Boat Safety Scheme

Part 7

LPG Installations

LPG Installations

The two following sections 7 & 8 cover L.P.G installation and the term

"**new boat"** will be from

3 January 2000

LPG Installations

Key Changes:

- Material of cylinder lockers. Must be metal or FRP of specified thicknesses
- Installation pipework to be solid, unless to gimballed appliance or for hygienic purposes.
- No unnecessary pipe joints
- Flexible hoses to be “Readily accessible”

LPG Installation

Key changes …Cont

- Appliance isolation valves required If..
  1. More than one appliance
  2. Appliance connected by flexible hose

- Appliance isolation valve(s) open closed position to be marked unless evident by design

- System must not contain unnecessary joints

LPG Installations

A shelter is an enclosure which stands on open decks, cabin tops or outside cockpits. Shelter construction need not be equivalent to that of a locker or housing providing it is constructed or positioned so that any escaping gas is dispersed overboard.

If the shelter is constructed so that any part below the lid, however small, creates a gas proof section where escaping gas can accumulate, there must be provision for dispersing it overboard.

No part of the shelter may be below deck level

LPG Installations 7.2

Visually check for ventilation above the level of the cylinders from outside the vessel

OLD BOATS – Not required

NEW BOATS - Required

LPG Installations 7.2

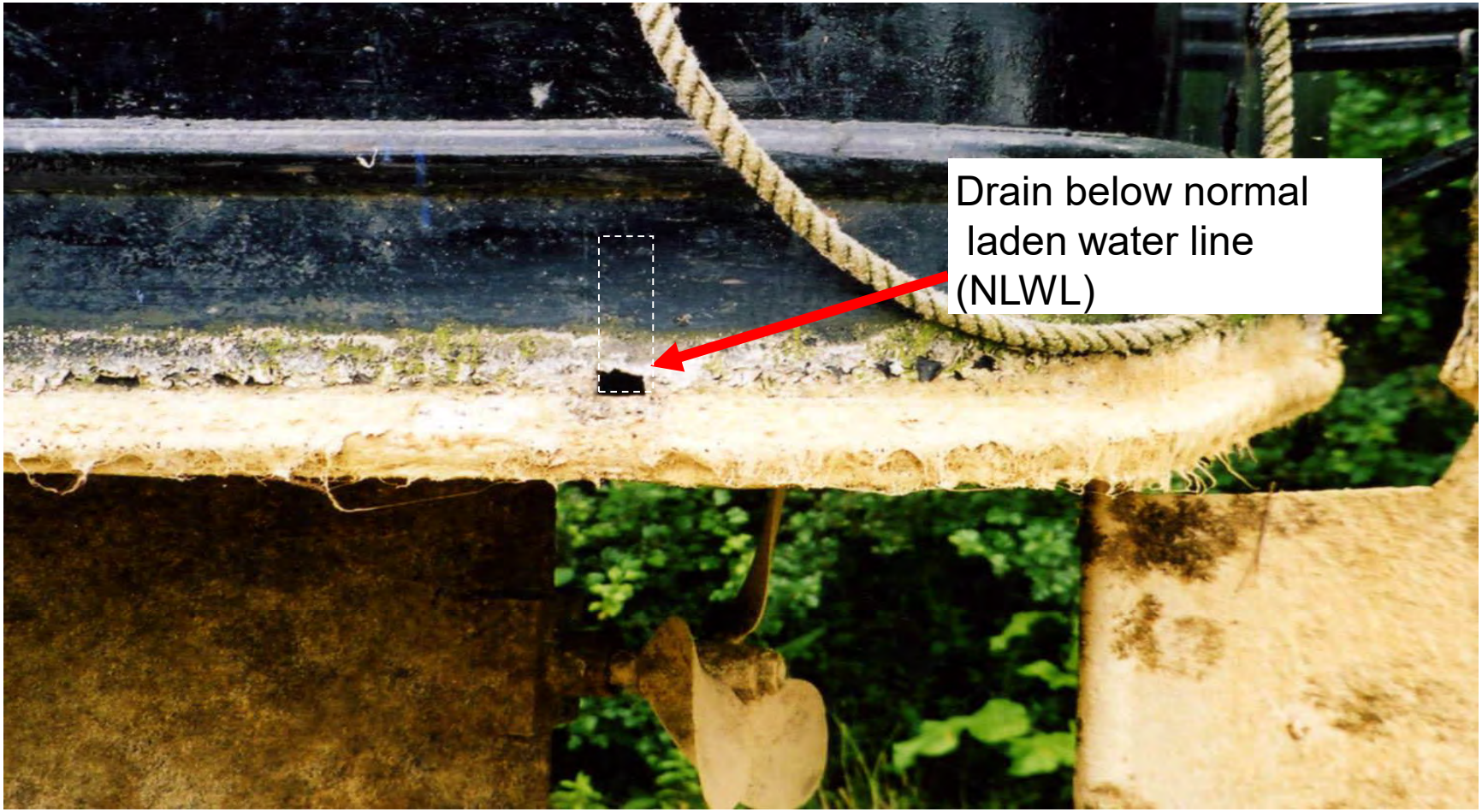
Visually check there is a drain from the lowest point of the cylinder locker or housing which exits from the hull to a point outside the vessel above the deepest laden waterline

