure Washers

#4215-109 120 Volt AFG **\$259.95**
#4215-110* 120 Volt SF **\$279.95**
*is the standard 120V Burner on Iron Horse Pressure Washers



HI-LIMIT SAFETY SHUT-DOWN

Shuts Down the Fuel Solenoid on the Burner should the Flow, Pressure or VAC Switch, or Thermostat Fail. When the water reaches 220 degrees at the sensing probe, the Hi-Limit terminates the current to the fuel solenoid.

#1560-102 **\$16.95**



BURNER SOOT REMOVER

Keeps Burner and Coils Running Clean

#4269-101 Per Quart **\$ 9.95**
#4269-102 Per Case (12) **\$89.95**

"In order to really enjoy a dog, one doesn't merely try to train him to be semi-human.
The point of it is to open oneself to the possibility of becoming partly a dog."
-- Edward Hoagland

WINCO AC GENERATOR

**2000 WATT - 120 VOLT
3600 RPM**

PRODUCES 16.7 AMP


Industrial-Duty - 3 Carbon Brushes
5/8" Diameter Shaft, Rotates Either Direction

DUAL SEALED PERMANENT BEARINGS
15" L x 6.5" W x 6.75" H - 59 lbs.

#4712-101 \$399.95

REPAIR PARTS		
Desc.	# Req.	
#4712-102 Brushes	2	\$19.95
#4712-104 Rectifier	1	\$59.95
#4712-103 Receptacle	2	\$19.95

TRANSFORMERS & IGNITERS



BECKETT


#4215-499	Igniter, 12V-S Complete	\$94.95
#4215-500	Igniter, 12V-A Complete	\$94.95
#4215-601	Transformer, 120V-A	\$39.95
#4215-603	Transformer, 230V-A	\$39.95
#4215-605	Transformer, 230V-S	\$43.95
#4215-607	Transformer, 115V-S	\$42.95

WAYNE

#4212-012	12V, Back Hinge MSR	\$97.95
#4212-115	115V, Side Hinge M-MSR	\$39.95
#4212-117	115V, Back Hinge EH-EHA	\$84.95
#4212-230	230V, Side Hinge, EH-EHA	\$49.95

VOLT MASTER GENERATOR

A
Direct Replacement
for WINCO




PRODUCES 20 AMP


3000 WATT • 120 VOLT • 3600 RPM

Clockwise or Counter-Clockwise Rotation
Built-in Volt Meter • Re-settable Fuse

#4712-201 \$349.95




Replaces
Suntec
A2VA-7116
Series



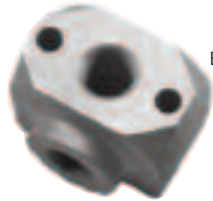
BECKETT FUEL PUMP
With Built-In Solenoid Valve

#4215-274 \$54.95
Includes Solenoid



SUNTEC FUEL SOLENOID
with "Plug-in" Lead Wires

#4241-100	110 Volt	\$22.50
#4215-101	220 Volt	\$24.95
#4215-901	12 Volt	\$29.95



Takes the
load off the
Burner Pump

**FUEL FILTER
MOUNTING BLOCK**

Solid Brass Construction
1/4" In & OUT


#1599-106 \$13.95



A **MUST**
for
EVERY
BURNER!

**RACOR FUEL/WATER
SEPARATOR**

#4312-101	Complete	\$36.35
#4312-102	Standard Element	\$14.95
#4312-103	Maxi Element	\$18.95




SUNTEC FUEL PUMPS

#4215-275	A2VA7116	\$48.95
#4215-277	A2VC7118	\$53.95
#4215-276	A1VA7112	\$47.95
#4215-278	A1YA7912	\$56.95
#4215-279	A2YA7916	\$53.95



**BURNER
TUNE-UP KITS**


#4215-900	Beckett	\$18.95
#4212-900	Wayne	\$24.95



THERMOSTAT
IN-LINE, FULLY ADJUSTABLE
60°F to 230°F

Installs on the Outlet
Side of the Coil

#4560-101 \$36.95
Includes Lead Wire



FULLY
ADJUSTABLE

PANEL MOUNT THERMOSTAT

- 4000 PSI Max • 302°F Max Temp
- 3-1/2" Immersion Bulb
- 60" Capillary Wire • Accuracy to 2.5%
- 16 AMP Rating - 250 Volt
- Seal Nut & Coupling

#4510-101 \$19.95




NEW

Lightweight
and Portable

TRANSFORMER TESTING UNIT

Instantly test transformers
and electric igniters

#SC2100 \$49.95



BURNER NOZZLES

#4212-775	1.00 GPH
#4212-776	1.25 GPH
#4212-777	1.50 GPH
#4212-778	1.75 GPH
#4212-779	2.00 GPH
#4212-780	2.25 GPH
#4212-781	2.50 GPH
#4212-782	2.75 GPH
#4212-783	3.00 GPH




Any Size \$3.95

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)


"If you yell at a cat, you're the one who is making a fool of yourself."

-- Unknown

BRASS FITTINGS for LOW to MEDIUM PRESSURE APPLICATIONS

COUPLINGS			TEE			HEX NIPPLE				
#BRF454	1/4"	1.02	#BRF852	1/8"	1.80	#BRF752	1/8"	0.72		
#BRF456	3/8"	1.50	#BRF854	1/4"	2.48	#BRF754	1/4"	0.89		
#BRF458	1/2"	1.79	#BRF856	3/8"	3.77	#BRF756	3/8"	1.34		
#BRF462	3/4"	2.51	#BRF858	1/2"	6.02	#BRF758	1/2"	1.97		
			#BRF862	3/4"	10.28	#BRF762	3/4"	4.41		
						#BRF764	1"	9.15		
REDUCING COUPLING			BRANCH TEE			REDUCING NIPPLE				
#BRF502	1/4" x 1/8"	1.25	#BRF875	1/4"	3.72	#BRF753	1/4" x 1/8"	0.99		
#BRF504	3/8" x 1/4"	1.25	#BRF877	3/8"	4.91	#BRF751	3/8" x 1/8"	1.65		
#BRF505	1/2" x 1/4"	2.00	#BRF879	1/2"	7.32	#BRF755	3/8" x 1/4"	1.31		
#BRF506	1/2" x 3/8"	2.00				#BRF757	1/2" x 1/4"	2.30		
						#BRF759	1/2" x 3/8"	2.07		
ADAPTER - FPT x MPT			STREET TEE			#BRF761			3/4" x 1/2"	2.90
#BRF651	1/8" x 1/8"	0.86	#BRF884	1/4"	2.72					
#BRF652	1/4" x 1/8"	1.14	#BRF886	3/8"	3.42					
#BRF650	3/8" x 1/8"	1.50	#BRF888	1/2"	8.99					
#BRF653	1/4" x 1/4"	1.05								
#BRF654	3/8" x 1/4"	1.46	CROSS - 4-WAY			#BRF702	1/8" Close	0.39		
#BRF657	1/2" x 1/4"	1.92	#BRF664	1/4"	3.45	#BRF710	1/4" Close	0.75		
#BRF658	1/2" x 1/2"	1.74	#BRF666	3/8"	6.98	#BRF711	1/4" x 1-1/2"	1.10		
#BRF656	1/2" x 3/8"	2.00	#BRF668	1/2"	9.81	#BRF712	1/4" x 2"	1.34		
#BRF660	3/4" x 1/2"	3.02				#BRF713	1/4" x 2-1/2"	1.97		
#BRF662	3/4" x 3/4"	4.13	PLUG			#BRF721	3/8" x 1-1/2"	1.44		
STREET EL 45 DEGREE			#BRF802	1/8"	0.41	#BRF723	3/8" x 2-1/2"	2.43		
#BRF632	1/8"	1.79	#BRF804	1/4"	0.54	#BRF724	3/8" x 3"	3.08		
#BRF634	1/4"	2.25	#BRF806	3/8"	1.01	#BRF731	1/2" x 1-1/2"	1.77		
#BRF636	3/8"	2.10	#BRF808	1/2"	1.40	#BRF733	1/2" x 3"	4.76		
#BRF638	1/2"	3.39	#BRF810	3/4"	2.25					
STREET EL 90 DEGREE			BUSHING - MPT x FPT			#BRF062	1/8"	0.68		
#BRF602	1/8"	1.13	#BRF402	1/4" x 1/8"	0.54	#BRF064	1/4"	0.99		
#BRF604	1/4"	1.82	#BRF404	3/8" x 1/4"	0.80	#BRF065	3/8"	1.02		
#BRF606	3/8"	2.24	#BRF406	1/2" x 1/4"	1.17	#BRF067	1/2"	1.25		
#BRF608	1/2"	5.04	#BRF407	1/2" x 3/8"	1.17	#BRF070	3/4"	1.79		
#BRF612	3/4"	6.92	#BRF410	3/4" x 3/8"	1.80					
ELBOW - FPT x FPT			HOSE BARB MENDER			HEX PIPE NUT				
#BRF552	1/8"	1.35	#BRF200	1/4"	1.26	Hose Barb fittings on both sides				
#BRF554	1/4"	2.01	#BRF204	3/8"	1.58					
#BRF556	3/8"	2.39	#BRF208	1/2"	1.88					
#BRF558	1/2"	3.90	#BRF210	3/4"	3.00					
#BRF562	3/4"	7.49								

more "316" STAINLESS STEEL

BUSHING - MPT x FPT			PLUG			HOSE BARBS - BARB X MPT			
#SSF404	3/8" x 1/4"	3.95	#SSF804	1/4"	3.95	#BRF350	1/8" X 1/4"	.99	
#SSF406	1/2" x 1/4"	3.95	#SSF806	3/8"	3.95	#BRF351	3/8" x 1/8"	.70	
#SSF407	1/2" x 3/8"	3.95	#SSF808	1/2"	4.95	#BRF352	1/4" x 1/8"	.80	
#SSF410	3/4" x 3/8"	4.95	#SSF810	3/4"	5.95	#BRF354	1/4" x 1/4"	.89	
#SSF411	3/4" x 1/2"	4.95	#SSF811	1"	6.95	#BRF355	1/4" x 3/8"	1.25	
#SSF412	1" x 1/2"	6.95				#BRF360	5/8" x 3/8"	1.60	
#SSF413	1" x 3/4"	6.95				#BRF361	1/4" x 1/2"	1.73	
TEE			CROSS - 4-WAY			#BRF364	3/8" x 1/4"	.89	
#SSF854	1/4"	5.95	#SSF664	1/4"	7.95	#BRF358	3/8" x 3/8"	1.11	
#SSF856	3/8"	5.95	#SSF666	3/8"	9.95	#BRF356	3/8" x 1/2"	1.74	
#SSF858	1/2"	6.95	#SSF668	1/2"	10.95	#BRF353	3/8" x 3/4"	2.79	
#SSF862	3/4"	8.95	#SSF669	3/4"	16.95	#BRF363	1/2" x 1/4"	1.05	
#SSF863	1"	12.95	#SSF670	1"	19.95	#BRF365	5/8" x 1/2"	1.97	
						#BRF366	5/8" x 3/4"	2.34	
						#BRF368	3/4" x 3/4"	2.10	
						#BRF359	1/2" x 3/8"	1.29	
						#BRF362	1/2" x 1/2"	1.04	
						#BRF364	1/2" x 3/4"	2.55	
						#BRF368	3/4" x 3/4"	2.10	
						#BRF367	3/4" x 1/2"	1.83	

there's more
SEE THE

"316" STAINLESS STEEL

**Take a LOOK at Our
6000 PSI FITTINGS**

"Dogs are our link to paradise. They don't know evil or jealousy or discontent.

To sit with a dog on a hillside on a glorious afternoon is to be back in Eden, where doing nothing was not boring--it was peace."

-- Milan Kundera

SUPER HEAVY DUTY PRESSURE WASHER FITTINGS

Zinc Plated Heavy Wall Steel Pipe Fittings
Up to 6000 PSI Working Pressure & 18000 Burst
US Standard Tapered Pipe Thread

Used On
**IRON
HORSE
SYSTEMS**

W/P = WORKING PRESSURE

"A" = 6,000 PSI - (18,000 PSI Burst Pressure)
"B" = 5,000 PSI - (15,000 PSI Burst Pressure)
"C" = 4,500 PSI - (13,500 PSI Burst Pressure)
"D" = 4,000 PSI - (12,000 PSI Burst Pressure)
"E" = 3,000 PSI - (9,000 PSI Burst Pressure)

We also sell a
complete line of
**BRASS
FITTINGS**

ADAPTER

	W/P	
HDF404	1/4" x 1/4" A	3.40
HDF405	1/4" x 3/8" A	2.90
HDF406	3/8" x 3/8" A	4.50
HDF407	3/8" x 1/2" B	3.40
HDF408	1/2" x 1/2" B	5.40
HDF409	1/2" x 3/4" D	5.40
HDF412	3/4" x 3/4" D	8.30

COUPLER

	W/P	
HDF415	1/4" x 1/4" A	2.40
HDF417	3/8" x 3/8" A	2.62
HDF420	1/2" x 1/2" B	3.28
HDF422	3/4" x 3/4" B	3.10

COUPLER, REDUCING

	W/P	
HDF416	3/8" x 1/4" A	3.10
HDF418	1/2" x 3/8" B	3.90
HDF419	1/2" x 1/4" B	3.90
HDF421	3/4" x 1/2" D	5.90

NIPPLES, HEX

	W/P	
HDF425	1/4" x 1/4" A	1.67
HDF427	3/8" x 3/9" A	1.98
HDF430	1/2" x 1/2" A	2.33
HDF434	3/4" x 3/4" A	3.25

NIPPLES, REDUCING,

	W/P	
HDF426	3/8" x 1/2" A	2.09
HDF428	1/2" x 1/4" A	2.79
HDF429	1/2" x 3/8" A	2.65
HDF431	3/4" x 1/2" A	3.38

STREET EL

	W/P	
HDF438	1/4" x 1/4" B	2.98
HDF440	3/8" x 3/8" C	3.35
HDF442	1/2" x 1/2" E	5.62
HDF444	3/4" x 3/4" E	8.27

STREET EL - REDUCING

	W/P	
HDF439	1/4" x 3/8" C	4.47
HDF441	3/8" x 1/2" E	6.25
HDF443	1/2" x 3/4" E	9.95

STREET TEE

	W/P	
HDF684	1/4" B	3.80
HDF685	3/8" C	4.80
HDF686	1/2" E	6.80
HDF687	3/4" E	9.80

ELBOW

	W/P	
HDF504	1/4" x 1/4" B	3.08
HDF506	3/8" x 3/8" C	3.50
HDF508	1/2" x 1/2" E	5.77
HDF512	3/4" x 3/4" D	7.90

ELBOW, REDUCING

	W/P	
HDF505	1/4" x 3/8" C	3.94
HDF507	3/8" x 1/2" E	7.47
HDF509	1/2" x 3/4" D	9.80

TEE

	W/P	
HDF654	1/4" B	3.90
HDF656	3/8" C	4.45
HDF658	1/2" E	5.42
HDF662	3/4" E	9.20

CROSS

	W/P	
HDF664	1/4" B	6.40
HDF666	3/8" C	7.26
HDF668	1/2" E	10.95
HDF672	3/4" E	15.90

BUSHINGS, REDUCING

	W/P	
HDF676	3/8" x 1/4" A	1.06
HDF678	1/2" x 1/4" A	1.66
HDF680	1/2" x 3/8" A	1.66
HDF682	3/4" x 1/2" A	2.40

PIPE NIPPLE

	W/P	
HDF800	2" x 1/4" A	4.87
HDF801	3" x 1/4" A	5.63
HDF802	4" x 1/4" A	6.40
HDF803	2" x 3/8" A	3.70
HDF804	3" x 3/8" A	5.49
HDF805	4" x 3/8" A	6.80
HDF806	2" x 1/2" A	3.50
HDF807	3" x 1/2" A	4.30
HDF808	4" x 1/2" A	5.95
HDF809	5" x 1/2" A	6.70
HDF810	6" x 1/2" A	7.75
HDF811	2" x 3/4" A	4.15
HDF812	3" x 3/4" A	5.85
HDF813	4" x 3/4" A	7.10
HDF814	6" x 3/4" A	9.15

PLUGS

	W/P	
HDF701	1/4" A	.88
HDF702	3/8" A	.99
HDF703	1/2" A	1.39
HDF704	3/4" A	2.60

"316" STAINLESS STEEL

COUPLINGS

#SSF458	1/2"	4.59
#SSF462	3/4"	6.02
#SSF463	1.0"	8.95

(Other Sizes Available - Call)

REDUCING COUPLING

#SSF502	1/4" x 1/8"	3.98
#SSF504	3/8" x 1/4"	4.37
#SSF505	1/2" x 1/4"	4.95
#SSF506	1/2" x 3/8"	4.95
#SSF508	3/4" x 3/8"	6.95
#SSF509	3/4" x 1/2"	6.95
#SSF511	1.0" X 1/2"	9.95
#SSF512	1.0" X 3/4"	9.95

(Other Sizes Available - Call)

STREET EL 90 DEGREE

#SSF604	1/4"	4.95
#SSF606	3/8"	5.95
#SSF608	1/2"	6.95
#SSF612	3/4"	8.95
#SSF613	1.0"	12.05

ELBOW - FPT x FPT

#SSF554	1/4"	3.95
#SSF556	3/8"	4.95
#SSF558	1/2"	5.95
#SSF562	3/4"	6.95
#SSF563	1.0"	8.95

HEX NIPPLE

#SSF754	1/4"	3.95
#SSF756	3/8"	4.95
#SSF758	1/2"	5.95
#SSF762	3/4"	6.95
#SSF764	1"	7.95

NIPPLE

#SSF710	1/4" Close	2.95
#SSF711	1/4" x 1-1/2"	2.95
#SSF712	1/4" x 2"	3.95
#SSF713	1/4" x 2-1/2"	3.95
#SSF714	1/4" x 3"	4.95
#SSF720	3/8" x Close	2.95
#SSF721	3/8" x 1-1/2"	3.95
#SSF723	3/8" x 2-1/2"	4.95
#SSF724	3/8" x 3"	4.95
#SSF729	1/2" x Close	3.95
#SSF730	1/2" x 1-1/2"	3.95
#SSF731	1/2" x 2"	4.95
#SSF732	1/2" x 2-1/2"	5.95
#SSF733	1/2" x 3"	5.95
#SSF740	3/4" x Close	4.95
#SSF741	3/4" x 1-1/2"	3.95
#SSF742	3/4" x 2"	4.95
#SSF743	3/4" x 2-1/2"	5.95
#SSF744	3/4" x 3"	6.95

HOSE BARBS - BARB X MPT

#SSF354	1/4" x 1/4"	4.95
#SSF357	3/8" x 1/4"	5.95
#SSF358	3/8" x 3/8"	5.95
#SSF363	1/2" x 1/4"	8.95
#SSF359	1/2" x 3/8"	8.95
#SSF362	1/2" x 1/2"	7.95
#SSF368	3/4" x 3/4"	9.95
#SSF367	3/4" x 1/2"	10.95

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"Most cats, when they are Out want to be In, and visa versa, and often simultaneously."

-- Louis J. Camuti

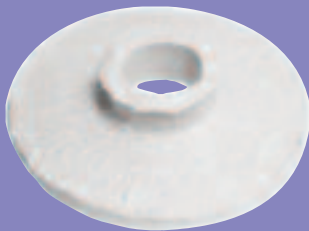
COILS

FOR EVERY
MACHINE
IN THE
INDUSTRY



call for
**COIL
PRICES**

COIL INSULATION
& RIGID DONUT



FORMED DONUT & DISC

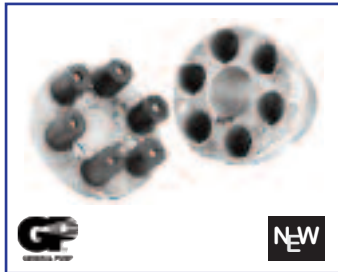
18" Donut w/hole
#122253 \$54.95

18" Solid
#122254 \$49.95

INSULATION BLANKETS

#122205 Coil Wrap
1" x 5' x 24" \$59.95

#122212 Half Roll
1" x 12' x 24" \$84.95



FLEX COUPLER

Finger

#ZG56C 24mm x 5/8" \$19.98
#ZG145TC 24mm x 7/8" \$19.98
#ZG184TC 24mm x 1 1/8" \$19.98
#ZG202 24mm x 1 3/8" \$59.95



FLEX COUPLER

Jaw

For use with ZF811 on 8-11 HP Engines
#ZGL100 24mm x 1" \$65.07
For use with 5 HP 184TC and 213/215 TC Frames
#ZGL199 24mm x 1 1/8" \$59.69



PUMP HEAD TESTER

We receive many, many calls from customers that are having trouble figuring out if they have a bad unloader or a bad pump head. To help you with this problem we have built a Pump Head Tester.

Simply Disconnect the Unloader and plug the Tester into the high pressure discharge port, install a nozzle in the tester, hold on tight to the open trigger gun and crank the engine starting off at low RPMs and slowly bring it up to full RPMs. Check the gauge and you will have an accurate reading of actual pump head pressure.

The tester is equipped with two (2) safety pressure relief valves that you will need to adjust before you use it to diagnose the problem.

#2299-987 \$99.95



FLANGES

FOR NEMA-C ELECTRIC MOTORS

184TC Frame, 3 & 5 HP
(49, 50 & 63 Series Pumps)
#ZF184 \$54.15

213TC, 215TC, 184TC Frames, 5 & 7-1/2 HP
(47 & 48 Series Pumps)
#ZF213215 \$60.00

56C, 145TC, 182TC Frames, 1-1/2 & 2 HP
(49 & 50 Series Pumps)
#ZF56145 \$15.34

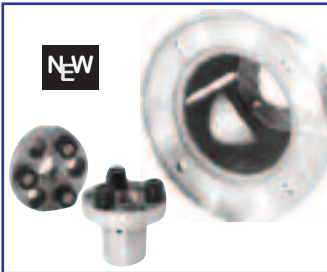
56C Frame (TT/TP Series 51 Pumps)
#ZFWWU \$18.14

GAS ENGINE FLANGES

Gas Flange Adapter (TT/TP Ser. 51 Pumps)
#640042 \$5.01

8 to 11 HP Gas Engines
(TT9351 or TT9441)
#ZF811 \$68.55

3.5 to 8 HP Gas Engines
(TT/TP Series 51 Pumps)
#ZFWWS \$18.14



FLANGES/COUPLINGS

For AR RK, XM, XR & XW Pumps

Bell Housing for F14 & F15
#AR1599-010 \$49.95

Coupling Kit, pump side for
AR1588 & AR1599 (24mm)
#AR1599-011 \$34.95

Includes couplings, bushings,
and set screws.



The best place for the pressure gauge
is right on the pump head!

VALVE CAPS w. GAUGE PORTS

Simply remove one of the check
valve caps and install the new cap
with the gauge port.

#1310-004 \$14.95
for EZ General Pumps

#1310-005 \$15.95
for 47 Series General
(Example: TS2021 / WS202)



SEWER LINE "JETTER VALVE"

Increase your service to include
DRAIN CLEANING
Turns a Pump into a Sewer Jetter

For General Pumps
#10015 For TT Pump \$39.95
#10016 For EZ Pumps \$39.95
#10017 For 47 Pumps \$39.95



COIL BLOW OUT VALVE

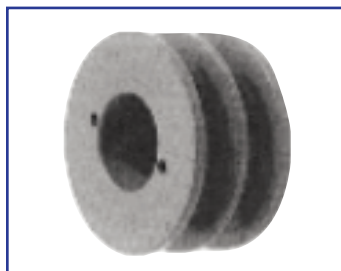
Installs on the inlet side of the
pump. Use air pressure to blow
the water out of the complete
system to prevent "Freeze up"

#140075 \$7.95

"The statistics on sanity are that one out of every four Americans are suffering from some form of mental illness. Think of your three best friends. If they're okay, then it's you." -Rita Mae Brown

"Cats are notoriously sore losers. Coming in second best, especially to someone as poorly coordinated as a human being, grates their sensibility."

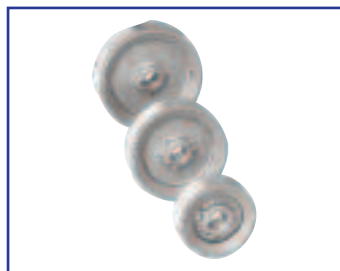
-- Stephen Baker



PULLEYS

	"B"*	Price
#8812-335	3.00	\$39.95
#8812-355	3.20	\$39.95
#8812-375	3.40	\$39.95
#8812-395	3.60	\$39.95
#8812-425	3.90	\$39.95
#8812-675	6.40	\$51.95
#8812-775	7.40	\$56.95
#8812-875	8.40	\$58.95
#8812-975	9.40	\$61.95

* = pulley size using a "B" Section Belt



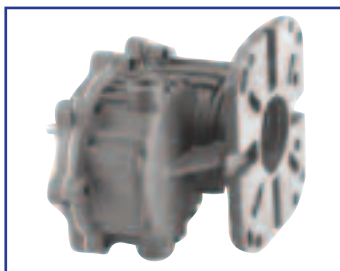
PULLEYS

Double Groove -
24MM Bore 2 x A Groove

Fits All Pumps with
a 24mm Bore

#1210-125	4.0"
#1210-126	5.5"
#1210-127	6.3"

\$29.95



GEAR REDUCERS

FOR: GENERAL, COMET,
INTERPUMP, UDOR AND CAT

PA Dual Premium Bearing
2.20-1 Ratio - Fits ALL - to 27 HP
1210-908 1.00" Shaft \$184.13
1210-903 1-1/8" Shaft \$184.13

GENERAL / InterPump

2.20-1 Ratio		
1210-950	1.00" Shaft	\$199.95
1210-951	1-1/8" Shaft	\$199.95

COMET

2.20-1 Ratio		
1210-960	1.00" Shaft	\$164.49
1210-961	1-1/8" Shaft	\$185.82

CAT

2.04-1 Ratio		
1210-975	1.00" Shaft	\$292.95

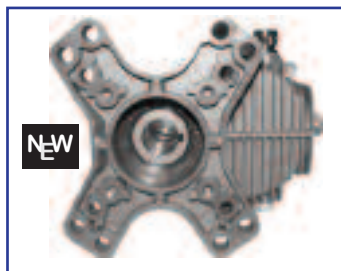
Note: You will always have to overpower your engine when using a gear box. Why? If your desired performance specifications call for a 16HP engine remember that HP is rated at full engine RPM (3600). With a gear box you can't run that high. Under **LOAD** using a gear box your engine should be running between 3180 - 3250 RPM and that will not produce 16 horsepower.

Examples:

3190 RPM **divided** by the ratio of 2.2 (as listed above) = 1450 Pump RPM. (Ideal)

3600 RPM divided by the ratio of 2.2 (as listed above) = 1636 Pump RPM. (Not Good)

A gear ratio of 2.2-1 means - take the max. pump rpm and multiply it by 2.2. The "1" will be the max. engine rpm. 1450 x 2.2 = 3190 eng rpm - and this will be while the pump is under load. Typically you can preset the engine to 150 rpm over what you want the load rpm to be and when you pull the trigger the system will settle in to the desired Max. Engine and Pump RPM.



AR GEAR BOXES

FOR RK, XM & XR SERIES

For 1450 RPM Pump - 1" Shaft
#AR1689 \$153.95

For 1750 RPM Pump - 1" Shaft
#AR1690 \$153.95

FOR XW SERIES

For 1450 RPM Pump - 1" Shaft
#AR1698 \$175.95

For 1750 RPM Pump - 1" Shaft
#AR1697 \$175.95



"H" BUSHINGS

For Pump & Engine Pulleys

#1210-058	5/8"	For Power Plant
#1210-111	1"	For Power Plant
#1210-118	1-1/8"	For Power Plant
#1210-918	20mm	For Pumps
#1210-919	24mm	For Pumps
#1210-917	25mm	For Pumps
#1210-916	30mm	For Pumps
#1210-920	32mm	For Pumps

Any Size \$12.95



2-GROOVE CLUTCH

12 Volt Clutch that shuts down the pump when you release the trigger.

Talk about extending pump life!
Easy to install

Fits all 24mm pump shafts
Includes mounting plate
Handles up to 18 Horsepower

(Single Groove Shown)

#8812-997 \$199.95

Get a taste of the next generation of Drive Systems

To help you select the right pulley and bushing here are the combinations that we use at Allison Iron Horse. Remember the engine is going to be running at 3500-3600 RPM.

12 Volt with a...

1450 RPM Pump Pulley = 8.40	1450 RPM Pump Pulley = 8.40
1750 RPM Pump Pulley = 7.40	1750 RPM Pump Pulley = 7.40
Pump Pulley Bushing* = 24mm	Pump Pulley Bushing* = 24mm
Engine Pulley for 1450 = 3.40	Engine Pulley for 1450 = 3.40
Engine Pulley for 1750 = 3.60	Engine Pulley for 1750 = 4.25
Engine Pulley Bushing* = 1"	Engine Pulley Bushing = 1"

115 Volt with Generator

1450 RPM Pump Pulley = 8.40	1450 RPM Pump Pulley = 8.40
1750 RPM Pump Pulley = 7.40	1750 RPM Pump Pulley = 7.40
Pump Pulley Bushing* = 24mm	Pump Pulley Bushing* = 24mm
Engine Pulley for 1450 = 3.40	Engine Pulley for 1450 = 3.40
Engine Pulley for 1750 = 4.25	Engine Pulley for 1750 = 4.25
Engine Pulley Bushing = 1"	Engine Pulley Bushing = 1"
Generator Pulley 1450 = 3.40 - 5/8"	Generator Pulley 1450 = 3.40 - 5/8"
Generator Pulley 1750 = 4.25 - 5/8"	Generator Pulley 1750 = 4.25 - 5/8"

Shoulda, coulda, and woulda won't get it done.

In attacking adversity, only a positive attitude, alertness, and regrouping to basics can launch a comeback.

-Pat Riley

My wife has 2 rules that we try and live by.

Rule #1 - What is mine is Hers

Rule #2 - What is hers is Hers

- Most Husbands

It is never too late to be who you might have been.

-George Eliot

"Nature gave men two ends...

- one to sit on

and one to think with.

Ever since then man's

success or failure has

been dependent on the

one he used most."

- George R. Kirkpatrick

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"Cats are the ultimate narcissist. You can tell this because of all the time they spend on personal grooming.
Dogs aren't like this. A dog's idea of personal grooming is to roll on a dead fish."
-- James Gorman



for General
TS-2021
and others

HI-TEMP CHECK VALVES

Super High Temperature
Check Valves - Kit 1 HT

#1310-101HT \$34.95




GENERAL/InterPump KIT 8's

Old Style (All Brown)
#1310-108 \$24.95

New Style (3 Brown 3 Black)
#1310-108B \$24.95

GENERAL / INTERPUMP HI-TEMP KIT



Includes:

1 Complete Set of
Hi-Temp Check Valves
&
3 Complete Hi-Temp Packing
Assemblies including brass.

#1310-001 \$129.95

Remember...
every other rebuild you should change
out all brass along with the packings.

Getting Packings out is one thing...



but getting them back in
can be a nightmare!

PACKING INSERTION KIT

This kit makes inserting packings
much easier!

#1310-524 \$14.95




PUMP SIGHT GLASS

For the following General Pumps
T991 Series, TT & TP Series,
T & TS Series 47

#97596800 \$12.95

HI-TEMP ASSEMBLY

For TS2021 - WS202 - and many other 47 series pumps



KIT 1310-001 INCLUDES:

1 Complete Set of
Super Hi-Temp Check Valves
& 3 Complete Super
Hi-Temp Packing Assemblies
including brass

#1310-001 \$129.95

STANDARD BONUS PACK
SAME AS ABOVE but Not Hi-Temp

1 Complete Set of Stock Check Valves &
3 Complete Stock Packing Assemblies including brass

#1310-000 \$99.95

PUMP RAIL KITS

Fits General, InterPump, A-R,
Comet, Udor, Giant, Hypro,
Legacy, Admiral as well as most
other pumps.



#1210-202 Standard \$14.95
#87 0 2 2 5 Tall - 2-5/8" \$25.80

Before criticizing your
wife's faults you must
remember it may have
been these very defects
which prevented her from
getting a better husband
than the one she married.

- History & Heraldry

COMPLETE REBUILD KIT



DO IT right with the
1310-001B KIT

Includes:

6 Super Hi-Temp Check Valves, 3 Complete Sets of
Super Hi-Temp Kit 28's and 3 Ceramic Pistons

#1310-001B \$144.95



PUMP OIL
General Pump
16 oz. Bottles

#1310-799 1 Bottle \$ 3.95
#1310-800 6 Pack \$19.95
#1310-801 24 Pack \$75.78



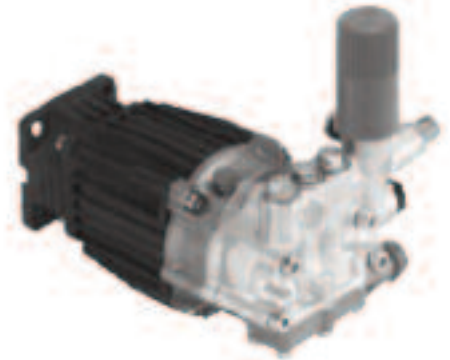
CRANKCASE OIL
CAT Pump
21 oz. Bottles

#1310-810 1 Bottle \$ 6.65
#1310-811 12 Pack \$73.15

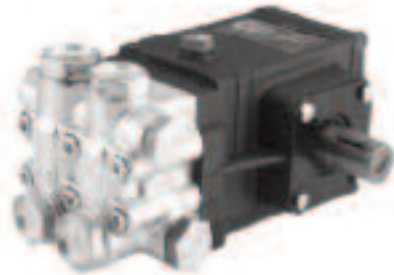
There would be a lot more happy marriages if husbands
tried harder to understand their wives and...
wives tried to understand FOOTBALL.

Residential Pressure Cleaning Pumps

■ Radial Axial, Horizontal Pump, Flanged for Direct Couple to Gasoline Engines – Forged Brass available with built-in trapped pressure unloader and injector.
Max. Inlet Pressure: 80 PSI **Max. Fluid Temperature: 140°F** **Inlet Port Thread: 1/2" - 14 BSP-M**
Discharge Port Thread: 3/8" - 19 BSP-M **Shaft Diameter: .750 in./19 mm**
Pump Dimensions: 8.875" x 7.0" x 8.25" **Crankcase Oil Capacity: 6.75 oz.** **Product Group: U**

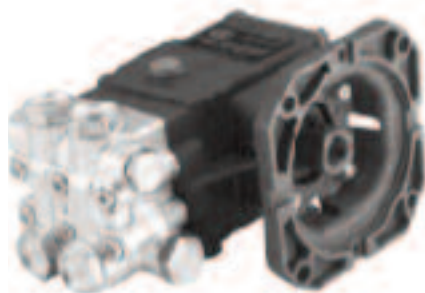


	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
C1H2520M	2.5 GPM	2500 PSI	3500 RPM	.691 in./17.5 mm	238 in./6.03 mm	3.3 EBHP	\$274.33
C1H2530M	3.0 GPM	2500 PSI	3500 RPM	.691 in./17.5 mm	251 in./6.38 mm	3.7 EBHP	\$221.92



■ T Series 49 Duplex Flinger Pump, Solid Shaft – Duplex pulsing action for improved impacted cleaning. Ideal for drain cleaning and jetting applications. Forged brass manifold with an exclusive lifetime warranty.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 166°F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .945 in./24 mm**
Pump Dimensions: 8.8" x 6.8" x 5.4" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 10.1 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
19721B	2.1 GPM	1200 PSI	1750 RPM	.687 in./17.5 mm	357 in./9.08 mm	1.8 EBHP	\$263.20
11715	2.7 GPM	1200 PSI	1400 RPM	.687 in./17.5 mm	374 in./9.51 mm	1.8 EBHP	\$263.20
19731B	2.8 GPM	1200 PSI	1750 RPM	.687 in./17.5 mm	434 in./11.03 mm	2.0 EBHP	\$260.20
11515	3.0 GPM	1200 PSI	1450 RPM	.687 in./17.5 mm	472 in./12.0 mm	2.1 EBHP	\$263.20
11515	3.5 GPM	1200 PSI	1750 RPM	.687 in./17.5 mm	472 in./12.0 mm	2.5 EBHP	\$263.20



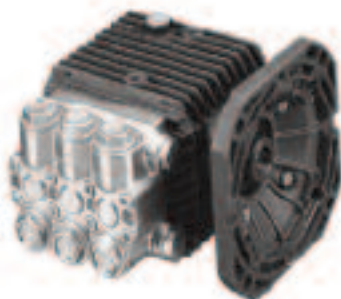
■ T Series 49 Duplex Flinger Pump, Hollow Shaft, NEMA 5C C Flange for Direct Couple to Electric Motors – Duplex pump specifically designed for the demands of the water jetting industry. Forged brass manifold with an exclusive lifetime warranty.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 166°F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .625 in./15.9 mm I.D.**
Pump Dimensions: 8.8" x 6.8" x 5.4" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 10.1 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
19711BF	1.4 GPM	1500 PSI	1750 RPM	.751 in./19 mm	250 in./6.35 mm	1.8 EBHP	\$273.77
19721BF	2.1 GPM	1500 PSI	1750 RPM	.751 in./19 mm	357 in./9.08 mm	2.2 EBHP	\$273.77
19731BF	2.8 GPM	1500 PSI	1750 RPM	.751 in./19 mm	473 in./12.0 mm	2.5 EBHP	\$273.77



■ T Series 62 Duplex Flinger Pump, Hollow Shaft, Flanged for Direct Couple to Electric Motors (NEMA 5C) – Ideal for all general cleaning and rinsing applications. Forged brass manifold with exclusive lifetime warranty.
Max. Inlet Pressure: 80 PSI **Max. Fluid Temperature: 165°F** **Inlet Port Thread: 3/8" - 19 BSP-F**
Discharge Port Thread: 1/4" - 19 BSP-F **Shaft Diameter: .625 in./16 mm**
Pump Dimensions: 7.0" x 7.2" x 5.0" **Max. Inlet Vacuum: 3 ft. water (2.6 in. Hg)**
Crankcase Oil Capacity: 11.2 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T11501EBF	0.8 GPM	1500 PSI	1750 RPM	.709 in./18 mm	049 in./1.24 mm	0.5 EBHP	\$251.78
T12021EBF	2.1 GPM	2000 PSI	3700 RPM	.501 in./12.7 mm	157 in./4.0 mm	2.0 EBHP	\$261.43
T3051EBF	2.11 GPM	1500 PSI	1750 RPM	.501 in./12.7 mm	370 in./9.4 mm	2.2 EBHP	\$259.70
T15061EBF	2.11 GPM	1500 PSI	3700 RPM	.501 in./12.7 mm	157 in./4.0 mm	2.2 EBHP	\$251.78
T12021EBF	2.8 GPM	2000 PSI	3700 RPM	.501 in./12.7 mm	200 in./5.0 mm	3.8 EBHP	\$256.60
T16071EBF	2.8 GPM	1500 PSI	3700 RPM	.501 in./12.7 mm	200 in./5.0 mm	2.9 EBHP	\$251.78
T15111EBF	3.0 GPM	1500 PSI	1750 RPM	.709 in./18 mm	370 in./9.4 mm	3.1 EBHP	\$268.47



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T12021EBF	3.0 GPM	2000 PSI	3700 RPM	.501 in./12.7 mm	315 in./8.0 mm	4.8 EBHP	\$256.60

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

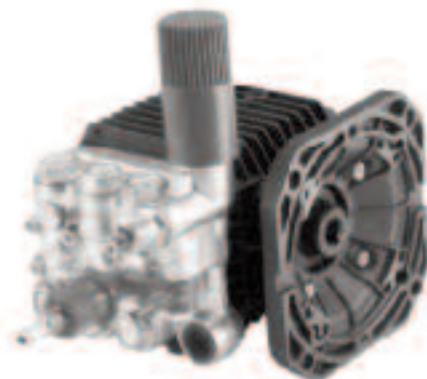
GENERAL PUMP

"If you get to thinkin' you're a person of some influence, try orderin' somebody else's dog around."
-- cowboy wisdom

■ **TT Series 51, Triplex Plunger Pump, Hollow Shaft, Flanged for Direct Couple to Electric Motors (NEMA-55C)**

Max. Inlet Pressure: 80 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-M
Discharge Port Thread: 3/8" - 19 BSP-M Shaft Diameter: .625 in./16 mm
Pump Dimensions: 7.0" x 7.2" x 8.0" Crankcase Oil Capacity: 11.2 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
Pump with Built-in Unloader							
TT051LEBJ	2.1 GPM	1900 PSI	1750 RPM	.62 in./16 mm	3.32 in./84 mm	2.2 HP	\$275.51
TT051LEBJ	2.1 GPM	1900 PSI	3400 RPM	.62 in./16 mm	1.97 in./50 mm	3.5 HP	\$275.51
TT051LEBJ	2.8 GPM	1900 PSI	3400 RPM	.62 in./16 mm	2.80 in./71 mm	4.1 HP	\$275.51
Pump with Built-in Unloader and Downstream Injector							
TT051LEBJ	2.1 GPM	1900 PSI	1750 RPM	.62 in./16 mm	3.32 in./84 mm	2.2 HP	\$278.57
TT051LEBJ	2.1 GPM	1900 PSI	3400 RPM	.62 in./16 mm	3.32 in./84 mm	2.2 HP	\$278.57
TT051LEBJ	2.8 GPM	1900 PSI	3400 RPM	.62 in./16 mm	2.80 in./71 mm	2.2 HP	\$278.57
TT051LEBJ	3.5 GPM	2000 PSI	3400 RPM	.62 in./16 mm	3.32 in./84 mm	4.1 HP	\$282.55



■ **TT Series 51, Triplex Plunger Pump, Hollow Shaft, SAE J503A Flanged for Direct Couple to Gasoline Engines - Ideal for all general cleaning applications. Forged brass manifold with an exclusive lifetime warranty.**

Max. Inlet Pressure: 80 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 3/8" - 19 BSP-F
Discharge Port Thread: 1/4" - 19 BSP-F Shaft Diameter: .750 in./19 mm
Pump Dimensions: 7.2" x 7.2" x 5.5" Max. Inlet Vacuum: 3 ft. water (2.6 in. Hg)
Crankcase Oil Capacity: 11.2 oz.

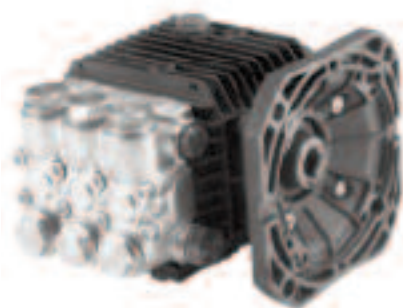
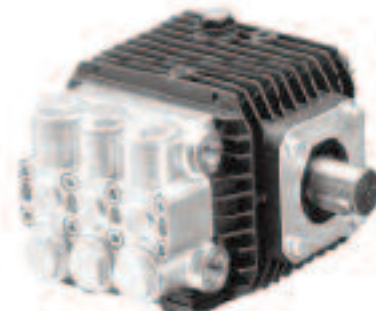
	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TT051CBF	2.1 GPM	1300 PSI	3400 RPM	.591 in./15 mm	1.97 in./50 mm	3.3 HP	\$251.78
TT051CBF	2.8 GPM	2000 PSI	3400 RPM	.591 in./15 mm	2.80 in./71 mm	5.8 HP	\$256.80
TT051CBF	2.8 GPM	1500 PSI	3400 RPM	.591 in./15 mm	2.80 in./71 mm	4.3 HP	\$251.78
TT051CBF	3.5 GPM	2000 PSI	3400 RPM	.591 in./15 mm	3.32 in./84 mm	7.2 HP	\$256.60
TT-540CBF	4.0 GPM	1300 PSI	3400 RPM	.591 in./15 mm	3.32 in./84 mm	6.2 HP	\$256.60



■ **TT Series 51, Triplex Plunger Pump with Solid Shaft - Attached with 24 mm solid shaft for pulley mount or direct drive with flex coupler and belt driving. Ideal for all general cleaning applications. Forged brass manifold with an exclusive lifetime warranty.**

Max. Inlet Pressure: 80 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 3/8" - 19 BSP-F
Discharge Port Thread: 1/4" - 19 BSP-F Shaft Diameter: .945 in./24 mm
Pump Dimensions: 7.0" x 6.9" x 5.1" Max. Inlet Vacuum: 3 ft. water (2.6 in. Hg)
Crankcase Oil Capacity: 11.2 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TT901	2.11 GPM	1500 PSI	2800 RPM	.561 in./14 mm	2.36 in./60 mm	2.7 HP	\$242.09
TT951	2.5 GPM	1500 PSI	2800 RPM	.561 in./14 mm	2.80 in./71 mm	3.5 HP	\$242.09
TT901	2.9 GPM	1500 PSI	2800 RPM	.561 in./14 mm	3.15 in./80 mm	3.7 HP	\$242.09
TT911	3.0 GPM	1500 PSI	1750 RPM	.561 in./14 mm	3.32 in./84 mm	3.1 HP	\$257.93
TT951	3.43 GPM	1500 PSI	2800 RPM	.561 in./14 mm	3.32 in./84 mm	3.5 HP	\$242.09



■ **TF Series 51, Triplex Plunger Pump, Hollow Shaft, Flanged for Direct Couple to Electric Motors (NEMA-55C) - Ideal for all general cleaning and rinsing applications. Forged brass manifold with an exclusive lifetime warranty.**

Max. Inlet Pressure: 80 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 3/8" - 19 BSP-F
Discharge Port Thread: 1/4" - 19 BSP-F Shaft Diameter: .625 in./16 mm
Pump Dimensions: 7.0" x 7.2" x 5.5" Max. Inlet Vacuum: 3 ft. water (2.6 in. Hg)
Crankcase Oil Capacity: 11.2 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TF051D17	2.1 GPM	2500 PSI	1750 RPM	.62 in./16 mm	1.60 in./41 mm	2.9 HP	\$264.97
TF051D17	2.4 GPM	2000 PSI	1750 RPM	.709 in./18 mm	2.53 in./64 mm	3.3 HP	\$264.97
TF051D17	3.0 GPM	2000 PSI	1750 RPM	.709 in./18 mm	1.60 in./41 mm	4.1 HP	\$264.97

"The greatness of a nation and its moral progress can be judged by the way its animals are treated."

-- Gandhi

GENERAL PUMP



TP Series 51, Triplex Plunger Pump, Inlet Shaft, Flanged for Direct Couple to Gasoline Engines – New, oversized connecting rods for ultimate crankcase performance. Forged brass manifold with an exclusive lifetime warranty.

Max. Inlet Pressure: 80 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 3/8" - 19 BSP-F
Discharge Port Thread: 1/4" - 19 BSP-F Shaft Diameter: .750 in./19 mm
Pump Dimensions: 7.0" x 7.2" x 5.5" Max. Inlet Vacuum: 3 ft. water (2.6 m. Hg)
Crankcase Oil Capacity: 11.0 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TP250001	1.9 GPM	260 PSI	1400 RPM	.591 in./15 mm	.374 in./9.5 mm	4.3 HP	\$250.45
TP250004	2.6 GPM	260 PSI	1400 RPM	.591 in./15 mm	.260 in./6.6 mm	6.7 HP	\$250.45
TP250008	2.95 GPM	260 PSI	1400 RPM	.591 in./15 mm	.265 in./6.7 mm	7.4 HP	\$250.45
TP250009	3.3 GPM	260 PSI	1400 RPM	.591 in./15 mm	.315 in./8.0 mm	8.5 HP	\$250.45



TP Series 51, Triplex Plunger Pump, Inlet Shaft, Flanged for Direct Couple to Gasoline Engines, Inlet Under and Downstream Injector.

Inlet Port Thread: 1/2" - 14 BSP-F Discharge Port Thread: 3/8" - 19 BSP-F

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TP250004UL	1.9 GPM	260 PSI	1400 RPM	.591 in./15 mm	.374 in./9.5 mm	4.3 HP	\$272.41
TP250009UL	2.5 GPM	260 PSI	1400 RPM	.591 in./15 mm	.260 in./6.6 mm	7.2 HP	\$272.41
TP250008UL	2.95 GPM	260 PSI	1400 RPM	.591 in./15 mm	.265 in./6.7 mm	8.0 HP	\$272.41
TP250009UL	3.3 GPM	260 PSI	1400 RPM	.591 in./15 mm	.315 in./8.0 mm	8.5 HP	\$272.41

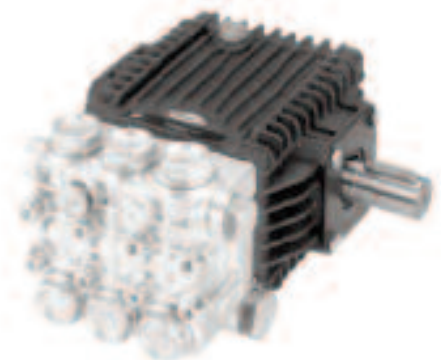
TX Series 83, Triplex Plunger Pump, Solid Shaft – Large, lightweight connecting rods, new long life low and high pressure seals, oversized roller bearings and dual sight glasses. Forged brass manifold with an exclusive lifetime warranty.

Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: .945 in./24 mm
Pump Dimensions: 8.4" x 8.3" x 4.8" Max. Inlet Vacuum: 3 ft. water (2.6 m. Hg)
Crankcase Oil Capacity: 14 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TX1512517	2.1 GPM	3000 PSI	1430 RPM	.591 in./15 mm	.472 in./12 mm	4.3 HP	\$242.56
TX1512517	2.6 GPM	3000 PSI	1730 RPM	.591 in./15 mm	.472 in./12 mm	5.3 HP	\$242.56
TX1810517	2.7 GPM	2000 PSI	1430 RPM	.709 in./18 mm	.354 in./9 mm	3.7 HP	\$242.56
TX1810517	3.1 GPM	2000 PSI	1730 RPM	.709 in./18 mm	.354 in./9 mm	4.9 HP	\$242.56
TX1812517	3.2 GPM	2000 PSI	1430 RPM	.709 in./18 mm	.472 in./12 mm	4.3 HP	\$242.56
TX1812517	3.8 GPM	2000 PSI	1730 RPM	.709 in./18 mm	.472 in./12 mm	5.2 HP	\$242.56

Max. Inlet Vacuum: Flooded

TX1508534	2.6 GPM	3000 PSI	1400 RPM	.591 in./15 mm	.256 in./6.5 mm	5.6 HP	\$242.56
TX1508534	3.0 GPM	3000 PSI	1400 RPM	.591 in./15 mm	.315 in./8 mm	7.2 HP	\$242.56
TX1510534	4.0 GPM	3000 PSI	1400 RPM	.591 in./15 mm	.354 in./9 mm	8.2 HP	\$242.56



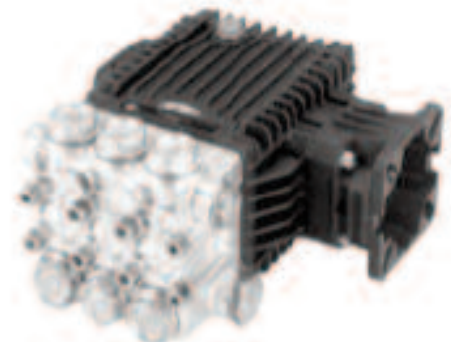
TX Series 63, Triplex Plunger Pump with 1.125" Inlet Shaft, Flanged for Direct Couple to NEMA 184TC Electric Motor. Large, light weight connecting rods, new long life low and high pressure seals, oversized roller bearings and dual sight glasses. Forged brass manifold with an exclusive lifetime warranty.

Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: 1.125 in./28.5 mm
Pump Dimensions: 8.6" x 7.9" x 5.7" Max. Inlet Vacuum: 3 ft. water (2.6 m. Hg)
Crankcase Oil Capacity: 14 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TX1510349	2.1 GPM	3000 PSI	1730 RPM	.591 in./15 mm	.354 in./9 mm	4.3 HP	\$250.08
TX1510349	2.6 GPM	3000 PSI	1730 RPM	.591 in./15 mm	.472 in./12 mm	5.3 HP	\$250.08
TX1810349	3.2 GPM	2000 PSI	1730 RPM	.709 in./18 mm	.354 in./9 mm	4.4 HP	\$250.08
TX1810349	3.8 GPM	2000 PSI	1730 RPM	.709 in./18 mm	.472 in./12 mm	5.2 HP	\$250.08

Max. Inlet Vacuum: Flooded

TX1510349	4.0 GPM	3000 PSI	1400 RPM	.591 in./15 mm	.354 in./9 mm	8.2 HP	\$250.08
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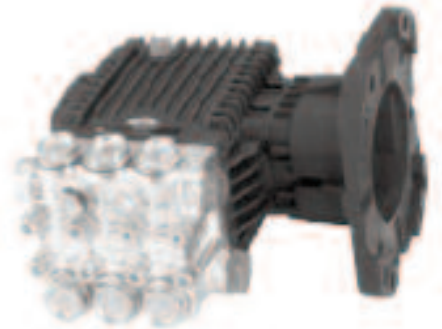
SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If people were superior to animals, they'd take better care of the world."
-- Winnie the Pooh

GENERAL PUMP

■ **TX Series 63, Triple Pump, Pump, 3/4" Hollow Shaft, Flanged for Over Coupled to Gearbox**
 Features 15/16" MD99R Large Light weight cast-iron body, aluminum die-cast end-plate pressure seals, oversized roller bearings and dust-tight gaskets. Forged brass manifold with an exclusive lifetime warranty.
Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSPF
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: .750 in./19 mm
Pump Dimensions: 8.4" x 8.3" x 4.8" Max. Inlet Vacuum Flooded Crankcase Oil Capacity: 14 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TX150630	2.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	137 in./5 mm	0.2 GHP	\$250.08
TX150630	2.6 GPM	3000 PSI	3400 RPM	.591 in./15 mm	230 in./5.5 mm	0.3 GHP	\$250.08
TX150630	3.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	315 in./8 mm	0.3 GHP	\$250.08



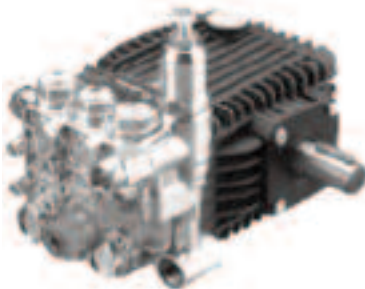
■ **TX Series 63, Triple Pump, Pump, 1" Hollow Shaft, Flanged for Over Coupled to Gearbox**
 Features 15/16" MD99R Large Light weight cast-iron body, aluminum die-cast end-plate pressure seals, oversized roller bearings and dust-tight gaskets. Forged brass manifold with an exclusive lifetime warranty.
Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSPF
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: 1.0 in./25.4 mm
Pump Dimensions: 8.4" x 8.3" x 4.8" Max. Inlet Vacuum Flooded Crankcase Oil Capacity: 14 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TX150630	2.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	230 in./5.5 mm	0.3 GHP	\$253.82
TX150630	3.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	315 in./8 mm	0.3 GHP	\$253.82
TX150630	3.5 GPM	3000 PSI	3400 RPM	.591 in./15 mm	355 in./9 mm	0.3 GHP	\$253.80
TX150630	4.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	354 in./9 mm	0.3 GHP	\$253.82



Pump with Built-in Unloader and Downstream Injector

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TX150630U	2.5 GPM	3000 PSI	3400 RPM	.591 in./15 mm	250 in./6.5 mm	0.3 GHP	\$267.94
TX150630U	3.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	315 in./8 mm	0.3 GHP	\$267.94
TX150630U	3.5 GPM	3000 PSI	3400 RPM	.591 in./15 mm	355 in./9 mm	0.3 GHP	\$267.94
TX150630U	4.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	394 in./10 mm	0.3 GHP	\$267.94



Pump with Built-in Flow Sensitive Unloader

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TX150630U	2.5 GPM	3000 PSI	3400 RPM	.591 in./15 mm	250 in./6.5 mm	0.3 GHP	\$267.94
TX150630U	3.0 GPM	3000 PSI	3400 RPM	.591 in./15 mm	315 in./8 mm	0.3 GHP	\$267.94
TX150630U	3.5 GPM	3000 PSI	3400 RPM	.591 in./15 mm	354 in./9 mm	0.3 GHP	\$275.07

"Ignore the ones who say it's too late to start over.
 Disregard those who say you'll never amount to anything.
 Turn a deaf ear to those who say you aren't smart enough,
 fast enough, tall enough, or big enough. Ignore them."
 -Max Lucado

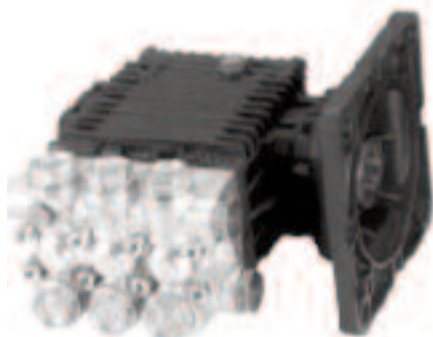
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"When the Man waked up he said, 'What is Wild Dog doing here?
And the Woman said, 'His name is not Wild Dog any more, but the First Friend,
because he will be our friend for always and always and always.'" -- Rudyard Kipling

GENERAL PUMP



E7 Series 44, Triplex Plunger Pump with Hollow Shaft, Flanged for Direct Couple to Electric Motor (NEMA 254TC) - Forged brass manifold with an exclusive lifetime warranty.

**Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: 1.125 in./28.5 mm
Pump Dimensions: 8.8" x 8.8" x 6.3" Max. Inlet Vacuum: 3 ft. water (2.6 in. Hg)
Crankcase Oil Capacity: 14.0 oz. Product Group: W**

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
E77530T	3.6 GPM	2500 PSI	1750 RPM	708 in./18 mm	.433 in./11 mm	6.2 HP	\$282.32
E77540T	4.9 GPM	2500 PSI	1750 RPM	708 in./18 mm	.512 in./13 mm	7.2 HP	\$282.32
E77540E	4.6 GPM	2500 PSI	3420 RPM	551 in./15 mm	.433 in./11 mm	7.9 HP	\$282.32
E77550T	5.5 GPM	2500 PSI	3420 RPM	551 in./15 mm	.512 in./13 mm	9.4 HP	\$282.32
E74035T34	3.5 GPM	4000 PSI	3420 RPM	512 in./13 mm	.433 in./11 mm	9.6 HP	\$214.22
E74040T34	4.0 GPM	4000 PSI	3420 RPM	512 in./13 mm	.512 in./13 mm	11.0 HP	\$214.22

Pump Includes Unloader and Downstream Injector

E22530SU	3.6 GPM	2500 PSI	1750 RPM	708 in./18 mm	.433 in./11 mm	6.4 HP	\$307.50
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E2 Series 45, Triplex Plunger Pump with Solid Shaft - Forged brass manifold with an exclusive lifetime warranty. Direct coupling and belt housing available for direct drive.

**Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: .945 in./24 mm
Pump Dimensions: 8.6" x 8.7" x 5.5" Max. Inlet Vacuum: 3 ft. water (2.6 in. Hg)
Crankcase Oil Capacity: 14.0 oz. Product Group: W**

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
E77535S	3.6 GPM	2500 PSI	1750 RPM	708 in./18 mm	.433 in./11 mm	6.2 HP	\$274.09
E77545S	4.9 GPM	2500 PSI	1750 RPM	708 in./18 mm	.512 in./13 mm	7.2 HP	\$274.09
E77545E	4.6 GPM	2500 PSI	3420 RPM	551 in./15 mm	.433 in./11 mm	7.9 HP	\$274.09
E77555S	5.5 GPM	2500 PSI	3420 RPM	551 in./15 mm	.512 in./13 mm	9.4 HP	\$274.09
E73045S	4.0 GPM	3000 PSI	3420 RPM	551 in./15 mm	.374 in./9.5 mm	8.2 HP	\$282.32

Premium Roller Bearings

E22545S	4.2 GPM	3000 PSI	1750 RPM	708 in./18 mm	.512 in./13 mm	8.5 HP	\$289.49
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Pump Includes Built-in Unloader and Downstream Injector

E22535SU	3.0 GPM	2300 PSI	1750 RPM	591 in./15 mm	.512 in./13 mm	5.1 HP	\$293.23
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E7 Series 44, Triplex Plunger Pump with Hollow Shaft, Flanged for Direct Couple to Gasoline Engine (SAE J609F) - Forged brass manifold with an exclusive lifetime warranty. Flanged for mounting on up to 13 horsepower engines.

**Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: 1.0 in./25.4 mm
Pump Dimensions: 8.3" x 9.7" x 6.5" Max. Inlet Vacuum: 3 ft. water (2.6 in. Hg)
Crankcase Oil Capacity: 14.0 oz.**

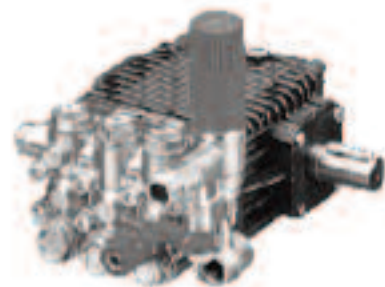
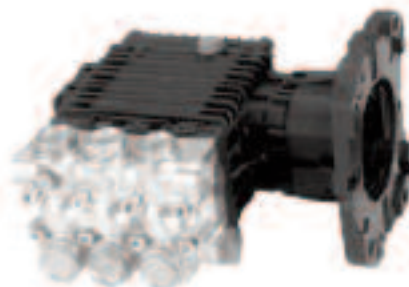
	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
E23050G34	3.0 GPM	3000 PSI	3400 RPM	591 in./15 mm	.307 in./7.8 mm	9.0 HP	\$274.09
E23050G	3.5 GPM	3000 PSI	3400 RPM	591 in./15 mm	.325 in./8.3 mm	10.8 HP	\$292.10
E23010G	7.0 GPM	3000 PSI	3400 RPM	591 in./15 mm	.371 in./9.5 mm	12.4 HP	\$292.10
E23015G	7.5 GPM	3000 PSI	3400 RPM	591 in./15 mm	.420 in./10.7 mm	14.2 HP	\$292.10

Max. Inlet Vacuum: Flooded

E74030G34	3.0 GPM	4000 PSI	3400 RPM	512 in./13 mm	.374 in./9.5 mm	11.4 HP	\$314.22
E74035G34	3.5 GPM	4000 PSI	3400 RPM	512 in./13 mm	.433 in./11 mm	14.4 HP	\$314.22
E74040G34	4.0 GPM	4000 PSI	3400 RPM	512 in./13 mm	.512 in./13 mm	15.5 HP	\$314.22

Pump with Built-in Unloader and Adjustable Downstream Injector

E74030SU	3.0 GPM	3500 PSI	3400 RPM	591 in./15 mm	.287 in./7.3 mm	10.8 HP	\$298.74
E23050SU	3.5 GPM	3000 PSI	3400 RPM	591 in./15 mm	.325 in./8.3 mm	12.6 HP	\$314.22
E74040SU	4.0 GPM	3500 PSI	3400 RPM	591 in./15 mm	.374 in./9.5 mm	14.4 HP	\$314.22
E22535SU	4.5 GPM	2600 PSI	3400 RPM	591 in./15 mm	.420 in./10.7 mm	11.8 HP	\$314.22



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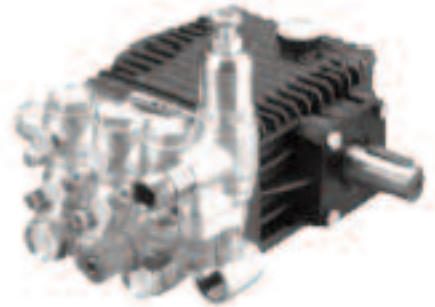
GENERAL PUMP

"If a dog will not come to you after having looked you in the face, you should go home and examine your conscience." -- Woodrow Wilson

Pump with Built-in Flow Sensitive Unloader

T732/620H	3.5 GPM	3000 PSI	3400 RPM	51 in./25 mm	336 in./8.5 mm	16.8 EB-HP
E2310UGAL	4.0 GPM	3000 PSI	3100 RPM	51 in./25 mm	341 in./8.5 mm	17.0 EB-HP

PRICE
\$325.10
\$325.10



T Series 53 Triplex Plunger Pump with Solid Shaft - Forged brass manifold with an exclusive iPrime warranty. Flex coupling and end housing available for direct drive. Solid bearing plungers with continuously lubricated packings.

Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .945 in./24 mm**
Pump Dimensions: 9.3" x 8.3" x 5.4" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 15.2 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T59L	3.5 GPM	1500 PSI	1450 RPM	.787 in./20 mm	.304 in./7.7 mm	3.4 EB-HP	\$277.83
T59L1	3.5 GPM	1500 PSI	1750 RPM	.787 in./20 mm	.305 in./7.8 mm	3.6 EB-HP	\$277.83
TT905L	3.5 GPM	2000 PSI	3400 RPM	.791 in./20 mm	.305 in./7.8 mm	6.9 EB-HP	\$296.59
T59L	4.0 GPM	1100 PSI	1750 RPM	.787 in./20 mm	.394 in./10 mm	3.0 EB-HP	\$277.83
T59L1	4.0 GPM	2000 PSI	1750 RPM	.787 in./20 mm	.304 in./7.7 mm	5.3 EB-HP	\$328.09
T194L1	4.0 GPM	2500 PSI	3400 RPM	.791 in./20 mm	.394 in./10 mm	7.5 EB-HP	\$296.59

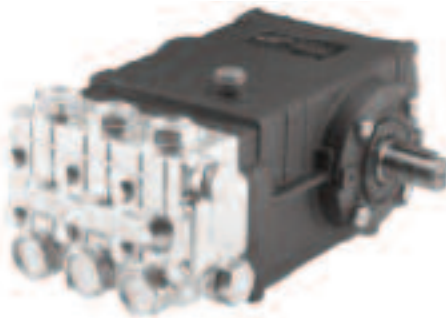


799L (100648) and T995L (200656) with Teflon Packings

100648	3.5 GPM	1500 PSI	1450 RPM	.787 in./20 mm	.394 in./10 mm	3.6 EB-HP	\$353.32
100648	3.5 GPM	1500 PSI	1750 RPM	.787 in./20 mm	.305 in./7.8 mm	3.6 EB-HP	\$337.48

Pump with Gear Box

T99L3F	3.5 GPM	1500 PSI	3400 RPM	.787 in./20 mm	.394 in./10 mm	5.4 EB-HP	\$358.51
T99L1GB	3.5 GPM	2000 PSI	3400 RPM	.787 in./20 mm	.394 in./10 mm	6.8 EB-HP	\$371.99



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T5103H	3.5 GPM	2000 PSI	1450 RPM	.787 in./20 mm	.394 in./10 mm	5.0 EB-HP	\$328.84
T5101L	4.0 GPM	2000 PSI	1450 RPM	.787 in./20 mm	.472 in./12 mm	5.5 EB-HP	\$328.84
T5103H	4.0 GPM	2000 PSI	1750 RPM	.787 in./20 mm	.394 in./10 mm	5.5 EB-HP	\$328.84
T101L	4.5 GPM	2000 PSI	1120 RPM	.787 in./20 mm	.390 in./10 mm	6.1 EB-HP	\$328.84
T5100L	4.75 GPM	1500 PSI	1750 RPM	.787 in./20 mm	.472 in./12 mm	5.5 EB-HP	\$328.84
T52L	4.75 GPM	1800 PSI	1450 RPM	.856 in./22 mm	.472 in./12 mm	5.9 EB-HP	\$328.84
T901	5.0 GPM	1300 PSI	1050 RPM	.856 in./22 mm	.390 in./10 mm	5.8 EB-HP	\$328.84
T101L	5.6 GPM	1500 PSI	1450 RPM	.787 in./20 mm	.390 in./10 mm	5.5 EB-HP	\$328.84

Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .945 in./24 mm**
Pump Dimensions: 12.25" x 9.2" x 6.9" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 40.6 oz.

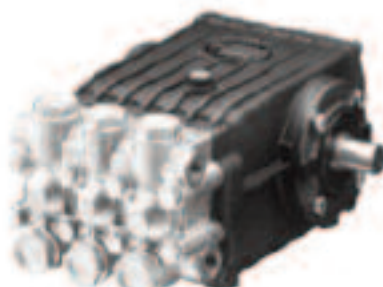
	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T5171L	3.5 GPM	2700 PSI	1450 RPM	.787 in./20 mm	.394 in./10 mm	7.0 EB-HP	\$335.60
T92L	4.0 GPM	3000 PSI	1750 RPM	.787 in./20 mm	.394 in./10 mm	8.2 EB-HP	\$390.38
T5151L	4.0 GPM	3500 PSI	1450 RPM	.787 in./20 mm	.472 in./12 mm	9.6 EB-HP	\$335.60
T520L	4.0 GPM	3500 PSI	1450 RPM	.787 in./20 mm	.472 in./12 mm	9.6 EB-HP	\$376.86
T5109H	4.5 GPM	3500 PSI	1750 RPM	.787 in./20 mm	.390 in./10 mm	10.0 EB-HP	\$335.60
T5102H	4.5 GPM	3000 PSI	1120 RPM	.787 in./20 mm	.390 in./10 mm	6.5 EB-HP	\$335.60
T5102H	4.75 GPM	2000 PSI	1450 RPM	.856 in./22 mm	.472 in./12 mm	6.5 EB-HP	\$335.60
T3162H	4.75 GPM	2500 PSI	1450 RPM	.856 in./22 mm	.472 in./12 mm	8.2 EB-HP	\$376.86
T5101H	4.75 GPM	2000 PSI	1750 RPM	.787 in./20 mm	.394 in./10 mm	7.5 EB-HP	\$376.86
T102L	5.0 GPM	2500 PSI	1050 RPM	.856 in./22 mm	.390 in./10 mm	8.0 EB-HP	\$376.86
T102H	5.5 GPM	2000 PSI	1150 RPM	.856 in./22 mm	.390 in./10 mm	7.9 EB-HP	\$335.60
T3202H	5.6 GPM	3000 PSI	1450 RPM	.787 in./20 mm	.390 in./10 mm	10.9 EB-HP	\$376.86
T5102H	5.6 GPM	1300 PSI	1450 RPM	.787 in./20 mm	.390 in./10 mm	6.5 EB-HP	\$335.60



T Series 47 Triplex Plunger Pump, Solid Shaft - Forged brass manifold with an exclusive iPrime warranty. Heavy duty tapered roller bearings and over sized connecting rods for maximum life.

Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .945 in./24 mm**
Pump Dimensions: 12.6" x 9.2" x 6.9" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 40.6 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T925L	4.0 GPM	3000 PSI	1750 RPM	.620 in./16 mm	.160 in./4 mm	11.0 EB-HP	\$473.29



"My dog is usually pleased with what I do, because she is not infected with the concept of what I "should" be doing." -- Lonzo Idolswine

GENERAL PUMP



1 Series 47 Triplex Plunger Pump, Solid Shaft – Forged brass manifold with an exclusive lifetime warranty, choice "trim" valve system for ease access and durability, proven crankcase and bearing design.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .940 in./24 mm**
Pump Dimensions: 14.2" x 9.2" x 6.9" **Max. Inlet Vacuum: 30 PSI**
Crankcase Oil Capacity: 40.6 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T3000	5.0 GPM	5000 PSI	1875 RPM	.620 in./16 mm	.748 in./19 mm	17.2 EB-P	\$597.84

1 Series 47 Triplex Plunger Pump with 1" Gear Box for 2000R Series – Forged brass manifold with an exclusive lifetime warranty, heavy duty tapered roller bearings and over speed controlling valve for maximum life.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: 1.0 in./25.4 mm**
Pump Dimensions: 12.2" x 9.2" x 10.5" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 40.6 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T2281CR	5.5 GPM	4000 PSI	3400 RPM	.530 in./14 mm	.620 in./16 mm	14.4 GP-P	\$473.29
TS 71 CR	5.5 GPM	2700 PSI	3400 RPM	.757 in./20 mm	.399 in./10 mm	6.1 GP-P	\$456.79
TS 01 CR	4.0 GPM	2000 PSI	3400 RPM	.757 in./20 mm	.472 in./12 mm	8.2 GP-P	\$456.79
TS 51 CR	4.0 GPM	3000 PSI	3400 RPM	.757 in./20 mm	.472 in./12 mm	7.0 GP-P	\$456.79
TS201 CR	4.0 GPM	3000 PSI	3400 RPM	.757 in./20 mm	.472 in./12 mm	13.4 GP-P	\$505.91
TS 12 CR	4.75 GPM	2100 PSI	3400 RPM	.866 in./22 mm	.472 in./12 mm	7.0 GP-P	\$456.79
TS 62 CR	4.75 GPM	2500 PSI	3400 RPM	.866 in./22 mm	.472 in./12 mm	12.2 GP-P	\$505.91
TS202 CR	5.0 GPM	3500 PSI	3400 RPM	.757 in./20 mm	.620 in./16 mm	20.2 GP-P	\$517.17

Shaft Diameter: 1 1/8"

TS201 CR	4.0 GPM	3000 PSI	3400 RPM	.757 in./20 mm	.472 in./12 mm	13.4 GP-P	\$505.91
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66 Series Triplex Plunger Pump, Forged Brass Manifold with an exclusive lifetime warranty, innovative seal design to extend seal life. Plunger design improves thermal shock resistance. New valve cap design improves hydrostatic performance.

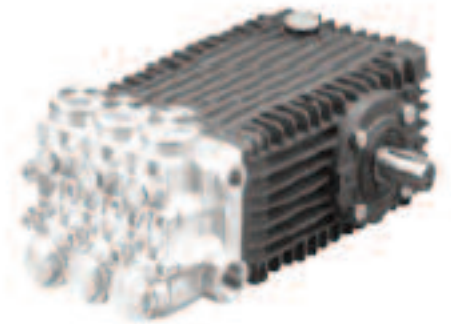
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 3/4" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .945 in./24 mm**
Pump Dimensions: 13.27" x 9.6" x 6.23" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 33.0 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T92019	6.3 GPM	800 PSI	1450 RPM	.757 in./20 mm	.715 in./18 mm	1.5 EBHP	\$510.38
T92021	7.0 GPM	800 PSI	1450 RPM	.757 in./20 mm	.805 in./21 mm	1.7 EBHP	\$510.38
T92019	7.6 GPM	800 PSI	1450 RPM	.757 in./20 mm	.715 in./18 mm	1.6 EBHP	\$510.38
T92219	7.7 GPM	800 PSI	1450 RPM	.866 in./22 mm	.472 in./12 mm	1.5 EBHP	\$612.42
T92021	8.5 GPM	800 PSI	1750 RPM	.757 in./20 mm	.805 in./21 mm	21.0 EBHP	\$510.38
T92221	8.5 GPM	800 PSI	1450 RPM	.866 in./22 mm	.805 in./21 mm	17.0 EBHP	\$612.47
T92219	9.3 GPM	800 PSI	1750 RPM	.866 in./22 mm	.472 in./12 mm	10.1 EBHP	\$612.47
T92421	10.0 GPM	2500 PSI	1450 RPM	.845 in./21 mm	.805 in./21 mm	17.2 EBHP	\$750.26
T92221	10.2 GPM	800 PSI	1750 RPM	.866 in./22 mm	.805 in./21 mm	21.0 EBHP	\$612.47
T92421	12.0 GPM	2500 PSI	1750 RPM	.845 in./21 mm	.805 in./21 mm	20.5 EBHP	\$750.26

66 Series Triplex Plunger Pump, High Pressure Forged Brass Manifold with an exclusive lifetime warranty, innovative seal design to extend seal life. Plunger design improves thermal shock resistance. New valve cap design improves hydrostatic performance.

Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1/2" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .945 in./24 mm**
Pump Dimensions: 13.84" x 9.8" x 7.7" **Max. Inlet Vacuum: 30 PSI**
Crankcase Oil Capacity: 33.0 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T91021	7.3 GPM	5000 PSI	1100 RPM	.620 in./16 mm	.825 in./21 mm	17.1 EBHP	\$707.40
T91019	5.0 GPM	5000 PSI	1100 RPM	.729 in./19 mm	.472 in./12 mm	17.1 EBHP	\$648.43



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GENERAL PUMP

"There are few things in life more heartwarming than to be welcomed by a cat."

-- Tay Hohoff



T Series 66, Triplex Plunger Pump, Solid Shaft – The industry's choice for high-flow applications. Ball bearings and over sized connecting rods for maximum life.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 3/4" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: 1.378 in./35 mm**
Pump Dimensions: 12.9" x 11.9" x 7.3" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 50.7 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T615M	7.97 GPM	71.75 PSI	1450 RPM	287 in./73 mm	386 in./27 mm	11.3 HP	\$1,677.42
T6134T	8.0 GPM	160 PSI	1450 RPM	287 in./73 mm	386 in./27 mm	8.8 HP	\$1,299.43
T61	12.0 GPM	300 PSI	650 RPM	1.471 in./38 mm	945 in./24 mm	7.4 HP	\$1,156.91



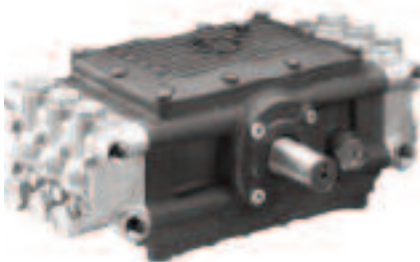
T Series 76, Triplex Plunger Pump, Solid Shaft – Forged brass manifold with an exclusive lifetime warranty. The industry's choice for high flow applications, over sized connecting rods for maximum life.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1" NPT-F**
Discharge Port Thread: 1/2" NPT-F **Shaft Diameter: 1.378 in./35 mm**
Pump Dimensions: 15.6" x 14.0" x 9.5" **Max. Inlet Vacuum: 7 ft. water (6.2 in. Hg)**
Crankcase Oil Capacity: 91.0 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T425	5.6 GPM	590 PSI	1000 RPM	287 in./73 mm	1.102 in./28 mm	26.3 HP	\$5,263.58
T155	14.0 GPM	71.75 PSI	1000 RPM	1.181 in./30 mm	1.102 in./28 mm	20.9 HP	\$4,317.99



T Series 76, Triplex Plunger Pump, Solid Shaft – Forged brass manifold with an exclusive lifetime warranty. The industry's choice for high flow applications, over sized connecting rods for maximum life.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: 1" - 11 BSP-F**
Discharge Port Thread: 3/4" - 14 BSP-F **Shaft Diameter: 1.378 in./35 mm**
Pump Dimensions: 15.6" x 14.0" x 9.5" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 91.0 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T61	12.0 GPM	100 PSI	650 RPM	1.272 in./32 mm	945 in./24 mm	11.7 HP	\$3,399.28
T61	21.0 GPM	100 PSI	650 RPM	1.272 in./32 mm	1.102 in./28 mm	14.7 HP	\$3,326.99



T Series 65, Duplex Plunger Pump – Forged brass manifold with an exclusive lifetime warranty. Dual manifolds utilizing a common crankcase for efficient performance in high flow applications.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: Dual 3/4" - 14 BSP-F**
Discharge Port Thread: Dual 3/8" - 19 BSP-F **Shaft Diameter: 1.26 in./32 mm**
Pump Dimensions: 16.1" x 11.2" x 7.9" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 54.0 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T65	23.0 GPM	200 PSI	1170 RPM	287 in./73 mm	650 in./16 mm	18.0 HP	\$2,075.22
T65	15.0 GPM	250 PSI	1050 RPM	286 in./72 mm	650 in./16 mm	17.2 HP	\$2,075.22
T65	11.0 GPM	200 PSI	1450 RPM	287 in./73 mm	650 in./16 mm	15.0 HP	\$2,075.22

T Series 77, Duplex Plunger Pump – Forged brass manifold with an exclusive lifetime warranty. Dual manifolds utilizing a common crankcase for efficient performance in high flow applications.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: Dual 1" - 11 BSP-F**
Discharge Port Thread: Dual 3/4" - 14 BSP-F **Shaft Diameter: 1.378 in./35 mm**
Pump Dimensions: 22.1" x 14.0" x 9.7" **Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)**
Crankcase Oil Capacity: 71.0 oz.



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T79H	28.0 GPM	2175 PSI	1300 RPM	1.281 in./32 mm	1.102 in./28 mm	41.8 HP	\$6,730.16
T77	25.0 GPM	1000 PSI	650 RPM	1.272 in./32 mm	945 in./24 mm	24.0 HP	\$5,361.50
T75	41.0 GPM	1000 PSI	650 RPM	1.272 in./32 mm	1.102 in./28 mm	26.8 HP	\$5,361.50

"Our task must be to free ourselves...by widening our circle of compassion to embrace all living creatures and the whole of nature and its beauty."
-- Albert Einstein

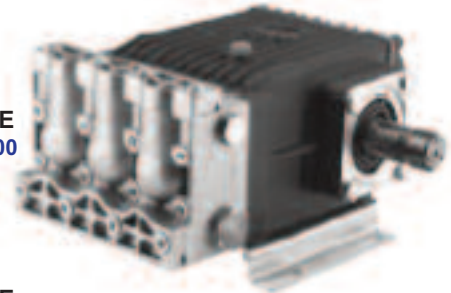
GENERAL PUMP

T Series 77, Sixplex Plunger Pump – Nickel-plated forged brass manifold with an exclusive lifetime warranty. Dual manifold utilizing a common crankcase for efficient performance. Unique "Yoke" valve system for easy access and durability.
Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: Dual 1" - 11 BSP-F
Discharge Port Thread: Dual 1/2" - 14 BSP-F Shaft Diameter: 1.375 in./35 mm
Pump Dimensions: 25.2" x 14.0" x 10.0" Max. Inlet Vacuum: 7 ft. water (6.2 in. Hg)
Crankcase Oil Capacity: 71.0 oz.



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T3551	11.0 GPM	480 PSI	1300 RPM	.7874 in./20 mm	1.127 in./29 mm	36.0 EHP	\$8,130.34

AT Series 75 Duplex Plunger Pump - Splined Shaft – Also for drain cleaning and jetting applications. Aluminum manifold and solid ceramic plungers with continuously lubricated packings.
Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 3/4" - 14 BSP-F
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: 1.375 in./34.9 mm ASAE
Pump Dimensions: 12" x 9" x 7.3"



	GPM	PSI	RPM	BORE	STROKE	OIL CAPACITY	HP	PRICE
A1053	2.0 GPM	450 PSI	650 RPM	1.417 in./36 mm	93 in./24 mm	22 oz.	2.0 EHP	\$769.00

Shaft Diameter: 1.375 in./34.9 mm ASAE splined Pump Dimensions: 13" x 14" x 7.5"

	GPM	PSI	RPM	BORE	STROKE	OIL CAPACITY	HP	PRICE
A1055	10.2 GPM	450 PSI	650 RPM	1.417 in./36 mm	93 in./24 mm	21 oz.	6.0 EHP	\$959.00

Aluminum or a forged brass manifold. Heavy duty tapered roller bearings and over sized connecting rods for maximum life.
Shaft Diameter: 1.375 in./34.9 mm ASAE splined Pump Dimensions: 15.6" x 14.0" x 9.5"

	GPM	PSI	RPM	BORE	STROKE	OIL CAPACITY	HP	PRICE
A1058	22.48 GPM	570 PSI	650 RPM	1.771 in./45 mm	1.152 in./29 mm	61 oz.	13.4 EHP	\$1,536.89
A10582	22.48 GPM	570 PSI	650 RPM	1.771 in./45 mm	1.152 in./29 mm	61 oz.	13.4 EHP	\$2,112.78

AT Series 77 Sixplex Plunger Pump – Splined Shaft – Aluminum or a forged brass manifold. Dual manifolds utilizing a common crankcase for efficient performance and bronze connecting rods for maximum life.
Inlet Port Thread: 1" - 11 BSP-F Discharge Port Thread: 3/4" - 14 BSP-F
Shaft Diameter: 1.375 in./34.9 mm ASAE splined Pump Dimensions: 21" x 17" x 9.5"

	GPM	PSI	RPM	BORE	STROKE	OIL CAPACITY	HP	PRICE
A1011	20.1 GPM	570 PSI	650 RPM	1.771 in./45 mm	1.152 in./29 mm	71 oz.	17.4 EHP	\$2,450.22
A70177	7.0 GPM	570 PSI	650 RPM	1.771 in./45 mm	1.152 in./29 mm	71 oz.	26.0 EHP	\$2,530.39
A70178	7.0 GPM	570 PSI	650 RPM	1.771 in./45 mm	1.152 in./29 mm	71 oz.	26.0 EHP	\$3,631.76



T Series 47, Triplex Plunger Pump, Solid Shaft – 316 Stainless Steel manifold, heavy duty tapered roller bearings and over sized connecting rods for maximum life.
Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: .945 in./24 mm
Pump Dimensions: 12.25" x 9.2" x 6.9" Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)
Crankcase Oil Capacity: 40.6 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
T50C125S	4.0 GPM	2700 PSI	1450 RPM	.787 in./20 mm	.472 in./12 mm	6.0 EHP	\$2,578.05
T50C125S	4.75 GPM	2700 PSI	1750 RPM	.787 in./20 mm	.472 in./12 mm	7.2 EHP	\$2,578.05
T50P125S	4.75 GPM	2700 PSI	1450 RPM	.866 in./22 mm	.472 in./12 mm	7.2 EHP	\$2,578.05
T50C165S	5.55 GPM	2700 PSI	1450 RPM	.787 in./20 mm	.670 in./17 mm	8.4 EHP	\$2,578.05
T50P165S	5.55 GPM	2700 PSI	1750 RPM	.866 in./22 mm	.472 in./12 mm	8.4 EHP	\$2,578.05

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"We call them dumb animals, and so they are, for they cannot tell us how they feel, but they do not suffer less because they have no words." -- Anna Sewell, Black Beauty, 1877

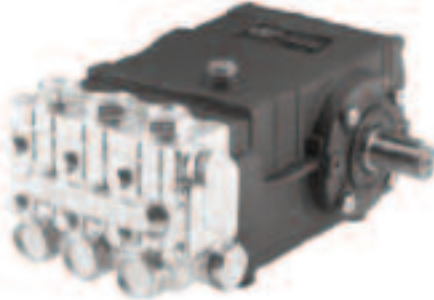
Vehicle Cleaning Pumps



Car Wash Series 09 Triplex Plunger Pump – Forged brass manifold with an exclusive lifetime warranty. The preferred pump frame in the car wash prep conveyor and tunnel car wash industry. Solid ceramic plungers with continuously lubricated packings.

Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 3/4" - 14 BSP-F
 Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: 1.378 in./35 mm
 Pump Dimensions: 13.0" x 11.9" x 7.3" Crankcase Oil Capacity: 50.7 oz.
 Max. Inlet Vacuum: 2 ft. water (1.8 in. Hg)

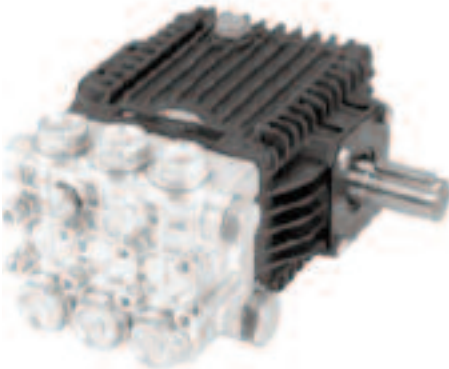
	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
0913P	13.0 GPM	1200 PSI	750 RPM	1.18 in./30 mm	.565 in./14 mm	8.2 EBHP	\$2,031.69
0913P	13.0 GPM	1000 PSI	500 RPM	1.18 in./30 mm	.565 in./14 mm	8.2 EBHP	\$2,031.69
0918P	15.0 GPM	1200 PSI	1250 RPM	1.41 in./36 mm	.565 in./14 mm	11.79 EBHP	\$2,031.69



Car Wash Series 47 Triplex Plunger Pump – Forged brass manifold with an exclusive lifetime warranty. The preferred pump frame in the car wash self-service industry. Solid ceramic plungers with continuously lubricated packings.

Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
 Discharge Port Thread: 3/8" - 19 BSP-F Shaft Diameter: .945 in./24 mm (dual shaft)
 Pump Dimensions: 11.4" x 10.8" x 6.9" Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)
 Crankcase Oil Capacity: 33.8 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
042024	4.0 GPM	2000 PSI	1730 RPM	.767 in./20 mm	.634 in./16 mm	6.0 EBHP	\$403.11
042010	1.0 GPM	2600 PSI	1250 RPM	.767 in./20 mm	.634 in./16 mm	8.0 EBHP	\$398.61
0424	1.0 GPM	2600 PSI	1250 RPM	.767 in./20 mm	.634 in./16 mm	8.0 EBHP	\$398.61
042040	1.0 GPM	3000 PSI	1250 RPM	.767 in./20 mm	.634 in./16 mm	10.0 EBHP	\$409.87



TX Series 53 Triplex Plunger Pump – Large, light weight connecting rods, and long life low and high pressure seals, stainless roller bearings and dual sight glasses. Forged brass manifold with an exclusive lifetime warranty.

Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1/2" - 14 BSP-F
 Discharge Port Thread: 3/8" - 19 BSP-F Crankcase Oil Capacity: 14 oz.
 Max. Inlet Vacuum: 3 ft. water (2.5 in. Hg)

.945 in./24 mm Solid Shaft Pump Dimensions: 8.4" x 8.3" x 4.8"

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
TX12-2317	5.8 GPM	2300 PSI	1730 RPM	.709 in./18 mm	.472 in./12 mm	5.2 EBHP	\$242.56

1.125 in./28.5 mm Hollow Shaft, Flanged for Direct Couple to NEMA 184 TC Electric Motors
 Pump Dimensions: 8.6" x 7.9" x 5.7"

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
3031201A	5.8 GPM	2300 PSI	1730 RPM	.709 in./18 mm	.472 in./12 mm	5.2 EBHP	\$250.08



Car Wash Series 76 Triplex Plunger Pump – Forged brass manifold with an exclusive lifetime warranty. Our special bronze connecting rods for maximum life. Solid ceramic plungers with continuously lubricated packings.

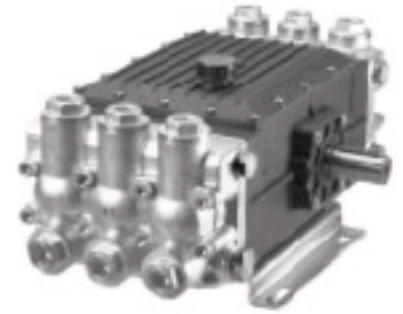
Max. Inlet Pressure: 125 PSI Max. Fluid Temperature: 165° F Inlet Port Thread: 1" - 11 BSP-F
 Discharge Port Thread: 3/4" - 14 BSP-F Shaft Diameter: 1.378 in./35 mm
 Pump Dimensions: 15.6" x 14.0" x 9.5" Max. Inlet Vacuum: 9 ft. water (7.9 in. Hg)
 Crankcase Oil Capacity: 91.0 oz.

	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
0761	17.0 GPM	1200 PSI	1000 RPM	1.17 in./30 mm	.845 in./21 mm	13.2 EBHP	\$3,562.45
0761	21.5 GPM	1200 PSI	1000 RPM	1.41 in./36 mm	1.002 in./25 mm	16.5 EBHP	\$3,562.45

"Occasionally in life there are those moments of unutterable fulfillment which cannot be completely explained by those symbols called words. Their meanings can only be articulated by the inaudible language of the heart."

-Martin Luther King

Car Wash Series 77 Sixplex Plunger Pump – Forged brass manifold with an exclusive lifetime warranty. Most widely used pump frame in the touchless car wash industry. Dual manifolds utilizing a common crankcase for efficient performance. (Recommend Series 80-90 Oil, part number 100734.)
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: Dual 1" - 11 NPT-F**
Discharge Port Thread: Dual 3/4" - 14 NPT-F **Shaft Diameter: 1.378 in./35 mm**
Crankcase Oil Capacity: 2 quarts **Pump Dimensions: 22.1" x 14.0" x 9.7"**
Max. Inlet Vacuum: Flooded



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
CW1541	41.0 GPM	1800 PSI	1200 RPM	1.417 in./36 mm	1.102 in./28 mm	133.8 BHP	\$6,170.03

Car Wash Series Triplex Plunger Pump
Max. Inlet Pressure: 45 PSI **Max. Fluid Temperature: 140° F** **Inlet Port Thread: 1" BSP-F**
Discharge Port Thread: 3/4" BSP-F **Shaft Diameter: 1.181 in./30 mm**
Pump Dimensions: 16.8" x 17.6" x 7.9" **Crankcase Oil Capacity: 100 oz.**



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
CW1522	22.0 GPM	1800 PSI	1200 RPM	1.181 in./30 mm	1.575 in./40 mm	32.0 BHP	\$5,493.85

Car Wash Series Triplex Plunger Pump
Max. Inlet Pressure: 45 PSI **Max. Fluid Temperature: 140° F** **Inlet Port Thread: 1 1/2" NPT-F**
Discharge Port Thread: 1" NPT-F **Shaft Diameter: 1.378 in./35 mm**
Pump Dimensions: 19.0" x 17.7" x 8.4" **Max. Inlet Vacuum: Flooded** **Crankcase Oil Capacity: 128 oz.**



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
CW1639	36.0 GPM	1800 PSI	1200 RPM	1.575 in./40 mm	1.575 in./40 mm	55.4 BHP	\$5,860.28

Pump Retrofits to Replace CAT Pumps

CW204D PUMP WITH RETROFIT RAIL AND 24MM H BUSHING FOR CAT 310
 190237 3.0 GPM 2500 PSI 1250 RPM .757 in./20 mm .630 in./16 mm 8.5 BHP \$411.03

CW204D PUMP AND RETROFIT RAIL AND 8" OD PULLEY FOR CAT 310
 190238 3.0 GPM 2500 PSI 1250 RPM .757 in./20 mm .630 in./16 mm 8.5 BHP \$417.38

CW304D PUMP AND RETROFIT RAIL FOR CAT 530
 190239 5.0 GPM 3000 PSI 1250 RPM .757 in./20 mm .630 in./16 mm 10.5 BHP \$418.51

CW304DL PUMP AND RETROFIT RAIL AND H BUSHING FOR CAT 530
 190245 5.0 GPM 3000 PSI 1250 RPM .757 in./20 mm .630 in./16 mm 10.5 BHP \$418.51

66 Series, Triplex Plunger Pump, Forged Brass Manifold with an exclusive lifetime warranty. Innovative seal design to extend seal life. Plunger design improves thermal shock resistance. New valve cap design improves hydrostatic performance.
Max. Inlet Pressure: 125 PSI **Max. Fluid Temperature: 165° F** **Inlet Port Thread: Dual 3/4" - 14 BSP-F**
Discharge Port Thread: 3/8" - 19 BSP-F **Shaft Diameter: .945 in./24 mm**
Crankcase Oil Capacity: 31.0 oz. **Pump Dimensions: 13.27" x 9.6" x 6.23"**
Max. Inlet Vacuum: 9 ft. water (7.9 in Hg)



	GPM	PSI	RPM	BORE	STROKE	HP	PRICE
19F2221	8.5 GPM	3000 PSI	1450 RPM	.856 in./22 mm	.825 in./21 mm	17.5 BHP	\$612.47
19F2221	10.0 GPM	2500 PSI	1450 RPM	.945 in./24 mm	.825 in./21 mm	17.2 BHP	\$750.26

"Ever notice how it's a penny for your thoughts, yet you put in your two-cents?
 Someone is making a penny on the deal!" -- Steven Wright

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

GENERAL PUMP

GENERAL PUMP REPAIR KITS

(GENERIC KITS ALSO AVAILABLE AT SUBSTANTIAL SAVINGS - ASK FOR THE "1310" SERIES)

GPK01	KIT 1 - VALVE ASSEMBLY	\$ 33.26	GPK12HP	KIT 12HP, V-PACKING	\$ 39.13
GPK01A	KIT 1A,O-RING VA,190-016	\$ 2.41	GPK130	KIT, PACKING ASSY	\$ 30.66
GPK02	KIT 2 - PISTON GUIDE OIL	\$ 5.38	GPK130HP	KIT 130-PACKING ASSEMBLY	\$ 31.84
GPK03	KIT 3 - CRANKSHAFT OIL SEAL	\$ 11.62	GPK131	KIT 131	\$ 37.40
GPK04	KIT 4 - VALVE CAP	\$ 45.37	GPK132	KIT 132 - UNLOADER KIT	\$ 16.88
GPK05	KIT 5 - VALVE CAP	\$ 75.97	GPK133	KIT 133 - VALVE CAP	\$ 11.00
GPK06	KIT 6, PISTON BOLT ASSEMBLY	\$ 14.40	GPK134	KIT 134 - VALVE REPAIR	\$ 22.63
GPK06A	KIT 6A,WASHERS/RI,190-015	\$ 5.69	GPK135	*PACKING KIT, SINTEX	\$ 10.63
GPK07	KIT 7 - HEAD RING	\$ 9.27	GPK136	KIT 136-PISTON ROD OIL	\$ 15.64
GPK08	KIT 8 - PACKING 20MM	\$ 36.84	GPK137	KIT, REPAIR, ZUI UNLOADER	\$ 59.65
GPK08HP	KIT 8HP, V-PACKING, 20 x	\$ 25.78	GPK139	KIT 139	\$ 23.80
GPK10	KIT 10-PACKING RETAINER	\$ 15.52	GPK14	KIT 14-PACKING RETAINER	\$ 12.18
GPK100	KIT 100 VALVE/PACKING KIT	\$159.31	GPK140	KIT 140	\$ 15.95
GPK101	KIT101 VALVE KIT	\$ 48.22	GPK141	KIT 141	\$ 24.54
GPK101A	KIT 101A,PACKING KIT,	\$ 92.60	GPK142	KIT,TRAPPED PRESSURE,	\$ 66.70
GPK101T	PACKING KIT,TEFLON,	\$156.28	GPK143	*KIT, REPAIR FOR HX VALVE	\$ 31.77
GPK102	KIT-102 TT UNLOADER MAINT.	\$ 68.56	GPK146	KIT 146 - PACKING	\$ 8.47
GPK103	*KIT 103	\$ 13.35	GPK147	KIT 147 - OIL SEAL	\$ 11.37
GPK105	KIT 105 P10 MAINTENANCE	\$ 23.92	GPK148	KIT 148, PACKING	\$ 59.35
GPK106	KIT-106 - VALVE CAP	\$ 86.55	GPK148RD	KIT 148RD,PACKING 22MM,	\$201.53
GPK107	KIT 107 PISTON BOLT	\$ 33.68	GPK149	KIT 149, INTERMEDIATE RING	\$ 36.41
GPK108	KIT 108 - HEAD RING (6)	\$ 5.75	GPK15	KIT 15 HEAD RING 24MM	\$ 5.87
GPK109	KIT 109 - PACKING 16MM	\$ 71.15	GPK150	KIT, VALVE, T5050	\$157.64
GPK109RD	KIT 109RD PACKING 16MM,	\$145.89	GPK151	KIT, PACKING, T5050	\$ 65.03
GPK10PRE90	KIT,20MM PACKING RETAINER	\$ 29.98	GPK152	KIT,PACKING RETAINER	\$ 47.66
GPK11	KIT 11-HEAD RINGS	\$ 8.16	GPK153	KIT, SOFT PACKING	\$ 64.41
GPK110	KIT-110 INTERMEDIATE RING	\$ 42.65	GPK154	*KIT,INTERMEDIATE RING	\$ 55.39
GPK111	KIT 111 PACKING RETAINER	\$ 40.24	GPK155	KIT,HEAD RING, 13MM	\$ 4.20
GPK112	KIT 112 - PACKING ASSEMBLY	\$ 57.92	GPK156	KIT, PACKING ASSEMBLY	\$ 56.63
GPK113	KIT 113-PACKING ASSEMBLY	\$ 87.10	GPK159	PISTON ROD OIL SEAL KIT	\$ 13.54
GPK114	*KIT 114-PACKING RETAINER	\$134.58	GPK16	KIT 16 - PACKING 24MM	\$ 58.23
GPK115	KIT 115 PACKING ASSEMBLY	\$ 95.32	GPK160	PACKING KIT,15MM	\$ 13.54
GPK116	*KIT 116-P3 MAINTENANCE	\$ 21.82	GPK161	PACKING KIT,18MM	\$ 58.23
GPK117	KIT 117 - VALVE KIT	\$ 37.83	GPK162	SEAL RETAINER KIT,15MM	\$ 73.07
GPK118	KIT 118 PACKING	\$ 8.65	GPK163	SEAL RETAINER KIT,18MM	\$ 21.27
GPK119	KIT 119 PACKING	\$ 9.46	GPK164	INTERMEDIATE RING KIT,	\$ 21.27
GPK12	KIT 12 - PACKING 22MM	\$ 43.09	GPK165	INTERMEDIATE RING KIT,	\$ 23.12
GPK120	KIT 120 - UNLOADER MAINT.	\$ 18.48	GPK166	PACKING ASSEMBLY,15MM	\$ 23.12
GPK121	KIT 121 K9 MAINTENANCE	\$163.26	GPK167	PACKING ASSEMBLY,18MM	\$ 39.56
GPK122	KIT, VALVE ASSY - T4251	\$289.37	GPK168	KIT,REPAIR,UNLOADER,ZK1	\$ 54.40
GPK123	KIT, VALVE	\$ 40.37	GPK169	VALVE KIT,66 SERIES	\$109.11
GPK124	KIT, VALVE CAP, EZ	\$ 43.27	GPK17	KIT 17 INTERMEDIATE RINGS	\$ 35.24
GPK125	KIT 125 PACKING RETAINER	\$ 21.82	GPK170	20MM PACKING KIT	\$ 74.80
GPK126	KIT 126	\$ 21.82	GPK171	KIT,PACKING,20MM,	\$ 55.08
GPK127	KIT 127,PACKING ASSEMBLY	\$ 54.42	GPK172	22MM PACKING KIT,	\$ 74.80
GPK127HP	21.45KIT,HIGH PRESSURE PACKING	\$ 47.85	GPK173	KIT,PACKING,22MM,	\$ 55.08
GPK128	KIT, 18MM INTERMEDIATE RING	\$ 21.45	GPK174	KIT,SEAL,16MM (1)	\$ 94.09
GPK129	EZ HEAD RINGS,EZ SERIES	\$ 5.13	GPK175	*KIT,PACKING,16MM (3)	\$ 64.66

GENERAL PUMP REPAIR KITS

(GENERIC KITS ALSO AVAILABLE AT SUBSTANTIAL SAVINGS - ASK FOR THE "1310" SERIES)

GPK176	KIT,PACKING,18MM (3)	\$ 66.83	GPK61	KIT-61 K3 COMPLETE REBUILD	\$ 70.72
GPK177	KIT,FLOW,B/I UNLOADER,	\$ 58.29	GPK62	KIT 62 - VALVE (6)	\$ 94.33
GPK181	KIT,LP SEAL,HP SEAL,	\$ 74.92	GPK63	KIT 63 - PACKING 30MM	\$ 61.88
GPK182	KIT,PACKING,24MM,	\$ 55.08	GPK64	KIT 64 PACKING RETAINER 3	\$ 65.59
GPK183	KIT,UNLDR,BUILT-IN,FLOW	\$ 70.47	GPK65	KIT 65 - HEAD RING 30MM	\$ 9.03
GPK184	KIT,UNLDR,BUILT-IN,TRPPED	\$ 51.87	GPK66	KIT 66-INTERMEDIATE RING	\$ 59.53
GPK19	KIT 19 - PACKING 20MM	\$ 32.70	GPK67	KIT 67 - PACKING ASSEMBLY	\$ 63.12
GPK19HP	KIT 19HP, V-PACKING	\$ 29.67	GPK69	KIT 69, PACKING REPLACEMENT	\$ 53.66
GPK19RD	KIT 19RD PACKING 20MM,	\$ 82.34	GPK70	KIT 70 - K7 MAINTENANCE	\$
GPK20	KIT-20 INTERMEDIATE RING	\$ 16.26	GPK71	KIT,INTERMEDIATE RING	\$ 50.20
GPK21	KIT 21 - HEAD RINGS	\$ 63.74	GPK72	KIT 72 - MAINTENANCE	\$
GPK22	KIT-22 PACKING RETAINER	\$ 11.99	GPK74	KIT 74 PISTON BOLT	\$ 69.92
GPK23	KIT 23 - PISTON ROD OIL SEAL	\$ 13.35	GPK75	KIT 75-INTERMEDIATE RING	\$ 81.04
GPK24	KIT 24 - PISTON ROD OIL SEAL	\$ 15.95	GPK76	KIT 76-PACKING RETAINER	\$129.14
GPK25	KIT 25- PACKING 22MM	\$ 21.20	GPK77	KIT-77 PACKING W/RESTOP 2	\$ 72.08
GPK26	KIT 26 - PISTON BOLT	\$ 16.51	GPK78	KIT 78 PACKING ASSEMBLY 2	\$ 97.12
GPK27	KIT 27 - PACKING ASSEMBLY	\$ 19.16	GPK78HP	KIT 78-PACKING ASSEMBLY	\$ 93.04
GPK27HP	KIT 27-PACKING ASSEMBLY	\$ 21.27	GPK79	KIT 79 - PACKING W/RESTOP	\$ 90.25
GPK28	KIT 28 - PACKING ASSEMBLY	\$ 25.90	GPK80	KIT 80 - PACKING ASSEMBLY	\$ 64.66
GPK28HP	KIT 28-PACKING ASSEMBLY	\$ 27.39	GPK81	KIT 81-INTERMEDIATE RING	\$ 88.52
GPK29	KIT 29 - PACKING ASSEMBLY	\$ 27.88	GPK82	KIT 82	\$ 55.39
GPK29HP	KIT 29-PACKING ASSEMBLY	\$ 32.95	GPK82HP	KIT 82-PACKING ASSEMBLY	\$ 46.73
GPK30	KIT 30-PACKING ASSEMBLY	\$ 43.52	GPK83	KIT 83 - OIL SEAL	\$ 11.44
GPK31	KIT 31 PACKING ASSEMBLY	\$ 39.87	GPK84	KIT 84 - VALVE CAP	\$ 37.03
GPK32	KIT 32 - CRANKSHAFT OIL SEAL	\$ 14.09	GPK85	KIT 85 - COMPLETE PACKING	\$ 11.00
GPK33	*KIT 33 - VALUE	\$ 40.92	GPK86	KIT 86 PACKING RETAINER	\$ 17.68
GPK34	*KIT 34-ACCUMULATOR ASSEMBLY	\$ 58.36	GPK87	KIT 87 - PACKING	\$ 15.70
GPK35	*KIT 35-PISTON DIAPHRAGM	\$ 33.94	GPK88	KIT,PACKING,W/RESTOP RING	\$ 39.44
GPK37	KIT 37 OIL SEAL	\$ 18.30	GPK88HP	KIT,HIGH PRESSURE PACKING	\$ 39.07
GPK38	KIT 38 - 36MM PACKING	\$ 58.42	GPK89	KIT 89 - INTERMEDIATE RING	\$ 21.82
GPK39	KIT 39 - PACKING ASSEMBLY	\$ 59.35	GPK90	KIT 90 HEAD RING (5110005)	\$ 4.20
GPK40	KIT 40 PACKING RETAINER 3	\$ 58.36	GPK91	*KIT 91 - PACKING RETAINER	\$ 21.82
GPK41	KIT 41- HEAD RING 36MM	\$ 25.16	GPK910	KIT 910 CAR WASH LOW PRESS.	\$ 39.44
GPK42	*KIT 42-INTERMEDIATE RING	\$ 42.22	GPK9101A	KIT 9101A, CAR WASH PACKING	\$ 31.65
GPK43	KIT 43 - VALVE	\$147.93	GPK911	KIT 911-SEAL RETAINER	\$ 39.50
GPK43A	*KIT 43A,O-RING V,190-017	\$ 7.48	GPK92	KIT 92 - PACKING ASSY	\$ 31.65
GPK44	KIT 44 - PISTON ROD OIL SEAL	\$ 22.81	GPK93	KIT 93-CONTROL SET	\$ 24.73
GPK47	KIT 47- PACKING RETAINER	\$ 64.23	GPK939	KIT 939-PACKING ASSEMBLY	\$ 66.89
GPK48	KIT 48- HEAD RING 45MM	\$ 24.17	GPK94	KIT 94 - CONTROL SET	\$ 6.12
GPK50	*KIT 50-VALVE MAINTENANCE	\$ 21.95	GPK940	KIT 940,PACKING RETAINER	\$ 87.41
GPK51	KIT 51 TIMAX MAINTENANCE	\$ 44.57	GPK942	KIT,INTERMEDIATE RING	\$ 95.51
GPK52	KIT 52 PIMATIC/P11 GUN	\$ 24.17	GPK943	*KIT,VALVE CAR WASH	\$ 111.15
GPK54	KIT 54 - BOLT KIT	\$ 29.43	GPK95	KIT 95 - KR UNLOADER	\$ 41.97
GPK56	*KIT 56-S1 VALVE MAINT.	\$ 9.71	GPK96	KIT 96 - PACKING ASSEMBLY	\$ 9.89
GPK57	*KIT,PACKING RETAINER	\$ 56.95	GPK967	*KIT 967,PACKING ASSY	\$ 72.82
GPK58	KIT 58 - K5 MAINTENANCE	\$ 48.47	GPK969	KIT 969, CAR WASH PACKING	\$ 54.15
GPK59	KIT 59 K3 MAINTENANCE	\$ 45.13	GPK97	KIT 97 - PACKING	\$ 14.40
GPK60	KIT 60 - K5 COMPLETE REBUILD	\$ 67.13	GPK98	KIT 98 - W1 MAINTENANCE	\$ 76.16

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

XJV-E & XJW-E - Economy Axial Radial Drive Pumps



XJV-E 3400 RPM D VERSION - 3/4"
WITH GAS ENGINE FLANGE (F7)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XJV-E2G16D-F7*	2.0	1450	2.0	15	4.8	11	\$180.64
XJV-E2G20D-F7*	2.0	2000	2.8	15	4.8	11	\$180.64
XJV-E2.5G16D-F7*	2.5	1450	2.5	15	5.8	11	\$180.64
XJV-E2.5G20D-F7*	2.5	2000	3.4	15	5.8	11	\$180.64
XJV-E2.5G22D-F7*	2.5	2200	3.8	15	5.8	11	\$180.64
XJV-E3G16D-F7*	3.0	1450	3.0	15	6.8	11	\$180.64
XJV-E3G20D-F7*	3.0	2000	4.0	15	6.8	11	\$180.64
XJV-E3G22D-F7*	3.0	2200	4.5	15	6.8	11	\$180.64

Oil Capacity = 4.0 oz. Maximum Fluid Temperature = 140° F Max Torque = 1/2" M. Discharge Torque = 3/8" M



XJW-E 3400 RPM D VERSION - 7/8"
WITH VERTICAL GAS ENGINE FLANGE (F27)

XJW-E2G22D-F27*	2.5	2200	3.0	15	4.8	11	\$180.64
XJW-E2.5G22D-F27*	2.5	2200	3.7	15	5.8	11	\$180.64
XJW-E3G22D-F27*	3.0	2200	4.5	15	6.8	11	\$180.64

Oil Capacity = 4.0 oz. Maximum Fluid Temperature = 140° F Max Torque = 1/2" M. Discharge Torque = 3/8" M

SJV & SJW & XJV - Super Duty Axial Radial Drive Pumps



SJV 3400 RPM D VERSION - 3/4"
WITH GAS ENGINE FLANGE (F7)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
SJV2G25D-F7*	2.0	2500	3.0	15	4.8	11	\$190.56
SJV2.5G24D-F7*	2.5	2500	4.5	15	5.8	11	\$190.56
SJV3G25D-F7*	3.0	2500	5.0	15	6.8	11	\$190.56

Oil Capacity = 4.5 oz. Maximum Fluid Temperature = 140° F Max Torque = 1/2" M. Discharge Torque = 3/8" M



SJW 3400 RPM D VERSION - 7/8"
WITH VERTICAL GAS ENGINE FLANGE (F27)

SJW2G25D-F27*	2.0	2500	3.5	15	4.8	11	\$202.14
SJW2.5G25D-F27*	2.5	2500	4.5	15	5.8	11	\$202.14
SJW3G25D-F27*	3.0	2500	5.0	15	6.8	11	\$202.14

Oil Capacity = 4.5 oz. Maximum Fluid Temperature = 140° F Max Torque = 1/2" M. Discharge Torque = 3/8" M

"A dog teaches a boy fidelity, perseverance, and to turn around three times before lying down."
 -- Robert Benchley



XJV 3400 RPM E VERSION - 5/8"
WITH NEMA 56-C FLANGE (F8)

XJV2G15E-F8	2.0	1450	2.0	15	4.8	11	\$202.14
XJV3G20E-F8	3.0	2000	4.0	15	6.8	11	\$202.14

Oil Capacity = 4.5 cc Max. Inlet Temperature = 140° F Max. Inlet Pressure = 152 PSI Discharge Pressure = 30 PSI

Triplex Plunger Pumps



BKV 3400 RPM D VERSION - 1"
WITH GAS ENGINE FLANGE SEA J609A

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
BKV3G30D*	3.0	3000	8.2	15	7.8	21.8	\$239.78
BKV3.5G30D*	3.5	3000	7.2	15	8.55	21.8	\$239.78
BKV4G30D*	4.0	3000	8.2	15	9.52	21.8	\$239.78

Oil Capacity = 9.0 cc Max. Inlet Temperature = 110° F Max. Inlet Pressure = 152 PSI Discharge Pressure = 30 PSI



XT 1450 RPM N VERSION - 24MM SOLID SHAFT

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XT8.14N	2.1	2000	3.0	15	11.0	11	\$211.10
XT9.14N	2.37	2000	3.3	18	8.4	11	\$211.10
XT11.14N*	2.90	1600	3.0	18	11.0	11	\$211.10
XT11.14N*	2.90	2000	4.0	18	11.0	11	\$211.10

XTA 1750 RPM N VERSION - 24MM SOLID SHAFT

XTA2G15N*	2.11	1450	2.0	15	9.6	8.5	\$187.81
XTA2G16NRA	2.11	2000	3.0	15	9.6	10	\$202.14
X1A2U2UN	2.11	2000	3.0	15	9.6	11	\$209.31
XTA2G22N*	2.11	2200	3.0	15	9.6	11	\$209.31
XTA3G10N*	3.0	1000	2.0	15	9.6	8.5	\$193.18
XTA3G16N	3.0	1600	3.0	15	9.6	10	\$205.73
XTA3G19N	3.0	1900	4.0	15	9.6	11	\$212.90
XTA3G22N	3.0	2200	4.5	15	9.6	11	\$212.90

XTV 3400 RPM N VERSION - 24MM SOLID SHAFT

XTV3G10N*	3.0	1000	2.0	15	7.2	9	\$194.98
XTV3G16N	3.0	1600	3.0	15	7.2	10	\$209.31
XTV3G20N	3.0	2000	4.0	15	7.2	11	\$216.48
XTV3G22N	3.0	2200	4.5	15	7.2	11	\$216.48

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

A-R PUMPS

"If I have any beliefs about immortality, it is that certain dogs I have known will go to heaven, and very, very few persons." -- James Thurber



XTA 1750 RPM E VERSION - 5/8" **WITH NEMA 56 - C FLANGE (F8)**

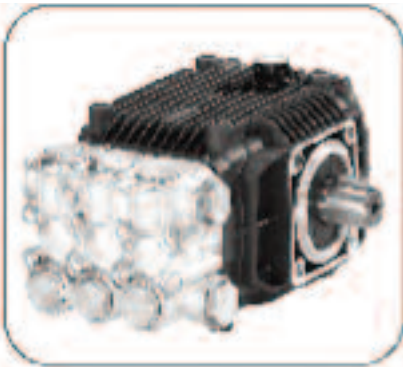
MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XTA2G15E-F8	2.11	1450	2.0	15	9.6	6.5	\$203.94
XTA2G15EBA-F8	2.11	1800	2.5	15	9.6	10	\$214.69
XTA2G22E-F8	2.11	2200	3.0	15	9.6	11	\$221.86
XTA3G19E-F8	3.0	1900	2.0	18	9.6	5.5	\$205.73
X1A3G16EBA-F8	3.0	1600	3.0	15	9.6	10	\$220.06
XTA3G19E-F8	3.0	1900	4.0	15	9.6	11	\$220.06
XTA3G22E-F8	3.0	2200	4.5	15	9.6	11	\$220.06
XTA3.5G13E-F8*	3.5	1000	2.5	18	11.0	5.5	\$205.73
XTA3.5G13E-F8*	3.5	1300	3.0	18	11.0	10	\$220.06
X1A3.5G17E-F8*	3.5	1710	4.0	18	11.0	11	\$227.23
XTA3.5G22E-F8*	3.5	1000	2.5	18	11.0	11	\$227.23
XTA4G10E-F8	4.0	1000	3.0	18	12.0	6.5	\$205.73
XTA4G15EBA-F8	4.0	1500	4.0	18	12.0	11	\$227.23

XTV 3400 RPM E VERSION - 5/8" **5/8" WITH NEMA 56 - C FLANGE (F8)**

XTV2G15E-F8*	2.11	1500	2.0	15	4.8	9	\$200.35
XTV2G15EBA-F8*	2.11	1500	2.0	15	4.8	10	\$211.10
X1V2G20E-F8	2.11	2000	3.0	15	4.8	11	\$218.27
XTV2G22E-F8*	2.11	2200	3.0	15	4.8	11	\$218.27
XTV3G10E-F8*	3.0	1000	2.0	15	7.2	9	\$200.35
XTV3G18E-F8	3.0	1800	3.0	15	7.2	10	\$212.90
XTV3G20E-F8	3.0	2000	4.0	15	7.2	11	\$218.27
XTV3G22E-F8	3.0	2200	4.5	15	7.2	11	\$218.27

XTV 3400 RPM D VERSION - 3/4" **WITH GAS ENGINE FLANGE (F7)**

XTV2G15D-F7	2.11	1500	2.0	15	4.8	9	\$200.35
XTV2G18D8A-F7	2.11	1500	2.0	15	4.8	10	\$212.90
XTV2G20D-F7*	2.11	2000	3.0	15	4.8	10	\$218.27
XTV2G22D-F7*	2.11	2200	3.0	15	4.8	10	\$218.27
XTV3G10D-F7*	3.0	1000	2.0	15	7.2	9	\$200.35
XTV3G18D-F7	3.0	1800	3.0	15	7.2	10	\$212.90
XTV3G20D-F7	3.0	2000	4.0	15	7.2	11	\$218.27
XTV3G22D-F7	3.0	2200	4.5	15	7.2	11	\$218.27



XM 1450 RPM N VERSION **24MM SOLID SHAFT**

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XM11.17N	2.9	2000	3.0	15	10.4	14	\$218.27
XM13.17N*	3.45	2000	3.5	15	12.4	14	\$218.27
XM15.16N	3.00	2200	3.5	15	14.2	14	\$218.27

XMA 1750 RPM N VERSION **24MM SOLID SHAFT**

XMA3G25N	3.0	2500	3.0	15	13.2	14	\$218.27
XMA3.5G22N	3.5	2200	3.0	15	15.4	14	\$218.27
XMA3.5G25N	3.5	2500	3.5	15	15.4	14	\$218.27
XMA4G20N	4.0	2500	3.5	18	13.2	14	\$218.27

"What dogs? These are my children, little people with fur who make my heart open a little wider."
 -- Oprah Winfrey



XMA 1750 RPM E VERSION - 5/8"
WITH NEMA 56-C FLANGE (F33)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XMA2C19E-F33	2.11	1500	2.0	15	9.1	15	\$236.19
XMA2C22E-F33	2.11	2200	3.0	15	9.1	15	\$236.19
XMA2.5G18E-F33	2.5	1500	3.0	15	10.6	15	\$236.19
XMA3G10F-F33	3.0	1500	4.0	15	13.2	15	\$236.19

XMA 1750 RPM E VERSION - 1 1/8"
WITH NEMA 182-184 FLANGE (F17)

XMA3G25E-F17	3.0	2500	5.0	15	13.2	15	\$264.86
XMA3G30E-F17	3.0	3000	6.2	15	13.2	15	\$264.86
XMA3.5G25F-F17	3.5	2500	5.5	15	15.4	15	\$264.86

XMV 3400 RPM E VERSION - 5/8"
WITH NEMA 56 - C FLANGE (F33)

XMV2G25E-F33	2.11	2500	5.0	15	4.8	15	\$236.19
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SXMA 1750 RPM E VERSION - 1 1/8"
WITH NEMA 182-184 FLANGE (F17)

SXVA3G30E-F17	3.0	3000	7.5	15	13.2	18	\$272.03
SXVA3.5G30E-F17	3.5	3000	7.5	15	15.4	18	\$272.03
SXVA4G30E-F17	4.0	3000	10.0	15	13.2	18	\$272.03



XMV 3400 RPM D VERSION - 3/4"
WITH GAS ENGINE FLANGE (F25)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XVV2.5G25D-F25	2.5	2000	5.0	15	6.2	15	\$221.86
XVV3G25D-F25	3.0	2000	5.0	15	7.6	15	\$221.86
XVV3.5G25D-F25	3.5	2500	5.5	15	8.2	15	\$221.86

XMV 3400 RPM D VERSION - 1"
WITH GAS ENGINE FLANGE (F24)

XMV5G30D-F24	3.0	3000	5.5	15	7.6	16	\$230.82
XMV3.5G25D-F24	3.5	2500	5.5	15	8.2	16	\$230.82
XMV3.5G30D-F24	3.5	3000	7.0	15	8.2	16	\$230.82
XMV1G30D-F24	1.0	3000	7.5	15	5.4	10	\$230.82
XMV1C32D-F21	1.0	3200	10.0	15	5.4	10	\$230.82

XMV 3400 RPM D VERSION - 3/4"
WITH NEMA 56 - C FLANGE (F33)

XMV3.5G25D-F33	3.5	2500	5.5	15	8.2	15	\$236.19
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SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

A-R PUMPS

"I loathe people who keep dogs.
They are cowards who haven't got the guts to bite people themselves."
-- August Strindberg

SXMV 3400 RPM D VERSION - 1 1/8" WITH GAS ENGINE FLANGE (F24)

SXMV3G40D-F24	3.0	4000	7.5	15	7.6	10	\$241.57
SXMV3.6G40D-F24	3.5	4000	8.5	15	8.2	16	\$241.57
SXMV4G35D-F24	4.0	3500	10.0	15	9.4	16	\$241.57

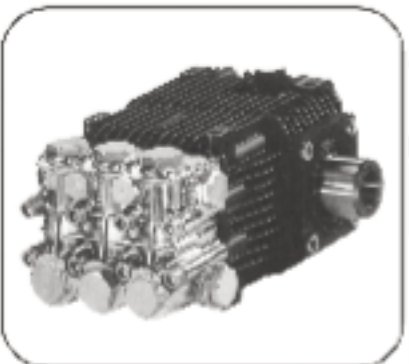
RK 1450 RPM N VERSION 24MM SOLID SHAFT



MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
RK11.14N*	2.9	2000	4.0	18	10.8	19	\$261.28
RK11.20HN*	2.9	2500	5.5	18	10.8	20	\$288.16
RK13.12N*	3.43	1740	4.0	18	12.8	19	\$261.28
RK13.20HN*	3.43	2000	7.5	18	12.8	20	\$284.58
RK14.16N*	3.7	2500	5.5	18	13.8	19	\$261.28
RK15.15N*	3.95	2200	5.5	18	14.0	19	\$261.28
RK15.20HN	3.95	2900	7.5	18	14.0	19	\$288.16
RK15.26HN	3.95	4000	11.0	18	14.6	20	\$288.16
RK18.20HN	4.75	2000	10.0	20	14.6	20	\$288.16
RK21.20HN	5.55	2900	11.0	20	13.8	20	\$288.16

RKA 1750 RPM N VERSION 24MM SOLID SHAFT

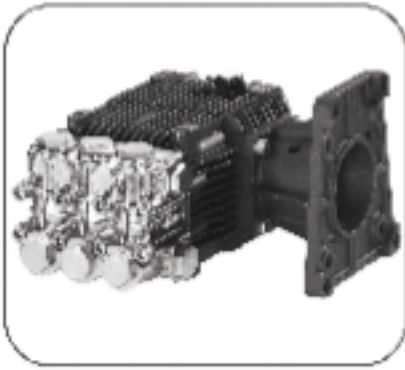
MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
RKA3.5G25N	3.5	2500	5.0	18	10.5	19	\$261.28
RKA3.5G30N	3.5	3000	7.5	18	10.5	19	\$279.20
RKA3.5G40HN	3.5	4000	10.0	18	10.5	20	\$284.58
RKA4G20N	4.0	2000	5.0	18	12.0	19	\$261.28
RKA4G30N	4.0	3000	7.5	18	12.0	19	\$279.20
RKA4G30HN	4.0	3000	7.5	18	12.0	19	\$288.16
RKA4G35N	4.0	3500	10.0	18	13.0	20	\$288.16
RKA4G40HN	4.0	4000	11.0	18	12.0	19	\$288.16
RKA4.5G17N*	4.5	1700	5.0	18	13.5	19	\$279.20
RKA4.5G25HN*	4.5	2500	7.5	18	13.5	20	\$288.16
RKA4.5G35HN	4.5	3500	11.0	18	13.5	19	\$288.16
RKA5.5G13N*	5.5	1300	5.0	20	13.5	19	\$261.28
RKA5.5G20HN*	5.5	2000	7.5	20	13.5	20	\$279.20
RKA5.5G30HN	5.5	3000	11.0	20	13.5	20	\$288.16
RKA6.5G20HN*	6.6	2000	9.0	22	13.5	20	\$288.16
RKA7G20HN	7.1	2000	10.0	22	14.5	20	\$288.16



RKA 1750 RPM E VERSION - 1 1/8" WITH NEMA 182-184 FLANGE (F17)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
RKA3.5G35E-F17	3.5	3000	7.5	18	10.5	22	\$306.08
RKA3.5G35HE-F17*	3.5	3000	7.5	18	10.5	22	\$332.96
RKA3.5G45HE-F17*	3.5	4000	9.6	18	10.5	22	\$332.96
RKA4G20E-F17	4.0	2000	5.0	18	12.0	21	\$306.08
RKA4G30E-F17	4.0	3000	7.5	18	12.0	21	\$306.08
RKA4G30HE-F17	4.0	3000	7.5	18	12.0	21	\$332.96
RKA5.5G13E-F17	5.5	1300	5.0	20	13.5	21	\$331.17
RKA6.5G20HE-F17*	6.6	2000	9.0	22	13.5	21	\$332.96
RKA7G20HE-F17	7.1	2000	10.0	22	14.5	21	\$332.96

"The difference between cats and dogs is, dogs come when they are called, cats take a message and get back to you." -- Unknown



RKV 3400 RPM D VERSION - 1"
WITH GAS ENGINE FLANGE (F24)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
RKV3.5G30AD-F24	3.5	3000	7.5	18	6.2	21	\$270.24
RKV3.5G35D-F24	3.5	3500	8.4	18	6.2	21	\$288.16
RKV3.5G40-ID F24	3.5	4000	10.0	18	6.2	21	\$297.12
RKV4G30AD-F24	4.0	3000	7.5	18	7.0	21	\$270.24
RKV4G32D-F24	4.0	3200	7.5	18	7.0	21	\$288.16
RKV4G36HD-F24	4.0	3500	7.5	18	7.0	21	\$297.12
RKV4G40HD-F24	4.0	4000	11.0	18	7.0	21	\$297.12
RKV4.5G22D-F24	4.5	2200	12.0	18	8.0	21	\$288.16
RKV4.5G40-ID-F24	4.5	4000	12.0	18	8.0	21	\$297.12
RKV5G40HD-F24	5.0	4000	13.7	18	8.5	21	\$297.12
RKV5.5G40-ID-F24	5.5	4000	15.0	18	9.3	21	\$297.12



SRK 1450 RPM N VERSION
24MM SOLID SHAFT

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
SRK12.30HN	3.17	4350	10.0	18.0	14.6	22	\$306.08

SRKA 1750 RPM N VERSION
24MM SOLID SHAFT

SRKA3 75345N	3.75	4500	12.0	18.0	14.8	20	\$306.08
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XW 1450 RPM N VERSION
24MM SOLID SHAFT

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XW15.15	3.95	2200	5.5	20	12.2	34	\$300.00
XW15.20	3.95	2900	7.5	20	12.2	34	\$300.00
XW15.30	3.95	4050	12.0	20	12.2	34	\$300.00
XW21.20	5.55	2900	10.0	20	16.6	34	\$335.00
XW21.25	5.55	3600	12.5	20	16.6	34	\$335.00
XW21.28	5.55	4000	15.0	20	16.6	34	\$335.00
XW26.12	6.87	1740	7.5	20	19.8	34	\$377.76
XW26.15	6.87	2200	10.0	20	19.8	34	\$377.76
XW26.20	6.87	2900	12.5	20	19.8	34	\$377.76
XW26.23	6.87	3400	15.0	20	19.8	34	\$377.76
XW30.10	7.92	1400	7.5	22	19.8	34	\$395.68
XW30.15	7.92	2200	10.0	22	19.8	34	\$395.68
XW30.20	7.92	2900	13.0	22	19.8	34	\$395.68
XW30.25	7.92	3600	19.0	22	19.8	34	\$395.68

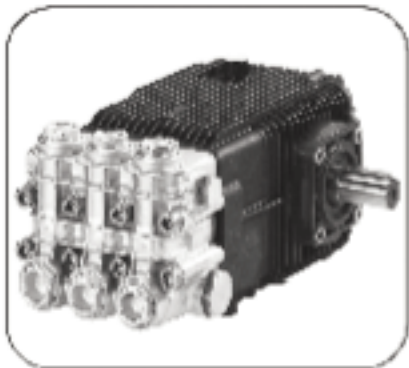
"Lots of people want to ride with you in the limo, but what you want is someone who will take the bus with you when the limo breaks down."
-Oprah Winfrey

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"A hungry dog hunts best."
 -- Lee Trevino, US golfer
 so sad - but true

**XWA 1750 RPM N VERSION
 24MM SOLID SHAFT**

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XWA4G20N	4.0	2000	5.5	20	10.0	34	\$341.92
XWA4G30N	4.0	3000	7.5	20	10.0	34	\$341.92
XWA4G40N	4.0	4000	11.0	20	13.8	34	\$341.92
XWA5.5G22N	5.5	2200	7.5	20	13.8	34	\$341.92
XWA5.5G30N	5.5	3000	10.0	20	13.8	34	\$341.92
XWA5.5G40N	5.5	4000	14.0	20	13.8	34	\$341.92
XWA7G22N	7.0	2200	10.0	20	17.2	34	\$377.76
XWA7G32N	7.0	3200	14.0	20	17.2	34	\$377.76
XWA7G36N	7.0	3600	15.0	20	17.2	34	\$377.76
XWA7G40N	7.0	4000	17.0	20	17.2	34	\$377.76
XWA8G19N	8.0	1900	10.0	20	19.8	34	\$377.76
XWA8G29N	8.0	2900	15.0	20	19.8	34	\$377.76
XWA8G35N	8.0	3500	18.0	20	19.8	34	\$377.76
XWA9C16N	9.0	1600	10.0	22	19.8	34	\$395.68
XWA9C24N	9.0	2400	15.0	22	19.8	34	\$395.68



**XWT 500 RPM N VERSION
 24MM SOLID SHAFT**

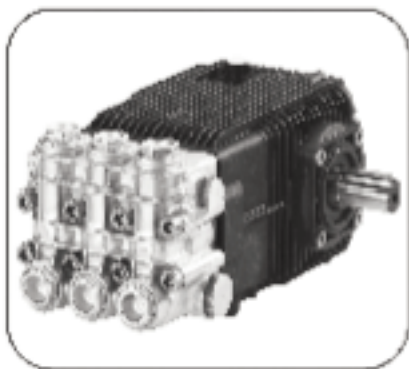
MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XWT21.20N	5.95	2000	11.0	28	19.8	34	\$402.85

**XWF 1000 RPM N VERSION
 24MM SOLID SHAFT**

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XWL42.05N	11.09	725	5.5	28	17.2	34	\$418.98
XWL42.07N	11.09	1000	8.0	28	17.2	34	\$418.98
XWL42.10N	11.09	1450	11.0	28	17.2	34	\$418.98
XWL42.15N	11.09	2200	16.0	28	17.2	34	\$418.98

**XWLA 1750 RPM N VERSION
 24MM SOLID SHAFT**

XWLA13G15N	13.0	1450	13.0	28	17.2	34	\$418.98
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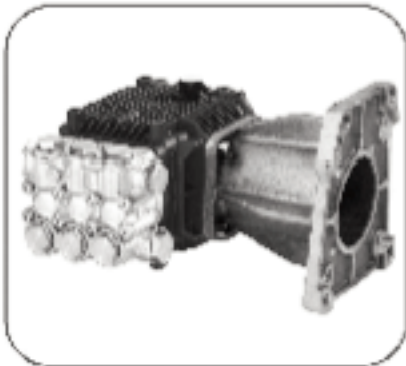
**SXW 1450 RPM N VERSION
 24MM SOLID SHAFT**

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
SXW15.05	3.95	5000	15	16	15.0	35	\$420.77
SXW21.05	5.55	5000	20	16	21.0	35	\$420.77

**SXWA 1750 RPM N VERSION
 24MM SOLID SHAFT**

SXWA4G50	4.0	5000	13	16	12.2	35	\$420.77
SXWA5.5G50	5.5	5000	17	16	17.2	35	\$420.77
SXWA7G50	7.0	5000	24	16	17.2	35	\$420.77

"Dogs are not our whole life, but they make our lives whole."
 -- Roger Caras



PATENTED TAPERED HOLLOW SHAFT FOR COUPLING TO TAPERED SHAFT ENGINES

GXMV 3400 RPM V VERSION - 1"
WITH TAPERED GAS ENGINE FLANGE (F35)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
GXMV4G30-F35	4.0	3000	6.5	10	9.1	18	\$288.16

GRKV 3400 RPM V VERSION - 1"
WITH TAPERED GAS ENGINE FLANGE (F35)

GRKV4G35HV-F35	4.0	3500	9.5	10	7.0	23	\$354.80
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Car Wash Pumps



RCW 950 RPM N VERSION
24MM SOLID SHAFT

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
RCW12.15N	2.55	2200	4.0	18	14.2	21	\$343.04
RCW15.14N	3.95	2000	5.5	22	13.8	21	\$343.04

RCW 1450 RPM N VERSION
24MM SOLID SHAFT

RCW11.10N	2.9	1450	2.5	18	10.8	21	\$343.04
RCW15.16N	3.95	2200	5.5	18	11.6	21	\$343.04



CWX 950 RPM N VERSION - 24MM SOLID SHAFT

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
CWX15.17N	3.95	2500	7.0	20	16.8	32	\$433.20

CWX 1200 RPM N VERSION - 24MM SOLID SHAFT

CWX15.10N	4.75	1750	5.0	18	20	32	\$433.20
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CWX 1750 RPM N VERSION - 24MM SOLID SHAFT

CWX4G25-N	4.0	2500	6.5	20	10.0	32	\$433.20
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WE ALSO CARRY

CAT PUMPS

AT PRICES

\$\$ SO LOW \$\$

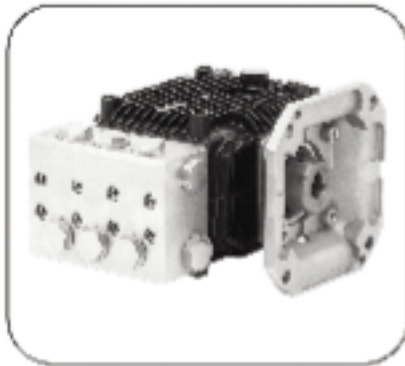
WE CAN'T ADVERTISE THEM!



SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

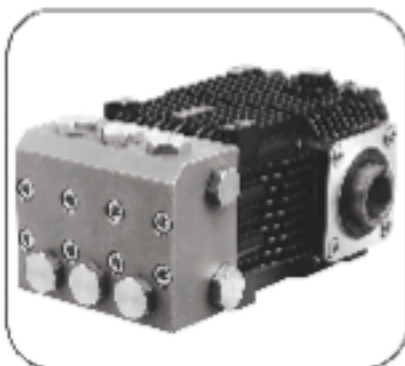


Stainless Steel Pumps



XMA-SS 1750 RPM E VERSION - 5/8" I
WITH NEMA 56 - C FLANGE (F33)

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
XMASS2.5G15E-F33	2.5	1500	0.05	15	2.2	17	\$548.00
XMASS2.5C15E-F33	2.5	1500	2.60	15	10.6	17	\$548.00
XMASS3G15E-F33	3.0	1500	3.10	15	13.2	17	\$548.00

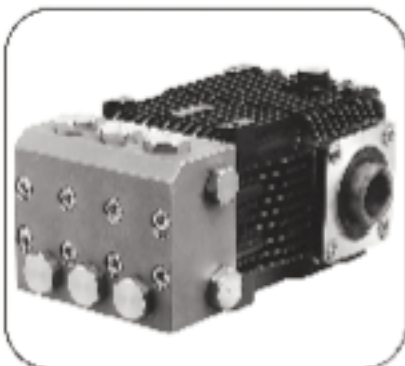


RKA-SS 1750 RPM E VERSION - 5/8"
WITH NEMA 56 - C FLANGE (F33)

RKA-SS2.3G15E-F17	2.3	1500	2.4	15	7.0	22	\$749.60
RKA-SS3G15E-F17	3	1500	3.0	15	9.8	22	\$749.60
RKA-SS3.8G12E-F17	3.8	1500	3.0	15	11.2	22	\$749.60
RKA-SS4.2G15E-F17	4.2	1500	4.3	15	12.0	22	\$749.60

RKA-SS 1750 rpm E Version - 1 1/8"
with NEMA 182 - 184 Flange (F17)

RKA-SS2.3G15E-F17	8.7	1500	2.4	18	7.0	22	\$783.20
RKA-SS3G15E-F17	11.4	1500	3.0	18	9.8	22	\$783.20
RKA-SS3.8G12E-F17	13.6	1500	3.0	18	11.2	22	\$783.20
RKA-SS4.2G15E-F17	15.9	1500	4.3	18	12.0	22	\$783.20



RK-SS 1450 RPM N VERSION
24MM SOLID SHAFT

MODEL	MAX. GPM	MAX. PSI	POWER EBHP	BORE DIA. MM	STROKE MM	WEIGHT LBS.	PRICE
RK-SS11.1N	2.9	1600	3.0	18	10.8	22	\$727.20
RK-SS13.17N	3.43	2500	3.5	18	12.0	22	\$727.20
RK-SS15.15N	3.95	2200	3.5	18	14.6	22	\$727.20

RKA-SS 1750 RPM N VERSION
24MM SOLID SHAFT

RKA-SS2.3G15N*	2.3	1500	2.5	18	7.0	22	\$727.20
RKA-SS3G15N*	3	1500	3.0	18	9.8	22	\$727.20
RKA-SS3.8G12N*	3.8	1500	3.0	18	11.2	22	\$727.20
RKA-SS4.2G15N	4.2	1500	4.3	18	12.0	22	\$727.20

AR REPAIR KITS

AR1815	Kit: Support Ring 20mm XR, RK	\$ 4.15	AR2587	Kit: Water Seal SJV	\$ 25.31
AR1816	Kit: Packing 22mm XR, RK	\$ 4.15	AR2588	Kit: O-Ring SJV	\$ 8.94
AR1828	Kit: Valve 18mm RK	\$ 33.17	AR2589	Kit: Cam and Bearing SJV	\$ 79.59
AR1829	Kit: Support Ring 18mm XR, RK	\$ 7.94	AR2591	Kit: Oil Seal XJV-E	\$ 9.88
AR1836	Kit: Low Rail XT (N)	\$ 11.29	AR2592	Kit: Oil Seal XJW-E	\$ 5.83
AR1836H	Kit: High Rail XT	\$ 15.06	AR2593	Kit: Piston XJV, XJW-E	\$ 17.03
AR1837	Kit: Low Rail XR (N), RK (N)	\$ 11.29	AR2594	Kit: Unloader XJ-E Version	\$ 28.89
AR1849	Kit: Piston 28mm XLF, XL	\$216.34	AR2597	Kit: Inlet Valve XJ-E	\$ 5.46
AR1853	Kit: Packing 28mm XLF, XL	\$116.66	AR2598	Kit: Outlet Valve XJ-E	\$ 5.46
AR1855	Kit: Oil Seal XRA (N), RKA (N)	\$ 34.91	AR2599	Kit: Inlet Valve XJ	\$ 9.88
AR1856	Kit: Oil Seal XRA (E), XRV, RKA (E)	\$ 37.80	AR2628	Kit: Piston XT, HPE	\$ 89.70
AR1857	Kit: Packing 18mm, XRC, XRA, RK, RKA	\$ 71.17	AR2629	Kit: Piston XT, HPE 18mm	\$ 15.06
AR1860	Kit: Oil Seal C Version XTV	\$ 26.80	AR2633	Kit: High Rail with Bolts XR	\$15306
AR1864	Kit: Valve XTA, XTV, HPE	\$ 28.19	AR2633H	Kit: High Rail with Bolts XRA	\$ 19.76
AR1866	Kit: Packing XTA, XTV	\$ 49.86	AR2645	Kit: Piston XMA-SS	\$ 98.78
AR1872	Kit: Oil Seal XT, XTA, XTV	\$ 23.25	AR2729	Kit: Rail XM (N) Low Rails	\$ 7.53
AR1874	Kit: Cylinder & Piston XT, XTA	\$ 51.57	AR2740	Kit: Support Ring 15mm XMV	\$ 1.32
AR1880	Kit: Valve VIP, XH, XB	\$ 22.92	AR2741	Kit: Seal 15mm XMV	\$ 56.87
AR1887	Kit: Water Seal 20mm XRC, XRCA, RK, RKA	\$ 82.58	AR2745	Kit: Support Ring 18mm XM	\$ 1.32
AR1888	Kit: Water Seal 22mm RK, RKA	\$ 82.58	AR2747	Kit: Seal 18mm XMA	\$ 56.87
AR2029	Kit: Viton Seal 15mm XT Series	\$178.75	AR2748	Kit: Low Rail XWA	\$ 11.29
AR2030	Kit: Viton Seal 18mm XT Series	\$170.37	AR2759	Kit: Piston Only RK 22mm	\$177.81
AR2036	Kit: Viton Seals / O-Ring 28mm	\$148.65	AR2776	Kit: Viton 15mm XM	\$171.56
AR1887	Kit: Water Seal 20mm XRC, XRCA, RK, RKA	\$ 82.58	AR2777	Kit: Hot / Dry Cup 18mm XM	\$171.56
AR1888	Kit: Water Seal 22mm RK, RKA	\$ 82.58	AR2778	Kit: Hot / Dry Cup 20mm XWA	\$115.65
AR1889	Kit: Piston Guide XL2609	\$ 86.54	AR2779	Kit: Hot / Dry Cup 22mm XWA	\$110.11
AR1890	Kit: Water Seal XL2609,20	\$195.39	AR2780	Kit: Valve XWA Series	\$ 68.59
AR1891	***Use AR2543***		AR2781	Kit: Oil Seal XWA	\$ 34.93
AR2029	Kit: Viton Seal 15mm XT Series	\$178.75	AR2782	Kit: Water Seal 20mm XWA	\$ 73.94
AR2030	Kit: Viton Seal 18mm XT Series	\$170.37	AR2783	Kit: Water Seal XWA9G16	\$ 78.75
AR2036	Kit: Viton Seals / O-Ring 28mm	\$148.65	AR2784	Kit: Piston Guide XWA	\$ 45.16
AR2043	Kit: O-Ring Oil Seal Bravo	\$ 24.89	AR2785	Kit: Piston Guide XWA9G16	\$ 62.78
AR2044	Kit: Water Seal Bravo 12mm	\$ 34.18	AR2786	Kit: Oil Seal XMA	\$ 22.99
AR2125	Kit: Valve SXMV	\$ 28.22	AR2787	Kit: Oil Seal XMV (D)	\$ 32.93
AR2502	Kit: Water Seal 18mm RCW	\$146.99	AR2796	Kit: Piston XJ	\$ 98.78
AR2503	Kit: Water Seal 22mm RCW	\$ 40.97	AR2797	Kit: Oil Seal XJ	\$ 10.35
AR2507	Kit: Piston Guide 28mm	\$ 73.38	AR2798	Kit: Water Seal XJV	\$ 38.53
AR2511	Kit: Oil Seal XJV-E	\$ 4.70	AR2799	Kit: O-Ring XJW	\$ 12.11
AR2513	Kit: Piston SJ, XJ	\$ 58.33	AR2800	Kit: Packing 15mm XJ-E	\$ 40.26
AR2514	Kit: Valve 18mm RK-SS	\$ 35.75	AR2809	Kit: Viton Seals 18mm XRCA, XRCV	\$139.35
AR2516	Kit: Water Seal 18mm RK-SS	\$ 87.50	AR2810	Kit: Viton Seals 20mm XRC, XRCA	\$139.35
AR2528	Kit: Oil Seal 18mm; RK-SS	\$ 24.46	AR2815	Kit: Hot Water Seal Packings 15mm XT	\$195.99
AR2529	Kit: Oil Seal 18mm; RK-SS	\$ 25.88	AR2816	Kit: Hot Water Seal Packings 18mm XT	\$197.18
AR2539	Kit: Piston 18mm RCW	\$154.89	AR2817	Kit: Hot Water Seal Packings 15mm XM	\$195.99
AR2541	Kit: Piston 22mm RCW	\$187.70	AR2818	Kit: Hot Water Seal Packings 18mm XM	\$197.18
AR2542	Kit: Piston 20mm XW, XWA	\$114.70	AR2819	Kit: Hot Water Seal Packings 18mm XRCA, V	\$239.85
AR2543	Kit: Piston 22mm XW, XWA	\$139.62	AR2820	Kit: Hot Water Seal Packings 20mm XRCA, V	\$254.86
AR2544	Kit: Piston 15mm XM, XMA, XMV	\$ 85.62	AR2825	Kit: Bearing XJ, SJ	\$ 52.12
AR2545	Kit: Piston 18mm XM, XMA, XMV	\$ 95.50	AR2826	Kit: Bearing XM, XMA, XMV	\$ 52.12
AR2546	Kit: Piston 18mm RK, RKA, RKV	\$108.19	AR2858	Kit: Unloader XJ	\$ 56.45
AR2547	Kit: Piston 20mm RK, RKA	\$ 93.62	AR2864	Kit: Valve RCW	\$ 33.17
AR2548	Kit: Piston 18mm SXW	\$124.47	AR2869	Kit: Valve XJ New	\$ 28.19
AR2552	Kit: Piston 18mm RK-A-SS	\$150.53	AR2871	Kit: Valve SXW	\$ 92.46
AR2581	Kit: Valve XJ-E	\$ 11.39	AR2872	Kit: Piston 18mm SXW	\$124.47
AR2582	Kit: Water Seal XJ-E	\$ 21.74	AR2873	Kit: Oil Seal SXW	\$ 25.62
AR2584	Kit: Check Valve SJV	\$ 22.95	AR2874	Kit: Seal 18mm SXW	\$ 95.62
AR2585	Kit: Piston SJV	\$ 77.62	AR2875	Kit: Piston Guide 18mm SXW	\$109.06
AR2586	Kit: Oil Seal SJV	\$ 10.07			

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AXD SERIES 3400 RPM – 3/4" Hollow Shaft



- 3/4" FGH Inlet – 3/8" MPT Outlet
- Built-in Uniflow Unloader and Chemical Injector
- Ceramic Plungers
- Built-in Garden Hose Adapter
- Industrial Duty Construction for Extended Life
- Optional Built-in Thermal Protector & Pressure Relief
- Stainless Steel Check Valves
- Forged Brass Manifolds
- Patent Registered Ball Bearing Design

1800, 2000, 2200, 2500, & 2700 PSI GAS ENGINE FLANGE

MODEL #	GPM	PSI	RPM	SHAFT	WT.	PRICE
AXD 2518 G-T	2.4	1800	3400	3/4" Hollow	12.0	\$200.50
AXD 3020 G	2.7	2000	3400	3/4" Hollow	12.0	\$206.50
AXD 3522 G	3.3	2200	3400	3/4" Hollow	12.0	\$206.50
AXD 2524 G	2.4	2100	3400	3/4" Hollow	12.0	\$206.50
AXD 2574 G-T	2.4	2400	3400	3/4" Hollow	12.0	\$200.50
AXD 3075 G	2.9	2500	3400	3/4" Hollow	12.0	\$215.50
AXD 2577 G	2.5	2700	3400	3/4" Hollow	12.0	\$215.50
AXD 2577 G-T	2.5	2700	3400	3/4" Hollow	12.0	\$212.50

AXD SERIES 3400 RPM – 5/8" Hollow Shaft



- 3/4" FGH Inlet – 3/8" MPT Outlet
- Built-in Uniflow Unloader and Chemical Injector
- Ceramic Plungers
- Built-in Garden Hose Adapter
- Industrial Duty Construction for Extended Life
- Optional Built-in Thermal Protector & Pressure Relief
- Stainless Steel Check Valves
- Forged Brass Manifolds
- Patent Registered Ball Bearing Design

2000 PSI ELECTRIC MOTOR FLANGE

MODEL #	GPM	PSI	RPM	SHAFT	WT.	PRICE
AXD 2070 E	1.9	2000	3400	5/8" Hollow	12.0	\$211.11
AXD 2570 E	2.5	2000	3400	5/8" Hollow	12.0	\$211.11
AXD 3070 E	2.9	2000	3400	5/8" Hollow	12.0	\$211.11

"There are two things to aim at in life: first, to get what you want; and, after that, to enjoy it. Only the wisest of mankind achieve the second."

-Logan Smith, Writer

"The great pleasure of a dog is that you may make a fool of yourself with him and not only will he not scold you, but he will make a fool of himself too." -- Samuel Butler

AXD SERIES 3400 RPM - 1" Hollow Shafts



- 3/4" FGH Inlet - 3/8" MPT Outlet
- Built-in Unflow Unloader and Chemical Injector
- Ceramic Plungers
- Built-in Garden Hose Adapter
- Industrial Duty Construction for Extended Life
- Optional Built-in Thermal Protector & Pressure Relief
- Stainless Steel Check Valves
- Forged Brass Manifold
- Patent Registered Ball Bearing Design

3000 PSI GAS ENGINE FLANGE

MODEL #	GPM	PSI	RPM	SHAFT	WT.	PRICE
AXD 803D G	2.9	3000	3100	1" Hollow	11.5	\$239.50
AXD 903D G	3.3	3000	3400	1" Hollow	14.5	\$239.50
AXD 103D C	3.7	3000	3100	1" Hollow	11.5	\$239.50

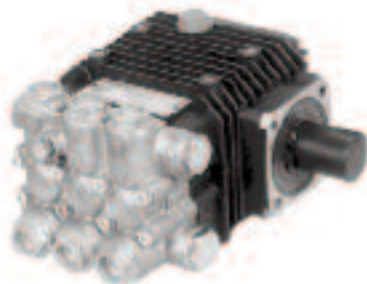
LW SERIES 1450 RPM - 24mm Solid Shaft



- 1/2" FPT Inlet, 3/8" FPT Discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves & piston guides
- Buna-nitrile V-packings
- Reversible crankcase for right or left hand mounting
- 24mm solid, keyed shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
LW 2025 S	2.1	2000	1450	24mm Solid	15mm	13.4	\$220.00
LW 3020 S	3.0	2000	1450	24mm Solid	15mm	13.4	\$220.00
LW 3025 S	3.0	2500	1450	24mm Solid	15mm	13.4	\$230.50
LW 3525 S	3.5	2500	1450	24mm Solid	15mm	13.4	\$230.50

LWS SERIES 1750 RPM - 24mm Solid Shaft

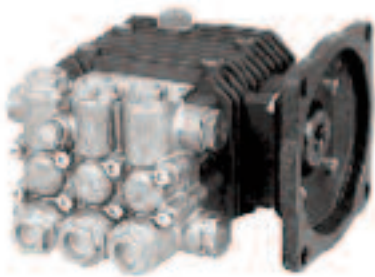


- 1/2" FPT Inlet, 3/8" FPT Discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves & piston guides
- Buna-nitrile V-packings
- Reversible crankcase for right or left hand mounting
- 24mm solid, keyed shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
LWS 2310 S	2.2	1000	1750	24mm Solid	15mm	10.4	\$209.50
LWS 2310 S	2.2	2000	1750	24mm Solid	15mm	11.5	\$220.00
LWS 3310 S	3.1	2000	1750	24mm Solid	15mm	11.5	\$220.00
LWS 3310 S	3.0	2000	1750	24mm Solid	15mm	11.5	\$230.50
LWS 3310 S	3.2	2400	1750	24mm Solid	15mm	11.5	\$230.50
LWS 3510 S	3.5	2400	1750	24mm Solid	15mm	11.5	\$230.50

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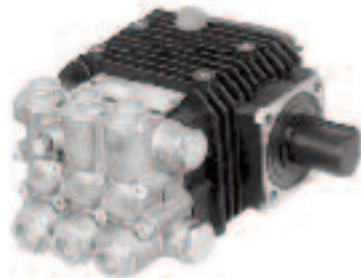
LWS SERIES 1750 RPM • NEMA 56C • 5/8" Hollow Shaft



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves & piston guides
- Buna-textile V-packings
- Reversible crankcase for right or left hand mounting
- NEMA 56C electric motor flange with 5/8" hollow shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
LWS 2010 LA	2.2	1000	1750	5/8" Hollow	15mm	13.4	\$218.50
LWS 2020 F	2.2	2000	1750	5/8" Hollow	15mm	13.4	\$224.50
LWS 3020 F	3.0	2000	1750	5/8" Hollow	18mm	13.4	\$224.50
LWS 3520 F	3.6	2000	1750	5/8" Hollow	18mm	13.4	\$224.50

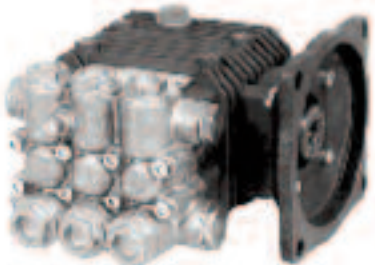
LWD SERIES 3400 RPM • 24mm Solid Shaft



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves & piston guides
- Buna-textile V-packings
- Reversible crankcase for right or left hand mounting
- 24mm solid, keyed shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
LWD 2010 SA	2.2	1000	3400	24mm Solid	15mm	10.4	\$209.50
LWD 2020 S	2.2	2000	3400	24mm Solid	15mm	13.4	\$220.00
LWD 3020 S	3.0	2000	3400	24mm Solid	15mm	13.4	\$220.00
LWD 4020 S	4.0	2000	3400	24mm Solid	15mm	13.4	\$230.50
LWD 3522 S	3.9	2200	3400	24mm Solid	15mm	13.4	\$230.50
LWD 3024 S	3.0	2500	3400	24mm Solid	15mm	13.4	\$230.50

LWD SERIES 3400 RPM • NEMA 56C • 5/8" or 3/4" Hollow Shaft



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves & piston guides
- Buna-textile V-packings
- Reversible crankcase for right or left hand mounting
- NEMA 56C electric motor flange with 5/8" or 3/4" hollow shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
LWD 2010 EA	2.2	1000	3100	5/8" Hollow	15mm	10.4	\$218.50
LWD 2020 E	2.2	2000	3100	5/8" Hollow	15mm	13.4	\$224.50
LWD 3020 E	3.0	2000	3100	5/8" Hollow	15mm	13.4	\$224.50
LWD 3522 GE	3.9	2200	3100	3/4" Hollow	15mm	13.4	\$239.50
Pump with Built-in Unloader							
LWD 2020 EB	2.2	2200	3400	5/8" Hollow	15mm	16.5	\$251.50

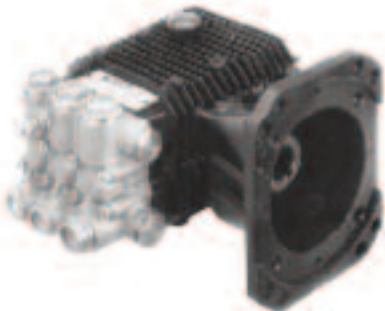
LWD SERIES 3400 RPM • Gas Engine Flange



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves & piston guides
- Buna textile V packings
- Reversible crankcase for right or left hand mounting
- Gas engine mounting flange with 3/4" hollow shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
LWD 2010 G/A	2.0	1300	3400	3/4" hollow	15mm	13.4	\$211.00
LWD 2020 G	2.1	2000	3400	3/4" hollow	15mm	13.7	\$217.00
LWD 2520 G	2.5	2000	3400	3/4" hollow	15mm	13.7	\$217.00
LWD 3020 G	3.0	2000	3400	3/4" hollow	15mm	13.7	\$217.00
LWD 3025 G	3.0	2500	3400	3/4" hollow	15mm	13.7	\$221.50
LWD 3522 G	3.5	2200	3400	3/4" hollow	15mm	13.7	\$238.00
Pump with Built-In Unloader							
LWD 2010 G-K	2.1	2000	3400	3/4" hollow	15mm	16.5	\$241.00
LWD 2510 G-K	2.5	2000	3400	3/4" hollow	15mm	16.5	\$241.00
LWD 3010 G-K	3.0	2000	3400	3/4" hollow	15mm	16.5	\$241.00
LWD 3015 G-K	3.0	2500	3400	3/4" hollow	15mm	16.5	\$253.00

ZWD SERIES 3400 RPM - Gas Engine Flange



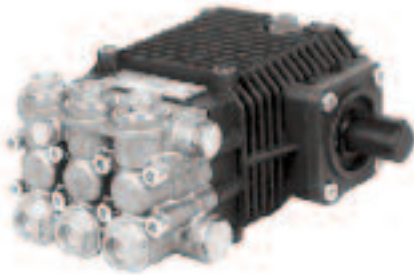
- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves
- Buna textile V packings
- Reversible crankcase for right or left hand mounting
- Gas engine mounting flange

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
ZWD 2530 G	2.5	3200	3400	3/4" hollow	15mm	16.5	\$232.00
ZWD 3030 G	3.0	3200	3400	1" hollow	15mm	16.5	\$232.00
ZWD 3530 G	3.5	3200	3400	1" hollow	15mm	16.5	\$232.00
ZWD 4030 G	4.0	3200	3400	1" hollow	15mm	16.5	\$232.00
ZWD 3010 G	3.0	1300	3400	1" hollow	15mm	16.5	\$268.00
ZWD 3510 G	3.5	1300	3400	1" hollow	15mm	16.5	\$268.00
ZWD 4010 G	4.0	1300	3400	1" hollow	15mm	16.5	\$268.00
Pump with Built-In Unloader							
ZWD 3030 G-K	3.0	3000	3400	1" hollow	15mm	17.7	\$275.50
ZWD 3530 G-K	3.5	3000	3400	1" hollow	15mm	17.7	\$275.50
ZWD 4030 G-K	4.0	3000	3400	1" hollow	15mm	17.7	\$275.50

"It's just a job. grass grows, birds fly,
 waves pound the sand.
 I beat people up."
 - Muhammad Ali

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive additional 10% OFF of every item you order for the rest of the month. (see front)

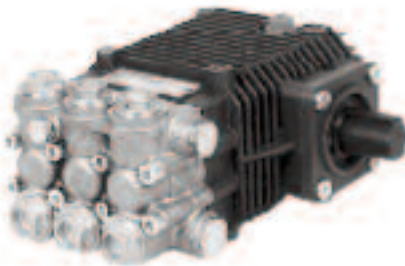
FW SERIES 1450 RPM - 24mm Solid Shaft



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves and piston guides
- Oversized bronze connecting rods
- Buna-nitrile V-packings
- Reversible crankcase for right or left hand mounting
- 24mm solid, keyless shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
FW 3530 S	3.5	3000	1450	24mm Solid	18mm	19.1	\$295.00
FW 4030 S	4.0	3000	1450	24mm Solid	18mm	19.4	\$295.00
FW 5030 S	5.0	3000	1450	24mm Solid	20mm	19.4	\$307.00
FW 5530 S	5.5	3000	1450	24mm Solid	20mm	19.4	\$307.00

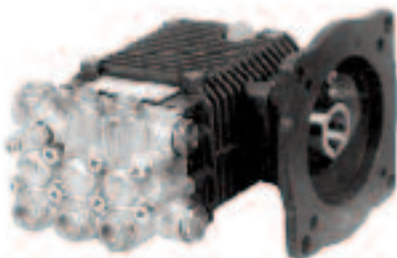
FWS SERIES 1750 RPM - 24mm Solid Keyed Shaft



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves and piston guides
- Oversized bronze connecting rods
- Buna-nitrile V-packings
- Reversible crankcase for right or left hand mounting
- 24mm solid, keyed shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
FWS 3020 S	3.0	2000	1750	24mm Solid	10mm	15.4	\$307.00
FWS 3520 S	3.5	2000	1750	24mm Solid	10mm	15.4	\$307.00
FWS 3530 S	3.5	3000	1750	24mm Solid	10mm	15.5	\$295.00
FWS 4020 S	4.0	2000	1750	24mm Solid	10mm	15.5	\$295.00
FWS 4030 S	4.0	3000	1750	24mm Solid	10mm	15.5	\$295.00

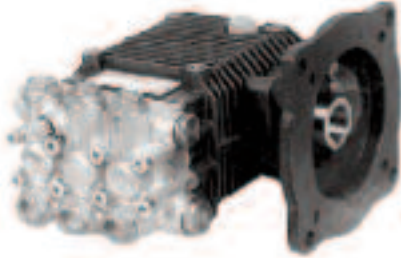
FWS SERIES 1750 RPM - 184T Elec. Flange



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Plungers
- Stainless steel check valves and piston guides
- Oversized bronze connecting rods
- Buna-nitrile V-packings
- Reversible crankcase for right or left hand mounting
- 184T electric motor flange with 1 1/8" hollow shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
FWS 3520 E	3.5	3000	1750	1 1/8" hollow	18mm	20.3	\$305.50
FWS 4030 E	4.0	3000	1750	1 1/8" hollow	18mm	20.3	\$305.50
FWS 4530 E	4.5	3000	1750	1 1/8" hollow	18mm	20.3	\$305.50
FWS 5030 E	5.0	3000	1750	1 1/8" hollow	20mm	20.3	\$305.50
FWS 5530 E	5.5	3000	1750	1 1/8" hollow	20mm	20.3	\$307.00

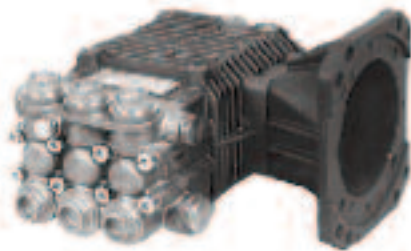
FWD SERIES 3400 RPM - 184T Elec. Flange



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Pungers
- Stainless steel check valves
- Stainless steel piston guides
- Buna-textile V-packings
- Oversized bronze connecting rods
- Reversible crankcase for right or left hand mounting
- 184T electric motor flange with 1-1/8" hollow shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
FWD 3550 F	3.5	3000	3400	1-1/8" Hollow	18mm	26.5	\$305.50
FW 3700 F	4.0	3000	3400	1-1/8" Hollow	18mm	40.5	\$305.50
FW 3750 F	4.5	3000	3400	1-1/8" Hollow	18mm	40.5	\$305.50

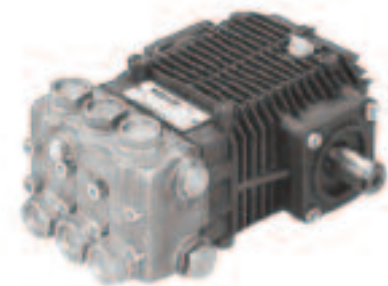
FWD SERIES 3400 RPM - Gas Engine Flange



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Pungers
- Stainless steel check valves
- Stainless steel piston guides
- Buna-textile V-packings
- Oversized bronze connecting rods
- Reversible crankcase for right or left hand mounting
- Gas engine mounting flange with 1" hollow shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
FWD 3550 G	3.5	3000	3400	1" Hollow	18mm	20.8	\$305.50
FWD 4050 G	4.0	3000	3400	1" Hollow	18mm	29.8	\$305.50
FWD 4550 G	4.5	3000	3400	1" Hollow	18mm	29.8	\$305.50

HW SERIES 1450 RPM - 24mm Solid Keyed Shaft



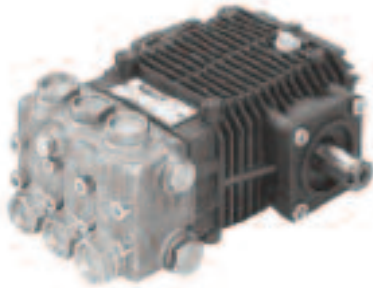
- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Pungers
- Stainless steel check valves
- Stainless steel piston guides
- Buna-textile V-packings
- Oversized Bronze connecting rods
- Reversible crankcase for right or left hand mounting
- 24mm solid, keyed shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
HW 4540 S	4.0	3000	1450	24mm Solid	18mm	29.0	\$316.00
HW 4540 S	4.5	3000	1450	24mm Solid	18mm	29.0	\$316.00

GOLF: "The reason the pro tells you to keep your head down is so you can't see him laughing." --Phyllis Diller

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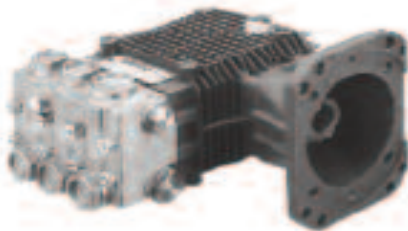
HWS SERIES 1750 RPM - 24mm Solid Keyed Shaft



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Runners
- Stainless steel check valves
- Stainless steel piston guides
- Buna-nitrile V-packings
- Oversized bronze connecting rods
- Reversible crankcase for right or left hand mounting
- 24mm solid, keyed shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
HWS 4010 S	4.0	4000	1750	24mm Solid	18mm	20.0	\$316.00
HWS 4015 S	5.0	4000	1750	24mm Solid	18mm	20.0	\$316.00

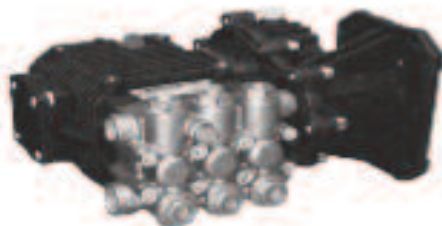
HWD SERIES 3400 RPM - Gas Engine Flange



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Runners
- Stainless steel check valves
- Stainless steel piston guides
- Buna-nitrile V-packings
- Oversized bronze connecting rods
- Reversible crankcase for right or left hand mounting
- Gas engine mounting flange with 1" hollow shaft

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
HWD 3310 G	3.5	3000	3400	1" hollow	18mm	23.0	\$314.50
HWD 3010 G	3.0	3000	3400	1" hollow	18mm	23.0	\$314.50
HWD 4540 G	4.5	4000	3400	1" hollow	18mm	23.0	\$314.50

FW & HW SERIES 1450 RPM - Gear Reduction Drive



- 1/2" FPT inlet, 3/8" FPT discharge
- Anodized, die-cast aluminum crankcase
- Solid Ceramic Runners
- Stainless steel check valves & piston guides
- Buna-nitrile V-packings
- Oversized bronze connecting rods
- 24mm solid, keyed shaft on pump
- 2.2:1 gear reduction with 1" hollow shaft for direct mounting to gas engines

MODEL #	GPM	PSI	RPM(Pump/Drive)	SHAFT	PISTON	WT.	PRICE
FW 3510 SGR	3.5	3000	4000/1450	1" hollow	18mm	28.5	\$404.50
FW 1000 SGR	1.0	3000	1400/1450	1" hollow	18mm	29.1	\$404.50
FW 5000 SGR	5.0	3000	1400/1450	1" hollow	23mm	29.1	\$413.50
FW 5000 SGR	5.0	3000	1400/1450	1" hollow	23mm	29.1	\$451.00
FW 1010 SGR	1.0	4000	1400/1450	1" hollow	18mm	31.0	\$434.50
FW 4100 SGR	4.0	4000	1400/1450	1" hollow	18mm	31.0	\$434.50

WE ALSO CARRY...



CALL FOR PRICES!

"If you think you're too small to make a difference, you haven't been in bed with a mosquito."

-Anita Roddick.

TW

Premium Series Pumps



NEW



- Crankcase: Ductile Aluminum Alloy for Protection Against Corrosion
- Piston Guides are Heat Treated Stainless Steel
- Highly Efficient Stainless Steel Check Valves
- Solid Ceramic Plungers
- Brass Manifold: Forged for Maximum Strength and Longer Life up to 5100 PSI

- One Piece Solid Bronze Alloy Connecting Rods
- Solid Shaft, 24mm for Belt Drive, Gearbox or Flex Couplers
- Oil Cap: New Inlet/Working Oil Cap
- High Quality Tapered Roller Bearings
- Large Oil Capacity Disables Heat and Improves Lubrication for Longer Life

TWN

1000 RPM

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
TWN 7020 S	7.1	2500	1000	24mm	25mm	90.0	\$467.50
TWN 6036 S	5.7	3600	1000	27mm	22mm	90.0	\$461.50

TW

1450 RPM

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
TW 11025 S	10.7	2200	1450	24mm	25mm	90.0	\$502.00
TW 10075 S	9.4	2500	1450	24mm	25mm	90.0	\$502.00
TW 4040 S	4.0	3500	1450	24mm	22mm	90.0	\$385.00
TW 5540 S	5.5	3500	1450	24mm	22mm	90.0	\$401.50
TW 7036 S	6.7	3500	1450	24mm	22mm	90.0	\$473.50
TW 8030 S	8.0	3500	1450	24mm	22mm	90.0	\$484.00
TW 4545 S	4.5	4500	1450	24mm	18mm	90.0	\$530.50
TW 5550 S	5.5	5100	1450	24mm	18mm	90.0	\$571.00

TWS

1750 RPM

MODEL #	GPM	PSI	RPM	SHAFT	PISTON	WT.	PRICE
TWS 13020 S	12.9	2000	1750	24mm	25mm	90.0	\$402.00
TWS 10025 S	10.4	2500	1750	24mm	25mm	90.0	\$502.00
TWS 9030 S	9.4	3500	1750	24mm	22mm	90.0	\$484.00
TWS 8035 S	8.7	3500	1750	24mm	22mm	90.0	\$479.50
TWS 7040 S	6.7	5000	1750	24mm	18mm	90.0	\$473.50
TWS 5550 S	5.5	5100	1750	24mm	18mm	90.0	\$571.00

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Repair Kits

All Comet Pump repair kits contain the quantity of components necessary to rebuild the entire pump.

AXD Series

Part #	Description	PRICE
2409.0092.00	AXD Piston Kit	\$ 64.66
2409.0103.00	AXD Piston Kit 3,000 psi	\$ 68.24
5019.0077.00	AXD Seal Kit 2,000 psi	\$ 26.39
5019.0078.00	AXD Seal Kit 2,500 psi	\$ 33.23
5019.0086.00	AXD Seal Kit 3,000 psi	\$ 33.49
5025.0014.00	AXD Check Valve Kit	\$ 19.71
5026.0143.00	AXD Unloader Rebuild Kit	\$ 38.63

LW, LWS & LWD Series

Part #	Description	PRICE
2409.0071.00	LW/ Piston Kit 1.5mm	\$ 67.89
2409.0072.00	LW/ Piston Kit 1.8mm	\$ 67.45
5019.0035.00	LW/ 1.5mm Seal Kit	\$ 26.21
5019.0037.00	LW/ 1.8mm Seal Kit	\$ 26.73
5025.0011.00	Check Valve Kit	\$ 32.72
5026.0123.00	Unloader Maintenance Kit	\$ 14.00
5026.0130.00	Unloader Rebuild Kit	\$ 36.89

ZWD Series

Part #	Description	PRICE
2409.0071.00	ZWD 1.5mm Piston Kit	\$ 67.89
5019.0064.00	ZWD 1.5mm Seal Kit	\$ 29.96
5025.0011.00	Check Valve Kit	\$ 32.72

FW, FWS & FWD Series

Part #	Description	PRICE
2409.0073.00	FW/ 1.8mm Piston Kit	\$ 80.05
2409.0074.00	FW/ 20mm Piston Kit	\$ 85.37
5019.0038.00	FW/ 1.8mm Seal Kit	\$ 56.58
5019.0039.00	FW/ 20mm Seal Kit	\$ 86.96
5025.0011.00	Check Valve Kit	\$ 32.72

HW, HWS & HWD Series

Part #	Description	PRICE
2409.0073.00	HW/ 1.8mm Piston Kit	\$ 80.05
5019.0631.00	HW/ 1.8mm Seal Kit	\$ 67.63
5025.0011.00	Check Valve Kit	\$ 32.72

SEAL KITS - Hot WATER

- Hotwater seal protection
- LW, ZW, FW & HW Series Pumps

Part #	Description	PRICE
5019.0048.00	LW, ZW, 1.5mm HotWater Seal Kit	\$ 19.71
5019.0049.00	LW, 1.8mm HotWater Seal Kit	\$ 16.92
5019.0050.00	LW, 1.8mm Viton Seal Kit	\$121.48
5019.0051.00	LW, ZW, 1.5mm Viton Seal Kit	\$121.48
5019.0053.00	FW, HW, 1.8mm HotWater Seal Kit	\$ 34.40
5019.0054.00	FW, HW, 20mm HotWater Seal Kit	\$ 37.84

Piston Replacement Kit



AXD



LW, ZWD, FW, HW

Part #	Description	PRICE
2409.0092.00	AXD Piston Kit	\$ 64.66
2409.0103.00	AXD Piston Kit 3,000 psi	\$ 68.24
2409.0071.00	LW/ Piston Kit 1.5mm	\$ 67.89
2409.0072.00	LW/ Piston Kit 1.8mm	\$ 67.45
2409.0071.00	ZWD 1.5mm Piston Kit	\$ 67.89
2409.0073.00	FW/ 1.8mm Piston Kit	\$ 80.05
2409.0074.00	FW/ 20mm Piston Kit	\$ 85.37
2409.0073.00	HW/ 1.8mm Piston Kit	\$ 80.05

Seal / Packing Replacement Kit



AXD



LW



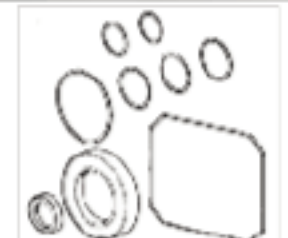
ZWD



FW-HW

Part #	Description	PRICE
5019.0077.00	AXD Seal Kit 2,000 psi	\$ 26.39
5019.0078.00	AXD Seal Kit 2,500 psi	\$ 33.23
5019.0086.00	AXD Seal Kit 3,000 psi	\$ 33.49
5019.0035.00	LW/ 1.5mm Seal Kit	\$ 26.21
5019.0037.00	LW/ 1.8mm Seal Kit	\$ 26.73
5019.0064.00	ZWD 1.5mm Seal Kit	\$ 29.96
5019.0038.00	FW/ 1.8mm Seal Kit	\$ 56.58
5019.0039.00	FW/ 20mm Seal Kit	\$ 86.96

Oil Seal Replacement Kit



Part #	Description	PRICE
5019.0079.00	AXD Oil Seal Kit	\$ 15.00
5019.0040.00	LW/ Oil Seal Kit Solid Shaft	\$ 16.13
5019.0041.00	LW/ Oil Seal Kit Hollow Shaft	\$ 16.44
5019.0043.00	FWS Oil Seal Kit Hollow Shaft	\$ 18.53
5019.0044.00	FW, HW, HWS Kit Hollow Shaft	\$ 21.60
5019.0045.00	FW, HW, D Oil Seal Kit Hollow Shaft	\$ 19.80
5019.0065.00	ZWD Oil Seal Kit Hollow Shaft	\$ 16.79

Check Valve Replacement Kit

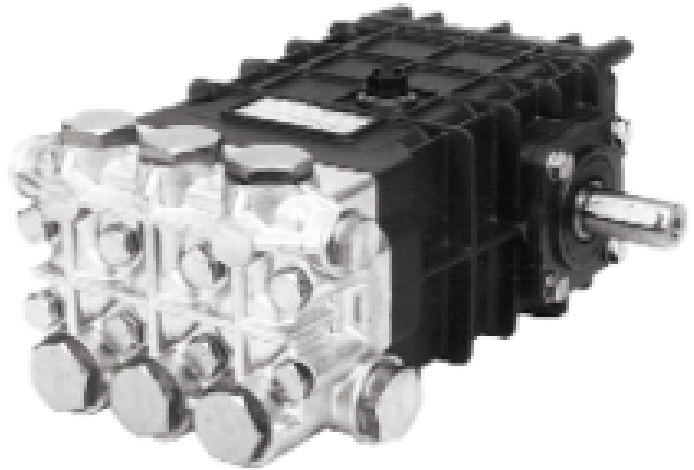


Part #	Description	PRICE
5025.0014.00	AXD Check Valve Kit	\$ 19.71
5025.0011.00	Check Valve Kit all other models	\$ 32.72

GK Series 1450 RPM



- Oversized Bronze Connecting Rod Assemblies with Guide Pins for Perfect Cap Alignment. 2 lbs. Each
- Heavy Duty Reinforced Heads with External and Internal Bracing
- Large Diameter Stainless Steel Valve Caps with Increased Thread Depth
- Reinforcing Ring on Inlet and Discharge Ports
- Extra Heavy Duty Tapered Roller Bearings
- Deeper Back Covers for Increased Oil Capacity. 40 oz. Crank Case Capacity.



SPECIFICATIONS

MODEL	MAX GPM	MAX PSI	POWER REQ	SPRAY TIP	SEAL KIT	VALVE KIT	WEIGHT LBS.	PRICE
<i>24 MM KEYED, SOLID SHAFT</i>								
GKC 17/28-S	4.5	4000	12.5 HP Elec.	4.5	UD-10	UD-31	39	\$505.30
GKC 21/28-S	5.5	4000	15.0 HP Elec.	5.5	UD-10	UD-31	39	\$512.90
GKC 26/24-S	7.0	3500	17.0 HP Elec.	7.5	UD-10	UD-31	39	\$524.30
GKC 30/20-S	8.0	3000	17.0 HP Elec.	9.0	UD-11	UD-31	39	\$537.60
GKC 38/17-S	10.0	2500	17.0 HP Elec.	12.5	UD-12	UD-3	39	\$550.90

AVAILABLE UDOR KITS:

- UD-03 **\$49.25**
- UD-10 **\$52.31**
- UD-11 **\$57.78**
- UD-12 **\$55.51**
- UD-31 **\$51.13**

"The 50-50-90 rule:
Anytime you have a 50-50 chance
of getting something right,
there's a 90% probability
you'll get it wrong."
- Andy Rooney

UDOR PUMPS

*"best price anywhere...
...GUARANTEED"*

Call...
1-800-346-4876

"The dog is a religious animal.

In his savage state he worships the moon and the lights that float upon the waters.

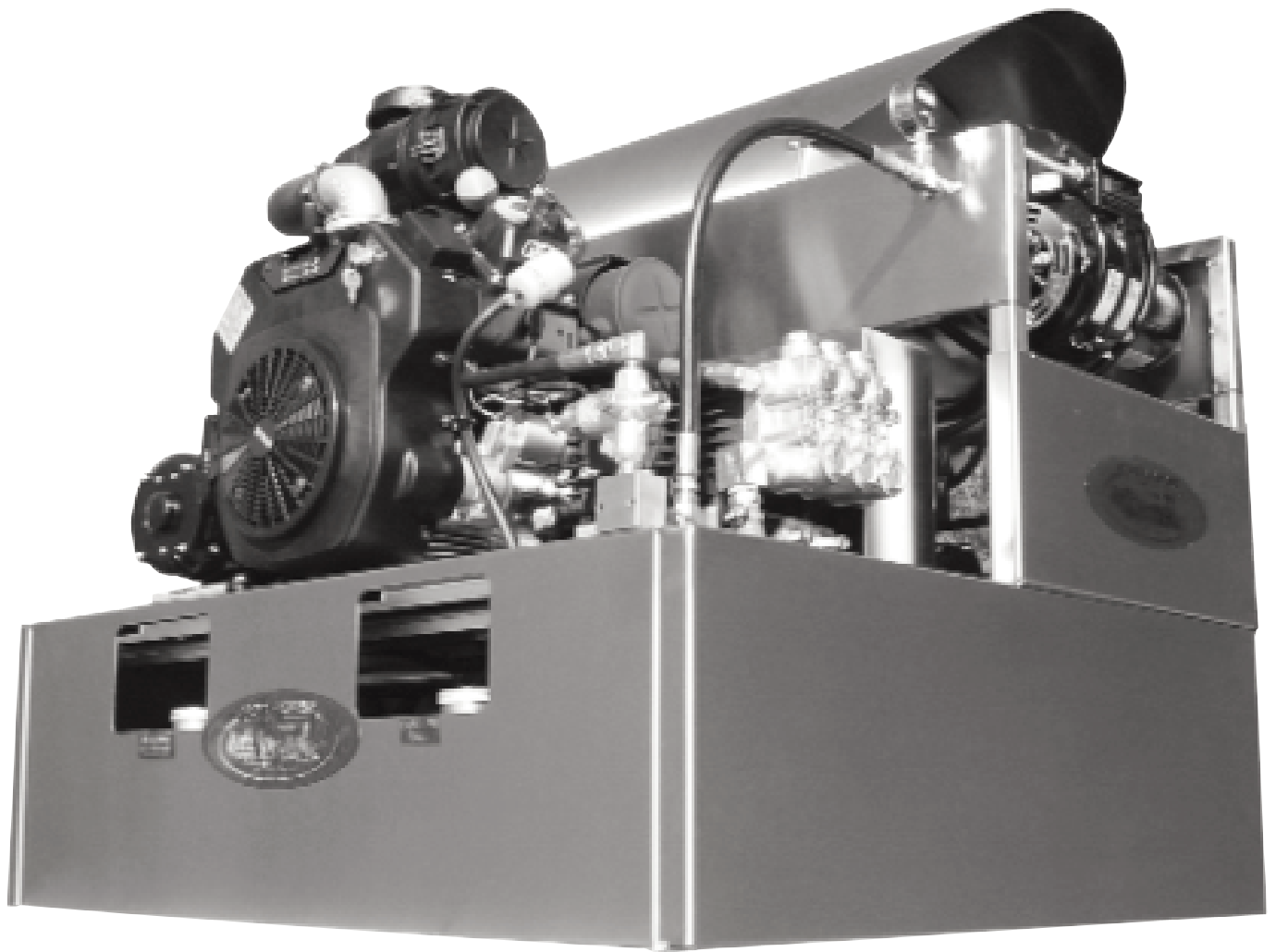
These are his gods to whom he appeals at night with long-drawn howls."

-- Anatole France, "The Coming of Riquet"

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ALLISON IRON HORSE PRESSURE WASHERS

All Stainless Steel



***“the most incredible...
...pressure washer ever built”***

ALLISON IRON HORSE PRESSURE WASHERS

A Division of: Hi-Tech Jetting Technologies, Inc.

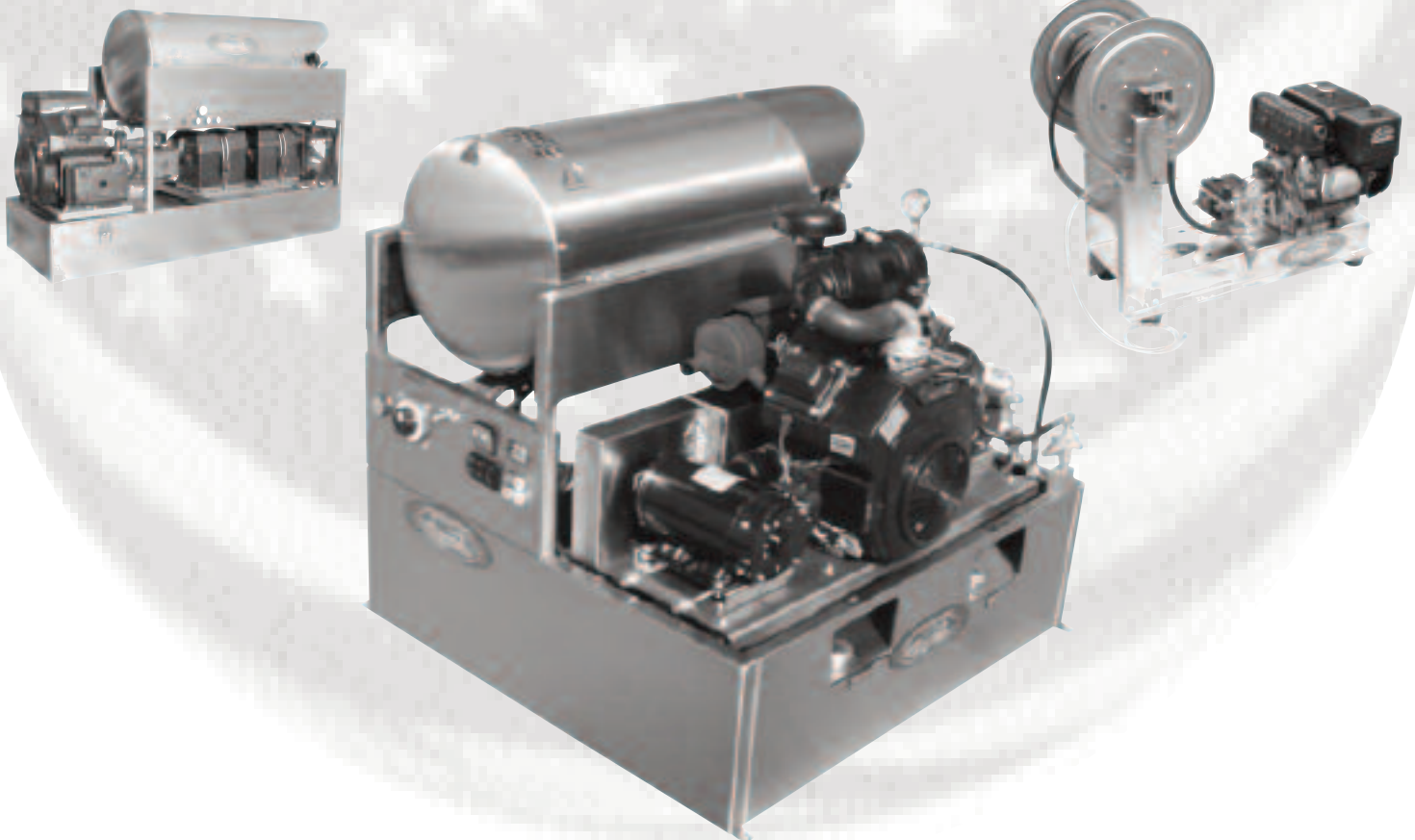
The initial concept of the **ALLISON IRON HORSE** pressure washer did not come about by accident. In the mid-70's, John Allison started a Mobile Wash business. He quickly found that every machine he purchased had to be re-designed after he received it just to make it both practical and functional.

Yes, contractors require a much different design than what is coming off the assembly lines even today. Unless you have been out there trying to make a living using one, you can't know and understand their requirements.

With a continuous innovation & product development program, we have become a leader in the professional markets that we serve. This process has become an important part of every employee's training and thinking. Driven from the top down, this process will always guide our operations, activities, and the way we do business. In short, everyone at **ALLISON IRON HORSE** knows that our current success and our future growth depend upon our ability to provide you with a product that will allow you to be both competitive and successful.

ALLISON IRON HORSE, more than anything else, is a team of responsible people dedicated to providing a demanding industry with products that only a demanding customer can understand and appreciate.

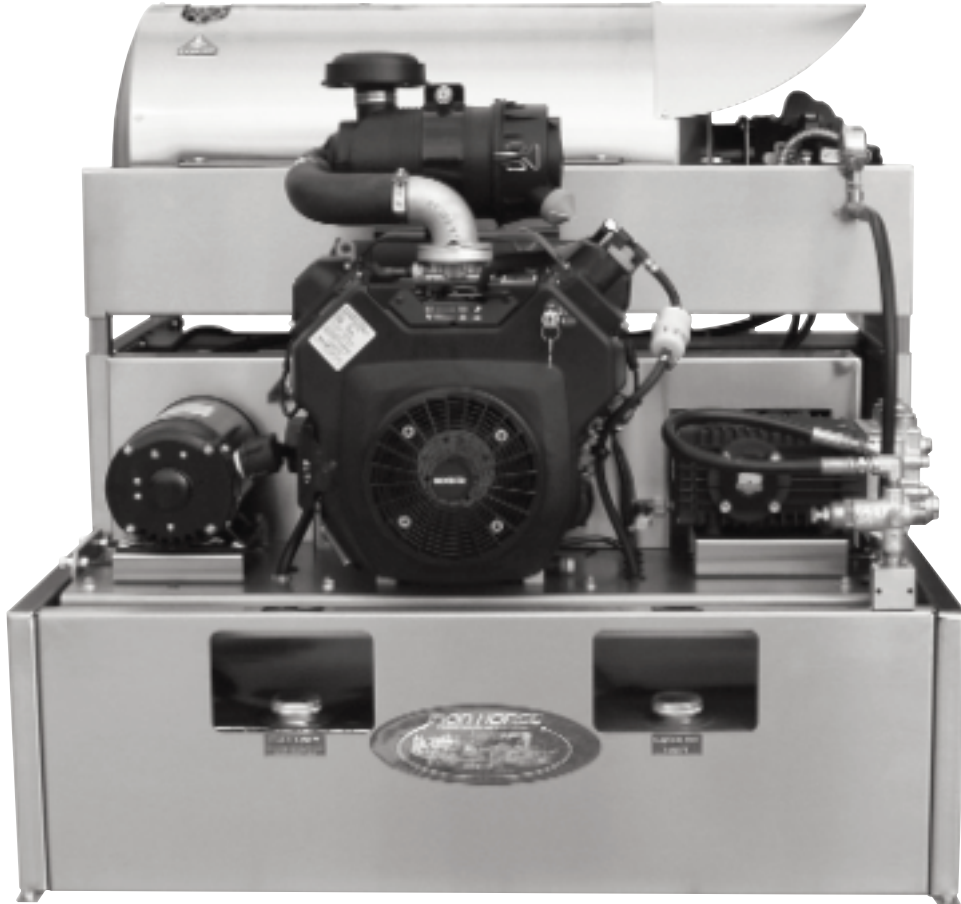
To you, that customer, we extend our appreciation and our thanks.



SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

POWER in the HANDS of a FEW...

Owning one of the Allison Iron Horse Fire Cannons or Hydro Cannons has always been uniquely satisfying. Thanks to our broad, varied lineup of exciting and innovative system specifications, it's never been more so than now. It is a technological marvel, integrating a myriad of high-performance technologies to serve one master, the **PROFESSIONAL CONTRACTOR**. The acclaimed Allison built pressure washer coordinates the best engines and pumps, the best gear drives, the best unloaders, guns, coils & burners; all of which are housed within the confines of the Industry's only All Stainless Steel Frame. This unique combination of features makes for a fully integrated system that redefines the notion of cleaning dynamics.



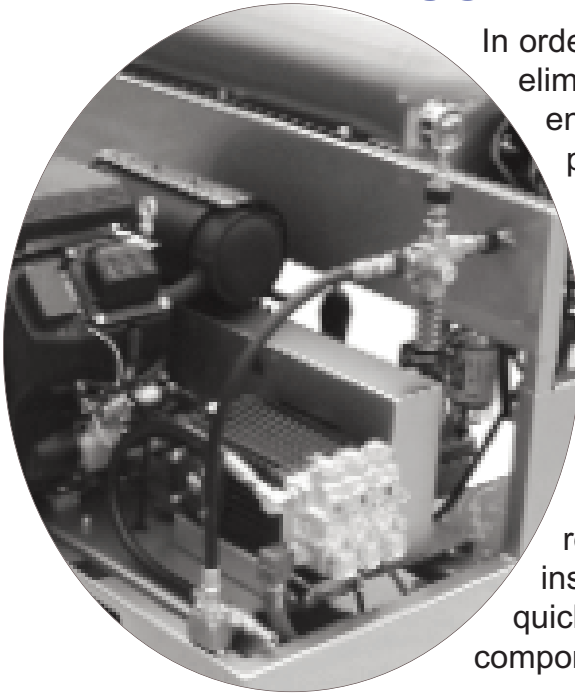
At Allison Iron Horse, our roots run deep, and so do expectations. With a legacy that stretches back more than twenty five years, we have a lot to live up to - but as today's discerning Professionals know, we have even more to offer. We were not the first with the idea of matching a pressure pump to a gas or diesel engine, but we have refined that initial idea to a point well beyond what the industry is manufacturing today. At Allison Iron Horse we strive to remain the manufacturer of the finest pressure washer in the industry. We have never, nor will we ever compromise quality for price. Rest assured, when you purchase an Iron Horse you have, in fact, bought the best!

ALLISON IRON HORSE PRESSURE WASHERS

Pressure Washers Built for the Long Haul

1-800-346-4876 Please, Please, Please Order by PART NUMBER

CONVENIENT & ACCESSIBLE



In order to extend the life of each component by eliminating unnecessary vibration - only the pump, engine & generator are mounted on the base plate.

Further, any distributor or contractor will tell you - components are just not easy to get to on most pressure washers - and when you do get there - it is next to impossible to remove and replace them.

On an Iron Horse you will find everything out in the open and extremely easy to reach. You will also find that each component can be removed and replaced in a matter of seconds instead of hours. We accomplish this by using quick release, ultra high pressure fittings on critical components that occasionally require replacing.

SPARE PARTS HANGER

The Spare Parts Hanger can hold a variety of components that you deem necessary to have in a convenient place and ready to install.

On all Iron Horse pressure washers there are from 3 to 4 quick connectors where you may want to hang a spare unloader or injector or even a turbo nozzle.

Whatever you decide to hang there will eliminate your trying to remember where you last saw that much needed spare part or accessory.



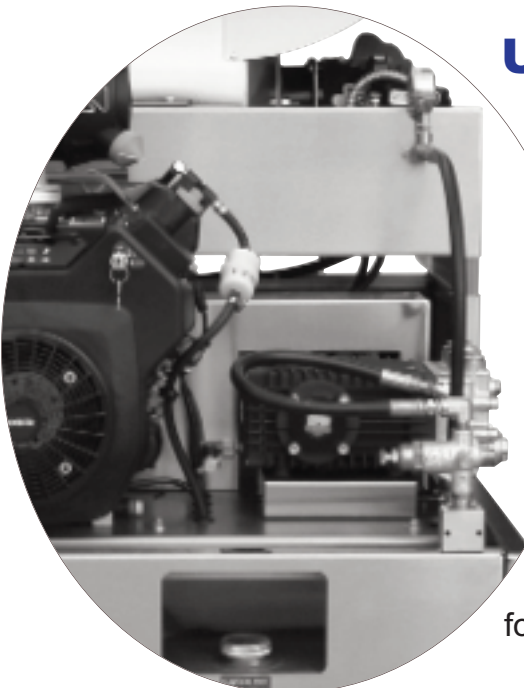
UNLOADERS

Not only do we use the best unloader money can buy, but we also make absolutely sure they are quick & convenient to service.

Having problems and figuring them out is one thing, but changing out a problem unloader can be a nightmare.

On most machines it takes anywhere from 15 minutes to an hour. On the Iron Horse, with our unique quick connect system, it takes about 30 seconds - if you are slow.

Only someone who has been in the business for a while can appreciate this feature.



SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"Revolutionary", "Dynamic", "Raw Power" & "Pure Performance"

Yes - those are just a few of the key words that we can conjure in our attempt to describe the Allison Iron Horse Pressure Washer.

When you first see the Allison Iron Horse the impression will be unmistakable. This is a genuine performance machine designed to fulfill every expectation of the discerning Professional Mobile Washer who understands and appreciates what a true high performance machine is all about.

Never, ever, substituting **QUALITY** for **COST** is one philosophy that has made the **ALLISON IRON HORSE** the most sought after system in the Mobile Wash community.



EVERY MACHINE IS HAND CRAFTED

by **Certified Systems Technicians**

From turning the first bolt to running the last test - only one person touches your machine. And you can rest assured that each machine is built and tested using the toughest and most rigorous standards in the industry.

Yes, anyone can build a pressure washer,
but only we can build an Iron Horse.

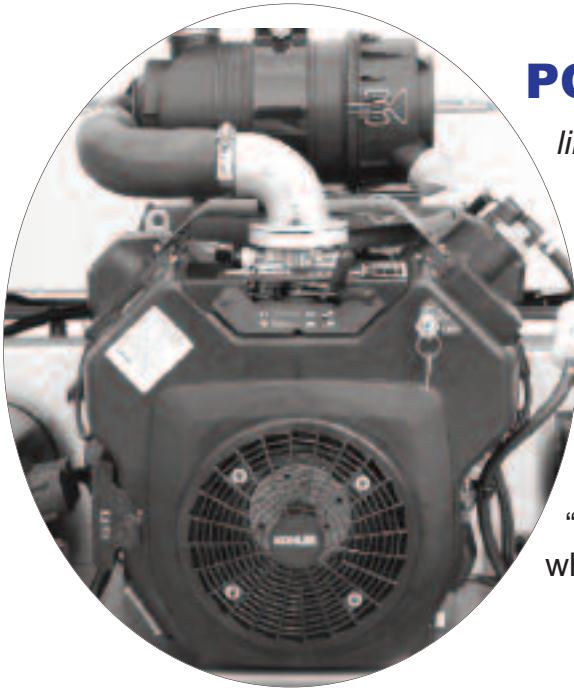


STATISTICALLY SPEAKING...

It's sad to say, but 85% of all Mobile Wash Contractors that go into business today will be out of business in 5 years. The majority will go out simply because they are not equipped to do the job! And when you do not look the part - you can't ask the "going rate". This is why you see so many people washing houses for less than \$100.00, where a company properly equipped can charge \$300.00 plus. Consumers know the value of equipment. They find it hard to justify higher prices when the contractors equipment can be rented from the local rental yard for \$29.95 a day.

With an Iron Horse it is real easy to stay profitable. Prospective clients know you are a serious professional when you pull up with one of our machines. We know because John Allison, president of Allison Iron Horse as well as engineer and designer of the complete line of Allison Iron Horse Pressure Washers, was a contractor himself for more than 20 years. He can tell you first hand that when you show up looking like a professional, not only can you command professional prices, but the job is half sold simply because you look like a professional.

**CAN'T AFFORD AN IRON HORSE? YOU REALLY CAN'T AFFORD NOT TO OWN ONE!
WHY NOT CONSIDER LEASING?**



POWER PLANTS

like you've never seen before!

The Muscle behind each

**ALLISON
IRON HORSE**

is a carefully selected, performance matched

KOHLER ENGINE

“Born to Run” is Kohlers motto.

“Built for the Long Haul” is ours.

*“what a great philosophy...
what a great combination”*

DUAL ENGINE AIR FILTERS

are standard on the 25 water cooled and 27 horsepower engines. Soon this feature will be on all of our engines.

It has been said by Kohler that these filters, with an occasional cleaning, should last the lifetime of the engine. We know first hand that Kohler Engines last a long, long time. So, rather than us making that claim - let's just say that these filters will last a long, long time as well.



INCREDIBLE PUMPS

as you can see from the previous page, we do not use the term “incredible” lightly.

On all of our systems, we feature the Large Frame Pumps from General Pump, AR and Comet. With a pressure range up to 5000 PSI and flows up to 13 GPM, these pumps have proven to be the monsters we need to withstand the high use and abuse that is commonly found in the professional marketplace.

*awesome pumps, awesome equipment...
...another great combination!*

Oh yeah - We almost forgot! Here is another little bonus for you. Remember what happens when you leave your machine unattended and in by-pass to long? Right - you burn up the pump. Well - not with a Fire Cannon! Leave our machine in by-pass to long and it will turn itself off before the pump head gets too hot.



SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be “TOGGLED ON” and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)



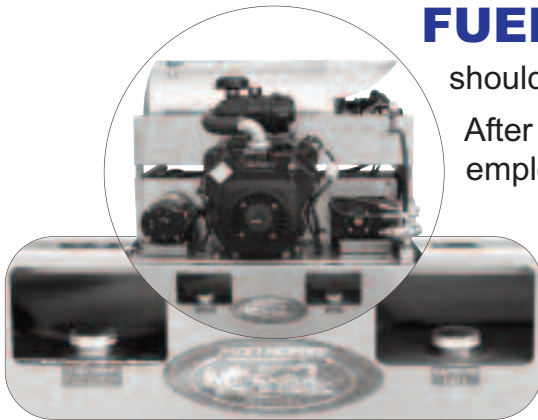
DUAL BATTERIES



Here is a switch that every professional Mobile Washer will really appreciate!

How many times have you found yourself with a dead battery after you have driven an hour to the job site? This is especially true with 12 volt burners that always tend to “suck down” more “juice” than the recharge system can keep up with.

Well, now you will always have a spare and you will never return home with half the job completed because you ran out of battery!



FUEL TO SPARE

should be the expectation of every contractor.

After all, their job is hard enough! They or their employees certainly do not need an excuse to stop working to go find a gas station.

Both the burner fuel tank and gas tank hold approximately 20 gallons.

Remember, a contractor is working at a rate of \$75.00 to \$200.00 per hour. Stopping for fuel can get expensive.



OIL CHANGES

...remember the “blown” engine or pump because oil changes were just too messy or time consuming or you couldn’t remember the last time the oil was changed?

Notice the 2 yellow caps - one for the engine and one for the pump. These are “quick change” oil plugs that make changing the oil a “breeze”. Simply remove the cap - slip on a 1/2” hose over the barb and “twist” the drain plug.

Remembering the last time the oil was changed is easy. Just take a look at the re-setable hour meter on the control panel. You can figure every 100 hours - engine and pump.

...simple as that!

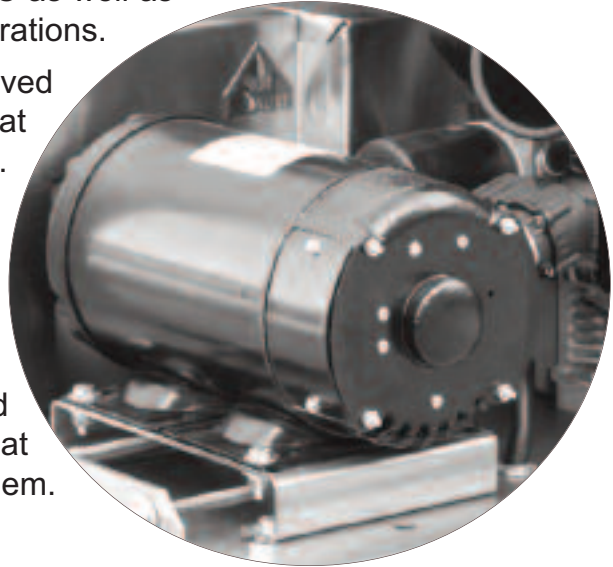
INDUSTRIAL GENERATOR

Yes, we offer both 12 Volt DC as well as 115 Volt burner configurations.

With the 12 Volt systems the "juice" is derived from one or both of the two (2) batteries that can be shipped as an option.

(see the Battery Selector on the Control Panel below)

But, if you select the 115 Volt System, your machine will be equipped with a 2,000 kW, dual bearing Generator set up with a ground fault interrupter and 2 auxiliary plug-ins. Additionally, you will find 2 re-setable circuit breakers that will "trip" at the first sign of any electrical problem.



CONTROL PANEL

WOW is right! Dual Battery Selector - no more missing work because your battery just died. What a great idea! Also, there is a re-setable Tachometer & Hour Meter - no more guessing when you changed the oil last!



and...

BURNER DIAGNOSTIC CENTER

Before - a burner problem could take hours to figure out. With our system you can diagnose 97% of all burner problems in 3 seconds. I know - it's hard to believe - but true. The Professionals know the real value of this feature.

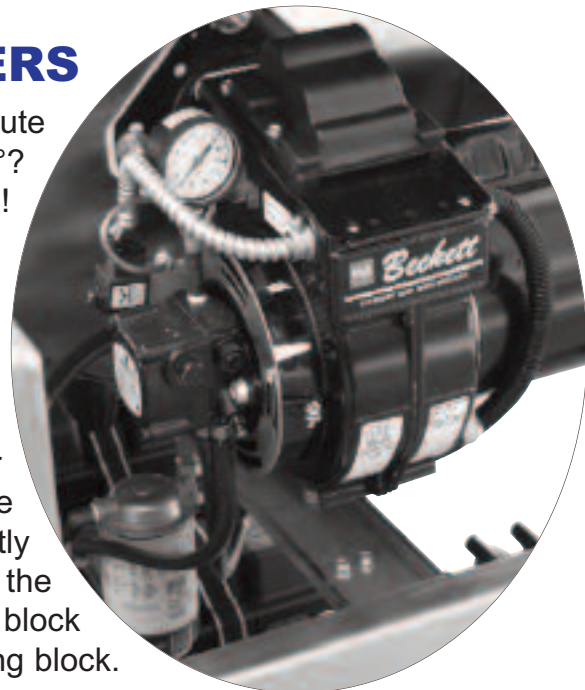
MASSIVE BURNERS

Who else can take a 10 gallon per minute pressure washer and crank it up to 212°?

Few - *if any* - that's who!

With our SDC 12 Volt & SF 115 Volt Super Flow Burners and a specially designed Double Steel Jacketed Coil, we can really crank out the heat.

Notice the convenient fuel pressure gauge and the oversized Racor fuel/water separator. With most equipment that we have seen - the fuel filter is mounted directly to the fuel pump. With our machines the Racor mounts on it's own brass mounting block much like the unloader mounting block.



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SYSTEM SPECIFICATIONS

FIRE CANNONS *with* 12 VOLT BURNER SYSTEMS

12 VOLT MODELS	GPM	PSI	IDC*	ENG	PUMP	MAXIMUM OPERATING PRESSURE
FCB 4358G-22K-12	4.3	5800		22	GENERAL	Intermitting Duty Cycle is a rating by Allison Iron Horse only and is not that of the pump manufacturer. Intermitting Duty Cycle is given as a maximum operating pressure for a period not to exceed 1/2 hour on - 1 hour off.
FCB 5551A-25K-12	5.5	5100		25	A-R	
FCB 5541A-22K-12	5.5	4100		22	A-R	
FCB 6336G-22K-12	6.3	3600	4000*	22	GENERAL	* Intermitting Duty Cycle
FCB 7036G-25K-12	7.0	3600	4000*	25	GENERAL	* Intermitting Duty Cycle
FCB 7636G-25K-12	7.6	3600	4000*	25	GENERAL	* Intermitting Duty Cycle
FCB 7730G-22K-12	7.7	3000	3400*	22	GENERAL	* Intermitting Duty Cycle
FCB 8536G-27K-12	8.5	3600		27	GENERAL	
FCB 8030G-22K-12	8.0	3000	3400*	22	GENERAL	* Intermitting Duty Cycle
FCB 9330G-25K-12	9.3	3000	3400*	25	GENERAL	* Intermitting Duty Cycle
FCB 1025G-22K-12	10.0	2500	3000*	22	GENERAL	* Intermitting Duty Cycle
FCB 1029G-27K-12	10.2	2900		27	GENERAL	
FCB 1225G-27K-12	12.0	2500		27	GENERAL	

FIRE CANNON *with* 115 VOLT BURNER SYSTEMS equipped with 2,000 kW GENERATORS

115 VOLT MODELS	GPM	PSI	IDC*	ENG	PUMP	MAXIMUM OPERATING PRESSURE
FCB 4358G-27K-115	4.3	5800		27	GENERAL	Intermitting Duty Cycle is a rating by Allison Iron Horse only and is not that of the pump manufacturer. Intermitting Duty Cycle is given as a maximum operating pressure for a period not to exceed 1/2 hour on - 1 hour off.
FCB 5548A-27K-115	5.5	4800		27	A-R	
FCB 5541A-25K-115	5.5	4100		25	A-R	
FCB 6336G-25K-115	6.3	3600	4000*	25	GENERAL	* Intermitting Duty Cycle
FCB 7036G-27K-115	7.0	3600	4000*	27	GENERAL	* Intermitting Duty Cycle
FCB 7635G-27K-115	7.6	3500		27	GENERAL	
FCB 7730G-25K-115	7.7	3000	3400*	25	GENERAL	* Intermitting Duty Cycle
FCB 8030G-25K-115	8.0	3000	3400*	25	GENERAL	* Intermitting Duty Cycle
FCB 8531G-27K-115	8.5	3100		27	GENERAL	
FCB 9328G-27K-115	9.3	2800	3100*	27	GENERAL	* Intermitting Duty Cycle
FCB 1025G-27K-115	10.0	2500	3000*	27	GENERAL	* Intermitting Duty Cycle
FCB 1026G-27K-115	10.2	2600		27	GENERAL	
FCB 1225G-27K-115	12.0	2200		27	GENERAL	

OPTIONS FOR BOTH 12 VOLT AND 115 VOLT SYSTEMS:

DUAL GUN - TWO MAN SYSTEM AVAILABLE ON 7.0 GPM AND ABOVE - ADD \$1000.00 NET

WATER COOLED KOHLER, 25 HP - SUB FOR 25 KOHLER AIR COOLED - ADD \$600.00 NET

WATER COOLED KOHLER, 25 HP - SUB FOR 22 KOHLER AIR COOLED - ADD \$800.00 NET

You may qualify for a special trade discounts if you are a Contract Cleaner located in an area where we do not have a distributor.

Here is a “quick” but exciting journey through many of the standard features on all...

ALLISON IRON HORSE BELT DRIVE FIRE CANNONS

...but before we start please allow us to boast a bit!

To our knowledge, we are the only manufacturer that provides an All Stainless Steel Frame. And - it's a real frame! So, when you give it a good “rap” on the side, you know you have hit a real “hunk” of steel and not a shiny piece of tin.

How long will it last? Well, in 10 years you can remove everything from the frame - get a can of stainless steel cleaner and clean it up. Then you can mount all new components and you will have another...

NEW MACHINE!



Here is a wonderful idea... give a stray a home. They make wonderful pets and great companions.

meet COSMO (right)

& KRAMER (left)

2 of the 12 that make up our Rat Pack



STANDARD EQUIPMENT

- Kohler Pro Series Engines
- Water Cooled Engine Option
- High Capacity Recharge Systems
- Quick Drain Oil Plug on Engine
- Electronic Tach/Hour Meter
- Allison Engine Terminator
- 20 Gallon Stainless Gas Tank
- Nozzle Caddy with 5 Nozzles
- Spare Parts Mounting System
- The Industry's Best Pumps
- Quick Drain Oil Plug on Pump
- 100' of Serpentine Pressure Hose
- Industrial Trigger Gun & Lance
- Unloader Mounting Block
- Glycerin Filled Stainless Gauges
- High Draw Chemical Injection
- Stainless Chemical Filtration
- Large Capacity Water Filtration
- Vibra-Loc Vibration Dampening
- Safety Pressure Relief Valve
- Marine Certified Battery Boxes
- Dual Battery Control System
- 120 Volt Generator (except 12V)
- Beckett High Output Burners
- Capacitor Start Burner Motors
- Burner Fuel Pressure Gauge
- Burner Diagnostic Center
- GFI on 115 Volt System
- Auxiliary Electrical Plug-ins
- Circuit Breakers
- Oversize Racor Fuel/Water Filter
- Allison 12V Burner Relay
- Dual Steel Jacketed Coil System
- Sch 80 x 1/2" Cold Rolled Coil
- Adjustable Thermostat
- 50 AMP On/Off Switch
- 5800 PSI Pressure Switch
- Hi-Limit Safety Shutdown
- 20 Gallon Stainless Fuel Tank

and we know we've left out a bunch!

We have the most comprehensive **DEALER INCENTIVE PROGRAM** in the Industry. So if you are an existing **Equipment Distributor** or a **Contract Cleaner** or a **Rental Yard** who would like to become an **ALLISON IRON HORSE DEALER** give us a call **1-800-346-4876**.

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in **CHEMICAL** your account will be **“TOGGLED ON”** and you will receive and additional **10% OFF** of every item you order for the rest of the month. (see front)

ALLISON IRON HORSE HYDRO CANNON

AIRCRAFT ALUMINUM

Lightweight construction that carries a lifetime warranty



SYSTEM SPECIFICATIONS

MODELS	GPM	PSI	ENG	PUMP
CWS3540	3.5	4,000	13	COMET
CWS4035	4.0	3,500	13	COMET
CWS4531	4.5	3,100	13	COMET
CWS5027	5.0	2,700	13	A-R
CWS5525	5.5	2,500	13	A-R

STANDARD EQUIPMENT

- Kohler Pro Series Engines
- Quick Start - Recoil System
- Quick Drain Oil Plug on Engine
- Electronic Tach/Hour Meter
- Allison Engine Terminator
- Nozzle Caddy with 5 Nozzles
- The Industry's Best Pumps
- Quick Drain Oil Plug on Pump
- Industrial Hose Reel
- 100' of Serpentine Pressure Hose
- Industrial Trigger Gun & Lance
- The Very Best Unloaders
- Glycerin Filled Stainless Gauges
- High Draw Chemical Injection
- Dual Chemical Induction System
- Stainless Chemical Filtration
- Large Capacity Water Filtration
- Safety Pressure Relief Valve

Bolts directly to the floor of any vehicle or trailer using 4 special vibration isolators.

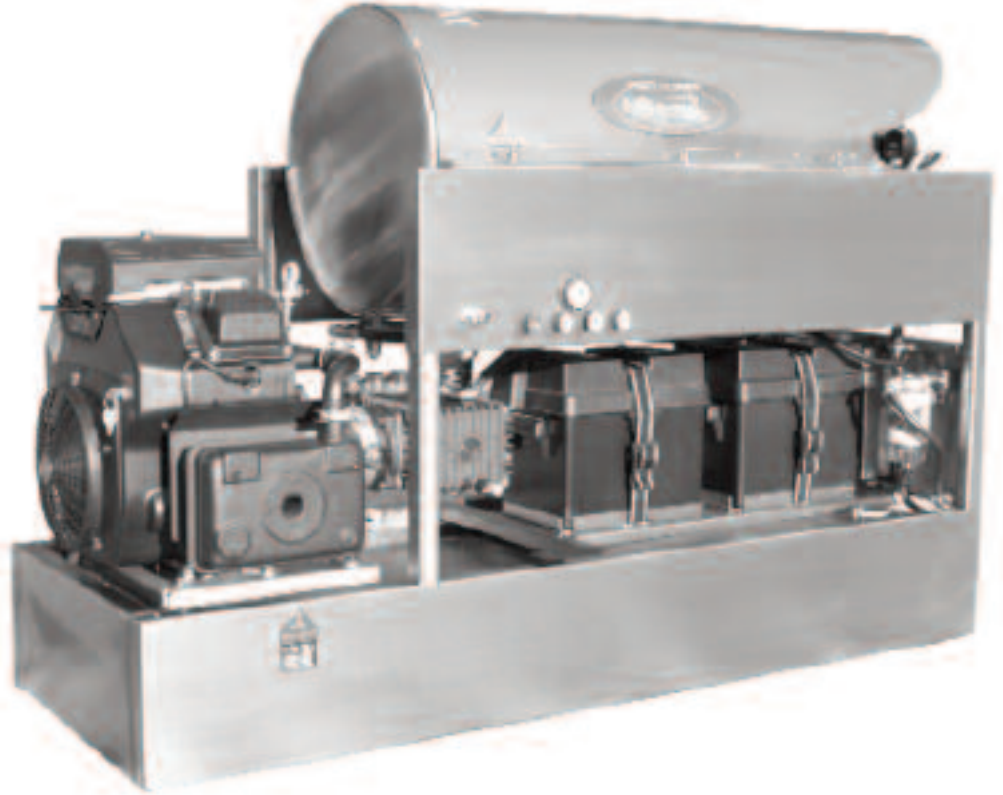
13.5" Base Width
29" Wide at the Hose Reel
42" Long & 36" High

ALLISON IRON HORSE FIRE CANNON

STANDARD EQUIPMENT

- Kohler Pro Series Engines
- 25 AMP Recharge Systems
- Quick Drain Oil Plug on Engine
- Electronic Tach/Hour Meter
- Allison Engine Terminator
- Large Stainless Gas Tank
- Nozzle Caddy with 5 Nozzles
- Spare Parts Mounting System
- The Industry's Best Pumps
- Quick Drain Oil Plug on Pump
- 100' of Serpentine Pressure Hose
- Industrial Trigger Gun & Lance
- The Very Best Unloaders
- Unloader Mounting Block
- Glycerin Filled Stainless Gauges
- High Draw Chemical Injection
- Stainless Chemical Filtration
- Large Capacity Water Filtration
- Vibra-Loc Vibration Dampening
- Safety Pressure Relief Valve
- Marine Certified Battery Boxes
- Dual Battery Control System
- Beckett High Output Burners
- Capacitor Start Burner Motors
- Burner Fuel Pressure Gauge
- Burner Diagnostic Center
- Auxiliary Electrical Plug-ins
- Circuit Breakers
- Oversize Racor Fuel/Water Filter
- Allison 12V Burner Relay
- Dual Steel Jacketed Coil System
- Sch 80 x 1/2" Cold Rolled Coil
- Adjustable Thermostat
- 50 AMP On/Off Switch
- 5800 PSI Pressure Switch
- Secondary Flow Switch
- Hi-Limit Safety Shutdown
- Large Stainless Fuel Tank

ALL STAINLESS STEEL POPULAR SLIMLINE DESIGN



All Stainless Steel

SYSTEM SPECIFICATIONS

12 VOLT MODELS	GPM	PSI	ENG	PUMP
FCG 5541A-22K-12	5.5	4100	22	A-R
FCG 6336G-22K-12	6.3	3600	22	GENERAL
FCG 7036G-25K-12	7.0	3600	25	GENERAL
FCG 7636G-25K-12	7.6	3600	25	GENERAL
FCG 7730G-22K-12	7.7	3000	22	GENERAL
FCG 8536G-27K-12	8.5	3600	27	GENERAL
FCG 8030G-22K-12	8.0	3000	22	GENERAL
FCG 9330G-25K-12	9.3	3000	25	GENERAL
FCG 1025G-22K-12	10.0	2500	22	GENERAL
FCG 1029G-27K-12	10.2	2900	27	GENERAL
FCG 1225G-27K-12	12.0	2500	27	GENERAL

once you own an

ALLISON IRON HORSE

you won't own anything else!

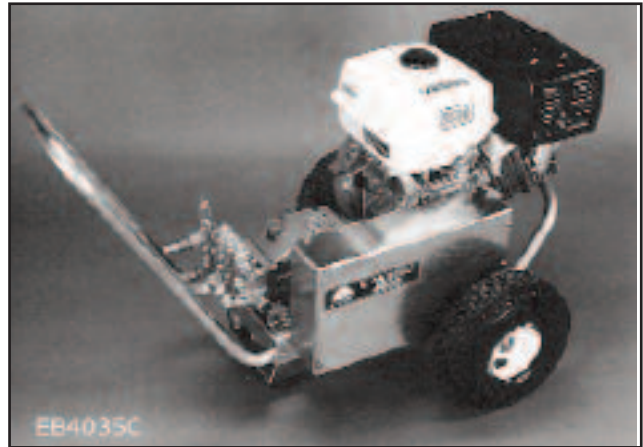
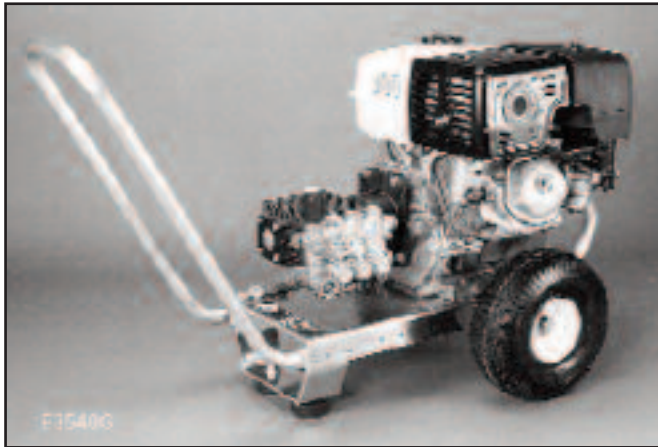
call today and see just how

EASY

it is to own the very best!

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

3 - V BELT DRIVE PRESSURE WASHERS



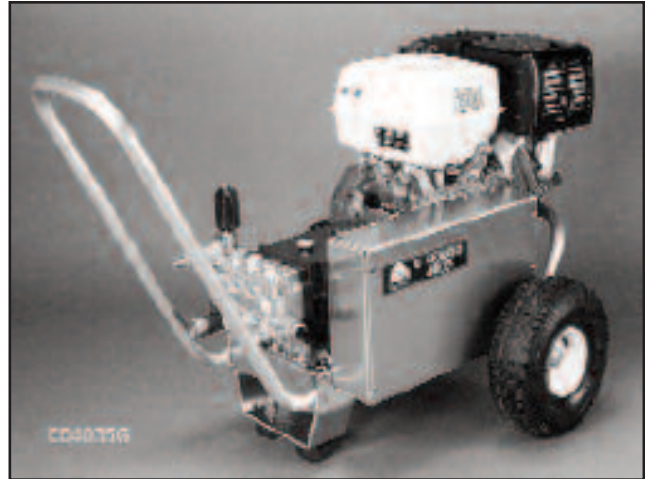
STANDARD FEATURES INCLUDE

- All Models feature 3 V Belt and pulley Drive system for added reliability
- Aircraft Aluminum frame is rustproof, chemical resistant and lightweight
- No weld construction eliminates cracked welds or weld failures
- Lifetime frame warranty with modular design
- Unique double bend handle design (exclusively offered)
- Pneumatic all-terrain wheels with ball bearings
- 3/4" cold rolled steel axle
- K1 Flow sensitive unloader device for smooth operation (exclusively offered)
- 13 Honda GX 390 with Oil alert (Available with Optional Elec. Start & Battery)
- Thermal over-temp relief valve
- Available with Cat, General and AR Triplex plunger pumps
- 4 GPM at 3500 PSI Performance
- Optional Gun-Hose Hanger available

STANDARD ACCESSORIES INCLUDE

- Gun / Wand assembly with Q/C fittings
- 50' Gates 4000 PSI High Pressure Hose with Q/C fittings
- 4 Color Coded Q/C nozzles 0, 15, 25, 40
- Downstream Chemical injector and tip W/ Q/C Fittings

EAGLE SERIES



Model	Description	Price
DIRECT DRIVE		
2000 PSI		
E2520A	2.5 GPM @ 2000 PSI - 5 HONDA / AR	\$ 671.64
E2520C	2.5 GPM @ 2000 PSI - 5 HONDA / CAT	\$ 758.66
E2520G	2.5 GPM @ 2000 PSI - 5 HONDA / GENERAL	\$ 704.70
E3020A	3.0 GPM @ 2000 PSI - 5.5 HONDA / AR	\$ 853.66
E3020C	3.0 GPM @ 2000 PSI - 5.5 HONDA / CAT	\$ 879.50
E3020G	3.0 GPM @ 2000 PSI - 5.5 HONDA / GENERAL	\$ 883.30
2500 PSI		
E3025A	3.0 GPM @ 2500 PSI - 6.5 HONDA / AR	\$ 911.42
E3025C	3.0 GPM @ 2500 PSI - 6.5 HONDA / CAT	\$ 999.20
E3025G	3.0 GPM @ 2500 PSI - 6.5 HONDA / GENERAL	\$941.06
3000 PSI		
E3030A	3.0 GPM @ 3000 PSI - 9 HONDA / AR	\$1045.94
E3030C	3.0 GPM @ 3000 PSI - 9 HONDA / CAT	\$1177.80
E3030G	3.0 GPM @ 3000 PSI - 9 HONDA / GENERAL	\$1076.72
E4030A	4.0 GPM @ 3000 PSI - 11 HONDA / AR	\$1109.40
E4030C	4.0 GPM @ 3000 PSI - 11 HONDA / CAT	\$1229.86
E4030G	4.0 GPM @ 3000 PSI - 11 HONDA / GENERAL	\$1140.18
3500 PSI		
E4035A	4.0 GPM @ 3500 PSI - 13 HONDA / AR	\$1151.20
E4035C	4.0 GPM @ 3500 PSI - 13 HONDA / CAT	\$1270.90
E4035G	4.0 GPM @ 3500 PSI - 13 HONDA / GENERAL	\$1232.90

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DIRECT DRIVE		
4000 PSI		
E3540A	3.5 GPM @ 4000 PSI - 13 HONDA / AR	\$1156.50
E3540C	3.5 GPM @ 4000 PSI - 13 HONDA / CAT	\$1314.60
E3540G	3.5 GPM @ 4000 PSI - 13 HONDA / GENERAL	\$1232.90
BELT DRIVE		
3500 PSI		
EB4035A	4.0 GPM @ 3500 PSI - 13 HONDA / AR	\$1357.54
EB4035C	4.0 GPM @ 3500 PSI - 13 HONDA / CAT	\$1436.20
EB4035G	4.0 GPM @ 3500 PSI - 13 HONDA / GENERAL	\$1376.16
4000 PSI		
EB3540A	3.5 GPM @ 4000 PSI - 13 HONDA / AR	\$1356.78

EAGLE SERIES

STANDARD FEATURES

Revolutionary Aircraft grade aluminum frame (no welds, Lifetime Warranty), 50 mesh inlet water filter, Adjustable Pressure, Low oil shutdown, pneumatic tires, Dual padded shock absorbing feet, 3/4" cold rolled steel axle, Thermo-sensor (prevents over Heating in bypass mode), All units completely factory assembled and tested in the USA and delivered ready to operate.

STANDARD ACCESSORIES

All units Include: Gun/Wand Assy. W/QC'S / 50' Gates Hose W/QC'S / Chemical Inj. Assy. W/QC'S / 3 Color coded QC HP Spray Nozzles / 1 Color coded QC Chem Nozzle. (E2520 models include 25' hose, E3020 & E3025 models include 30' hose, All other models include 50' hose)

AVAILABLE ACCESSORIES

(Apply to 2520, 3020, & 3025 models only)

EAG-900	50' Hose Assembly (includes upgrade to AL112 Gun Assy.)	-Add to unit list price -	\$63.00
EAG-902	Protective Rear Handle/Bumper Assembly	-Add to unit list price -	\$30.00

An eight year old wrote this for his third-grade Sunday school teacher, who asked her students to explain God:

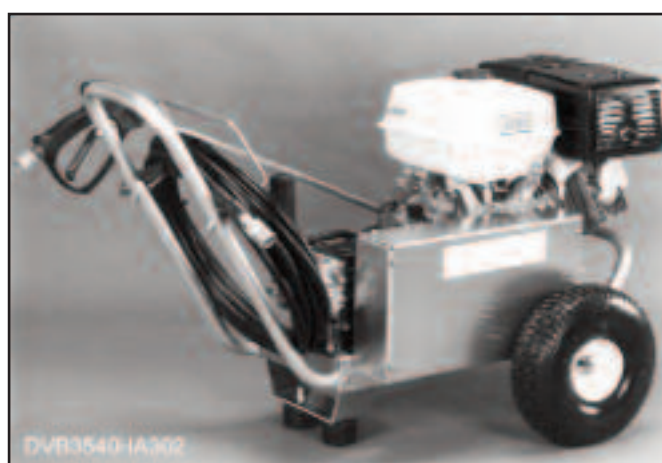
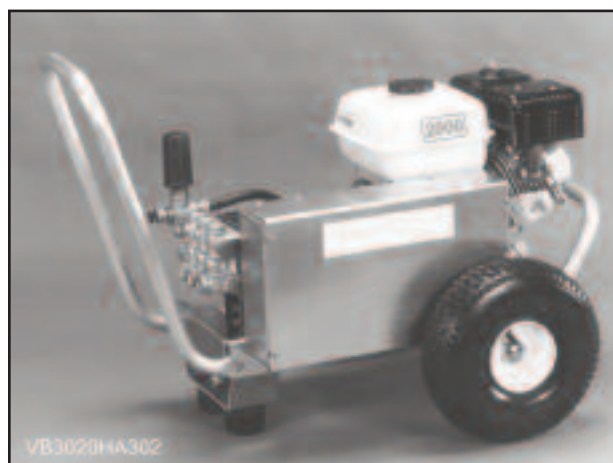
One of God's main jobs is making people. He makes these to put in the place of the ones who die so there will be enough people to take care of things here on earth. He doesn't make grownups, he just makes babies. I think because they are smaller and easier to make. That way he doesn't have to take up his valuable time teaching them to walk and talk. He can just leave that up to the mothers and fathers. I think it works out pretty good.

God's second most important job is listening to prayers. An awful lot of this goes on, 'cause some people, like preachers and things, pray other times besides bedtime, and Grandpa and Grandma pray every time they eat, except for snacks. God doesn't have time to listen to the radio and watch TV on account of this. 'Cause God hears everything, there must be a terrible lot of noise in his ears unless he has thought of a way to turn it down.

God sees and hears everything and is everywhere, which keeps him pretty busy. So you shouldn't go wasting his time asking for things that aren't important, or go over parents' heads and ask for something they said you couldn't have. It doesn't work anyway.

(From A Third Serving of Chicken Soup for the Soul, by Jack Canfield and Mark Victor Hansen. Published by Health Communications, Deerfield Beach, Florida. To order, call 1-800-441-5569)

PRO SERIES - V-BELT DRIVE MODELS



Model	Description	Price
DIRECT DRIVE		
2000 PSI		
VB3020HA302	3.0 GPM @ 2000 PSI - 5.5 HONDA / AR	\$1166.78
VB3020HCP302	3.0 GPM @ 2000 PSI - 5.5 HONDA / CAT	\$1332.84
VB3020HG302	3.0 GPM @ 2000 PSI - 5.5 HONDA / GENERAL	\$1221.88
2500 PSI		
VB3025HA302	3.0 GPM @ 2500 PSI - 6.5 HONDA / AR	\$1229.48
VB3025HCP302	3.0 GPM @ 2500 PSI - 6.5 HONDA / CAT	\$1395.54
VB3025HG302	3.0 GPM @ 2500 PSI - 6.5 HONDA / GENERAL	\$1284.58
VB4025HA302	4.0 GPM @ 2500 PSI - 9 HONDA / AR	\$1367.80
VB4025HCP302	4.0 GPM @ 2500 PSI - 9 HONDA / CAT	\$1446.46
VB4025HG302	4.0 GPM @ 2500 PSI - 9 HONDA / GENERAL	\$1401.24
3000 PSI		
VB4030HA302	4.0 GPM @ 3000 PSI - 11 HONDA / AR	\$1436.58
VB4030HCP302	4.0 GPM @ 3000 PSI - 11 HONDA / CAT	\$1515.62
VB4030HG302	4.0 GPM @ 3000 PSI - 11 HONDA / GENERAL	\$1470.40
VB8030HAEA306	8.0 GPM @ 3000 PSI - 20 HONDA / AR	\$2432.56
VB8030HG306	8.0 GPM @ 3000 PSI - 20 HONDA / GENERAL	\$2456.88
3500 PSI		
VB4035HA302	4.0 GPM @ 3500 PSI - 13 HONDA / AR	\$1481.04
VB4035HCP302	4.0 GPM @ 3500 PSI - 13 HONDA / CAT	\$1560.00
VB4035HG302	4.0 GPM @ 3500 PSI - 13 HONDA / GENERAL	\$1514.86
VB5535HG302	5.5 GPM @ 3500 PSI - 20 HONDA / GENERAL	\$2332.62
4000 PSI		
VB3540HA302	3.5 GPM @ 4000 PSI - 13 HONDA / AR	\$1481.04
VB3540HG302	3.5 GPM @ 4000 PSI - 13 HONDA / GENERAL	\$1658.88
VB4040VA302	4.0 GPM @ 4000 PSI - 16 VANGUARD / AR	\$2003.16
VB4540VC302	4.5 GPM @ 4000 PSI - 16 VANGUARD / CAT	\$2475.50
VB4040VG302	4.0 GPM @ 4000 PSI - 16 VANGUARD / GENERAL	\$2182.14
VB5040HCEA302	5.0 GPM @ 4000 PSI - 20 HONDA / CAT	\$2757.84
VB5540 HAEA306	5.5 GPM @ 4000 PSI - 20 HONDA / AR	\$2327.68

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

PRO SERIES - V-BELT DRIVE MODELS

5000 PSI		
VB4550HAEA510	4.5 GPM @ 5000 PSI - 20 HONDA / AR	\$2564.04
VB4550HCEA510	4.5 GPM @ 5000 PSI - 20 HONDA / CAT	\$3247.66
VB4550HGGEA510	4.5 GPM @ 5000 PSI - 20 HONDA / GENERAL	\$2614.96

PRO SERIES - V-BELT DRIVE

STANDARD FEATURES

Revolutionary Aircraft grade aluminum frame (no welds, Lifetime Warranty), 50 mesh inlet water filter, EZ-Start Unloader, Low oil shutdown, oversize pneumatic tires, Dual padded shock absorbing feet, 3/4" cold rolled steel axle, Triplex belt drive, HE low speed pump, Thermo-sensor (prevents over Heating in bypass mode), All units completely factory assembled and tested in the USA and delivered ready to operate.

STANDARD ACCESSORIES

All units Include: Gun/Wand Assy. W/QC'S / 50' Gates Hose W/QC'S / Maxi-Flow chem Inj. W/QC'S / 4 Color coded QC HP Spray Nozzles / 1 Color coded QC Chem Nozzle.

Note: Chemical Injector is optional on 5000 PSI Models. (See Available Options)

AVAILABLE OPTIONS

Deluxe Cart (Hose Hanger & Gun Rack) Note: Precede the model number with: "D"	- Add to unit list price -	\$ 25.00
Skid Mount (No Wheels) Note: Precede the model number with "S"	- Add to unit list price -	\$ 10.00
Non-marking hose	- Add to unit list price -	\$ 36.00
Engine Oil Drain	- Add to unit list price -	\$ 25.00
ACI 5000 5000 PSI Chemical Injector Assembly	- Add to unit list price -	\$184.00

Electric Start Option - Note: All chemical start units from EnviroSpec include battery and wiring.

11 HP Honda-----	- Add to unit list price -	\$550.00
13 HP Honda-----	- Add to unit list price -	\$550.00
13 HP Vanguard-----	- Add to unit list price -	\$495.00

A Native American elder once described
his own inner struggles in this manner:

"Inside of me there are two dogs.

One of the dogs is mean and evil.

The other dog is good.

The mean dog fights the good dog all the time."

When asked which dog wins,
he reflected for a moment and replied,

"The one I feed the most."

One reason the dog

has so many friends:

He wags his tail

instead of his tongue.

--Unknown

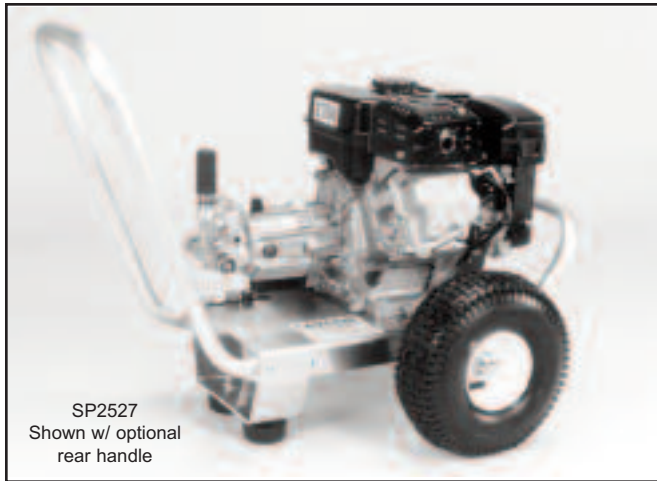
A dog has the soul
of a philosopher.

--Plato

To a dog the whole
world is a smell

--Unknown

EAGLE SERIES



Model	Description	Price
SP2527	2700 PSI - 6.5 HP ROBIN-SUBARU / AR	\$ 727.12
SP3032	3200 PSI - 9.0 HP ROBIN-SUBARU / AR	\$ 912.18
SP2540	4000 PSI - 9.0 HP ROBIN-SUBARU / GENERAL	\$ 948.66

SP SERIES

STANDARD FEATURES

Revolutionary Aircraft grade aluminum frame (no welds, Lifetime Warranty), 50 mesh inlet water filter, Adjustable Pressure, pneumatic tires, Dual padded shock absorbing feet, 3/4" cold rolled steel axle, Thermo-sensor (prevents over Heating in bypass mode), All units completely factory assembled and tested in the USA and delivered ready to operate.

STANDARD ACCESSORIES

All units Include: Gun/Wand Assy. W/QC'S / Chemical Inj. Assy. W/QC'S / 3 Color coded QC HP Spray Nozzles / 1 Color coded QC Chem Nozzle. (SP2527 model includes 30' hose. All other models include 50' hose.)

AVAILABLE OPTIONS

(Apply to SP2527 model only, included on other models)

SP-900	50' Hose Assembly (includes upgrade to AL112 Gun Assy.)	-Add to unit price-	\$63.00
SP-902	Protective Rear Handle/Bumper Assembly	-Add to unit price-	\$30.00

When a dog barks at
the moon, then it is
religion; but when he
barks at strangers, it is
patriotism!
-- David Star Jordan

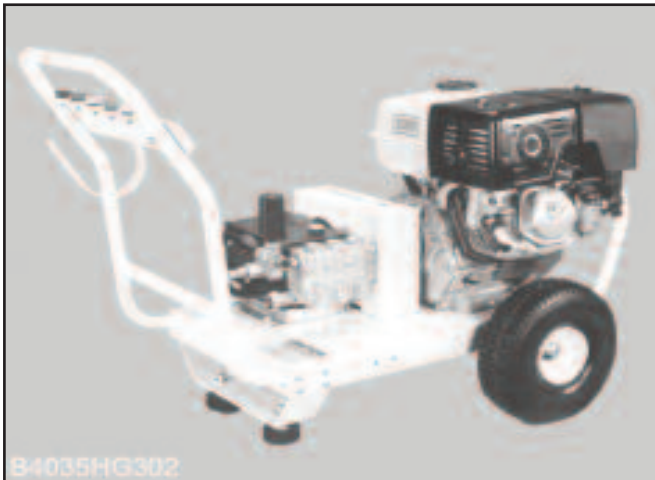
Thousands of years
ago, cats were
worshipped as gods.
Cats have never
forgotten this.
-- Unknown

We are rich
only through
what we give,
and poor only through
what we refuse.
-- Anne Swetchine

Curiosity is the very
basis of education and if
you tell me that curiosity
killed the cat, I say only
the cat died nobly.
-- Arnold Edinborough

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

PRO MAX SERIES - POLYCHAIN DRIVE MODELS



Model	Description	Price
3000 PSI		
B4030HA302	4.0 GPM @ 3000 PSI - 11 HONDA / AR	\$1690.04
B4030HCP302	4.0 GPM @ 3000 PSI - 11 HONDA / CAT	\$1391.56
B4030HG302	4.0 GPM @ 3000 PSI - 11 HONDA / GENERAL	\$1612.90
B8030HAEA306	8.0 GPM @ 3000 PSI - 20 HONDA* / AR	\$2538.58
B8030HGEA306	8.0 GPM @ 3000 PSI - 20 HONDA* / GENERAL	\$2387.34
B8030VAEA306	8.0 GPM @ 3000 PSI - 21 VANGUARD* / AR	\$2746.44
B1030KGEA390	10.8 GPM @ 3000 PSI - 27 KOHLER* / GENERAL	\$3339.62
3500 PSI		
B4035HA302	4.0 GPM @ 3500 PSI - 13 HONDA / AR	\$1713.60
B4035HCP302	4.0 GPM @ 3500 PSI - 13 HONDA / CAT	\$1732.98
B4035HG302	4.0 GPM @ 3500 PSI - 13 HONDA / GENERAL	\$1653.94
B5535HAEA309	5.5 GPM @ 3500 PSI - 18 HONDA* / AR	\$2392.66
B5535HCEA302	5.5 GPM @ 3500 PSI - 18 HONDA* / CAT	\$2842.58
B5535HGEA302	5.5 GPM @ 3500 PSI - 18 HONDA* / GENERAL	\$2401.78
B5535VA309	5.5 GPM @ 3500 PSI - 16 VANGUARD* / AR	\$2209.12
B5535VC302	5.5 GPM @ 3500 PSI - 16 VANGUARD* / CAT	\$2657.52
B5535VG302	5.5 GPM @ 3500 PSI - 16 VANGUARD* / GENERAL	\$2216.72
B8035HAEA306	8.0 GPM @ 3500 PSI - 24 HONDA* / AR	\$2863.86
B8035HGEA306	8.0 GPM @ 3500 PSI - 24 HONDA* / AR	\$2883.62
B8035KAEA306	8.0 GPM @ 3500 PSI - 25 KOHLER* / AR	\$7099.00
B8035KGEA306	8.0 GPM @ 3500 PSI - 25 KOHLER* / GENERAL	\$3021.56
4000 PSI		
B3540HA302	3.5 GPM @ 4000 PSI - 13 HONDA / AR	\$1720.82
B3540HG302	3.5 GPM @ 4000 PSI - 13 HONDA / GENERAL	\$1858.76
B4040HAEA302	4.0 GPM @ 4000 PSI - 18 HONDA* / AR	\$2393.04
B4040HGEA302	4.0 GPM @ 4000 PSI - 18 HONDA* / GENERAL	\$2548.84
B4040VA302	4.0 GPM @ 4000 PSI - 16 VANGUARD* / AR	\$2207.98
B4040VG302	4.0 GPM @ 4000 PSI - 16 VANGUARD* / GENERAL	\$2367.78

PRO MAX SERIES - POLYCHAIN DRIVE MODELS

4000 PSI		
B4540HCEA302	4.5 GPM @ 4000 PSI - 18 HONDA* / CAT	\$2827.38
B4540VC302	4.5 GPM @ 4000 PSI - 16 VANGUARD* / CAT	\$2576.96
B5540HAEA309	5.5 GPM @ 4000 PSI - 20 HONDA* / AR	\$2443.96
B5540VAEA309	5.5 GPM @ 4000 PSI - 21 VANGUARD* / AR	\$2651.44
5000 PSI		
B4050HAEA511	4.0 GPM @ 5000 PSI - 18 HONDA* / AR	\$2626.74
B4050VA511	4.0 GPM @ 5000 PSI - 18 VANGUARD* / AR	\$2538.96
B4550HAEA511	4.5 GPM @ 5000 PSI - 20 HONDA* / AR	\$2704.26
B4550HCEA511	4.5 GPM @ 5000 PSI - 20 HONDA* / CAT	\$3360.90
B4550HGEA511	4.5 GPM @ 5000 PSI - 20 HONDA* / GENERAL	\$2717.56
B4550VAEA511	4.5 GPM @ 5000 PSI - 21 VANGUARD* / AR	\$2911.74
B4550VCEA511	4.5 GPM @ 5000 PSI - 21 VANGUARD* / CAT	\$3568.76
B4550VGEA511	4.5 GPM @ 5000 PSI - 21 VANGUARD* / GENERAL	\$2925.42
B5550HAEA511	5.5 GPM @ 5000 PSI - 24 HONDA* / AR	\$2940.32
B5550KAEA511	5.5 GPM @ 5000 PSI - 25 KOHLER* / AR	\$3136.32
6000 PSI		
B4560HGEA500	4.5 GPM @ 6000 PSI - 24 HONDA* / GENERA0L	\$3059.94
B5060KGEA500	5.0 GPM @ 6000 PSI - 27 KOHLER* / GENERAL	\$3425.50
7000 PSI		
B4070HGTEA600	4.0 GPM @ 7000 PSI - 24 HONDA* / GIANT	\$6862.60
B4070KGTEA600	4.0 GPM @ 7000 PSI - 25 KOHLER* / GIANT	\$6956.84

STANDARD FEATURES

Revolutionary Aircraft grade aluminum frame (Lifetime Warranty), includes easy access tip holder / gun holder / hose hanger on handle, Epoxy powder coated finish (lifetime warranty), 10,000 hour rated Gates polychain cogged belt (lifetime warranty), 50 mesh inlet water filter, EZ-Start Unloader, Low oil shutdown, oversize pneumatic tires, Dual spring cushioned, Shock absorbing feet, 3/4" cold rolled steel axle, HD low speed pump, Thermo sensor (prevents overheating in bypass mode), All units shipped completely assembled and tested in the USA and delivered ready for operation.

STANDARD ACCESSORIES

All units Include: Gun/Wand Assy. W/QC'S / 50' Gates Hose W/QC'S / Maxi-Flo Chemical Inj. W/QC'S / 4 Color coded QC HP Spray Nozzles / 1 Color coded QC Chem Nozzle.

Note: Chemical injector is optional on 5000, 6000, & 7000 PSI units (see available options)

AVAILABLE OPTIONS

Skid Mount (no wheels)	Note: Precede the model number with "S/"	- Add to unit list price -	\$ 10.00
Non-marking hose		- Add to unit list price -	\$ 36.00
Engine Oil Drain		- Add to unit list price -	\$ 25.00
Block mounted K7 unloader		- Add to unit list price -	\$100.00
ACI5000	5000 PSI Chemical Injector Assembly	- Add to unit list price -	\$184.00
ACI6000	6000 PSI Chemical Injector Assembly	- Add to unit list price -	\$210.00

*Electric Start Option - Note: All electric start units from EnviroSpec include battery and wiring.

18, 20, & 24 HP Honda, 21 HP Vanguard, and 25 & 27 HP Kohler engines are electric start only and include auxiliary fuel tank.

11 HP Honda-----	Add to unit list price -	\$550.00
13 HP Honda-----	Add to unit list price -	\$550.00
16 HP Vanguard-----	Add to unit list price -	\$495.00
18 HP Vanguard-----	Add to unit list price -	\$495.00

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

PROFESSIONAL
DUTY

CLEANING

CHEMICALS

Soap For Hope

Touching a child's life one bubble at a time



Since opening in 1988, this nonprofit residential summer camp, founded by Paul Newman, has been a place where children with cancer or other serious blood diseases do not have to sit on the sidelines. Over 1,000 children from 7 to 15 years old come each year, free of charge, from across the United States and abroad.

Shriners Hospitals for Children is a network of 22 hospitals across North America providing expert medical care at no cost to children with orthopedic conditions, burns and spinal cord injuries. The Tampa Shriners Hospital is a 58-bed facility that has treated over 26,000 patients with orthopedic problems since opening in 1985.



Meet Suzie, who inspired EnviroSpec's latest charitable project, Suzie's Friends.

Suzie lived on her own with an injured leg for a number of years until she was rescued by John and Shelley Allison.



Suzie's
Friends

Suzie's dream is to provide a Special Sanctuary where the hungry are fed, the homeless are sheltered, and the abused and abandoned are provided care.

*Through your purchases,
you are making her dream come true.*

NEVER DULL

"This Stuff won't dull my tanks will it?"

