

7CP Plunger Pump

Model **7CP6170**

FEATURES

Superior Design

- Triplex plunger design gives smoother liquid flow.
- V-Packings are completely lubricated and cooled by the liquid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seals provide double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Convenient dipstick for oil level check.

Quality Materials

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged Brass manifold for strength and corrosion resistance.
- Special concentric, high density, polished, graphite impregnated, solid ceramic plungers are abrasion resistant and result in extended seal life.
- Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity mean longer bearing life.

Easy Maintenance

- Convenient "press-in" style seal case for ease in servicing.
- Wet-end is easily serviced without entering crankcase, requiring less time and effort.
- Valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

⚠ WARNING

All systems require both a primary pressure regulating device (i.e., regulator, unloader) and a secondary pressure safety relief device (i.e., pop-off valve, safety valve). Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	11 GPM	(41.6 L/M)
Pressure Range.....	100 to 2000 PSI	(7 to 140 BAR)
Inlet Pressure Range	Flooded to 70 PSI	(Flooded to 7 BAR)
RPM	1450 RPM	(1450 RPM)
Bore.....	0.866"	(22 mm)
Stroke	1.024"	(26 mm)
Crankcase Capacity	38 oz.	(1.15 L)
Maximum Liquid Temperature	140°F	(60°C)
Inlet Ports (2)	3/4" NPTF	(3/4" NPTF)
Discharge Ports (2).....	1/2" NPTF	(1/2" NPTF)
Shaft Diameter (D-End).....	0.945"	(24 mm)
Weight.....	40 lbs.	(14 kg)
Dimensions	13.47 x 11.14 x 6.85"	(342 x 283 x 174 mm)

HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			MOTOR PULLEY SIZE	
		PSI 1500	PSI 1800	PSI 2000	Using 1725 RPM Motor & Std. 9.75" Pump Pulley	
U.S. GPM	L/M	BAR 105	BAR 125	BAR 140	RPM	Pulley O.D.
11.0	41.6	11.3	13.6	15.1	1450	8.2
10.0	38.0	10.3	12.4	13.7	1318	7.5

DETERMINING THE PUMP R.P.M. $\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}} = \frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$

DETERMINING THE REQUIRED H.P. $\frac{\text{GPM x PSI}}{1460} = \text{Electric Brake H. P. Required}$

DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.
Refer to pump Service Manual for repair procedure and additional technical information.

