

1997



**V.J.S.D.A inc.
Specification Book**

A Modified

CLASS SPECIFICATIONS
MODIFIED PRODUCTION



1997

Daylesford Speedway

A MODIFIED

General Specifications

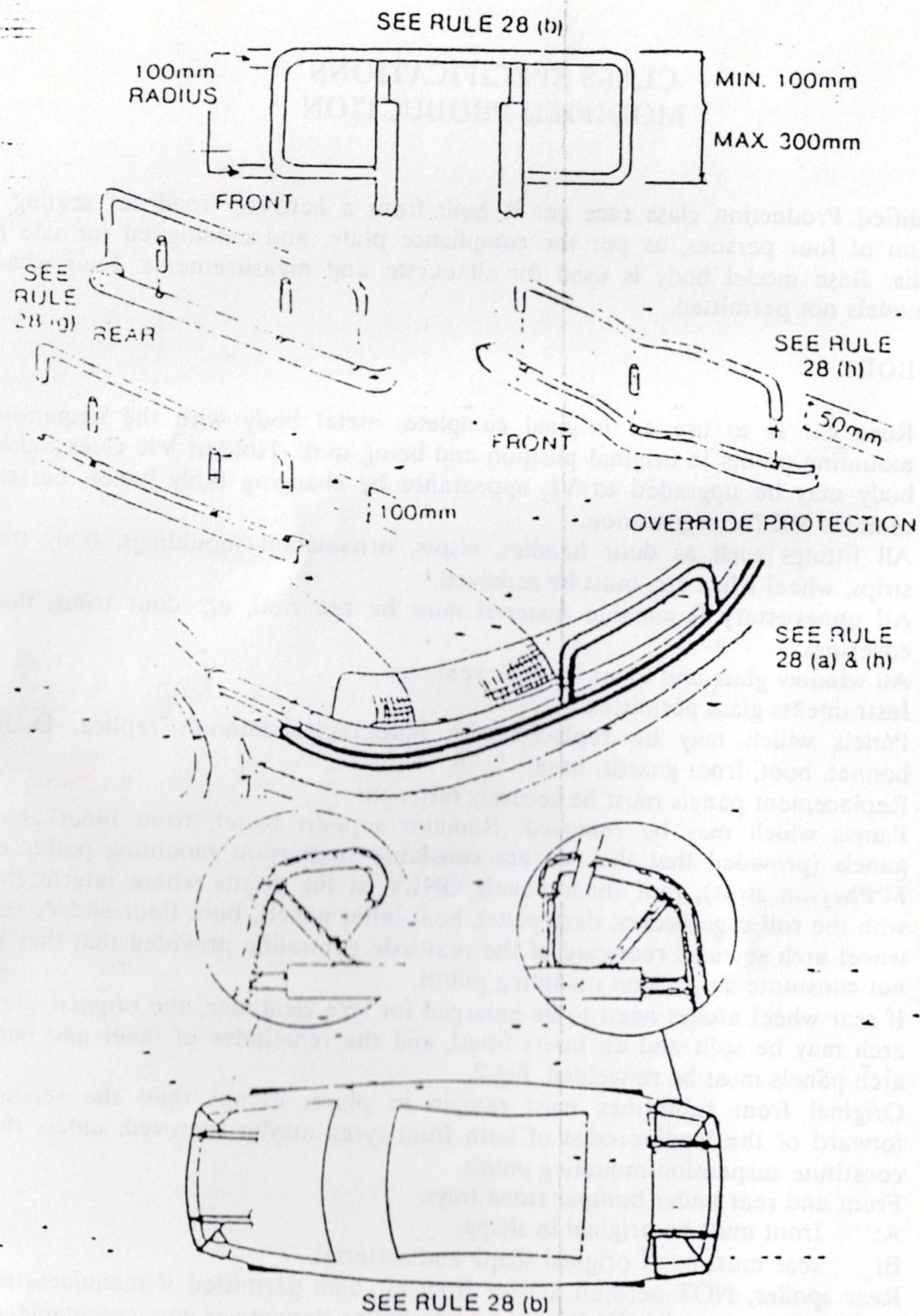
CLASS SPECIFICATIONS MODIFIED PRODUCTION

A Modified Production class race car is built from a hard-top road car seating a minimum of four persons, as per the compliance plate, and catalogued for sale in Australia. Base model body is used for silhouette and measurements. Four wheel drive models not permitted.

