



**Fire and car safety**



- Sadly – there has been a proliferation of Sports Sedans that have suffered serious fires while competing.
- The Committee of 2LSS wants ALL OF OUR COMPETITORS to be as safe as possible.
- This presentation will highlight what to look for in your car, simple things you can do to improve safety, and things to consider during construction / modification to ensure it “doesn’t happen to you”.
- While not mandatory, the Committee believes it is very sensible to carry an on-board fire extinguisher.
- The Committee also believes that a FIA Balaclava should be worn.



## WHY DO FIRES OCCUR?

- We need: Fuel Source, Oxygen, Ignition Source.
- This is why bulkheads must be liquid-proof, so that the driver compartment is isolated from the major fuel sources.
- ALL holes should be filled (alloy race tape is acceptable, welded is best).
- ALL holes that carry wiring / fuel lines / oil lines – MUST have a sealing grommet system.
- It is advisable to have small “exit holes” in rear corners of driver compartment, so that should any leakage occur – it has a way of escaping.



## HOW DO I PROTECT MYSELF?

- The difference in “standards” between FIA (FIA8856-2000) and SFI (SFI 3.2A/5) should be considered and understood. Basically, if one has a two-piece suit - you have around 10 seconds from second-degree (blistering) burns. Full length underwear will increase this to around 30 seconds....HOW MUCH DO YOU VALUE YOUR SKIN?
- The same principals apply to your face – it is HIGHLY recommended that competitors wear a full balaclava
- While it is no longer mandatory, the Committee recommends that competitor's carry a fire extinguisher. New car owners / builders should give consideration to a “fire-bomb” system. While this carries additional cost and servicing requirements (circa \$800), it will buy you more time in the event of a fire. FIA EX.002.98, EX.005.98
- Lifeline / Sabelt / Sparco are well known manufacturers.



## Fittings / Grommets / Firewalls

- Wiring – looms must be protected from abrasion where they pass through bulkheads.  
<http://www.clarkrubber.com.au/rubber-and-flooring/rubber-seals-moulding/rubber-grommets-rubber-suction-cups.html>
- Fuel lines – you should consider AN fittings, bulkhead fittings where lines pass through firewalls and support for hard lines to reduce vibrational issues.  
<http://www.summitracing.com/int/parts/sum-220637b/overview/>
- Speedflow / areoquip / goodridge all make suitable fittings
- Bulkheads – we have all had to install a gauge / sensor / bracket to the firewall at some point. The best solution is to weld up or plate holes. We don't always have the time to repair these correctly – aluminium type race tape is a (just) acceptable solution.
- <http://www.revolutionracegear.com.au/index.php?PCID=23428&PSO=245&PSID=3389010416&PSV=Primary&CDO=>



### **If the worst happens !**

- If the “worst” happens, and your car catches fire while on the track:
- DO NOT PANIC
- IF POSSIBLE – GET TO A FIRE MARSHAL STATION
- IF THAT IS NOT POSSIBLE, SLOW THE CAR AS QUICKLY AS PRACTICAL, GET OFF THE RACE TRACK, AND GET OUT OF THE CAR. MOVE TO A SAFE AREA AS QUICKLY AS POSSIBLE. INDICATE TO MARSHALS THAT YOU ARE OK.
- The regulations state that you must be able to get out of your car within xxx seconds. This means:
  1. door handles must work
  2. Window nets must be easily removable
  3. Windows must be able to be removed “in an emergency” (i.e. can be kicked out)



## Other things to look out for!

- High rpm engines do tend to vibrate a lot – this means alloy fittings / brackets MUST be inspected regularly. Pay close attention to fuel lines!
- While PP&E is expensive, the old Bell Helmet motto applies  
"got a \$2 head, get a \$2 helmet"
- [http://www.fia.com/regulations?search\\_api\\_views\\_fulltext=protective+clothing&=Search](http://www.fia.com/regulations?search_api_views_fulltext=protective+clothing&=Search)
- The easiest way NOT to be involved in fire – is to prevent it in the 1<sup>st</sup> place. Look ahead and try not to be involved in someone else's accident. Try very hard to think about the effects of vibration on brackets (fuel rail mounts / regulators / hard lines). Use quality fittings wherever possible, ensure they can not rub on something and support where required. All the details on this have been well covered thanks to the Carrol Smith books (Prepare to Win).

