



**MANUAL OF
FOUR WHEEL DRIVE
MOTOR SPORT
FOR
FOUR WHEEL DRIVE
COMPETITIVE EVENTS**

MANUAL OF FOUR WHEEL DRIVE MOTOR SPORT

FOR FOUR WHEEL DRIVE COMPETITIVE EVENTS

This Manual of Four Wheel Drive Motor Sport is published by the Cross Country Drivers Association Inc. Enquiries should be directed to the Secretary, PO Box 175, Bulleen, VIC. 3105, Australia.

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Acknowledgements:

Many people have contributed to the development and publication of the National Rules. The contribution of event directors, competition officials and marshals, and competition drivers and co-drivers is acknowledged with thanks.

First published January 2004

Revision History		
Version Number	Date	Comments
4.0	19-Jan-2005	Initial version of document for public release.
4.1	11-Mar-2005	Interim changes to reflect comments raised after the Marshal training program.
4.2	03-Apr-2005	Further changes post Marshal practical training.
5.0	01-May-2005	Up Version Post Agreement of Changes in Version 4.2
5.1	27-April-2006	Occupant Protection changes for group B events, Handling a winch cable, Roll Over Protection Change
7.0	20-Jan-2007	Vehicle specification, Synthetic Rope dampener, Scrutineering, Points allocation, Occupant Protection
8.0	20-Jan-2008	Production Class introduction, Synthetic Rope, Window nets
9.0	20-Jan-2009	Production Class Specification changes, Exhaust System, Winch Hook

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1. JURISDICTION AND ADMINISTRATION

1.1 NATIONAL RULES

This Manual sets out the National Rules for four wheel drive competitive events conducted under the auspices of the Cross Country Driver's Association.

The National Rules set out the conditions and regulations under which CCDA sanctioned events are to be conducted. The National Rules were established by a representative group of event directors, officials and competitors with the aim of providing a safe and regulated environment under which to conduct four wheel drive competitive events.

1.2 PHILOSOPHY OF NATIONAL RULES

These rules do not purport to be directly applicable to every situation that may be encountered in any form of four wheel drive competitive event.

Practical and sensible application of the spirit of these rules requires all participants to work together to ensure, as far as possible, that competition is fair and to use discretion and good sense in the application and interpretation of these rules.

Officials and marshals should exercise judgement wisely and fairly in a way that supports the philosophy of the rules and understand that their decisions are subject to protest and appeal.

1.3 PROCESS FOR UPDATING THESE NATIONAL RULES

CCDA members may propose amendments or additions to these National Rules in a submission to their State or Territory Committee.

The submission should clearly state the proposed amendment or addition and briefly explain the reasons for the proposal. An example of a circumstance under which the proposed amendment or addition may be applied may also be useful in supporting the proposal.

The State or Territory Committee shall receive any proposed amendment or addition and review the proposal, meeting with the proponent as necessary to ensure the proposal is clearly set out, and to assess whether the situation under which the proposed amendment or addition may be applied may already be subject to an existing rule.

The State or Territory Committee shall then forward the original proposal with a report of their review and assessment to the CCDA National Executive, which shall examine the proposed amendment or addition, and the report of the State or Territory Committee and shall take expert advice where appropriate.

The National Executive shall circulate their recommendation for either adoption or rejection of the proposed amendment or addition to the members of the CCDA, via the web site, for comment with a 21 day limit and on receipt of comments review their recommendation for submission to the Executive Committee and, if the recommendation is for adoption, the date recommended for implementation.

The National Executive shall ensure that amendments or additions to these National Rules are formally incorporated into these National Rules.

The outcome of the National Executive deliberations shall be advised to the State and Territory Committees and the proponent member.

2. STANDING REGULATIONS

2.1 INTRODUCTION

Cross Country Four Wheel Drive Events are a test of driving skill, vehicle reliability and capability, vehicle recovery, navigation and individual skills, taking place on public and/or private land.

Cross Country Four Wheel Drive Events involve negotiation of difficult terrain such as contrived and natural obstacles and difficulties including vehicle recovery techniques. Emphasis is on vehicle capability and driver ability rather than speed.

The Cross Country Four Wheel Drive Standing Regulations, Sporting Regulations and Vehicle Specifications shall be augmented by Supplementary Regulations for an Event and all documents shall be read together.

2.2 THE SPIRIT OF THE REGULATIONS

The regulations shall apply to four wheel drive vehicles in standard or production configuration, or modified as provided in the Vehicle Specifications, successfully negotiating various terrains under competitive conditions. The use of additional track building aids such as sand ladders and synthetic matting shall not be permitted in CCDA sanctioned Events.

Any eligibility matter relating thereto shall be interpreted and applied in accordance with this spirit.

2.3 CCDA MEMBERSHIP

Competitors, officials and marshals participating in CCDA sanctioned Events shall be current members of the CCDA.

2.4 COMPETITORS

2.4.1 LICENCES

Each driver and co-driver shall hold a current valid State, Territory or International driver's licence.

2.4.2 CREWS

Crews shall be a minimum of two people in all Events and Stages and be designated as:

Driver - who may drive and/or navigate.

Co-Driver – who may drive and/or navigate but is commonly the navigator at the start of the Event.

Navigator – who may only navigate.

Crew – who may only help with any tasks other than driving or navigating.

The Supplementary Regulations for each Event shall specify the maximum number of Crew to compete in each vehicle.

2.4.3 CODE OF CONDUCT

At all times Competitors and Event Officials shall treat all participants in a courteous and respectful manner.

Competitors shall avoid public argument with each other and officials and all disputes shall be dealt with under the provision for Protests in the Sporting Regulations.

Competitors shall abide by an official's instructions.

Verbal or physical abuse by any participant shall attract a penalty.

Any competitor or participant who is found guilty of a serious breach of the code of conduct may be disqualified from further participation in the Event.

2.4.4 ABUSE OF ALCOHOL OR DRUGS

The abuse of alcohol or drugs by Competitors or Event Officials at any time during an Event shall not be permitted. Medication prescribed for a Competitor by a doctor shall be excepted, provided such medication does not affect that Competitor's safe performance during the Event. Prescribed medication shall only be taken by the Competitor for whom it is prescribed.

Alcohol shall not be consumed prior to, or during, any competition stages, or before departing for, or during, any transport stages.

Breathalysers may be used to check blood alcohol content during the Event. Those Competitors or Officials who register any reading above zero shall not participate or officiate for the remainder of that day. Any Competitor or Official who refuses to provide a breathalyser reading shall be disqualified from further participation in the Event.

The use of any other drugs shall be prohibited at all times during the Event and any Competitor or Official found to have used any other drugs shall be disqualified from all further participation in the Event.

Any Event Official or Competitor who suspects another Event Official or Competitor to be under the influence of drugs or alcohol shall refer the matter immediately to the Event Director.

2.5 CREW SUBSTITUTION

The original Crew as advised in the Event entry form may only be changed with the approval of the Event Director. Any Crew which includes a person not identified to and approved by the Event Director shall be disqualified.

2.6 SELECTION

Supplementary Regulations shall specify the means of selection of Competitors, should the Event be oversubscribed. The selection method shall be based on the competency and/or experience of applicants and shall be commensurate with the degree of difficulty anticipated for the Event

2.7 VEHICLES

A high standard of presentation shall be insisted upon at all times. Any vehicle considered to be of an inappropriate standard of preparation may not be permitted to start, at the discretion of the Event Director. A vehicle that is accepted by the Chief Scrutineer shall not be substituted.

2.8 ELIGIBILITY

The Event Director may invite entries for vehicles belonging to any or all of the following classes as defined by the Vehicle Specifications. Vehicles may only compete in the Event Group specified

Group A Events:

- a) Standard Class.
- b) Touring Class.
- c) Production Class.
- d) Challenge Class.

Group B Events:

- a) Touring Class.
- b) Production Class.
- c) Challenge Class.

Group C Events:

- a) Production Class.
- b) Challenge Class.

c) Open Class

Event Supplementary Regulations shall specify the vehicle classes permitted for that Event.

2.9 EVENT GROUPING

Events shall be grouped by the nature of the terrain and the degree of difficulty of the exercises to be performed. The CCDA shall approve the grouping for each event.

2.9.1 GROUP A EVENT

Group A Events shall include traversing open public roads and shall not be timed. Competitors and vehicles travelling on public roads shall comply with all applicable statutory rules and regulations.

Navigation Trial

Navigation Trials may incorporate nominated destinations, clue solving, observation, and map reading. They shall not be timed and may provide for multiple vehicle teams. Several competing vehicles or teams may be on the course simultaneously and there may be manned and unmanned checkpoints.

Observed Section

Observed Sections may incorporate muddy, rocky and slippery surfaces over steep and difficult terrain. The task shall be to traverse the whole of the Stage non-stop from a standing start, without departing from the marked course or hitting the markers en route. They shall not be timed and shall be characterised by extended use of low gearing and slow speed. Only one vehicle may be on the course at any time. Recovery locations shall be controlled and there shall be start and finish garages.

Long Course

This shall be a driving and recovery Stage in which all Competitors compete over similar terrain but not necessarily over the same track. Several competing vehicles may be on the course simultaneously. A Long Course may consist of muddy, rocky, slippery surfaces, steep and difficult terrain which may have controlled self-recovery sections. This type of Stage/s may be judged on distance travelled and may include Individual Skill Stages and Navigation Stages.

2.9.2 GROUP B EVENT

Short Course

A Short Course is a driving and self-recovery Stage in which all Competitors compete over the same course. Only one vehicle may be on the course at any time. The course may comprise muddy, rocky and slippery surfaces, steep and difficult terrain, and may have controlled and uncontrolled self-recovery sections. The Stage shall be timed. This type of Stage may be judged on distance travelled and may include Individual Skill Stages and Navigation Stages. Both start and finish garages may be used.

Overland Course

This shall be a driving and recovery Stage in which all Competitors compete over similar terrain but not necessarily over the same track. Several competing vehicles may be on the course simultaneously. An Overland Course may consist of muddy, rocky, slippery surfaces, steep and difficult terrain which may have controlled self-recovery sections. The Stage/s shall be timed. This type of Stage/s may be judged on distance travelled and may include Individual Skill Stages and Navigation Stages. Start and finish garages or flying finishes may be used.

2.9.3 GROUP C EVENT

Short Course

A Short Course shall be a driving and self-recovery Stage in which all Competitors compete over the same course. Only one vehicle may be on the course at any time. The course may comprise muddy, rocky and slippery surfaces, steep and difficult terrain, and may have controlled and

uncontrolled self-recovery sections. The Stage shall be timed. This type of Stage may be judged on distance travelled and may include Individual Skill Stages. Start and finish garages may be used.