LPG Installations 7.2

Exemption 11.19

Vessels manufactured prior to 3 January 2000 and having a cylinder locker drain as near as practicable to the bottom of the cylinder locker are not required to comply with that part of the standard (7.2ii) which requires the drain to be provided from the lowest point of the cylinder locker

LPG Installations 7.2



LPG Installations 7.3

Visually check cylinders, cylinder lockers or housings are located in a position where they cannot create an obstruction for persons moving about the deck or walkways which could;

- Hinder the handling of the vessel
- Cause personal injury

LPG Installations 7.3

Visually check for signs of heat damage to exterior surfaces of cylinders, cylinder locker or housing

LPG Installations 7.3

Visually check the accessibility of cylinders for removal in an emergency

LPG Installations 7.3

LPG Installations 7.3

LPG Installations 7.3

LPG Installations 7.4

LPG Cylinder locker construction

Cylinder lockers shall be constructed of metal or of fibre reinforced plastic (FRP)

1. Metal thickness at least 0.9mm
2. FRP thickness at least 5mm

LPG Installations 7.5

Determine by measurement
internal diameter
of drain is not less than
19mm throughout

LPG Installations 7.5

Exemption 11.22

Vessels manufactured prior to 3 January 2000 and having an LPG drain with a minimum internal diameter of 12mm for a cylinder of up to 15Kg capacity and which is enlarged proportionally for additional LPG storage, are not required to comply with that part of standard 7.5 which requires the drain to have an internal diameter of at least 19mm (¾”)

LPG Installations 7.5

Total capacity	Vent pipe/opening Internal diameter
15Kg or less	12mm
19Kg	14mm
30Kg	17mm
38Kg	19mm
47Kg	20mm
94Kg	30mm

LPG Installations 7.6

Visually check cylinder locker opening is not situated in an accommodation space, engine space, fuel space or battery space

LPG Installations 7.6

Exemption 11.23

Vessels manufactured prior to 3 January 2000 that were designed and constructed with a cylinder locker within the hull of the vessel, but outside engine, fuel or battery spaces are not required to comply with;

Cont…

LPG Installations 7.6

Exemption 11.23 (i)

That part of the standard 7.6 which requires that the opening into a cylinder locker shall be sited in an accommodation space provided the cylinder locker is located in a low risk position

Note; At check 7.6.3 to be applied the locker must be of original design and construction

Cont..

LPG Installations 7.9

Exemption 11.23 (ii)

