



FITTING INSTRUCTIONS

PLEASE READ CAREFULLY BEFORE ATTEMPTING TO INSTALL YOUR SYSTEM

Thank you for purchasing an FIA approved Zero 360 Lifeline fire system. It is important that you read these instructions carefully before attempting to install your extinguisher system.

The system should in no way be modified or tampered with as by doing so you could seriously affect its performance. If you need to replace parts, only genuine Lifeline components should be used.

Should you experience any difficulties installing your system, please do not hesitate to contact Lifeline at:

Lifeline Fire & Safety Systems Ltd
Burnsall Road
Coventry CV5 6BU
Tel: 024 7671 2999 Fax: 024 7672 2998
Website: www.lifeline-fire.co.uk
Email: sales@lifeline-fire.co.uk

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.

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FITTING INSTRUCTIONS - ZERO 360

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

See page 9 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 and piston location indicator 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 and within the safety structure where applicable.

Electrical Systems

Mount the power pack so that it is clearly visible. Mount the switches to the vehicle. The cockpit switch should then be mounted so that it is within easy reach of the driver and/or co-driver when sitting in the normal position and wearing fully fastened seat belts.

Wiring of System

See wiring diagrams on page 5.

All Lifeline Zero 360 electrical extinguisher kits have a separate power pack unit to provide the current needed to operate the system. The power pack should be wired independently from the vehicle's electrics as failure to do this may result in the actuation of the system due to electrical interference from the vehicle's power source.

Once the system has been wired in accordance with the wiring diagram shown on page 2, a test check should be carried out to ensure that the system will fire properly. Before you start the check procedure, ensure that the bottle and the power pack are connected.

On top of the power pack is a three position switch. This provides checking facilities for the battery and wiring. If the switch is pulled against its spring towards the amber LED, the LED will light if there is sufficient current in the battery. **IF THE AMBER LED DOES NOT LIGHT, OR IMMEDIATELY GOES OUT, IT SHOULD BE REPLACED. THE BATTERY SHOULD BE OF THE MAGANESE/ALKALINE LONG LIFE TYPE ONLY, TYPE PP3.**

With the switch in the centre ('system isolated') position, and the centre position only, the wiring of the circuit can be checked. With the extinguisher connected, press one of the firing buttons and the green LED should light. If it does not there is a break in the circuit. If the green LED lights before the switch is pressed, there is a short in the circuit and the system is permanently 'live'. If this occurs **DO NOT PUT THE SWITCH INTO THE 'SYSTEM ARMED' POSITION, OR YOU WILL DISCHARGE THE SYSTEM.**

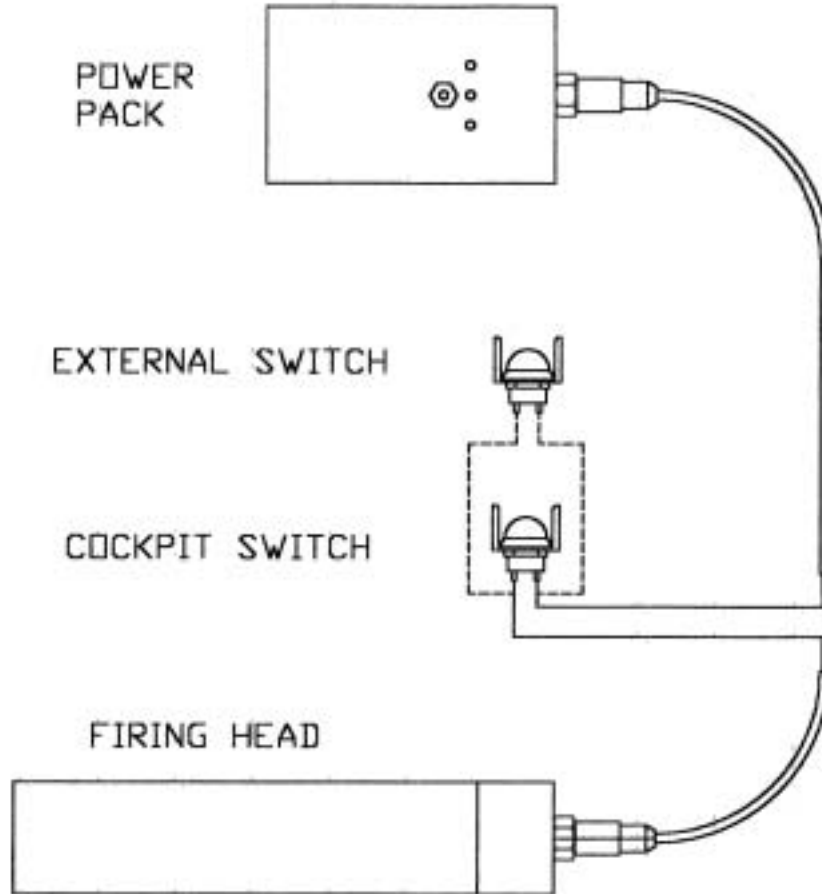
If for any reason the green LED does not illuminate when the system is tested, check the wiring against the wiring diagram shown on page 2.

