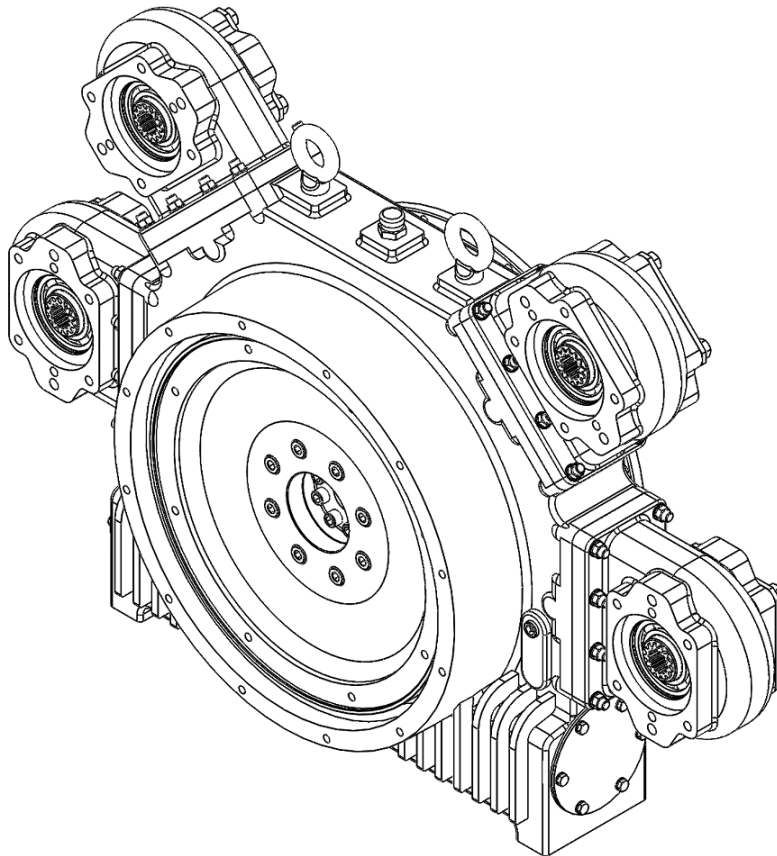




Power Pump Drive Model WPD-01 Installation & Maintenance



WPT Power Corporation
1600 Fisher Road – Wichita Falls TX 76305
P.O. Box 8148 – Wichita Falls TX 76307
Phone: 940.761.1971 www.WPTPower.com

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1.0 Introduction

The WPT Power Pump Drive is a multi-pump drive that attaches to the engine like a power-take off and distributes the power from one, up to four heads. Each head has the possibility to mount two pumps. On the head, pumps with SAE flanges J744 can be mounted. On the flange opposite the engine, there are Type B, 2-hole and Type C, 2- and 4-hole mounting pads. With a flange adapter, a Type D, 4-hole mount is available. On the engine side flange, there are Type B, 2-hole and Type C, 2- and 4-hole mounting pads.

The input is connected to the flywheel of the engine through an elastic coupling which is connected to the main shaft and consequently to the gears. On the output shaft a flywheel is available. Thus, any equipment with SAE 1 J617 through SAE 14 J620 can be installed.

Throughout the manual there are several HAZARD WARNINGS that must be read and followed to prevent possible loss of equipment and/or personal injury and/or loss of life. The three warning words are “DANGER”, “WARNING” and “CAUTION”. They are used to indicate the severity of the hazard and are preceded by a safety alert symbol.



Denotes the most serious injury hazard and is used when serious injury or death WILL result from misuse or failure to follow the specific instructions set forth in this manual.



Denotes when serious injury or death MAY result from misuse or failure to follow the specific instructions set forth in this manual.



Denotes when injury, product or equipment damage may result from the misuse or failure to follow the specific instructions set forth in this manual.

2.0 General Warnings

Before assembling and operating the product, carefully read all the safety and operating instructions in this manual.

Always follow all the instructions and make sure that all operators standing by the machinery are wearing protective equipment necessary for the job type and application being performed.

WARNING

Do not use the machinery if you do not understand these instructions. Please refer to the manufacturer or customer service for assistance.

WARNING

The product must be protected by a convenient cover guard to avoid personal injury or injury to others.

