

SERVICE REPLACEMENT PARTS and MAINTENANCE

Series 900 REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS

Sizes $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ ", 2"

DISASSEMBLY OF NO. 900

1. Remove the No. 900 head from the line (union nuts and adapters remain in the line).
2. Remove inlet adapter bolts, maintaining pressure by hand on adapter to overcome spring preload within the device. (Figure A) NOTE: Use longer jacking bolts to maintain pressure on adapter while removing short bolts.

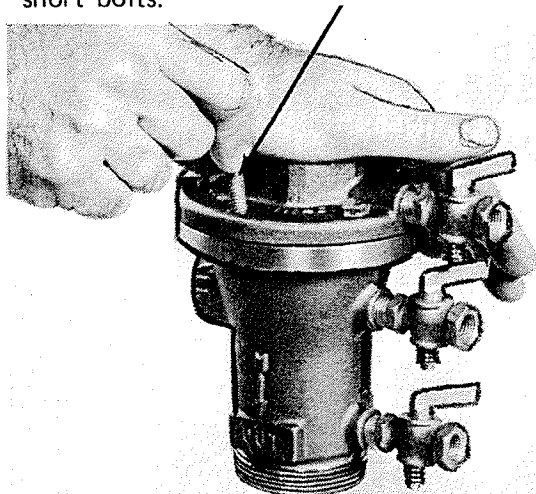


Figure A

3. Remove inlet adapter and adapter gasket. Lift out first check valve piston assembly and spring. Figure B.
4. The relief valve seat in Series 900 is replaceable although cleaning can be performed without removing from valve.