BEFORE THE EVENT:

2.10 GENERAL REQUIREMENTS

Vehicles shall comply with the Standing Regulations, Sporting Regulations and the Vehicle Specifications for the relevant Cross Country Four Wheel Drive Event Group, and the Supplementary Regulations for the Event.

Vehicles competing in Group A and Group B Events shall be road registered, as modified for the Event, and legally permitted to be driven on the road.

2.11 TECHNICAL INSPECTION

Vehicles may be required to be submitted at any time for a thorough technical inspection by the Chief Scrutineer.

2.12 PRACTICE

Practice shall not be permitted for Cross Country Four Wheel Drive Events on the site of the Event, unless otherwise advised in the Supplementary Regulations.

2.13 SCRUTINEERING

2.13.1 VEHICLE SCRUTINEERING

Each competing vehicle shall undergo a detailed vehicle safety, modification & equipment examination, in order to obtain a log book.

A log book is mandatory before a vehicle can participate in any event, including any reconnaissance, practise or prologue.

Once a vehicle has been scrutineered and been issued with a log book it is deemed to have passed scrutineering unless it is involved in an incident. Any vehicle subsequently involved in an incident, or which suffers significant mechanical failure, e.g. loss of brakes or steering, may be the subject of re-examination before being permitted to take further part in an event

2.13.2 EVENT SCRUTINEERING

Even with the use of log books all vehicles will appear at the start of an event for event scrutineering.

During event scrutineering the vehicle may have a random vehicle inspection performed if there is any doubt as to its compliance.

The event organisers will inspect recovery and safety equipment and any special gear that is required to participate in that event during event scrutineering.

No vehicle shall compete, or continue to compete after any re-examination, without the approval of the Chief Scrutineer or Competition Manager.

2.14 BRIEFING

The Event Director shall provide for a briefing of Competitors before the start of any Event and/or Stage. Such briefing may be verbal or written or both.

2.15 COURSE LAYOUT

The course shall be laid out consistent with the challenging nature of Cross Country Four Wheel Drive Events. Event organisers must ensure the course is laid out clearly and there is no ambiguity nor should any safety issues be affected by the layout.

2.16 SURFACE

The surface of the course may be varied, as may the terrain, in order to test the Competitor's skill level in a range of off road conditions; eg ruts, water crossings, ascents, descents and wet and dry tracks

2.17 WATER CROSSINGS

The depth and duration of water crossings should be such that a Competitor's ability to complete the Event is not unduly jeopardised. The Event Director shall ensure there is a clear and safe passage through any deep water

2.18 START

The Start shall be clearly marked by two pegs, one on each side of the course. In a timed event if a Competitor "jumps" the start a 10-second penalty shall be applied. Unless the stage regulations nominate a "reverse start" all starts are in a forward direction.

2.19 FINISH GARAGES

Finish garages shall be clearly marked with a finish sign on either of the finish pegs.

The finish garage shall be 4 metres long and 4 metres wide, closed with bunting on three sides, leaving the approach side open.

The finish garage shall be clearly visible from a distance of 25 metres by Competitors when competing on the course. If the finish garage is not visible from this distance a "Pending Finish" sign shall be placed along the course 25 metres before the finish garage.

At the finishing garages due care must be taken to ensure a safe approach and an overrun exit is clear at all time

Finish garages shall have adequate spectator and Marshal bunting.

2.20 FLYING FINISH

Should several competing vehicles be on a course simultaneously it may be appropriate to have a "flying finish" to minimise potential hazards at the finish point.

The flying finish shall be clearly marked with a finish sign on either of the finish pegs.

The flying finish markers should be clearly visible from a distance of 25 metres by Competitors when competing on the course. If the finish is not visible from this distance a "Pending Finish" sign shall be placed along the course 25 metres before the finish markers.

Sufficient trafficable area shall be allowed beyond the flying finish markers for vehicles to come to a stop safely clear of following vehicles.

Flying finishes shall have adequate spectator and Marshal bunting.

2.21 DRIVING CONDUCT

A vehicle alone on a section of a course may use the full width of the course. Should a vehicle be approached by a vehicle from the rear, that is either achieving more traction at the time, or is consistently faster, the driver of the leading vehicle shall give the following vehicle right of way as soon as possible, pulling to the side and stopping if necessary.

The desire to overtake shall be signalled by the sounding of the horn and/or the flashing of headlamps and/or radio request.

If a vehicle is winching in a safe location and a following vehicle desires to overtake, and can do so safely without crossing the boundaries of the course, the Crew in the leading vehicle shall release the winch rope and disconnect it from the anchor point promptly and the following vehicle shall be allowed to overtake.

Drivers shall abide by universally accepted practices with regard to minimum impact on the environment.

Competitors shall abide by a Stage Marshal's instructions, including an instruction to stop competing and exit the course.

2.22 COURSE MARKING

The Event Director shall provide a detailed description of each course and advise whether or not it is point-to-point navigation, with or without boundaries, or a restricted course within defined boundaries.

The course shall be clearly defined and arranged in such a way that there is no likelihood of competing vehicles straying from, or of a collision between competing vehicles travelling in opposite directions on adjacent courses or sections of the same course.

Examples of all signs used for course marking shall be prominently displayed at the Event location. Directional arrows shall be red, min 250mm long, on a 297mm x 210mm white background.

Markers shall be placed where they are least likely to be dislodged by competing vehicles.

Gates used on undefined courses shall be comprised of 2 pieces of bunting/tape tied separately around 2 pegs or 2 fixed items such as a tree trunk. Flexible tree branches should not be used. Gates shall be placed in clear view of approaching Competitors.

Gates shall be driven through in the nominated sequence unless advised otherwise during the stage briefing.

2.23 CAUTION SIGNS

Caution signs shall be placed 25 metres before the subject obstacle and shall be a red disc, min 200mm diameter, on a 297mm x 210mm white background.

Caution signs shall be placed on the right hand side of the track 1.5 metres above ground level, except that the absence of any such markings shall not be grounds for protest.

The location of all caution signs not so placed shall be advised to Crews at the Event and Stage briefings.

Should a vehicle stop on an Overland course, or any course where there may be more than one vehicle participating simultaneously, for any reason, the Crew shall place an approved warning triangle 25 metres behind the stranded vehicle and clearly visible to approaching vehicles.

2.24 ABANDONMENT OR CANCELLATION OF A STAGE OR EVENT

An Event or a Stage of an Event may be abandoned or cancelled after commencement at the discretion of the Event Director. (Refer to Rule 2.37) The reasons for the abandonment or cancellation shall be communicated to the Competitors as soon as practical after the abandonment or cancellation at a briefing called for that purpose.

Should twenty percent or more of the qualified field of Competitors have started the Event or Stage subject to the abandonment or cancellation, and further provided that the field started in ranked order for that Event or Stage, then the points earned by the Competitors who started the Event or Stage shall count toward the Event result.

A qualified field shall include those Competitors who's vehicle had passed Event Scrutineering and who subsequently had not withdrawn or been disqualified, and whose vehicle was readied and able to start the Event or Stage.

The balance of the qualified field of Competitors who did not start the Event or Stage before its abandonment or cancellation shall be awarded the same score as the lowest scoring Competitor who started the Event or Stage, except that any penalties incurred by that Competitor shall not be applied to those Competitors who did not start.

Should less than twenty percent of the qualified field start an abandoned or cancelled Event or Stage of an Event, or should the qualified field not start in ranked order for that Event or Stage, then points earned by any Competitor who started that Event or Stage shall not count toward the Event result.

2.25 RECOVERY SITUATIONS

Recovery situations should be incorporated during Stages to emulate common circumstances normally found whilst four wheel driving. Recovery sections should be achievable by Competitors within the allocated time.

2.26 INDIVIDUAL SKILL STAGES

Individual Skill Stages may involve first aid, navigation, survival, mechanical, or other tasks. If special equipment is required, the details of such equipment shall be included in the Supplementary Regulations. All reference material shall be available to all Competitors prior to the Event. Competitors shall be notified of all reference material used to set the Individual Skill Stages.

2.27 START ORDER

Vehicles shall start in the order prescribed by the Event Director. Options for determining start order may include using the results from the last time the same Stage was completed, by ballot, or by a Prologue. Whenever practical the starting order for subsequent Stages shall be selected by the latest available progressive Event placings. Consecutively run Stages may utilise the same starting order until updated results can be calculated. Once the Event commences Crews with close results shall compete consecutively on the same Stage.

Should any Competitor not attempt or complete any Stage due to accident or mechanical malfunction, the Event Director may allocate a starting position.

The driver shall align the forward-most part of the vehicle with the starting pegs at the start of any Stage, or as guided by the starting Marshal.

The driver and co-driver shall each be seated in the vehicle with occupant restraints correctly fastened at the start and finish of each Stage unless otherwise specified by the Competition Manager.

2.28 STARTER'S ORDERS

Drivers shall be under starting Marshal's orders upon arrival at the start line. Any Crew failing to proceed to the start at the direction of an Official may forfeit the run, or may be deemed by the Starting Marshal to have started at his or her designated start time.

2.29 STAGE INSTRUCTIONS

Stage Instructions shall include start intervals, DNF time, course length and features, location of cautions, special instructions or requirements.

Stage Instructions shall be read to the Competitors from a prepared Stage Instruction sheet by the starting Marshal, or included in Stage route notes or guidebook.

There shall be no variation to the Stage Instructions without the Competition Manager's permission.

2.30 COURSE CHANGES

If the course has been changed the Competitors shall be notified prior to any Competitor commencing that Stage. Should exceptional circumstances indicate that a course change is necessary after some Competitors have completed a course, only those changes that can be clearly demonstrated to present no advantage nor disadvantage for following Competitors may be implemented. Otherwise the course shall be abandoned.

Should the course become impassable or unsafe that Stage shall be cancelled except that an alternative course may be selected as an alternative Stage with a new identification number and all vehicles shall then become eligible to start that alternative Stage.

2.31 ADDITIONAL STAGES

Should it become likely that the Event program may be completed prematurely, and there is reasonable time available, additional Stages may be introduced. Should it become likely that the Event may not finish on time some Stages may be cancelled partially or completely with the authority of the Competition Manager. Adequate notification of any such change, according to the nature of the Event, shall be given and any additional Stage shall have a new identification number and all vehicles shall then become eligible to start that additional Stage.

2.32 PERMISSION TO START

No Stage may be commenced without the permission of the Competition Manager.

