The following instructions are intended to assist the user in the removal of the old style impeller and installing a new easily removable impeller. Please read all assembly instructions before installing the kit.

#### **REQUIRED TOOLS**

- 3/8" Ratchet
- 12 MM Socket
- Drill Motor
- 7/32-Inch Drill Bit
- Chemsearch<sup>™</sup> (Rust Lubricant)
- 1/4-Inch Tap

### **PARTS**

Verify that all parts are accounted for. See Table 1.

Table 1. Impeller Kit Parts				
Item	Qty.	Part No.	Description	Remarks
1	1	1890040031ASSY	KIT, IMPELLER (QP2TH and QP2TE)	INCLUDES ITEMS 3 THRU 7
2	1	2258040031ASSY	KIT, IMPELLER (QP2TZ)	INCLUDES ITEMS 3 THRU 7
3	1	1889040031	IMPELLER	QP2TE/QP2TH
3	1	2258040031	IMPELLER	QP2TZ
4	1	0191190544	BOLT	
5	1	0458220080	WASHER, LOCK	
6	1	0482200180	O-RING	
7	1	0520030310	KEY, SHAFT	

#### **WORK SAFELY!**

Only a *qualified service technician* with proper training should perform this installation. Follow all shop safety rules when performing this installation.

#### **OLD STYLE IMPELLER REMOVAL**

- Place the pump on level secure surface that is free of dirt and debris.
- 2. Remove drain cover (Figure A). Set drain cover aside in a safe place.
- Using a 3/8 ratchet with a 12 mm socket (Figure B), remove the impeller bolt from the engine shaft. *Discard* the impeller bolt. It will not be used again.
- 4. Attached to the impeller bolt (Figure C) are two impeller washers. Discard the *smaller impeller lock washer*, it will not be used again. *Retain the larger impeller flat washer*.

- Using a can of Chemsearch™ (Figure D) or equivalent, a moly-lubricant, spray the area around the shaft key.
- 6. To break loose the impeller, drill two 7/32-inch holes into the impeller as shown in Figure **D**. Next, use a 1/4-inch tap on the pre-drilled holes.
- 7. Insert a 1/4 bolt (Figure **D**) into each side of a steering wheel type puller. Align the two bolts on the puller with the pre-tapped holes and tighten. Insert a 70 MM bolt into the center opening of the puller. Using a 12 MM socket, turn the bolt clockwise until the impeller breaks free.
- 8. Remove the *impeller and shaft key*. They will not be used again.

# **NEW STYLE IMPELLER INSTALLATION**

- 1. Install new impeller and shaft key onto the engine shaft as shown in Figure **E**.
- 2. Place new o-ring into impeller groove as shown in Figure **F**.
- 3. Using new impeller bolt, place new impeller lock washer onto the bolt as shown in Figure **G**. Next, place the large impeller flat washer onto the impeller bolt.
- 4. Insert impeller bolt along with associated hardware (Figure **G**) into engine shaft. Tighten impeller bolt to 22 ft-lb (30 N·m).
- 5. Reinstall drain cover (Figure **H**) back onto pump casing. Turn locking knobs clockwise to secure drain cover.

# **NEW STYLE IMPELLER REMOVAL**

- Using a 3/8 ratchet with a 12 mm socket remove the impeller bolt, lock washer and flat washer from the engine shaft. Retain these items.
- 2. Insert a M12 bolt (70 mm) into the engine shaft hole. Using a ratchet, tighten bolt.
- 3. Continue to turn the ratchet in a clockwise direction, notice as the bolt turns the impeller will begin to slide off the engine shaft. Remove impeller.

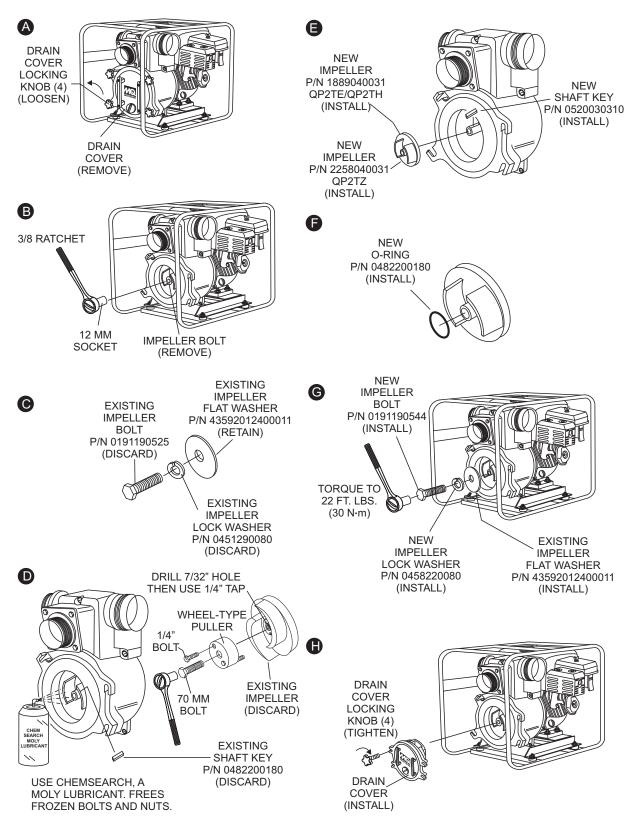


Figure 1. Impeller Replacement



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