

lifeline[®]

Fire & Safety Systems Ltd.

zero[®]

360

FITTING INSTRUCTIONS

PLEASE READ CAREFULLY BEFORE ATTEMPTING TO INSTALL YOUR SYSTEM

IMPORTANT NOTE

The purpose of any vehicle fire protection system is to provide a time envelope in which to control the fire in order to accomplish evacuation of the occupants. Ideally the fire will be totally extinguished, but this cannot be guaranteed. Holding back the intensity of an engine, or a cockpit fire, to enable the occupants to evacuate, or allow outside assistance to be given, is the main purpose.

FITTING INSTRUCTIONS

Unpack the kit carefully and check that all components are complete and undamaged. Lay out the components so that each may be identified.

See page 12 for kit component listings.

Remove the extinguisher from its mounting brackets by undoing the over-centre clips. Decide upon the best position for the extinguisher to be mounted bearing in mind that the extinguisher label showing its contents, etc should be clearly visible. Securely mount the brackets for the extinguisher and remote charge unit and replace the system. Brackets should be bolted to the vehicle. The extinguisher cylinder should be mounted within the safety structure and in a transverse orientation.

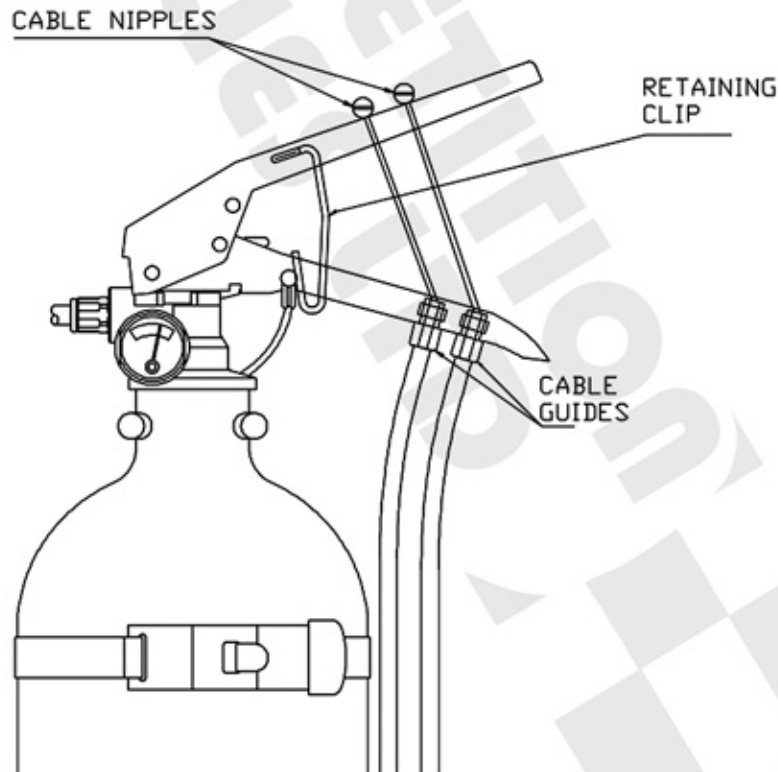
Extinguisher systems should always be located away from sources of high temperature i.e. exhausts.

Mechanical Systems

Mechanical systems are operated using pull cables. Each system is supplied with two cables, one being 6ft in length, and depending on system specification either another 6ft cable or a 12ft length cable. Decide upon the best position for the pull cables to be mounted, bearing in mind that the cable mounted in the cockpit should be accessible to the driver and/or co-driver when seated in the normal driving position, and wearing fully fastened seat belts. The external pull cable is normally mounted on the front scuttle of a saloon car (below windscreen) adjacent to the circuit breaker, or by the roll hoop on a single seater or open top vehicle. When installing the pull cable on a saloon car ensure that you leave sufficient clearance for the bonnet to fully open.

