

SERVICE GUIDE

WM [125 & 126] SERIES MOTORS

ENGINEERING
TOMORROW



For Use With Seal Kit: 125222001

AX00000316en-US0101 | PI125001

dimensions: mm [in]

IMPORTANT NOTE: WM series motors depend on proper orientation of parts as well as correct internal timing for correct motor operation. Before disassembling the motor, it is highly recommended that paint or a marker be used to make a "V" shaped set of lines from the endcover to the housing. This will aid in reassembling the motor components properly. It is also important that the steps involving internal parts timing be followed carefully to insure proper motor operation. The (numbered) components below are referenced on the exploded view diagram on page 3.

SHAFT SEAL ONLY INSTALLATION / REPLACEMENT INSTRUCTIONS

To install/replace the shaft seal contained in the mounting flange follow steps A - E below. To install a complete seal kit skip to step F.

- A) Remove all shaft related components from shaft (17) (i.e. keys, nuts). Loosen and remove the mounting flange bolts (19). Remove mounting flange (7) from housing (8). Lift flange seal (2) from groove in the mounting flange (7) and discard seal.
- B) Remove thrust washer (4) and thrust bearing (5) from internal cavity of mounting flange (7) and set aside. *If the thrust washer (4) and thrust bearing (5) are not present in the bottom of the mounting flange they will still be resting on the output end of the shaft (17) and will not need to be adjusted to complete installation.*
- C) Carefully pry shaft seal (3) from the internal side of mounting flange (7) and discard seal.

At this point, all parts should be cleaned in an oil-based solvent and dried using compressed air (For safety, observe all OSHA safety guidelines). All new seals should be lightly coated in clean oil prior to installation.

- D) Carefully press shaft seal (3) into place in mounting flange (7) and place thrust bearing (5) and thrust washer (6) onto shaft if they were removed earlier. See Figure 1 for shaft stack-up orientation. Place a new mounting flange seal (2) into groove in mounting flange. Line up flange bolt holes and lower mounting flange assembly over shaft. *Be careful not to nick shaft seal (3) on shaft keyway or pinch the flange mounting seal (2).*
- E) Install three flange mounting bolts (19) hand tight and final torque bolts to 12 ± 1 Nm [106 ± 9 lb-in].

COMPLETE SEAL KIT INSTALLATION INSTRUCTIONS

Disassembly (steps F - L)

- F) Remove all shaft related components from shaft (17) (i.e. keys, nuts). Turn motor over and secure in a vise.
- G) Loosen and remove the three assembly bolts (16) and washers (15) holding motor assembly together. Remove endcover (14). *If the two steel check balls (13) fall out of endcover replace them and set endcover aside.*
- H) Remove balance plate (12). Lift body seals (6) from both sides of balance plate and discard. Remove rotorset (11) and lift seal from rotorset and discard. Remove wear plate (10) and drive link (9) and set aside. Remove last body seal (6) from housing (8) and discard.
- I) Remove housing and shaft from vise and gently tap shaft (17) on a hard surface to push shaft through the rear of the housing (8). If thrust washer (4) and thrust bearing (5) did not come out with shaft, lift both from the housing cavity and set aside.
- J) Flip housing over and carefully pry the dust seal (1) out with a small screwdriver and discard seal.
- K) Loosen and remove the mounting flange bolts (19) then remove mounting flange (7) from housing (8) and discard the flange seal (2) between mounting flange and housing.
- L) Turn mounting flange (7) over and carefully pry out the shaft seal (3) and discard seal.

Reassembly and seal kit installation (steps M - U)

At this point, all parts should be cleaned in an oil-based solvent and dried using compressed air (For safety, observe all OSHA safety guidelines). All new seals should be lightly coated in clean oil prior to installation.

- M) Install new shaft seal (3) into recess in mounting flange on the same side as the mounting flange seal groove and press evenly until it rests against the stop. See Figure 1 for correct seal orientation.

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- N) Install new flange mounting seal (2) into groove in mounting flange (7). Place housing (8) in a vise with the side with three holes facing up. Line up the bolt holes and place mounting flange on top of housing (8). Install the three flange mounting bolts (19) hand tight then final torque bolts to 10 ± 1 Nm [88.5 ± 9 lb-in].
- O) Install new dust seal (1) into groove in mounting flange with lip facing up and seat against stop. See Figure 1 for correct orientation. Remove the mounting flange / housing assembly from vise, turn the assembly upside down and resecure in vise.
- P) Install a new body seal (6) into groove in housing (8). Place new thrust washer (4) followed by new thrust bearing (5) into housing cavity making sure both are laying flat against shaft seal (3). Lower shaft (17) into housing cavity. Using a rubber mallet tap the shaft (17) until it flush with with housing surface.

To make sure the motor operates in the same direction as originally manufactured the drive link must be timed to the shaft.

- Q) Lower the drive link (9) into shaft (17) making sure the timing mark lines up with an open slot in the shaft. If done correctly, the drive link splines will not be engaged in the internal shaft splines at this point. Slightly rotate the drive link (9) counterclockwise until the drive link falls into place and engages the internal shaft splines. See Figure 2 for proper drive link /shaft timing.

The next step will determine which direction the shaft will turn when a specific port is pressurized. To return the unit to its original factory operation, the first three digits in the model code must be known.

