



Installation

PART-IN-124

Library	Service Literature
Product Section	Service Products
Product	Parts
Model	ABSB, ABSC, ABTB, ABTE
Literature Type	Installation
Sequence	124
Date	August 2000
File No.	SV-SP-000-PART-IN-124-800
Supersedes	New

Installation of Classic Absorption Pump Motor Tilted-Pad Thrust Bearing using BRG01248 and BRG01249

⚠ Warning!
Hazardous Voltage!
Disconnect all electric power including remote disconnects before servicing.
Failure to disconnect power can cause serious personal injury or death.

The tilted-pad thrust bearings, KIT00513 and KIT00516 used in Classic Absorption Pump Motors are no longer available. They have been replaced by BRG01248 and BRG01249, respectively. These are functional equivalents, but do vary significantly in design.

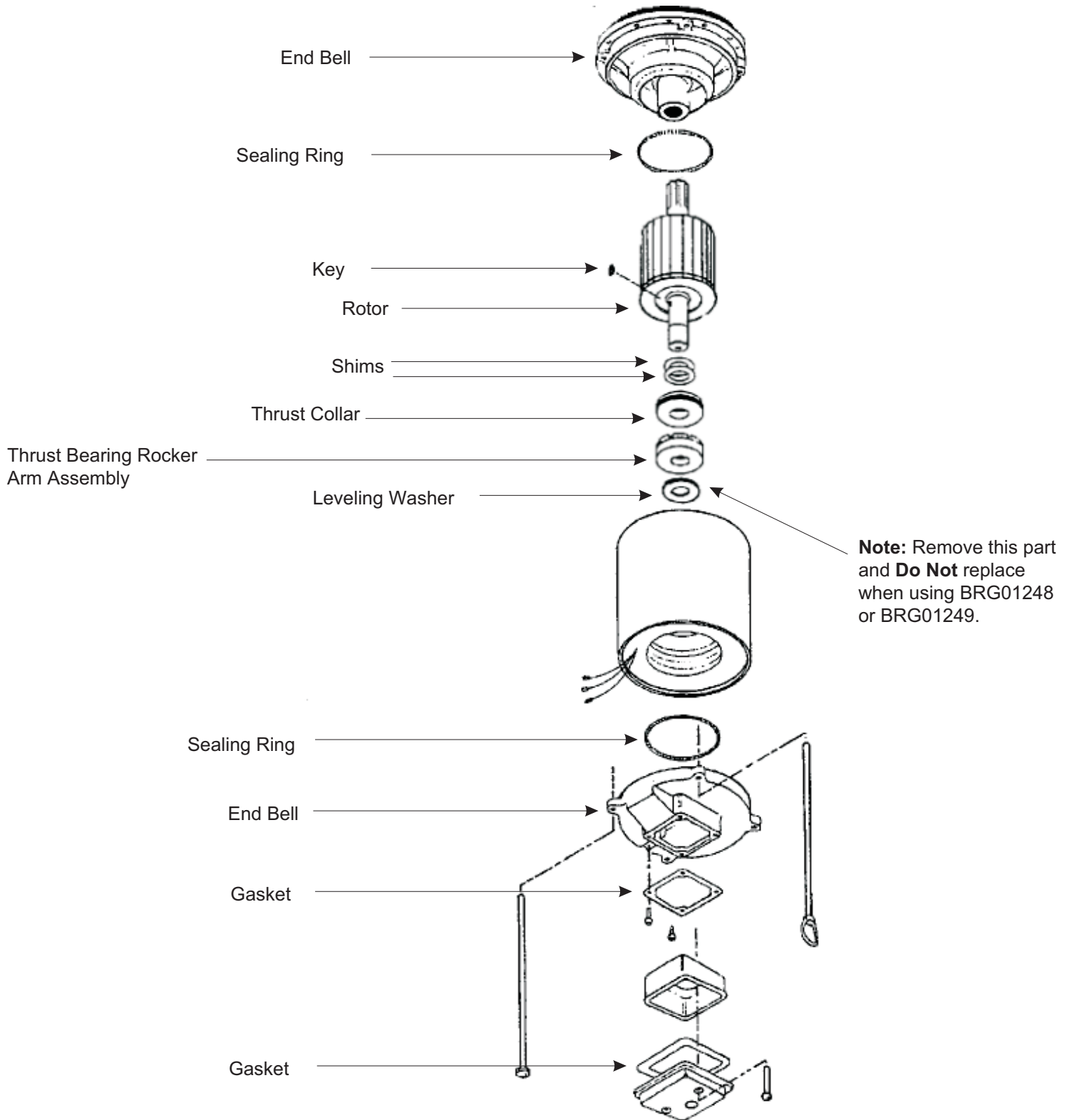
- BRG01248 can replace thrust bearings used in 5 to 15 horsepower motors manufactured by Franklin Electric.
- BRG01249 can replace thrust bearings used in 20 to 30 horsepower motors manufactured by Franklin Electric.