The pull cables should be routed so that there are no sharp bends or S shapes in the cable thus ensuring easy operation of the cables. The end of each cable should be passed through the levers of the extinguisher head and secured using the cable clamps attached to the end of the cables. It is advisable to leave a small amount of slack in the cable to prevent accidental firing of the extinguisher. It is recommended that the cables are periodically lubricated to prevent seizure and checked for smooth operation. Please remember to disconnect cables at the discharge head when carrying out these maintenance operations and to reconnect afterwards. The large 'E' decal must be clearly displayed next to the pull release.

Mechanical Discharge Head Detail



NOZZLES

It is important that the correct nozzles supplied with the system are used. The nozzles will produce a flat 110° (Cockpit) spray pattern. The nozzles must be positioned so that the slot through the center axis of the outlet side of the nozzles is horizontal. See diagram below.

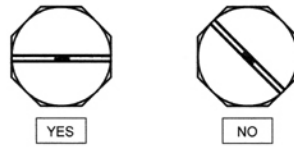


FIGURE 1 – Engine/Cockpit Nozzle Orientation

Lifeline nozzles are designed so that they can be mounted through a bulkhead or to a specially made bracket. Nozzles should be mechanically secured and not be simply supported by their own pipe work.

Cockpit Nozzle Location for Closed Cars

Two nozzles must be mounted in the cockpit area. We recommend that these are mounted so that they spray horizontally in to the foot well area of both the driver and passenger compartment. See figure 2.

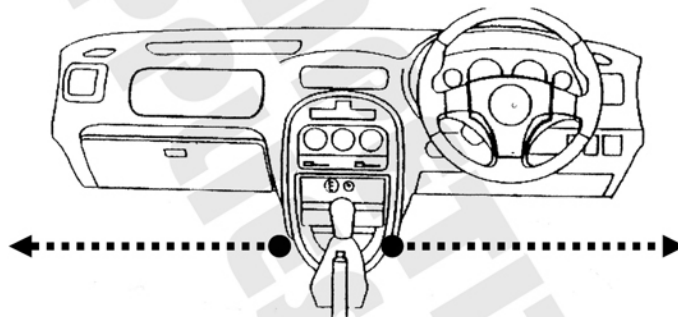
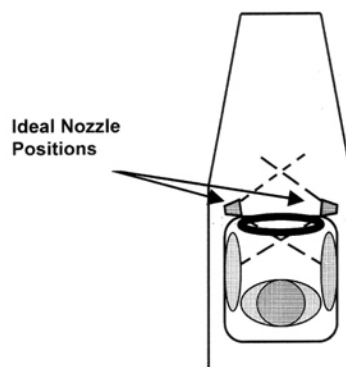


FIGURE 2

ARROWS DENOTE NOZZLE LOCATION AND DIRECTION
ENSURE THE NOZZLES ARE ORIENTATED CORRECTLY

Cockpit Nozzle Location for open cars

Both nozzles should be mounted in the cockpit area of an open car. The nozzle should be aimed at the driver's midriff, in the normally seated position. Special care should be taken to ensure that the nozzle will not spray into the driver's face.



Engine Nozzle Location for both Open and Closed Cars.

Two nozzles must be mounted in the engine compartment. These nozzles spray all around the engine, ensuring full coverage. We recommend that the nozzles are mounted diagonally apart and at least 200mm below the bonnet shut line. See figure 3.

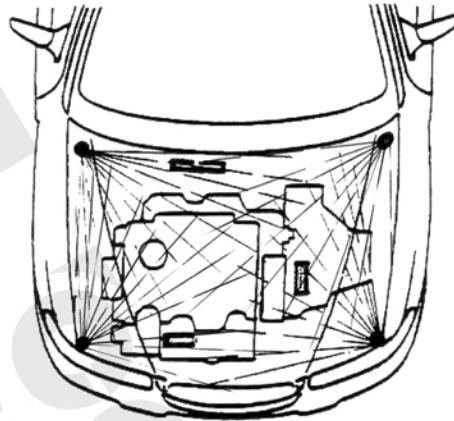


FIGURE 3
SUGGESTED NOZZLE LOCATIONS
ENSURE NOZZLES ARE ORIENTATED AS PER FIGURE 1

3Kg Systems

These systems are supplied with additional nozzles. These can be positioned at the installer's choice of location, either to provide suppression at other risk areas such as fuel cell or high pressure hydraulic systems, or to supplement the nozzles in the engine compartment or cockpit.

