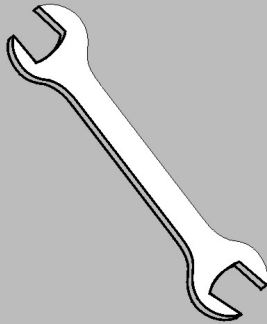


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Kit Instruction— KFBBSL72J2



Please Read

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This manual may contain references to "yellow pages." Although the pages containing troubleshooting procedures are no longer printed on yellow paper, troubleshooting instructions, if any, will be contained in the easily located "Troubleshooting" chapter or section. See the table of contents.

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REPLACING JxN WATER SEALS

MSSM0275AE/9913AV

Background—Current JxN machines manufactured on or after June 11, 1997 (Mildate 97241), are fitted with a new type of bearing housing featuring an easily removable water seal holder and a replaceable shaft sleeve. Two technicians (working with ordinary hand tools from the inside of the machine) can change the water seals and the shaft sleeve. Previously, the entire bearing housing had to be removed.

Buna-N water seals are standard on textile machines due to their superior abrasion resistance qualities. Viton water seals are optional. Viton seals have a somewhat greater resistance to industrial chemicals and are recommended for applications where either the wash liquors or the chemicals contain a small percentage of solvents due to the nature of the goods being processed (e.g., industrial garments).

Preparations—Have the following items on hand before replacing water seals: seal removal kit KFBBSL72J2, and either Buna-N seal kit KFBBSH72J2 or Viton seal kit KFBBSV72J2. This procedure only covers replacing water seals; see MSSMA430AE for bearing removal information. Before beginning, study FIGURE 1 and read through this procedure in order to become familiar with the main bearing components and the seal replacement process.



DANGER: Entangle and Sever Hazards



Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- ☞ Do not service machine unless qualified and authorized.
- ☞ Lock off and tag out power at the main machine disconnect before servicing, or in accordance with factory service procedures.



DANGER: Confined Space Hazards



Confinement in the cylinder can kill or injure you. Hazards include but are not limited to panic, burns, poisoning, suffocation, heat prostration, biological contamination, electrocution, and crushing.

- ☞ Do not enter the cylinder until it has been thoroughly purged, flushed, drained, cooled, and immobilized.



DANGER: Explosion and Fire Hazards



Flammable substances can explode or ignite in the cylinder, drain trough, or sewer. The machine is designed for washing with water, not any other solvent. Processing can cause solvent-containing goods to give off flammable vapors

- ☞ Viton seals do not render the machine explosion proof or make it suitable for any type of solvent cleaning process.
- ☞ Do not use flammable solvents in processing.
- ☞ Laundry-type machines must not be used to process goods containing any significant quantity of flammable solvent that might burn or explode.
- ☞ Thoroughly flush all flammable-soiled goods with multiple cold baths before any hot bath. Consult with your local fire department/public safety office and all insurance providers.

Approximate Component Weights

Component	Pounds	Kilograms
Hub	225	103
Shaft cap fixture	33	15
Seal holder	33	15

Supporting the Cylinder

1. Rotate cylinder by hand so that *rib 1* (rib number stamped on front of rib) is top dead center. Drive wedges between the cylinder and shell front at eight places then clamp the cylinder to the shell front (shown in FIGURE 2).
2. Remove the short bolts that plug the cylinder support weldments and replace with the long bolts included in the kit (FIGURE 3). Tighten each bolt until it contacts the cylinder then tighten an additional quarter turn.
3. Remove cover plate in the center of the cylinder (FIGURE 1).