Axial and radial ventilation openings should be incorporated in the guard for heat dissipation.

If the product is fitted with fusible plugs, the ventilation openings should not be directed towards operators or any hot or electrical installation.

3.0 Installation

CAUTION

Before mounting the pump drive onto the engine, it is important to check that the flywheel is within SAE tolerances.

3.1.1 Check that the flywheel is within SAE tolerances (see Figure 1).

3.1.2 Mount aluminum drive ring of the elastic coupling to the flywheel.

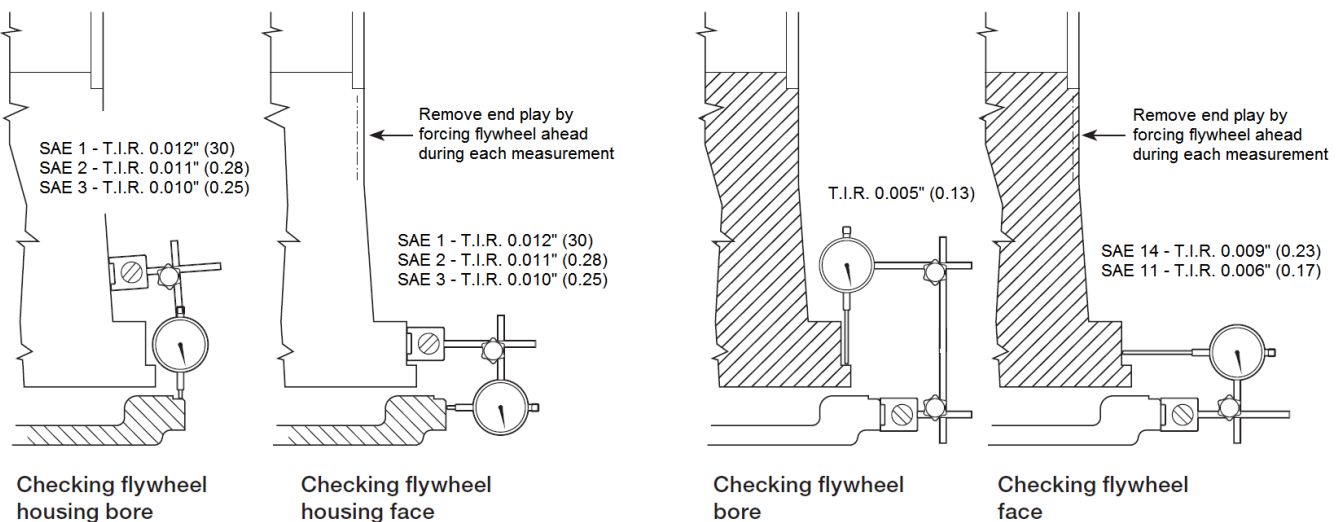


Figure 1: Checking that the flywheel runout is within SAE tolerances.

- 3.1.3 Locate a dial indicator as per Figure 2 and set it to zero in order to detect an eventual flywheel housing deflection.
- 3.1.4 Mount the pump drive on the flywheel housing of the engine keeping in mind to align the teeth of the elastic coupling in the respective teeth of the driving ring. To align the pump drive housing and flywheel housing, use three threaded rods with adequate lengths, mounted 120° apart on the flywheel housing. To perform this operation, lift the assembly by using the eyebolts located on housing. In cases where the configuration includes a power take-off, support the assembly adequately to ease alignment.
- 3.1.5 Carefully release the lifting force and properly shim, as shown in Figure 2, in order keep the dial indicator at zero. If indicator changes after bolts are tightened, re-shim until indicator remains at zero.

