

Cross Country Four Wheel Drive Events E28 (Jan 2004)

VEHICLE SPECIFICATIONS

The following rules apply to all classes, you then need to read the extra rules pertaining to Touring and Challenge Class.

3.0 ALL CLASSES

3.0.1 OVERALL RULING

Vehicle modifications not expressly authorised by these Vehicle Specifications shall be prohibited. The following specifications for this section "All Classes" are the minimum requirements for, and shall apply to, all classes of vehicles.

3.0.2 VEHICLE REGISTRATION

All vehicles participating in the Event shall be legally registered as a motor vehicle in their State, Territory or Country of origin for use on public roads and shall be maintained in a registrable condition.

3.0.3 PROTECTION

Cargo safety barriers shall be installed securely behind the passenger seats, unless Supplementary Regulations specify that a cargo barrier is not required. Cargo safety barriers fabricated from flexible material shall not be accepted. In soft-top, FRP, plastic or open top vehicles, roof protection may be installed to protect the crew from intrusions and shall consist of a 3mm minimum thickness aluminium sheet or 2mm minimum thickness steel plate or high impact plastic roof panel and it shall extend the full width of the vehicle and from the windscreen frame to the roll over protection and shall terminate behind the heads of the crew. All vehicles competing in timed Events and Stages shall be fitted with roll-over protection unless Supplementary Regulations specify that roll over protection is not required. Roll-over protection shall not be compulsory in untimed Events or Stages. The minimum design for roll over protection shall be Type 2 half cage except that the diagonal brace may be omitted. Specification for material and mounting shall be as noted in Schedule J of the 2000 CAMS Manual of Motor Sport except that vehicles with roll-over protection fitted prior to December 1999 may be as required under the specifications in schedule L of the 1999 CAMS Manual of Motor Sport.

3.0.4 BARWORK

Bars may be added to the front for the mounting of recovery points, winch, lights and aerials. Bars may be added to the sides and rear for added protection.

3.0.5 RECOVERY POINTS

Recovery points shall be mounted at the front and rear of the vehicle chassis with at least two of 12mm or four of 10mm grade 5 or M8.8 bolts. Recovery points shall be painted red and shall be load rated at least twice the vehicle mass. Monocoque frame vehicles shall have each recovery point mounted such that the load is applied evenly to the vehicle frame or have points linked to achieve same.

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Roof racks/bars where fitted shall be securely fastened. Loads carried on roof racks/bars shall not exceed 70kgs, including rack mass and no fuel or gas shall be carried thereon.

3.0.6 ACCESSORIES

Operational radios shall be fitted to all vehicles and shall be UHF (477mhz) unless otherwise specified in the Supplementary Regulations.

Portable radios with optional headsets may be used during competition Stages. Power winches shall be fitted if the Supplementary Regulations specify they are required.

Recovery equipment shall be carried if the Supplementary Regulations specify that such equipment is required and shall be in first class condition and consist of at least the following:

- One snatch strap.
- One snatch block.
- Two 3.25t (minimum rating) "D" or bow shackles.
- One winch extension strap.
- Two pairs of winching gloves.
- One tree trunk protector.
- At least one cable dampener measuring at least 900 x 500mm and weighing at least 1kg when dry.
- Two fully charged dry powder fire extinguishers of at least 0.9kg each capacity for short course Events.
- Two fully charged dry powder fire extinguishers of at least 2.0kg each capacity for long course Events.
- Jack and jacking plate with capacity to lift the vehicle to change a wheel.
- Tools and spares as required to maintain the vehicle or as specified in the Supplementary Regulations.
- GPS and handheld (non electronic type) compass

3.0.7 CABIN

The interior of the vehicle shall be a safe operating environment for the crew and all heavy objects shall be carried in secure storage lockers mounted securely to the body.

A battery isolation switch shall be securely mounted within easy reach of each member of the crew.

Fire extinguishers shall be readily accessible by both members of the crew and shall be securely mounted below shoulder level for the seated crew.

Seating type is free provided the seats are securely fitted to the body of the vehicle or the seat mount is as the original design of the vehicle or built to meet the engineering standards for vehicle registration..

Seat belts shall be at least the lap/sash type and the belting shall not be frayed or damaged and all mountings shall be secure in accordance with the original vehicle specifications.

Video cameras shall be fastened behind the cargo barrier or on the dashboard in such a way that they do not interfere with the airbags nor have any brackets protruding into the cabin space.

3.0.8 SUSPENSION

Powered and manually operated active suspension that adjusts each wheel individually shall not be permitted.

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3.0.9 WHEELS AND HUBS

Wheel spacers shall not be permitted.

Unless specified otherwise in the Supplementary Regulations only vehicles with four wheel drive configuration may be entered in the competitions governed by these regulations.

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3.0.10 WINCHES

Winches may be of any style or brand but cannot be modified except to be strengthened, braced, rebearinged and have the power source upgraded to that available as an aftermarket accessory or by retrofitting an alternative commercially available drive source.

