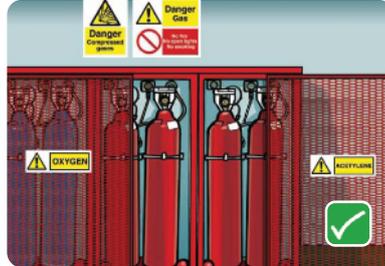


## OXYGEN AND ACETYLENE



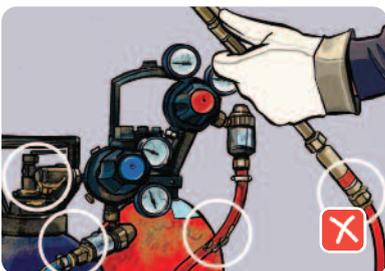
Where two or more of each gas cylinder are carried – oxygen and acetylene should be vertically secured with a quick release mechanism and stored separately. Storage rooms or cabinets should be constructed of steel/well ventilated/open to the deck/well away from any sources of ignition.



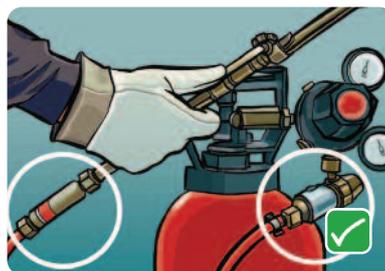
Maintain regulators as per manufacturer's guidelines and replace every 5 years. When connecting to the cylinder ensure the threads are clean and dry/carry out leak test using a solution of mild soapy water [typically 0.5% soap to water].



Hoses must be regularly inspected end to end and any damaged sections repaired using the correct hose repair ferrules and clamps. **DO NOT** use copper tubing/jubilee clips/wire. Hoses are replaced every 5 years.



Cylinders/caps/valves/couplings/regulators/hoses – are kept free of oil and grease. All pressure components are tested regularly for leaks using a solution of mild soapy water [typically 0.5% soap to water].



Two sets of flash-back arresters should be fitted for oxygen & acetylene – one set at the regulators and one set at the torch handle. If hoses of 20 metres or more – additional non return valves are fitted at the gas distribution manifold.

# CHECKLIST

Use with onboard procedures, COSWP Chapter 23.8 and 23.9, and NORTH Personal Injury Loss Prevention Guide Chapter 12.

## Storage

- Where two or more of each type of gas cylinder are carried – oxygen and acetylene cylinders are stored separately and secured vertically with a quick release mechanism .....
- Storage rooms or cabinets are constructed of steel and located within an independent space above the highest continuous deck with direct access from outside .....
- Storage rooms or cabinets are insulated and well ventilated so that the internal temperature does not exceed 40°C .....
- Unless the storage rooms or cabinets are separated by a steel bulkhead, oxygen and acetylene cylinders are separated by at least 3m [10ft] .....
- Storage rooms or cabinets not used for any other purpose and free of flammable substances/materials/sources of ignition .....
- Appropriate warning signs are fitted both internally and externally, [no smoking/oxygen warning/acetylene warning and 'stop valves to be kept shut when not in use'] .....
- Cylinders for different gases are clearly distinguished from each other – normally oxygen cylinders are coloured black/white [Europe] blue [elsewhere] and acetylene cylinders are coloured maroon .....

## Fittings

- A gas distribution manifold is fitted in the storage room or cabinet to feed oxygen and acetylene to the engine room welding station via hard piping colour coded blue for oxygen and red for acetylene .....
- Two sets of flash back arresters are fitted for oxygen and acetylene, one set at torch handle and one set at the pressure regulators. A non-return valve is fitted at the gas distribution manifold in fixed pipe systems .....
- Regulators for fuel gases and oxygen are designed to be non-interchangeable – all oxygen fittings have plain nuts and right-hand threads – all acetylene fittings have grooved nuts and left-hand threads .....

## Maintenance

- Regulators and flashback arrestors are maintained as per manufacturer's guidelines and replaced every 5 years .....
- Hoses are regularly inspected [end to end for wear/burns or cracks] – any damaged sections are repaired using the correct hose repair ferrules and clamps. DO NOT use copper tubing/jubilee clips or wire. Hoses are replaced every 5 years .....
- When not in use – hoses are coiled up tightly and stored in a place where they will not be damaged.
- Hoses must never be coiled around gas cylinders or left on the deck .....
- Cylinders/caps/valves/couplings/regulators/hoses/torch fittings – all kept free of oil and grease .....
- All pressure components tested regularly for leaks using a solution of mild soapy water [typically 0.5% soap to water] .....
- All cylinder caps in place on all cylinders not connected to the gas distribution manifold .....

## In Use

- When connecting regulators to cylinders – all threads are clean/dry and a leak test performed using a solution of mild soapy water [typically 0.5% soap to water] prior to use .....
- Before opening the cylinder stop valve – check torch valves are closed then slowly open the cylinder valves [oxygen – full open and acetylene – 1 ½ turns open] .....
- When work is finished and at end of day – the cylinder stop valves are closed and the pressure components purged of gas .....
- Oxygen is not used for ventilating or sweetening the stale atmosphere of a confined space/blowing dust off clothes/driving pneumatic tools .....
- Cylinders containing flammable gasses or oxygen are not taken below decks unless they are placed in a part of the ship which is adequately ventilated .....