



DESIGN

The Mill House, Packington Hayes,
Nr. Lichfield, Staffordshire WS14 9PN. UK
Tel: 01543 434 580 Fax: 01543 434 581
E-mail: sales@spa-uk.co.uk
Web Site: www.spa-uk.co.uk

Thank you for purchasing an SPA Extreme 3lb system

Thank you for purchasing a SPA Extreme system. It is important that you read the following instructions carefully before attempting to install your fire suppression system.

The performance of this system could be affected if it is in anyway modified or tampered with may make void its homologation. Please ensure that should any parts need to be replaced; only genuine SPA Extreme components are used.

Should you require any assistance, please do not hesitate in contacting SPA Design on 01543 434 580 or SPA Technique on 317-271-7941.

IMPORTANT NOTE

The purpose of this along with any other vehicle fire suppression system is to provide sufficient time in which to control the fire to enable the occupants to leave the vehicle. In ideal conditions, the fire will be extinguished completely but this can not be guaranteed. The main purpose is to curb the intensity of either an engine or cockpit fire to provide the means for the occupants to leave the vehicle or for outside assistance to be given.

Table of Contents

Page 3	System contents
Page 4	Fitting instructions
Page 5-6	Suggested nozzle location
Page 6	Nozzle orientation, maintenance & notes
Page 7	Extreme data sheet
Page 8	Wiring of electrical activation
Page 9	Electrical details

CONTENTS

SPAex SYSTEM CONTENTS LIST

SPAexM3

2 x 02-SPAT 110	retaining straps
1 x 02-SP 018	6 foot pull cable
2 x 02-SP 263	engine nozzles with 10mm fitting
1 x 02-SP 264	cockpit nozzle with 10mm fitting
2 x 02-SP 193	Y fitting 10mm
1 x 02-SP 185	bulkhead fitting 10mm
13 x 02-SP 072	10mm decabon tubing per foot (4 meters)
1 x 02-SP 017	E sticker (4")

SPAexE3

2 x 02-SPAT 110	retaining straps
2 x 02-SP 263	engine nozzles with 10mm fitting
1 x 02-SP 264	cockpit nozzle with 10mm fitting
2 x 02-SP 193	Y fitting 10mm
1 x 02-SP 185	bulkhead fitting 10mm
13 x 02-SP 072	10mm decabon tubing per foot (4 meters)
2 x 02-SP 005 H	hirschmann plug and lead
1 x 02-SP 007 H	hirschmann plug power pack
1 x 02-SP 011	internal activation button
1 x 02-SP 012	external activation button
1 x 02-SP 017	E sticker (4")
1 x 02-SP 129	E sticker (1")

Optional parts

02-SP 019	12 foot pull cable
02-SP 129	E sticker (1")
02-SP 217	hirschmann plug power pack carbon fiber (almost half the weight of the standard power pack)

FITTING INSTRUCTIONS

Unpack all parts and check components against kit list.

Decide the best position for the extinguisher – **IT IS RECOMMENDED THAT THE BOTTLE SHOULD BE MOUNTED IN THE FORE AND AFT DIRECTION IN THE VEHICLE.**

The extinguisher label, detailing contents, etc and also the pressure gauge should be visible. Mount the plinth securely to the vehicle and put the bottle back into place.

TUBING

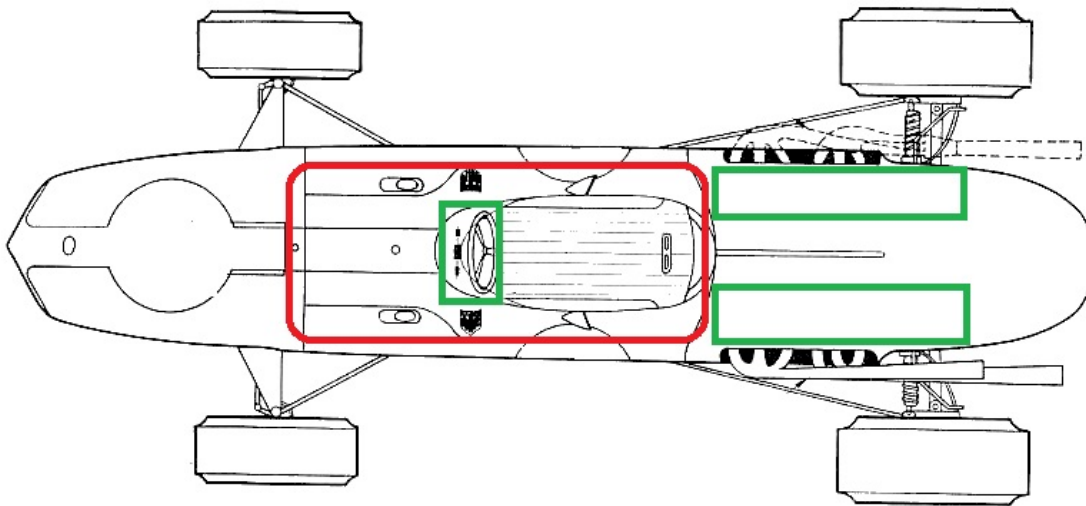
Each SPA Extreme SFI System kit is supplied with 10mm Decabon tubing that has an aluminum core. The SPA Extreme system has been designed using this type of tube.