Note: Motors manufactured by Peerless Electric will **not** accept the bearings described here.

Follow the included instructions to replace thrust bearings in Franklin Electric motors.

Installation

Figure 1 — Motor Parts



Installation

1. Disconnect all power to machine.
2. Remove motor junction box cover. Mark all phases for future reference and disconnect wire leads.
3. Verify that both the inboard and outboard pump seals are maintaining positive seals. **DO NOT PROCEED UNTIL ALL SEAL PROBLEMS HAVE BEEN CORRECTED. FAILURE TO DO SO WILL RESULT IN LOSS OF LITHIUM BROMIDE.** CORRECT SEAL PROBLEMS ACCORDING TO SECTION 8 OF SERVICE GUIDE ABS-SG-1 OR ABS-SG-2.
4. Place oil pan or bucket beneath the motor. Loosen the cap screws holding the motor to the pump in order to allow water to drain from the motor.
5. Disconnect motor cooling line and drain.
6. Support the motor with an A-frame hoist and sling or hydraulic jack. Remove all cap screws joining the pump and motor.
7. Remove the motor, shaft coupling and shaft spacer. Set the coupling and spacer aside for later assembly.
8. Remove the 4 or 6 bolts that retain the motor endbells.
9. Orient the motor vertically with the shaft facing *up*. Place wooden blocks under the bearing head to prevent the motor from tipping.
10. Remove the endbell from the shaft end of the motor (opposite lead end).
11. Remove the rotor gently. *The stator is separated from the rotor by a very thin metal liner. Damage to the stator liner will render the motor useless.*
12. Wipe the stator lining clean and inspect for wear.
13. Remove the bearing thrust collar and shims from the rotor.
14. Install new shims from the bearing kit. Proper shimming may take multiple installations. Begin by replacing the same number of shims in the same sizes as were removed.
15. Install the thrust collar on the rotor shaft.
16. Remove the thrust bearing rocker arm assembly from the stator housing.
17. Remove the leveling washer from the stator housing. *The new bearing does not require the leveling washer. It must be removed and will not be replaced.*

Installation

18. Set the thrust bearing rocker arm assembly into the stator housing. Rotate until the pivot points on the bearing base settle into divots on the interior of the rear endbell. *Make sure the entire assembly can rock on those pivot points. It is possible to install the bearing 90 degrees from the proper position and thereby prevent the proper rocking motion.*
19. Carefully insert the rotor into the stator housing. Be certain not to damage the stator liner or move the bearing assembly during installation. Rotate the rotor to ensure smooth operation.

Note: If the shaft keyway is worn, the thrust collar may fall from the rotor during installation. If this happens, apply Dow #7 silicone lubricant or equivalent compound to the shims and metal portion of the thrust collar. This will temporarily hold the thrust collar in place.

20. Lower the endbell over the shaft extension. Tap the endbell and shaft firmly into place.
21. Tip the motor on its side to install the 4 or 6 bolts that hold the motor in place. Tighten finger-tight.
22. Tip the motor back into a shaft-up orientation. Tighten each bolt a fraction of a turn while spinning the rotor. The rotor should spin freely. Continue turning the rotor while tightening the bolts to a final torque of 20-28 inch-pounds. It is important to tighten the bolts evenly to keep the shaft aligned properly. If the rotor tightens up, back the bolts off and tighten again.
23. Check rotor end play and shaft extension.
24. End play should be determined with a dial indicator attached to the motor mounting flange.
25. Shaft extension (Dimension C in Figure 2) is defined as the distance from the face of the shaft with rotor setting snug on the thrust bearing to the machined face of the motor flange.
 - To find this distance, use a depth micrometer and a rigid reference bar as shown in Figure 2.
 - Measure Dimension A and Dimension B. Dimension B minus Dimension A will equal the shaft extension, Dimension C. (B-A=C)

End Play	5 -15 HP 0.010" to 0.040"	20 - 30 HP 0.020" to 0.050"
Shaft Extension	5 - 20 HP 1.000" ± 0.005"	30 HP 0.938" ± 0.010"

Installation

26. To increase end play and decrease shaft extension, decrease the thickness of shims used. To decrease end play and increase shaft extension, increase the thickness of shims used.
27. When motor assembly is complete with correct end play and shaft extension tolerances, clean the flange surface and install an O-ring on the motor.
28. Mate the pump shaft to the splined coupling and spacer.
29. Support the motor near the pump with an A-frame and sling, hydraulic jack, or other apparatus. Align the motor shaft with the pump shaft in the horizontal and vertical directions. Then, slide the motor towards the pump so the splined coupling joins the motor and pump shafts.
30. Install and tighten all cap screws on the motor mounting flange.
31. Reconnect motor cooling line.
32. Reconnect power to motor.

Note: At initial startup following this repair, it may be necessary to provide city water for cooling and lubricating of the motor.

Installation

Figure 2 — Checking Shaft Extension