EnviroSpec has come with the perfect answer to this question! Tell your clients that you will "Never Dull" their Truck!

Never Dull has a unique blend of citrus solvents, surfactants & builders that we've designed especially for those trucks that need a cleaner tough enough to remove carbons and grease, but gentle enough to clean tanks and never leave them looking dull.

Along with it's special blend of Alkalis, **Never Dull** also has an addition of our famous **Speed -X 777** in it to help cut down your rinse time and get on to that next job.

If you are looking for a great product with a quick rinse time, and a lot of happy customers, then order today and tell your customers that you will...

Never Dull
their trucks!

#ZPND

Buy 1	\$79.95
Buy 3	\$69.95 ea.
Buy 5	\$64.95 ea.

"Grown-ups never understand anything for themselves, and it is tiresome for children to be always and forever explaining things to them."

--Antoine de Saint-Exupery

PRODIGY

Prodigy is, by far, one of the highest non-caustic detergent concentrations available in the industry. **Prodigy** exhibits excellent wetting, chelating, rinsing, and emulsification properties due to its high concentration of our **SuperFlo Polymer Complex System**. This exotic complex is formulated from a variety of unique dispersants, hydrotopes, and surfactants, which are not commonly found in detergent formulations.

The general rule of thumb in detergent formulation is as follows: Approximately 1 gallon of water will hold approximately 1 pound of powder before separation begins. If your product begins to separate using this method, more often than not, your product has been camouflaged with what is known in our industry as "fillers". Fillers provide little to no value to the products integrity and/or performance. They are used primarily to add weight and increase the bottom line profit for the manufacturer. Using the 1 pound per 1 gallon rule, you can see the potency of **Prodigy** when you consider that we are able to thoroughly dissolve up to 2.3 pounds of **Prodigy** into 1 gallon of water without separation. To our knowledge, no other company can make this claim. The advantage of these concentration levels are twofold: 1) the contractor is now able to clean substrates that normally require the use of caustic cleaners and 2) work faster and safer, which increases your bottom line.

As the leader in contract cleaner formulations, **EnviroSpec** goes to great lengths in providing products that are both environment friendly as well as effective, an attitude not commonly found in such a demanding industry.

55 Gallon Professional Kit - 40 lbs.

Since PRODIGY came out in 1986 it has grown to the the most asked for Truck Wash Detergent in the Professional Mobile Wash Industry.

This formula was a result of years of testing by professional mobile washers in the Northeast.

Nothing cleans better, faster and safer than Prodigy

NOTHING!

**#1 Selling
Truckwash**

	#ZPPRO
Buy 1	\$79.95
Buy 3	\$69.95 ea.
Buy 5	\$64.95 ea.

MR.MUSCLE

**For Super Heavy Duty
Degreasing
Non-Caustic & Phosphate Free**

MR. MUSCLE has a 50 pound base of Prodigy, the industry's #1 Selling Tractor/Trailer Wash plus 2.5 Gallons of a unique solvent/surfactant additive that really cranks up the horsepower!

MR. MUSCLE walks circles around all the degreasers found in the marketplace and at a price that is well below what you would expect to pay for such a product.

In addition, you will find **MR. MUSCLE** to work extremely well with both hot and cold water systems. The addition of SpeedX-777 which is part of the liquid additive makes rinsing a breeze.

When you absolutely, positively, without question, have to have the very best and fastest degreaser on the market, *then it's time to pull out all the stops and buy...*

MR.MUSCLE
and that's no bull!

MR. MUSCLE exhibits excellent wetting, chelating, rinsing, and emulsification properties due to its high concentration of our SuperFlo Polymer Complex System. This exotic complex is formulated from a variety of unique dispersants, hydrotopes and rinse aids which are not commonly found in detergent formulations.

Typical applications for the concentrate are:
Tractor/Trailer Bodies, Engines, Fork Lifts,
Garage Floors, Rail Cars

As the leader in contract cleaner formulations, **EnviroSpec** goes to great lengths in providing products that are both environment friendly as well as effective, an attitude not commonly found in such a demanding industry.

55 Gallon Professional Kit
Weight 78 lbs.

**#1 Selling
Degreaser**

	#ZPMRM
Buy 1	\$109.95
Buy 3	\$ 99.95 ea.
Buy 5	\$ 94.95 ea.

You can tell your customer that ALL the Profits from the Chemicals that you use go to help fund Children's Charities such as the Shriners Hospital for Children.

PRO BLEND

Film Free Cleaning in the Truck Washing Industry

Non-Caustic concentrate
with **Gloss Enhancers**

Pro Blend is, by far, the most effective non-caustic, film free cleaning detergent concentrate in the professional contract cleaning industry. When used properly, the operator can expect to remove 85% to 90% of all road film from both tractor and trailer bodies that are cleaned on a regular basis.

Pro Blend exhibits excellent wetting, chelating, rinsing and emulsification properties due to its high concentration of our **SuperFlo Polymer Complex System**. This exotic complex is formulated from a variety of unique dispersants, hydrotopes, and surfactants which are not commonly found in detergent formulations.

The power from **Pro Blend** originates from a wide variety of uniquely charged ion surfactants, which will alter a positive charged substrate to a negative charge upon contact. This bond breaking function will provide the operator with a one-step cleaning process, rather than the typical acid-alkaline or two-step process that is presently being utilized throughout the industry. The advantages of single step cleaning, using **Pro Blend**, are twofold, 1) the contractor will be able to provide his/her customer with a much higher quality service, at a much lower cost, or should they choose, greatly enhance their own profit margin, and 2) eliminates the possibility of etching glass which can easily happen when using solutions with a hydrofluoric acid content.

As the leader in contract cleaner formulations, **EnviroSpec** goes to great lengths in providing products that are both environment friendly as well as effective.

55 Gallon Professional Kit
Weight 48 lbs

#ZPPROB	
Buy 1	\$79.95
Buy 3	\$69.95 ea.
Buy 5	\$64.95 ea.

VIPER

Specifically developed for the
Truck Washing Industry
where heavy exhaust carbons are present.

**Viper is Non-Caustic
and contains Carbon Release Activator
& GLOSS ENHANCERS**

Viper is a specialty product specifically formulated for the Truck Washing Industry where exhaust fumes have become attached to the stack side of the trailer body. Coupled with carbon release activating solvents and rinse aids, **Viper** also finds itself being utilized in other areas where the heavy build-up of grease & oil is present. Garage Floors, Vehicle Maintenance Shops, and Service Stations are just a few of the many areas where **Viper** is utilized.

Viper exhibits excellent wetting, chelating, rinsing and emulsification properties. Its ability to hold pollutants in suspension during the wash process makes it an ideal product when using either cold or hot water equipment.

Viper's horsepower is derived from a group of Specialty Gloss Enhancers, Spot Free Rinse Aids, and a unique blend of surfactants which are not commonly found in the detergent industry.

Viper comes packaged in a two-part system. One part is approximately forty (40) pounds of Base Product. The second part is one gallon of Carbon Release Activator. The two combined will make 55 gallons of a super concentrate.

55 Gallon Professional Kit - Weight 50 lbs.

#ZPVIP	
Buy 1	\$79.95
Buy 3	\$69.95 ea.
Buy 5	\$64.95 ea.

Note of Interest:

Pro Blend is an awesome product for removing road film from tractor and trailer bodies that are cleaned on a regular interval. For those companies who have contracts to clean vehicles on a less than regular basis (2-3 weeks) we recommend our product called **Bond Breaker**. Like **Pro Blend - Bond Breaker** is specifically formulated to not only clean and clean fast but to remove 90% to 98% of the road film in the process. For an even greater success rate use **Pro Blend** or **Bond Breaker** in a "two step" or "twin chem" cleaning environment.

BOND BREAKER

The Ultimate in... "Film Free" Cleaning!

EnviroSpec has gone berserk!

A few years back we decided to make an attempt at combining all the chemistry that make each one of our non-caustic detergent formulations unique in their own way. A challenge that, at times, was overwhelming since surfactant stability generates excruciating headaches for any chemists.

The criteria for our project was as follows:

- 1) We wanted the product to be extremely high in horsepower yet Safe to use.
- 2) We wanted the product to dissolve the toughest grease and carbon on contact.
- 3) We wanted the product to produce the ultimate in Film Free Cleaning.
- 4) We wanted the product to have exceptional rinsing characteristics.
- 5) We wanted the product to produce a high degree of "gloss" when rinsed.

Dissolves the toughest grease and carbon on contact and has exceptional rinsing characteristics.

Bond Breaker has been on the market going into it's 6TH year and it is evident that we do, indeed, have a winner. No, **Bond Breaker** is not for everyone. It is an extremely expensive product to formulate and stabilize. It is aimed at a unique market that demands the very best and expects it to perform accordingly.

So, if you are looking for the Ultimate in Film Free Cleaning and Degreasing order up a 55 Gallon Drum Pack of **Bond Breaker**

This is a
3 Part Product
55 Gallon
Professional Kit

	#ZPBON
Buy 1	\$119.95
Buy 3	\$109.95 ea.
Buy 5	\$104.95 ea.

NITRO

Horsepower *plus* Hard Water Additives

- Excellent product for both Truck & House Washing
- Great for areas with extreme hard water conditions.
- Contains "High Yield" Gloss Enhancers

Nitro has been a long standing favorite among the Mobile Wash community since it was introduced in 1989. **Nitro** has a pH of around 12.1 in a 1% solution and exhibits excellent chelating and rinsing characteristics.

Specifically developed for areas of the country known for extreme hard water conditions, **Nitro** is also a favorite in warmer climates where drying before rinsing is always a problem.

As the original pioneer in chemical concentrates for the Mobile Wash Industry, **EnviroSpec** knows and understands the problems encountered by the contract cleaner. We are working every minute of every work day to bring to you the most advanced line of products in the industry. Unlike most chemical manufacturers we do not sit in a laboratory and develop products and sell them to the customer in hopes that they work. Our process is addressed quite differently. Yes, the idea does start in a laboratory environment but before the product goes to market we take it to the field. **EnviroSpec** has it's own Mobile Wash Test Unit which goes out just like you, into the harsh world of house washing, truck washing and anything else that needs cleaning. That is where the product is either scrapped or polished and refined before it goes to market. Sure, more product ideas are scrapped than actually make it to market but, when you purchase a product with the **EnviroSpec** name you know that it works.

55 Gallon Professional Kit - Weight 40 lbs

	#ZPNIT
Buy 1	\$74.95
Buy 3	\$64.95 ea.
Buy 5	\$59.95 ea.

FREE FREIGHT

PAID ON ALL
DRUM PACK ORDERS
OF 50 EACH
SOLD AT THE
"BUY 1" PRICE

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"I must take issue with the term 'a mere child,' for it has been my invariable experience that the company of a mere child is infinitely preferable to that of a mere adult.

-- Fran Lebowitz

INTERFACE "9000"

The Industry's
BEST KEPT SECRET

The Ultimate
**HORSEPOWER
ADDITIVE**

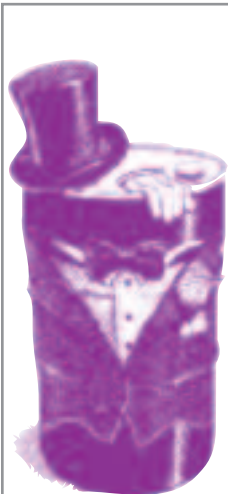
for any
**Alkaline
Detergent
Product**

Blending **Interface 9000** into any alkaline detergent product can double or even triple its performance.

Interface 9000
Is a unique blend of
SuperFlo Polymer
Film Free Cleaning Agents
& Gloss Enhancers

#ZPINT
\$27.95

20 LBS of Powder treats
55 Gallons of Alkaline Detergent



We will go
"heads-up"
against any
non-caustic
detergent
on the market
and walk away
the winner.
We do it everyday
and have been
for over 20 years.

HOOD-PRO

The First Ever - Non-Caustic

**RESTAURANT
EXHAUST HOOD CLEANER**
And its even Phosphate Free!

Since **Hood Pro** has been on the market we have turned a lot of professionals around to this product. They always had to rely on corrosive for the real tough hood cleaning jobs but not anymore!

There have been many attempts, by many companies, to develop an effective restaurant exhaust hood cleaner, which would provide the contractor with a safer work environment and a less surface aggressive product, such as potassium and sodium hydroxide products, which tend to dull galvanized, aluminum, and stainless steel exhaust hoods.

Hood-Pro has been in the development and experimental stages since 1993. Time testing, and many formula modifications, has provided the first ever, effective, non-caustic restaurant exhaust hood cleaner.

The "power" from **Hood-Pro** comes mainly from a wide variety of special ion charged surfactants not commonly found in the detergent formulary industry. Coupled with a unique "builder" base, **Hood-Pro** exhibits unbelievable pH stability and excellent foaming characteristics.

There are many circumstances that affect the performance of **Hood-Pro** or any other product being used for cleaning exhaust hoods. How long has it been since the substrate has been cleaned? How thick is the build-up? Are you using hot water? Keeping these questions in mind will help the contractor in determining the dilution ratios of Hood-Pro.

Let's take a close look at each question. (1) How long has it been? As we all know, Chinese Restaurants seem to go a lot longer between cleanings. In addition, the oils used in cooking Chinese foods generally pose a greater cleaning problem than oils used for cooking other types of food. In this situation we would recommend a "softening" application which will break down the outer crust of the "baked on" oil(s). A second application, which will be applied approximately 5 minutes after the first application, will break down the remaining oil(s). Environments other than Chinese will generally require only one application of **Hood-Pro**. (2) How thick? The longer between cleaning intervals will result in heavier oil/grease "build-up." The heavier the "build-up", the "stronger" the solution. In Chinese restaurants we recommend a starting dilution of one part **Hood-Pro** to 4 parts water. Other environments - 1 part **Hood-Pro** to 8 parts water. (adjust accordingly) (3) Hot or Cold water? Keep in mind that heat generates alkalinity. The hotter the product/water solution the higher the alkalinity. The higher the alkalinity - the more effective the product.

55 Gallon Professional Kit
Weighs 80 lbs.

#ZPHP	
Buy 1	\$149.95
Buy 3	\$139.95 ea.
Buy 5	\$134.95 ea.

You can tell your customer that **ALL the Profits from the Chemicals** that you use go to help fund Children's Charities such as the Shriners Hospital for Children.

OIL BUSTER ADDITIVE

"OIL EATING" Super Solvent-Surfactant

which can be added to
Detergents or Acids

- Oil Buster** is a twofold Performance Product, much like that of adding octane to fuel to generate horsepower.
- Oil Buster** increases the products overall performance dramatically.
- Oil Buster** increases detergency and provides for a very fast and free rinse.

Emulsifies Oil and Grease On Contact

All Surface Safe Product

#ZLOIL5 - 5 Gallons \$24.95

Add 5 Gallons of Oil Buster to 55 Gallons of Product

PERFORMANCE BUILDER PLUS

for CAUSTICS

WAIT!

**Do Not Buy Any More
CAUSTIC HOOD CLEANERS**
You are wasting a lot of MONEY!

This product contains all the additive ingredients you will need to add to a 50 pound bag of Caustic Soda Beads or a 55 gallon drum of Potassium Hydroxide.

This product consists of five gallons of the most powerful and surface active surfactants, rinse agents & builders ever put into a drum of

SODIUM or POTASSIUM HYDROXIDE

**Why Pay the High Cost of Shipping Corrosive?
PURCHASE**

Sodium or Potassium Hydroxide locally and add the
PERFORMANCE BUILDER
and you will run circles around your present product!

All you really need is
PERFORMANCE BUILDER!

#ZLPBC \$38.95

This 5 Gallons treats 55 Gallons

CITRA-SOLV

**Film Free Cleaning
for the
Environment Conscious
Consumer**



With the evolution of the environment conscious consumer, more and more contractors are looking for an effective alternative to the less friendly solvents commonly found in surface cleaning chemistry.

The solvency in Citra-Solv originates from citrus by-products such as orange and lime peels. These solvents, coupled with specific pH balanced surfactants and builders, provide the contractor with an excellent product that quickly removes oil, grease, and general fallout pollutants from a large variety of hard to clean substrates.

Citra-Solv has excellent hydrotoping characteristics through the use of a unique dispersant complex which is not commonly found in detergent chemistry. This complex, known as SuperFlo Polymer, has been developed by EnviroSpec and is found throughout our detergent formulary because of its tremendous ability to add horsepower to virtually every type of alkali detergent product. At the onset of the formulation process, we took into consideration that many contractors use cold water pressure washers. Generally speaking, the use of cold water systems will result in a difficult rinsing process with most detergents. You will find that CitraSolv has superior rinsing qualities in both hot and cold water environments. The end result - you will clean faster and safer with Citra-Solv.

Citra-Solv is the result of just another step taken by EnviroSpec to provide our customer with environment friendly, top shelf cleaning products without sacrificing aggressive surface activity required by the professional.

55 Gallon Professional Kit, Weight 48 lbs

#ZPCIT

Buy 1 \$83.95

Buy 3 \$73.95 ea.

Buy 5 \$68.95 ea.

**For Technical Support Call:
1-800-346-4876**

ALWAYS READ YOUR MSDS SHEET BEFORE OPENING AND/OR HANDLING ANY DETERGENT OR ACID PRODUCT. IF NONE IS PRESENT CONTACT YOUR DEALER OR THE MANUFACTURER BEFORE YOU CONTINUE. MAKE ABSOLUTELY SURE THAT BOTH YOU AND YOUR EMPLOYEES WEAR THE PROPER PROTECTIVE CLOTHING AND THAT YOUR EMPLOYEES HAVE ALSO READ AND COMPLETELY UNDERSTOOD THE PROPER HANDLING, MIXING, APPLICATION & FIRST AID PROCEDURES BEFORE HANDLING THE PRODUCT(S).

**BE A RESPONSIBLE
EMPLOYER & EMPLOYEE**

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

DETERGENT SCENTS

These scents are a pleasant reminder that your detergent is flowing properly, and that you are using the correct detergent. With four different unique fragrances you can create a different scent for your various detergents. People have the ability to differentiate odors with a great degree of accuracy, so when you scent your detergent products you will be able to tell that you are applying the product you want, or if you are applying the wrong product, immediately.

The scents come in liquid form and can be added to any liquid detergent. They are packaged in quart containers that are the correct size to treat 55 gallons of detergent.

We have the following scents to choose from:

Cinnamon, Cherry, Strawberry & Eucalyptus

\$7.95 Per Quart

Add to 55 Gallon Drum

ENVIROSPEC

Manufacturers of
"FULL DRESS"
Professional Chemicals
*worth taking out
on the Town!*



**MANUFACTURING
CHEMIST**

SINCE 1979

**Call us today
And Ask About Our
Chemical Line!**

1-800-346-4876

**DISTRIBUTOR INQUIRES WELCOME
PRIVATE LABEL AVAILABLE**

SIL-O-WET

**Similar to Plex-Master
but Loaded with Special Hardeners
For Longer Lasting Protection**

Contains Mildew Formation Retardant

**Specifically Formulated For The
Exterior House Washing Industry**

Sil-O-Wet is identical to our product Plex Master EXCEPT for the addition of extra hardeners that will allow the product to last up to three (3) years.

Sil-O-Wet is a blend of silicone, polymers, and hardeners that will enhance the appearance of both Vinyl, Aluminum, Masonry Products as well as retard Mildew reformation on all surfaces, including wood.

Applying **Sil-O-Wet** to the surface after restoring Old Brick will generally turn the brick 3-4 shades darker producing a much richer look.

Sil-O-Wet should not be applied to any surface if your customer is planning on painting anything within 24-36 months after washing, which is the life expectancy of the sealant.

Sil-O-Wet is considered a Super Concentrate where five (5) gallons will yield forty (40) gallons of product prior to further dilution through the down stream injector. The down stream injection rate can be as high as 60 parts water to 1 part product and still produce excellent results.

5 Gal. Concentrate

#ZLSIL5 \$56.95

Makes 30-40 Gallons

**Awesome
HOUSE
WASHING
Products**



**Did You Know
that our
Citrus Solvent Base
LIMONENE
is the #1 Selling House
Wash?**

LIMONENE



The Industry's #1 Selling Exterior House Wash

With the evolution of the environment conscious homeowner more and more contractors are looking for an effective alternative to the less friendly bleach and solvents commonly found in surface chemistry dealing with wood, aluminum and vinyl siding.

T. These solvents, coupled with specific pH balanced surfactants and builders, provide the contractor with excellent command of the "ever changing" exterior house washing market.

Limonene has excellent hydrotopping characteristics through the use of a unique dispersant complex which is not commonly found in detergent chemistry. This complex, known as **SuperFlo Polymer**, has been developed by EnviroSpec and is found throughout our detergent formulary because of its tremendous emulsifying capabilities.

At the onset of the formulation process we took into consideration that many contractors use cold water pressure washers. Generally speaking, the use of cold water systems will result in a difficult rinsing process with most detergents. You will find that **Limonene** has superior rinsing qualities in both hot and cold water environments. The end result? You will clean faster and safer with **Limonene**.

Limonene is another step that has been taken by EnviroSpec to provide our customer with environment friendly, Top Shelf cleaning products without sacrificing aggressive surface activity required by the professional.

55 Gallon Professional Kit
Weight 48 lbs

INCREDIBLE PRODUCT!



#ZPLIM
Buy 1 \$89.95
Buy 3 \$74.95 ea.
Buy 5 \$69.95 ea.



PLEX-MASTER

Exterior Surface Sealant with Mildew Formation Retardant

Specifically Formulated
for the
Exterior House Washing Industry

Plex-Master is a blend of silicone, polymers and hardeners that will enhance the appearance of both Vinyl and Aluminum as well as retard Mildew reformation on all surfaces, including wood.

Plex-Master provides a distinctive edge that will separate the Contract Cleaner from the "Low Ball" competition. For just pennies per job the contract cleaner can provide the homeowner the added protection of **Plex-Master**.

Plex-Master should not be applied to any surface if the homeowner is planning on painting during the next 12-15 months. Because of the unique hardeners used in the formulation, **Plex Master** will remain on the surface for a long period of time. It is recommended that you re-clean the surface using our product **Prodigy** before your customer paints. By doing so your customer can be assured that all of the **Plex Master** has been removed and the paint will adhere to the surface.

Mildew, which will form on virtually anything, will be much easier to remove when there is a coating of **Plex-Master** on the substrate. In most cases the homeowner will be able to keep the surface alive and free of mildew with a weekly rinse down using a standard garden hose.

Plex-Master is considered a Super Concentrate. Five (5) gallons will yield forty (40) gallons of product prior to further dilution through the down stream injector. The down stream injection rate can be as high as 40 parts water to 1 part product and still produce excellent results.

#ZLPLE5
5 Gal. Concentrate
Makes 30-40 Gallons
\$46.95

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"[Watching a baby being born] is a little like watching a wet St. Bernard coming in through the cat door."
-- Jeff Foxworthy

EMULSIFIER PLUS

Bleach Friendly **DETERGENT**

For the very best of all worlds
add 3 gallons of product to 2 Gallons of Bleach
Contains Gloss Enhancers

Emulsifier Plus - is one of the Original House Wash Formulas developed by EnviroSpec. Knowing that Bleach works better than anything for killing and cleaning Mildew and taking into account that Bleach does absolutely nothing about cleaning carbon type pollutants such as acid rain, exhaust carbons, dirt, grease and grime the dilemma was - how to do both at the same time!

Bleach, for the most part, does not like to be blended with other chemical products and many of the chemical products found in the professional mobile wash industry can create a serious explosive situation when mixed with sodium hypochlorite (bleach). **Emulsifier Plus**, on the other hand, is the answer to both the safety issue as well as the cleaning problem. These two products work extremely well together when blended and applied in accordance with the EnviroSpec instructions. Have the best of both worlds - Clean and Kill Mildew and Clean All the other Pollutants typically found on an exterior substrate. And do it all in one pass!

Emulsifier Plus has a pH of around 11.8 to 12.0 in a 1% solution. This unique blend of Surfactants & Builders has been specifically formulated for the House Wash Industry as a stand alone detergent or a detergent additive to be blended together with Bleach.

Emulsifier Plus works great on removing heavy build-ups of grease, grime and general fallout pollutants generally found in high traffic areas and exhibits excellent wetting, chelating, rinsing, and emulsification properties. Its ability to hold pollutants in suspension during the wash process makes it an ideal product when using either hot or cold water pressure washers.

Emulsifier Plus comes packaged in a single very moist powdered system which is loaded with specialty solvents and gloss enhancers.

55 Gallon Professional Kit
Weight 40 lbs.

#ZPEMUP	
Buy 1	\$79.95
Buy 3	\$69.95 ea.
Buy 5	\$64.95 ea.

PREMIER

Specifically Formulated for House Washing

Contains:
**MILDEW RELEASE AGENTS
& GLOSS ENHANCERS**

Premier is a unique blend of specialty surfactants and alkalis specifically formulated for the Professional Exterior House Washing Industry. It acts by first wetting the soiled substrate, then interacting with the soil so that it is thoroughly removed from the substrate, and finally suspending the soil so that it can be flushed free. Premier is less surface and vegetation aggressive than typical cleaners used in this field but will achieve superior cleaning results.

Premier contains both Mildew Release Agents as well as Gloss enhancers and is ideally suited for both a Hot and Cold water rinse environment. Premier also provides for the chelating of both calcium and iron in water allowing spot free rinsing.

55 Gallon Professional Kit - Weight 40 lbs

#ZPPRE	
Buy 1	\$69.95
Buy 3	\$59.95 ea.
Buy 5	\$54.95 ea.

RIPPER

Got a Gutter Problem?
Get **RIPPER**
Black Streaks on Gutters?
NOT ANY MORE!

I have been listening to contractors for years complain that they can't remove the notorious "black streaks" from gutters.

I never had that problem when I was washing houses! I used my "secret" recipe called **RIPPER**.

This heavily built, non caustic detergent product contains a double dose of a unique solvent that attacks those hard to clean gutters.

Try it! You'll be impressed.
Everyone else has been!

1 Professional Drum Kit Makes 55 Gal.

#ZPRIP	
Buy 1	\$99.95
Buy 3	\$89.95 ea.
Buy 5	\$84.95 ea.

You can tell your customer that **ALL** the Profits from the Chemicals
that you use go to help fund Children's Charities such as the Shriners Hospital for Children.

"Dachshunds are ideal dogs for small children, as they are already stretched and pulled to such a length that a child cannot do much harm one way or another."

-- Robert Benchley (1889 - 1945)

RESTORE

Simply Put - Awesome!!



NEW
40 POUND
KIT

Cleaning Cedar Shakes, unpainted Wood Surfaces such as Decks, and even stripping Antique Furniture has...

...Never been so Easy!!

For Cedar Shakes and unpainted Wood Decks simply spray **RESTORE** on, wait 20 to 30 minutes, and Rinse off. You will not believe your eyes! No more harsh bleach or surface and vegetation aggressive chemicals. Totally removes black mold and mildew build-up on shakes, regardless of how long it has been there.

RESTORE works by means of oxygenation and should not be mixed with water until the operator is ready to perform the job. Once **RESTORE** is in solution, the operator will have approximately 1-2 hours before the product has exhausted itself. Mix up enough so that you will be able to get the product on the surface within this time. Mix approximately 1/2 pound of **RESTORE** into 1 gallon of hot water and stir vigorously to insure complete solubility. Spray directly onto wood surface. When product has removed pollutant, rinse with low pressure, 500 - 1000 PSI.

For restoring Antique furniture or furniture that has been stained, pre-wet the surface with a light mist of water. Sprinkle a small amount of **RESTORE** in dry form on pre-wet surface. With a plastic scrub pad (the type that you would normally use in the kitchen) work **RESTORE** into the wood and allow it to stand 20-30 minutes. Rinse with a light mist of water. Do Not soak the wood with water - a light mist is all that is required to activate **RESTORE**. Upon completion, we recommend drying the wood with a portable dryer or heat lamps.

This product will provide unbelievable results. You will be able to produce twice the results in 1/3 the time and with little to no mess. You'll never use harsh chlorine cleaners or solvent based strippers again.

RESTORE is Phosphate Free and Biodegradable.

10 Pound Kit \$25.00 - #ZPRES10

40 Pound Professional Kit - #ZPRES40

NEW
40 POUND
KIT

Buy 1	\$84.95
Buy 3	\$74.95 ea.
Buy 5	\$69.95 ea.

RELEASE

*Specifically developed for the
House - Truck
& Bus Washing Industry
Non-Caustic
with Carbon Release Solvents
& Gloss Enhancers*

Release is a specialty product which was originally formulated for the airport Shuttle & Transport Industry where heavy exhaust fumes are present. Because of the versatile nature of **Release** it has also found its way into the house washing market.

Field tests proved **Release** to be valuable in the House, Truck, and Bus Washing Industry where high concentrations of carbonaceous, fallout pollutants are typically found. Formulated with carbon release activating solvents, gloss enhancers, and rinse aids, **Release** makes light work of difficult cleaning jobs.

Release is considered a medium to heavy duty, non-caustic detergent concentrate. When used properly it is safe for use on vinyl, aluminum and wood substrates.

Release exhibits excellent wetting, chelating, rinsing and emulsification properties. Its ability to hold pollutants in suspension during the wash process makes it an ideal product when using cold or hot water systems. The unique Activator in **Release** quickly removes oil/grease pollutants from the substrate.

Release comes packaged in a two-part system. One part is approximately forty (40) pounds of **Release** Base Product. The second part is one gallon of **Release** Activator. The two combined will make 55 gallons of a super concentrate.

55 Gallon Professional Kit
Weight 50 lbs.

#ZPREL

Buy 1 \$79.95

Buy 3 \$69.95 ea.

Buy 5 \$64.95 ea.

"There are only two things a child will share willingly: communicable diseases and his mother's age."

-Modern Maturity

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"People who say they sleep like a baby usually don't have one."

-- Leo J. Burke

GLASS DE-ETCH

And Yes, it Really Works!

Jewelers use a lesser grade of this compound to polish out scratches on expensive crystal such as those found on Expensive Watches

Rare Earth Glass/Crystal Polishing Compound to be Used when severe ACID damage has occurred.

This Product Should Be In
EVERY Mobile Washers Toolbox

A high stock removal rate, which is partially due to the narrow particle distribution resulting in a low percentage of fines, leaves a clear, bright finish.

Physical Characteristics:
Color: Pale Pink
Composition: REO Content - 76%
Avg Particle Size: 3.4 Microns

#ZPGDE 1 Lb Container \$29.95
Enough for 10-15 Windshields

SPEED-X "777"

50% of your cleaning time is lost in the RINSE CYCLE! Don't believe it? The next time you go to the Job Site time yourself. How long did it take to apply the soap and how long did it take to make absolutely sure that all the "soap" is rinsed free? You'll be surprised!

Cut your rinse time as much as 80% with Speed-X-777

Let's do the math - you want to make \$75.00 p/h washing - so let's say that is \$37.50 p/h applying and \$37.50 rinsing and at the very worst you cut your rinse time in half that means that every hour on the job you are saving \$18.75 (or making \$18.75) per hour by using Speed-X-777

1 Gallon Treats 1 Each 55 Gallons

#ZLSPE	1 GALLONS	\$ 12.95
#ZLSPE5	5 GALLONS	\$ 49.95
#ZLSPE55	55 GALLONS	\$ 349.95

SCUM BUSTER

OOOPS! Did you let soap dry on the glass? **Yes Scum Buster Really Works!**

The highest quality Rare Earth Glass Polishing Compound used when soap damage has occurred.

USE: Mix with water to the consistency of warm syrup. Wipe or paint onto glass and briskly polish surface. Do not press too hard and break the glass. Physical damage could occur.

Physical Characteristics:
Color: Pale Pink
Composition: REO Content - 76%
Avg Particle Size: 3.4 Microns
PH Factor: 6.7 - 8.0
Trapped Bulk Density: 1.39 grams
Suspension Treated
Insoluble in Water

#ZPSB 5 Lbs. of Powder \$29.95
Also Great On Shower Doors and Car Wash Viewing Glass



**There is nothing on the market that will compare to any of the Job Match Cleaning Solutions from EnviroSpec...
...nothing!**

"To give alms is nothing unless you give thought also. A little thought and a little kindness are often worth more than a great deal of money."

- Ruskin, John

You can tell your customer that ALL the Profits from the Chemicals that you use go to help fund Children's Charities such as the Shriners Hospital for Children.

"It goes without saying that you should never have more children than you have car windows."

--Erma Bombeck

POWER STROKE

Specifically developed for
FLAT SURFACE CONCRETE CLEANING

such as:

**Driveways & Patios, Sidewalks & Garage
Floors, Dumpster Areas, Swimming
Pools, Ramps & Runways**

"Power Stroke" has successfully replaced the harsh caustics that have been being used for years. The science behind Power Stroke has made it one of the Professionals First Choices when it comes to the toughest of jobs.

**Non-Caustic, Phosphate Free
Contains
CONCRETE BRIGHTENING AGENTS**

Power Stroke is, by far, the highest non-caustic detergent concentration available in the industry.

Although Power Stroke has been specifically formulated for heavy-duty concrete and oil/grease removal it has found itself in a large variety of applications as being the one product to have on hand when nothing else will work.

Power Stroke exhibits excellent wetting, rinsing and emulsification properties due to its high concentration of our SuperFlo Polymer Complex System. This exotic complex is formulated from a variety of unique dispersants, hydrotopes, and surfactants, which are not commonly found in detergent formulations.

The general rule of thumb in detergent formulation is as follows: Approximately 1 gallon of water will hold approximately 1 pound of powder before separation begins. If your product begins to separate using this calculation, more often than not, your product has been camouflaged with what is known in our industry as fillers. Fillers provide little to no value to the products integrity. They are used primarily to add weight and increase the bottom line profit for the manufacturer. A typical filler would be Soda Ash. Using the 1 pound per 1-gallon rule you can see the potency of Power Stroke when you consider that we are able to thoroughly dissolve up to 2.5 pounds of Power Stroke into 1 gallon of water without separation. To our knowledge - no other company can make this claim. The advantage of these concentration levels are two fold: 1) the contractor is now able to clean substrates that normally require the use of caustic cleaners and 2) work faster and safer which increases your bottom line.

55 Gallon Professional Kit
Weight 80 lbs.

#ZPPOW	
Buy 1	\$149.95
Buy 3	\$139.95 ea.
Buy 5	\$134.95 ea.

PREPEZZ

Pre-Paint Surface Prep

Used By Professional House Painters
who do not want to do the job over because
the paint did not adhere to the surface

There is nothing, absolutely nothing on the market that will prepare a surface for longer lasting paint adhesion than **PrepEZZ**.

This non-caustic surface prep product has been specifically formulated to safely remove surface oxidation, mildew and general fallout pollutants prior to painting. Used properly the professional painting contractor can be assured that he/she will never be called back to the job site because the paint is "lifting" or "flaking".

PrepEZZ does not contain harmful Bleach or peroxides and can be safely used with Hot or Cold Pressure Washers

55 Gallon Professional Kit
2 boxes 40 lbs ea.

#ZPPREP	
Buy 1	\$109.95
Buy 3	\$ 99.95 ea.
Buy 5	\$ 94.95 ea.

*When you purchase products
from EnviroSpec...*

Soap For Hope
Touching a child's life one bubble at a time.

A program where EnviroSpec donates 100% of Chemical Profits to charities such as the Hole in the Wall Gang and Shriners's Children's Hospitals

EnviroSpec is very excited about our latest project, Suzie's Friends! Our goal is to provide a sanctuary for abused, abandoned and homeless animals in our hometown, Homerville, Georgia.



In the late 1950's, the Sheriffs of Georgia became concerned about the growing problem of neglected, abused, and abandoned children. They felt a secure home for these innocent children was needed. Their purpose was accomplished when the Georgia Sheriffs' Boys Ranch opened in 1960. In the 1990's, the now named "Youth Homes" opened two more residential child care programs and two camping programs. Georgia Sheriffs' Youth Homes presently serves over one hundred children in residential care and hundreds of children in its camping program. It is the goal of the Georgia Sheriffs to continue to provide the best possible care for the dependent, neglected, and abused children in the state of Georgia.

...you are helping to make a difference.

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"I think dogs are the most amazing creatures; they give unconditional love. For me they are the role model for being alive."
-- Gilda Radner, (1946 - 1989) US actress

RUST-AWAY

RUST STAIN REMOVER CRYSTALS

Specifically Formulated to
Remove Well-Water Rust Stains *from*
**Concrete, Stucco, Siding,
Fiberglass & More!**

NO SCRUBBING NECESSARY

How about this Value Added Service for the.

Professional House Wash Market

The next time you wash a house - tell your customer that for an additional \$50.00 you will put years of life back into their concrete driveway. This will be the easiest money you will ever make. Simply mix 1/2 to 1 pound of **RUST-A-WAY Rust Stain Remover** per one (1) gallon of water and spray it on the concrete with a typical pump-up garden sprayer and then go wash the house. When you are through with the house the **RUST-A-WAY Rust Stain Remover** is through with the concrete. That simple! This procedure is so simple and easy to perform that the contractor will use this service as the "closer". Try it on your next house - you'll be amazed!

RUST-A-WAY crystals are a unique blend of acids and surfactants which remove well-water rust stains from most exterior surfaces. Spray dissolved solution onto surfaces using a chemical resistant sprayer. Repeat as necessary until stains are gone. Rinse surfaces with fresh water.

Not for use on Brick containing iron oxide pigments.

CRYSTALS

10 Lbs of Powder - #ZPRUS10

makes 8-15 Gal.

\$19.95

40 Lbs of Powder - #ZPRUS40

makes 50-85 Gal.

\$59.95

DSB

DECK AND SHAKE BRIGHTENER

One of the most often overlooked safety performance functions for most Professional Contract Cleaners is that of Neutralizing Wood Surfaces after they have been cleaned. More often than not an excessively strong alkali detergent bed has been introduced to the substrate in order to kill mold and mildew. Left un-neutralized it will surely damage the wood by destroying years of its life.

Further, with the strong alkali beds after the cleaning process you will notice that the wood has darkened substantially. Typically you can expect the darkening to reverse itself after 5 to 10 days but you should never expect it to be as bright as it once was simply because the alkali has penetrated deep into the wood. **DSB Deck & Shake Brightener** quickly starts reversing this action. Typically, the darkened surface will be back to normal in 1-4 days. If not, you should re-apply the product. The last thing you want is an un-happy customer or a lawsuit. Right?

DSB DECK AND SHAKE BRIGHTENER

Composition: **DSB Deck & Shake Brightener** is a unique blend of wood brightening acids and surface safe surfactants specifically designed to penetrate the surface and neutralize highly built alkali detergent beds while returning the surface to a "like new" appearance.

Deck & Shake Brightener is sold in 5 & 35 pound containers and will yield approximately 1 gallon of solution for every 1/2 to 1 pounds of product.

CRYSTALS

10 Lbs of Powder - #ZPDSB10

makes 8-15 Gal.

\$19.95

40 Lbs of Powder - #ZPDSB40

makes 50-85 Gal.

\$59.95

Incredible Product for Cedar Shakes, Decks & Docks

"The best way to keep children home
is to make the home atmosphere pleasant
--and let the air out of the tires."

- Dorothy Parker

You can tell your customer that **ALL** the Profits from the Chemicals
that you use go to help fund Children's Charities such as the Shriners Hospital for Children.

"One of my more effective parental strategies is to make Lists of Rules to be Obeyed And I Really Mean it This Time, and post these articles on the refrigerator in the kitchen so my children will have a written record of what they are ignoring."

--W. Bruce Cameron

Washing and Restoration

"TIPS N' TRICKS"

FLEET WASHING

Washing large fleets separates efficient operations from small time operations. Generally speaking, the large fleet owner wants the whole fleet washed on time and inexpensively. When washing a lot of trucks you usually don't spend time detailing. Everyone should experience washing one truck for an owner operator. Restoring aluminum tanks, brushing stacks, degreasing the rails, etc, etc., but don't approach a large fleet using the same techniques! For one, they won't pay for that level of service, and number two; you probably don't have the time to provide that level of service. The point is usually to make the trucks shine so that the company president can look out the window at his fleet on Monday morning and have the sun reflect off the truck into his eyes, at which point he says " man, those trucks are clean!" The problem most pressure wash operators encounter is that they can't find the correct level of clean. Either they do such a lousy job, that even from the window the trucks look bad, or they hand scrub every inch of every truck and can't make a living. There is a middle ground that must be found to succeed. The middle ground is usually found by either working with the proper pressure, temperature, and chemical, or by throwing manpower at the fleet. The most successful are the companies that work smart, not hard. Working smart on a large fleet that is washed on a schedule can be very profitable. Many laugh at the low prices that are charged to wash large fleets, and of course there has to be a bottom line limit to pricing. But consider washing tractors all day at \$8.00 each. Wash four per hour and your starving. Wash ten per hour, per person, and now your making a living. Working smart should allow you to do this.

Manpower Method:

Many companies practice this method of washing. They use minimal chemical and brush about everything every time. Anyone that has spent a day brushing trucks knows that this isn't something that you want to do all the time. It is physically exhausting and slow. So to accomplish this companies bring in a lot of people. I know of companies that go to a seventy-truck fleet with six people. Three will brush, two will pressure wash, and one will move hoses and trucks around. While no method is wrong, I have to question how well these companies do. The bright side is that they are providing employment for so many people. But when two people can wash that same fleet in less time than the six people, and without brushing anything, it doesn't seem fair. Paying people will always be more expensive then using adequate chemical, unless you are buying chemical in the wrong place and paying way too much.

Smart Method:

Don't scrimp on equipment. While PSI is important, flow is even more so. It is generally agreed that fleet washing is best performed within a pressure range of 2100 to 2700 PSI. But you have to have the flow to back that pressure up. Work with a minimum of five gallons per minute. More is much better, but the limiting factor is water supply. If you use more water than you can pick up you lose any gains while you sit waiting for the supply to catch up. Water flow puts the punch in the pressure as well as providing rapid rinsing ability. For scheduled fleet washing the ability to rinse the chemical off the vehicles is what makes you fast or slow. Don't scrimp on chemical. Even if you blow through a 55 gallon drum of detergent in one day, you would be looking at a profit ratio of at least ten times your chemical cost. This is the worst possible scenario. You won't use that much chemical. The chemical you use will provide that shine you want the customer to see, without the brushing that eventually will wear you out. Don't scrimp on heat, but use it smart. The weather determines the proper water temperature to use when washing. Chemical works best when it's warm. On a hot day, the vehicle surface is hot enough and you should run cold. Below sixty degrees start using heat. Between forty and sixty degrees, use a water temperature between 110 and 130 degrees. Below forty degrees increase the water temperature up to 150 degrees. Never go over 150 degrees unless your forced to by extremely cold temperatures. In other words, if the chemical has frozen hard to the surface, turn the heat up to melt it off. With that one exception, keep in mind that 150 degrees should be the top end for the water temperature. Higher temperatures begin to deteriorate the chemical performance.

Apply chemical through a down stream injector onto the surface. Never apply beyond the amount of surface that can be washed and rinsed prior to chemical drying. Wash the chemical from the surface. Watch to see how close you need the nozzle to be to the surface. On dirtier trucks, wash fairly close in and pattern clean so you don't miss any of the surfaces. On cleaner vehicles, work farther away from the surface. Work from the top to bottom for quickest rinsing.

Chemicals:

EnviroSpec has several chemical products to use in truck washing. There are differences between them that will make

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some more suitable for you than others. These differences should be examined in the catalog. Some work better in hard water, some work better when washing cold, etc. All these products are packaged to be mixed into 55-gallons of liquid concentrate. Bond Breaker is the top of the product line; it includes an excellent base powder, a Ph building additive powder, and rinsing agents that allows for a rapid rinsing and sheeting action. Mr. Muscle provides an additional amount of base chemical while eliminating the Ph booster. It also contains rinsing agents. Prodigy contains forty pounds of chemical powder with great degreasing and emulsifying qualities. All the above chemical products are phosphate free. They should all be tried and you should establish which product is best for you, the fleets you wash, the conditions you are washing in, and your washing style. Next you move into the phosphate family of detergents. These include Pro Blend, Nitro, Release, Viper, and Citra-Solv. This group of detergents has a slightly lower Ph level. This can sometimes be beneficial in the heat of summer on dark trucks. Each product is formulated to work best in certain conditions on certain vehicle types. Some products overlap and they should be tried to determine which is best for your individual needs. Again, as with the other chemicals, refer to the catalog for the most specific information on each product.

Weather Conditions:

Try to control the conditions that you are working in by starting early in the day, or late. The trick, except in the winter, is to try to work around the hottest, sunniest time of the day. The best washing conditions are in the rain, but that can't be controlled. Mobile Washes that won't work in the rain are missing out. When it is hot and sunny you are limited to smaller sections of the truck, which slows you down. It is also physically harder to work in the heat of the day. If your lucky enough to have fleets with lighted yards, consider night washing. Be flexible in order to get the best result with the least amount of difficulty.

Wash Schedule:

The time period between services makes a huge difference in the difficulty of washing vehicles. The longer a truck is run prior to wash service the more dirt and bugs it accumulates. Additionally, an electro-magnetic bond is created when the vehicle is driven through the air, making it difficult to remove certain pollutants. These electro-magnetically bonded particles are called road film. Road film is difficult to remove without physical agitation (brushing). The longer a truck goes between washings, the harder it becomes to remove all these pollutants. So the more often a vehicle can be washed the easier it becomes to wash it. An easy wash job can be done quickly and inexpensively. When you price a fleet it is always wise to discuss this with your customer.

If the customer wants service monthly, assume the job is going to be much harder than if you could wash weekly and price it higher. Giving the customer a range of prices sometimes works well. For example, weekly service would be \$10.00 per unit, bi-weekly service would be \$15.00 per unit, and monthly service would be \$25.00 per unit. Make your customer understand that weekly service really means service once every week. Many customers will opt for the weekly price and then suddenly decide their trucks still look good and don't need washing the following week. Tell them committing to weekly service is supposed to keep the trucks looking good and if you can't wash their next bill will reflect the higher rates. It is also important to be self-motivated; you never want to miss a service. Both you and your customer will lose whenever you miss a service.



"There is the little matter of disposal of droppings
in which the cat is far ahead of it's rivals.

The dog is somehow thrilled by what he
or any of this friends have produced,
hates to leave it, adores smelling it,
and sometimes eats it . . .

The cat covers it up if he can. . ."

-- Paul Gallico

"Dogs have given us their absolute all. We are the center of their universe. We are the focus of their love and faith and trust. They serve us in return for scraps. It is without a doubt the best deal man has ever made."
-- Roger Caras

WASHING CARS

Recommended detergent products are Citra-Solv, Nitro or Pro Blend. Liquid detergent concentrate should be downstream injected onto the surface. Pressure washer should be rated at 2200 PSI @ 4.0 GPM minimum, unless brushing.

Technique:

Apply a detergent to the vehicle. Pressure wash the detergent off, top to bottom. Keep the nozzle close enough to the surface to clean, but not so close that the pressure could damage anything. Anytime that a pressure washer with pressures or flows that are less than the recommended minimums are used, brush the vehicle, then rinse.

Sealer Wax:

Apply Plex-Master through the downstream injector to give the car a protective seal. Pre-dilute ½ gallon of concentrate with 4 ½ gallons of water prior to further dilution through the injection system. Rinse with clear water then towel the vehicle dry.

Notes:

- *When the vehicle is hot, cool down the surface with cold clear water prior to applying the detergent.
- *When the vehicle is cold the use of warm water increases the efficiency of the detergent.
- *If the vehicle is extremely dirty, power wash the heavy dirt off before applying the detergent.
- *Never allow detergents to dry on the surface.
- *To eliminate mineral spots use soft water.
- *To reduce mineral spots, wash when conditions allow slow drying, or towel dry.

Pricing varies from \$2.00 to \$8.00 on average. It depends on number of cars, frequency of washing, method of washing, sealer applied or not, etc.

MOBILE HOME CLEANING

The recommended detergent products are:
LIMONENE, PREMIER and EMULSIFIER PLUS

Mobile home washing is just like washing a small house. The tools and supplies that you need are a pressure washer, 2 to 6 GPM and 1500 to 3000 PSI. A quality house wash detergent, a surface sealer, brush and extension pole, rain gear and gloves. Sil-O-Wet or Plex-Master is recommended for the surface sealer. These products make the wash job last longer and are good for the siding.

Washing a house with a pressure washer is accomplished in four steps. The four steps are, detergent application, pressure washing, surface sealant application, and pressure rinsing. The higher the flow and pressure that a pressure washer has the faster the wash job can be accomplished. In business, time is money, so it is important to have a machine on the high end of our recommended range. The pressure washer should have chemical injection. Apply detergent to an area that is small enough so that you will have ample time to pressure wash the section prior to any detergent drying on the surface. The drying time varies tremendously with weather conditions, so always start out with a very small section until you determine how large an area is best. Apply the detergent from bottom to top and then pressure wash with the nozzle approximately six inches from the surface. Pressure wash with clear water, moving the nozzle horizontally one clapboard at a time. Always keep the nozzle a consistent distance from the surface. After washing the entire home, apply the surface sealer in the same fashion as you applied the detergent, then pressure rinse with clear water, section by section.

Throughout the washing process, take your time to do the best possible job. Things to be aware of include, checking to see the windows are closed before beginning. Always saturate vegetation that will receive over-spray before applying detergent. Don't ever apply detergent in a way that may push it underneath the siding. Rinse windows quickly first, then again as a last step.

Rainwear & waterproof gloves can make the job more pleasant, especially when cold.

Be careful with the hoses so you don't damage plants and shrubs. Wash the steps and rinse the driveway too. Safety issues to remember are staying away from the electric service entrance (wires) when spraying. Carry poles, and lances horizontally to avoid electric wires. A common price range for washing mobile homes is \$50.00 to \$150.00.

- Keep the nozzle farther away from the windows than from the siding.
- Many times gutters need to be brushed for best results.

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HOUSE WASHING

Wash a house with the intention of removing pollutants, surface oxidation, as well as mold and mildew. By doing this type of washing you provide customers with excellent results. It also makes competitors that utilize what we call the "splash and dash" method look like amateurs. "Splash and Dash" refers to the person that splashes bleach or chlorine on the house, rinses and leaves. There are various levels of clean, and various qualities of work. If as a professional you don't feel that doing the best job is the way you want to wash houses, there isn't any reason to continue reading this information. The tools and supplies you need are a pressure washer (2 to 6 GPM and 1500 to 3000 PSI). A quality house wash detergent, a surface sealer, a brush and extension pole, rain gear and gloves. Washing a house with a pressure washer is accomplished in four steps. The four steps are, detergent application, pressure washing, surface sealant application, and pressure rinsing.

Detergent Products:

For washing most types of siding, use Limonene or Premier. If you are working on a house that is covered heavily with mildew, use Emulsifier Plus with bleach.

Detergent Application:

Apply detergent concentrate through a down stream injector. Always apply detergents at low pressure. If you are working on a tall house use ladders or an extension wand. Do not use an x-jet type nozzle because it will force detergent under the siding. To properly wash houses you need to pressure wash each row of siding and pattern clean. This can't be accomplished with an x-jet nozzle anyway. Apply detergent to an area that is small enough so all pressure washing can be accomplished prior to detergent drying on the surface. An x-jet nozzle is great for the "Splash and Dash", but when using real detergent products it will force the detergent underneath the siding where it will emulsify (dissolve) pollutants and cause them to drip out over the siding later. After applying the detergent, switch to high pressure rinse and clear left over chemical from the line by spraying it on the foundation or steps. You can also back up about six feet and clear it onto the lower part of the siding, the trick is to not apply detergent under pressure to the siding. Always avoid getting detergent on the roof.

Pressure Washing:

The first step after clearing the pressure line is to rinse the windows. Do so quickly and immediately proceed to washing the siding. Wash the siding one row or clapboard at a time. Work from the top to the bottom. Wash the gutter at the same time as the siding. If the gutter is a difficult one, use a pail with a small amount of detergent concentrate in it. Dip a brush on an extension pole into the detergent and brush the gutter for the best possible result. Many mobile Washes don't consider the gutters to be part of washing a house. Its up to you, but it is part of doing a good job. It may be possible to do a "Splash and Dash" and get away without doing the gutters, but it will look really bad if the house is properly cleaned and the gutters are left dirty. As the siding is cleaned, work slowly back and forth with the nozzle about three to four inches off the surface. On heavily oxidized siding try running with hot water, around 150 degrees. Hot water helps cut surface oxidation. A water temperature in excess of 150 degrees is detrimental to detergent performance. After completing a section, rinse all windows thoroughly. Work the siding in sections until the house is completed.

Surface Sealer:

After completely pressure washing the siding, reverse direction and apply either Plex Master or Sil-O-Wet surface sealer. Apply and rinse one section of the house at a time until completed.

ACID DAMAGED GLASS

When acid has been allowed to dry on glass, it can etch the surface leaving a white film that is difficult to remove. It is necessary to use our product Glass De-etch to remove this film. Glass De-etch is sold as a dry powder which is mixed with a small amount of water to create a paste about the consistency of honey. This mixture is applied to the bonnet of a buffer. A 1750 RPM buffer is recommended. Using moderate pressure on the buffer, buff the stains out of the glass. Depending on the extent of the damage progress may be quick or slow. If the glass begins to dry while you are working, use glass cleaner to keep the glass wet. If the damage is severe, it will be necessary to dwell in one area and work it for several minutes. After working the entire area, clean with glass cleaner, allow to dry and check for missed spots.

For very minor stains, for example a very light film on the windowpane of a house, it is sometimes possible to work the area with a terry cloth by hand where use of a buffer is not an option.

For use on chrome, rub area of streak with product on a terry cloth until the streak is removed. Watch closely, sometimes a finish will be extremely thin and you could rub it off.

"There is no psychiatrist in the world like a puppy licking your face."
-- Ben Williams

GLASS RESTORATION

There are a few reasons why contract cleaners get involved with glass restoration. Most of the time it is because a mistake was made, such as acid being allowed to dry on the glass. The only option short of replacement is buffing out the glass to try to remove the etching. Sometimes the same is true if detergent is allowed to dry hard onto glass. While it doesn't actually etch the surface, the film can be impossible to remove unless you use a specialty product. Under better circumstances, glass can be buffed to polish out minor imperfections and scratches. A basic rule of thumb for determining if a scratch is removable using these methods is if you can run your finger nail across the scratch and not feel it, it is normally removable. If your finger nail catches in the scratch, it is too deep to be polished out.

Glass Polishing Compounds:

There are two compounds available. Scum Buster is for detergent stains. It will not work for removing acid etching. Glass De-Etch removes anything that Scum Buster will and it will remove etching caused by acid. Both are used the same way.

Compound Mixing:

Mix the dry compound powder with cool water to a consistency like pancake batter. Mix it in a small plastic container that can be sealed with a lid, like a cool whip or margarine container. Mark the container so no one will think it is eatable. Use a container like this so you can store the unused portion of the product. Mix only as much as you think you need and leave the rest as dry powder. Whatever remains of the mixed product should be sealed with plastic wrap directly on top of the product and then the container lid should be snapped on. The mixed product will store for several weeks like this. The dry product, properly sealed against moisture, will store indefinitely.

Easy Removal Jobs:

The job of removing detergent stains can be easy or difficult depending on the detergent concentration and how severely the detergent dries on the glass. Check to see if the stain will come off easily using a towel. Put a small amount of compound on the towel and wipe in a circular pattern on the stain. Spray the area with glass cleaner and wipe it off. If the stain is gone you have found an easy removal job. If not try again rubbing harder and longer. If that method doesn't work, its time to advance to a buffer.

Regular Removal Jobs:

You will need your premixed compound, a putty knife, a spray bottle with glass cleaner, a high-speed buffer with bonnet, and some paper towels. Work an area of glass that is about a foot square. Using the putty knife, apply some compound to the buffer bonnet and begin buffing. Apply moderate force to the glass. Use your judgment about how much pressure is appropriate. Be sure not to push hard enough to break the glass. The compound dries quickly when buffing. Spray glass cleaner on the area often to keep it wet. After working one area for several minutes, stop and clean it off to determine if the staining or etching has been completely removed. If it has, move to the next section. If the stain hasn't been completely removed, continue working the area, checking the progress periodically until the desired result is obtained. On severely stained or etched glass it can take a lot of time and effort to completely remove everything.

Compounding Other Surfaces:

These products are great for removing stains from chrome and painted surfaces. It is however, important to assure surface compatibility. Attempt stain removal on a small test area, and then clean and dry that spot. Examine the end result for acceptability.



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ROOF CLEANING - ASPHALT SHINGLES

In our industry there is a great debate raging concerning the best and safest way to wash asphalt shingle roofs. The mobile wash companies break out into three major groups. There are the chlorine users, the detergent users, and the Restore users. There are a certain percentage of people that don't know which way to choose. I am going to try to provide some education on the different products and methods. I know plenty of you have been using the same method for years and are not about to change, I understand that position very well. Before I spent years talking to mobile Washes about their cleaning methods I was sure there was only one correct way to wash, my way. After awhile I came to realize that there are many different ways to wash, and there is normally not a clear cut right or wrong, and there was plenty of room for differing opinions. After many years of washing, I still have strong opinions that will come out in my articles, but I also know enough to realize there is always more than one way to accomplish a job.

First method I am going to cover is using Restore. Restore is the most environmentally safe product I have ever used in all my years of washing. When using this product you don't have to worry about fumes or damage to plant life. On the Restore MSDS, the health hazard rating on Restore is number one, or slight risk. I have never had any adverse reactions or environmental problems with this product.

Restore will remove all the mold and mildew from a roof and leave it looking like new if you mix and use it properly. Restore must be mixed on site because it has an active life of only a few hours. It should be mixed with hot water. If you don't have a hot water machine, and can't get hot water at the job site, you will need to bring hot water in five-gallon pails or in a cooler. Mix Restore in an open pail using $\frac{3}{4}$ of a pound of product to one gallon of water. Stir the mixture until all the powder is dissolved. Tapping on the bottom of the pail will tell you if the mixing is complete. If you can still feel solids on the bottom when you tap, stir some more. After mixing, Restore is applied full strength to the shingles; it will not harm the asphalt. Let it dwell for 20 to 30 minutes, on a hot dry day drift a mist of water over the roof occasionally to keep the product damp. After the dwell time, rinse the surface clean with low pressure. Educate your customers about the environmental and roof damage issues to help you get the jobs.

Moving on to chlorine. No one in the industry can debate that for mold and mildew, chlorine does an excellent job. Used strong enough it actually makes mold and mildew disappear before your eyes. Mobile Washes use different concentrations and different washing methods. One method is to apply pool chlorine at full strength and simply leave it on the surface. Some mobile Washes do this because it is extremely fast and easy, and there is less contact with the plants on the ground so there is not as much risk of damage. Other companies will use bleach or chlorine in various dilutions and pressure wash it off after. There are bleach additives available that enhance the cleaning performance of bleach. I don't recommend the use of any product that has degreasing properties because it will affect the asphalt.

It is important to understand the hazards involved with the use of chlorine:

- 1) The fumes are very strong.
- 2) Chlorine will kill plants, water plants prior to the job. Don't allow the chemical to stay on leaves long and wet down the plants again when the job is done.
- 3) Chlorine is going to bleach the color out of your clothes if you get it on them.
- 4) Don't get chlorine on your skin or in your eyes.
- 5) Keep you customers and their pets away from the work area.

Washing asphalt roofs with regular detergent products works fine. The detergent is applied with an injector and then washed off. The problem with this type of product on asphalt shingles is that asphalt is an oil-based product. These cleaners are degreasers and they cut oil. Using these products will age the roof. The asphalt holds the stones on the shingle; the stones provide protection and color. When using a degreaser type detergent on shingles the runoff is the color of strong coffee. That tells you that it is doing a good job of removing the asphalt. One other point, watch for the products that are targeted at roof cleaning and contain corrosive ingredients. Not only do they cut the asphalt, but also the over spray does a job on your skin.

No matter how you clean a roof, when you encounter lichen, which is a tough growth that attaches itself to the surface of asphalt shingles, it is best to not remove it because a lot of the shingle will come with it. If you have a roof that has lichen on it, you should educate your customer to the problem.

I hope I have provided some information that will help. Last piece of advise, when cleaning roofs safety is the most important item on your agenda. One fall and you may not have the chance to ever wash another one.

"He is your friend, your partner, your defender, your dog. You are his life, his love, his leader.
He will be yours, faithful and true, to the last beat of his heart. You owe it to him to be worthy of such devotion."
-- Unknown

DECK WASHING

Decks are everywhere, and they need a tremendous amount of maintenance. This can be a small part of a mobile wash companies business or it can be the entire business. Many decks need annual maintenance.

Restore:

Restore is an excellent product to use for general deck maintenance. It is also an extremely safe product to use. When applied to the wood surface it lifts the old wood fiber from the healthy wood underneath. This makes the weathered fibers easy to remove with a pressure washer. Restore will not fade the woods natural color like bleach. When using Restore you don't have to be concerned about plant damage either. Restore is mixed from powder to liquid on the job site and must be used immediately. It is direct sprayed onto the deck using either a compressed air sprayer or an electric sprayer. The dwell time prior to washing of 15 to 20 minutes is very important.

Deck & Shake Brightener:

This product is applied after using restore or a stripper. The colors in the wood are brightened while the wood surface is Ph neutralized. Using this product enhances the overall appearance of the restoration job.

Deck Strippers:

On the majority of decks Restore and Deck & Shake Brightener will do the complete job. Some decks require actual stripping. Decks with fresh stain or paint fall into this category. Our product, Performance Builder Plus added to Potassium Hydroxide mixes into a good quality-stripping product. It is important to note that any time you use a caustic product where there are plants damage is going to occur. Be sure to explain the fact that plants are very likely to be damaged clear to your customer prior to beginning.

General Washing:

Pressure washing a deck can usually be accomplished with relatively low impact pressure. Giving people exact PSI ratings to work with is not constructive. Just like with any pressure-washing project, decks should be washed with enough pressure to remove old fiber and pollutants while not damaging the wood surface. Anyone stating the exact pressure to use to accomplish this is simply picking a number to have something to write down. Wood is naturally soft in some spots and harder in others. It requires more pressure to wash where the wood is hard. The wood is damaged easier where the wood is soft. How much pressure to use and how close to the surface to get is decided by using educated judgment. It is learned with practice and you can't become an expert by reading about it. Learn by doing on your own deck, or on a relative's deck. Anything you may damage will be repairable. Consider it the cost of educating yourself.

Considerations To Note:

*It can be the small things that make the difference between success and failure.

*Prepare for the job by protecting adjacent house siding from over spray. Anything underneath the deck like house siding or other decks must be protected. Take steps to assure that the surrounding plants don't get damaged by your hoses or stepped on.

*Clear items off the deck and far enough away so they don't get dirty. Be ready to sand areas where standing fibers are a problem. Conference with your customer in advance about spots that probably can't be completely restored, like burned areas, leaf stains, etc.

CLEANING TRASH SHOOTS

Place a duct cleaning swivel assembly into the duct at the top most access point. Usually this is the top floor access door. Tape all access doors on all lower floors. A sign warning anyone who might want to remove the tape that the duct is currently being cleaned with extremely high-pressure hot water is a good idea at each door. The trash shoot bottom normally drops into a dumpster. Make sure the wastewater produced is not going to be a problem. If so, plan a disposal method in advance. Many dumpsters have drains in them and don't hold water.

The use of a good general-purpose chemical will help the cleaning process. Apply either with a gun assembly or a separate direct spraying system. Very long trash shoots make detergent application difficult. A method that can help is applying high-pressure chemical through the exhaust hood swivel, or installing low-pressure chemical nozzles in the swivel first, and then applying chemical utilizing a downstream injector. Lower and raise the unit in the duct work, coating all the surfaces, then re-install the high-pressure nozzles and go to the wash down phase of the job. With the cleaner in the duct, start the water flow and lower the unit slowly so the high-pressure spray has time to clean all the surfaces.

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"If you pick up a starving dog and make him prosperous, he will not bite you;
that is the principal difference between a dog and a man."

-- Mark Twain

CEMETERY RESTORATION

Cemetery stones can be washed, straighten, and repaired. This type of cleaning can be both extremely satisfying and financially rewarding. Whether working on one stone, a family plot, or an entire cemetery, the methods stay the same.

Straightening:

When working with older stones it is common to have to straighten the markers. It is especially common in climates where the frost goes deeply into the ground and causes the stones to shift. A shovel and pry bars are the only tools needed for most smaller markers. First dig around the stone until you can get the pry bar underneath it. With the stone pried up, fill underneath with gravel. Continue around the stone until it is leveled, and then replace the dirt and sod. Bigger monuments can require cranes and jacks to straighten. Fortunately larger monuments usually have a more extensive foundation and don't need straightening as often.

Multiple Stone Monuments:

Many monuments consist of two or more stones that are placed on top of each other. These stones should have spacers between the layers to prevent water and ice damage. Soft metal spacers are placed about ¼" in from the edges at each corner. Old timers recommend copper pennies.

Repair White Marble Stones:

Broken white stones can be repaired using Portland White Cement. The broken surfaces should be thoroughly cleaned and wet when the cement is applied. The cement should be mixed with water to a paste like consistency. Apply the cement to the lower section of the stone and then place the upper section onto the lower. Brace the stone on the front and the back making sure everything is straight. Remove any excess cement with a putty knife. Gently wipe the repaired joint with a wet sponge to clean off cement from the surface and to smooth the joint. Don't wash repaired stones until the cement has had plenty of time to harden.

Washing - Marble Stones:

Mix a marble cleaning solution of one gallon of bleach, one half gallon of Citra-Solv, and three and one half gallons of water. Direct spray this solution on the stone. Allow dwelling time of twenty minutes, no less. Mist the surface with water just enough to prevent drying if necessary. Pressure-wash the surface. Pay attention to the affect of the pressure on the stone. Never apply so much pressure that you cause surface damage. Most stones can be pressure washed quite hard without any damage, but some stones are softer and require a gentler touch. If the stone is soft and a shadow of the removed mildew remains, choose to leave the stain and not to damage the stone. The shadows of removed mildew lighten for a few days after washing the stone, so they get whiter with time. An extra step that you can take for difficult stones is to apply a bleach mixture a few days after washing. The mixture should be one part bleach to four parts water direct sprayed onto the stone and left there. Do not wash it off. It will help fade any remaining stains. Cold water washing works well when washing stones.

Washing Granite:

Use a chemical solution of 1 part Citra-Solv to four parts water. Direct spray this solution on the stone and allow a dwell time of fifteen minutes, and then pressure wash off. Granite doesn't stain the way that marble can. On rough granite surfaces, lichen grows and it can be hard to totally remove evidence of where it was when you remove it. Soak the lichen with the chemical solution and don't cut the dwell time short for easiest removal. Cold water washing works well when washing stones.

Rules For Cemetery Washing:

- *Do not drive off of the access roads.
- *Don't let your hoses damage flowers
- *If there is a funeral, do not work until it's over.
- *Because of splash back, rainwear is usually a good idea.
- *Be sure to have permission from the proper authorities before you start.
- *Don't spend too much time reading the stones.
- *Do not let people sneak up on you.

"I used to look at [my dog] Smokey and think, 'If you were a little smarter you could tell me what you were thinking,' and he'd look at me like he was saying, 'If you were a little smarter, I wouldn't have to.'"

-- Fred Junglaus

GAS STATION / CONVENIENCE STORE

There are a tremendous amount of opportunities for a mobile wash operator at a gas station. Many stations also include a small convenience store. The opportunities include the washing of the canopy, pumps, concrete pad, building, sidewalk, signs, and sometimes an exhaust fan and hood. Almost anything you see can be washed. Station owners want to have a clean, attractive place of business. They want to look good and attract customers. Some mobile Washes have even been able to sign up whole chains of stations and servicing them has become their entire business. When approaching a job like this, take a minute to look around before approaching the owner. List out all the cleaning possibilities you see. Many of your customers will be surprised at how much a mobile wash company can offer them.

Canopy Cleaning:

A fact of life with washing canopies is that some clean easily and some don't. Various environmental conditions, finishes, as well as how and when they have been washed before contribute to the degree of difficulty. You really can't tell if the job is going to be easy or difficult until you start. If the canopy is an easy one, you will be able to downstream inject Mr. Muscle or Citra-Solv onto the surface, and then pressure wash it off along with all the pollutants. When your dealing with overhead washing, remember the apply back / wash forward method. Apply detergent at low pressure as you back away from the area of application, and then pressure wash forward pushing the chemical and pollutants ahead of you. Using an extension gun makes this job much easier than trying to work from a ladder. If you find out that you are working on a difficult canopy various other cleaning methods will need to be used. First, attempt to obtain acceptable results by switching to the chemical Power Stroke. Down stream it onto the surface. Power Stroke is a more concentrated chemical product and it may work where others have failed. Be sure to wash a small test patch first to assure color fastness of the surface. If this step doesn't work the next step is to try brushing. Use an extension pole and a wide brush. Sometimes physical agitation is the only way to clean the canopy properly. One other trick that you should try to avoid if possible is to direct spray a higher detergent concentration onto the canopy. A 1 part chemical to 4 parts mix is the strongest recommended concentration. Always test results on a small section before applying a mix that is this strong to a large area of the surface. If you are going to spray a strong mix onto the canopy, make sure that you are wearing proper protection so you won't get it on your skin or in your eyes when it drips. Most canopies are rugged units that are unaffected by pressure washing, but use caution around light fixtures and keep an eye on any panels that appear to be loose. Working with a water temperature of about 110 degrees generally works best for canopies.

Pump Cleaning:

The best advise about washing pumps is to stay low impact. Don't even think about pressure washing a pump above the base. Whatever style pump you encounter, the top half has too many areas that can be damaged. Pressure wash the base only, work with a water temperature of about 120 degrees. Fortunately the base is generally what gets the fuel spilled on it. Mr. Muscle or Power Stroke will work well for this application. Clean the upper section of the pump with a damp towel that has a 1 to 30 mix of Mr. Muscle on it and then immediately wipe with a damp clean towel. After that any glass and chrome surfaces should be cleaned with glass cleaner.

Concrete Pad Cleaning:

Examine the pad to determine how dirty it is. Look at the area where the cars drip the most oil. If this area is built up on the surface use a rotary nozzle and rip the build up down to the surface of the concrete. This step can be accomplished very quickly and will make a big difference to the end result. The next step is to direct spray, a 50/50 mix of Power Stroke, onto the most heavily soiled sections where oil has dripped. After that down stream inject Power Stroke onto all the surrounding areas of the pad. Blend the down streamed solution into the edges of the stronger solution that was applied to the oil spots. Set your pressure washer thermostat to about 150 degrees. A dwell time of about five minutes should be allowed at the oil spot sections. Pressure wash the chemical and emulsified oil off the pad. To reduce your cleaning time and to look professional, use a surface cleaner. Please understand that concrete is very porous and oil spots that have been absorbed down into the concrete will leave a discolored shadow. Discussion of this fact with your customer prior to washing is advised. It can save a lot of problems later on. Oil spot shadows are one of those things that everyone wants a quick fix for. Chemical manufacturers make some wild claims about their products trying to fill the need in the market place. Be advised that to date there is no miracle product available. Concrete experts say that speedy dry or cat litter can be soaked with tar remover and applied over the stain about ½" thick, then clean speedy dry or cat litter can be placed over that about one inch thick. After a few days, remove it and pressure wash again. They claim this helps fade the shadow, but not many mobile Washes find this procedure practical. Another additional step after cleaning the pad to make it look better is to apply RUST-AWAY. This product will whiten the concrete significantly. The product works most effectively in warm weather. The longer the dwell time allowed the whiter the surface will become. Another thing to keep in mind when washing the concrete pad is the surrounding surfaces. Most often these pads are surrounded by asphalt.

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"Dogs feel very strongly that they should always go with you in the car,
in case the need should arise for them to bark violently at nothing right in your ear."
-- Dave Barry

This asphalt can be stained by the runoff created when washing the pad. Keep the asphalt wet and rinse it thoroughly when the pad is completed.

Building Washing:

Many convenience stores either have washable siding, brick or stone. All of these surfaces can be washed with Limonene, Prodigy, or Citra-Solv. Downstream inject the product onto the surface and then pressure wash it off. Most of these storefronts have large windows. After washing the windows it's a good idea to squeegee them off to avoid spotting. Be careful when washing at the doorway not to push water inside through the seam between the doors. If you do get water inside, immediately wipe it up with a towel before anyone can slip and fall. If your working around customers, arrange for someone to hold them back when you are washing at the entrance. Some people would love to sue you if you got them wet. When washing the building run your water temperature at around 110 degrees.

Sidewalk Cleaning:

Down stream Power Stroke onto the sidewalk and pressure wash off. To reduce your cleaning time and to look professional, use a surface cleaner. Next begin the more time consuming task of gum removal. This should be done with a Roto-Max or other tight turning rotary nozzle on a single lance that is either 36 or 48". Depending on your height, find the most comfortable length to work with. Wash the sidewalk with 120-degree water. When stripping gum some people like to run hot water and some like to run cold. Try it both ways and decide your own preference.

Sign Washing:

You will find signs mounted on the building and signs that are free standing. Wash them using the same method. Down stream inject Citra-Solv or Prodigy onto the surface and pressure wash off. Many signs have plastic covers and are lighted from the inside. Use your judgment and don't pressure wash these signs with enough force to push water inside. Stay far enough back from the surface so you don't cause any damage. Remember that sometimes brushing can be a low impact alternative to pressure when washing signs.

CLEANING CONCRETE FLOORS

Concrete floors, painted or unpainted, should be cleaned using Power Stroke or Mr. Muscle. Both chemicals are excellent de-greaser and cleaners and both are non-caustic. Rust-A-Way is generally applied as the final step. This product will whiten unpainted concrete and greatly enhance the final product. Allow Rust-A-Way to dwell for 30 to 45 minutes then rinse it off.

Apply the detergent through a downstream chemical injector at a rate of 1 part product to 20-30 parts water. Use the product from concentrate and let your injector do the dilution. Spread the chemical evenly over the surface to be cleaned. Allow a short dwell time of 5 to 10 minutes then pressure wash off. Leaving the product on the surface longer will do no harm. The use of a rotary surface cleaner will make the job quicker and easier. Use a regular gun assembly to get into corners.

No - we don't have all the answers
but I do have a whole bunch of
them. We had to have them
because...

**..we were
Professional Mobile Washes
ourselves for over 20 years.**

When a Pump didn't pump or an
Unloader didn't unload or the
injector didn't suck - we didn't have
an "800" number to call. We had to
figure it out ourselves. See how
lucky you are?

And by the way when a soap didn't
work, which most of them didn't, we
had to formulate products that
would.

**Try our detergents
you'll be impressed!**

Four young men sit by the bedside of their dying father. The old man, with his last breath, tells them there is a huge treasure buried in the family fields. The sons crowd around him crying, "Where? Where?" but it's too late. The day after the funeral and for many days to come, the young men go with their picks and shovels and turn the soil, digging deeply into the ground from one end of the field to the other. They find nothing, and, bitterly disappointed, abandon the search.

The next season the farm has its best harvest ever.

-Rosamund and Benjamin Zander,

The art of possibility

"I care not for a man's religion whose dog and cat are not the better for it."
-- Abraham Lincoln

RESTAURANT EXHAUST SYSTEM CLEANING

Cleaning a restaurant exhaust system typically involves washing the exhaust fan, ductwork, filters, and hood. Using hot water when pressure washing is highly recommended. Each section of the system should be washed using a method that reduces the need for clean up after finishing. Prior to any cleaning, steps must be taken to prepare the area for washing.

Tenting The Hood:

Hood filters and the drip tray are removed as a first step. Set these items aside to clean later. Heavy plastic sheeting is attached to the edge of the hood, providing a tented in area all the way around. The plastic sheeting protects the cooking equipment from runoff and confines the area affected by the runoff. Care must be taken to be sure the plastic won't allow water to run onto the cooking equipment. Spring clips are usually used to attach the plastic to the hood. The plastic should start and end where it is possible to lift the plastic edge to step inside the plastic tent. The edges should overlap two or three feet to provide a good seal. If there are any hot cooking surfaces the plastic must be kept away from them. Small plywood sheeting sometimes comes in handy to cover certain equipment like the range top and fryer.

Waste Water Runoff:

Once the tent is installed the bottom edge of the plastic can sometimes be directed into a plastic garbage pail for water collection. Otherwise a vacuum person should be stationed outside of the tent to vacuum up water as it runs out from under the plastic. A large capacity wet dry vacuum should be used for this purpose. Wastewater generated during the cleaning project is usually disposed off in the grease dumpster.

Cleaning Chemical:

Apply cleaning chemical to surfaces using a direct spraying system, either compressed air or electric. We recommend the use of Hood Pro, which while being non-caustic, is an excellent degreaser. This product is safer to use than caustic chemicals. If a caustic chemical is desired, use Performance Builder For Caustics with Potassium Hydroxide or Sodium Hydroxide. Whatever chemical is used follow the label instructions carefully.

The Exhaust Fan:

Prior to proceeding make sure electrical power is shut off to the exhaust fan and won't be restored until the job is done. Most exhaust fans are roof mounted. The fan is screwed onto the ductwork. The first step is to unscrew the fan from the ductwork and then lift or tip it off the duct and rest it on the roof. Exhaust fans should have enough electric cable to allow you to do this. Next apply chemical to the fan and to the inside of the ductwork. After the chemical has been applied and allowed to dwell as recommended on the product label, pressure wash the fan and then the ductwork. If using the vacuum method let the vacuum person know when you are going to start washing the ductwork.

After washing is complete, replace the fan onto the ductwork and fasten it down. Rinse off the roof area where you have been working and then head down to the kitchen.

Sometimes exhaust fans are mounted on an outside wall with the hood directly on the other side. An installation like this can usually be cleaned without removing the exhaust fan. If there is ductwork to clean on a wall mounted system, access must be gained either from the hood end, through access panels, or by removing the fan from the wall.

The Hood:

Chemical is applied to the inner hood surface and allowed to dwell. It is then pressure washed off. The channel formed where the lip holds the filters in place should be wiped out with a towel. After washing the inside of the hood, carefully wipe water drips from pipes and light fixtures. The outer sections of the hood are usually cleaned by hand with towels after the inside is completed and the plastic tenting is removed. Use a towel that has cleaning chemical on it, then wipe with a towel that is soaked with clean water. Stainless steel cleaner used as a last step makes the outside of the hood look great. This is the section that the restaurant owner sees first and because of that it is what causes the most complaints. Another source of complaints is the general kitchen area. If the runoff isn't properly contained and the kitchen isn't cleaned you will get complaints.

The Filters And Drip Tray:

The filters are usually cleaned either off site or outside. Soak the filters with chemical and then power wash. Some companies actually have extra filters and they replace the dirty filters and bring them back to the shop where they are degreased in a soak tank. This tank contains strong chemical and works best when operated with a circulator pump to move the chemical across the filters. Others use disposable replacement filters and simply put new ones in and throw away the old dirty ones. The drip tray should be washed in the sink and then replaced.

Test Fan And Lights:

After the entire cleanup is completed, test the fan. This protects you from being blamed for problems that may arise in the near future and if there is something wrong it also gives you the opportunity to make it right. Record that the fan was tested and that it operated properly on your invoice so the customer can see you checked everything. Many companies apply a sticker to the hood recording when it was cleaned. The sticker should also provide your company name and phone number, as well as the next recommended cleaning date.

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SEWER JETTING

The average contract cleaner may not realize how easy it is to transform their equipment to do sewer jetting. There are companies that just do sewer jetting, and there is a market out there. Using your existing equipment, with the addition of a valve, hose, and nozzle, you have suddenly transformed your normal pressure washer into a super sewer jetter. Work can be found through plumbers and town or city officials. Another area to examine for sewer jetting is agricultural processing plants. Jetting is one of those sidelines that a mobile wash company can try without much expense. It may take off for you, as with anything, you never know unless you try.

Sewer Jetting Hose:

The most important modification is the addition of sewer jet hose and a sewer nozzle. The jetting hose is thin and lightweight. It has a hard smooth thermo plastic outer cover. Because it is thin, it can be sent through tight places, like around bends in pipe. The lightness of the hose and the slippery cover makes it easier for the jetting nozzle to pull it along behind it. This hose is available in several lengths, ranging from 50 to 250 feet. If a longer length is needed it can be custom made. The use of one continuous length is recommended so there isn't any possibility of losing hose inside the pipes and so couplers or fittings don't impede the drawing action of the nozzle. So the determining factors to consider are how long a hose you will need for your jobs. And that really depends on the type of jobs that you do. Keep in mind that the longer the hose the more restricted the water flow will become, and the less water flow at the hose end. In jetting the actual water flow isn't as critical as it is for surface washing activities, but it does still make a difference. The most popular length hose, the one most companies purchase, is 150 feet. Note that the sewer jetting hose sold by EnviroSpec has 1/8" male pipe thread fittings on each end. This allows a 1/8" nozzle to be installed. The smaller nozzle keeps the outer diameter to a minimum so it can navigate around tight corners better. The hose end towards the pressure washer has to be plumbed up to the industry standard 3/8".

Ball Valve:

A ball valve quick connected in line can be a time and effort saver. With truck or trailer mounted equipment there are times when you have to work away from the pressure washer. By running standard pressure hose to the piping, and then quick connecting a ball valve before the sewer jetting hose, you will have remote on off control.

Sewer Nozzle:

There are two types of sewer nozzles. The two types are fixed and rotating. Both are designed with orifices that point back from the nozzle at 45 degrees. The angle of these orifices provides self-propulsion as well as excellent cleaning action on the pipe interior. Because these nozzles have three, four, or five orifices, each hole is very small in order to maintain operating pressure. The holes are so small they can easily become blocked by small particles in the water stream. An in-line high-pressure filter installed on the ball valve end of the jetter hose helps to eliminate this problem. Some fixed nozzles also have a front facing orifice. Consider these when deicing pipes because they work best for that application. Otherwise the only consideration is whether to use rotating or fixed nozzles. Rotating sewer nozzles provide better surface coverage inside the pipe as they spin. One advantage to the fixed nozzle is that its outer diameter is a little smaller. Another thing to think about is that rotating nozzles, because they spin, wear out more quickly than fixed nozzles. So the decision needs to be made as to whether the increased productivity provided by the rotating nozzle is worth the additional expense.

The Jetter Valve:

Many pump companies now have jetter valves available for installation on their pumps. The idea is that the pump will operate as a regular pressure washer pump until you turn the valve. These valves are installed in the center inlet check valve port. When engaged the lever pushes the check valve closed so it doesn't operate. The result is comparable to an engine that is not functioning on all cylinders; the pump's output is irregular. This causes the jetter hose to jump. The jumping around action of the hose helps to get it through tight places and around corners. The jetter valve is used only when needed to get the hose through when the going is difficult. Remember that the jetter valve must be installed on the lower center check valve port on the pump manifold. These valves are not rated for high pressure.

Techniques:

Since jetting jobs vary a lot, it is only possible to give generalized information. It is usually a good idea to wear waterproof gear and rubber gloves. Insert the nozzle into the pipe at least far enough so that the nozzle spray will be contained inside prior to opening the ball valve. Once its operating, slowly feed the hose into the pipe as the nozzle progresses. The nozzle will usually pull the hose itself as it works through. Keep the hose straight and push slightly when the nozzle stops. If the nozzle won't go again with time and slight pressure exerted onto the hose, its time to try the jetter

"I love a dog. He does nothing for political reasons."
-- Will Rogers

valve. Pushing hard on the hose usually just binds things up. Depending on what needs to be cleaned out of the pipe, heat can many times aid in the cleaning process. Degreaser can be used also, but don't over do it. Remember to consider where the chemical goes after the pipe. If it ends up in a septic tank, an extreme amount of chemical isn't a good idea. Chemical destined from a sewer processing plant isn't usually a problem. If you don't know what the local regulations are, check on them or forego chemical use. Because many jobs deal with sewage, cleaning hoses after the job is important. First wipe the hose as it is drawn out using a towel, then coil it and pressure wash it off. Wash off your rain gear and gloves also. Sometimes with clogged pipes - waste will feed back into the area you are working in until the jetter nozzle breaks through an obstruction. This feed back needs to be contained somehow, either with pails or a wet vacuum. Of course if you're standing in a disaster area already, a little more feed back may not really matter, you'll know if you're in that kind of situation.

COMMERCIAL RESTROOMS

Most mobile Washes don't go after this market. A commercial restroom needs to be pressure washed occasionally - beyond the normal cleaning with a mop and bucket.

If the restroom has a sealed (ceramic) ceiling, as well as the walls and floors, it can be pressure washed totally. If it has a regular drywall ceiling, wipe down the upper half of the wall after washing the rest of the area. Keep exhaust fans going to aid in drying. If possible shut down the electrical power and use construction lighting powered from a remote source or make absolutely sure that the spray does not come in contact with any electrical device and/or outlet. Remove loose items from the walls prior to beginning. Take special care of any lighting fixtures, either stay away from them during the washing process or remove the lenses and bulbs from the fixtures.

You will mist your cleaning solution on the ceiling and walls and then gently power wash it off. The ideal cleaning specifications should not exceed 2.2 gallons of water per minute and 1500 psi.

Excellent results can be obtained using Viper. Downstream inject Viper from concentrate onto the surface at a dilution ratio of 1 part Viper to 20 parts water, and then wash it off.

Have plenty of towels for this job. Use them to seal off doorway thresholds and for wipe down after washing. Be sure to be set up with plenty of ventilation to dry the area rapidly.

This is a tremendous market that has always been overlooked. One of my best customers would be Restaurants, large stores such as K-Mart and even the high rise office buildings.

FORKLIFTS

Forklifts should be washed with a good strong alkaline detergent with excellent degreasing ability. Mr. Muscle is an excellent product to use. It should be downstream injected from concentrate onto the machine allowing the injector to draw at the wide open position.

Generally when washing a forklift it is not necessary to degrease the mast and chains. If your customer wants this done, apply Mr. Muscle with a direct spraying system or a pump up sprayer at a 50 /50 dilution cut with water.

Running with hot water will help to degrease the lift. Use care when washing the engine not to spray water into the intake. A lot of lifts are operated in dusty conditions and should have the radiator blown out. While a new radiator can usually withstand full pressure you don't want to find out the one your cleaning can't, so keep your nozzle back about 6 inches. If you know that the radiator is weak, rinse it down with low pressure and don't take any chances.

Some lifts operated in agricultural packing plants pick up a build up underneath, especially in the tire well area. A gun with a three-foot lance with a 45-degree bend on the end works well for these areas, as well as for use on the lift in general.

"My coat and I live comfortably together. It has assumed all my wrinkles, does not hurt me anywhere, has molded itself on my deformities, and is complacent to all my movements, and only I feel it's presence because it keeps me warm.

Old coats and old friends are the same thing."

-Victor Hugo, Novelist



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COMPANY IMAGE

Once upon a time in the state of Maine, two guys went into the mobile wash business. Both knew the basic principles of washing. Both were hard workers. The first guy bought a new truck and had it professionally painted, put in new equipment with a new plastic water tank. He wore uniforms and paid attention to his personal hygiene. He stood up straight and looked his customers in the eye when he spoke to them. The second guy bought an old beat up school bus, rolled in a little pressure washer and added two old rusty oil tanks to hold water. He wore old ripped clothes, looked at the ground when he talked, and once he got dirty, well he stayed that way. The next year only one of these guys was still in business, guess which one.

Now you are probably thinking I made this story up to illustrate a point, and a good story it would be, even if it were fiction. But pay close attention friends, because this story is true, every bit. I am happy to report that I was the good guy in this tale. My mobile wash company keeps spraying to this day, and the guy that runs it looks sharp. Now this story is strange enough, but here is the most bizarre part, the bad guy uses a paintbrush to paint his company name on his bus, paint drips and all. And the name he chooses was already in use. He stole my company name and drove his bus around with it on it. People started to confuse us, my customers on the phone would say, quote "are you the guy with the old bus?" unquote, I went crazy. The good thing was that my company name was incorporated and I was able to stop this madness.

The real point of my story is that your company image and how your customer sees you are extremely important issues. Don't be the bad guy (gal). Some points to ponder:

1. Use an original name, have a good-looking vehicle, have it lettered and always keep it clean.
2. Invest in uniforms with your company name and your name on them.
3. Keep your equipment looking good enough so you can show it off without embarrassment.
4. Look like a good guy (gal) and be sociable.
5. Be sincere and look people in the eye when you talk to them.
6. It can be a dirty business, but don't let it rub off on you.
7. And please, don't pick your nose, at least not while in public.

Come to think of it, some of this stuff is good for when you are not working too!

BRITISH THERMAL UNIT (BTU)

A British Thermal Unit (BTU) is an English standard unit of energy. One Btu is the amount of thermal energy necessary to raise the temperature of one pound of pure liquid water by one degree Fahrenheit at the temperature at which water has its greatest density (39 degrees Fahrenheit).

In the Mobile Wash Industry we quite often use the term BTU in an attempt to put some logic behind why our pressure is not heating the water as hot as we would like. Typically a mobile wash company will use either Diesel Fuel, Home Heating Oil or Kerosene in their burner. Diesel will give you more BTUs (energy) per gallon than Home Heating Oil or Kerosene.

It has been my experience that you will see as much as a 5 degree swing between Diesel and Kerosene. What is the trade off? Diesel is a "dirty" burning fuel and prolonged use will surely "clog" the air passages in a pressure washer heating coil. Face it - when you are talking about cleaning a substrate with 200 degrees - are you really going to notice a difference at 195 degrees? I never did and I much preferred burning the cleaner burning Kerosene and not have to pull the coil every 6 months to clean it.

HEAT RISE as it relates to the pressure washer industry would be the difference in temperature of the water as it enters the pump and when it leaves the heating system. For example: Let's say the water from the faucet or your holding tank is 60 degrees and when it has passed through your burner it leaves the coil at 200 degrees. The heat rise will be degrees. (200 - 60 = 140 degree heat rise).

There can't be an exact formula for determining heat rise. There are just too many unknowns. Example: How big is the coil? How large is the burner and what size fuel nozzle is being used? How well insulated is the Coil and how many pancakes does it have. And on, and on...

Help Us - PLEASE!

1 out of every 3...

...technical calls that we get is a burner problem. And trust me when I say - it is impossible to fix a burner Long Distance!

I don't know what it is about our industry. Ever heard the saying "penny wise and pound foolish"? I think it was US they were talking about. We have all the inexpensive tools it takes to help you through most of your burner problems. Do Mobile Washes buy them? Few do!

If you don't do anything else right this year you should make it your goal to set up your equipment the right way. It is so easy. Simply install burner Test Switches, the Dual Battery Selector and the High Amp Relays in this catalog and you will eliminate 90% of your burner problems.

MATERIAL SAFETY DATA SHEETS (M.S.D.S.)

A mobile wash operation typically will carry several types of cleaning products on their company truck. Very few mobile Washes understand the importance of carrying M.S.D.S. for every product, in a protected place on their truck. When you or your employee has been exposed to a product accidentally, and there is a medical problem caused by this exposure, it is too late to try to find the M.S.D.S. When the department of transportation stops you, either for a commercial inspection, or a traffic violation, and you can't produce sheets for every product on your truck, your vehicle can be impounded and you can face substantial fines. It is all about your safety and the safety of others.

Material Safety Data Sheets are sectionalized for quick reference in an emergency situation. They should however be reviewed and understood before an emergency occurs. If someone has been exposed to a chemical product and requires medical treatment, the M.S.D.S. should be handed immediately to the health care provider. Any delay in providing the sheet could very well cause the medical complications to be more severe. Arriving at the emergency room with chemical burns and having a doctor unsure how to treat the condition because of not knowing what caused the burns is at best, asking for worse burns; at worst, it can prove fatal.

So set up a binder or a file that is safe from the elements and keep all your sheets in that one place. Educate anyone working with your company about what the procedure should be in case of an accident. Keep everyone in your company ready for what you hope never happens.

CHEMICAL STORAGE AREA

Any responsible contract cleaner, whether a large or small company, needs to provide a safe storage area for chemical products. This area should be lockable to keep out unauthorized personnel, children and pets. The door should have a sign stating that access to the room is restricted. The area should be large enough to hold all your chemical products, and provide a mixing area, while still providing plenty of room to move around. Cramped storage areas make tripping and falling over things more likely, and this must be avoided. The area should be well lit. An eye wash station is an absolute must, mounted on a wall in a convenient easy to get to place. A dump shower or a hose to wash any chemical off skin is important to think about. If the chemical area is near a regular shower, it can be used.

The possibility of chemical spillage should be addressed. Determine what would happen if the largest possible spill occurred. Where would the chemical go? If possible, physical containment within the room is best. Have speedy dry on hand to absorb spills. All chemicals must be stored in sealed containers that are labeled to indicate what they contain. Check for chemical compatibility and never store chemicals that react to each other together.

A file must be kept in the area containing material safety data sheets of every chemical. All authorized personnel should be educated about the chemicals in the room and what the best response is to spillage. They also need to understand the appropriate way to respond to skin or eye contact to each of the chemicals. Any acids that create dangerous fumes can pose a special problem if spilled. Personnel should be wearing full breathing protection before any clean up attempt is made.

If you store an appreciable amount of chemical, supply your local fire department with M.S.D.S. on the chemicals and approximate quantities they would encounter if they were responding to a fire or a spill emergency.

CHEMTREC'S EMERGENCY PHONE NUMBER - 1-800-424-9300

CHEMICAL INJECTOR DRAW RATES

In order to displace much of the confusion about chemical injectors let me say that advertised Draw Rates are not necessarily what you will receive.

Keep in mind that all testing is done without any obstructions in front of the injector. By obstructions I mean Hose, Guns, Lances, Hose Reels, etc.

These obstructions substantially reduce the injectors ability to "draw". In addition, discharge hose in excess of 100' to 125' completely "shut down" the injector as does hot water in excess of 170-180 degrees in most cases.

The only injector that will draw in excess of 150'-200' is the Allison Super Suds Sucker. We have had as much as 700' of discharge hose on this injector and it still draws product. This is not to say that it will work that well on your system. It all has to do with back pressure. Reducing the back pressure in the discharge hose will substantially increase "draw" performance.

NOZZLE CARE

High-pressure nozzles need to be kept clear of debris, which is accomplished with proper filtration. High-pressure nozzles must be replaced on a regular basis to maintain the desired PSI. As the water stream is narrowed and accelerated through a high-pressure nozzle it wears and enlarges the hole, which causes pressure loss.

Low pressure nozzles tend to last longer because the water stream is not as narrow and the force is not as great, try to keep dirt from entering the nozzle when you drop your gun in gravel truck yards and similar places.

Multi-reg nozzles are also subject to nozzle wear from the water stream and must be replaced periodically to maintain pressure performance. Care should be taken not to throw them around to avoid breakage. Keep them out of the dirt.

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TROUBLESHOOTING CHEMICAL INJECTORS

Down stream chemical injectors require the proper set up to function well. The chemical injector must be sized to the GPM of the pressure washer. Most downstream injectors will function well with 100' of 3/8" high-pressure hose, some are going to work well with 150' of hose. After 150' of hose most downstream chemical injectors will not function properly because there is too much back pressure from the friction of the water interacting with the inner hose wall. It is possible to move the injector from the pressure washer to a point down the hose so you have only 100' of hose in front of the injector. EnviroSpec has a chemical injector manufactured for us that is engineered to deliver water through greater lengths of hose, it is the Hi-Tech super suds sucker and if you need to use over 150' of hose it may help you with your application.

Another component that must be correct to make the downstream chemical injector function properly is the low-pressure (soap) nozzle. Be sure the nozzle is large enough to reduce the pressure to around 25% of the machines normal operating pressure. The lower the PSI, the better the injector will work.

Other factors to look at when injector trouble is encountered include:

- Check the chemical filter line and fittings for blockage.
- Check for air leaks.
- Unscrew the chemical inlet and check to see if the spring, ball, and seat are OK.
- Check to see if the venturi nozzle is clear, it also could be worn out.
- Be sure the injector is installed in the correct direction.
- Upstream chemical injection requires a low-pressure inlet to the pump. If there is too much pressure it will prevent chemical from flowing into the inlet water stream.

On both types of injectors problems will be encountered if the chemical being used is too thick.

HIGH PRESSURE NOZZLES

The most common material used in the construction of high-pressure nozzles is stainless steel. Nozzles come either with a quick connect plug to be used with a coupler, or with a pipe thread. Nozzle pipe thread sizes include 1/8" and 1/4", which is the most common.

The actual hole size in the high-pressure nozzle must be sized to the GPM and PSI desired from the pressure washer. Hole sizes are based on how many GPM are required to produce 4000 PSI. An example would be a number 6 nozzle, which would require 6 GPM to produce a PSI of 4000. Nozzles also have different fan sprays, most common fan sprays are 0,15,25,40, and 65.

LOW PRESSURE NOZZLES

The most common materials used in the construction of low-pressure nozzles are brass, stainless steel, and plastic. The hole size is large in a low-pressure nozzle. They are available in both quick connect and screw-in types. They are used for low pressure washing operations and for down-stream chemical injection.

HI-LO NOZZLES

The multi-reg. nozzle is sized to the pressure washer by nozzle (hole) size. It has an outer cover that is rotated to provide a variable fan spray. The outer section also snaps forward and back to change the nozzle from high to low pressure.

ROTATING NOZZLES

Rotating nozzles produce a thick zero degree stream that spins in a circle. This provides the impact of a zero degree nozzle with a larger coverage area. These nozzles have an outer casing, usually made of brass and a nozzle inside that has a ceramic tip that spins on a ceramic race.

Rotating nozzles come in various diameters. The larger the diameter, the larger the circle pattern of the spray. For example; the RotoMax Nozzle holds a tighter pattern and may be more desirable for removing chewing gum from sidewalk areas whereas the Tornado & Dirt Killer may be a better choice when cleaning the entire sidewalk since they have a larger pattern.

Proper Operation of Turbos:

When starting up a Turbo, the Nozzle should be pointed downward. This reduces the possibility of damage when the rotator slams against the ceramic.

In the event the Nozzle does not rotate it is possible that there is a "burr" or some type of pollutant on either the rotator or ceramic. When this happens we recommend that you point the nozzle upward and pull the trigger. By doing so the rotator has a chance to start moving before it comes in contact with the ceramic.

It is very important that you always use a High Pressure Filter on both a Turbo Nozzle or Concrete Cleaner. By doing so you can expect to extend accessory life substantially.

more stuff you should remember... When you feel a "chatter" in the hose and the pump is not coming up to full pressure, more than likely - you need to replace the check valves!

PUMP TROUBLESHOOTING

First...Look elsewhere for the problem, pumps are very durable when set up properly and are not abused.

Low pressure...

- Worn nozzle, replace with proper size new nozzle.
- Belt slippage, tighten or replace.
- Air leaks in inlet plumbing, find the air leak and repair.
- Inlet water filter dirty, clean
- Worn packing, replace
- Debris in check valves, clean.
- Worn check valves replace.
- Leaks between pump outlet and nozzle, repair leaks.

Special Note: if the pump is not turning the correct RPM then it is impossible to diagnose a problem. Before you call us for Technical Help put a Tachometer on the engine and make absolutely sure that under NO LOAD the engine is turning 3600 RPM if for Belt Drive and 3400 RPM for Gear Drive.

Pump runs rough, low pressure...

- Restricted inlet water supply, increase size of inlet line.
- Air leak in inlet plumbing, disassemble, reseal, and reassemble.
- Debris in check valves, clean out and reassemble
- Worn check valves, replace.
- Water dripping between pump head and crankcase.
- Worn Packings, replace packings.

Special Note: Before you call with a pump problem make absolutely sure that you have tried to correct the problem by first removing the chemical injector from the machine. If that did not work install a New Nozzle & a different Gun & Hose. And lastly - a New Unloader.

Now you can call :)

Oil leak between pump head and crankcase...

- Worn crankcase piston rod seals, replace.

Oil leaking near crankshaft...

- Worn seal or damaged o-ring, replace seal or o-ring.

Excessive play in the crankshaft pulley...

- Bad bearing, replace.
- Worn main bearing, replace bearing.

Water in crankcase...

- Worn packing, replace.
- Worn o-rings on piston screws, replace.
- Humidity in air condensing inside crankcase, may disappear in a few days, if not change oil.

Frequent or premature failure of packings...

- Damaged ceramic piston, replace.
- Too much inlet pressure, reduce inlet pressure.
- Abrasive material in fluid, install better filters in inlet.
- Excessive temperature of inlet fluid, Check to see inlet fluid temperature is not too hot.
- Running pump dry or with too little water, give pump sufficient water at all times.

Water inlet information...

The most common condition that leads to pump problems is insufficient water flow to the inlet of the pump. A large diameter hose helps water flow. The longer that the inlet hose is, the lower the water flow will become. Make sure the water supply is able to keep up with the demand of the pump.

If the machine is fed by a direct hook up to a domestic or city water source, run a test to determine the gallons per minute the water source produces. Use two open 5-gallon pails, run the water hose into the pails for 60 seconds. The water source should produce at least one gallon more than the pump is rated for. Sometimes with a domestic water source the flow will not be consistent. Check this by doing the test a few times without stopping the water flow, if the supply slows down it will starve the high-pressure pump. It is also possible with city water supply to over pressurize the high-pressure pump, use a pressure-reducing valve on the inlet line if this is a possibility.

If the machine has a float tank, be sure the inlet feed line between the float tank and the pump is large enough to supply sufficient flow. The higher the gallon per minute rating of the pump, the larger the hose diameter must be. Don't think that a float tank is a buffer that will allow you to connect to a low flow water source. The small capacity of a float tank will provide only a few seconds running time before running dry.

A machine that is supplied by a water tank, needs a supply hose that is a large diameter, the exact size required depends on the pump rating.

All pressure Washes should have an inlet water filter that is cleaned regularly.

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"No man can be condemned for owning a dog. As long as he has a dog, he has a friend;
and the poorer he gets, the better friend he has."
-- Will Rogers

PUMP SERVICE HAVING LOW PRESSURE!

Check Valves:

After verifying that there is plenty of inlet flow, the first parts to inspect are the check valves. The check valves are located under the large hex caps on the pump head. On a three-cylinder pump there are six hex caps, three on top contain the outlet valves and three on the lower side of the head contain the inlet valves. Debris may be holding one or more of the check valves open, if so clear the debris. Inspect the two contact points of each check valve by carefully disassembling the check valve assembly. Insert a small screwdriver in the side of the check valve cage and twist gently to pry apart. The contact surfaces should be smooth and shiny. If the check valves are in poor condition they should be replaced.

Pump Packings:

If packings are worn and there is a pressurized inlet line there will usually be water dripping from under the pump between the head and the crankcase. With a float tank or tank feed, there may not be enough pressure to cause a leak, instead air is drawn into the pump. This would create an uneven, shaky feel at the gun, much like the feel of running out of water. To replace packings the pump head must be removed. The retaining bolts are removed, and then the head is gently pried on both sides with two screwdrivers. Once the head starts to come off the ceramics, usually it is possible to remove it by hand. Important, remove the head as evenly as possible, twisting it from side to side can cause damage.

Once the head is removed, lay it on a workbench and using a slide hammer and socket remove the brass and packings. If the pump has been rebuilt before, or if you want to do the best possible job, replace the brass and the packings. If the pump has never been rebuilt and you want to spend less money on parts, replace the packings only. Reassemble the parts in the same order that they were removed. The use of a packing insertion kit will help. Use packing lubricant on the edges of the packings. While the head is removed, inspect the ceramic pistons. If any chipping or cracking is found, including small hairline cracks, the pistons must be replaced. When replacing the piston it is a good idea to replace the piston screws and Washes. The head can now be reinstalled. Tighten the head onto the crankcase using the proper tightening pattern.

Stuff you should remember...

If you see the pump oil turning milky white you will need to replace both packings and oil seals. More than likely you have let the pump run in by-pass too long without pulling the trigger. This builds up excessive heat which will destroy packings & seals. Never leave a machine in by-pass for more than 2 or 3 minutes without pulling trigger. To keep your pump from overheating you should install the Allison Engine Terminator.

Tech Tip

Ever wonder just how much engine you'll need to turn that pump?

Use the formulas below:

Gasoline engine:

$$\text{PSI} \times \text{GPM} = ?$$

Divide answer by 1100
to get the correct horsepower

Diesel Engine:

$$\text{PSI} \times \text{GPM} = ?$$

Divide answer by 1250
to get the correct horsepower

Electric motor:

$$\text{PSI} \times \text{GPM} = ?$$

Divide answer by 1460
to get the correct horsepower.

PUMP "CAVITATION"

Cavitation occurs when a pump has insufficient water supply, air is leaking into the water supply line, or sometimes if the pump is being supplied with very hot water. During cavitation, water is turned to a vapor on the inlet stroke of the pump piston, then back to a fluid when the piston compresses it. This results in an explosion inside the pump cylinder that can damage the interior components of the pump.

There are several points to keep in mind so you avoid cavitation in your pump. I will first address pumps that are fed from a water tank or other source that does not produce incoming water pressure.

1. Be sure that the supply hose from the tank to the pump head has a large enough diameter to ensure adequate water flow. Keep the hose as short as possible.
2. Every few months check the hose connections to make sure they are tight and do not allow air to leak into the system.
3. Use a water filter that can allow adequate water flow. When feeding a pump from a domestic water source keep the following points in mind.
4. Test to see if the water source provides enough water to supply the pump. I always recommend a feed of at least one-gallon per minute more than your pump rating.

"Ever consider what they must think of us? I mean, here we come back from a grocery store with the most amazing haul - chicken, pork, half a cow... they must think we're the greatest hunters on earth!"
-- Anne Tyler

TRIGGER GUNS

Most pressure Washes come equipped with a pistol style trigger gun. Because this is the trigger gun that manufacturers supply, it is the industry standard. There are other options that can be a better choice. There are also trigger guns that are better in specialized cleaning applications than others.

Basic Function:

A trigger gun provides an operator with a grip that is designed so the human hand can hold it comfortably. Some designs do a better job providing comfort than others. There are pistol style guns, straight through style guns, front and rear entry guns, open guns, and dump guns. When using any type gun that can stop the water flow, a pressure washer must be equipped with an unloader valve. Using an open gun, or a dump gun eliminates the need for an unloader valve. A pressure relief valve should be installed on equipment regardless of the gun type used, but it is most important when there is no unloader valve.

Trigger guns have an inlet port where they are attached to the high-pressure hose. Industry standard for the size of the inlet port is 3/8". The industry standard size of a trigger gun outlet port is 1/4". The two ports are connected together allowing the water to flow through. An open gun simply provides a grip for the operator while allowing the water to pass thru. Dump guns divert water either to the high-pressure nozzle installed on the center outlet port when the trigger is depressed, or to a pipe around the center outlet port when the trigger is released. Because there is no restrictive nozzle to create pressure in dump mode, the water escapes under low pressure.

The most common trigger guns are those that are used in conjunction with an unloader valve. These trigger guns have a spring, ball and seat that controls the water flow. The operator controls the spring, ball and seat with the trigger. A variation on a standard trigger gun is called a weep gun. The weep gun continues to allow a very small amount of water to pass through the trigger gun when it is in the closed position. This is useful in situations where freezing is a possibility. Enough water continues to move to prevent freeze up.

When the most common type of trigger gun is in the closed position, with the trigger released, the water flow through the gun is stopped. Inside, the ball is held against the seat by the spring and water. The unloader valve is in by-pass mode when the trigger gun is closed. The water circulates in the by-pass loop from the pump to the unloader valve and then back to the pump. The trigger gun is opened when the operator depresses the trigger. The force of the water and spring is overcome and the ball is pushed away from the seat. When the unloader senses the demand for water, it sends the water to the gun and bypasses only a small amount. When the trigger is released again, the spring and water pressure seal the ball to the seat and the unloader cycles back into by-pass.

Trigger Guns Are For Safety:

Pressure Washes today operate at pressure ranges that can be dangerous if not controlled properly. A trigger gun is designed to close if dropped by an operator. Don't defeat this safety feature by fastening the trigger in the open position. The use of an open gun can be dangerous, even when operating at fairly low pressure. Should a piece of debris lodge in the nozzle the pressure can increase. This can create a dangerous situation. The reason most people use an open gun or fasten a trigger in the open position is to avoid hand fatigue. If this is a problem, look into different styles of trigger guns, like easy pull trigger guns or straight through trigger guns, rather than creating the potential for injury or damage.

Gun Styles:

Most all pressure Washes are equipped from the factory with a pistol style trigger gun. Don't spend your life using it because they sent it that way. It seems most manufacturers don't have the time invested using different types of trigger guns to understand that other styles are ergonomically more beneficial to the operator. Or perhaps they don't think it is worth going against what is considered standard, or the norm. Fortunately, we don't think that way. Here are the various gun styles with advantages and disadvantages detailed.



•Pistol Style Gun:

Perhaps 95% of all machines are sold with this type of trigger gun. It is the industry standard. This gun works well when used with a straight lance, or equipped with only a nozzle for close work, it allows the operator to hold the trigger open without undo stress on the forearm and wrist. For operators using a lance with a 20 to 45 degree bend at the nozzle end, this gun isn't the best choice. Using a pistol style gun combined with a lance with a bend requires the operator to work with the wrist and forearm twisted. This becomes very tiring and painful over time. Because a 45 degree bend on a lance provides even contact of the nozzle fan to the surface, consider using a straight through style gun.

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"I wonder if other dogs think poodles are members of a weird religious cult."

-- Rita Rudner



•Straight Through Gun

This type of gun is commonly found on telescoping lance and gun combinations. Anytime a bent lance is used to wash vertical or horizontal surfaces a straight through trigger gun allows the operator to hold the trigger open without twisting the wrist and forearm. A 24-foot extension wand requires strength and effort to operate, that's why most of them use an ergonomically helpful straight through trigger gun.

•Easy Pull Pistol Style Trigger Gun (such as our HI-TECH 4100):

This gun is a variation of the pistol style gun. The design allows the trigger to be pulled with less force than a standard pistol grip gun.

•Front Entry Trigger Gun

A front entry trigger gun provides a few advantages over traditional guns in some specialized circumstances. When high-pressure work is being done with a short lance in a stationary setting, the weight of the hose coming off the front of the gun can provide a counterbalance to the force of the water pressure. Underwater pressure washing is an industry niche in which the front entry gun provides stability to the operator. Another application is for low-pressure chemical application. A front entry gun tends to make it harder when moving around pulling pressure hose.

•Open Gun

An open gun is a pipe with a handle on it. It doesn't provide the ability to stop the water flow at the gun. These guns come in pistol style.

•Dump Gun

This type of gun dumps water out around the high-pressure nozzle until the trigger is pulled; it then directs the water flow to the nozzle.

Repair or Replacement:

Trigger Guns either get damaged because of rough handling, or the seat and ball get damaged or worn. The value of rebuilding a trigger gun is questionable. With most trigger guns selling for \$10.00 to \$29.00, they are generally a throw away and replace item. Rebuild kits are available and very easy to install. Unscrew and remove the grip. Unscrew the hex cap on top of the valve body. Remove the stem, spring, ball and o-ring. Replace with the new parts from the kit, installing them in the same order. Use thread seal on the threads of the valve body cap, reinstall, and then screw the molded grip back onto the inner gun assembly.

Sometimes debris gets caught in the valve assembly and stops the ball from seating properly. This causes the trigger gun to continue to allow water flow after the operator has released the trigger. Pulling and releasing the trigger a few times will fix this problem most of the time.

Notes:

- Guns come in different sizes, just like hands. Find a gun that is a comfortable size for the equipment operator.
- Trigger guns last longer if they are not dropped or thrown to the ground.
- The trigger gun grip also insulates the operator's hands from the hot water.
- Trigger Guns are high wear items regardless of the use environment. Don't expect any gun to last more than 200-300 hours.
- Trigger Guns will self destruct when used with bleach. Typically you can expect a gun to start leaking with as little as 5-20 hours when bleach is in the equation. You may want to use a very inexpensive gun when using bleach.

"Keep away from people who try to belittle your ambitions. Small people always do that,
but the really great make you feel that you, too, can become great."

-Mark Twain

"Just give me a comfortable couch, a dog, a good book, and a woman.
Then if you can get the dog to go somewhere and read the book, I might have a little fun!"
-- Groucho Marx

HOSE CARE

Do everything possible to keep high-pressure hose from being run over. The normally round wire braid is crushed when the hose is run over. When the braid is crushed it develops weak spots that sooner or later result in hose failure. The higher the PSI rating on the hose the stronger the braid becomes. The stronger the braid the more resistant it is to crushing. Vehicles running over hose on concrete or asphalt will crush the hose more than on a soft surface like gravel. Hose that is very hot will crush easier than hose that is cold. Hose that is pulled hard when caught on tires or building edges can be damaged. Don't yank the hose. Avoid pulling hose around sharp corners. This can cut the hose outer cover. When washing on high buildings or roofs, hose crimped ends are not designed to withstand the pull of the hose weight hanging beneath them. When working in this environment use a single hose length or find a way to tie off the hose at intervals that keep the maximum hanging hose at any one interval to less than 150 feet.

HIGH PRESSURE HOSE CARE

The key to hose longevity is taking care of what takes care of you. By not maintaining your high pressure hose, you could be taking money out of your own pocket due to potential down time and higher expenses.

First of all, when not using your hose you should properly coil it up and store it on the machine hose rack or wind it up on a reel. The proper way to do this is to first outstretch the hose. Making sure to completely remove all twists, knots and kinks. Now let us go into things that affect the hose itself.

Hose fittings are installed on the ends of the high pressure hose through a process called crimping. One of these is generally a swivel end. In most cases these are not intended to swivel when the hose is under pressure. This is also true with quick connect couplings. Twisting the hose while under pressure can create a large amount of stress on the inner structure of the hose. The result from this is a shorter hose life. Consider installing an in-line swivel. We sell these and they are great for increasing the life of the hose. They work best when installed on a hose whip on the trigger inlet. They allow you to twist the gun without twisting the hose. Some other reasons for a shorter hose life are as follows.

Crushing can result from the hose being run over by a car, truck or other heavy vehicle that can be found around the job site. Kinking or bending can also shorten the hose life when it is done to excess. That is if the hose is bent or kinked beyond its bend radius it can bend the wire reinforcing and damage the structure of the hose. Abrasion is another common reason for shortened hose life. This is a result of rusted wire reinforcement or rotted fibers. These come about when the cover is rubbed off and moisture seeps into the inner lining of the hose. The cover can also be damaged by sharp edges so be aware of where you drag your hose. Excessive pressure is also a major factor in hose life. If the hose has burst in one clean spot with no random wire breakage, crushing, twisting, or noticeable abrasion to the cover then the probable cause is excessive pressure.

Finally, for the sake of this discussion and so as not to bore everyone to death- I will suggest some simple remedies to avoid a few of these problems. First inspect the hose before each use. I know many of you don't think twice about this, but hey it only takes a second and could save you some down time and a potential workmen's compensation lawsuit. Secondly I suggest a hose reel. It is a fast easy way to store your hose and keep it from getting tangled and cluttered up in the back of your truck. Another easy and popular cure is to buy hose with bend restrictors. These are installed on the ends of the hose and help to reduce the strain around the fittings. Another good idea is to use a hose with a higher psi rating than your equipment, doing so will increase the life-span of your hose.

HIGH PRESSURE HOSE

Hoses are a wear item. With use they will need to be replaced. That's why it is usually a good idea to purchase hose in fifty-foot sections. If you generally use one hundred or more feet of hose, there are still very good reasons to use fifty-foot sections. When a hose fails, losing a fifty-foot section and still having good hose enables you to continue working. Having sections of hose also enables you to only use as much hose as you need, saving wear and tear on the rest. One other reason is the cost of custom made lengths of hose. Production made hose lengths are less expensive.

Because of potential liability problems, hose manufacturers will not warranty field-repaired hose. Many hose dealers will not repair hose that they do not sell. There are field repair hose ends, called reusable hose ends that can be used that are very reliable. Installing a reusable hose end requires the hose be cut cleanly. A chop saw with an abrasive wheel works best. It is very difficult to cut through the wire braid without the proper equipment. The hose section that contacts the reusable hose end must be undamaged. The outer collar is threaded onto the hose and the insert is threaded into the inner part of the hose. These ends can be used over and over on different hoses. Hose repair becomes a waste of time and effort, as a hose gets older. As a rule of thumb, if a hose section becomes damaged at one end because of improper twisting or stress, hose repair is advisable. If the hose fails in the center because of age or being run over, the repair probably won't provide much additional use before the hose fails again.

REPLACEMENT is advisable at this point

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"In the world which we know, among the different and primitive geniuses that preside over the evolution of the several species, there exists not one, excepting that of the dog, that ever gave a thought to the presence of man."

-- Maurice Maeterlinck

PRACTICAL HOSE REEL HINTS

When reeling in hose, use a rag to feed the hose onto the reel. This also cleans the hose and protects your hands from possible injury. The serviceable part of a hose reel is the swivel. The swivel will wear out and start to leak eventually. Swivel replacement is easy. Unscrew the jumper hose, lock the reel in position, and using a pipe wrench or large adjustable wrench, remove and replace the swivel. Some swivels have rebuild kits available. A mobile wash contractor should have a replacement swivel as part of your spare parts package. Use a reel with a capacity greater than the actual amount of hose that you want it to hold. Do not pressure wash with hose still coiled on the reel. This will shorten the hose life and can also damage the hose reel. Most reels have a tension adjustment. This should be set so that the reel doesn't spin too fast when pulling out the hose. Reels usually have a lock that should be set when the hose has been coiled in to prevent uncoiling. Make sure the equipment doesn't exceed the pressure rating of the reel.

BURNER AND CONTROLS

Oil burners require fuel, air and spark to burn.

If an oil burner stops working the first thing to check is whether fuel is being supplied. If there is fuel in the fuel tank, open the bleeder on the pump to see if fuel is being pumped properly by the fuel pump, there should be a steady stream without air in it. This test must be done with the burner running, use a can to catch the fuel. If there is no fuel, make sure the motor is turning and that it is coupled to the pump, then check the fuel tank for a blockage in the fuel pick up line, then check for air leaks at all the connections from the tank to the fuel pump. If the pump is dry it may be necessary to prime the pump with some fuel. At this point, if fuel cannot be pumped, replace the fuel pump. Once fuel flow is established at the pump, go to the fuel line where it enters the burner housing and unscrew it. With the pressure washer running and the burner on, hold a can underneath the fuel line and have another person spray water. The fuel should come out in a solid stream. If there is no fuel, the fuel solenoid or one of the components that operate the fuel solenoid is the problem.

To check the fuel solenoid, use a multimeter to determine if electricity is being supplied. If it is - either replace the solenoid or test it. To test the solenoid, remove the coil by loosening the nut that holds it on, then with the machine operating so that it is demanding hot water, put a small screwdriver in the hole in the center of the coil. The coil should be magnetized and draw the screwdriver blade to one side. If it doesn't the coil is defective. If the coil does function, then check to see if the valve stem is inoperative or clogged.

The last place to check for fuel problems is at the fuel nozzle. If the fuel nozzle is clogged, replace it. Cleaning the fuel nozzle can easily harm the hole and affect the spray pattern.

Air Flow:

Feeling the flow at the outlet of the coil can check airflow. If there is no flow, check to see if the inner coil insulation is blocking the outlet of the coil. Next lift the transformer and check to see if the blower wheel is turning properly. If it is not, more than likely, you have a bad fuel pump. Make sure the air bands that regulate how much air is allowed in the combustion chamber are set properly. If you have opened them up too far the air could be blowing the fuel to far in front of the electrodes in which case ignition will not take place.

Electrical and Spark:

First check to determine whether the electricity from the power source supplying the burner is adequate. If it is a 12-volt system many problems start at the source. The engine charging system and the battery should both be checked. If the system is 110 volt or 220 volt the wiring must be of adequate size. Next test the transformer to see that it is producing the proper ignition voltage. If possible, use a multimeter to determine if the output is correct. Test the transformer to see if it is delivering spark by using a screwdriver with an insulated grip. Touch the tip of the screwdriver to transformer contact, and then lower the shaft towards the transformer plate. When the screwdriver shaft is between $\frac{1}{4}$ and $\frac{1}{2}$ inch from the plate you should get a spark. Test both contacts, if there isn't a spark from both sides, replace the transformer. If the transformer is functioning properly, the electrodes need to be inspected. Check for cracking in the ceramic insulators or carbon that would show sparking where it should not occur. Determine that the bus bars are contacting the transformer contacts. Make sure the electrodes are properly gaped, most burners specify $\frac{1}{8}$ inch apart. The electrodes also need to be positioned properly in relationship to the fuel nozzle.

SCALE REMOVAL

For everyone who uses hot water machines this is a very important issue. Generally, scale will build up in a hot water machine's coil. This will be more evident in areas where hard water is present. As the water is heated certain impurities such as, calcium silicates, and manganese chloride will form deposits on the interior of the coil. This will result in restriction of water flow and will reduce the coils ability to heat the water. The heater may seem to be working normally but the water will not reach the same temperatures it once did.

There are many ways to fight scale build up. They range anywhere from water softeners to acidizing. This would mean flushing the coil and pressure hose with an acid solution. The best way to avoid this last method is to use chemicals to reduce scale build up and, or installing a water softening system.

In the event that scale build up becomes a problem and acidizing is necessary there are some important things to remember. First off protective clothing including eye goggles should be worn and work done in a well ventilated area. Also

"Recollect that the Almighty, who gave the dog to be companion of our pleasures and our toils, hath invested him with a nature noble and incapable of deceit."

-- Sir Walter Scott

care should be taken when acidizing due to the fact that improper descaling with acid can destroy your coil. In normal operating conditions short term circulation of acid can remove build up but will not work with heavy accumulations. When this happens it may be necessary to flush the system with an acid solution. The recommended solution should be a self-inhibited acid of about seven percent hydrofluoric acid. Self inhibited means that it will not attack the metal itself but rather the chemical deposits. Keep in mind that stainless steel coils need special attention because even a self inhibited acid will attack this surface. After flushing the coil, the acid should be neutralized with an alkaline and never disposed of irresponsibly.

Remember to take precautions and always pay attention when using acids. Keep the material safety data sheets available should an accident happen.

UNLOADER VALVES

The Different Types of Unloaders

PRESSURE TYPE UNLOADER VALVES:

(Referred to as Trapped Pressure Unloaders)

Most pressure Washes use this type of unloader valve. It is the least complicated to use. This valve responds to the amount of pressure exerted on the by-pass valve. The unloader uses a seat, ball, and spring. These components control the flow of water into the by-pass port. When the operator has the trigger gun open, the water flows from the unloader inlet port to the outlet port, with only a small amount being by-passed. When the trigger gun is closed, the pressure increases as the pump continues to push water out. When the pressure becomes greater than the resistance of the spring, the ball moves off the seat and allows the water to go through the by-pass port. The by-pass valve opening is aided by a check valve in the outlet port that quickly diverts the water flow to the ball and seat of the unloader. The check valve in the outlet also traps the pressure in the hose giving the characteristic pop of pressure when the trigger gun is opened that is associated with a pressure type unloader. An adjustment knob or bolt allows adjustment of the springs tension on the ball by either compressing the spring down to create more resistance, or expanding the spring, thereby causing it to exert less pressure on the ball. When the spring is adjusted to create the maximum outlet pressure, little water enters the by-pass port. When the spring is expanded, lower water pressure can push the ball out of the way, thus allowing more water to by-pass even when the trigger gun is open. This reduces the flow of water to the gun, and of course the nozzle. Less water being forced through the nozzle reduces the pressure at the nozzle.

Advantages:

Pressure type unloaders are less sensitive to flow restrictions than flow type unloaders. This allows various orifice sizes to be used without cycling problems. Rebuilding kits are usually very simple and inexpensive, providing the ball, spring, and seals or gaskets.

