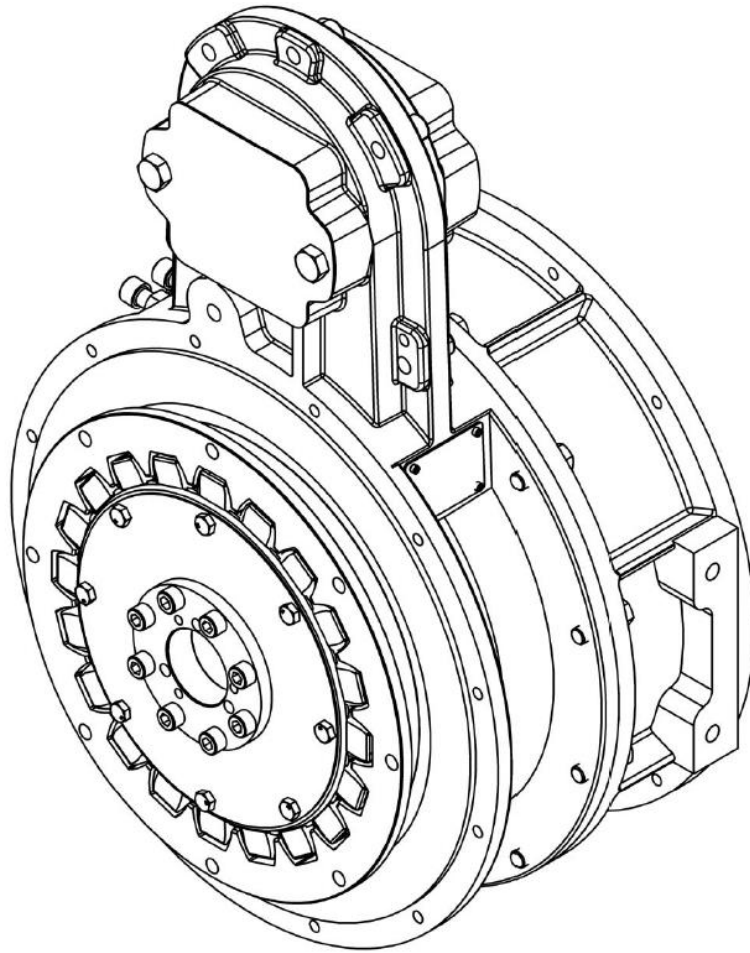


# **POWER PUMP DRIVE (PPD)**

*Installation & Maintenance Manual  
Model WPD-05 (Belt Drive)*



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## 1.0 Introduction

The WPT Power Pump Drive model WPD-05 is an innovative modular pump drive designed to be mounted on industrial engines with SAE flywheels and housings. The input is a rugged Rubber Block Drive flywheel coupling. This elastic coupling absorbs radial and angular misalignments as well as dampens torsional vibrations. The model WPD-05 output is a dual pad pump drive as well as SAE flywheel and flywheel housing. To allow for easy installation the pump tower can be mounted in 12 possible positions over 360 degrees. The output flywheel can accept transmissions, pumps, compressors, and PTO's.

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.



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



**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



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

- 3.1 Check that the flywheel is within SAE tolerances (see Figure 1).
- 3.2 Mount aluminum drive ring of the elastic coupling to the flywheel.

