How To Replace an Impeller in a Pump

WARNING Before performing maintenance on a 6x5 pump assembly, be sure to read and follow the Installation, Operation and Maintenance Manual. Follow the appropriate lockout/tagout/blockout procedures, and read and follow all safety tags. Failure to do so could result in injury or death.

WHAT YOU WILL NEED:

- Assembly aid arm or lifting device
- Corresponding wrench and socket set
- J wrench or crescent wrench
- Dry gland repair kit
- Replacement impeller
- Replacement O-ring
- Anti-seize
- Cardboard mailing tube

STEP 1	Unbox the dry gland repair kit and inspect all components for wear or damage.
STEP 2	Cut open the epoxy package and, using the wooden applicator, extrude the epoxy from the package. Mix thoroughly.
STEP 3	Apply epoxy to the outer rim of the hard wear face.
STEP 4	Place the O-ring on the outer rim of the hard wear face, positioning the O-ring at the leading edge.
STEP 5	Position the hard wear face and O-ring into the gland adjuster.
STEP 6	Using a slight twisting motion, carefully push the hard wear face into the adjuster.
STEP 7	Wipe off any excess epoxy.
STEP 8	Place a heavy object on top of the assembly until dry.
STEP 9	Switch off the power to the pump, and lock the switch in the off position to ensure no power can get to the machine while replacing the gland.
STEP 10	Remove the drain plug from the suction side of the pump.
STEP 11	Disconnect the discharge hose from the top of the pump.
STEP 12	Disconnect the suction hose from the front of the pump.
STEP 13	Remove the shaft guard.
STEP 14	Attach an assembly aid arm or lifting device to the eye bolt located at the top of the suction-side casing.
STEP 15	Remove the nuts from the suction-side casing.
STEP 16	Lift the casing away from the pump using the assembly aid arm or lifting device. The liner should come out with the casing. Inspect the liner for wear or damage.
STEP 17	Hold the shaft in place with a J wrench or a crescent wrench placed around the flat area between the gland and the flinger.
STEP 18	Unscrew the impeller from the shaft.
STEP 19	Reach inside the gland casing and pry the dry gland sleeve out.
STEP 20	Insert a hardface protector, like a cardboard mailing tube, over the shaft to protect the hardface when removing the gland-side casing.
STEP 21	Attach the assembly aid arm to the gland-side casing.
STEP 22	Remove the nuts from the gland-side casing.
STEP 23	Lift the gland-side casing from the pedestal using the assembly aid arm.
STEP 24	Set the casing down, with the liner facing down and the gland facing up.
STEP 25	Remove the bolts from the gland cover, and remove the cover.

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STEP 26	Remove the gland seal.
STEP 27	Unbolt the gland and remove.
STEP 28	Install the new gland.
STEP 29	Install the new gland seal.
STEP 30	Install new rubber spacers on the gland cover.
STEP 31	Bolt the new adjusting gland sleeve to the gland cover.
STEP 32	Attach the assembly aid to the eyebolt on the gland-side casing, and lift the casing back into place.
STEP 33	Bolt the gland-side casing to the pedestal.
STEP 34	Fit the face seal and the O-ring to the dry gland sleeve.
STEP 35	Slide the dry gland sleeve onto the shaft and through the casing into the gland assembly.
STEP 36	Apply anti-seize to the impeller threads.
STEP 37	Reverse the position of the J wrench or crescent wrench on the shaft.
STEP 38	Screw the new impeller onto the shaft, ensuring there is 1/8” clearance between the impeller and the suction-side casing.
STEP 39	Remove the J wrench or crescent wrench from the shaft.
STEP 40	Use the assembly aid arm or lifting device to lift the suction-side casing back into place.
STEP 41	Secure the casing with bolts, torquing to recommended specifications.
STEP 42	Remove the assembly aid arm or lifting device from the eye bolt.
STEP 43	Replace the shaft guard.
STEP 44	Reconnect the suction hose.
STEP 45	Reconnect the discharge hose.
STEP 46	Insert the drain plug.
STEP 47	Restore power to the pump.