Disadvantages:

The trapped pressure that creates the pop of pressure when the gun is opened is a big disadvantage. It can be dangerous when the operator is working from a ladder; it also spikes the pressure within the equipment.

FLOW TYPE UNLOADER VALVES:

A flow type unloader responds to the stoppage of the water flow between the unloader outlet orifice and the trigger gun. When the trigger gun is open the water flows through the inlet port and out the outlet port, with a small percentage exiting through the by-pass port. When the gun is closed, the flow is diverted through a channel that leads from in front of the outlet port to a piston assembly within the unloader body, forcing it to go down. The water is then all diverted into the by-pass port. With no check valve holding the pressure from returning into the unloader from the outlet, the pressure through out the system is relieved each time the unloader cycles. A cycle consists of the unloader supplying water to the outlet, and then diverting it to the by-pass. Our first choice in any unloader is the New K-10 Flow Type which came on the market in 2003.

Advantages:

When the trigger gun is opened, there is very low pressure in the hose. The pressure then builds for about one second at which point the maximum pressure is achieved. The smooth transition from low to high pressure is beneficial because it doesn't have a jarring effect on the operator.

Disadvantages:

The K-7 & K-5 flow unloaders do not allow an operator to downsize high-pressure nozzles. Because it senses flow, reducing the flow at the nozzle causes the unloader to cycle repeatedly. This type unloader should not be used with a weep gun, leaks will cause it to cycle.

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(UNLOADERS CONTINUED)

Compensating Unloader Valve:

The compensating unloader valve is a pressure type unloader valve with a compensating feature that makes the characteristic pop of pressure that occurs when the trigger gun is opened less severe. The advantage of having this feature is that the unloader functions more like a flow actuated unloader without the same disadvantages.

Unloader Installation:

There are a variety of ways to install an unloader. Keep in mind that easy access for adjustment is important. Since unloaders wear out, the use of European style twist fast quick connects allows for rapid and easy replacement in the field. It is recommended that all the ports be set up with quick-connect couplers and plugs. A pressure gauge that is visible when adjusting the unloader is important for precise adjustments.

Be sure to properly identify the ports, they are usually marked in, out, and bypass. If they aren't marked and you don't know, find out before proceeding. Some unloaders have more than one inlet port to allow flexibility during installation; others have an additional port for a pressure gauge.

Unloaders can be mounted directly to the outlet port of the pump using a pipe nipple. There are advantages to mounting the unloader on the pressure washer frame using an unloader-mounting block. The unloader can be located where it is the most accessible. A short length of high-pressure hose, which is also called a jumper hose, is used to connect between the pump outlet port and the unloader-mounting block. A jumper hose is used to connect the unloader outlet to the inlet of the coil or to the outlet of the pressure washer. Most unloader valves can be mounted vertically or horizontally.

By-pass configurations:

Pressure Washes generally are manufactured with a closed loop by-pass that cycles the by-pass water in a small amount from the unloader by-pass port to the inlet port of the pump, and then back to the inlet port of the unloader. This configuration is an accident waiting to happen. Friction generated by the plungers moving against the packings generates heat that is transferred to the water. Because there is only a small amount of water the water temperature increases rapidly. When the temperature exceeds about 155 degrees, damage begins to occur to the packings. If allowed to continue, the hot water can damage the plungers in the pump, damage seals in the unloader, and destroy the hoses between the pump and the unloader. Ideally, machines would either have their by-pass plumbed differently, or have a thermal relief valve or switch installed as a safeguard against by-pass heat build-up. Because most machines are manufactured in a way that allows this damage to occur, it is wise to change the set up aftermarket.

The Thermal Pump Protector:

When using a pressurized feed from a municipal water source, or from a well, a thermal relief valve provides protection against overheated by-pass water. This valve is installed in either inlet port (low pressure) of the pump. When the bypass water temperature at the valve reaches about 145 degrees, the valve opens and allows some of the hot water to escape. The expulsion of the hot water allows colder water from the inlet supply to enter the pump. This reduces the water temperature. Do not consider using this type of a valve if using a tank as a water supply source, because without inlet water pressure, the valve will open but water won't be pushed out of it. This will render the valve useless.

The Engine Terminator:

The Thermal Engine Terminator is an option that can be used with any type of water feed. It is installed in either inlet port on the pump and wired into the engine. When the by-pass water reaches about 145 degrees, this switch shuts down the engine, stopping everything until the by-pass water has cooled.

For mobile wash set-ups that are truck or trailer mounted and are supplied by a water tank, the best way to configure the by-pass is to plumb it directly back to the water tank. The benefit of plumbing the by-pass this way is that it includes the water in the supply tank in the by-pass loop. With a large amount of water in the loop, there isn't enough heat generated to increase the water temperature enough to damage anything, no matter how long the equipment runs in by-pass. Connect a long by-pass hose from the by-pass port of the unloader, plumbed with a hose barb, and have it terminate at a barb fitting on the water tank. The water tank can be fitted with a small bulkhead fitting on the top, then plumbed with a properly sized hose barb. The by-pass hose can be reinforced chemical tubing, hi spike bypass hose, or garden hose. The diameter of the by-pass hose is determined by the flow of the pump and the type of unloader being used. For pumps that are rated below 6 GPM, a ½" ID by-pass hose is recommended when using a pressure type unloader, and a ¼" ID by-pass hose is recommended when using a flow actuated unloader. For a pump with a flow rating of over 6 GPM, a ¾" by-pass hose is recommended when using a pressure type unloader, and a ½" by-pass hose is recommended when using a flow actuated unloader.

"The really great thing about cats is their endless variety. One can pick a cat to fit almost any kind of decor, color, scheme, income, personality, mood. But under the fur, whatever the colour it may be there still lies, essentially unchanged, one of the world's free souls." -- Eric Gurney

WATER SUPPLY

The water required by a pressure washer can be supplied by a municipal water source, a well, or from a tank. Almost all mobile wash operations run from a tank because municipal and well sources cannot always be counted on to deliver sufficient water, and because sometimes they are not available at all where the washing is being done.

Municipal Supply:

Municipal supplies vary in flow. The most common flow is 5 to 7 GPM. Test the supply line for flow by filling open 5-gallon pail(s) for sixty seconds. Be sure to have any hose that you will use for the hook-up attached because a length of hose will affect the output amount. After sixty seconds if you find you have more gallons than your pump requires, the water source is sufficient. To assure that you will not starve the pump, the supply should produce at least one gallon more than the pump rating. If the supply isn't enough for your pump, it will be necessary to have a reservoir tank to ensure there is enough water flow. Another factor to consider when connecting to a municipal water source is the PSI (pounds per square inch of pressure) of the supply. If the pressure is over 100 PSI, it could cause problems for your high-pressure pump. A float tank can be used to break the pressure. Another way to reduce the pressure is by installing an in-line pressure-reducing valve on the inlet of the high-pressure pump. Pumps fed by this type of water source should be protected with a water filter installed on the inlet.

Well Supply:

The flow rates of well water sources are not as constant as are those of municipal water sources. Because the pressure of these sources can vary due to the pumping system, testing the flow should be performed a few times. The first time, fill the pails for sixty seconds and determine the flow rate like described under the municipal water supply above. The second test should be performed after discharging the water for two minutes. If the second test is the same as the first, and the supply is one gallon over the rated output of your high-pressure pump, then the source is sufficient. If one of the tests indicated that there isn't always enough water flow supplied, then do not use this source without a reservoir tank of some kind to provide a constant flow. Pressure of over 100 PSI is not a common problem found with well water sources. Sometimes a well with a weak water source can be drawn down because of constantly drawing water over a long period. Be aware that this can happen and if a loss of pressure occurs while working, shut down immediately until the problem is identified and corrected. A well that is low on water also produces a lot of contaminants like sand. A water filter should be installed to protect the system from particles in the supply that could damage components.

Float Tank:

A float tank is a small tank that receives incoming water from a pressurized source. A float tank commonly has a capacity of 2 to 4 gallons of water. The float tank receives the water from the pressurized feed, and then the water is delivered to the pump through a short connector hose. The benefits of the float tank is that it protects the pump against a supply that has too much pressure, it creates a suction draw into which hi-side chemical can be drawn, and some will say it provides a reservoir to provide a buffer when working with a low flow supply source. To be realistic, a 3 gallon float tank, if you are running a 5 GPM pump, holds enough water to allow the pump to run for only 36 seconds, so that isn't really an advantage. Using a pressure-reducing valve can regulate supplies that contain too much pressure, eliminating the need for the float tank. Chemical injection is better achieved with down stream injection because it doesn't expose the components of the pressure washer to chemical deterioration. Float tanks utilize a shut off valve with an arm and float to regulate the incoming supply, these valves don't hold up well when the equipment is being transported often. A big disadvantage for a mobile operation is that the float tank can cause problems with water spilling during transport, and air can get into the connecting line between the tank and the pump. Air in the connecting line causes a loss of pump prime.



Water Tank Supply:

A water storage tank provides the most practical supply of water for a mobile wash operation. It is important to consider what size of tank is best. The weight of the water is a major consideration. A gallon of water weighs approximately eight pounds. That means 250 gallons of water weighs 2000 pounds, or one ton. A 500-gallon tank holds two tons of water

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(TANK CONTINUED)

and is about as large as is practical unless you have a large truck. Check to see what your vehicle can carry prior to deciding on the size tank you will use. It is possible to beef up truck suspensions, or to have air bags installed to help carry the weight. Location of the tank in the vehicle is also important. Being the heaviest item in the vehicle, it is wise to position it where it will be balanced. In a truck, just in front of the rear axle is optimal. On a trailer over or slightly in front of the axle is best. Placement of the tank is critically important to the safe handling of any vehicle. Discuss how you intend to mount the tank and the weights involved with the vehicle manufacturer. Tanks need to be securely anchored to the deck of the vehicle using large diameter bolts with large flat Washes to make it so the bolts can't pull out of the deck under stress. Many larger tanks come with a metal strapping harness that aids in securing the tank in a vehicle. The next thing to consider is how long a certain size tank will allow you to work without replenishment. Divide the gallon capacity of the tank by the flow rating of your pump to get the number of minutes you can work before you will run out of water. Example 250 gallons divided by 4.5 GPM (pump output) = 55.56 (minutes). In the example you only have enough water to spray for 55 ½ minutes. That is the limitation that you will have to live with when working where there is no water source. Whenever you work with a water source available, that source should fill the tank while the pressure washer draws from the tank. In a situation where you have a 250 gallon tank, with a 4.5 GPM pump, if your water source provides 4 GPM to the tank, then you will have enough water to work for 1 hour and 44 minutes before running out of water. The larger the tank, or the higher the flow into the tank, the longer you work. If the water source filling the tank is filling it faster than your pump is drawing, you will want some type of a shut off valve that will keep the tank from overflowing.

The most commonly used tanks in the industry are poly tanks. A tank that lets you see the water level is best, so you can check to make sure you aren't running low. Many tanks come with a man cover on the top. This cover offers access to the tank interior. That access comes in handy when flushing or cleaning out the tank. It can also be used to put a fill hose into the tank. There are a wide variety of shapes to consider; basically the shape that uses the available space to hold the most water is best. Measure the size of the space you have to place the tank in, remember that you may want to be able to move around the tank, or store other items in the same space. Baffles inside the tank help to minimize the rocking action of the water when the tank is being transported.

Bulkhead fittings are used to connect the plumbing to a tank. A bulkhead fitting can also be used to pump in the supply hose that fills the tank. The inner thread on the pressure washer feed bulkhead fitting should be at least 1¼". You can always reduce this to whatever size line you want using bushings, but having a large bulkhead fitting will enable you to adapt to larger flow machines in the future if you desire to do so. The pump feed should be installed approximately 2 inches from the bottom of the tank. Don't leave too much space between the fitting and the tank bottom or you will substantially reduce the usable water capacity of the tank. A gate or ball valve can be installed into the bulkhead fitting before attaching the garden hose. This enables you to shut the water off to service the hose and filter without water flowing from the hose end when you disconnect it. The down side of the valve is that if you forget to open it back up you will start your pump with no water supply. The inner diameter of the hose between the tank and the pump depends on the flow of the pump. If the hose is too small, your pump will be starved for water all the time and will require servicing often. For a pump that is 5 GPM or less, a ¾" ID (inner diameter) hose is adequate. For pumps from 5 to 8 GPM use a 1" ID hose, for pumps over 8 GPM use 1 ¼" ID hose. Never use non-reinforced vinyl tube for feed hose because it can collapse from the suction created by the pump. Use only reinforced hose or hard plumb with poly tubing. The inner diameter sizes listed here are for hoses that are ten feet or less in length. The hose should end at an inline water filter that then is plumbed into the pump inlet port. For machines that will be operating in cold climates, install the feed hose raised slightly off the vehicle deck with a two by four underneath it for support. This will decrease the frequency of freezing.

The line that is used to replenish the tank should be installed so that it drops the water into the top of the tank. Install a bulkhead fitting in a suitable location on the tank top. A 1 ¼" fitting will allow for expansion into higher flows in the future. The hose ID affects the flow of the replenishment water, so the larger it is, the more water you will get. A tee can be installed at the fitting to allow for installation of more than one option to pick up your replenishment water. One method is to run a hose down from the tank to a fitting that allows a garden hose to be connected to the outside of the vehicle. This requires a female ¾" garden hose fitting to be mounted to the outside of the vehicle. Then a standard garden hose can be connected between the fitting on the outside of the vehicle and the water source. The ID of the hose affects the water flow dramatically, the longer the hose, the more the affect. Picking up water rapidly requires a short, large ID hose. Running the hose from the top of the water tank down to the outside fitting will cause the line to drain because of gravity when you disconnect the outside hose. This will reduce freezing of the garden hose fitting on the vehicle. Another method to run the replenishment hose is to run it from the fitting on the top of the tank down to a hose reel. The hose reel will store all your pick up fill hose and it is a lot easier than having to coil your hose up by hand, but remember, the longer the hose, the less the flow, so install fittings every fifty feet on the pick up hose. If you find yourself in a low water situation you can shorten the hose to increase the pick up water flow. Most of the time the best ID hose to use for pick up garden

"Money will buy you a pretty good dog, but it won't buy the wag of his tail."
-- Henry Wheeler Shaw

(TANK CONTINUED)

hose is $\frac{3}{4}$ " ID. Sometimes it is possible to rig a water replenishment pick up at your home or shop that enables you to pick up water more rapidly. Running a large diameter line directly from where a municipal source enters a building, or directly from the outlet of the water tank on a well, then dumping it into the man cover of the tank can accomplish this. If you can legally use a fire hydrant, using a fire hose enables you to fill your tank rapidly. A pump can be used to pull water quickly from a body of water like a lake or river, which can then be dumped in the water tank. If you pump from a body of water it is important to not pick up sand and other debris at the same time.

Inlet Water Filters (Strainers):

A pressure washer should never be operated with an unfiltered inlet water source. Components in the machine can be severely damaged by just one piece of grit flowing in with the supply water. The different types of water filters commonly used on pressure Washes include hose washer screens, bowl type filters, and y-type filters. Important features of a water filter are physical size, PSI rating, temperature rating, screen mesh size, port size, flow rating, and ease of servicing. Filter inspection and cleaning should be part of your equipment maintenance schedule. A dirty filter starves the pressure washer for water, which adversely affects performance and causes pump failure. Filters should be routinely checked weekly. When a flow or pressure loss is experienced, the filter is one of the components to be examined for problems.

Physical Size:

The dimensions of a water filter are important because number one it has to fit in the space where it is being installed into the inlet port of the high-pressure pump, and number two, if the filter is very small it limits the size of the filtering mesh surface. The less surface that is available to filter out debris, the quicker that surface will get dirty and begin to inhibit the water flow. A washer filter, for example is used very commonly on pressure washer equipment. It has an extremely small mesh area that clogs rapidly, and it also isn't visible. Both these features combine to create a situation where the inlet water flow is likely to become restricted, a condition that is very detrimental to the pump. Ideally, the larger the mesh surfaces the better. If the space for a filter at the pump is limiting you to a small size, consider mounting the filter remotely and running another section of hose from the filter to the pump inlet.

PSI Rating:

Inlet water filters are installed on the low-pressure side of the pump. The source water pressure must not exceed the PSI rating of the filter however. Most inlet water filters are rated to withstand 125 to 150 PSI. If the inlet water supply exceeds the rated limits of the filter most of the time it will blow out the gasket or crack the filter bowl. If the inlet supply pressure is too high for the filter, it is also too high for the pump, and a pressure-reducing valve should be installed upstream from the filter. Water tank applications have either very low PSI created by head pressure, or operate with suction in the feed line, so the PSI rating of the filter is unimportant. One other point is when the unloader bypass line is routed directly to the water filter the pressure of the by-pass water can become problematic if it is being forced through a small opening. If this is the case, route the by-pass to the water tank, or to the pump inlet on the opposite side from the water filter. Increasing the by-pass line ID reduces the PSI produced by the by-pass flow.

Temperature Rating:

This is only a factor if you use a supply source with hot water. Very few operations do so, as hot water affects other components of the pressure washer also. If you run equipment that has high temperature packings in the pump, and all the other components are rated for high temperatures, then you also have to check the rating of the water filter. Typically poly or nylon filters are rated at around 120 degrees. Aluminum filters are rated at high temperatures, up around 190 degrees.

Screen Mesh Size:

80-mesh size screen for an inlet filter is considered to be standard. For higher volume pumps, a larger mesh is advisable, 40 to 60 mesh being appropriate. The higher the number, the smaller the openings in the mesh are. Other mesh sizes are also available. The smaller the opening in the mesh, the greater the filtration, unfortunately the smaller mesh also clogs up quicker and it creates a greater resistance for the water flowing through it. This in turn reduces the gallons of water that will be able to flow through it in a given amount of time. A larger mesh reduces resistance but does not filter out particles that are too small.

Port Size:

The larger the inlet and outlet port size is the easier the water can flow through.

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(TANK CONTINUED)

Flow Rating:

Adequate flow is crucial to the operation of the pressure washer. We recommend using a water filter that has a flow rating twice the requirements of the pump. So a 5 GPM pump would require a 10 GPM flow rated water filter. If you make the pump work trying to pull water through a restricted water source your pump maintenance increases dramatically. The type of water source that is used effects the rated flow of a filter. Using a pressurized feed, like a municipal or well supply, pushes more water through the filter than working off a tank feed that is creating little or no PSI. Most filters are rated for both a pressurized and suction flow rate. If a filter is rated for only pressurized flow, it probably shouldn't be used in a water tank application.

Servicing:

Schedule inspection and cleaning weekly. A Y-TRAP type filter has a clean out that can be unscrewed on the lower section of the y. This is where the pollutants that have been filtered out collect. Flush the trap and the screen then reassemble. When cleaning a bowl type filter unscrew the bowl from the filter body, flush the bowl and the filter, and then reassemble. Hand-tighten the bowl, tightening further will crush the washer and create problems in the future. Always be careful when reassembling to seat the gasket properly and to not cross-thread and damage the threads. A clear bowl water filter allows for inspection without disassembly. While the filter is disassembled inspect the mesh screen and replace the filter where damage is discovered. If using a hose washer filter, which isn't recommended, clean the filter mesh screen daily.

A FLEETING THOUGHT...

Have any idea how many people I have seen come into this business and in a matter of a few short months disappear?

When I was washing in the 70's & 80's it became quite comical. At the beginning of every house washing season (March) I would pick up the local paper and there would be 5 or 6 new companies advertising but the 5 or 6 from the year before were nowhere to be found. Why? Well, anyone can be a Professional Mobile Washer. How can you tell - you ask and they will tell you they are? Also, it says so right on their business card!

But wait just a moment - sooner or later they are going to have to step up to the line, pull the trigger and prove it and that first job is usually when they begin to question their decision to become a Mobile Washer. As a result they say "hmmm... well I don't really know what I am doing so I'd better just charge them \$79.00 for this job". Sad to say - this situation represents about 85% of our industry.

It is so easy to become a Mobile Washer. For only a couple of hundred bucks a person can buy a pressure washer at the discount store - throw it in the back of his Ford Pinto and be off to the grocery store to pick up your chemicals.

For those of you who are truly looking for a future and want to be financially successful I beg of you to educate yourself before you pull the trigger. Read anything and everything you can about this Industry and other related Industries. Know your competition and know your own business. And by all means the two things you absolutely must do are; 1) Learn how to work on your equipment. Don't depend on a pressure washer distributor to keep you running. More often than not - when you are on the job site most of the distributors have gone home for the day, and 2) be factual and well informed when you talk to a potential customer. Sell yourself, your company and make it as obvious as possible that you know much more than your competitor. I have found that 95% of customers would much rather pay more to get the job performed in a professional manner by a true professional.

Good Luck! And please, always be a *PROFESSIONAL* Mobile Washer.

John Allison



"Mom will clean up everything. Scientists have proven that a mom's spit is the exact chemical composition of Formula 409. Mom's spit on a Kleenex: You get rust off a bumper with that thing."

-- Jeff Foxworthy

GENERAL PUMP BREAKDOWNS			
CPH 2520 UI	154	T 972 B	125
CPH 2530 UI	154	T 9731 B	125
CW 101	148	T 991	134
CW 1541	152	T 99351	134
CW 1635	153	T 9951	134
CW 2004	149	T 9971	134
CW 2040	150	T1321	140
CW 24	149	TP 2021 C17	129
CW 3040	149	TP 2024 C17	129
CW 61	151	TP 2032 C17	129
CW 81	151	TP 2520 J34UIL	130
EZ 2536 S	131	TP 2526 J34UIL	130
EZ 2542 S	131	TP 2530 J34UIL	130
EZ 2545 S	131	TP 2533 J34UIL	130
EZ 2555 S	131	TS 1011	138
EZ 3030 G34	132	TS 1041	141
EZ 3035 G	132	TS 1210	139
EZ 3040 G	132	TS 1331	137
EZ 3040 S	131	TS 1511	138
EZ 3042 S	131	TS 1531	141
EZ 3045 G	132	TS 1711	137
EZ 4035 G34	133	TS 2011 N	138
EZ 4040 G34	133	TS 2021 N	139
EZ 4040 G34	133	TT 1505 EBF	127
T 1011	139	TT 1540 GBF	128
T 121	147	TT 20228 GBF	128
T 151	147	TT 2028 EBF	127
T 1591	146	TT 2035 EBF	127
T 1621 N	140	TT 2035 GBF	128
T 2021 EBF	127	TT 901	126
T 3551 N	145	TT 9051 EBF	127
T 41	142	TT 9061 EBF	127
T 4251 N	143	TT 9061 GBF	128
T 5050	136	TT 9071 EBF	127
T 61	144	TT 9091 GBF	128
T 721 B	125	TT 911 EBF	127
T 731 B	125	TT 9111	126
T 81	144	TT 931	126
T 911	134	TT 941	126
T 921	140	TT 9441	134
T 921 N	135	TT 951	126
T 9211 N	137		

A-R PUMP BREAKDOWNS			
CWX	184	XM	162
GRKV	173	XMA	163
GXMV	174	XMA-SS	185
RCW	183	XMV	165
RK	167	XR	170
RKA	168	XRA	171
RKA-SS	187	XRC	170
RK-SS	186	XRCA	171
RKV	169	XRCV	172
SJV	157	XRV	172
SJW	158	XT	159
SXMA	164	XTA	160
SXMV	166	XTV	161
SXW	181	XW	175
SXWA	182	XWA	176
XB	188	XWF	178
XJV	157	XWL	179
XJV E	155	XWLA	180
XJW	158	XWT	177
XJW E	156		

COMET PUMP BREAKDOWNS			
AXD	189	HW	211
FW BALL	199	HWD	215
FW ROLLER	201	HWS	213
FWD	207	LW	191
FWD HOLLOW	209	LWD	195
FWS BALL	203	LWS	193
FWS ROLLER	205	ZWD	197

UDOR PUMP BREAKDOWNS			
GKC 1728 S	217	GKC 3020 S	220
GKC 2128 S	218	GKC 3817 S	221
GKC 2624 S	219	GKC 4215 S	222

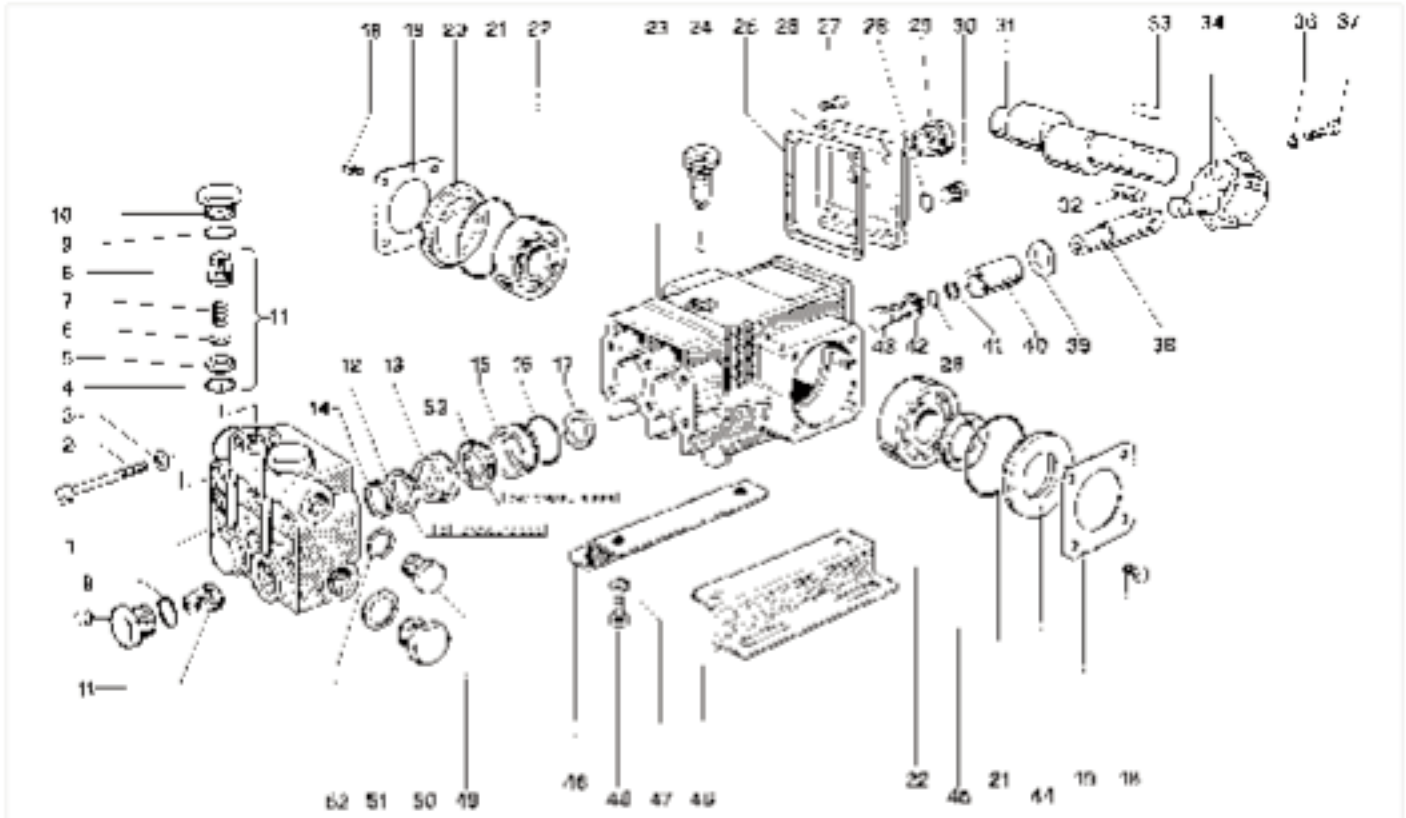
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"I take my children everywhere, but they always find their way back home."
 -- Robert Orben

T Series 49 - Solid Shaft

GENERAL PUMP

A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PARTNO.	DESCRIPTION	QTY.	ITEM	PARTNO.	DESCRIPTION	QTY.	ITEM	PARTNO.	DESCRIPTION	QTY.
1.	40.1200.22	Head, Pump Aluminum	1	10.	00.1000.74	Cover, Crankcase	2	04.	00.0000.01	Flt, Connecting	2
	40.1200.41	Head, Pump Brass	1	20.	00.2110.01	Spacer	1	00.	00.0000.00	Washer, M10.4 x 10 x .7	4
2.	00.0170.00	Screw, M8 x 90	6	21.	00.4007.00	O-Ring 2, 187 x .120	2	07.	00.1027.00	Screw, M8 x 90	4
3.	00.7014.00	Washer, M8.4 x 10 x 0.8	6	22.	01.8020.00	Bearing Ball	2	08.	00.0000.00	Galling Plate	2
4.	00.0841.00	O-Ring, .074 x .100	1 4	23.	40.0104.22	Crankcase	1	00.	00.7200.00	Washer, M14 x 20 x .6	0 2
5.	00.2000.00	Seat, Valve	1 4	24.	08.2100.00	Oil Dip Stick	1	40.	00.0404.00	Plate (30 min)	2
6.	00.2001.70	Plate, Valve	1 4	25.	40.2110.34	Gasket, Cover	1	41.	00.0007.00	Flt, In-Eng 400 x 30 x .05	0 2
7.	04.7070.00	Spindle	1 4	26.	40.1000.22	Cover, Crankcase	1	42.	00.7200.00	Washer, M14 x 18.5 x .5	0 2
8.	00.2002.01	Carriage Valve	1 4	27.	00.1807.00	S-Crew M8 x 14	4	43.	47.2100.00	Screw, Flange	0 2
9.	00.0847.00	O-Ring, .707 x .100	4 4	28.	00.0080.00	O-Ring, .420 x .070	0 0	44.	00.2110.01	Spacer	1
10.	00.2220.00	Cap, M24 x 2 x 10	4 4	29.	07.0008.00	In-Eng, Oil	1	45.	00.1004.00	Seal, Oil	1
11.	00.7002.01	Assembly Valve	1 4	30.	08.2041.00	Cap, 1/2-B SPP	1	46.	00.2000.74	Feet, Pump	2
12.	00.2700.00	Packing	10, 27 2	31.	40.0204.00	Crankshaft (T721B)	1	47.	00.7010.00	Washer, M8.4	4
13.	00.2100.70	Flt, In-Eng-Plate	20, 27 2		40.0201.00	Crankshaft (T731B)	1	48.	00.0007.00	Screw, M8 x 10	4
14.	00.1000.01	Flt, Head	21, 27 2		40.0220.00	Crankshaft (T9721B)	1	40.	08.2100.00	Cap, 3/8-B SPP	1
15.	00.0800.70	Retainer, Packing	22, 27 2		40.0217.00	Crankshaft (T9731B)	1	00.	08.2170.00	Cap, 1/2-B SPP	1
16.	00.0312.00	O-Ring, 1.235 x .070	22, 27 2	32.	07.7000.00	Flt, Wrist	2	01.	00.7014.00	Washer, M12.0 x 27 x 1.0	1
17.	00.1014.00	Seal, Oil	20 2	33.	01.4878.00	Key	1	02.	00.7080.00	Washer, M17.0 x 23 x 1.0	1
18.	00.1807.00	Screw, M8 x 10	8					03.	00.2000.00	Seal, Low Press, 20min 13, 27	2

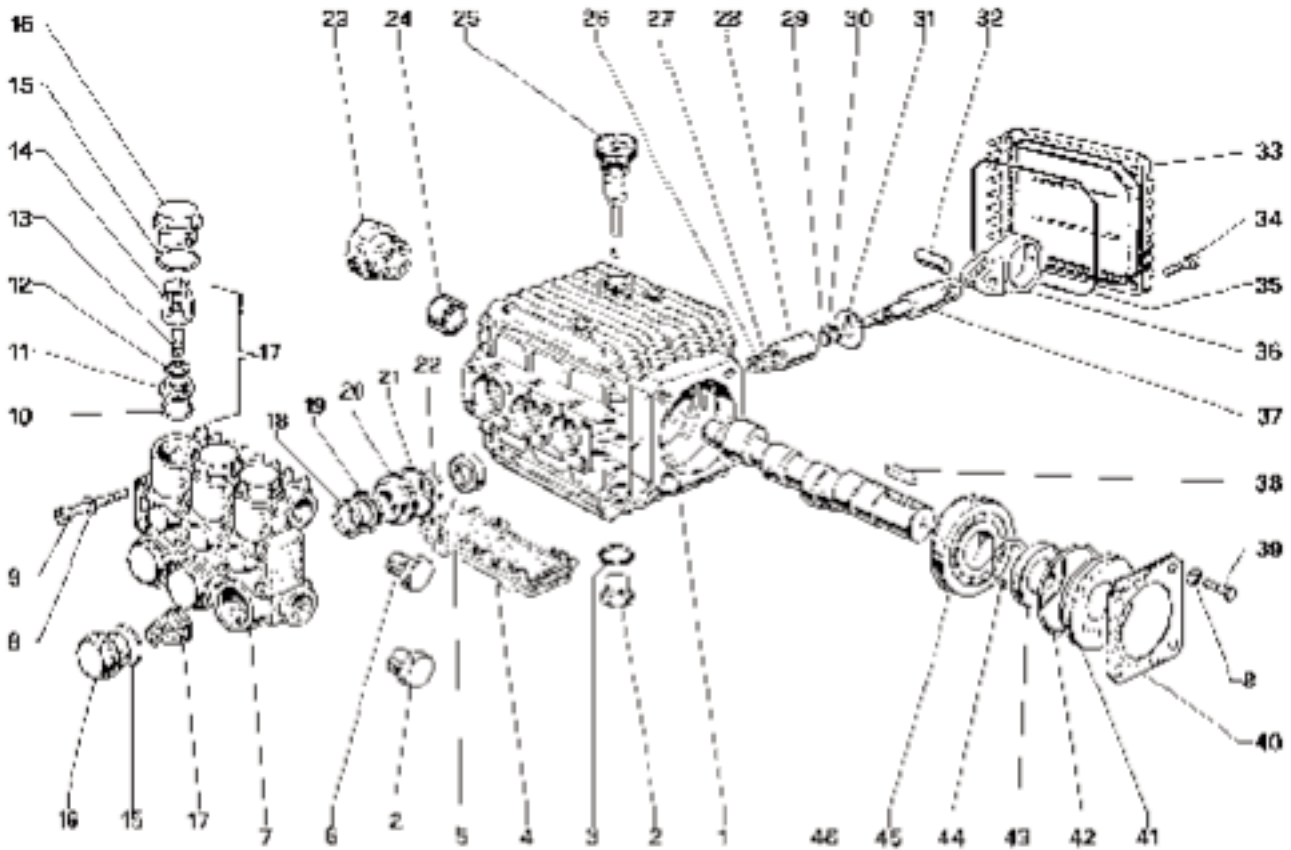
REPAIR KITS

KIT NO.	1	4	6	10	20	21	22	23	27
ITEM NO'S INCLUDED IN KIT	4, 6, 6, 7, 8 (11)	8, 10	28, 38, 41, 42, 43	12, 33	13	14	15, 16	17	12, 13, 14, 15, 16, 33
NUMBER OF ASSEMBLIES IN KIT	6	6	3	3	3	6	3	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	-	3	3	3	3	3	1

MODELS:
T721B
T731B
T972B
T9731B

"Heaven goes by favor. If it went by merit, you would stay out and your dog would go in."
 -- Mark Twain

TT Series 51 – Solid Shaft **GENERAL PUMP** A member of the Toro Outboard Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.
1.	G1.0106.22	Crankcase		1	18.	G1.1000.01	Heel Flng	00,07	0	01.	00.7070.00	Flnger Washer		0
2.	00.2100.00	Plng		2	19.	G1.1001.01	Heel Flng (TT111)	140,141	0	02.	07.7010.00	Conndng Pol Flt		0
3.	00.0000.00	O-Rng		1	10.	00.2000.00	Packing	00,07	0	03.	G1.1000.22	Crankcase Cover		1
4.	G1.2001.02	Protector		1	00.	00.2001.00	Packing (TT111)	140,141	0	04.	00.1007.00	Screw		4
5.	00.1000.00	Oil Seal	80	0	20.	G1.0000.70	Packing Fastener	00,00	0	05.	00.0017.00	Cover O-Rng		1
6.	00.2041.00	Plng		1	01.	G1.0000.70	Pack. Ret. (TT111)	130,140	0	06.	G1.0000.22	Conndng Pol End		0
7.	G1.1200.22	Manfol. Almn.		1	21.	00.3004.00	O-Rng	00,00,07	0	07.	G1.0000.00	Conndng Pol		0
	G1.1200.41	Manfol. Brse			00.	00.3004.00	O-Rng (TT111)	130,140,141	0	08.	01.4878.00	Key		1
	G1.1204.41	Manfol. Brse (TT111)			22.	00.0000.00	O-Rng	00,00,07	0	09.	00.1007.00	Screw		4
8.	00.0000.00	Washer	0	0	00.	00.0040.00	O-Rng	100,140,141	0	40.	00.1000.74	Fastener		1
9.	00.1040.00	Screw	0	0	23.	07.0008.00	Stklt Cenge		1	41.	00.2110.01	Spacer		1
10.	00.0041.00	O-Rng	1	0	24.	G1.8010.00	Needle Bearing		1	42.	00.4007.00	O-Rng		1
11.	00.2000.00	Valve Seal	1	0	25.	00.2100.00	Oil Dip SWS		1	43.	00.1004.00	Oil Seal		1
12.	00.2001.70	Valve Plate	1	0	26.	02.2210.00	Nut		0	44.	00.0000.00	Snap Flng		1
13.	04.7376.00	Spring	1	0	27.	00.7000.00	Washer		0	45.	01.0020.00	Bearing		1
14.	00.2002.01	Valve Cage	1	0	28.	G1.0400.00	Plunger - 10 mm		0	46.	G1.0200.00	Crankshaft (TT901)		1
15.	00.2041.00	O-Rng	04	0	01.	G1.0400.00	Plunger - 10 mm (TT111)		0		G1.0001.00	Crankshaft (TT901)		
16.	00.2210.00	Valve Cap	04	0	29.	00.3072.00	O-Rng		0		G1.0204.00	Crankshaft (TT941, TT9111)		
17.	00.7002.01	Valve Assy.	1	0	30.	00.0002.00	Back Up Flng		0		G1.0217.00	Crankshaft (TT901)		

REPAIR KITS

MT NO.	1	80	84	80 or 130	00 or 140	07 or 141
ITEM NO. INCLUDED IN KIT	10, 11, 12 13, 14 (17)	6	10, 10	20, 21 22	10, 10 20, 21 22	10, 10 21, 22
NUMBER OF ASSEMBLIES IN KIT	0	0	0	0	1	0
NUMBER OF CYLINDERS KIT WILL SERVICE	0	0	0	0	1	0

MODELS:
TT901
TT931
TT941
TT951
TT9111

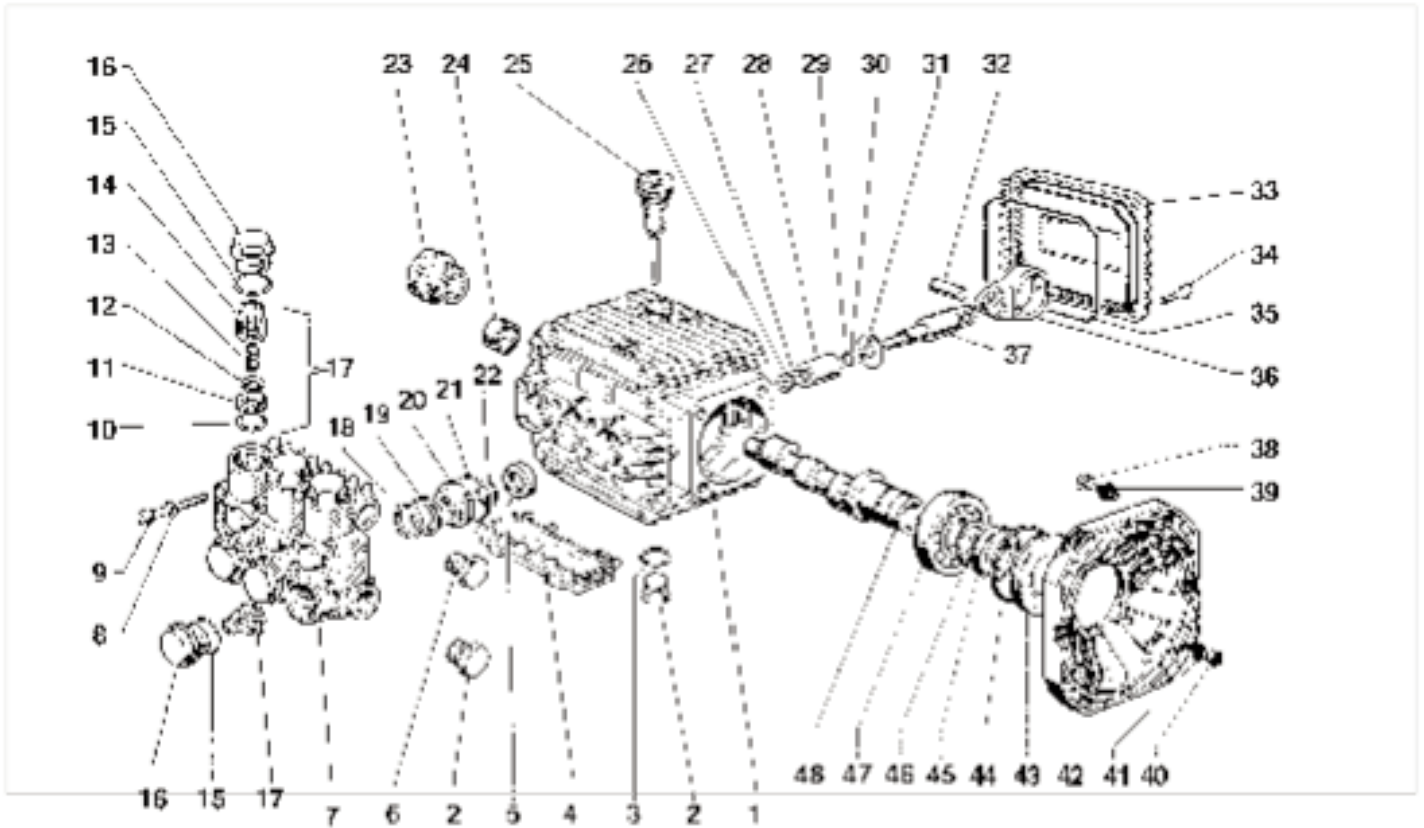
SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"I care not for a man's religion whose dog and cat are not the better for it."
-- Abraham Lincoln

TT Series 51 – EBF

GENERAL PUMP

A member of the full line-up of GoUp



PARTS LIST

ITEM	PART NO.	DESCRIPTION	INT.	QTY.	ITEM	PART NO.	DESCRIPTION	INT.	QTY.	ITEM	PART NO.	DESCRIPTION	INT.	QTY.
1.	61.010022	Crankcase		1	10.	002020.00	Flange	00.07	0	04.	00.100700	Screws M10 x 18		4
2.	08.210000	Flng. 08-BEPF		2		002581.00	13mm (TT911)	140.4	1	05.	00.001700	Caplet		1
3.	00.080300	O-Flng. .040 x .100		1	20.	010900.70	Flange Retainer	00.00	0	06.	01.000022	Connecting Rod End		0
4.	61.200102	Protector		1		010900.70	(TT911)	103.4	0	07.	01.000000	Piston Guide		0
5.	00.100000	Oil Seal	80	0	21.	003004.00	O-Flng. 208 x .070	05.05.07	0	08.	00.304000	Screws 08-BEPF		4
6.	08.204100	Flng		1			(TT911)	150.140.141	0	09.	00.710400	Washer M10 Solucon		4
7.	61.120020	Manifold, Aluminum		1	22.	003800.00	O-Flng. 204 x .500	05.00.07	0	40.	00.100700	Screws M10 x 18		4
	61.120041	Manifold, Brass				003842.00	(TT911)	150.140.141		41.	00.000800	Washer M10.4 Solucon		4
	61.120441	Manifold, Brass (TT911)			23.	070008.00	Spst Gauge		1	42.	10.004422	Flange		1
8.	00.000800	Washer M10.4 Solucon		12	24.	018010.00	Needle Bearing		1	43.	00.211001	Spacer		1
9.	00.104000	Screws M10 x 40		12	25.	082100.00	Oil City-Blok		1	44.	00.400700	O-Flng. 2.187 x .100		1
10.	00.084100	O-Flng. .074 x .100		1	26.	022210.00	Flng. M8		0	45.	00.104400	Oil Seal		1
11.	00.200000	Valve Seat		1	27.	007008.00	Washer M8		0	46.	00.000700	Snap Flng		1
12.	00.200170	Valve Plate		1	28.	010400.00	Flngstr (10 mm)		0	47.	20.280021	Bearing		1
13.	04.707000	Spflng		1	29.	010401.00	12 mm, Soft Ceramic (T911)		0	48.	01.022200	Crankshaft (TT1000)		1
14.	00.200201	Valve Cage		1	30.	003072.00	O-Flng. 208 x .070		0		01.020600	Crankshaft (TT2001, TT2021)		
15.	00.084700	O-Flng. .707 x .100		84	31.	003002.00	Back-up Flng		0		01.021000	Crankshaft (T9001, TT911)		
16.	08.221800	Valve Cap		84	01.	007070.00	Washer Flngstr		0		01.020000	Crankshaft (TT0071, TT2028)		
17.	00.700201	Valve Assembly		1	02.	027010.00	Connecting Rod Flg		0		01.021800	Crankshaft (TT2000)		
18.	61.100001	Head Flng	00.07	0	33.	61.1000.22	Crankcase Cover		1					
	61.100101	Head Flng (TT911)	140.141											

REPAIR KITS

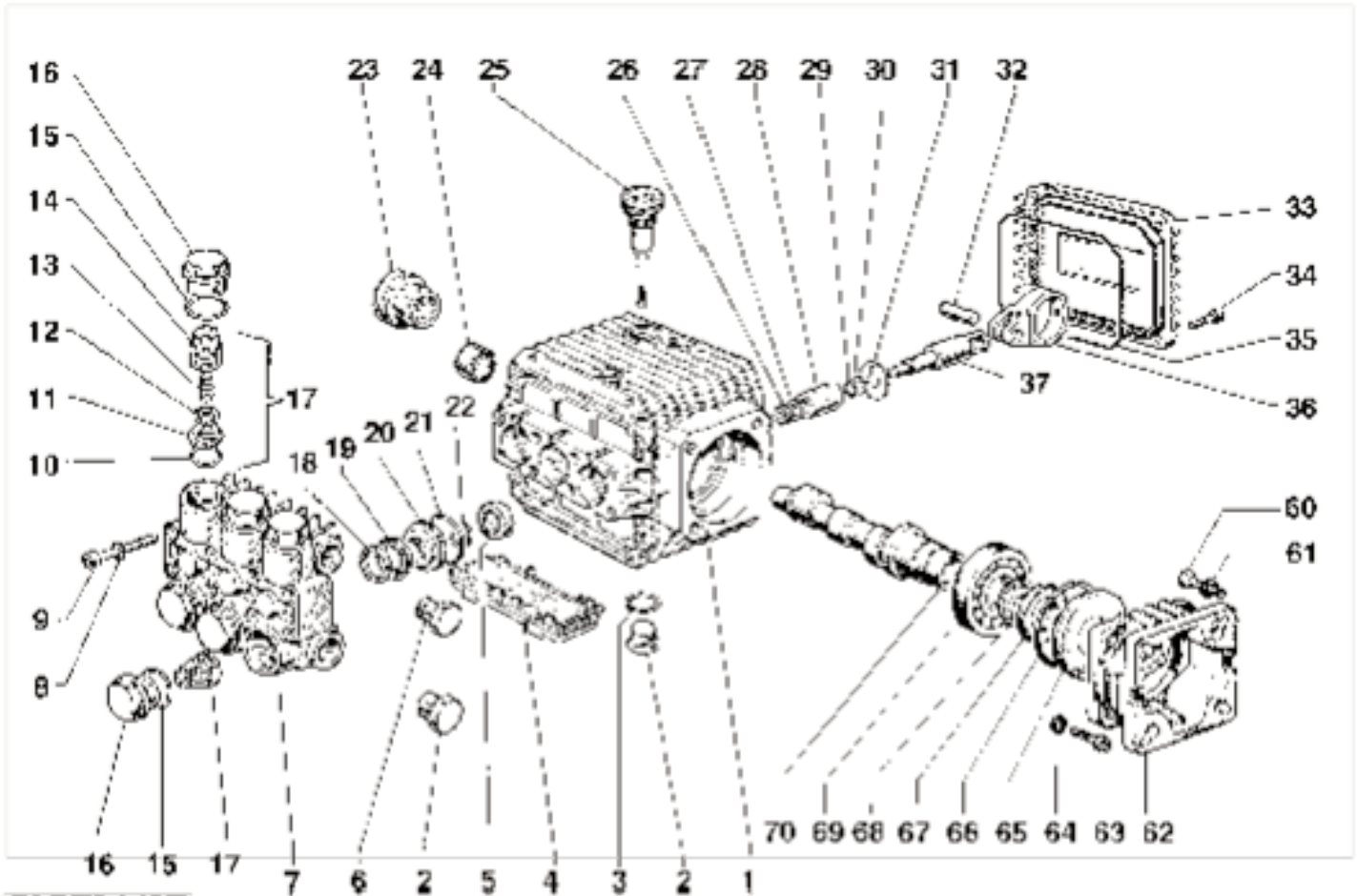
KIT NO.	1	80	84	80	80	07	130	140	141
ITEM NO.s INCLUDED IN KIT	10, 11, 12, 6, 7, 8 (13)	6	10, 10	20, 21, 22	18, 10, 20, 21, 22	18, 10, 21, 22	20, 21, 22	18, 10, 20, 21, 22	18, 10, 21, 22
NUMBER OF ASSEMBLIES IN KIT	0	0	0	0	1	0	0	1	0
NUMBER OF CYLINDERS KIT WILL SERVICE	0	0	0	0	1	0	0	1	0

MODELS:
TT1505EBF
T2021EBF
TT2028EBF
TT2035EBF
TT9051EBF
TT9061EBF
TT9071EBF
TT911EBF

"Some people are uncomfortable with the idea that humans belong to the same class of animals as cats and cows and raccoons. They're like the people who become successful and then don't want to be reminded of the old neighborhood."
 -- Phil Donahue, US TV talk show host

TT Series 51 – GBF

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT	QTY.	ITEM	PART NO.	DESCRIPTION	KIT	QTY.	ITEM	PART NO.	DESCRIPTION	KIT	QTY.
1.	010100.22	Crankcase		1	17.	00.7032.01	Valve Assembly	1	0	55.	00.0017.00	O-Ring		1
2.	002100.00	Plug, 3/8x5/16		2	18.	01.1000.01	Head Plug	00,07	0	56.	01.0000.22	Connecting Rod		0
3.	000800.00	O-Ring, .640 x .100		1	19.	00.2020.00	Packing	00,07	0	57.	01.0000.00	Piston Guide		0
4.	012001.02	Protector		1	20.	01.0000.70	Packing Retainer	00,00	0	58.	00.2730.00	Screw, 5/16"		4
5.	001000.00	Oil Seal	83	0	21.	00.3004.00	O-Ring, .980 x .070	00,00,07	0	59.	00.7014.00	Washer, M10, 4, 8-dimor		4
6.	002041.00	Plug		1	22.	00.3000.00	O-Ring, .604 x .100	00,00,07	0	60.	10.0040.22	Flange		1
7.	011200.41	Manifold, Brass		1	23.	07.0008.00	Sight Gauge		1	61.	00.1907.00	Screw, M10 x 18		4
	011200.22	Manifold, Aluminum			24.	01.8090.00	Needle Bearing		1	62.	00.0000.00	Washer, M10, 4, 8-dimor		4
8.	000008.00	Washer, M10, 8-dimor		12	25.	00.2100.00	Oil Dip Stick		1	63.	00.2110.01	Spacer		1
9.	001040.00	Screw, M10 x 40		12	26.	02.2210.00	Nut, US		0	64.	00.4007.00	O-Ring, 2.187 x .100		1
10.	000841.00	O-Ring, .074 x .100		1	27.	00.7008.00	Washer, M10		0	65.	00.1044.00	Oil Seal		1
11.	002000.00	Valve Seat		1	28.	01.0400.00	Flange (Top)		0	66.	00.0007.00	Snap Ring		1
12.	002001.70	Valve Plate		1	29.	00.3021.00	O-Ring, .208 x .070		0	67.	20.2030.21	Bearing		1
13.	047070.00	Spring		1	30.	00.0022.00	Backstop Plug		0	70.	01.0210.00	Crankshaft (TT9061)		1
14.	002002.01	Valve Cage		1	31.	00.7070.00	Washer, Flange		0		01.0211.00	Crankshaft (TT9091, TT2028)		
15.	000847.00	O-Ring, .787 x .100		84	32.	07.7010.00	Connecting Rod Pin		0		01.0210.00	Crankshaft (TT1540)		
16.	002218.00	Valve Cap		84	33.	01.1000.22	Crankcase Cover		1		01.0210.00	Crankshaft (TT2035)		
					34.	00.1807.00	Screw		4					

REPAIR KITS

KIT NO.	1	83	84	80	80	87
ITEM NO.s INCLUDED IN KIT	10, 11, 12, 13, 14, (17)	6	15, 16	20, 21, 22	18, 19, 20, 21, 22	18, 19, 21, 22
NUMBER OF ASSEMBLIES IN KIT	0	0	0	0	1	0
NUMBER OF CYLINDERS KIT WILL SERVICE	0	0	0	0	1	0

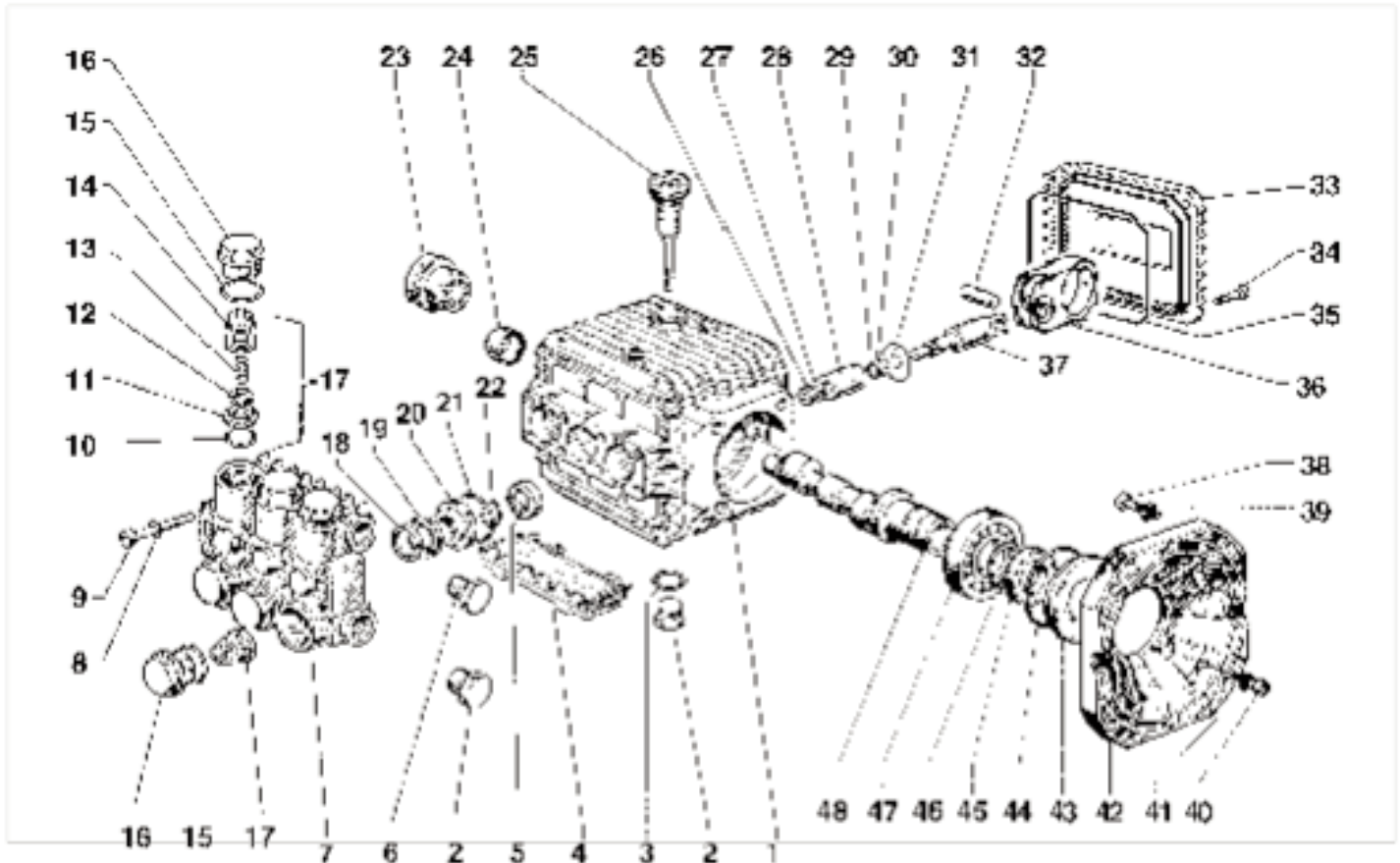
MODELS:
TT9061GBF
TT9091GBF
TT1540GBF
TT2028GBF
TT2035GBF

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"Love is when my mommy makes coffee for my daddy and she takes a sip before giving it to him, to make sure the taste is OK."

TP Series 51 - C17

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PARTNO.	DESCRIPTION	KIT	QTY.	ITEM	PARTNO.	DESCRIPTION	KIT	QTY.	ITEM	PARTNO.	DESCRIPTION	KIT	QTY.	
1.	01.0100.22	Crankcase	1		18.	01.1000.01	Head Flg	00,07	0	01.	00.7070.00	Washer, Flnger	0		
2.	00.2100.00	Flng, 00-BSP	2		19.	01.1001.01	Head Flg	140,141		02.	07.7010.00	Correctng Pol Flt	0		
3.	00.0000.00	O-Flng, .040 x .100	1		10.	00.2020.00	Packing	00,07	0	00.	01.1000.22	Crankcase Cover	1		
4.	01.2001.02	Protector	1		00.2021.00	Stator	140,141		04.	00.1007.00	Screwy M10 x 10	4			
5.	00.1000.00	Oil Seal	00	0	20.	01.0000.70	Packing Fastener	00,00	0	00.	00.0017.00	Caplet	1		
6.	00.2041.00	Flng	1		01.0000.70	Stator	100,140		00.	01.0001.22	Correctng Pol Brl	0			
7.	01.1200.20	Manifd, Alumina	1		00.0004.00	O-Flng, .060 x .070	Stator	00,00,07	0	07.	01.0000.00	Flator O-Ring	0		
	01.1200.41	Manifd, Brc						100,140,141		08.	00.0040.00	Screwy 00-BSP	4		
	01.1204.41	Manifd, Brc (TP 2022)			22.	00.0000.00	O-Flng, .004 x .100	Stator	00,00,07	0	00.	00.7104.00	Washer, M10, Solnorr	4	
8.	00.0008.00	Washer, M10, Solnorr	12		00.0040.00	Stator	100,140,141		40.	00.1007.00	Screwy M10 x 10	4			
9.	00.1040.00	Screwy M10 x 40	12		07.0008.00	Stklt Genge	1		41.	00.0008.00	Washer, M10, Solnorr	4			
10.	00.0041.00	O-Flng, .074 x .100	120	0	01.8010.00	Needle Bearing	1		42.	10.0044.22	Flange	1			
11.	00.2000.00	Valve Seat	120	0	00.2100.00	Oil Dip-Stock	1		43.	00.2110.01	Spacer	1			
12.	00.2001.70	Valve Plate	120	0	00.2210.00	Flat, M8	0		44.	00.4007.00	O-Flng, 2.187 x .100	1			
13.	04.7070.00	Spkltg	120	0	00.7008.00	Washer, M8	0		45.	00.1044.00	Oil Seal	1			
14.	00.2002.01	Valve Cage	120	0	00.1040.00	Plunger	0		46.	00.0007.00	Strip Flng	1			
15.	00.0047.00	O-Flng, .707 x .100	04	0	01.0401.00	Stator	1		47.	20.2000.21	Bearing	1			
16.	00.2210.00	Valve Cap	04	0	00.0072.00	O-Flng, .200 x .070	0		48.	01.0210.00	Crankshaft	1			
17.	00.7110.01	Valve Assembly	120	0	00.0002.00	Back-up Flng	0			01.0220.00	Crankshaft (TP 2024)				

REPAIR KITS

KIT NO.	00	00 (15hp)	00 (15hp)	07 (15hp)	120	100 (15hp)	140 (15hp)	141 (15hp)
ITEM NO.s INCLUDED IN KIT	6	20, 21, 22	18, 19, 20, 21, 22	18, 19, 21, 22	6, 7, 8, 10, 11, 12 (17)	20, 21, 22	18, 19, 20, 21, 22	18, 19, 21, 22
NUMBER OF ASSEMBLIES IN KIT	3	3	1	3	6	3	1	3
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	1	3	3	3	1	3

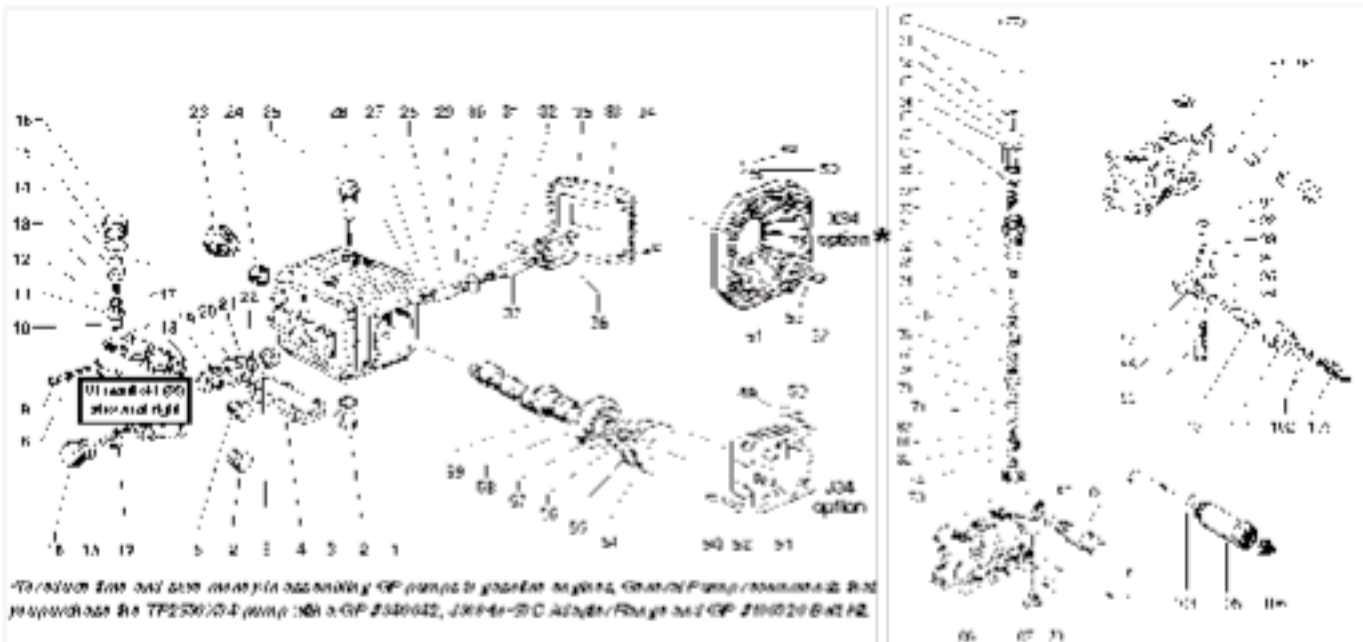
MODELS:
TP2021C17
TP2024C17
TP2032C17

"The dog was created specially for children. He is the god of frolic."
 -- Henry Ward Beecher

TP Series 51 - w/Unloader, Injector

GENERAL PUMP

A member of the In-Line Pump Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	
1	51.0106.22	Cartridges		1	37	51.050854	Plunger Rod-1		1	72	30.3165.70	Valve Guide	102	1	
2	30.2100.00	Plug, 5/8		1	40	30.2710.00	Screw, J34		4	73	30.5075.00	O-Ring	102	1	
3	30.3000.00	O-Ring		1	33	30.4500.00	Screw, X34		4	74	30.5075.00	Backup Ring	102	1	
4	51.0201.02	Extruder		1	50	30.701400	Washer, J3-4		4	80	30.3132.66	Valve	102	1	
5	30.1500.00	Oil Seal	00	0	36	30.704000	Washer, X34		4	81	30.1503.00	Screw	102	1	
6	30.2040.00	Plug, 1/4		1	51	30.004422	Flange, J3-4		1	82	30.3164.66	Valve Seat	102	1	
7	30.6000.00	Washer		0	50	30.004422	Flange, X3-4		1	83	30.3082.00	O-Ring	04	1	
8	30.1040.00	Screw		0	52	30.1042.00	Screw		4	84	10.0001.70	nipple, 3/8"PT-1/2"		1	
10	30.3040.00	O-Ring	120	0	53	30.6030.00	Washer		4	85	10.0147.70	nipple, 1/2"PT-1/2"	option		
11	30.2000.00	Valve Seat	120	0	54	50.211551	Spacer		1	86	10.0111.70	nipple, 3/8"PT-1/2"	option		
12	30.2001.70	Valve Plate	120	0	55	30.4037.00	O-Ring		1	86	51.1201.41	U-Bracket		1	
13	34.7070.00	Spring	120	0	56	30.164400	Oil Seal		1	87	30.2057.00	Cap		1	
14	30.3025.51	Valve Gage	120	0	57	30.0047.00	Snap Ring		1	88	30.2048.00	Cap		1	
15	30.3040.00	O-Ring		0	58	30.2035.21	Bracket		1	89	30.3022.00	O-Ring	04	1	
16	30.2016.00	Valve Cap		0	59	51.0210.00	Crackkalls, TP 250		1	90	10.0451.66	2-1/2" Flange		1	
17	30.7115.01	Valve Assy.	120	0	51	51.0211.65	Crackkalls, TP 250		1	91	30.3022.00	O-Ring	04	1	
18	51.1000.51	Head Ring	06,37	0	51	51.0211.65	Crackkalls, TP 250		1	92	34.3217.00	Spring	04	1	
19	30.2020.00	Padding	06,37	0	51	51.0211.65	Crackkalls, TP 250		1	93	37.4702.00	Ball	04	1	
20	51.0000.70	Padding Retainer	06,36	0	60	30.313751	Roller		1	94	30.3572.00	O-Ring	04	1	
21	30.3004.00	O-Ring	06,36,37	0	61	30.3063.00	Ball M8 x 25		1	95	34.7283.00	Spring	04	1	
22	30.3030.00	O-Ring	06,36,37	0	62	30.2210.00	Ring M8		1	96	30.3022.00	O-Ring	04	1	
23	37.5300.00	Sight Gauge		1	63	30.3531.00	O-Ring, 20.35x1.70		1	97	30.3131.51	Body		1	
24	30.2120.05	Hex-E Bearing		1	64	30.3135.70	Pressure Regulator		1	98	30.3020.00	O-Ring	04	1	
25	30.2100.00	Oil Dip Stick		1	65	30.3133.70	Seal		1	99	30.2051.70	Valve Seat		1	
26	30.2210.00	Fla		0	66	34.7430.00	Spring, 15 x 30		1	100	30.2584.70	Shank		1	
27	30.7000.00	Washer		0	67	30.3104.70	Bracket		102	1	101	30.2585.51	Roller		1
28	51.0400.00	Flange (15 mm)		0	68	30.3047.00	O-Ring		102	1	102	30.3573.00	O-Ring	04	2
29	30.3570.00	O-Ring		0	69	30.3133.70	Seal		102	1	103	30.2584.70	Coupling		1
30	30.5022.00	Back-Up Ring		0	70	34.7032.00	Spring		102	1					
31	30.7070.00	Flange Washer		0	71	30.3575.00	O-Ring		102	0					
32	37.7010.00	Conv. Rod Pin		0	72	37.2000.00	Ball		100	1					
33	51.1600.22	Cartridge Cover		1	73	30.5065.00	Backup Ring		102	2					
34	30.1047.00	Screw		4	74	30.3022.00	O-Ring		102	2					
35	30.3017.00	Cover O-Ring		1	75	30.3133.70	Seal		102	1					
36	51.0601.22	Canneting Rod		0	76	30.5025.00	Backup Ring		102	1					

REPAIR KITS

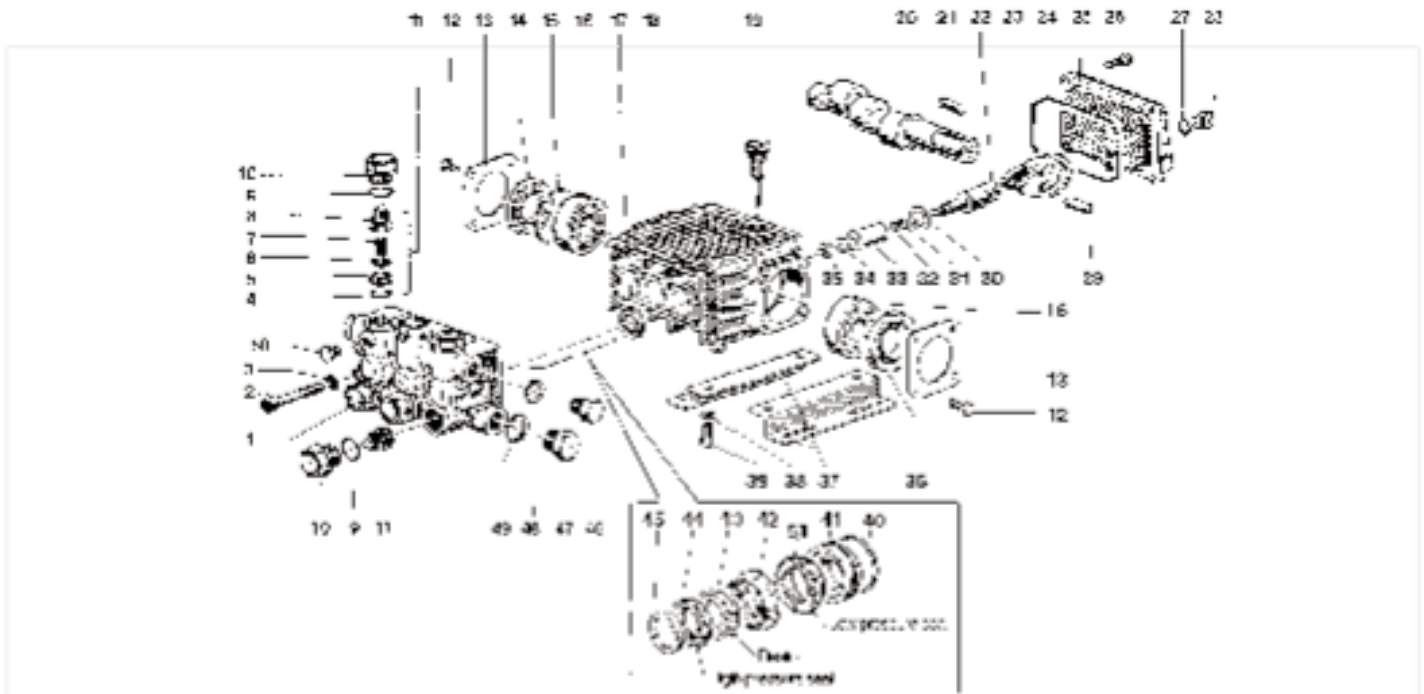
ITEM NO. INCLUDED #KIT	83	86	94	99	97	102	120
NUMBER OF ASSEMBLIES #KIT	3	3	—	1	3	—	0
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	—	1	3	—	3

MODELS:
TP2520J34UIL
TP2526J34UIL
TP2530J34UIL
TP2533J34UIL

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"They [dogs] never talk about themselves but listen to you while you talk about yourself, and keep up an appearance of being interested in the conversation."
 -- Jerome K. Jerome

EZ Series 44 S - 2500/3000 PSI GENERAL PUMP A member of the Datsun Group



PARTS LIST

Part No.	Description	Part No.	Qty.	Part No.	Description	Part No.	Qty.	Part No.	Description	Part No.	Qty.	
1	44120441 Nut/Bolt (18mm: E220308, E220428, E230428) 44120441 Nut/Bolt (10mm: E220408, E220308, E230408)	21	00480000 Key	22	44000000 Plunger Guide	42	44210170 Intermittent Plug (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	0	43	00200000 Pad/ing (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	127, 101	0
2	00317000 Screw	23	44000002 Connecting Rod	24	00002000 O-Ring	44	00202200 Pad/ing (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	0	45	00202000 Pad/ing (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	88, 100	0
3	00701400 Washer	25	44100002 Flange Cover	25	00180700 Screw	46	00738000 Washer	1	47	00217000 Cap Screw	1	1
4	00084100 O-Ring	26	00009000 O-Ring	26	00204100 Cap Screw	48	00738000 Washer	1	48	00738000 Washer	1	1
5	00200000 Valve Seat	27	00009000 O-Ring	27	00734000 Pin	49	00731400 Washer	1	49	00731400 Washer	1	1
6	00200170 Valve	28	00009000 O-Ring	28	00730000 Washer	50	00100000 Cap Screw	1	50	00100000 Cap Screw	1	1
7	04737000 Spring	29	00204100 Cap Screw	29	00002200 Air Extraction Plug	51	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
8	00202001 Valve Cage	30	00007200 O-Ring	30	00007200 O-Ring	52	44100101 Head Plug (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	0	01100001 Head Plug (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	00, 100	0	
9	00084100 O-Ring	31	44040100 Plunger, 18mm (E25148, E25148, E20048)	31	44040100 Plunger, 10mm (E25148, E25148, E20048)	53	44100101 Head Plug (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	120, 101	0	01100001 Head Plug (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	00, 100	0
10	00222000 Cap Screw	32	00700800 Washer	32	00700800 Washer	54	00210000 Cap Screw	1	40	00210000 Cap Screw	1	1
11	00711001 Valve Assembly	33	02221000 Nut	33	02221000 Nut	41	00217000 Cap Screw	1	41	00217000 Cap Screw	1	1
12	00180700 Screw	34	00700800 Washer	34	00700800 Washer	42	00738000 Washer	1	42	00738000 Washer	1	1
13	00100074 Bearing Cover	35	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	35	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	43	00731400 Washer	1	43	00731400 Washer	1	1
14	44211801 Spacer	36	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	36	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	44	00100000 Cap Screw	1	44	00100000 Cap Screw	1	1
15	00400700 O-Ring	37	44080170 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	37	44080170 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	45	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
16	01832800 Ball Bearing	38	44080070 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	38	44080070 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	46	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
17	00101400 Oil Seal	39	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	39	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	47	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
18	44010022 Crankcase	40	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	40	00001200 O-Ring (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	48	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
19	00210300 Oil Dip Stck	41	44080170 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	41	44080170 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	49	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
20	44020000 Crankshaft (E230408)	42	44080070 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	42	44080070 Packing Retainer (18mm: E25148, E25148, E20048) (10mm: E25148, E25148, E20048)	50	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
		43	44020000 Crankshaft (E25148, E25148)	43	44020000 Crankshaft (E25148, E25148)	51	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0
		44	44020000 Crankshaft (E220428, E220308)	44	44020000 Crankshaft (E220428, E220308)	52	00208400 Seal, Low Free. (18mm: E220308, E220428) (10mm: E220408, E220308)	127, 101	0	00201700 Seal, Low Free. (18mm: E220408, E220308) (10mm: E220408, E220308)	88, 100	0

REPAIR KITS

KIT NO.	23	88 or 127	88 or 128	90 or 129	120	124	125 or 128	100 or 101
ITEM NO.s INCLUDED IN KIT	17	43, 44, 61	42	45	4, 5, 6, 7, 8, (11)	9, 10	40, 41	40, 41, 42, 43, 44, 45, 61
NUMBER OF ASSEMBLIES IN KIT	3	3/3	3	3	3	3	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	3	3	3	1

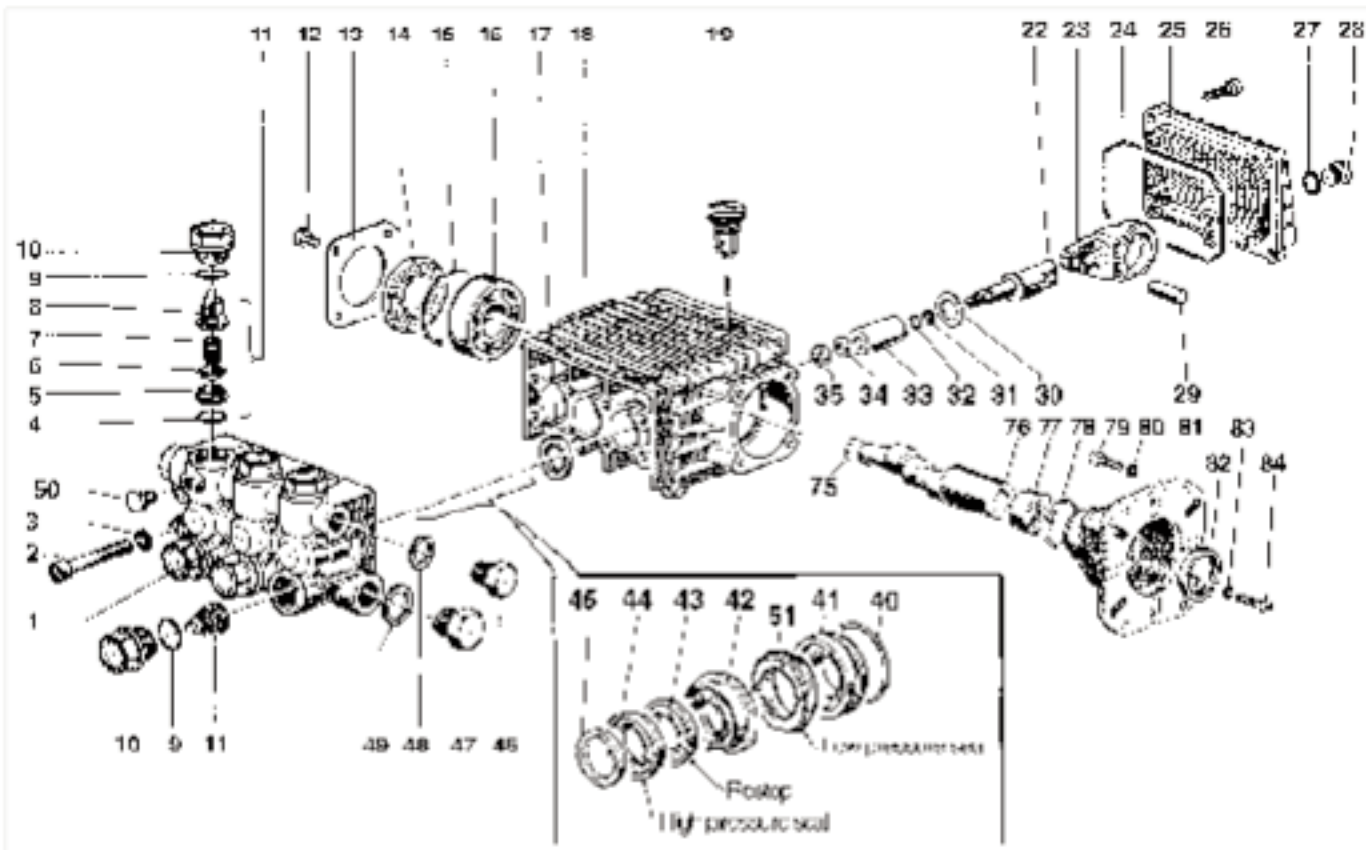
MODELS:
EZ2536S
EZ2542S
EZ2545S
EZ2555S
EZ3040S
EZ3042S

""Our father, who does art in heaven. Harold is his name. Amen"
 -- Reese, age 5

EZ Series 44 G – 3000 PSI

GENERAL PUMP

A member of the EZ Pump Group



PARTS LIST

Item Part No.	Description	ICR No.	Qty.	Item Part No.	Description	ICR No.	Qty.	Item Part No.	Description	ICR No.	Qty.
1	44.1200.41 Manifold (16 mm)		1	23	44.0000.22 Connecting Pin		0	47	062170.00 Cap Screw		1
2	00.0170.00 Screw		8	24	00.0020.00 O-Flay		1	48	00.7000.00 Washer		1
3	00.7014.00 Washer		8	25	44.1000.22 Rear Cover		1	49	00.7014.00 Washer		1
4	00.0841.00 O-Flay	120	0	26	00.1807.00 Screw	0	0	50	00.1000.00 Cap Screw		1
5	00.3000.00 Valve Seal	120	0	27	00.0000.00 O-Flay		1	51	00.2017.00 Seal Low Press.	06, 100	0
6	00.2001.70 Valve	120	0	28	06.2041.00 Cap Screw		1	75	00.0000.00 Retaining Flay		1
7	04.7070.00 Spring	120	0	29	07.7040.00 Pin		0	76	44.0212.00 Crankshaft (E200400)		1
8	00.2000.01 Valve Cage	120	0	30	00.7000.00 Washer		0	44.0220.00 Crankshaft (E200000)		1	
9	00.0847.00 O-Flay	124	0	31	00.0022.00 Air/Exhaustion Flay		0	44.0200.00 Crankshaft (E200400)		1	
10	06.2220.00 Cap Screw	124	0	32	00.0072.00 O-Flay		0	44.0210.00 Crankshaft (E200000)		1	
11	00.7110.01 Valve Assembly	120	0	33	02.0400.00 Piston, 10Cass		0	77	018000.00 Roller Bearing		1
12	00.1807.00 Screw		4	34	00.7000.00 Washer		0	78	00.4007.00 O-Flay		1
13	00.1000.74 Bearing Cover		1	35	02.2210.00 Nut		0	79	00.2700.00 Screw G10x1		4
14	44.2110.01 Spacer		1	40	00.0012.00 O-Flay	120, 100	0	00.0040.00 Screw 3/8x1		4	
15	00.4007.00 O-Flay		1	41	44.0800.70 Piston Retainer	120, 100	0	80	00.7020.00 Washer, 28 mm		4
16	01.8020.00 Ball Bearing		1	42	02.2100.70 Intermittent Flay	06, 100	0	00.7104.00 Washer, 210 mm		4	
17	00.1014.00 Oil Seal	20	0	43	00.2022.00 Piston	06, 100	0	81	10.0010.22 Gas Flange		1
18	44.0100.22 Crankcase		1	44	00.2020.00 Piston	06, 100	0	82	00.1000.00 Oil Seal		1
19	06.2100.00 Oil Dip Stick		1	45	01.1000.01 Head Flay	06, 100	0	83	00.0000.00 Washer		4
22	44.0000.00 Piston Guide		0	46	06.2100.00 Cap Screw		1	84	00.1010.00 Screw		4

REPAIR KITS

KIT NO.	23	88	89	90	123	124	125	100
ITEM NO.s INCLUDED IN KIT	17	43, 44, 61	42	45	4, 5, 6, 7, 8, (11)	9, 10	40, 41	40, 41, 42, 43, 44, 45, 61
NUMBER OF ASSEMBLIES IN KIT	3	36	3	6	6	6	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	3	3	3	1

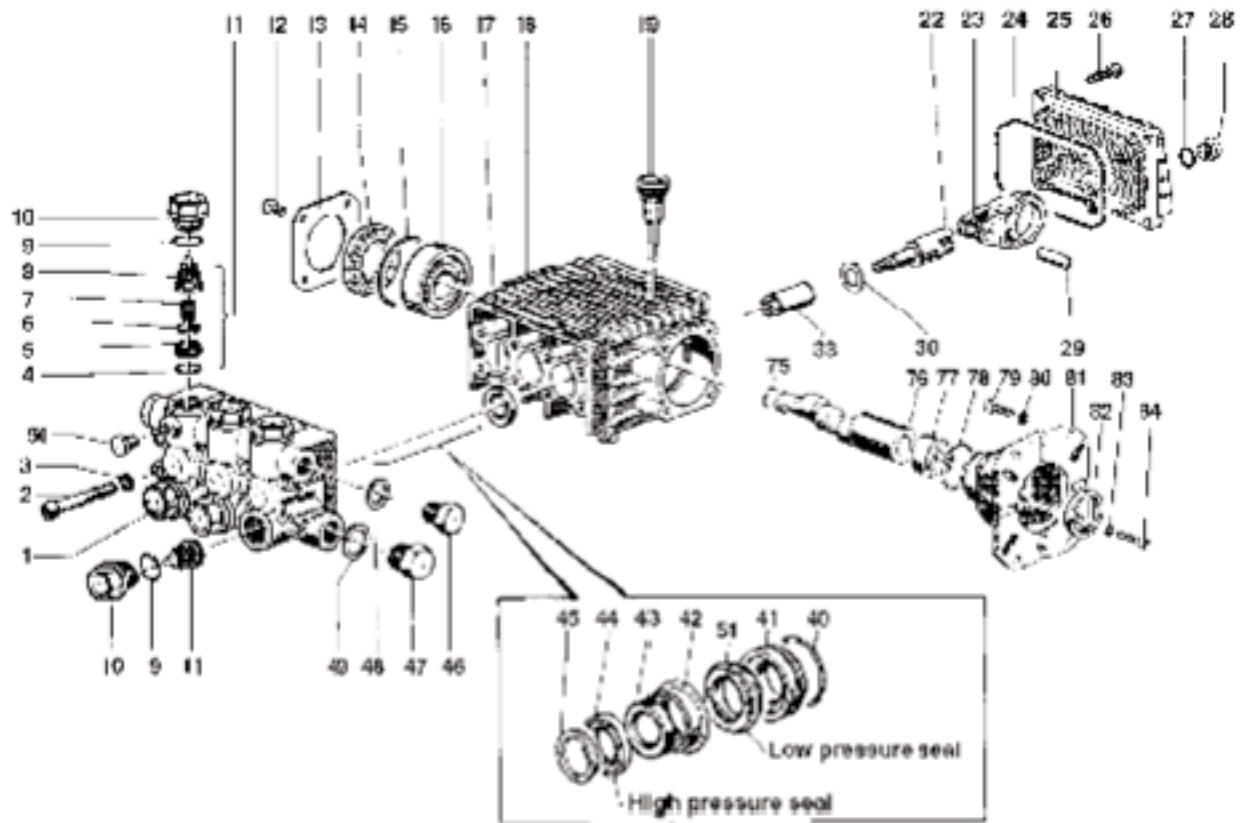
MODELS:
EZ3030G34
EZ3035G
EZ3040G
EZ3045G

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"Yesterday I was a dog. Today I'm a dog. Tomorrow I'll probably still be a dog. Sigh! There's so little hope for advancement."
 -- Snoopy

EZ Series 44 G – Triplex

GENERAL PUMP *A member of the Interpump Group*



PARTS LIST

Item	Part No.	Description	Kit No.	Qty.	mm	Part No.	Description	Kit No.	Qty.	Item	Part No.	Description	Kit No.	Qty.
1.	15.1206.41	Washer		1		22.	44.0581.66	Platen Guide	0	49.	95.78.14.00	Washer		1
2.	09.0171.00	Screw		8		26.	44.0380.00	Connecting Rod	5	50.	06.1006.00	Cap Screw		1
3.	28.7014.00	Washer		8		28.	50.0241.00	O-Ring	1	51.	95.2900.00	Seal, Low Pressure 150/160	3	
4.	89.364.00	O-Ring	123	6		29.	44.1580.20	Head Cover	1	75.	90.0276.00	Retaining Ring		1
5.	95.3000.00	Valve Seal	123	6		30.	00.1837.00	Screw	5	76.	44.0221.68	O-Ring (EZ4040G34)		1
6.	28.2007.00	Valve	123	6		31.	50.2985.00	O-Ring	1		44.0212.85	O-Ring (EZ4035G34)		1
7.	94.7370.00	Spring	123	6		32.	50.0241.00	Cap Screw	1		44.0508.65	Crankshaft (EZ4035G34)		1
8.	95.3005.00	Valve Gage	123	6		33.	57.2340.00	Pin	5	77.	01.8288.00	Tube Fitting		1
9.	90.3317.00	O-Ring	124	6		34.	90.0497.00	Washer	0	78.	90.4097.00	O-Ring		1
10.	99.2228.00	Cap Screw	124	6		38.	44.0482.66	Munzel, 13 mm	6	79.	00.2756.00	Screw, 5/16"		4
11.	98.7111.00	Valve Assembly	125	6		41.	50.0517.00	O-Ring	152, 155	80.	90.0246.00	Pin, 3/8x1		4
12.	99.1807.00	Screw		4		41.	44.0890.70	Reading Retainer	152, 155	80.	95.7020.00	Washer, 08 mm		4
13.	53.1500.74	Bearing Cover		1		42.	44.2182.70	Intermediate Ring	154, 156	81.	06.0018.22	Cap Flange		1
14.	44.2116.01	Spacer		1		43.	90.5370.00	Pinning	153, 156	82.	00.1696.00	Oil Seal		1
15.	99.4007.00	O-Ring		1		44.	00.2582.00	Pinning	158, 159	83.	95.6538.00	Washer		1
16.	81.8326.00	Rail Beading		1		45.	44.1382.51	Head Ring	155, 156	85.	06.1518.00	Screw		4
17.	99.1011.00	Oil Seal	26	2		46.	68.2180.00	Cap screw						
18.	44.0100.22	Crankshaft		1		47.	58.2179.00	Cap Screw						
19.	90.2100.00	Oil Dip Stick		1		48.	95.7380.00	Washer						

REPAIR KITS

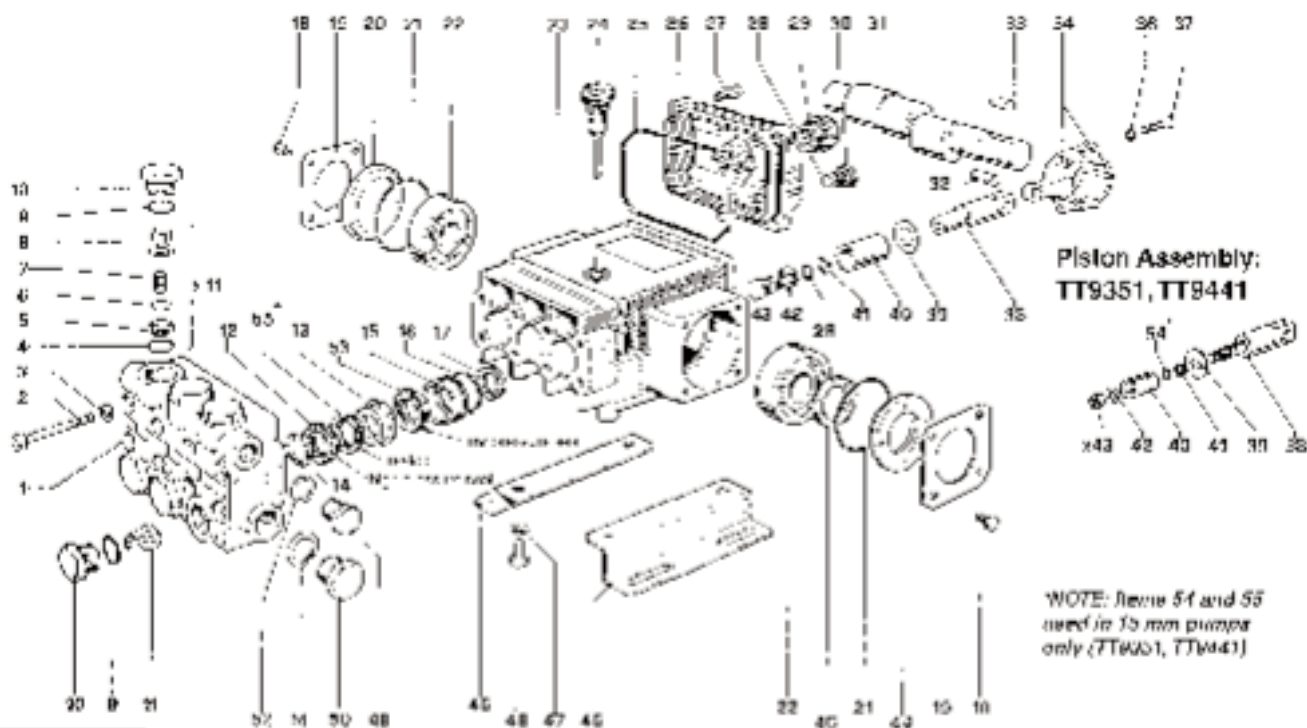
KIT NO.	23	123	124	152	153	154	155
ITEM NOS INCLUDED IN KIT	11	11, 12, 7, 4, 10	11, 13	10, 11	42, 44, 51	42	28, 31, 72, 43, 44, 51, 50
NUMBER OF ASSEMBLY HOURS IN KIT	-	6	-	5	-	2	1
NUMBER OF CYCLES KIT WILL SURVIVE	3	-	2	2	3	2	1

MODELS:
EZ4040G34
EZ4035G34
EZ4040G34

"It looks like a miniature hippopotamus with badly-fitting panty hose all over."
 -- Roger Caras about the Chinese Shar-pei

T Series 50 – Solid Shaft

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM PART NO.	DESCRIPTION	KIT QTY.	ITEM PART NO.	DESCRIPTION	KIT QTY.	ITEM PART NO.	DESCRIPTION	KIT QTY.
1.	001207.41 Manifold, Brass 001200.22 Manifold, Aluminum (T911)	1	20.	00.2110.01 Spacer	1	30.	00.7280.00 Washer	0 0
2.	000170.00 Screw	8	21.	00.4057.00 O-Ring, 2.188 x .120	2	31.	00.7070.00 Washer (TT9351, TT9441)	0 0
3.	007014.00 Washer	8	22.	01.9220.00 Ball Bearing	2	40.	00.0404.00 Plunger (20 mm) 02.0400.00 Plunger (15 mm) (TT9351, TT9441)	0 0
4.	000941.00 O-Ring, .070 x .100	1 0	24.	00.2100.00 Oil Clip 38-39	1	41.	00.0007.00 Backup Ring 00.0022.00 Backup Ring (TT9351, TT9441)	0 0
5.	002000.00 Valve Seat	1 0	25.	00.0520.00 O-Ring, 3.007 x .100	1	42.	00.7280.00 Washer	0 0
6.	002001.70 Valve Plate	1 0	26.	00.1000.22 Cover	1	43.	00.7000.00 Washer (TT9351, TT9441)	0 0
7.	047070.00 Spading	1 0	27.	00.1027.00 Screw	0	44.	00.2110.01 Spacer	1
8.	002002.01 Valve Guide	1 0	28.	00.0520.00 O-Ring, 4.200 x .070	0 4	45.	47.2100.00 Plunger Screw	0 0
9.	000947.00 O-Ring, .707 x .100	4 0	29.	07.0028.00 Oil Level Indicator	1	46.	00.1004.00 Oil Seal	1
10.	002220.00 Cap	4 0	30.	00.2041.00 Cap	1	47.	00.2000.74 Pump Feet	2
11.	007002.01 Valve Assembly	1 0	31.	00.0218.30 Crankshaft (T911, T911) 00.0210.00 Crankshaft (T9351) 00.0201.00 Crankshaft (T9351, TT9441) 00.0200.00 Crankshaft (TT9351)	1	48.	00.0007.00 Screw	4
12.	002700.00 Packing	10, 27 0	32.	07.7000.00 Valve Pin	0	49.	00.2100.00 Cap	1
13.	002020.00 (TT9351, TT9441)	88, 02	33.	040048 Her	1	50.	00.2170.00 Cap	1
14.	002100.70 Interim-Plate Ring 02.2100.70 (TT9351, TT9441)	20, 27 0	34.	00.0000.01 Connecting Rod, Aluminum 00.0000.01 Connecting Rod (T9351)	0	51.	00.7014.00 Washer	1
15.	001000.01 Head Ring 011000.01 (TT9351, TT9441)	21, 27 0	35.	00.0000.00 Washer	0	52.	00.7080.00 Washer	1
16.	000800.70 Packing Retainer 02.0800.70 (TT9351, TT9441)	22, 27 0	36.	00.0000.00 Washer	0	53.	00.2008.00 Packing, Low Press. 10, 27 0 00.2017.00 (TT9351, TT9441) 88, 02	
17.	001014.00 Oil Seal	20 0	37.	00.1027.00 Screw	0	54.	00.0072.00 O-Ring, .208" x .070"	0
18.	001807.00 Screw	8	38.	00.0001.00 Plunger Guide	0	55.	00.2022.00 Backup Ring	88, 02 0
19.	001000.74 Crankcase Cover	2	39.	02.0000.00 Plunger Guide (TT9351, TT9441)	0			

REPAIR KITS

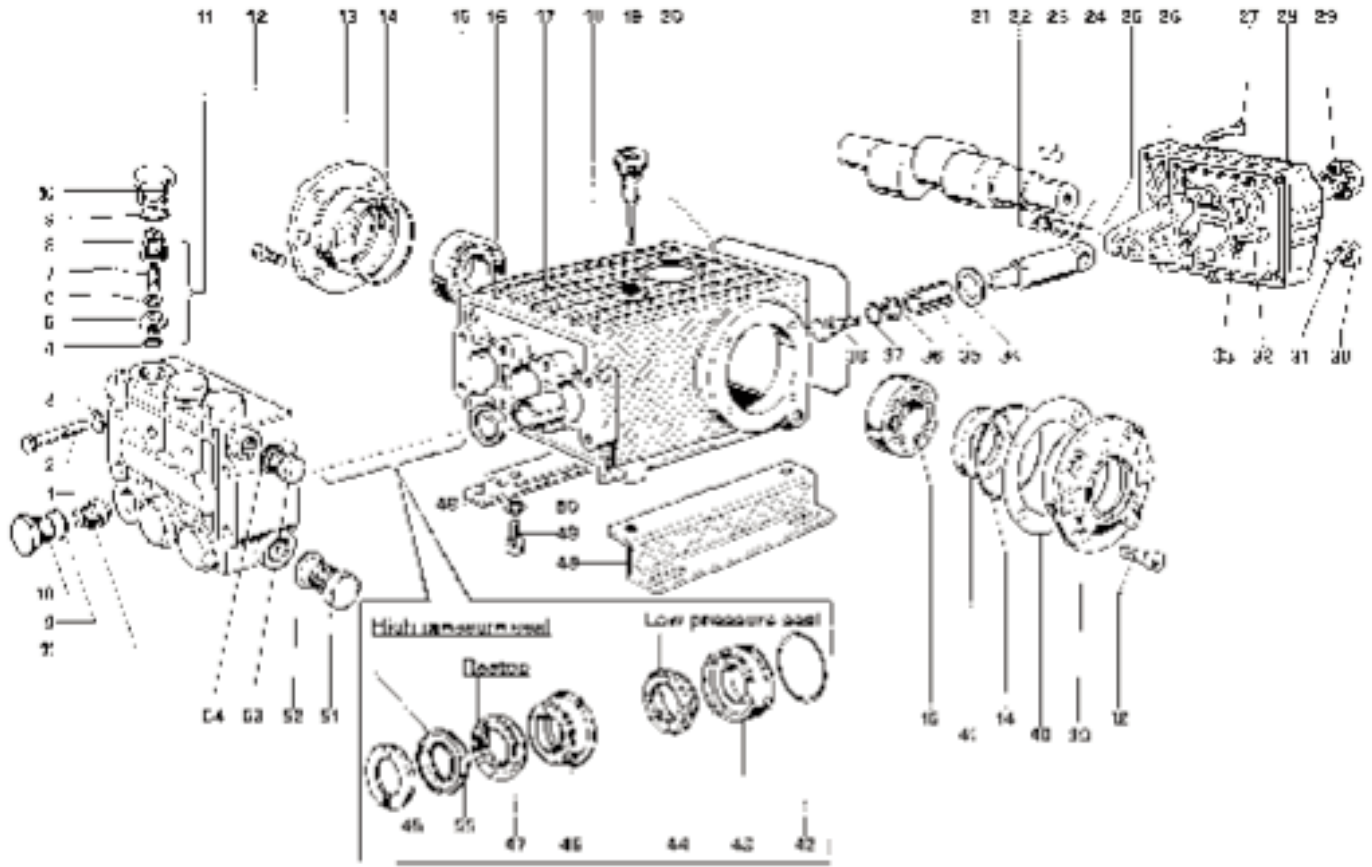
KIT NO.	1	4	6	10 or 88	20 or 80	21 or 80	22 or 81	23	27 or 82
ITEM NO.s INCLUDED IN KIT	4, 5, 6, 7, 8 (11)	9, 10	28, 39, 41, 42, 43	12, 63, 66* T-Series only	13	14	15, 16	17	12, 13, 14, 15, 16, 63, 66* T-Series only
NUMBER OF ASSEMBLIES IN KIT	6	6	3	3	3	6	3	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3	3	3	3	3	3	1

MODELS:
T911
T99351
TT9441
T991
T9951
T9971

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"The dog is a gentleman; I hope to go to his heaven, not man's."
 -- Mark Twain, Letter to W. D. Howells, 4/2/1899

T Series 47 S - 16 mm x 16 mm GENERAL PUMP



PARTS LIST

ITEM PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM PART NO.	DESCRIPTION	MT NO.	QTY.		
1.	4712141	Manifold	1	15.	00210000	Cap	1	55.	47210000	Flinger Screw	107	3	
2.	00020000	Screw	8	20.	00002200	O-Ring, Cover	1	60.	47100022	Crankcase Cover		1	
3.	00702000	Washer	8	21.	47021700	Crankshaft	1	40.	00070000	Shaft		2	
4.	00084100	O-Ring	1	22.	00000700	Oil-Clip	0	41.	00104800	Flng	0	1	
5.	00200000	Valve Seat	1	0	01480000	Key	1	42.	00010000	O-Ring	111,112	0	
6.	00200170	Valve	1	0	24.	07708000	Flinger Pin	0	43.	47080870	Packing Retainer	111,112	0
7.	04707000	Spring	1	0	25.	47000004	Flinger Guide	0	44.	00204400	Seal, Low Pressure, 16mm	100,112	0
8.	00200001	Valve Guide	1	0	26.	47000001	Connecting Rod	0	45.	47100001	Head Flng	108,112	0
9.	00084700	O-Ring	100	0	27.	00101200	Screw	6	46.	47217270	Internal Flng	110,112	0
10.	00220400	Cap	100	0	28.	47100122	Crankcase Cover	1	47.	00204300	Reetop Flng	100,112	0
11.	00703201	Valve Unit	1	0	29.	07000800	Oil Indicator	1	48.	47200074	Foot		2
12.	00000000	Screw	8	0	30.	00204100	Cap	1	49.	00204400	Screw		4
13.	47100122	Crankcase Cover	1	0	31.	00000000	O-Ring	1	50.	00710000	Washer		4
14.	00084300	O-Ring	2	0	32.	00000000	Screw	0	51.	00217000	Cap		1
15.	04047	Bearing	2	0	33.	00701400	Washer	0	52.	00701400	Washer		1
16.	00102000	Flng	2	0	34.	47211747	Flng	0	53.	00210000	Cap		1
17.	00012000	Brillng	0	0	35.	47040800	Flinger (10 unit)	0	54.	00708000	Washer		1
18.	47010222	Crankcase	1	0	36.	00000000	Anti-Ext. Flng	107	55.	00204200	Packing	100,112	0
					37.	00007700	O-Ring	107	0				

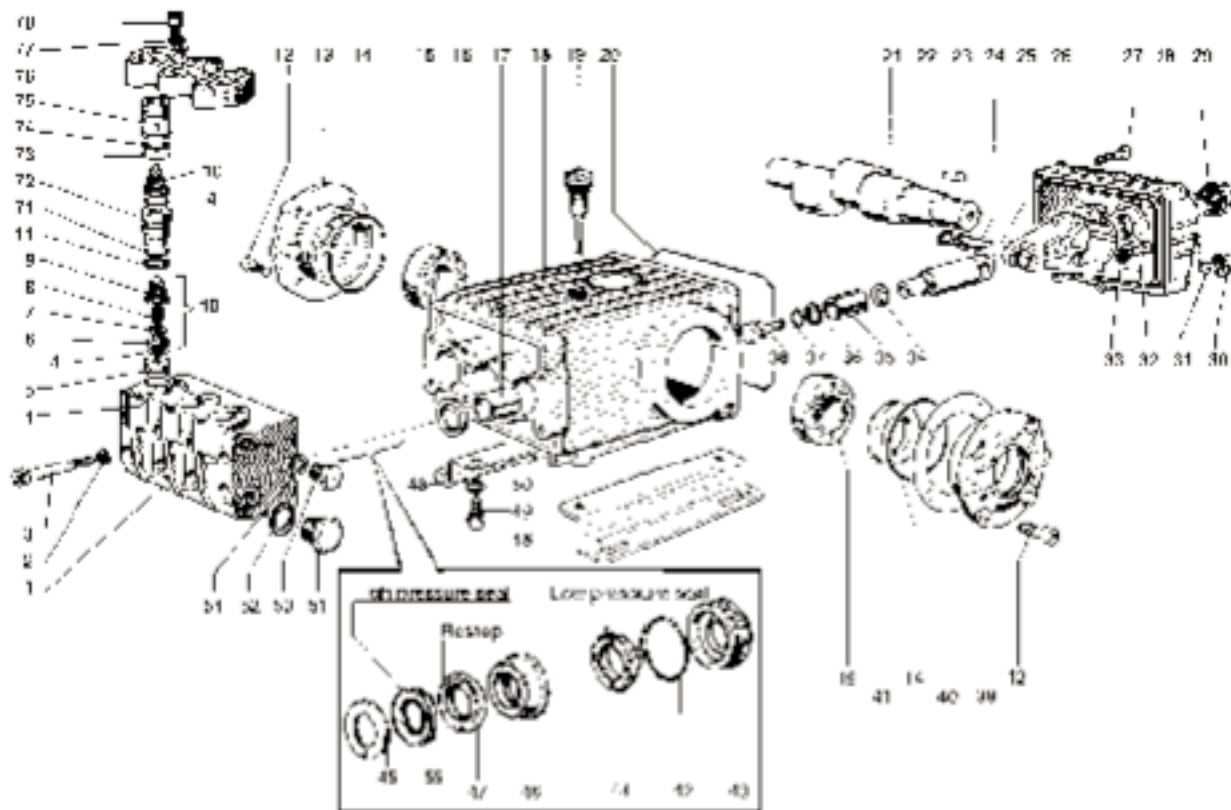
REPAIR KITS

MT NO.	1	2	3	100	107	108	109	110	111	112
ITEM NO.s INCLUDED IN KIT	4, 6, 6, 7, 8, (10)	10	41	9, 10	30, 37, 38	46	44, 47, 65	49	42, 43	42, 43, 44, 45, 46, 47, 65
NUMBER OF ASSEMBLIES IN KIT	6	3	2	6	3	6	3	3	3	1
NUMBER OF CYLINDERS KIT WILL SERVICE	6	3	2	6	3	6	3	3	3	1

**MODEL:
T921-N**

"If there are no dogs in Heaven, then when I die I want to go where they went."
 -- Unknown

T Series 47 – 5,000 PSI; 16 x 19 mm **GENERAL PUMP** Агрегат для гидравлического насоса



PARTS LIST

ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.		
1.	47121041	Manifold	1	22.	00002700	Oil-Clip	0	43.	47001170	Packing Retainer	101	0	
2.	00702000	Wadler	0	23.	01400000	Key	1	44.	00204400	Seat, Lo/Pres, 16mm	100,101	0	
3.	00020000	Bolt	0	24.	07700000	Flange Pin	0	45.	47100001	Head Flng	100,101	0	
4.	00004100	O-Ring	0	25.	47000004	Flange Guide	0	46.	47217270	Internal Flng	110,101	0	
5.	47210470	Spacer	0	26.	47000001	Compressing Pin	0	47.	00204300	Feedtop Flng	100,101	0	
6.	00200000	Seat, Valve	0	27.	00101200	Screw	6	48.	47200074	Foot	2	2	
7.	00200200	Plate, Valve	0	28.	47100122	Crankcase-Cover	1	49.	00204400	Screw	4	4	
8.	04707000	Spring, Valve	0	29.	07000800	Oil Indicator	1	50.	00710000	Wadler	4	4	
9.	00200001	Cage, Cage	0	30.	00204100	Cap	1	51.	00217000	Cap	1	1	
10.	00712101	Valve	100	0	01.	00000000	O-Ring	1	52.	00701400	Wadler	1	1
11.	00011000	Backup Flng	0	32.	00000000	Screw	0	53.	00210000	Cap	1	1	
12.	00000000	Screw	0	33.	00701400	Wadler	0	54.	00700000	Wadler	1	1	
13.	47100122	Crankcase Cover	1	34.	47210270	Flng	0	55.	00204200	Packing	100,101	0	
14.	00001000	O-Ring	2	35.	47040000	Flange (10 mm)	0	71.	00204300	O-Ring	0	0	
15.	01007700	Bearing	2	36.	00000000	Anti-Ext Flng	0	72.	47210000	Outlet, Valve	0	0	
16.	00102000	Flng	2	0	37.	00007700	O-Ring	0	73.	00404100	O-Ring	0	0
17.	00012000	Bushing	0	38.	47210000	Flange Screw	0	74.	00514000	Anti-Extrusion Flng	0	0	
18.	47010022	Crankcase	1	39.	47100022	Crankcase-Cover	1	75.	47210170	Cap	0	0	
19.	00210000	Cap	1	40.	07007800	Slit	2	76.	47210041	Cover, Valve	1	1	
20.	00302200	O-Ring, Cover	1	41.	00104800	Flng	0	77.	00710000	Wadler	0	0	
21.	47022200	Crankshaft	1	42.	00001000	O-Ring	101	0	78.	00428200	Bolt	0	0

REPAIR KITS

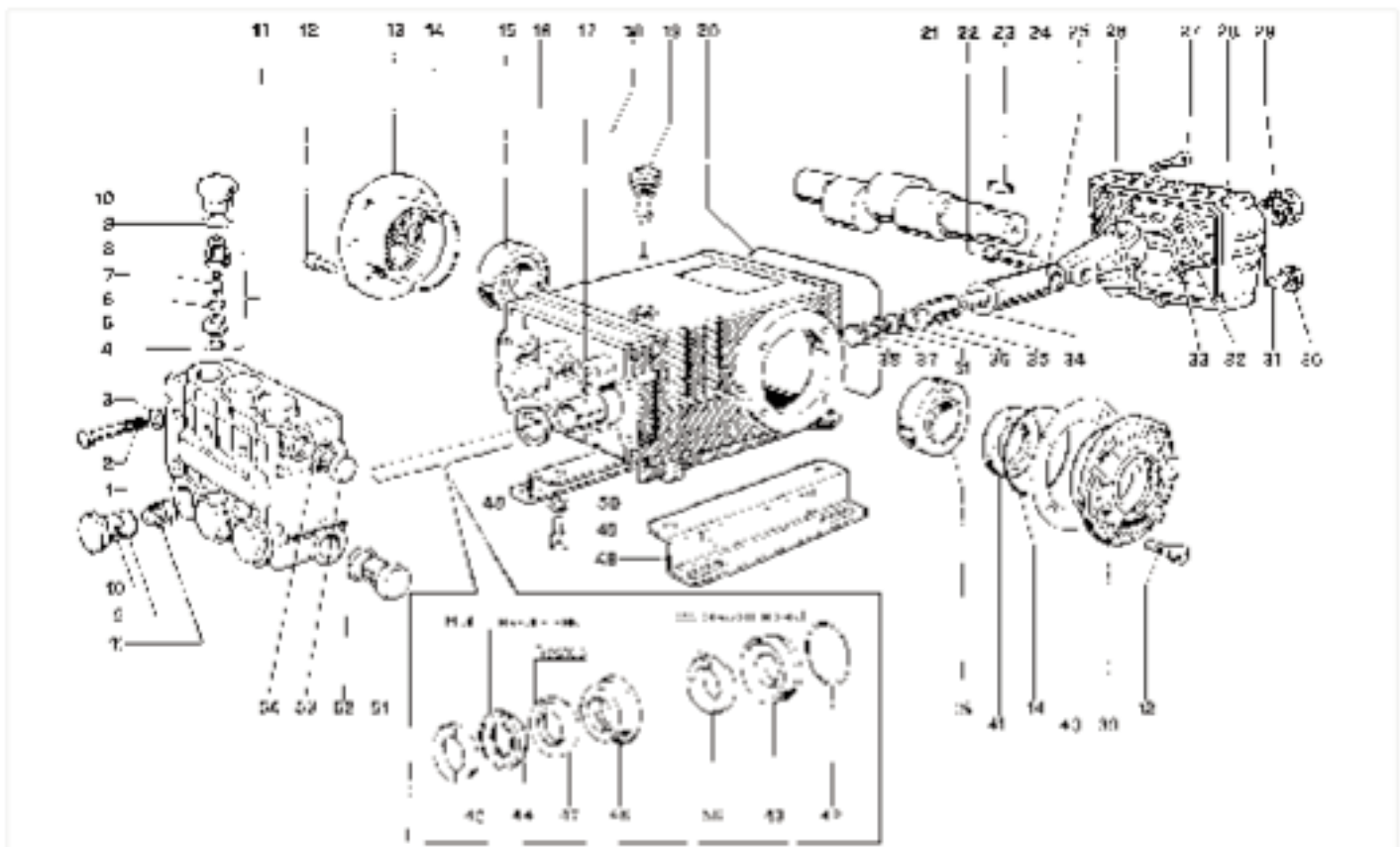
KIT NO.	2	3	100	100	110	100	101
ITEM NO.s INCLUDED IN KIT	10	41	45	44, 47, 00	46	10	42, 43, 44, 45, 46, 47, 00
NUMBER OF ASSEMBLIES IN KIT	0	2	0	0	0	0	1
NUMBER OF CYLINDERS KIT WILL SERVICE	0	2	0	0	0	—	1

**MODELS:
T5050**

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"Teaching a child not to step on a caterpillar is as valuable to the child as it is to the caterpillar."
 -- Bradley Millar

T Series 47 S - 20 mm x 10 mm GENERAL PUMP A member of the Toro Company Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	4712041	Manifold		1	35.	00210000	Oil Cap-38cc		1	37.	00220000	Washer	0	0
	4712041	Manifold, Metal Plate (T9211-1)		1	36.	00002000	O-Ring, Cover		1	38.	47100002	Screw, Flange	0	0
2.	00020000	Screw, M8 x 70	8	0	21.	47021400	Crankshaft		1	39.	47100002	Cover, Crankcase	1	0
3.	00700000	Washer, M8-4	8	0	22.	00000700	Flng, Snap	6	0	40.	00007800	Blind	28	00
4.	00004100	O-Ring, .074 x .100	1	0	23.	01480000	Key	1	0	41.	00104800	Seal, Oil	0	1
5.	00200000	Seat, Valve	1	0	24.	07708000	Pin, Weld	0	0	42.	00001000	O-Ring, 1.064 x .070	10, 28	0
6.	00200170	Plate, Valve	1	0	25.	47000004	Guide, Plunger	0	0	43.	47000070	Retainer, Packing	10, 28	0
7.	04707000	Spring	1	0	27.	00101200	Screw, M8 x 30	6	0	44.	00270000	Packing	28, 00	0
8.	00200001	Guide, Valve	1	0		00180700	Screw, M8 x 14 (TS 1001)	6	0	45.	47100001	Flng, Head, M20	7, 28	0
9.	00004700	O-Ring, .707 x .100	4, 6	0	28.	47100122	Cover, Crankcase	1	0	46.	47210070	Intermed. Flng	28, 71	0
10.	08222000	Cap	4	0	47.	47100022	Cover, Crankcase (TS 1001)	1	0	47.	00270400	Restop Flng	28, 00, 71	0
	08222000	Cap, Metal Plate (T9211-1)	6	0	29.	07000000	Oil Indicator	1	0	48.	47200074	Pump Feet	2	0
11.	00700001	Valve Assembly	1	0	30.	08204100	Cap	1	0	49.	00004400	Screw, M10 x 18	4	0
12.	00000000	Screw, M8 x 10	8	0	31.	00000000	O-Ring, .420 x .070	0	4	00.	00710000	Washer, M102	4	0
13.	47100122	Cover, Crankcase	1	0	32.	00000000	Screw, M8 x 30	0	0	61.	08217000	Cap	1	0
14.	00001300	O-Ring, 2.070 x .100	2	0	33.	00701400	Washer, M8-4	0	0	62.	00701400	Washer, M21C	1	0
16.	0400R	Bearing, Roller	2	0	34.	00728000	Washer, M14	0	0	63.	08210000	Cap	1	0
18.	00102000	Seal, Oil	2	0	35.	47040400	Plunger, (20mm)	0	0	64.	00708000	Washer, M17C	1	0
17.	00012000	Bushing	0	0	36.	00000700	Flng, End-cap	0	0	00.	00271000	Seal, Lub/Freq, 20mm	28, 00	0
18.	47010022	Crankcase	1	0										

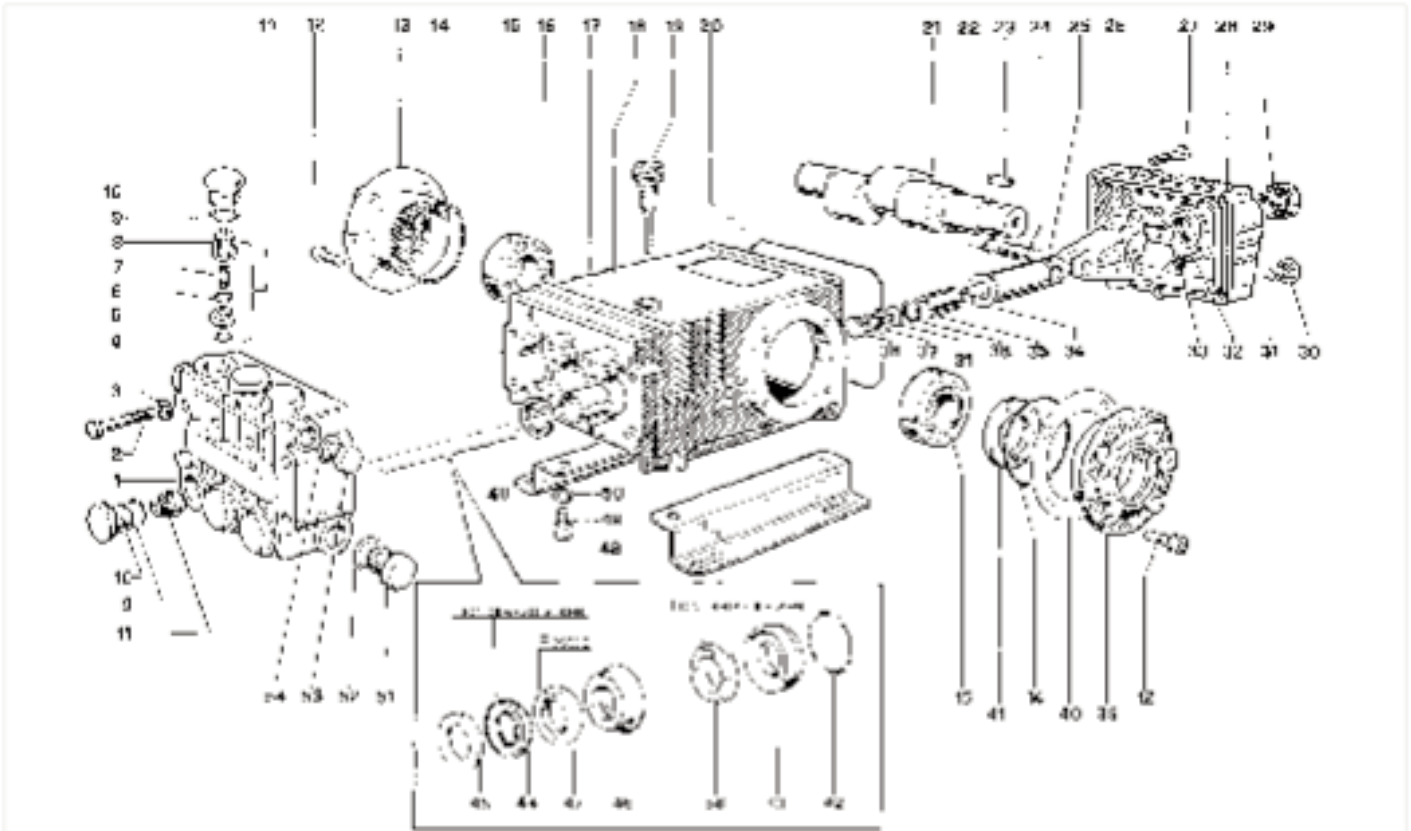
REPAIR KITS

KIT NO.	1	2	3	4	5	6	7	10	28	60	71
ITEM NO.s INCLUDED IN KIT	4, 6, 7, 8 (11)	10	41	9, 10	9, 10	31, 34, 35, 37, 38	45	42, 43	42, 43, 44, 45, 46, 47, 60	44, 47, 60	46, 47
NUMBER OF ASSEMBLIES IN KIT	6	3	2	6	6	3	6	3	1	3	3
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	-	3	3	3	3	3	1	3	3

MODELS:
TS1331
TS1711
T9211-N

"I've seen a look in dogs' eyes, a quickly vanishing look of amazed contempt, and I am convinced that basically dogs think humans are nuts."
 -- John Steinbeck

T Series 47 S - 20 mm x 12 mm GENERAL PUMP A member of the SBC Safety Pump Group



PARTS LIST

ITEM PART NO.	DESCRIPTION	PRT NO.	QTY.	ITEM PART NO.	DESCRIPTION	PRT NO.	QTY.	ITEM PART NO.	DESCRIPTION	PRT NO.	QTY.
1. 47120041	Manifold		1	10. 00210000	Oil Dip-Stick		1	07. 00720000	Washer	0	0
47120041	Manifold, Holes-Plated (TS 2011-F)			20. 00002200	O-Ring, Cover		1	08. 47210000	Screw, Plunger	0	0
2. 00020000	Screw, M8 x 7.0		0	21. 47021000	Crankshaft		1	09. 47100022	Cover, Crankcase	1	0
3. 00700000	Washer, M8.4		0	22. 00000700	Flng, Snap		0	40. 00007800	Shim	2	
4. 00004700	O-Ring, .074 x .100	1	0	23. 01400000	Key		1	41. 00104000	Seal, Oil	0	1
5. 00200000	Seat, Valve	1	0	24. 07700000	Pin, Wrist		0	42. 00001000	O-Ring, 1.064 x .070	10, 20	0
6. 00200170	Plate, Valve	1	0	25. 47000004	Oil-In, Plunger		0	43. 47000070	Retainer, Packing	10, 20	0
7. 04707000	Spring	1	0	26. 47000001	Pin, Connecting		0	44. 00270000	Packing	20, 00	0
8. 00200001	Oil-In, Valve	1	0	27. 00101200	Screw, M10 x 00		0	45. 47100001	Flng, Head, M20	7, 20	0
9. 00004700	O-Ring, .707 x .100	4, C	0	00100700	Screw, M10 x 14 (TS 1011)		0	46. 47210070	Intersect, Flng	20, 71	0
10. 00222000	Cap	4	0	28. 47100122	Cover, Crankcase		1	47. 00270400	Feed-P, Flng	20, 00, 71	0
00222200	Cap, H-Plated (TS 2011-F)		0	47100022	Cover, Crankcase (TS 1011)			48. 47200074	Pump Feet		2
11. 00700001	Valve Assembly	1	0	29. 07000000	Oil Indicator		1	49. 00004400	Screw, M10 x 18	4	
12. 00000000	Screw, M8 x 10		0	30. 00204100	Cap		1	00. 00710000	Washer, M10.2	4	
13. 47100122	Cover, Crankcase	1		01. 00000000	O-Ring, .420 x .070	0	4	01. 00217000	Cap	1	
14. 00001000	O-Ring, 2.070 x .100	2		02. 00000000	Screw, M8 x 00		0	02. 00701400	Washer, M12.0	1	
15. 0400R	Bearing, Roller	2		03. 00701400	Washer, M8.4		0	03. 00210000	Cap	1	
16. 00100000	Seal, Oil	2	0	04. 00720000	Washer, M14		0	04. 00700000	Washer, M17.0	1	
17. 00012000	Bushing	0		05. 47040400	Plunger, (20 mm)		0	05. 00271000	Seal, Low Press, 20mm	20, 00	0
18. 47010022	Crankcase	1		06. 00000700	Flng, Back-up		0				

