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Read through the safety information instructions carefully before installing your Waterous RF-600 Pump.

NOTE: Instructions subject to change without notice

Safety Information



Read through and communicate safety information to the end user of this Waterous Pump.



WARNING

Death or serious personal injury might occur if proper operating procedures are not followed. The pump operator, as well as individuals connecting supply or discharge hoses to the apparatus must be familiar with these pump operating instructions as well as other operating instructions and manuals for the apparatus, water hydraulics and component limitation.



WARNING

Pressure Hazard. May result in personal injury.

Prior to connection or removal of hoses, caps or other closures with pump intake or pump discharge connections, relieve pressure by opening drains or bleeder valves. Bleeder valves should also be used while filling a hose connected to an intake with water or fuel.



WARNING

Scalding Water Hazard. May result in serious burns.

When operating the pump, be sure to open at least one discharge valve slightly to prevent the pump from overheating. If the pump runs for a few minutes completely closed, it may heat the water enough to scald someone when the valve is opened. Overheating can damage the packing, seals and other pump parts. If the apparatus builder has installed a by-pass system or other provision designed to prevent overheating, opening a discharge valve may be unnecessary.



WARNING

Rotating Parts Hazard or Unexpected Truck Movement. May result in serious personal injury or death.

Stop the engine, set parking brake and chock the wheels before going under the truck to adjust packing or to check packing gland temperature.

OEM Installation Warnings



WARNING

Unexpected Truck Movement. May result in serious personal injury or death.

Failure to properly install the pump shift control and pump shift indicator system in the apparatus or failure to incorporate in the Pump Operator's Panel Engine Speed Interlock System may result in unexpected truck movement which may result in serious personal injury or death.



WARNING

Inability to Pump Water or fuel. May result in serious personal injury or death.

Failure to properly install the pump shift control and pump shift indicator system in the apparatus or failure to incorporate in the Pump Operator's Panel Engine Speed Interlock System may result in the inability to pump water or fuel which may result in serious personal injury or death.



WARNING

Exceeding Power Train Torque Ratings. May result in inability to pump water or fuel causing serious personal injury or death.

This pump may have the capability under certain pumping conditions to exceed the torque rating of the power train.

A means to control the engine output to a torque level no greater than the power train's continuous-duty torque rating must be considered when specifying power train components and engine control system parameters.

Introduction

This instruction covers the installation of Waterous RF-600 Self-Priming Pump.

Model	Intake	Discharge
RF-600	6 inch ANSI	4 inch Victaulic®

(See the next page for diagrams of the pump)

The RF-600 pump is available with the following transmission:

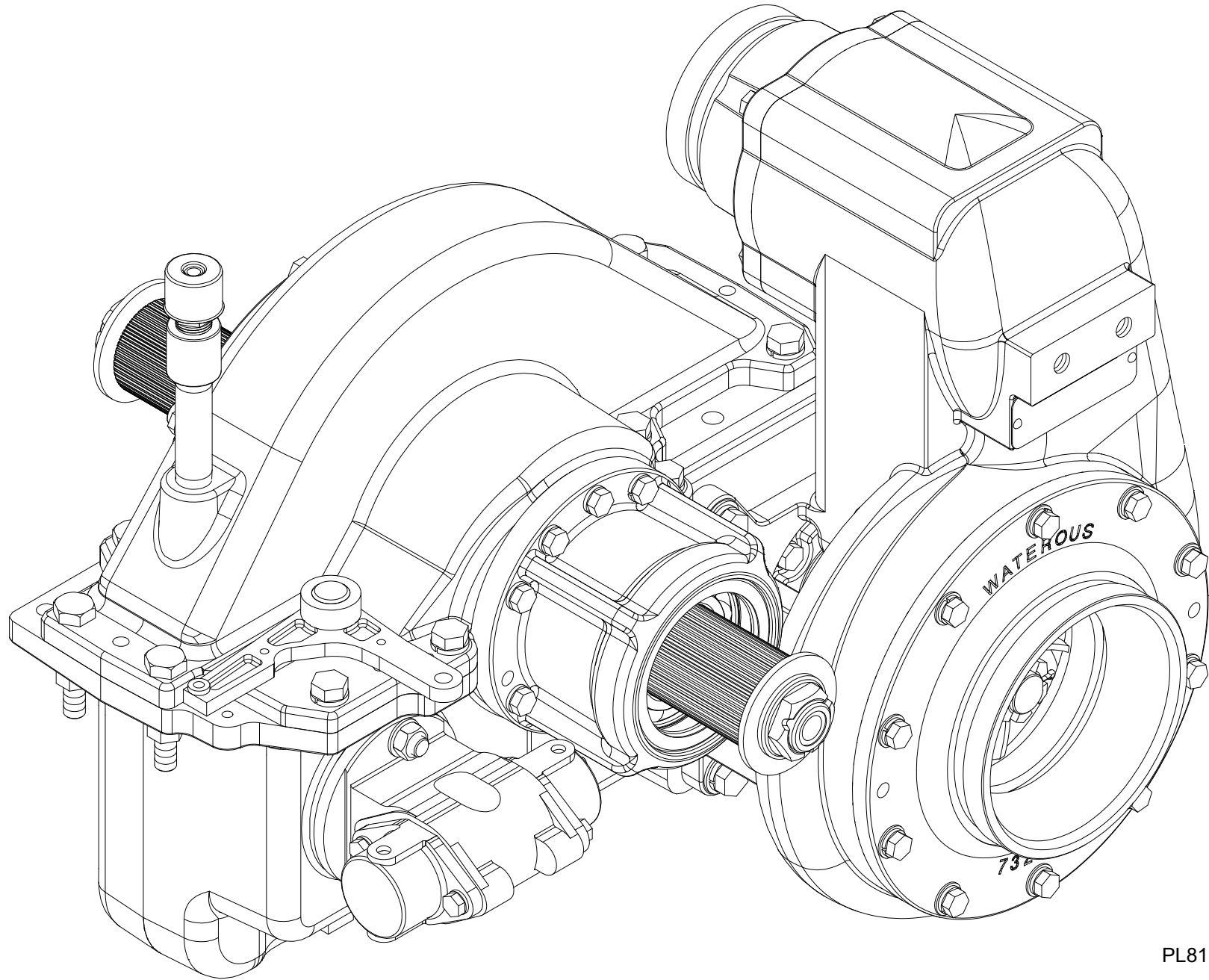
- **WRX Series:** The WRX transmission is a cast iron, split-shaft, chain driven transmission that transmits power from the truck's transmission to either the pump or the drive axle of the truck.

The following installation instructions are available:

Instruction Name	Instruction Number
Drain Valves	F-1031, Section 3008
Shift Unit	F-1031, Section 3030

Before proceeding with the installation of your pump, read the following instructions carefully. Check the appropriate dimensional drawings in the Engineering Manual as necessary.

RF-600 Series



PL81900

Pump Mounting

RF-600 Series End Suction Pump with WRX Series Transmission

Drop Dimension

Select a mounting location which will make the pump and its accessories readily accessible for maintenance and which will make the pump driveshaft parallel with the output shaft of the chassis transmission or bearing housing. Also, select the location so that when the apparatus is loaded, the universal joints on the propeller shaft will have a proper working angle.

Table 1. WRX Series Transmission Drop Ranges

Table 1. C20 Series Transmission Drop Ranges	
Model	Dim C. (IN/mm)
RFWRX-600	2.869 / 72.87

Drive Line Angles

Table 2 gives maximum universal joint angles for installations where propeller shaft flanges are parallel and yokes are aligned. Refer to this table when positioning a pump to determine proper shaft angles. Be sure to keep at least a minimum of 1° U-joint operating angle, but do not exceed those specified in the table. This is the preferred method of propeller shaft installation. For additional information on this method, or for alternative methods, see driveshaft installation guidelines such as Spicer®/Driveshaft Installation Techniques.

CAUTION

Be sure the propeller shafts used are of the slip-joint design. Frame deflection, temperature changes and similar factors may cause a propeller shaft without slip-joints to produce severe axial loads on the bearings and damage the pump / transmission.

