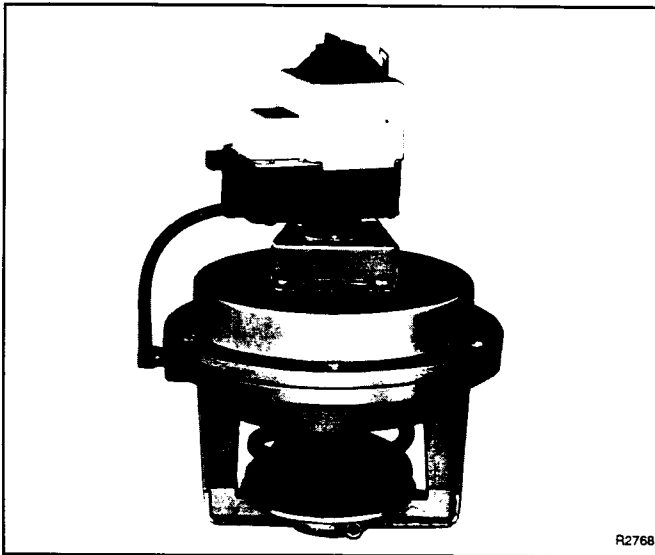


MP953B Positive Positioner Retrofit Kit

REPLACEMENT DATA



R2768

GENERAL

Positive Positioner Retrofit Kit Part No. 14004138-001 (Fig. 1), is designed for replacing the old style Gradutrol Relay on the reverse acting MP953B Pneumatic Valve Actuators with the new style positive positioner that is on the MP953F models. Replacing the Gradutrol Relay with the positive positioner retrofit kit converts the MP953B to the equivalent of an MP953F.

APPLICATION

MP953 actuators operate the V5011 and V5013 Valve Assemblies, and were sometimes adapted to certain other coil, line, or zone valve assemblies which proportionally control steam, or hot and cold liquids in HVAC systems. Replacing the Gradutrol Relay with the positive positioner retrofit kit updates the operator to the latest model.

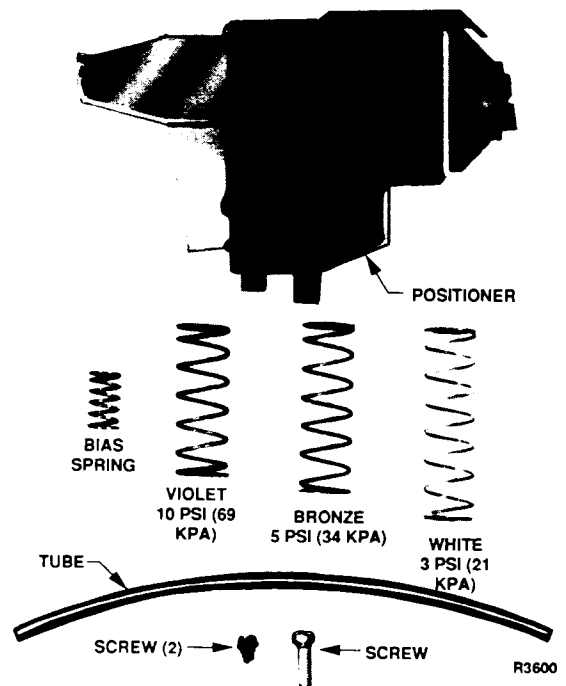


Fig. 1. Positive Positioner Retrofit Kit, Part No. 14004138-001.

POSITIONER REPLACEMENT PROCEDURE

1. Disconnect positioner to actuator air line at actuator.
2. Disconnect other air lines and remove the two screws from the reversing bracket of Gradutrol Relay Assembly.
3. Remove Gradutrol Relay Assembly including bias and feedback springs.
4. Install new bias spring and feedback spring of 3, 5, or 10 psi (21, 34, or 69 kPa) range from positioner retrofit kit into valve and to positioner (Fig. 2).
5. Place positioner solidly against valve top and install the long mounting screw at outer perimeter.
6. Install the other two mounting screws at other end of positioner bracket.
7. Install tubing from positioner branch port to actuator input.
8. Set start point on positioner by turning the knob to any setting between 1-1/2 and 13 psi (10 and 90 kPa). Each detent on the knob equals 1/4 psi (1.8 kPa).
9. Connect main and pilot lines and perform operational check.
10. Adjust start point if necessary.

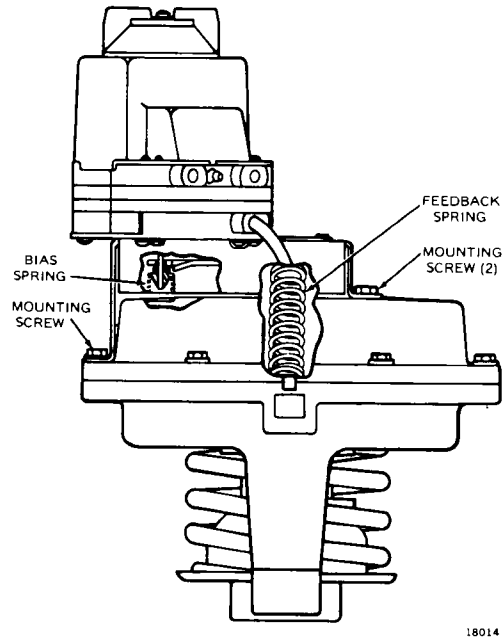


Fig. 2. MP953B Showing Installed Positioner Retrofit Kit.

OPERATIONAL CHECK AND START POINT ADJUSTMENT

1. If none exists, temporarily install gages in main and pilot air lines. Main line pressure should be equal to or more than top of sequencing range, or 13 psi (90 kPa) minimum.
2. Vary the branch line pressure through the operating range of the actuator in both directions. The valve should open and close smoothly.
3. Adjust pilot pressure to 0 psi (0 kPa). Slowly increase pressure and note the pressure at which the valve stem travel starts. This pressure should be within 1 psi (7 kPa) of the start point.
4. If positioner calibration is off, recalibrate by adjusting the factory calibration screw (Fig. 1) found in the center of the knob.
5. Increase pilot pressure until the valve stem travel is complete. This pressure should be the start point pressure plus the operating range.
6. To adjust start point, set knob to any desired start point between 1-1/2 and 13 psi (10 and 90 kPa). Each detent on the knob equals 1/4 psi (1.8 kPa).
7. After adjustment or calibration, recheck operation.

Honeywell

Home and Building Control
 Honeywell Inc.
 Honeywell Plaza
 P.O. Box 524
 Minneapolis, MN 55408-0524

Home and Building Control
 Honeywell Limited-Honeywell Limitée
 740 Ellesmere Road
 Scarborough, Ontario
 M1P 2V9

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