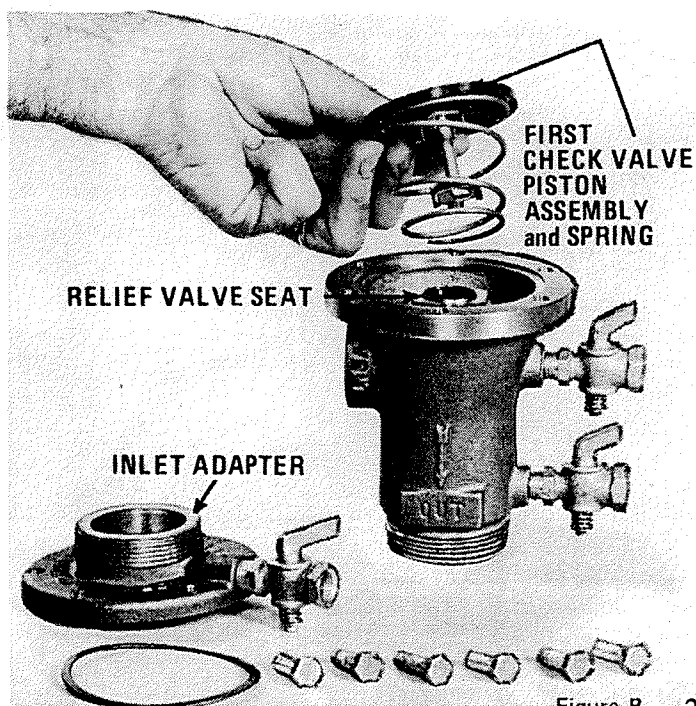


Figure B

5. Remove relief valve spring. Figure C.

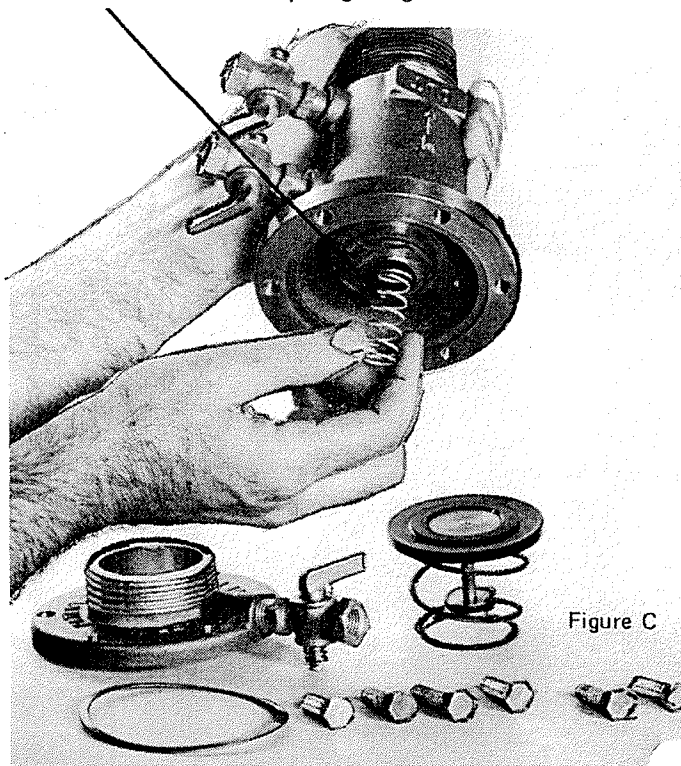


Figure C

6. Insert nutdriver through inlet end to engage head of stem. From outlet end, loosen and remove jam nut with second nutdriver. Remove second check valve assembly from outlet end of valve. (Figure D) Remove the stem and second check valve spring from inlet end of valve. (Reference Figure E)