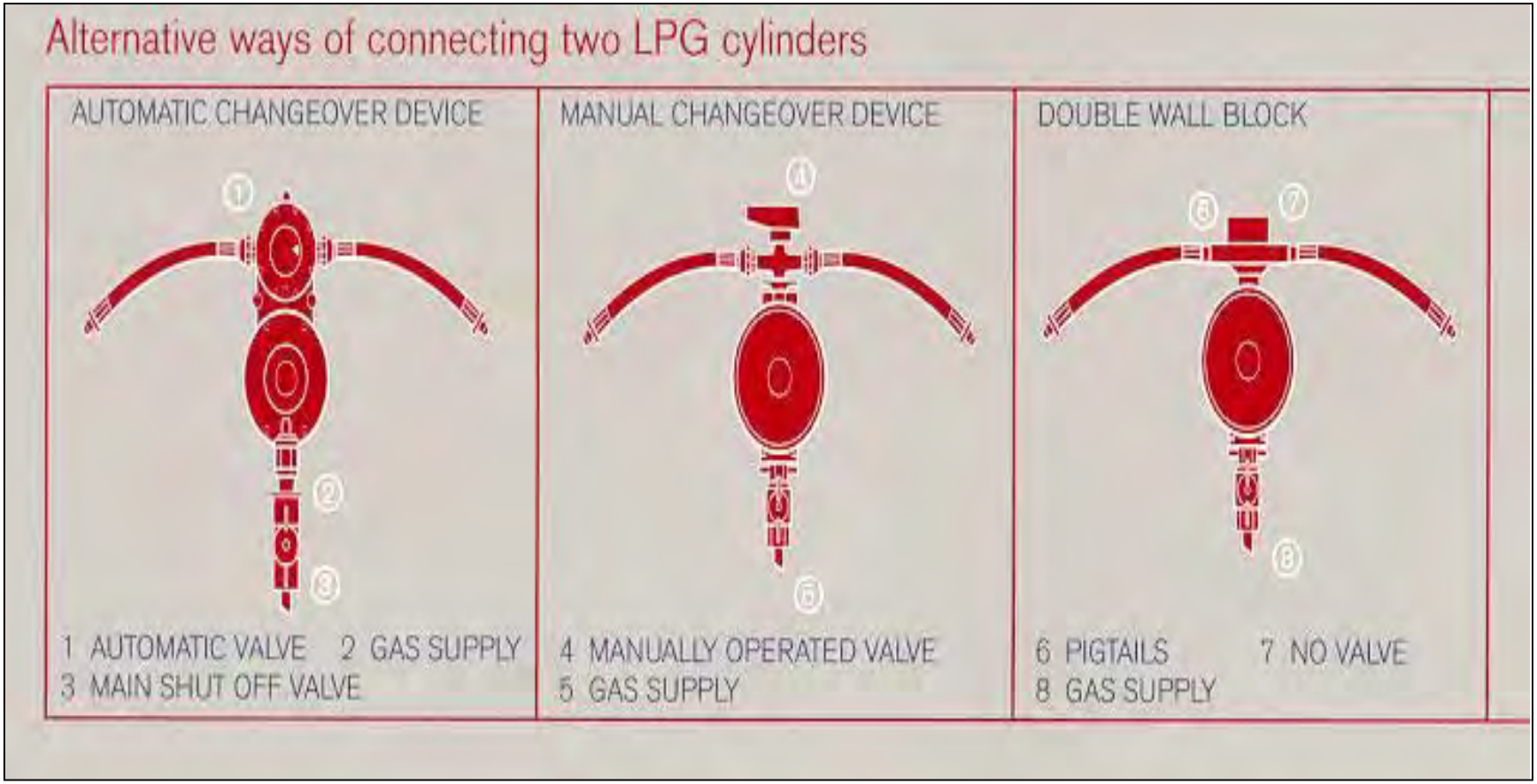
That part of standard 7.9 which requires the main shut off valve to be fitted outside the accommodation space.

LPG Installations 7.9

LPG Installations 7.9

Where two or more cylinders are connected with an auto-change over device an isolation valve must be installed as close as practicable to the auto change over device

LPG Installations 7.9



LPG Installations 7.9

Identify presence of an automatic change over device.

Visually check no LPG cylinder valve is being used as the main shut-off valve

LPG Installations 7.9

Where two or more cylinders are connected with an auto-change over device the location of the main isolation valve must be marked

LPG Installations 7.9

Where two or more Separate systems are installed.

Visually check that the location of all main shut-off valves are marked on or adjacent to each valve

LPG Installations 7.9

LPG Installations 7.9

LPG Installations

"All hose systems"

Contact Boat Safety Scheme office?

LPG Installations 7.11

Installation pipe work exiting LPG cylinder lockers must be via a bulkhead fitting or above the level of cylinders regulators and associated equipment

LPG Installations 7:12:2

Flexible hose

Identify any appliance connected by a flexible hose and visually check that either:

- It is a gimballed cooking appliance; Or
- The owner requires the appliance to be removed for hygienic purposes

LPG Installations 7.13

Pre-made flexible hose connections conforming to BS 669 may be used for cooker connections. Such hose connections usually have a red stripe running along the length of the hose and must be terminated with a self closing bayonet connection

LPG Installations 7.13

Visually check <u>all</u> hoses are <u>readily</u> accessible

Visually check hose is not installed:

- under stress
- with tight radius turns

LPG Installations 7.13

LPG Installations 7.13

Visually check clips and clamps for:

- Security
- Over sizing causing pinch points
- Under-sizing causing rack not to fully be engaged.
- Determine by measurement all clips and clamps are at least **8mm** in width

LPG Installations 7.13

Visually check hose for:

- signs of heat damage or deterioration.

LPG Installations 7.16

- Pipe work takes the shortest route
- Check pipe work is as high as possible in relation to gunwale level.

Where <u>readily</u> accessible visually and manually check pipe is secure.

