



extreme

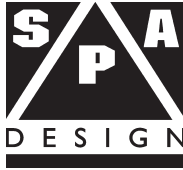
FIA HOMOLOGATION NUMBER: EX.029.09

Installation Instructions

**Please read carefully before
attempting to install
your system.**



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Thank you for purchasing a SPA Extreme system
(which has been FIA homologated EX.029.09).

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 434580.

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.



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C O N T E N T S

SPAex2.5 and SPAex3.0 **SYSTEM CONTENTS LIST**

- 2 x Bolted straps with mounting bracket.
- 1 x SP 007H - Power pack Hirschman
- 2 x SP 005H - Plug and lead
- 1 x SP 011 - Internal fire button
- 1 x SP 012 - External fire button
- 1 x SP 017 - E location sticker large
- 1 x SP 129 - E location sticker small
- 4.5 x SP 015 - 6mm decabon hose per meter
- 2.5 x SP 032 - 8mm decabon hose per meter
- 1 x SP 072 - 10mm decabon hose per meter
- 0.5 x SP 181 - 12mm decabon hose per meter
- 1 x SP 184 - 8mm – 6mm Y piece
- 1 x SP 183 - 10mm – 8mm Y piece
- 1 x SP 182 - 12mm – 10mm Y piece
- 1 x SP 185 - 10mm bulkhead fitting
- 1 x SP 186 - 10mm – 8mm reducer
- 2 x SP 187 - engine bay nozzles
- 2 x SP 188 - cockpit nozzles

C O N T E N T S

SPAex4.0 SYSTEM CONTENTS LIST

- 2 x Bolted straps with mounting bracket.
- 1 x SP 007H - Power pack Hirschman
- 2 x SP 005H - Plug and lead
- 1 x SP 011 - Internal fire button
- 1 x SP 012 - External fire button
- 1 x SP 017 - E location sticker large
- 1 x SP 129 - E location sticker small
- 4.5 x SP 015 - 6mm decabon hose per meter
- 4.5 x SP 032 - 8mm decabon hose per meter
- 3 x SP 072 - 10mm decabon hose per meter
- 0.5 x SP 181 - 12mm decabon hose per meter
- 1 x SP 184 - 8mm – 6mm Y piece connector
- 1 x SP 182 - 12mm – 10mm Y piece connector
- 2 x SP 183 - 10mm – 8mm Y piece connector
- 1 x SP 193 - 10 mm Y - Piece connector
- 1 x SP 185 - 10mm bulkhead fitting
- 1 x SP 186 - 10mm – 8mm reducer
- 4 x SP 187 - engine bay nozzles
- 2 x SP 188 - cockpit nozzles

ELECTRICAL FITTING INSTRUCTIONS

Unpack all parts and check components against 'kit list'.

- Unpack all parts and check components against kit list provided on page 3.
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.
- Mount the power pack in a clearly visible position.
- Switch with red plastic shroud to be fitted in the cockpit so that it is in easy reach of both the driver and/or co-driver when sitting in the normal driving position and wearing fully fastened seatbelts.
- The second switch with flexible red membrane (waterproof) is to be fitted to the outside of the vehicle, close to the exterior master switch (for activation by the Marshals).
- Once the system has been wired as per wiring diagrams (refer to Figure 4), the following tests should be carried out to check the system is fitted correctly and will operate when required. (See Page 5)

SPA DESIGN EXTREME ELECTRICAL 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.

ENGINE NOZZLE LOCATION FOR ALL CARS

Two nozzles should be mounted in engine compartment.

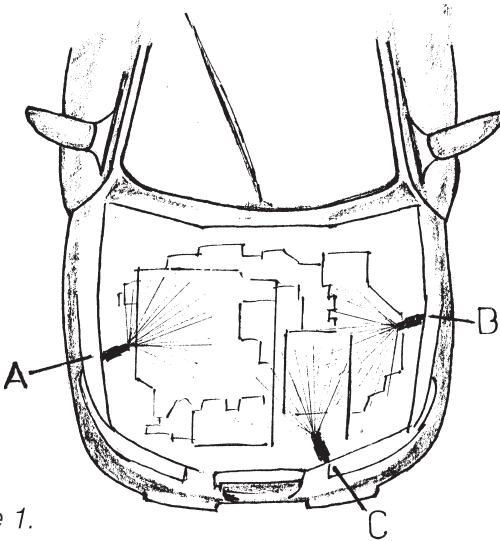


Figure 1.

TUBING

Each SPA Extreme system is supplied with Decabon tubing which is plastic coated aluminium tube which can be moulded and flexed to suit this application. The SPA Extreme system has been designed using this type of tube.