TUBE CONNECTIONS

All fittings for tube to nozzles and bottle are of the push-in type. Insert the tube into the fitting, push firmly until it clicks. Once in you should not be able to pull it out.

To remove the tubing, push the tube into the fitting and at the same time push the collet back towards the fitting and then pull the tube from the fitting

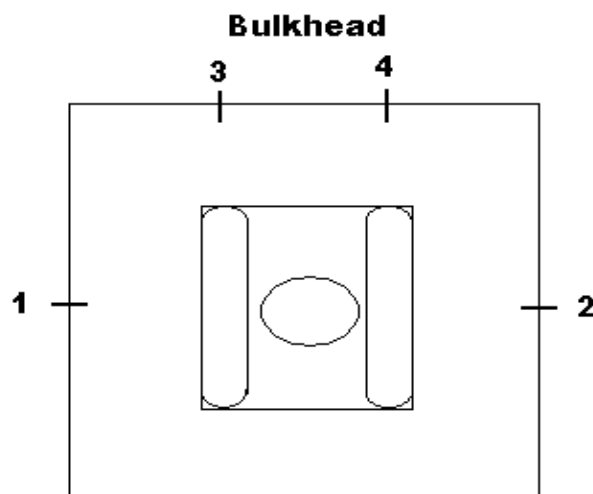
Suggestions for Cylinder and Nozzle locations



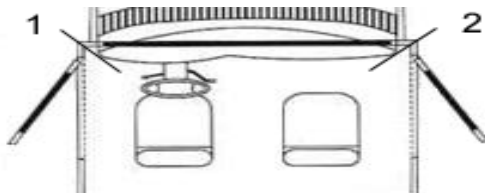
Red / rounded box for the cylinder location

Green / box for nozzle location, cockpit pit nozzle (qyt. 1) has smaller and fewer holes than engine nozzle (qyt. 2)

Suggestions for Engine bay nozzle locations



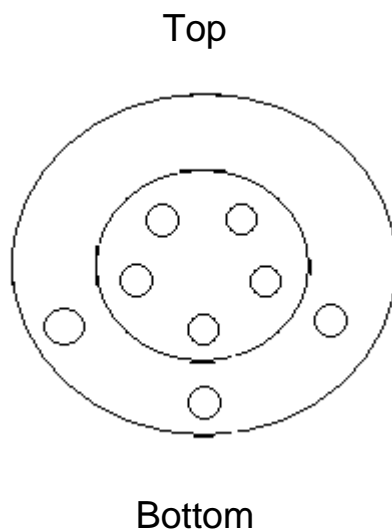
Suggestions for Cockpit nozzle locations



Be sure to have the nozzle spray the body of the driver. **Don't have it spray directly at helmet / face of driver as this may keep the driver from seeing to exit the vehicle.**

Correct nozzle orientation

Make sure nozzle is mounted in this orientation to work correctly. With the holes on the body of the nozzle facing down.



MAINTENANCE

To ensure maximum possible performance from your SPA Extreme System, the following checks and maintenance procedures should be carried out.

- Regularly check pressure gauge to ensure they are in the green sector.
- Regularly check nozzles for debris or any obstructions.
- Regularly check the integrity of the pipework and fittings.
- Regularly check the cylinder for damage.
- Your SPAExtreme system **must** be serviced every 2 years.

A service date is written on the content label on the extinguisher. It is up to you to ensure that the servicing is carried out at the correct intervals. Servicing of the system must be carried out by SPA Design or Approved Vendor

- If your system has been discharged, you must return it to SPA or dealers for servicing and refilling.

NOTES

Please ensure that you monitor the following, as you

MAY NOT pass scrutineering **IF** -

- The needle of the gauge is in the red.
- The bottle label is worn, damaged or unreadable.
- The unit is not within the service date.
- The system is in poor condition.

