MOTORSPORT AND FIRE SAFETY

Protrust Solutions
Technical List 16
ATF Respondol
Installation Manual

Technical List 16 - Contents

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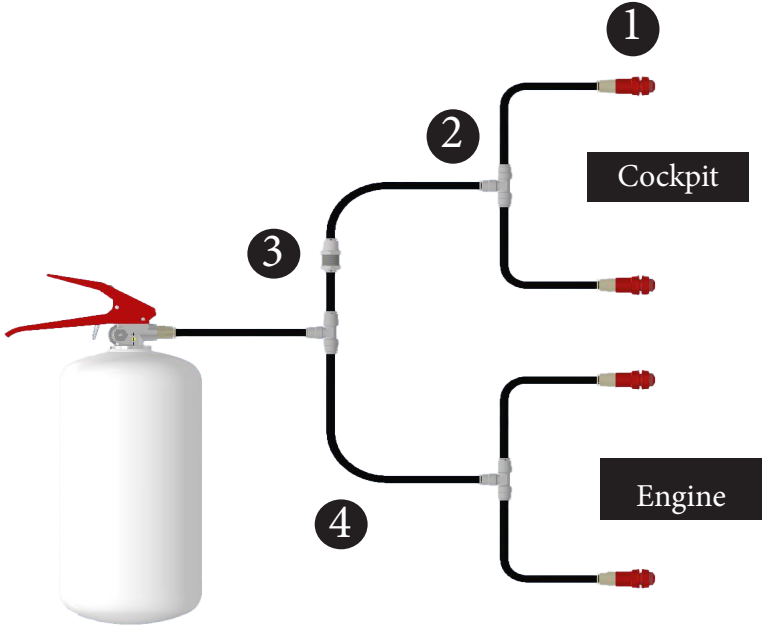
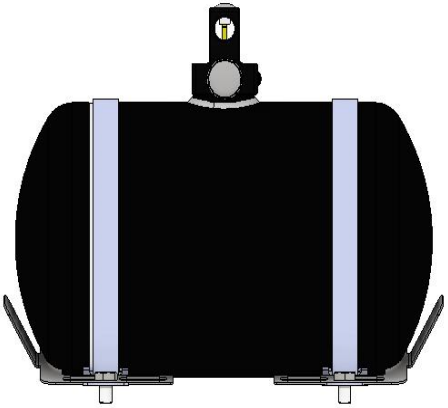
Technical List 16 - Installation Schematics for Mechanical & Electrical



No	Part Number	Description	Qty Per Kit
1	NOZ-067	AFFF Nozzle W/ 8mm Fitting	4
2	FIT-097	8mm Equal T Fitting	3
3	FIT-098	8mm Equal Bulk-head Fitting	3
4	TUBE-003	8mm Tubing	6m

The installation schematic shown is for reference only.
The installation applies to part numbers, FS-2AM, FS-2AA, FS-2A360, FS-3AME, FS-3AAE, FS-3A360, FS-4SA

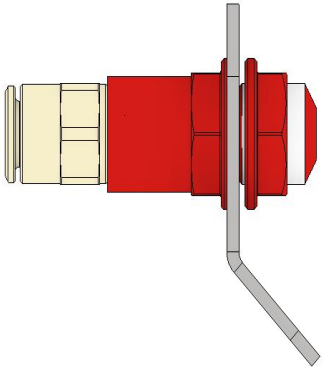
Technical List 16 - Bottle & Bracket Installation



When installing the bottle into the car, it is advised that the bottle is mounted to anti vibration rubber mounts.

The bottle mounting and straps are to be used in conjunction with the anti-torpedo mounts and sufficiently sized mounting bolts (M8) and washers used to affix to the vehicle chassis

Technical List 16 - Water Nozzle Mounting

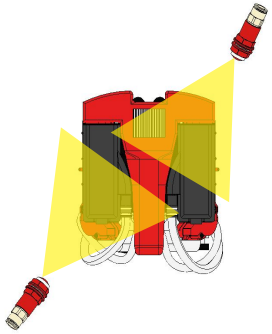


The Nozzles should always be mounted to a hard mounting point using the nut supplied.