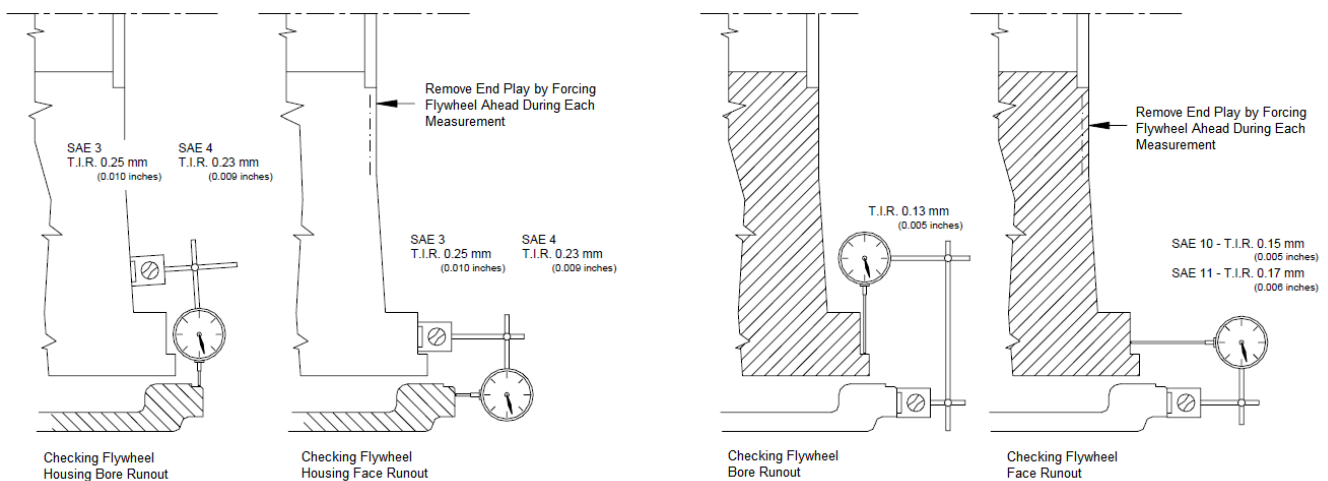


Figure 1: Checking that the flywheel runout is within SAE tolerances.

- 3.3 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 straps or other approved means. In cases where the configuration includes a power take-off, support the assembly adequately to ease alignment.
- 3.4 Mount the pump(s) on the head(s). Utilize pump manufacturers recommended grease on both internal and external splines of the adapter.
- 3.5 Read pump(s) and other installed devices maintenance manual to assure proper lubrication.

## 4.0 Maintenance

The WPD-05 is equipped with a toothed belt, which connects a pulley to the main shaft. The belt may loosen over time while in use, so it may be necessary to check tension and adjust as needed. The belt must measure 100Hz at ambient temperature. To adjust belt tension, tighten or loosen the 2 screws (39). Once required tension is met use nuts (40) to block/lock the tensioner. Re-check tension after all adjustments have been made to confirm.

No lubrication is required for this unit. All bearings are sealed for life which require no maintenance.