REPAIR KITS

KIT NO.	1	2	3	4	5	6	7	10	20	00	71
ITEM NO.s INCLUDED IN KIT	4, 6, 7, 8 (11)	10	41	9, 10	9, 10	31, 34, 36, 37, 38	45	42, 43	42, 43, 44, 45, 46, 47, 60	44, 47, 60	49, 47
NUMBER OF ASSEMBLIES IN KIT	0	0	2	0	0	0	0	0	1	0	0
NUMBER OF CYLINDERS KIT WILL SERVICE	0	0	-	0	0	0	0	0	1	0	0

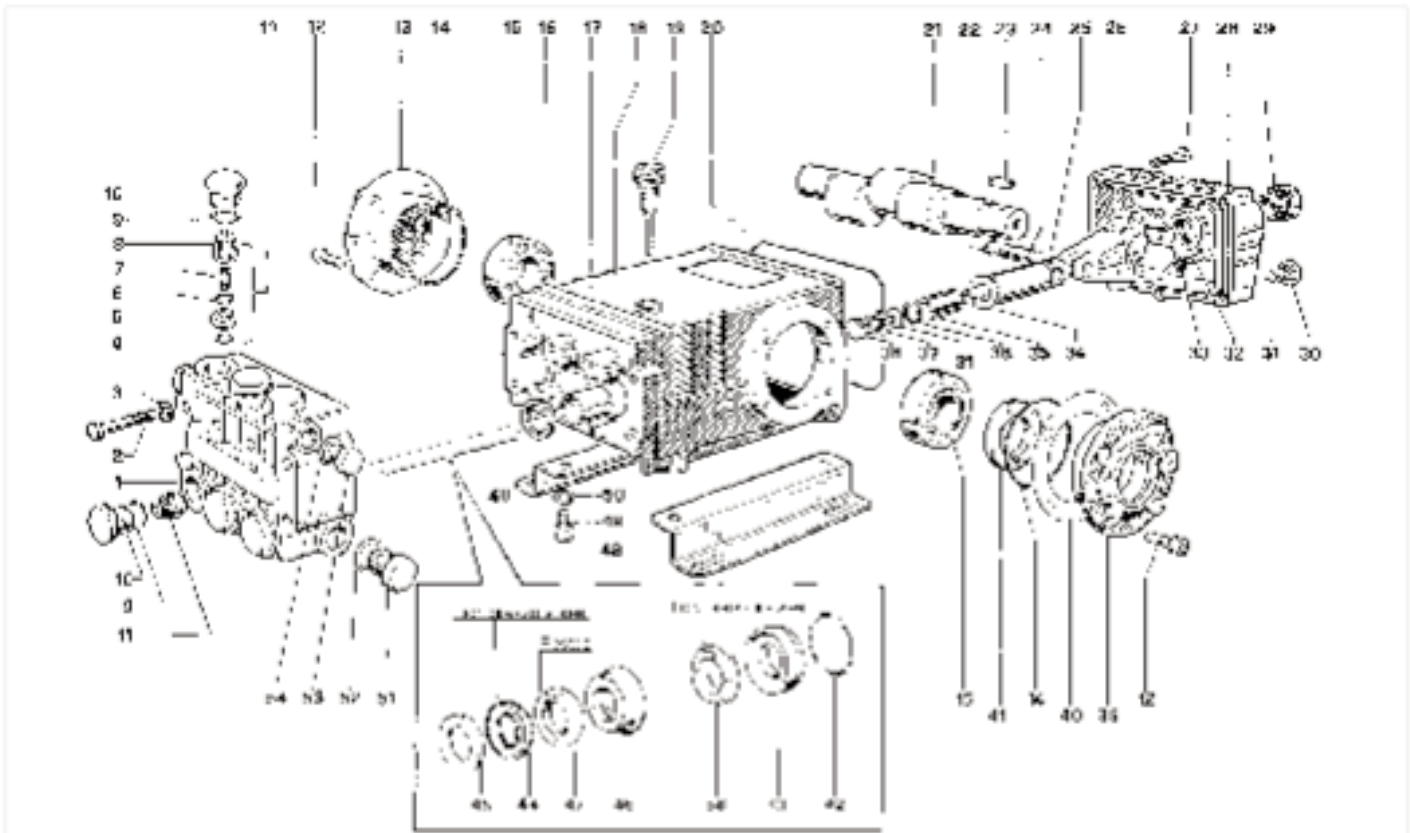
MODELS:
TS1011
TS1511
TS2011-N

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If dogs could talk it would take a lot of the fun out of owning one."
 -- Andy Rooney

T Series 47 S - 20 mm x 16 mm GENERAL PUMP

A member of the Deere-Case Group



PARTS LIST

ITEM PART NO.	DESCRIPTION	FIG. NO.	QTY.	ITEM PART NO.	DESCRIPTION	FIG. NO.	QTY.	ITEM PART NO.	DESCRIPTION	FIG. NO.	QTY.			
1	47120641	Manifold	1	10	06210000	Oil Cap Back	1	37	00720000	Washer	0	0		
	47120641	Manifold, Hold-Plate (T1011)	1	20	00002200	O-Ring, Cover	1	38	47210000	Screw, Plunger	0	0		
2	00020000	Screw, M8 x 70	8	21	47021700	Orbitshaft	1	39	47100022	Cover, Crankcase	1			
3	00702000	Washer, M8-4	8	22	00002700	Flng. Snap	0	40	00007800	Shaft	2			
4	00084100	O-Ring, .074 x .100	1	23	01480000	Key	1	41	00704800	Seal, Oil	0	1		
5	00200000	Seat, Valve	1	0	07708000	Pin, Wrist	0	42	00010000	O-Ring, 1.064 x .070	10, 28	0		
6	00200170	Plate, Valve	1	0	20	47000004	Out-In, Plunger	0	43	47000070	Retainer, Packing	10, 28	0	
7	04707000	Spring	1	0	20	47000001	Roll, Connecting	0	44	00270000	Packing	28, 00	0	
8	00200001	Out-In Valve	1	0	27	00101200	Screw, M3 x 30	6	45	47100001	Flng. Head, M20	7, 28	0	
9	00084700	O-Ring, .707 x .100	4, 6	0	00180700	Screw, M3 x 14 (T1011)	6	46	47210070	Internal, Flng	28, 71	0		
10	06222000	Cap	4	0	28	47100122	Cover, Crankcase	1	47	00270400	Reetop Flng	28, 00, 71	0	
	06222000	Cap, H-Plate (T10201-1)	6		47	000022	Cover, Crankcase (T1011)		48	47200074	Pump Feet	2		
11	00703201	Valve Assembly	1	0	29	07000000	Oil Indicator	1	49	00004400	Screw, M10 x 18	4		
12	00000000	Screw, M8 x 10	8	0	30	06204100	Cap	1	50	00710000	Washer, M10-2	4		
13	47100122	Cover, Crankcase	1	0	31	00008000	O-Ring, .420 x .070	0	4	61	06217000	Cap	1	
14	00081300	O-Ring, 2.070 x .100	2	0	32	00000000	Screw, M8 x 30	0	0	62	00701400	Washer, M21-6	1	
15	04004R	Bearing, Roller	2	0	33	00701400	Washer, M8-4	0	0	63	06210000	Cap	1	
16	00102000	Seal, Oil	2	0	34	00728000	Washer, M14	0	0	64	00708000	Washer, M17-6	1	
17	00012000	Brillish	0	0	35	47040400	Plunger, (20mm)	0	0	65	00271000	Seal, Lock-Free, 30mm	28, 00	0
18	47010022	Crankcase	1	0	36	00000700	Flng. Back-up	0	0					

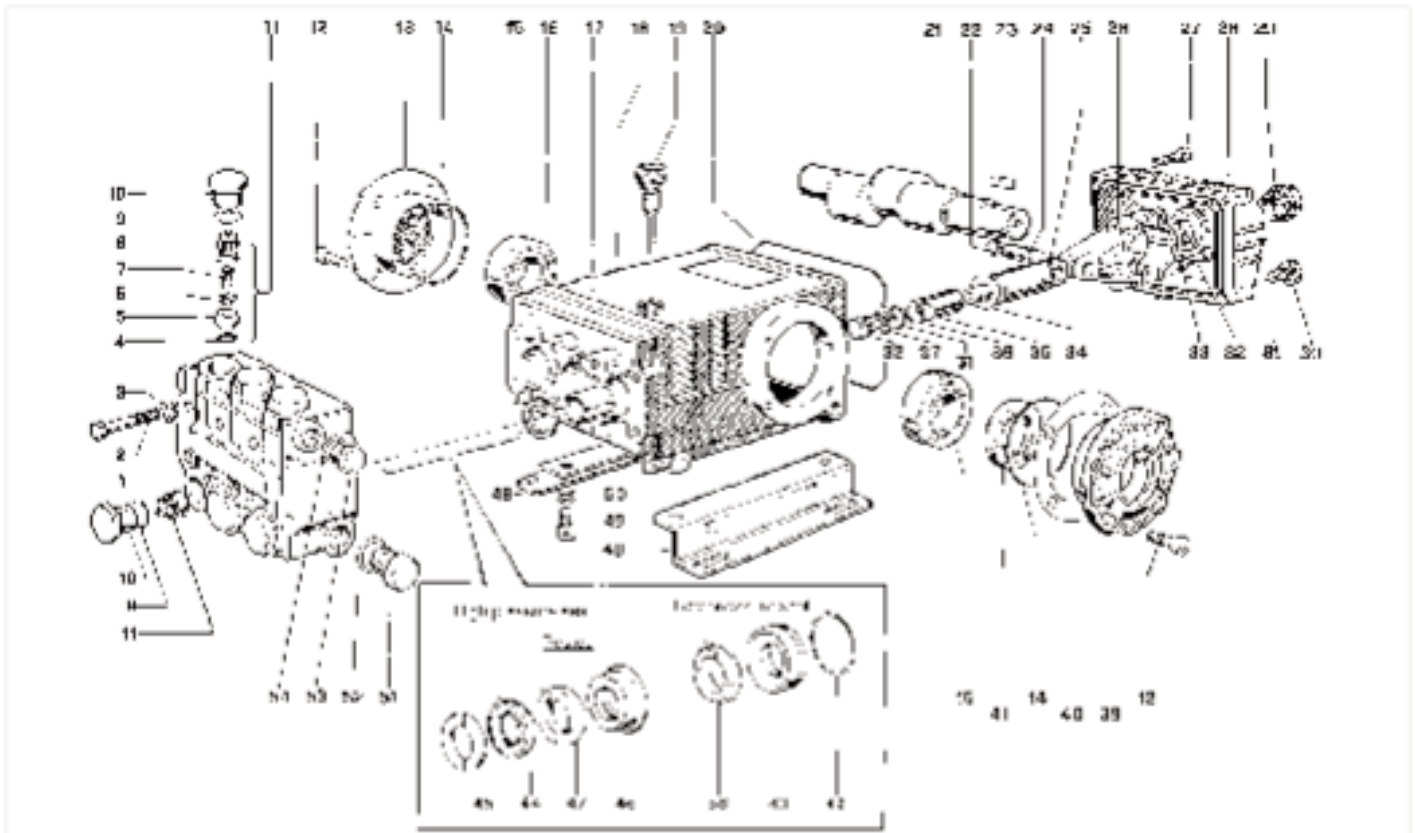
REPAIR KITS

KIT NO.	1	2	3	4	6	8	7	10	28	60	71
ITEM NO.s INCLUDED IN KIT	4, 6, 7, 8 (11)	10	41	8, 10	8, 10	31, 34, 36, 37, 38	45	42, 43	42, 43, 44, 45, 46, 47, 60	44, 47, 60	48, 47
NUMBER OF ASSEMBLIES IN KIT	6	3	2	6	6	3	6	3	1	3	3
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	-	3	3	3	3	3	1	3	3

MODELS:
T1011
TS1210
TS2021-N

"I used to look at [my dog] Smokey and think, 'If you were a little smarter you could tell me what you were thinking,' and he'd look at me like he was saying, 'If you were a little smarter, I wouldn't have to.'"
 -- Fred Junglaus

T Series 47 S - 22 mm x 16 mm **GENERAL PUMP** A member of the Danly Pump Group



PARTS LIST

ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.		
1	47120041	Nut/Bolt, Brass	1	10	00210000	Oil Cap Back	1	07	00220000	Washer	0	0	
	47120041	Nut/Bolt, Metal-Plate (T1621-F)	1	20	00002000	O-Ring, Cover	1	08	47210000	Screw, Flange	0	0	
2	00020000	Screw, M8 x 70	0	21	47021700	Crankshaft	1	09	47100022	Cover, Crankcase	1		
3	00702000	Washer, M8.4	0	22	00002700	Flng. Snap	0	40	00027000	Shim	2		
4	00004100	O-Ring, .074 x .100	1	0	23	01420000	Key	1	41	00104000	Seal, Oil	0	1
5	00200000	Seat, Valve	1	0	24	07708000	Pin, Shift	0	42	00010000	O-Ring, 1.064 x .070	14, 20	0
6	00200170	Plate, Valve	1	0	25	47000054	Oil-In, Flange	0	43	47000070	Retainer, Packing	14, 20	0
7	04707000	Spring	1	0	26	47000001	Roll, Connecting	0	44	00272000	Packing	20, 148	0
8	00200251	Oil-In Valve	1	0	27	00101200	Screw, M8 x 50	0	45	40100001	Flng. Head, M22	11, 20	0
9	00004700	O-Ring, .707 x .100	4, 6	0	0	00100700	Screw, M8 x 14 (T021)	0	46	47217070	Internal, Flng	20, 148	0
10	00222000	Cap	4	0	28	47100122	Cover, Crankcase	1	47	00270000	Footp Flng	20, 148, 140	0
	00222000	Cap, H-Plate (T1621-F)	0	0	47	100022	Cover, Crankcase (T021)	1	48	47200074	Pump Ped	2	
11	00703201	Valve Assembly	1	0	29	07000800	Oil Indicator	1	49	00004400	Screw, M10 x 18	4	
12	00000000	Screw, M8 x 10	0	0	30	00204100	Cap	1	00	00710000	Washer, M10.2	4	
13	47100122	Cover, Crankcase	1	0	31	00000000	O-Ring, .420 x .070	0	01	00217000	Cap	1	
14	00001900	O-Ring, 2.070 x .103	2	0	32	00000000	Screw, M8 x 30	0	02	00701400	Washer, M21.6	1	
15	040047	Bearing, Roller	2	0	33	00101400	Washer, M8.4	0	03	00210000	Cap	1	
16	00102000	Seal, Oil	2	0	34	00728000	Washer, M14	0	04	00708000	Washer, M17.0	1	
17	00012000	Bushing	0	0	35	47040000	Flange, (22mm)	0	05	00272000	Seal, Low Press, Shim	20, 148	0
18	47010322	Crankcase	1	0	36	00000700	Flng. Endcap	0	0				

REPAIR KITS

KIT NO.	1	2	3	4	6	8	11	14	20	148	140
ITEM NO.s INCLUDED IN KIT	4, 6, 7, 8 (11)	16	41	8, 10	8, 10	31, 34, 36, 37, 38	45	42, 43	42, 43, 44, 45, 46, 47, 68	44, 47, 68	46, 47
NUMBER OF ASSEMBLIES IN KIT	0	3	2	0	0	3	0	0	1	3	3
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	-	3	3	3	3	3	1	3	3

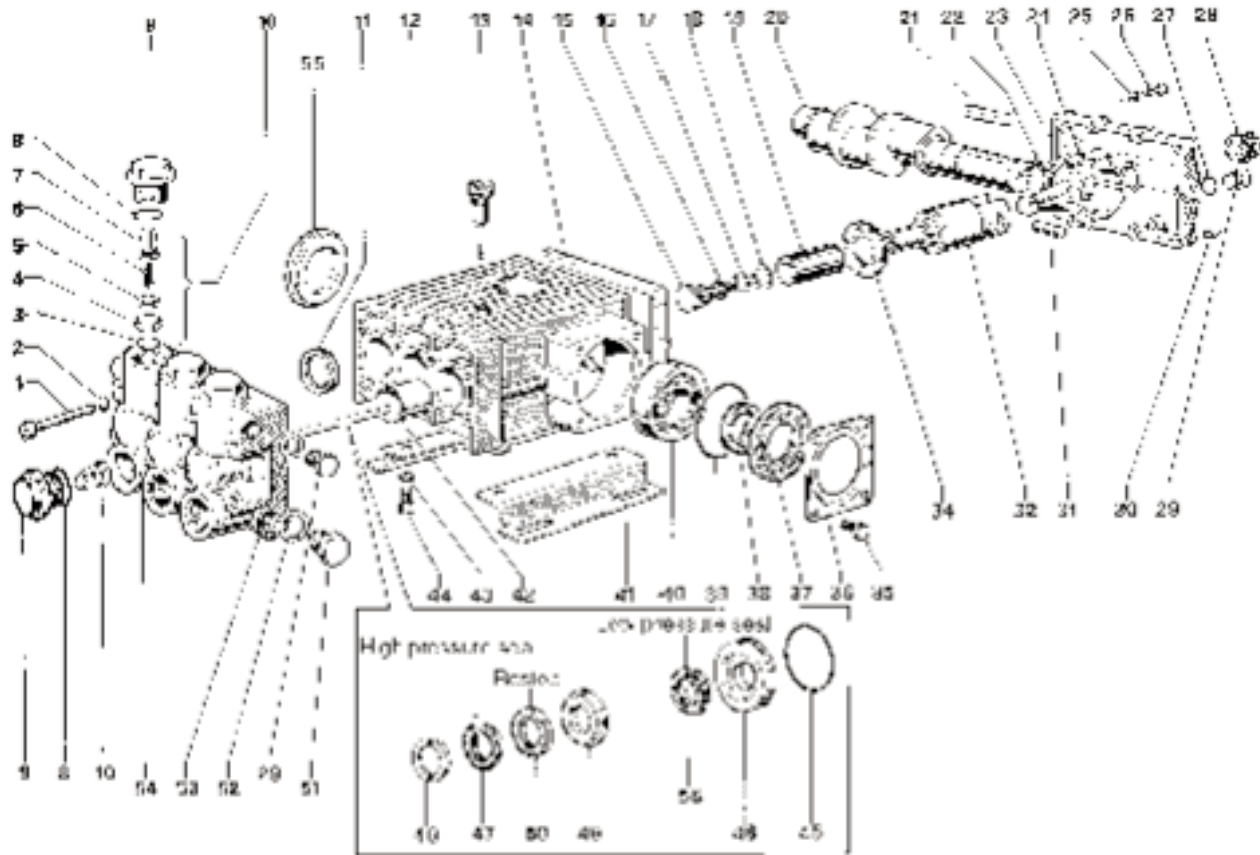
MODELS:
T921
T1321
T1621-N

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"Until he extends the circle of his compassion to all living things, man will not himself find peace."
 -- Dr. Albert Schweitzer

T Series 69 - 20 mm bore

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	INT NO.	QTY	ITEM	PART NO.	DESCRIPTION	INT NO.	QTY	ITEM	PART NO.	DESCRIPTION	INT NO.	QTY
1.	00.0787.00	Screw	0	0	15.	47.0404.00	Plunger (20mm)	0	0	58.	001072.00	Fling	02	1
2.	00.7104.00	Washer	0	0	20.	00.0210.00	Crankshaft	1	1	00.	004101.00	O-Ring	02	2
3.	00.0800.00	O-Ring	02	0	21.	01.4000.00	Key	1	1	40.	010400.00	Bearing	00,02	2
4.	00.2017.00	Valve Seat	02	0	22.	00.0000.00	Clr-Clip	1	1	41.	47.2000.74	Foot	02	2
5.	00.2018.70	Valve	02	0	23.	00.1000.22	Crankcase-Cover	1	1	42.	000102.00	Endring	0	0
6.	04.7004.00	Spring	02	0	24.	00.0000.00	Connecting Rod	0	0	43.	007100.00	Washer	00,02	4
7.	00.2008.01	Valve Guide	02	0	00.	00.0000.00	Connecting Rod (TS1031)	0	0	44.	000044.00	Screw	02	4
8.	00.4001.00	O-Ring	0	0	25.	00.7014.00	Washer	0	0	45.	000000.00	O-Ring	07,02	0
9.	00.2012.00	Cap	0	0	27.	00.3000.00	Screw	0	0	46.	000004.70	Packing Retainer	07,02	0
10.	00.7000.01	Valve Unit	02	0	27.	00.0800.00	O-Ring	1	1	47.	002700.00	Packing	00,02	0
11.	00.1000.00	Seal	07	0	28.	07.0000.00	In-Rotor	1	1	48.	47.1000.01	Head Flng	7,02	0
12.	00.0100.22	Cover	1	1	29.	00.2100.00	Cap	2	2	49.	47.2100.70	Intermed Flng	71,02	0
13.	00.2100.00	Oil Dipstick	1	1	30.	00.1907.00	Screw	0	0	00.	002704.00	Fling	00,71,02	0
14.	00.2110.04	Gasket	1	1	01.	07.7000.00	Plunger Pin	0	0	01.	002200.00	Cap	0	1
15.	47.2100.00	Plunger Bolt	04	0	02.	00.0002.04	Plunger Guide	0	0	02.	007700.00	Washer	0	1
16.	00.0000.00	O-Ring	04	0	04.	00.2117.47	Plunger	04	0	03.	007000.00	Washer	0	1
17.	00.0007.00	Anti-Ext. Flng	04	0	30.	00.0000.00	Screw	0	0	04.	001210.41	Mainflbl	0	1
18.	00.7200.00	Washer	04	0	00.	00.1000.74	Crankcase-Cover	2	2	05.	002110.01	Spacer	0	1
					37.	00.2110.01	Spacer	1	1	00.	002710.00	Red, Low Press, 20mm	00,02	0

REPAIR KITS

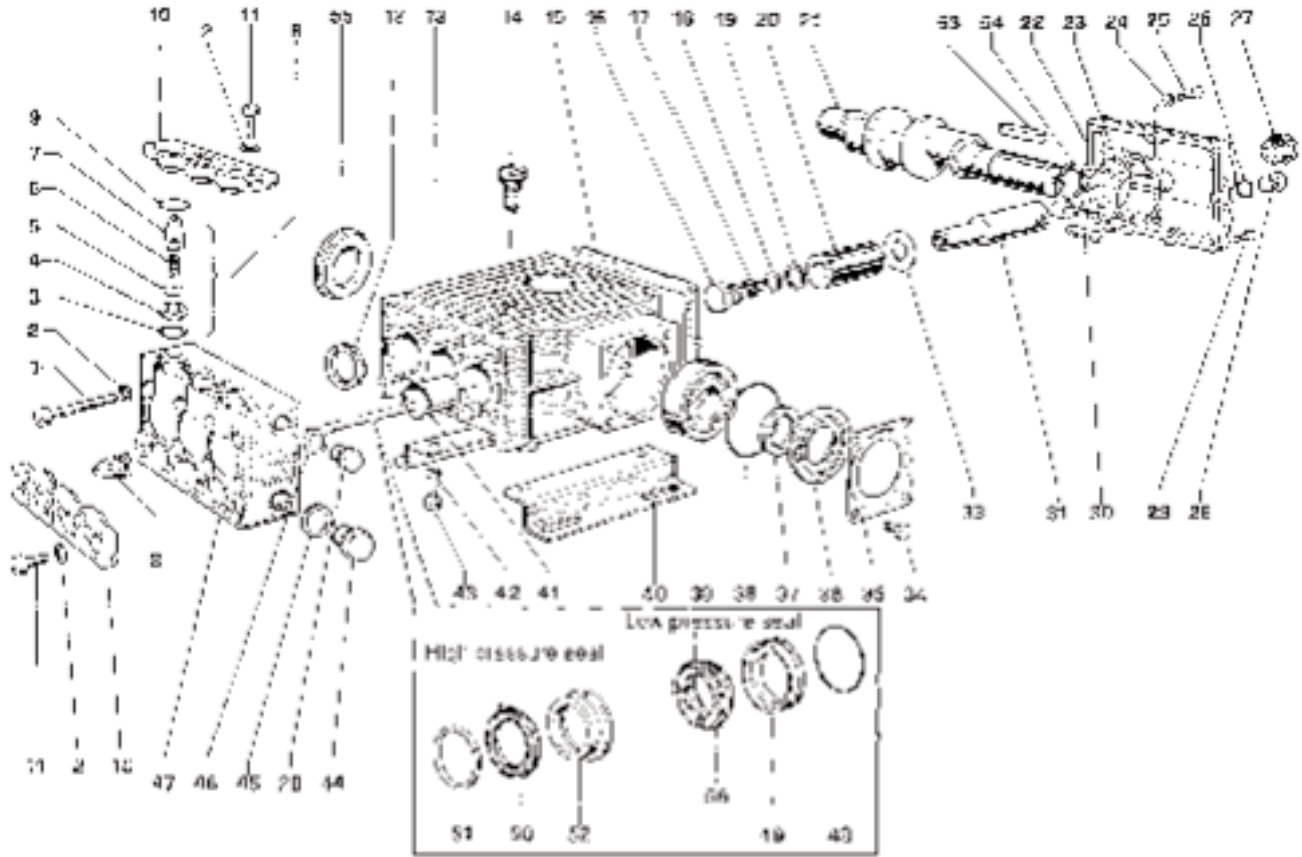
INTNO.	7	02	07	04	07	02	00	71	02
ITEM NO.s INCLUDED IN KIT	48	08	11	10, 16, 17, 18, 34	45, 46	3, 4, 6, 0, 7 (10)	47, 00, 00	40, 00	45, 46, 47, 48, 49, 00, 00
NUMBER OF ASSEMBLIES IN KIT	0	2	0	0	0	0	0	0	1
NUMBER OF CYLINDERS KIT WILL SERVICE	0	2	0	0	0	0	0	0	1

**MODELS:
 TS1041
 TS1531**

"A really companionable and indispensable dog is an accident of nature.
 You can't get it by breeding for it, and you can't buy it with money. It just happens along."
 -- E.B. White, The Care and Training of a Dog

T Series 69 – 36 mm bore

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	00.0787.00	Screw		8	35.	00.7000.00	Washer	74	0	58.	004131.00	O-Flng		2
2.	00.7104.00	Washer		10	20.	00.0400.00	Plunger (30 mm)		0	00.	018480.00	Bearing		2
3.	00.0800.00	O-Flng	02	0	21.	00.0200.00	Crankshaft		1	40.	47.2000.74	Feet		2
4.	00.2017.00	Valve Seat	02	0	22.	00.1000.22	Cover		1	41.	000102.00	Bushing		0
5.	00.2018.70	Valve Plate	02	0	23.	00.0000.01	Connecting Rod		0	42.	007100.00	Washer		4
6.	04.7004.00	Spring	02	0	24.	00.7014.00	Washer		0	43.	000044.00	Screw		4
7.	00.2008.01	Valve Guide	02	0	25.	00.3000.00	Screw		0	44.	002200.00	Cap		1
8.	00.7000.01	Valve Assy.	02	0	26.	00.0800.00	O-Flng		1	45.	007700.00	Washer		1
9.	00.4000.00	O-Flng		0	27.	07.0000.00	Oil Level Indicator		1	46.	007000.00	Washer		1
10.	00.2180.22	Valve Cover		2	28.	00.2100.00	Cap		2	47.	001200.22	Pump Head		1
11.	00.3000.00	Screw		8	29.	00.1907.00	Screw		0	48.	000800.00	O-Flng	00, 40	0
12.	00.1000.00	Oil Seal	07	0	30.	07.7000.00	Pin		0	49.	000802.70	Packing Retainer	00, 40	0
13.	00.0100.22	Crankcase		1	31.	00.0000.22	Plunger Guide		0	50.	002820.00	Packing	00, 30	0
14.	00.2100.00	Oil Dip Stck		1	32.	00.7000.00	Washer		0	51.	001002.00	Head Flng	00, 41	0
15.	00.2110.04	Cover Gasket		1	33.	00.3000.00	Screw		8	52.	002108.70	Intermediate Flng	00, 42	0
16.	00.2100.00	Plunger Screw		74	34.	00.1000.74	Cover		2	53.	014000.00	Key		1
17.	00.0941.00	O-Flng		74	35.	00.2110.01	Spacer		1	54.	000000.00	Retaining Flng		1
18.	00.0107.00	Air-Ext. Flng		74	37.	00.1072.00	Oil Seal		02	55.	002110.01	Spacer		1
										56.	002820.00	Red, Lo/Free, 90144	00, 30	0

REPAIR KITS

KIT NO.	02	07	08	09	40	41	42	02	74
ITEM NO. INCLUDED IN KIT	37	12	00, 00	48, 49, 00, 01, 02, 00	48, 40	01	02	3, 4, 6, 0, 7 (8)	10, 17, 18, 10
NUMBER OF ASSEMBLIES IN KIT	2	3	3	1	3	0	3	0	3
NUMBER OF CYLINDERS KIT WILL SERVICE	-	3	3	1	3	3	3	3	3

MODEL:

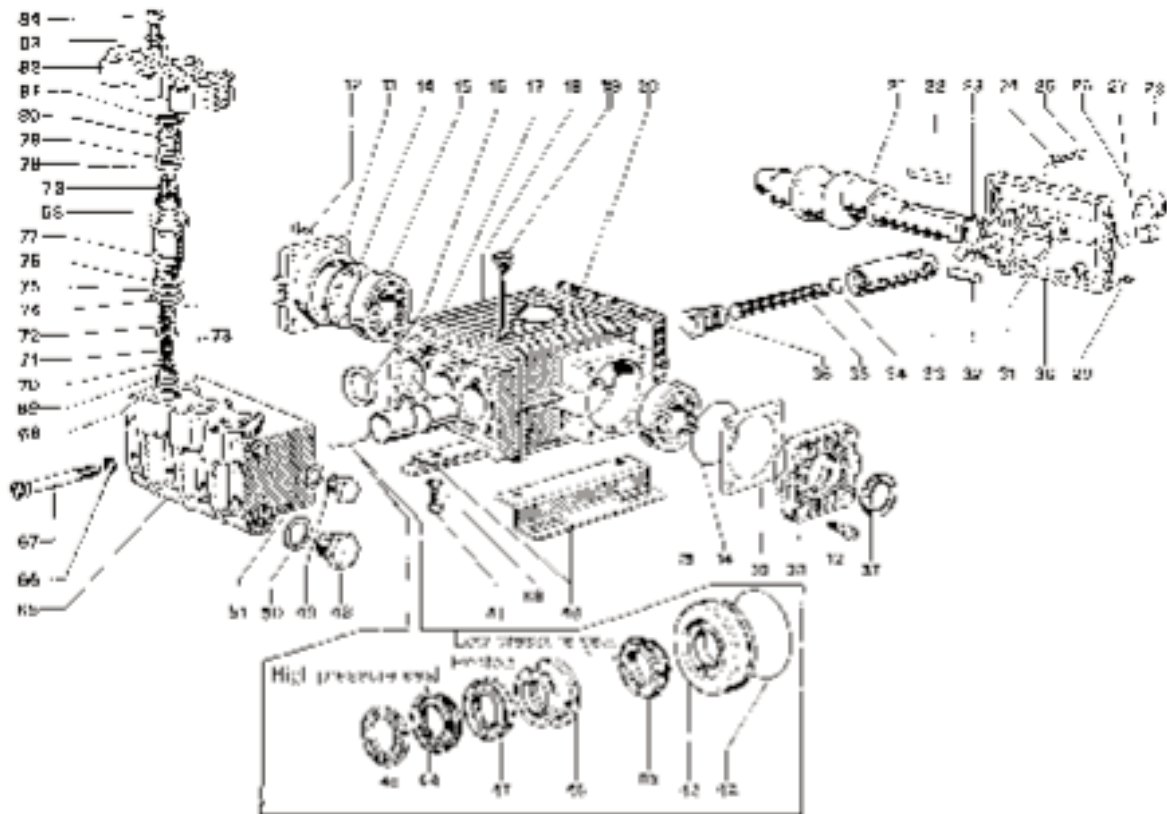
T41

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"Children and dogs are as necessary to the welfare of the country as Wall Street and the railroads."
 -- Harry S. Truman

T Series 76 - 20 mm bore

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.
12	00.0002.00	Screw		8	02	07.7400.00	Plunger Pin		0	06	011202.41	Mainshaft		1
13	70.1001.22	Cover		1	03	01.0000.00	Plunger Gudge		0	08	007100.00	Washer		12
14	00.4141.00	O-Ring		2	04	00.0110.00	Cir-Clip		0	07	004400.00	Screw		8
15	01.0474.00	Bearing		2	05	01.0400.00	Plunger (20 mm)		0	09	000500.00	O-Ring	122	0
16	00.1070.00	Flng	44	0	06	01.2100.00	Flngscr Screw		0	00	002004.00	Valve Seat	122	0
17	00.0172.00	Bushing		0	07	00.1072.00	Flng	02	1	70	002010.00	Valve	122	0
18	70.0100.22	Crankcase		1	08	70.1000.22	Cover		1	71	047004.00	Spring	122	0
19	08.2270.00	Oil Dip Stck		1	09	70.2200.78	Stkt		2	72	002020.01	Valve Gudge	122	0
20	70.2110.04	Cover Gasket		1	40	70.2000.74	Foot		2	73	007114.01	Valve Assy.	122	0
21	70.0210.00	Crankshaft		1	41	00.4200.00	Screw		4	74	000101.00	Anti-Ext. Flng		0
22	01.4078.00	Key		1	42	00.0000.00	O-Ring	70, 78	0	76	004007.00	O-Ring		0
23	00.0000.00	Cir-Clip		1	43	01.0800.70	Packing Retainer	70, 78	0	79	000871.00	O-Ring		0
24	00.7104.00	Washer		0	44	00.2700.00	Packing	77, 78	0	77	012177.00	Gudge		0
25	00.0720.00	Screw		0	46	47.1000.01	Heel Flng	7, 78	0	78	000800.00	O-Ring		0
26	00.0800.00	O-Ring		2	40	01.2100.70	Inter-Valve Flng	70, 78	0	79	000104.00	Anti-Ext. Flng		0
27	08.2100.00	Cap		2	47	00.2700.00	Flng	77, 78	0	80	012170.70	Cap		0
28	07.0908.00	Oil Level Indicator		1	48	08.2020.00	Cap		1	81	000070.00	Cir-Clip		0
29	00.1807.00	Screw		10	49	08.2178.00	Cap		1	82	012182.41	Valve Cover		1
30	70.1000.22	Crankcase Cover		1	00	00.7870.00	Washer		1	83	007000.00	Washer		0
31	78.0900.01	Compositio Flcl		3	61	00.7014.00	Washer		1	84	004800.00	Screw		0
										85	002710.00	Std, Lock Free, Shim	77, 78	0

REPAIR KITS

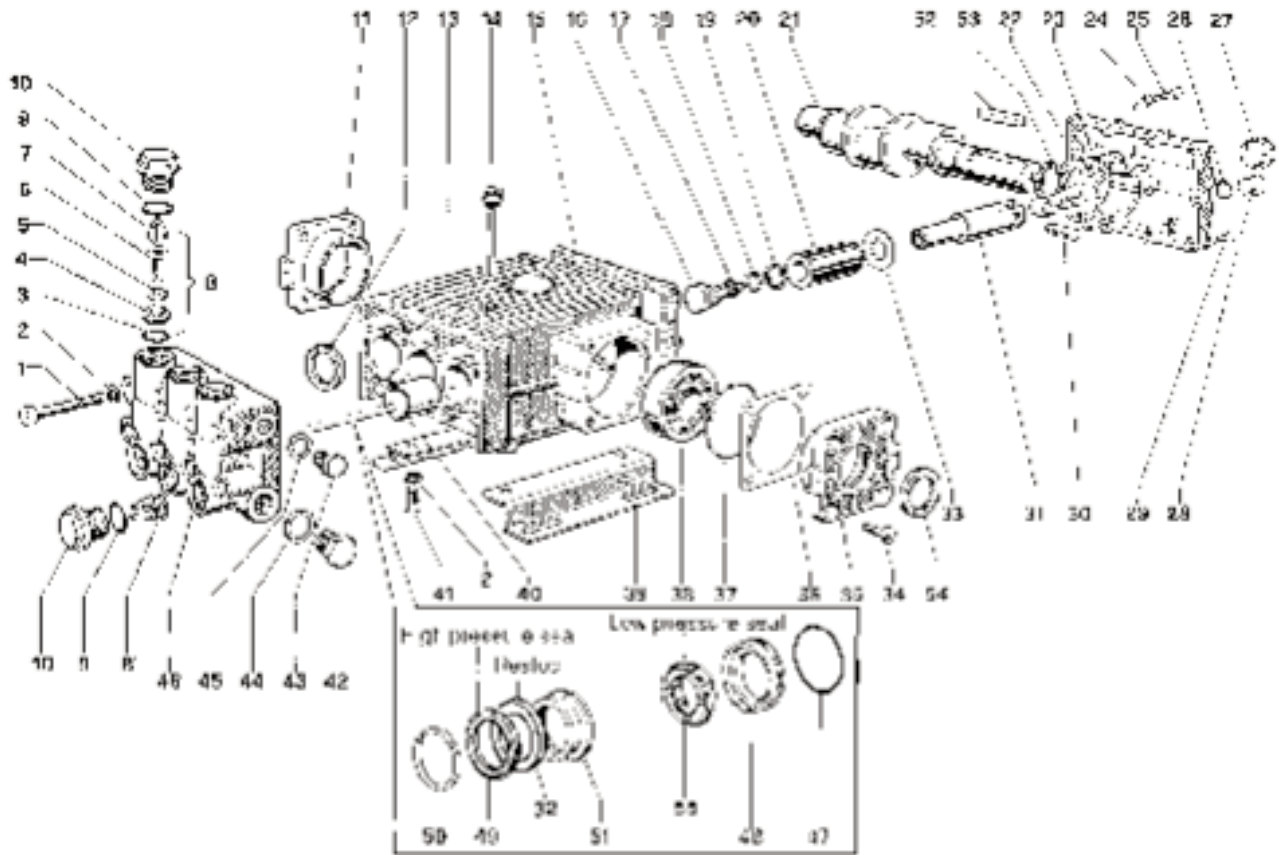
KIT NO.	7	02	44	70	70	77	78	122
ITEM NO. INCLUDED IN KIT	40	07	10	40	42, 43	44, 47, 85	42, 43, 44, 46, 48, 47, 85	08, 09, 70, 71, 72 (70)
NUMBER OF ASSEMBLIES IN KIT	0	2	0	0	0	0	1	0
NUMBER OF CYLINDERS KIT WILL SERVICE	0	-	0	0	0	0	1	0

MODEL:
T4251-N

"I never married, because there was no need. I have three pets at home, which answer the same purpose as a husband. I have a dog, which growls every morning, a parrot, which swears all afternoon, and a cat that comes home late at night."
 -- Marie Corelli

T Series 76 – 45 mm bore

GENERAL PUMP A member of the Dresser Pump Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	MT NO.	QTY.
1	00.4415.00	Screw		6	19	00.7000.00	Washer	74	3	57	004141.00	O-Ring		2
2	00.7165.00	Washer		12	20	70.0400.00	Pin		0	58	010474.00	Bearing		2
3	00.4000.00	O-Ring		40	0	21	70.0211.00	Crankshaft (T01)	1	59	702000.74	Pump Feet		2
4	00.2011.00	Valve Seat		40	0		70.0210.00	Crankshaft (T01)		40	000174.00	Braking		0
5	00.2010.70	Valve Plate		40	0	22	70.1000.22	Cover	1	41	004200.00	Screw		4
6	04.7400.00	Spring		40	0	23	70.0000.00	Connecting Rod	0	42	002200.00	Cap		1
7	00.2000.01	Valve Guide		40	0	24	00.7104.00	Washer	0	43	002200.00	Cap		1
8	00.7000.01	Valve Assembly		40	0	25	00.0720.00	Screw	0	44	007070.00	Washer		1
9	00.4000.00	O-Ring		0	26	00.0800.00	O-Ring	2	45	007700.00	Washer		1	
10	00.2420.00	Cap		0	27	07.0000.00	Oil Indicator	1	46	70.1200.41	Manifold		1	
11	70.1001.22	Cover		1	28	00.2100.00	Cap	2	47	003000.00	O-Ring	47, 80	3	
12	00.1070.00	Oil Seal		44	0	29	00.1007.00	Screw	10	48	700802.70	Pad Ring Retainer	47, 80	3
13	70.0100.22	Crankcase		1	30	07.7400.00	Water Fill	0	49	002800.00	Pad Ring	70, 80	3	
14	00.2270.00	Diaphragm		1	31	77.0000.04	Pin	0	50	70.1000.00	Head Filling	48, 80	3	
15	70.2110.04	Cover Gasket		1	32	00.2040.00	Pin	70, 80, 81	0	51	702170.70	Internal Ring	80, 81	3
16	00.2100.00	Pin		74	0	33	00.7000.00	Washer	0	52	014078.00	Key		1
17	00.0841.00	O-Ring		74	0	34	00.0000.00	Screw	0	53	000000.00	Snap Ring		1
18	00.0107.00	Anti-Ext. Ring		74	0	35	70.1000.22	Cover	1	54	001072.00	Oil Seal	82	1
					36	70.2200.70	Block	2	55	002800.00	Seal, Low Pressure, 45mm	70, 80	3	

REPAIR KITS

ITEM NO.	32	40	44	47	48	74	70	80	81
ITEM NO.s INCLUDED IN KIT	64	3, 4, 6, 5, 7 (8)	12	47, 48	60	10, 17, 18, 10	32, 40, 60	32, 47, 48, 40, 60, 61, 60	32, 61
NUMBER OF ASSEMBLIES IN KIT	2	6	3	3	6	3	3	1	3
NUMBER OF CYLINDERS KIT WILL SERVICE	-	3	3	3	3	3	3	1	3

MODELS:

T61

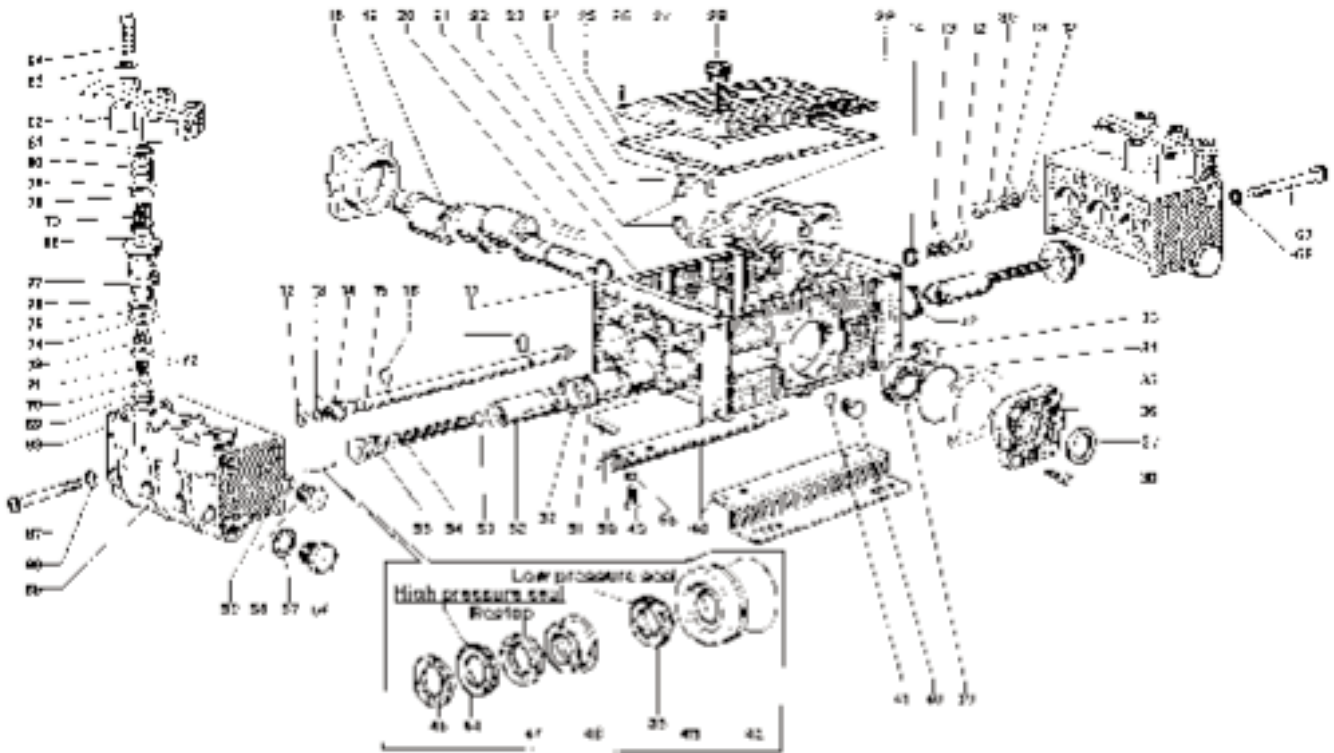
T81

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"If dogs could talk, perhaps we would find it as hard to get along with them as we do with people."
 -- Karel Capek

T Series 77 - 20 mm bore

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	
12	00.0800.00	O-Ring	8	30	70.2200.70	Slide	2	68	002170.00	Cap	0	
13	00.0000.00	Anti-Ext. Flng	8	30	70.1600.22	Cover	1	69	007014.00	Washer	0	
14	00.1014.00	Flng	4	37	00.1072.00	Flng	92	1	95	021202-41	Mainfln	2
15	02.2120.02	Connect. Tite	1	38	00.0002.00	Screw	8	00	007100.00	Washer	20	
16	00.0000.00	Cir-Clip	2	39	01.0474.00	Brading	2	07	004400.00	Screw	10	
17	00.0000.00	Cir-Clip	1	40	00.2100.00	Cap	1	08	000800.00	O-Flng	122	
18	70.1001.22	Cover	1	41	00.0800.00	O-Flng	1	00	002024.00	Valve Seat	122	
19	70.0210.00	Crankshaft	1	42	00.3000.00	O-Flng	70, 78	0	70	002010.00	Valve	122
20	01.4070.00	Key	1	43	01.0800.70	Packing Fastener	70, 78	0	71	047004.00	Spring	122
21	77.0100.22	Crankcase	1	44	00.2700.00	Packing	77, 78	0	72	002020.01	Valve Guide	122
22	77.2120.01	Holding Flng	0	45	47.1000.01	Head Flng	7, 78	0	73	007114.01	Valve Assy.	122
23	00.1027.00	Screw	12	46	01.2100.70	Internal Flng	70, 78	0	74	000181.00	Anti-Ext. Flng	0
24	00.0000.00	Washer	12	47	00.2700.00	Flng	77, 78	0	75	004007.00	O-Flng	0
25	77.2118.04	Casket	1	48	70.2000.74	Foot	2	76	000871.00	O-Flng	0	
26	00.1807.00	Screw	10	49	00.4200.00	Screw	4	77	012177.00	Brading	0	
27	77.2114.22	Cover	1	00	07.7400.00	Pistnng Pin	0	78	000800.00	O-Flng	0	
28	00.2272.00	Oil Dip Stck	1	01	00.0172.00	Brading	12	79	000104.00	Anti-Ext. Flng	0	
29	77.0002-41	Connect. Rod	0	02	01.0000.00	Pistnng Guide	0	80	012170.70	Cap	0	
30	02.2100.70	Cap	2	03	00.0110.00	Cir-Clip	0	81	000070.00	Cir Clip	0	
32	00.1070.00	O-Flng	44	04	01.0400.00	Pistnng (20mm)	0	82	012182-41	Valve Cover	2	
33	07.0008.00	Oil Indicator	1	05	01.2100.00	Pistnng Screw	0	83	007000.00	Washer	12	
34	00.4141.00	O-Flng	2	06	00.2020.00	Cap	2	84	004800.00	Screw	12	
				07	00.7070.00	Washer	2	85	002710.00	Seat, Low Press, 20mm	77, 78	0

REPAIR KITS

KIT NO.	7	32	44	70	78	77	78	122
ITEM NO. INCLUDED IN KIT	45	37	32	46	42, 43	44, 47, 85	42, 43, 44, 46, 46, 47, 85	68, 69, 70, 71, 72 (73)
NUMBER OF ASSEMBLIES IN KIT	0	2	0	0	0	0	1	0
NUMBER OF CYLINDERS KIT WILL SERVICE	0	-	0	0	0	0	1	0

MODEL:
T3551-N

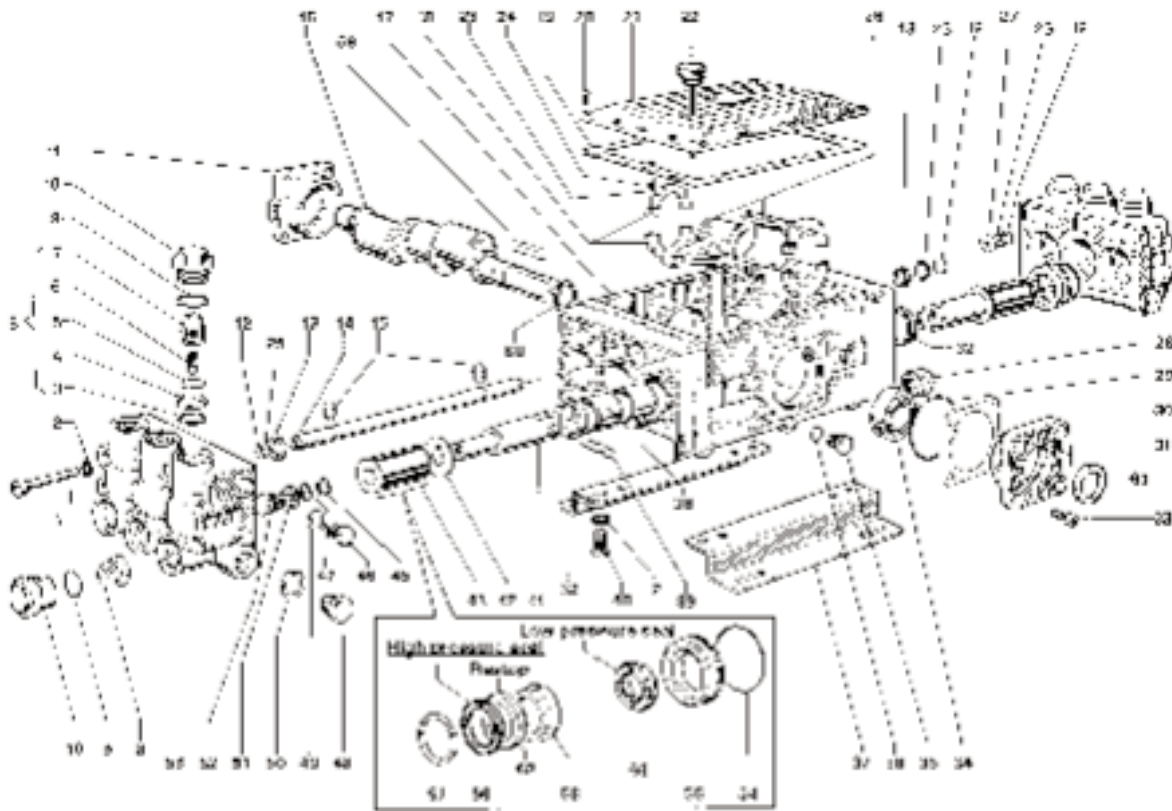
"Know yourself. Don't accept your dog's admiration as conclusive evidence that you are wonderful."

-- Ann Landers

T Series 77 - 30 mm bore

GENERAL PUMP

A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	00.4418.00	Screw	32	10	21.	77.2114.22	Cover	1	1	42.	007008.00	Washer	113	0
2.	00.7105.00	Washer	20	20	22.	00.2272.00	Oil Dip Stick	1	1	43.	700400.00	Plunger (30 mm)	113	0
3.	00.4005.00	O-Ring	40	12	23.	00.1027.00	Screw	12	12	44.	006107.00	Anti-Ext. Plug	74	0
4.	00.2011.00	Valve Seat	40	12	24.	00.0008.00	Washer	12	12	45.	002205.00	Cap	113	0
5.	00.2010.70	Valve	40	12	25.	00.0001.00	Anti-Ext. Plug	4	4	47.	003041.00	O-Ring	74	0
6.	04.7400.00	Spring	40	12	26.	77.0002.41	Connecting Rod	0	0	48.	002025.00	Cap	2	2
7.	00.2000.01	Valve Guide	40	12	27.	77.2200.70	Cap	2	2	49.	007700.00	Washer	0	0
8.	00.7005.01	Valve Lift	40	12	28.	07.0008.00	Oil Indicator	1	1	50.	007870.00	Washer	2	2
9.	00.4005.00	O-Ring	12	12	29.	00.4141.00	O-Ring	2	2	51.	007000.00	Washer	74	0
10.	00.2420.00	Cap	12	12	30.	70.2200.70	Slide	2	2	52.	002100.00	Plunger Bolt	74	0
11.	70.1001.22	Cover	1	1	31.	70.1000.22	Crankcase	1	1	53.	77.1210.41	Main Bolt	2	2
12.	00.0805.00	O-Ring	4	4	32.	00.1070.00	Plug	44	0	54.	003000.00	O-Ring	114, 110	0
13.	00.1014.00	Plug	4	4	33.	00.3002.00	Screw	0	0	55.	700800.70	Packing Retainer	114, 110	0
14.	77.2122.00	Head Conn. Tube	1	1	34.	01.0474.00	Beating	2	2	56.	002770.00	Packing	110, 110	0
15.	00.0005.00	Cl-Clip	2	2	35.	00.2100.00	Cap	1	1	57.	001000.01	Head Plug	00, 110	0
16.	70.0210.00	Crankshaft	1	1	36.	00.0803.00	O-Ring	1	1	58.	002107.70	Internal Plug	00, 110	0
17.	77.0100.22	Crankcase	1	1	37.	70.2000.74	Foot	2	2	59.	014078.00	Key	1	1
18.	77.2120.01	Plug	0	0	38.	00.0172.00	Beating	12	12	60.	000005.00	Cl-Clip	1	1
19.	77.2118.04	Outlet	1	1	39.	07.7400.00	Plunger Pin	0	0	61.	001072.00	Plug	02	1
20.	00.1807.00	Screw	10	10	40.	00.4200.00	Screw	4	4	62.	002774.00	Plug	110, 110	0
					41.	77.0000.04	Plunger Guide	0	0	63.	002770.00	Seal, Low Pressure	110, 110	0

REPAIR KITS

KIT NO.	02	40	44	05	00	74	110	114	110
ITEM NO.s INCLUDED IN KIT	01	3, 4, 5, 6, 7 (8)	02	07	08	45, 47, 61, 62	00, 02, 03	04, 05	04, 05, 06, 07, 08, 02, 03
NUMBER OF ASSEMBLIES IN KIT	2	0	0	0	0	0	0	0	1
NUMBER OF CYLINDERS KIT WILL SERVICE	-	0	0	0	0	0	0	0	1

MODEL:

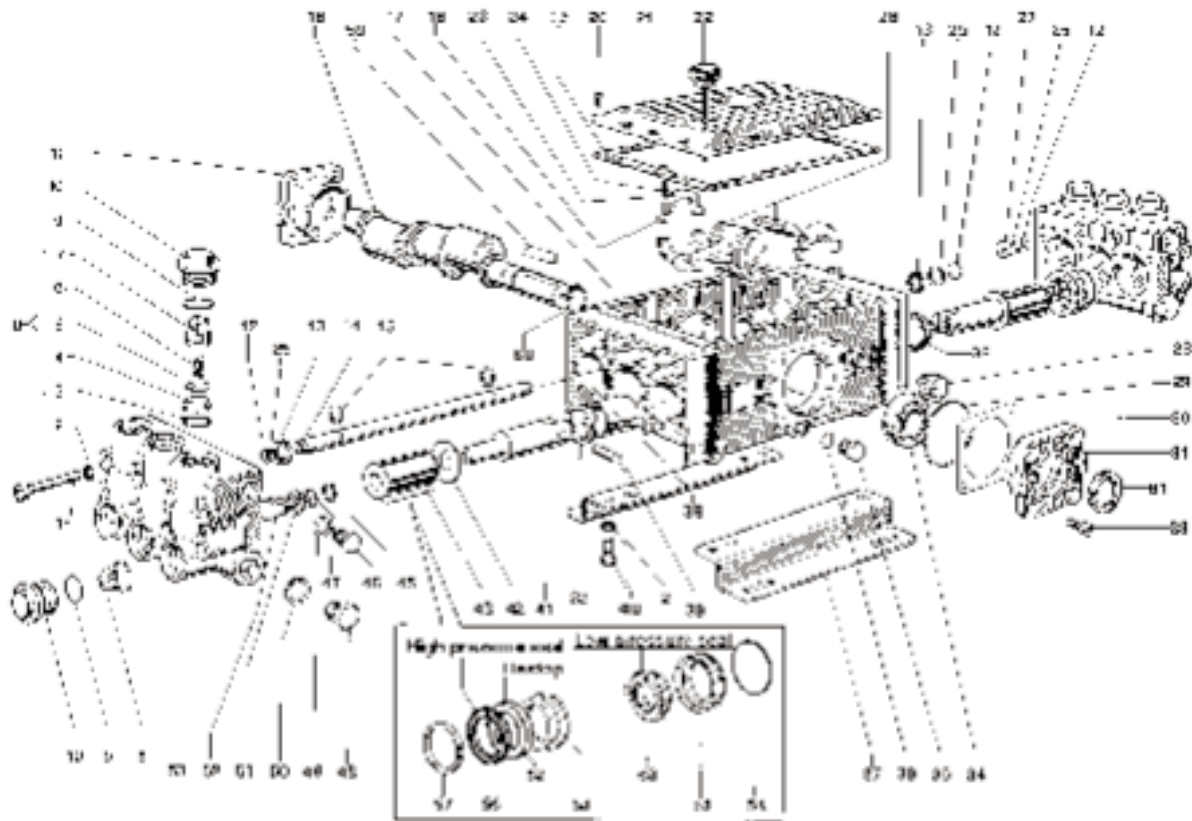
T1591

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"The tongue is a wild beast; once let it loose, it is difficult to chain."
 -- Latin Proverb

T Series 77 - 45 mm bore

GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	00.4418.00	Screw		10	21.	77.2114.22	Cover		1	42.	007008.00	Washer		0
2.	00.7105.00	Washer		20	22.	08.2272.00	Oil Dip-Stick		1	43.	70.0402.00	Plunger (40 mm)		0
3.	00.4005.00	O-Ring		40	23.	00.1027.00	Screw		12	44.	00.0107.00	Anti-Ext. Plug	74	0
4.	00.2011.00	Valve Seat		40	24.	00.0008.00	Washer		12	45.	08.2205.00	Cap		0
5.	00.2010.70	Valve		40	25.	00.0001.00	Anti-Ext. Plug		4	47.	00.0841.00	O-Ring	74	0
6.	04.7400.00	Spring		40	26.	77.0002.41	Connecting Rod		0	48.	08.2025.00	Cap		2
7.	00.2000.01	Valve Guide		40	27.	77.2200.70	Cap		2	49.	00.7700.00	Washer		0
8.	00.7005.01	Valve Lift		40	28.	07.0008.00	Oil Indicator		1	50.	00.7870.00	Washer		2
9.	00.4005.00	O-Ring		12	29.	00.4141.00	O-Ring		2	51.	00.7005.00	Washer	74	0
10.	08.2420.00	Cap		12	30.	70.2200.70	Slide		2	52.	00.2105.00	Plunger Bolt	74	0
11.	70.1001.22	Cover		1	31.	70.1000.22	Crankcase		1	53.	77.1200.41	Manifold		2
12.	00.0805.00	O-Ring		4	32.	00.1070.00	Plug	44	0	54.	00.0000.00	O-Ring	47, 80	0
13.	00.1014.00	Plug		4	33.	00.3002.00	Screw		8	55.	70.0802.70	Packing Retainer	47, 80	0
14.	77.2122.00	Head Conn. Tube		1	34.	01.0474.00	Sealing		2	56.	00.2800.00	Packing	70, 80	0
15.	80.0005.00	Clr-Clip		2	35.	08.2100.00	Cap		1	57.	70.1002.01	Head Plug	48, 80	0
16.	70.0211.00	Crankshaft (T121)		1	36.	00.0800.00	O-Ring		1	58.	70.2170.70	Internal Plug	80, 81	0
	70.0210.00	Crankshaft (T101)		1	37.	70.2000.74	Foot		2	59.	01.4078.00	Key		1
17.	77.0100.22	Crankcase		1	38.	00.0174.00	Sealing		0	60.	00.0005.00	Clr-Clip		1
18.	77.2120.01	Plug		0	39.	07.7400.00	Plunger Pin		0	61.	00.1072.00	Plug	02	1
19.	77.2118.84	Gasket		1	40.	00.4200.00	Screw		4	62.	00.2848.00	Plug	70, 80, 81	0
20.	00.1907.00	Screw		10	41.	77.0000.04	Plunger Guide		0	63.	00.2800.00	Red, Lo/Free, 4-1/2" Dia	70, 80	0

REPAIR KITS

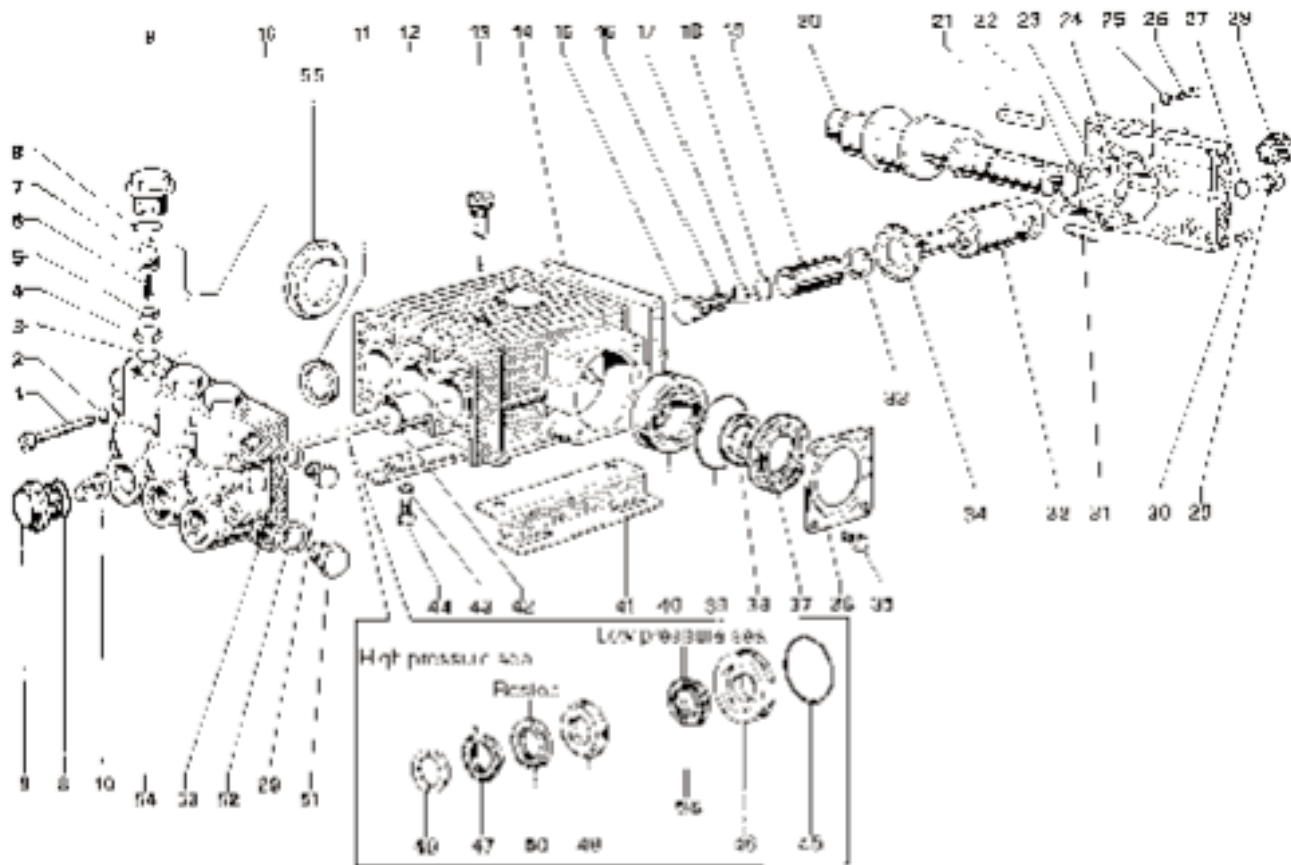
KIT NO.	02	40	44	47	48	74	70	80	81
ITEM NO.s INCLUDED IN KIT	01	3, 4, 5, 6, 7 (8)	02	04, 05	07	45, 47, 01, 02	03, 02, 03	04, 05, 06, 07, 08, 02, 03	08, 02
NUMBER OF ASSEMBLIES IN KIT	2	0	0	0	0	0	0	1	0
NUMBER OF CYLINDERS KIT WILL SERVICE	-	0	0	0	0	0	0	1	1

MODELS:
T121
T151

"Rule of Feline Frustration: When your cat has fallen asleep on your lap and looks utterly content and adorable, you will suddenly have to go to the bathroom."
 -- Unknown

CW Series 69 – 30 mm bore

GENERAL PUMP A member of the CW Series 69



PARTS LIST

ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM	PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	00090100	Screw	8		15.	00020100	Plunger (30mm)	8		38.	00107200	Flng	02	1
2.	00710400	Wadler	8		20.	00000000	Crankshaft	1		39.	00410100	O-Flng	02	2
3.	00080000	O-Flng	02	0	21.	01400000	Key	1		40.	01940100	Bearing	02	2
4.	00201700	Valve Seat	02	0	22.	00000000	Clr-Clip	1		41.	47200074	Foot	02	2
5.	00201870	Valve	02	0	23.	00100022	Crankcase-Cover	1		42.	00010200	Binding	02	0
6.	04700400	Spring	02	0	24.	00000001	Connecting Rod	1		43.	00710000	Wadler	04,07	4
7.	00200801	Valve Guide	02	0	25.	00701400	Wadler	0		44.	00004400	Screw	04,07	4
8.	00400100	O-Flng	0		26.	00000000	Screw	0		45.	00080000	O-Flng	04,07	0
9.	00201200	Cap	0		27.	00080000	O-Flng	1		46.	00000070	Packing Retainer	04,07	0
10.	00700001	Valve Unit	02	0	28.	01000800	In-Injector	1		47.	00277000	Packing	07,110	0
11.	00100000	Seal	07	0	29.	00210000	Cap	2		48.	00100051	Head Flng	05,07	0
12.	00010022	Cover	1		30.	00190700	Screw	0		49.	00210770	Intermediate Flng	05,07	0
13.	00210000	Oil Dipstick	1		31.	01700800	Plunger Pin	0		50.	00277400	Flng	110	0
14.	00211094	Gasket	1		32.	00000054	Plunger Guide	0		51.	00220000	Cap	04,07	1
15.	00210000	Plunger Bolt	74	0	33.	00211470	Spacer	1		52.	00770000	Wadler	04,07	1
16.	00084100	O-Flng	74	0	34.	00700000	Slinger	0		53.	00738000	Wadler	04,07	1
17.	00010700	Anti-Ext. Flng	74	0	35.	00000000	Screw	8		54.	00120741	Manifold	04,07	1
18.	00700000	Wadler	74	0	36.	00100074	Crankcase-Cover	2		55.	00211051	Spacer	07,110	1
					37.	00211051	Spacer	1		56.	00277000	Seal, Low Press, 30mm	07,110	0

REPAIR KITS

KIT NO.	02	07	02	04	05	07	74	110
ITEM NO.s INCLUDED IN KIT	38	11	3, 4, 5, 6, 7 (10)	45, 46	48	45, 46, 47, 48, 49, 50	15, 16, 17, 18	47, 50, 55
NUMBER OF ASSEMBLIES IN KIT	2	3	6	3	3	1	3	3
NUMBER OF CYLINDERS KIT WILL SERVICE	2	3	3	3	3	1	3	3

MODEL:

CW101

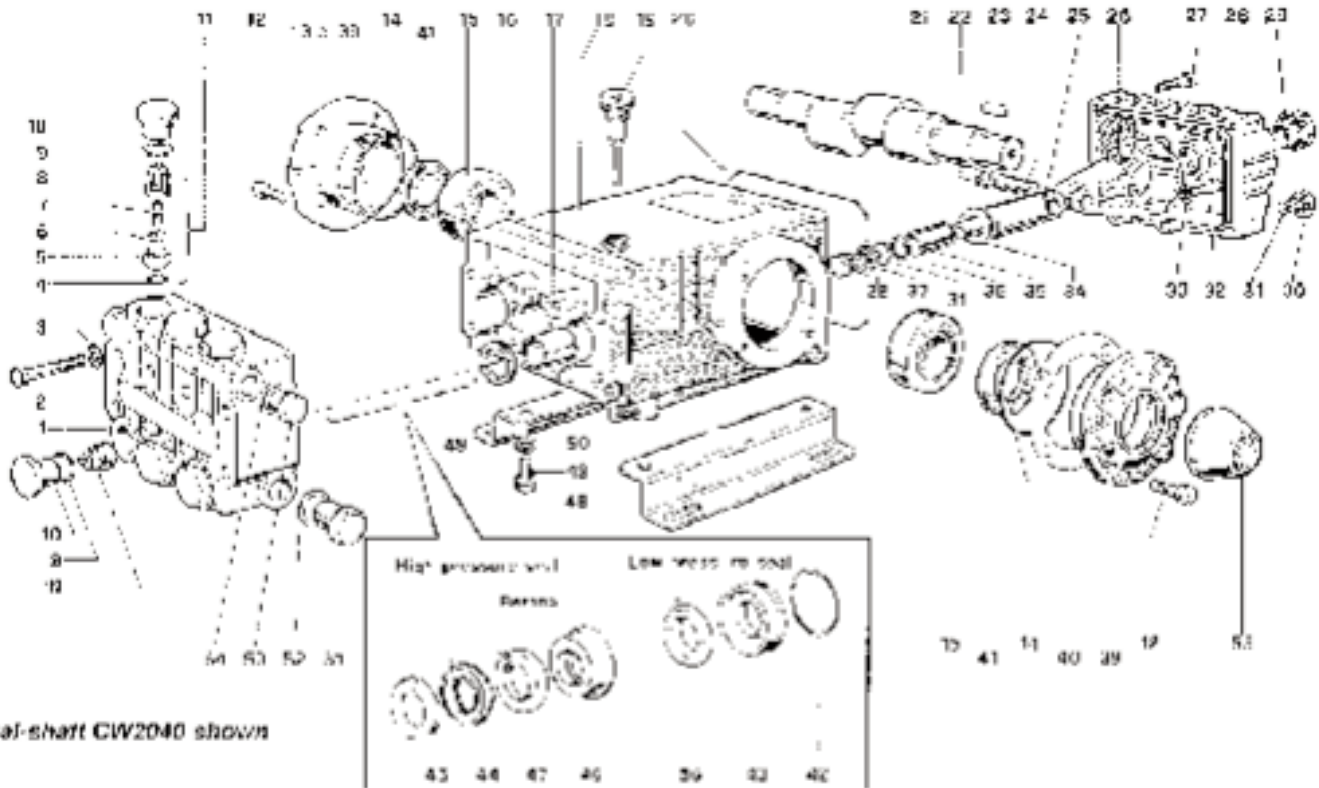
SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

-- Teacher asks Tom: "Where can we find the Red Sea?"
 -- Tom answers: "Well, there's one at the top of my last test paper."

CW Series 47 S – 20 mm bore

GENERAL PUMP

A member of the Ingersoll Rand Group



Dual-shaft CW2040 shown

PARTS LIST

PART NO.	DESCRIPTION	KIT NO.	QTY.	PART NO.	DESCRIPTION	KIT NO.	QTY.	PART NO.	DESCRIPTION	KIT NO.	QTY.	
1	47.1295.1	Motor		20	47.2715.01	Lock Washer	1	50	47.215.00	Screw - Motor	3, 107	3
2	47.1291.4	Motor (DASH)		21	47.0211.03	Coupling - dual (CW2040)	1	39	47.1305.22	Gasket - Gasketing		2
3	98.3733.01	Screw M5 x 13	2	42	47.0102.05	Coupling (DASH)		40	98.3512.00	5 - 1/2"		2
4	98.7225.00	Washer V1.4	2	43	47.0217.03	Coupling (DASH)		41	98.1340.00	Seal, OI		2
5	98.3514.00	O-Ring 73T x 163	2	44	47.0214.05	Flange (DASH)		42	98.3518.00	Shaft Seal - 20mm 1/2" Dia		2
6	98.2095.00	Seat Valve	40	45	98.0117.00	Ring, Snap, V1.2	2	43	47.0205.00	Control Valve For CW2040		2
7	98.3231.76	Plate Valve	40	46	91.4802.00	Key	1	44	98.2072.00	Ball - 1/2" Dia 98.2100.00		2
8	98.7375.00	Flange	40	47	47.0200.00	Flange	2	45	47.1307.00	Ball Head, V1.2		2
9	98.2090.00	Gate Valve	40	48	47.0204.00	Gasket Motor	2	46	47.2100.00	Washer M20 1/2" Dia		2
10	98.3817.00	O-Ring 73T x 163	2	49	47.0201.01	Flange Gasketing	2	47	98.3514.00	Ring, Ball - 71.0217.00		2
11	98.2225.00	Cap, Med	4	50	98.3823.00	Screw M5 x 10	2	48	47.2001.00	Ball - 1/2"		2
12	98.7330.00	Valve Actuator	40	51	47.0203.00	Coupling	1	49	98.3518.00	Screw 1/2 x 18		4
13	98.7330.00	Screw M20 x 18	2	52	47.0202.00	Cover Coupling	1	50	98.7100.00	Washer M13.4		4
14	47.1531.22	Cover, Gasketing CW2040		53	47.0202.00	Cover Coupling CW2040		51	98.2170.00	Cap		2
15	98.3817.00	O-Ring 209 x 709	2	54	97.0508.00	OI Indicator	1	52	98.7511.00	Washer M17.5		2
16	97.0275.00	Bearing, Ball	2	55	98.2411.00	Cap	1	53	98.2170.00	Cap		2
17	98.1875.00	Screw 5/8 x 20	2	56	98.2555.00	O-Ring 420 x 400	2	54	98.7510.00	Washer M17.5		2
18	98.1875.00	Screw 5/8 x 20	2	57	98.2555.00	O-Ring 420 x 400	2	55	47.2100.00	5 - 1/2" Cover Red (20 - 40mm)		2
19	98.2125.00	Dust Cap	2	58	98.7014.00	Washer V1.4	2	56	98.2204.00	Set Low Pressure Seal (100 - 200) (Optional)		2
20	47.0134.00	Cartridge	1	59	98.2555.00	Washer V1.4	2	57	98.2204.00	Set Low Pressure Seal (100 - 200) (Optional)		2
21	47.0134.00	Cartridge	1	60	47.0401.00	Flange (20 mm)	2	58	190150	Ball & Coupler 40 (3/4")		2
22	98.2125.00	Dust Cap	2	61	98.1007.00	Ring, Ball - 1/2"	2	59	190161	Ball & Coupler 40 (3/4")		2
23	98.3130.00	O-Ring Seal	1	62	48.0200.00	Washer V1.4	2	60				

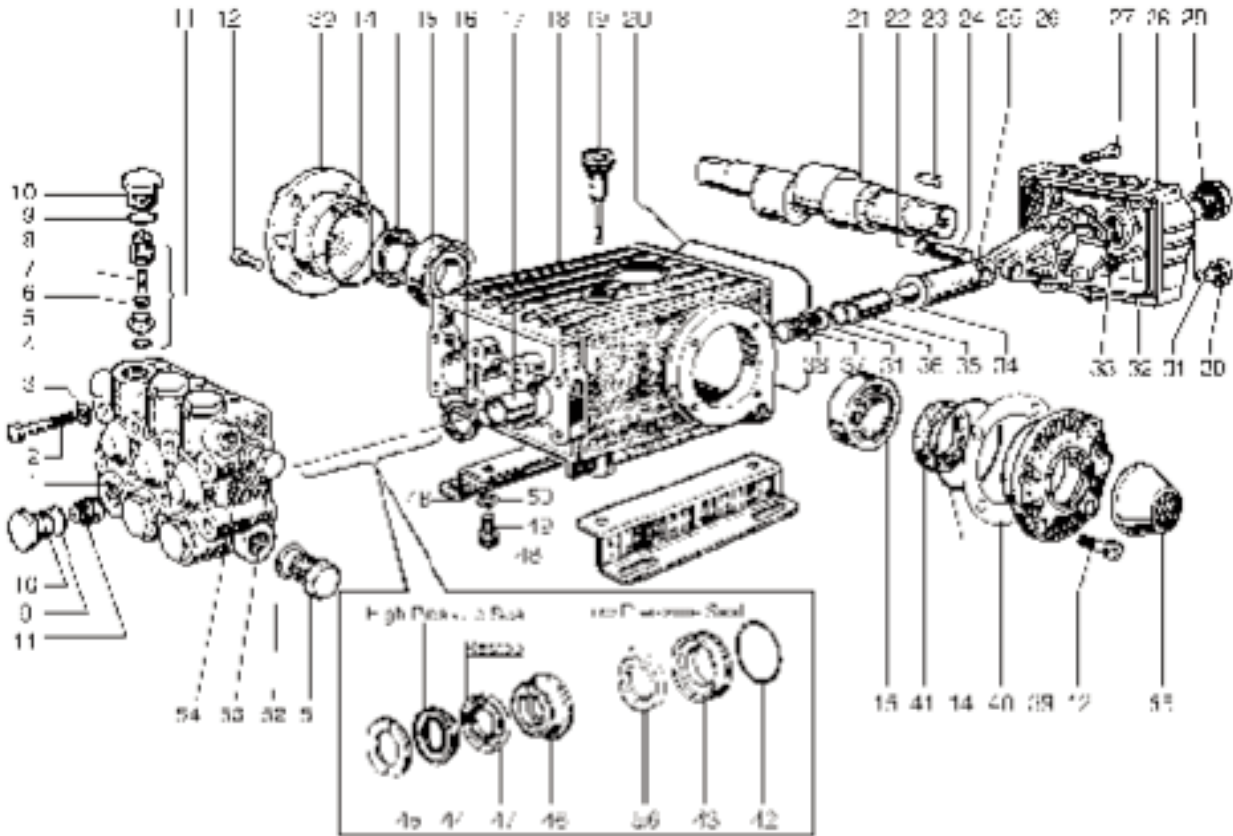
REPAIR KITS

Kit No.	1	2	3	4	5	6	7	8	9	10	11
ITEM NO.	43, 44	18	41	43, 44	21, 34	46	47, 48	48, 49	44, 45	43, 44, 45	46, 47
INCLUDED IN KIT	7, 8				36, 37				50	13, 46, 47, 50	
NUMBER OF ASSEMBLIES IN KIT	3	3	4	6	5	6	3	3	2	5	
NUMBER OF CYCLES IN KIT	3	2		3	3	3	3	3	3		2
SERVICE											

MODELS:
CW24
CW3040
CW2004

"One of the most striking differences between a cat and a lie is that a cat only has nine lives."
 -- Mark Twain

CW Series 47 - 2040 - 20mm GENERAL PUMP A member of the Ingersoll Rand Group



PARTS LIST

ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.	ITEM PART NO.	DESCRIPTION	KIT NO.	QTY.
1.	47120611 Manifold		1	21.	47021006 Crankshaft - Seal		1	41.	00104800 Seal, Oil		2
2.	00020000 Screw, M8 x 70		8	22.	00000700 Flng. Steps, M12		0	42.	00001000 O-Ring, 1.004 x .070		0
3.	00703000 Washer, M8.4		8	23.	01480000 Key		1	43.	47080070 Piston/R. Seal, Low Press.		0
4.	00084100 O-Ring, .074 x .100		0	24.	07728000 Fla. White		0	44.	00270000 Seal, High Pressure		0
5.	00200000 Seal, Valve		0	25.	47000404 Oil-In. Piston		0	45.	47100001 Flng. Head, M20		0
6.	00200170 Plate, Valve		0	26.	47000001 Pin, Compression		0	46.	47210070 Flng. Interf. Head, M20		0
7.	04707000 Spring		0	27.	00180700 Screw, M8 x 14		6	47.	00270400 Flng. Piston		0
8.	00200001 Guide Valve		0	28.	47100022 Cover, Crankcase		1	48.	47200074 Flng. Pump		2
9.	00084700 O-Ring, .107 x .100		0	29.	07000800 Oil In-Indicator		1	49.	00004400 Screw, M10 x 10		4
10.	08223000 Cap, M24		0	30.	08204100 Cap		1	50.	00710000 Washer, M10.2		4
11.	00703201 Valve Assembly		0	31.	00008000 O-Ring, .420 x .070		4	51.	08217000 Cap		1
12.	00000000 Screw, M8 x 10		8	32.	00000000 Screw, M8 x 30		0	52.	00701400 Washer, M21.0		1
14.	00001800 O-Ring, 2.08 x .100		2	33.	00701400 Washer, M8.4		0	53.	08210000 Cap		1
15.	01807000 Bearing, Roller		2	34.	00728000 Washer, M14		0	54.	00708000 Washer, M17.0		1
16.	00102000 Seal, Oil		0	35.	47040400 Plunger, (20 mm)		0	55.	47212001 Shaft Cover, Flg		1
17.	00012000 Bearing		0	36.	00000700 Flng. Bed-top		0	56.	00004400 Seal, Low Pressure		0
18.	47010422 Crankcase		1	37.	00728000 Washer, M14		0				
19.	08210000 Oil Dip Stick		1	38.	47210000 Screw, Plunger		0				
20.	47211004 Cover, Crank		1	39.	47100022 Cover, Crankcase		2				
				40.	07007800 Shaft		2				

Optional	DESCRIPTION	KIT NO.	QTY.
100100	Pack & Coupler III (310)		1
100101	Pack & Coupler III (330)		1

REPAIR KITS

KIT NO.	K01	K02	K03	K04	K06	K07	K71	K009	K061A	K010
ITEM NO. INCLUDED IN KIT	11	16	41	8, 10	31, 34, 35, 37, 38	45	49, 47	44, 47, 50	42, 43, 44, 45, 46, 47, 55	42, 43, 55
NUMBER OF ASSEMBLIES IN KIT	6	3	2	6	3	6	3	3	1	3
NUMBER OF CYLINDERS KIT WILL SERVICE	6	3	-	3	3	3	3	3	1	3



SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

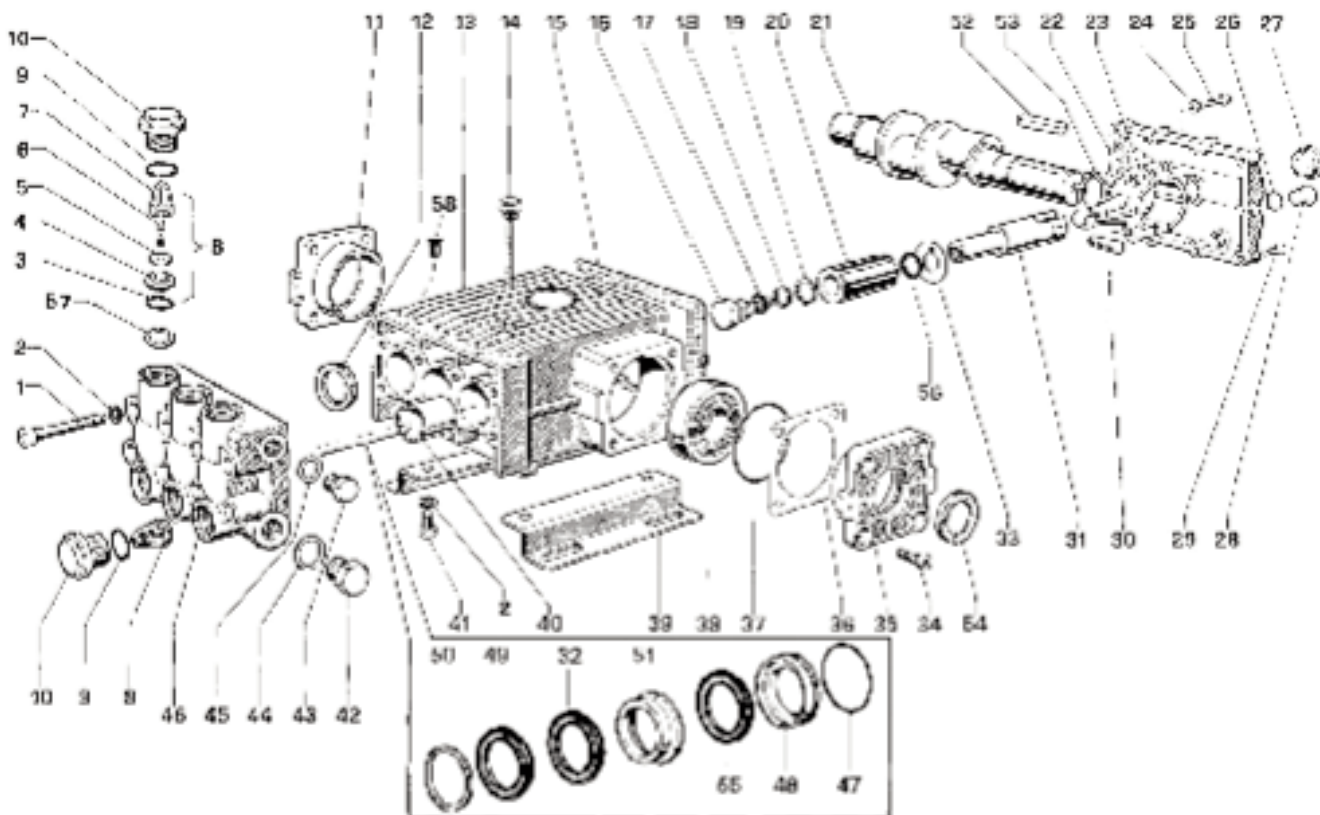
"If you have men who will exclude any of God's creatures from the shelter of compassion and pity, you will have men who will deal likewise with their fellow men."

-- St. Francis of Assisi

CW Series 76 – 36 mm bore

GENERAL PUMP

A member of the Interpump Group



PARTS LIST

ITEM NO.	DESCRIPTION	KT NO.	QTY.	ITEM NO.	DESCRIPTION	KT NO.	QTY.	ITEM NO.	DESCRIPTION	KT NO.	QTY.	
1	SB4418.00 Screw		8	20	01.0433.00 Plunger (30 mm)		3	39	70.2030.04 Pump Foot		2	
2	06.7135.00 Washer		19	21	76.0211.04 Coverball (CMBB)		1	40	06.8174.00 Bushing		5	
3	06.4289.00 O-Ring	945	6	22	76.0212.00 Crankshaft (CMBB)		1	41	06.4289.00 Screw		4	
4	36.2311.66 Water Seal	343	6	23	76.1633.00 Cover		1	42	06.2325.00 Cap		1	
5	06.2913.76 Valve Plate	913	6	24	06.0333.01 Covercap lock		3	43	06.2325.00 Cap		1	
6	04.7459.00 Bolt	945	6	25	06.7134.00 Washer		6	44	06.7879.00 Washer		1	
7	06.2303.51 Water Guide	343	6	26	06.8723.00 Spacer		6	45	06.7720.00 Washer		1	
8	06.7385.01 Valve assembly	945	6	27	06.2823.00 O-Ring		2	46	06.1251.01 Manifold		1	
9	06.4365.00 O-Ring		6	28	09.5588.00 Oil indicator		1	47	06.3835.00 O-Ring	039,040	3	
10	06.2123.00 Cap		6	29	06.2133.00 Cap		2	48	76.0031.00 Packing Washer	039,040	3	
11	76.1591.22 Cover		6	30	06.1897.00 Spacer		10	49	06.2829.00 Packing	039	3	
12	06.1673.00 Oil Seal	44	3	31	06.7433.00 Water Plug		3	50	06.1632.00 Head Ring	41,030	3	
13	76.0103.22 Crankcase		1	32	77.0533.01 Plunger Guide		3	51	06.2170.00 Intake Ring	039	3	
14	06.2271.00 Dis. Stick		1	33	06.2818.00 Retain Ring	800	3	52	01.4878.00 Key		1	
15	76.2119.04 Cover Gasket		1	34	06.7588.00 Washer		5	53	06.6845.00 Cover Plug		1	
16	06.2185.00 Plunger Screw	74	3	35	06.2852.00 Spacer		6	54	06.1672.00 Oil Seal	02	1	
17	06.3841.00 O-Ring	74	3	36	76.1633.00 Cover		1	55	06.2923.00 Seal, Low Pressure	039	3	
18	06.6197.00 Anti-Lock Plug	74	3	37	06.2233.00 Shim		2	56	06.2111.00 Spacer, Plunger		3	
19	06.7555.00 Washer	74	3	38	06.4141.00 O-Ring		2	57	06.7579.00 Retain Ring with Seal	043	6	
				39	01.8171.00 Bushing		3	58	06.0800	Plug, Top		3

REPAIR KITS

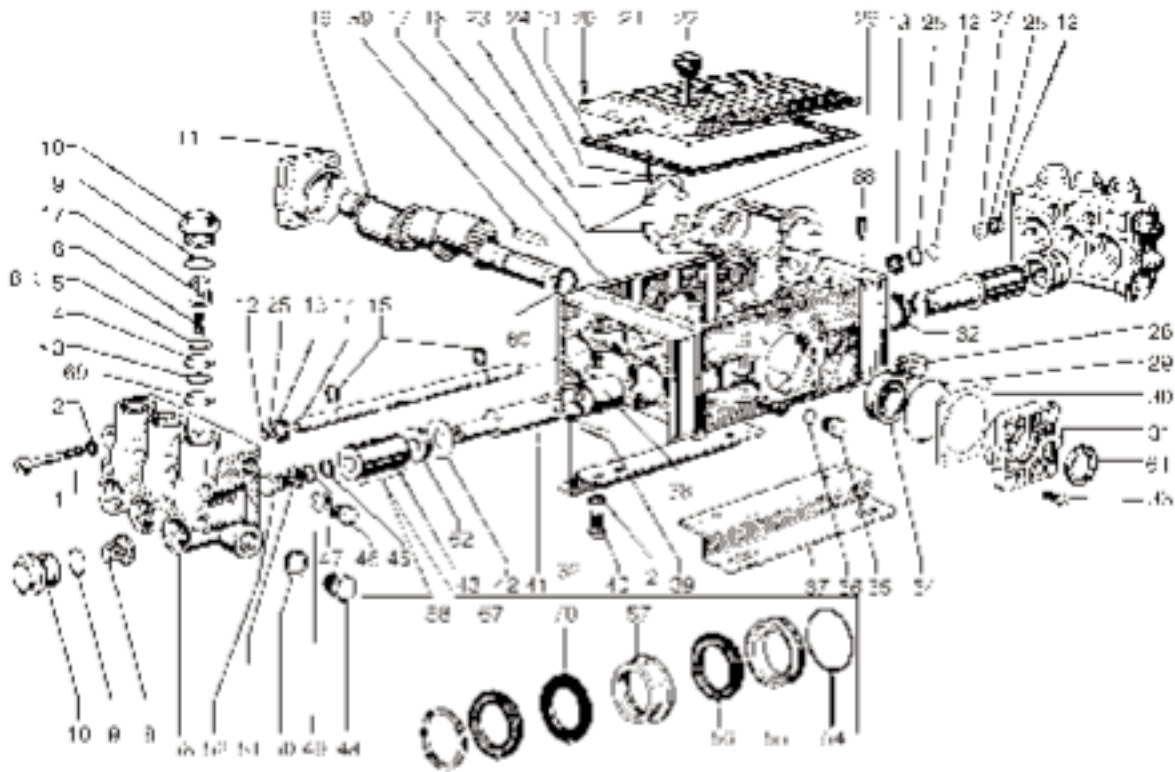
KT NO.	32	41	44	74	909	940	943
ITEMS INCLUDED IN KIT	57	53	12	16, 17, 18, 19	32, 37, 40, 48, 50, 51, 55, 56	17, 48	3, 4, 5, 6, 7, 57, 59
NUMBER OF ASSEMBLIES IN KIT	2	3	3	3	1	2	6
NUMBER OF CYLINDERS KIT WILL SERVICE	-	3	3	3	1	3	3

MODELS:
CW61
CW81

CW Series 77 – 36 mm bore

GENERAL PUMP

A member of the CW Pump Group



PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	00.4410.00	Screw M12 x 00	16	22	00.2270.00	Oil Dip. Box	1	46	00.6107.00	Ring Backup	74
2	06.7106.00	Washer M12	20	23	00.1027.00	Screw M12 x 10	12	48	00.2065.00	Cap	0
3	00.4060.00	O-Ring 1.200 x .100	12	24	06.6000.00	Washer M14	12	47	00.0041.00	O-Ring .674 x .100	74
4	00.2011.00	Seal Valve	040	25	00.0005.00	Ring Backup	4	49	00.2065.00	Cap	2
5	00.2010.00	Valve	040	26	77.0002.40	Roll. Comedity	0	40	06.7000.00	Washer M22.6	0
6	04.7400.00	Spring	040	27	77.2200.70	Cap	2	60	06.7070.00	Washer M20.6	2
7	06.2000.01	Guide Valve	040	28	07.0040.00	Oil Inlet	1	61	06.7066.00	Washer M22	74
8	06.7065.01	Unit Valve	040	29	00.4040.00	O-Ring 1.150 x .100	2	62	00.2105.00	Roll Plug	74
9	00.4060.00	O-Ring 1.404 x .100	12	30	76.2200.70	Slide	2	63	77.1251.40	Main Pk. HPT	2
10	00.2420.00	Cap. M12	12	31	76.1000.22	Harding. Bearing	1	64	00.0003.00	O-Ring .024 x .100	00.40
11	76.1001.22	Cover	1	32	00.1070.00	Seal Oil	44	65	76.0001.70	Roller. Packing	00.40
12	00.0000.00	O-Ring .604 x .100	4	33	200002	Screw M10 x 20	0	66	00.2020.00	Packing Low Pressure	00.0
13	00.1014.00	Seal Oil	4	34	01.0474.00	Bearing	4	67	00.2170.70	Ring Intermediate	00.042
14	77.2122.00	Tube. Head Conn.	1	35	00.2100.00	Cap	1	68	00.1002.00	Ring Head	00.40
15	00.0000.00	Ch-Clip	2	36	00.0000.00	O-Ring .440 x .100	1	69	01.4070.00	Key	1
16	76.0010.00	Crankshaft	1	37	76.2000.74	Roll. Plug	2	80	00.0000.00	Ch-Clip	1
17	77.0100.22	Crankcase	1	38	00.0174.00	Bearing	6	81	00.1072.00	Seal Oil	02
18	77.2120.01	Ring Clamp. Comedity Rod	6	39	07.7400.00	Pin. Plug	6	82	76.2114.70	Spacer. Plug	6
19	77.2110.04	Gasket	1	40	00.4000.00	Screw M12 x 20	4	87	00.2020.00	Packing High Pressure	00.0
20	00.1067.00	Screw M12 x 10	16	41	77.0000.64	Guide. Plug	6	88	000000	Pin. Tapered	6
21	77.2114.22	Cover	1	42	06.7060.00	Washer M22.0	6	89	06.7070.00	Backup Ring Valve Seat	040
				43	00.0400.00	Plunger (04 mm)	6	70	00.2010.00	Backup Ring	00.0

REPAIR KITS

QTY	32	41	44	74	000	040	042	040	100400
ITEM NO. INCLUDED IN KIT	01	05	02	40, 47, 61, 62	04, 05, 00, 07, 08, 07, 70	04, 05	67	0, 4, 6, 0, 7, (8), 00	04, 05, 00, 07, 08, 07, 70
NUMBER OF ASSEMBLIES IN KIT	2	6	3	3	1	3	3	6	6
NUMBER OF CYLINDERS KIT WILL SERVICE	-	3	3	3	1	3	3	3	6

MODEL:

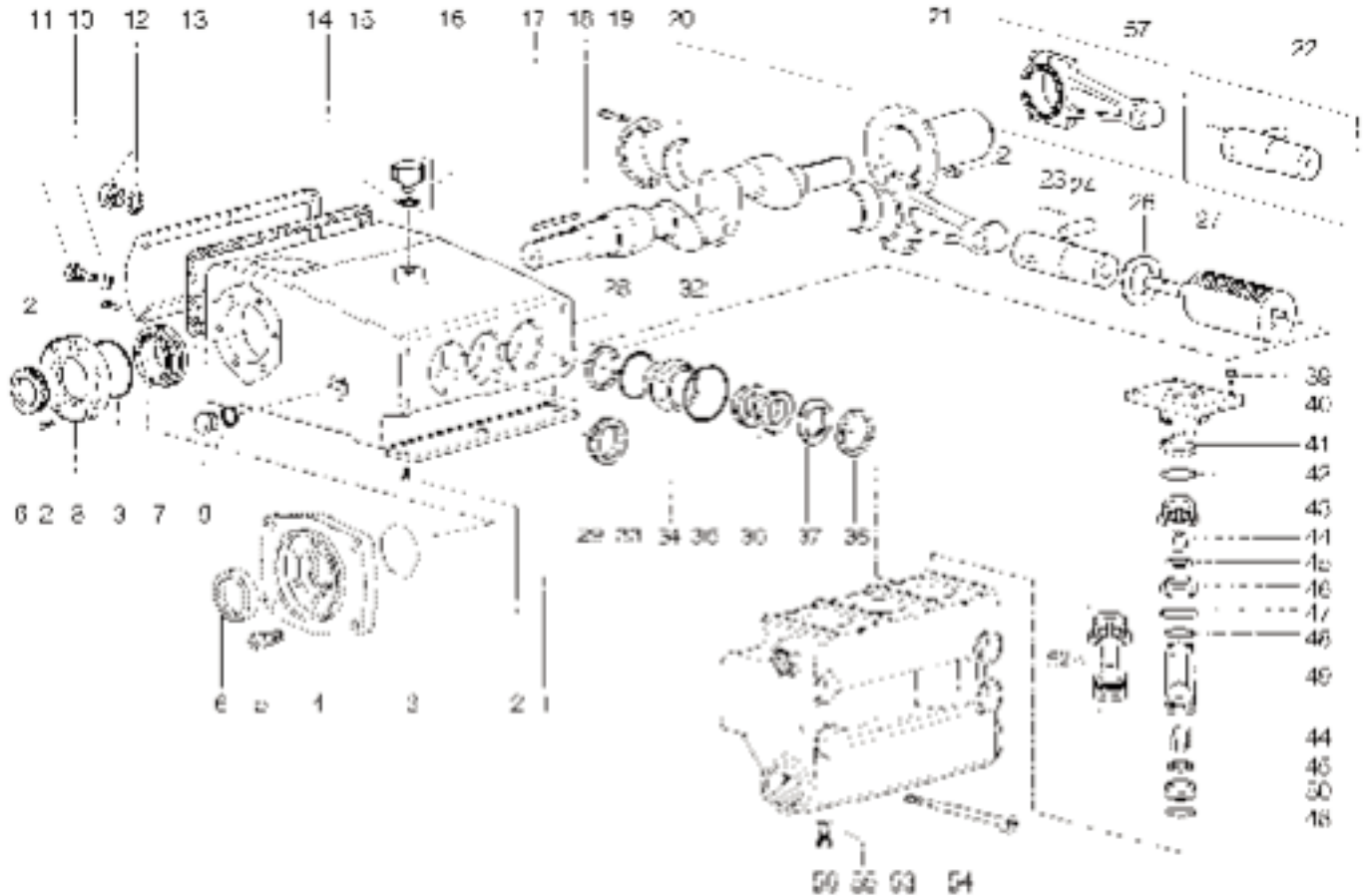
CW1541

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If you have men who will exclude any of God's creatures from the shelter of compassion and pity, you will have men who will deal likewise with their fellow men."
 -- St. Francis of Assisi

CW1635 – Triplex

GENERAL PUMP Amount of Stocking may vary



PARTS LIST

Part Code	Description	Qty	Part Code	Description	Qty	Part Code	Description	Qty
1	F04000100	1	22	F25000100	1	42	F01020000	0
2	F0711510	20	23	F02100010	0	43	F01020000	0
3	F01010100	2	24	F07000020	0	44	F01011100	0
4	F01000014	2	25	F04200000	0	45	F01011107	0
5	F07110002	2	26	F124200010	0	46	F02100040	0
6	F06500100	2	27	F00100140	1	47	F01020000	0
7	F01003000	1	28	F01001002	0	48	F00000100	0
8	F07204000	1	29	F01000017	0	49	F06400040	1
9	F01007001	1	30	F01000012	0	50	F07114000	4
10	F01003000	1	31	F02000070	0	51	F07204000	0
11	F06500100	1	32	F01000012	0	52	F00000000	0
12	F00000000	1	33	F01000011	0	53	F01000020	0
13	F01011170	1	34	F01201054	12	54	F00000000	0
14	F010054000	1	35	F00000020	0	55	F00000000	0
15	F071000040	1	36	F01000011	0	56	F00000000	0
16	F00000000	1	37	F01200000	0	57	F00000000	0
17	F010054000	1	38	F01000011	0			
18	F071000040	1	39	F01000020	0			
19	F00000000	1	40	F01000011	0			
20	F071000040	1	41	F01000020	0			
21	F00000000	1	42	F01000011	0			
	F065000010	0	43	F01000020	0			
	F065000010	0	44	F01000011	0			

Options			
4	F01010000	174mm Flange	1
	F01010000	150mm Flange	1
5	F07125100	Ball M10 x 30	6
	F01020000	Ball M10 x 30	1
	100160	Filling HI	1

REPAIR KITS

KIT NO.	1080	1084	1085
ITEM NO.S INCLUDED IN KIT	32, 33, 35, 36	41, 42, 47, 48, 49	3, 6, 10, 11, 16, 23, 29, 32, 33, 36, 38, 41, 42, 47, 48, 49
NUMBER OF ASSEMBLIES IN KIT	3	3	3
NUMBER OF CYLINDERS KIT WILL SERVICE	3	3	3

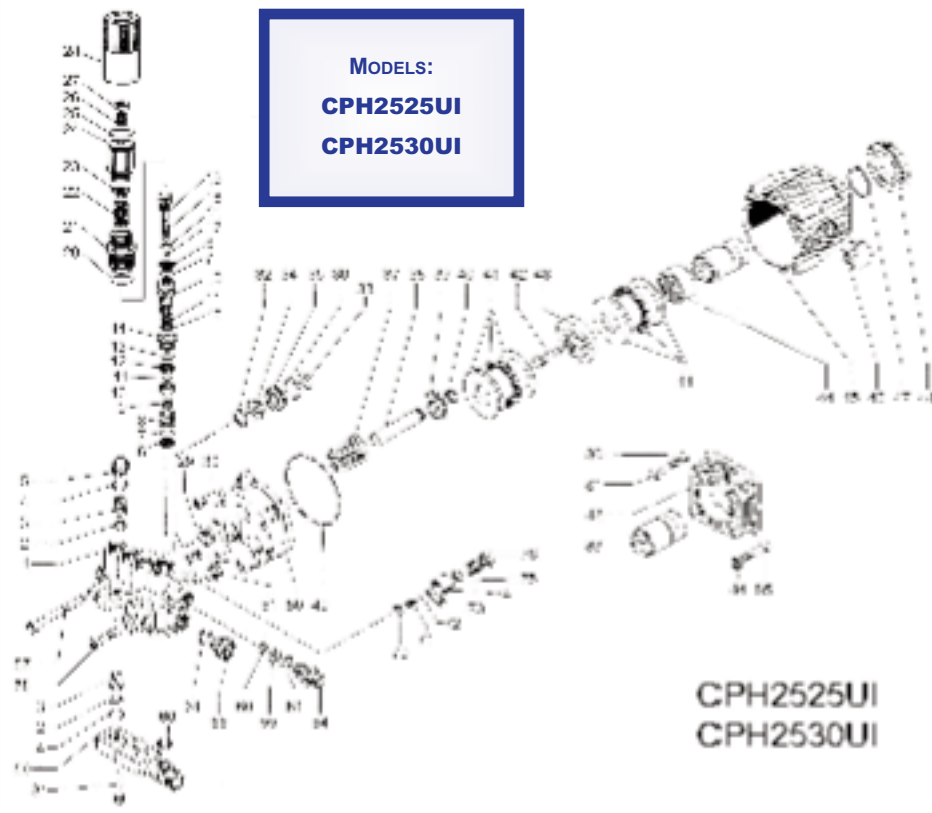
**MODEL:
CW1635**

"One of the most striking differences between a cat and a lie is that a cat only has nine lives."
 -- Mark Twain

CPH Series

GENERAL PUMP A member of the Interpump Group

MODELS:
CPH2525UI
CPH2530UI



PARTS LIST

Item	Part	Description	Qty.
1	67120041	Manifold	1
2	701014	O-ring	6
3	36711001	Valve Assy	6
4	701016	O-ring	6
5	38213000	Valve cap	3
6	90606000	Anti-Ext ring	2
7	701814	O-ring	2
8	36310406	Seat	1
9	36160000	Screw	1
10	36313008	Special Valve	1
11	90607000	O-ring	3
12	90607000	Anti-Ext ring	1
13	701014	O-ring	1
14	36310670	Crank	1
15	90602000	Anti-Ext ring	1
16	36318070	Piston	1
17	37480000	Ball	1
18	34733200	Spring	1
19	36318870	Stem	1
20	701002	O-ring	1
21	36318470	Crank	1
22	34743000	Spring	1
23	36316070	Spring plate	1
24	36318670	Regulator knob	1
25	701010	O-ring	1
26	90606400	Set screws M3	1
27	32221800	Nut M3	1
28	36318761	Handle	1
29	36160700	Oil Seal	3
30	36101400	Screw	4
31	36101200	Screw	6
32	61100051	Hard Ring	3
33	90606000	O-ring	3
34	36302000	Packing 10mm	3
35	61080070	Packing Supt 10mm	3
36	90606400	O-ring	3
37	34733400	Spring	3
38	67040102	Piston Assy	3
39	67210070	Spring Plate	3
40	67208051	Clip	3
41	01804700	Bearing Assy Drive	2
42	36300800	Screw	1
43	67211222	Wobble Plate 2025	1
44	01840000	Needle Bearing	1
45	67010022	Back Housing	1
46	610270	Plug	1
47	90606000	Clip	1
48	36107000	Seal	1
49	36301700	O-ring	1
50	67210422	Body Piston Crank	1
51	36206700	Plug	1
52	67210070	Plug	1
53	36301400	O-ring	1
54	10007870	3/8" BSP-H Nipple	1
	10014770	M22 Nipple (optional)	1
55	10030786	Nozzle 1.8mm	1
	10016186	Nozzle 2.0mm	1
56	36208000	Plug Flange	1
57	36321000	Screw	4
58	36306000	Screw	1
59	67140022	Inlet Manifold	1
60	36382300	O-ring	2
61	36383300	O-ring nozzle	2
70	701012	O-ring	1
71	34821700	Coil spring	1
72	37478200	Ball	1
73	701001	O-ring	1
74	36230451	Fixed Injector	1
75	701013	O-ring	1
76	36230370	Banjo bolt Injector	1
80	36701400	Washer	4
81	36273000	Screw	4
82	2P4998	Flange	1
83	67020186	Hollow shaft	1
84	36303800	Washer	4
85	36188700	Screw	4

REPAIR KITS

KIT NO.	K00	K01	K07	K102	K103	K104
PO'S INCLUDED IN KIT	00, 06, 00	02, 00	02-04, 00	0-21	4, 6	2, 0
NUMBER OF ASSEMBLIES IN KIT	0	1	0	1	0, 0	0

TORQUES*

Pos.	PSI
6	2.2
21	3.7
30	7.4
31	7.4
42	30.8
61	14.7
64	20.4
66	6.1
67	16
68	14.7
70	16
85	3.7

* Decrease torque by 20% if threads are lubricated.

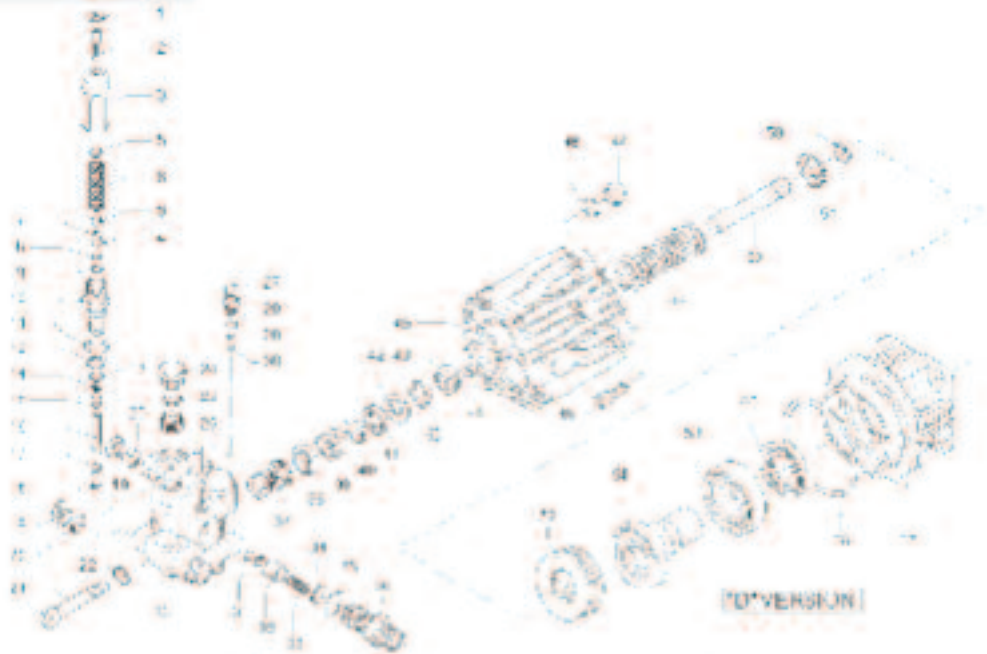
"A loyal friend laughs at your jokes when they're not so good, and sympathizes with your problems when they're not so bad."
 -Arnold Glasow, Writer

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"My favorite animal is the mule. He has more horse sense than a horse.
He knows when to stop eating -- and he knows when to stop working."
-- Harry S. Truman



XJV-E 3400 RPM



Pos.	Code	Description	Qty.
1	1000009	Kit	1
2	302840	Adjustment screw	1
3	1000040	Adjustment cap	1
4	1000070	Pin	1
5	1000220	Flare spring	2
6	1000020	Spring	1
7	1000041	Upper piston	1
8	1000401	Pin cap ring	1
9	1000250	O-Ring	1
10	1000020	Hydro guide	1
11	1000030	O-Ring	1
12	700200	O-Ring	1
13	1000040	O-Ring	1
14	1271170	Back cap ring	1
15	1000030	O-Ring	2
16	1271180	Lower piston	1
17	1000250	Piston rings	1
18	1470010	O-Ring	1
19	80050	Plug 1/8"	2
20	800010	O-Ring	0
21	1900010	Head ball (4-3 in/bs)	0
22	600030	Washer	0
23	1401020	Pump head	1
24	1200100	Valve cap (4-3 in/bs)	0
25	000100	O-Ring	0
26	1900001	Compress valve	0
27	1000030	Crank pin	1
28	400400	O-Ring	1
29	1200200	Bell	1
30	1000020	Spring	1
31	1400030	O-Ring	1
32	1000070	Control valve	1
33	1000091	Spring	1
34	304200	O-Ring	1
35	1200080	O-Ring	1
36	1271720	Detergent injector	1
37	1000000	Compress valve	0
38	2400100	High pressure packing	0
39	1001470	Piston guide	0
40	700100	O-Ring	0
41	1200040	Low pressure seal	0
42	1000070	Ball retainer	0
43	1900010	Oil seal	0

Pos.	Code	Description	Qty.
44	700000	Crank	1
45	1000060	Crankcase	1
46	740000	Crank	1
47	1000740	Oil plug	1
48	800000	BE	0
49	1001140	Spring	0
50	1001040	Pinion	0
51	1000100	Pinion retainer (assy)	0
52	1002090	Bearing	1
53	800000	Head	1
54	1001040	Aspirator	0
55	1001040	Aspirator	0
56	1000050	Release	0
57	1000040	Clutch	1
58	1000000	Clutch	1
59	1001040	Gear/pinion	1

Legend		
For 1	For 2	For 3
XJM-E0010	XJM-E2000-S	XJM-E3010
XJM-E0020	XJM-E2000-DH	XJM-E3020
	XJM-E20002	XJM-E3002

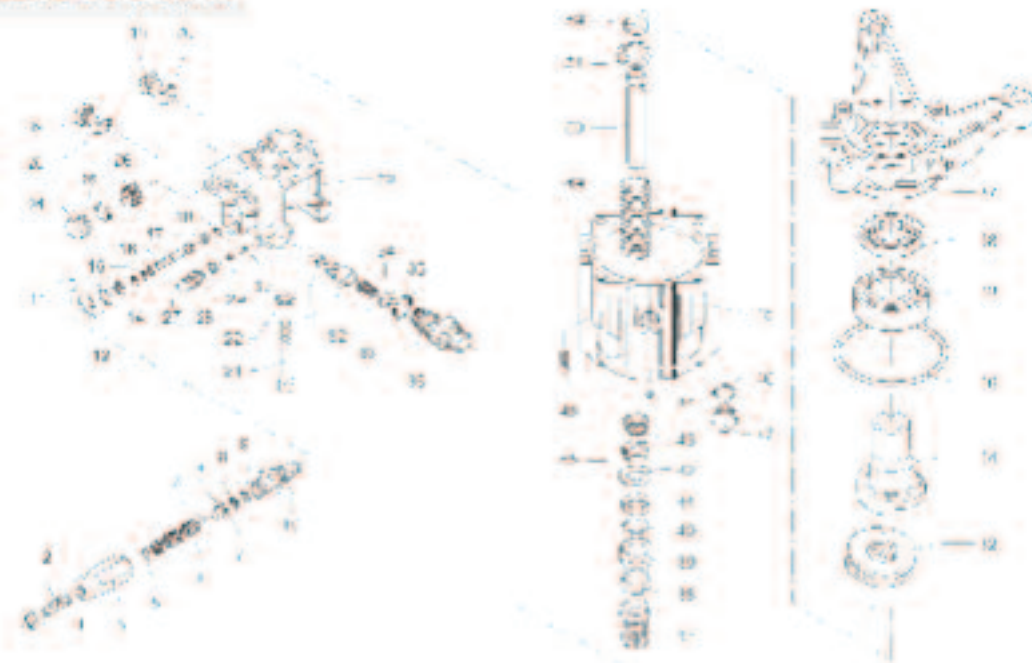
Repair Kits			
Water Socks	Valves	Pistons	Oil Seals
Kit 2002	Kit 2001	Kit 2003	Kit 2001
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
36 1	24 1	10 1	40 1
40 1	37 1		41 1
41 1			65 1
42 1			
50 1			

Unloader Kit			
Kit 2004			
Pos.	Qty.	Pos.	Qty.
1	1	10	1
2	1	11	1
3	1	12	1
4	1	13	1
5	2	14	1
6	1	15	2
7	1	16	1
8	1	17	1
9	1	18	1

"I cant do it"
 never accomplished
 anything. "I will try"
 has performed
 wonders."
 --George P. Burnham

"The key to everything is patience. You get the chicken by hatching the egg -- not by smashing it."
-- Arnold Glasow

XJW-E 3400 RPM



Pos.	Code	Description	Qty.
1	7100000	Kit	1
2	382800	Adjusting screw	1
3	7100000	Adjusting cap	1
4	1000070	Pin	1
5	1000220	Flare spring	2
6	7100000	Spring	1
7	1000041	Upper piston	1
8	1000000	Wrist pin	1
9	1000250	O-Ring	1
10	1000000	Piston guide	1
11	1000000	O-Ring	1
12	7100250	O-Ring	1
13	1000000	O-Ring	1
14	1271170	Backscrew	1
15	1000000	O-Ring	2
16	1271180	Inter-piston	1
17	1000250	Piston seal	1
18	1410000	O-Ring	1
19	880050	Fluorinac	2
20	870000	O-Ring	2
21	7900000	Headball (4x3x1/8)	5
22	650030	Washer	5
23	7900000	Pump head	1
24	1250100	Valve cap (4x3x1/8)	5
25	1000000	O-Ring	5
26	1000001	Compress valve	6
27	1000000	Clamp parts	1
28	490490	O-Ring	1
29	1250250	Ball	1
30	1000000	Spring	1
31	1000000	O-Ring	1
32	1000000	Check valve	1
33	1000001	Spring	1
34	380250	O-Ring	1
35	1200000	O-Ring	1
36	1270101	Delta per (1/8x1/8)	1
37	1000000	Compress valve	5
38	2400100	High pressure packing	5
39	1000000	Piston guide	5
40	770000	O-Ring	5
41	1250000	Low pressure seal	5
42	1000000	Seal retainer	5
43	1000000	Seal	5

Pos.	Code	Description	Qty.
44	1000000	O-Ring	1
45	1000000	Crankcase	1
46	1000000	Cladding	1
47	1000000	Oil plug	1
48	1000000	Bolt	1
49	1000000	Spring	3
50	1000000	Piston	3
51	1000000	Inter-piston (1/8x1/8)	3
52	1000000	Gearing	1
53	1000000	Bearing	1
54	1000000	Angle plate	2
55	1000000	Angle plate	1
56	1000000	Angle plate	1
57	1000000	Flange	5
58	1000000	O-Ring	1
59	1000000	Seal	1
60	1000000	Flange	1

Legend		
For 2	For 7	For 7
XJW 10002	XJW 10002	XJW 10002

Repair Kits			
Water Seals	Valves	Pistons	Oil Seals
Kit 2582	Kit 2581	Kit 2523	Kit 2511
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
38 1	26 1	50 1	45 3
41 2	37 3		44 1
43 3			56 1
47 3			
55 3			

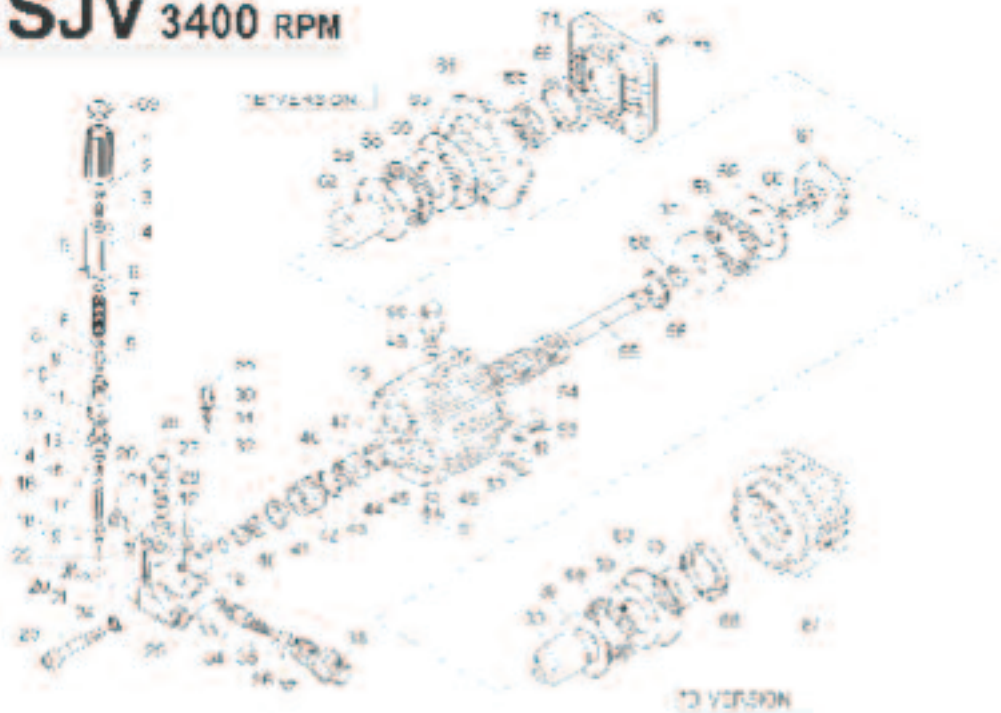
"The will to win
is not nearly as
important as the will
to prepare to win."
--Bobby Knight

Unibody Kit			
Kit 2594			
Pos.	Qty.	Pos.	Qty.
1	1	10	1
2	1	11	1
3	1	12	1
4	1	13	1
5	2	14	1
6	1	15	2
7	1	16	1
8	1	17	1
9	1	18	1

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"If you are a dog and your owner suggests that you wear a sweater. . . suggest that he wear a tail."
 -- Fran Lebowitz

XJV & SJV 3400 RPM

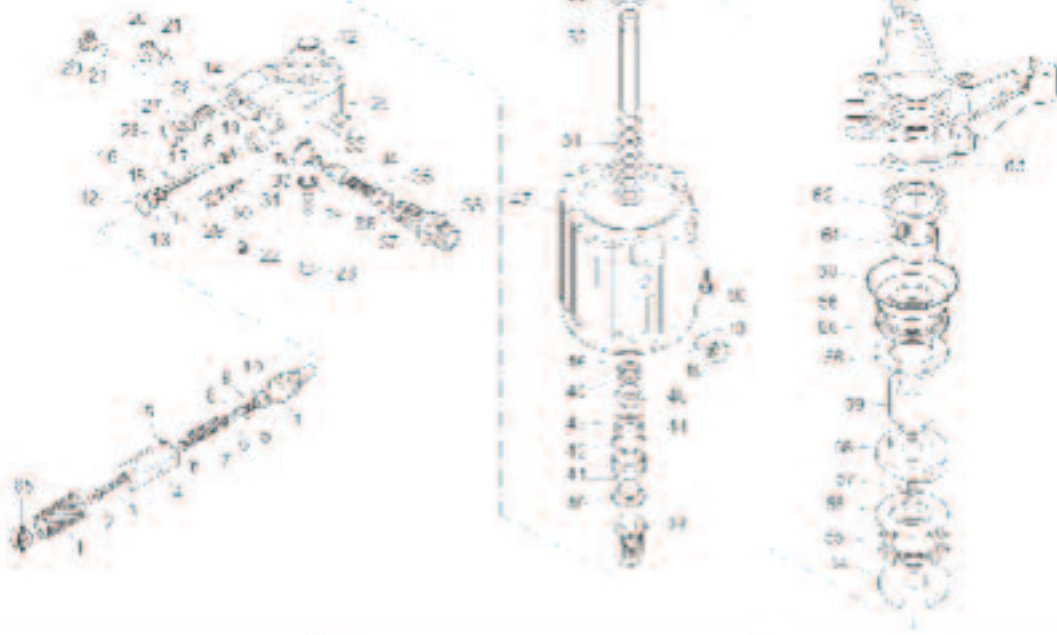


Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.	Legend		
1	1001200	Adjusting cap cover	1	43	740030	O-Ring	3	For U	For T	For R
2	1900300	Nut	1	44	1250400	Base processor oval	3	XJV0015D	XJV2.5G15D	XJV3001D
3	1010000	Adjusting screw	1	45	100010	Seatretainer	3	XJV2015E	XJV2.5G15E	XJV3002D
4	1900400	Adjusting cap	1	46	1000400	Oil seal	1	XJV0000D	XJV2.5G00D	XJV3000E
5	1000070	Pin	2	47	770000	O-Ring	1		XJV2.5G02D	XJV3002D
6	1900720	Spring pin	2	48	1000070	Crankcase body	1	For ●	For ●	For ■
7	1271370	Spring	1	49	740020	O-Ring	3	XJV0002D	AM0002D	SMV2.5G02D
8	1000911	Upper piston	1	50	1000300	vented oil cap	1	For ✖	For ✖	
9	1000401	Back-up ring	1	51	1000700	Flange spring	3	XJV0005D	SMV3.0G05D	
10	1000250	O-Ring	1	52	1000250	Flange	3	SMV027D	SMV3.0G20D	
11	1000710	Piston guide	1	53	1000150	Flange spring/retainer	3			
12	090030	O-Ring	7	54	400010	Flange plate	1			
13	740700	O-Ring	1	55	1000140	Flange spring	3			
14	000000	O-Ring	1	56	1000140	Flange	3			
15	127170	Back-up ring	1	57	1001100	Flange	3			
16	1000400	O-Ring	2	58	1000150	Flange spring/retainer	3			
17	127160	Lower piston	1	59	400010	Flange plate	1			
18	1000000	Piston seal	1	60	1000250	Thrust bearing	2			
19	1470210	O-Ring	1	61	1000040	Keelring nut	3			
20	89030	Plug M0	2	62	350070	Bolt	1			
21	820110	O-Ring	2	63	1000000	Wobble plate	1			
22	62030	Plug M5G	1	64	1000110	Wobble plate	1			
23	1000910	Headbolt (440 in/100)	3	65	1000000	Wobble plate	1			
24	89030	Washer	3	66	1000000	Wobble plate	1			
25	1000020	Pump hose	1	67	1000000	Wobble plate	1			
26	120100	Water cap (440 in/100)	1	68	1000000	Wobble plate	1			
27	090100	O-Ring	3	69	1000110	Crankshaft	1			
28	120050	Discharge valve	3	70	1000000	O-Ring	1			
29	160030	Injector nozzle	1	71	1000000	Crankcase cover	1			
30	490400	O-Ring	1	72	1000000	Roller bearing	1			
31	1250200	Ball	1	73	400010	Oil cap	1			
32	160020	Spring	1	74	1001510	Flange	1			
33	1400430	O-Ring	1	75	1001130	Flange plate	1			
34	1610170	Stutter valve	1	76	1001700	Adjusting cap plate	1			
35	1000001	Spring	1	77	651000	Bolt	1			
36	094200	O-Ring	1	78	1000000	Main flange	1			
37	120000	O-Ring	1							
38	4200140	Chemical injector	1							
39	1000100	Crankshaft	1							
40	1000050	Inter cooler	3							
41	1012701	High pressure packing	2							
42	1000400	Piston guide	2							

When your confidence goes up, your competence goes up at the same time.