2.33 VEHICLE RECOVERY CONDUCT

Competitors shall abide by internationally accepted practices during recovery situations described herein.

2.33.1 UNACCEPTABLE RECOVERY PRACTICE

All winching shall cease until the following unacceptable practices are corrected:

- a) Failure to use a tree protector of sufficient length to completely encircle a tree or stump being used as an anchor point.
- b) Failure to maintain a cable dampener on a cable while winching;
 - a) The dampener location for wire rope shall be in the centre third between the anchor point and the winching vehicle.
 - b) The location for dampener for synthetic rope shall be securely attached to the hook.
- c) Crew members shall not control a winch from outside the vehicle when the cable is live unless a remote controller is used and the crew member is at least 1metre away from the vehicle.

2.33.2 CABLE RETRIEVAL

Crews shall stand clear of a cable being retrieved and shall keep their hands at least two metre clear of the fairlead when rewinding the winch cable. Marshals will repeatedly warn crews if they feel that their hands are not clear of the fairlead.

Hooks or loops in the end of the cable shall not be left dangling such that the hook or loop can touch the ground. If the hook or loop is touching the ground at the finish the marshal will award a penalty for "equipment not secured". Refer to rule 3.10.1 (c).

2.33.3 RECOVERY PENALTIES WITHOUT WARNING

Breaches of the following practices shall attract a penalty. Marshals shall advise the Crew of the penalty when it occurs either verbally or by using a horn, whistle or flag:

Crews shall clear bystanders in the vicinity of a recovery situation prior to commencement of winching. Calling "Clear, winching" or similar shall be deemed an acceptable means of clearing the area. In the event that the anchor point is relocated then the winching procedure is deemed to recommence and calling "clear, winching" or similar shall be necessary.

Winching and driving shall cease when re-positioning the cable dampener. The cable may remain in tension however Crew shall only handle the dampener and not the cable.

The cable and/or anchor shall not be handled while the cable is under tension.

Leather lined gloves on both hands or equivalent, with covered fingers, shall be used when handling a winch cable.

Crew members shall stand clear of the cable and must not stand in front of the vehicle during winching. Winching and driving shall cease when a Crew member approach the vehicle to inspect the cable on the drum, pack rocks, adjust dampener, or other reason.

Crew members must not at any time handle a cable when the vehicle is being driven in any direction. This includes the cable hook or dampener attached to the cable.

A cable attached to a winching point is defined as “live” and Crew members shall not cross over or pass under a live cable. The cable attached to a ground anchor used in a recovery situation is deemed to be “live” when the ground anchor is placed in position and under “tension” when there is enough grip to move the vehicle.

The action of Crew members shall not cause any risk to any person.

2.33.4 RECOVERY PENALTIES AFTER WARNING

Breaches of the following practices shall attract a penalty on their second and subsequent occurrence. Marshals shall advise the Crew of the first infringement when it occurs either verbally or by using a horn, whistle or flag:

Incorrect use of a cable dampener after one warning for each incident:

Wire Rope

- A cable dampener on a wire rope shall be placed in the centre third of the cable at the commencement of winching, on all live cables, including when using a snatch block to change the direction of pull, when a cable dampener shall be placed on either side of the snatch block. Where a winch extension strap or cable is used the centre third is between the anchor point and the winching vehicle.
- Should a cable dampener come in contact with the fairlead it must be repositioned and the marshal will advise the crew to reposition it, nominally in the centre third. If the crew does not reposition the cable dampener after being advised then a penalty will apply. Each occurrence is a separate incident.
- Should the cable dampener be wound into the winch, or lost, winching must cease until a replacement dampener is positioned in the centre third.
- Cable dampeners shall be draped over the cable. Rolled dampeners shall not be used and winching must cease until the crew complies.
- The dampener may be removed if the vehicle is less than a nominal two metres from the anchor point.

Synthetic Rope

- A cable dampener on a synthetic rope shall be shall be securely attached to the hook when winching, when using a snatch block to change the direction of pull an additional cable dampener shall be securely attached to the snatch block. Where a winch extension strap or cable is used the dampeners are to remain on the hook and snatch block when in use.
- Should the cable dampener be lost, winching must cease until it is re-secured to the hook / snatch block
- Cable dampeners shall be draped over the hook / snatch block. Rolled dampeners shall not be used and winching must cease until the crew complies.
- The dampener may be removed if the vehicle is less than a nominal two metres from the anchor point.

Incorrect use of a ground anchor after one warning:

- Crew members shall consider a ground anchor and cable as part of an active winching system once the ground anchor is in position and has sufficient grip to move the vehicle and the crew shall remain clear of both the ground anchor and cable.

Excessive wheelspin:

- Where there is no forward progress in the one location and the crew spins the wheels excessively they shall not be allowed to continue if track damage may occur or if directed to cease by a Marshal. Failing to abide by the marshals instructions will incur a penalty.

2.34 ALTERNATING DRIVER

Alternating between Driver and Co-driver for any Stage of the Event shall be permitted, unless it is specified otherwise by the Event Director or Supplementary Regulations.

2.35 TIME ALLOWED FOR STAGE COMPLETION

The Event Director shall exercise care to ensure that adequate time exists for the completion of each Stage of the Event.

2.36 RESULTS

The Event Director shall forward results to each Competitor as soon as reasonably possible after the Event.

2.37 CANCELLATION, ABANDONMENT AND ALTERATION

The Event Director may abandon an Event or Stage if in his or her opinion the number of entries is insufficient, or if conditions constitute force majeure.

If the Event or Stage is abandoned when part-run, the provisions of Rule 2.24 shall apply

2.38 PRESENTATION OF AWARDS

Following each Event, the Event Director shall conduct a presentation ceremony. In order to ensure the public and others are able to properly identify, and honour, the winners, a podium shall be prepared.

2.39 MEDIA CONFERENCE

Award-winning Crews may be required to attend a media conference, which shall take place as close as practicable to the presentation area.

Crews are reminded of their obligations to the Event Director and sponsors, and shall present themselves accordingly.

2.40 FIRST AID

Unless specified otherwise in Supplementary Rules, competing vehicles shall carry an adequate outdoors first aid kit in or on the car at all times and it must be readily accessible.

2.41 FIRE EQUIPMENT

Vehicles shall carry at least one 1.5kg, or two 0.9kg dry powder fire extinguisher(s) placed horizontally in a readily accessible location for either member of the Crew. Extinguishers fitted in the cabin shall be below shoulder height. Mounting brackets shall be steel. Plastic mounting brackets shall not be permitted.

2.42 SPECTATORS

Should spectators be admitted the Event Director shall provide safe viewing facilities. Spectators should be prevented from approaching a competition course at each spectator access location by a barrier of an identifiable material located such that spectators remain a safe distance from the course. Each spectator point shall be manned by clearly identified spectator Marshals who shall work under the direction of a Senior Marshal. Areas in which spectators may not stand shall be clearly identified.

2.43 COMPETITOR'S CAMPING GROUND

Events sites at which camping is permitted shall, where practical, have separate camping facilities for Competitors and spectators. The Supplementary Regulations shall specify the location of camping facilities provided for Competitors and spectators.

2.44 ADVERTISING AND DECALS.

Each vehicle may display Crew sponsorship material provided it is not, in the sole opinion of the Event Director, offensive and does not intrude into the space allocated for Event sponsorship/advertising.

Event sponsorship/advertising shall be limited to:

- An area approximating 50% of the bonnet flat surface plus 150mm height for the full length of the leading edge and sides inclusive of the top portion of both front mudguards.
- An area of 600x600mm of both front doors immediately below the window sill.
- An area of 150mm height along the top of the windscreen or leading edge of the roof.

Additional Event sponsor decals typically small in size may be placed at any suitable location on the body of the vehicle but shall be clearly visible.

3. SPORTING REGULATIONS

3.1 TIMING

Timing shall be to the elapsed hundredth of a second, expressed in hours, minutes, seconds, tenths of a second and hundredths of a second using the 24-hour system.

Eg: 01Hr 25 Min 15.56 Sec

Timing shall start on Go, after a countdown of five, four, three, two, one. The vehicle shall remain stationary until timing starts.

Once the countdown has commenced, should the competitor move in any direction ahead of "Go" a 10 second penalty shall be applied.

Should the infringement be deemed by the Competition Manager to be a deliberate attempt to gain unfair advantage the penalty may be elevated to a DNF.

A secondary timing device shall be used as a reserve for the primary timing device. The time recorded by the secondary timing device shall be disregarded unless the primary timing device fails to function.

3.2 STOPPED FINISH

Timing of a "Stopped Finish" Stage shall cease when at least one front hub of the competing vehicle passes the entry pegs to the "Finish Garage" and the vehicle comes to a complete stop prior to the end of the enclosure. The crew shall be seated with seat belts or harness correctly fastened, helmet on (in group B and C events or where nominated), the doors closed and window nets in place.

Competitors shall not move from the finish garage until directed by a Marshal.

3.3 FLYING FINISH

The timing of a flying finish Stage shall cease when the forward-most part of the vehicle crosses the finish line.

The Stage Manager shall be the judge of fact with regard to time and direction of entry into the finish garage

3.4 OBSTRUCTION TIME ALLOWANCE

The Competition Manager may award obstruction time to any Competitor who stops during a Stage due to external factors not intended to be part of the Event.

3.5 COMPASSIONATE TIME ALLOWANCE

The Competition Manager may award compassionate time to any Competitor who stops during an Event to render assistance where bodily harm might reasonably be expected to have occurred, or to be imminent.

3.6 STAGE RULES AND REGULATIONS

3.6.1 OCCUPANT PROTECTION

In Group A Events seat belts or harnesses shall be properly fitted, correctly fastened and adjusted during all Stages whilst the vehicle is in motion. No member of the Crew shall ride on the outside of a competing vehicle and no member of the Crew inside the competing vehicle shall have any limbs outside the vehicle whilst the vehicle is in motion. The harnesses may be partially released but only from one shoulder when the driver is required to reverse to ensure better visibility.

In Group B and Group C Events harnesses shall be properly fitted, correctly fastened and adjusted during all Stages whilst the vehicle is in motion. No member of the Crew shall ride on the outside of a competing vehicle and no member of the Crew inside the competing vehicle shall have any

limbs outside the vehicle whilst the vehicle is in motion. The harnesses may be partially released but only from one shoulder when the driver is required to reverse to ensure better visibility.

3.6.2 WINDOW NETS

Unless required by supplementary regulations, window nets are not compulsory in Group A Events.

