5. Determine how far back the sleeve must be positioned to cover the old seal wear tracks. Measure to the exact point, or mark directly on the surface. The sleeve must be slipped over this point area, not until bottomed or left flush with the end of the shaft.

6. Place installation tool over the sleeve. The flange end of the sleeve goes on the shaft first.

7. Gently pound the center of the tool until the sleeve covers the seal wear surface.

If the installation tool supplied with the sleeve is too short, a length of pipe or tubing with a squared-off, burr-free end can be substituted.

8. Leave the flange intact unless clearance is required. Use side cutters to cut the flange away from the seal surface and twist it into a coil. The flange will break loose along the pre-cut line.

9. After the sleeve is installed, check again for burrs which could damage the seal.

10. Lubricate the end of the sleeve when installing the seal.

11. Proceed with seal and bearing installation.

7. Tap tool to install sleeve over shaft

8. Pry flange off installed sleeve

INSTRUCTIONS

for Trouble-free Application of Shaft Repair Sleeve

NOTE: If you can't catch your fingernail in a seal track or shaft groove, a repair sleeve should be installed to prevent leakage.

1. Clean the surface where the seal contacts the shaft. File clean and polish any burrs or rough spots.

2. Measure the diameter where the sleeve will be positioned on all sixteen portion of the shaft. Measure in three positions and average the reading to take the shaft is out of round. If the average diameter is within the range for a given sleeve size, there is sufficient press-fit built into the sleeve to keep it from sliding or spinning. No cement is necessary.

3. If the groove does not require filling, apply a light layer of non-hardening sealant to the inner surface of the sleeve.

4. If the shaft is deeply scored, fill the groove with powdered metal epoxy type filler. Install the sleeve before the filler hardens.

457785 (Rev. 8/96)

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2. Measure shaft diameter in three places.

4. Place installed seal over sleeve.

INSTRUCTIONS

for Trouble-free Application of Shaft Repair Sleeve

NOTE: If you can catch your fingernail in a seal track or shaft groove, a repair sleeve should be installed to prevent leakage.

1. Clean the surface where the seal contacts the shaft. File down and polish any burrs or rough spots.

2. Measure the diameter where the sleeve will be positioned on an unworn portion of the shaft. Measure in three positions and average the reading in case the shaft is out of round. If the average diameter is within the range for a given sleeve size, there is sufficient press-fit built into the sleeve to keep it from sliding or spinning. No cement is necessary.

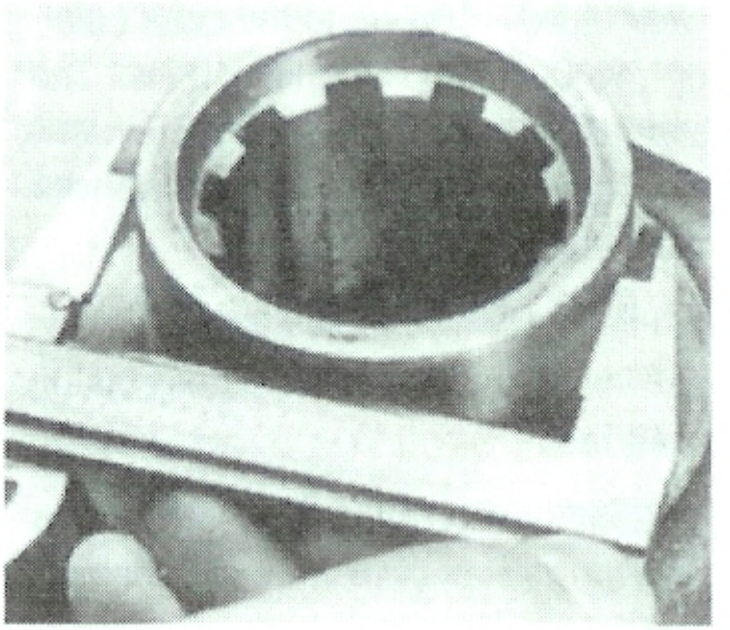
3. If the groove does not require filling, apply a light layer of non-hardening sealant to the inner surface of the sleeve.

4. If the shaft is deeply scored, fill the groove with powdered metal epoxy type filler. Install the sleeve before the filler hardens.

