

# **Fig. 174 By-Pass Valve**

## **Installation & Maintenance Instructions**

The 174 Series valves are designed where maximum pressure control is needed such as bypassing a pump in order to reduce the pressure at the outlet.



**Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury, or death.**

### **Installation**



#### **Warnings**

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- Install in accordance with all applicable local, state, and federal laws.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Piping could be under pressure. Liquid and vapors may be expelled from the piping, valves or fittings while performing installation. Liquids and vapors could catch fire or cause an explosion. **Avoid** sparks, open flame, or hot tools when working on valves.

### **Steps**

1. Inspect valve for shipping damage. Do not use if valve is damaged. Call Morrison Bros. Co. for assistance.
2. Inspect valve openings for foreign matter such as packaging material. Remove any that is found.
3. Prior to mounting the valve in the piping, verify the intended direction of liquid flow. The valve inlet and outlet are marked on the appropriate hex where the piping connects.
4. Apply a non-hardening, fuel resistant thread sealant to the male threads of the pipe. When threading the valve onto the piping, and the piping into the valve, make certain to wrench on the valve hex closest to the end you are threading. Connect piping to valve inlet and outlet and complete the rest of the piping.
5. You may now introduce liquid to the valve. Inspect the valve and piping for leaks. Repair as is necessary.
6. If you wish to adjust the opening setting of the valve, remove the lock cap on the valve by loosening the single cap screw and slipping off the lock cap. (See Fig. 1.) This will expose the adjustment screw. (See Fig. 2.) To change the opening setting, loosen the lock nut on the adjustment screw and turn the adjustment screw. Clockwise turning will increase the opening setting. Counter-clockwise turning will decrease the opening setting. There is string packing used to seal around the adjustment screw. This may need to be replaced after making adjustments. It can be purchased from Morrison Bros. Co. Once you have achieved your desired setting, tighten the lock nut on the adjustment screw and replace the lock cap.



**FIGURE 1**



**FIGURE 2**

Maintenance Instructions on Back



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## **Maintenance**

Annual inspection, at a minimum, is required to verify valve condition and operation.



### **WARNINGS**

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- Follow your employer's instructions for inspecting valves.
- You must be trained to inspect these valves. Stop now if you have not been trained.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Valves and piping could be under pressure. Liquids and vapors could be expelled from tank piping, valves or fittings while performing maintenance. Liquids and vapors could catch fire or cause an explosion. Avoid sparks, open flame, or hot tools when working on valves.

### **Steps**

1. Inspect the valve body for damage, leaks, or excessive corrosion. If any are found, replace the valve.
2. Inspect the valve bonnet gasket (See Fig. 2) for damage or leaks. If either is found, replace the bonnet gasket with an original replacement from Morrison Bros. Co. **Note:** Bonnet will be under strong spring pressure. Use extreme caution when removing bonnet.
3. To replace the bonnet gasket, drain the pipe of liquid and pressure. Remove the valve bonnet and old gasket. Clean the area where the gasket seals on the body and bonnet. Install the new gasket on the bonnet. Apply a non-hardening, fuel resistant thread sealant to the male threads of the bonnet. Thread the cap into the body and tighten. Do not over-tighten the cap to the point where the gasket starts pushing out. Introduce liquid back into the pipe and watch the gasket for leaks. If leaks are found, try tightening the cap slightly. If leaks still persist, replace the valve.



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