If the problem persists, consult Lifeline.

To arm the system place the switch in to the 'SYSTEM ARMED' position. The red LED will illuminate to indicate the system is armed.

To prolong battery life and prevent accidental activation, it is recommended that the power pack switch be in the 'SYSTEM ISOLATED' position and the plug disconnected when the vehicle is not being used.

Wiring Diagram for Zero 360 Extinguisher



PLEASE NOTE:
THE SYSTEM HAS NO POLARITY

NOZZLES

It is important that the correct nozzles supplied with the system are used. The nozzles will produce a flat 110° 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.

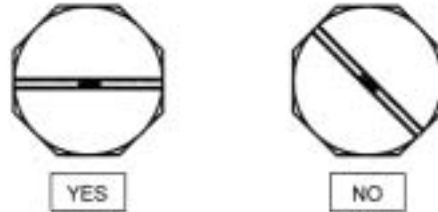


FIGURE 1

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 footwell area of both the driver and passenger compartment. See figure 2.

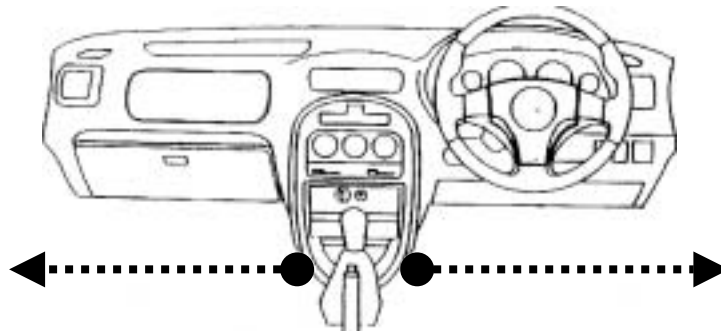


FIGURE 2

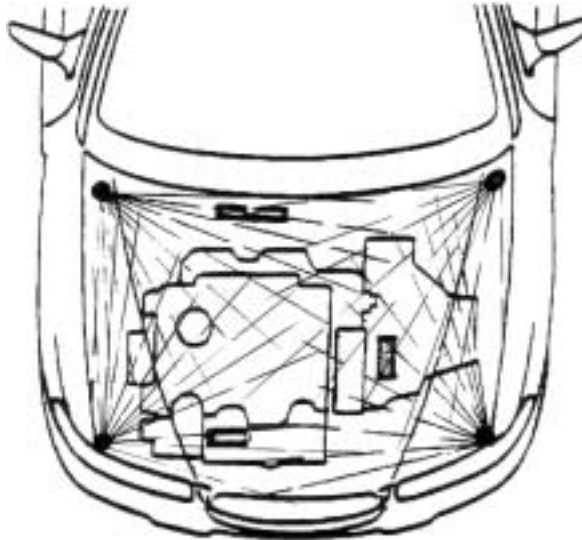
ARROWS DENOTE NOZZLE LOCATION AND DIRECTION
ENSURE THE NOZZLES ARE ORIENTATED CORRECTLY

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.

Four 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 approximately 200mm below the bonnet shut line. See figure 3.



● FIGURE 3
DENOTES NOZZLE LOCATION
ENSURE NOZZLES ARE ORIENTATED AS PER FIGURE 1

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 pipework.

Tubing

Each extinguisher kit is supplied with a roll of plastic coated aluminium tube, and a roll of protective heat resistant overbraid. We strongly recommend that you use this overbraid as it will protect the tube to temperatures up to 450⁰C. 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 90⁰ and that the outside diameter has retained its circular shape. 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.

