

## DOs and DO NOTs for Valve Use

Source: Compressed Gas Association, Inc. CGA V-9, 2012, p. 39

### DOs

Proper care of compressed gas cylinder valves includes (but is not limited to) the following:

- Stored valves shall be packaged so cleanliness is maintained and adequate protection against damage during handling is provided.
- Valves should be visually inspected at each refill for any signs of damage or leakage.
- Question the supplier when a valve malfunctions and the problem cannot be diagnosed.
- Inspect PRDs per CGA S-1.1 before each refilling.
- Verify that a particular valve is suitable for both the cylinder and the commodity with which it is intended to be used.
- Open the valve slowly to prevent development of high pressure surges and heat generation on downstream equipment.
- When replacing PRDs, only original manufacturers' assemblies and parts shall be used unless the interchange of parts is proven by suitable test.
- When replacing PRDs, refer to the marking on the device to ensure the proper rated device is installed.
- When the cylinder is not in use, even when empty, the valve should be in the closed position with the outlet cap in place and the transport cap installed.
- Check the condition of both the inlet and outlet threads before inserting a valve into a cylinder to ensure that the threads are not damaged, especially the first thread. A damaged first inlet thread could adversely affect insertion. If the damage cannot be repaired by manually deburring with a file, replace the valve.
- Handle valves carefully to avoid damage, especially to threads, which could prevent proper connection to mating parts.
- Replace the valve or PRD whenever any of its required markings are no longer legible.
- Valves that are shipped not fully assembled or with unattached components shall be protected from contamination.
- Only lubricants specially prepared for oxygen service shall be used on tapered threaded inlet connections.

*NOTE: Not all PTFE tapes are suitable for oxygen service. Only PTFE tapes suitable for oxygen service shall be used.*

### DO NOTs

This list is not intended to be comprehensive. The user is cautioned to review maintenance activity with the valve supplier before beginning work if there is any uncertainty on the part of the user.

Proper care of compressed gas valves includes the following:

- Do not use a damaged valve where function or integrity might have been affected.
- Do not continue to use a valve that operates abnormally, such as it becoming noisy or progressively harder to operate.
- Do not try to recondition a valve until the design and operations of the valve are fully understood and the proper tools are available.
- Do not reuse a valve having a tapered inlet thread with less than four full threads showing after it is installed into the cylinder hand-tight.
- Do not use an automatic operator, adapter, wrench or other tool to obtain a greater mechanical advantage on handwheel-operated valves without first consulting with the valve manufacturer to ensure that the applied torque does not exceed the safe operating torque for the valve.
- Do not use the number of exposed valve threads to determine whether a valve is adequately engaged and leak tight in a cylinder. (See CGA V-11, General Guidelines for the Installation of Valves into High Pressure Aluminum Cylinders, for valve installed in aluminum cylinders.) Even with a new valve in a new steel cylinder, both with nominal 3/4"-14 NGT threads, the number of exposed full threads after three wrenching turns can vary between two and five.
- Do not lubricate valve internal surfaces with the pressure boundary without first checking with the valve manufacturer.
- Do not lubricate oxygen service valve threads (to cylinder threads) for installation in straight-threaded aluminum.
- Do not use poor fitting jaws on valving machines because they could cause:
  - Excessive bending and torsional forces into the valve
  - Rounding off of valve wrench flat corners with obliteration of valve identification markings, or
  - Interference of jaws with valve outlet, PRD, etc., resulting in damage and leaks
- Do not lift, drag or move a cylinder using the valve handwheel as a handle. It is not designed for this purpose and doing so can cause the valve to open.
- Do not use adapters to adapt the CGA valve outlet connection to another CGA valve outlet connection unless adapters satisfy the conditions for their use specified in CGA V-1.
- Do not put a reconditioned valve into service unless it has been tested to this standard.
- Do not use internal operating replacement parts unless they were supplied by the valve manufacturer.