Replacement Instructions for Coupler Assembly and Motor Mount Sets

Motors

Coupler Assembly

Instructions are for the Series 100 (shown) and similar residential pumps.

INSTALLER: PLEASE LEAVE THIS MANUAL FOR THE OWNER’S USE.

SAFETY INSTRUCTIONS

This safety alert symbol will be used in this manual and on the pump instructions decal to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

WARNING: ELECTRICAL SHOCK HAZARD.

Be certain the electrical power is not present at the motor leads before continuing. Failure to follow these instructions could result in serious personal injury or death.

WARNING: UNEXPECTED START-UP HAZARD.

Single phase motors are equipped with automatic reset overload protectors. The pump can restart without warning. Disconnect and lockout power before servicing. Failure to follow these instructions could result in serious personal injury or death.

Your Booster Pump should have this warning label affixed near the conduit box cover. If this warning is missing or illegible, contact your local Bell & Gossett Representative for a replacement.

REMOVING THE MOTOR AND COUPLER

Replacement of the coupler and motor mounts does not require removal of the bearing assembly or pump body. It is not necessary to close the service valves or disconnect the water supply for this operation.

WARNING: ELECTRICAL SHOCK HAZARD.

Disconnect and lockout the power before servicing. Failure to follow these instructions could result in serious personal injury or death.

1. The electrical supply must be turned off before disconnecting the motor from the pump.

2. Loosen the conduit box cover screw and remove the cover. Follow this procedure with the removal of the wire nuts and the flexible conduit connector.

3. Release the coupler from the pump shaft by loosening the set screw with an Allen wrench. The set screw rests in a blind hole along the shaft; the set screw must therefore be backed off at least 1/8" before attempting to remove the coupler. If stuck, a prying device may be used to gently pry the coupler from the shaft (before prying, be certain that the set screw has cleared the depth of the blind hole – usually three full turns of the wrench will clear the hole).

4. Separate the motor from the bearing assembly by removing the four capscrews from the motor end of the bracket.

5. In a way similar to its removal from the pump shaft, the spring coupler can be separated from the motor shaft by loosening the set screw with an Allen wrench. If the coupler is found to be broken completely or if excessive wear is observed, replace the entire coupler – never replace individual components of the coupler assembly. Neither the springs nor the coupler arms should ever be replaced. Replacing individual springs will only result in repeated breakage due to spring imbalance caused by the tensile strength being greater in new couplers than in used couplers.

6. New couplers are installed by reversing the removal operation and seating the set screw in the shaft recess to prevent slipping.
REPLACING THE RING MOTOR MOUNTS

**IMPORTANT:** Noisy coupler operation or coupler failure are generally strong indicators of the need to replace the motor mounts. When replacing the coupler becomes necessary, replace the motor mounts as well. Before beginning this procedure, follow the instructions under REMOVING THE MOTOR from the front side of this page.

1. The under bracket must be removed prior to servicing the motor mounts. The bracket can be separated by loosening the clamp screw found at the end opposite the motor shaft. By loosening this screw, the clamp can be removed and the motor will no longer be fastened to the bracket.

2. Visually inspect the motor mounts before removing them from the end plates. An in-place inspection may give some indication to the cause of an operational problem or failure. Many times excessive oil can cause a ring motor mount to fail. Always replace both motor mounts when either one begins to show signs of deterioration. Never replace one mount at a time. Single replacement will only result in the misalignment of the pump and the motor shafts.

3. Remove the motor mount outer ring by placing a chisel between the ring and the end plate so that the head is angled toward the rubber section. Tap the chisel with a hammer to force it through the rubber and use the chisel to pry against the inner ring to remove the outer ring. Care should be taken to prevent damage to the motor shaft or end plate (See diagram A).

4. The inner ring will require an additional effort to remove. B & G suggests the use of either a cold chisel to cut through the inner ring or a means of prying the ring from the end plate. In both cases, however, care must be taken to prevent damage to the motor.

5. Set the new mount squarely on the boss of the motor end plate. Orient the mount so that the spline along its outer diameter is aligned to the bottom of the motor (direction opposite oil tubes).

With the mount positioned and aligned properly, use a hammer to tap around the mount until it sits flush against the end plate. Repeat the procedure for the rear mount but without resting the motor on the shaft.

6. Wipe any debris or oil that may have settled on the motor bracket. Set the motor, with oil tubes pointing upward, into the bracket by guiding the shaft through the bore in the front of the bracket. The rear mount should seat in the semi-circular section of the bracket.

7. Replace the clamp by mating the hooks of the mount to the slots of the clamp. Tighten the clamp so the motor is secured in the bracket. It should not be possible to rotate the motor once it is mounted in the bracket. DO NOT OVERTIGHTEN – overtightening will only deform the mount and cause premature failure.

8. Connect the coupler to the motor and pump by seating the set screw in the shaft recesses. Position the motor with the bearing assembly and evenly tighten the four capscrews. Connect electrical power and check for proper operation.

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