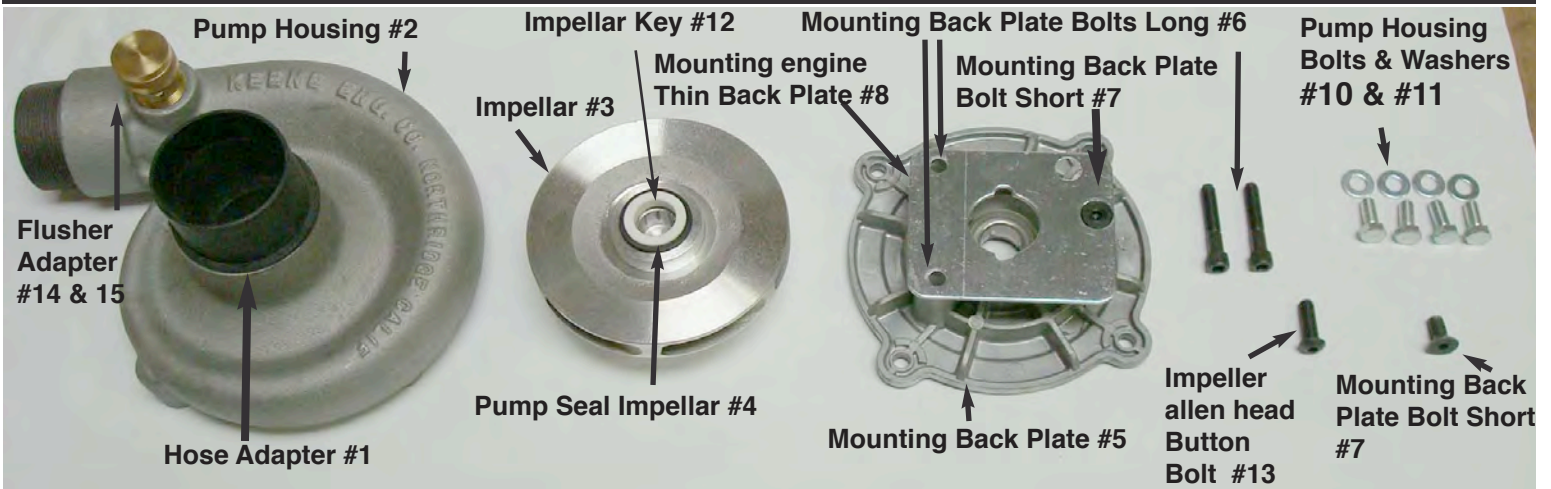


P180 KEYWAY PUMP ASSEMBLY



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	Pump Seal (Impeller seal complete contains 2 parts 4 & 5)	1	WPS2
5	Pump Seal (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	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 allen button head Bolt	1	ABH
14	Impeller Key	1	IK
15	Impeller Attaching Bolt (Allen Head 5/16 x 1" Button head)	1	IAB
16	Flusher Adapter Cap	1	FAC
16	Flusher Adapter	1	FA
17	Compressor pulley (Not shown)	1	PU25WSB
18	Compressor V Belt (Not shown)(T80 BeltA24) (KAC BeltA27)	1	



