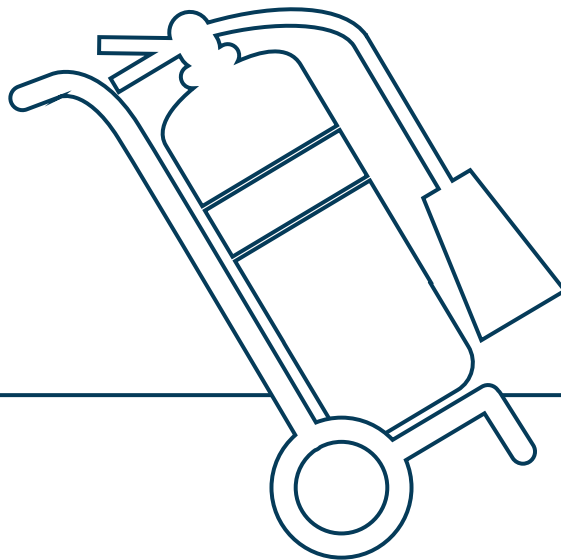


**Code of
Practice**



Fire Industry Association



**Code of Practice for the Maintenance
of Mobile Fire Extinguishers
Manufactured to BS EN 1866**

Code of Practice for the Maintenance of Mobile Fire Extinguishers Manufactured to BS EN 1866

1. SCOPE	6
2. NORMATIVE REFERENCES	6
3. TERMS AND DEFINITIONS	6
3.1. SERVICE PROVIDER	6
3.2. RESPONSIBLE PERSON	6
3.3. PROPELLANT CONTAINER	6
4. GENERAL COMMENTS RELATING TO MOBILE EXTINGUISHERS	6
4.1. TYPES OF MOBILE EXTINGUISHERS	6
4.2. SERVICING ENVIRONMENT	6
4.3. DISPOSAL OF MEDIA	6
4.4. RECHARGE MATERIALS AND SPARES	6
4.5. LOCATION AND ENVIRONMENT OF EXTINGUISHERS	6
5. COMMISSIONING	6
6. VISUAL INSPECTION BY THE RESPONSIBLE PERSON	7
7. BASIC SERVICE	7
8. EXTENDED SERVICE	9
9. OVERHAUL	10
9.1. GENERAL	10
9.2. CO₂ UNITS	10
10. RECHARGING	10
11. LABELLING	12
11.1. GENERAL	12
11.2. MAINTENANCE LABEL	12
11.3. PROVISION OF A WRITTEN REPORT	12
11.4. MAINTENANCE DOCUMENTATION	12
12. EVALUATION OF FITNESS FOR SERVICE OF EXTINGUISHERS AND ACTIONS TO BE TAKEN	13
12.1. GENERAL	13
12.2. EXTINGUISHERS WHICH ARE TO BE CONDEMNED	13
12.2.1 GENERAL	13
12.2.2 CONDITIONS INDICATING THAT AN EXTINGUISHER IS UNSAFE FOR USE	13
12.2.3 CONDITIONS, IF NOT RECTIFIED, INDICATING THAT AN EXTINGUISHER IS UNSAFE FOR USE	13

1. SCOPE

This code of practice gives guidance on:

The commissioning, inspection, maintenance and periodic testing of mobile fire extinguishers.

2. NORMATIVE REFERENCES

BS EN 1866 Mobile Fire Extinguishers.

3. TERMS AND DEFINITIONS

3.1. Service provider

Person with the training and experience, with access to the relevant tools, equipment and information, manuals and knowledge of any special procedures recommended by the manufacturer of the mobile fire extinguisher to carry out the relevant maintenance procedures.

3.2. Responsible person

Person or persons responsible for, or having effective control over, fire safety provisions adopted in or appropriate to the premises or building or risk where a mobile fire extinguisher is installed. A responsible can include a nominated representative.

3.3. Propellant container

Gas cylinder that fits or is attached to the extinguisher and that contains the propellant.

4. GENERAL COMMENTS RELATING TO MOBILE EXTINGUISHERS

4.1. Types of mobile extinguishers

4.2. Servicing environment

Servicing and recharging should be carried out in a clean dry environment.

4.3. Disposal of media

Care must be taken to ensure that residual media are disposed in accordance with environmental legislation. Where possible condemned extinguishers and components should be recycled. (See FIA Fact Files).