"A beaver does not, as legend would have it, know which direction the tree will fall when he cuts it, but counts on alacrity to make up for lack of engineering expertise."
 -- Ann Zwinger

XJW & SJW 3400 RPM



Pos.	Code	Description	Qty.
1	1981790	Acoustic cap cover	1
2	1980320	N/A	1
3	1040000	Acoustic sleeve	1
4	1980360	Acoustic cap	1
5	1080070	Pin	2
6	1980430	Spring pin	7
7	1271070	Spring	1
8	1080041	Upper piston	1
9	1080021	Ring	1
10	1080250	Pinning	1
11	1980210	Piston guide	1
12	620630	O-Ring	7
13	741210	O-Ring	1
14	620660	O-Ring	1
15	1271170	Retaining spring	1
16	1080150	O-Ring	2
17	1271100	Lower piston	1
18	1080030	Piston seat	1
19	1470210	O-Ring	1
20	880681	Pin 1/400	2
21	620510	O-Ring	2
22	620301	Pin	1
23	1480110	Headball (144.3 in/oz)	1
24	650530	Washer	3
25	1080020	Pump head	1
26	1280182	Valve cast (144.2 in/oz)	3
27	900160	O-Ring	3
28	1280050	Ball joint valve	3
29	1680130	Injector seat	1
30	491490	O-Ring	1
31	1250280	Belt	1
32	1680200	Spring	1
33	1480430	O-Ring	1
34	1640170	Stuffer valve	1
35	1080051	Spring	1
36	381280	O-Ring	1
37	1270050	O-Ring	1
38	1270140	Chemical injector	1
39	1080050	Inlet valve	3
40	1342701	High pressure packing	3
41	1980150	Piston guide	2

Pos.	Code	Description	Qty.
42	770110	O-Ring	3
43	260410	Lock pressure pin	3
44	1080170	Seal insert	3
45	980410	Oil seal	3
46	770090	O-Ring	1
47	1980380	Crankshaft body	1
48	712290	O-Ring	1
49	1980740	Pin	1
50	100000	Ball (228 in/oz)	4
51	1580110	Plunger spring	2
52	980140	Plunger	2
53	1080120	Plunger	2
54	980110	Plunger spring retainer	3
55	980130	Plunger valve	1
56	980250	Pin at bearing	2
58	1980260	Injection pin	3
57	600370	Ball	1
58	1980360	Injection pin	3
59	980070	Injection pin	3
60	1980060	Injection pin	3
61	980440	Crankshaft	1
62	980310	O-Ring	1
63	980230	Roller bearing	1
64	480671	Oil seal	1
65	1080280	Pin	1
66	1080130	Plunger shoe	1
67	1980770	Adjusting ring pin	1

Legend

For XJW2000	For XJW2500D	For XJW3000
For SJW2000	For SJW2500D	For SJW3000

Repair Kits

Wash Seal	Valves	Pistons	O-Rings
Kit 2500	Kit 2500	Kit 2514	Kit 2797
Pos. Qty	Pos. Qty	Pos. Qty	Pos. Qty
40 3	17 1	37 3	46 1
42 3	28 3		16 1
43 3	28 1		38 1
44 3			
45 3			

O-Rings

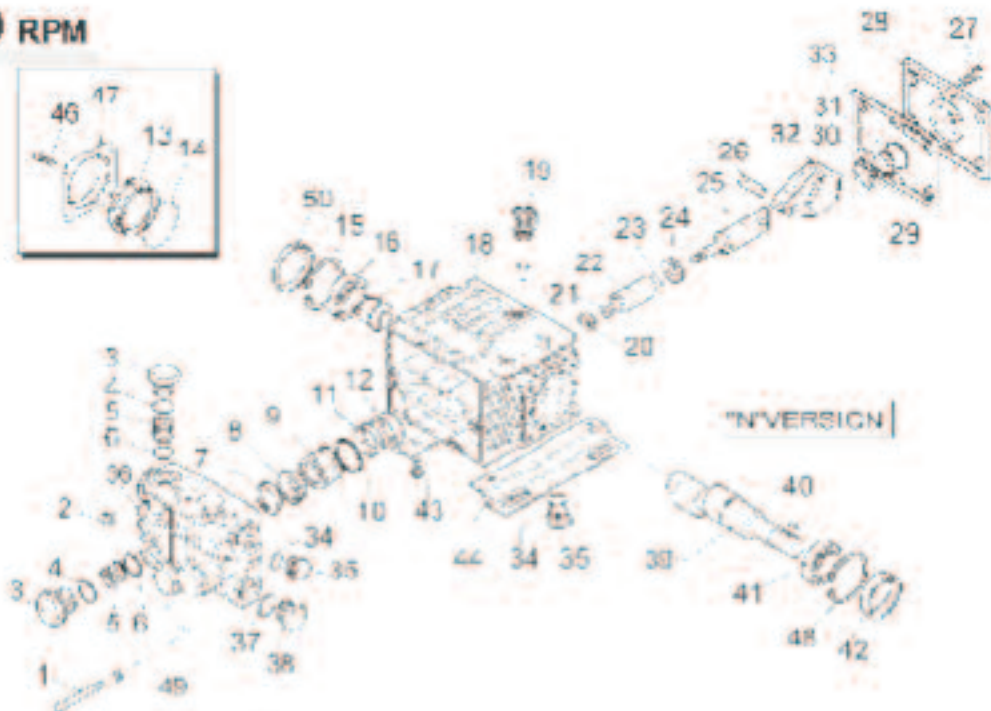
Pos. Qty	Pos. Qty	Pos. Qty	Unloader Kit 2514
3 1	16 2	52 1	1-13 1
10 1	14 1	11 1	
12 7	21 2	56 1	
13 1	27 3	57 1	
14 1	30 1	40 2	
15 1	31 1	60 1	

It is easier to go down a hill than up, but the view is better from the top.

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"You can say any fool thing to a dog, and the dog will give you this look that says,
 'My God, you're RIGHT! I NEVER would've thought of that!'"
 -- Dave Barry

XT 1450 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	1260790	Bear ball (107 in dia)	6	50	1260740	Cap	1
2	1260791	Ring 190	1	54	241294	O-Ring	2
3	1260162	Valve Cap (300 in dia)	6	55	1483740	Brass plug 3/32	2
4	1260163	Valve Cap 1/8 threaded (31 in dia)	1	56	1223027	Pump head Nuts	3
5	1260163	Valve Cap 1/8 threaded (31 in dia)	1	57	1262220	Patrol head Assembly	1
6	1260163	O-Ring	6	58	1323020	Pump head Brackets	2
7	1260163	Complete valve	6	59	160104	O-Ring	1
8	1260163	O-Ring	6	60	222261	Brass plug 1/20	1
9	1260170	Support ring	Ø11.3	61	1260160	Control ball 7/32 (Ø11.3)	1
10	1260170	Support ring	Ø11.3	62	1260200	Control ball 21/32 (Ø11.3)	1
11	1271160	High pressure packing Ø15.3	3	63	1260200	Control ball 21/32 (Ø11.3)	1
12	1260220	High pressure packing Ø11.3	3	64	1260200	Control ball 21/32 (Ø11.3)	1
13	1260161	Rear plate Ø15.3	1	65	1260200	Control ball 21/32 (Ø11.3)	1
14	1260161	Rear plate Ø15.3	1	66	1260200	Control ball 21/32 (Ø11.3)	1
15	1260161	Rear plate Ø15.3	1	67	1260200	Control ball 21/32 (Ø11.3)	1
16	1260420	O-Ring	3	68	1260200	Control ball 21/32 (Ø11.3)	1
17	1260440	Low pressure seal Ø15.3	3	69	1260200	Control ball 21/32 (Ø11.3)	1
18	1260440	Low pressure seal Ø11.3	3	70	1260200	Control ball 21/32 (Ø11.3)	1
19	1260440	O-ring	3	71	1260200	Control ball 21/32 (Ø11.3)	1
20	1260320	Sealing cap	1	72	1260200	Control ball 21/32 (Ø11.3)	1
21	1260360	O-Ring	1	73	1260200	Control ball 21/32 (Ø11.3)	1
22	1260790	O-Ring	1	74	1260200	Control ball 21/32 (Ø11.3)	1
23	1260510	Bearing	1	75	1260200	Control ball 21/32 (Ø11.3)	1
24	1260580	Shaft ring	1	76	1260200	Control ball 21/32 (Ø11.3)	1
25	1260010	Pump housing	1	77	1260200	Control ball 21/32 (Ø11.3)	1
26	1260150	Ventilation cap	1	78	1260200	Control ball 21/32 (Ø11.3)	1
27	1260110	Nut (100 in dia)	3	79	1260200	Control ball 21/32 (Ø11.3)	1
28	1260140	Washer	3	80	1260200	Control ball 21/32 (Ø11.3)	1
29	1260120	Plunger Ø15.3	3				
30	1260210	Plunger Ø11.3	3				
31	480480	O-Ring	3				
32	1260061	Washer (slinger)	3				
33	1260070	Plunger rod	3				
34	1260180	Plunger rod pin	3				
35	1260760	Geb (48 in dia)	6				
36	1260101	Rear cover Low	1				
37	1260101	Rear cover High	1				
38	1260100	Brass ring	1				
39	1260260	Oil sight glass	1				
40	1140450	O-Ring	1				
41	1260160	Control ball (Ø11.3)	3				
42	1260140	Control ball (Ø11.3)	3				

Legend		
Ø 15	Ø 18	Ø 16
For Ø 15	For Ø 18	For Ø 16
XT 1450	XT 1100	XT 1100

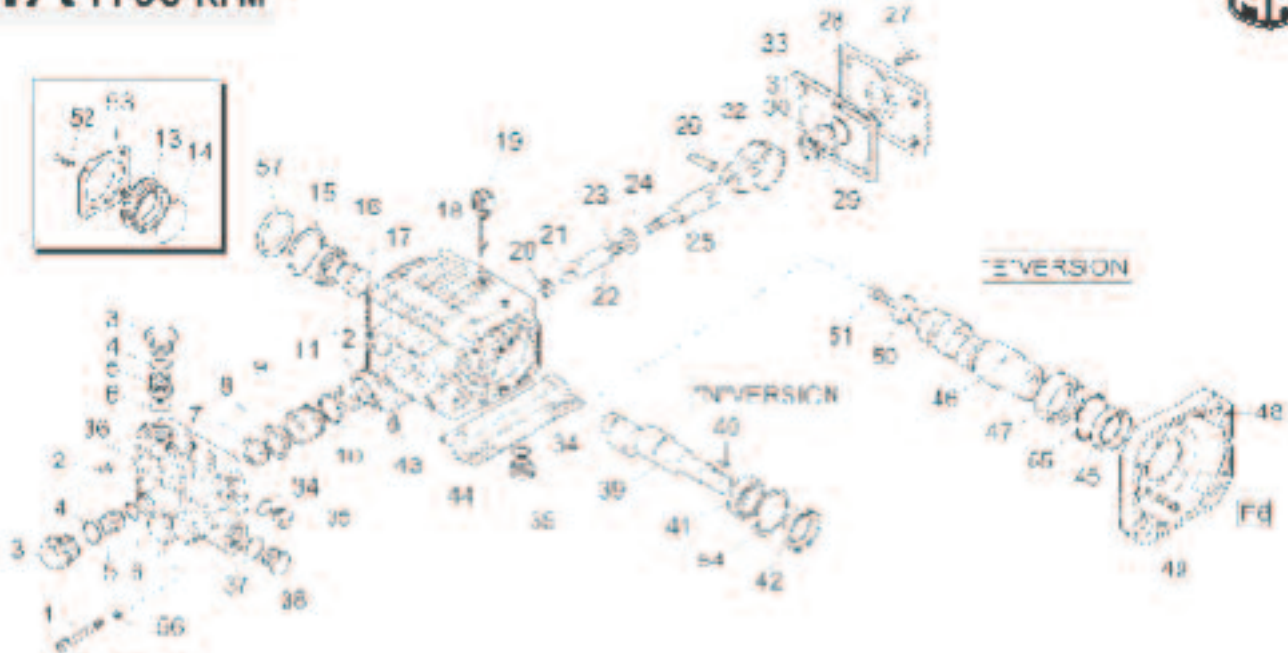
Repair Kits			
Water Seal	Valves	Pistons	Oil Seals
Kit 1450	Kit 1450	Kit 1450	Kit 1450
Kit 1100	Kit 1100	Kit 1100	Kit 1100
Pos.	Qty.	Pos.	Qty.
7	3	5	3
8	3	6	3
9	3	7	3
10	3	8	3

"If something come to live in others because of you, then you have made an approach to immortality."
 --Norman Cousins

Special Parts		
Code	Description	Qty.
2810	48 in dia (100 in dia) High press	1
2810	48 in dia (100 in dia) High press	1
2810	48 in dia (100 in dia) High press	1
2810	48 in dia (100 in dia) High press	1

"Now I lay me down to sleep, I pray the Lord my soul to keep.
If I die before I wake, Feed Jake."
-- Weldon Haltom

XTA 1750 RPM



Pos.	Code	Description	Qty.
1	132279	Headball (137 in/ft)	1
2	620301	Plug	1
3	128187	Wash Cap (138 in/ft)	1
4	128122	Shaft Coll. 1 1/2 inch 304 SS	1
5	128188	Swalve Adapter (138 in/ft)	1
6	980180	O-Ring	8
7	128090	Compression	8
8	106010	O-Ring	7
9	1280110	Support sleeve (138 in/ft)	2
10	128120	Support ring	2
11	128036	Support ring	2
12	127160	High pressure packing	2
13	128026	High pressure packing	2
14	128051	Piston guide	2
15	128051	Piston guide	2
16	128020	O-Ring	2
17	128148	Low pressure seal	2
18	128050	Low pressure seal	2
19	128180	Oil seal	2
20	132030	Driving cap	1
21	132030	O-Ring	1
22	128120	Cartridge	1
23	132030	Bearing	1
24	128120	Washer	1
25	132000	Pump housing	1
26	880180	various oil seal	1
27	132110	Nut (136 in/ft)	2
28	1280120	Washer	2
29	128120	Plunger	2
30	128020	Plunger	2
31	481480	U-Ring	2
32	128008	Washer (slinger)	2
33	128000	Plunger rod	2
34	128180	Plunger rod pin	2
35	128070	Bolt (1 1/2 in/ft)	2
36	128101	Retainer	low
37	132900	Retainer	high
38	128040	Spring	1
39	128020	Oil sght. glass	1
40	11-0450	O-Ring	1
41	128180	Cartridge (plunger)	2
42	132010	Cartridge (Bronze)	2

Pos.	Code	Description	Qty.
33	128040	Gasket	1
34	140200	O-Ring	2
35	138140	Swalve plug 138	1
36	132022	Pump head Brass	1
37	128020	Pump head Brass	1
38	132020	Pump head Brass	1
39	130101	O-Ring	1
40	820301	Swalve plug 120	1
41	1280100	Crack ball	1
42	128100	Crack ball	1
43	132020	Crack ball	1
44	138100	Key	1
45	132030	Bearing	1
46	128050	Oil seal	1
47	128100	Bolt	4
48	128030	Mounting pad	2
49	1280	1 1/2" Head nut	1
50	160011	1-5/8" Nut Kit	1
51	480211	Oil seal	1
52	132110	Hollow nut (136 in/ft)	1
53	132240	Hollow nut (136 in/ft)	1
54	132110	Bearing	1
55	155	Electronic torque	1
56	128020	Washer	1
57	200430	Bolt	1
58	132120	Bolt	1
59	132110	Side cover	1
60	128100	Cartridge	1
61	132100	Support ring	1
62	138100	Washer	6
63	128040	Cap	1

Legend

Ø 15	Ø 16	Ø 18	Ø 19
For □	For ▽	For ✕	For ◆
XTA2015	XTA3016	XTA3018	XTA1019
			XTA4019
For ●	For ■	For ▲	
XTA2020	XTA3021	XTA3022	
XTA2022	XTA3022	XTA3030	

Repair Kits

Other Seals	Valves	Pistons	Oil Seals
Kit 1500010	Kit 1604	Kit 2001	Kit 3001
Kit 1574310	Kit 1604	Kit 2001	Kit 3001
Pos.	Qty.	Pos.	Qty.
7	3	6	6
8	3	20	3
10	3	21	3
11	1	22	3
		23	1
		24	3
		57	1

Remember, half the people you know are below average.

Special Parts

Code	Description	Qty.
2015	Kit 1500010	1
2016	Kit 1604	1
2018	Kit 2001	1
2019	Kit 3001	1

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"Everyone wants to understand painting. Why is there no attempt to understand the song of the birds?"
 - Pablo Picasso



XTV 3400 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	1207794	Friction	(100 ml) 3	34	120001	O-ring	1
2	120001	Plug	1	35	120001	Crash plug 1/20	1
3	120002	Valve Cap	(100 ml) 6	36	120001	Crash plug	1
4	120002T	Valve Cap (1/20) (100 ml) 1	1	37	120001	Crash plug	1
5	120003	Valve Cap (1/20) (100 ml) 1	1	38	120001	Crash plug	1
6	120004	O-Ring	6	39	120001	Crash plug	1
7	120005	Complete valve	1	40	120001	Crash plug	1
8	120006	O-Ring	6	41	120001	Crash plug	1
9	120007	Supporting frame	1	42	120001	Crash plug	1
10	120008	High pressure packing	1	43	120001	Crash plug	1
11	120009	Piston pin	1	44	120001	Crash plug	1
12	120010	Oil seal	1	45	120001	Crash plug	1
13	120011	Ring cap	1	46	120001	Crash plug	1
14	120012	O-Ring	1	47	120001	Crash plug	1
15	120013	Low pressure seal	1	48	120001	Crash plug	1
16	120014	Oil seal	1	49	120001	Crash plug	1
17	120015	Ring cap	1	50	120001	Crash plug	1
18	120016	O-Ring	1	51	120001	Crash plug	1
19	120017	Circle	1	52	120001	Crash plug	1
20	120018	Bearing	1	53	120001	Crash plug	1
21	120019	Washer	1	54	120001	Crash plug	1
22	120020	Pump housing	1	55	120001	Crash plug	1
23	120021	Vertical shaft	1	56	120001	Crash plug	1
24	120022	Nut (100 ml) 3	3	57	120001	Crash plug	1
25	120023	Washer	3	58	120001	Crash plug	1
26	120024	Plunger	3	59	120001	Crash plug	1
27	120025	O-Ring	3	60	120001	Crash plug	1
28	120026	Washer (slimmer)	3	61	120001	Crash plug	1
29	120027	Hanger nut	3	62	120001	Crash plug	1
30	120028	Plunger rod pin	3	63	120001	Crash plug	1
31	120029	Roller (40 ml) 3	3	64	120001	Crash plug	1
32	120030	Retainer	1	65	120001	Crash plug	1
33	120031	Spring	1	66	120001	Crash plug	1
34	120032	Oil sight glass	1	67	120001	Crash plug	1
35	120033	O-Ring	1	68	120001	Crash plug	1
36	120034	Cumulative (Alarm)	1	69	120001	Crash plug	1
37	120035	Control (Alarm)	1	70	120001	Crash plug	1
38	120036	Control (Alarm)	1	71	120001	Crash plug	1
39	120037	Control (Alarm)	1	72	120001	Crash plug	1
40	120038	Control (Alarm)	1	73	120001	Crash plug	1
41	120039	Control (Alarm)	1	74	120001	Crash plug	1
42	120040	Control (Alarm)	1	75	120001	Crash plug	1
43	120041	Control (Alarm)	1	76	120001	Crash plug	1
44	120042	Control (Alarm)	1	77	120001	Crash plug	1
45	120043	Control (Alarm)	1	78	120001	Crash plug	1
46	120044	Control (Alarm)	1	79	120001	Crash plug	1
47	120045	Control (Alarm)	1	80	120001	Crash plug	1
48	120046	Control (Alarm)	1	81	120001	Crash plug	1
49	120047	Control (Alarm)	1	82	120001	Crash plug	1
50	120048	Control (Alarm)	1	83	120001	Crash plug	1
51	120049	Control (Alarm)	1	84	120001	Crash plug	1
52	120050	Control (Alarm)	1	85	120001	Crash plug	1
53	120051	Control (Alarm)	1	86	120001	Crash plug	1
54	120052	Control (Alarm)	1	87	120001	Crash plug	1
55	120053	Control (Alarm)	1	88	120001	Crash plug	1
56	120054	Control (Alarm)	1	89	120001	Crash plug	1
57	120055	Control (Alarm)	1	90	120001	Crash plug	1
58	120056	Control (Alarm)	1	91	120001	Crash plug	1
59	120057	Control (Alarm)	1	92	120001	Crash plug	1
60	120058	Control (Alarm)	1	93	120001	Crash plug	1
61	120059	Control (Alarm)	1	94	120001	Crash plug	1
62	120060	Control (Alarm)	1	95	120001	Crash plug	1
63	120061	Control (Alarm)	1	96	120001	Crash plug	1
64	120062	Control (Alarm)	1	97	120001	Crash plug	1
65	120063	Control (Alarm)	1	98	120001	Crash plug	1
66	120064	Control (Alarm)	1	99	120001	Crash plug	1
67	120065	Control (Alarm)	1	100	120001	Crash plug	1

Legend

Ø15	Ø15	Ø15	Ø15
For □	For ▢	For ▽	For ●
XTV2015	XTV2018	XTV2010	XTV3016
	XTV2019		XTV3018
	XTV2022		XTV3026
			XTV3022

Repair Kits

Water Seals	Valves	Pistons	Oil Seals
K11000	K11004	K11005	K11006
Pos. Qty	Pos. Qty	Pos. Qty	Pos. Qty
7 3	5 6	20 3	12 1
8 1	6 1	21 3	13 1
10 3		22 9	14 1
11 1		23 3	15 1
		24 3	16 1

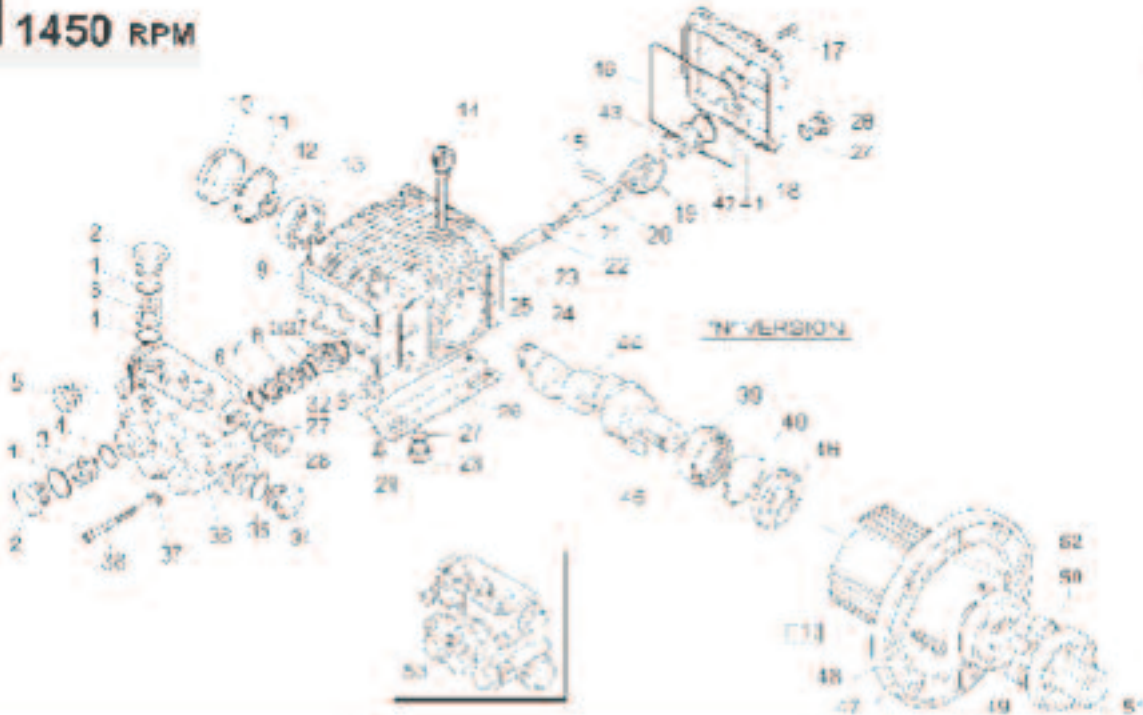
I couldn't fix your
brakes, so I made your
horn louder.

Special Parts

Code	Description	Qty
201	Control (Alarm) (Alarm)	1
202	Control (Alarm) (Alarm)	1

"The fact that man knows right from wrong proves his intellectual superiority to other creatures; but the fact that he can do wrong proves his moral inferiority to any creature that cannot."
 -- Mark Twain, What Is Man?

XM 1450 RPM



Pos.	Code	Description	Qty.
1	901400	O-Ring	4
2	1280162	Wave Cap (442 inches)	1
3	210102T	Wave Cap 1" Inside (1.125 inches)	1
4	1280466	Complete valve	1
5	850690	O-Ring	6
6	601401	Plug 1/8"	1
7	1790130	Support ring \varnothing 5.0	1
8	1790140	Support ring \varnothing 8.0	1
9	1280130	High pressure packing \varnothing 5.0	1
10	1280220	High pressure packing \varnothing 8.0	1
11	1790490	Piston guide \varnothing 5.0	1
12	1790410	Piston guide \varnothing 8.0	1
13	1790410	Propeller	1
14	1280790	Side cover seal	1
15	1280750	Crimp	1
16	1790400	Shrapnel	1
17	1790430	Bearing	1
18	891140	Washer (top)	1
19	1790090	Piston pin	1
20	1790010	O-Ring	1
21	1230430	Bolt (30 inches)	1
22	1790010	Complete cover	1
23	1790480	Conrod	1
24	1790080	Guiding piston	1
25	490480	O-Ring	1
26	1280061	Washer (spring)	1
27	1790090	Plunger \varnothing 5.0	1
28	1790480	Plunger \varnothing 8.0	1
29	1280120	Piston washer	1
30	1280100	Nut (30 inches)	1
31	1380141	Mounting rail	1
32	2779	5/8" Rail Kit	1
33	2851	2.50" Rail Kit	1
34	712290	O-Ring	1
35	1990490	3/8" O-ring	1
36	1280470	Bolt	1
37	1790490	Seal	1
38	1790120	Rear piston guide \varnothing 5.0	1
39	1790120	Rear piston guide \varnothing 8.0	1
40	2101020	O-Ring	1
41	1280440	Low pressure seal \varnothing 5.0	1
42	1790490	Low pressure seal \varnothing 8.0	1
43	820381	Drum plug	1

Pos.	Code	Description	Qty.
35	1990490	Cable	1
36	1790120	Rear piston	1
37	1391500	Washer	1
38	1322750	Headbolt (1.125 inches)	1
39	321190	Bearing	1
40	1371280	Shrapnel	1
41	1140450	C-Ring	1
42	1260250	Oil seal (class)	1
43	1280200	Shrapnel	1
44	1790150	Crankshaft	1
45	1790160	Crankshaft	1
46	1790160	Crankshaft	1
47	1390700	Key	1
48	1280750	Oil seal	1
49	30250	Bolt	1
50	1391500	Washer (mounting)	1
51	1390300	Pump coupling	1
52	1371120	Washer	1
53	1390300	Flute coupling (1.125 inches)	1
54	1390350	Flute coupling (1.125 inches)	1
55	1390160	Seal screw	1
56	1790201	Complete pump head (1.125 inches)	1
57	1790201	Complete pump head (1.125 inches)	1

Legend

\varnothing 15	\varnothing 18	\varnothing 18
For \varnothing	For \square	For \square
XMT117	XMT117	XMT117

Repair Kits

Wear Seals	Valves	Pistons	Oil Seals
Kit 27412-1	Kit 1104	Kit 25430-1	Kit 2700
Kit 27412-2	Kit 1104	Kit 25430-2	Kit 2700
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
7 1	3 6	21 3	10 1
24 1	4 6	27 1	18 1
30 1		25 1	32 3
		24 1	40 1
		25 1	

Support Rings

Kit 27400-1	
Kit 27450-1	
Pos. Qty.	
6 1	

"Enthusiasm is the greatest asset in the world. It beats money, power and influence."
 --George P. Burnham

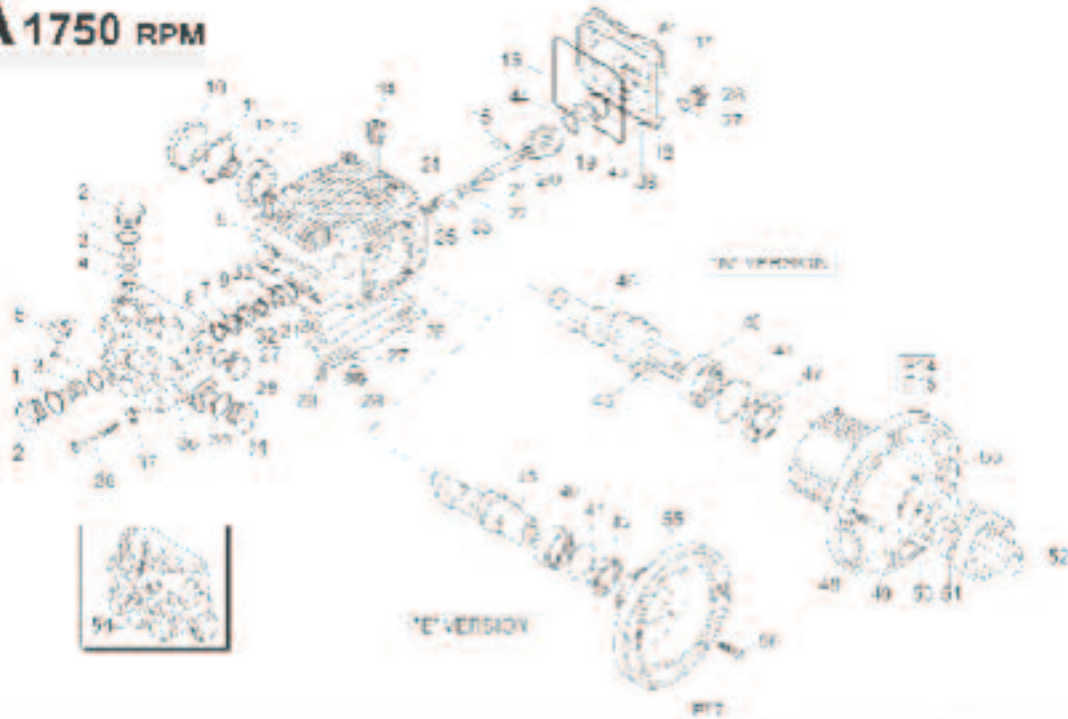
Special Parts

Code	Description	Qty.
1115	Motor cover (1.125 inches)	1
1117	Motor cover (1.125 inches)	1

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"When counting, try not to mix chickens with blessings."
 -- Unknown

XMA 1750 RPM



Pos.	Code	Description	Qty.
1	1210100	O-Ring	1
2	1210102	Wave Cap (4.2inches)	1
3	1210050	Complete valve	6
4	630630	O-Ring	6
5	1710101	Plug	1
6	1710120	Super ring	3-5
7	1710140	Super ring	3-5
8	1210130	High pressure packing	3-5
9	1710220	High pressure packing	3-5
10	1710100	Piston guide	3-5
11	1710110	Piston guide	3-5
12	1710110	Empathy	1
13	1210740	Cap	1
14	1210750	Endip	1
15	1710100	Scraping	1
16	1710100	Bearing	1
17	1710100	Control top	1
18	1710050	Piston pin	2
19	1710110	O-Ring	1
20	1210430	Bolt (3.5inches)	6
21	1710010	Complete cover	1
22	1710120	Conrod	1
23	1710050	Guiding piston	3
24	481480	O-Ring	3
25	1210051	Washer (slinger)	3
26	1710010	Flange	3-5
27	1710090	Flange	3-5
28	1210100	Piston waster	3
29	1210110	Nut (1.1inches)	3
30	1380141	Mounting rail	2
31	2779	5/8" Rail Kit	1
32	28571	2 5/8" Rail Kit	1
33	7-0230	O-Ring	3
34	1910740	3/8" Gp plug	3
35	1210170	Bolt	1
36	1710450	Oil seal	3
37	1710120	Four piston guide	3-5
38	1710120	Four piston guide	3-5
39	711200	O-Ring	1
40	1210140	Low pressure seal	3-5
41	1210450	Low pressure seal	3-5
42	62032	Plug 1/2G	1

Pos.	Code	Description	Qty.
39	1210100	C-Ring	1
40	1710120	Pump steel	1
41	1210100	Washer	6
42	1222750	Head bolt (1.15inches)	6
43	1710100	O-Ring	1
44	1210110	Rotating	1
45	1210100	Scraping	1
46	481070	Oil seal	1
47	1210260	Oil sight glass	1
48	1210100	Scraping	1
49	1210110	Crankshaft	1
50	1710150	Crankshaft	1
51	1210110	Crankshaft	1
52	1710100	No. loc. shaft 1.5"	1
53	1710100	No. loc. shaft 1.5"	1
54	1710100	No. loc. shaft 1.5"	1
55	1210100	Kit	1
56	1210750	Oil seal	1
57	191030	Kit	4
58	1380490	Electric motor flange	1
59	1380300	Pump coupling	1
60	1380110	Gearing	1
61	1380330	Multer coupling 1-1/8" (21x)	1
62	1380300	Motor coupling 1-3/4" (21x)	1
63	1380100	Self screw	1
64	1210200	Complete pump head 21x	1
65	1210200	Complete pump head 21x	1
66	1380380	Multer flange	1
67	191030	Kit	4

Legend

For 1	For 2	For 3
Ø15	Ø15	Ø18
XMA0017	XMA0017	XMA0017
XMA0025	XMA0025	XMA0025

Repair Kits

Wear Sock	Waves	Pistons	Oil Sock
K: 2741 1-1		Ø15-Ø18 1/2 2710 1-1	
K: 2747 1-1	K: 1004	Ø15-Ø18 1/2 2710 1-1	
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
7 3	4 6	21 3	10 1
32 3	4 6	22 3	15 1
33 3		23 3	20 3
		24 3	42 3
		25 3	47 3

Special Rings

K: 2743 1-1	
K: 2745 1-1	
Pos. Qty.	
6 3	

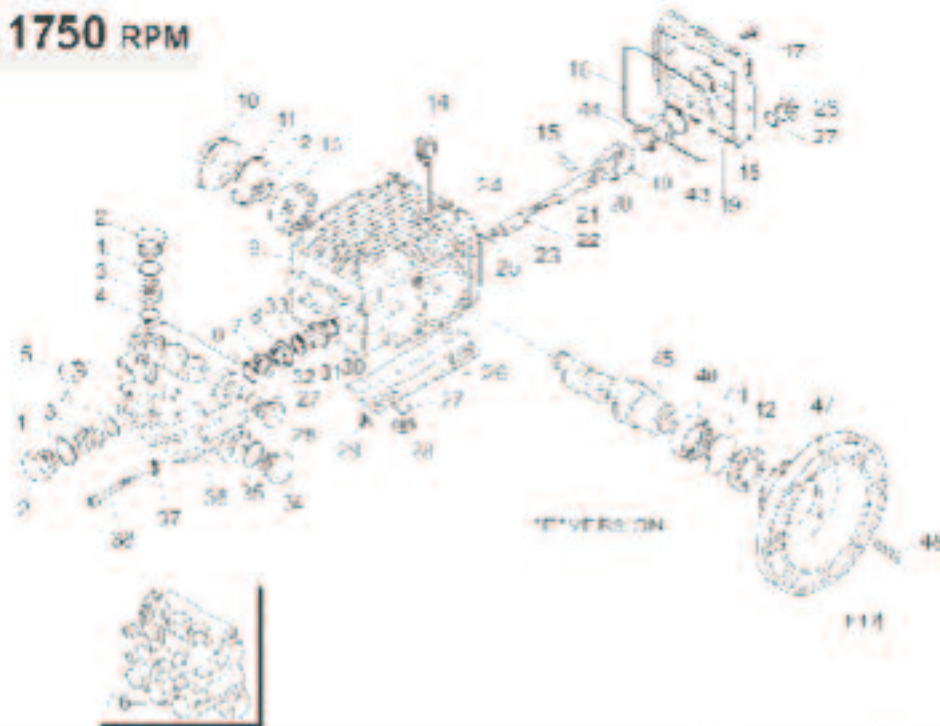
Never trust a stockbroker who is married to a travel agent.

Special Parts

Code	Description	Qty.
7776	Ultra seal head 21x	1
7777	Ultra seal head 21x	1

"Never try to out-stubborn a cat."
 -- Lazarus Long, "Time Enough for Love"

SXMA 1750 RPM



Pos.	Code	Description	Qty.
1	901100	O-Ring	1
2	1210151	Valve Case (1-2 in/bs)	1
3	1210152	Compression Seal (1-2 in/bs)	1
4	810830	O-Ring	6
5	920301	Plug	1
6	1710120	Support Ring Ø15	1
7	1710140	Support Ring Ø18	1
8	1210130	High pressure seal Ø15	1
9	1210120	High pressure seal Ø18	1
10	1710050	Piston guide Ø15	1
11	1710110	Piston guide Ø18	1
12	1710110	Empty	1
13	1210130	Cap	1
14	1710130	Empty	1
15	1710130	Empty	1
16	1210130	Ball (39 in/bs)	1
17	1710110	Complete cover	1
18	1710110	Canopy	1
19	1710050	Qu. dia. piston	1
20	491480	O-Ring	1
21	1210051	Washer (spring)	1
22	1710110	Plunger Ø15	1
23	1710110	Plunger Ø18	1
24	1210120	Piston washer	1
25	1210110	Ball (106 in/bs)	1
26	1310111	Mounting rail	1
27	27729	5/8" Rail Kit	1
28	25531	2-5/8" Rail Kit	1
29	740230	O-Ring	1
30	1910740	3/8" Gp. ring	1
31	1210170	Ball	1
32	1210150	Oil seal	1
33	1710120	Rear piston guide Ø15	1
34	1710120	Rear piston guide Ø18	1
35	770280	O-Ring	1
36	1210140	Low pressure seal Ø15	1
37	1210140	Low pressure seal Ø18	1
38	82030	Plug 1/2"	1

Pos.	Code	Description	Qty.
39	101101	O-Ring	1
40	1710220	Plunger seal	1
41	1910100	Washer	1
42	1322730	Head bolt (133 in/bs)	1
43	143400	O-Ring	1
44	131170	Bearing	1
45	1321200	Shaft ring	1
46	400101	O-Ring	1
47	1210250	O-ring pump	1
48	1210100	Shaft ring	1
49	1710300	Shaft ring Ø15	1
50	1710200	Shaft ring Ø18	1
51	1710100	Shaft ring Ø15	1
52	1710200	Shaft ring Ø18	1
53	1710300	Shaft ring Ø15	1
54	1710200	Shaft ring Ø18	1
55	1710300	Shaft ring Ø15	1
56	1710200	Shaft ring Ø18	1
57	1710300	Shaft ring Ø15	1
58	1710200	Shaft ring Ø18	1
59	1710300	Shaft ring Ø15	1
60	1710200	Shaft ring Ø18	1
61	1710300	Shaft ring Ø15	1
62	1710200	Shaft ring Ø18	1
63	1710300	Shaft ring Ø15	1
64	1710200	Shaft ring Ø18	1
65	1710300	Shaft ring Ø15	1
66	1710200	Shaft ring Ø18	1
67	1710300	Shaft ring Ø15	1
68	1710200	Shaft ring Ø18	1
69	1710300	Shaft ring Ø15	1
70	1710200	Shaft ring Ø18	1
71	1710300	Shaft ring Ø15	1
72	1710200	Shaft ring Ø18	1
73	1710300	Shaft ring Ø15	1
74	1710200	Shaft ring Ø18	1
75	1710300	Shaft ring Ø15	1
76	1710200	Shaft ring Ø18	1
77	1710300	Shaft ring Ø15	1
78	1710200	Shaft ring Ø18	1
79	1710300	Shaft ring Ø15	1
80	1710200	Shaft ring Ø18	1
81	1710300	Shaft ring Ø15	1
82	1710200	Shaft ring Ø18	1
83	1710300	Shaft ring Ø15	1
84	1710200	Shaft ring Ø18	1
85	1710300	Shaft ring Ø15	1
86	1710200	Shaft ring Ø18	1
87	1710300	Shaft ring Ø15	1
88	1710200	Shaft ring Ø18	1
89	1710300	Shaft ring Ø15	1
90	1710200	Shaft ring Ø18	1
91	1710300	Shaft ring Ø15	1
92	1710200	Shaft ring Ø18	1
93	1710300	Shaft ring Ø15	1
94	1710200	Shaft ring Ø18	1
95	1710300	Shaft ring Ø15	1
96	1710200	Shaft ring Ø18	1
97	1710300	Shaft ring Ø15	1
98	1710200	Shaft ring Ø18	1
99	1710300	Shaft ring Ø15	1
100	1710200	Shaft ring Ø18	1

Legend		
Ø15	Ø18	Ø18
For Q	For T	For Y
Ø15	Ø15	Ø18
Ø15	Ø15	Ø18
Ø15	Ø15	Ø18

Repair Kits			
Wear Sails	Valves	Pistons	O-Rings
KL2711016	KL2125	KL254501	KL2071000
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
1 1	1 1	1 1	1 1
2 1	4 1	22 1	15 1
3 1		23 1	20 1
		24 1	4 1
		25 1	

Support Rings	
KL274001	KL274501
Pos. Qty.	Pos. Qty.
1 1	1 1

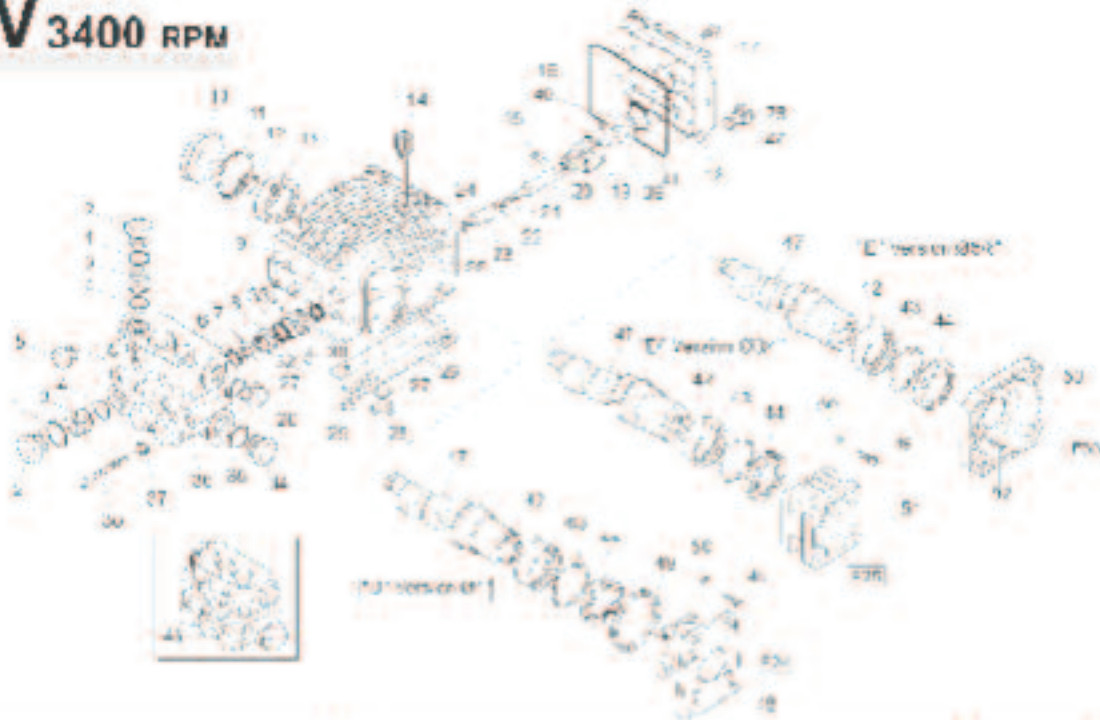
Special Parts		
Code	Description	Qty.
020	Ultimate seal kit	1
077	Ultimate seal kit	1

"Anyone can become angry, that's easy. But to be angry with the right person, to the right degree, at the right time, for the right purpose, and in the right way - this is not easy."
 --Aristotle

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"I had a linguistics professor who said that it's man's ability to use language that makes him the dominant species on the planet. That may be. But I think there's one other thing that separates us from animals -- we aren't afraid of vacuum cleaners."
 -- Jeff Stilson

XMV 3400 RPM



Pos.	Code	Description	Qty.
1	881100	O-Ring	1
2	1280102	Valvecap (1/2 in/bs);E	1
2	1280101	Valvecap (1/2 in/bs);E	1
3	1280050	Complet valve	6
4	880830	O-Ring	6
5	621301	Plug 1/8"	1
6	1780130	Support ring	3
7	1280130	High pressure packing	3
8	1780090	Piston guide	3
9	1780090	Piston guide	3
10	1780740	Cam	1
11	1280750	Circle	1
12	1780430	Snapping	1
13	1780430	Bearing	1
14	881130	Oil cap	1
15	1780090	Piston pin	3
16	1780090	O-Ring	1
17	1280430	Cap (stranded)	1
18	1789090	Cam plate cover	1
19	1780040	Carburetor	1
20	1780050	Guiding piston	3
21	150430	O-Ring	3
22	1280051	Washer (single)	1
23	1780070	Plunger	3
24	1780100	Piston washer	3
25	1283110	Nut (1/8 in/bs);E	2
26	1280441	Mounting rail	1
26b	2729	5/8" Nut/K	1
26c	2553	3-6/8" Flat/Sl	1
27	141290	O-Ring	3
28	1880710	3/32" G-pipe	3
29	1780430	Roll	4
30	1280430	Sha	3
31	1780100	Rear piston guide	3
32	771280	O-Ring	3
33	1280740	Low pressure seal	3
34	881130	Hexa Plug	1
35	180101	O Ring	1
36	1780350	Pump head	1
37	1001350	Washer	1
38	1322730	Headball (1/33 in/bs);E	1
39	1780430	Snapping	1
40	1280250	Oil sight glass	1

Pos.	Code	Description	Qty.
41	1780430	O-Ring	1
42	132190	Bearing	1
43	1280380	Support ring	1
44	400371	Oil seal	1
45	80030	Bolt	4
46	1780100	Flange head/piston	1
47	1780380	No lock shaft 01"	1
48	1780380	No lock shaft 01"	1
49	1780380	No lock shaft 01"	1
50	1780380	No lock shaft 01"	1
51	1780380	No lock shaft 01"	1
52	620510	Bolt	1
53	1780380	Electric motor flange	1

Legend

Ø15	Ø15	Ø16	Ø16
For ◯	For ◻	For ◂	For ◄
XMV3400	XMV3400	XMV4500	XMV4500
XMV3400	XMV3400	XMV4500	XMV4500
XMV3400	XMV3400	XMV4500	XMV4500

Repair Kits

Water Seal	Valves	Pistons	CI Seals				
KIT2711	KIT1001	KIT2511	KIT2717				
Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
7	3	3	3	21	3	10	1
37	3	4	6	22	3	16	1
32	3			23	3	30	3
				24	2	41	1
				25	2		

Accept that some days
 you're the pigeon,
 and some days
 you're the statue

Support Rings

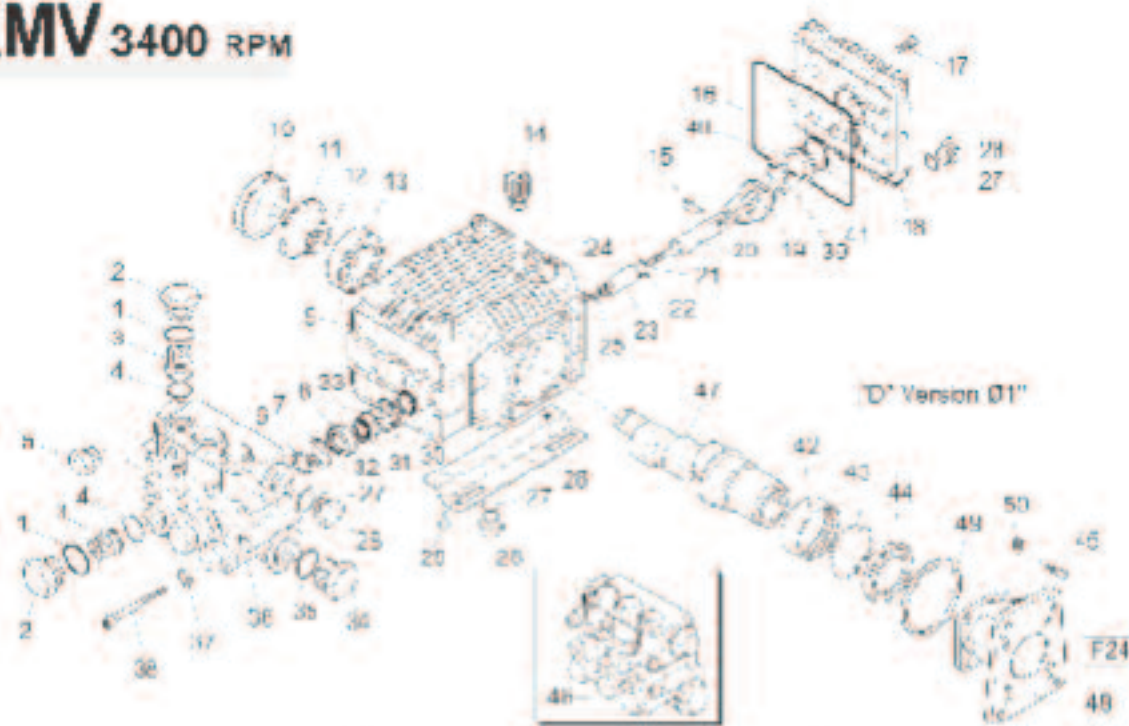
Pos.	Qty.
41	3

Special Parts

Code	Description	Qty.
2729	5/8" Nut/K	1
2553	3-6/8" Flat/Sl	1

"Man is an animal that makes bargains; no other animal does this - one dog does not change a bone with another."
 -- Adam Smith

SXMV 3400 RPM



Pos.	Code	Description	Qty.
1	981100	O-Ring	1
2	1200152	Valve cap (1/2" dia) E	1
3	1200104	cover plate (1/2" dia) E	1
4	1200050	Compression	6
5	620301	Plug 3/8"	1
6	1780120	Support ring	3
7	1780130	High pressure packing	3
8	1780030	Piston guide	3
9	1780010	Pump body	1
10	1260740	Cap	1
11	1260770	Group	1
12	1780100	Snap ring	1
13	1780100	Bearing	1
14	891110	Oil cap	1
15	1780050	Piston pin	3
16	1780010	O-Ring	1
17	1780110	Ball (3/16" dia) E	1
18	1780010	Complete cover	1
19	1780110	Frame containing no.	3
20	1780030	Guiding piston	3
21	480480	O-Ring	3
22	1260051	Worm (singer)	3
23	1780070	Plunger	3
24	1780120	Piston washer	3
25	1260110	Nut (1/2" dia) E	3
26	1380141	Mounting rail	1
26b	2729	5/8" Ball Kit	1
29c	2653H	2-5/8" Ball Kit	1
27	141210	O-Ring	3
28	1980740	3/8" Group	3
29	1780110	Ball	4
30	1260150	Oil seal	3
31	1780120	Rear piston guide	3
32	1780200	O-Ring	3
33	1260140	Low pressure seal	3
34	801101	Hex. Plug 1/2"	1
35	180101	O-Ring	1
36	1781030	Pump head	1
37	1981550	Worm	1
38	1322730	Head ball (1/32" dia) E	3
39	1780110	Group ring	1
40	1260250	Oil siph. glass	1

Pos.	Code	Description	Qty.
41	1780100	O-Ring	1
42	1321100	Bearing	1
43	1301200	Support ring	1
44	480571	O-Ring	1
45	800100	Bolt	4
46	1780200	Paint: head pressure	1
47	1780300	No. low shaft 01*	1
48	1780350	No. low shaft 01*	1
49	1780350	No. low shaft 01*	1
50	1780350	Cartridge	1
51	220110	Set screw	1

Legend		
Ø15	Ø15	Ø15
For 12	For 1	For 12
SXMV1040	SXMV15040	SXMV16040

Repair Kits			
Wear Sds KIT2741	Valves KIT2125	Pistons KIT2644	Oil Seals KIT7787
Pos.	Qty.	Pos.	Qty.
7	1	3	3
30	1	27	1
33	1	28	1
		29	1
		31	1
		32	1

Support Rings	
Code	Description
47	1780100
Pos.	Qty.
8	1

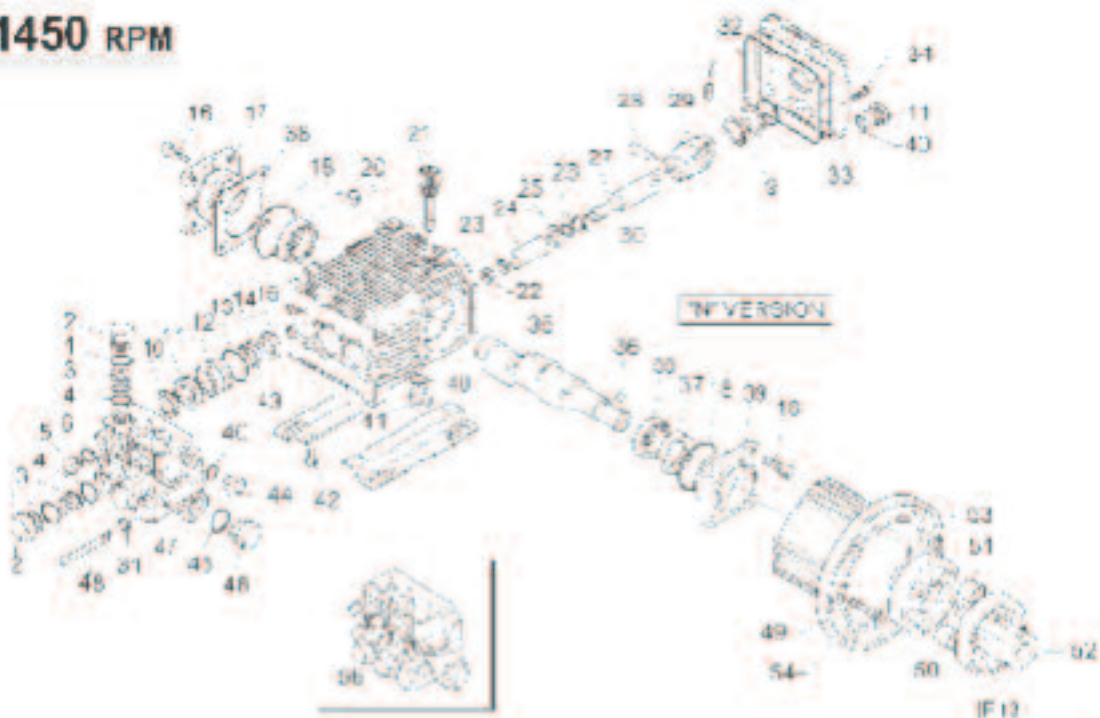
Special Parts		
Code	Description	Qty.
777	Worm gear - 1/2" dia	1
367	Kit for up to 180°F (Ø15 - High Temp)	1

"The concept is interesting and well-formed, but in order to earn better than a "C", the idea must be feasible."
 --Yale professor in response to student Fred Smith's paper proposing a reliable overnight delivery service. Smith went on to found Fed Ex.

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If your dog doesn't like someone you probably shouldn't either."
 -- Unknown

RK 1450 RPM



Pos.	Code	Description	Qty.
1	980140	O-Ring	6
2	980030	Brass valve cap 4 drive	6
3	980850	SS valve cap 70 drive	6
4	1380740	NP valve cap 4 drive	6
5	980300	5/16 valve cap 70 drive	1
6	020850	SS valve cap 14 drive	1
7	138005	Compression	6
8	880830	O-Ring	6
9	880521	Brass plug 1-40	2
10	1380630	NP plug 7/16	2
11	820810	O-Ring	2
12	1200730	Snap ring	1
13	1200250	Oil sight glass	1
14	1111750	O-Ring	1
15	001110	Support ring	1
16	840320	Support ring	1
17	840320	Support ring	1
18	840320	High pressure intake	1
19	840250	High pressure intake	1
20	840320	High pressure intake	1
21	1380130	Piston guide	1
22	1380150	Piston guide	1
23	1380160	Piston guide	1
24	001040	O-Ring	1
25	880330	Low pressure seal	1
26	840280	Low pressure seal	1
27	840320	Low pressure seal	1
28	1380130	Valves	1
29	880370	Roll	1
30	1380050	Closed bearing cap	1
31	840030	O-Ring	1
32	2280340	Bearing	1
33	1380770	Pump housing	1
34	880140	Oil cap	1
35	002010	Roll	1
36	002000	Roller	1
37	1380040	Piston	1
38	1380130	Piston	1
39	1380160	Piston	1
40	1380160	Scraper	1
41	1380140	O-Ring	1
42	1380420	Guiding piston	1
43	1380430	Piston pin	1
44	1380450	Washer and nut	1
45	1380320	Brake cover	1

Pos.	Code	Description	Qty.
30	1200101	Back-spring	3
31	1201150	Washer	8
32	1700510	O-Ring	1
33	1700510	Complete cover	1
34	1213510	Bolt	1
35	2200100	Crankcase	1
36	2200260	Crankshaft	1
37	2200270	Crankshaft	1
38	2200260	Crankshaft	1
39	1200500	Key	1
40	100340	Oil seal	1
41	1200120	0.100 inch stem	1-3
42	1200130	0.200 inch stem	1-3
43	1200140	0.300 inch stem	1-3
44	1200150	0.400 inch stem	1-3
45	1200160	Overbearing cap	1
46	1200200	O-Ring	3
47	1200740	3/8" Guide	2
48	1200410	Bolt	4
49	1200141	Mounting roll	2
50	1507	1-1/4" Ball Kit	1
51	2033	5/8" Ball Kit	1
52	2034	3/4" Ball Kit	1
53	1200740	3/8" Guide	1
54	1201140	3/8" Guide	1
55	00101	O-Ring	1
56	002060	Plug, ESC	1
57	002070	Plug, ESC	1
58	1200271	Pump head 018	1
59	1200271	Pump head 018	1
60	1200280	Pump head 020-022	1
61	00101	Roller	1
62	1200280	E-Motor rings	1
63	1200290	Plastic housing	1
64	1200300	Pushing	1
65	1200310	Motor coupling 1-1/2" 0-10	1
66	1200320	Motor coupling 1-3/4" 0-10	1
67	1200330	Clutch rings	1
68	002010	Roller	4
69	002020	Roller	1
70	1200340	Clutch ring	1
71	1200350	Clutch ring	1
72	1200360	Clutch ring	1
73	1200370	Clutch ring	1

Legend

Ø 18	Ø 18	Ø 20	Ø 22
For □	For □	For Y	For ◆
RK11-CH	RK11-10	RK18-20H	RK21-20H
For ◆	For ■		
RK15-16	RK11-16		
RK11-18			
RK15-20			

Repair Kits

Water Seds	Valves	Pistons	Oil Seals
Kit 1257-210	Kit 084	Kit 204-210	Kit 085
Kit 1227-020		Kit 2647-220	
Kit 1095-222		Kit 2759-222	

Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
11	3	1	1	27	3	5	1
13	3		2	33	1	6	2
14	3			34	3	32	1
				35	1	37	1
				37	3		

Support Rings

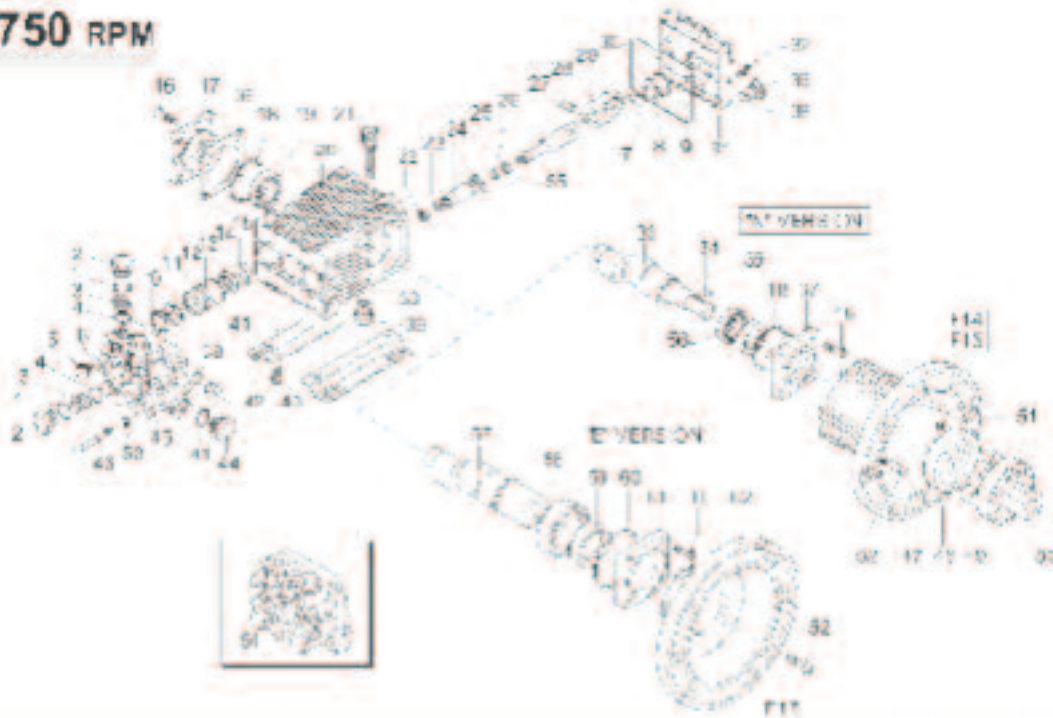
Code	Description	Qty.
00100-011		
00101-021		
00101-022		

Special Parts

Code	Description	Qty.
240	Water seal 018	
241	Water seal 020	
242	Water seal 022	
243	Water seal 024	
244	Water seal 026	

"He who is cruel to animals becomes hard also in his dealings with men.
We can judge the heart of a man by his treatment of animals."
-- Immanuel Kant

RKA 1750 RPM



Pos.	Code	Description	Qty.
1	980100	O Ring	1
2	980980	Blow valve cap (78 milin)	1
3	980850	SV valve cap (478 milin)	1
4	1980240	BP valve cap (478 milin)	1
5	980910T	3 air valve cap 7/8 in size	1
6	980910T	SB valve cap 1/2 in size	1
7	1000451	Compressor cover	1
8	890030	O Ring	1
9	890351	Brass plug 1/40	1
10	1000080	NP plug 1/40	1
11	820510	O Ring	1
12	1000190	Support ring	1
13	1201050	Oil sight glass	1
14	1140250	O Ring	1
15	1001110	Support ring	1
16	841300	Support ring	1
17	841320	Support ring	1
18	890320	High pressure packing	1
19	840270	High pressure packing	1
20	840330	High pressure packing	1
21	1000920	Piston guide	1
22	1000150	Piston guide	1
23	1000480	Piston guide	1
24	981210	O Ring	1
25	890330	Low pressure seal	1
26	841390	Low pressure seal	1
27	840390	Low pressure seal	1
28	1000150	Oil seal	1
29	881370	Roller (217 milin)	1
30	1000050	Crank bearing cap	1
31	840030	O Ring	1
32	2280240	Bearing	1
33	1002770	Pump housing	1
34	890130	Oil cup	1
35	9809110	Nut (130 milin)	1
36	9809030	Washer	1
37	1000940	Piston	1
38	1000920	Piston	1
39	1000150	Piston	1
40	1000950	Slipper	1
41	830130	O Ring	1
42	1000420	Guiding piston	1
43	1000050	Piston pin	1
44	1000050	Aluminum crank (3000 RPM)	1
45	1000420	Engine crank (3000 RPM)	1
46	1780510	O Ring	1
47	1780910	Complete cover	1
48	1000420	Roller (distributed)	1
49	2280130	Crankshaft	1
50	2280050	Crankshaft	1
51	2280130	Crankshaft	1
52	2280050	Crankshaft	1
53	1000520	Key	1
54	1000420	Oil seal	1

Pos.	Code	Description	Qty.
55	1380120	0.100 in main	1.5
56	1380140	0.200 in main	1.5
57	1380500	0.250 in main	1.5
58	1380180	0.000 in main	1.5
59	1380340	Operating cap	1
60	749290	O Ring	3
61	1001740	190° Crank	2
62	1260170	Dot	1
63	1380141	Mounting rail	2
64	1607	1 1/4" Roll Kit	1
65	2003	190° Roll Kit	1
66	2003H	2 1/4" Roll Kit	1
67	1000740	3/8" Crank	1
68	1001740	190° Crank (alt)	1
69	1001740	Cr Ring	1
70	220361	Plug 1/20	1
71	890020	Plug 1/25 (NP)	1
72	1000271	Pump head 000	1
73	1380270	Pump head 010 (NP)	1
74	1000200	Pump head 020	1
75	1000280	Pump head 030 (NP)	1
76	1000210	Pump head 022	1
77	1000210	Pump head 022 (NP)	1
78	890150	Head Roll (217 milin)	6
79	1000190	Cr Ring (large)	1
80	1000500	Pump housing	1
81	1000570	Dustling	6
82	1000230	Motor coupling 1-1/8" (HT)	1
83	1000250	Motor coupling 1-3/4" (HT)	1
84	1280160	Set screw	1
85	890010	Nut	4
86	1000260	Washer	8
87	1000270	Complete pump head 011	1
88	1000270	Complete pump head 010 (alt)	1
89	1000271	Complete pump head 010 (alt)	1
90	1000271	Complete pump head 010 (alt)	1
91	1000271	Complete pump head 010 (alt)	1
92	1000288	Complete pump head 022 (alt)	1
93	1000401	Roller (alt)	1
94	840370	Bearing	1
95	2280260	Hollow shaft 01 1/2"	1
96	2280260	Hollow shaft 01 1/2"	1
97	2280270	Hollow shaft 01 1/2"	1
98	2280260	Hollow shaft 01 1/2"	1
99	1000320	Bearing	1
100	890120	Oil seal	1
101	1000220	O Ring	1
102	1280210	Sheet cover	1
103	1000420	Roller (alt)	1

Legend

Ø 19	Ø 18	Ø 20	Ø 22
For ◡	For ◡	For ◡	For ◡
RKA1602B	RKA4036	RKA10015	RKA1020H
RKA1603B	RKA1603B	RKA10015	RKA1020H
RKA1604B	RKA1604B	RKA10015	RKA1020H
RKA1605B	RKA1605B	RKA10015	RKA1020H
RKA1606B	RKA1606B	RKA10015	RKA1020H
RKA1607B	RKA1607B	RKA10015	RKA1020H
RKA1608B	RKA1608B	RKA10015	RKA1020H
RKA1609B	RKA1609B	RKA10015	RKA1020H
RKA1610B	RKA1610B	RKA10015	RKA1020H
RKA1611B	RKA1611B	RKA10015	RKA1020H
RKA1612B	RKA1612B	RKA10015	RKA1020H
RKA1613B	RKA1613B	RKA10015	RKA1020H
RKA1614B	RKA1614B	RKA10015	RKA1020H
RKA1615B	RKA1615B	RKA10015	RKA1020H
RKA1616B	RKA1616B	RKA10015	RKA1020H
RKA1617B	RKA1617B	RKA10015	RKA1020H
RKA1618B	RKA1618B	RKA10015	RKA1020H
RKA1619B	RKA1619B	RKA10015	RKA1020H
RKA1620B	RKA1620B	RKA10015	RKA1020H

Repair Kits

Water Seals	Valves	Pistons	Oil Seals
RKA1601B	RKA1601B	RKA1601B	RKA1601B
RKA1602B	RKA1602B	RKA1602B	RKA1602B
RKA1603B	RKA1603B	RKA1603B	RKA1603B
RKA1604B	RKA1604B	RKA1604B	RKA1604B
RKA1605B	RKA1605B	RKA1605B	RKA1605B
RKA1606B	RKA1606B	RKA1606B	RKA1606B
RKA1607B	RKA1607B	RKA1607B	RKA1607B
RKA1608B	RKA1608B	RKA1608B	RKA1608B
RKA1609B	RKA1609B	RKA1609B	RKA1609B
RKA1610B	RKA1610B	RKA1610B	RKA1610B
RKA1611B	RKA1611B	RKA1611B	RKA1611B
RKA1612B	RKA1612B	RKA1612B	RKA1612B
RKA1613B	RKA1613B	RKA1613B	RKA1613B
RKA1614B	RKA1614B	RKA1614B	RKA1614B
RKA1615B	RKA1615B	RKA1615B	RKA1615B
RKA1616B	RKA1616B	RKA1616B	RKA1616B
RKA1617B	RKA1617B	RKA1617B	RKA1617B
RKA1618B	RKA1618B	RKA1618B	RKA1618B
RKA1619B	RKA1619B	RKA1619B	RKA1619B
RKA1620B	RKA1620B	RKA1620B	RKA1620B

Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
11	3	3	6	22	3	15	3
13	3	4	8	23	3	16	2
14	3			24	3	30	1
				25	3	35	1
				26	3	50	1
				28	3	50	1
				29	3	33	1

Support Rings

RK 1829 213	
RK 1815 220	
RK 1815 220	

Pos. Qty.

11	3
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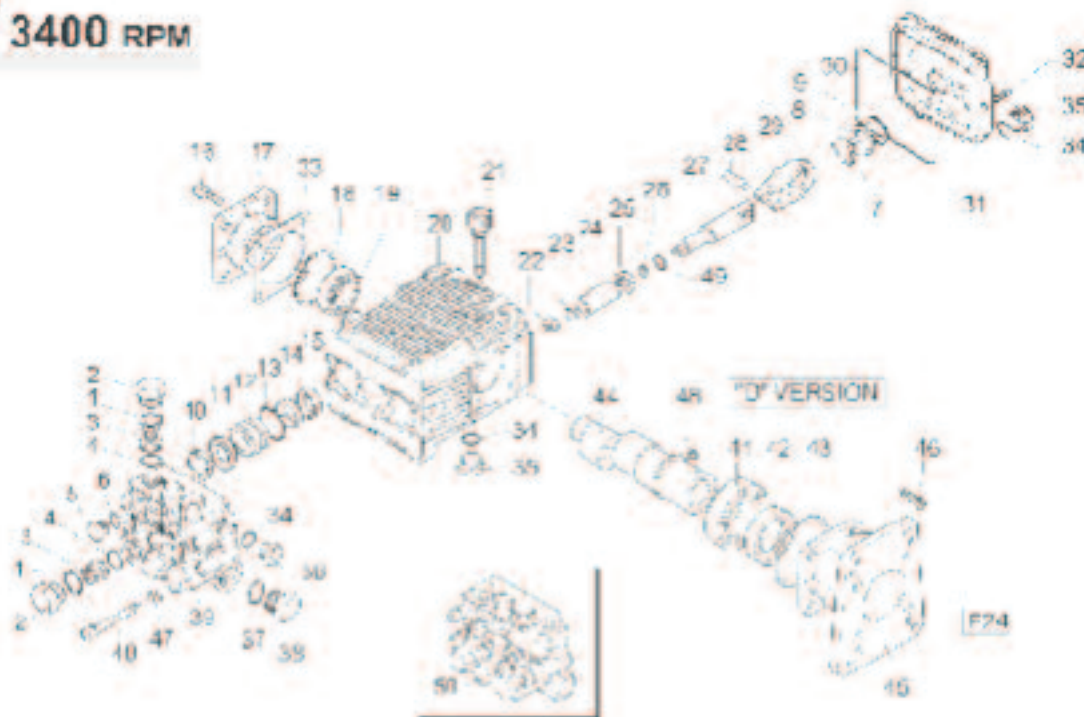
Special Parts

Code	Description	Qty.
1900	Water seal 010	1
2010	Water seal 020	1
2011	Water seal 022	1
2012	Water seal 030	1
2020	Water seal 010 (alt)	1

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"A righteous man has regard for the life of his beast."
-- Proverbs 12:10

RKV 3400 RPM



Pos.	Code	Description	Qty.
1	001100	O-Ring	1
2	980080	Valve cap seal kit (106 inlets)	1
3	001100	Valve cap seal kit (106 inlets)	1
4	930090T	Brass wire cap (1/4" brass)	1
5	000850T	55psi neop 1/4" threads	1
6	001100	Complete valve	1
7	138005	Complete valve	1
8	001100	O-Ring	1
9	001100	O-Ring	1
10	001100	O-Ring	1
11	100110	Support ring	1
12	001100	O-Ring	1
13	001100	O-Ring	1
14	001100	O-Ring	1
15	100110	Support ring	1
16	001100	O-Ring	1
17	001100	O-Ring	1
18	001100	O-Ring	1
19	001100	O-Ring	1
20	001100	O-Ring	1
21	001100	O-Ring	1
22	001100	O-Ring	1
23	001100	O-Ring	1
24	001100	O-Ring	1
25	001100	O-Ring	1
26	001100	O-Ring	1
27	001100	O-Ring	1
28	001100	O-Ring	1
29	001100	O-Ring	1
30	001100	O-Ring	1
31	001100	O-Ring	1
32	001100	O-Ring	1
33	001100	O-Ring	1
34	001100	O-Ring	1
35	001100	O-Ring	1
36	001100	O-Ring	1
37	001100	O-Ring	1
38	001100	O-Ring	1
39	001100	O-Ring	1
40	001100	O-Ring	1
41	001100	O-Ring	1
42	001100	O-Ring	1
43	001100	O-Ring	1
44	001100	O-Ring	1
45	001100	O-Ring	1
46	001100	O-Ring	1
47	001100	O-Ring	1
48	001100	O-Ring	1
49	001100	O-Ring	1
50	001100	O-Ring	1
51	001100	O-Ring	1
52	001100	O-Ring	1
53	001100	O-Ring	1
54	001100	O-Ring	1
55	001100	O-Ring	1
56	001100	O-Ring	1
57	001100	O-Ring	1
58	001100	O-Ring	1

Pos.	Code	Description	Qty.
31	100110	Support ring	1
32	100110	Support ring	1
33	100110	Support ring	1
34	100110	Support ring	1
35	100110	Support ring	1
36	100110	Support ring	1
37	100110	Support ring	1
38	100110	Support ring	1
39	100110	Support ring	1
40	100110	Support ring	1
41	100110	Support ring	1
42	100110	Support ring	1
43	100110	Support ring	1
44	100110	Support ring	1
45	100110	Support ring	1
46	100110	Support ring	1
47	100110	Support ring	1
48	100110	Support ring	1
49	100110	Support ring	1
50	100110	Support ring	1
51	100110	Support ring	1
52	100110	Support ring	1
53	100110	Support ring	1
54	100110	Support ring	1
55	100110	Support ring	1
56	100110	Support ring	1
57	100110	Support ring	1
58	100110	Support ring	1

Legend

For Q	For T	For V	For D
001100	001100	001100	001100
001100	001100	001100	001100
001100	001100	001100	001100
001100	001100	001100	001100

Repair Kits

Water Seals	Valves	Pistons	O-Seals
KI1537	KI1825	KI2518	KI1838
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
11 1	3 1	22 1	16 1
13 2	7 2	23 2	18 2
15 1		24 1	10 1
		25 1	42 1
		26 1	43 1
		49 1	

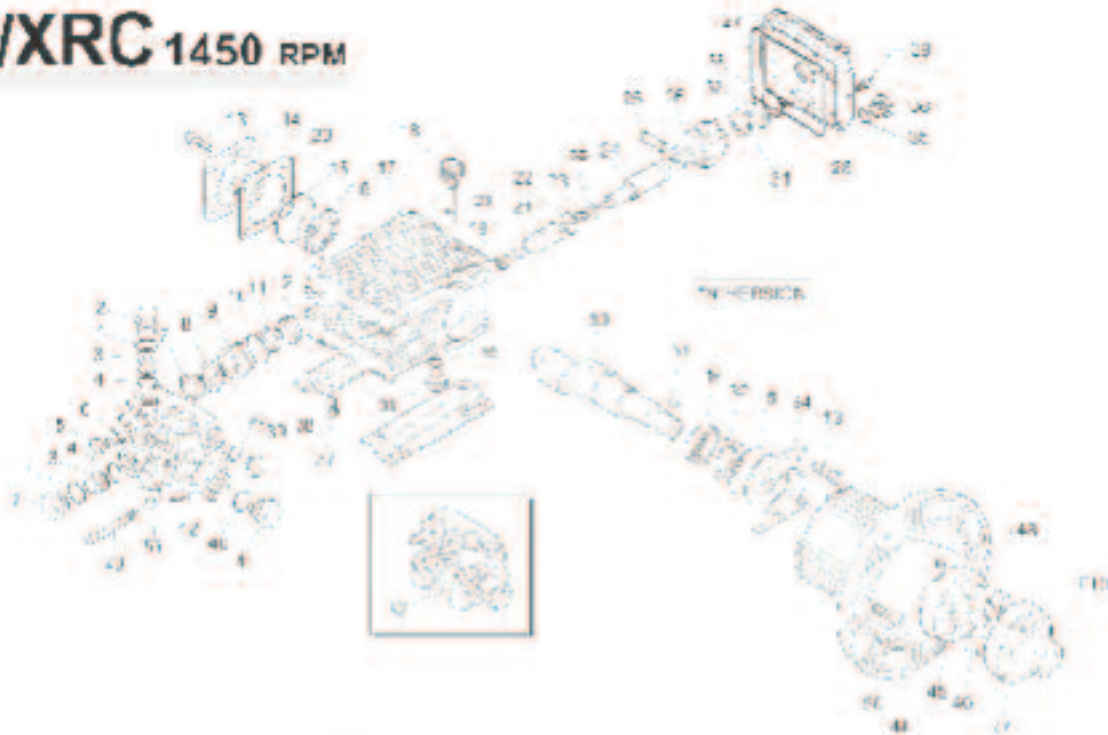
"Character is what you do on the third and fourth tries."
 --James A. Mitchner

Special Parts

Code	Description	Qty.
001	Water seals kit 106	1
001	Water seals kit 138	1

"Old dogs, like old shoes, are comfortable. They might be a bit out of shape and a little worn around the edges, but they fit well."
 -- Bonnie Wilcox 'Old Dogs, Old Friends'

XR/XRC 1450 RPM



Pos.	Code	Description	Qty.
1	981101	O Ring	6
2	981101	Valve cap (1.5" dia)	6
3	981101	Valve cap (1.5" dia)	6
4	1310740	Valve cap (1.5" dia)	6
5	930050T	Drive cap (1.5" dia)	1
6	930050T	Drive cap (1.5" dia)	1
7	138015	Compressor	1
8	880100	O Ring	1
9	810020	Plug - 1/2" Brass	2
10	1010050	Plug - 1/2" NF	2
11	620510	O Ring	2
12	840110	Support ring	1
13	840120	Support ring	1
14	810020	High pressure packing	2
15	810020	High pressure packing	2
16	1380056	Piston guide	1
17	1380156	Piston guide	1
18	810150	O Ring	1
19	810330	Low pressure seal	2
20	810330	Low pressure seal	2
21	810320	O-Rings	6
22	650070	Bolt (217 in/ft)	8
23	1380150	Lockwash cap	1
24	1380150	O Ring	1
25	810370	Retaining	1
26	1312770	Pump housing	1
27	880130	Oil cap	1
28	980101	Nut (138 in/ft)	1
29	1620020	Washer	1
30	1380140	Piston	1
31	1380150	Piston	1
32	1380150	Slider	1
33	620100	O Ring	1
34	1380150	Co. ring piston	1
35	1380150	Piston pin	1
36	1380440	Slider end (1380150)	1
37	1380250	Slider end (1380150)	1
38	1780510	Gasket	1
39	1780510	Complete cover	1
40	1210430	Hub (138 in/ft)	1
41	1380150	Crankshaft	1
42	1380170	Crankshaft	1
43	1380180	Crankshaft	1
44	1380520	Key	1
45	1380180	Balance	1

Pos.	Code	Description	Qty.
46	1380150	Slider end (1380150)	1
47	1380150	Slider end (1380150)	1
48	1380150	Slider end (1380150)	1
49	1380150	Slider end (1380150)	1
50	1380150	Slider end (1380150)	1
51	1380150	Slider end (1380150)	1
52	1380150	Slider end (1380150)	1
53	1380150	Slider end (1380150)	1
54	1380150	Slider end (1380150)	1
55	1380150	Slider end (1380150)	1
56	1380150	Slider end (1380150)	1
57	1380150	Slider end (1380150)	1
58	1380150	Slider end (1380150)	1
59	1380150	Slider end (1380150)	1
60	1380150	Slider end (1380150)	1
61	1380150	Slider end (1380150)	1
62	1380150	Slider end (1380150)	1
63	1380150	Slider end (1380150)	1
64	1380150	Slider end (1380150)	1
65	1380150	Slider end (1380150)	1
66	1380150	Slider end (1380150)	1
67	1380150	Slider end (1380150)	1
68	1380150	Slider end (1380150)	1
69	1380150	Slider end (1380150)	1
70	1380150	Slider end (1380150)	1
71	1380150	Slider end (1380150)	1
72	1380150	Slider end (1380150)	1
73	1380150	Slider end (1380150)	1
74	1380150	Slider end (1380150)	1
75	1380150	Slider end (1380150)	1
76	1380150	Slider end (1380150)	1
77	1380150	Slider end (1380150)	1
78	1380150	Slider end (1380150)	1
79	1380150	Slider end (1380150)	1
80	1380150	Slider end (1380150)	1
81	880201	Piston	3
82	880400	Spacer	3
83	880840	O-Ring	3
84	1380070	Piston rod	3
85	1640120	Back-up ring	3

Legend

For J 28011201	For J 28011115	For J 28011201
Ø 18	Ø 18	Ø 20
	XRC 1450H	XRC 1450H
	XRC 1450H	XRC 1450H

Repair Kits

Wear Seals	Valves	Pistons	Oil Seals				
KR 1327 018	KR 2546 018	KR 2546 018	KR 1885				
KR 1327 020	KR 2547 018	KR 2547 018					
Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
6	3	3	6	18	3	12	3
10	3	1	6	22	3	16	2
16	3			24	3	24	1
				22	3	32	1
				27	3		
				50	3		

Support Rings

Pos.	Qty.
KR 1029 018	4
KR 1315 020	1

XR Version

Code	Description	Qty.
1900	Wash washer (1380150)	1
2010	Washer (1380150)	1
2610	Washer (1380150)	1
2900	Washer (1380150)	1

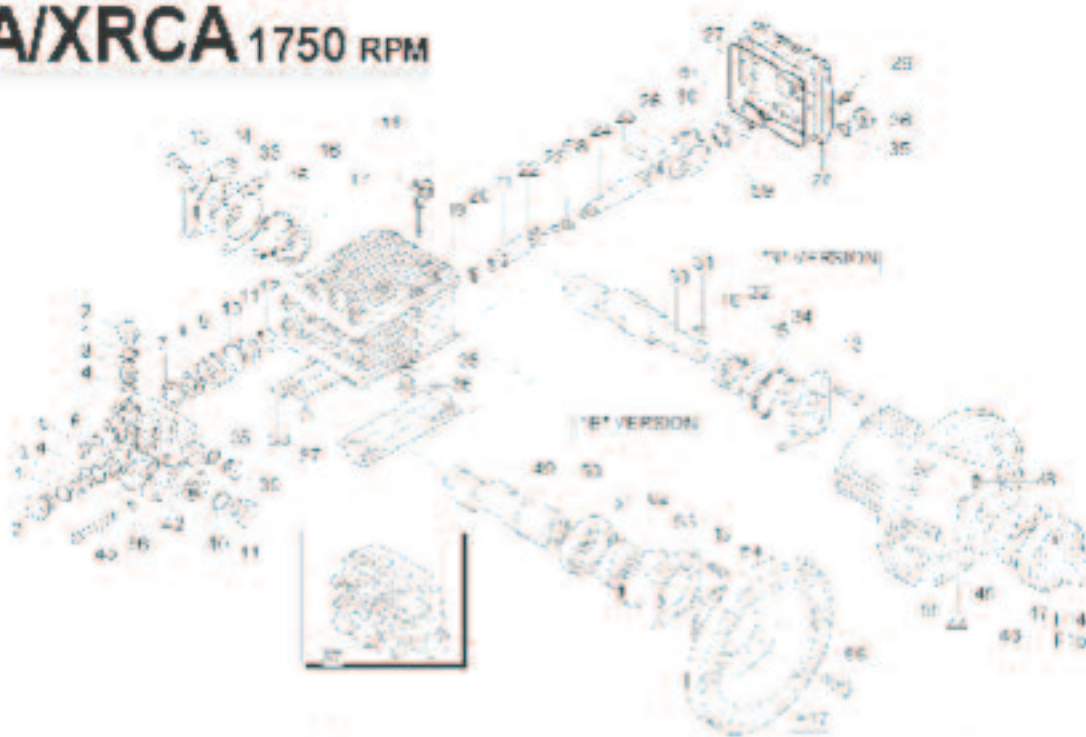
Special Parts

Code	Description	Qty.
1900	Wash washer (1380150)	1
2010	Washer (1380150)	1
2610	Washer (1380150)	1
2900	Washer (1380150)	1

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"The more people I meet the more I like my dog."
 -- Unknown

XRA/XRCA 1750 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	960160	O-Ring	6	34	1382540	Open bearing sup.	1
2	960290	Valve cap - 1/4 in dia	6	35	712290	O-Ring	2
3	960360	Valve cap - 1/4 in dia	6	36	682500	Plug 3/8 G	1
4	960370	Valve cap - 1/4 in dia	6	37	1002470	Socket	4
5	960380	Valve cap - 1/4 in dia	6	38	1382141	Base	2
6	960390	Valve cap - 1/4 in dia	6	39	962530	Plug 3/8 G Brass	1
7	960400	Valve cap - 1/4 in dia	6	40	962560	Plug 3/8 G NP	1
8	960410	Valve cap - 1/4 in dia	6	41	962590	Plug 1/2 G Brass	1
9	960420	Valve cap - 1/4 in dia	6	42	962620	Plug 1/2 G NP	1
10	960430	Valve cap - 1/4 in dia	6	43	1381601	Pump head	3181
11	960440	Valve cap - 1/4 in dia	6	44	1381670	Pump head NP	2141
12	960450	Valve cap - 1/4 in dia	6	45	1382020	Pump head	3201
13	960460	Valve cap - 1/4 in dia	6	46	1382090	Pump head NP	3201
14	960470	Valve cap - 1/4 in dia	6	47	1382100	Head bolt	6
15	960480	Valve cap - 1/4 in dia	6	48	1382490	Eccentric nut/flange	1
16	960490	Valve cap - 1/4 in dia	6	49	1382500	Pump coupling	1
17	960500	Valve cap - 1/4 in dia	6	50	1382670	Dust ring	2
18	960510	Valve cap - 1/4 in dia	6	51	1382700	Water coupling - 1/2 in	1
19	960520	Valve cap - 1/4 in dia	6	52	1382750	Mulch coupling - 1/2 in	1
20	960530	Valve cap - 1/4 in dia	6	53	1382780	Screen	1
21	960540	Valve cap - 1/4 in dia	6	54	1382850	Hollow shaft Ø1" 1/8	1
22	960550	Valve cap - 1/4 in dia	6	55	1382890	Hollow shaft Ø1" 1/4	1
23	960560	Valve cap - 1/4 in dia	6	56	1382920	Hollow shaft Ø1" 1/2	1
24	960570	Valve cap - 1/4 in dia	6	57	1383020	Bearing	1
25	960580	Valve cap - 1/4 in dia	6	58	1383170	O-Ring	1
26	960590	Valve cap - 1/4 in dia	6	59	1383220	O-Ring	1
27	960600	Valve cap - 1/4 in dia	6	60	1383280	Split cover	1
28	960610	Valve cap - 1/4 in dia	6	61	1383360	Eccentric nut/flange	1
29	960620	Valve cap - 1/4 in dia	6	62	1383400	Ring	4
30	960630	Valve cap - 1/4 in dia	6	63	1383450	Steel rod	8
31	960640	Valve cap - 1/4 in dia	6	64	1383500	Complete pump head 3/8	1
32	960650	Valve cap - 1/4 in dia	6	65	1383550	Complete pump head 1/2	1
33	960660	Valve cap - 1/4 in dia	6	66	1383600	Complete pump head 3/4	1
34	960670	Valve cap - 1/4 in dia	6	67	1383650	Complete pump head 1	1
35	960680	Valve cap - 1/4 in dia	6	68	1383700	Complete pump head 1 1/2	1
36	960690	Valve cap - 1/4 in dia	6	69	1383750	Complete pump head 2	1
37	960700	Valve cap - 1/4 in dia	6	70	1383800	Complete pump head 2 1/2	1
38	960710	Valve cap - 1/4 in dia	6	71	1383850	Complete pump head 3	1
39	960720	Valve cap - 1/4 in dia	6	72	1383900	Complete pump head 3 1/2	1
40	960730	Valve cap - 1/4 in dia	6	73	1383950	Complete pump head 4	1
41	960740	Valve cap - 1/4 in dia	6	74	1384000	Complete pump head 4 1/2	1
42	960750	Valve cap - 1/4 in dia	6	75	1384050	Complete pump head 5	1
43	960760	Valve cap - 1/4 in dia	6	76	1384100	Complete pump head 5 1/2	1
44	960770	Valve cap - 1/4 in dia	6	77	1384150	Complete pump head 6	1
45	960780	Valve cap - 1/4 in dia	6	78	1384200	Complete pump head 6 1/2	1
46	960790	Valve cap - 1/4 in dia	6	79	1384250	Complete pump head 7	1
47	960800	Valve cap - 1/4 in dia	6	80	1384300	Complete pump head 7 1/2	1
48	960810	Valve cap - 1/4 in dia	6	81	1384350	Complete pump head 8	1
49	960820	Valve cap - 1/4 in dia	6	82	1384400	Complete pump head 8 1/2	1
50	960830	Valve cap - 1/4 in dia	6	83	1384450	Complete pump head 9	1
51	960840	Valve cap - 1/4 in dia	6	84	1384500	Complete pump head 9 1/2	1
52	960850	Valve cap - 1/4 in dia	6	85	1384550	Complete pump head 10	1
53	960860	Valve cap - 1/4 in dia	6	86	1384600	Complete pump head 10 1/2	1
54	960870	Valve cap - 1/4 in dia	6	87	1384650	Complete pump head 11	1
55	960880	Valve cap - 1/4 in dia	6	88	1384700	Complete pump head 11 1/2	1
56	960890	Valve cap - 1/4 in dia	6	89	1384750	Complete pump head 12	1
57	960900	Valve cap - 1/4 in dia	6	90	1384800	Complete pump head 12 1/2	1
58	960910	Valve cap - 1/4 in dia	6	91	1384850	Complete pump head 13	1
59	960920	Valve cap - 1/4 in dia	6	92	1384900	Complete pump head 13 1/2	1
60	960930	Valve cap - 1/4 in dia	6	93	1384950	Complete pump head 14	1
61	960940	Valve cap - 1/4 in dia	6	94	1385000	Complete pump head 14 1/2	1
62	960950	Valve cap - 1/4 in dia	6	95	1385050	Complete pump head 15	1
63	960960	Valve cap - 1/4 in dia	6	96	1385100	Complete pump head 15 1/2	1
64	960970	Valve cap - 1/4 in dia	6	97	1385150	Complete pump head 16	1
65	960980	Valve cap - 1/4 in dia	6	98	1385200	Complete pump head 16 1/2	1
66	960990	Valve cap - 1/4 in dia	6	99	1385250	Complete pump head 17	1
67	961000	Valve cap - 1/4 in dia	6	100	1385300	Complete pump head 17 1/2	1
68	961010	Valve cap - 1/4 in dia	6				
69	961020	Valve cap - 1/4 in dia	6				
70	961030	Valve cap - 1/4 in dia	6				
71	961040	Valve cap - 1/4 in dia	6				
72	961050	Valve cap - 1/4 in dia	6				
73	961060	Valve cap - 1/4 in dia	6				
74	961070	Valve cap - 1/4 in dia	6				
75	961080	Valve cap - 1/4 in dia	6				
76	961090	Valve cap - 1/4 in dia	6				
77	961100	Valve cap - 1/4 in dia	6				
78	961110	Valve cap - 1/4 in dia	6				
79	961120	Valve cap - 1/4 in dia	6				
80	961130	Valve cap - 1/4 in dia	6				
81	961140	Valve cap - 1/4 in dia	6				
82	961150	Valve cap - 1/4 in dia	6				
83	961160	Valve cap - 1/4 in dia	6				
84	961170	Valve cap - 1/4 in dia	6				
85	961180	Valve cap - 1/4 in dia	6				
86	961190	Valve cap - 1/4 in dia	6				
87	961200	Valve cap - 1/4 in dia	6				
88	961210	Valve cap - 1/4 in dia	6				
89	961220	Valve cap - 1/4 in dia	6				
90	961230	Valve cap - 1/4 in dia	6				
91	961240	Valve cap - 1/4 in dia	6				
92	961250	Valve cap - 1/4 in dia	6				
93	961260	Valve cap - 1/4 in dia	6				
94	961270	Valve cap - 1/4 in dia	6				
95	961280	Valve cap - 1/4 in dia	6				
96	961290	Valve cap - 1/4 in dia	6				
97	961300	Valve cap - 1/4 in dia	6				
98	961310	Valve cap - 1/4 in dia	6				
99	961320	Valve cap - 1/4 in dia	6				
100	961330	Valve cap - 1/4 in dia	6				

Legend

For	Ø18	Ø18	Ø18	Ø20
	For ◊	For ◻	For ◽	For ◼
X1000000	X1000000	X1000000	X1000000	X1000000
X1000000	X1000000	X1000000	X1000000	X1000000
X1000000	X1000000	X1000000	X1000000	X1000000
X1000000	X1000000	X1000000	X1000000	X1000000
X1000000	X1000000	X1000000	X1000000	X1000000

Repair Kits

Water Seal	Valves	Support Rings	O-Rings
Kit 100100	Kit 100100	Kit 100100	Kit 100100
Kit 100200	Kit 100200	Kit 100200	Kit 100200
Kit 100300	Kit 100300	Kit 100300	Kit 100300

Support Rings

Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
8	3	19	3	12	3		
10	3	20	3	15	2		
11	3	21	3	17	1		
		22	3	19	1		
		23	3				
		18	3				

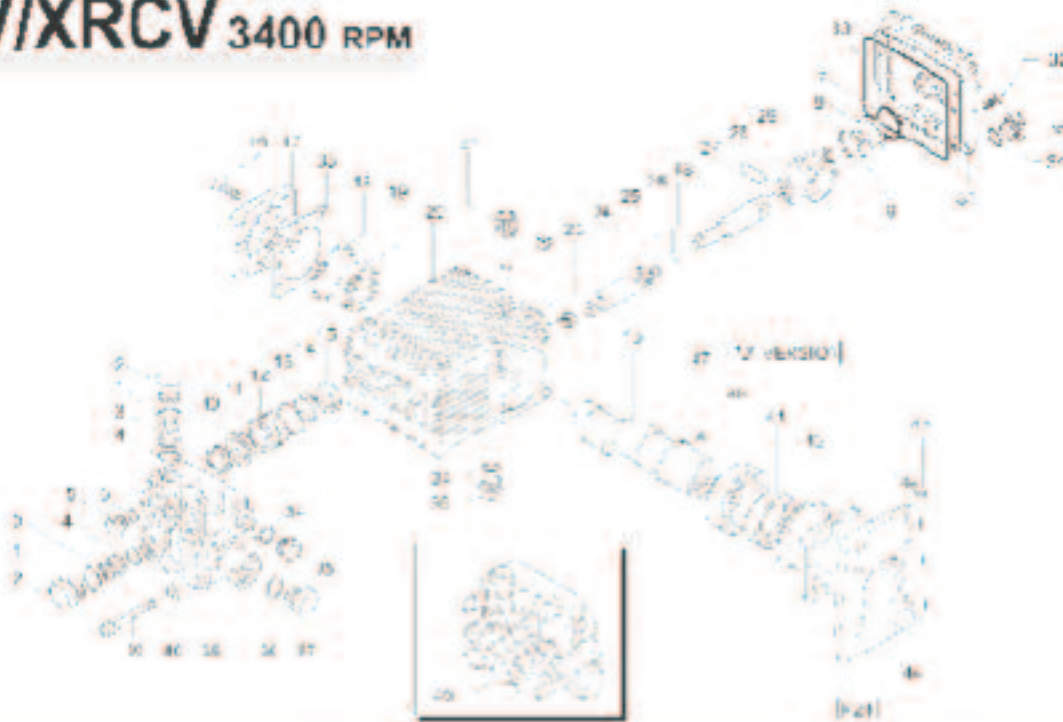
XRA Version

Special Parts

Code	Description	Qty.
1001	Water seal Ø18	1
1002	Water seal Ø20	1
1003	Water seal Ø18 1/2	1
1004	Water seal Ø20 1/2	1

"In order to really enjoy a dog, one doesn't merely try to train him to be semi-human.
The point of it is to open oneself to the possibility of becoming partly a dog."
-- Edward Hoagland

XRV/XRCV 3400 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.	Legend			
1	100400	O-Ring	1	37	1200440	Plug 200 Brass	1	⊙ 18	⊙ 18	⊙ 18	⊙ 18
2	910090	Plug 470 steel	1	38	1901780	Plug 340 A.P.	1	For ⊙	For ⊙	For ⊙	For ⊙
3	910090	Plug 470 steel	1	39	100100	O-Ring	1	For ⊙	For ⊙	For ⊙	For ⊙
4	1310740	Plug 470 steel	1	40	820301	Plug 140 Brass	1	For ⊙	For ⊙	For ⊙	For ⊙
5	1310800	Plug 470 steel	1	41	990270	Plug 140 A.P.	1	For ⊙	For ⊙	For ⊙	For ⊙
6	9305501	5/8" x 1/2" 11° thread	1	42	1300271	Plano head	1	For ⊙	For ⊙	For ⊙	For ⊙
7	100005	Complete valve G.T.V.	1	43	1701220	Plano head	1	For ⊙	For ⊙	For ⊙	For ⊙
8	810030	O-Ring	6	44	921100	Head bolt (217 threads)	6	For ⊙	For ⊙	For ⊙	For ⊙
9	090301	Plug 140 Brass	1	45	1200220	Gearing	1	For ⊙	For ⊙	For ⊙	For ⊙
10	1310030	Plug 140 N.P.	1	46	401100	O-Ring	1	For ⊙	For ⊙	For ⊙	For ⊙
11	020310	O-Ring	2	47	1300220	O-Ring	1	For ⊙	For ⊙	For ⊙	For ⊙
12	1200170	Snap ring	1	48	1201260	Hex nut shaft 01*	1	For ⊙	For ⊙	For ⊙	For ⊙
13	1200250	Oil sight glass	1	49	1300260	Hex nut shaft 01*	1	For ⊙	For ⊙	For ⊙	For ⊙
14	1140450	O-Ring	1	50	1500	Gasket girth flange	1	For ⊙	For ⊙	For ⊙	For ⊙
15	960110	Support ring	1	51	180030	Roll	1	For ⊙	For ⊙	For ⊙	For ⊙
16	810320	High pressure packing	5	52	1300500	Washer	1	For ⊙	For ⊙	For ⊙	For ⊙
17	1300050	Platoguide	1	53	820440	Sell screw	1	For ⊙	For ⊙	For ⊙	For ⊙
18	091340	O-Ring	1	54	1000400	Back-up ring	1	For ⊙	For ⊙	For ⊙	For ⊙
19	090300	Low pressure seal	1	55	1300230	Complete pump head	1	For ⊙	For ⊙	For ⊙	For ⊙
20	1305130	O-Ring	1	56	1300230	Complete pump head	1	For ⊙	For ⊙	For ⊙	For ⊙
21	850370	Bolt (217 threads)	4	57	1300220	Complete pump head	1	For ⊙	For ⊙	For ⊙	For ⊙
22	1300050	Coscoche assembly	1	58	1300220	Complete pump head	1	For ⊙	For ⊙	For ⊙	For ⊙
23	640030	O-Ring	1								
24	840370	Head	1								
25	1302770	Pump housing	1								
26	880130	Oil cap	1								
27	930010	Nut (106 threads)	1								
28	1000030	Washer	1								
29	1310940	Piston	1								
30	140080	Ring	1								
31	620130	O-Ring	1								
32	1300050	Guiding piston	1								
33	1310050	Piston pin	1								
34	1300440	Aluminum bearing	1								
35	1310250	Bushing control rod	1								
36	1200510	O-Ring	1								
37	1719010	Complete cover	1								
38	1300010	Unit (34 threads)	1								
39	1310120	Shaft 0.1 mm	1	24	800291	Piston	3				
40	1300130	Shaft 0.2 mm	1	25	800400	Spacer	3				
41	1310030	Shaft 0.25 mm	1	26	800840	O-Ring	3				
42	1300110	Shaft 0.05 mm	1	27	1300070	Piston rod	3				
43	7-C290	O-Ring	2	48	1940120	Ring	3				

XRV VERSION

Repair Kits

Wear Sails Kit 1957	Valves Kit 026	Pistons Kit 2546	Oil Seals Kit 1638
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
11 3	3 0	22 3	15 3
13 1	4 0	23 1	16 1
14 1		24 1	35 1
		25 1	40 1
		26 2	41 2
		48 1	

Support Rings

Pos. Qty.
10 1

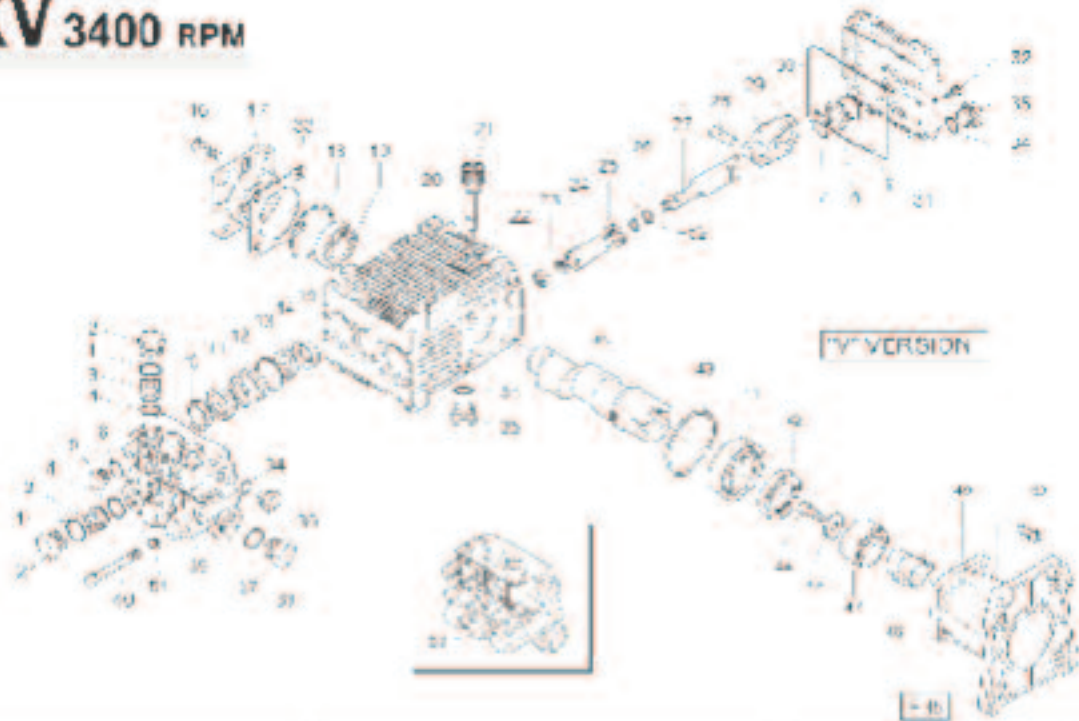
Special Parts

Code	Description	Qty.
2005	Water water seals L/B	1
7005	Water seal in 1311 F 2-3	1

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"If you yell at a cat, you're the one who is making a fool of yourself."
 -- Unknown

GRKV 3400 RPM



Pos.	Code	Description	Qty.
1	000100	O-Ring	1
2	980060	Brass valve cap (1/4" NPT)	1
3	000050	SS valve cap (1/4" NPT)	1
4	930050T	Brass valve cap (1/4" NPT)	1
5	930050T	SS valve cap (1/4" NPT)	1
6	880050	Compression pin	1
7	880030	O-Ring	1
8	890090	Plug 1/4" O (brass)	1
9	1080500	Plug 1/4" G (brass)	1
10	820010	O-Ring	1
11	1280430	Shimming	1
12	1280250	Oil sight glass	1
13	1140450	O-Ring	1
14	960110	Support ring	1
15	880070	High pressure packing	1
16	1080060	Push guard	1
17	980200	O-Ring	1
18	880010	Low pressure seal	1
19	1380120	Oil seal	1
20	850070	Ball (217 in lbs)	4
21	1280050	Bearing support	1
22	610030	O-Ring	1
23	2280240	Bracing	1
24	1382770	Pump housing	1
25	880010	Valve cover	1
26	982010	Nut (136 in lbs)	1
27	880000	Washer	1
28	1080440	Piston	1
29	1380950	Washer	1
30	1080140	O-Ring	1
31	1080920	Piston rod	1
32	1080060	Hydroscopic	1
33	1380050	Aluminum camshaft	1
34	1380020	Brass cam-follower	1
35	1280010	O-Ring	1
36	1788000	Rear cover	1
37	1080010	Ball (100 in lbs)	1
38	1380120	O.15mm shim	1-5
39	1380130	O.20mm shim	1-2
40	1380130	O.25mm shim	1-1
41	1380200	O.05mm shim	1-3
42	1400010	O-Ring	1
43	1080740	3/8" O plug	1

Pos.	Code	Description	Qty.
44	1080740	3/8" O plug brass	1
45	198100	3/8" O plug NP	1
46	180001	O-Ring	1
47	820060	Plug 1/2" brass	1
48	960070	Plug 1/2" NP	1
49	1380021	Brass pump head	1
50	1380070	Nut slider pump head	1
51	820000	Head bolt (217 in lbs)	1
52	1300020	Gearing	1
53	400070	O-Ring	1
54	1380020	O-Ring	1
55	820110	Screw	1
56	2280140	Washer	1
57	2280110	Coupling	1
58	2280120	Coupling sleeve ring	1
59	2280440	Flange nut 1/2"	1
60	2280130	Cap nut sleeve ring	1
61	180000	Ball (217 in lbs)	4
62	1280500	Washer	1
63	1080400	Ball-spring	1
64	1300232	Pump motor assembly	1
65	1380220	Pump seal assembly	1

Legend	
Ø18	Ø18
For □	For □
GRKV1C33A	GRKV1C33H
GRKV4000	

Repair Kits			
Water Seals Kit 1525	Valves Kit 1525	Pistons Kit 1525	Oil Seals Kit 1525
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
11 3	3 0	22 3	15 3
12 3	4 0	20 3	16 1
17 3		21 3	20 1
		24 1	21 1
		26 2	15 1
		32 2	

A truly happy person is one who can enjoy the scenery on a detour.

Support Ring Kit 1525	
Pos. Qty.	
10 3	

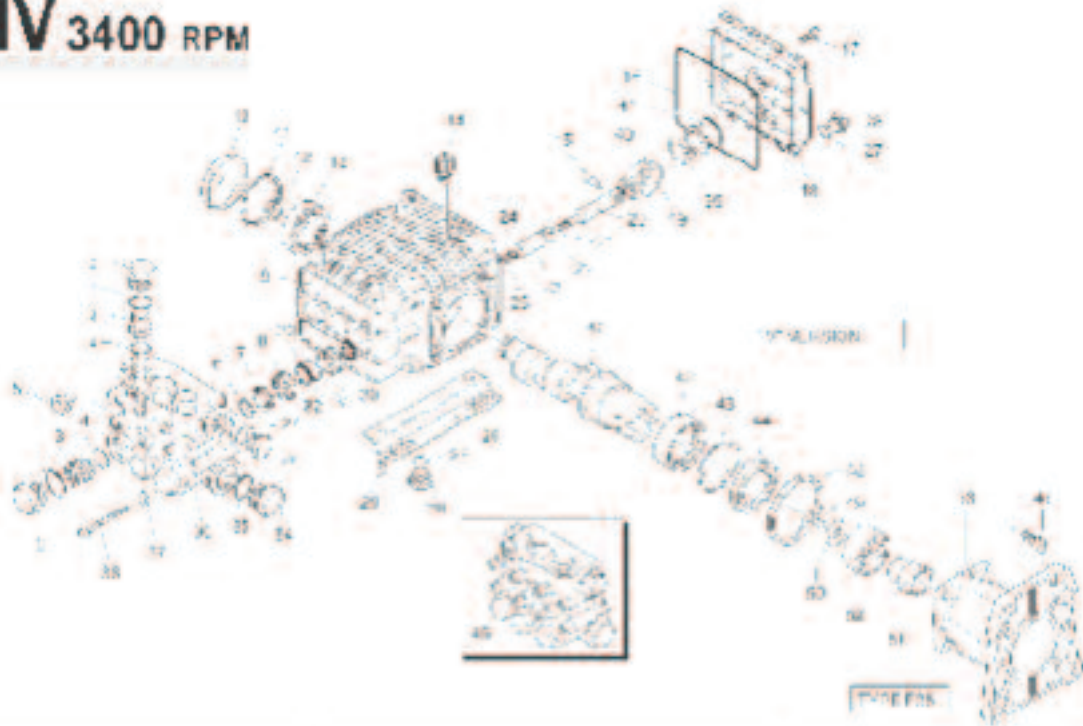
Special Parts		
Code	Description	Qty.
1525	Motor assembly kit 1525	

"Dogs are our link to paradise. They don't know evil or jealousy or discontent.

To sit with a dog on a hillside on a glorious afternoon is to be back in Eden, where doing nothing was not boring--it was peace."

-- Milan Kundera

GXMV 3400 RPM



Pos.	Code	Description	Qty.
1	1001100	O-Ring	1
2	1200102	Valve cap	6
3	1200101	Valve cap 1/4" threaded	1
4	1200103	Valve cap 1/8" threaded	1
5	1200090	Corporate valve	6
6	1800110	O-Ring	1
7	620301	Plug 1/8"	1
8	1700130	Support ring	3
9	1200130	High pressure packing	3
10	1700140	Piston guide	1
11	1700110	Prop body	1
12	1200140	Side cover seal	1
13	1700190	Conrod	1
14	1700050	Snap ring	1
15	1700190	Bearing	1
16	1001100	Oil cap	1
17	1700050	Piston pin	5
18	1700110	O-Ring	1
19	1200130	Bolt	6
20	1700110	Conrod cover	1
21	1700040	Conrod	5
22	1700050	Cylinder piston	5
23	490400	O-Ring	1
24	1200051	Slinger	5
25	1700170	Piston	5
26	1200100	Piston washer	5
27	1200110	Nut	5
28	100141	Base	2
29	770290	O-Ring	5
30	1001740	3/4" Pipe	5
31	1200170	Bolt	1
32	1700140	Oil seal	5
33	1700150	Rear piston guide	5
34	770290	O-Ring	5
35	1200440	Low pressure seal	5
36	820301	Brass plug 1/2"	1
37	1001101	O-Ring	1
38	1700080	Head	1
39	1301050	Washer	6
40	1022730	Head bolt	6
41	1200130	Snap ring	1
42	1700150	Oil sight glass	1
43	1100150	O-Ring	1

Pos.	Code	Description	Qty.
44	1011100	Bearing	1
45	1021000	Snap ring	1
46	400021	Oil seal	1
47	000200	Gasket	4
48	1700200	Complete pump field	1
49	1001100	Roller shaft	1
50	1700100	Bushing	1
51	000400	Nut	1
52	2000150	Washer	1
53	2000100	Coupling	1
54	2000200	Coupling washer	1
55	2000100	Gas in air filter	1

Legend

Ø15
GXMV030

Repair Kits

Wear Sets	Valves	Pistons	Oil Seals
Kit 2141	Kit 1604	Kit 2044	Kit 2117
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
7 3	3 0	21 3	10 3
32 3	4 0	22 3	16 1
33 3		23 3	35 1
		24 3	44 1
		25 3	

Support Rings

Kit 2740

Pos. Qty.

6 0

Special Parts

Code	Description	Qty.
2770	Motor auto seal Ø15	1

"Laughter is to life what shock absorbers are to automobiles. It won't take the potholes out of the road, but it sure makes the ride smoother.

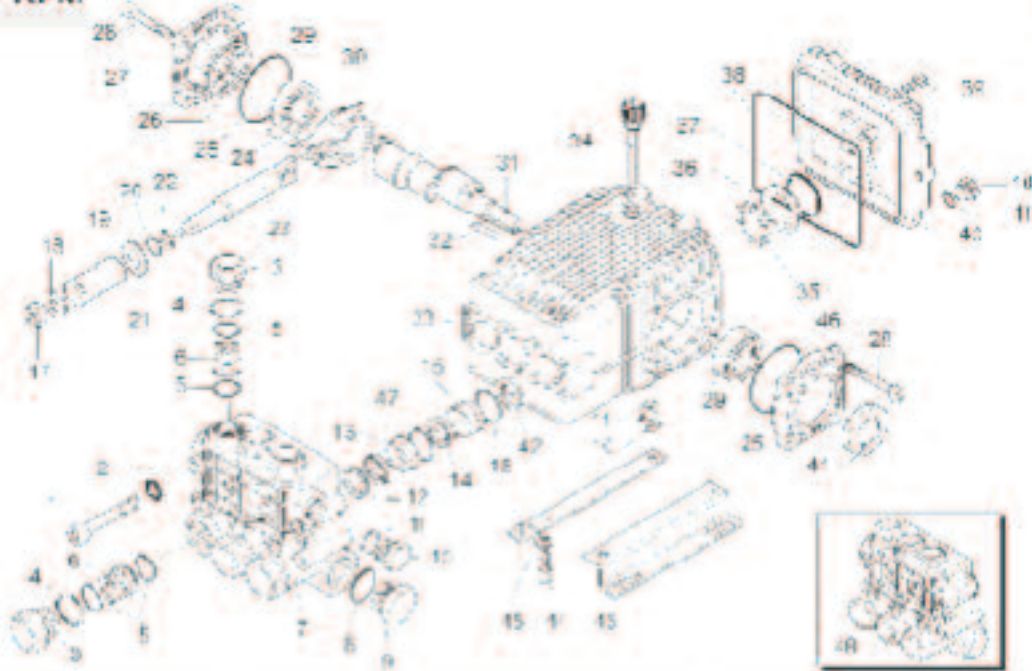
--Barbara Johnson

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"Most cats, when they are Out want to be In, and visa versa, and often simultaneously."

