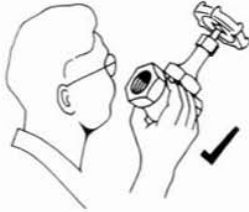


INSTALLATION AND OPERATION

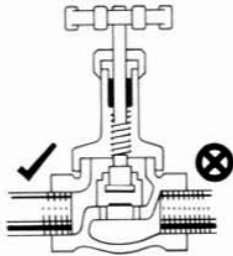
SELECT THE RIGHT TYPE AND DESIGN OF VALVE

Make sure materials, pressure and temperature ratings are suitable for the job.

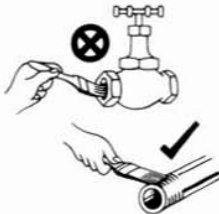
- 1 INSPECTION**
Inspect valves for dirt before putting into line. Dirt and dust on valve seats can damage them and cause leakage.



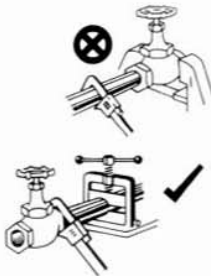
- 2 OVERTHREADING**
Overthreading may cause pipe to shoulder against valve seat, thus injuring valve and keeping joint from making up.



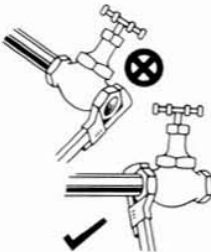
- 3 PIPE DOPE OUT**
Keep pipe dope out of lines and valves. Use only on male end of joint. It is likely to damage valve seats when it gets into piping.



- 4 PREVENTION**
To prevent distortion and damage to working parts, don't put valve into vice when making up a joint. Hold nipple or short pipe in pipe vice and screw valve on to it.



- 5 ADJUSTABLE SPANNER**
Use an adjustable spanner, not a pipe wrench on the end of the valve nearest the joint. You get a firmer grip and you're not risking the chance of damaging the valve.



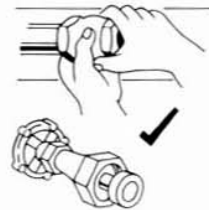
- 6 CLEAN OUT PIPE**
Clean out pipe before use. Pipe scale and dirt are often the cause of leaking valves. Blow out or swab out pipes to prevent later breakdowns.



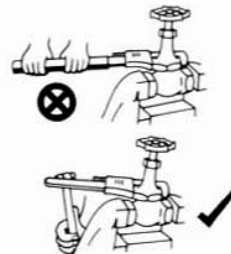
- 7 REAM PIPE ENDS**
Ream pipe ends after threading. Burrs cause serious obstruction to flow and may get into valves and damage seating surfaces.



- 8 CRAMPED QUARTERS**
When in cramped quarters, remove cover assembly to give more clearance and protect spindle from possible damage. Install all other valves in closed position.



- 9 STUBBORN JOINT**
A short spanner and a few hammer taps are effective and won't injure the valve. Only safe use for extension on spanner or wrench is on a stubborn joint when taking down a line.



- 10 CORROSIVE CONDITIONS**
Use valves with outside screwed stems for corrosive conditions and for superheated steam when frequent operation is required.

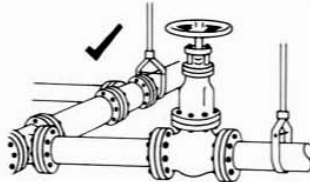


SAFETY HINTS

Lock or put warning signs on valves on vessels in which men are working.
Don't remove valve handwheels. This may turn an emergency into a tragedy.
Don't turn a valve spindle with a wrench. If it needs this, it needs attention.
Inspect frequently valves subject to high pressure, temperature or corrosion.

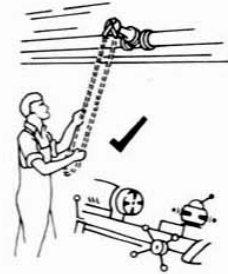
1 PROPER SUPPORT

Use good supports, expansion bends or joints close to valves. Don't force valve to carry weight, sag or expansion of piping. Always have piping properly supported and lined up before fitting valve.



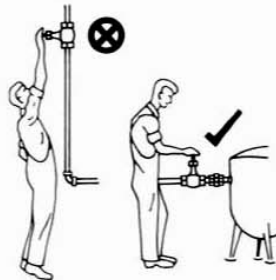
4 SAFETY

For safety's sake, don't force operator to use a ladder. Use chain wheel or extension spindle when 'hard-to-get-at' valves are operated frequently. Better still, relocate them.



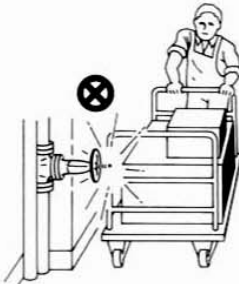
2 PLACEMENT

Place operating valves for convenient use. You can't open a valve fully, close it tightly or regulate it properly if you can't do it easily and conveniently.



3 VALVE ABUSE

Valves can't be abused and still work efficiently. Don't expose them to damaging blows. A bent spindle not only cripples the valve but may cause a shut down and costly repairs.



5 DON'T FORCE

If a valve is leaking don't force it shut. This ruins more valves than anything else. Dismantle and inspect valve if the obstruction cannot be flushed out.