Whilst competing in Group B and Group C Events window nets are required to be fitted to the drivers' and passengers' window aperture. The nets must cover at least 70% of the opening and be readily opened from the top from inside and outside the vehicle. The nets maybe of the "string" variety with mesh size no greater than 50mm x 50mm.

The location of the net is optional and it may be fitted to the window frame so as not to inhibit egress.

Window nets shall be properly fitted during all Stages whilst the vehicle is in motion. Window nets may only be removed when crossing deep water.

3.6.3 CRASH HELMETS

Unless required by supplementary regulations, wearing of crash helmets is not compulsory in Group A Events nor any Stages that are not timed nor in non-vehicle based Events or Stages.

Occupants shall wear Australian Standard Certified crash helmets to AS 1698 whilst competing in Group B and Group C Events. The helmets must fit correctly and be secured with the chin straps.

3.6.4 COURSE MARKERS

The course of a Stage may be marked by pegs or bunting or be stated as a formed track. Penalties shall be deducted for hitting pegs or infringing the course boundaries specified in the Event Supplementary Regulations. In the Event of a Stage consisting of gates on an undefined course, all gates shall be negotiated correctly and in the specified sequence.

3.6.5 SUPPLEMENTARY RULES AND REGULATIONS

The Competition Manager may add supplementary rules and regulations and/or further Regulations at any time during the running of the Event. The Competition Manager may decide on matters not covered in this set of rules and regulations and allocate penalty points at their discretion.

The Event Supplementary Regulations shall specify whether telephones or radios may or may not be used to share information during Navigation exercises.

3.7 DNS (DID NOT START)

A Competitor who fails to start 60 seconds after the timing has commenced for a Stage shall be deemed DNS. Also refer to rule 2.28, deemed by the starting Marshal to have started.

A Competitor not ready to start in their allocated order at the time the previous Competitor leaves the starting line, shall be deemed DNS. Also refer to rule 2.28, deemed by the starting Marshal to have started.

Competitors deemed DNS in a Stage, shall receive zero points in that Stage.

A Competitor shall be deemed DNS in a Stage if they have not passed a qualifying marker which is commonly the first obstacle.

3.8 DNF (DID NOT FINISH)

A time shall be allotted for the completion of each Stage. A Competitor shall be deemed DNF if they have not completed the Stage in the allotted time and shall immediately remove their vehicle from the course to allow other vehicles to start.

A Competitor may choose to DNF due to a mechanical fault. The Stage Marshals shall then remove the vehicle from the course in order to start the next Competitor as soon as possible.

A Competitor shall be deemed DNF if they receive any outside assistance during the running of a Stage.

Competitor shall be deemed DNF for that Stage if all four wheels of a competing vehicle cross a clearly defined boundary of the course or does not carry out the instructions of the Starting Marshal in respect to the sequence of activities that the stage has been designed to provide. The competitor shall immediately remove their vehicle from the course to allow other vehicles to start.

A Competitor deemed DNF in a Stage shall receive 20 Stage points provided they have passed a qualifying marker which is commonly the first obstacle.

3.9 CABLE REPAIRS

Should a winch cable break during a Stage, temporary repairs may be carried out to complete that Stage. The damaged cable shall then be replaced or reinstated to good condition in accordance with the scrutineering standard established for the Event.

The score sheet should note the broken cable/rope as an "incident".

3.10 PENALTIES

3.10.1 COURSE PENALTIES

- a) A 10 point penalty shall be incurred for each peg that is broken, knocked over more than 45° from vertical and/or lying on or pulled out of the ground.
- b) A 10 point penalty shall be incurred on each occasion for breaking any bunting along the course or garage.
- c) A 10 point penalty shall be incurred for lost or unsecured equipment at the completion of the Stage.
- d) Action causing risk to any person

3.10.2 WINCHING PENALTIES

A 10 point penalty shall be incurred without warning for each of the following breaches of vehicle recovery conduct as described in 2.33.3:

- a) Failing to call clear before commencing to winch;
- b) Failing to cease winching and driving when repositioning dampener;
- c) Handling cable under tension;
- d) Failing to wear gloves when handling a cable;
- e) Standing in front of vehicle being winched;
- f) Crossing a live cable;
- g) Causing risk to any person;
- h) Handling a cable when vehicle is being driven;
- i) Lost or unsecured equipment at the completion of the Stage;

A 10 point penalty shall be incurred after one warning for each of the following breaches of vehicle recovery conduct as described in 2.33.4:

- a) Cable dampener not placed in correct position during winching.
- b) Excessive wheelspin causing track damage or after being directed to cease;
- c) Incorrect use of a ground anchor:

3.10.3 CODE OF CONDUCT PENALTY

A 40 point penalty shall be incurred on each occasion of verbal or physical abuse of a Marshal.

3.10.4 LEVEL OF PENALTIES

The penalty level of 10 points represents 10% of the maximum 100 placing points available to be earned in a Stage. If the maximum placing points available to be earned in a Stage varies then the penalty level shall be varied accordingly.

Eg: If the maximum placing points available to be earned in a Stage is 200 then each penalty shall be set at 20 points.

3.10.5 OCCUPANT RESTRAINT AND CRASH HELMET PENALTIES

Seat belts/harnesses as specified in rule 3.6.1 shall be properly fitted to each vehicle for each occupant and shall be correctly fastened and adjusted at all times that the vehicle is in motion.

If an official detects that the seat belts/harnesses/helmet chin straps are not correctly adjusted he shall stop the vehicle and request that they be adjusted correctly.

On the first occasion that any occupant of a vehicle is detected not wearing a helmet (in group B and C events or where nominated), or their seatbelt/harnesses are not correctly fastened while the vehicle is in motion that Crew shall be disqualified from the Stage during which the infringement is detected, and no points shall be awarded for that Stage.

On the next occasion that any occupant of the same vehicle is detected not wearing a seatbelt/harness or helmet while the vehicle is in motion that Crew shall be disqualified from the Event.

3.11 SCORING

The scoring system shall be such that all Competitors shall have the same opportunity to achieve the same points for each Stage, and the same margins between placings in each Stage, for equal effort, recognising that there are a variety of skills required to navigate a four wheel drive vehicle over a variety of terrains within a defined period.

The scoring system shall also reward Competitors, who continue to attempt any Stage, by allocating DNF points for every Stage.

POINTS ALLOCATION TABLE

1 st	100	11 th	66	21 st	55	31 st	45	41 st	35
2 nd	95	12 th	64	22 nd	54	32 nd	44	42 nd	34
3 rd	91	13 th	63	23 rd	53	33 rd	43	43 rd	33
4 th	87	14 th	62	24 th	52	34 th	42	44 th	32
5 th	83	15 th	61	25 th	51	35 th	41	45 th	31
6 th	79	16 th	60	26 th	50	36 th	40	46 th	30
7 th	76	17 th	59	27 th	49	37 th	39	47 th	29
8 th	73	18 th	58	28 th	48	38 th	38	48 th	28
9 th	70	19 th	57	29 th	47	39 th	37	49 th	27
10 th	68	20 th	56	30 th	46	40 th	36	50 th	26

A Competitor finishing within the DNF time but placed after 50th shall receive 25 points.

A Competitor deemed DNF in any Stage shall receive 20 points, subject to the provisions of Rule 3.8 . Penalty points may still be applied.

A Competitor shall receive a minimum of 20 points before any penalties points are applied.

A Competitor shall not receive less than zero points if penalties exceed score gained.

3.12 STAGE PLACINGS

Stage Placing's shall be in the order of points achieved, after deducting any penalty points that may have been incurred, the highest number of points being placed first. The application of penalties may result in a Stage being won by a Competitor who scores less than the maximum available points.

Eg: if the maximum available points is 100, and the highest placegetter incurred one 10 point penalty during the Stage, they would finish the Stage with 90 points, placing them in equal third place and the second highest placegetter would be the Stage winner with 95 points.

3.13 TIMED STAGES

Competitors who complete a timed Stage within the DNF time shall be allocated points according to their elapsed time from fastest to slowest in accordance with the Points Allocation Table. Stage placings shall be determined after any penalties incurred have been deducted.

Should two or more Competitors finish a Stage with the same elapsed time, they shall be awarded equal points according to the Points Allocation Table. The Competitor with the next fastest time shall be allocated points according to their own elapsed time in that Stage. The placing(s) left vacant due to any tie shall not be allocated.

Eg: if two Competitors finish with equal third fastest time and are placed equal 3rd place, the next finishing position is 5th place. ie; both Competitors receive the points for third place according to the Points Allocation Table and fourth place is not allocated.

If no Competitor reaches the finish line, or completes the Stage in the allotted time, the Event Director may allocate points in the order of who advanced the furthest into the Stage.

3.14 TIMED NAVIGATION STAGES

A Competitor who successfully completes the most tasks or correctly achieves the highest number of navigation markers, or both, within the DNF time shall be allocated points from the Points Allocation Table in accordance with the following principles:

- Competitors shall be placed in order of merit by highest to lowest number of tasks completed within DNF time.
- Any Competitors with equal tasks completed, shall be separated by the lowest time achieved, thus gaining the higher placing.

Eg : The Stage might require 80 navigation markers to be found within 3 hours. If the greatest achievement is by one Competitor who returns with 60 markers, then that Competitor receives 100 points. If then the next best achievement is by 5 other Competitors who each return with 58 markers the Competitor with the lowest time out of those 5 receives 95 points. The second lowest timed Competitor of the 5 receives 90 points, and so on.

3.15 COMBINATION TIMED AND DISTANCE STAGES

Competitors who complete a Stage judged on both distance and time shall be allocated points based on the markers passed by the forward-most wheel hub of the vehicle and shall also be ranked based on time taken to reach the Finish within the DNF time. The Stage placing shall be decided by ranking Competitors first by greater distance achieved, then time taken should two or more Competitors achieve the same distance.

Competitors who do not reach the Finish shall still be considered finishers and placed according to the distance travelled by the forward most wheel hub of the vehicle within the allocated DNF time.

Eg: Two Competitors pass all the markers required along the course and make it to the finish box within the DNF time. The Competitor with the lowest time is placed first and the other, placed second. All the other Competitors reach various distances along the course and do not reach the finish box before the DNF time. These Competitors are placed according to the furthest distanced

achieved gaining the higher placing. Points are then allocated, according to the Points Allocation Table.

Should two or more Competitors finishing a Stage with the same completed tasks and elapsed time, they shall be awarded equal points in the Stage, less penalties incurred. The next fastest time shall be placed according to their own finishing position in that Stage. The placing(s) left vacant due to the tie shall not be allocated.

