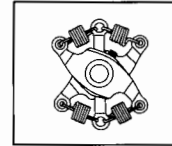


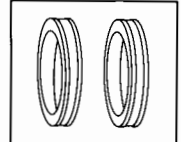
## Series 60<sup>®</sup> In Line Centrifugal Pump

INSTRUCTIONS FOR:

SERVICE REPLACEMENT –  
COUPLER ASSEMBLY &  
RING MOTOR MOUNTS

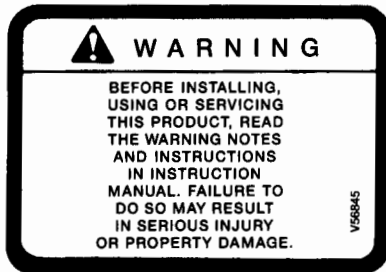


1. Spring Coupler
2. Sleeve Coupler
3. Ring Motor Mounts



### 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.**



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

### REMOVING THE MOTOR

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 lock out 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.



**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.

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.

**NOTE:** There are two types of couplers used on Series 60 pumps. The type of coupler is dependent on the size of the pump. All AA size pumps use B&G spring coupler assemblies. All A size pumps with FRACTIONAL HP ( $1/4$ ,  $1/2$ ,  $3/4$ ) use B&G spring couplers whereas A size pumps with HP GREATER THAN 1 ( $1-1/2$ , 2) use Woods sleeve couplers. The F size pumps also use the Woods sleeve couplers. Lovejoy jaw type couplers are compatible with the Woods sleeve couplers and can therefore be used interchangeably wherever the Woods is used.

For motors with Woods or Lovejoy type couplers, skip step 3 and continue with step 4. Only pumps with spring couplers require step 3 operations for disassembly.

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 screwdriver 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 cap screws from the cover plate.

## REPLACING THE COUPLER

1. Similar to its removal from the pump shaft, the spring coupler is also 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 or 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 springs than in used springs.

**WOODS/LOVEJOY:** If a Woods or Lovejoy coupler is in use and it is necessary to replace worn coupler halves, then use an Allen wrench to unseat the set screws from the pump and motor shafts. If the coupler halves do not require replacement, then it is not necessary to remove the halves from the shaft – the rubber spider (sleeve) can be replaced without removing the coupler halves.

**NOTE:** Noisy coupler operation or coupler failure are generally strong indicators of the need to replace the motor mounts. Refer to the next section, **REPLACING THE MOTOR MOUNTS**, for service instructions.

2. New couplers can be installed by reversing the removal operation. The set screw must be seated in the shaft recess to prevent slipping.

When replacing either the Woods or Lovejoy type coupler, provide about  $\frac{1}{8}$ " end clearance between the sleeve and the two coupler halves. This space will allow the coupler to accommodate misalignment and thermal expansion.

## REPLACING THE RING MOTOR MOUNTS

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 replacements will only result in the misalignment of the pump and motor shafts.
3. Remove the mount's outer ring by placing a proper prying device between the front mounting and the end plate such that the head is angled inward toward the rubber section.

Tap the prying device with a hammer to force it through the rubber. Now, use the device 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.

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 split along its outer diameter is aligned to the bottom of the motor (direction opposite the oil tube). 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.
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 OVER-TIGHTEN** – over-tightening will only deform the mount and cause premature failure.
8. Connect the coupler to the motor and pump shafts by seating the set screw in the shaft recesses.
9. Position the motor with the bearing assembly and evenly tighten the four cap screws.

## WIRING INSTRUCTIONS



**WARNING: ELECTRICAL SHOCK HAZARD**  
Disconnect and lockout the power before making electrical connections. Failure to follow these instructions could result in serious personal injury or death.

The Series 60 pump can be equipped with either a single phase or three phase motor. Both motor types can operate at either high or low voltage. The single phase motor can operate at 115 V or 230 V whereas the three phase motor can operate at 208-230 V or at high voltage 460 V. Determine the voltage at which our B&G pump has been operating and make wiring connections according to the diagrams found in the conduit box cover.

Unlock the power and return to service.

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## **GENUINE BELL & GOSSETT REPLACEMENT PARTS**

For further information, contact ITT Bell & Gossett, 8200 N. Austin Avenue, Morton Grove, IL 60053, Phone (847) 966-3700 – Facsimile (847) 966-9052.

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