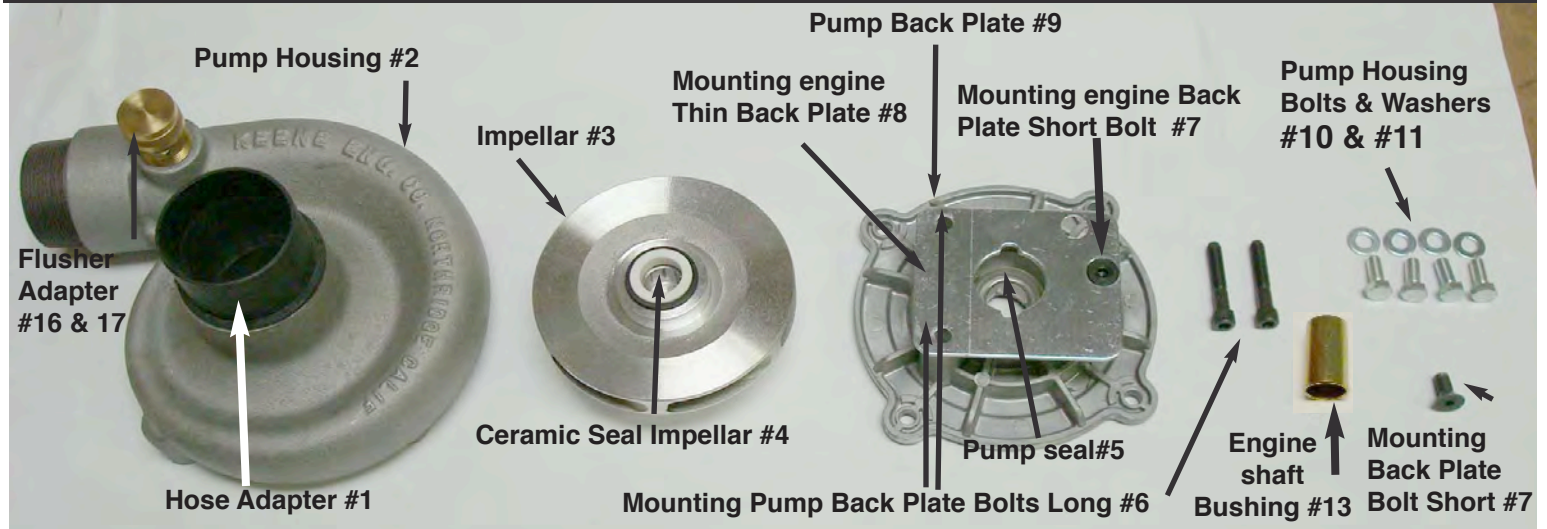
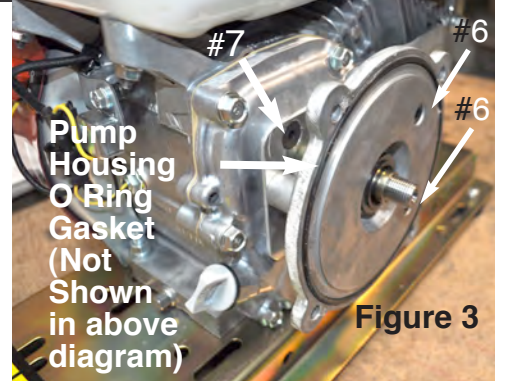
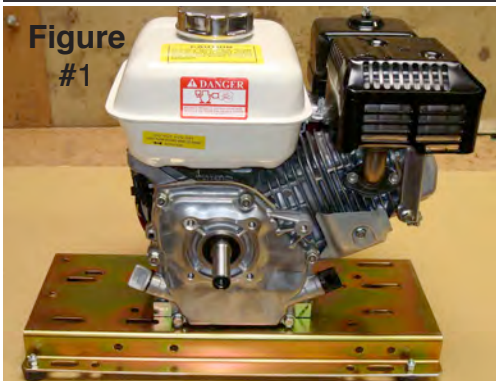


# P180 THREADED SHAFT PUMP ASSEMBLY



**TOOLS REQUIRED:** Short Shank & Standard Allen wrench 3/16ths. Standard 1/4 "Allen wrench, a 82 Degree x 1/2 inch to 3/4 " diameter counter sink tool and a 1/2" combo wrench. A small tube of silicone adhesive.