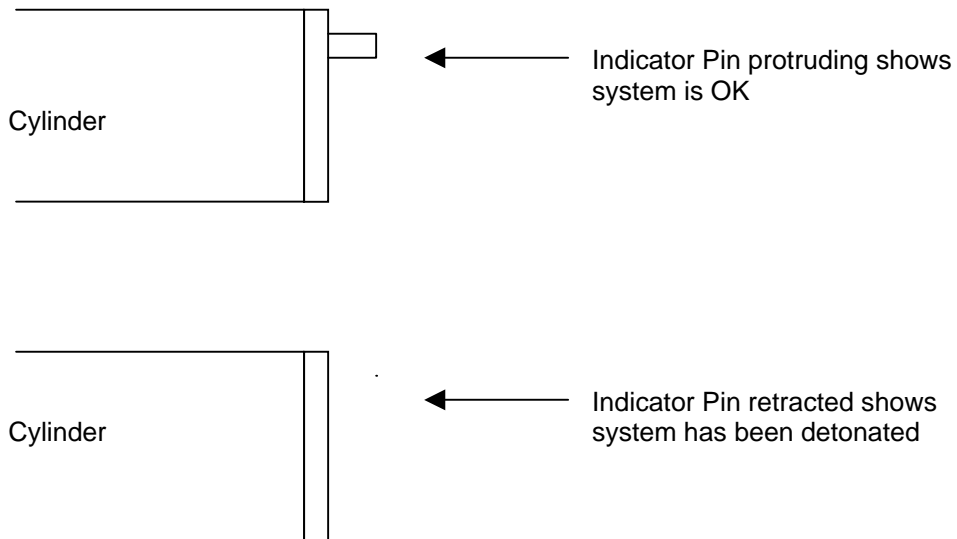
To remove the tubing, push the tube into the fitting and pull the black collar on the fitting in the same direction. Once this is done, pull the tube from the fitting.

INDICATION THAT SYSTEM HAS BEEN ACTIVATED

As the Zero 360 system is normally a non-pressurised system it is not possible to use a pressure gauge as an indication of the integrity of the system. In order to show that the system is full a mechanical indicator has been incorporated. When the system is full the indicator will stand proud of the end cap. Once the system has been detonated this will spring back into the end cap and cannot be seen.

To check the integrity of the system we advise the following: -

1. Check the indicator is protruding from the end cap.
2. Weigh the cylinder and compare the actual weight to that stated on the cylinder label. If the weight is greater than 5% less than the weight indicated on the label the extinguisher should be taken out of service for repair.



KIT CONTENTS

- 1 x Extinguisher cylinder c/w 2 way outlet, remote charge & mounting bracket
- 1 x Power Pack
- 2 x Wiring Loom
- 2 x Firing Switches
- 6 x Meters of 8mm Tubing
- 6 x Meters of Heat Proof Protective Over Braid
- 4 x 8mm T Connectors
- 6 x Flat Spray Discharge Outlets
- 1 x Pack Pipe Clips
- 1 x Decal Pack
- 1 x Fitting Manual

TECHNICAL SPECIFICATION OF ZERO 360

USAGE	Racing and Rally cars - all groups
CONTENTS	Liquid Gas HFC-236fa Hexafluoropropane
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 at exit.
COMPOSITION	1,1,1,3,3,3 – Hexafluoropropane (HFC 236 fa)
O D P	(Ozone Depletion Potential) NONE
OPERATING TEMPERATURE	- 30 - + 60 degrees Centigrade
FREEZING POINT	- 103 degrees Centigrade
CRITICAL TEMPERATURE	124:9 degrees Centigrade
PHYSIOLOGICAL PROPERTIES	Zero 360 poses no acute or chronic hazard when it is handled in accordance with Lifeline's recommendations and when the exposure is maintained below the recommended limits. The Lifeline acceptable exposure limit (AEL) is 1,000 PPM (8- or 12 – hour time weighted average)

A copy of the Zero 360 material safety data sheet can be obtained from Lifeline upon written request.

MAINTENANCE

To ensure that you get the best possible performance from your Zero 360 fire system, the following checks and maintenance procedures should be carried out before the vehicle is used.

- Check the piston indicator is protruding from the end cap (inlet side)
- 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.
- Check the integrity of the pipework and fittings
- Check the Zero 360 nozzles for obstruction and foreign bodies
- Check the cylinder for signs of damage

Your Zero 360 system should be serviced every two 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. You will need to return the cylinder along with the remote charge to be serviced.

If your Zero 360 system is discharged, it must be returned to Lifeline or one of its agents for refilling.

Your Zero 360 system will be rejected from scrutineering if:

- The piston indicator does not protrude from the end cap
- 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 damaged
- The extinguisher is not within service date
- The system is in poor condition.

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