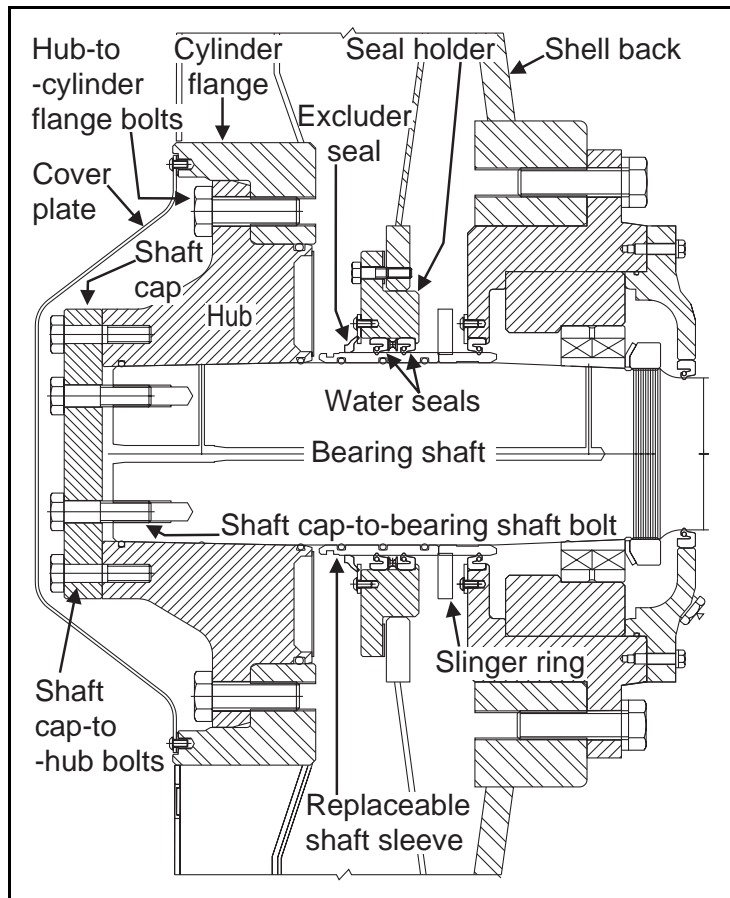


FIGURE 1 (MSSM0275AE)
Overview of Main Bearing Showing Water Seal Components



FIGURE 2 (MSSM0275AE)
Clamping the Cylinder to the Shell Front

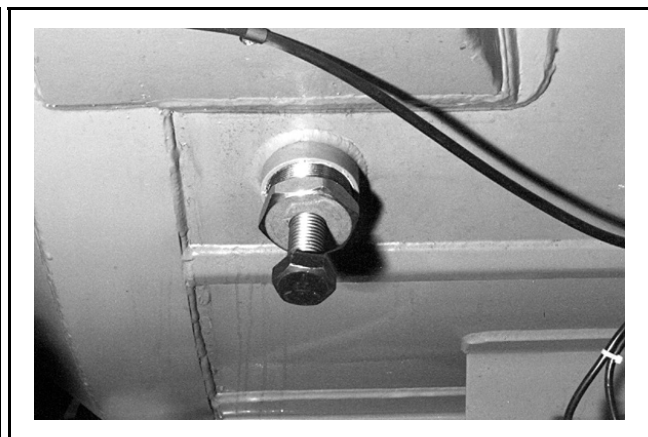


FIGURE 3 (MSSM0275AE)
Cylinder Support Weldment and Long Bolt

⚠ WARNING:Crush Hazard



ENTANGLE AND CRUSH HAZARD—Hub weighs approximately 225 pounds (103 kg.), and if allowed to fall, will crush body parts under it.

- ☞ Follow procedure carefully.
- ☞ Hub removal requires two people.

Removing the Hub

1. Remove three of the *hub-to-cylinder flange bolts* (FIGURE 4) and replace them with *guide pins* (supplied in kit) as shown in FIGURE 6. These *guide pins* support the hub during the seal holder and shaft sleeve replacement procedure. Remove the rest of the *hub-to-cylinder flange bolts* after the *guide pins* are in place.
2. Install two *hub push-off bolts* (FIGURES 4 and 6).

