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ASSEMBLY AND DISASSEMBLY OF M&M CANISTER GUARD® (3-00 TO 6-50)

1. M & M CANISTER GUARD® DISASSEMBLY

First, the canister must be removed from the valve body. To do this, follow removal procedures for the valve in which the canister is located. Once the canister has been removed from the valve body, the canister may be disassembled. The following tools will be needed:

- a) Snap-Ring Pliers
- b) Rubber Mallet
- c) Screw Driver

Note: This work instruction is applicable for the following standard canister sizes:

- 3-00
- 3-06
- 3-25
- 3-75
- 4-00
- 4-25
- 4-62
- 5-00
- 5-38
- 5-75
- 6-50





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1.1 To disassemble the canister, the following steps must be taken:

1. With the canister in the closed position, use snap-ring pliers to open the cage/seat fastener at the gap located on the fastener.



2. Slide the cage/seat fastener out of the cage/seat grooves on the canister and remove the top seat from the cage.



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3. Remove the ball from the cage by pulling the ball upwards and away from the lower seat.





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4. Remove both stems links from the cage windows.





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5. Remove the lower seat from the cage bore.



6. Remove the spring from the cage bore.



7. Remove all O-rings and Teflon rings.
8. After cleaning, inspecting, and replacing any worn parts, the canister can be reassembled.



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2. M & M CANISTER GUARD® ASSEMBLY

First, gather all the components necessary to assemble the canister. To make sure all the proper parts for assembly have been acquired, check the parts list for the specific valve type into which the canister will be installed. To do this, go to www.mmvalve.com and enter the serial number of the valve being assembled into the product search feature. By doing this you should be provided with an option to view the parts list for the valve being assembled, which should include the parts for the canister that corresponds to the valve. The following is a general list of all the components needed:

1. Cage
2. Spring
3. Lower Seat
4. 2 Stem Links
5. Ball
6. Upper Seat
7. Cage/ Seat Fastener
8. Lower Seat Lip Seal
9. Upper and Lower Seat Teflon Rings
10. Upper Seat O-Ring
11. Upper Seat Back-up O-Ring
12. Canister O-Ring



- 2.1 Once all the components necessary to assemble the canister have been compiled, the following steps must be followed:



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1. Visually inspect all components, insuring to replace any worn or damaged component(s)
When reassembling a used canister, all seals/ Teflon's should be replaced regardless of wear or damage.
2. Roll the lower seat lip seal into the lower seat seal groove, ensuring that the opening of the check seal is facing the machined slots or ports in the seat. Note: The seal should have lip facing towards the concave face.

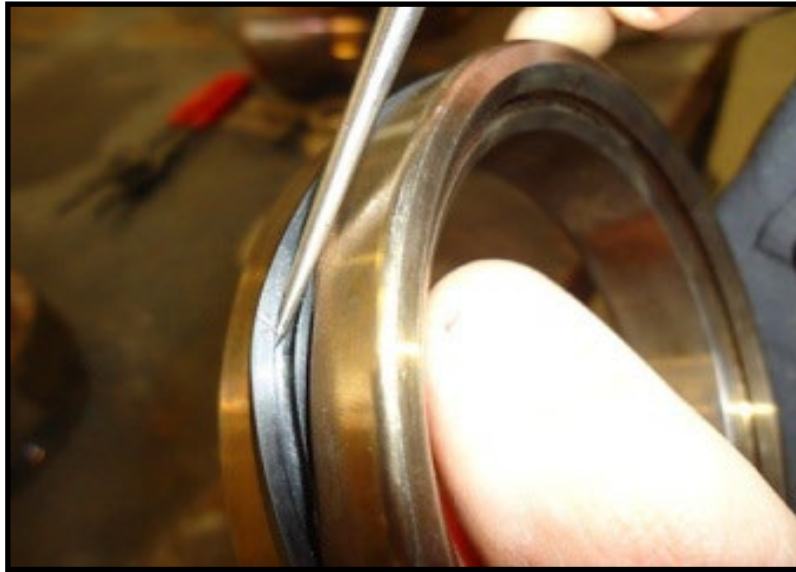




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3. Insert the lower seat Teflon Ring into the lower seat Teflon Groove