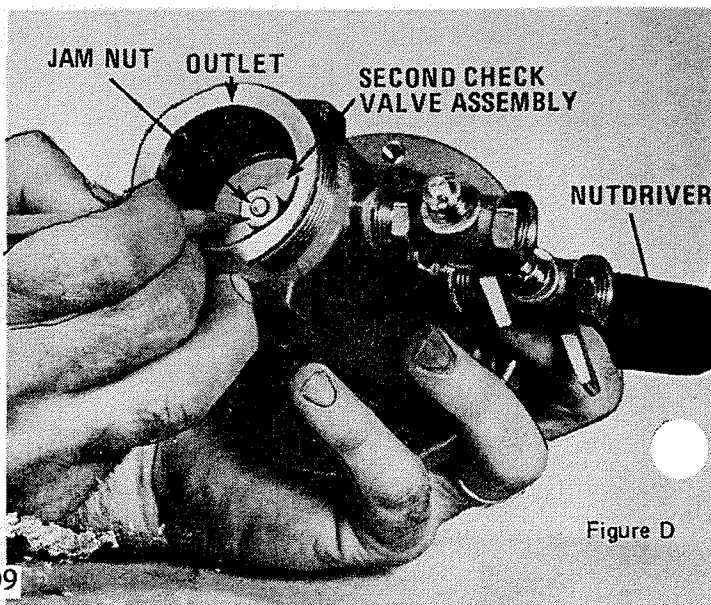


Figure D

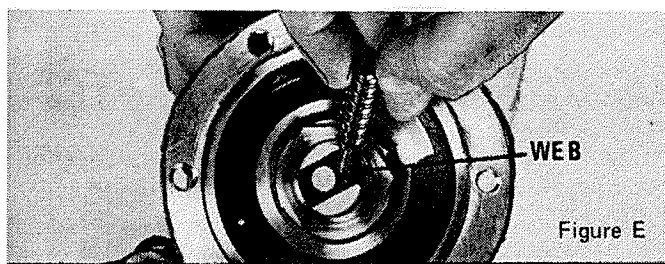


Figure E

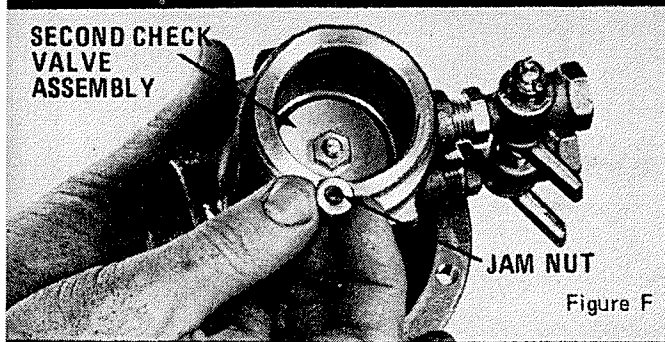


Figure F

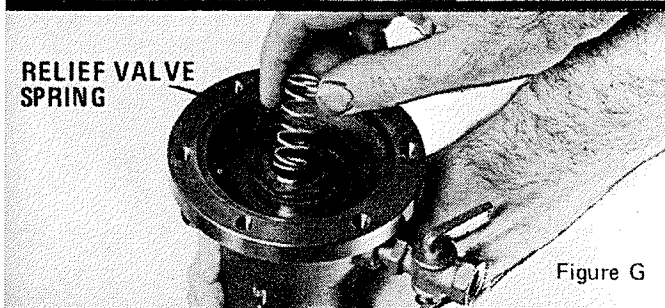


Figure G



Figure H

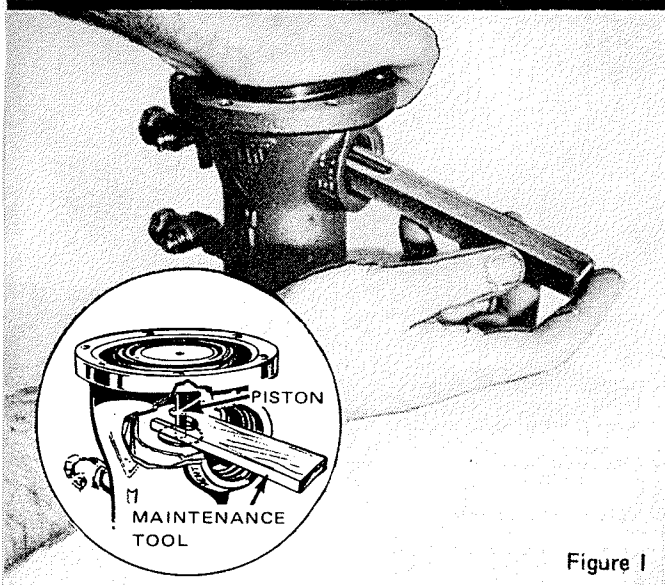


Figure I

REASSEMBLY OF NO. 900

1. Place second check valve spring over stem and insert in web, from inlet side of valve, as shown. Figure E.
2. From inlet side, push down stem to overcome spring pressure. From outlet side, insert second check valve assembly and thread on stem. Insert nutdriver through inlet end and engage head of stem. Tighten check valve assembly nut securely. Thread on jam nut and tighten securely. Figure F.
3. Screw in relief valve seat to tapping (if seat was removed).
4. From inlet end of valve, insert small end of relief valve spring over the stem. Figure G.
5. Install small end of first check valve spring over relief valve seat, (Ref. Figure B). Insert check valve piston assembly into the valve pressing the piston through the seating orifice. Figure H. If above is inserted properly, the second check valve spring will be located under the disc guide. (It is important that this middle spring be seated evenly; see No. 7). Also, these parts must be greased. See note on Page 4.
6. While holding down check valve assembly, insert maintenance tool (furnished with each device) into the outlet so that it engages the piston. This serves to overcome spring preload and simplify assembly. Figure I.
7. Insert adapter gasket and place adapter on top of check valve assembly centering stem rivet in inlet and lining up bolt holes by eye. Figure J.
8. Insert and tighten long jacking bolts furnished and insert and tighten other bolts. Figure J. Press thumb through inlet against check valve assembly and remove maintenance tool.
9. Replace the No. 900 head in the line; tighten union nuts.