DO NOT substitute this tube for any other type.

COCKPIT NOZZLE LOCATION FOR SALOON CARS

Two nozzles should be mounted in the cockpit area, we recommend that these are mounted under the dashboard spraying horizontally across the drivers footwell and co-driver's compartment.

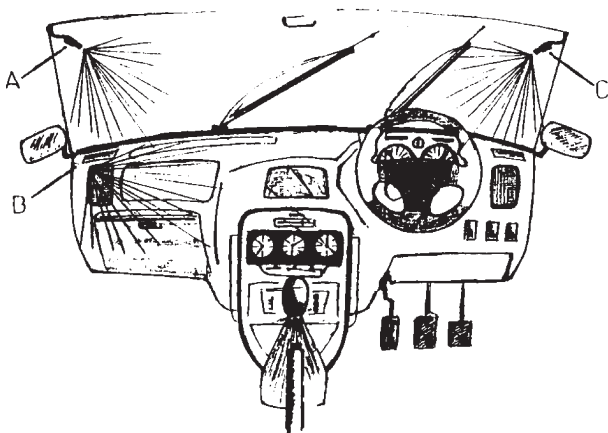


Figure 2.

MULTI-DIRECTIONAL NOZZLES

Please note that Nozzle shown in Fig. A must only be used in Engine bay. Nozzle shown in Fig. B must only be used in cockpit.

Fig A

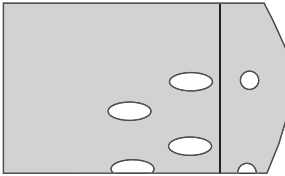


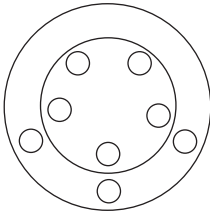
Fig B



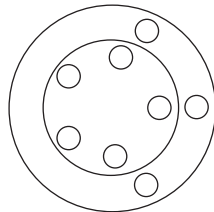
NOZZLES

It is important that the correct nozzles supplied with the system are used, the nozzles produce a multi directional spray pattern and must be positioned as shown in Fig A.

Fig A



Yes



No

TUBING

Each SPA Extreme System kit is supplied with Decabon tubing which is a plastic coated aluminum tube which can be molded and flexed to suit this application. The SPA Extreme system has been designed and homologated using this type of tube. DO NOT substitute this tube for any other type.

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 black collet back towards the fitting and then pull the tube from the fitting

MAINTENANCE

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

- Regularly check the pressure gauge to ensure they are in the green section.
- Regularly check nozzles for debris or any obstructions externally and internally.
- Regularly check the integrity of the pipe work and fitting.
- Regularly check the cylinder for physical damage or corrosion.
- Regularly check the mounting bracket and retaining straps are secure.
- Regularly check your power pack control box and condition of the internal alkaline battery, the battery should be changed preferably every 6 months or if system has been fired off.
- Regularly check your wiring and electrical connectors for any damage.
- Your SPA fire suppression system **must** be serviced every 2 years, a service due date is written on the contents label located on your cylinder. It is up to you to ensure the services are carried out at the correct intervals.
- If your system has been discharged or requires a 2-year service you must return it to SPA or an approved agent of SPA fire suppression systems.