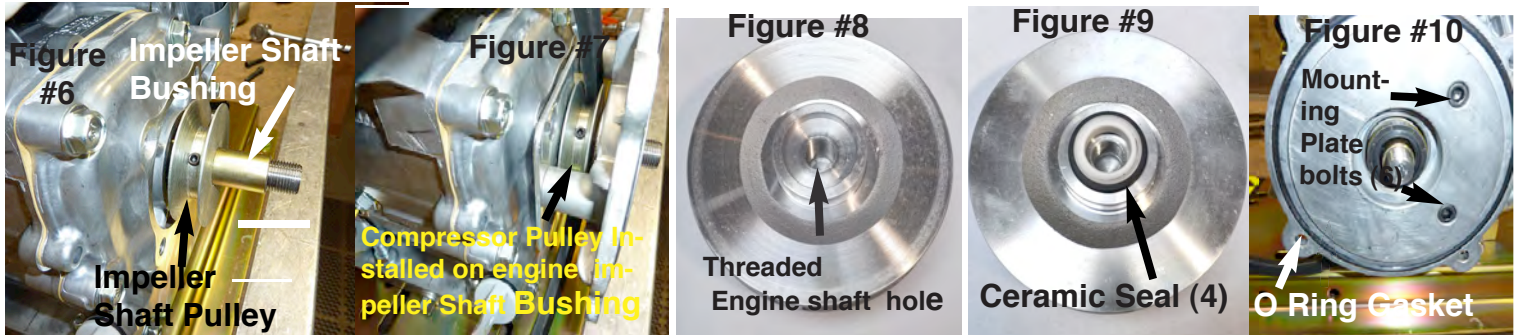
ITEM #	DESCRIPTION	QUANTITY	PART NUMBER
1	Hose adapter	1	HA25
2	Pump Housing	1	181
3	Impeller	1	182
4	Ceramic Seal	1	WPS2
5	Pump Seal (Pump Back plate)	1	WPS2
6	Mounting back plate bolts (5/16 x 1 1/2 Inch Flat head Allen Head Bolt)	2	MB
7	Mounting back plate bolt counter sink (1" x 5/16 Flat head Allen Bolt 82 Degrees)	1	MBS
8	Engine Thin Mounting back plate	1	105E
9	Pump Mounting back plate	1	105
10	Pump Housing Mounting bolts	4	HB
11	Pump Housing Mounting washers	4	HW
12	Pump Housing "O" Ring Gasket	1	104
13	Impeller Shaft Bushing	1	ISB
14	Compressor Pulley (with shaft bushing pressed in)	1	PU25WSB
15	Compressor V Belt (T80 BeltA24) (KAC BeltA27)	1	
16	Flusher Adapter Cap	1	FAC
17	Flusher Adapter	1	FA



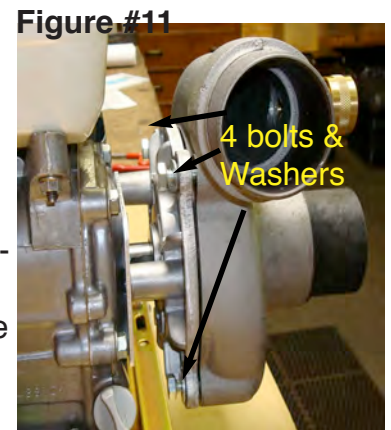
## MOUNT BACK PLATE

1. (Fig #2) First counter sink only one bolt hole on the engine (located at the 10 o'clock position) About 1/8" deep to accommodate (item #7) the short Mounting plate bolt. Using a standard 82 Degree x 1/2 inch to 3/4 " diameter counter sink tool.

2. Before mounting the back plate assembly (105 & 105E) to engine, the BackPlate Pump Seal (5) must be pressed flush into center hole of the back of the Pump Back Plate (105) before attaching Engine Back Plate (105E) Use a small dab silicone adhesive around edge of the hole to prevent leakage.
3. Attach Engine Mounting Back Plate (105E) to the Pump Mounting Back Plate (105) by Attaching the counter sunk back plate bolt (MBL) into the pump back plate (105) and tighten securely.
4. Before mounting back plate assembly (105 & 105E) to the engine slip the impeller shaft bushing (ISB) onto the engine shaft as shown in figure # 6 and also place the compressor pulley over the bushing if a compressor is being used (14) and tighten set screw once placed on engine shaft, also place compressor V belt (A24) over the shaft pulley. (Ask for the size of V belt to match model of compressor being used)
5. To align mounting plate to engine, insert and tighten the 2 Mounting back plate long bolts (#6) firmly to engine (see fig #10). Note: The Compressor V Belt is not shown in the above diagram.



6. Insert ceramic seal firmly into the impeller as shown in figure (9).
7. Place Impeller over the engine shaft and turn it in a clockwise direction to attach to the engine shaft.
8. Insert "O" ring (104) gasket and press into slot firmly
9. Place Pump Housing onto back plate (Figure 11) and secure with 4 Pump Housing Mounting Bolts and 4 Pump Housing Mounting washers (HB & HW). Set bolt and washers loosely though back Plate into Pump Housing. Make sure alignment is correct and tighten firmly. Double check to see that the Pump back plate contains the "O" Ring Washer (Fig 10) and is in its proper position. Care must be taken not to overtighten as the bolts in the housing as the threads are aluminum and could become easily stripped. O Ring is not shown in above diagram.



### ADDITIONAL SPECIAL SEAL INSTALLATION INSTRUCTIONS:

1. Before installing the mounting plate to the engine, the spring portion of the water pump seal must be installed. Place this portion of the seal into the center of the mounting plate, with the use of a light hammer and or blunt instrument and or a seal setting tool. Tap the perimeter metal portion of the seal to set the seal into position. Care must be taken to avoid contact with the carbon portion of the seal. A small amount of Silicone Rubber Cement placed in this section will insure a water tight seal. Insert the mounting bolts into the mounting plate. Tighten the bolts evenly so as to prevent mis-alignment.
2. Fit "O" Ring gasket into "O" slot on the front face of the mounting plate, making sure that it is properly seated. Place the ceramic portion of the water pump seal into the center of the impeller firmly, using the heel of your hand to insure a proper fit. The ceramic surface of the seal must be facing outwards. Thread the impeller onto the engine shaft by turning it gently in a clockwise rotation, taking care to avoid damage to the threads on the impeller.
3. Attach the outer housing to the mounting plate, using the 4 housing bolts and washers. Tighten the housing bolts evenly to ensure proper tension and alignment. Extreme care must be taken to prevent over tightening of the bolts. Too much torque will damage the threads in the outer housing.