

Technical Bulletin 055 –

Zero 360 Sprint Car – Installation Guide

Rev 3 21/01/2024

The Lifeline Zero 360 Sprint Car is an automatic fire suppression system with manual back up designed specifically for use in Sprint Car racing.

This system, like any onboard fire suppression system is designed to delay the development of the fire and give the driver more time to exit the car and for rescue teams to arrive. This system is not designed to put out the fire and prevent the car from burning.

The information below provides a guide to installing the system in a typical Sprint Car. Always consult your series and class safety regulations to ensure that your installation will be in compliance. If you feel that your installation cannot follow these guidelines, please contact Lifeline Technical for further guidance.

*Fully read and understand the instructions below before starting installation.
DO NOT remove the safety pin until the pull cable is fitted to the extinguisher!*

Other References	
TB001	System Care, maintenance and Service
TB003	Novac™ 1230 MSDS
TB049	Zero 360 SFI – Kit Content and Spares

Section 1 – Cylinder Mounting and Position

The system is designed to be installed on the left side of the cockpit, turned so that the pressure gauge points vertically upwards. The head of the system must point towards the front of the car. This ensures that the automatic nozzle is correctly angled towards the centre of the cockpit.

It is recommended to use Lifeline brackets to secure the cylinder to the chassis. Two brackets must be used. Bolts on Lifeline brackets must be torqued to **7 lb-ft**. The rear bracket should be positioned at least 1.5" - 3" from the end of the cylinder. The front bracket should be positioned forward of the service and the SFI certification labels.

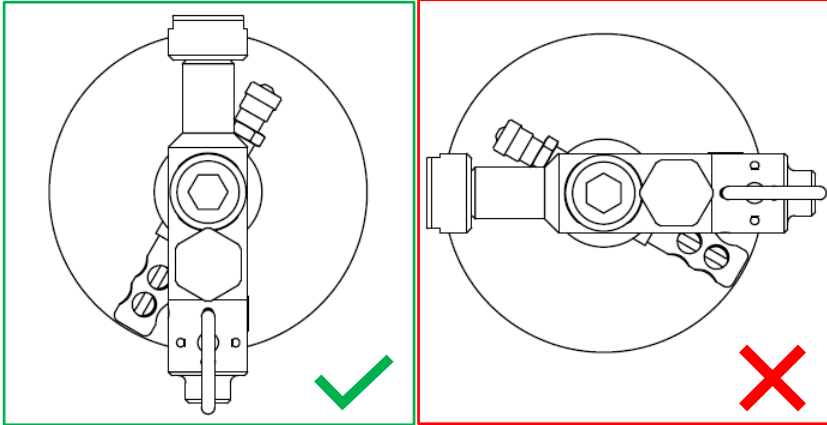


Figure 1 Pressure gauge should face upwards (left), not horizontally (right)

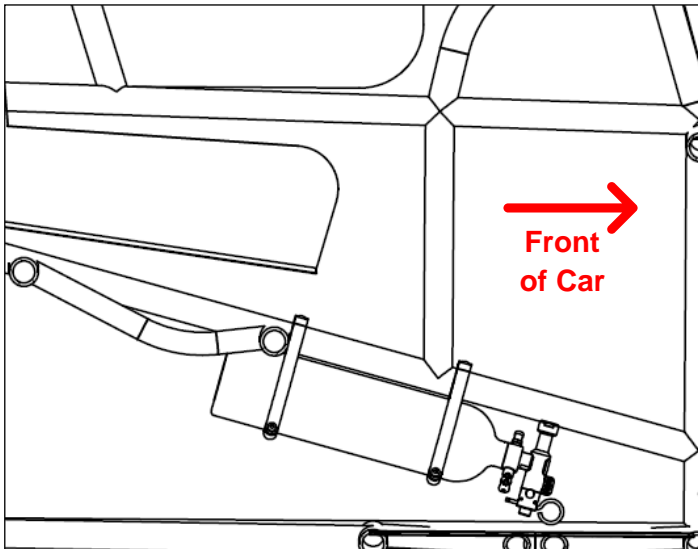


Figure 2 Suggested Position on left side of cockpit

Section 2 – Mechanical Pull Cable

DO NOT REMOVE THE SAFETY PIN until the pull cable has been fitted to the extinguisher. Either the pull cable or safety pin must be in place or the extinguisher will fire.

The system is supplied with a Bowden pull cable, this must be installed in a position reachable by the driver seated with belts on.

Special care must be taken with routing to ensure no sharp bends or S-bends are introduced to the cable. Once the routing is decided upon, trial fit the cable without connecting to the extinguisher to test for smooth and easy operation. It is recommended that ½" of slack is left to prevent accidental firing.

To shorten the cable, remove the inner cable from the outer and cut each to length with wire cutters. Ensure that the end is free from burrs and that the cable still passes smoothly through the head, sand or file the end of the cable as required.

To fit the cable to the extinguisher, pass the inner cable through the firing head through the small hole as shown. The cable should pass through the head with ½" extending out of the head. Make sure the outer cable is secured in the counter bore by the two grub screws. It should be secure but do not overtighten. After the cable is correctly fitted the safety pin can be removed to arm the system.

