Installation & Maintenance Instructions

2–WAY REMOTE PILOT–OPERATED VALVES
NORMALLY CLOSED OPERATION — QUICK OPENING — HIGH FLOW
3/4″, 1″, OR 1½″, INTEGRAL COMPRESSION FITTINGS

SERIES

8353

Form No.V6672R2

DESCRIPTION

Series 8353 valves are 2–way normally closed, diaphragm type air valves designed for remote pilot operation. The valves have an angle type aluminum body with a 1/8″ NPT connection in the valve bonnet for connection to the ASCO remote pilot valve. These valves are designed for multi–unit installations with separately mounted ASCO pilot valves.

OPERATION

When the remote pilot valve opens, pressure above the main diaphragm is released allowing main line pressure to act against the underside of the diaphragm, opening the main valve orifice. When pilot valve closes, main line pressure bleeds to the top of the diaphragm and closes the main orifice.

- Minimum operating pressure 5 psi.
- Maximum operating pressure 125 psi.

INSTALLATION

Check valve bonnet for correct catalog number, pressure, and service. Never apply incompatible fluids or exceed pressure rating of the valve. Installation and valve maintenance to be performed by qualified personnel.

Future Service Considerations

Provision should be made for performing seat leakage, external leakage, and operational tests on the valve with a nonhazardous, noncombustible fluid after disassembly and reassembly.

Positioning

Valve may be mounted in any position.

Piping to Integral Compression Fittings

Connect piping to valve according to marking on valve body. Pipe nipples must be free of rust, burrs, and cutting oil. Disassemble compression fittings and position retaining nut, gasket, and retainer on piping. Be sure beveled edge of gasket faces valve body. Piping must be squarely in line with valve inlet and outlet ports. Avoid pipe strain by properly supporting and aligning piping.

⚠ CAUTION: Anchor pipes securely to avoid separation from valve body.

When making connection, do not use valve as a lever. Tighten retaining nuts sufficiently to prevent external leakage.

⚠ CAUTION: To avoid damage to valve body, do not overtighten retaining nut. The retaining nut has a gasket seal and does not require excessive turning to seal pipe connections.

Piping / Tubing to 1/8″ NPT Connection

Connect piping or tubing to 1/8″ NPT connection in valve bonnet. Apply pipe compound sparingly to male pipe threads only. If applied to valve threads, the compound may enter the valve and cause operational difficulty. Avoid pipe strain by properly supporting and aligning piping. When tightening pipe, do not use valve as a lever. Wrenches applied to valve body or piping must be located as close as possible to connection point. Mount the remote ASCO pilot valve as closely as possible to the main valve. Consult authorized ASCO representative or factory for recommended pilot valve. Connecting tubing lengths of ten feet or less have little effect on the response time. Installations with over ten feet of tubing must be tested under actual operating conditions. Tubing with ¼″ O.D. is recommended for all installations.

IMPORTANT: For the protection of the valve, install a strainer or filter suitable for the service involved in the inlet side as close to the valve as possible. Periodic cleaning is required, depending on the service conditions. See Series 8600, 8601 and 8602 for strainers.

MAINTENANCE

⚠ WARNING: To prevent the possibility of personal injury or property damage, depressurize valve, and vent fluid to a safe area before servicing the valve.

NOTE: It is not necessary to remove the valve from the pipeline for cleaning or rebuilding. However, tubing or piping from the remote pilot valve must be disconnected from the main valve bonnet.

Cleaning

All solenoid valves should be cleaned periodically. The time between cleanings will vary depending on the medium and service conditions. In general, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. In the extreme case, faulty valve operation will occur and the valve may fail to open or close. Clean valve strainer or filter when cleaning the valve.

Preventive Maintenance

- Keep the medium flowing through the valve as free from dirt and foreign material as possible.
- While in service, the valve should be operated at least once a month to ensure proper opening and closing.
- Depending on the medium and service conditions, periodic inspection of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Causes of Improper Operation

- **Incorrect Pressure:** Check valve pressure. Pressure to valve must be within 5 – 125 psi.
- **Excessive Leakage:** Disassemble valve and clean all parts. Replace parts that are worn or damaged with a complete ASCO Rebuild Kit for best results.
- **Failure to Open or Close:**

  –If diaphragm valve stays open, bleed hole may be clogged. If diaphragm valve stays closed, diaphragm may be torn. Install a complete ASCO Rebuild Kit.

