

**!WARNING!**

Relieve all pressure from system before removing valve for service, and before any disassembly or repair.

Read and understand all instructions included with this repair kit, prior to starting any repairs.

**NOTE**

Numbers in brackets [ ] refer to the number in the valve component list. Numbers in Parentheses ( ) refer to the Quantity of associated parts.

**!IMPORTANT!**

**FOR ALL O-RING INSTALLATIONS BELOW, ENSURE THAT APPROPRIATE LUBRICATION IS APPLIED TO O-RING TO AID IN PROPER ASSEMBLY. MASK ANY THREADS THE O-RING WILL CONTACT PRIOR TO INSTALLATION, AND REMOVE MASKING AFTER O-RING IS INSTALLED.**

**A. Disassembly**

1. If you purchased a valve with an actuator attachment: remove (4) ¾" length Hex Head Bolts [9], Actuator Assembly [8], Drive Coupler [12], (4) 1" length Hex Head Cap Screws [11], (8) Actuator Split Washers [10], and Flat Actuator Bracket [13] from Valve Body [1] and retain.
2. If you purchased a valve with a lever attachment: remove Snap Ring [4], Lever Washers [5 and 6], and Lever [7] from Gland Assembly [20] and retain.
3. Remove Spiral Gasket [21] from Valve Body and discard [1].
4. Remove Cap Screw [16], Cam Split Washer [15] and discard. Remove and Retain Cam Assembly [14], remove Stub Washer [17] and discard.
5. Remove the Gland Assembly [20], Remove and discard the Graphite Gland Seal [19], and Gland O-Ring [18] from Gland Body [20A].
6. Remove the Bonnet [20B] from Gland Body [20A] and retain.
7. Remove the Rod Wiper [20C] from Bonnet [20B] and discard.
8. Remove and discard Gland Bushing [20D], Graphite Packing Ring [20E], (3) V-packs [20F] and the Male Adapter [20G].

9. Remove Packing Washer [20H], Large Spring [20K], Small Spring [20J] and Gland Stem [20M] from Gland Body [20A] and retain.
10. Remove Gland Bushing [20L] from Gland Body [20A] and discard.
11. Inspect Valve Body [1] and clean if necessary. **Be sure interior is free of dirt, residue and foreign particles.**

**B. Reassembly**

1. Install Gland Bushing [20L] into Gland Body [20A].
2. Apply Lubriplate to Main Bore in Gland Body [20A].
3. Install Large Spring [20K] into Gland Body [20A], followed by Small Spring [20J] (placed inside of Large Spring [20K]) then place Packing Washer [20H] on top of Large Spring [20K].
4. Apply Lubriplate to Large Diameter of Gland Stem [20M] and install, hole-end first, into Gland Body [20A], make sure Gland Stem [20M] seats down fully into Gland Body [20A].
5. Inspect V-packs [20F] and clean if necessary. **Be sure interior V-shape is free of dirt, residue and foreign particles.**
6. Apply Lubriplate to Male Adapter [20G] (Male Adapter [20G] should sit on Packing Washer [20H]).
7. **Fill** the inside "V" of all V-packs [20F] stacking (3) together and install over Gland Stem [20M] placing on top of Male Adapter [20G] (as shown in Figure 1).