4.4. Recharge materials and spares

Failure to use recommended spare parts, recharge materials and follow the manufacturer's instructions may cause the extinguisher to malfunction or prevent it from operating altogether.

4.5. Location and environment of extinguishers

The location for the extinguisher should be suitable and if sited in a corrosive/ hazardous environment the effects should be considered with reference to corrosion and legibility of instructions. (A box or cover may be necessary). Inspection periods should be more frequent.

If the extinguisher is installed on marine vessel it is subject to specific regulations on maintenance.

5. COMMISSIONING

The commissioning of a Mobile Fire Extinguisher should be carried out by a service provider, as defined in 3.1. On removal of packaging and prior to installing in designated place, the mobile fire extinguisher should undergo this sequence of actions.

1	External examination of extinguisher	Examine for serious damage that could impair the safe operation of the Mobile Fire Extinguisher (including the functionality of the wheels).
2	Operating Instructions	Check the operating instructions for correctness and legibility and are in English.
3	Visual Inspection	Check the extinguisher has not been used.
4	Filling	If the extinguisher requires filling, follow manufacturer's instructions.
5	Maintenance Label	Affix the maintenance label to the extinguisher in an appropriate position and complete the details as recommended in XX .

6. VISUAL INSPECTION BY THE RESPONSIBLE PERSON

The competent person should advise the responsible person to carry out visual inspections of all extinguishers at regular intervals. This advice should include the following instructions.

- The responsible person should carry out visual inspections of all mobile fire extinguishers regularly, at least monthly but more frequently if extinguisher is sited in a hazardous or corrosive environment.
- Correctly located in the designated place.
- Unobstructed and visible.
- Operating instructions are clean, legible, and facing outwards.
- Seals and tamper indicators are not broken or missing.

f) Is full (by weighing or lifting).

g) Not obviously damaged, corroded, leaking or has a clogged nozzle.

h) Where provided, the pressure gauge reading or indicator is in the operable range or position.

Note: Depending on whether the unit is stored pressure or external cartridge the gauge may have different indications follow manufacturer's/service providers instructions for more detailed information.

The responsible person should record the results of these visual inspections and where necessary arrange for corrective action by a service provider. In the event of doubt the responsible person should arrange for a service provider to examine the extinguisher.

NOTE: Responsible persons have obligations under fire legislation in England and Wales, Scotland, Northern Ireland to maintain extinguishing equipment in an efficient state, in efficient working order and in good repair, where it is necessary to provide such equipment to safeguard employees in the event of fire.

7. BASIC SERVICE

The responsible person should ensure that basic service be carried out at 12 monthly intervals. The maintenance intervals given for basic service have for practical purposes a tolerance of +/- 1 month. Intervals should be taken from the date of installation or the last basic service. Intervals may be shortened on the recommendation of the service provider where inspection.

	Service Procedure Water/Foam /Powder/ CO ₂	Stored pressure	External cartridge	CO ₂
1	Inspect the exterior of the extinguisher for damage or corrosion. If found, the extinguisher should be withdrawn from service.	X	X	X
2	If conditions indicate the extinguisher has been completely or partially discharged, i.e. broken operating seal, discontinue servicing procedure and commence recharge procedure.	X	X	X
3	Examine instruction label for wear or damage which may affect legibility, replace if necessary.	X	X	X
4	Unscrew nutring slowly, using nutring spanner. (Do not use a blunt instrument to effect removal as this will damage the nutring) allowing any residual gas to escape through vents before complete removal from the extinguisher. Disconnect both hoses.		X	
5	Examine powder for caking, lumps or contamination. If of poor quality, empty extinguisher and recharge. (Do not sieve lumps from powder). Dispose of safely and environmentally. (for further guidance see FIA guidance).		X	