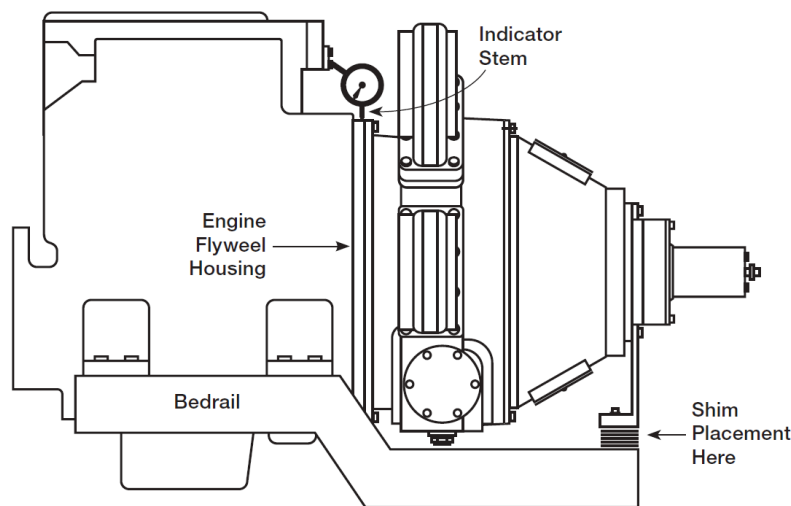


Figure 2: Power Pump Drive and PTO installation example.

- 3.1.6 Mount the pumps on the heads, inserting the respective adapters for type B or C. For type B, a reducing ring with respective O-rings are required. For type D (non-engine side only) an adapter flange is required to be mounted to the head. Utilize pump manufacturers recommended grease on both internal and external splines of the adapter.



CAUTION

The pump drive is supplied without oil.

- 3.1.7 Fill the unit by removing the breather and reducer. Stop filling when the oil is visible in the sight glass (non-engine side).
- 3.1.8 The approximate oil level volume is 4.75 gallons (18 liters). See approved oils list. With the optional heat exchanger mounted, the appropriate oil level volume is 4.0 gallons (15.0 liters).



CAUTION

Do not overfill the pump drive. Excess oil will cause overheating and foaming.

3.1.9 Read pump(s) and other installed devices maintenance manual in order to assure proper lubrication.

3.1.10 Follow a run-in cycle of 15 minutes with the engine at idling speed to ensure correct lubrication of internal components. Check units to ensure that no oil leaks are present.

3.2 Approved Oil Listing

Castrol
Alpha MW 220 SP 220
Alpha MW 100 SP 100
Alphasyn T 220
Alphasyn T 100
Alphasyn PG 220

Shell
Shell Omala Oil 220
Shell Omala Oil 100
Shell Omala Oil HD 220
Shell Tivela Oil WB 220
Shell Tivela Oil WA 150

Mobil
Mobilgear 630, Mobilgear XMP 220
Mobilgear 627, Mobilgear XMP 100
Mobilgear SHC XMP 220
Mobilgear SHC XMP 100
Mobil Glygoyle 30, Mobil Glygoyle 11

BP
Energol GR-XP 220
Energol GR-XP 100
Energol HTX 220
Energol SP-XP 220

4.0 Maintenance

Replace oil after first 300 hours of operation then replace oil every 1000 working hours or six-month period whichever comes first. Check magnetic plug during every oil change for any evidence of metal shavings and grease heads bushings with Klüber paste ALTEMP Q NB 50. Check oil level through sight glass every 300 hours.

5.0 Bolt Torque Specifications

The following chart applies to ISO metric screws with coarse pitch grades 8.8, 10.9, and 12.9 with clean surfaces.

Bolt Size [mm]	Pitch [mm]	Bolt Torque lbf-ft [Nm]		
		8.8	10.9	12.9
4	0.7	2 [3.1]	3 [4.3]	4 [5.2]
5	0.8	4 [6]	6 [8.5]	7 [10.1]
6	1	8 [10.4]	11 [14.6]	13 [17.5]
7	1	12 [15.7]	16 [22]	19 [26.4]
8	1.25	18 [24.6]	26 [34.7]	31 [41.6]
10	1.5	37 [50.1]	52 [70.5]	62 [84.6]
12	1.75	63 [84.8]	88 [119]	105 [143]
14	2	100 [135]	140 [190]	168 [228]
16	2	151 [205]	212 [288]	255 [346]
18	2.5	209 [283]	294 [398]	353 [478]
20	2.5	295 [400]	415 [562]	497 [674]
22	2.5	392 [532]	552 [748]	662 [897]
24	3	510 [691]	716 [971]	863 [1170]
27	3	745 [1010]	1047 [1420]	1254 [1700]
30	3.5	1010 [1370]	1423 [1930]	1704 [2310]