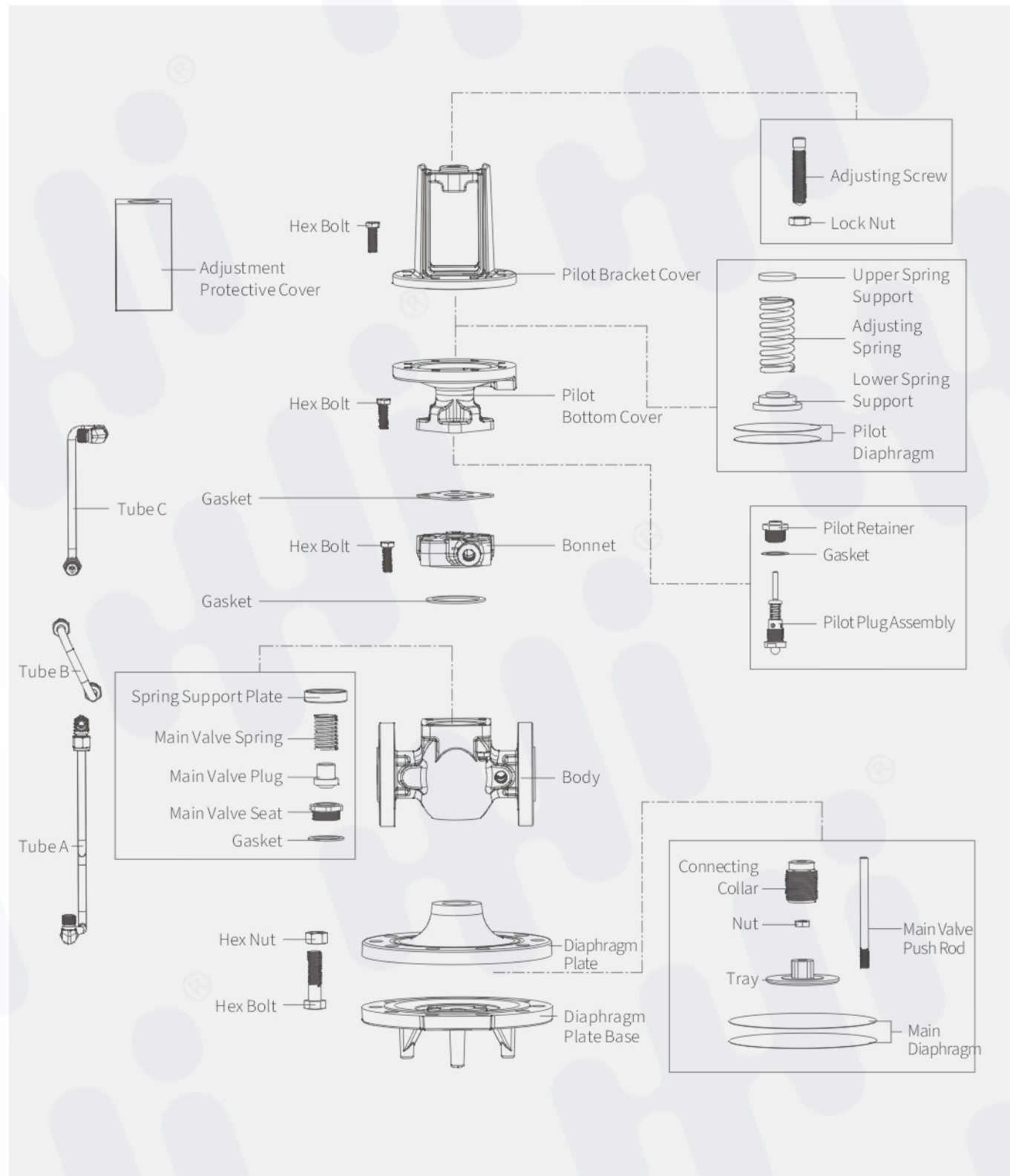


Disassembly Procedures, Problems, and Troubleshooting

- Most pressure reducing valve failures are caused by foreign particles and impurities in the pipeline, which requires special attention.
- Problems such as pressure gauge malfunctions, leaking or incompletely closed bypass valves, and clogged strainers can exhibit symptoms very similar to valve failures. Please verify the aforementioned problems first before troubleshooting.



Inspect and Replace Pilot Plug and Seat

1. Unscrew four bolts securing the "Pilot Bottom Cover". Remove the pilot valve and inspect the pilot plug and pilot seat.
2. The pilot plug and the pilot seat form an integrated complete assembly.
3. Use an 11/16" hex wrench to detach the pilot plug and seat assembly.
4. If wear is found on the plug or seat, the entire assembly must be replaced.

