



## TROUBLESHOOTING MODEL 20-REM-RA

### TROUBLESHOOTING

Pipelines in a water supply system must be of sufficient carrying capacity to maintain adequate pressure at the most remote or highest fixture. Relatively high service pressures which can create high water velocities in pipe lines would allow use of smaller pipes to satisfy fixture use. However, high velocity tends to cause whistling and humming. Reduction of pressure by the use of a pressure reducing valve, in an attempt to eliminate such a condition, may reduce pipe line capacities below high is adequate for maximum probable use. When high service pressures are in effect, either continuously or periodically, the application of a pressure reducing valve will be successful only when the installed pipe line is of adequate size to satisfy the system demand at the lower pressure. When actual water demands are unknown, the valve size should be no less than the existing pipe size.

#### PROBLEM

1. Pressure creeps or builds up in system above the setting of pressure reducing valve.

#### POSSIBLE CAUSE OR CAUSES

- A. Thermal expansion of water as it is being heated.
- B. Foreign matter on seating face of seal ring.
- C. Cut, worn or chipped seal ring.
- D. Cut or worn stem o-ring or worn o-ring groove.

#### SOLUTION

- A. This is a natural consequence. It may happen each time that the heater runs. A pressure relief valve or expansion tank must be installed. This will not prevent pressure rise but should limit it to a safe level.
- B. Flush the reducing valve by opening one or two fixture outlets wide. If this does not correct the problem, remove seal ring for cleaning.

#### PROBLEM

2. Pressure and fixture flow is unsteady.

#### POSSIBLE CAUSE OR CAUSES

- A. Low water supply pressure in mains caused possibly by high area demand during certain periods of the day.
- B. Heavy periodic demands by appliances in the house.

#### SOLUTION

- A. This is a water department problem. It is due to the mains being inadequate for the demands made on them.
- B. House service lines may at times be inadequate for the load. Size of some pipelines may need to be increased. Pressure setting of reducing valve may be too low.
- C. Try increasing pressure before changing pipelines.

#### PROBLEM

3. Small, inadequate flow from fixtures.

#### POSSIBLE CAUSE OR CAUSES

- A. Pipelines to fixtures may be too small or house main supply may be inadequate for normal fixture demand.
- B. Heavy periodic demands by appliances in the house.
- C. Screen clogged with debris.

#### SOLUTION

- A. It may be necessary to increase pipe sizes only in some sections of the system leading to the offending appliances or fixtures. Increasing the house service mains might be necessary if small supply is general at all fixtures.
- B. Raise pressure gradually by readjusting valve until this point is determined.
- C. Clean screen.

#### PROBLEM

4. Valve appears to be noisy; hums, whistles or chatters.

#### POSSIBLE CAUSE OR CAUSES

- A. Hum or whistle is usually caused by a high velocity of flow in pipelines causing vibration.
- B. Chatter usually originates with worn seat washer or loosely installed seal ring.

#### SOLUTION

- A. Pipelines could be small or too light. Reducing valves could be too small. Pipes and valves being small would accentuate this condition.
- B. Inspect seal ring. If a deep channel appears on seal ring face, replace or use the opposite side.
- C. Frequently noise appears in a faucet or appliance and seems to originate from the reducing valve. There is a general tendency to use streamline piping of a relatively small size. Velocity is naturally high and noise of fast moving water is not unusual.