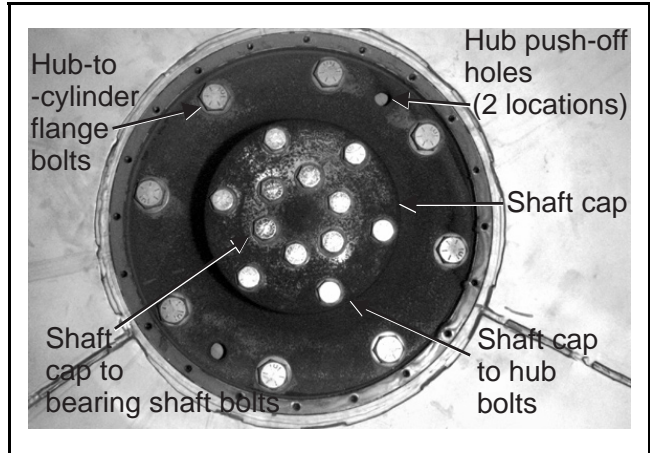


FIGURE 4 (MSSM0275AE)
Identifying Bolts and Shaft Cap



FIGURE 5 (MSSM0275AE)
Shaft Cap Fixture Showing Raised Surface



FIGURE 7 (MSSM0275AE)
Shaft Cap Fixture With Push-off Bolts on Hub

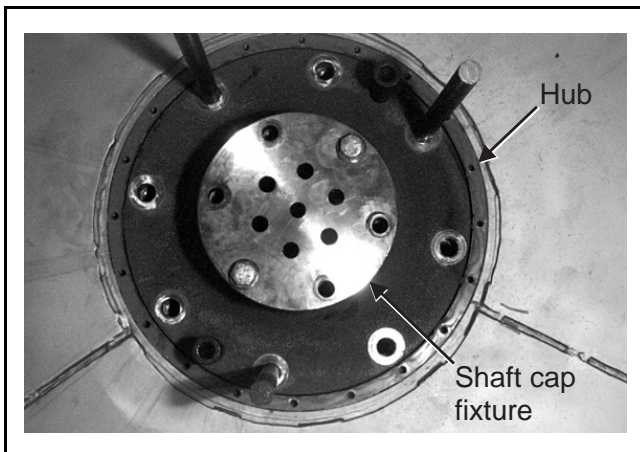


FIGURE 6 (MSSM0275AE)
Guide Pins and Push-off Bolts in Place on Hub

3. Remove the *shaft cap* (FIGURE 4) and replace with the *shaft cap fixture* (FIGURE 5) with the raised surface turned inward.
4. Install six *shaft cap fixture* push-off bolts (supplied in the kit), as shown in FIGURE 7. Alternately tighten the *hub push-off bolts* (FIGURE 6) and the *shaft cap fixture push-off bolts* to simultaneously force the hub off both the bearing shaft and the cylinder flange.
5. Carefully and slowly slide hub about 5 inches (127 cm.) out from the *bearing shaft* and *cylinder flange*.

Removing the Seal Holder and Shaft Sleeve

1. With the hub supported in place by the *guide pins*, remove and discard the *excluder seal* (FIGURES 9 and 10).
2. Unbolt and remove *seal holder* (FIGURE 11).