The brackets should be attached with a steel tie or Jubilee clip and never using plastic cable tie. In the event of a fire, the plastic ties can melt and when the extinguisher is operated, the pressure can force the clips to break with the nozzles moving away from the desired position

Technical List 16 - Water Based Engine Nozzle Position

LONGITUDINAL POSITION

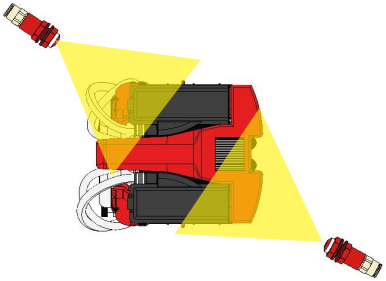


The nozzle positions play a key part in successfully bringing a fire under control & extinguishing it.

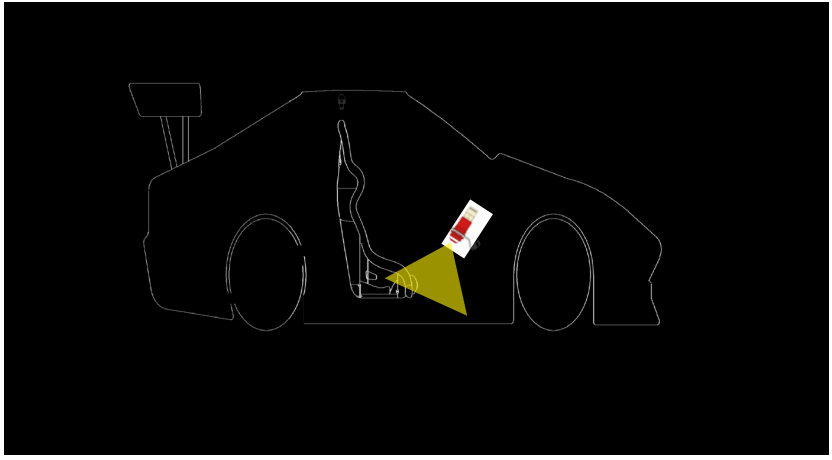
The nozzles should be as hign as possible within the engine bay area and angled down towards the engine in the positions shown

The nozzles will spray a 360° cone at a distance of 1.5m.
This should be taken into consideration when installing the nozzles

TRANSVERSE POSITION



Technical List 16 - Water Based Cockpit Nozzle Position



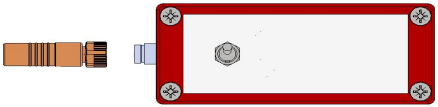
Single Occupant

The 1st cockpit nozzle should be positioned as high as possible under the dashboard area aimed towards the drivers legs with the second nozzle pointed towards the drivers midriff.

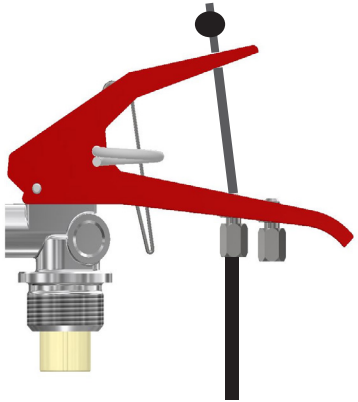
Cars with a second occupant

The second nozzle should be positioned similar to the first nozzle aiming towards the second occupants legs

Technical List 16 - Activation System

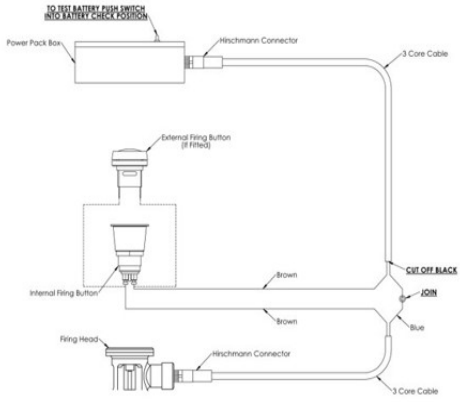


Connect one hirschmann connector to the control box using the locating slot then tighten the connector using the collar



Insert the cable adjusters through the lever valve and tighten the nut.
Fit the pull cable into the adjuster and pull through through the inner cable.
Place the inner cable through the top lever and fit the cable nipple leaving a small gap between the lever and nipple for testing cable free movement

Technical List 16 - Electrical Installation



- Mount the power pack in a clearly visable position
- The control box should be securely attached to the car using the supplied hook & loop tape as well as a tie.
- The switch with a red plastic shroud is 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 other switch with a flexible red membrane (waterproof) is to be fitting to the outside of the vehicle , close to the exterior master switch
- Both should be clearly marked using the supplied ‘E’ stickers
- It is advised to waterproof any electrical connection to prevent accidental activation.
- Once the system has been wired as per the wiring diagram, the following tests should be carried out to check the system is operating as required.