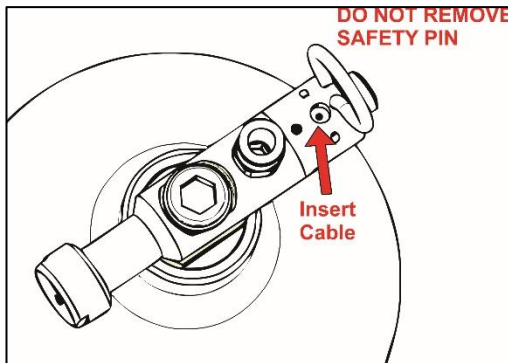


Figure 4 - Location of Pull Cable hole

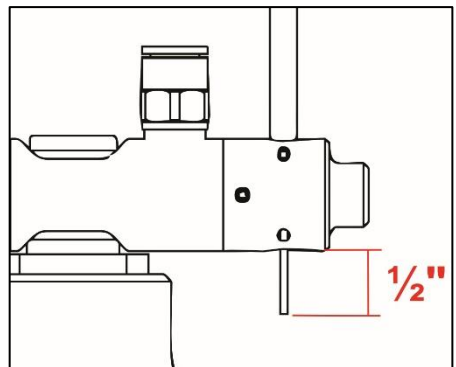


Figure 3 - Cable should extend 1/2" out of the head

Section 3 – Remote Nozzle Installation

This is only required if a remote nozzle SFI 17.3 kit has been bought.

Mechanical Nozzle

The mechanical nozzle should be within in the cockpit in the same location as where the bottle would be if you were installing the standard variation.

Cut the tube to pre-measured length using a dedicated tube cutter, ensuring that there are no sharp edges and that the tube remains circular. Do not use a hack saw or similar tool; this will leave a jagged edge which will damage seals in the connectors.

Form the tube using a pipe bender taking care not to create a kink which could restrict flow. Minimum bend radius of the tube is shown in the table; Lifeline recommend doubling this figure, where possible, to avoid kinking. Use as few bends as possible for smooth flow of suppressant and best performance. Secure the tube using P’clips.

Tube Material	Minimum Bend Radius
Aluminium	1" (25mm) when using pipe bending tool
Steel	1" (25mm) when using pipe bending tool

When using Steel Tubing, a circular groove must be cut into the tube using a pipe cutter. It must be 0.276" (7mm) from the end of the tube and about 0.02" (0.5mm) deep as in the image. When correctly cut, it should not be possible to pull the nozzle or connector off the tube and it should not be loose on the tube.



Figure 5 - Groove cut in tube for Push Fittings

Automatic Nozzle

The Automatic nozzle should be within the cockpit angled at the centre of the cockpit location as where the bottle would be if you were installing the standard variation.

The braided hose connected to the cylinder is pressurised at all times. The end fittings **MUST NOT BE LOOSENED.** This may cause the system to discharge or lose pressure. Only adjust the jam nut on the thermostat.

Route the hose to the required location taking care not to create a kink which could restrict flow. Minimum bend radius of the tube is shown below; Lifeline recommend doubling this figure, where possible, to avoid kinking. **Use as few bends as possible for smooth flow of suppressant and best performance.** Secure the tube using P-clips

Minimum Bend Radius

4" (100mm)

Use the jam nut on the bulkhead fitting behind the thermostat to rigidly mount the nozzle to a bulkhead or bracket. Do **NOT** loosen any other nut or fitting on the system. **The nozzle must not be supported by the hose alone.**

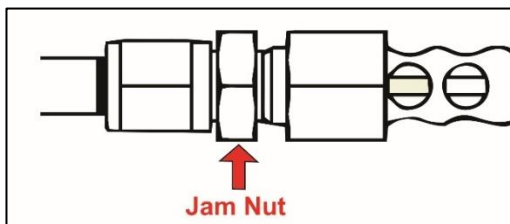


Figure 6 - Only adjust the jam nut as indicated. Do not loosen any other fitting or nut on the system

Section 4 – System Checking and Maintenance

Item	Procedure
Pressure Gauge	Check that the pressure gauge is in the green zone, pressure in cylinders can vary with temperature due to the expansion and contraction of the suppressant; this is normal.
Pull Cable	Leaving the safety pin in , check movement of the cables by pulling the T-handle until slack is taken up and then push the T-handle fully back into its housing. If a restriction is felt that could be considered detrimental to the operation of the extinguisher, check cable routing and lubricate the cable until movement is smooth.
Servicing	The extinguisher must be returned to a Lifeline service agent to be serviced every two years. The date of next due service will be indicated on the cylinder label. Every system has a maximum life of 10 years. The extinguisher must only be refilled by a Lifeline service agent. When removing the extinguisher from the car, ensure the safety pin is fitted before removing the pull cable.
Storage	Fire extinguishers are delicate pressure vessels that should be treated with respect when storing and handling. Do not store above 110°F

System Serial Number	
Date of Manufacture	
Service 1 Date	
Service 2 Date	
Service 3 Date	
Service 4 Date	
Service 5 Date	
Service 6 Date	