10. BODY

- a) Race car is to use an original complete, metal body with the suspension mounting points in original position and being used. Holden VK Commodore body may be upgraded to VL appearance by changing body panels but car remains VK for registration.
- b) All fittings such as door handles, visors, ornamental mouldings, body trim strips, wheel trims etc, must be removed.
- c) All unnecessary flammable material must be removed, eg: door trims, floor coverings.
- d) All window glass and lights must be removed.
- e) Instruments glass permitted.
- f) Panels which may be replaced with fibreglass/aluminium replica. Doors, bonnet, boot, front guards, nose.
- g) Replacement panels must be securely fastened.
- h) Panels which may be removed: Radiator support panel, front inner guard panels (provided that they do not constitute suspension mounting points eg: McPherson strut), roof inner panels ONLY at the points where interference with the roll cage occurs, dash panel, boot inner panels, boot floor and/or rear wheel arch sections rearward of the rear axle centreline provided that they do not constitute suspension mounting points.
- i) If rear wheel arches need to be enlarged for tyre clearance, the original wheel arch may be split and an insert fitted, and the remainder of inner and outer arch panels must be re-welded. Fig 2.
- j) Original front subframes must remain in place, except that: the sections forward of the leading edge of both front tyres may be removed, unless they constitute suspension mounting points.
- k) Front and rear under bumper stone trays.
A: front must be original in shape.
B: rear must be of original shape and material.
- l) Rear spoiler, NOT aerofoil and/or front air dam permitted if manufacturer's option for the model. Walkinshaw and similar derivatives not acceptable on rear.

FIG. 13



- m) Other aerodynamic aids NOT permitted.
- n) All bodywork including any subsequent ie: all race day damage shall be to a tradesman like standard and MUST permit the vehicle to be presented in as near to original condition as possible.
- o) Paintwork and sign writing: all paintwork, sign writing and numbers to be neat attractive and proficiently finished. All vehicles must carry the correct identification number as issued by their club. This number will be displayed on each side of car and on the roof. Numbers are to be 460mm high x 75mm line width minimum and in a contrasting colour. Club prefix, if required 150mm high and to precede number. Identification number to be visible from front of car (for pit marshal). The name of the driver will appear on the roof over RH door or on visor strip, in letters of a minimum of 75mm high.
- p) Fuel tap to be marked, indicating the positions of FUEL ON/OFF. Kill switch to be clearly marked, in contrast colour, for method of operation eg DOWN/OFF. Battery location to be indicated by BLUE triangle (50mm x 50mm) on the body.
- q) Interior rear vision mirrors to ADR 8 permitted. Max 155 sq.cm.
- r) Bonnet to be securely fastened. Four bonnet pegs (5 for fibreglass) to be 12mm min. to 15mm max. mild steel, or approved equivalent. Bonnet lock pin 3mm min to 6mm max. Heavy duty large reinforcing washers (min 30mm O.D.) to be fitted to all bonnet peg holes. Similarly, boot lid to be securely fitted, using pegs and large washers as for bonnet. Four pegs for removable lid. Hinged bonnet and boot lid permitted, using minimum of two pegs and pins. Skeletonising not permitted on hinged panels within 50mm of hinges. If hinged panel to be welded to the bonnet or boot skin.
- s) Fuel tank area must be accessible for scrutineering.
- t) Grille may be fabricated 3mm max FMS, but is to resemble original. Multi piece sheet metal, brittle plastic, or diecast grille and fittings not permitted.
- u) Cars may have a wheel arch flare if manufacturer's OPTION for the model and to be of original type. Flare edges are not to be reinforced. Flares to be body material.
- v) Headlight and tail light apertures to be covered with body material.

11. FIREWALL

Driver must be protected and isolated from mechanical, fuel, electrical and exhaust components by metal firewalls, min. 1mm thick. (See Exhaust also).