- R) Install a new body seal (6) into groove in the rotorset and lower the rotorset onto the drive link with seal side contacting wear plate. If servicing a 125 series line up the timing mark on drive link (9) with one of the 4 lobes on the rotor, for a 126 series line the mark with one of the four valleys on the rotor. See Figure 3 for proper drive link / rotorset timing.
- S) Install a new body seal into both sides of the balance plate (12) and lining up bolt holes place balance plate onto rotorset (11).
- T) Making sure both steel check balls (13) are in the endcover (14) lower the endcover onto balance plate (12) and align bolt holes. *Note - If needed, the balance plate (12) can be placed on the endcover (14) to keep the steel check balls (13) seated in the endcover and placed on the rotorset together.*
- U) Install the three assembly bolt washers (15) onto each bolt (16). Insert assembly bolts (16) with washers (15) into bolt holes and pre-torque to 13.6 Nm [10 ft. lb.]. Final torque bolts to 35-40 Nm [25-30 ft. lb.].

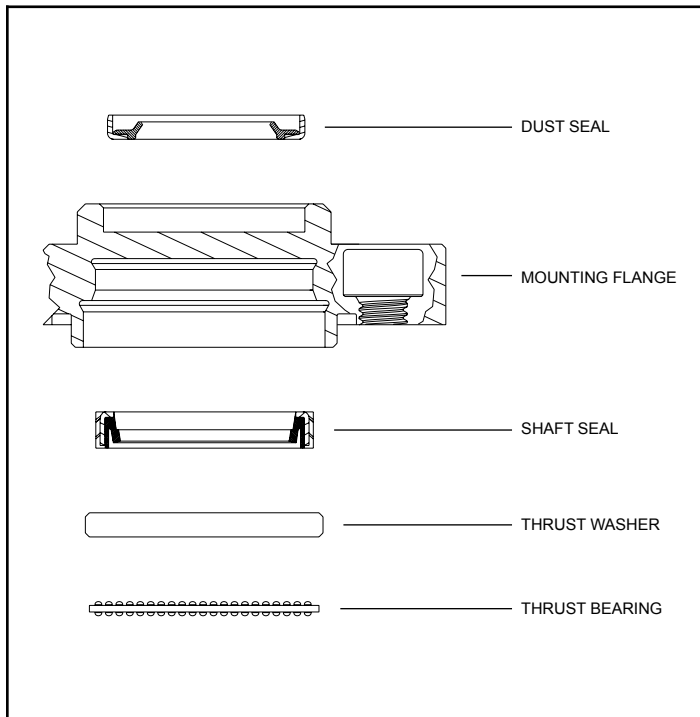


FIGURE 1 - MOUNTING FLANGE / SHAFT STACK UP

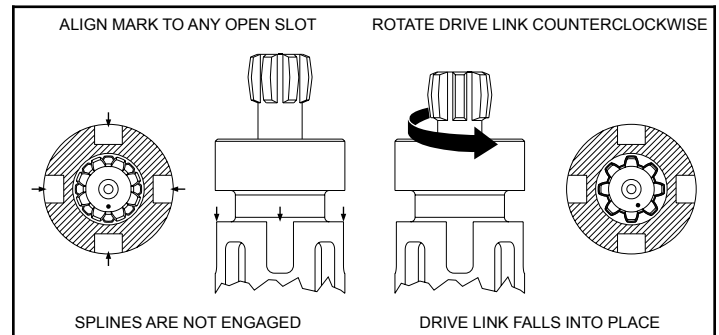


FIGURE 2 - DRIVE LINK / SHAFT TIMING

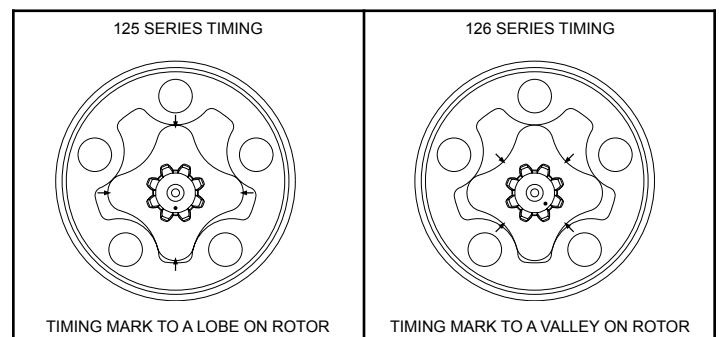


FIGURE 3 - DRIVE LINK / ROTORSET TIMING

EXPLODED VIEW DIAGRAM

- | | |
|---------------------------|-----------------------------------|
| 1. * Dust Seal | 12. Balance Plate |
| 2. * Mounting Flange Seal | 13. Steel Ball (2) |
| 3. * Shaft Seal | 14. Endcover |
| 4. * Thrust Washer | 15. Assembly Bolt Washer (3) |
| 5. * Thrust Bearing | 16. Assembly Bolt (3) |
| 6. * Body Seal (4) | 17. Shaft |
| 7. Mounting Flange | 18. Shaft Key |
| 8. Housing | 19. Mounting Flange Bolt (3) |
| 9. Drive Link | |
| 10. Wear Plate | * Contained in Seal Kit 125222001 |
| 11. Rotorset | |