  –Failure of the remote pilot solenoid valve can also cause the diaphragm valve to stay closed or open. Inspect remote pilot solenoid valve for proper opening and closing.

  –Incorrect pipe size or excessive run (see *INSTALLATION*).

Valve Disassembly and Reassembly for ¾″ or 1″ Construction

1. Disassemble valve in an orderly fashion. Use exploded view in Figure 1 on page 3 for identification and placement of parts.
2. Disconnect tubing or piping from valve bonnet.
3. Remove bonnet screws, valve bonnet and diaphragm assembly from valve body.
4. Diaphragm assembly is now accessible for cleaning or replacement. Clean valve body and replace diaphragm assembly if worn or damaged.
5. Install diaphragm assembly with marking ***THIS SIDE OUT*** facing valve bonnet. Be sure the bleed hole in diaphragm assembly is in alignment with cavity in valve body and bonnet. The external contours of the diaphragm assembly, body and bonnet must all be in alignment.
6. Replace valve bonnet and bonnet screws. Start bonnet screws by hand for proper engagement, then tighten screws in a crisscross manner to 95 ± 10 in–lbs [10,7 ± 1,1 Nm].
7. Make up piping or tubing from remote pilot valve to valve bonnet.

⚠ WARNING: To prevent the possibility of personal injury or property damage, check valve for proper operation before returning to service. Also perform internal seat and external leakage tests with a nonhazardous, noncombustible fluid.

8. Restore line pressure to valve.
9. After maintenance, operate the valve a few times to be sure of proper opening and closing.

Valve Disassembly and Reassembly for 1½″ or 1½″ Long Life Construction

1. Disassemble valve in an orderly fashion. Use exploded view in Figure 2 on page 4 for identification and placement of parts.
2. Remove pilot bonnet screws, pilot valve bonnet and pilot diaphragm assembly.
3. Remove main bonnet screws and main valve bonnet from valve body. Then remove diaphragm spring (use on long life construction only) and main diaphragm assembly.
4. All parts are now accessible to clean or replace. If parts are worn or damaged, install a complete ASCO Rebuild Kit.
5. Install main diaphragm assembly with marking ***THIS SIDE OUT*** facing main valve bonnet. Be sure that bleed hole in diaphragm assembly is in alignment with cavity in valve body and bonnet. The external contours of the diaphragm assembly, body and bonnet must all be in alignment. For long life construction, install diaphragm spring in center of main diaphragm assembly.
6. Replace main valve bonnet and bonnet screws. Torque bonnet screws in a crisscross manner to 95 ± 10 in–lbs [10,7 ± 1,1 Nm].
7. Install pilot diaphragm assembly with the bleed hole in alignment with the cavity in main valve bonnet. The external contours of the diaphragm assembly, main and pilot bonnets must all be in alignment.
8. Replace pilot valve bonnet and pilot bonnet screws. Align bleed cavity in pilot valve bonnet over bleed hole in pilot diaphragm assembly. Torque pilot bonnet screws evenly to 95 ± 10 in–lbs [10,7 ± 1,1 Nm].
9. Make up piping or tubing from remote pilot valve to valve bonnet.

⚠ WARNING: To prevent the possibility of personal injury or property damage, check valve for proper operation before returning to service. Also perform internal seat and external leakage tests with a nonhazardous, noncombustible fluid.

10. Restore line pressure to valve.
11. After maintenance, operate the valve a few times to be sure of proper opening and closing.