Winches shall have an operational braking system to prevent unspooling when not in operation.

Winches shall be mounted in a secure manner to the chassis or to an engineered sub-frame in a monocoque vehicle.

Multiple winches shall be permitted provided that the crew whilst in the cabin are protected and isolated from the cable by 1.5mm minimum thickness of steel or 3mm minimum thickness of aluminium.

Power for the winch(s) shall only be taken from the vehicle engine, driveline or vehicle electrical system. Auxiliary engines shall not be permitted.

Hand winches are acceptable.

Winch cables may be of wire or synthetic rope provided that they are free of damaged sections and provided that they are free from:

- Broken strands.
- In the case of wire ropes free of crushed sections.
- Kinked or bent sections.
- Broken, damaged or clamped eyelets.

Wire cables shall have a steel core and be a minimum of 8mm in diameter and shall have a load rating that exceeds the capacity of the winch.

Synthetic plasma ropes shall have a load rating of at least twice that of the winch SWL rating or **four** times the nominal vehicle weight whichever is the least.

Specifications of the winch cable or rope shall be supplied by the Competitor at scrutineering.

Loops or eyes shall be spliced or professionally swaged and be rated at the same or greater than the cable or rope.

Vehicle mounted hooks, eyes and fittings shall have a load rating of at least twice the capacity of the winch rating. Loose coupling hooks or eyes shall be rated at the same or greater than the cable or rope.

3.0.11 SUPPLEMENTARY FUEL CONTAINERS

Supplementary fuel containers or auxiliary fuel tanks may be carried or fitted provided they comply with applicable legislation and regulations.

Supplementary fuel containers shall be securely fastened behind the cargo barrier or on the rear of the vehicle.

3.0.12 SPARE WHEELS

A spare wheel shall be carried and securely fastened behind the cargo barrier or on the rear of the vehicle.

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3.2 TOURING CLASS

3.2.1 TYRES

Supplementary Regulations shall nominate tread pattern and tread depth applicable to each Event.

Tyre sizes shall be limited to 33x12.5 or metric equivalent based on a gauge with internal dimensions of 840mm and 320mm.

Track increase shall be limited to 50mm (2").

The tyres shall fit completely within the mudguards and flares.

Tyres may be fitted with tubes.

Valves shall not protrude beyond the outer edge of the tyre profile.

Tyre tread shall have a minimum contact ratio of 50%.

3.2.2 WHEELS

Wheels shall be limited to a rim width of 203mm (8") and the offset shall be such that the tyre shall completely fit within the mudguards and flares.

Bead locks are not allowed.

A spare wheel shall be carried at all times and be securely mounted on or in the vehicle. Spare wheel(s) and tyre(s) shall be the same size as fitted to the vehicle.

3.2.3 AXLES

Axle housings shall be original but may be protected.

Axle internal components shall be original and extension breathers may be fitted.

3.2.4 BRAKES

The original braking system shall be retained unmodified except for the composition of the brake pads/linings.

The handbrake shall be as originally fitted and shall be operational.

3.2.5 DIFFERENTIALS

The original differential system shall be retained unmodified except that differential locks may be fitted.

Differential ratios are free.

3.2.6 GEARBOX

The original gearbox shall be retained unmodified.

3.2.7 TRANSFER CASE

The original transfer case system shall be retained unmodified.

Transfer case ratios shall be available for that vehicle make.

The transfer case and differentials shall be operative and capable of driving all four wheels.

3.2.8 STEERING

Original steering boxes shall be retained in the original location and shall be unmodified.

Original steering linkages and components shall be retained unmodified but may have protection fitted to them.

3.2.9 SUSPENSION

Selection of shock absorbers and bushes is free except that the original number and location shall be retained.

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The original spring design shall be retained except that components may be modified or replaced with aftermarket units.

Original suspension linkage or pin configuration, length and positioning shall be retained but may be strengthened.

3.2.10 ENGINE

The original engine shall be retained unmodified except that alternative engine management systems, and in the case of diesel engines an aftermarket turbo, supercharger and intercooler or combination of, may be fitted.

Snorkels and aftermarket air filters are free unless specified otherwise in the any Supplementary Regulations.

Oil filters are free except the original method of attachment shall be retained.

3.2.11 ELECTRICAL

Original alternators shall be retained unmodified.

Headlight inserts and globes are free.

Tail lights, stop lights and reversing lights shall be as originally fitted.

Batteries are free.

Fitting and location of additional batteries is free.

All batteries shall be securely fastened and if they are in the cabin they shall be secured in an enclosure and vented to the outside unless the battery is a sealed unit.

3.2.12 EXHAUST SYSTEMS

The exhaust system is free.

3.2.13 CHASSIS

The original chassis shall be retained unmodified.

Strengthening with the additional bracing is acceptable.

Spring and shock absorber chassis mountings may be strengthened.