<u>Determine that the fixing clips are spaced approximately 500mm apart</u>

LPG Installations 7.17

Visually check;

Position of pipe-work is above bilge water level.

LPG Installations 7.18

Visually check;

That no pipe-work is exposed to leakage from water services.

Determine by measurement that the pipe-work is separated by at least 30mm from "single insulated" electrical cables not in conduit

LPG Installations 7.19

Visually check;

All joints are to be readily accessible and visually check for presence of unnecessary joints.

LPG Installations 7.20

For installations comprising more than one appliance, visually check each appliance for presence of an isolation valve in the supply line

LPG Installations 7.20

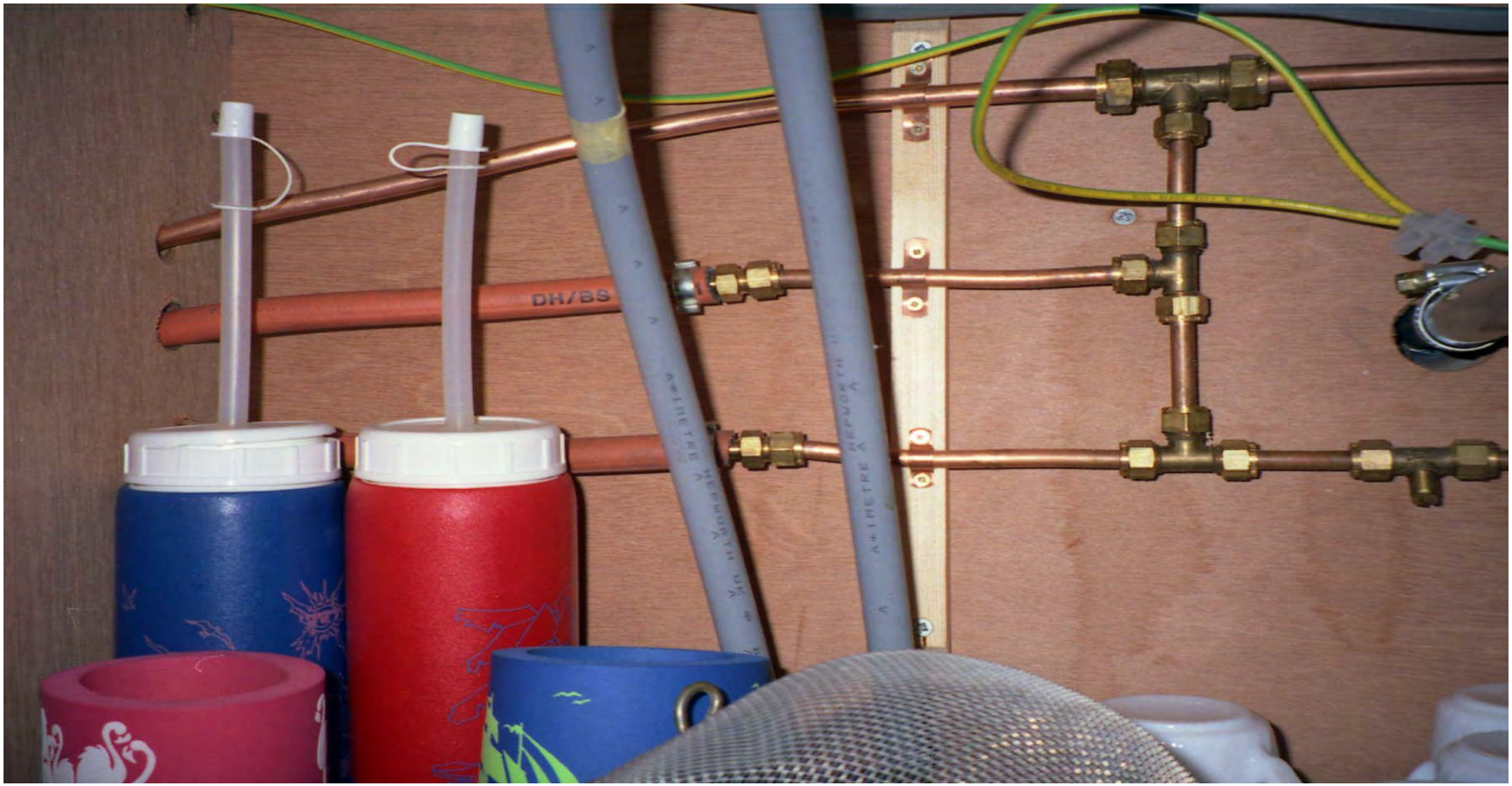
Exemption 11.24

Vessels manufactured prior to 3 January 2000 are not required to comply with the requirements of standard 7.20 unless the appliance is connected with a flexible hose

