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 Kelly 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) With the canister removed, the operating stem assembly (ies) can be removed. The stem assembly consists of the stem, stem seal or T-Seal, and Wear Ring(s) *(refer to parts list for specific valve configuration)*. It is imperative that all these parts are retrieved from the valve and are accounted-for. To remove the operating stem assembly, this step must be followed:

e) Push the stem(s) toward the inside diameter of the valve body. Remove stem (s) from body.

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. Go to the "Documentation Page", enter the valve serial number and a complete parts list will be available.

4.2 Assembly Instructions

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

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 assemble 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) Coat both sides of the Wear Ring(s) with grease, then install on the operating stem.

h) Install the stem seal or T-Seal on the operating stem *(see parts list for specific valve configuration)*. If an O-Ring / Backup is required, make sure the Backup O-Ring is installed closest to the outside of the valve and closest to the hex on the operating stem. Apply grease to both the stem seal or T-Seal and operating stem hole(s).

i) Place the stem(s) in the stem hole(s) located in the body. Position the stem(s) 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 closed 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.

   a. Note: In the case of dual operating stems, the right side of the body is the side marked "OPN", "CLS" and "LT" near the stem hole. The canister should be inserted accordingly.

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.