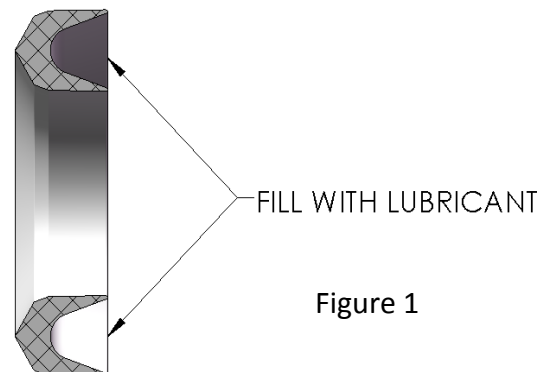


Figure 1

**ME990-4DFM-PRK AND ME990-6DFM-PRK  
AND M3990 4" & 6" EMERGENCY SHUTOFF VALVES  
PACKING REPAIR KIT**

8. Place Graphite Packing Ring [20E] on top of V-packs [20F].
9. Install Gland Bushing [20L] into Bonnet [20B].
10. Apply Lubriplate to Rod Wiper [20C] and install into Bonnet [20B].
11. Apply Loctite #242 (Blue) generously to threads of Bonnet [20B], **carefully** push packing and springs into Gland Body [20A], and thread into Gland Body [20A], **Tighten Securely**, and remove excess Loctite.
12. Install Graphite Gland Seal [19] onto Gland Body [20A].
13. Apply Lubriplate to Gland Body [20A] and install Gland O-Ring [18].
14. Apply Loctite #242 to threads of Gland Body [20A] and thread into Valve Body [1], from the inside of Valve Body install the Stub Washer [17], Cam Assembly [14], Split Washer [15] and Cap Screw [16], **Tighten Cap Screw Securely**.
15. Install a new Spiral Gasket [21] to the Valve Body [1].
16. Connect the valve assembly to a pressure source of at least 150 PSI. Check for leaks at flange connection and gland seals using a suitable leak detector solution such as "Marshall Excelsior" leak detector.
17. If you removed an actuator attachment:
  - a. Install (4) Actuator Split Washers [4] onto (4) 1" length Hex Head Cap Screws [6] and apply Loctite #242 to threads.
  - b. Install Flat Actuator Bracket [7] onto Body [1] with (4) 1" length Hex Head Cap Screws [6] and tighten.
  - c. Attach Drive Coupler [5] to Gland Assembly [16].
  - d. Rotate Drive Coupler [5] clockwise by hand until it stops, then back off counterclockwise 1/8 turn (45°).
  - e. Position Actuator Assembly [2] with air inlet connection facing toward OUTLET FLANGE and install over Drive Coupler [5]. Install (4) Actuator Split Washers [4] onto (4) 3/4" length Hex Head Bolts [3]. Apply Loctite #242 to threads of (4) 3/4" length Hex Head Bolts [3] and install through bent bracket holes on Actuator

- f. Assembly [2] and thread into Flat Actuator Bracket [7], tighten.
- g. If valve was removed from tank connection, reinstall valve using new Flange Gasket [27]. Connect the valve assembly OUTLET FLANGE to a pressure source of at least 150 PSI. Check for leaks at flange connection and gland seals using a suitable leak detector solution such as "Marshall Excelsior" leak detector.

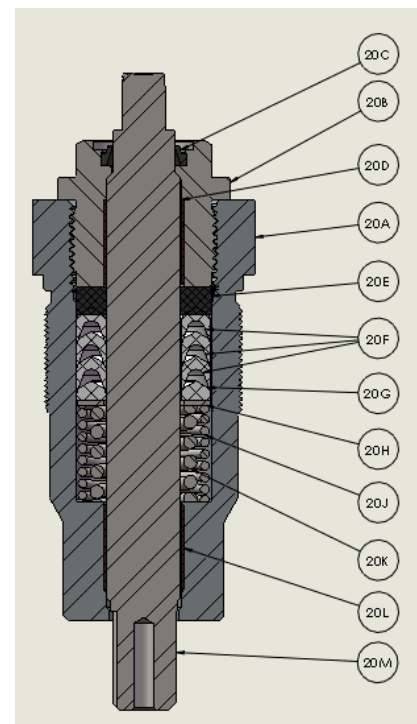
**!CAUTION!**

**DO NOT USE THE VALVE IF ANY JOINT CONTINUES TO LEAK UNDER PRESSURE.**

**C. Gland Assembly List**

20A	Gland Body
20B	Bonnet
20C	Rod Wiper
20D	Gland Bushing
20E	Graphite Packing Ring
20F	V-packs – (3)
20G	Male Adapter
20H	Packing Washer
20J	Small Spring
20K	Large Spring
20L	Gland Bushing
20M	Gland Stem

