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## ASSEMBLY & DISASSEMBLY OF A TWO-PIECE CANISTER GUARD VALVE

### 1. PURPOSE

To define the process to be followed for assembly and disassembly of two-piece canister valves.

### 2. APPLICATION

Two -Piece Canister Guard Safety and or Kelley Valve assemblies.

### 3. GENERAL PROCEDURES

#### 3.1 Disassembly Instructions

- a) Break valve using appropriate and acceptable procedures to insure the safety of personnel and property. To properly separate both halves of a two-piece canister valve, first secure the valve body in an appropriate vice. Next cycle the valve a few times to release any pressure on the canister. Rotate the stem to closed position. Proceed to rotate one half counter clockwise to separate the internal connections.
- b) Once the upper body half as been separated, the canister is ready to be removed from the valve. The valve should be in a vertical position to remove the canister. Place the box connection on a rubber mat or plywood with the service break box connection down. The canister must be pushed out through the box end. With the canister in a closed position, a long object (wooden dowel, hammer handle, broom handle, etc.) can be used to push the canister from the valve.
- c) Use eye bolts and an overhead crane to remove the canister from larger valves that have bolt holes in the top of the canister.
- d) Push the operating stem, two-washers, and bearing into the internal/inside diameter to unseat it from the stem hole. Remove all parts from the interior of the two-piece canister valve body half.

### 4. ASSEMBLY OF CANISTER IN A TWO-PIECE VALVE BODY

#### 4.1 Required Parts

Gather all components necessary to assemble the valve. A complete parts list can be found online at [www.mmvalve.com](http://www.mmvalve.com). Go to the "Documentation Page", enter the valve serial number and a complete parts list will be available.



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### 4.2 Assembly Instructions

Once the necessary components to assemble the valve have been compiled, the following steps must be followed:

- a) Check I.D. for rust, oxidation, and debris. If found, please remove.
- b) Review the information on the work order, verify the information concurs with the product part numbers, quantities, and serial numbers. Confirm all required previous processes have been completed and the products are acceptable.
- c) Place M&M Interior Pin half on a strong, stable, level surface capable of withstanding sub weight, assembly pressures, and movement. Making sure the body O-Ring does not twist, install the body, O-Ring on the sub's pin nose O-Ring groove, and apply copper grease to outside of the sub covering the threads, pin nose, and O-Ring groove.
- d) Next assembly the canister per procedure MMWI-200 or MMWI-201 Canister Assembly-Disassembly Procedures for the corresponding size canister.
- e) The M&M interior box half should be in a vertical position with the M&M Box facing upward. Ensure that the valve cannot topple over to avoid injury and ensure the bottom external connection is protected to avoid damage.
- f) Use eye bolts and an overhead crane to insert the canister into larger valves that have bolt holes in the top of the canister.
- g) Add the thrust bearing assembly to the operating stem by:
  1. First place one of the thrust washer on the stem.
  2. Lightly pack both sides of the thrust bearing with #2 Marine grease.
  3. Next place the thrust bearing on the stem.
  4. Last place the second thrust washer on the stem.
- h) Install the O-Ring and Back-Up ring on the operating stem and apply grease to both the O-Ring and operating stem hole.



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Work Instruction

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- i) Replace the stem in the stem hole located in the body. Position the stem to the closed position. This is established via alignment of the stem indicator with the close position mark on the body.
- j) Insert the complete canister into the valve body aligning the canister's stem link with the stem in the body. Make sure that the canister is in the close position. The right side of the canister is to be aligned with and should engage the stem for valves having only one operating stem. This will assure proper rotational direction of stem positions.
- k) Place the M&M Interior Box half in the body half and tighten appropriately.
- l) Check for smooth operation of the valve by opening and closing several times.
- m) Open the valve and look through the ID to see that the ball is fully open and there are excessive offsets between the bore and the open ball.