12. ROLL CAGE: Fig. 3

- a) The roll cage is to prevent the collapse of cabin area under impact. Roll cage, to enclose the driver, to be full width and full height of the cabin area. The roll bars are to constitute a cage type framework, braced fore and aft. The cage must extend from behind driver's seat forward to the windscreen area and incorporate protection for the driver's feet.
- b) All roll bar material must be of good quality mild steel, minimum AS1163 Gr200. MINIMUM 38mm O.D. x 3.2mm w.t CHS. The use of any material other than low carbon steel for the construction of roll cage must have V.I.S.D.A. Committee approval. Aluminium based materials not permitted.
- c) The rear main hoop & main roll cage bars will each be made of one continuous length of tubing, with smooth continuous bends and no evidence of crimping, wall failure or significant weakening. All bends to be made using a pipe bender with the correct size former. Galvanised tubing or welding over threaded tubing is not permitted in any structural bar work. Water pipe fittings or malleable fittings are not permitted. Roll cages built using other than fusion welding techniques will not be accepted. Gussets on welded joints may be required.
- d) Main roll cage hoop to be within 50mm of sides of roof at narrowest point. Top windscreen bar to be within 50mm of windscreen at front roll cage leg on side elevation. Front roll cage leg is to follow the "A" pillar line. Exception: Cars with severe rake of the windscreen. Angle of roll cage "A" pillar bar to be of not less than 45 degrees down from roof bar.

Fig. 4.

Roll cage legs shall be welded to the top of a subframe of tubular or angle section running fore and aft, bolted or welded to the floor pan.