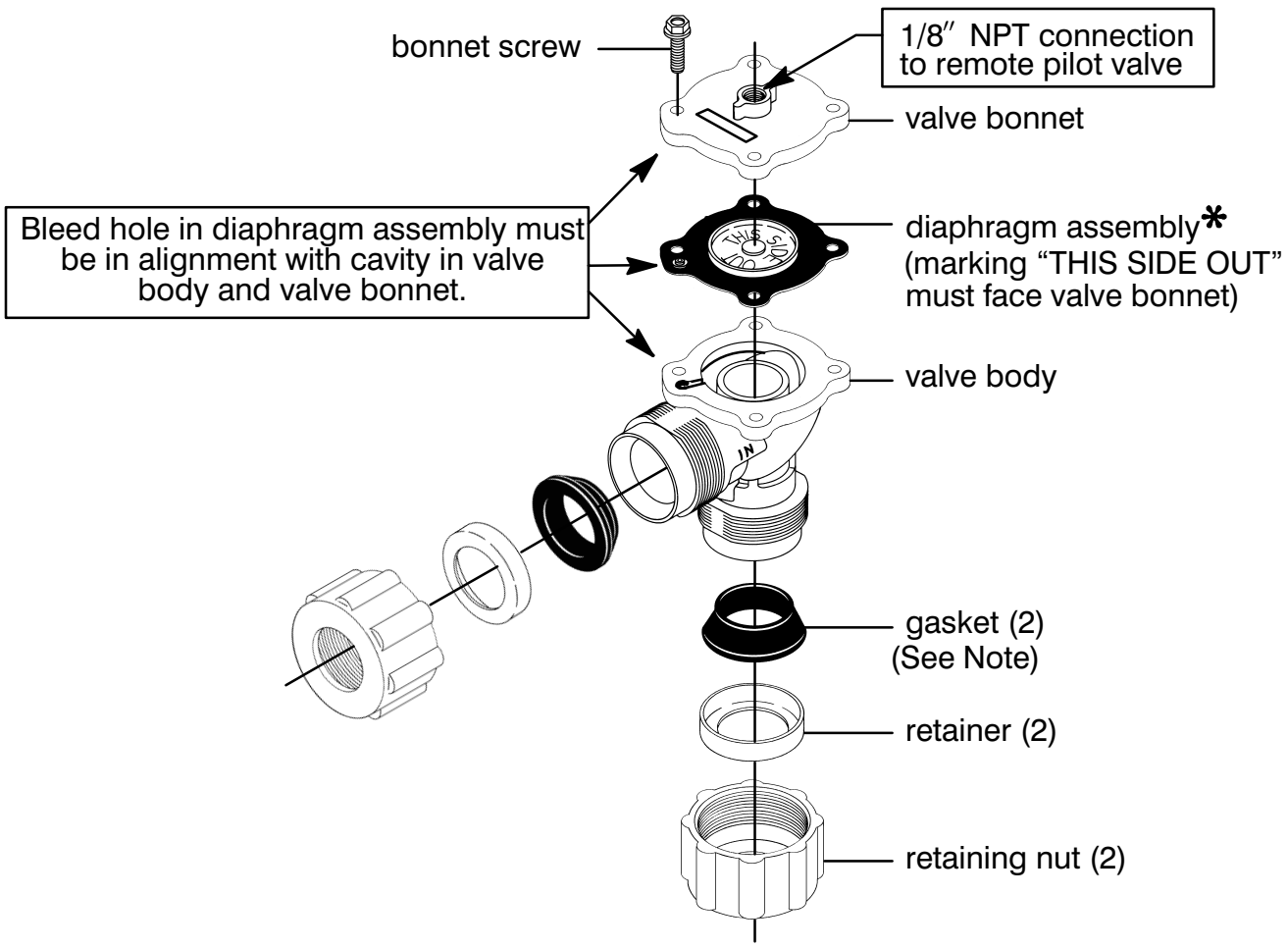
ORDERING INFORMATION FOR ASCO REBUILD KITS

Parts marked with an asterisk (*) in the exploded view are supplied in Rebuild Kits.

When Ordering Rebuild Kits,
Specify Catalog Number And Serial Number

Torque Chart

Part Name	Torque Value Inch—Pounds	Torque Value Newton—Meters
Bonnet Screws	95 ± 10	10,7 ± 1,1



NOTE: Beveled edge of gasket faces valve body.