Figure 1

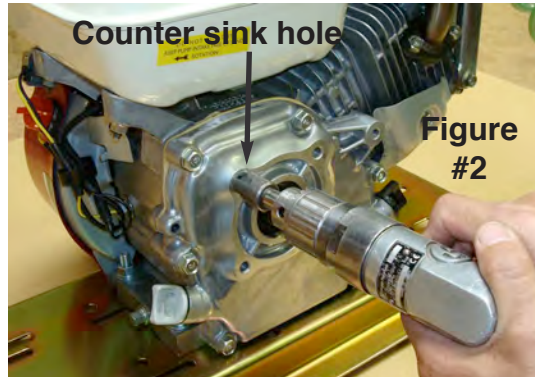


Figure #2

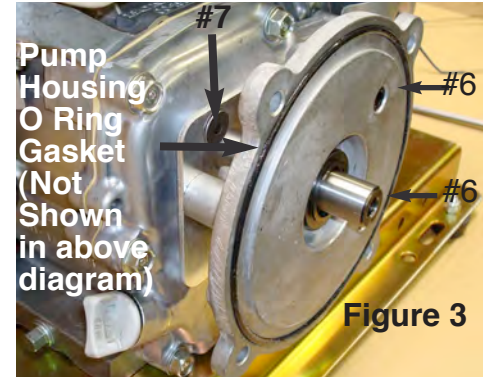
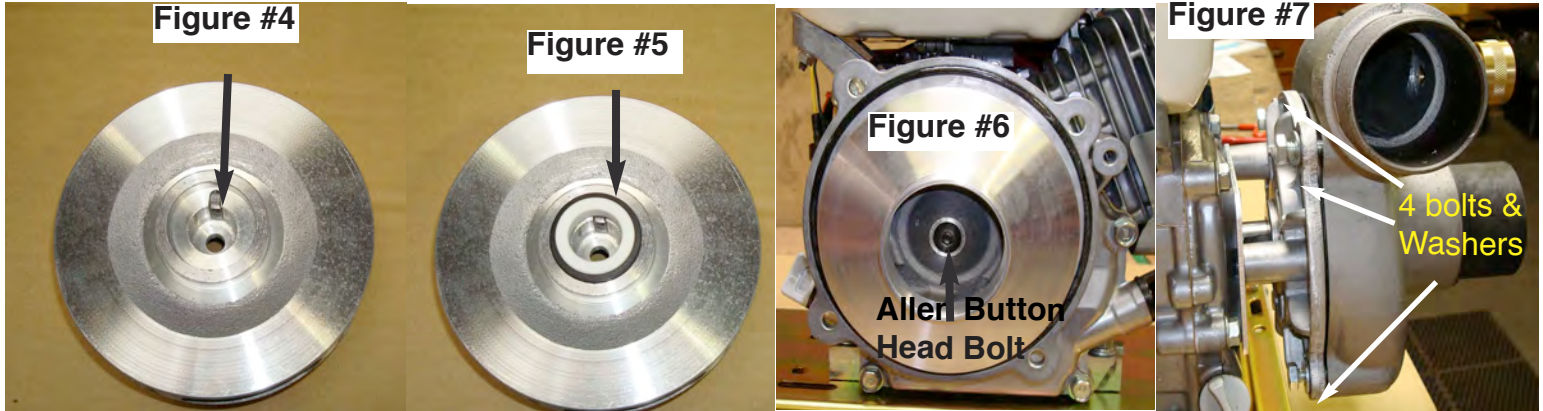


Figure 3

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 the Thin Engine Back Plate (105E). Use silicone around edge of the hole to prevent leakage.
3. Also before mounting back plate assembly (105 & 105E) to the engine place the compressor pulley if a compressor is being used (14) over the shaft inside the back plate and tighten set screw also place compressor V belt (A24) onto the engine shaft pulley. (Ask size of V belt to match model of compressor being used)
4. Align mounting plate (105 & 105E) to engine and attach the 2 Mounting back plate long bolts (#6) lightly snug to engine (see fig #3). You will need 1/4 inch allen head wrench.
5. Insert loosely Mounting back plate bolt Short Allen Head 5/16 x 1/2" Bolt) in the 10 o'clock counter sunk position and tighten with a short 3/16 inch Allen wrench. Then secure all three bolts.



MOUNTING IMPELLER

1. Insert Impeller Key (#12) into center of impeller as shown in figure #4.
2. Insert Impeller pump seal (#4) firmly into center of impeller as shown in figure #5.
3. Place impeller onto shaft and press firmly. Be sure to align key in keyway slot correctly. If not aligned correctly the impeller will not slide onto the shaft.
4. Insert Impeller Attaching (#13) Allen Button Head Bolt into threaded hole in the center of the drive shaft and tighten firmly as shown in figure #6.

MOUNTING PUMP HOUSING

Place Pump Housing onto back plate and secure with 4 Pump Housing Mounting bolts and 4 Pump Housing Mounting washers. Set bolt and washers loosely through back plate into Pump Housing. Make sure alignment is correct and tighten firmly equally. Be sure that the housing contains the "O" Ring Washer. Care must be taken not to overtighten as the threads in the housing threaded holes could become stripped.

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.