Subframe) A. Tubular min. 38mm x 3.2mm w.t. CHS

Material) or 50mm x 50mm x 3mm w.t. RHS

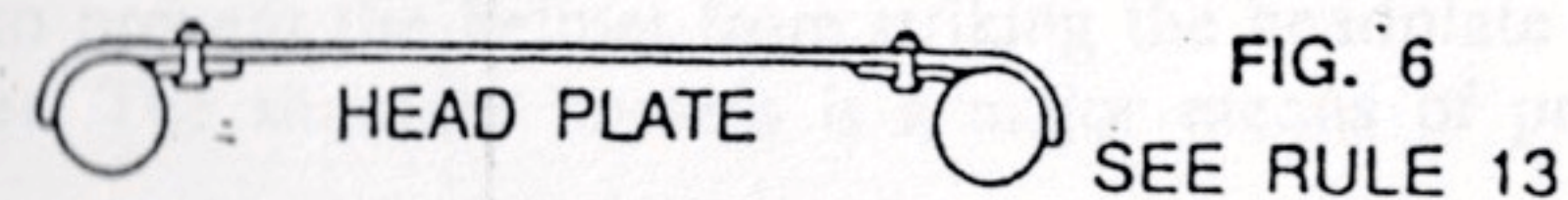
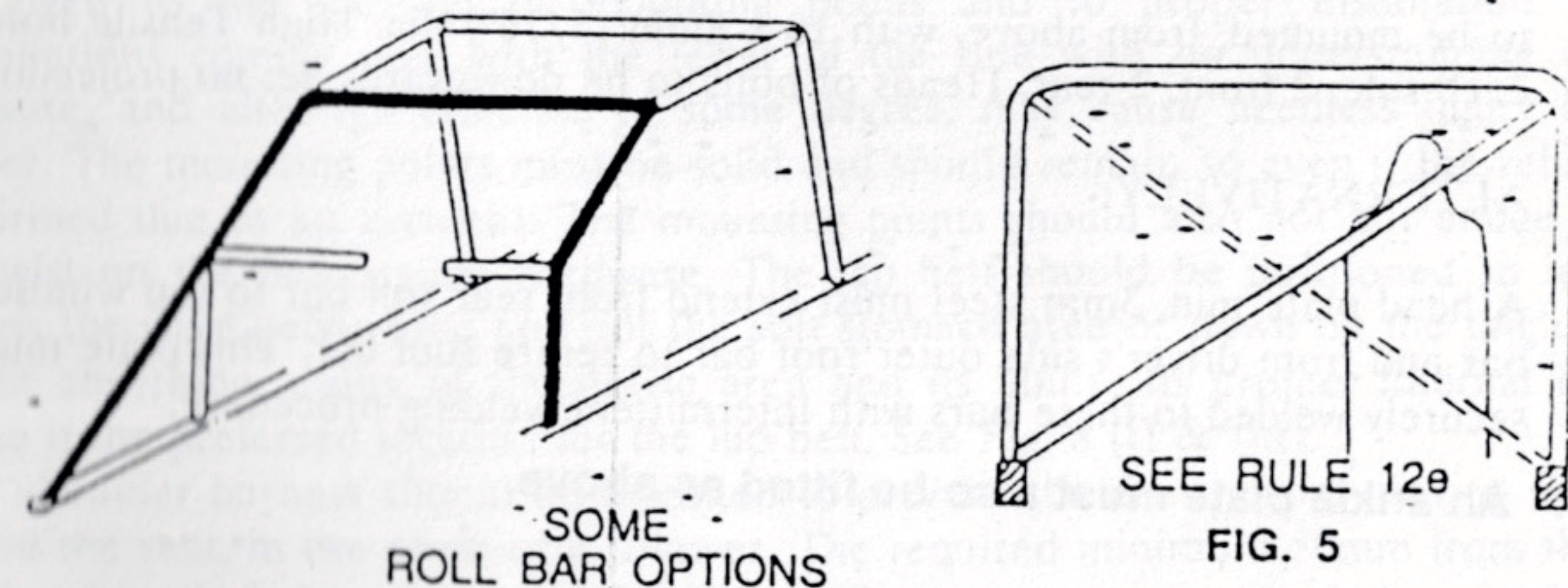
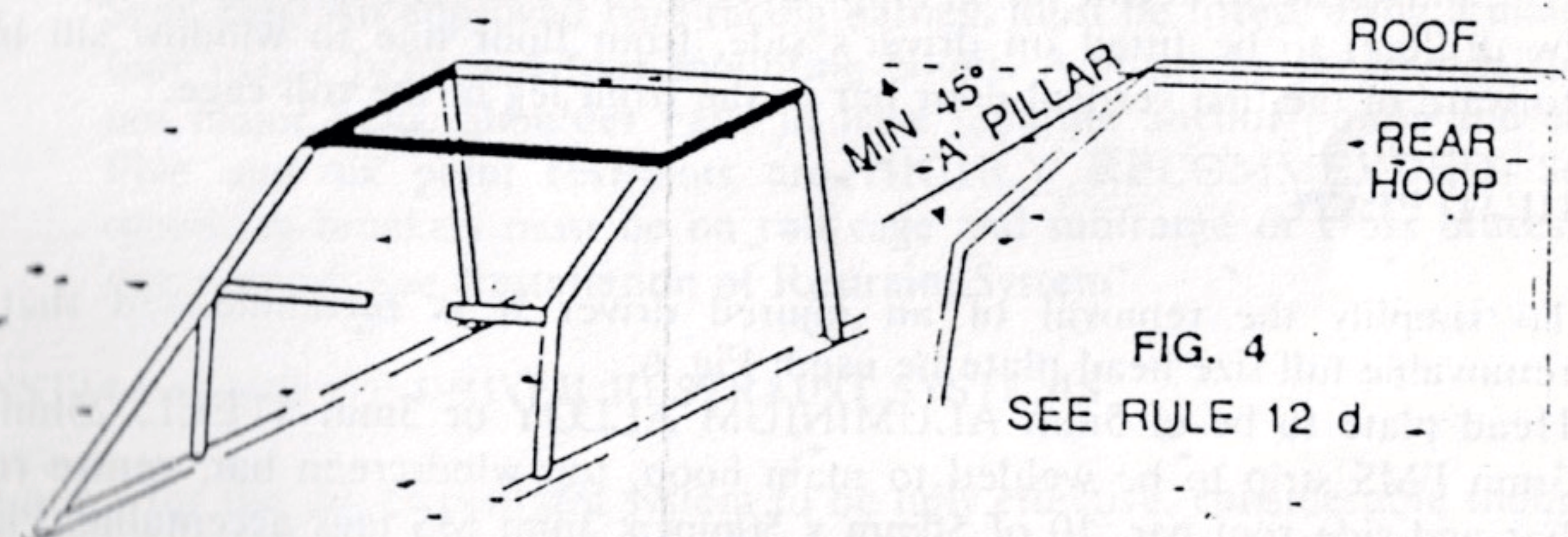
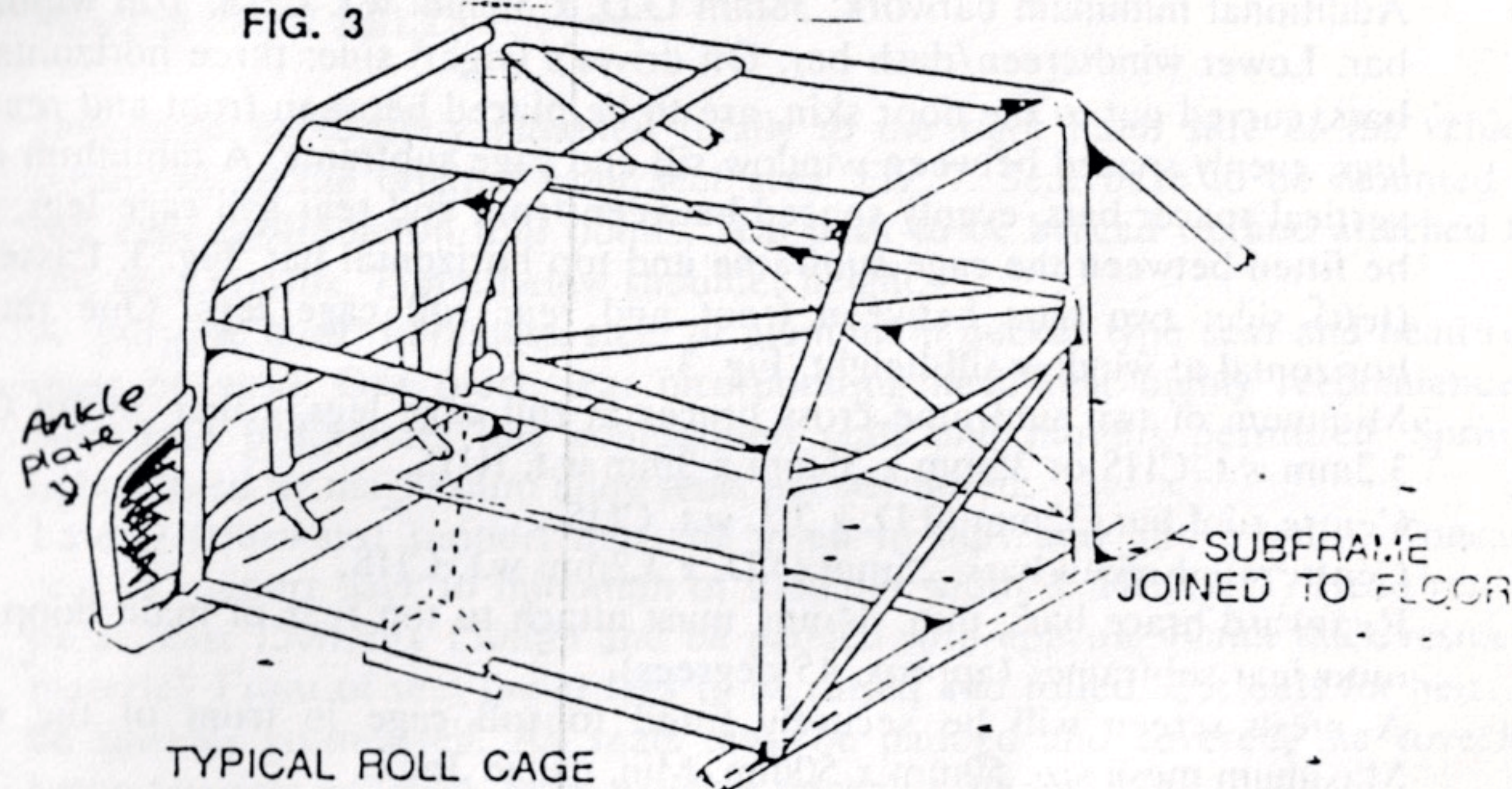
sizes) B. Angle minimum 50mm x 50mm x 5mm.