Protection plates may be added for strengthening and protection purposes.

3.2.14 BODY

The original body shall be retained unmodified except that additional mud flaps, door sills and flares may be added for protection.

3.2.15 LIGHTS

Vehicles may be fitted with up to four driving lights in addition to the original headlights and driving lights.

Driving lights shall be mounted at the front of the vehicle and shall operate with the high/low beam switch in conjunction with the headlights.

It is strongly recommended that a dust lamp be fitted to the rear of the vehicle.

3.2.16 FUEL

The original fuel system shall be retained unmodified and shall be in a sound condition with all fittings tightly fastened.

The original fuel tank may be supplemented or replaced with a long-range fuel tank. Alternative fuel such as LPG may be fitted and if fitted shall be in accordance with State and National Regulations.

Fuel used shall be limited to that which is available at service stations..

3.4 CHALLENGE CLASS

3.4.1 TYRES

Supplementary Regulations shall nominate tread pattern and tread depth applicable to each Event.

Tyre sizes shall be limited to 38x13.5 or metric equivalent based on a gauge with internal dimensions of 970mm and 343mm.

All tyres may be fitted with tubes.

The tyres shall fit completely within the mudguards and flares.

Valves shall not protrude beyond the outer edge of the tyre profile.

Tyre tread shall have a minimum contact ratio of 50%.

3.4.2 WHEELS

Wheel options are unlimited.

Bead locks are allowed.

A spare wheel shall be carried at all times and be securely mounted on or in the vehicle.

3.4.3 AXLES & HUBS

Axle housings are free.

Axle internal components are free.

Hubs are free.

3.4.4 BRAKES

The braking system may be modified provided that the braking performance of the vehicle meets or exceeds the vehicles original braking performance.

The composition of the brake pads/linings is free.

A secondary or emergency braking system shall be fitted and shall be operational.

3.4.5 DIFFERENTIALS

The differential system is free.

Differentials housings may be modified and strengthened.

Differential ratios are free.

3.4.6 GEARBOX

The gearbox options are free.

3.4.7 TRANSFER CASE

The transfer case system is free.

Transfer case ratios are free.

The transfer case and differentials shall be operative and capable of driving all four wheels.

3.4.8 STEERING

Steering boxes are free but shall be securely fastened to the chassis.

Steering linkages and components are free and may have protection fitted to them.

3.4.9 SUSPENSION

Selection of shock absorbers and bushes is free including number and location.

The spring configuration and position on the chassis is free.

Control arm configuration is free including arm length and mounting points.

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Suspension mounting points may be strengthened.
The axle position is free.

3.4.10 ENGINE

Any replacement engine is permissible.
Snorkels and aftermarket air filters are free unless specified otherwise in the Supplementary Regulations.
Oil filters are free except the original method of attachment shall be retained.

3.4.11 ELECTRICAL

Alternators are free.
Headlight inserts and globes are free.
Tail lights, stop lights and reversing lights are free.
Batteries are free.
Fitting and location of additional batteries is free.
All batteries shall be securely fastened and if they are in the cabin they shall be secured in an enclosure and vented to the outside unless the battery is a sealed unit.

3.4.12 EXHAUST SYSTEMS

The exhaust system is free.

3.4.13 CHASSIS

The original chassis for that make of vehicle shall be used and shall remain substantially unmodified.
Strengthening with the additional bracing is acceptable.
Spring and shock absorber chassis mountings may be strengthened.
Protection plates may be added for strengthening and protection purposes.
The chassis may be shortened at the rear behind the spring mountings.

3.4.14 BODY

The body of the make of the vehicle shall be readily recognised and shall be the same manufacturer as the chassis.
The combination of body and chassis may be updated with body and chassis elements from later models of the same make of vehicle.
Body alterations are permissible to a maximum of 25% of the side profile of the original make of vehicle regardless of model.
The determination of the 25% is based on an area being the portion of the side view that is added or removed from the total area determined by the rectangle of the extreme forward and rearward points, the roof and the ground of the original vehicle.
Body lifts shall be limited to 75mm and shall be completed in a safe and secure manner and the spacers shall be a non-crushable material and the bolts shall be the same diameter as the original body mounting bolts and at least grade 8. There shall be the same number of body mounts and supports as the original chassis and body combination.
Additional mudflaps flares and door sills may be added for protection.

3.4.15 LIGHTS

Vehicles may be fitted with any number driving lights in addition to the original headlights and driving lights.
Driving lights shall operate with the high/low beam switch in conjunction with the headlights and shall be fitted in accordance with relevant registration rules.
It is strongly recommended that a dust lamp be fitted to the rear of the vehicle.

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3.4.16 FUEL

The fuel system is free but shall be in a sound condition with all fittings tightly fastened.

The original fuel tank may be supplemented or replaced with a long-range fuel tank. Alternative fuel such as LPG may be fitted in accordance with State and National Regulations.

Fuel used shall be limited to that which is available at service stations.