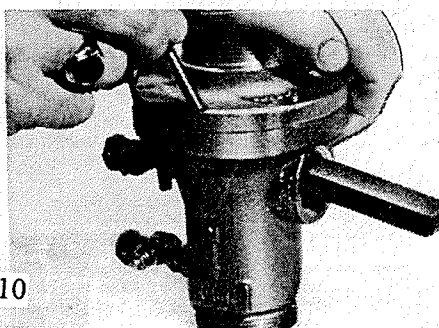
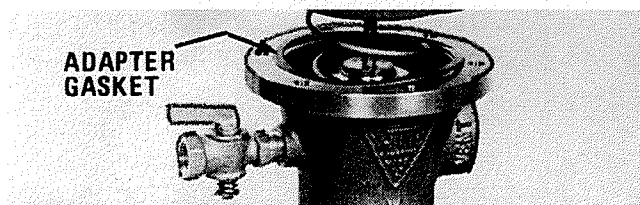
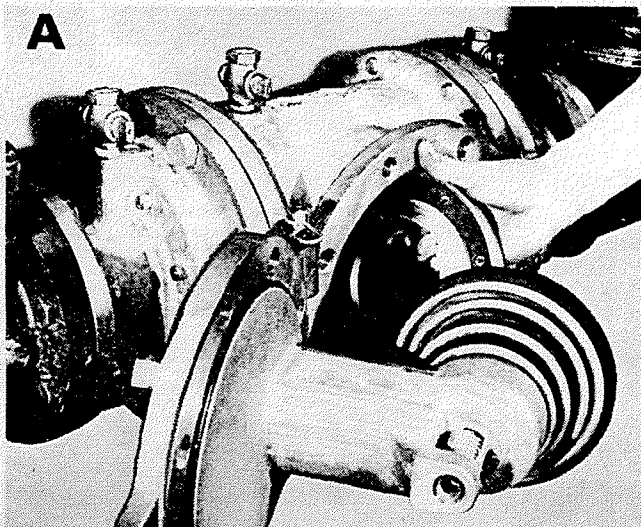
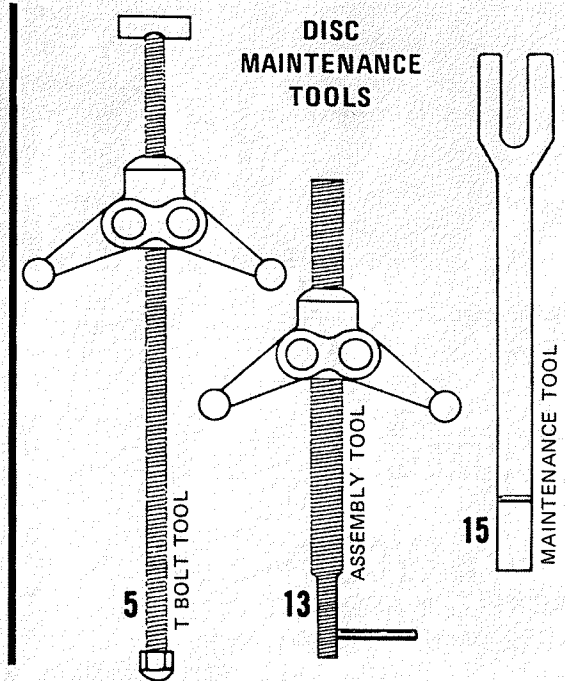
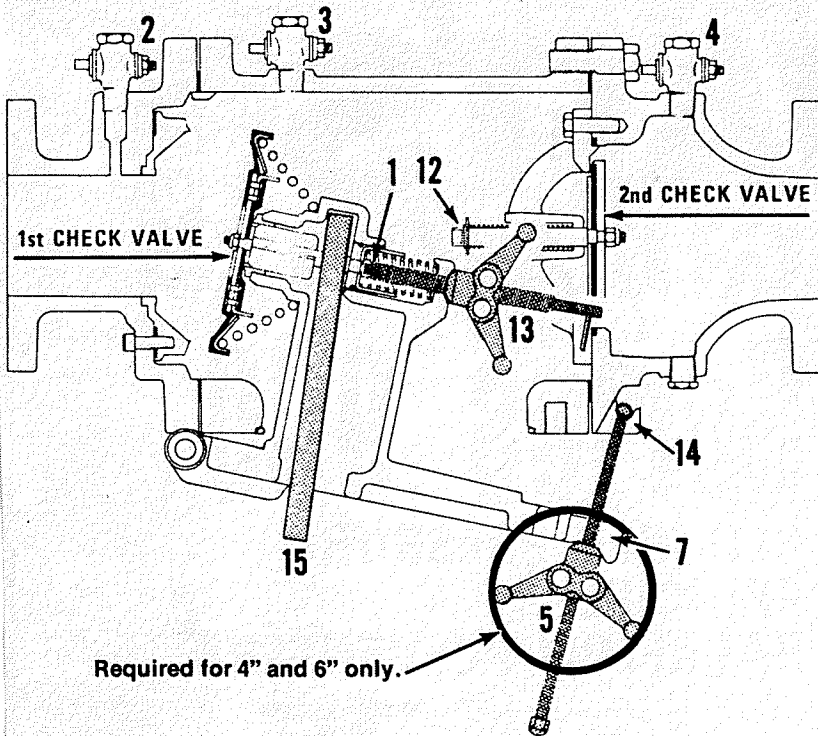


Figure J

SIZES: 2½" thru 6"