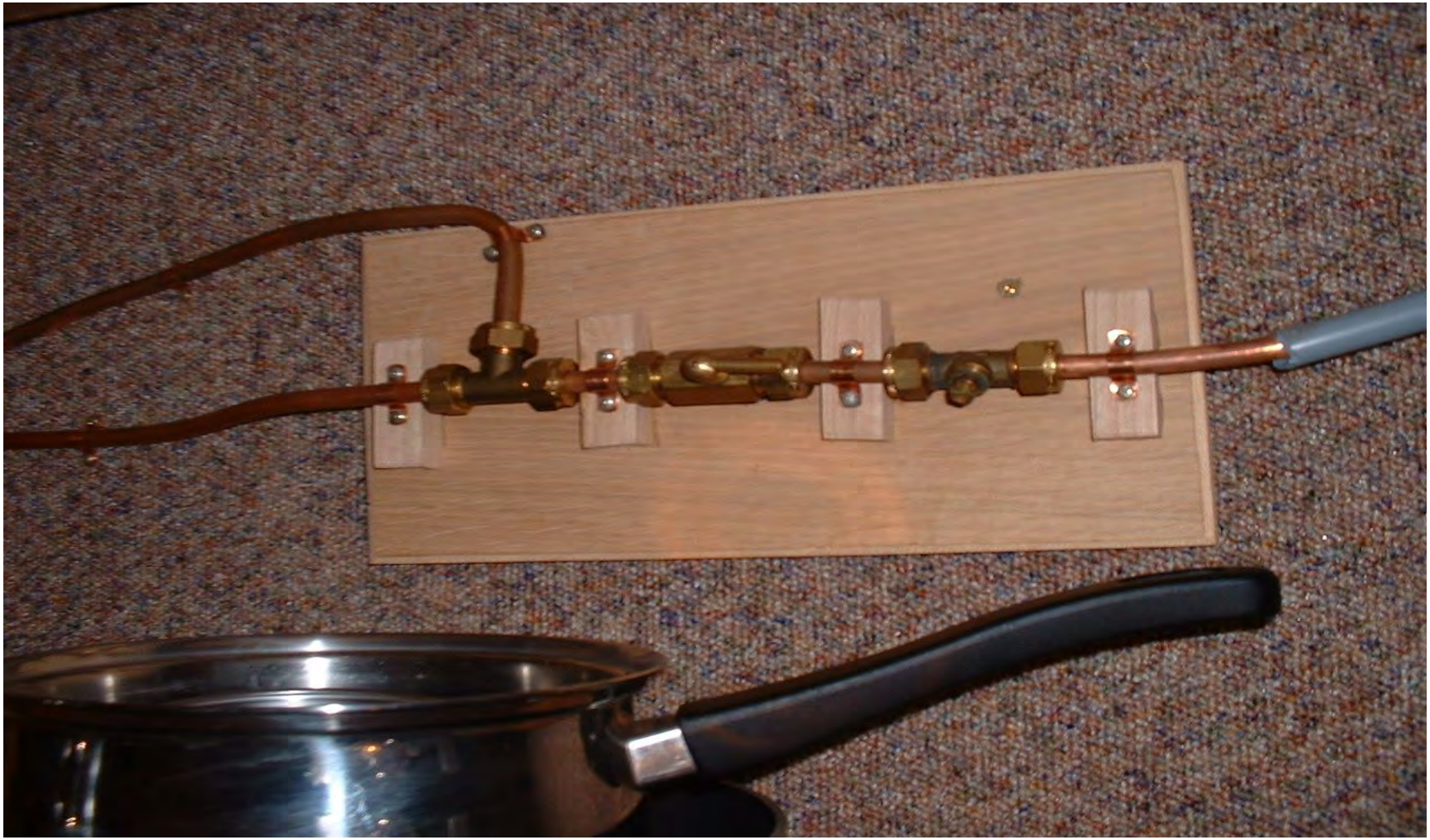
LPG Installations 7.21

Identify any appliance isolation valves not immediately adjacent to the appliance served and visually check there is a clear indication of which appliance is controlled

LPG Installations 7.21



LPG Installations 7.21



LPG Installations 7.21

Visually check;

That the open and closed positions are clearly marked on or adjacent to each appliance isolation valve unless these positions are evident by design

Boat Safety Scheme

End of Part 7

LPG Installations