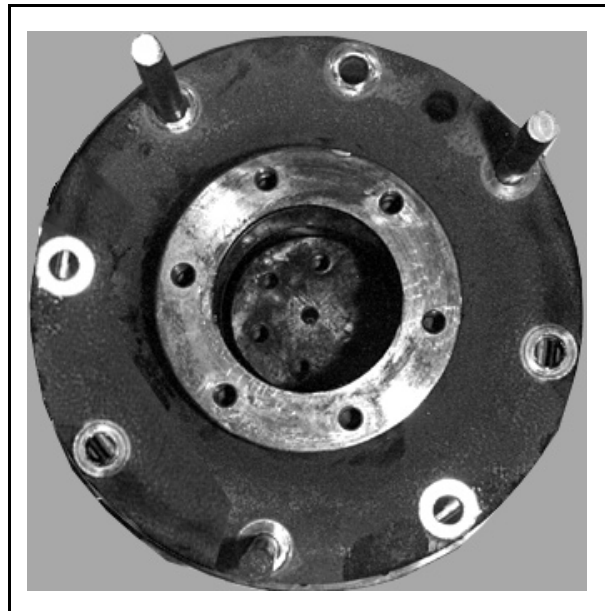


FIGURE 8 (MSSM0275AE)
Shaft Cap Fixture Showing Raised Surface

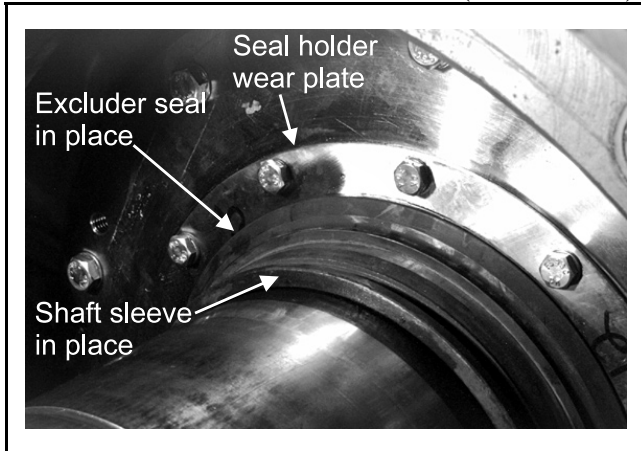


FIGURE 9 (MSSM0275AE)
Excluder Seal in Place

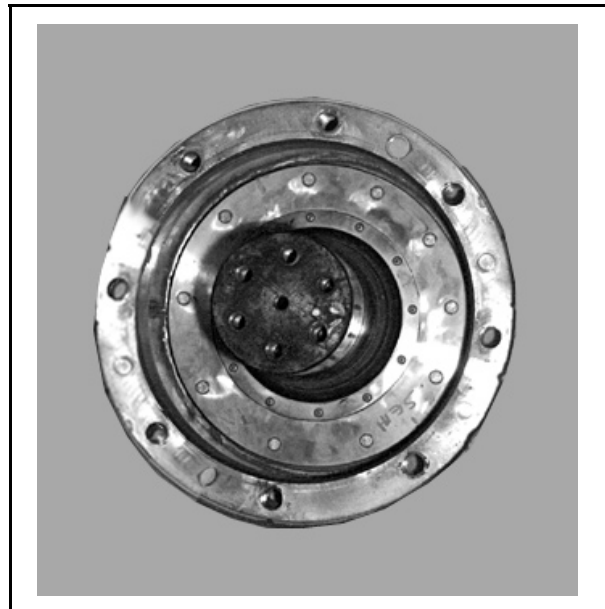


FIGURE 11 (MSSM0275AE)
Identifying the Seal holder



FIGURE 10 (MSSM0275AE)
Excluder Seal

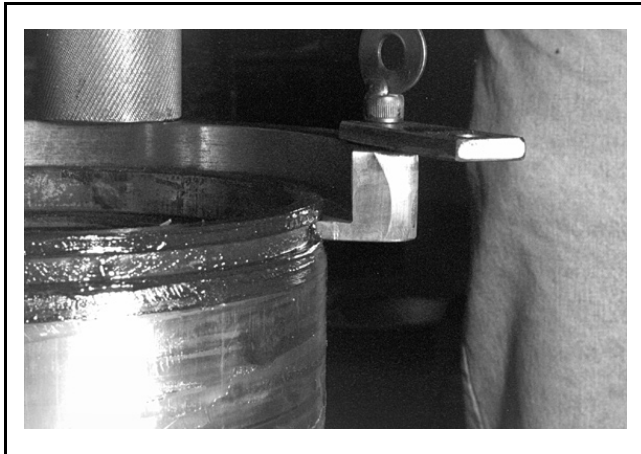


FIGURE 12 (MSSM0275AE)
Shaft Sleeve Tool Details

- Hook the *shaft sleeve tool* (FIGURES 12 and 13) to the milled groove in the *shaft sleeve*. Using the tool's slide hammers, free the *shaft sleeve* from the shaft and discard.