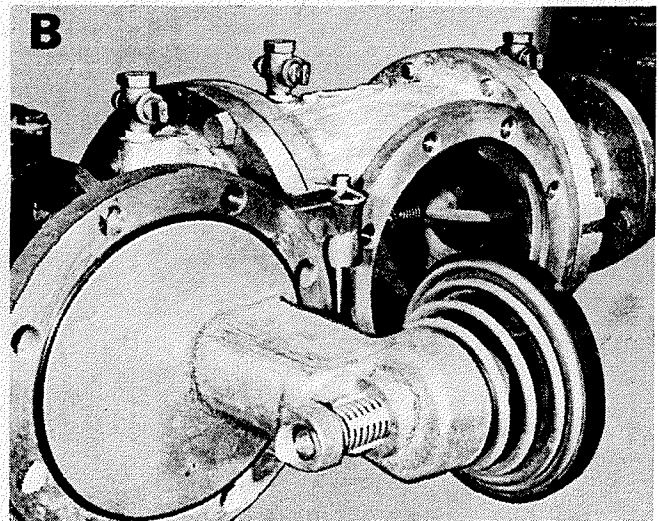
SERVICE REPLACEMENT PARTS and MAINTENANCE Series 900



FIRST CHECK VALVE QUICK CLEANING OPERATION:

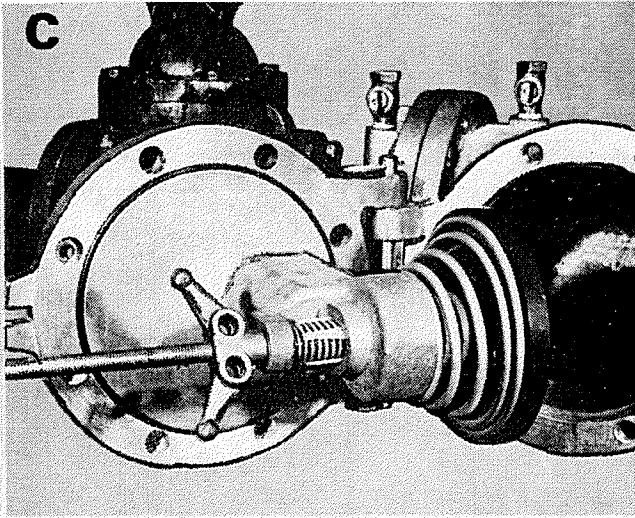
- A. Insert maintenance tool (15) into the vent port until the mark on the handle is flush with vent port surface.
- B. Close both inlet and outlet gate valves.
- C. Open three test cocks (2, 3 and 4) located between the gate valves. The test cock which is immediately upstream of the first check valve (2) must be left open when the access door is swung open to equalize pressure. When this test cock is opened, the relief valve will tend to open, but will be captivated in a partially open position by the maintenance tool.
- D. Remove eight hexagonal bolts from the access door.
- E. Swing the door to an open position collecting water spillage in a suitable receptacle.

- F. Inspect 1st check valve seats and discs for damage or deterioration, after wiping with a clean cloth.
- G. If damage or deterioration to either seat is evident, remove the eight socket head screws and remove seat and gasket from valve. See photo (A).
- H. Reverse above procedure for reassembly. Note lubricate seat gasket with "O" ring grease.



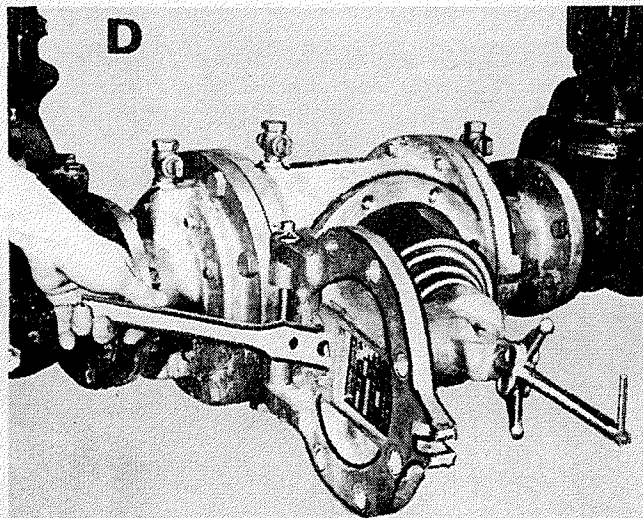
REMOVAL OF FIRST CHECK VALVE ASSEMBLY:

- I. Insert assembly tool (13) into the hole in the end of the relief valve casting and screw threaded rod onto the end of the check valve assembly (1) hand tight. Lubricate rod for easier turning.
- J. Tighten the wing nut of the assembly tool only until the maintenance tool (15) can just be removed from the relief valve vent port. (Approximately a half turn.) See photos (C and D).