Figure 2



**ME990-4DFM-PRK AND ME990-6DFM-PRK  
 AND M3990 4" & 6" EMERGENCY SHUTOFF VALVES  
 PACKING REPAIR KIT**

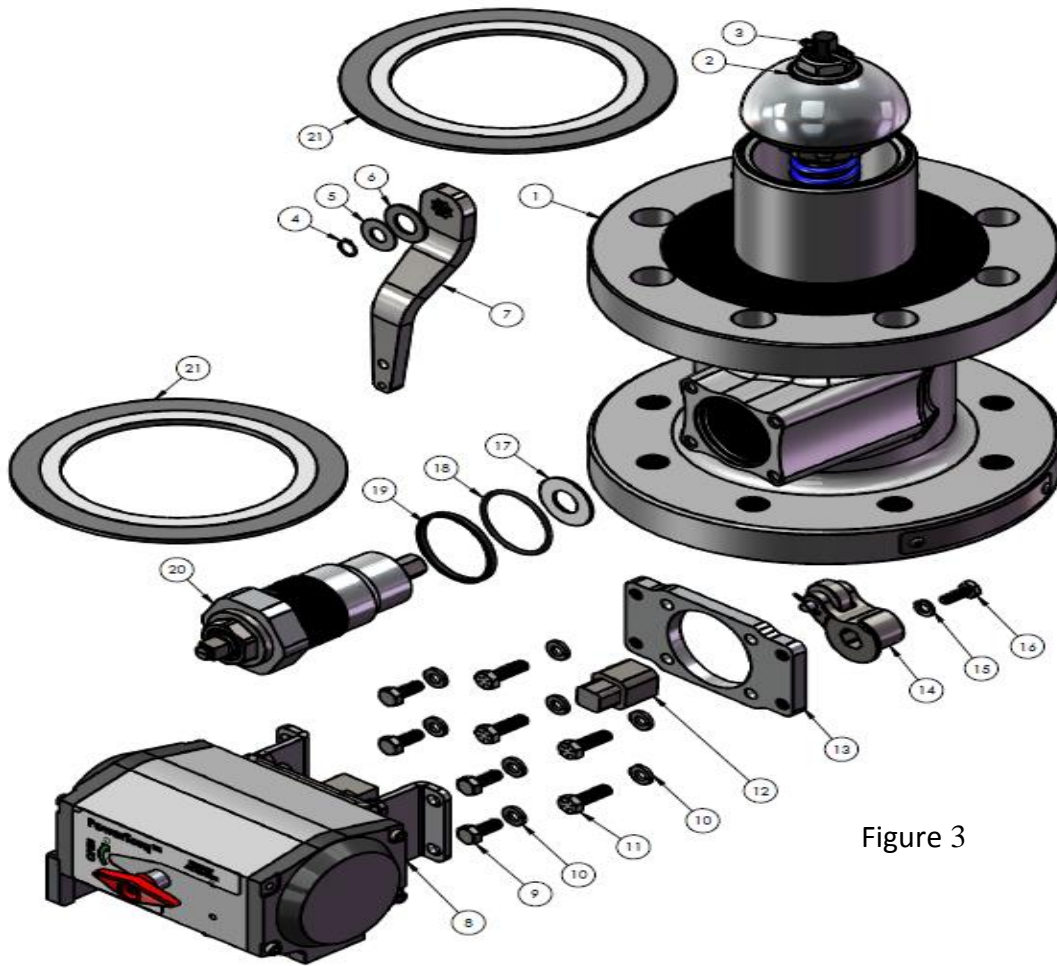


Figure 3

**D. Valve Assembly List**

- |                             |                         |
|-----------------------------|-------------------------|
| 1. Valve Body-Flanged       | 14. Cam Assembly        |
| 2. Valve Poppet Assembly    | 15. Split Washer        |
| 3. Cotter Pin (Poppet)      | 16. Cap Screw           |
| 4. Snap Ring                | 17. Stub Washer         |
| 5. Closing Spring Washer    | 18. Gland O-Ring        |
| 6. Washer                   | 19. Graphite Gland Seal |
| 7. Lever                    | 20. Gland Assembly      |
| 8. Actuator                 | 21. Spiral Gasket (2)   |
| 9. Hex Head Bolt- 5/16" (4) |                         |
| 10. Split Washer (8)        |                         |
| 11. Hex Head Cap Screw (4)  |                         |
| 12. Drive Coupler           |                         |
| 13. Flat Bracket            |                         |