3.16 UNTIMED NAVIGATION OR THEORY STAGES

A Competitor who answers the most questions correctly within the DNF time and/or correctly enter all checkpoints and/or locate specific markers correctly and/or complete special tasks correctly shall be ranked in terms of total points achieved and awarded points according to their placing on the points allocation table.

3.17 UNTIMED DISTANCE STAGES

A Competitor who travels the greatest distance over arduous terrain within the DNF time shall be ranked by one of the following methods:

Placing decided based on the distance travelled by the forward most wheel hub of the vehicle once forward momentum has stopped.

Placing decided based on the distance travelled in a set DNF time.

Placings shall be awarded in order of the furthest distance travelled to the least distance travelled and allocated points according to the Points Allocation Table.

3.18 TEAMS STAGES

If Teams Stages are included, the Teams Stage results shall be calculated separately from individual Competitor Stage results, with separate Teams trophies awarded.

3.19 TEAMS EVENTS

Event Supplementary Regulations shall describe the scoring system for Teams Events

3.20 EVENT PLACINGS

Should two or more Competitors finish the Event on the same points, Event placing shall be determined by reference to each Competitor's placing in each Stage conducted.

Prologue results shall be added to, and included in, overall results.

To determine the Event placing, the Competitor with the greater number of first places in Stages shall be declared the higher placegetter. If this fails to break the tie then the Competitor with the greater number of second places shall be declared the higher placegetter. Failing that, reference shall be made to the greater number of third places and so on until a placegetter is determined.

3.21 PERMITTED SERVICING

Crews shall be self sufficient throughout Cross Country Four Wheel Drive Events.

Servicing of a Competitor's vehicle during a Cross Country Four Wheel Drive Event shall be permitted where such servicing:

- Is carried out only by Crew members of a vehicle that started in the Event, whether it is the vehicle in question or another Competitor's vehicle.
- Uses no parts or equipment other than those that have been carried in a Competitor's vehicle that started the Event, whether it be the vehicle in question or another Competitor's vehicle.
- Uses articles/material that might normally be found in the region, eg water, fencing wire, string and like. (Other than as provided for above this does not apply to automotive components or tools).

- Is in the form of assistance by an official recovery unit from a Stage and takes the form of:
 - removing the vehicle from the Stage,
 - provision of tools, parts and/or consumables provided that once clear of the Stage the tools and parts are returned to the official recovery Crew,
 - provision of water and lubricants to clear the vehicle from the Stage.

Should the Supplementary Regulations nominate specific service times and designated service areas the permitted servicing shall be confined to such times and areas.

The Event Director may provide written authority for other than permitted servicing. Such authority may designate a service area and should further stipulate an Event penalty.

Mobile support or service vehicles shall not be permitted to accompany or attend Crews or Competitor's vehicles unless nominated in the Supplementary Regulations for that Event.

3.22 RESULTS CLARIFICATION

Competitors may seek clarification of their score for any Stage from the Competition Manager. If there is a dispute then the procedures in Rule 3.23 shall be followed.

3.23 PROTESTS

Protests shall be handed in writing to the Competition Manager/Chief Steward within two hours of receiving the score of the Stage being protested. A cash deposit may be required, which may be forfeited if the protest is dismissed.

A judiciary panel of five persons shall be appointed at the start of the Event consisting of:

- Event Director
- Competition Manager
- Rules Adjudicator
- Relevant Stage Manager
- Competitors' Representative
- The Chief Scrutineer if the protest is an alleged vehicle specification breach.

The panel shall deliberate on any formal protest and a majority agreement of the panel shall be required for the protest to be upheld.

Should a member of the panel be considered to have a conflict of interest he or she will abstain from voting and be bound by the decision of the remaining members.

Should there be perceived prejudice between the Competitor and a member of the panel that panel member may absent themselves from the panel, or the Competitor may require that member to be removed from the panel. In this circumstance a minimum of 25% of the Competitors shall elect a replacement panel member from the remaining available Stage Managers.

4. VEHICLE SPECIFICATIONS

4.1 ALL CLASSES

4.1.1 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.

4.1.2 VEHICLE REGISTRATION

Except for Open class vehicles, 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 roadworthy condition as required and in accordance with the vehicle regulations applicable in the State or Territory or Country in which the vehicle is registered.

Any vehicle modification required by the vehicle registering authority to have engineering certification shall have such certification completed and acknowledged by the registering authority before presentation of the vehicle for scrutineering. The Chief Scrutineer may require proof of such acknowledgement or seek the advice of an automotive engineer as required.

4.1.3 OCCUPANT PROTECTION

Vehicles competing in Group A Events shall be fitted with lap/sash type seat belts for all occupants with belting that is not frayed or damaged and all mountings shall be secure in accordance with the original vehicle specifications.

Vehicles competing in Group B Events shall be fitted with original vehicle seat belts that is not frayed or damaged and all mountings shall be secure in accordance with the original vehicle specifications.

Vehicles competing in Group C Events shall be fitted with four point racing harness for all occupants fitted in addition to the original vehicle seat belts with harness belting that is not frayed or damaged and all mountings shall be secure in accordance with the original vehicle specifications.

Unless required by supplementary regulations, window nets are not compulsory in Group A Events.

Whilst competing in Group B and Group C Events window nets are required to be fitted to the drivers' and passengers' window aperture. The nets must cover at least 70% of the opening and be readily opened from the top from inside and outside the vehicle. The nets maybe of the "string" variety with mesh size no greater than 50mm x 50mm.

The location of the net is optional and it may be fitted to the window frame so as not to inhibit egress.

Station Wagon short wheelbase (SWB) and long wheelbase (LWB) type vehicles shall be fitted with rigid cargo safety barriers securely mounted behind the passenger seats. Any equipment, parts and tools carried forward of the cargo safety barrier shall be securely fixed to prevent movement or dislodgment during competitive or transport Stages of an Event.

Cargo safety barriers shall not be fabricated from webbing, strapping or any other flexible material.

Soft-top, FRP, plastic or open top vehicles, shall have roof protection installed to protect the Crew from intrusions. Roof protection shall consist of a 3mm minimum thickness aluminium sheet or 2mm minimum thickness steel plate or high impact plastic roof panel extending the full width of the vehicle from the windscreen frame to the rollover protection and shall terminate behind the heads of the Crew.

Sunroofs are not permitted on any vehicle competing in timed Events.

Vehicles competing in timed events other than Group A & B events shall be fitted with six point roll-over protection. The minimum design for rollover protection for frames constructed before 1 January 2005 shall be Type 3 Schedule J for Offroad Racing in the CAMS manual. The CCDA specification described in Rollover Protection Section 4 shall apply for all new frames from 1 January 2005 save that there is a twelve month moratorium on existing frames at the discretion of the CCDA.

Rollover protection is not compulsory for vehicles competing in Group A events however it is highly recommended.

The minimum design for any rollover protection fitted for Group B events shall be Type 2 (CAMS Manual Schedule J) half cage except that the diagonal brace may be removable, including back stays

Specification for material and mounting of rollover protection shall be to conform to CAMS specifications in Schedule J of the CAMS manual.

4.1.4 BARWORK

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

4.1.5 RECOVERY POINTS

Rated 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. Eyebolts are not considered as satisfactory recovery points.

Monocoque frame vehicles shall have each recovery point mounted such that the load is applied evenly to the vehicle frame, or have recovery points linked to achieve even load application.

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

4.1.6 ACCESSORIES

UHF (477mhz) operational radios shall be fitted to all vehicles.

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 rated at least to be greater than the capacity of the winch and double the weight of the vehicle, Vehicles weighing more than 2000kg shall require the higher specification of the respective equipment items listed below:

- One snatch strap: 60mm width rated 8000kg
- One snatch block: 7000kg
- Two suitable "D" or bow shackles, 3.25t or 4.75t
- One winch extension strap, 75mm width rated 8000kg or Synthetic Rope 10mm, 8500kg
- One tree trunk protector: 75mm width rated 12000kg. Two tree protectors may be required.
- At least one cable dampener measuring at least 900 x 500mm and weighing at least 1kg when dry.
- A total of 1.5kg fully charged dry powder fire extinguisher or two of the same of at least 0.9kg each capacity.
- Jack and jacking plate with capacity to lift the vehicle to change a wheel.

- Tools and spares as required to maintain the vehicle.
- Two pairs of winching gloves.
- One red reflective hazard warning triangle

4.1.7 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.

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.

Any video cameras fitted inside cabins shall be fastened behind the cargo barrier or on the dashboard in such a way that they do not interfere with the operation of any airbags nor have any brackets protruding into the cabin space.

4.1.8 SUSPENSION

Except in Open Class powered and manually operated active suspension that adjusts each wheel individually shall not be permitted.

4.1.9 TYRES

Supplementary Regulations shall nominate the allowable tread pattern and tread depth on tyres permitted to be fitted to vehicles in the Event.

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%.

4.1.10 WHEELS AND HUBS

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

4.1.11 SPARE WHEELS

Unless specified otherwise in supplementary regulations, a spare wheel shall be carried and securely fastened behind the cargo barrier or on the rear of the vehicle.

4.1.12 WINCHES

Powered winches for all classes except Challenge and Open shall be as purchased from the supplier with limited modifications allowed. Refer to vehicle specifications for details.

Powered winches shall have an operational braking system to prevent unspooling when not in operation and to hold the vehicle when winching pauses.

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

Rear Mounted 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 winches shall only be taken from the vehicle engine, driveline or vehicle electrical system. Auxiliary engines shall not be permitted.

Hand winches may be used.

Winch cables may be of wire or synthetic rope depending on class 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, including any increased rating of a modified winch.

Synthetic 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 capacity than, the cable or rope.

Winch hooks must be rated & have a self-retaining safety catch

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

There shall be no sharp protruding pins forward nor upward on the front of the vehicle.

4.1.13 BATTERIES

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 of the vehicle unless the battery is a sealed unit.

Mechanical battery isolation switches shall be fitted for the batteries controlling the running of the engine in Production, Challenge and Open Class vehicles.

4.1.14 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.

The original fuel tank may be supplemented, relocated or replaced with a long-range fuel tank.

4.1.15 FUEL

Fuel used shall be limited to that available from retail fuel outlets.

4.2 STANDARD CLASS

4.2.1 TYRES

Tyre sizes shall be limited to those originally specified by the vehicle manufacturer.

Tyres shall be enclosed within the width of mudguards and flares

4.2.2 WHEELS

Wheels shall be limited to the same size and offset as those originally specified by the vehicle manufacturer for the vehicle.