6	Check liquid level, examine condition of foam. If of poor quality, empty extinguisher, rinse with clean water and recharge (dispose in an environmental manner). Check internal condition for significant corrosion or damage, if found withdraw extinguisher from service. (Note: these units commonly do not have an internal lining) Minor surface corrosion or staining is acceptable but should be assessed and recorded by the competent person.		X	
7	Check internal pressure, if below pressure follow recharge procedure.	X		
8	Check date of last hydraulic pressure test stamped on cylinder shoulder (this may be original date of manufacture). If hydraulic testing is due, e.g. 10 years after production, remove from service.			X
9	Check weigh the extinguisher against the gross weight stamped on cylinder (this is the weight full, without hose, horn or carriage). If underweight by more than 10% of contents, the extinguisher should be removed from service and recharged. Alternatively use ultrasonic liquid level device.			X
10	Examine headblock assembly, relief device, nutring and cylinder threads. Ensure vents are clear and replace with new 'O' ring. Examine condition and tightness of syphon and gas tubes, replace as necessary. Refit headblock assembly tighten using nutring spanner.	X	X	
11	Remove hose from CO ₂ (propellant container) and check last hydraulic test date of the cylinder, which may be date of manufacture, remove from service and fit replacement cylinder if test is due (10 years). Check propellant container for corrosion, damage. Check weigh the propellant container against the manufacturers recommended gross weight. If underweight, remove from service and fit replacement cylinder. Confirm the propellant container is the correct one for the unit.		X	
12	Unroll and check condition of discharge hose, discharge lance and propellant connecting hose (if fitted) for damage, wear, cuts etc. Replace if necessary. Inspect actuating and/or discharge mechanisms for blockage or damage, replace if necessary.		X	
13	Refit cylinder ensuring new sealing washer is located correctly, tighten both ends with spanner. Refit discharge hose assembly.		X	
14	Check safety pin for free removal. Replace pin and fit new tamper seal (in accordance with service colour code). Ensure safety pin is in position and remove the horn/hose from the valve. Check for blockages, cracks, abrasion or other damage.	X		X
15	Check wheels for free movement and ensure retaining split pins (where present) are correctly fitted, grease axles if necessary.	X	X	X
16	Fit tamper seal to CO ₂ cylinder hand wheel safety pin.		X	
17	Record service details on service label.	X	X	X

8. EXTENDED SERVICE

The responsible person should ensure that extended service be carried out at 5-year intervals for powder and foam units. The maintenance intervals given for basic service have for practical purposes a tolerance of +/- 1 month. Intervals should be taken from the date of installation or the last extended service. Intervals may be shortened on the recommendation of the service provider where inspection.

	Extended Service Procedure Water/Foam /Powder	Stored pressure	External cartridge
1	Inspect the exterior of the extinguisher for damage or significant corrosion, if found, withdraw the extinguisher from service. Examine the condition of the operating label for legibility, replace if necessary.	X	X
2	Operate the extinguisher, Ensure all pressure is released by fully discharging the extinguisher safely and environmentally.	X	X
3	Remove headcap slowly, using headcap spanner (do not use a blunt instrument), allowing any residual pressure to escape through headcap vent holes. This should be done in a suitable location.	X	X
4	Disconnect and remove the propellant container and withdraw for recharging. Disconnect discharge hose and lance.		X
5	Invert extinguisher to remove residual media (e.g. rest extinguisher on handle and rock back and forth). Dispose of in safely and environmentally.	X	X
6	Check internal condition for significant corrosion. Minor corrosion or staining should be assessed and record by the competent person.	X	X
7	Examine and discharge lance and hose. Check for damage, cuts, kinks etc. Unscrew discharge lance from trigger and inspect filter (water/foam) for damage/blockage with compressed air. Replace as appropriate.	X	X
8a	Refill with clean water to the correct level and add new foam concentrate as specified for the specific model by the manufacturer.	X	X
8b	Refill with new dry powder of the correct type and quantity. Never mix different types of powder as pressure and moisture may develop as a result of chemical reaction.	X	X
9	Inspect headcap and headblock assembly. Replace with new 'o' ring and other parts as necessary. Refit headblock assembly using nutring spanner.	X	X
10	Fit replacement propellant container ensuring correct size and weight. Ensure a new sealing washer is located before tightening. Refit propellant hose and discharge hose.		X
11	Clean extinguisher and record recharge details on service label.	X	X

9. OVERHAUL

9.1. General

Overhaul procedures should be carried out:

- To check that the extinguisher is safe to be pressurized in accordance with the relevant legislation/standards; and
- To ensure that the extinguisher is free from any deficiencies that would leave it potentially dangerous, fail to operate or not work efficiently/effectively.

9.2. CO₂ units

The maintenance supplier should arrange for the procedures given in BS EN 1802 or BS EN 1968, as appropriate, to be carried out. A new valve should be used when the extinguisher is re-assembled; under no circumstances should the original valve be refitted to the body.