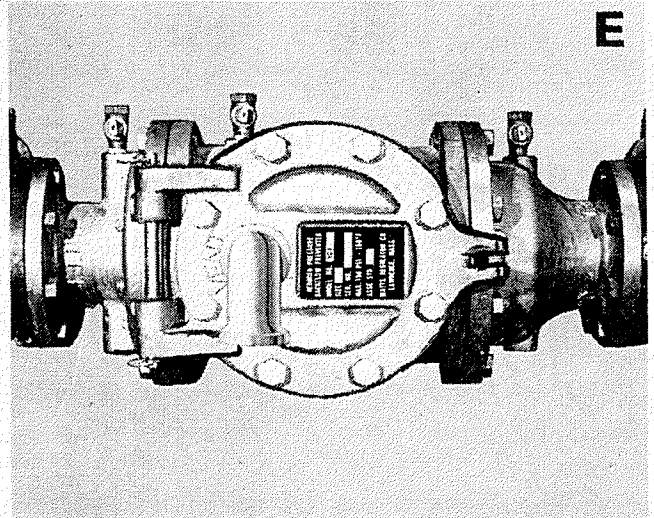
CAUTION: DO NOT OVER-TIGHTEN THE WING NUT AS THIS MAY DAMAGE THE RELIEF VALVE DISC.

- K. Remove maintenance tool (15). Loosen wing nut while restraining rod from turning, allowing springs to completely decompress. When wing nut spins loosely, threaded rod can be unscrewed from device permitting removal of 1st check valve assembly.
- L. After replacing parts of the check valve assembly, reverse procedure to reassemble parts taking note of the "Caution" regarding over-tightening of the wing nut. Tighten the wing nut only until maintenance tool (15) can just be inserted to the mark on the handle of the tool.
- M. Insert maintenance tool (15), photo (D). Loosen wing nut and remove assembly tool (13) from device.

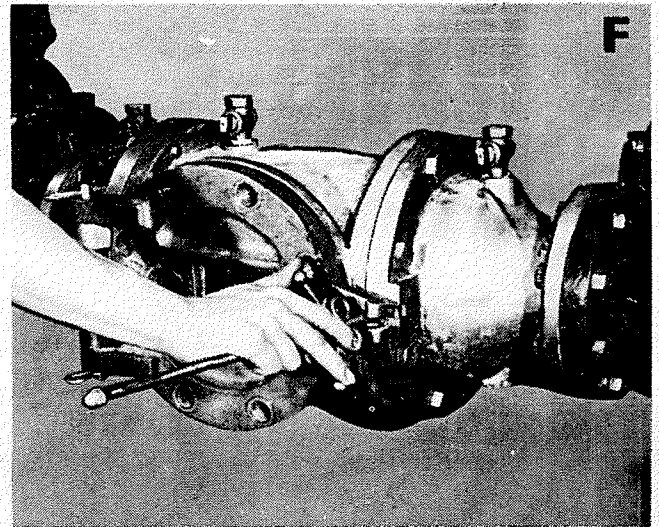


DISMANTLING OF SECOND CHECK VALVE:

- N. Depress valve stem of second check valve assembly (12) and hold in an open position. Collect any water spillage.
- O. Reach in through the door and wipe both seat and disc of the second check assembly while depressing (holding). Allow valve to close. **Caution:** Keep fingers clear of closing.
- P. If second check valve is damaged or deteriorated, remove six bolts from the flange of the second check valve module and remove the module.



- Q. After disassembly and cleaning, reassemble the check valve module in the position shown in photo (B).
- R. Inspect access door "O" ring seal to be sure it is in its proper position and close the door. Reassemble with eight hexagonal bolts.
- S. Close all petcocks and open gate valves.
- T. Remove maintenance tool (15) after restoring water pressure, photo (E).



OPENING OF ACCESS DOOR WHEN MAINTENANCE TOOL CANNOT BE FULLY INSERTED INTO VENT PORT BECAUSE RELIEF VALVE IS OPEN:

- U. Insert T bolt (5) into cavity of outlet casting (14) and through the ear of relief valve casting (7).
- V. Tighten wing nut hand tight.
- W. Remove eight hexagonal hatch bolts. *There is now a spring load transmitted to the T bolt assembly (5) from the first check spring.*
- X. Slowly back off the wing nut allowing the door to open to the point where the first check and relief valve springs have decompressed enough so the door can be freely opened and the T bolt assembly (5) can be removed.