Bead locks shall not be permitted.

Wheel spacers shall not be permitted.

4.2.3 AXLES

Axle housings shall be original but may be protected.

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

4.2.4 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.

4.2.5 DIFFERENTIALS

The original differential system shall be retained unmodified.

Differential ratios shall not be changed.

Should differential locks be fitted to the vehicle as original equipment the vehicle shall not be eligible to compete in this class but may be eligible to compete in any class above this vehicle class.

4.2.6 GEARBOX

The original gearbox shall be retained unmodified.

4.2.7 TRANSFER CASE

The original transfer case system shall be retained unmodified.

Transfer case ratios shall be those available for that vehicle model and year.

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

4.2.8 STEERING

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

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

4.2.9 SUSPENSION

Shock absorbers and bushes shall be retained unmodified (except for normal service replacement with non-genuine parts) and the original number and location shall be retained.

The original spring design shall be retained unmodified. Original suspension linkages/pins shall be retained unmodified.

4.2.10 ENGINE

The original engine shall be retained unmodified.

Snorkels and aftermarket air filters are free.

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

4.2.11 ELECTRICAL

Alternators shall be retained unmodified.

Headlight inserts and globes are free.

Tail lights, stop lights and reversing lights shall be retained unmodified.

4.2.12 EXHAUST SYSTEMS

The original exhaust system shall be retained unmodified except for normal service replacement with non-genuine parts.

4.2.13 CHASSIS

The original chassis shall be retained unmodified.

Protection plates may be added for protection but not for strengthening purposes.

4.2.14 BODY

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

4.2.15 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 and shall be fitted in accordance with relevant registration requirements.

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

4.2.16 FUEL

The original fuel system shall be retained.

4.2.17 WINCHES

All vehicles must be fitted with one (and only one) operational powered winch when competing in an event where winching is required.

Electric winches may have some additional bracing, improved bearings, improved lubrication and an alternative DC motor with upgraded controls, but must remain in its original configuration.

PTO and Hydraulic winches they must be as designed by the supplier.

Winch hooks must be rated & have a self-retaining safety catch

4.3 TOURING CLASS

4.3.1 TYRES

Tyre sizes shall be limited to 33x12.5 or metric equivalent and must pass through a gauge with internal dimensions of 840mm and 320mm at 20psi or 1.4bar.

Track increase shall be limited to 50mm.

Tyres shall be enclosed within the width of mudguards and flares

4.3.2 WHEELS

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

Bead locks shall not be permitted.

Wheel spacers shall not be permitted.

4.3.3 AXLES

Axle housings shall be original but may be protected.

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

4.3.4 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.

4.3.5 DIFFERENTIALS

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

Differential ratios are free.

4.3.6 GEARBOX

The original gearbox shall be retained unmodified.

4.3.7 TRANSFER CASE

The original transfer case system shall be retained unmodified.

Transfer case ratios shall be those available for that vehicle make.

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

4.3.8 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.

4.3.9 SUSPENSION

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

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.

4.3.10 ENGINE

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

Snorkels and aftermarket air filters are free.

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

4.3.11 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.

4.3.12 EXHAUST SYSTEMS

The exhaust system is free.

Exhaust systems on tray back utes must terminate a minimum of 300mm past the rear of the cab. Exhaust systems on all other vehicles must terminate past the rear diff.

4.3.13 CHASSIS

The original chassis shall be retained unmodified.

Strengthening with the additional bracing is permitted.

Spring and shock absorber mountings may be strengthened.

Protection plates may be added for strengthening and protection purposes.

4.3.14 BODY

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

4.3.15 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 and shall be fitted in accordance with relevant registration requirements.

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

4.3.16 FUEL

The original fuel system shall be retained.

Alternative fuel such as LPG may be fitted in accordance with State and National Regulations.

4.3.17 WINCHES

All vehicles must be fitted with one (and only one) operational powered winch when competing in an event where winching is required.

Electric winches may have some additional bracing, improved bearings, improved lubrication and an alternative DC motor with upgraded controls, but must remain in its original configuration.

PTO and Hydraulic winches they must be as designed by the supplier.

Winch hooks must be rated & have a self-retaining safety catch

4.4 PRODUCTION CLASS

4.4.1 TYRES

Tyre sizes shall be limited to 35.5 x 13.5 and must pass through a gauge with internal dimensions of 900mm and 343mm at 20psi or 1.4bar.

Tyres shall be enclosed within the width of mudguards and flares

4.4.2 WHEELS

Wheel options are unlimited, except that tyres shall be enclosed within the width of mudguards and flares

Bead locks are allowed.

Wheel spacers shall not be permitted.

4.4.3 AXLES HOUSINGS & HUBS

Axle housings shall be the original equipment for that series/model of vehicle except that they may be strengthened and protected.

Extension breathers may be fitted.

Hubs are free except that drop axles and reduction hubs shall not be permitted.

4.4.4 DIFFERENTIALS

The differential system for that series/model of vehicle shall be retained unmodified except that differential locks may be fitted.

Differentials may be strengthened which includes up rated axles and CV's.

Differential ratios are free.

4.4.5 BRAKES

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

4.4.6 GEARBOX

Gearboxes shall be the original equipment for that make of vehicle except that they may be strengthened and protected and they may be replaced by an automatic or manual from that make of vehicle.

Gearbox ratios are free.

4.4.7 TRANSFER CASE

The transfer case system for that make of vehicle shall be retained except that transfer case ratios are free.

4.4.8 STEERING

Steering boxes are free but shall be limited to mechanical system. No External power assisted ram to be used.

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

4.4.9 SUSPENSION

One shocker and spring per corner (4 in total)

One spring per corner and independent of shocker

Shock absorber and spring be mounted in the original mount.

Suspension lift shall be limited to a maximum of 100mm from original.

Control arm configuration shall be retained including mounting points but may be strengthened. Arm length may be extended by a maximum of 20mm.

Panhard Rod configuration shall be retained including mounting points but may be strengthened. Arm length may be extended by a maximum of 20mm and may be adjustable.

The axle position of the original vehicle chassis shall be retained within 50 mm of its original location to retain substantially the same wheel base.

4.4.10 ENGINE

The original engine for that vehicle series/model shall be retained unmodified except that alternative engine management systems can be used.

Diesel engines may be fitted with a factory turbocharger, factory fitted intercoolers may be retained. Alternatively diesel engines may be fitted with an aftermarket turbocharger on a cast iron manifold without an intercooler.

Petrol engines, no intercoolers, superchargers or turbo to be fitted.

Snorkels and aftermarket air filters are free.

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

4.4.11 ELECTRICAL

A battery mechanical isolation switch for the battery that provides power to the engine, ignition and fuel pump shall be securely mounted within easy reach of each member of the Crew and this switch may isolate the negative terminal.

Alternators are free.

Headlight inserts and globes are free.

Taillights, stop lights and reversing lights are free.

4.4.12 EXHAUST SYSTEMS

The exhaust system is free.

Exhaust systems on tray back Ute must terminate a minimum of 300mm past the rear of the cab.

Exhaust systems on all other vehicles must terminate past the rear diff.

4.4.13 CHASSIS

The original chassis for that model of vehicle shall be retained.

Strengthening with the additional bracing is acceptable.

Spring and shock absorber mountings may be strengthened.

Protection plates may be added for strengthening and protection purposes.

4.4.14 BODY

Must retain original body type .ie: wagon must not be cut down into a ute. This is determined by what's on the compliance plate.

No fibreglass replacement panels, all panels including bonnet must be of original material.

Guards can be cut to allow clearance for the bigger tyres

Rear ¼ panel lowers can be trimmed behind the rear wheel

All glass must be retained in the body forward of the B pillar. Polycarbonate or Acrylic (Perspex) may be used rear of the B pillar provided that it is approved for automotive use and must be see through.

Body lifts shall be limited to 50mm and shall be completed in a safe and secure manner and the spacers shall be a noncrushable 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.

Wheel base must remain standard

.Additional mudflaps, flares and door sills may be added for protection.

4.4.15 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 requirements.

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

4.4.16 FUEL

The original fuel system shall be retained.

Alternative fuel such as LPG may be fitted in accordance with State and National Regulations. LPG may be fitted to petrol engines only.

4.4.17 WINCHES

All vehicles must be fitted with one (and only one) operational Warn 8274 winch when competing in an event where winching is required.

Winches may have some additional bracing, improved bearings, improved lubrication, upgraded brake shaft & upgraded controls, but must remain in its original configuration with standard gear ratios. Upgraded wiring is permitted.

Motor must be a standard Warn motor (maximum 6hp)

1 winch motor only

Winch must retain standard drum in length & diameter, however you may upgrade the flange thickness

Winch must be fitted with 12volt motor.

Winch can run on 12-volt only, no 24-volt systems

No free spools

Winch must be front mounted

Synthetic type winch rope must be used.

Winch hooks must be rated & have a self-retaining safety catch

CHALLENGE CLASS

4.4.18 TYRES

Tyre sizes shall be limited to 37.5 x 13.5 and must pass through a gauge with internal dimensions of 950mm and 350mm at 20psi or 1.4bar.

Tyres shall be enclosed within the width of mudguards and flares

4.4.19 WHEELS

Wheel options are unlimited.

Bead locks are allowed.

Wheel spacers shall not be permitted.

4.4.20 AXLES & HUBS

Axle housings are free.

Axle internal components are free.

Hubs are free.

4.4.21 BRAKES

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

4.4.22 DIFFERENTIALS

The differential system is free.

Differentials may be modified and strengthened.

Differential ratios are free.

4.4.23 GEARBOX

The gearbox options are open.

4.4.24 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.

4.4.25 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.

4.4.26 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.

Suspension mounting points may be strengthened.

The axle position is free.

4.4.27 ENGINE

Any replacement engine is permissible.
Engine management systems are free.
Snorkels and aftermarket air filters are free.
Oil filters are free.

4.4.28 ELECTRICAL

A battery mechanical isolation switch for the battery that provides power to the engine, ignition and fuel pump shall be securely mounted within easy reach of each member of the Crew and this switch may isolate the negative terminal.

Alternators are free.
Headlight inserts and globes are free.
Tail lights, stop lights and reversing lights are free.

4.4.29 EXHAUST SYSTEMS

The exhaust system is free.
Exhaust systems on tray back Ute must terminate a minimum of 300mm past the rear of the cab.
Exhaust systems on all other vehicles must terminate past the rear diff.

4.4.30 CHASSIS

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

4.4.31 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 50% of the side profile of the original make of vehicle regardless of model.