## 5.0 Belt Replacement

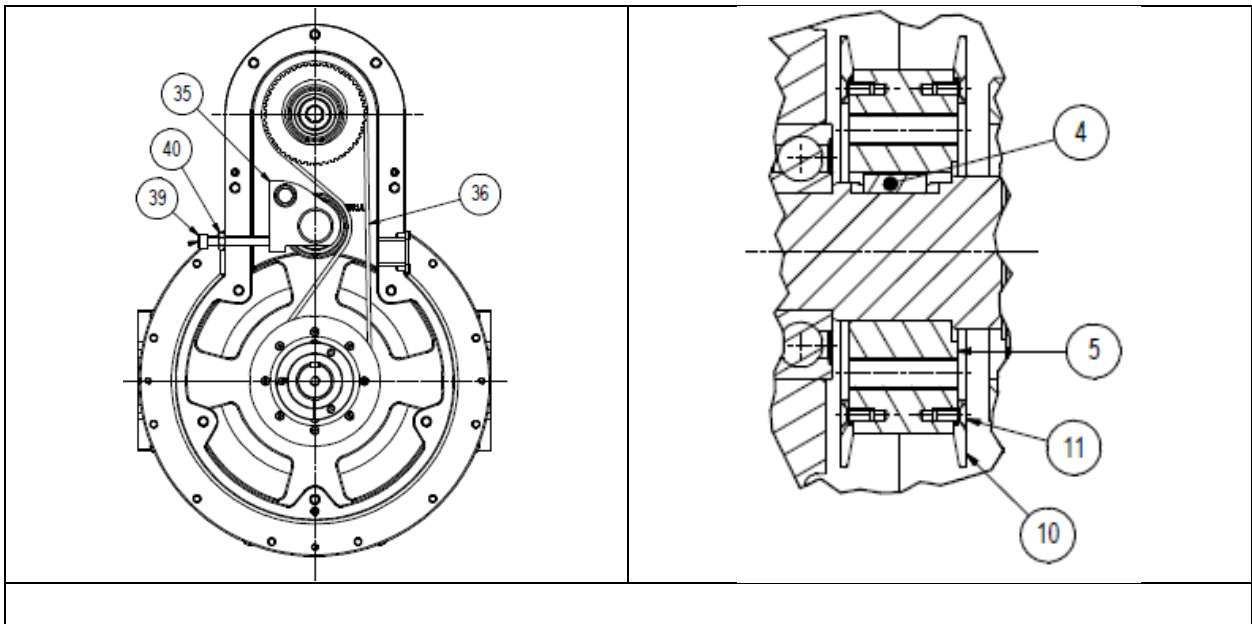
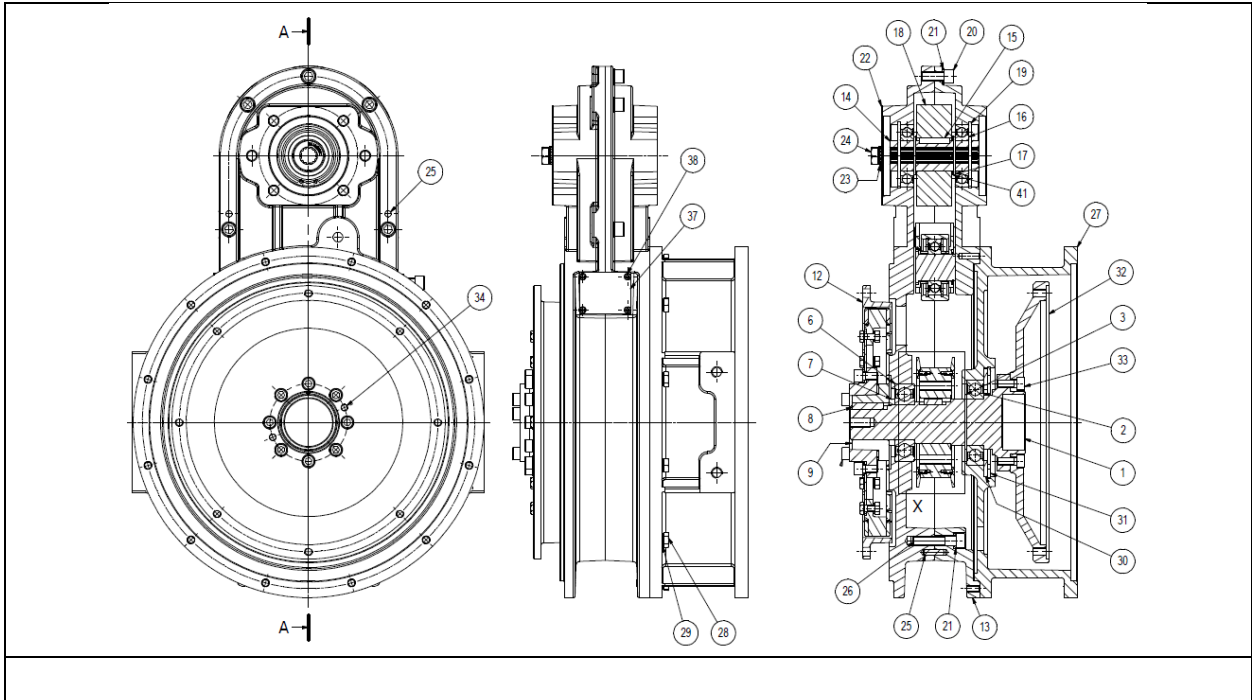
To replace the belt, follow steps below. See exploded view in section 6.

- 5.1 Remove pump drive from engine.
- 5.2 Remove rubber block coupling assembly & key (8,9,12).
- 5.3 Remove flywheel from output side (33 & 32).
- 5.4 Remove bolts to separate belt housing halves (20).
- 5.5 Separate housing.
- 5.6 Loosen tension on belt by adjusting (39).
- 5.7 Replace belt
- 5.8 Reassemble pump drive and install unit on engine. See **Section 7** for bolt torque specifications.
- 5.9 See section 4 for belt tensioning requirements.

## 6.0 Exploded View

No.	Qty.	DESCRIPTION
1	1	FLANGED SHAFT
2	1	BALL BEARING
3	1	SNAP RING
4	1	KEY
5	1	SPLINED PULLEY
6	1	BALL BEARING
7	1	SPACER RING
8	1	KEY
9	1	HUB
10	2	PULLEY LIP
11	16	SCREW
12	1	COUPLING
13	1	HOUSING
14	1	SHAFT
15	1	KEY
16	2	BALL BEARING
17	2	INNER SNAP RING
18	1	PULLEY
19	2	OUTER SNAP RING
20	5	SCREW
21	10	WASHER

No.	Qty.	DESCRIPTION
22	1	COVER
23	2	WASHER
24	2	SCREW
25	3	PIN
26	5	SHCS
27	1	HOUSING
28	12	SCREW
29	12	WASHER
30	1	SPACER RING
31	1	SNAP RING
32	1	DUMMY FLYWHEEL
33	5	SCREW
34	2	PIN
35	1	BRACKET
36	1	BELT
37	1	PLATE
38	4	M5X12 8.8 SHCS
39	2	SHCS
40	2	M12 NUT
41	4	SPACER



## 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]





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