Maintenance

MP0400/SAE/NG (4 inch) Minimum Pressure Check Valve for Natural Gas

WARNING: Only properly trained technicians should service, adjust or replace Air-Con valves. Always relieve system pressure and otherwise ensure valve is depressurized prior to servicing, adjusting or replacing an Air-Con valve. The valve operates in a hot environment so allow the valve to cool before servicing. Ensure the valve is properly reassembled and mounted before pressurizing system. Do not adjust the valve when the system and/or valve is pressurized. Failure to follow this warning may result in valve component parts and/or hot fluids being ejected at high velocities that could result in a serious bodily and/or fatal injury.
Kit Instructions for Bench Maintenance
MP0400/SAE (4 inch) Minimum Pressure Check Valve for Natural Gas

DISCLAIMER: These instructions are for a valve used for natural gas. For air valves see appropriate instructions.

Disassembly and Cleaning

1) Remove the hex set screw [13] on the side of the body [1] by the cap [9]. Set aside for later use in reassembly. The hex set screw [13] has been “Loctited” in so carefully clean the hex and make sure the hex wrench is properly inserted before loosening the screw.

2) Remove the snap ring [12], stop ring [11] and unscrew and remove the cap [9]. Also remove the main spring [8].
   a) Valves used for natural gas will have an extra o-ring [10] over the exterior of the cap [9] that sits between the cap and body [1]. This helps to prevent natural gas from leaking through the cap.
   b) Use caution when removing the main spring [8], for it may have been pre-loaded.
   c) When removing the main spring [8], watch for the number and placement of the washers (if applicable). Due to the grease, they may stick to either end of the spring or in the cap [9]. Washer(s) will have to be replaced in their original position.

4) Wipe out any excess grease, dirt, moisture and debris from the inside of the body [1] spring chamber to prevent damage to the piston [4] during removal.

5) Remove the snap ring [7] and piston stop [6]. This snap ring [7] is extremely stiff; the use of a Hi-Tech (Manufacturer) Model 87 retaining ring tool is recommended. If the snap ring [7] is dragged up the inside of the threads during removal, the threads will be damaged and problems will occur re-installing the cap [9].

6) Remove the piston [4] and poppet [2].
   a. The poppet spring [3] is not permanently attached so it may fall out during removal.

7) Remove the o-ring [5] from the piston groove and discard the o-ring [5].


9) Completely clean the body [1] removing any grease, oil, moisture and debris.

10) Inspect the poppet [2] and poppet seat in the body [1] to insure there are not any nicks to prevent the poppet [2] from making a good seal. Lightly sand the seat if necessary.
Reassembly

1) Verify the kit is correct by checking the springs [3] [8] for number of coils (size, length and diameter), piston [4] (length and diameter) and poppet [2] (diameter and type, two types are in use: Teflon® o-ring and metal). Do not reassemble with incorrect parts. All kits should have poppet spring [3], main spring [8], poppet assembly [2] and the piston o-ring [5]. Some kits may have a new piston [4], which should be installed if available.

2) Where grease is required, Lubriplate® 1552 multi-purpose, lithium complex grease (or equivalent) is suggested. Fill the o-ring groove in the piston [4] with grease.

3) Install the new piston o-ring [5] in the piston o-ring groove and make sure it is completely seated. Use the excess grease to lightly coat the outside of the piston [4] including poppet stem guide and 5/8 hole in the piston [4].

4) Lightly grease the piston bore in the body [1].


6) Re-install the piston stop ring [6] and snap ring [7]. This snap ring [7] is extremely stiff; the use of a Hi-Tech (Manufacturer) Model 87 retaining tool is recommended.

8) Grease the first entry thread along the cap [9] and body [1] thread. Also apply grease to both faces of all the washers (if applicable).

9) Install the main spring [8] making sure the washers (if applicable) are in the original position that they were removed from.

10) Lightly grease cap o-ring [10] and place on exterior of the cap [9]. This o-ring will prevent gas from leaking from the body [1] through the cap [9].

10) Reinstall the cap [9], stop ring [11] and snap ring [12]. Screw and tighten the cap [9] until it firmly is seated against the body [1]. The piston [4] should easily assemble with the cap [9].

11) Apply Loctite® 272 to the hex set screw [13] and tighten against the cap [9].

12) After installation of the valve in the system, bubble check the valve under pressure to ensure no leaks from port connections or from cap [9].