Table 2. Maximum U-joint Operating Angles

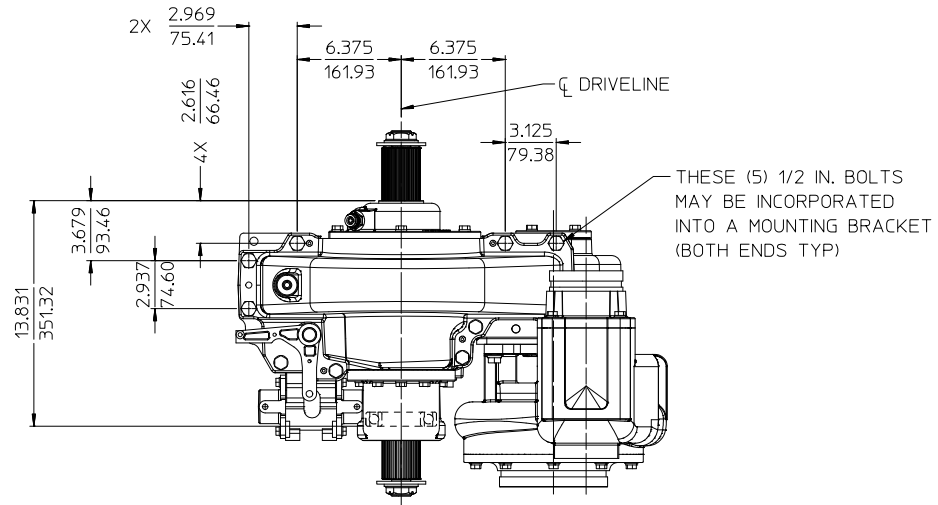
Driveshaft RPM	Maximum Operating Angle
5000	3.2°
4500	3.7°
4000	4.2°
3500	5.0°
3000	5.8°
2500	7.0°
2000	8.7°
1500	11.5°

Pump Mounting

RF-600 Series End Suction Pump with WRX Series Transmission

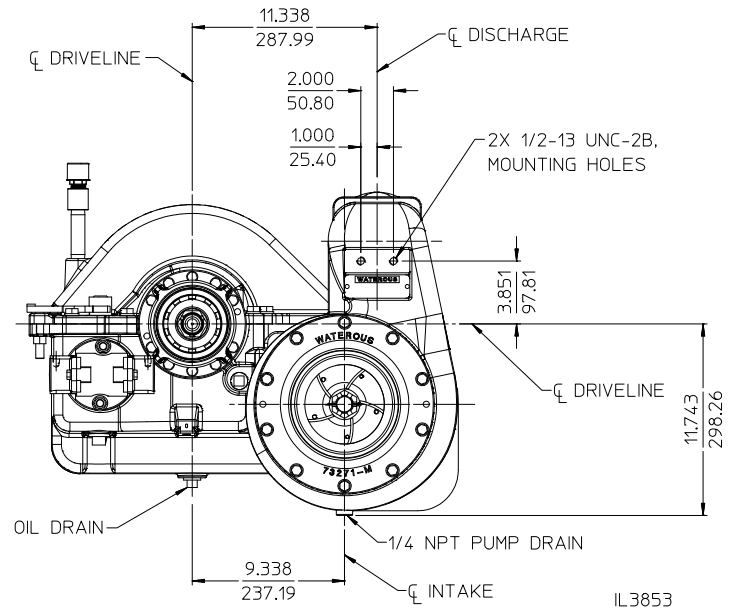
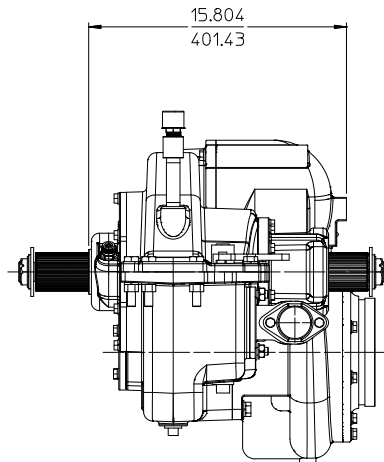
Mounting Brackets Attachment Points

Figure 2. RF-600 Mounting



ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

($\frac{\text{INCH}}{\text{MILLIMETER}}$)



Tachometer

Mechanical Tachometer Drive

Speed of the drive tachometer gear is ½ of the input shaft speed.

Final Checks

After the pump, accessories, piping and miscellaneous connections are completely installed, check the items listed below:

Lubrication

CAUTION

Failure to properly lubricate the pump and transmission may result in serious damage to the equipment.

WRX Series Transmission

Add any type of automatic transmission fluid (ATF) through the fluid level hole or by removing the breather. Approximately 8 quarts is required to fill the transmission when completely drained. The fluid should be level with bottom of the fluid level hole.

Testing

Perform the tests listed in F-1031, Section 1000, "*Centrifugal Fire Pump Principles of Operation, Inspection Tests and Troubleshooting Guide*." During the running tests, monitor the smoothness of operation, listen for unusual noises and check for leaks.

WRX Transmission Temperature Specifications

The maximum temperature permitted at transmission external surfaces is 250° F (121° C)