

AORRA Fact Sheet – Transmission Scatter Shield

A transmission scatter shield is recommended to be fitted to an off road racing vehicle where there may be danger of the transmission components like a drum exploding or disintegrating under extreme operating conditions.

This may result in the metallic fragments undergoing a ballistic incident and not being contained within the transmission housing and in turn entering the occupants cabin.

It is important to identify if the occupants of the vehicle are in direct alignment or the vicinity of the transmission housing if the worst-case scenario of an explosion/ballistic incident was to occur.

It should be noted that relatively thin steel or aluminium body panels may be easily pierced or cut through by exploding/ballistic metallic components from the clutch or transmission.

Refer to the image below that shows the significant damage aftermath of a vehicle not fitted with an automatic transmission scatter shield.

This off road racing vehicle suffered a recent automatic transmission explosion/ballistic incident within Australia and it was lucky the occupants didn't receive significant injuries.



Transmission scatter shields are available for purchase from various racing suppliers and/or transmission suppliers.

A strengthened transmission housing is made from steel, titanium or aluminium with a steel or titanium lining.

Transmission housings certified to SFI 6.1, 6.2, 6.3 are acceptable providing the SFI specification matches the transmission assembly.

A SFI scatter shield must be fitted to the following specification as a minimum:

- 6mm mild steel plate or 6mm aluminium alloy plate.
- Not be bolted to the transmission housing.
- Securely attached to the frame/chassis.
- Must prevent cabin intrusion.

Rigid scatter shields allow the transmission to run much cooler than the transmission blanket type safety device, because rigid shields allow for air circulation around the entire transmission. Rigid scatter shields do not become nearly as dirty as blanket type shields and are far easier to clean.

SFI Automatic Transmission Shields:

https://www.sfifoundation.com/wp-content/pdfs/specs/Spec_4.1_032713.pdf

Transmission scatter shields are mandatory in a number of international racing categories, for example drag racing and sports sedans.

It is the user's responsibility to inspect and verify the integrity and performance of the entire vehicle and its components as being appropriate for competition prior to any use.

Vehicles are to be inspected by the user before each use for evidence of damage, defect, or wear to ensure the vehicle is fit and ready for operation.

This AORRA fact sheet is for educational purposes therefore vehicle builders and competitors must determine and evaluate their own specific circumstances as to whether a transmission scatter shield should be fitted to their off road racing vehicle.

Warning: Motorsport can be dangerous and may involve significant injury or even death.