-- Louis J. Camuti

XW 1450 RPM



Pos.	Code	Description	Qty.
1	1940701	Headbolt (447 inches)	4
2	650530	Washer	6
3	1940190	Wash cap (602 inches)	4
4	1941970	Wash cap 1/4" threaded	1
5	1919150	Back-up ring	6
6	1140410	O-Ring	12
7	1940050	Complete valve	6
8	1940021	Pumphead (217 inches)	1
9	1941210	Pumphead	1
10	690390	O-Ring	1
11	1140130	Plug 3/32	1
12	1980710	Plug 3/32	3
13	740710	Flaring	3
14	1940640	1/2 pressure sealing ring (222)	2
15	1940070	1/2 pressure sealing ring (222)	2
16	1940630	Front piston guide (202)	2
17	1940200	Front piston guide (222)	2
18	1940670	Low pressure seal (202)	2
19	1940680	Low pressure seal (222)	2
20	1940650	Rear piston guide (202)	2
21	1940660	Rear piston guide (222)	2
22	820100	O-Ring	3
23	1940570	Nut (130 inches)	3
24	1940690	Washer	6
25	1420430	Piston (202)	2
26	1420120	Piston (222)	2
27	880640	O-Ring	3
28	800600	Slinger	3
29	1919120	Back-up ring	6
30	1940040	Guiding piston	3
31	1940060	Piston pin	6
32	1941390	O-Ring	6
33	1941390	O 15 mm shim	1-5
34	1941400	O 10 mm shim	1-5
35	1941410	O 15 mm shim	1-5
36	1941420	O 25 mm shim	1-5
37	1940011	Complete s/c cover	1
38	650370	Bolt (217 inches)	6
39	1140410	Bearing	2
40	1940050	Con rod (309 inches)	2
41	1910520	Crankshaft	1
42	1940190	Crankshaft	1
43	1919150	Crankshaft	1

Pos.	Code	Description	Qty.
44	600000	Key	1
45	1941030	Fuel housing	1
46	1140370	Oil cap	1
47	1200430	Snap ring	1
48	1200250	Oil s/c glass	1
49	1140410	O-Ring	1
50	1940410	O-Ring	1
51	1200430	Bolt (209 inches)	6
52	1940010	Complete cover	1
53	650670	Oil seal	1
54	1940600	Oil seal	2
55	1940070	Misc. shims	2
56	7740	1/4" ball kit	1
57	1940080	Bolt	4
58	200021	Washer	1
59	1940720	Upper bearing cup	1
60	1941220	Split O-Ring	3
61	1940000	Complete pump head (202)	1
62	1940201	Complete pump head (222)	1

Legend

Ø 23	Ø 20	Ø 20	Ø 22
For ◻	For ◻	For ◻	For ◻
XW15.10	XW15.20	XW20.10	XW10.10
XW15.20	XW21.20	XW20.10	XW30.10
XW15.30	XW15.30	XW20.20	XW10.20
	XW20.20	XW20.20	XW30.20

Repair Kits

Wash Seal	Valves	Pistons	Cyl Seals
KR 1750 001	KR 2700	KR 2010 001	KR 2700
KR 1750 002		KR 2010 002	

Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
12	3	3	6	17	3	25	2
14	3	3	6	18	3	30	1
16	3			19	3	41	1
47	3			21	3	47	1
				21	3		
				22	3		

Price Codes

KR 194120
KR 2700 002

Pos.	Qty.
11	3
15	3

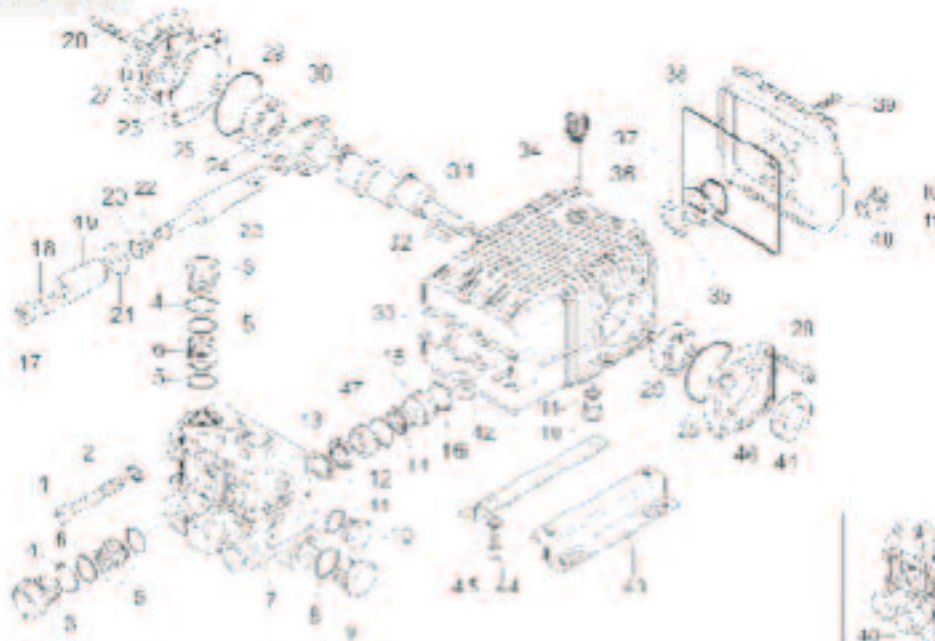
Special Parts

Code	Description	Qty.
2700	Wash seal code 001	1
2700	Wash seal code 002	1
44404	Packing seal	1

It takes a big man to cry, but it takes an even bigger man to laugh at that man.
--Jack Handy

"Cats are notoriously sore losers. Coming in second best, especially to someone as poorly coordinated as a human being, grates their sensibility."
 -- Stephen Baker

XWA 1750 RPM



Pos.	Code	Description	Qty.
1	194070	Headbolt (442 in/lbs)	1
2	650300	Washer	6
3	1940140	Valve cap (632 in/lbs)	1
4	1941970	Valve cap 1/4" threaded	1
5	1940150	Ring	6
6	1940430	O-Ring	12
7	1940050	Compression valve	6
8	1940021	Pump head Ø20 (X3)	1
9	1941210	Pump head Ø22	1
10	650300	O-Ring	1
11	1940150	Plug 3/46	1
12	1940710	Plug 3/36	5
13	1940710	O-Ring	5
14	1940440	Top piston packing (Ø22)	2
15	1940720	47 mm piston packing (Ø22)	2
16	1940430	Front piston guide (Ø22)	2
17	1940430	Low pressure seal (Ø22)	2
18	1940430	Low pressure seal (Ø22)	2
19	1940430	Rear piston guide (Ø22)	2
20	1940430	Rear piston guide (Ø22)	2
21	620100	O-Ring	5
22	1940130	Nut (130 in/lbs)	2
23	1940050	Washer	5
24	1420430	Piston (Ø20)	2
25	1420120	Piston (Ø22)	2
26	880800	O-Ring	5
27	580420	Slinger	2
28	1940120	Downcup ring	5
29	1940130	Guiding piston	5
30	1940060	Piston pin	5
31	1941350	O-Ring	5
32	1941350	0.35 mm shim	1-5
33	1941100	0.10 mm shim	1-5
34	1941410	0.15 mm shim	1-5
35	1941420	0.25 mm shim	1-5
36	1940111	Complete piston cover	1
37	650300	Dust (217 in/lbs)	6
38	1940110	Beating	2
39	1940050	Core rod (58 in/lbs)	2

Pos.	Code	Description	Qty.
40	1940130	Crankshaft (21)	1
41	1940130	Crankshaft (21)	1
42	1940130	Crankshaft (21)	1
43	450200	Key	1
44	1941080	Wetphousing	1
45	1140010	Oil cap	1
46	1200430	Snapring	1
47	1200200	Oil sight glass	1
48	1140010	O-Ring	1
49	1940410	O-Ring	1
50	1200130	Dust (139 in/lbs)	6
51	1940110	Complete pump head (Ø20)	1
52	1200600	Oil seal	1
53	1940500	Oil seal	3
54	1940110	Mounting rail (1-1/2" Rail-G)	2
55	1940110	End	1
56	200201	Washer	4
57	1941240	Upper bearing cap	1
58	1941230	Spk C Ring	5
59	1940200	Complete pump head (Ø21)	1
60	1940201	Complete pump head (Ø21)	1

Legend		
Ø23	Ø20	Ø22
For □	For ▽	For ◻
XWA4520	XWA7622	XWA6618
XWA4530	XWA7632	XWA6624
XWA4540	XWA7635	
	XWA7610	
For ●	For ■	
XWA4510	XWA51027	
XWA6620	XWA51030	
XWA6625	XWA51010	

Repair Kits			
Valve Seals	Valves	Pistons	Oil Seals
KI2750050	KI0700	KI204020	KI2700
KI2750022		KI203022	
Pos.	Qty.	Pos.	Qty.
12	3	10	3
14	3	16	3
16	3	18	3
47	3	20	3
		21	3
		22	3

Piston Guide	
KI2750020	
KI2750027	
Pos.	Qty.
13	3
14	3

Special Parts		
Code	Description	Qty.
3778	Ultra seal seals Ø30	
3776	Ultra seal seals Ø19	
300009	Polishing contractor	

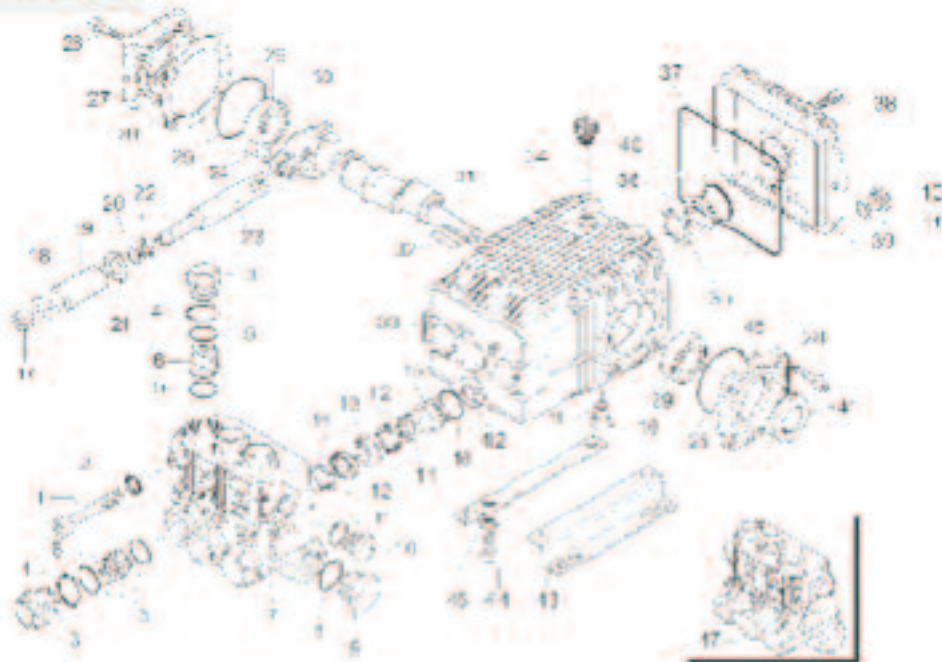
There are two types of people - those who come into a room and say, "Well here I am," and those who say, "Ah, there you are."
 --Frederick Collins

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"Cats are the ultimate narcissist. You can tell this because of all the time they spend on personal grooming. Dogs aren't like this. A dog's idea of personal grooming is to roll on a dead fish."
 -- James Gorman



XWT 550 RPM



Pos.	Code	Description	Qty.
1	1940010	Bolt (447inches)	1
2	650530	Washer	6
3	1940140	Valve cap (637inches)	1
4	1940190	Base cup (147inches)	1
5	1140450	O-Ring	12
6	1940050	Compress valve	6
7	1940350	Pumpkin	1
8	850350	O-Ring	1
9	1140300	Plug 3/16	1
10	1940740	Plug 3/16	3
11	710290	O-Ring	3
12	1940570	Headring	1
13	1140280	Front plunger guide	3
14	820630	FRM at plunger bearing	3
15	1940550	Rear plunger guide	3
16	1140150	O-Ring	6
17	1940670	Nut (131inches)	3
18	1940550	Washer	6
19	1140130	Piston	3
20	880340	O-Ring	3
21	1140150	Stinger	3
22	1940120	Ring	3
23	1940070	Piston rod	3
24	1940060	Connecting rod pin	3
25	1940300	O-Ring	6
26	1940330	Ø 15 mm shim	12
27	1940400	Ø 18 mm shim	12
28	1940410	Ø 19 mm shim	12
29	1940420	Ø 20 mm shim	12
30	1940011	Side cover	1
31	850370	Bolt (217inches)	1
32	1140410	Blaring	2
33	1940050	Cox-rod (89inches)	3
34	1940180	Crank shaft	1
35	650250	Key	1
36	1940130	Crankcase	1
37	1140370	Oilcap	1
38	1200130	Snap ring	1
39	1200250	Oil sight glass	1
40	1940110	O-Ring	1
41	1200430	Bolt (58inches)	1
42	1940100	Rear cover	1

Pos.	Code	Description	Qty.
43	1440340	O-Ring	1
44	820580	Oil seal	1
45	1940560	Oil seal	3
46	1940370	Making rod	2
47	2710	1-1-1 Rollnut	1
48	1940360	Bolt	4
49	200231	Washer	4
50	1940240	Brush side cover	1
51	1940280	Complete cylinder	1

Legend

028
 XWT2178 550-rw

Repair Kits

Water Seals		Valves		Pistons		Oil Seals	
Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
17	6	6	6	19	3	25	2
14	6	6	6			37	1
16	3					41	1
						42	3

Piston Guides

Pos.	Qty.
11	3
15	2

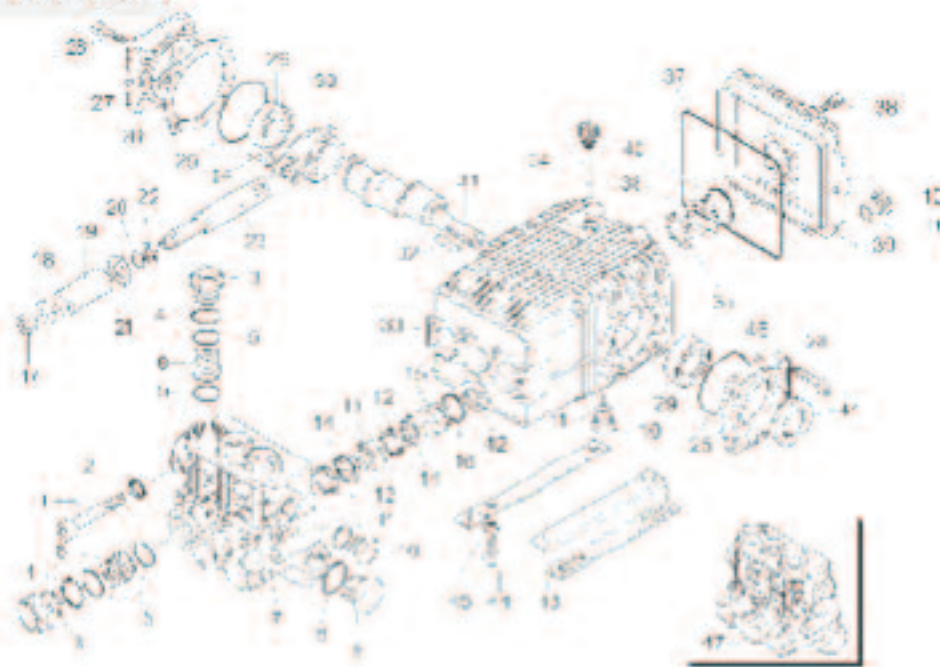
Special Parts

Code	Description	Qty.
Y04	Washer - 6mm x 10mm	1

Success does not necessarily mean that we must earn a great deal of money and live in the biggest house in town. It means only that we are daily engaged in striving toward a goal that we have independently chosen and feel is worthy of us as persons."
 --Earl Nightingale

"If you can dream it, you can do it. Always remember this whole thing was started by a mouse."
 -- Walt Disney

XWF 1000 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	1940700	Head bolt (442inches)	1	36	1240000	Nut (standard)	10
2	650530	Washer	8	39	1640710	Flare cover	1
3	1940140	Valve cap (100inches)	1	40	1490000	O-Ring	1
4	1941970	Valve cap 1/4" finished	1	41	620560	Oil seal	1
5	1940150	Back-up ring	6	42	1940560	Oil seal	3
6	1140450	O-ring	12	43	1940310	Mixing rod	2
7	1940050	Compression valve	6	43a	2740	1-1/4 Ball GR	1
8	1941050	Pump ball	1	44	1940000	Nut	4
9	551050	O-ring	1	45	200201	Washer	4
10	1140350	Plug 3/4"	1	46	1941740	Throttle cover	1
11	1940740	Plug 3/8"	1	47	1940500	Compressor pump head	1
12	740200	O-Ring	5				
13	1940770	Head ring	1				
14	1140280	Front plunger guide	5				
15	820630	HT 8136 pressure plate	6				
16	1941560	Rear plunger guide	5				
17	1140430	O-Ring	5				
18	1940670	Nut (10inches)	5				
19	1940680	Washer	5				
20	1140100	Piston	5				
21	091040	O-Ring	5				
22	1140150	Slinger	5				
23	1940120	Ring	5				
24	1940070	Piston rod	5				
25	1940030	Connecting rod pin	5				
26	1941080	O-Ring	2				
27	1941390	O 35 mm x 1mm	1-5				
28	1941400	O 30 mm x 1mm	1-3				
29	1941410	O 19 mm x 1mm	1-5				
30	1941420	O 21 mm x 1mm	1-5				
31	1941011	Side cover	1				
32	891370	Kit (217inches)	2				
33	1140416	Draining	2				
34	1940090	Cou-rod (89inches)	2				
35	1940130	Crank shaft	2-1				
36	1940120	Crank shaft	2-1				
37	1940170	Crank shaft	2-1				
38	650250	Key	1				
39	1941320	Crankcase	1				
40	1140370	Oilcap	1				
41	1250430	Snap ring	1				
42	1250450	Oil sight glass	1				
43	1940410	O-Ring	1				

Legend

Code	Description	Qty.
029	For J	1
028	For D	1
028	For K	1
XWF20.08	XWF20.0	XWF35.17
XWF20.08	XWF20.0	XWF35.17
XWF20.12		
XWF20.15		
XWF20.20		

Repair Kits

Walt Sany Kit #001	Valves Kit #002	Pistons Kit #003	Oil Sads Kit #004
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
12 4	5 6	10 3	25 2
14 2	6 6		30 1
16 1			40 3

Price Guide

Pos.	Qty.
11	3
15	2

Special Parts

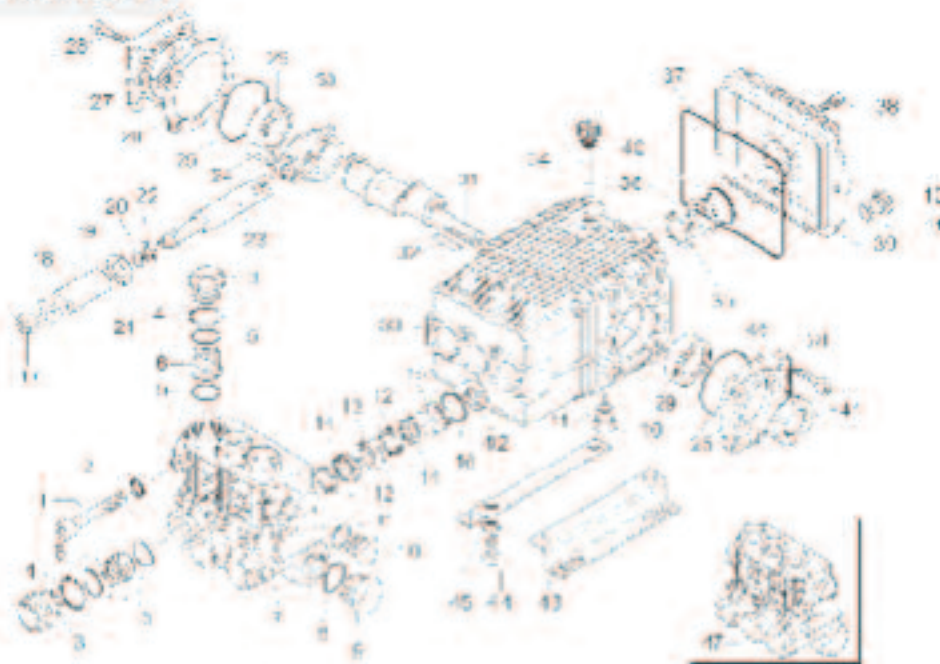
Code	Description	Qty.
705	Walt Sany - sub RFF	1

"To me, boxing is like a ballet, except there's no music, no choreography, and the dancers hit each other"
 --Jack Handey

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If you get to thinkin' you're a person of some influence, try orderin' somebody else's dog around."
 -- cowboy wisdom

XWL 1450 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	114070	Head bolt (442 in/ft)	4	40	114140	Casing	1
2	65050	Washer	6	41	12050	Oil seal	1
3	114040	Valve cap (637 in/ft)	1	42	114050	Oil seal	3
4	194070	Valve cap 1/4" In coated	1	43	1140370	Making nut	2
5	1940150	Back-up ring	6	44	2745	1-1-1 Ball Nut	1
6	114050	U ring	12	45	114030	Nut	4
7	1940050	Complete valve	6	46	20020	Washer	4
8	1940150	Pump head	1	47	1141240	Drum side cover	1
9	650350	O Ring	1		1140205	Complete pump head	1
10	1140320	Plug 3/4"	1				
11	1140240	Plug 3/4"	1				
12	710200	O-Ring	3				
13	1141170	Harding	1				
14	1140280	Front pumper guide	3				
15	820630	HCB Asprate bearings	6				
16	1140150	Four plunger guide	1				
17	1140150	O-Ring	3				
18	1140170	Nut (130 in/ft)	3				
19	1940580	Washer	3				
20	1140130	Piston	3				
21	090040	O Ring	3				
22	1140150	Slinger	3				
23	1940120	Ring	1				
24	1940070	Piston rod	3				
25	1940080	Connecting rod pin	3				
26	1941000	O-Ring	4				
27	1941350	Ø 35-mm shim	1-3				
28	1941400	Ø 40-mm shim	1-3				
29	1941410	Ø 19-mm shim	1-3				
30	1941420	Ø 25-mm shim	1-3				
31	1940011	Side cover	1				
32	850370	Roll (217 in/ft)	8				
33	1140410	Drum	2				
34	1940050	Crank rod	3				
35	1940170	Crank shaft	1				
36	650250	Key	1				
37	1940130	Crankcase	1				
38	1140070	Oil cap	1				
39	1200130	Snap ring	1				
40	1200250	Oil sight glass	1				
41	1940110	O-Ring	1				
42	1201430	Roll (489 in/ft)	1				
43	1940110	Flare cover	1				

Legend

Ø28
XWL12.06
XWL12.07
XWL12.10
XWL12.16

Repair Kits

Water Seals		Valves		Pistons		Oil Seals	
Kit Part	Kit Part	Kit Part	Kit Part	Kit Part	Kit Part	Kit Part	Kit Part
Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
10	6	6	6	10	3	21	2
14	1	11	6			31	1
16	3					41	1

Piston Guides

Kit Part	Pos.	Qty.
11	1	
15	1	

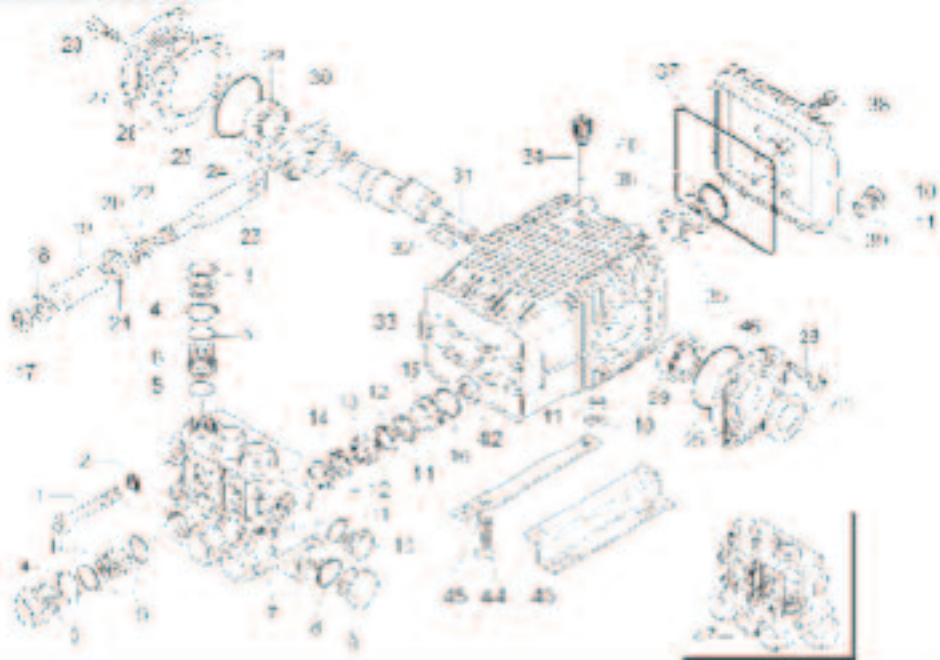
Special Parts

Code	Description	Qty.
1010	1010mm x 1010mm x 1010mm	1

How long a minute is depends on which side of the bathroom door you are on.

"The greatness of a nation and its moral progress can be judged by the way its animals are treated."
 -- Gandhi

XWLA 1750 RPM



Pos.	Code	Description	Qty.
1	194001	Headbolt (442inches)	4
2	650530	Washer	6
3	1940140	Valve cap 1/4" arcaded	6
4	1940150	Back-up ring	6
5	1140110	O-ring	12
6	1940050	Compression valve	6
7	1940100	Pumphead	1
8	650350	O-Ring	1
9	1140300	Plug 3/16"	1
10	1940740	Plug 3/16"	1
11	710290	O-Ring	1
12	1941570	Headring	1
13	1140280	Front plunger guide	1
14	650630	Rip & low pressure pack	1
15	1941580	Rear plunger guide	1
16	1140100	O-Ring	1
17	1941570	Kit (131inches)	1
18	1940380	Washer	1
19	1140130	Piston	1
20	650340	O-Ring	1
21	1140100	Stilge	1
22	1940120	Ring	1
23	1940070	Piston rod	1
24	1940080	Connecting rod pin	1
25	1941380	O-Ring	1
26	1941390	O-Ring 18mm diam	1
27	1941400	O-Ring 18mm diam	1
28	1941410	O-Ring 18mm diam	1
29	1941420	O-Ring 18mm diam	1
30	1640011	Blow cover	1
31	650370	Roll (217inches)	1
32	1140410	Braring	1
33	1940050	Con-rod (38inches)	1
34	1940160	Crank shaft	1
35	650250	Key	1
36	1941130	Crankcase	1
37	1140370	Oilcup	1
38	1200430	Snapring	1
39	1200250	Oil gic glass	1
40	1940110	O-Ring	1
41	1201430	Hex (38inches)	1
42	1940170	Rear cover	1

Pos.	Code	Description	Qty.
43	1140440	Out-rod	1
44	620580	Oil seal	1
45	1940560	Oil seal	1
46	1940370	Mounting nut	2
47	2718	1-1-1 Ball KB	1
48	1941360	Bolt	4
49	200201	Washer	4
50	1941740	Crankcase cover	1
51	1940265	Compression head	1

Legend

Q26
XWLA11015

Repair Kits

Piston Seal Kit 1750		Valves Kit 1750		Pistons Kit 1750		Oil Seals Kit 1750	
Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
1	6	1	6	1	3	1	2
2	6	2	6	2	3	2	1
3	3	3	6	3	3	3	1

Piston Guides

Pos.	Qty.
1	3
2	3

Special Parts

Code	Description	Qty.
102	Washer - 1/4" x 3/8"	1

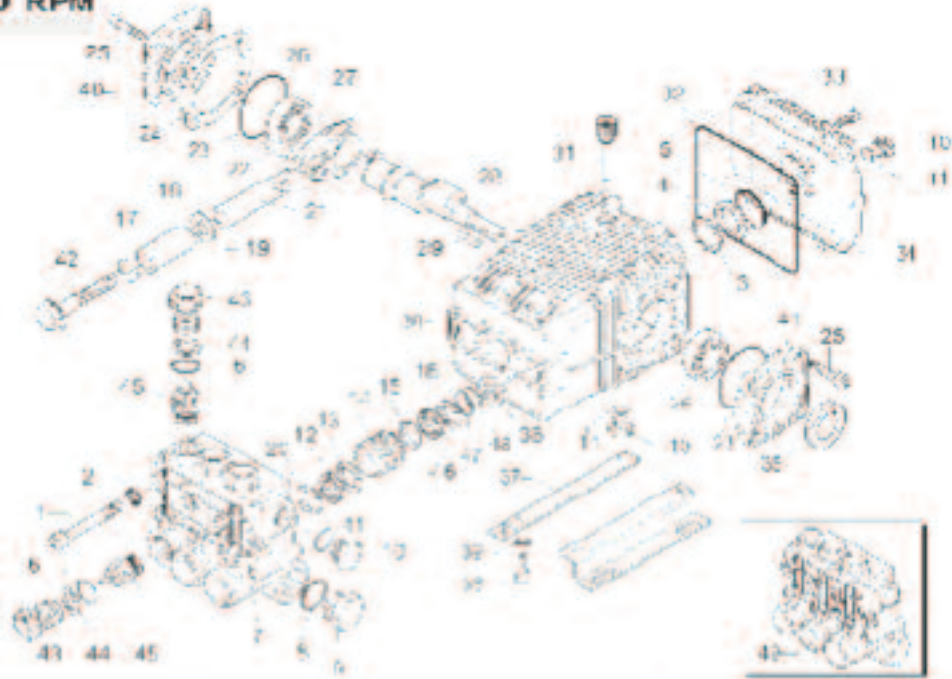
We could learn a lot from crayons. Some are sharp, some are pretty, some are dull, some have weird names, and they are all different colors... but they still exist very nicely in the same box

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If people were superior to animals, they'd take better care of the world."
 -- Winnie the Pooh



SXW 1450 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	194000	Headbolt (442inches)	1	36	200201	Washer	4
2	650530	Washer	6	38	194901	Complete side cover	1
3	194040	Strapring	1	41	194040	Cover sealing cup	1
4	1200250	Oil sight glass	1	42	194020	Filter large size (1.5inches)	1
5	1100100	O-Ring	1	37	194010	Valve clip (402inches)	1
6	194010	O-Ring	1	39	194100	Washer (1.4inches)	1
7	194090	Pump head	1	44	194100	Backspring	6
8	194101	O-Ring	1	46	194101	Complete valve	6
9	320081	Plug 1/20	1	48	194100	Spacer	3
10	194070	Pin 3/80	3	47	200090	O-Ring	3
11	741210	O-Ring	3	48	194100	Sealing ring	3
12	194120	High pressure pump	3	49	194204	Complete pump head	1
13	194100	Supporting	3				
14	194060	Plate guide	3				
15	194130	Supporting	3				
16	194100	Low pressure seal	3				
17	134000	Washer	3				
18	194100	Piston	3				
19	138510	Slinger	3				
20	194130	Supporting	3				
21	194090	Guiding piston	3				
22	194000	Control pin	3				
23	194100	O-Ring	3				
24	194130	Shaft 0.05mm	1				
25	194130	Shaft 0.10mm	1				
26	194140	Shaft 0.19mm	1				
27	194140	Shaft 0.25mm	1				
28	45100	Bolt (217inches)	1				
29	1100110	Beating	3				
30	194060	Control (18inches)	3				
31	194090	Crank shaft	3				
32	194090	Crank shaft	3				
33	650250	Key	1				
34	194130	Pump housing	1				
35	1140100	Oil cap	1				
36	194060	O-Ring	1				
37	1701430	Bolt (18inches)	1				
38	194000	Complete cover	1				
39	620080	Oil seal	1				
40	194000	Oil seal	1				
41	194000	Mounting rail	2				
42	2748	1/4" Flat Kit	1				
43	194000	Dull	1				

Legend

Ø18	Ø10
For 3	For 7
SXW15.05	SXW21.35

Repair Kits

High Pressure	Valves Kit 2074	Pistons Kit 2048	Oil Seals Kit 2073
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
12 3	45 3	17 3	25 2
13 3		18 3	30 1
20 3		19 3	35 1
		26 3	

How to decide who to marry?

You got to find someone who likes the same stuff. Like, if you like sports, she should like it that you like sports, and she should keep the chips and dip coming.

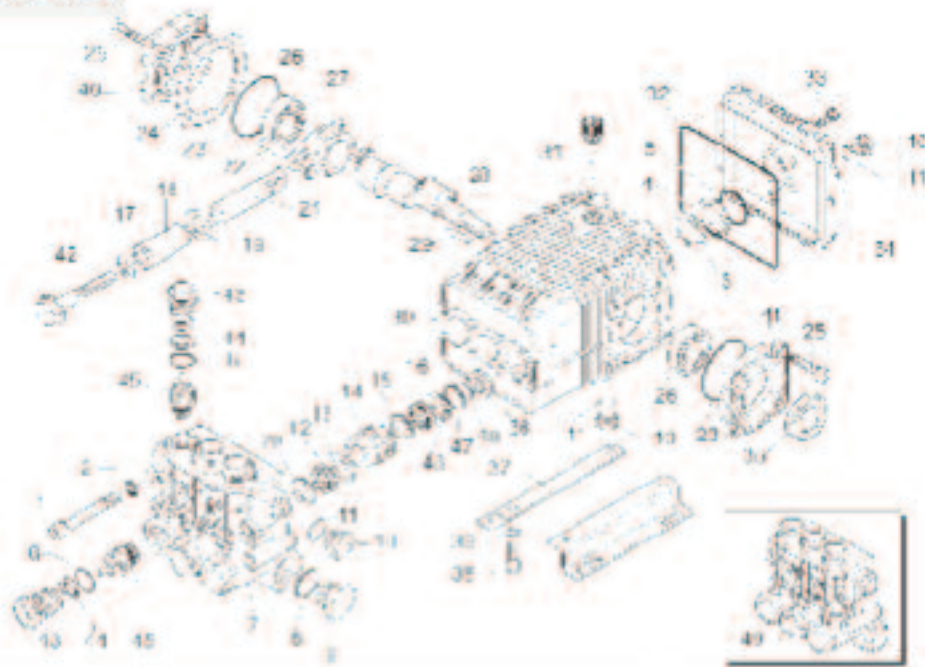
--Alan, Age 10

Low Pressure

Water Seals	Piston Guides
Kit 2074	Kit 2073
Pos. Qty.	Pos. Qty.
14 1	15 3
16 3	18 3
18 3	47 3
43 3	

"When the Man waked up he said, 'What is Wild Dog doing here?
 And the Woman said, 'His name is not Wild Dog any more, but the First Friend,
 because he will be our friend for always and always and always.'" -- Rudyard Kipling

SXWA 1750 RPM



Pos.	Code	Description	Qty.
1	194010	Headbolt (427inches)	1
2	650630	Washer	8
3	1200430	Snapring	1
4	1200250	Oil sight glass	1
5	11-0150	O-Ring	1
6	881030	O-Ring	1
7	1940930	Pump head	1
8	194101	O-Ring	1
9	020061	Plug 1/2G	1
10	1920240	Plug 3/8G	3
11	141010	O-Ring	3
12	1911250	High pressure packing	6
13	1941050	Back-up ring	3
14	1940950	Piston guide	6
15	1911350	Support ring	3
16	1941140	Low pressure seal	3
17	1310020	Washer	6
18	1941020	Piston	3
19	1380160	Slinger	3
20	1941190	Support ring	3
21	1940920	Guiding piston	6
22	1910050	Conrod pin	3
23	1941180	O-Ring	3
24	1911320	Shim 0.05mm	1
24	1911320	Shim 0.10mm	1
24	1911410	Shim 0.19mm	1
24	1911420	Shim 0.25mm	1
25	185110	Ball (217 inches)	2
26	11-0110	Bearing	2
27	1941150	Conrod (58 inches)	3
28	1910620	Crank shaft	3
29	1910170	Crank shaft	3
30	1940970	Crank shaft	3
31	650250	Key	1
32	1941130	Pumphousing	1
33	11-0070	Oil cap	1
34	1941120	O-Ring	1
35	1200430	Bolt (39 inches)	8
36	10-10010	Complete cover	1
37	020080	Sha	1
38	10-10690	Sha	3
39	1941170	Mounting rail	2
40	2716	1-1/2" Ballkil	1

Pos.	Code	Description	Qty.
36	104090	Nut	4
39	200201	Washer	4
40	1940911	Complete ydecove	1
41	1041240	Cover bearing cap	1
42	1010220	Patrol-10120000-101000-5	1
43	104090	Washer cap (1/2 inches)	1
44	1041070	Washer cap 1/4" Breaker	1
45	1041070	Back-up ring	6
46	1041060	Control valve	6
47	1011030	Spacer	3
48	1041060	O-Ring	3
49	1011010	Shafting	3
49	1041044	Complete pump head	1

Legend		
Ø19	Ø18	Ø18
For Ø	For 3	For 6
SXWA-050	SXWA-5030	SXWA-045

Repair Kits			
High Pressure			
Water Seals Kit 2674	Valves Kit 417	Pistons Kit 2648	Oil Seals Kit 4671
Pos.	Qty.	Pos.	Qty.
12	3	15	6
17	3	25	2
18	3	30	1
20	3	19	3
		35	3

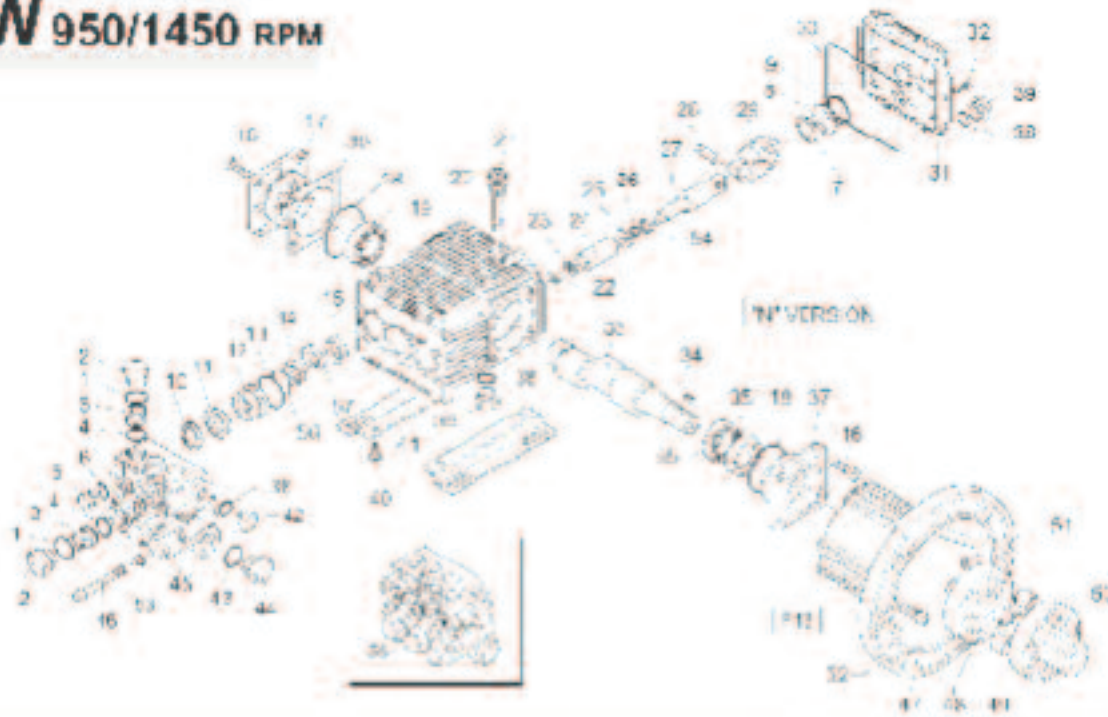
Low Pressure	
Water Seals & Piston Guide Kit 2675	
Pos.	Qty.
11	3
13	3
16	3
46	3
17	3
45	3

Things come to those who wait, but only the things left by those who hustle.
 --Abraham Lincoln

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"If a dog will not come to you after having looked you in the face,
you should go home and examine your conscience." -- Woodrow Wilson

RCW 950/1450 RPM



Pos.	Code	Description	Qty.
1	100100	O-ring	1
2	1386740	Valve cap (478 in/lbs)	6
3	0000500	Drive cap (478 in/lbs)	1
4	1009051	Compression valve	6
5	651630	O-Ring	6
6	1000000	Plug (40)	2
7	621610	O-Ring	2
8	1210430	Snap ring	1
9	1280250	Oil sight glass	1
10	1120150	O-ring	1
11	961110	Support ring Ø10.5	1
12	610320	Support ring Ø22.5	1
13	140740	High pressure locking Ø14.5	1
14	190270	High pressure locking Ø22.5	1
15	1380000	Piston guide Ø18.5	1
16	1380730	Piston guide Ø22.5	1
17	961240	O-Ring	5
18	140030	Low pressure seal Ø18.5	1
19	190680	Low pressure seal Ø22.5	1
20	890020	Oil seal	5
21	051070	Dot (217 in/lbs)	6
22	1380050	Cross banding support	1
23	124000	O-Ring	2
24	2280040	Bearing	1
25	138770	Pump housing	1
26	09130	Oil cap	1
27	126100	Dot (136 in/lbs)	5
28	1280100	Washer	5
29	1383250	Piston Ø18.5	5
30	1383400	Piston Ø22.5	5
31	1383350	Slinger	5
32	480480	O-ring	5
33	1003240	Guiding piston	5
34	1380030	Piston pin	5
35	1385020	Con-rod	5
36	1780510	O-Ring	1
37	1780010	Complete cover	1
38	1342510	Dot (89 in/lbs)	6
39	2280050	Crank shaft Ø27.1	1
40	2280070	Crank shaft Ø27.5	1
41	2280170	Crank shaft Ø31	1
42	1480020	Key	1
43	190300	Oil seal	1

Pos.	Code	Description	Qty.
44	1380100	Steel valve seat	1-5
45	128020	Sha Ø 10 mm	1-5
46	128030	Sha Ø 22 mm	1-5
47	138050	Sha Ø 25 mm	1-5
48	128040	Sha Ø 30 mm	1-5
49	140200	O-Ring	3
50	1000740	Plug Ø25	2
51	1200020	Nut	4
52	120041	Master nut	2
53	1007	1-1-1 Nut Kit	1
54	2013	1/8" Roll Kit	1
55	2610H	2-5/8" Roll Kit	1
56	100140	Plug Ø26	1
57	6001	O-Ring	1
58	96070	Plug Ø20	1
59	1380500	Plastic seal Ø18.5	1
60	1380580	Plastic seal Ø22.5	1
61	1380440	Head bolt (217 in/lbs)	5
62	1380380	Flange	1
63	1380000	Frame casting	1
64	1321570	Bushing	6
65	1380300	Motor coupling 1-1/8 (F1)	1
66	1380300	Motor coupling 1-3/4 (F1)	1
67	100080	Set screw	1
68	020010	Nut	4
69	1201050	Washer	6
70	1000500	Ring	5
71	100140	Sealing	1
72	1380100	Split supporting Ø18.5	5
73	1380100	Split supporting Ø22.5	5
74	1380570	Retainer Ø18.5	5
75	1380570	Retainer Ø22.5	5
76	1380280	Complete pump head Ø18.5	1
77	1380280	Complete pump head Ø22.5	1

Legend

Ø10	Ø15	Ø18	Ø22
950-05	1450-05	1450-05	950-05
For U	For U	For Y	For U
RCW 0-5	RCW 11-0	RCW 15-0	RCW 5-11

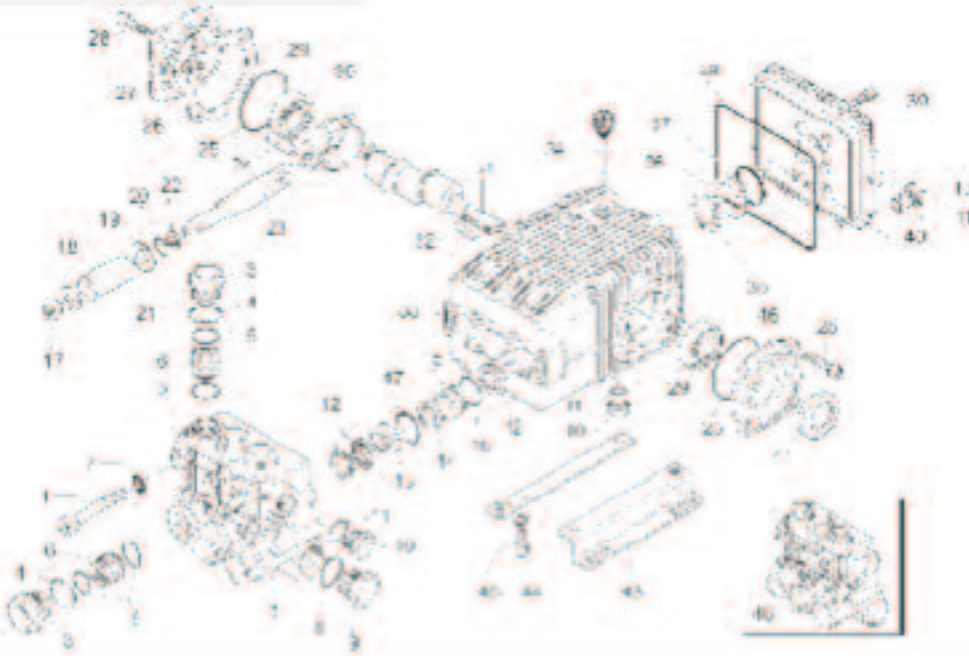
Repair Kits

Wash Bush	Valves	Pistons	Oil Seals
Kit 2013-01		Kit 2013-01	
Kit 2013-02	Kit 2013-01	Kit 2013-02	Kit 2013-01
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
10 3	3 5	22 3	15 3
11 3	4 5	24 3	18 3
12 3		26 3	30 1
13 3		28 3	35 1
50 3		30 3	
57 3		51 3	

People may forget how fast you did a job, but they will remember how well you did it.

"My dog is usually pleased with what I do, because she is not infected with the concept of what I "should" be doing." -- Lonzo Idolswine

CWX 950/1200/1750 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	194101	Flanthead (ø42mm) 1/8"	1	30	1204001	Roller (ø21mm) 1/8"	1
2	650530	Washer	1	31	1649212	Complete cover	1
3	1940140	Valve cap (ø32mm) 1/8"	1	41	620500	Oil seal	1
4	1941970	Wave cap 1/4" inside	1	42	1940500	Oil seal	3
5	1910150	Backup ring	1	43	1910270	Mounting rail	2
6	1141410	O-Ring	17	43b	2448	1 1/4" Roll Kit	1
7	1940950	Complete valve	1	44	1940360	Gull	1
8	1940921	Pump head	1	45	200231	Washer	4
9	650350	O-Ring	1	46	1941240	Open bearing cap	1
10	1140370	Plug 3/16"	1	47	1911220	Spill support ring	3
11	1941700	Plug 3/16"	1	48	1940300	Complete pump head	1
12	710200	O-Ring	3				
13	1941440	High pressure spring	3				
14	1940630	Front pressure guide	3				
15	1940770	Low pressure seal	3				
16	1941450	Knife pressure guide	3				
17	820130	O-Ring	3				
18	1941670	Kit (ø10mm) 1/8"	3				
19	1940680	Washer	3				
20	1400630	Flange	3				
21	090040	O-Ring	3				
22	090160	Slipper	3				
23	1941100	Backup ring	1				
24	1940970	Guiding piston	3				
25	1940980	Pinion pin	3				
26	1911080	O-Ring	3				
27	1941390	Ø 35 mm shim	1-2				
28	1941400	Ø 40 mm shim	1-2				
29	1911110	Ø 18 mm shim	1-2				
30	1941420	Ø 25 mm shim	1-2				
31	1919011	Complete side cover	1				
32	650570	Roller (ø21mm) 1/8"	1				
33	1140410	Brining	3				
34	1910950	Crank rod (ø8mm) 1/8"	3				
35	1941180	Crankshaft	1				
36	1910530	Crankball	1				
37	650750	Key	1				
38	1941030	Pump housing	1				
39	1140370	Oil cap	1				
40	1280430	Spring	1				
41	1280250	Oil sight glass	1				
42	1141450	O-Ring	1				
43	1910110	O-Ring	1				

Legend

Ø23	Ø20	Ø20
950 rpm	1200 rpm	1750 rpm
For □	For □	For □
CWX15-12	CWX15-10	CWX15-17

Repair Kits

Washer Sockets	Valves	Pistons	Oil Seals
Kit 2782	Kit 2783	Kit 2642	Kit 2781
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
12 3	5 13	17 3	26 2
14 3	6 2	18 3	37 1
16 3		19 3	42 1
21 3		20 3	43 1
		21 3	
		22 3	

Support Seeds

Kit 2702

Pos.	Qty.
13	3
15	3

Special Parts

Code	Description	Qty.
7778	Washer - code 290	1

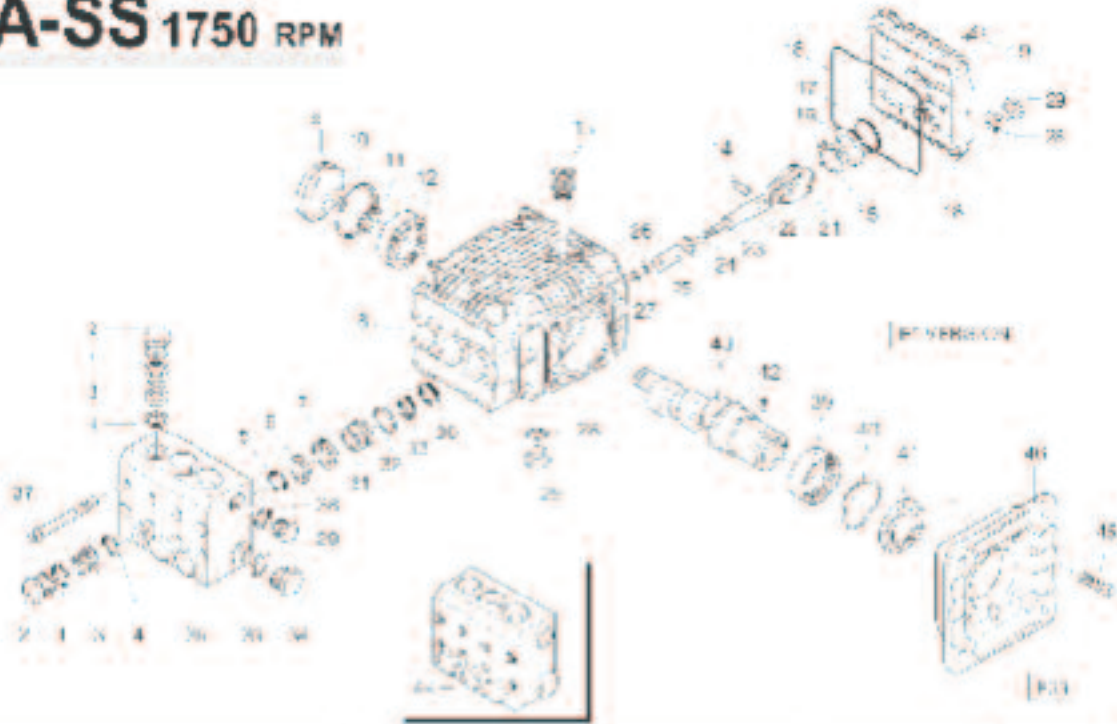
The man who makes mistakes lacks boldness and the spirit of adventure. He never tries anything new. He is a brake on the wheels of progress.

--Grahm, Texas Rotary

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"There are few things in life more heartwarming than to be welcomed by a cat."
 -- Tay Hohoff

XMA-SS 1750 RPM



Pos.	Code	Description	Qty.
1	1101101	O-Ring	1
2	2590011	Valve cap (4x3in)E	1
3	0001501	St valve cap (4 threaded)	1
4	2590050	Complete valve	1
5	85081	O-Ring	6
6	1790139	Support ring	2
8	1280111	High pressure packing	5
7	1791030	Piston guide	2
9	2590010	Pumpbody	1
9	1206710	Side cover seat	1
10	1280790	Crank	1
11	1790350	Snap ring	1
12	1791430	Finning	1
13	890130	Oil cap	1
14	1790950	Piston pin	2
15	1791430	Snap ring	1
16	1200250	Signal plates	1
17	141450	O-Ring	1
18	1790810	O-Ring	1
19	091060	Roll (38in)dia E	1
20	2046010	Complete cover	1
21	1790710	Conrod	3
22	2190110	Guiding piston	1
23	490432	O-Ring	5
24	2590130	Slipper	2
25	1790070	Piston	3
26	2390250	Piston washer	3
27	2512110	Ball (13in)dia E	3
28	710290	O-Ring	2
29	2190350	Scraper ring	2
30	1280150	Oil seal	5
31	1790010	Bear piston guide	3
32	771291	O Ring	3
33	1250141	Low pressure seal	5
34	2390350	Plug	1
35	180102	O-Ring	1
36	1790080	Head	1
36	2590020	Head	1
37	2590030	Headbell (80in)dia E	1
38	741291	O Ring	1
39	1321130	Bearing	1
40	1421080	Support ring	1
41	490871	Oil seal	1

Pos.	Code	Description	Qty.
42	820440	Crank screw	1
43	1791170	Ho low shaft	1
43	1791180	Ho low shaft	1
43	1790190	Ho low shaft	1
44	2590200	Complete pump head	1
44	2590210	Complete pump head	1
45	190130	Ball	1
46	1190130	Electric motor range	1

Legend		
Ø15	Ø15	Ø15
For □	For □	For □
XMA-SS10C10	XMA-SS10C10	XMA-SS1010

Perseverance

“Supposing you had tried and failed and failed and again. You may have a fresh start at any moment you choose, for this thing that we call “failure” is not the falling down, but the staying down.”

--Mary Pickford

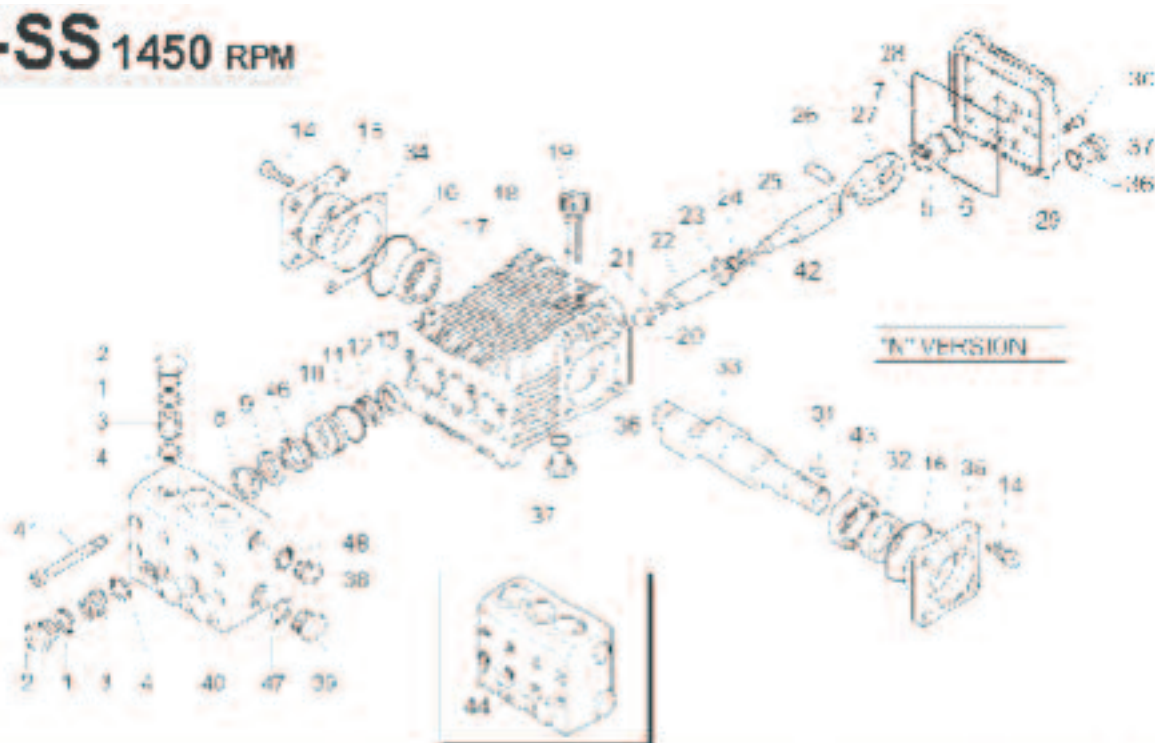
Repair Kits			
Wear Sails Kit 2144	Valves Kit 2147	Pistons Kit 2148	Oil Seals Kit 2147
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
6 1	3 2	23 2	0 3
7 1	4 2	24 2	18 2
12 1		25 1	30 1
33 1		26 2	41 1
		27 2	

Support Rings Kit 2140
Pos. Qty.
5 1

"Our task must be to free ourselves...by widening our circle of compassion to embrace all living creatures and the whole of nature and its beauty."

-- Albert Einstein

RK-SS 1450 RPM



Pos.	Code	Description	Qty.
1	980101	O-Ring	6
2	2340050	Valve cap (178 milles)	6
3	1300140	Seal water tap - tapered	1
4	2349050	Compressor valve	6
5	880831	O-Ring	6
6	1260430	Shimring	1
7	1260250	Oil sight glass	1
8	148050	O-Ring	1
9	660110	Scraping ring	3
10	880121	High pressure packing	3
11	2340140	Piston guide	3
12	981211	O-Ring	3
13	880131	Low pressure seal	3
14	880520	Oil seal	3
15	2340011	Complete side cover	1
16	660030	O-Ring	2
17	2280240	Bearing	1
18	2340250	Pump housing	1
19	880130	Oil cap	1
20	2340050	Nut (106 milles)	3
21	2340230	Wash bolt	3
22	1380230	Piston	3
23	2540110	Slinger	3
24	480487	O-Ring	3
25	2010070	Guiding pin	3
26	1480000	Piston pin	3
27	1380420	Bronze cam rod	3
28	1780810	O-Ring	1
29	2340110	Camshaft cover	1
30	2340250	Bolt (39 milles)	6
31	1380120	Key	1
32	180040	Oil seal	1
33	2280100	Crankshaft	1
34	2280090	Crankshaft	1
35	2280080	Crankshaft	1
36	1380910	Ø 30 mm shim	1-3
37	1380120	Ø 10 mm shim	1-3
38	1380130	Ø 20 mm shim	1-3
39	1380530	Ø 25 mm shim	1-3
40	2340250	Cover bearing cap Ø 17 mm	1
41	740190	O-Ring	2

Pos.	Code	Description	Qty.
37	2340350	Roller plug	2
38	2540680	Plug 1/8" NPT	1
39	2340360	Plug 3/8" NPT	1
40	2340340	Plug 1/2" NPT	1
41	2340360	Plug 1-20	1
42	2340320	Complete pump tool NPT	1
43	2340320	Complete pump head C	1
44	1380440	Injection (Ø 17 milles)	1
45	2540190	Ring	3
46	340010	Washer	1
47	2340200	Flange assembly NPT	1
48	2340200	Flange assembly C	1
49	2340310	Roller pin	1
50	180100	O-Ring	1
51	234020	Washer	1

Legend		
Ø18	Ø18	Ø18
For Ø	For □	For *
RR-SS15 11	RR-SS15 17	RR-SS15 13

Repair Kits			
Water Seal Kit 2410	Valve Kit 2414	Pistons Kit 2417	Oil Seal Kit 2420
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
9 3	3 1	21 3	13 3
11 3	4 6	21 3	16 2
12 3		22 3	18 1
46 3		23 3	19 1
		24 3	
		25 3	

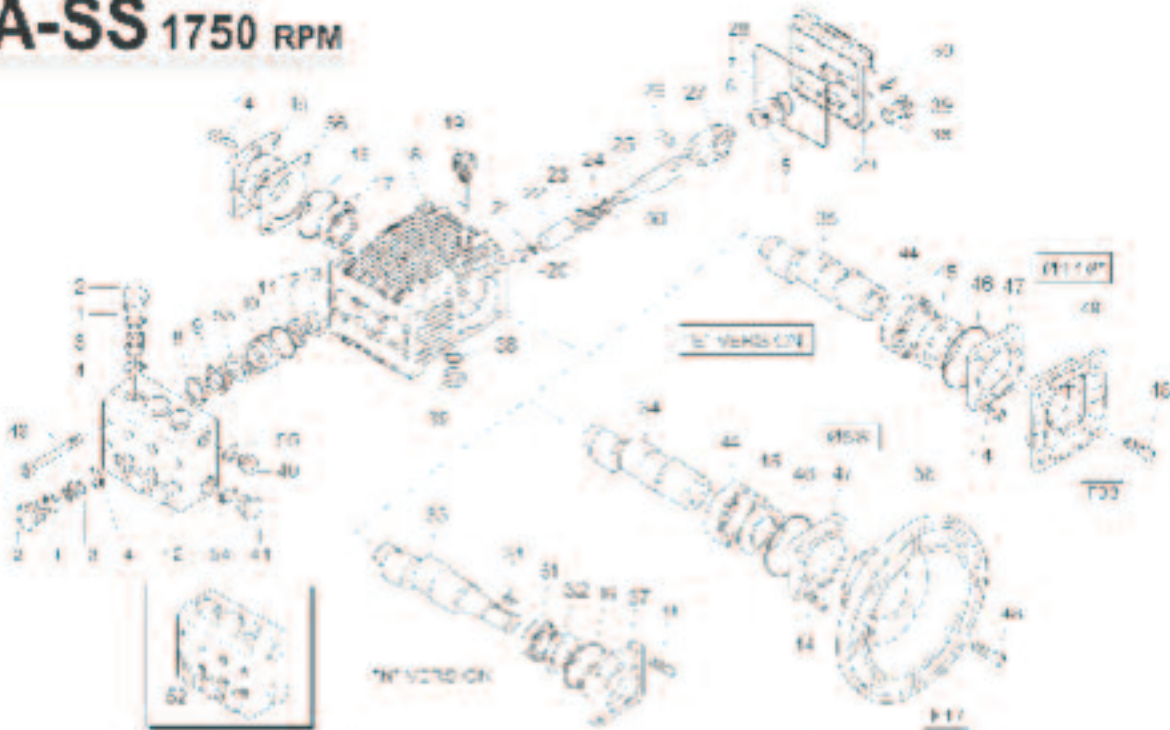
Support Rings Kit 2421	
Pos. Qty.	
5 3	

Love begins with a smile, grows with a smile and ends with a tear. The brightest future will always be based on a forgotten past, you can't go on well in life until you let go of your past failures and heartaches.

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"We call them dumb animals, and so they are, for they cannot tell us how they feel, but they do not suffer less because they have no words." -- Anna Sewall, Black Beauty, 1877

RKA-SS 1750 RPM



Pos.	Code	Description	Qty.
1	101.101	O-Ring	1
2	2010030	Valve cap (478 milles)	6
3	2010050	Complete valve	6
4	61063	O-Ring	6
5	1210430	Snap ring	1
6	1210250	Oil sight glass	1
7	1104050	O-Ring	1
8	663110	Support ring	2
9	301.321	High pressure packing	3
10	230140	Piston guard	1
11	901211	O-Ring	5
12	101.011	Low pressure seal	2
13	610620	Oil seal	5
14	230100	Roller (217 milles)	2
15	2301011	Complete roller coat	1
16	610030	O-Ring	2
17	2201040	Bearing	1
18	2010250	Pump housing	1
19	801.130	Oil cap	1
20	2010050	Val (138 milles)	3
21	2010250	Washer	3
22	1.01.230	Piston	1
23	2512110	Slinger	3
24	401402	O-Ring	3
25	2010070	Guiding piston	3
26	1301000	Piston pin	3
27	1301000	Brass collar	3
28	1710610	O-Ring	1
29	2010010	Complete motor	1
30	2010250	Bolt (89 milles)	2
31	1301020	Key	1
32	110340	Oil seal	1
33	2210130	Crankshaft	1
34	2210100	Crankshaft	1
35	2210600	Crankshaft	1
36	2210100	Crankshaft	1
37	2210220	Hollow shaft Ø5/8"	1
38	2210010	Hollow shaft Ø5/8"	1
39	2210520	Hollow shaft Ø5/8"	1
40	2210630	Hollow shaft Ø5/8"	1

Pos.	Code	Description	Qty.
41	2210540	Hollow shaft Ø1.18"	1
42	2210260	Hollow shaft Ø1.18"	1
43	2210500	Hollow shaft Ø1.18"	1
44	2210200	Hollow shaft Ø1.18"	1
45	130212	0.00 milles shim	1-5
46	1301120	0.10 milles shim	1-3
47	1301130	0.20 milles shim	1-5
48	1301050	0.20 milles shim	1-5
49	2302000	Open cooling cap (217 milles)	1
50	180200	Gasket	2
51	2301000	WPC Gasket	2
52	2301000	Plug ØENPT	1
53	2301000	Plug ØENPT	1
54	2301000	Plug ØENPT	1
55	2301000	Plug ØENPT	1
56	2301000	Plug ØENPT	1
57	2301000	Plug ØENPT	1
58	2301000	Plug ØENPT	1
59	2301000	Plug ØENPT	1
60	2301000	Plug ØENPT	1
61	2301000	Plug ØENPT	1
62	2301000	Plug ØENPT	1
63	2301000	Plug ØENPT	1
64	2301000	Plug ØENPT	1
65	2301000	Plug ØENPT	1
66	2301000	Plug ØENPT	1
67	2301000	Plug ØENPT	1
68	2301000	Plug ØENPT	1
69	2301000	Plug ØENPT	1
70	2301000	Plug ØENPT	1
71	2301000	Plug ØENPT	1

Legend

Ø 18 Ø 10

N Version

For For

RKA-SS1.10-15 RKA-SS1.10-11

For For

RKA-SS1.20-15 RKA-SS1.20-15

E Version Ø5/8"

For For

RKA-SS1.10-15 RKA-SS1.10-11

For For

RKA-SS1.20-15 RKA-SS1.20-15

E Version Ø1.18"

For For

RKA-SS1.30-15 RKA-SS1.30-11

For For

RKA-SS1.20-15 RKA-SS1.20-15

Repair Kits

Water Seals	Valves	Pistons	Oil Seals
Kit 2510-10	Kit 2510-14	Kit 2510-17	Kit 2529-10
Pos. Qty.	Pos. Qty.	Pos. Qty.	Pos. Qty.
12 3	3 6	23 8	16 3
14 3	4 6	24 3	19 2
15 2		25 2	21 1
21 3		26 3	28 1
		27 3	31 1
		70 3	32 1

Support Rings

K: 1825

Pos. Qty.

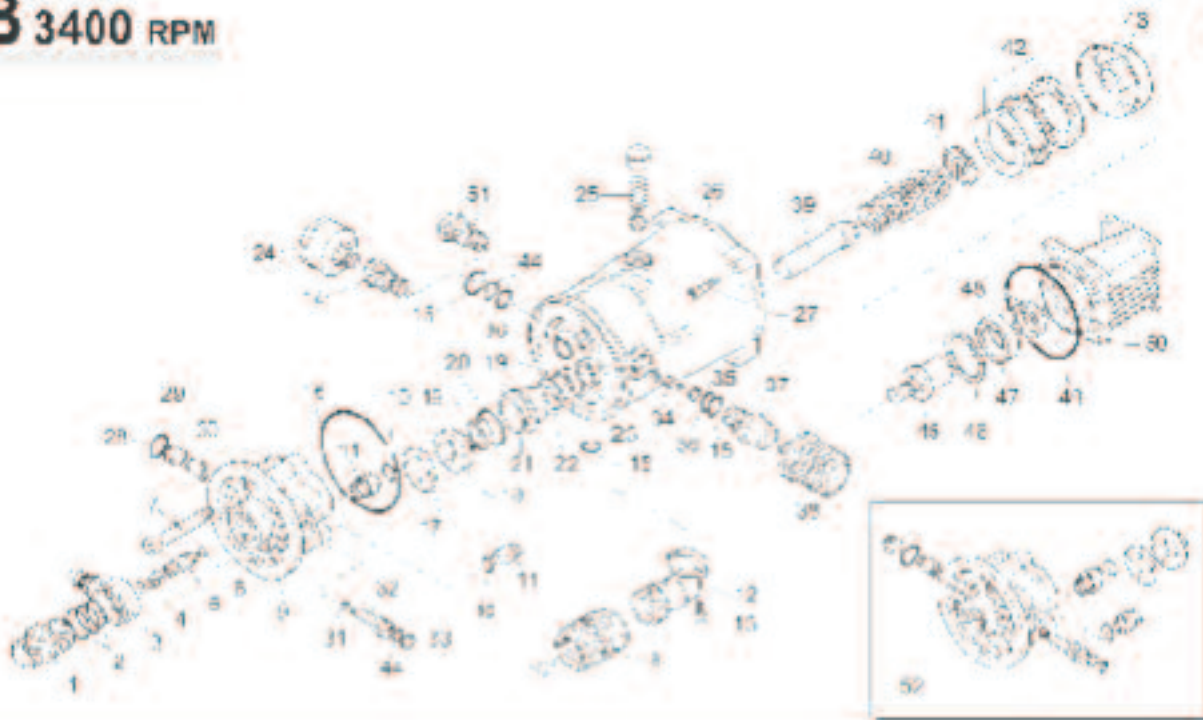
11 3

The manner in which it is given, is worth more than the gift.

--Pierre Corneille

"Cat bathing is a martial art."

XB 3400 RPM



Pos.	Code	Description	Qty.	Pos.	Code	Description	Qty.
1	1400400	Outer ring	1	40	1481140	Washer plate	1
2	770870	O-Ring	5	41	1280250	C-Ring	2
3	1400040	Flow gov adapt comp	1	42	1483350	No lock shaft	1
4	150140	Spring	1	43	801670	Circ pl	1
5	1400200	Piston	1	47	1460210	Bearing	1
6	1400430	O-ring	1	48	1461300	Seal	1
7	800080	Ball	5	49	1461300	C-Ring	1
8	20000	Section ring	1	50	1483350	Flange 3" version	1
9	1480020	Pump main fold	1	51	1480200	No gauge top	1
10	800080	O-Ring	6	52	1483300	Head pre-assembly	1
11	1480050	Wear	6				
12	1480900	Suction ring	1				
13	480420	Ring	2				
14	1480210	Pressure gauge fitting	1				
15	770790	O-Ring	3				
16	1480420	O-ring	1				
17	1401100	Disc	5				
18	1400040	Suspension ring	2				
19	1480480	Gasket C	2				
20	690370	O-Ring	2				
21	1480407	Piston guide	1				
22	770130	O-Ring	1				
23	1480110	Seal	1				
24	3225	Pressure gauge	1				
25	1481410	Evacuation cap compl	1				
26	1480011	Anodized pump body	1				
27	1080370	Ring	4				
28	1480440	O-Ring	1				
29	1480180	Seal	1				
30	1480150	Lower piston	1				
31	1080180	O-Ring	1				
32	1480140	Upper piston	1				
33	1080401	Ring	1				
34	1400100	Spring	1				
35	1480220	Plate	1				
36	1480720	O-Ring	4				
37	1480170	Spring guide	1				
38	1480110	Control knob	1				
39	1470730	Piston	3				
40	1480250	Spring	1				
41	1480120	Spring plate	5				
42	1480010	Kit	1				

Legend

For AR2015 For AR310

"My father used to play with my brother and me in the yard. Mother would come out and say, "You're tearing up the grass."
 "We're not raising grass," Dad would reply, "we're raising boys."

Repair Kits

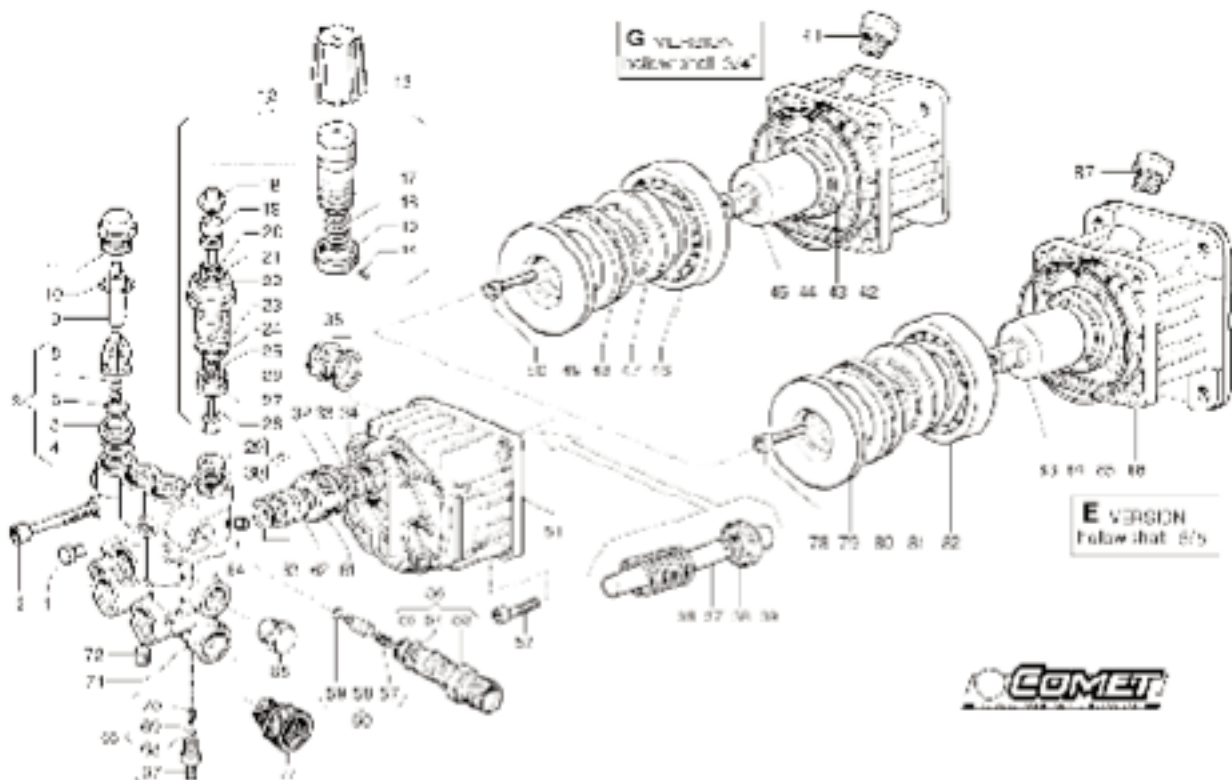
Wear Sets	Valves	Pistons	O-Rings				
Kit 234F	Kit 1640	Kit 2700	Kit 082				
Pos.	Qty.	Pos.	Qty.	Pos.	Qty.	Pos.	Qty.
13	5	10	5	39	3	2	3
23	3	11	5			6	1
27	3					7	1
						16	1
						28	3
						31	1
						35	1
						36	4
						11	2

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"A poor man between two lawyers is like a fish between two cats."

-- Unknown

AXD



ITEM	PART No.	QTY	DESCRIPTION	QTY	REMARKS
1	20700570	1	VALVE	-	
2	20700580	1	VALVE SEAT	-	
3	20700590	1	VALVE KEYS	-	
4	20700600	1	VALVE SPRING	-	
5	20700610	1	VALVE SPRING	-	
6	20700620	1	VALVE SPRING	-	
7	20700630	1	VALVE SPRING	-	
8	20700640	1	VALVE SPRING	-	
9	20700650	1	VALVE SPRING	-	
10	20700660	1	VALVE SPRING	-	
11	20700670	1	VALVE SPRING	-	
12	20700680	1	VALVE SPRING	-	
13	20700690	1	VALVE SPRING	-	
14	20700700	1	VALVE SPRING	-	
15	20700710	1	VALVE SPRING	-	
16	20700720	1	VALVE SPRING	-	
17	20700730	1	VALVE SPRING	-	
18	20700740	1	VALVE SPRING	-	
19	20700750	1	VALVE SPRING	-	
20	20700760	1	VALVE SPRING	-	
21	20700770	1	VALVE SPRING	-	
22	20700780	1	VALVE SPRING	-	
23	20700790	1	VALVE SPRING	-	
24	20700800	1	VALVE SPRING	-	
25	20700810	1	VALVE SPRING	-	
26	20700820	1	VALVE SPRING	-	
27	20700830	1	VALVE SPRING	-	
28	20700840	1	VALVE SPRING	-	
29	20700850	1	VALVE SPRING	-	
30	20700860	1	VALVE SPRING	-	
31	20700870	1	VALVE SPRING	-	
32	20700880	1	VALVE SPRING	-	
33	20700890	1	VALVE SPRING	-	
34	20700900	1	VALVE SPRING	-	
35	20700910	1	VALVE SPRING	-	
36	20700920	1	VALVE SPRING	-	
37	20700930	1	VALVE SPRING	-	
38	20700940	1	VALVE SPRING	-	
39	20700950	1	VALVE SPRING	-	
40	20700960	1	VALVE SPRING	-	
41	20700970	1	VALVE SPRING	-	
42	20700980	1	VALVE SPRING	-	
43	20700990	1	VALVE SPRING	-	
44	20701000	1	VALVE SPRING	-	
45	20701010	1	VALVE SPRING	-	
46	20701020	1	VALVE SPRING	-	
47	20701030	1	VALVE SPRING	-	
48	20701040	1	VALVE SPRING	-	
49	20701050	1	VALVE SPRING	-	
50	20701060	1	VALVE SPRING	-	
51	20701070	1	VALVE SPRING	-	
52	20701080	1	VALVE SPRING	-	
53	20701090	1	VALVE SPRING	-	
54	20701100	1	VALVE SPRING	-	
55	20701110	1	VALVE SPRING	-	
56	20701120	1	VALVE SPRING	-	
57	20701130	1	VALVE SPRING	-	
58	20701140	1	VALVE SPRING	-	
59	20701150	1	VALVE SPRING	-	
60	20701160	1	VALVE SPRING	-	
61	20701170	1	VALVE SPRING	-	
62	20701180	1	VALVE SPRING	-	
63	20701190	1	VALVE SPRING	-	
64	20701200	1	VALVE SPRING	-	
65	20701210	1	VALVE SPRING	-	
66	20701220	1	VALVE SPRING	-	
67	20701230	1	VALVE SPRING	-	
68	20701240	1	VALVE SPRING	-	
69	20701250	1	VALVE SPRING	-	
70	20701260	1	VALVE SPRING	-	
71	20701270	1	VALVE SPRING	-	
72	20701280	1	VALVE SPRING	-	
73	20701290	1	VALVE SPRING	-	
74	20701300	1	VALVE SPRING	-	
75	20701310	1	VALVE SPRING	-	
76	20701320	1	VALVE SPRING	-	
77	20701330	1	VALVE SPRING	-	
78	20701340	1	VALVE SPRING	-	
79	20701350	1	VALVE SPRING	-	
80	20701360	1	VALVE SPRING	-	
81	20701370	1	VALVE SPRING	-	
82	20701380	1	VALVE SPRING	-	
83	20701390	1	VALVE SPRING	-	
84	20701400	1	VALVE SPRING	-	
85	20701410	1	VALVE SPRING	-	
86	20701420	1	VALVE SPRING	-	
87	20701430	1	VALVE SPRING	-	

ITEM	PART No.	QTY	DESCRIPTION	QTY	REMARKS
1	20701440	1	VALVE SPRING	-	
2	20701450	1	VALVE SPRING	-	
3	20701460	1	VALVE SPRING	-	
4	20701470	1	VALVE SPRING	-	
5	20701480	1	VALVE SPRING	-	
6	20701490	1	VALVE SPRING	-	
7	20701500	1	VALVE SPRING	-	
8	20701510	1	VALVE SPRING	-	
9	20701520	1	VALVE SPRING	-	
10	20701530	1	VALVE SPRING	-	
11	20701540	1	VALVE SPRING	-	
12	20701550	1	VALVE SPRING	-	
13	20701560	1	VALVE SPRING	-	
14	20701570	1	VALVE SPRING	-	
15	20701580	1	VALVE SPRING	-	
16	20701590	1	VALVE SPRING	-	
17	20701600	1	VALVE SPRING	-	
18	20701610	1	VALVE SPRING	-	
19	20701620	1	VALVE SPRING	-	
20	20701630	1	VALVE SPRING	-	
21	20701640	1	VALVE SPRING	-	
22	20701650	1	VALVE SPRING	-	
23	20701660	1	VALVE SPRING	-	
24	20701670	1	VALVE SPRING	-	
25	20701680	1	VALVE SPRING	-	
26	20701690	1	VALVE SPRING	-	
27	20701700	1	VALVE SPRING	-	
28	20701710	1	VALVE SPRING	-	
29	20701720	1	VALVE SPRING	-	
30	20701730	1	VALVE SPRING	-	
31	20701740	1	VALVE SPRING	-	
32	20701750	1	VALVE SPRING	-	
33	20701760	1	VALVE SPRING	-	
34	20701770	1	VALVE SPRING	-	
35	20701780	1	VALVE SPRING	-	
36	20701790	1	VALVE SPRING	-	
37	20701800	1	VALVE SPRING	-	
38	20701810	1	VALVE SPRING	-	
39	20701820	1	VALVE SPRING	-	
40	20701830	1	VALVE SPRING	-	
41	20701840	1	VALVE SPRING	-	
42	20701850	1	VALVE SPRING	-	
43	20701860	1	VALVE SPRING	-	
44	20701870	1	VALVE SPRING	-	
45	20701880	1	VALVE SPRING	-	
46	20701890	1	VALVE SPRING	-	
47	20701900	1	VALVE SPRING	-	
48	20701910	1	VALVE SPRING	-	
49	20701920	1	VALVE SPRING	-	
50	20701930	1	VALVE SPRING	-	
51	20701940	1	VALVE SPRING	-	
52	20701950	1	VALVE SPRING	-	
53	20701960	1	VALVE SPRING	-	
54	20701970	1	VALVE SPRING	-	
55	20701980	1	VALVE SPRING	-	
56	20701990	1	VALVE SPRING	-	
57	20702000	1	VALVE SPRING	-	
58	20702010	1	VALVE SPRING	-	
59	20702020	1	VALVE SPRING	-	
60	20702030	1	VALVE SPRING	-	
61	20702040	1	VALVE SPRING	-	
62	20702050	1	VALVE SPRING	-	
63	20702060	1	VALVE SPRING	-	
64	20702070	1	VALVE SPRING	-	
65	20702080	1	VALVE SPRING	-	
66	20702090	1	VALVE SPRING	-	
67	20702100	1	VALVE SPRING	-	
68	20702110	1	VALVE SPRING	-	
69	20702120	1	VALVE SPRING	-	
70	20702130	1	VALVE SPRING	-	
71	20702140	1	VALVE SPRING	-	
72	20702150	1	VALVE SPRING	-	
73	20702160	1	VALVE SPRING	-	
74	20702170	1	VALVE SPRING	-	
75	20702180	1	VALVE SPRING	-	
76	20702190	1	VALVE SPRING	-	
77	20702200	1	VALVE SPRING	-	
78	20702210	1	VALVE SPRING	-	
79	20702220	1	VALVE SPRING	-	
80	20702230	1	VALVE SPRING	-	
81	20702240	1	VALVE SPRING	-	
82	20702250	1	VALVE SPRING	-	
83	20702260	1	VALVE SPRING	-	
84	20702270	1	VALVE SPRING	-	
85	20702280	1	VALVE SPRING	-	
86	20702290	1	VALVE SPRING	-	
87	20702300	1	VALVE SPRING	-	

E Version (hollow shaft 5/8")

ITEM	PART No.	QTY	DESCRIPTION	QTY	REMARKS
1	20702310	1	VALVE SPRING	-	
2	20702320	1	VALVE SPRING	-	
3	20702330	1	VALVE SPRING	-	
4	20702340	1	VALVE SPRING	-	
5	20702350	1	VALVE SPRING	-	
6	20702360	1	VALVE SPRING	-	
7	20702370	1	VALVE SPRING	-	
8	20702380	1	VALVE SPRING	-	
9	20702390	1	VALVE SPRING	-	
10	20702400	1	VALVE SPRING	-	
11	20702410	1	VALVE SPRING	-	
12	20702420	1	VALVE SPRING	-	
13	20702430	1	VALVE SPRING	-	
14	20702440	1	VALVE SPRING	-	
15	20702450	1	VALVE SPRING	-	
16	20702460	1	VALVE SPRING	-	
17	20702470	1	VALVE SPRING	-	
18	20702480	1	VALVE SPRING	-	
19	20702490	1	VALVE SPRING	-	
20	20702500	1	VALVE SPRING	-	
21	20702510	1	VALVE SPRING	-	
22	20702520	1	VALVE SPRING	-	
23	20702530	1	VALVE SPRING	-	
24	20702540	1	VALVE SPRING	-	
25	20702550	1	VALVE SPRING	-	
26	20702560	1	VALVE SPRING	-	
27	20702570	1	VALVE SPRING	-	
28	20702580	1	VALVE SPRING	-	
29	20702590	1	VALVE SPRING	-	
30	20702600	1	VALVE SPRING	-	
31	20702610	1	VALVE SPRING	-	
32	20702620	1	VALVE SPRING	-	
33	20702630	1	VALVE SPRING	-	
34	20702640	1	VALVE SPRING	-	
35	20702650	1	VALVE SPRING	-	
36	20702660	1	VALVE SPRING	-	
37	20702670	1	VALVE SPRING	-	
38	20702680	1	VALVE SPRING	-	
39	20702690	1	VALVE SPRING	-	
40	20702700	1	VALVE SPRING	-	
41	20702710	1	VALVE SPRING	-	
42	20702720	1	VALVE SPRING	-	
43	20702730	1	VALVE SPRING	-	
44	20702740	1	VALVE SPRING	-	
45	20702750	1	VALVE SPRING	-	
46	20702760	1	VALVE SPRING	-	
47	20702770	1	VALVE SPRING	-	
48	20702780	1	VALVE SPRING	-	
49	20702790	1	VALVE SPRING	-	
50	20702800	1	VALVE SPRING	-	
51	20702810	1	VALVE SPRING	-	
52	20702820	1	VALVE SPRING	-	
53	20702830	1	VALVE SPRING	-	
54	20702840	1	VALVE SPRING	-	
55	20702850	1	VALVE SPRING	-	
56	20702860	1	VALVE SPRING	-	
57	20702870	1	VALVE SPRING	-	
58	20702880	1	VALVE SPRING	-	
59	20702890	1	VALVE SPRING	-	
60	20702900	1	VALVE SPRING	-	
61	20702910	1	VALVE SPRING	-	
62	20702920	1	VALVE SPRING	-	
63	20702930	1	VALVE SPRING	-	
64	20702940	1	VALVE SPRING	-	
65	20702950	1	VALVE SPRING	-	
66	20702960	1	VALVE SPRING	-	
67	20702970	1	VALVE SPRING	-	


"A dog teaches a boy fidelity, perseverance, and to turn around three times before lying down."
 -- Robert Benchley

G Version -(hollow shaft 3/4")

ITEM	PART No.	KIT	DESCRIPTION	Qty	MODELS
41	825C.0371.00		FLIC. GNR	-	
42	825C.0372.00		SHFT. GNR	-	
43	825C.0374.00	D	SEALING RING. 4025562	-	
44	21C.0425.00	D	O RING	-	
45	825C.0375.00		ECCENTRIC SHFT. 3/4"	-	
46	825C.0376.00		DR. F. H. WRING. 4025562. 3/4"	-	
47	825C.0419.00		ECCENTRIC SHFT. 3/4"	-	5025 D
	825C.0420.00		ECCENTRIC SHFT. 3/4"	-	5025 S
	825C.0417.00		ECCENTRIC SHFT. 3/4"	-	5025 B
	825C.0418.00		ECCENTRIC SHFT. 3/4"	-	5025 C
48	8426.0016.00		AXIAL BEARING	1	5025 D - 5025 S 5025 B
	8426.0018.00		AXIAL BEARING	-	5025 C
49	2510.0322.00		1.30.13. 1.30.13	-	
50	2510.0323.00		1.30.13. 1.30.13	-	

PISTON SEAL KIT
 100 bar - 5019.0077.00 - 80 bar - 5019.0078.00

KIT B



5019.0077.00			5019.0078.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
32	1210.0356.00	3	32	1210.0356.00	3
33	1210.0359.00	2	33	1210.0359.00	2
82	0334.0230.00	5	82	0334.0230.00	5
81	1210.0355.00	3	81	1241.0058.00	3

TEMPERATURE SENSITIVITY KIT
 5025.0014.00


KIT A



5025.0014.00		
ITEM	PART No.	Qty.
4	1210.0049.00	2
5	2008.0151.00	3
6	8056.0028.00	5
7	8020.0162.00	2
8	1208.0002.00	3
10	1210.0361.00	8

PISTON KIT
 Ø 14 mm 2408.0012.00

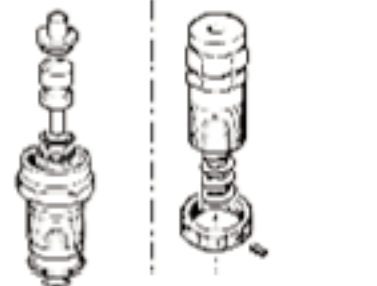
KIT C



2408.0012.00		
ITEM	PART No.	Qty.
37	2408.0035.00	3
38	0089L.0211.00	2
39	0089L.0211.00	3


OVERHAUL KIT
 3025 x 1.5 5026.0142.00
 3/8" NPT 5026.0143.00

KIT E



SEAL KIT
 5019.0079.00

KIT D



MAINTENANCE KIT
 5025.0144.00

KIT F



5026.0142.00			5026.0143.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
14	3622.0030.00	1	14	3622.0030.00	1
15	1247.0022.00	1	15	1247.0022.00	1
16	1202.0160.00	1	16	1202.0160.00	1
17	0304.0048.00	1	17	0304.0048.00	1
18	0005.0207.00	1	18	0005.0207.00	1
19	2405.0177.00	1	19	2405.0177.00	1
20	1210.0406.00	1	20	1210.0406.00	1
21	0005.0206.00	1	21	0005.0206.00	1
22	0304.0048.00	1	22	0304.0048.00	1
23	1210.0406.00	1	23	1210.0406.00	1
24	1210.0405.00	1	24	1210.0405.00	1
25	0005.0206.00	1	25	0005.0206.00	1
26	1210.0406.00	1	26	1210.0406.00	1
27	0005.0204.00	1	27	0005.0204.00	1
28	3002.0006.00	1	28	3002.0006.00	1
29	2005.0122.00	1	29	2005.0122.00	1
30	1210.0406.00	1	30	1210.0406.00	1
53	3410.0205.00	1	53	3410.0205.00	1
54	1210.0408.00	1	54	1210.0408.00	1
55	1210.0406.00	1	55	1210.0406.00	1
57	1802.0107.00	1	57	1802.0107.00	1
58	2405.0036.00	1	58	2405.0036.00	1
59	1210.0357.00	1	59	1210.0357.00	1

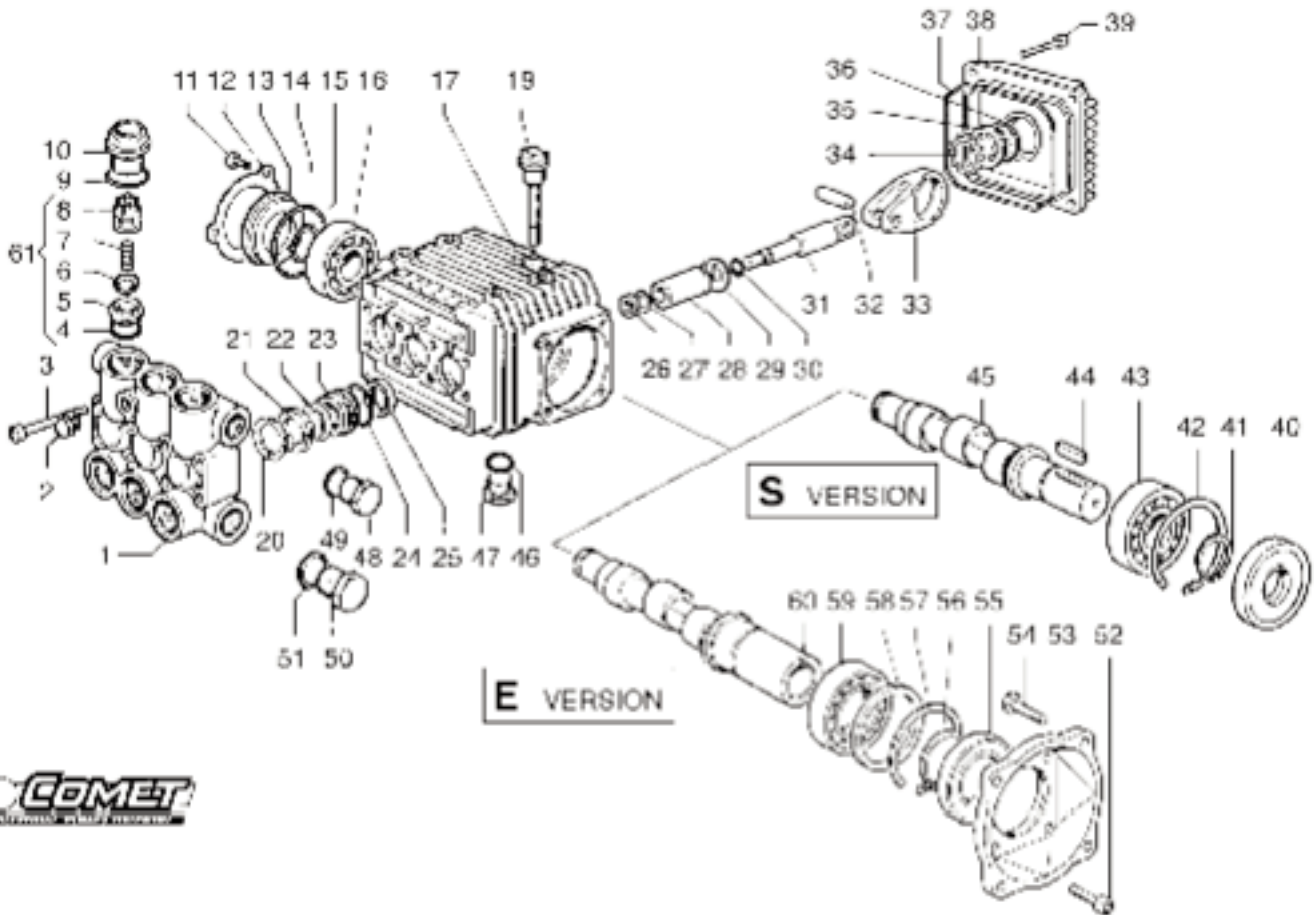
5019.0079.00		
ITEM	PART No.	Qty.
4	1210.0049.00	C
50	1210.0151.00	F
32	1210.0356.00	3
34	0334.0230.00	3
43	0334.0230.00	1
44	1210.0328.00	1
54	1210.0358.00	1

5025.0144.00		
ITEM	PART No.	Qty.
19	2405.0077.00	1
20	1210.0405.00	1
21	0005.0205.00	1
23	1210.0407.00	1
24	1210.0405.00	1
25	0005.0205.00	1
26	1210.0406.00	1
27	0005.0204.00	1
28	3002.0006.00	1
29	2005.0122.00	1
30	1210.0405.00	1
54	1210.0408.00	1
55	1210.0406.00	1
59	1210.0357.00	1

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"If I have any beliefs about immortality, it is that certain dogs I have known will go to heaven, and very, very few persons." -- James Thurber

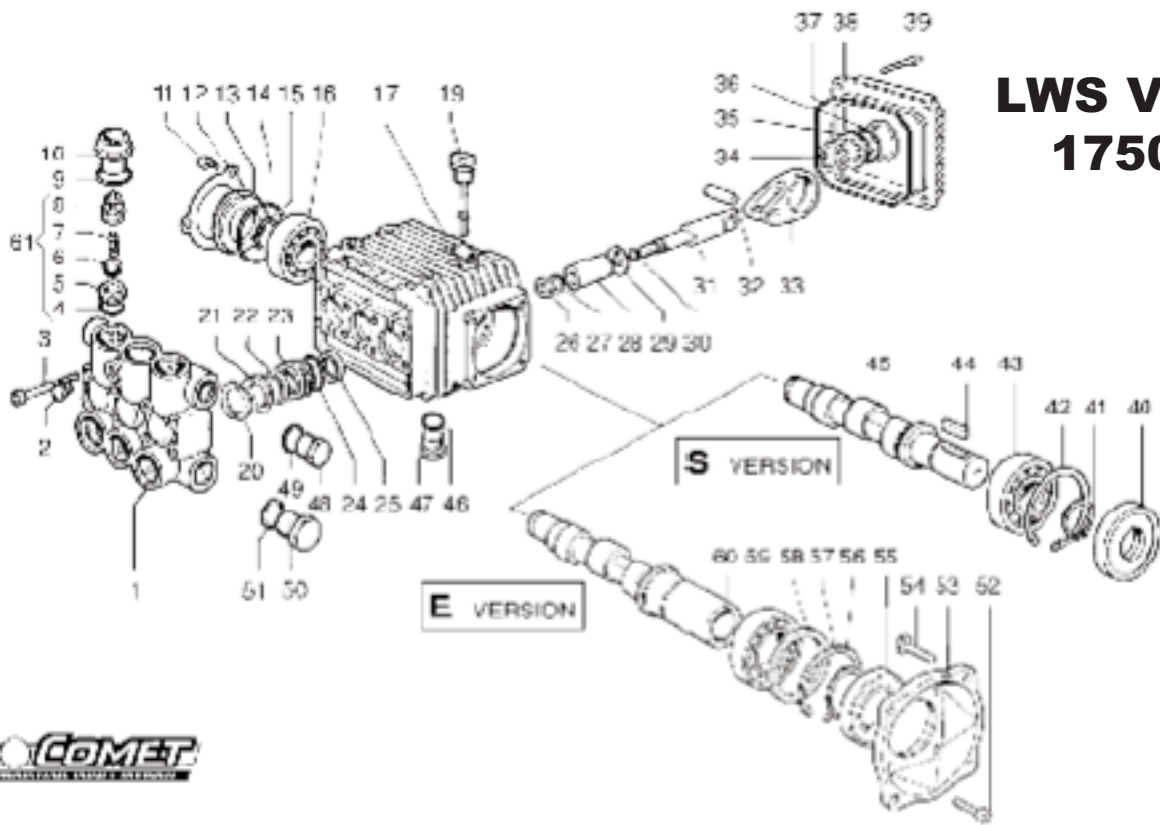
LW VERSION - 1450 RPM



ITEM	PART No.	KIT	DESCRIPTION	Qty	MOOD'S	
1	0218.0106.00		MANIFOLD Ø 18 mm ALUM.	1	0510 E - 0416 E 0515 S - 0411 E	
	0218.0106.00		MANIFOLD Ø 10 mm ALUM.	1	0510 E - 0413 E	
	0218.0107.00		MANIFOLD Ø 18 mm BRASS	1	0510 E - 0416 E 0509 E - 0426 E 0510 E - 0413 E 0517 E - 0426 E 0520 E	
	0218.0108.00		MANIFOLD Ø 10 mm BRASS	1	0510 E - 0419 E 0509 E - 0411 E	
2	0202.0018.00		CAF Ø 8	1		
3	0508.0100.00		SCREW HEXES	5	0515 E - 0415 E 0520 E - 0420 E 0515 E - 0416 E 0520 E - 0417 E 0515 E - 0411 E 0520 E	
	0508.0102.00		SCREW HEXES	5	0520 E - 0420 E	
	4	1210.0010.00	A	O-RING 7,62X7,62 mm	3	
	5	0300.0017.00	A	VALVE SEAT	3	
6	0304.0017.00	A	VALVE PLATE	6		
7	1502.0177.00	A	SPRING	6		
8	1505.0015.00	A	VALVE LEVER	3		
9	1210.0018.00	A/D	O-RING 2,52X2,52 mm	3		
10	0202.0105.00		CAF	6		
11	0508.0010.00		SCREW HEXES	3		
12	1200.0012.00		O-RING 10,16X10,16 mm	1		
13	0402.0172.00		SPACER	1		
14	1210.0020.00	D	O-RING 2,52X4,04 mm	1		
15	0508.0017.00		SCREW HEXES	1		
16	0438.0006.00		BALL BEARING 20X20X5 mm	1	0515 E - 0411 E 0520 E - 0420 E 0515 E - 0416 E 0520 E - 0417 E 0515 E - 0411 E 0520 E - 0420 E 0520 E	
	0438.0009.00		BALL BEARING 20X20X5 mm	1	0520 E - 0420 E	

ITEM	PART No.	KIT	DESCRIPTION	Qty	MOOD'S
17	0403.0125.00		SPRINGS	1	
19	0508.0017.00		O-RING 10,16X10,16 mm	1	
20	0508.0100.00	B	HEAD RING Ø 5 mm	3	0515 E - 0413 E 0509 E - 0426 E
	0508.0100.00	B	HEAD RING Ø 5 mm	3	0510 E - 0410 E 0510 E - 0416 E 0515 E - 0413 E 0517 E - 0426 E 0520 E
21	0518.0031.00	A	HEAD RING Ø 10 mm	3	0515 E - 0411 E 0520 E - 0420 E
	0518.0035.00	B	HEAD RING Ø 10 mm	3	0515 E - 0416 E 0520 E - 0420 E 0515 E - 0411 E 0517 E - 0426 E 0520 E
22	0518.0031.00	A	HEAD RING 15X20X5 mm	3	0515 E - 0411 E 0520 E - 0420 E
	0518.0035.00	B	HEAD RING 15X20X5 mm	3	0510 E - 0416 E 0520 E - 0417 E 0515 E - 0411 E 0520 E - 0420 E 0520 E
23	0508.0100.00		HEAD RING RETAINER Ø16 mm	3	0515 E - 0411 E 0520 E - 0420 E
	0508.0100.00		HEAD RING RETAINER Ø 16 mm	3	0520 E - 0417 E 0520 E - 0417 E 0515 E - 0411 E 0520 E - 0420 E 0520 E
24	1210.0020.00	B/D	O-RING 2,52X2,52 mm	3	
25	0518.0035.00	C	O-RING 10,16X10,16 mm	3	
26	0508.0017.00	C	NUT	3	
27	0518.0030.00	C	WASHER 8,2X14X 0,5 mm	3	

"I loathe people who keep dogs.
They are cowards who haven't got the guts to bite people themselves."
-- August Strindberg



LWS VERSION 1750 RPM



ITEM	PART No.	QTY	DESCRIPTION	QTY	MODELS
1	52 0.3168 3C	1	MANIFOLD 3 16 mm 500V	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	52 0.3168 3C	1	MANIFOLD 3 16 mm 500V	1	21 5 S - 2010 E
	52 0.3168 3C	1	MANIFOLD 3 16 mm 500V	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E 21 5 S - 2010 L
	52 0.3168 3C	1	MANIFOLD 3 16 mm 500V	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
2	5009.0078 3C	1	GASKET	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0108 3C	5	SCREW M6X55	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0122 3C	5	SCREW M6X55	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0078 3C	1	GASKET	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
3	5009.0108 3C	5	SCREW M6X55	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
4	12 0.3048 3C	5	O-RING 2.00X1.75X3 mm	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
5	5009.0078 3C	1	VALVE BEAT	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
6	5009.0078 3C	1	VALVE PLATE	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
7	1019.0177 3C	1	SHIM	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
8	1019.0177 3C	1	VALVE GUIDE	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
9	12 0.3048 3C	5	O-RING 2.00X1.75X3 mm	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
10	5009.0122 3C	5	SCREW	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
11	5009.0122 3C	5	SCREW	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
12	1004.01 2 3C	1	CRANKCASE COVER	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
13	5009.0122 3C	1	SCREW	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
14	17 0.3048 3C	1	O-RING 2.50X1.91X3 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
15	5009.0122 3C	1	SCREW	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
16	0418.0108 3C	1	3-LL. BEARING 20X32X15 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E 21 5 S - 2010 L
	0420.0008 3C	1	3-LL. BEARING 20X32X15 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E

ITEM	PART No.	QTY	DESCRIPTION	QTY	MODELS
17	5009.0122 3C	1	SCREW	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
18	5009.0122 3C	1	SCREW	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
20	5009.0122 3C	1	BEARING 20X32X15 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E 21 5 S - 2010 L
	5009.0122 3C	1	BEARING 20X32X15 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0122 3C	1	BEARING 20X32X15 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0122 3C	1	BEARING 20X32X15 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
21	1019.0177 3C	1	PACKING O-RING	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	1019.0177 3C	1	PACKING O-RING	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
22	1019.0177 3C	3	PACKING O-RING	3	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	1019.0177 3C	3	PACKING O-RING	3	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
23	5009.0122 3C	1	PACKING RETAINER O-RING	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0122 3C	1	PACKING RETAINER O-RING	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0122 3C	1	PACKING RETAINER O-RING	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
	5009.0122 3C	1	PACKING RETAINER O-RING	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
24	1019.0177 3C	5	O-RING 1.75X2.07 mm	5	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
25	5009.0122 3C	1	OIL SEAL 1.6X2.1X6 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
26	5009.0122 3C	1	OIL SEAL 1.6X2.1X6 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E
27	5009.0122 3C	1	WASHER 1.6X2.1X6 mm	1	21 5 S - 2010 E 21 5 S - 2010 L 21 5 S - 2010 E

"The difference between cats and dogs is, dogs come when they are called, cats take a message and get back to you." -- Unknown

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODEL S
31	0200.0210.00	H	PISTON RING 100mm	3	1000 S - 2010 S 2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S
	0200.0214.00	H	PISTON RING 100mm	3	1000 S - 2010 S 2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S
21	2012.0250.00	C	WASHER	2	
31	0200.0210.00	H	PISTON RING 100mm	3	
31	2020.0244.00		PISTON GUIDES	3	
31	0211.0214.00		GR 8" PIT	3	
31	0200.0210.00		CON. ROD	3	2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S
	0200.0250.00		CON. ROD	3	2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S
34	0210.0210.00		SNAP RING	-	
31	320.10910.00		CIL INDICATOR	-	
31	0200.0210.00	H	PISTON RING 100mm	3	
31	0210.0214.00	D	PISTON RING 100mm	3	
31	0200.0210.00		PISTON RING COVER	-	
31	0200.0210.00		SCREW WAXED	4	
41	0200.0210.00	H	PISTON RING 100mm	-	
41	0200.0210.00		SNAP RING COVER	-	
41	0200.0210.00		SNAP RING COVER	-	
41	0200.0210.00		WASHER 10x20x1.5mm	-	
51	0200.0210.00		SNAP RING	-	
51	0211.0214.00		WASHER 24x22x1.5mm	-	
61	0200.0210.00		SNAP RING, B.V.	6	

S version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODEL S
40	0200.0210.00	H	PISTON RING 100mm	3	
41	0200.0210.00		PISTON RING 100mm	3	
42	0200.0210.00		SNAP RING C72	1	
43	0200.0210.00		BALL BEARING 30x30x14mm	1	1000 S - 2010 S 2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S
	0200.0210.00		BALL BEARING 30x30x14mm	1	1000 S - 2010 S 2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S
44	0200.0210.00		KEY 5x7x20mm	1	
45	0200.0210.00		CRANK SHAFT 100mm	1	1000 S - 2010 S 2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S
	0200.0210.00		CRANK SHAFT 100mm	1	1000 S - 2010 S 2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S
	0200.0210.00		CRANK SHAFT 100mm	1	1000 S - 2010 S 2010 S - 2012 S 2012 S - 2014 S 2014 S - 2016 S 2016 S - 2018 S 2018 S - 2020 S 2020 S - 2022 S

F. version

ITEM	CODE	KIT	DESCRIZIONE	Q.TA	MODELLO
52	0200.0210.00		SCREW WAXED	1	
53	0200.0210.00		PISTON	1	
54	0200.0210.00		SCREW WAXED	4	
55	0200.0210.00		CIL SEAL 100x20x7mm	1	
56	0200.0210.00		SNAP RING C72	1	
57	0200.0210.00		SNAP RING C72	1	
58	0200.0210.00		WASHER	1	
59	0200.0210.00		BALL BEARING 30x30x14mm	1	
60	0200.0210.00		CRANK SHAFT 8"	1	

COMPLETE VALVE KIT
3025.0011.00

KIT A

3025.0011.00

ITEM	PART No.	Qty.
4	1210.0210.00	6
5	1114.0210.00	6
6	3024.0217.00	6
7	1020.0217.00	6
8	1200.0225.00	6
9	1110.0215.00	6

PISTON SEAL KIT
Ø 85mm 3019.0035.00 - Ø 88mm 3019.0047.00

KIT B

3019.0035.00			3019.0047.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
20	0200.0210.00	3	20	0200.0210.00	3
21	1041.0214.00	5	21	1041.0214.00	5
22	1041.0214.00	2	22	1041.0214.00	2
24	1110.0215.00	2	24	1110.0215.00	2

PISTON KIT
Ø 17mm 2409.0071.00 - Ø 14mm 2409.0072.00

KIT C

2409.0071.00			2409.0072.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
26	0200.0210.00	1	26	0200.0210.00	1
27	2011.0200.00	3	27	2011.0200.00	3
28	0200.0210.00	2	28	0200.0210.00	2
29	2012.0200.00	1	29	2012.0200.00	1
30	1210.0210.00	3	30	1210.0210.00	3

3019.0040.00

ITEM	PART No.	Qty.
4	1210.0210.00	6
8	1010.0210.00	6
14	1010.0210.00	1
24	1010.0210.00	3
28	1010.0210.00	2
30	1010.0210.00	2
36	1010.0210.00	1
37	1010.0210.00	1
40	1010.0210.00	1
46	1010.0210.00	1

3019.0041.00

ITEM	PART No.	Qty.
4	2110.0210.00	6
8	1210.0210.00	6
14	1210.0210.00	1
24	1210.0210.00	3
28	1210.0210.00	2
30	1210.0210.00	2
36	1210.0210.00	1
37	1210.0210.00	1
40	1210.0210.00	1
46	1210.0210.00	1

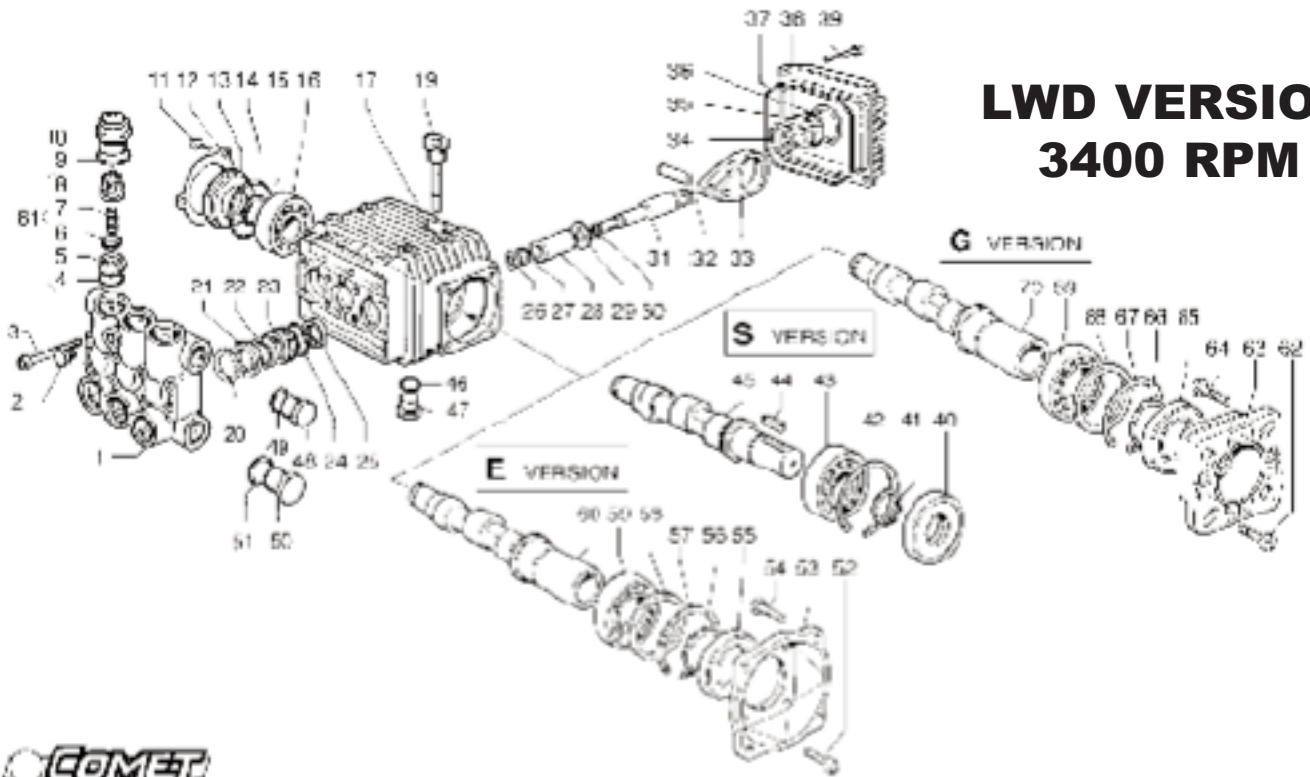
SOLE KIT
SOLID SHAFT 3019.0041.00
BOLT ON SHAFT 3019.0041.00

KIT D

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"A hungry dog hunts best."
 -- Lee Trevino, US golfer -- so sad - but true

LWD VERSION 3400 RPM



ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
1	2610000000		SCREW 2.0 mm ALU.	1	2110 G - 2110 E 2110 S - 2110 B 2110 G - 2110 F 2110 S - 2110 D
	3210000000		SCREW 2.0 mm BRASS	1	2110 B - 2110 E 2110 D - 2110 G 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D
2	3202000000		CAP G10	1	
3	3006000000		SCREW 10x50	1	2110 G - 2110 E 2110 S - 2110 B 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D
	3006010000		SCREW 10x60	1	2110 G - 2110 E 2110 S - 2110 B 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D 2110 G - 2110 F 2110 S - 2110 D
4	1110000000		CRANK 2122x47.47 mm	1	
5	3009000000		CRANK PIN	1	
6	3604000000		VALVE PLATE	1	
7	1802000000		SPRING	1	
8	1405000000		VALVE GUIDE	1	
9	1010000000		CRANK PIN 2122x47.47 mm	1	
10	3202010000		CAP	1	
11	3006000000		SCREW 10x50	1	
12	1010000000		CRANK PIN 2122x47.47 mm	1	
13	1802000000		SPRING	1	
14	1210000000		O RING 3.58x4.04 mm	1	
15	3010000000		SCREW 10	1	

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
16	3006000000		SCREW 10x50	1	2110 G - 2110 E 2110 S - 2110 B 2110 G - 2110 F 2110 S - 2110 D
	3006010000		SCREW 10x60	1	2110 G - 2110 E 2110 S - 2110 B 2110 G - 2110 F 2110 S - 2110 D
17	3006000000		SCREW 10x50	1	2110 G - 2110 E 2110 S - 2110 B 2110 G - 2110 F 2110 S - 2110 D
	3006010000		SCREW 10x60	1	2110 G - 2110 E 2110 S - 2110 B 2110 G - 2110 F 2110 S - 2110 D
18	3009000000		CRANK PIN	1	
19	3009000000		CRANK PIN	1	
20	3009000000		CRANK PIN	1	
21	3009000000		CRANK PIN	1	
22	3009000000		CRANK PIN	1	
23	3009000000		CRANK PIN	1	
24	3009000000		CRANK PIN	1	
25	3009000000		CRANK PIN	1	
26	3009000000		CRANK PIN	1	
27	3009000000		CRANK PIN	1	
28	3009000000		CRANK PIN	1	
29	3009000000		CRANK PIN	1	
30	3009000000		CRANK PIN	1	
31	3009000000		CRANK PIN	1	
32	3009000000		CRANK PIN	1	
33	3009000000		CRANK PIN	1	
34	3010000000		SCREW 10	1	

"Dogs are not our whole life, but they make our lives whole."
 -- Roger Caras

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
35	3251.0010.00		OIL INDICATOR	-	
36	1210.0073.00	D	O-RING 1.75X23.02 mm	1	
37	1210.0078.00	H	O-RING 1.8X30.12 mm	1	
38	04.2.0142.00		DRANKCASE COVER	-	
39	3505.0041.00		SCREW M6X20	4	
40	1210.0111.00	D	O-RING 25X14 mm	1	
41	3020.0077.00		SNAP RINGS 0154	1	
42	3210.0077.00		SNAP RINGS 0154	1	
43	3210.0077.00		SNAP RINGS 0154	1	
44	3210.0077.00		SNAP RINGS 0154	1	
45	2511.0054.00		WASHER 10.7X22X 1.5 mm	1	
46	3020.0077.00		SNAP RINGS 0154	1	
47	3020.0077.00		SNAP RINGS 0154	1	
48	3020.0077.00		SNAP RINGS 0154	1	
49	3020.0077.00		SNAP RINGS 0154	1	
50	3020.0077.00		SNAP RINGS 0154	1	
51	2511.0054.00		WASHER 10.7X22X 1.5 mm	1	
52	1210.0073.00		VALVE ASS. BLT	6	

E version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
62	3000.0032.00		SCREEN MESH	4	
63	4115.0115.00		PLATE	1	
64	3000.0032.00		SCREEN MESH	1	
65	3010.0075.00	D	OIL SEAL 35X22X 7 mm	1	
66	3010.0075.00		SNAP RING 072	1	
67	3020.0077.00		SNAP RING 072	1	
68	2512.0084.00		WASHER	1	
69	3410.0015.00		BALL BEARING 35X22X 4 mm	1	
70	3000.0032.00		CRANKSHAFT 50"	1	2011 E 3016 E 2020 E
	3000.0032.00		CRANKSHAFT 50"	1	2015 E 2015 L 3005 E

S version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
40	0310.0014.00	D	OIL SEAL 25X12X1.27 mm	1	
41	3010.0075.00		SNAP RING 072	1	
42	3010.0075.00		SNAP RING 072	1	
43	0410.0077.00		BALL BEARING 30X17 mm	1	3005 S + 3007 S 3020 S
	0410.0077.00		BALL BEARING 30X17 mm	1	2010 S + 2011 S 2020 S 3010 S 3015 S + 3020 S
44	1210.0073.00		O-RING 17X25 mm	1	
45	0310.0078.00		CRANKSHAFT 1.424 mm	1	1010 S + 2011 S 2020 S
	0310.0078.00		CRANKSHAFT 1.424 mm	1	3020 S
	0310.0078.00		CRANKSHAFT 1.424 mm	1	1010 S + 3011 S 3015 S + 3020 S 4000 S
	0310.0078.00		CRANKSHAFT 1.424 mm	1	
	0310.0078.00		CRANKSHAFT 1.424 mm	1	

G version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
63	3010.0075.00		PLATE	1	
64	3000.0032.00		SCREEN MESH 272X314"	4	
65	3010.0075.00	D	OIL SEAL 35X22X 7 mm	1	
66	3010.0075.00		SNAP RING 072	1	
67	3020.0077.00		SNAP RING 072	1	
68	2512.0084.00		WASHER	1	
69	3000.0032.00		CRANKSHAFT 50X214 mm	1	2011 G + 2015 G 2020 G + 2025 G 3011 G + 3015 G 3020 G + 3025 G
	3000.0032.00		CRANKSHAFT 50X214 mm	1	2020 G + 2025 G 3020 G + 4000 G
70	3000.0032.00		CRANKSHAFT 50"	1	2011 G + 2015 G 3020 G
	3000.0032.00		CRANKSHAFT 50"	1	3011 G + 3015 G 3020 G + 3025 G
	3000.0032.00		CRANKSHAFT 50"	1	3015 G + 3020 G
	3000.0032.00		CRANKSHAFT 50"	1	3020 G
	3000.0032.00		CRANKSHAFT 50"	1	3020 G + 3025 G

**COMPLETE VALVE KIT
5025.0011.00**

KIT A



ITEM	PART No.	Qty.
4	1210.0073.00	5
5	3000.0032.00	5
6	3004.0077.00	5
7	1002.0177.00	5
8	1205.0025.00	5
9	1210.0048.00	5

**PISTON SEAL KIT
Ø 15 mm 2019.0041.00**

KIT B

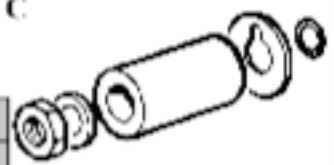


ITEM	PART No.	Qty.
20	3000.0032.00	1
21	1241.0054.00	3
22	1241.0030.00	3
24	1210.0073.00	1

5019.0040.00			5019.0041.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
4	210.0040.00	5	4	1210.0040.00	5
8	1210.0040.00	5	8	1210.0040.00	5
14	1210.0054.00	1	14	1210.0054.00	1
24	210.0023.00	3	24	1210.0023.00	3
25	0010.0050.00	5	25	0010.0050.00	5
30	1210.0054.00	5	30	1210.0054.00	5
36	1210.0055.00	1	36	1210.0055.00	1
37	1210.0050.00	1	37	1210.0050.00	1
48	0010.0054.00	1	48	1210.0041.00	1
46	210.0441.00	1	55-65	0010.0075.00	1

**PISTON KIT
Ø 15 mm 2009.0071.00**

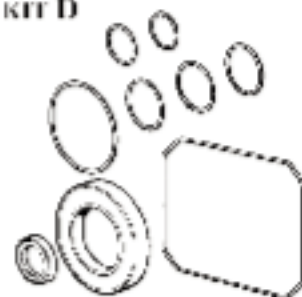
KIT C



ITEM	PART No.	Qty.
26	0600.0048.00	3
27	1211.0050.00	3
28	1210.0041.00	3
29	2210.0038.00	3
30	1210.0050.00	3

**SCALP KIT
SOLID SHAFT 5019.0041.00
HOLLOW SHAFT 5019.0041.00**

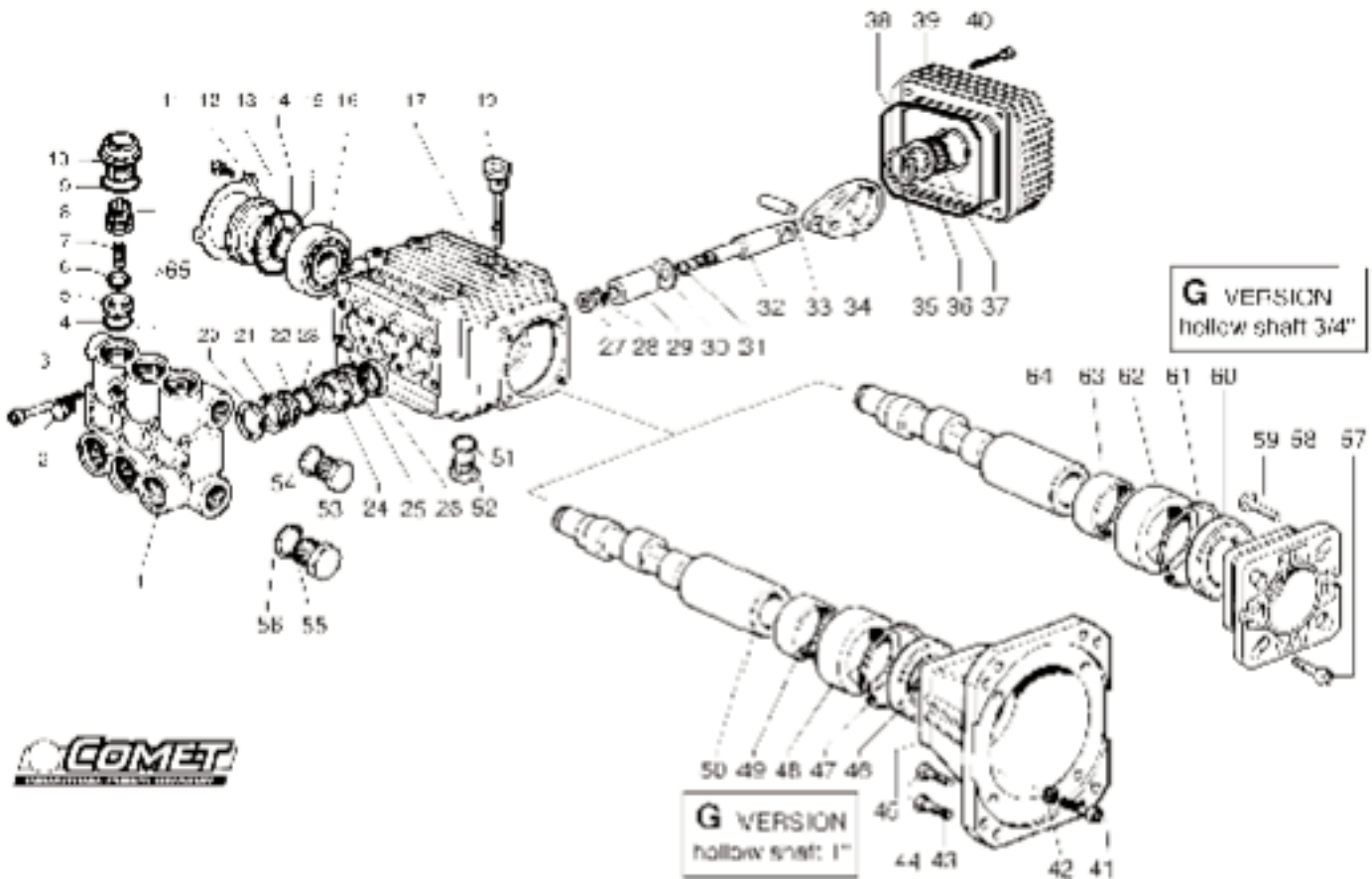
KIT D



SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"Dogs love their friends and bite their enemies, quite unlike people, who are incapable of pure love and always have to mix love and hate in their object-relations." -- Sigmund Freud

ZWD VERSION - 3400 RPM



ITEM	PART No.	AOT	DESCRIPTION	Qty.	MODELS
1	3200.0128.00		WHEEL HOUSING IN BRASS	1	2120 D - 3430 G 3020 D - 3020 G 3100 D - 4020 G 4020 G
2	3200.0018.00		CAP G1/8	1	
3	3000.0100.00		SCREW M3X6	2	2030 G - 3030 G 3030 G - 3020 G 3030 G - 4020 G 3030 G
	3000.0100.00		SCREW M3X6	2	3020 G - 4020 G
4	1210.0008.00	A	O-RING 2x22x24 mm	3	
5	3000.0008.00	A	WALVE SEAL	3	
6	3004.0017.00	A	VALVE PLATE	3	
7	4300.0177.00	A	SPRING	3	
8	1210.0008.00	A	O-RING 2x22x24 mm	3	
9	1210.0008.00	A	O-RING 2x22x24 mm	3	
10	3200.0239.00		CAP	3	
11	3000.0000.00		SCREW M3 X 3	3	
12	0400.0119.00		CRANK AX. EXW 1/8	1	
13	0400.0112.00		SPACER	1	
14	1210.0008.00	A	O-RING 2,52x4,04 mm	1	
15	3010.0011.00		SPACERS	1	
16	0400.0119.00		CRANK AX. EXW 1/8	1	2120 D - 3430 G 3120 G - 3020 G 3500 D - 4020 G 3020 G
17	0400.0128.00		CRANKCASE	1	
18	0400.0141.00		CRANKCASE	1	
19	3200.0061.00		OIL DIPSTICK	1	

ITEM	PART No.	AOT	DESCRIPTION	Qty.	MODELS
20	3000.0100.00		SCREW M3X6	2	
21	1210.0008.00	A	O-RING 2x22x24 mm	3	
22	3000.0023.00	B	WASHER 3x10 mm	3	
23	1210.0008.00	A	O-RING 2x22x24 mm	3	
24	3000.0022.00		WASHER 3x10 mm	3	
25	1210.0008.00	A	O-RING 2x22x24 mm	3	
26	3010.0008.00		OIL SEAL 15x24x2 mm	3	
27	3000.0008.00		WASHER 3x10 mm	3	
28	3010.0008.00		WASHER 15x24x2 mm	3	
29	3002.0020.00		WASHER 3x10 mm	3	
30	3010.0008.00		WASHER 3x10 mm	3	
31	1210.0008.00	A	O-RING 2x22x24 mm	3	
32	3000.0008.00		WASHER 3x10 mm	3	
33	3010.0008.00		WASHER 3x10 mm	3	
34	3000.0008.00		CON ROD	3	
35	1210.0008.00	A	O-RING 2x22x24 mm	3	
36	3000.0008.00		OIL PISTON PIN	1	
37	1210.0008.00	A	O-RING 1,78x3,52 mm	1	
38	1210.0008.00	A	O-RING 2,02x3,27 mm	1	
39	3000.0008.00		CRANKCASE EXW 1/8	1	
40	3000.0008.00		WASHER 3x10 mm	3	
41	1210.0008.00	A	O-RING 2x22x24 mm	3	
42	3200.0008.00		CAP 3/8 G1/8	1	
43	3000.0008.00		CAP 3/8 G1/8	1	
44	3010.0008.00		WASHER 15x24x2 mm	1	
45	3010.0008.00		WASHER 21x22x1 mm	1	
46	1210.0008.00	A	O-RING 2x22x24 mm	3	

"The great pleasure of a dog is that you may make a fool of yourself with him and not only will he not scold you, but he will make a fool of himself too." -- Samuel Butler

G version (hollow shaft 1")

ITEM	PART No.	KIT	DESCRIPTION	Qty.	COMMENTS
41	3009.C032.C0		SCREW M6X20	4	
42	3011.C025.C0		WASHER 2 BPT 10X2 mm	4	
43	3009.C032.C0		SCREW M6* 20* 13x17	4	
44	3007.C110.C0		SCREW 5/16 24x 1	4	
45	3010.C025.C0		FLANGE 1"	1	
46	3019.C010.C0	11	COIL SPRING 40X20X7 mm	1	
47	3020.C012.C0		SHOULDER WASHER	1	
48	C204.C058.C0		BEARING	1	
49	C-37.C0-3.C0		ROLLER 40X17X 6 mm	1	
50	3010.C025.C0		FLANGE 1"	1	12271.42 - 12290.42 3630.C - 3640.C
	3011.C025.C0		WASHER 2 BPT 10X2 mm	1	8000.42 - 8002.42 4040.C
	3019.C010.C0		COIL SPRING	1	3000.14

G version (hollow shaft 3/4")

solo / only : 2530 G

ITEM	PART No.	KIT	DESCRIPTION	Qty.	COMMENTS
57	3009.C032.C0		SCREW M6X20	4	
58	3011.C025.C0		WASHER 2 BPT 10X2 mm	1	
59	3009.C032.C0		SCREW M6* 20* 24X24	4	
60	C012.C102.C0	D	OIL SEAL 40X52X7 mm	1	
61	3020.C012.C0		SHOULDER WASHER	1	
62	C204.C058.C0		BEARING	1	
63	C034.C064.C0		ROLLER 40X24X6 mm	1	
64	C001.C102.C0		CRANKSHAFT 3/4"	1	

COMPLETE TAKE KEY
5025.0011.00

KIT A



5025.0011.00

ITEM	PART No.	Qty.
A	1210.0045.C0	8
B	3005.0087.C0	8
G	3004.0017.C0	8
T	1002.0177.C0	8
R	1213.0333.C0	8
9	1210.0045.C0	8

PISTON SEAL KIT
5019.0064.00

KIT B

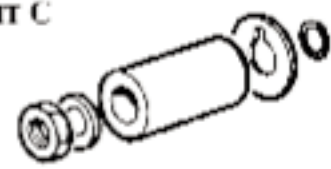


5019.0064.00

ITEM	PART No.	Qty.
20	0000.0120.C0	3
21	1241.0034.C0	3
22	0000.0220.C0	3
23	1211.0038.C0	3
25	1210.0220.C0	3

PISTON KEY
2409.0071.00

KIT C



2409.0071.00

ITEM	PART No.	Qty.
27	0000.0010.C0	5
28	2011.0006.C0	5
29	0200.0006.C0	5
30	2012.0030.C0	5
31	210.0006.C0	5

SEAL KIT
5019.0065.00

KIT D



5019.0065.00

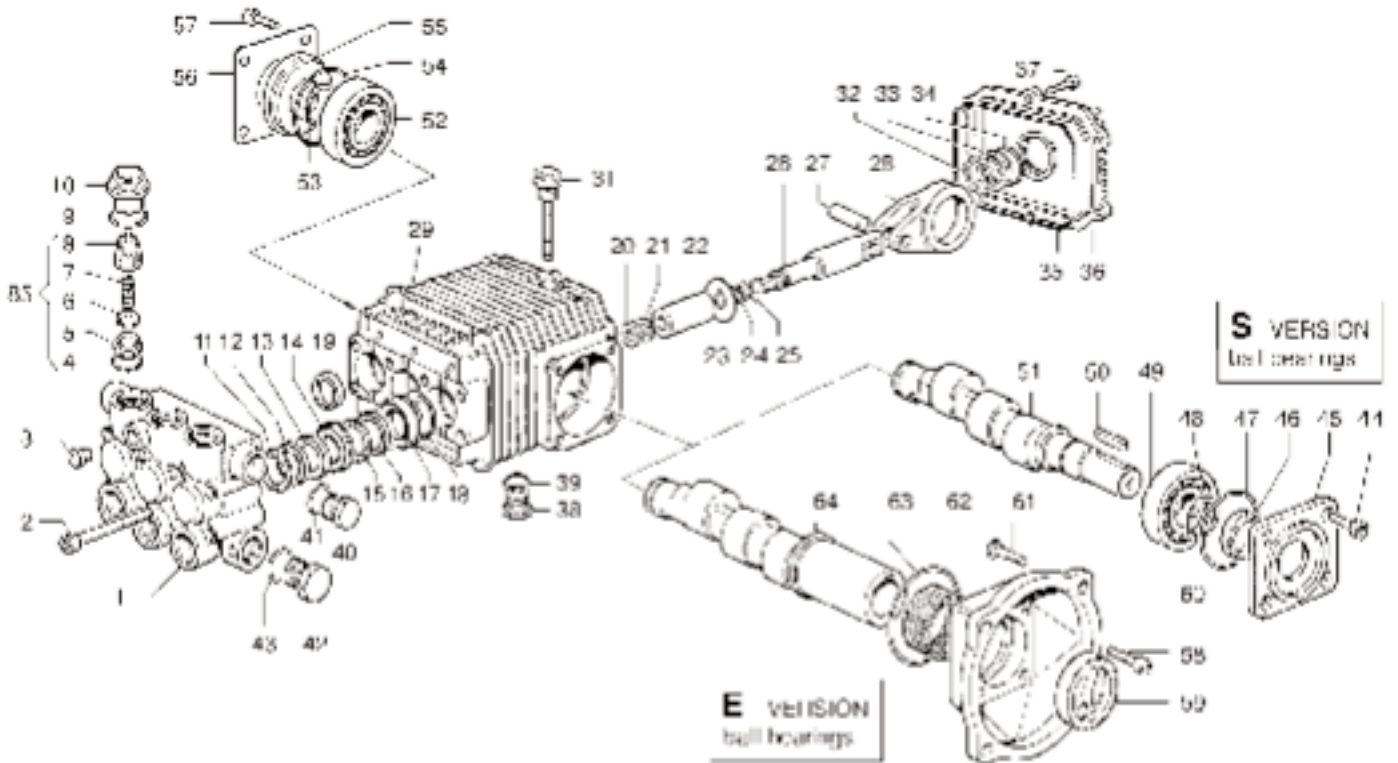
ITEM	PART No.	Qty.
4	1210.0046.C0	8
9	1213.0333.C0	8
14	1213.0336.C0	1
25	1213.0223.C0	3
26	3019.0030.C0	2
31	1213.0336.C0	5
37	1213.0333.C0	1
38	1213.0200.C0	1
40-48	3019.0107.C0	1
51	1213.0044.C0	1

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive additional 10% OFF of every item you order for the rest of the month. (see front)

"All animals, except man, know that the principal business of life is to enjoy it -- and they do enjoy it as much as man and other circumstances will allow." -- Samuel Butler

FW VERSION - BALL BEARINGS - 1450 RPM

ONLY FOR MODELS 3525 S-E 4022 S-E



ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
1	52 8.01 0.0		WINDUP 2 1/2" x 1 1/2"	1	
2	5009.0000.00		SCREW M10x70	8	
3	5302.5112.00		CAP 6114	1	
4	12 0.0048.00 A-D		O-RING 2.62x2.62x1.5 mm	8	
5	5009.0000.00 A		VALVE SEAT	8	
6	5009.0000.00 A		VALVE PLATE	5	
7	5009.5112.00 A		SPRING	5	
8	12 0.0048.00 A-D		O-RING 2.62x2.62x1.5 mm	8	
9	12 0.0048.00 A-D		O-RING 2.62x2.62x1.5 mm	8	
10	5302.5112.00		CAP	5	
11	5009.5112.00 B		FASTENING 2 1/2" x 5 mm	5	
12	12 0.0048.00 B		O-RING 2.62 mm	3	
13	5009.3100.00 B		RACKING 2.62 mm	3	
14	5009.5100.00		INTERFER. RING 2.62 mm	3	
15	5009.5112.00 B		FASTENING 2 1/2" x 5 mm	5	
16	12 0.0048.00 B		O-RING 2.62 mm	3	
17	5009.3100.00		RACKING RETAINER 2 1/2" x 5 mm	3	
18	12 0.0048.00 B-D		O-RING 2.62x2.62x1.5 mm	3	
19	5009.5112.00 B		FASTENING 2 1/2" x 5 mm	3	
20	5009.3000.00		NUT	3	
21	28 11.0000.00		WASHER 2.62x17.00 mm	3	
22	5009.5112.00 C		FASTENING 2 1/2" x 5 mm	3	
23	5009.5112.00 C		WASHER	3	
24	12 0.0048.00 C-D		O-RING 2.62x2.62x1.5 mm	3	
25	5009.3170.00 C-D		ANTI EXTR. RING	3	
26	5009.5112.00 C		FASTENING 2 1/2" x 5 mm	3	
27	5009.5112.00 C		WASHER 1.50x17.00 mm	3	
28	5009.3000.00		CON. ROD	3	
29	5400.3120.00		CRANKCASE	1	3525 S 4022 S
	5400.5110.00		CRANKCASE	1	3525 E 4022 E
31	5009.5112.00 D		VALVE SEAT	1	
32	50 0.0000.00		SNAP RING 2 1/2" x 5 mm	1	
33	5201.00 2.00		DL INDICATOR	1	
34	12 0.0048.00 D		O-RING 2.62x2.62x1.5 mm	1	
35	12 0.0048.00 D		O-RING 2.62x2.62x1.5 mm	1	

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
42	5009.0015.00		CRP GINZ	1	
43	5009.0015.00		CRANK - 2 1/2" x 2 1/2" x 1.5 mm	1	
44	5009.0015.00		BALL BEARING 25x12x12 mm	1	
45	5009.0015.00		SNAP RING 2 1/2" x 5 mm	1	
46	5009.0015.00		CRANK - 2 1/2" x 2 1/2" x 1.5 mm	1	
47	5009.0015.00		SNAP RING 2 1/2" x 5 mm	1	
48	5009.0015.00		CRANKCASE COVER	1	
49	5009.0015.00		CRANK - 2 1/2" x 2 1/2" x 1.5 mm	1	
50	5009.0015.00		VALVE SEAT	1	

S version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
44	5009.0015.00		SCREEN M0422	4	
45	5009.0015.00		FLANGE	1	
46	5009.0015.00		CRANK - 2 1/2" x 2 1/2" x 1.5 mm	1	
47	5009.0015.00		CRANK	1	
48	5009.0015.00		SNAP RING 2 1/2" x 5 mm	1	
49	5009.0015.00		BALL BEARING 25x12x12 mm	1	
50	5009.0015.00		VALVE SEAT	1	
51	5009.0015.00		CRANKS-AFT 204 mm	1	3525 S
	5009.0015.00		CRANKS-AFT 204 mm	1	4022 S

E version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
50	5009.0015.00		VALVE SEAT	1	
51	5009.0015.00		CRANKS-AFT 204 mm	1	

"Animals have these advantages over man: They have no theologians to instruct them, their funerals cost them nothing, and no one starts lawsuits over their wills." -- Voltaire

COMPLETE VALVE KIT
5015 0011.00

KIT A



ITEM	PART No.	Qty.
4	1210.0046.00	5
5	3009.0027.00	2
6	3003.0168.00	3
7	1802.0177.00	5
8	1206.0030.00	2
9	1210.0138.00	5

PISTON SEAL KIT
9 18 mm 5015 0045.00

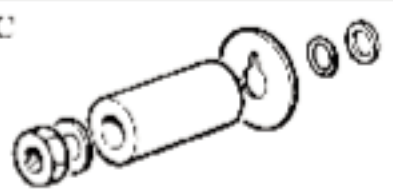
KIT B



ITEM	PART No.	Qty.
11	3009.0199.00	2
12	1211.0028.00	2
13	3003.0168.00	3
15	3009.0199.00	2
16	1211.0028.00	2
18	1213.0158.00	2

PISTON KIT
9 18 mm 2400 0073.00

KIT C



ITEM	PART No.	Qty.
20	3009.0050.00	2
21	2011.0002.00	3
22	3003.0022.00	3
23	2012.0042.00	2
24	1215.0039.00	2
25	3003.0173.00	3

5010 0046.00

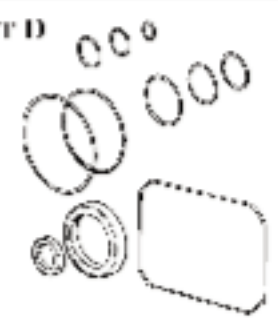
ITEM	PART No.	Qty.
4	1210.0045.00	6
9	1210.0045.00	6
18	1210.0158.00	3
19	0010.0066.00	3
24	1210.0009.00	3
25	0009.0170.00	3
34	1210.0533.00	1
35	1210.0215.00	1
39	1210.0551.00	1
46	0010.0007.00	1
47	1210.0388.00	1
64	1210.0007.00	1

5010 0043.00

ITEM	PART No.	Qty.
4	1210.0045.00	6
9	1210.0045.00	6
18	1210.0158.00	3
19	0010.0066.00	3
24	1210.0009.00	3
25	0009.0170.00	3
34	1210.0333.00	1
35	1210.0215.00	1
39	1210.0551.00	1
44	1210.0357.00	1
69	0010.0007.00	1
63	1210.0150.00	1

SEAL KIT
SOLID SHAFT 5010 0065.00
HOLLOW SHAFT 5010 0045.00

KIT D

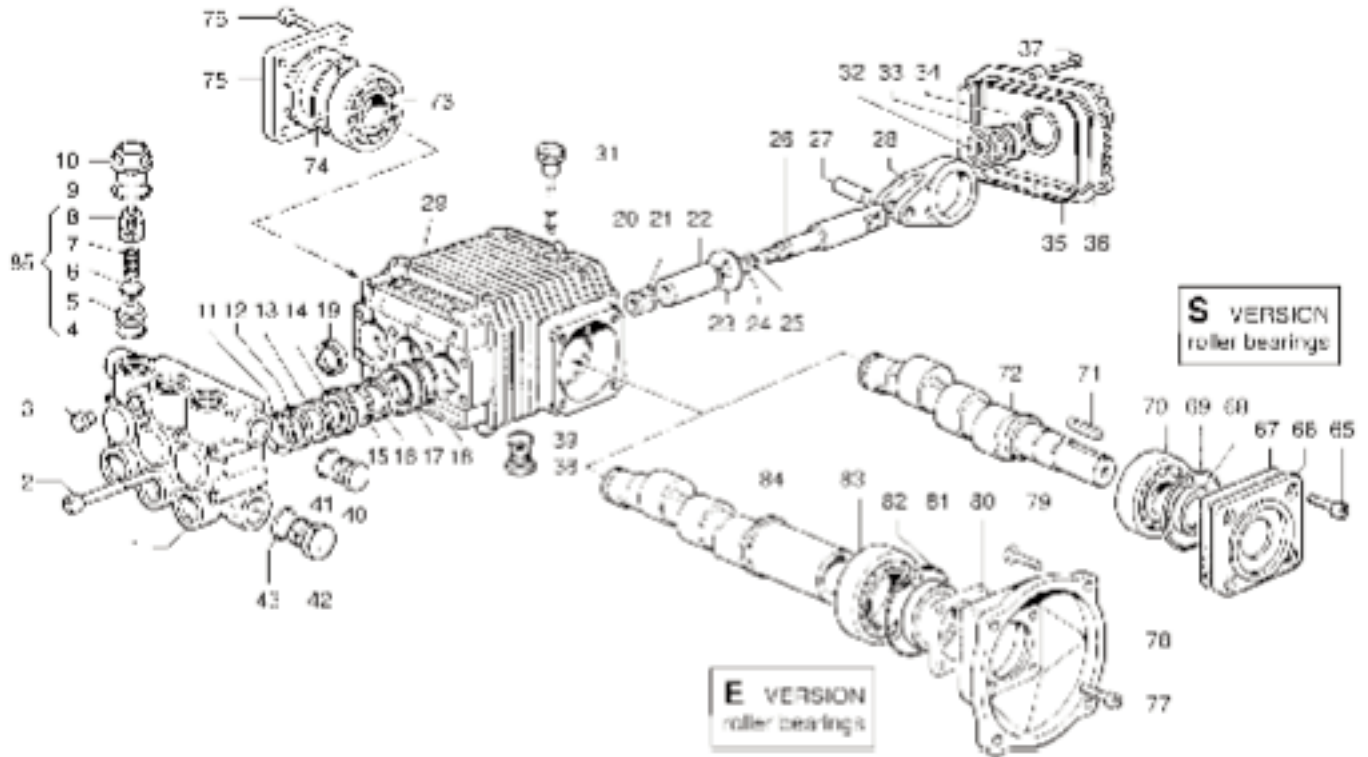


"Cats are to dogs what modern people are to the people we used to have. Cats are slimmer, cleaner, more attractive, disloyal, and lazy....Cats are irresponsible and recognize no authority, yet are completely dependent on others for their material needs. Cats cannot be made to do anything useful. Cats are mean for the fun of it. In fact, cats possess so many of the same qualities as some people (expensive girlfriends, for instance) that it's often hard to tell the people and the cats apart."