- c) A one piece diagonal brace, min. 38mm O.D. x 3.2mm w.t. CHS., will be fitted in the main roll cage hoop behind the driver's head, (Top right to Bottom left).

Fig. 5. A second brace may be fitted in cruciform. The diagonal brace, top right to bottom left, must be one piece. If a cruciform type bracing is used a minimum of 32mm O.D. x 3.2mm w.t. CHS may be used.

SEE RULE 12

FIG. 3



- f) Additional minimum barwork: 38mm O.D. x 3.2mm w.t. CHS. Top windscreen bar. Lower windscreen/dash bar. On driver's (right) side: three horizontal side bars, curved out to the door skin, are to be placed between front and rear cage legs, evenly spaced between window sill and cage subframe. A minimum of two vertical spacer bars, evenly spaced between front and rear roll cage legs, are to be fitted between the cage subframe and top horizontal bar. Fig. 3. Passenger's (left) side: two bars between front and rear roll cage legs. One must be horizontal at window sill height. Fig. 3.
Minimum of two subframe-cross braces at roll cage legs, either 38mm O.D. x 3.2mm w.t. CHS or 35mm x 35mm x 3mm w.t. RHS.
Centre roof bar, 32mm O.D. x 3.2 w.t. CHS.
Centre windscreen bars, 25mm O.D. x 3.2mm w.t. CHS.
Rearward brace bars, min. 34mm, must attach to top rear of main hoop down onto rear subframes (approx. 45 degrees).
- g) A mesh screen will be securely fitted to roll cage in front of the driver. Maximum mesh size 50mm x 50mm. Min. gauge 3mm.
- h) An "anti-spear" deflector plate, 3mm steel or 5mm alloy, (NOT to be lightened by drilling) to be fitted on driver's side, from floor line to window sill bar, forward of the first vertical door bar to the front leg of the roll cage.

13. HEAD PLATE

To simplify the removal of an injured driver it is recommended that a removable full size head plate be used: Fig. 6.

Head plate to be of 5mm ALUMINIUM ALLOY or 3mm STEEL. 25mm x 3mm FMS strip to be welded to main hoop, top windscreen bar, centre roof bar and side roof bar. 10 of 50mm x 50mm x 3mm MS tags acceptable. Plate to be mounted, from above, with 10 x 8mm (5/16") dia. High Tensile bolts, 3 each side, 2 front, 2 rear. Heads of bolts to be downwards, ie: no projections.

ALTERNATIVELY:-

A head plate min. 3mm steel must extend from rear roll bar to top windscreen bar and from driver's side outer roof bar to centre roof bar. This plate must be securely welded to these bars with intermittent welding procedure.

An ankle plate must also be fitted as above.

14. SEAT & SEAT BELTS

- a) Seat must be securely mounted totally to the right hand side of the vehicle centreline in the original front seat area. Fig. 7. Seat base to be mounted to roll cage subframe on four points. Seat back to be braced to, and attached to roll cage approx. 75mm below shoulder height.
- b) A "purpose built" fibreglass, steel or aluminium bucket type seat and head rest must be used. One piece seat incorporating head rest highly recommended. Approved proprietary line competition seats and mounts permitted. Springs upholstered or magnesium alloy seats not permitted.
- c) Lateral (sideways) support must be given to hips and above waist. Concave seat to support back to minimum of shoulder width & HEIGHT. Head rest to be at least 150mm x 150mm and be padded with approx. 40mm thick resilient material. Front of seat under legs to be raised and rolled. Cut outs for belts to be suitably grommeted. All seats must be padded and covered, the covering being securely attached. Max. padding thickness 50mm.
- d) Seat Belt: An approved type racing harness must be fitted, using a minimum of four major belts and four mounting points. Anti-submarine/crotch straps are not major belts. Shoulder belts to have separate anchor points and adjusters. Five and six point restraints are HIGHLY RECOMMENDED. Seat belt mounting brackets must be on roll cage and subframe or cross braces, not on sheet metal. See "Installation of Restraint System"