The determination of the 50% 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.

4.4.32 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 requirements.

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

4.4.33 FUEL

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

Alternative fuel such as LPG may be fitted in accordance with State and National Regulations.

4.4.34 WINCHES

All vehicles must be fitted with operational powered winch(s) when competing in an event where winching is required.

Electric winches may be modified including multiple motors and gearboxes and upgraded controls.

PTO and Hydraulic winches may be modified.

Synthetic type winch rope must be used.

Winch hooks must be rated & have a self-retaining safety catch

4.5 OPEN CLASS

4.5.1 TYRES

Tyre size is free.

4.5.2 WHEELS

Wheel options are unlimited.

Bead locks are allowed.

4.5.3 AXLES & HUBS

Axle housings are free.

Axle internal components are free.

Hubs and hub spacers are free.

4.5.4 BRAKES

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

4.5.5 DIFFERENTIALS

The differential system is free.

Differentials may be modified and strengthened.

Differential ratios are free.

4.5.6 GEARBOX

The gearbox options are free.

4.5.7 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.

4.5.8 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.

4.5.9 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.

Suspension mounting points may be strengthened.

The axle position is free.

Independently adjustable suspension is free

4.5.10 ENGINE

Any replacement engine is permissible.

Engine management systems are free.

Snorkels and aftermarket air filters are free.

Oil filters are free.

4.5.11 ELECTRICAL

A mechanical isolation switch for the battery that provides power to the engine, ignition and fuel pump shall be securely mounted within easy reach of each member of the Crew and this switch may isolate the negative terminal.

Alternators are free.

Headlight inserts and globes are free.

Taillights stoplights and reversing lights are free.

4.5.12 EXHAUST SYSTEMS

The exhaust system is free.

Exhaust systems on tray back Ute must terminate a minimum of 300mm past the rear of the cab. Exhaust systems on all other vehicles must terminate past the rear diff.

4.5.13 CHASSIS

The original chassis for that make of vehicle shall be used.

Strengthening with the additional bracing is permitted.

Spring and shock absorber mountings may be strengthened.

Protection plates may be added for strengthening and protection purposes.

4.5.14 BODY

The body is free.

Body lifts are free and shall be completed in a safe and secure manner and the spacers shall be a non-crushable material and the bolts shall be at least the same diameter as the original body mounting bolts and at least grade 8.

Additional mudflaps flares and doorsills may be added for protection.

4.5.15 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 requirements.

4.5.16 FUEL

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

Alternative fuel such as LPG may be fitted in accordance with State and National Regulations.

4.5.17 WINCHES

All vehicles must be fitted with operational powered winch(s) when competing in an event where winching is required.

Electric winches may be modified including multiple motors and gearboxes and upgraded controls.

PTO and Hydraulic winches may be modified.

Synthetic type winch rope must be used.

Winch hooks must be rated & have a self-retaining safety catch.

5. ROLLOVER PROTECTION

5.1 APPLICATION

Rollover protection is required as specified in the CCDA Class Specifications and Event Supplementary Rules

5.2 DEFINITIONS

- a) **Safety Cage** – A structural framework designed to prevent serious body shell deformation in the event of a collision or the vehicle turning over.
- b) **Roll bar** – Structural frame or hoop and mounting points
- c) **Roll cage** – Structural framework made up of a main roll bar and a front roll bar, their connecting members, one diagonal member, backstays and mounting points.
- d) **Main roll bar** – Structure consisting of a near vertical frame or hoop located across the vehicle just behind the front seats.
- e) **Front roll bar** – Similar to the main roll bar but its shape follows the windscreen pillars and top screen edge.
- f) **Lateral roll bar** – Structure consisting of a near vertical frame or hoop located along the right or left side of the vehicle. The rear legs of a lateral roll bar must be behind the seats. The front leg must be against the screen pillar and the door pillar such that it does not unduly impede the entry or exit of the driver and co-driver.
- g) **Longitudinal member** – Longitudinal tube which is not part of the main, front or lateral roll bar and linking them, together with the backstays.
- h) **Diagonal member** - Transverse tube between a top corner of the main roll bar or upper end of a backstay and a lower mounting point on the other side of the roll bar or backstay.
- i) **Framework reinforcement** – Reinforcing member fixed to the roll cage to improve its structural efficiency.
- j) **Reinforcement plate** – Metal plate fixed to the bodyshell or chassis structure under a roll bar mounting foot to spread load into the structure.
- k) **Mounting foot** – Plate welded to a roll bar tube to provide for bolting or welding to the bodyshell or chassis structure, usually onto a reinforcement plate.
- l) **Removable members** – Structural members of a safety cage which shall be able to be removed.

5.3 SPECIFICATIONS

5.3.1 GENERAL COMMENTS

Safety cages shall be designed and made so that, when correctly installed, they substantially reduce bodyshell deformation and so reduce the risk of injury to occupants. The essential features of safety cages are sound construction designed to suit the particular vehicle, adequate fixings and a close fit to the bodyshell. Tubes shall not carry fluids or compressed air or be used as a pressure vessel. The safety cage shall not unduly impede the entry or exit of the driver or co-driver. Members may intrude into the occupant's space in passing through the dashboard and front side-trim, as well as through the rear side-trim and rear seats. The rear seat may be folded down or removed.

5.3.2 TECHNICAL SPECIFICATIONS

Main, front and lateral roll bars shall be made in one piece without joints with smooth and even construction without ripples or cracks. The vertical part of the main roll bar shall be parallel to the interior contour or the bodyshell.

The front leg of a front roll bar or of a lateral roll bar shall be straight, or shall follow the windscreen pillars and have only one bend with its lower vertical part.

Where a main roll bar forms the rear leg as of a lateral roll bar, the connection to the lateral roll bar shall be at roof level.

To achieve an efficient fixing to the bodyshell, the original interior trim may be modified around the safety cages and their fixings by cutting it away or by removing it.

No part of the interior trim/ roof lining etc. should compromise the positioning of the ROP. Modern contoured roof linings can reduce the height of internal bars by as much as 50mm. Allowance should also be made for relocation of fuse boxes, heater fans etc.

In open cars the roll bar shall be a minimum of 50 mm above any occupant's head. In conjunction with the vehicle's structure the roll cage should not leave unprotected any part of an occupant's shoulders when viewed from front or rear.

The main roll bar shall not overhang but shall be within 150mm of any occupant's head.

An occupant's helmet shall be prevented from passing between the bars to the extent that the helmet is visible at the rear of the hoop when viewed from the side.

No holes may be drilled in the main bar.

5.3.3 FIXING OF ROLL CAGES TO THE BODYSHELL

Roll cages shall be fixed to the vehicle by one of the following three options:

Option 1

As a minimum, fixings shall comprise:

- One for each leg of the main or lateral roll bar;
- One for each of the front roll bar;
- One for each backstay.

Fixing may be by bolting or welding to the bodyshell.

Each fixing plate of the front, main and lateral roll bars shall include a reinforcement plate 3mm thick, or the gauge of the tube onto which it is welded, whichever is the greatest.

If bolted to the bodyshell each fixing plate shall be attached by a minimum of three bolts on a steel reinforcement plate at least 3mm thick and of at least 15,000mm² area which is welded to the bodyshell. This area can be made up of a single plate or by adding a third dimension (i.e. angle) to its profile. Minimum Base Plate to be at least 10,000mm² with a 100mm single dimension.

Bolts shall be either M8 size to ISO standard 8.8, hexagon head high tensile fasteners to AS2465 or capscrews to AS14201 with nuts to AS1112 or better. Pins for removable connections shall be the same strength specifications as the bolts.

Fasteners shall be self-locking or fitted with lock washers. Additional fasteners may be used however all fasteners shall meet these requirements.

If welded to the bodyshell roll bar legs shall be welded to reinforcement plates. Roll bar feet shall not be welded directly to the bodyshell without a reinforcement plate.

Option 2

Alternatively all the attachment points of the roll cage may be fitted with a base plate and lower plate complying with the table below. The base plate, complying with the area requirements

shown in the table below, may be welded to the bodyshell, in which case the use of bolts and the lower plate is not required.

Application	Minimum Area	Minimum single dimension
Upper (base) plate Over 1151kg	15,000mm ² Min Baseplate of 10,000mm ²	100mm
Lower plate	4,500mm ²	Proportional to upper plate

Option 3

Where Event Group regulations permit, the roll bar protection may be an integral part of a space frame tubular chassis. The rollcage shall comply with these regulations from a point above where the predominately vertical portion of the roll cage meets a predominately horizontal portion of the chassis. Parts of the roll cage may extend below this horizontal plane and become integral with the chassis. Vertical components shall be braced from the chassis.

5.3.4 BACKSTAYS

Backstays shall be attached near the roofline and near the top outer bends of the main roll bar on both sides of the vehicle. They shall be at angle of at least 30 degrees with the vertical, shall run rearwards and be straight and as close as possible to the interior side panels of the bodyshell.

Their materials specification, diameter and thickness shall be as defined in Rule 5.4.

Their fixings shall be reinforced by plates. Each backstay should be secured by bolts having a cumulative section area at least two thirds of that recommended for each roll bar leg mounting, and with identical reinforcement plates of at least 6,000mm² area.

A single bolt in double shear is permitted, provided it is of adequate section and strength and provided that a bush is welded into the backstay.

It may be more appropriate for the longitudinal braces to be forward of the main roll bar than rearward. Such configurations may be considered by the CCDA Technical Committee.

5.3.5 DIAGONAL MEMBERS

At least two diagonal members shall be fitted and shall be straight. The attachment points of diagonal members shall be located so that they cannot cause injury. They may be removable but shall be in place when competing in events. The lower end of the diagonal shall join the main roll bar or the backstay not further than 100mm from the fixing foot. The upper end must join the main roll bar not further than 100mm from the junction of the backstay joint or the backstay not more than 100mm from its junction with the main roll bar.

5.3.6 OPTIONAL REINFORCEMENT OF THE ROLL CAGE

The diameter, thickness and material of reinforcements shall be as defined in Rule 5.4.. They shall either be welded in position or installed by means of demountable joints.

5.3.7 ROOF REINFORCEMENT

There shall be at least one straight longitudinal member between the main roll bar and the front roll bar.

5.3.8 REINFORCEMENT OF BENDS AND JUNCTIONS

The junction of the main roll bar or the front roll bar, the top rear bends of the lateral roll bars and the junction between the main roll bar and the backstays may be reinforced with longitudinal struts.

The ends of these reinforcing struts shall not be more than half way down or along the members to which they are attached, except for those at the junction of the front roll bar, which may join the junction of the door strut/front roll bar.