Figure 1. Series 8353 remote pilot—operated valve, ¾″ and 1″ construction.

Torque Chart

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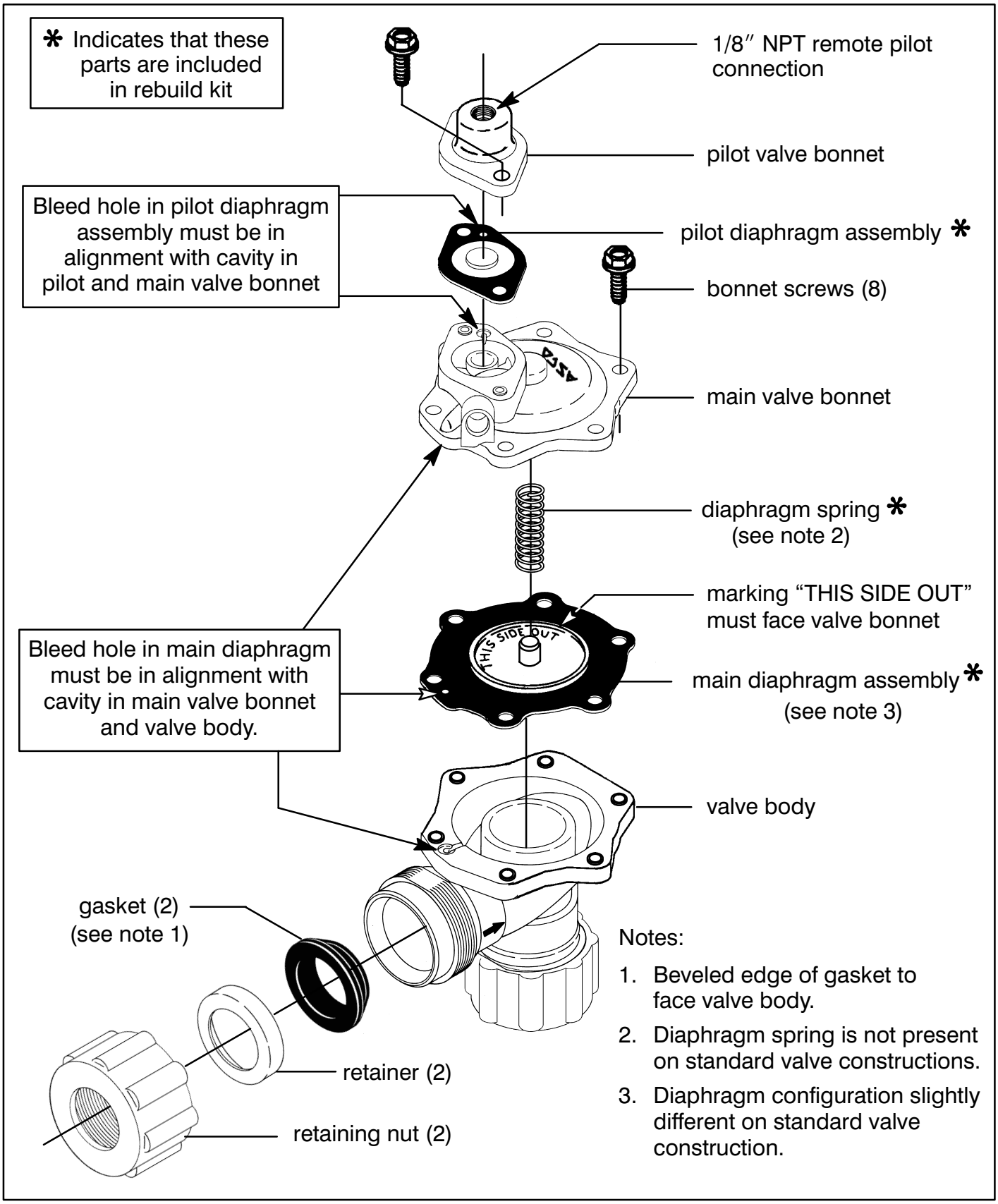

Figure 2. Series 8353 remote—pilot operated valve, 1½″ long life construction.

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