

Technical Pages

ABSTRACT

This procedure outlines the requirements for changing an A Impeller. All decontamination and safety procedures outlined in the IOM must be employed.

PROCEDURE

You Will Need:

2 pry bars of appropriate size
Dead blow hammer w/ non marring surface
#262 Red locking compound
#242 Blue locking compound
1/2" Drive Torque wrench (with appropriate torque range)
1/2" Ratchet with 8" Extension bar
1/2" drive 17mm, 14mm, 10mm, and 8mm hex head sockets
Optionally, items below
3/8" Drive ratchet
3/8" Drive 10mm and 8mm hex head sockets
3/8" Drive torque wrench

- Before proceeding with disassembly, match mark the volute and pump body to aid in reassembly.
- With pump in a horizontal position, remove volute bolts. With suitable lifting device, lift the motor and impeller from the volute.
- For ease in handling and removal of the impeller, lay the assembly on its side and block the motor from rolling.
- ***With motor and impeller removed inspect the volute wear-ring and replace if necessary. Instructions for replacement will be provided with the new wear-ring.***
- Lock impeller with a pry bar or a suitable length of 2x4 wood inserted into impeller vane in such a manner as to prevent impeller from turning.

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- Using appropriate size hex head socket (17mm,14mm or 8mm) and ratchet, remove impeller bolt. The clamp disk may come off with bolt, or it may be stuck in impeller hub. Push the clamping disk out from the backside.
 - Remove impeller from pump shaft. For larger impellers use appropriate device to support the impeller from falling. If impeller will not slide freely off of shaft, carefully insert pry bars behind the impeller shroud at opposing sides and evenly apply pressure to move impeller off the shaft. Care must be used to avoid damage to the rear impeller shroud when prying. Do not allow the impeller to drop.
 - Locate and remove the impeller key, and place with clamping disk for reinstallation. If not removed before, knock the clamping disk out of impeller hub.
 - **Clean old thread locking material out of shaft threads. Use the appropriate sized tap (m20x2.5, m16x2 or 10x1.5) to chase the threads to remove material. If the correct size tap is not available, solvent and a stiff wire brush may be sufficient. However, be certain the internal threads of pump shaft are clean, as new thread locking compound will not adhere to old material. Improper cleaning may result in impeller bolt coming loose during operation, resulting in severe damage to pump.**
 - Inspect the impeller key, replace if damaged. Install impeller key onto pump shaft, and apply anti seize compound to shaft end. **DO NOT APPLY ANTI SEIZE TO THREADS!**
 - Install impeller onto pump shaft. Take care to carefully line up impeller keyway to the installed key.
 - **Install new impeller bolt with the clamp disk using #262 red thread locking compound on impeller bolt. Prevent the impeller from rotating as done during removal, and tighten impeller bolt with torque wrench to specified torque (210 ft # for 20mm bolt, 108 ft # for 16mm bolt and 26 ft # for 10mm bolt).**
 - Using suitable lifting device, reinstall volute onto pump. Line up match marks made prior to removal. Reinstall volute bolts after applying thread locking compound and tighten to specified torque (45 ft pounds for 12mm bolts and 26 ft for 10mm bolts).
 - With volute bolts tightened, physically verify that impeller rotates freely with no binding. If pump turns freely, it is ready for reinstallation.