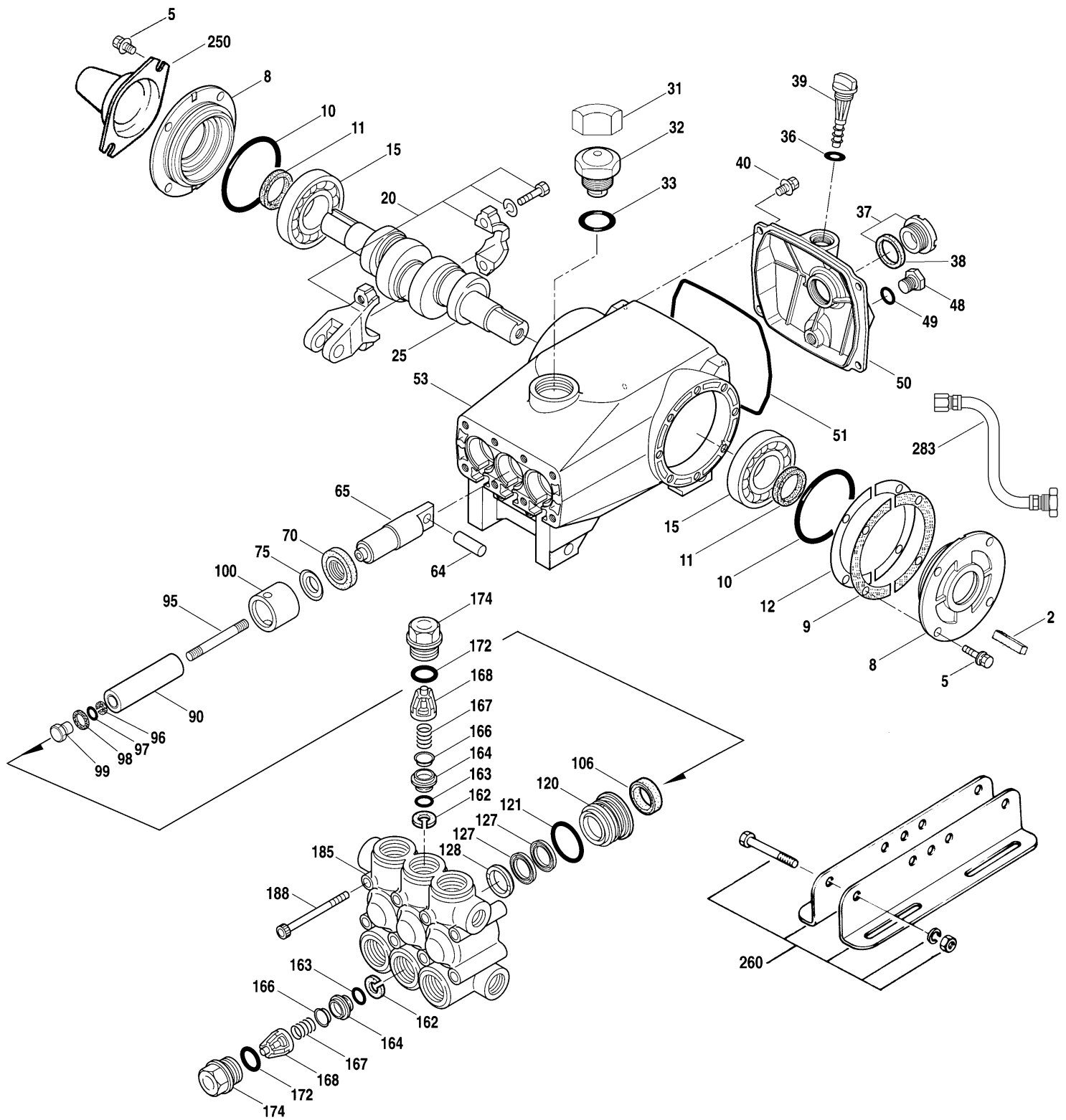
"Customer confidence is our greatest asset"