Inspect and Replace Pilot Diaphragm

1. Turn the "Adjusting Screw" counterclockwise until the spring is fully relaxed.
2. Loosen the bolts and remove the "Pilot Bracket Cover".
3. Check the two "Pilot Diaphragms" for distortion or rupture.
4. Clean all impurities and dirt buildups at the bottom of the pilot diaphragm chamber.
5. When replacing the "Pilot Diaphragm", clean the casting surface to ensure a proper seal.
6. Install the "Pilot Bracket Cover" and ensure it is properly centered.
7. Tighten all bolts securely.

Inspect and Replace Main Valve Plug and Seat

1. Disconnect all connecting pipe fittings.
2. Loosen the bonnet bolts.
3. Remove the main valve bonnet, strainer, spring support plate, and main valve spring.
4. Use pliers or similar tools to remove the main valve plug.
5. Check for dirt or other impurities that prevent the "Main Valve Plug" and "Main Valve Seat" from closing tightly.
6. If minor signs of wear exist on the main valve plug and seat, polish them with fine 400-grit lapping compound. Inspect the valve for cavitation damage.
7. If the main valve seat must be replaced, remove it from the valve body using a standard hex socket wrench. Fit a new gasket when installing a new seat to ensure a tight seal.

Inspect and Replace Main Valve Diaphragm

1. Loosen all connecting pipe fittings.
2. Remove the bolts connecting the main valve diaphragm plate to its base.
3. The diaphragm plate base can then be taken out.
4. Inspect the two metal "Main Valve Diaphragms" to determine if they are distorted or damaged due to improper operation.
5. At the same time, clear all impurities from the diaphragm chamber.
6. Check if the valve stem moves freely and ensure that the guide is not blocked by impurities.
7. Ensure the main valve plug and seat are in the fully closed position before refitting the main diaphragms.
8. Align the tray accurately in position.
9. Make sure the diaphragm is perfectly centered. Then tighten all bolts.

Troubleshooting

Fault	Cause	Remedy
1. Controlled pressure exceeds the set value under normal load	There is dirt or debris between the pilot valve plug and seat	Loosen the adjusting bolt, remove the pilot tube (Top connection), and admit steam. If steam leaks from this port, disassemble the pilot valve plug and seat assembly for cleaning or replacement
	There is debris between the main valve plug and seat	Inspect and clean the plug and seat
	The control orifice or sensing line is blocked	Remove the pilot tube, inspect the control orifice, and clean it
2. Controlled pressure exceeds the set value only at low load	The main valve plug or seat is worn or contains debris	Inspect and clean the plug and seat
	The valve selected has an oversized capacity	Under low load, adjust the adjusting bolt to achieve the desired pressure.
	The bypass valve is not fully closed or there is a leak	Inspect and repair if necessary
	There is debris between the main valve stem and the guide bearing	Disassemble, inspect, and clean
3. Pressure reducing valve fails to open	The main valve diaphragm is ruptured	Close the bypass valve tightly and remove the connection at the base of the diaphragm plate. If steam emits from the diaphragm chamber, the diaphragm is damaged and must be replaced
	The control orifice is blocked	Remove the pilot tube A and clean the fitting at the base of the diaphragm plate
	The pilot valve seat is blocked by debris	Remove the plug and seat assembly for inspection and cleaning
	The strainer is clogged	Inspect and clean
	The pipeline strainer is clogged	Inspect and clean
	The pilot valve adjusting bolt is improperly adjusted	Adjust to the set pressure
4. Controlled pressure is too low	The pilot valve adjusting bolt is improperly adjusted	Adjust to the set pressure
	The pressure reducing valve selected has an undersized capacity	Verify the actual flow rate against the rated flow of the valve
	The steam supply pressure is too low	Inspect and re-calibrate
	The main valve diaphragm is ruptured	Close the bypass valve tightly and remove the connection at the base of the diaphragm plate. If steam emits from the diaphragm chamber, the diaphragm is damaged and must be replaced
5. Pressure reducing valve fails to close	The drain port plug is missing	Replace with proper fitting
	The sensing line is blocked or uninstalled	Remove, inspect and cleaning or re-install
	The pilot valve diaphragm is ruptured (there is water or steam leaking from the pilot valve spring guide)	Replace the pilot valve diaphragm assembly
	The threads on the pilot valve assembly or main valve seat are damaged	Check the seat for erosion
	The main valve diaphragm is ruptured	Loosen the bolts, replace the diaphragm, then re-tighten the bolts