EXTREME DATA SHEET

COMPOSITION Dodecafluoro-2-methylpentan-3-one, (CF₃CF₂C(O)CF(CF₃)₂)

ODP (Ozone Depletion Potential) NONE

OPERATING TEMPERATURE - 40 - + 80 °C

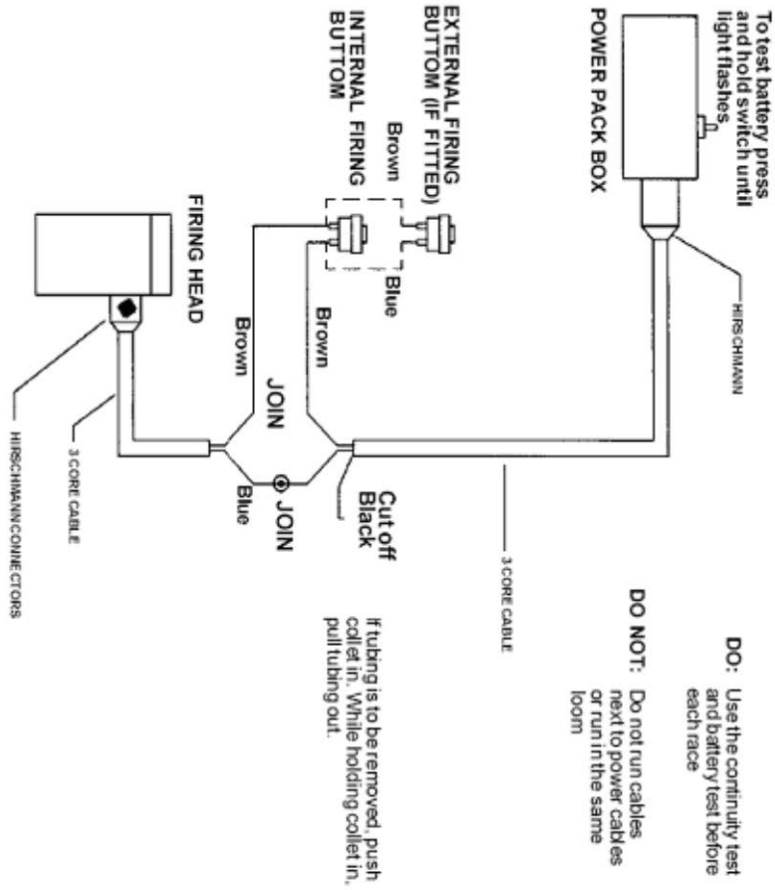
FREEZING POINT - 108 °C

CRITICAL TEMPERATURE 168.7 °C

PHYSIOLOGICAL PROPERTIES No Observed Adverse Effect Level and Lowest Observed Adverse Effect Level for cardiac sensitization (halocarbons) and oxygen depletion (Inert gas).

A copy of the 3M™ Novec™ 1230 Fire Protection Fluid material safety data sheet can be obtained from SPA Design or SPA Technique upon request.

SPA EXTREME ELECTRICAL SYSTEM WIRING SCHEMATIC SINGLE CHAMBER



SPA Extreme electrical details

The SPA Extreme system uses actuators to operate valves located within the pressurized container that contains the extinguishant. These are triggered remotely using a battery-powered power pack.

In order to guarantee reliable operation the connectors used are 1P67 and the actuators used are of a military specification with the system / battery test electronics integrated into the power pack.

The power pack electronics can test the continuity of the wiring, and also provides a high current pulse test to ensure system integrity before use. Unlike other systems, the battery test will not destroy or put an excessive drain on the battery during this critical test.

These tests are performed using a three way switch on the power pack box and should be performed before each usage of the system, since the system is only as good as the battery that powers it and the integrity of the wiring loom and its connectors.

To check the condition of the battery, push up and hold the switch on the power pack box. Every two seconds you will see a YELLOW - light flash.

If the light flashes very dimly the battery must be replaced.

IF IN DOUBT REPLACE THE BATTERY!!!!

SYSTEM CONTINUITY CHECK

To check the continuity of the wiring, ensure that the switch on the power pack box is in the SYSTEM INACTIVE position to ensure that the extinguisher is not fired.

Press the internal firing button and check that the RED light comes on, press the external firing button, and check that this also makes the RED light come on.

The external button must be positioned close to the exterior master switch.

DO ensure that the wiring does not run next to looms especially if they contain ignition or battery cables

DO ensure that any exposed connections that are likely to get water sprayed are protected.

DO NOT allow cables to run through sharp edged apertures without protection

DO NOT fix cables to any surface that is likely to see excessive temperatures