PARTS LIST

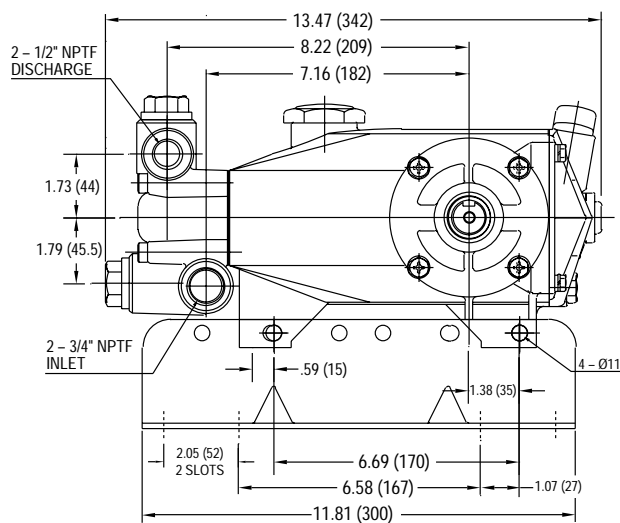
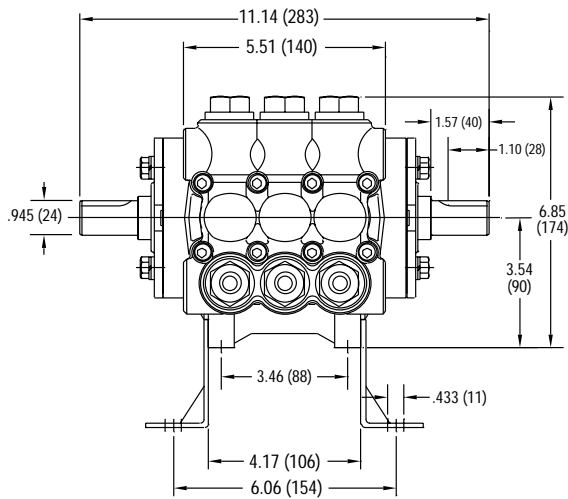
ITEM	P/N	MATL	DESCRIPTION	QTY
● 2	30067	STL	Key (M8x7.5x25)	1 ●
5	48479	STZP	Screw, HHC Sems (M8x20)	8
8	48266	AL	Cover, Bearing	2
9	48469	FBR	Shim, Split (OUTER)	0-6
10	12393	NBR	O-Ring, Bearing Cover - 70D	2
11	55337	NBR	Seal, Oil Crankshaft - 70D	2
12	48568	S	Shim, Split (INNER)	0-4
15	63479	STL	Bearing, Roller	2
20	46960	ZZ	Rod, Connecting Assembly	3
25	46963	FCM	Crankshaft (Dual-End)	1
31	828710		Protector, Oil Cap	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
36	11338	NBR	O-Ring, Dip-Stick - 70D	1
37	92241		Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
39	27769	ABS	Stick, Dip	1
40	92519	STZP	Screw, HHC Sems (M6x16)	4
48	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	O-Ring, Drain Plug - 70D	1
50	46959	AL	Cover, Rear	1
51	14030	NBR	O-Ring, Rear Cover - 70D	1
● 53	48577	AL	Crankcase	1 ●
64	46969	CM	Pin, Crosshead	3
65	46968	BBNP	Rod, Plunger	3
70	48281	NBR	Seal, Oil Crankcase - 70D	3
75	43328	S	Slinger, Barrier	3
90	48559	CC	Plunger, Ceramic (M22x53)	3
95	85590	STZP	Stud, Plunger Retainer (M6x50)	3
96	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	O-Ring, Plunger Retainer - 80D	3
	◆ 46204	EPDM	O-Ring, Plunger Retainer - 70D	3
98	45891	CU	Gasket	3
99	46504	S	Retainer, Plunger	3
100	46964	PVDF	Retainer, Seal	3
106	48276	NBR	Seal, LPS w/S-Spg	3
	◆ 48650	EPDM	Seal, LPS w/S-Spg	3
120	48279	BB	Case, Seal	3
121	13984	NBR	O-Ring, Seal Case - 70D	3
	◆ 48649	EPDM	O-Ring, Seal Case - 70D	3
127	48278	STG*	V-Packing	6
128	48280	BB	Adapter, Male	3
162	43248	PTFE	Back-up-Ring, Seat	6
163	43249	NBR	O-Ring, Seat - 80D	6
	◆ 46206	EPDM	O-Ring, Seat - 70D	6
164	44718	S	Seat	6
166	43721	S	Valve	6
167	43751	S	Spring	6
168	44564	PVDF	Retainer, Spring	6
172	17617	NBR	O-Ring, Valve Plug - 90D	6
	◆ 46207	EPDM	O-Ring, Valve Plug - 70D	6
174	43850	BB	Plug, Valve	6
185	48274	FBB	Head, Manifold	1
188	87872	STZP	Screw, HSH (M8x70)	8
250	120220	STCP	Protector, Shaft	1
260	30613	STZP	Assy, Angle, Rail (Incls: 30635, 30903, 30921, 30912)	1
● 269	30206	F	Pulley (10") [See Drive Packages, Tech Bulletin 003]	1 ●
● 274	33000	STL	Hub, "H", M24 (Keyway M8) [See Drive Packages, Tech Bulletin 003]	1 ●
● 283	34334		Kit, Oil Drain	1 ●
● 299	816764	FBB	Head, Complete	1 ●
300	31933	NBR	Kit, Seal (Incls: 97, 106, 121, 127)	1
	◆ 31936	EPDM*	Kit, Seal (Incls: 97, 106, 121, 127)	1
310	34920	NBR	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
	◆ 31253	EPDM	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
—	6107	—	Oil, Bottle (21 oz.) ISO 68 Multi-Viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