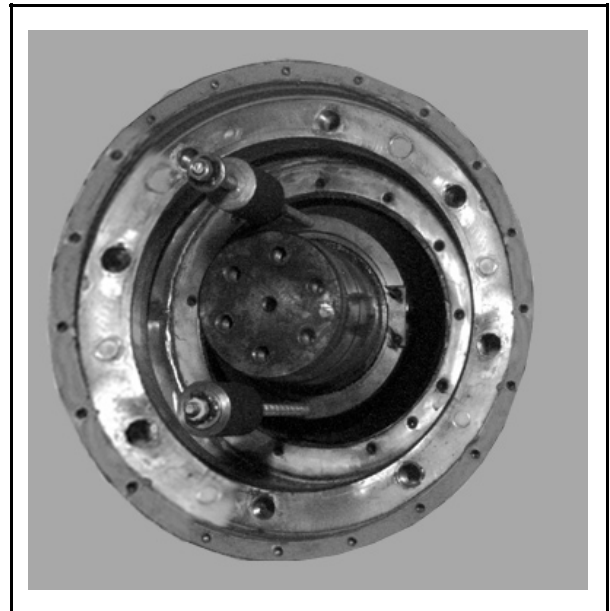


FIGURE 13 (MSSM0275AE)
Shaft Sleeve Tool in Place

Installing the Shaft Sleeve and Seal Holder

- Clean the bearing shaft. Install the *o-rings* (FIGURE 14) in the new *shaft sleeve*, and the new *water seals* in the *seal holder* (FIGURE 1). If installing a new seal holder wear plate (FIGURE 9), completely coat the underside of the new wear plate liberally with silicon or a similar type gasket material, to ensure that air from the injection system does not leak from the back of the wear plate. Coat the *o-rings* and *water seals* with grease.
- Add spacers to each *shaft sleeve tool* slide hammer as shown in FIGURE 15. Use slide hammers to gently tap *shaft sleeve* into place.
- Tape *shim stock* over the groove of the *shaft sleeve* (FIGURE 16) to ensure that the new *water seals* in the *seal holder* stay in position as the *seal holder* is slipped into place.
- Apply a new gasket to the *seal holder*. Carefully slip the *seal holder* over the *shim stock* and into position. The *seal holder* is drilled in a special pattern and can only be installed one way.



FIGURE 14 (MSSM0275AE)
Shaft Sleeve O-Rings

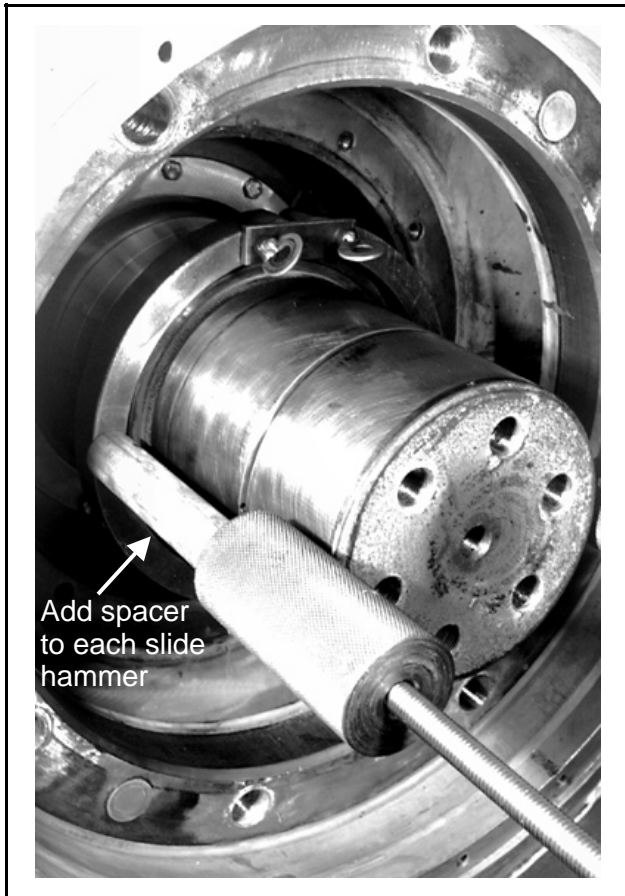


FIGURE 15 (MSSM0275AE)
Using Shaft Sleeve Tool to Install Sleeve



FIGURE 16 (MSSM0275AE)
Shim Stock Covering Edge of Shaft Sleeve
(Slinger ring removed for clarity)