Technical List 16 - Electrical System Testing

- The control box can test the continuity of the wiring, switches and firing mechanism.
- The switch used is a 3 way switch and any testing should be carried out with the switch in the middle position.
- To check the condition of the battery, press and hold the switch in the battery check position. Every 2 seconds the yellow light will flash. If the flashing light is dim or not working, change the battery by removing the 4 screws.
- To check the continuity, ensure the switch is in the middle position (system inactive) to prevent accidental activation and all cables are fitted. Press the internal switch and ensure the red light illuminates. Repeat the process for the external switch.
- When you are ready to race, ensure the switch is in the system active position. Please note, whe the control box is in this position, NO lights will be illuminated

Technical List 16 - Maintenance Guide

After System Activation

When your fire system has been activated, the bottle must be sent for recertification to Protrust Solutions or one of our approved service agents
(Agent information can be found on our website)

Failure to do this could result in the bottle failing at scrutineering

Where the fluid has discharged within the engine and cockpit areas, this should be washed down with water or damp cloth and be wiped dry where possible.

Before Refitting

When the system has been activated, the ATF fluid used in the Firesense range, can dry and leave a residue within the pipework which could cause a restriction and even block the nozzles.

It is advised that the following steps are carried out to ensure the fire system operates at its full potential in the event of a fire.

1. Remove the pipework from all nozzles and disconnect from the bottle.
2. Using compressed air, blow down each nozzle to ensure there is no blockage.
3. Using compressed air, blow down the pipework from the bottle end to clear any debris from the pipes.
4. Reconnect all pipwork ensuring they are fitted fully by pulling on the pipe after fitment.

Reinstall the bottle.

When the above steps are complete, you can now reinstall the fire bottle. Make sure the control box is in the inactive switch position before reconnecting the connector on the bottle.

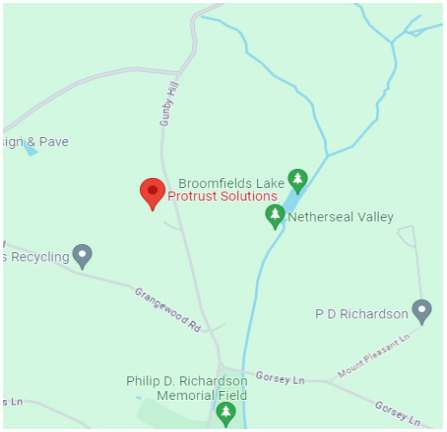
Technical List 16 - Spare Parts List

Part Number	Description	Qty Per Kit
NOZ-067	AFFF Nozzle - Technical List 16	4
FIT-097	8mm Equal T Fitting	3
FIT-098	8mm Equal Bulkhead Fitting	1
TUBE-003	8mm Tubing	6m
MISC-002	6ft Pull Cable	1
MISC-003	12ft Pull Cable	1
BRK-013	6” Bracket & Straps (Pair)	1
BRK-007	Anti torpedo Bracket (Pair)	1
ELEC-001	Hirschmann Plug & Lead	2
ELEC-030	Fire Extinguisher Push Button Switch Assembly	1
ELEC-004	Control Box	1
STICKER-001	Small E Sticker	1
STICKER-002	Large E Sticker	1

Technical List 16 - Information

Protust Solutions Ltd
Unit 1, Gunby Units, Gunby Hill
Netherseal, Swadlincote
DE12 8AS
+44 (0) 1543 756850
Sales@protrustsolutions.co.uk

For a list of our service agents and dealers
Please visit our website @
Protrustsolutions.co.uk/pages/storelocator-1



Fire Extinguisher FAQ

Q) How often should I get my fire extinguisher serviced?

A) it is a FIA requirement that all fire extinguishers are serviced every 2 years for use in motorsport competitions. We allow for the missing of servicing due to inactivity if it falls within the 10 years of manufacture.

Q) Can Protrust service any other branded fire extinguishers?

A) Protrust will only service fire extinguishers by Protrust Solutions or SPA Design/Technique.

Q) What is the maximum life of a Protrust fire extinguisher?

A) Protrust allows a maximum life of 10 years from the date of manufacture. This is to ensure the maximum durability of the cylinder and ultimately the safety of anyone in contact with the extinguisher