Tubing

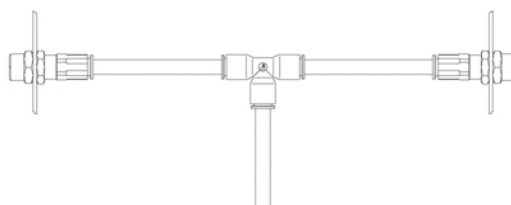
Each extinguisher kit is supplied with a roll of plastic coated aluminium tube and a roll of protective heat resistant over braid. We strongly recommend that you use this over braid as it will provide protection up to 450°C. The system has been designed and homologated to use this type of tube. Under no circumstances should the tubing be changed for another type.

Tube connections

To enable a simple installation, the extinguisher and nozzles use push-in fittings for the tube. To attach the tube to the fitting, ensure that the end of the tube is cut at 90° and that the outside diameter has retained its circular shape. Cutting tool P/N: LL991-101-001 is available from Lifeline. Insert the tube into the fitting, pushing firmly until it clicks. You should then be unable to pull the tubing back out of the fitting.

To remove the tubing, push the tube into the fitting and pull the black collar on the fitting in the same direction. Once this is done, pull the tube from the fitting.

Correct orientation of the T piece fitting (where supplied) is critical to the performance of your system. An example is shown here with the feed to the centre leg, and the outlet legs supplying the nozzles.



MAINTENANCE

Lifeline has taken the greatest possible care in designing and manufacturing your fire suppression system. To ensure that you get the best possible performance from your Zero 360 system, the following checks and maintenance procedures should be carried out before the vehicle is used.

- Remote Charge Systems - Check the weight of the cylinder and compare with the weight written on the extinguisher label. If the actual weight is more than 5% less than the weight on the label return the extinguisher for checking.
- Pressurised Systems - Regularly check the pressure gauge indication is in the green sector.
- Check the integrity of the pipework and fittings
- Check the Zero 360 nozzles for no obstructions and foreign bodies
- Check the cylinder for signs of damage

Your Zero 360 system should be serviced every two years and system cylinders have a total service life of 10 years. A service due date is marked on the extinguisher label. It is your responsibility to ensure that the service is carried out at the correct intervals. Servicing of the extinguisher **MUST** only be carried out by Lifeline or one of its official agents. For remote charge systems you will need to return the cylinder together with the remote charge cartridge unit to be serviced.

If your Zero 360 system is discharged, it must be returned to Lifeline or one of its agents for refilling. A full list of Lifeline agents can be viewed on www.lifeline-fire.co.uk.

Your Zero 360 system will be rejected from scrutineering if:

- The gauge reads in the Red sectors
- The tamper proof labels are not intact
- Non genuine Lifeline parts have been used
- The contents are below the specified weight
- The extinguisher label is worn or illegible
- The extinguisher is not within service date
- The system is in poor condition.

BRIEF TECHNICAL SPECIFICATION OF ZERO 360

USAGE	Racing, Touring and Rally cars - all groups
CONTENTS	3M™ Novec™ 1230 Fire Protection Fluid
DISCHARGE AREAS	Engine compartment and drivers compartment
DISCHARGE TYPE	The product is stored in a container and discharged through spray nozzles, as a liquid turning to gas on contact with fire.
COMPOSITION	Dodecafluoro-2-methylpentan-3-one, (CF ₃ CF ₂ C(O)CF(CF ₃) ₂)
O D P	(Ozone Depletion Potential) NONE
OPERATING TEMPERATURE	- 30 - + 60 °C
FREEZING POINT	- 108 °C
CRITICAL TEMPERATURE	168.7 °C
PHYSIOLOGICAL PROPERTIES	No Observed Adverse Effect Level and Lowest Observed Adverse Effect Level for cardiac sensitisation (halocarbons) and oxygen depletion (inert gas).