A reinforcement may be added on each side of the front roll bar between the upper corner of the windscreen and the base of the door pillar roll bar.

5.3.9 PROTECTIVE PADDING

All sections of the roll cage that could come into contact with occupant’s bodies or helmets shall be provide with non-flammable padding for protection.

5.3.10 REMOVABLE MEMBERS

Should removable members be used in the construction of a roll cage, the demountable joints shall be of a type as specified in the CCDA Demountable Joint Schedule. The bolts must be of at least ISO Standard 8.8.

Demountable joints shall not be used as part of the main, front or lateral roll bar.

5.3.11 GUIDANCE ON WELDING

All welding shall be of the highest possible quality with full penetration and preferably using a gas shielded arc, and shall demonstrate good workmanship.

When using heat-treated steel the special instructions of the manufacturers shall be followed (special electrodes, gas protected welding).

5.4 MATERIAL SPECIFICATIONS

All tubing used in roll bar protection structures shall be circular section cold drawn steel tube (CDS, CDW or CEW) with properties as shown in the following tables.

Composition

Property	Specification
Carbon Content	0.3% max.
Magnese content	1.0% max.
Other alloy content	0.5% max.
Tensile strength	350 Mpa min.

Minimum dimensions

Component.	Outside Diameter	Wall Thickness
Main Hoop	44.45mm	2.5mm
	50.00mm	2.0mm
All other Components	38mm	2.5mm
	40mm	2.0mm

These figures represent the minimum permitted specification. In selecting the steel, attention shall be paid to obtaining good elongation properties and adequate weldability.

The CCDA may other consider steel composition and dimensions on application.

The tubing shall be bent by a cold working process and the centreline bend radius shall be at least three times the tube diameter. Where the tubing is distorted during bending, the ratio of major to minor diameter shall be 0.9 or greater.

5.5 FLEXIBLE JOINTS

The use of flexible Lug Mounts on the rear brace shall be permitted on the rear brace of the roll bar protection provided the following minimum specifications are met:

A. Outer sleeve

The material shall be that used for the rear brace or of a higher specification and shall be welded to end of rear brace.

The wall thickness shall be 2.5mm minimum

The minimum outside diameter shall be that used for the rear brace and the maximum outside diameter shall be 25% larger than that used for the rear brace.

The minimum length shall be equal to the outside diameter of the rear brace.

B. Bushing Material

Bushings may be rubber, urethane, nylon or similar flexible material

Bushing outside diameter shall be no greater than three and a half times the outside diameter of the inner sleeve.

The minimum length of bushings shall be equal to the length of the outer sleeve.

C. Inner sleeve/Spacer tube

Inner sleeves shall be steel of minimum thickness of 1.0mm.

The inside diameter of inner sleeves shall equal the outside diameter of the cross bolt.

Inner sleeve length shall be no greater than the length of the bushing material, and at least 200mm longer than outer sleeve.

D. Cross Bolt

Cross bolts shall be 11mm or 7/16 inch, minimum diameter and at least 8.0 Grade steel.

E. Fixing Lugs

Fixing lugs shall be steel with a minimum thickness of 5mm and a minimum length no less than the outside diameter of the bushing material.

5.6 RECOMMENDED DESIGNS

5.6.1 CAB CHASSIS VEHICLES

Due to space considerations in the cabin of cab chassis vehicles either a flexible joint shall be used through rear of cab bulkhead or two separate roll cages shall be constructed.

The main rollbar in the cabin shall be within 150mm of the occupants' heads but shall not overhang the occupants. If there is insufficient room within the cabin the two diagonal cross braces may be within the main roll bar to the rear of the cab.

6. SCRUTINEERING

6.1 GENERAL COMMENTS:

6.1.1 PURPOSE

The scrutineering process shall ensure that vehicles comply with class rules, and that each vehicle and its equipment is in a safe condition, and that all vehicles commence competition in an equal state of preparedness.

It is the intention of the event scrutineering team to check log books and have each Competitor's vehicle complete the scrutineering process successfully.

Competitors can expedite the event scrutineering process by attending at the location and time advised in the Event Supplementary Regulations.

Log books are to be kept up to date and any incident that affects the safety of the vehicle will require the driver to have the vehicle re-scrutineered.

Any modifications to the vehicle will require the vehicle to be scrutineered prior to the event and have the log book updated.

6.1.2 CLASSES

The vehicle classifications shall be read in conjunction with Event Supplementary Regulations.

Vehicles displaying a current registration certificate issued by the relevant authority in their State, Territory or Country of origin shall be deemed to meet any requirements of these rules to be road registered.

6.1.3 SAFETY

A general safety check shall be performed on all competing vehicles and shall include, but not be limited to the following specific items.

Driving lights:

All auxiliary high beam lights shall extinguish with the selection of low beam. Roof mounted lights shall be demountable with plug in wiring for public road use.

Wheel spacers:

In Standard, Touring, Production and Challenge Class vehicle specifications wheel spacers are not permitted. A wheel spacer, or hub extension is any device that is fitted between the original hub and the wheel centre to change wheel offset distance.

Recovery kit:

The rules call for a the rating of all mounted and portable recovery equipment to be equal or greater than the capacity of the winch and/or the weight of the vehicle, up to twice the vehicle weight.

Recovery points:

Recovery points constructed as a plate and a loop of steel welded to it, as fitted to Nissan and Mitsubishi vehicles, and the eyes on commercial bullbars, unless they are triple laminated and fully welded, are not permitted. Tie down points including those on monocoque body vehicles will not be accepted.

Rated towbars will be accepted as recovery points, however towballs shall not be used for connecting recovery equipment.

Recovery points should be suitably over engineered. The rules call for recovery points to be rated at twice the vehicle mass. While recovery points may not be test loaded scrutineers will be

applying the “over engineered” approach when inspecting them at scrutineering and the onus to supply proof of strength will be with the Competitor.

Cable storage horns/pegs:

Cable horns or pegs that protrude in a manner that might injure or impale the winch operator should he fall against them will not be acceptable.

6.1.4 ROLL BARS

Refer to the section on Rollover Protection in Section 5 for full details. There may be a moratorium in place with new regulations coming into force so check with the Supplementary Regulations for any variations. The scrutineering team will inspect Rollover Protection thoroughly, and will evaluate compliance on an individual basis.

6.1.5 FIRST AID KITS

Competing vehicles shall carry an adequate outdoors first aid kit in or on the car at all times and it must be readily accessible.

6.1.6 CRASH HELMETS

Crash Helmets shall be in acceptable condition without deep scratches or abrasions and shall carry AS 1698 rating sticker. Helmets which have been painted, or which carry large stickers, will not be acceptable.

6.1.7 TYRE SIZES

A tyre gauge will be used to measure tyre height and width. Please make sure that your tyres fall within the specified range. In touring class, a 12.5-inch section tyre mounted on a 10-inch rim may not comply. The gauge must be able to move freely over the diameter and width of the tyre.

In events that are not on closed property wheel arch flares will be expected to cover entire tread of tyre, and it is strongly recommended that rear mudflaps also cover the entire tread width to protect following competitors from track debris. On vehicles with short rear overhang, rear mudflaps should be positioned so that their bottom edge is at or below a line drawn at 45 degrees from the point of tyre contact with road.

6.1.8 SUPPLEMENTARY FUEL STORAGE

Fuel containers (other than tanks) shall be of an approved type.

Auxiliary tanks will be inspected for safety. Custom built tanks shall be manufactured and supported to similar standards as those of the recognised after-market tank manufacturers.

6.1.9 INTERIOR ACCESSORIES

Any vehicle equipped with SRS airbags shall not have any accessories (GPS, map lights, etc.) located in such a position that it may cause the accessory to be caught between the SRS airbag and the driver or passenger.

The rule pertaining to Video camera mounting will not apply to cab chassis type vehicles; however, any camera shall be mounted so as to minimise the possibility of bodily contact in the event of a rollover or collision.

6.1.10 ROOF RACKS

A roof rack could constitute a danger in the event of a rollover. They also add considerably to the height of the centre of gravity. Please be aware of these dangers if considering the use of a rack.

6.1.11 LOOSE ITEMS IN CAB

Any loose items other than soft recovery straps will not be acceptable in the driver/co-driver compartment.

6.1.12 READY TO START CONDITION

The scrutineering team shall check ALL items, and should not need to be re-checking vehicles at late scrutineering for trivial transgressions.

Driver, co-driver, all relevant paperwork, and all compulsory equipment shall be present at event scrutineering. Recovery equipment, spares, tools, personal gear, garbage bags, water and other nominated items in the supplementary regulations shall all be securely stored but available for inspection.

6.1.13 UNACCEPTABLE EQUIPMENT

Equipment may be rejected because of its particular construction and its potential to fail.

For example a snatch block that has a relatively shallow machined groove for the cable, a flat area each side of the groove, and excessive clearance between the sheave and cheek plates could cause the cable to ride out of the groove (via the flat area), jamb between the sheave and one cheek plate, and force the retaining circlip to shear. This has been observed to cause the cheek plate to separate from the axle, risking pieces of the mechanism to be projected with considerable force.

Recovery equipment must carry the appropriate rating

6.1.14 CLASS COMPLIANCE COMMENTS

Please read the class rules very carefully. If you have any doubt as to the compliance of your vehicle, contact the chief scrutineer or the event manager.

6.1.15 SCRUTINEERING PENALTIES

Supplementary Regulations may nominate a penalty for any vehicles that fail the event scrutineering if there are any discrepancies from the pre-event scrutineering and the log book

6.2 LOG BOOK APPLICATION PROCEDURE

Information sheets available from CCDA or their web site

- Log Book Application Form
- Roll bar certification
- Scrutineers report

Owner fills in details on application forms for vehicle

- Personal details
- Vehicle details
- 2 photo's 1 front, 1 side view of vehicle
- Has the roll bar manufacturer fill in ROPS compliance sheets
- Has a CCDA scrutineer inspect vehicle & submits the signed report when vehicle passes the inspection for the specific CCDA Vehicle Class.

Scrutineering report, ROPS Certification, log book application and photo's sent to CCDA, Competition Secretary, PO Box 582, Bayswater, Vic 3153 or brings them to the next event for log book and label issue.

CCDA enters details, photos and ROPS information into log book and establishes a vehicle file. Log book returned to the driver prior to the event or in the case of issuing at the event the log book is returned to the driver after the event.

NOTE: you cannot scrutineer your own vehicle.

Event Scrutineering:

This will be outlined in the Supplementary regulations.