457783 (Rev. 8/86)

Printed in U.S.A.

(OVER)



2. Measure shaft diameter in three places.

6. Place installation tool over sleeve.

5. Determine how far back the sleeve must be positioned to cover the old seal wear tracks. Measure to the exact point, or mark directly on the surface. The sleeve must be placed over the worn area, not just bottomed or left flush with the end of the shaft.

6. Place installation tool over the sleeve. The flange end of the sleeve goes on the shaft first.

7. Gently pound the center of the tool until the sleeve covers the seal worn surface.

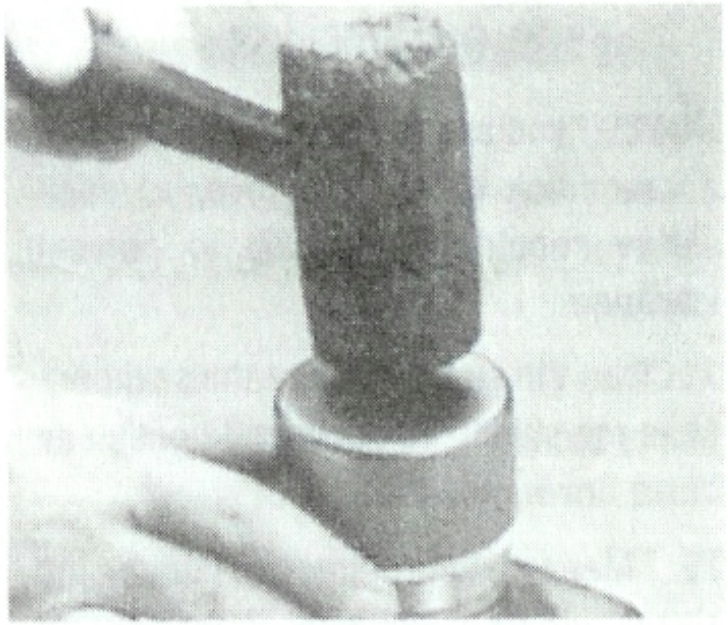
If the installation tool supplied with the sleeve is too short, a length of pipe or tubing with a squared-off, burr-free end can be substituted.

8. Leave the flange intact unless clearance is required. Use side cutters to pry the flange away from the seal surface and twist it into a coil. The flange will break loose along the pre-cut line.

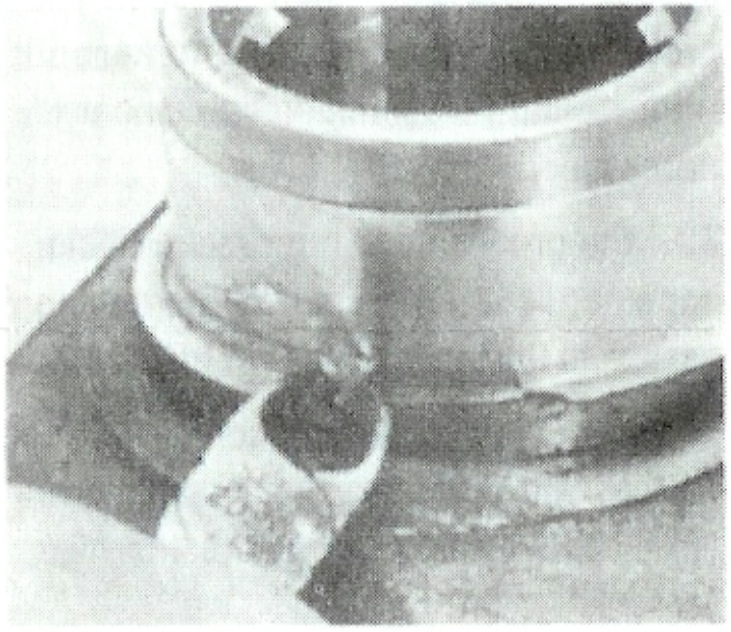
9. After the sleeve is installed, check again for burrs which could damage the seal.

10. Lubricate the end of the sleeve when installing the seal.

11. Proceed with seal and bearing installation.



7. Tap tool to install sleeve over shaft.



8. Pry flange off installed sleeve.