WARNING: Refitting the original valve to the body can be hazardous.

NOTE: Requirements for the periodic inspection and testing of CO₂ type of mobile fire extinguishers are specified in BS EN 1802 and BS EN 1968, depending on the construction of the extinguisher body. This type of extinguisher is covered by the Pressure Systems Safety Regulations 2000.

10. RECHARGING

	Extended Service Procedure Water/Foam /Powder	Stored pressure	External cartridge
1	Inspect the exterior of the extinguisher for damage or significant corrosion, if found, withdraw the extinguisher from service. Examine the condition of the operating label for legibility, replace if necessary.	X	X
2	Operate the extinguisher, Ensure all pressure is released by fully discharging the extinguisher.	X	X
3	Remove headcap slowly, using headcap spanner (do not use a blunt instrument), allowing any residual pressure to escape through headcap vent holes. This should be done in a suitable location.	X	X
4	Disconnect and remove the propellant container and withdraw for recharging. Disconnect discharge hose and lance.	X	X
5	Invert extinguisher to remove residual media (e.g. rest extinguisher on handle and rock back and forth). Dispose of in an environmental way.	X	X
6	Check internal condition for significant corrosion. Minor corrosion or staining should be assessed and record by the competent person.	X	X
7	Examine and discharge lance and hose with compressed air. Check for damage, cuts, kinks etc. Unscrew discharge lance from trigger and inspect filter (water/foam) for damage/blockage. Replace as appropriate.	X	X
8	Refill with clean water to the correct level and add foam concentrate as specified for the specific model by the manufacturer.	X	

9	Refill with new dry powder of the correct type and quantity. Never mix different types of powder as pressure and moisture may develop as a result of chemical reaction.		X
10	Inspect headcap and headblock assembly. Replace with new 'o' ring and other parts as necessary. Refit headblock assembly using nutring spanner.	X	X
11	Fit replacement propellant container ensuring correct size and weight. Ensure a new sealing washer is located before tightening. Refit propellant hose and discharge hose.	X	X
12	Clean extinguisher and record recharge details on service label.	X	X

Recharge of CO₂ mobile extinguishers

Due to the specialised equipment and high pressures involved in the recharging of CO₂ extinguishers, only specially trained competent persons should carry out this procedure using special high-pressure liquid CO₂ transfer pumping equipment.

Always check date of last hydraulic pressure test and do not recharge any extinguisher that requires a hydraulic pressure test.

11. LABELLING

11.1. General

Any labelling that is applied to the mobile fire extinguisher should not obscure any marking required by BS EN 1866.

11.2. Maintenance label

The maintenance record should be indelibly marked on a durable label that is fixed firmly to the mobile fire extinguisher without obscuring any of the manufacturer's markings and instructions. Where there is no more space on the maintenance label and a new label is fixed, the date of commissioning should be marked on the new label.

The following information should be given on the maintenance label.

- Type of action (commissioning or basic service).
- Name and address of the maintenance supplier.
- A mark clearly identifying the service provider.
- The date (year and month) of the action in a) above.
- The date (year and month) of commissioning.

This information should be readable without any special equipment.

Any additional information for the benefit of service providers may be shown in a more compact form, such as bar codes.

NOTE: The information on the maintenance label of each mobile fire extinguisher may additionally be entered into a central record. In this way one aspect of the important information on fire prevention can be kept readily available.

11.3. Provision of a written report

The service provider should advise the responsible person in a written report:

- a) Of any mobile fire extinguishers that have been condemned or are missing.
- b) Of any permanent replacement mobile extinguishers required to replace those reported in a).
- c) Of any additional mobile fire extinguishers required to ensure that the level of cover at the premises is appropriate for the risks present.
- d) That any replacement or additional mobile fire extinguishers reported in b) or c) should be provided as soon as possible.
- e) The responsible person's obligation under fire legislation to provide an appropriate level of fire-fighting equipment at all times.

11.4. Maintenance documentation

A certificate of inspection should be issued in all cases.

- a) The name, postal address and telephone number of the maintenance company.
- b) The date of the maintenance.
- c) Identification of the service provider.
- d) A list of all mobile fire extinguishers included in the maintenance programme; including all non conforming equipment, and recommendations for appropriate corrective action or reference to where this information can be found.
- e) The signature of the responsible person, which should be obtained upon completion of the service visit and prior to the service provider leaving the premises, or a record of the reason why this is not possible (e.g. unmanned sites).