● Industrial discount. *Italics are optional items.* ◆ Silicone oil/grease required. *Review material codes for individual items (STG generally may be used as alternate).
 See Tech Bulletins 002, 003, 024, 036, 043, 053, 064, 074, 077 and 083 for additional information.
 MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly
 CU=Copper EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FBR=Fiber FCM=Forged Chrome-moly NBR=Medium Nitrile (Buna-N)
 PTFE=Pure Teflon® PVDF=Fluoroplastic (High Strength) S=304SS STG=Special Blend (Teflon®) White STL=Steel
 STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZZ=Zamak

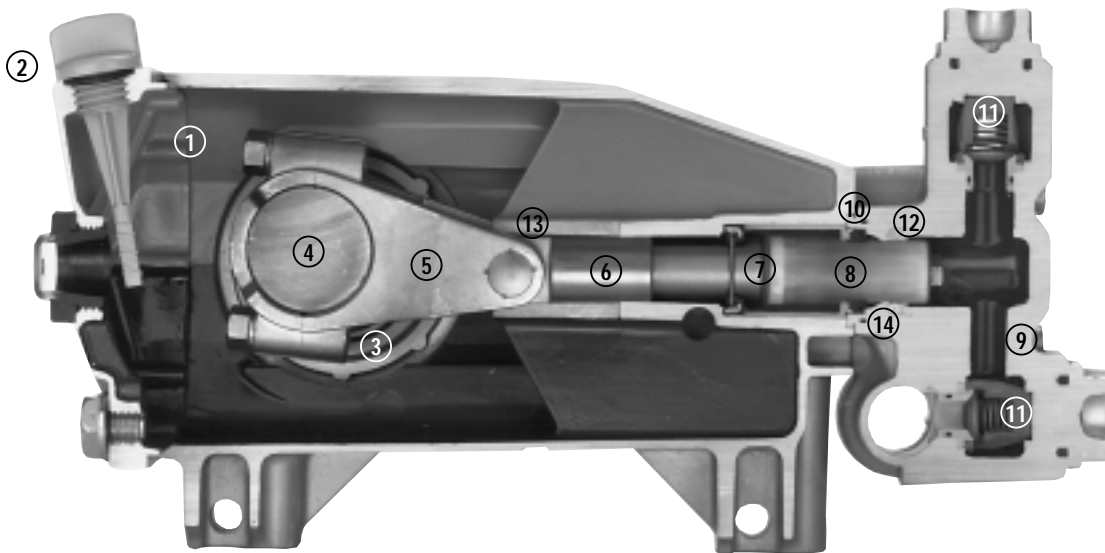
EXPLODED VIEW



Model 7CP6170
March 2002



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- 1 Die cast aluminum **crankcase** offers high strength, lightweight, and excellent tolerance control with convenient top filling oil cap.
- 2 **Dipstick** offers optional top access in addition to real bubble oil gauge for easy oil level check.
- 3 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 4 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 5 Matched high strength **connecting rods** noted for strength and superior bearing quality.
- 6 The **plunger rods** with hardened surfaces offer wear resistance and Zamak cross-heads for high load capacity.
- 7 The stainless steel **slinger** provides backup protection for the crankcase seal, keeping pumped liquids out of the crankcase.
- 8 Special concentric, high density, polished, graphite impregnated, solid ceramic **plungers** are abrasion resistant and result in extended seal life.
- 9 **Manifolds** are a high tensile strength forged brass for long term, continuous duty.
- 10 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
- 11 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 12 Specially formulated, CAT PUMP exclusive, **V-Packings** offer unmatched performance and seal life.
- 13 **Crossheads** are 360° supported for uncompromising alignment.
- 14 Press-in style **seal case** offers alignment and support for seals and "no tools" servicing.

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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