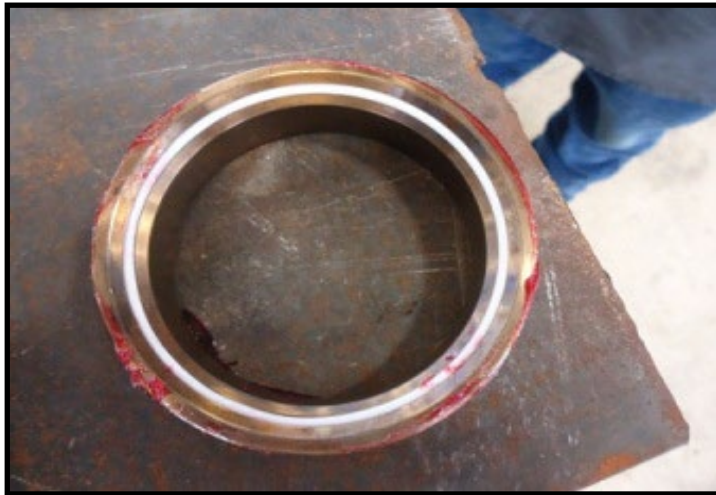




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4. Roll the upper seat O-Ring into the upper seat O-Ring groove.





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5. Insert the upper seat back-up ring into the upper seat O-Ring groove.

Note: The upper seat back-up ring should be located above the upper seat O-Ring in the same groove.

Note: Ensure that the concave side of the upper seatback-up ring rests on top of /facing the top of the upper seat O-Ring.





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6. Insert the upper seat Teflon Ring into the upper seat Teflon groove.





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7. With the upper seat on a flat surface and the Teflon Ring facing upward, place the ball on the upper seat. Ensure that the internal diameter of the ball is perpendicular to the top seat and that the Teflon ring is completely covered by the outside diameter of the ball. Using a rubber mallet, tap the ball with moderate force to ensure that the upper seat Teflon ring is seated.



8. With the lower seat on a flat surface and the Teflon groove facing upward, place the ball on the lower seat. Ensure that the internal diameter of the ball is perpendicular to the lower seat and that the Teflon ring is completely covered by the outside diameter of the ball. Using a rubber mallet, tap the ball with moderate force to ensure that the lower seat Teflon ring is seated.





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9. Insert the canister seal into the canister seal groove located on the nose of the cage.



10. Lubricate the cage bore.





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11. Insert the spring into the cage bore.



12. Lubricate the lower seat.





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13. Insert the lower seat into the cage bore on top of the spring.

Note: The lower seat Teflon ring should be facing upward.





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14. Insert one stem link vertically into each of the cage windows.



15. Slide the ball in between the cage legs ensuring that the ball slot aligns with and engages the back portion of the stem link(s).





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16. Insert the cage/seat fastener into the cage /seat fastener groove on the upper seat.

Note: The cage seat fastener gap should be located approximately 90° from the flats on either side of the upper seat.





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17. Place the upper seat on top of the cage legs. Align the upper seat flats with the cage legs.

Note: The cage legs should contact the upper seat flats and the bottom face of the cage/seat fastener.





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18. With a screwdriver, pry, the cage/ seat fastener away from the upper seat allowing the cage/ seat fastener to engage the cage leg groove.

Note: This may require tapping the top of the upper seat with a rubber mallet to ensure full engagement of the cage/ seat fastener.





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Step# 18 Addendum:

- For 5-75 & 6-50 Size Canisters, use the C-Clamp Method to attach to the top seat and top seat fastener in place of tapping with a rubber mallet.
- Alternate Instructions for 5-75 & 6-50 Canister Guard Upper Seat Cage Fastener.
- Additional tools required: 4" C-Clamp, modified as shown below:





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Install the top seat and top seat fastener by attaching the clamp as shown, from the top of the seat to the lip on the cage leg. Repeat for other side of the cage.



Apply Pressure evenly to both clamps until full engagement of the cage seat fastener. Remove Clamps.



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19. Lubricate the entire canister. The canister is now ready to be placed in its corresponding valve.

3. Assembly Documentation

When applicable, M&M International Form *MM-200 M&M Canister Guard® Assembly Checklist (3.00-6.50)* can be used in conjunction with this work instruction to validate the assembly activities.