12. EVALUATION OF FITNESS FOR SERVICE OF EXTINGUISHERS AND ACTIONS TO BE TAKEN

12.1. General

Account should be taken of information contained within safety/advisory notices and product recalls issued by regulatory/trade bodies and product manufacturers before evaluating fitness for continued service of an extinguisher.

Defective extinguishers should be placed in one of the following categories: "condemned" or "corrective action required".

12.2. Extinguishers which are to be condemned

12.2.1. General

WARNING: There might be safety issues relating to the extinguisher under evaluation.

Any mobile extinguisher with a major defect or defects which make it unsafe for use, and which cannot be rectified during maintenance, should immediately be made safe, removed from its designated place, and marked "CONDEMNED" together with the reason for this assessment. The responsible person should be advised in the written report (see 11.3) that a permanent replacement is needed as soon as possible. The competent person who carries out the evaluation should have training and experience with the particular type of extinguisher.

NOTE 1: Evaluation of whether the defect, damage, wear or corrosion an extinguisher has undergone been subjected to make it unsafe for use or unfit for service depends on the judgement of the competent person.

NOTE 2: Non-exhaustive lists of examples of the conditions that might affect the function or safety of an extinguisher are given in 12.2.2 and 12.2.3.

12.2.2. Conditions indicating that an extinguisher is unsafe for use

WARNING: The most serious hazard presented by a defective extinguisher is the sudden uncontrolled release of pressure or ejection of parts.

The extinguisher should be evaluated for any conditions which indicate that it might be unsafe for use, including but not limited to:

- a) Corrosion, wear, damage to threads of any pressure -retaining part.
- b) Corrosion of welds.
- c) Extensive general corrosion or severe pitting.
- d) Dents, or gouges or any other damage in the body or.
- e) Fire damage to the body, or body fittings.
- f) For metal-bodied extinguishers:

1);

2) extensive general corrosion or pitting of the body material;

12.2.3. Conditions, if not rectified, indicating that an extinguisher is unsafe for use

If any of the following conditions are present, they should be either rectified by the replacement of the appropriate components, or the extinguisher condemned:

- a) Overpainting or application of any other coating, film or colouring to any plastics component that could be subject to pressure.
- b) UV degradation of plastics components.
- c) Illegible marking or operating instructions.
- d) Operating instructions not in English. Multiple languages may be present for operating instructions but one of them should be English.
- e) Any wear or damage to the propellant container, hose and fittings.

12.3. Extinguishers which require corrective action

When undertaking maintenance in a particular location, the competent person should ensure that they have available the number and types of spare parts that might be required to service the extinguishers involved (see Clause 9). If the required spare parts are not available for any of these extinguishers, the maintenance should be interrupted and the extinguisher made safe, removed from its designated place and marked **“WARNING: CORRECTIVE ACTION REQUIRED”**, together with the reason for this assessment; and the competent person should advise the responsible person, in the written report (see 11.3), that the maintenance has been interrupted. The competent person should return to the site when spare parts become available and complete the maintenance, or, if the parts prove to be unobtainable, should mark the extinguisher **“CONDEMNED”** together with the reason for this assessment, and should advise the responsible person, in the written report (see 11.3), that the extinguisher has been condemned and that it should be replaced by an extinguisher for which this standard provides a maintenance schedule.

Where the maintenance procedures recommended in guide are either unable to be completed or refused by the owner or responsible person, the extinguisher should be marked **“CORRECTIVE ACTION REQUIRED”**, together with the reason for this action; and the competent person should advise the responsible person, in the written report (see 11.3), that the maintenance has not been completed in accordance with this standard. Any documentation referring to this extinguisher should make it clear that the necessary maintenance has not been carried out and that the provision of fire cover might be below what is required.

DISCLAIMER

The information set out in this document is believed to be correct in the light of information currently available but it is not guaranteed and neither the Fire Industry Association nor its officers can accept any responsibility in respect of the contents or any events arising from use of the information contained within this document.



Fire Industry Association

Tudor House, Kingsway Business Park, Oldfield Road, Hampton, Middlesex TW12 2HD

Tel: +44 (0)20 3166 5002 • www.fia.uk.com