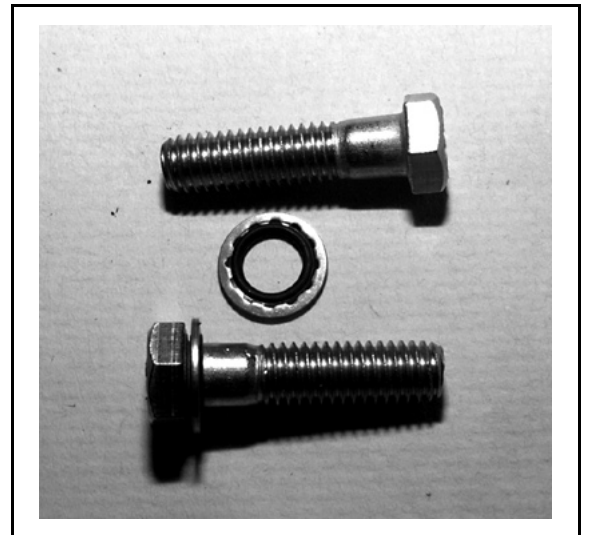


FIGURE 17 (MSSM0275AE)
Seal Holder Bolts and O-ring Washer

5. Place an *o-ring equipped washer* under each bolt (FIGURE 17), apply Loctite 242 to each *seal holder bolt*, then install and torque to specifications. See "MSSM0101CE...FASTENER TORQUE REQUIREMENTS."

Installing the Excluder Seal and Hub

1. Remove clamps and wedges clamping cylinder to shell front. **Do not remove the long bolts supporting the cylinder (FIGURE 3) at this time.**

NOTICE: MACHINE DAMAGE

Cylinder can be bent if components are reinstalled with the clamps and wedges in place.

2. Install the new *excluder seal* flush against the *seal holder* as shown in FIGURE 9. Using Loctite[®] 404 (or a similar cyanoacrylate based adhesive), tack the base of the *excluder seal* to the *shaft sleeve* in four places.
3. Slowly push the hub into contact with the *bearing shaft* and *cylinder flange*.
4. Install the *shaft cap*. Use several equally spaced bolts to draw the hub onto the *cylinder flange* and *bearing shaft* as shown in FIGURE 18. Remove bolts after the hub is drawn up onto the *bearing shaft*.
5. Apply Loctite 242 to each bolt, then install and torque bolts to specifications in the following order:
 - a. The eight *hub-to-cylinder flange bolts*.
 - b. The six *shaft cap-to-hub bolts*.
 - c. The six *shaft cap-to-bearing shaft bolts*.
6. Replace the cover plate.
7. Remove the long bolts supporting the cylinder and replace with short bolts.

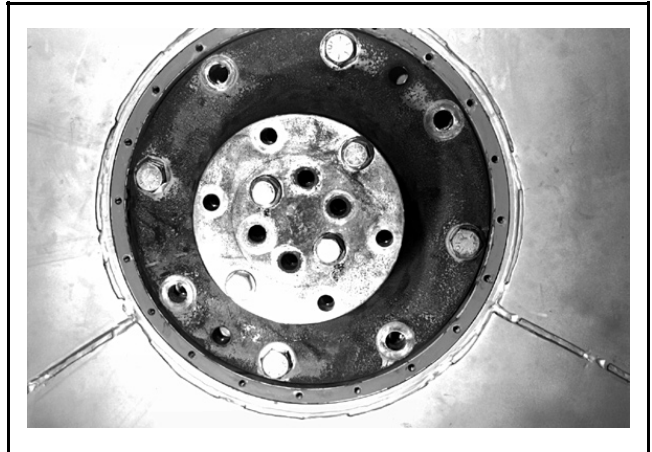


FIGURE 18 (MSSM0275AE)
Drawing Hub into Place