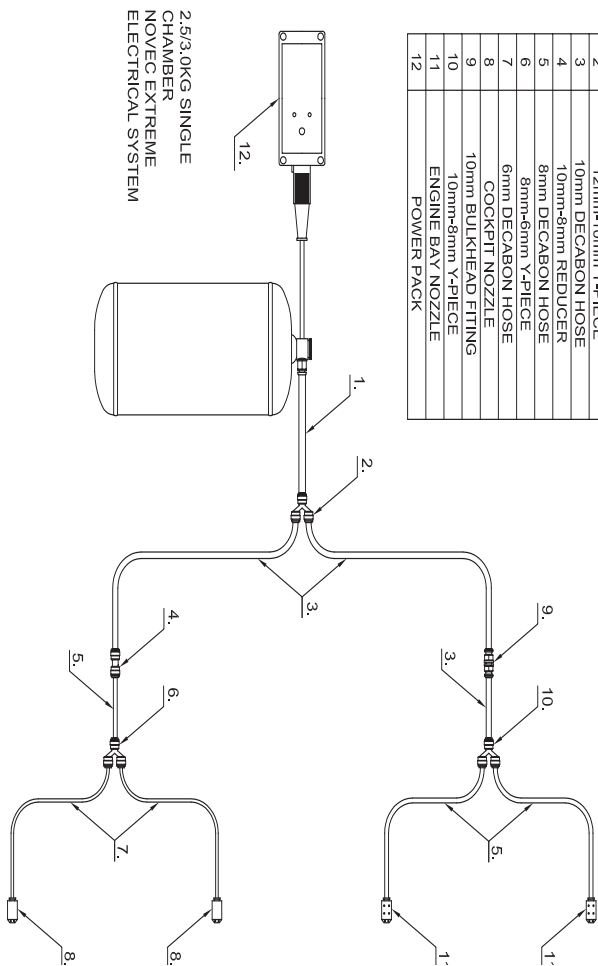
NOTES

Please ensure that you monitor the following, as you **may not** pass scrutineering **if**;

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

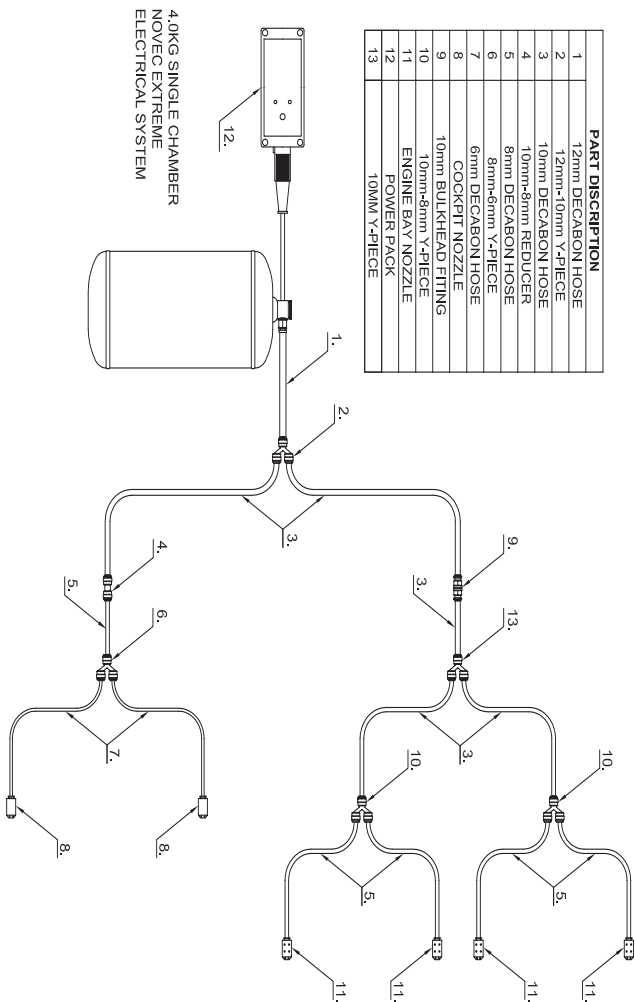
SYSTEM LAYOUT TUBING AND NOZZLES

PART DESCRIPTION	
1	12mm DECABON HOSE
2	12mm-10mm Y-PIECE
3	10mm DECABON HOSE
4	10mm-8mm REDUCER
5	8mm DECABON HOSE
6	8mm-6mm Y-PIECE
7	6mm DECABON HOSE
8	COCKPIT NOZZLE
9	10mm BULKHEAD FITTING
10	10mm-8mm Y-PIECE
11	ENGINE BAY NOZZLE
12	POWER PACK



SYSTEM LAYOUT TUBING AND NOZZLES

PART DESCRIPTION	
1	12mm DECABON HOSE
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5	8mm DECABON HOSE
6	8mm-6mm Y-PIECE
7	6mm DECABON HOSE
8	COCKPIT NOZZLE
9	10mm BULKHEAD FITTING
10	10mm-8mm Y-PIECE
11	ENGINE BAY NOZZLE
12	POWER PACK
13	10MM Y-PIECE



SERVICE AND REFILL AGENTS FOR SPA EXTREME SYSTEMS.

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EXTREME DATA SHEET

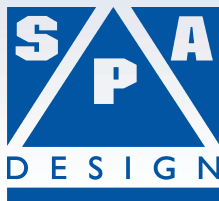
APPLICATION	Autosport industry – including saloon, single seaters and other racing cars.
COMPOSITION	Dodecafluoro-2-methylpentan-3-one, (CF ₃ CF ₂ C (O) CF (CF ₃) ₂)
ODP (Ozone Depletion Potential)	NONE
OPERATING TEMPERATURE	- 40 - + 80 °C
FREEZING POINT	- 108°C
CRITICAL TEMPERATURE	168.7 °C
PHYSIOLOGICAL 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.

Notes



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