-P. J. O'Rourke

"Man is a dog's idea of what God should be."
 -- Holbrook Jackson

FW VERSION - ROLLER BEARINGS - 1450 RPM



ITEM	PART No.	KIT	DESCRIPTION	Qty	MODELS
1	3218.0105.00		VARIABLE BEAT 17 mm	1	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	3030.0130.00		VARIABLE BEAT 17 mm	1	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
2	0000.0000.00		SCREW M6X70	6	
3	0002.0102.00		WASHER	7	
4	1210.0046.00	A/D	O-RING 24X25 X 3 mm	8	
5	0009.0087.00	A	VALVE BEAT	6	
6	0004.0017.00	A	VALVE PLATE	6	
7	1102.0127.00	A	BEARING	6	
8	1000.0000.00	A	VALVE SHAFT	6	
9	1210.0048.00	A/D	O-RING 25X26 X 3 mm	6	
10	0002.0102.00		WASHER	6	
11	0000.0100.00	B	O-RING 20X22 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	0000.0100.00	E	HEAD RING 218 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
12	1241.0002.00	E	PACKING 020 mm	5	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	1241.0002.00	B	PACKING 040 mm	5	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
13	0000.0100.00	E	PACKING 020 mm	5	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	0000.0100.00	B	PACKING 040 mm	5	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E

ITEM	PART No.	KIT	DESCRIPTION	Qty	MODELS
14	0002.0100.00		INTERMED. RING 050 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	0000.0000.00		NO. 0000.0000.00 mm	1	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
15	0000.0000.00	B	HEAD RING 020 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	0000.0000.00	B	HEAD RING 015 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
16	0000.0000.00		PACKING 010 mm	1	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	1241.0002.00	B	PACKING 010 mm	1	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
17	0000.0000.00		PACKING RETAINER 050 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	0000.0000.00		PACKING RET. 100mm 100mm	1	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
18	1210.0002.00	B/C	O-RING 170X3 .47 mm	3	
19	0000.0000.00		SEAL O-RING 100X100 mm	1	
20	0000.0000.00		WASHER	7	
21	2811.0002.00		WASHER 8,2X17X1.0 mm	3	
22	0202.0020.00		PISTON 020 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E
	0202.0020.00		PISTON 018 mm	3	3025 E - 3025 E 3025 E - 3025 E 3025 E - 3025 E 3025 E

"A dog is the only thing on earth that loves you more than he loves himself."
 -- Josh Billings

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
22	2512.4242.00	O	WASHER	3	
24	1210.4738.00	D	O-RING 70X75.52 mm	3	
25	0033.3188.00	1-4	KNIFE EDGE SEAL	3	
26	2415.1448.00		PISTON RING	3	
27	3011.4216.00		WASHER 10.7X22.12 mm	3	
28	0033.3188.00		KNIFE EDGE SEAL	3	
29	0413.4118.00		CRANKCASE	1	5072 E - 5074 E 5075 E - 5076 E 5077 E - 5078 E 5079 E - 5080 E 5081 E - 5082 E 5083 E - 5084 E 5085 E - 5086 E
31	0033.3188.00		CRANKCASE	1	5072 E - 5074 E 5075 E - 5076 E 5077 E - 5078 E 5079 E - 5080 E 5081 E - 5082 E 5083 E - 5084 E 5085 E - 5086 E
32	3011.4216.00		WASHER 10.7X22.12 mm	1	
33	3011.4216.00		WASHER 10.7X22.12 mm	1	
34	1210.4738.00	D	O-RING 70X75.52 mm	1	
35	1210.4738.00	D	O-RING 70X75.52 mm	1	
36	0413.4118.00		CRANKCASE COVER	1	
37	3025.4330.00		SCREW M8X20	5	
38	0033.3188.00		KNIFE EDGE SEAL	1	
39	1210.4738.00	D	O-RING 70X75.52 mm	1	
40	0210.4217.00		CAP SCREW	1	
41	2511.4224.00		WASHER 10.7X22.12 mm	1	
42	0033.3188.00		KNIFE EDGE SEAL	1	
43	0033.3188.00		KNIFE EDGE SEAL	1	
44	2511.4224.00		WASHER 10.7X22.12 mm	1	
73	0413.4118.00		ROLLER BEARING	2	
74	1210.4738.00	D	O-RING	1	
75	0413.4118.00		ROLLER BEARING	1	
76	3025.4330.00		SCREW M8X20	4	
81	1220.4330.00		VALVE ASS. BLY.	5	

S version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
65	3009.3009.00		SCREW M8X22	4	
66	0413.4118.00		ROLLER BEARING	1	
67	0033.3188.00		KNIFE EDGE SEAL 10.7 mm	1	
	0033.3188.00		KNIFE EDGE SEAL 10.7 mm	1	
	0033.3222.00		SHIM 0.02 3.10 mm	1	
	0033.3229.00		SHIM 0.02 3.20 mm	1	
68	0413.4118.00		ROLLER BEARING 30X42 mm	1	
69	0413.4118.00		ROLLER BEARING	1	
70	0413.4118.00		ROLLER BEARING	1	
71	0033.3229.00		KEY 2X7X20 mm	1	
72	0033.3188.00		KNIFE EDGE SEAL 10.7 mm	1	5072 E - 5074 E 5075 E
	0033.3188.00		KNIFE EDGE SEAL 10.7 mm	1	5075 E - 5076 E
	0033.3225.00		CRANKSHAFT 20.8 mm	1	5081 E - 5083 E 5070 E
	0033.3225.00		CRANKSHAFT 20.8 mm	1	5071 E

E version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
77	3009.3009.00		SCREW M8X22	4	
78	0413.4118.00		ROLLER BEARING	1	
79	0033.3188.00		KNIFE EDGE SEAL	4	
80	0033.3210.00		SHIM 0.02 3.05 mm	1	
	0033.3210.00		SHIM 0.02 3.15 mm	1	
	0033.3188.00		KNIFE EDGE SEAL 10.7 mm	1	
	0033.3210.00		SHIM 0.02 3.25 mm	1	
81	0033.3210.00		OIL RING 40X52X7 mm	1	
82	0210.4217.00		SCREW 1.75X 6.22 mm	1	
83	0413.4118.00		ROLLER BEARING 30X42 mm	1	
84	0033.3225.00		CRANKSHAFT 20.8 mm	1	5025 E - 5026 E
	0033.3225.00		CRANKSHAFT 20.8 mm	1	4025 E - 4026 E
	0033.3225.00		CRANKSHAFT 20.8 mm	1	5027 E

COMPLETE VALVE KIT
5011.0011.00

KIT A

PCB ITEM	CODICE PART No.	Q.tà Qty.
4	1210.4738.00	3
5	0033.3188.00	5
6	0033.3188.00	5
7	1205.4330.00	5
8	1205.4330.00	5
9	1210.4738.00	5

PISTON SEAL KIT
Ø 18 mm 5019.0044.00 - Ø 20 mm 5019.0045.00

KIT B

5019.0044.00			5019.0045.00		
POS. ITEM	CODICE PART No.	Q.tà Qty.	POS. ITEM	CODICE PART No.	Q.tà Qty.
11	0033.3188.00	2	11	0033.3188.00	3
12	1210.4738.00	2	12	1-41.3027.00	3
13	0033.3188.00	5	13	0033.3188.00	3
14	0033.3188.00	2	14	0033.3188.00	3
15	1210.4738.00	2	15	1-41.3027.00	3
16	1210.4738.00	2	16	1-41.3027.00	3
17	1210.4738.00	5	17	1210.4738.00	3

PISTON KIT
Ø 18 mm 5019.0044.00 - Ø 20 mm 5019.0045.00

KIT C

5019.0044.00			5019.0045.00		
POS. ITEM	CODICE PART No.	Q.tà Qty.	POS. ITEM	CODICE PART No.	Q.tà Qty.
20	0033.3188.00	3	20	0033.3188.00	3
21	0033.3188.00	5	21	1210.4738.00	3
22	0033.3188.00	5	22	0033.3188.00	3
23	0033.3188.00	3	23	2812.0042.00	3
24	1210.4738.00	3	24	1210.4738.00	3
25	0033.3188.00	5	25	0033.3188.00	3

SEAL KIT
5019.0044.00 5019.0045.00
ROLLER BEARING 5019.0045.00

KIT D

5019.0044.00			5019.0045.00		
POS. ITEM	CODICE PART No.	Q.tà Qty.	POS. ITEM	CODICE PART No.	Q.tà Qty.
4	1210.4738.00	3	4	1-13.3043.00	6
5	1210.4738.00	5	5	1210.4738.00	6
10	1210.4738.00	3	10	1210.4738.00	3
18	1210.4738.00	3	18	1-13.3043.00	3
24	1210.4738.00	3	24	1210.4738.00	3
26	0033.3188.00	3	26	0033.3188.00	3
34	1210.4738.00	1	34	1-13.3043.00	1
35	1210.4738.00	1	35	1210.4738.00	1
39	1210.4738.00	1	39	1210.4738.00	1
60	1210.4738.00	1	74	1210.4738.00	1
69	1210.4738.00	1	81	1-13.3043.00	1
74	1210.4738.00	1	82	1210.4738.00	1

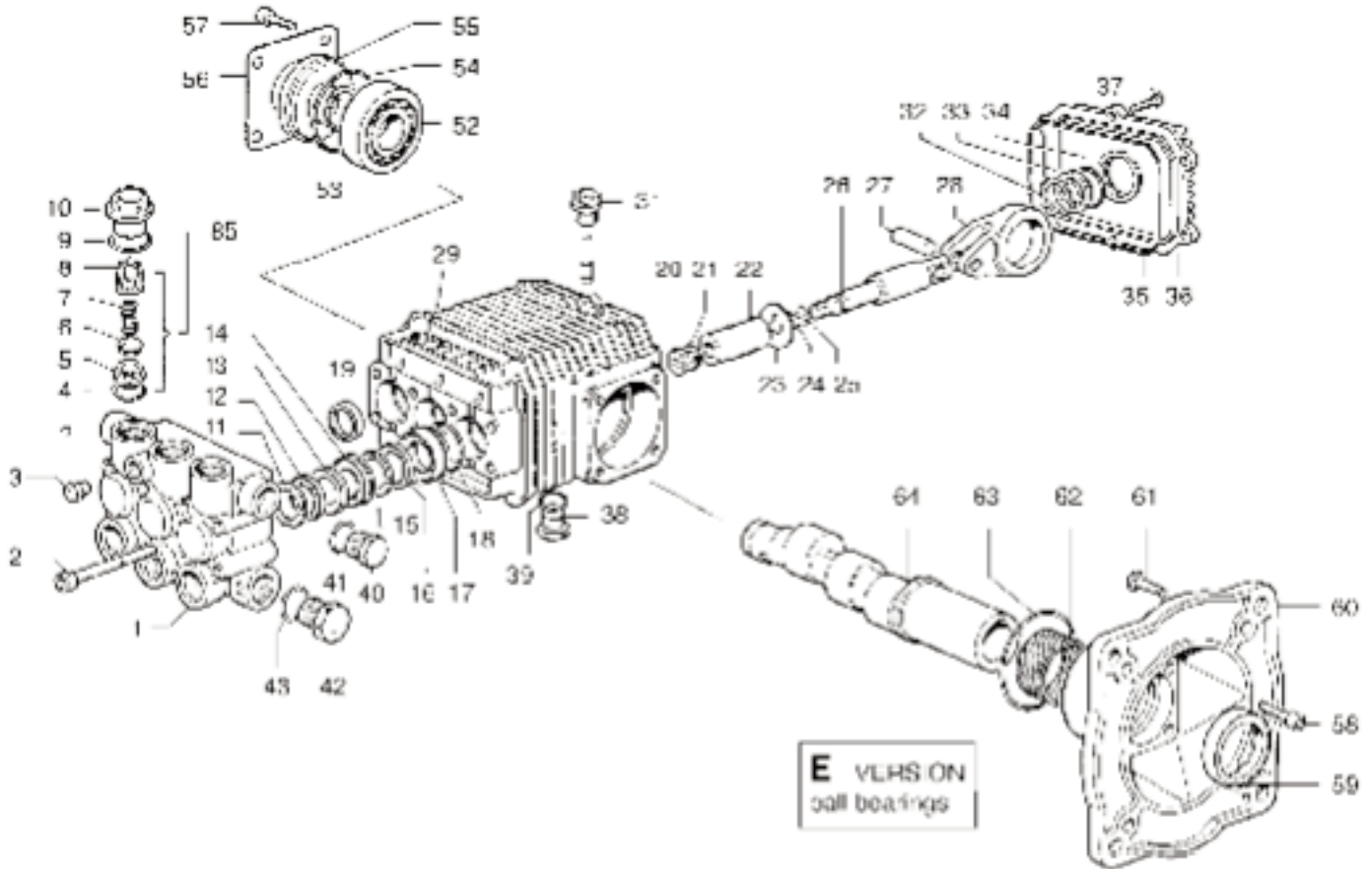
SEAL KIT
5019.0044.00 5019.0045.00
ROLLER BEARING 5019.0045.00

KIT D

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"One reason a dog is such a lovable creature is his tail wags instead of his tongue."
 -- Unknown

FWS VERSION - BALL BEARINGS - 1750 RPM



POS. / ITEM	CODICE / PART No.	KIT	DESCRIZIONE / DESCRIPTION	Q.tà / Qty.	MODELLI / MODEL S
1	8226.0130.03		CAPIROLO 1/8" mm	1	
2	8055.0330.03		SCREW M3X70	2	
3	8252.0112.03		O-RING	1	
4	7230.0390.03	A4	114094 120X 17,0 mm	6	
5	8025.0367.03	A	VAL. 56 SHA1	8	
6	8024.0317.03	A	VALVE PLATE	6	
7	8023.0177.03	A	SPRING	8	
8	7230.0390.03	A	VAL. 56 SHA1	6	
9	7230.0396.03	A4	CRANK 2x28X 29,4 mm	6	
10	8222.0130.03		O-RING	6	
11	8028.0198.03	B	HEAD KNS 200 mm	3	
12	7241.0360.03	B	PACKING 21 mm	3	
13	8025.0130.03	B	PACKING 21 mm	3	
14	8022.0220.03		INTERMED. RING D15 mm	2	
15	8028.0198.03	B	HEAD KNS 200 mm	3	
16	7241.0360.03	B	PACKING 21 mm	3	
17	8025.0130.03	B	PACKING RETAINER 215mm	3	
18	210.0130.03	E D	O RING 175X21 47 mm	2	
19	8018.0300.03	B	OIL SLAL 20X103 mm	3	
20	8025.0360.03	C	NU	3	
21	2811.0362.03	C	WASHER 52X12X1,5 mm	3	
22	8022.0320.03	C	BUSH D18 mm	3	
23	2911.0360.03	C	WAS L	3	
24	7230.0390.03	C40	CRANK 110X 28,6 mm	3	
25	8025.0170.03	C40	INT-BERTS. RING	3	
26	2420.0348.03		PISTON GLIDES	2	
27	8011.0310.03		WASHER 18X32X2 mm	3	
28	8025.0360.03		13X6.1013	3	
29	8025.0130.03		CRANKCASE	1	

POS. / ITEM	CODICE / PART No.	KIT	DESCRIZIONE / DESCRIPTION	Q.tà / Qty.	MODELLI / MODEL S
30	8025.0360.03		OIL DEFLECTOR	1	
31	3613.0633.03		SNAP RING D18 mm	1	
32	8021.0612.03		OIL INDICATOR	1	
33	8215.0300.03	E	CRANK 110X28,6 mm	1	
34	8215.0310.03	E	CRANK 2x28,6X 29,4 mm	1	
35	8482.0600.03		CRANKCASE COVER	1	
36	8025.0360.03		SCREW M3X20	2	
37	7230.0390.03		VAL. 56 SHA1	1	
38	8215.0300.03	E	CRANK 110X28,6 mm	1	
39	8215.0310.03	E	CRANK 2x28,6X 29,4 mm	1	
40	3203.0607.03		O-RING 3-5 3/16	1	
41	8215.0651.03		WASHER 21X22X1,5 mm	1	
42	8215.0630.03		O-RING	1	
43	8215.0630.03		WASHER 21 2/22X1,5 mm	1	
44	8483.0671.03		BALL BEARING 20X22X17 mm	1	
45	8215.0650.03		SNAP RING O-RING	1	
46	8215.0300.03	E	CRANK 110X28,6 mm	1	
47	8482.0670.03		SPACER	1	
48	8021.0615.03		CRANKCASE COVER	1	
49	8025.0360.03		SCREW M3X17	1	
50	8025.0360.03		SCREW M3X20	1	
51	8021.0652.03	D	OIL SEAL 40X52X7 mm	1	
52	3613.0613.03		FLANGE	1	
53	8025.0360.03		SCREW M3X17	1	
54	8025.0360.03		SCREW M3X20	1	
55	8025.0360.03		SCREW M3X20	1	
56	8025.0360.03		SCREW M3X20	1	
57	8025.0360.03		SCREW M3X20	1	
58	8025.0360.03		SCREW M3X20	1	
59	8021.0652.03	D	OIL SEAL 40X52X7 mm	1	
60	3613.0613.03		FLANGE	1	
61	8025.0360.03		SCREW M3X17	1	
62	8025.0360.03		SCREW M3X20	1	
63	8215.0300.03	E	CRANK 110X28,6 mm	1	
64	8021.0650.03		CRANKSHAFT PLATE	1	4022 E
65	8025.0360.03		CRANKSHAFT PLATE	1	4022 E
66	7225.0300.03		VALVE ASS. BLY.	1	

"I am I because my little dog knows me"
 -- Gertrude Stein

COMPLETE VALVE KIT
 5025.0011.00


KIT A



ITEM	PART No.	Qty.
4	121C.0046.00	5
5	8005.0037.00	5
6	3004.0017.00	5
7	5005.0177.00	5
8	121C.0023.00	5
9	121C.0048.00	5

PISTON SEAL KIT
 45 38 mm 5019.0030.00

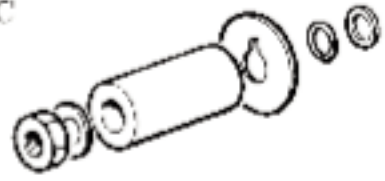
KIT B



ITEM	PART No.	Qty.
11	02005.0159.00	5
12	121C.0026.00	5
13	02005.0160.00	5
15	02005.0158.00	5
16	121C.0026.00	5
18	121C.0146.00	5

PISTON KIT
 Ø 18 mm 2409.0073.00

KIT C




ITEM	PART No.	Qty.
20	0000.0104.00	5
21	2011.0082.00	5
22	0202.0122.00	5
23	2012.0042.00	5
24	1210.0030.00	5
25	0000.0170.00	5

ITEM	PART No.	Qty.
4	121C.0048.00	5
9	121C.0040.00	5
10	121C.0015.00	5
19	0010.0066.00	5
24	121C.0030.00	5
25	0005.0120.00	5
34	121C.0015.00	1
35	121C.0010.00	1
39	121C.0441.00	1
54	121C.0012.00	1
59	0010.0032.00	1
63	121C.0120.00	1

SEAL KIT
 100.000.000.00 5019.0043.00

KIT D



Four young men sit by the bedside of their dying father. The old man, with his last breath, tells them there is a huge treasure buried in the family fields. The sons crowd around him crying, "Where? Where?" but it's too late. The day after the funeral and for many days to come, the young men go with their picks and shovels and turn the soil, digging deeply into the ground from one end of the field to the other. They find nothing, and, bitterly disappointed, abandon the search.

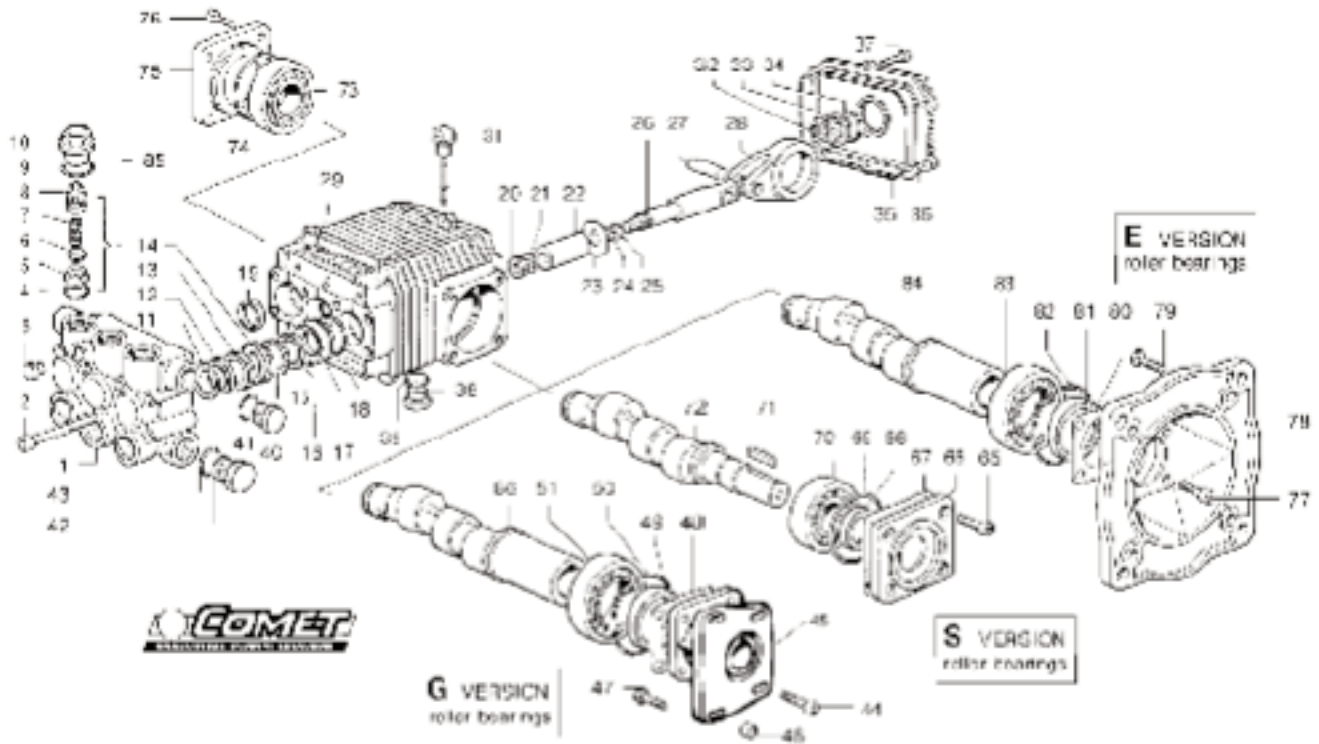
The next season the farm has its best harvest ever.

-Rosamund and Benjamin Zander,
 The art of possibility

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive an additional 10% OFF of every item you order for the rest of the month. (see front)

"My goal in life is to become as wonderful as my dog thinks I am."
 -- Toby & Eileen Green

FWS VERSION - ROLLER BEARINGS - 1750 RPM



ITEM	PART No.	KIT	DESCRIPTION	Qty	MODELS
1	2010.0110.00		WASHER Ø 20 mm	1	1010 S - 5000 E 1010 G - 5000 E
	2010.0110.00		WASHER Ø 20 mm	1	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
2	0020.0010.00		SCREW M6X20	8	
3	0020.0010.00		1.60" DIA		
4	1210.0040.00	A	O-RING 2,82X 17,15 mm	6	
5	0020.0010.00	A	VALVE SEAT	6	
6	0020.0010.00	A	VALVE PLATE	6	
7	0020.0010.00	A	1.41" DIA	6	
8	1020.0010.00	A	VALVE CASE	6	
9	210.0010.00	A	O-RING 2,00X 20,2 mm	6	
10	0020.0010.00		OSP	6	
11	0020.0010.00	A	O-RING 2,00X 20,2 mm	3	1010 S - 5000 E 1010 G - 5000 E
	0020.0010.00	B	O-RING 2,00X 20,2 mm	3	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
12	241.0010.00	A	PADINGS Ø 27 mm	3	1010 S - 5000 E 1010 G - 5000 E
	241.0010.00	B	PADINGS Ø 17 mm	3	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
13	0020.0010.00	B	PADINGS Ø 18 mm	3	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
	0020.0010.00	B	PADINGS Ø 20 mm	3	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
14	0020.0010.00	B	O-RING 2,00X 20,2 mm	3	1010 S - 5000 E 1010 G - 5000 E
	0020.0010.00	B	O-RING 2,00X 20,2 mm	3	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
15	0020.0010.00	A	O-RING 2,00X 20,2 mm	3	1010 S - 5000 E 1010 G - 5000 E
	0020.0010.00	B	O-RING 2,00X 20,2 mm	3	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
16	241.0010.00	B	PADINGS Ø 20 mm	3	1010 S - 5000 E 1010 G - 5000 E
	241.0010.00	B	PADINGS Ø 18 mm	3	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E

ITEM	PART No.	KIT	DESCRIPTION	Qty	MODELS
17	0020.0010.00		PACKING RETAINER 2" S	1	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
	0020.0010.00		PACKING RETAINER 2" S	1	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
18	0020.0010.00		ROLLER 1.25X3.47" dia	1	
19	0020.0010.00	C	CRK BALL 20X20X10" dia	1	
20	0020.0010.00	C	NUT	1	
21	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
22	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
23	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
24	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
25	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
26	2400.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
27	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
28	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
29	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
30	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	1010 S - 5000 E 1010 G - 5000 E
	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	1010 S - 5000 E 1010 G - 5000 E 1010 S - 4000 E 1010 G - 4000 E
31	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
32	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
33	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
34	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
35	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
36	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
37	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
38	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
39	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
40	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
41	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
42	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
43	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
44	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
45	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
46	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
47	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
48	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
49	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
50	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
51	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
52	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
53	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
54	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	
55	0020.0010.00	C	WASHER 1.60X1.60X0.15 mm	1	

"Our perfect companions never have fewer than four feet."

-- Colette

S version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
67	0921.0218.00		SCREW M8X27	4	
68	0921.0218.00		FLANGE	1	
67	0921.0220.00		SHIM Ø62 0.10 mm	1	
	0921.0222.00		SHIM Ø62 0.10 mm	1	
	0921.0258.00		SHIM Ø62 0.15 mm	1	
68	0210.0027.00	D	OIL SEAL 25X52X7 mm	1	
69	1210.0038.00	D	O RING	1	
70	0921.0218.00		FLANGE Ø 62	1	
71	0921.0218.00		KEY 5X6X20 mm	1	
	0921.0324.00		CRANKSHAFT Ø24 mm	1	4030 B
72	0921.0320.00		CRANKSHAFT Ø20 mm	1	3020 B
	0921.0348.00		CRANKSHAFT Ø24 mm	1	5, 6, 9
	0921.0348.00		CRANKSHAFT Ø24 mm	1	4030 B + 4030, 45, 3020 B, 3020 G

E version

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
77	0921.0218.00		SCREW M8X27	4	
78	0921.0218.00		FLANGE	1	
79	0921.0218.00		SCREW 1/2"-11	4	
80	0921.0212.00		SHIM Ø60 0.20 mm	1	
	0921.0214.00		SHIM Ø60 0.10 mm	1	
	0921.0214.00		SHIM Ø60 0.10 mm	1	
	0921.0216.00		SHIM Ø60 0.20 mm	1	
81	0921.0052.00	D	OIL SEAL 40X52X7 mm	1	
82	0921.0052.00	D	O RING 1,75X 37,52 mm	1	
83	0921.0011.00		ROLLER BEARING 40X52X11	1	
84	0921.0355.00		CRANKSHAFT 1"Ø	1	3030 E
	0921.0350.00		CRANKSHAFT 1"Ø	1	3030 E
	0921.0350.00		CRANKSHAFT 1"Ø	1	3030 E + 3030 F

G version only FWS 4030

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
44	0921.0218.00		SCREW M8X27	4	
45	0921.0218.00		FLANGE	1	
46	0921.0270.00		SPACER Ø1 ØX29,8 mm	2	
47	0921.0052.00		O RING M8X27	1	
48	0921.0212.00		SHIM Ø60 0.20 mm	1	
	0921.0214.00		SHIM Ø60 0.10 mm	1	
	0921.0214.00		SHIM Ø60 0.10 mm	1	
	0921.0216.00		SHIM Ø60 0.20 mm	1	
49	0921.0052.00	D	O RING 1,75X 37,52 mm	1	
50	1210.0038.00	D	O RING 1,75X 37,52 mm	1	
51	0921.0011.00		ROLLER BEARING 40X52X11	1	
52	0921.0355.00		CRANKSHAFT Ø25 mm	1	

COMPLETE VALVE KIT
3027.0011.00

KIT A

3027.0011.00

ITEM	PART No.	Qty.
4	1210.0040.00	3
5	0921.0017.00	5
6	0921.0017.00	5
7	1210.0077.00	3
8	1210.0028.00	3
9	1210.0048.00	5

PISTON SEAL KIT
Ø 18 mm 5019.0038.00 - Ø 20 mm 5019.0049.00

KIT B

5019.0038.00			5019.0049.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
11	0921.0189.00	2	11	0921.0189.00	3
12	1210.0098.00	3	12	1210.0098.00	3
13	0921.0160.00	1	13	0921.0160.00	3
14	0921.0189.00	2	14	0921.0189.00	3
15	1210.0028.00	2	15	1210.0028.00	3
16	1210.0158.00	5	16	1210.0158.00	5

PISTON KIT
Ø 18 mm 2409.0073.00 - Ø 20 mm 4409.0074.00

KIT C

2409.0073.00			4409.0074.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
20	0921.0044.00	3	20	0921.0044.00	3
21	0921.0017.00	5	21	0921.0017.00	3
22	0921.0052.00	5	22	0921.0052.00	3
23	0921.0042.00	3	23	0921.0042.00	3
24	1210.0028.00	3	24	1210.0028.00	3
25	0921.0170.00	5	25	0921.0170.00	3

5019.0044.00			5019.0045.00		
ITEM	PART No.	Qty.	ITEM	PART No.	Qty.
4	1210.0045.00	6	4	1210.0045.00	6
5	1210.0045.00	6	5	1210.0045.00	6
18	1210.0153.00	3	18	1210.0153.00	3
19	0921.0385.00	5	19	0921.0385.00	5
24	1210.0039.00	3	24	1210.0039.00	3
25	0921.0170.00	3	25	0921.0170.00	3
34	1210.0333.00	1	34	1210.0333.00	1
35	1210.0215.00	1	35	1210.0215.00	1
39	1210.0441.00	1	39	1210.0441.00	1
88	0921.0107.00	1	88	0921.0107.00	1
89	1210.0385.00	1	89	1210.0385.00	1
74	1210.0385.00	1	82	1210.0189.00	1

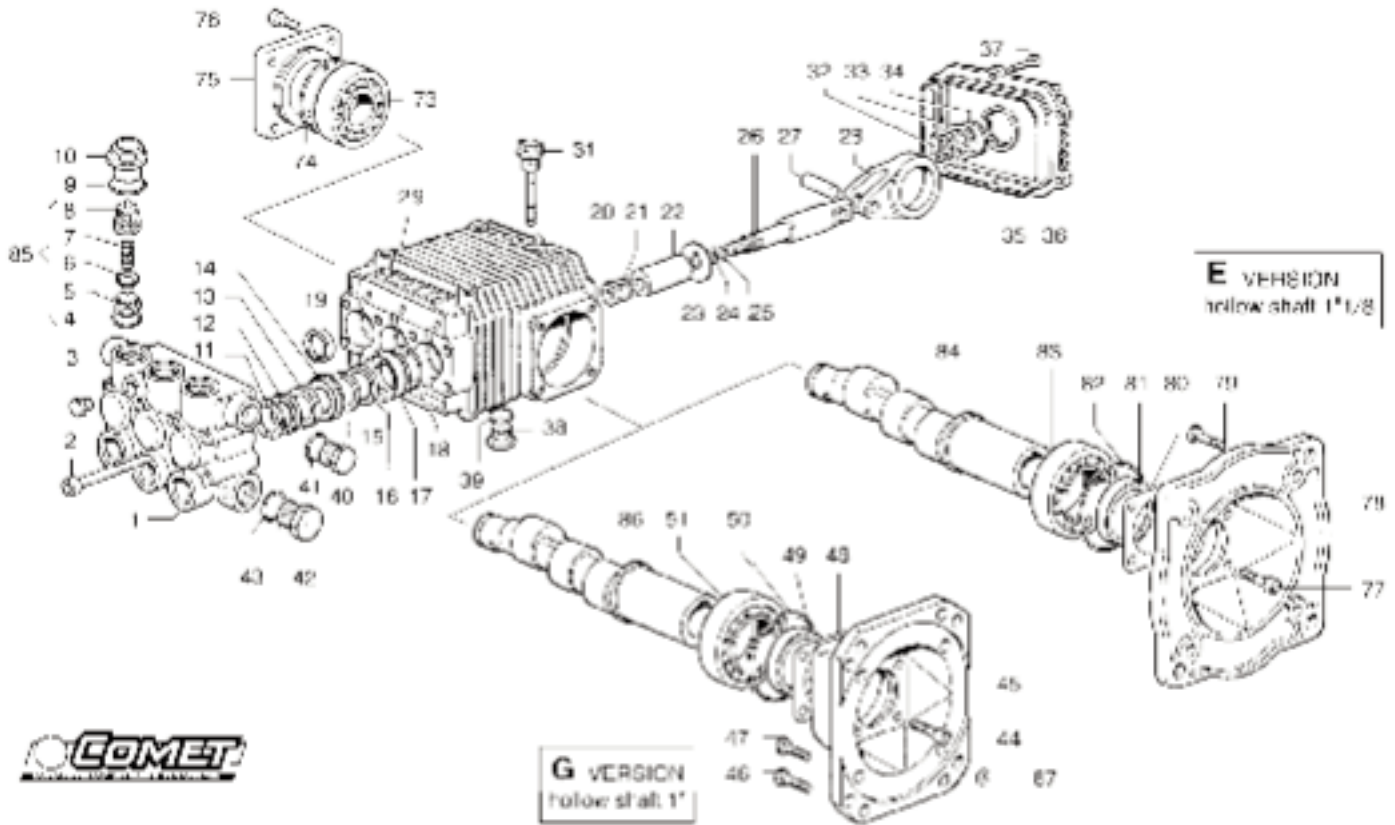
SEAL KIT
SOLAP/SEAL KIT 5019.0011.00
ROLLER/SHIM KIT 5019.0045.00

KIT D

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"A bone to the dog is not charity. Charity is the bone shared with the dog, when you are just as hungry as the dog."
 -- Jack London

FWD VERSION - 3400 RPM



ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
1	3212.0110.00		MANIFOLD Ø 6 mm		
2	3344.0115.00		FLY W/ SHAFT	1	
3	3232.0112.00		CRANK	1	
4	210.0040.00	A-D	C RING 2.12X 17.13 mm	2	
5	3012.0019.00	A	VALVE HEAT	1	
6	3344.0117.00	A	VALVE PLATE	1	
7	1802.0177.00	A	SPRING	6	
8	200.0020.00	A	VALVE CAGE	2	
9	3212.0110.00	A-B	C RING 1.52X 16.25 mm	2	
10	3212.0115.00		CRANK	1	
11	0000.0100.00	B	HEAD RING Ø18 mm	1	
12	211.0020.00	B	PACINGS 5-32 mm	2	
13	0000.0110.00	C	PACKING 4.5 mm	2	
14	0000.0120.00	D	PACKING RING Ø18 mm	1	
15	0000.0100.00	B	HEAD RING Ø18 mm	1	
16	211.0020.00	B	PACINGS 5-32 mm	2	
17	0000.0110.00	C	PACKING 4.5 mm AND 11.5 mm	2	
18	1212.0115.00	E-D	C RING 1.74X11.41 mm	1	
19	0012.0030.00	D	OIL SEAL 20X30X5 mm	1	
20	0000.0014.00	C	NU	1	
21	2012.0010.00	C	WASHER 11.5X21X1.5 mm	1	
22	0212.0020.00	C	NUT 11.5 mm	1	
23	2012.0040.00	C	WASHER	1	
24	210.0020.00	C-D	C RING 1.52X 16.25 mm	2	

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
25	2000.0110.00		ANTIFRET RING	1	
26	1212.0110.00		FLY W/ SHAFT	1	
27	3012.0019.00		VALVE HEAT 1.52X11.5 mm	1	
28	0200.0040.00		CRANK	1	
29	2000.0110.00		ANTIFRET RING	1	
30	0000.0010.00		VALVE PLATE	1	
31	3012.0019.00		VALVE HEAT	1	
32	0200.0012.00		CIL INDICATOR	1	
33	0200.0012.00		CIL INDICATOR	1	
34	0200.0010.00		ANTIFRET RING 1.52X 16.25 mm	1	
35	0200.0010.00		ANTIFRET RING 1.52X 16.25 mm	1	
36	0400.0100.00		CRANKCASE COVER	1	
37	3000.0010.00		SCREW M4X20	2	
38	0000.0010.00		VALVE CAGE	1	
39	0200.0010.00		CRANK 1.52X 16.25 mm	1	
40	0000.0007.00		CRANK CASE	1	
41	2012.0010.00		WASHER 11.5X21X1.5 mm	1	
42	0000.0010.00		VALVE PLATE	1	
43	2012.0010.00		WASHER 11.5X21X1.5 mm	1	
44	0400.0012.00		ROLLER BEARING	1	
45	0200.0010.00		CRANK	1	
46	0000.0010.00		VALVE PLATE	1	
47	0000.0010.00		VALVE PLATE	1	
48	0000.0010.00		VALVE PLATE	1	
49	0000.0010.00		VALVE PLATE	1	
50	0000.0010.00		VALVE PLATE	1	
51	0000.0010.00		VALVE PLATE	1	
52	0000.0010.00		VALVE PLATE	1	
53	0000.0010.00		VALVE PLATE	1	
54	0000.0010.00		VALVE PLATE	1	
55	0000.0010.00		VALVE PLATE	1	
56	0000.0010.00		VALVE PLATE	1	
57	0000.0010.00		VALVE PLATE	1	
58	0000.0010.00		VALVE PLATE	1	
59	0000.0010.00		VALVE PLATE	1	
60	0000.0010.00		VALVE PLATE	1	
61	0000.0010.00		VALVE PLATE	1	
62	0000.0010.00		VALVE PLATE	1	
63	0000.0010.00		VALVE PLATE	1	
64	0000.0010.00		VALVE PLATE	1	
65	0000.0010.00		VALVE PLATE	1	
66	0000.0010.00		VALVE PLATE	1	
67	0000.0010.00		VALVE PLATE	1	

"Human beings are the only creatures that allow their children to come back home."
 -- Bill Cosby

G version (hollow shaft 1")

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
44	3575.0078.00		SCREW M5X22	4	
45	3576.0077.00		FLANGE	1	
46	38.7.0118.00		SCREW M8 15X1*	4	
47	38.7.0119.00		SCREW 5/8"X2X1"	4	
48	0521.0210.00		SHIM 205 0.05 mm	1	
	0521.0212.00		SHIM 205 0.10 mm	1	
	0521.0214.00		SHIM 205 0.15 mm	1	
	0521.0216.00		SHIM 205 0.20 mm	1	
49	0518.0022.00	D	OIL SEAL 42X52X7 mm	1	
50	1210.0128.00	E	ROLLER BEARING 42X52X7 mm	1	
51	0440.0011.00		ROLLER BEARING 40X45X10	1	
52	0321.0320.00		CRANKSHAFT 1"	1	4020 E - 4030 E
	0321.0320.00		CRANKSHAFT 1"	1	4517 E - 4525 E 4526 E
	0321.0320.00		CRANKSHAFT 1"	1	4526 E - 4530 E
	0321.0320.00		CRANKSHAFT 1"	1	4530 E
57	2811.0218.00		WASHER 10,5X16X2 mm	4	

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODELS
77	3575.0078.00		SCREW M5X22	4	
78	3576.0077.00		FLANGE	1	
79	38.7.0118.00		SCREW M8 15X1*	4	
80	C001 C210 C0		SPACER 208 mm	1	
	C001 C212 C0		SPACER 252 mm	1	
	C001 C214 C0		SPACER 302 mm	1	
	C001 C216 C0		SPACER 358 mm	1	
81	C010 C052 C0	D	OIL SEAL 40X52X7 mm	1	
82	1210 C128 C0	E	ROLLER BEARING 42X52X7 mm	1	
83	C001 C054 C0		ROLLER BEARING	1	4020 E - 4030 E
84	C001 C054 C0		CRANKSHAFT 1" 1/8"	1	4020 E - 4030 E
	C001 C054 C0		CRANKSHAFT 1" 1/8"	1	4020 E - 4030 E
	C001 C052 C0		CRANKSHAFT 1" 1/4"	1	4030 E

LEVER KIT
 2025.0011.00


KIT A



ITEM	PART No.	Qty.
4	1210.0046.00	5
5	2005.0027.00	3
6	2004.0017.00	2
7	1002.0177.00	5
8	1205.0020.00	3
9	1210.0048.00	2

PISTON AND KIT
 Ø 38 mm 5019.0058.00

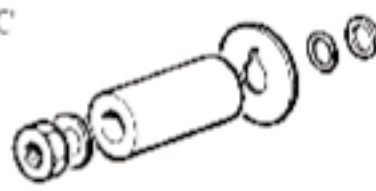
KIT B



ITEM	PART No.	Qty.
11	3303.0198.00	3
12	1241.0026.00	2
13	3304.0188.00	2
15	3303.0198.00	3
16	1241.0026.00	3
18	1213.0196.00	2

PISTON AND KIT
 Ø 18 mm 2409.0073.00

KIT C

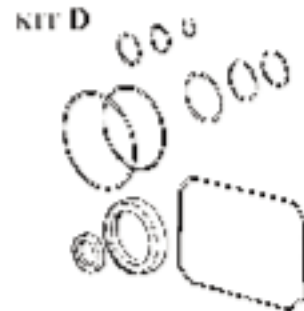


ITEM	PART No.	Qty.
20	3303.0056.00	3
21	2011.0002.00	3
22	3302.0022.00	2
23	2817.0042.00	3
24	1215.0030.00	3
25	3309.0179.00	2

SEAL KIT
 HOLLOW SHAFT 1019.0047.00

5019.0045.00

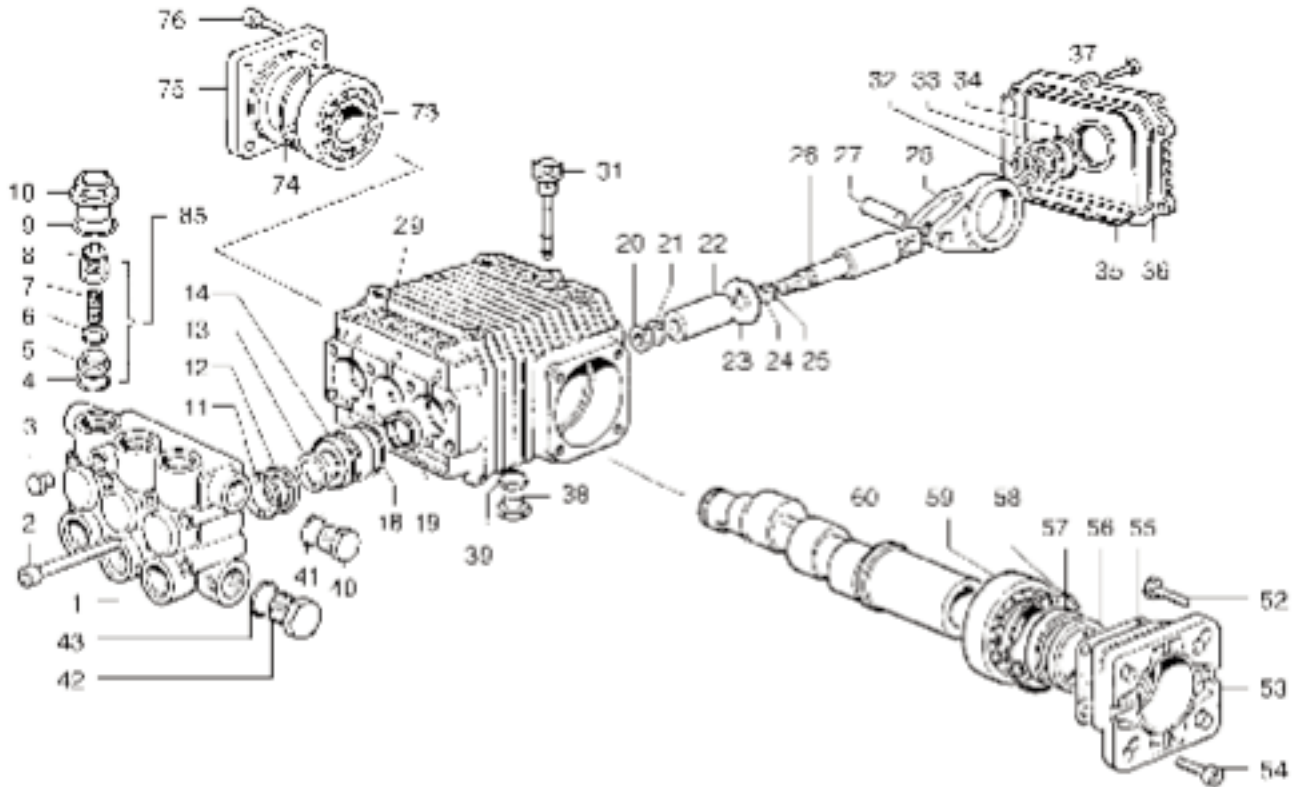
ITEM	PART No.	Qty.
4	1190.0113.00	8
9	1210.0048.00	6
18	1210.0152.00	3
19	1190.0113.00	3
24	1190.0053.00	3
25	0009.0173.00	3
34	1190.0113.00	1
35	1210.0018.00	1
39	1210.0090.00	1
74	1210.0152.00	1
48-51	1190.0152.00	1
58-62	1210.0152.00	1



SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"I must take issue with the term 'a mere child,' for it has been my invariable experience that the company of a mere child is infinitely preferable to that of a mere adult.
-- Fran Lebowitz

FWD VERSION - HOLLOW SHAFT - 3400 RPM



G VERSION
hollow shaft 3/4"

G version only 5513 (hollow shaft 3/4")

ITEM	PART No.	REV	DESCRIPTION	Qty.	MODELS
1	0210.0110.00		WASHER Ø 7.6 mm	1	
2	03.4.0319.00		SCREW M3X7.5	1	
3	0220.0110.00		SCREW	1	
4	1210.0046.00	A-D	O-RING 2,12X 17,15 mm	6	
5	0020.0027.00	A	VALVE SEAT	6	
6	03.4.0317.00	A	VALVE PLATE	6	
7	1820.0177.00	A	SPRING	6	
8	1220.0025.00	A	VALVE CASE	6	
9	210.0040.00	A-D	O-RING 2,12X 20,27 mm	6	
10	03.4.0318.00		SCREW	6	
11	0020.0120.00	B	HEAD END O-RING	3	
12	241.0038.00	B	PACKING Ø 8 mm	3	
13	211.0030.00	D	PACKING Ø 7.5 mm	3	
14	00.8.0211.00		WASHER Ø 14X14.5X1.5 mm	3	
15	1210.0106.00	B-D	O-RING 1.78X21.47 mm	3	
16	0010.0020.00	D	OIL SEAL 27X30X5 mm	2	
17	0070.0074.00	C	MIT	3	
18	2011.0170.00	E	WASHER Ø 16.7X17.3X1.5 mm	3	
19	0020.0020.00	C	PISTON RING	3	
20	2812.0042.00	C	WASHER	2	
21	210.0020.00	C-D	O-RING 1,78X 7,52 mm	3	
22	00.8.0170.00	E	WASHER Ø 16.7X17.3X1.5 mm	3	
23	2400.0048.00		PISTON GLIDEE	3	
24	3011.0010.00		WEAR FIN Ø1X20 mm	2	
25	0070.0074.00		MIT	3	
26	0070.0074.00		MIT	3	
27	0070.0074.00		MIT	3	
28	0070.0074.00		MIT	3	

G version only 5513 (hollow shaft 3/4")

ITEM	PART No.	REV	DESCRIPTION	Qty.	MODELS
31	0200.0051.00		OIL DROPTICK	1	
32	0070.0074.00		SCREW Ø10X10 mm	1	
33	0200.0051.00		OIL BEARING	1	
34	1210.0033.00	C	O-RING 1.78X20.52 mm	1	
35	0210.0015.00	D	O-RING 2,12X17,15 mm	1	
36	0070.0074.00		SCREW Ø10X10 mm	1	
37	0000.0000.00		SCREW M3X20	2	
38	0000.0000.00		CAP 1/8 GAS	2	
39	0210.0015.00	D	O-RING 1,78X 17,15 mm	1	
40	0070.0074.00		SCREW M3X20	1	
41	0070.0074.00		WASHER Ø 16.7X17.3X1.5 mm	1	
42	0000.0000.00		CAP Ø12	1	
43	0070.0074.00		WASHER Ø 16.7X17.3X1.5 mm	1	
44	0070.0074.00		SCREW Ø10X10 mm	1	
45	0070.0074.00		FLANGE	1	
46	0000.0000.00		SCREW M3X20	4	
47	0070.0074.00		SCREW Ø10X10 mm	1	
48	0070.0074.00		SCREW Ø10X10 mm	1	
49	0070.0074.00		SCREW Ø10X10 mm	1	
50	0070.0074.00		SCREW Ø10X10 mm	1	
51	0070.0074.00		SCREW Ø10X10 mm	1	
52	0070.0074.00		SCREW Ø10X10 mm	1	
53	0070.0074.00		SCREW Ø10X10 mm	1	
54	0070.0074.00		SCREW Ø10X10 mm	1	
55	0070.0074.00		SCREW Ø10X10 mm	1	
56	0070.0074.00		SCREW Ø10X10 mm	1	
57	0070.0074.00		SCREW Ø10X10 mm	1	
58	0070.0074.00		SCREW Ø10X10 mm	1	
59	0070.0074.00		SCREW Ø10X10 mm	1	
60	0070.0074.00		SCREW Ø10X10 mm	1	

"There's no need for a piece of sculpture in a home that has a cat."
 -- Wesley Bates

COMPLETE VALVE KIT
5025.0041.00

KIT A




ITEM	PART No.	Qty.
4	210.0040.00	1
5	2000.0027.00	1
6	3004.0017.00	1
7	0002.0177.00	1
8	2000.0020.00	1
9	210.0048.00	1

9026.0011.00

PISTON SEAL KIT
4578 mm 5219.0057.00

KIT B

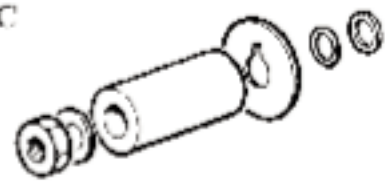


ITEM	PART No.	Qty.
11	1241.0554.00	1
12	1241.0554.00	1
13	1241.0528.00	1
14	1240.0120.00	1

5019.0057.00

PISTON KIT
4578 mm 2409.0073.00

KIT C



ITEM	PART No.	Qty.
20	2000.0054.00	1
21	2011.0092.00	1
22	0232.0022.00	1
23	2012.0042.00	1
24	1210.0030.00	1
25	0009.0110.00	1

2409.0073.00

5019.0051.00

ITEM	PART No.	Qty.
4	1240.0120.00	1
9	1240.0120.00	1
18	1240.0120.00	1
18	0000.0000.00	1
24	1240.0120.00	1
25	0000.0170.00	1
34	1240.0120.00	1
35	1240.0120.00	1
39	1240.0120.00	1
56	0000.0000.00	1
74	1240.0120.00	1
58	1240.0120.00	1

SEAL KIT
HOLLOW SHAFT 5019.0078.00

KIT D

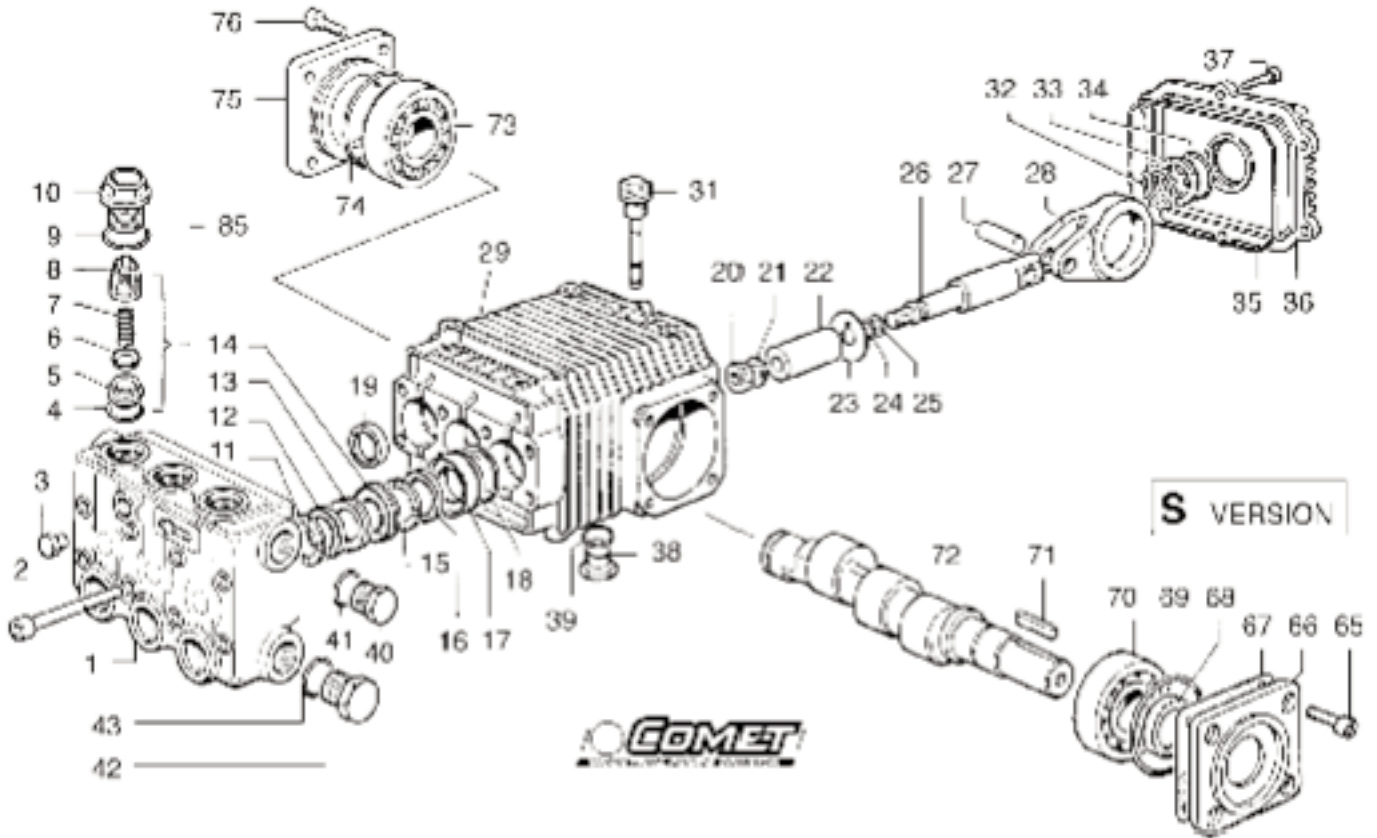


"Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. It is our light, not our darkness that most frightens us. We ask ourselves, who am I to be brilliant, gorgeous, talented and fabulous? Actually who are you not to be? You are a child of God. Your playing small doesn't serve the world. There is nothing enlightened about shrinking so that other people won't feel insecure around you. We are born to make manifest the Glory of God that is within us. It's not just in some of us, it's in everyone, and as we let our own light shine, we consciously give other people permission to do the same. As we are liberated from our own fear, our presence automatically liberates others."

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"It is hard to be brave, when you're only a Very Small Animal."
 -- Piglet, Pooh's Little Instruction Book

HW VERSION - 1450 RPM



ITEM	PART No.	QTY	DESCRIPTION	Qty.	MODELS
1	32 0.0132 X	1	WASHER Ø 3 mm	1	
2	508 0170 X	1	SCREW Ø10x10	1	
3	3002 0172 X	1	CAK PIN	1	
4	12 0.0046 X A-D	6	O-RING 242x 17.5 mm	6	
5	5008 0087 X A	5	VALVE SEAT	5	
6	5007 0077 X A	5	VALVE SPRING	5	
7	3002 0172 X A	5	CAK PIN	5	
8	1205 0025 X A	5	VALVE COUPE	5	
9	43 0.0040 X A-D	6	O-RING 272x 20.21 mm	6	
10	5007 0077 X A	5	VALVE SPRING	5	
11	5008 0087 X B	3	HEAD RING Ø18 mm	3	
12	1241 0022 X B	3	RACKING Ø 25 mm	3	4040 S - 4040 S
	4311 0036 X	5	RACKING Ø10 mm	5	1030 S - 4050 S
13	5008 0087 X B	3	INTERMED. RING	3	
14	5009 0018 X	3	INTERMED. RING Ø18 mm	3	
15	5009 0193 X B	3	HEAD RING Ø 3 mm	3	
16	4311 0036 X B	5	RACKING Ø 17.5 mm	5	1030 S - 4050 S
	5007 0077 X B	5	VALVE SPRING	5	1030 S - 4050 S
17	5009 0017 X	3	VALVE RETAINER Ø18 mm	3	
18	12 0.0100 X B-D	3	O-RING 28x14.5 mm	3	
19	5008 0087 X B	5	VALVE SPRING	5	
20	5008 0087 X C	5	VALVE SPRING	5	
21	2811 0082 X D	3	WASHER Ø2x17x 3 mm	3	
22	5202 0022 X C	3	PISTON Ø10 mm	3	
23	5007 0077 X C	5	VALVE SPRING	5	
24	12 0.0039 X C-D	3	O-RING 278x 17.5 mm	3	
25	5008 0170 X C-D	3	ANTI EXTR. RING	3	
26	2408 0040 X	3	PISTON GUIDES	3	
27	5007 0077 X C	5	VALVE SPRING	5	
28	5008 0044 X	5	VALVE SPRING	5	
29	5408 0120 X	1	CRANKCASE	1	

ITEM	PART No.	QTY	DESCRIPTION	Qty.	MODELS
30	3205 0051 C-D	1	CIL PROTECTOR	1	
31	5007 0077 X D	1	VALVE SPRING	1	
32	3205 0051 X-D	1	CIL PROTECTOR	1	
33	12 0.0033 C-D	1	O-RING 28x21.52 mm	1	
34	12 0.0033 C-D	1	O-RING 28x21.52 mm	1	
35	3205 0051 X-D	1	CIL PROTECTOR	1	
36	3205 0051 X-D	1	CIL PROTECTOR	1	
37	3205 0051 X-D	1	CIL PROTECTOR	1	
38	3205 0051 X-D	1	CIL PROTECTOR	1	
39	3205 0051 X-D	1	CIL PROTECTOR	1	
40	3205 0051 X-D	1	CIL PROTECTOR	1	
41	3205 0051 X-D	1	CIL PROTECTOR	1	
42	3205 0051 X-D	1	CIL PROTECTOR	1	
43	3205 0051 X-D	1	CIL PROTECTOR	1	
44	3205 0051 X-D	1	CIL PROTECTOR	1	
45	3205 0051 X-D	1	CIL PROTECTOR	1	
46	3205 0051 X-D	1	CIL PROTECTOR	1	
47	3205 0051 X-D	1	CIL PROTECTOR	1	
48	3205 0051 X-D	1	CIL PROTECTOR	1	
49	3205 0051 X-D	1	CIL PROTECTOR	1	
50	3205 0051 X-D	1	CIL PROTECTOR	1	
51	3205 0051 X-D	1	CIL PROTECTOR	1	
52	3205 0051 X-D	1	CIL PROTECTOR	1	
53	3205 0051 X-D	1	CIL PROTECTOR	1	
54	3205 0051 X-D	1	CIL PROTECTOR	1	
55	3205 0051 X-D	1	CIL PROTECTOR	1	
56	3205 0051 X-D	1	CIL PROTECTOR	1	
57	3205 0051 X-D	1	CIL PROTECTOR	1	
58	3205 0051 X-D	1	CIL PROTECTOR	1	
59	3205 0051 X-D	1	CIL PROTECTOR	1	
60	3205 0051 X-D	1	CIL PROTECTOR	1	
61	3205 0051 X-D	1	CIL PROTECTOR	1	
62	3205 0051 X-D	1	CIL PROTECTOR	1	
63	3205 0051 X-D	1	CIL PROTECTOR	1	
64	3205 0051 X-D	1	CIL PROTECTOR	1	
65	3205 0051 X-D	1	CIL PROTECTOR	1	
66	3205 0051 X-D	1	CIL PROTECTOR	1	
67	3205 0051 X-D	1	CIL PROTECTOR	1	
68	3205 0051 X-D	1	CIL PROTECTOR	1	
69	3205 0051 X-D	1	CIL PROTECTOR	1	
70	3205 0051 X-D	1	CIL PROTECTOR	1	
71	3205 0051 X-D	1	CIL PROTECTOR	1	
72	3205 0051 X-D	1	CIL PROTECTOR	1	
73	3205 0051 X-D	1	CIL PROTECTOR	1	
74	3205 0051 X-D	1	CIL PROTECTOR	1	
75	3205 0051 X-D	1	CIL PROTECTOR	1	
76	3205 0051 X-D	1	CIL PROTECTOR	1	
77	3205 0051 X-D	1	CIL PROTECTOR	1	
78	3205 0051 X-D	1	CIL PROTECTOR	1	
79	3205 0051 X-D	1	CIL PROTECTOR	1	
80	3205 0051 X-D	1	CIL PROTECTOR	1	
81	3205 0051 X-D	1	CIL PROTECTOR	1	
82	3205 0051 X-D	1	CIL PROTECTOR	1	
83	3205 0051 X-D	1	CIL PROTECTOR	1	
84	3205 0051 X-D	1	CIL PROTECTOR	1	
85	3205 0051 X-D	1	CIL PROTECTOR	1	

"Animals are such agreeable friends--they ask no questions; they pass no criticisms."
 -- George Eliot

COMPLETE VALVE KIT
 5025.0011.00

KIT A



5025.0011.00		
ITEM	PART No.	Qty.
4	1210.0046.00	5
6	3000.0037.00	5
8	3803.0017.00	5
7	1802.0177.00	5
8	1205.0026.00	5
9	1210.0040.00	5

PISTON SEAL KIT
 5019.0031.00

KIT B

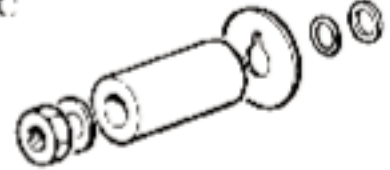


5019.0031.00		
ITEM	PART No.	Qty.
11	0000.0193.00	3
12	1041.0072.00	3
13	0775.0754.00	3
14	0000.0193.00	3
16	1041.0072.00	3
18	1070.0194.00	3

5019.0044.00		
ITEM	PART No.	Qty.
4	1210.0046.00	5
9	1210.0046.00	5
18	1210.0046.00	5
19	0810.0096.00	5
24	1210.0026.00	5
25	0804.0121.00	5
34	1210.0099.00	1
35	1210.0026.00	1
38	1210.0041.00	1
68	0810.0096.00	1
69	1210.0099.00	1
74	1210.0099.00	1

PISTON KIT
 2409.0073.00

KIT C



2409.0073.00		
ITEM	PART No.	Qty.
20	0000.0054.00	3
21	2011.0002.00	3
22	0000.0022.00	3
23	2012.0042.00	3
24	1210.0039.00	3
25	0000.0173.00	3

SEAL KIT
 SOLID SHAFT 5019.0044.00

KIT D

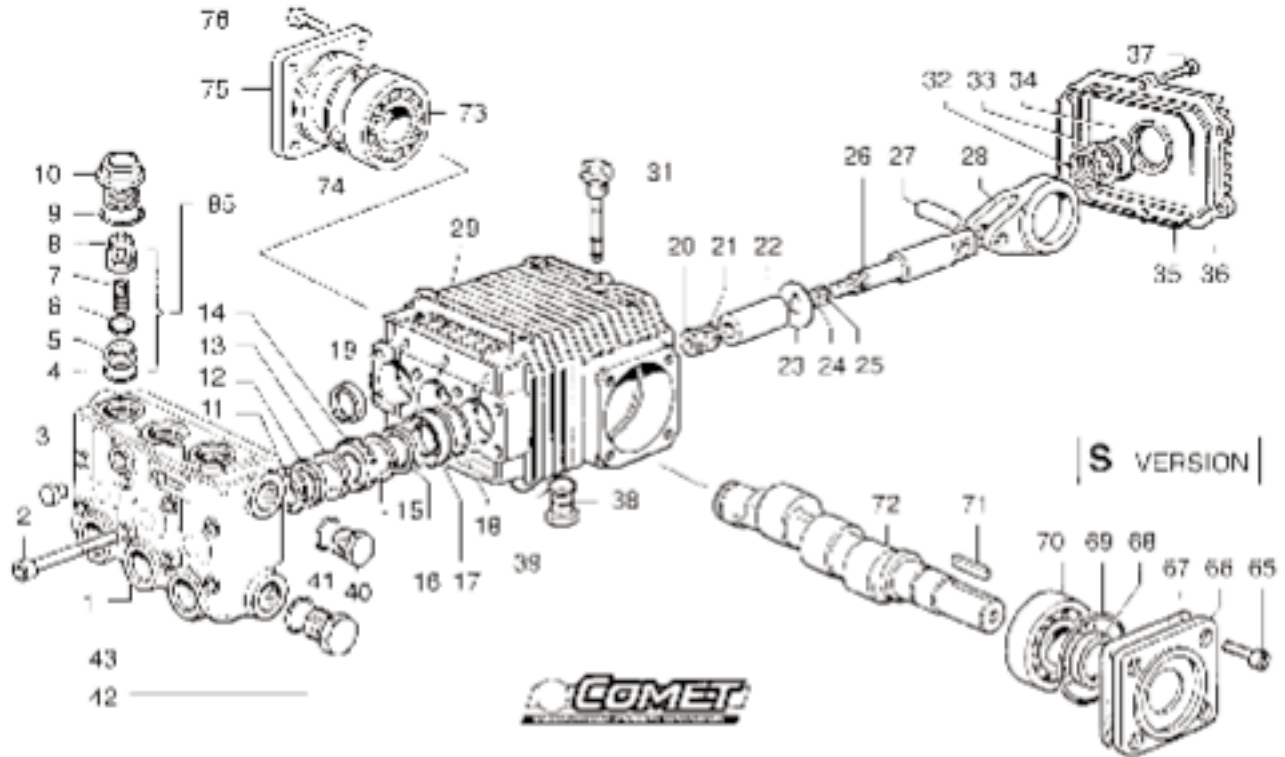


"By what right has the dog come to be regarded as a "noble" animal? The more brutal and cruel and unjust you are to him the more your fawning and adoring slave he becomes; whereas, if you shamefully misuse a cat once she will always maintain a dignified reserve toward you afterward- you will never get her full confidence again."
 -- Mark Twain

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"[Watching a baby being born] is a little like watching a wet St. Bernard coming in through the cat door."
 -- Jeff Foxworthy

HWS VERSION - 1750 RPM



ITEM	PART No.	REV	DESCRIPTION	Qty.	MODELS
1	32 6.0120.00		MANIFOLD Ø 18 mm	1	
2	3000.0170.00		SEAL IN HOLES	5	
3	3000.0190.00		CAP SCREW	1	
4	12 6.0046.00	A	O-RING 2.62X 7.5 mm	5	
5	3000.0097.00	A	VALVE SEAT	5	
6	3000.0077.00	A	VALVE BALL	5	
7	3000.0170.00	A	SEAL IN HOLES	5	
8	1205.0026.00	A	VALVE CASE	5	
9	12 6.0046.00	A	O-RING 2.62X 7.5 mm	5	
10	3000.0190.00		CAP	5	
11	3000.0190.00	B	HEAD (PVC) Ø18 mm	5	
12	1241.0022.00	B	RACING V Ø18 mm	5	4040 B - 4040 E 5000 B - 5000 E
	1241.0080.00		RACING Ø 8 mm	5	4030 B - 4030 E
13	3000.0270.00	B	RACING Ø 10 mm	5	
14	3000.0170.00		SEAL IN HOLES Ø18 mm	5	
15	3000.0190.00	B	HEAD (PVC) Ø18 mm	5	
16	1241.0080.00	B	RACING V Ø18 mm	5	4040 B - 4040 E 5000 B - 5000 E
	1241.0035.00		RACING Ø 8 mm	5	4030 B - 4030 E
17	3000.0170.00		RACING RETAINER Ø 10 mm	5	
18	12 6.0046.00	A	O-RING 2.62X 7.5 mm	5	
19	3000.0000.00	C	OL. BEA. 20X30X3 mm	3	
20	3000.0064.00	C	NUT	3	
21	3000.0002.00	C	WASHER 1.5X4X2.7 mm	5	
22	3000.0022.00	C	WASHER 3.0X3 mm	5	
23	28 6.0040.00	C	WASHER	3	
24	12 6.0039.00	C	O-RING 1.75X 7.00 mm	5	
25	3000.0170.00	C	SEAL IN HOLES	5	
26	3000.0046.00	C	WASHER 3.0X3 mm	5	
27	3000.0046.00	C	WASHER 3.0X3 mm	3	
28	3205.0044.00	C	CON ROD	5	
29	3000.0190.00	C	SEAL IN HOLES	1	

ITEM	PART No.	REV	DESCRIPTION	Qty.	MODELS
31	3205.0051.00		CIL. DRIVE SHAFT	1	
32	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
33	3000.0190.00		CIL. HEAD SCREW	1	
34	12 6.0033.00	C	O-RING 1.75X2.50 mm	1	
35	3205.0010.00	C	O-RING 2.62X2.62 mm	1	
36	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
37	3000.0190.00		SEAL IN HOLES	1	
38	3205.0007.00		CAP 3-5 GAZ	1	
39	3205.0010.00	C	O-RING 2X 7 mm	1	
40	3000.0170.00		SEAL IN HOLES	1	
41	3000.0084.00		WASHER 1.5X4X2.5 mm	1	
42	3202.0010.00		CAP Ø12	1	
43	3000.0000.00		WASHER 3.0X3X1.5 mm	1	
44	3000.0170.00		SEAL IN HOLES	1	
45	3000.0170.00		FLANGE	1	
46	3000.0170.00		FLANGE	1	
47	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
48	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
49	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
50	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
51	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
52	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
53	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
54	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
55	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
56	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
57	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
58	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
59	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
60	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
61	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
62	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
63	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
64	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
65	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
66	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
67	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
68	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
69	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
70	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
71	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
72	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
73	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
74	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
75	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
76	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
77	3000.0170.00		SEAL IN HOLES Ø18 mm	1	
78	3000.0170.00		SEAL IN HOLES Ø18 mm	1	

"Dachshunds are ideal dogs for small children, as they are already stretched and pulled to such a length that a child cannot do much harm one way or another."
 -- Robert Benchley (1889 - 1945)

COMPLETE EARIF KIT
 5025.0011.00

KIT A



5025.0011.00		
PCB. ITEM	CODICE PART No.	Q.tà Qty.
4	121C.0040.00	3
5	3000.0027.00	3
6	3804.0017.00	3
7	1802.C.177.00	3
8	1205.0020.00	3
9	121C.0040.00	3

PISTON SEAL KIT
 Ø 38 mm 5013.0031.00

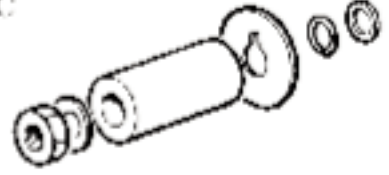
KIT B



5013.0031.00		
ITEM	PART No.	Qty.
1	CCCC.0105.00	3
12	121C.0022.00	3
13	CCCC.0114.00	3
14	CCCC.0105.00	3
16	121C.0022.00	3
18	121C.0150.00	3

PISTON KIT
 Ø 38 mm 2409.0073.00

KIT C

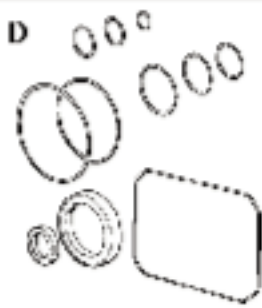


2409.0073.00		
ITEM	PART No.	Qty.
20	3000.0050.00	3
21	2011.0002.00	3
22	3332.0022.00	3
23	2012.00+2.00	3
24	1215.0039.00	3
25	3339.0170.00	3

5013.0045.00		
ITEM	PART No.	Qty.
7	121C.0040.00	3
9	121C.0040.00	3
18	121C.0150.00	3
19	CC.5000.00	3
24	121C.0022.00	3
25	CCCC.1177.00	3
34	121C.0055.00	1
35	121C.0020.00	1
38	121C.0041.00	1
49	EE-S.1100.00	1
50	121C.0100.00	1
74	121C.0050.00	1

SEAL KIT
 Ø 60, Ø 60, Ø 60 5013.0047.00

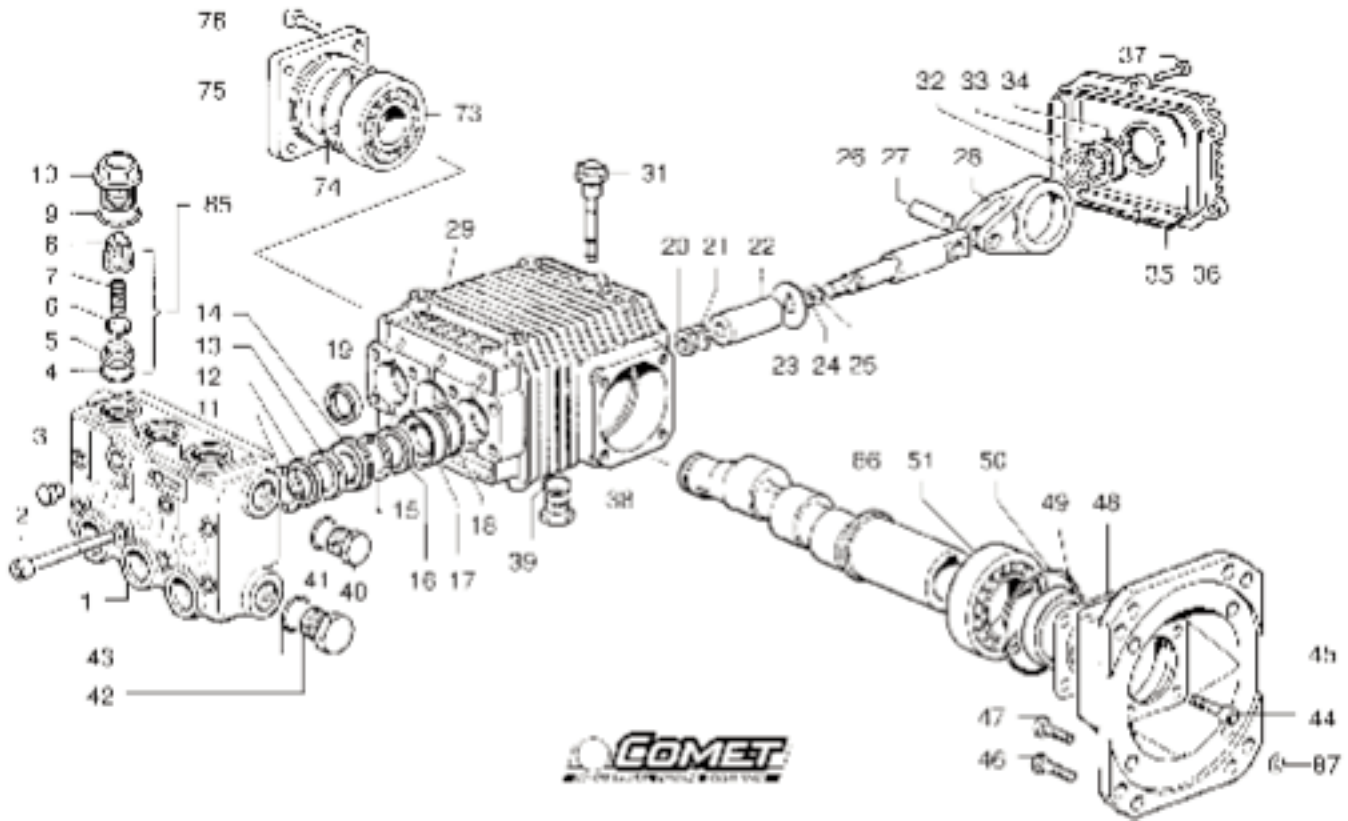
KIT D



"There is an Indian legend which says when a human dies there is a bridge they must cross to enter into heaven. At the head of that bridge waits every animal that human encountered during their lifetime. The animals, based upon what they know of this person, decide which humans may cross the bridge.... and which are turned away..."
 -- Unknown

"People who say they sleep like a baby usually don't have one."
 -- Leo J. Burke

HWD VERSION - 3400 RPM



ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODEL#
1	0011.C122.CO		MANIFOLD Ø 18 mm	1	
2	0009.C120.CO		SCREW M3X10	8	
3	0226.C111.CO		ISA 1/2" 1/4"	1	
4	1211.C040.CO		A-D O-RING 2,1/2X 17,15 mm	8	
5	0007.C057.CO		A VALVE SEAT	6	
6	0004.C017.CO		A VALVE PLATE	6	
7	1006.C122.CO		A SPRING	6	
8	1007.C027.CO		A VALVE CAGE	6	
9	0107.C015.CO		A-D O-RING 3,1/2X 36,31 mm	6	
10	0201.C211.CO		ISA1	8	
11	0002.C122.CO		B HEAD RING Ø18 mm	3	
12	0111.C022.CO		B PISTONS Y Ø 9 mm	3	
13	0006.C014.CO		B PISTONS Ø17 mm	3	
14	0111.C016.CO		B-B PISTON RING Ø18 mm	3	
15	0002.C122.CO		B HEAD RING Ø18 mm	3	
16	0111.C022.CO		B PISTONS Y Ø 9 mm	3	
17	0006.C014.CO		PISTONS Ø17 mm	3	
18	1211.C126.CO		b-D O-RING 1,5X21,41 mm	3	
19	0011.C050.CO		D OIL SEAL Ø2X30X5 mm	3	
20	0807.C004.CO		C NUT	3	
21	0011.C016.CO		C WASHER 1,2X17,15 mm	3	
22	0202.C022.CO		C PISTON Ø 9 mm	3	
23	0015.C015.CO		C WASHER	3	
24	1211.C011.CO		CRANK PIN 1,10X 7 mm	3	
25	0002.C122.CO		CRANK PIN RING	3	
26	2402.C045.CO		PISTON SLIDERS	3	
27	0011.C014.CO		CRANK PIN Ø16X29 mm	3	
28	0201.C014.CO		ISA 1/2" 1/4"	3	
29	0403.C130.CO		CRANKCASE	1	
31	0202.C051.CO		OIL DIPSTICK	1	
32	0015.C011.CO		SHAKE RING Ø16 mm	1	
33	0201.C015.CO		CRANKCASE	1	

ITEM	PART No.	KIT	DESCRIPTION	Qty.	MODEL#
34	1206.C021.CO		FLANGE 1,75X10,62 mm	1	
35	0102.C016.CO		D O-RING 2,62X10,62 mm	1	
36	0002.C015.CO		CRANKCASE COVER	1	
37	0004.C017.CO		VALVE PLATE	6	
38	0007.C057.CO		VALVE SEAT	6	
39	0107.C015.CO		D O-RING 3,1/2 X 36,31 mm	1	
40	0007.C057.CO		VALVE SEAT	1	
41	0011.C014.CO		WASHER 1,2X17,15 mm	1	
42	0006.C014.CO		VALVE PLATE	1	
43	0011.C030.CO		WASHER 2,1/2X27,5 mm	1	
44	0007.C057.CO		SCREW M3X10	1	
45	0007.C057.CO		FLANGE	1	
46	0007.C057.CO		SCREW M3X10	1	
47	0007.C015.CO		SCREW 5/16"X1"	1	
48	0007.C057.CO		WASHER 1,2X17,15 mm	1	
49	0007.C057.CO		WASHER 1,2X17,15 mm	1	
50	0007.C057.CO		WASHER 1,2X17,15 mm	1	
51	0007.C057.CO		WASHER 1,2X17,15 mm	1	
52	0007.C057.CO		WASHER 1,2X17,15 mm	1	
53	0007.C057.CO		WASHER 1,2X17,15 mm	1	
54	0007.C057.CO		WASHER 1,2X17,15 mm	1	
55	0007.C057.CO		WASHER 1,2X17,15 mm	1	
56	0007.C057.CO		WASHER 1,2X17,15 mm	1	
57	0007.C057.CO		WASHER 1,2X17,15 mm	1	
58	0007.C057.CO		WASHER 1,2X17,15 mm	1	
59	0007.C057.CO		WASHER 1,2X17,15 mm	1	
60	0007.C057.CO		WASHER 1,2X17,15 mm	1	
61	0007.C057.CO		WASHER 1,2X17,15 mm	1	
62	0007.C057.CO		WASHER 1,2X17,15 mm	1	
63	0007.C057.CO		WASHER 1,2X17,15 mm	1	
64	0007.C057.CO		WASHER 1,2X17,15 mm	1	
65	0007.C057.CO		WASHER 1,2X17,15 mm	1	
66	0007.C057.CO		WASHER 1,2X17,15 mm	1	
67	0007.C057.CO		WASHER 1,2X17,15 mm	1	

"It goes without saying that you should never have more children than you have car windows."
 --Erma Bombeck

COMPLETE CARTRIDGE KIT
 5025.0011.00

KIT A



5025.0011.00		
PCB ITEM	CODE/ PART No.	Qty.
4	121C.CC40.C0	3
5	3000.CC27.C0	3
6	3804.LL77.C0	3
7	1802.C177.C0	3
8	1205.CC20.C0	3
9	121C.CC40.C0	3

PISTON SEAL KIT
 4.78 mm 5013.0051.00

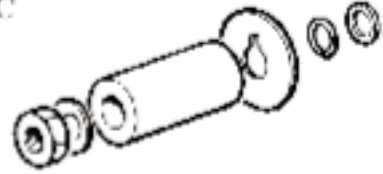
KIT B



5013.0051.00		
ITEM	PART No.	Qty.
1	CCCC.C105.C0	3
12	1241.CC22.C0	3
13	CCCC.C114.C0	3
14	CCCC.C105.C0	3
16	1241.CC22.C0	3
18	121C.CC40.C0	3

PISTON KIT
 4.78 mm 2409.0073.00

KIT C

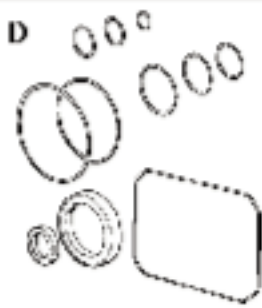


2409.0073.00		
ITEM	PART No.	Qty.
20	3000.CC27.C0	3
21	3804.LL77.C0	3
22	3337.CC22.C0	3
23	2812.CC20.C0	3
24	121C.CC40.C0	3
25	3000.CC27.C0	3

5013.0045.00		
ITEM	PART No.	Qty.
7	121C.CC40.C0	3
9	121C.CC40.C0	3
18	121C.CC40.C0	3
19	CC5000.C0	3
24	121C.CC40.C0	3
35	CCCC.F177.C0	3
34	121C.CC55.C0	1
35	121C.CC20.C0	1
38	121C.CC41.C0	1
49	EE5777.C0	1
50	121C.CC20.C0	1
74	121C.CC55.C0	1

SEAL KIT
 100.0000.00 5013.0047.00

KIT D



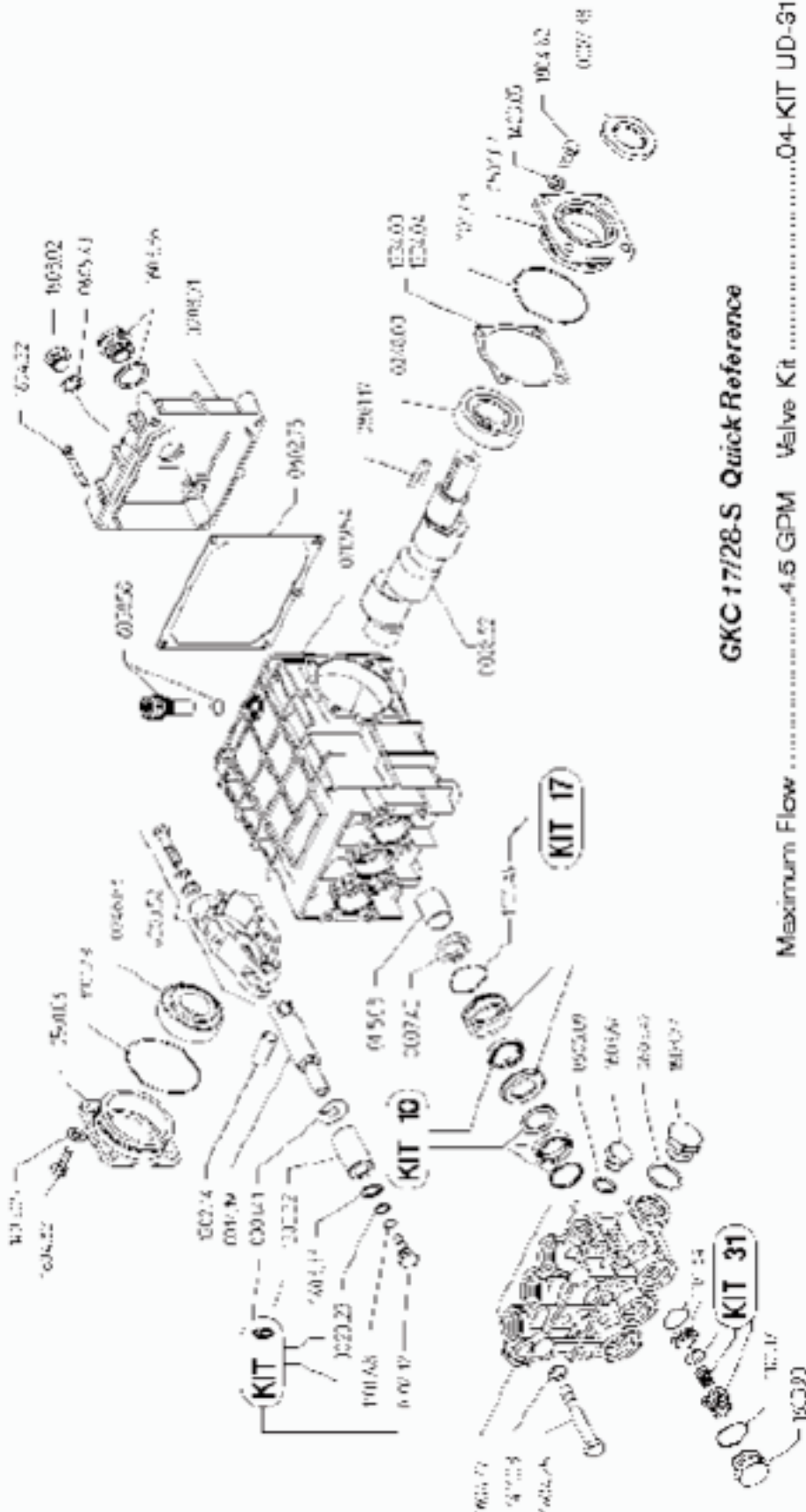
"The one absolutely unselfish friend that man can have in this selfish world, the one that never deserts him, the one that never proves ungrateful or treacherous, is his dog. . . .He will kiss the hand that has no food to offer; he will lick the wounds and sores that come in encounter with the roughness of the world. . . .When all other friends desert, he remains."
 -- George G. Vest

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"I think dogs are the most amazing creatures; they give unconditional love. For me they are the role model for being alive."
 -- Gilda Radner, (1946 - 1989) US actress

Revised 3-1-2003

GKC 17/28-S

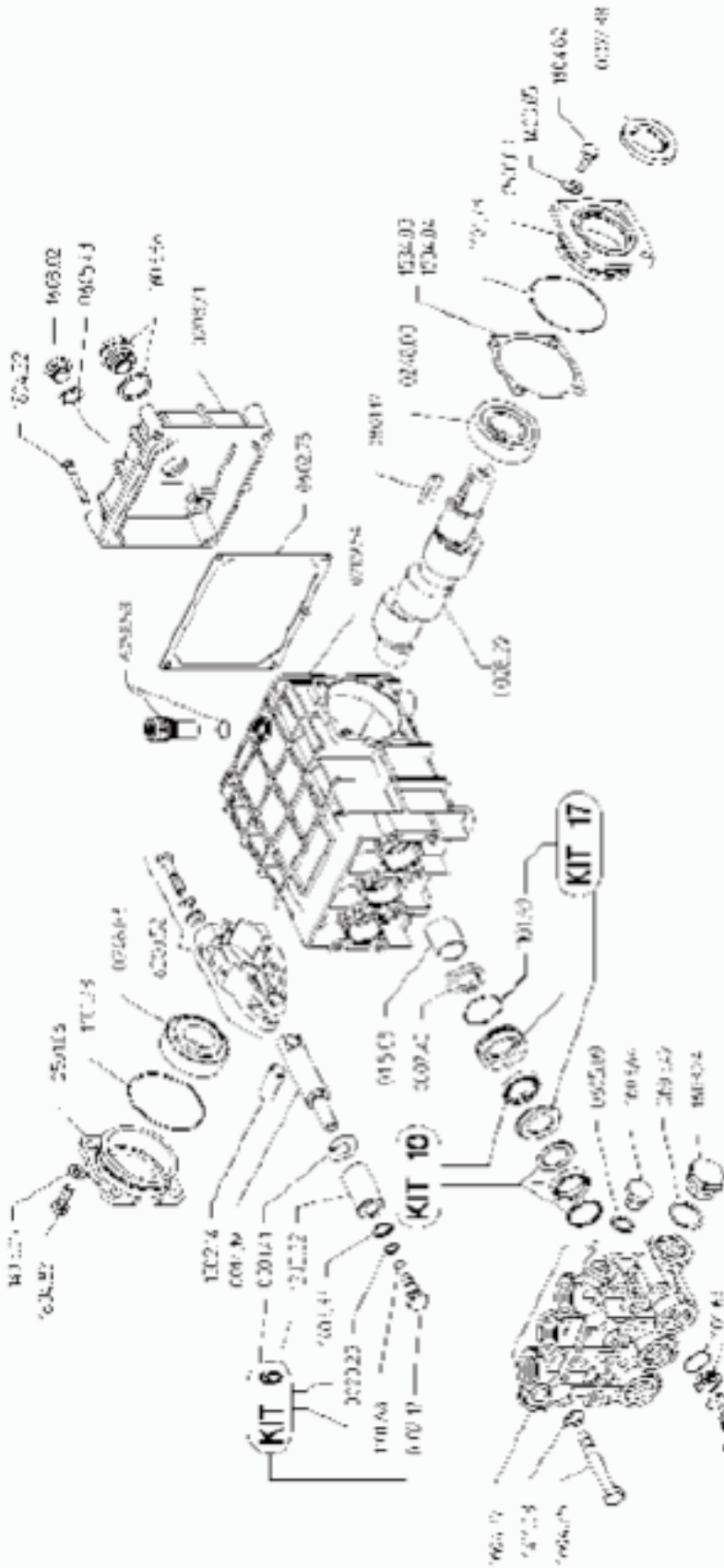


GKC 17/28-S Quick Reference

Maximum Flow	4.5 GPM	Valve Kit	04-KIT UD-31
Maximum Pressure	4000 PSI	Seal Kit	04-KIT UD-10
Rated Pump Speed	1450 RPM	Brass Kit	04-KIT UD-17
Oil Capacity	40 oz. UDOR LUBE or SAE 30W Non-Detergent Oil	Plunger Bolt Kit	04-KIT UD-6
		Plunger Part #	04-1205.92
		Plunger Diameter .....	.22 MM

"One of my more effective parental strategies is to make Lists of Rules to be Obeyed And I Really Mean it This Time, and post these articles on the refrigerator in the kitchen so my children will have a written record of what they are ignoring."
 --W. Bruce Cameron

GKC 21/28-S



GKC 21/28-S Quick Reference

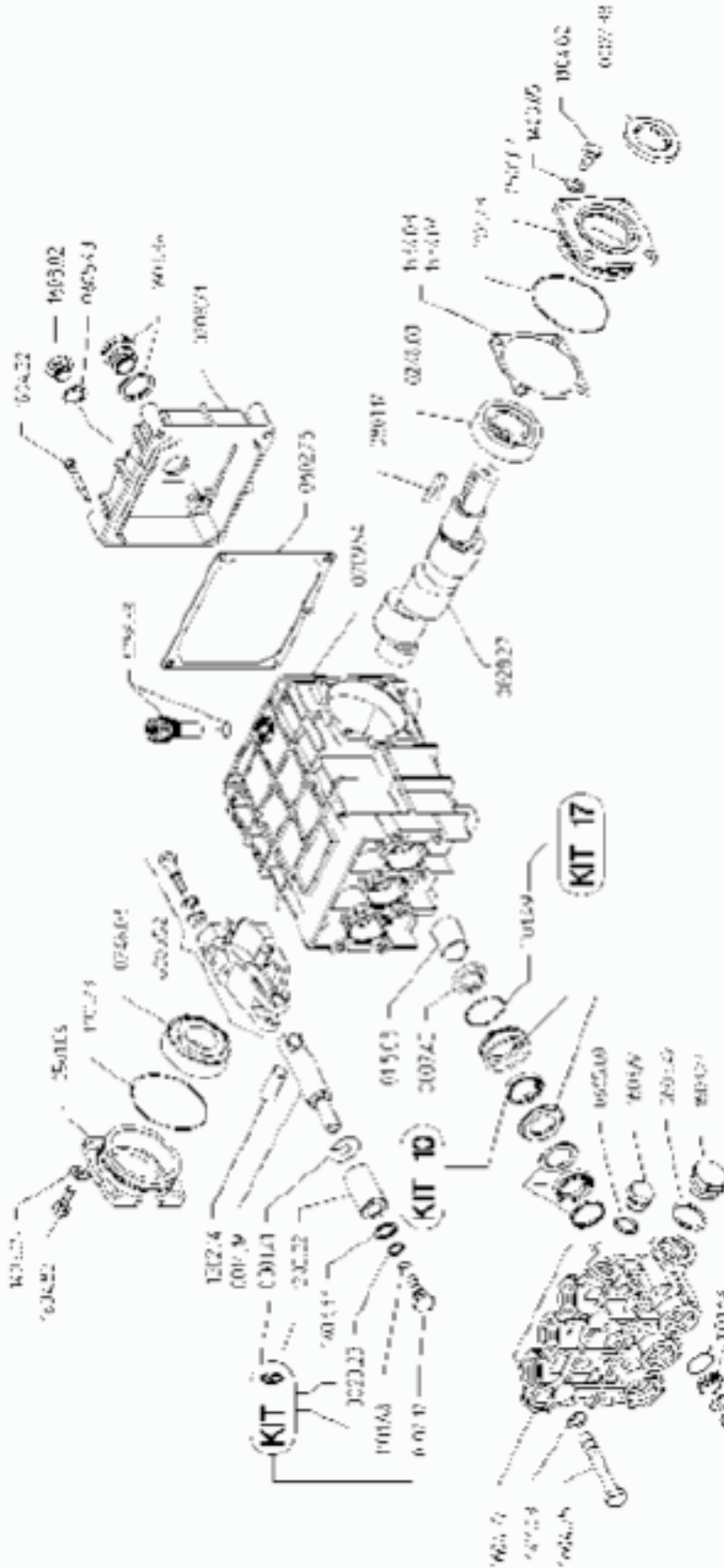
Maximum Flow	6.6 GPM	Valve Kit	04-KIT UD-51
Maximum Pressure	4000 PSI	Seal Kit	04-KIT UD-10
Rated Pump Speed	1450 RPM	Brass Kit	04-KIT UD-17
Oil Capacity	40 oz. UDOR LUBE or SAE 30W Non-Detergent Oil	Plunger Ball Kit	04-KIT UD-6
		Plunger Part #	04-120532
		Plunger Diameter	22 MM 8002-1-6 pass (H)

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"No matter how little money and how few possessions you own, having a dog makes you rich."
 -- Louis Sabin

Revised 3-1-2003

GKC 26/24-S



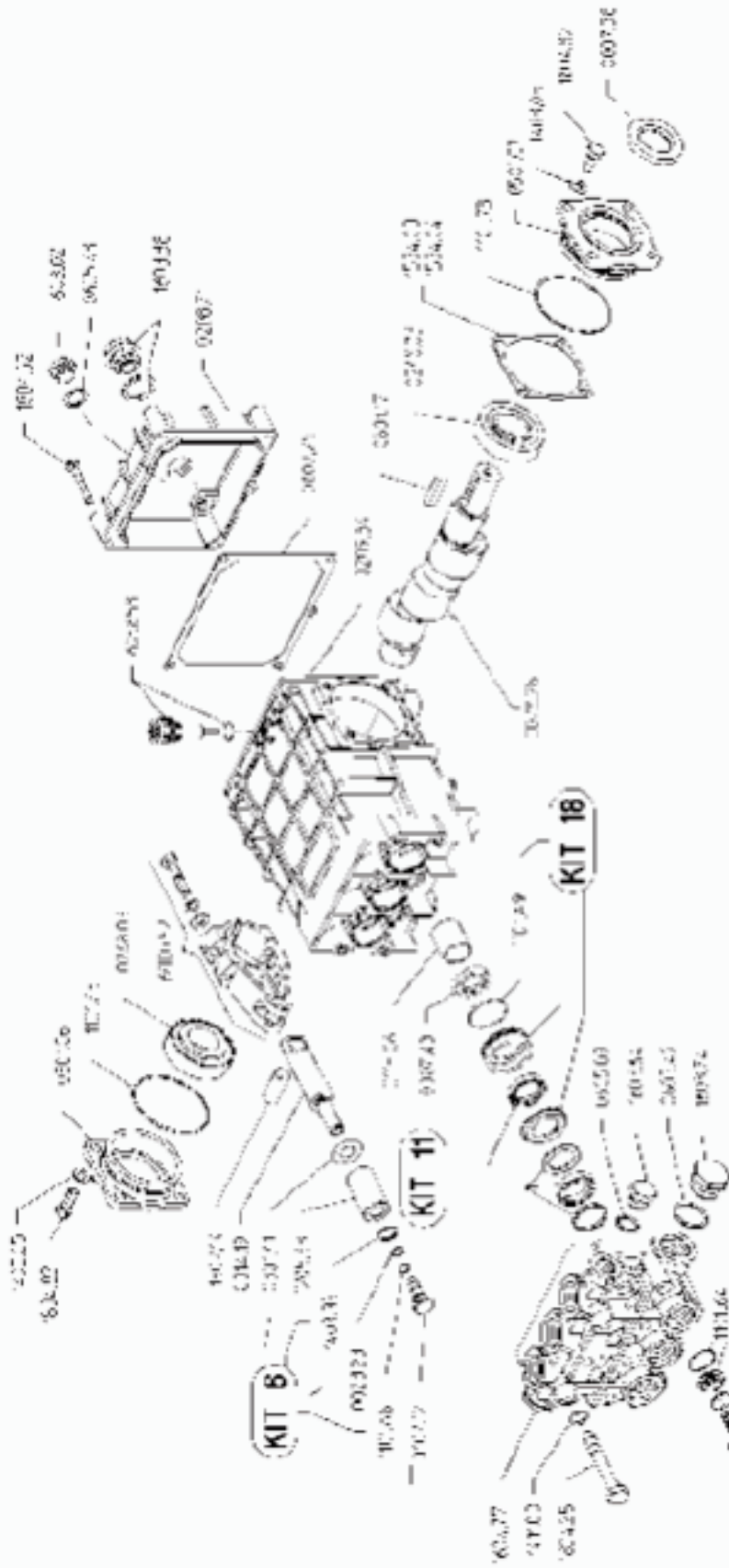
GKC 26/24-S Quick Reference

Maximum Flow	7.0 GPM	Valve Kit	04-KIT UD-31
Maximum Pressure	3600 PSI	Seal Kit	04-KIT UD-10
Rated Pump Speed	1450 RPM	Brass Kit	04-KIT UD-17
Oil Capacity	40 oz. UDOR LUBE or SAE 30W	Plunger Bolt Kit	04-KIT UD-6
	Non-Detergent Oil	Plunger Part #	04-1205.32
		Plunger Diameter .....	.22 MM

"Dogs have given us their absolute all. We are the center of their universe. We are the focus of their love and faith and trust. They serve us in return for scraps. It is without a doubt the best deal man has ever made."
 -- Roger Caras

GKC 30/20-S

Revised 3-1-2002



GKC 30/20-S Quick Reference

Maximum Flow	8.0 GPM	Valve Kit	04-KIT UD-9
Maximum Pressure	3000 PSI	Seal Kit	04-KIT UD-11
Rated Pump Speed	1460 RPM	Brass Kit	04-KIT UD-18
Oil Capacity	40 oz. UDOR LUBE or SAE 30W	Plunger Bolt Kit	04-KIT UD-6
	Non-Detergent Oil	Plunger Part #	04-1205-33
		Plunger Diameter .....	.25 MM

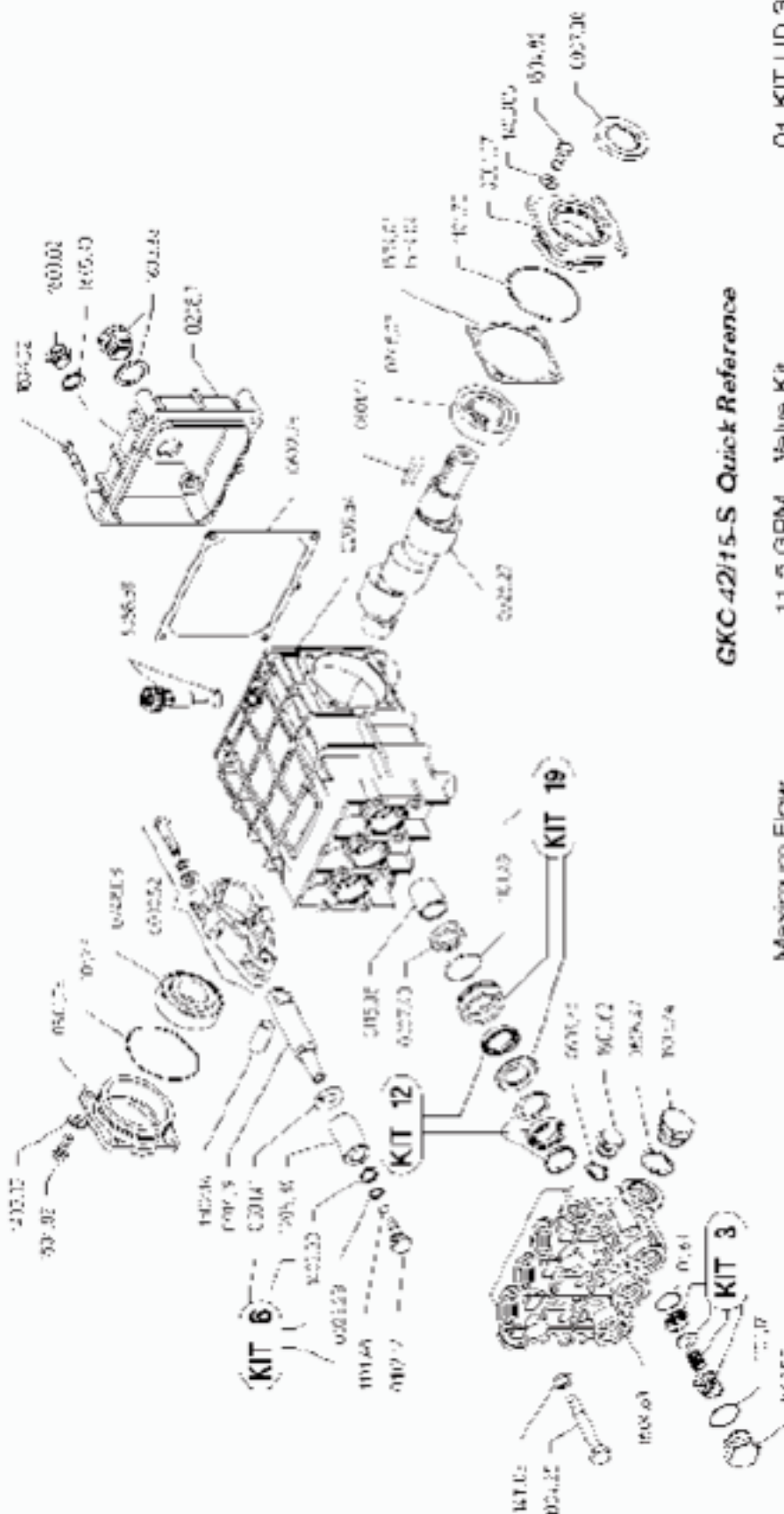
SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)

"There is no psychiatrist in the world like a puppy licking your face."
 -- Ben Williams



GKC 42/15-S

Revised 3-1-2008



GKC 42/15-S Quick Reference

Maximum Flow	11.5 GPM	Valve Kit .....	.04-KIT UD-9
Maximum Pressure	2200 PSI	Seal Kit .....	.04-KIT UD-12
Rated Pump Speed	1450 RPM	Brace Kit .....	.04-KIT UD-19
Oil Capacity .....	.40 oz. UDOR LUBE or SAE 30W	Plunger Bolt Kit .....	.04-KIT UD-6
	Non-Detergent Oil	Plunger Part # .....	.04-1205.34
		Plunger Diameter .....	.28 MM

SAVE AN ADDITIONAL 10%. When you purchase \$150.00 in CHEMICAL your account will be "TOGGLED ON" and you will receive and additional 10% OFF of every item you order for the rest of the month. (see front)



ENVIROSPEC

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