

# TECH-TALK: ENGINES

## FORMULAS FOR DETERMINING THE BEST HORSEPOWER:

Pressure washers are generally powered by gasoline engines, diesel engines, propane fired engines, or electric motors. Force created by the power plant turns the pressure pump, which in turn moves the water. A power plant must have enough force to continue to turn the pump crankshaft when the pump is pushing water out its rated flow and pressure. The following formulas are used to determine how much power is required to drive a specific pump.

The power is measured in horsepower.

GPM x PSI then divide by 1100 Equals Gas HP  
 GPM x PSI then divide by 1260 Equals Diesel HP

## CAUTION

When using a gear drive pump you have to remember to adjust your horsepower requirements.

For example; let's say that you want to produce 10.0 GPM @ 3,200 PSI. Using the formula above you would assume that 10.0 x 3200 divided by 1100 would be adequate. After all the math says all you will need for this specification is 29 horsepower and since you have a 30 horsepower engine you should be all set? Right? Wrong!

When you use a gear drive your maximum engine speed should be no more than 3200 RPM. Since engine horsepower on gas engines is always rated at 3600 RPM you can see that by reducing the speed so do you reduce the horsepower.

30 horsepower divided by 3600 RPM x 3200 RPM will mean that at the adjusted engine speed your 30 horsepower engine will only be producing approximately 26.66 horsepower at 3200 RPM.



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Part # T92021

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