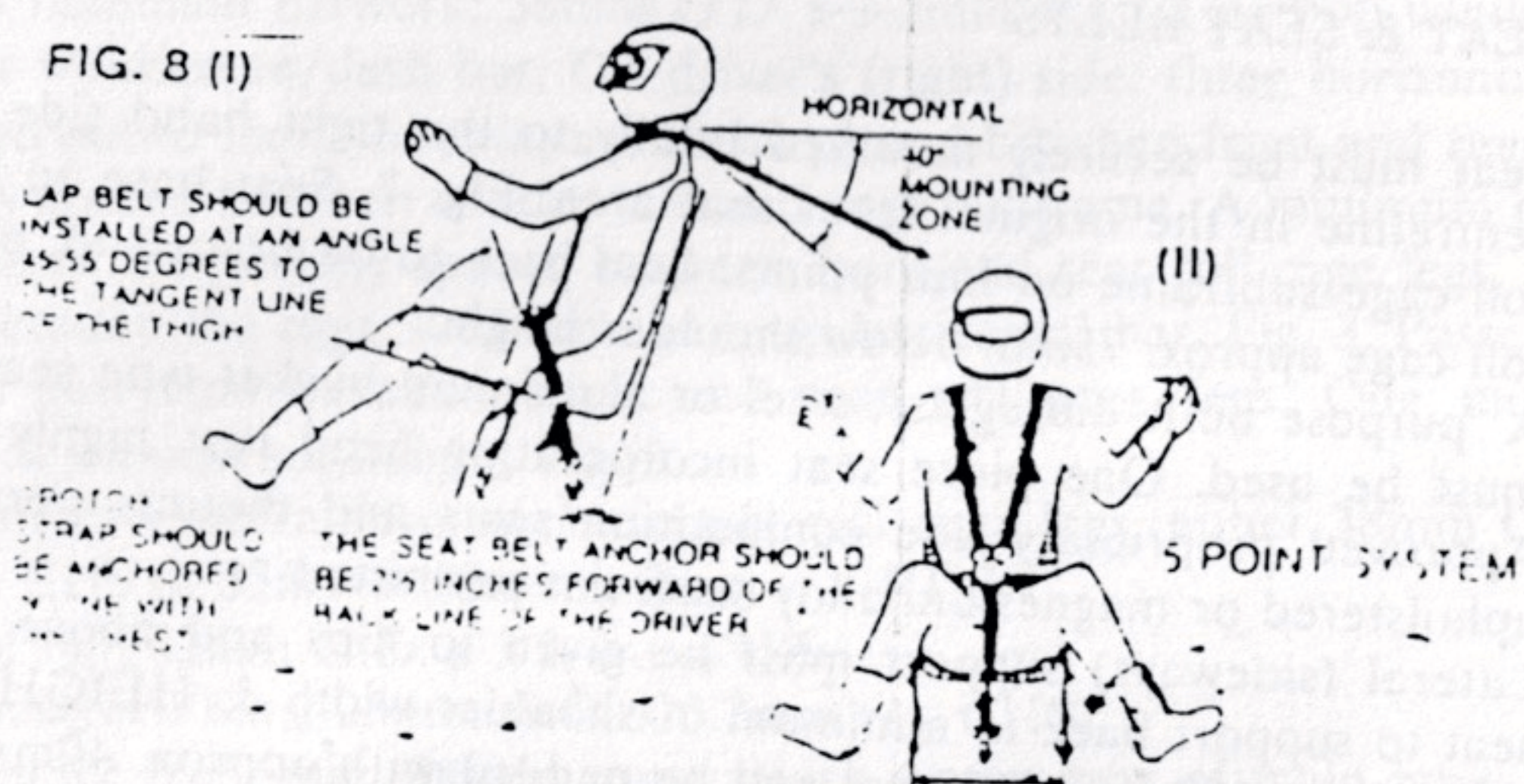
INSTALLATION OF DRIVER RESTRAINT SYSTEMS

In order for the driver restraint system to be fully effective, considerable thought must be given to the location of mounting points and to proper installation. Many installations comply only with the letter of the rule with no understanding of the purpose, and although effective to some degree, may cause needless injury to the driver. The mounting points must be solid and should remain so even if the vehicle is deformed due to an accident. The mounting points should also not put undue strain or twist on the belt system hardware. The lap belt should be positioned so it rides across the solid pelvic area and not the soft stomach area or down on the thighs. The shock absorbing ability of the pelvic area and its ability to protect internal organs make it the preferred location for the lap belt. See Fig. 8 (i) & (iii).

The shoulder harness should be mounted to prevent the driver from moving upward, out of the seat, in the event of a rollover. The required minimum 50mm from the top of the driver's helmet to the HEADPLATE does not leave much leeway for the shoulder harness to prevent the helmet from striking the headplate or barwork in the event of a rollover. The shoulder harness is a major means of preventing injury in such an incident.

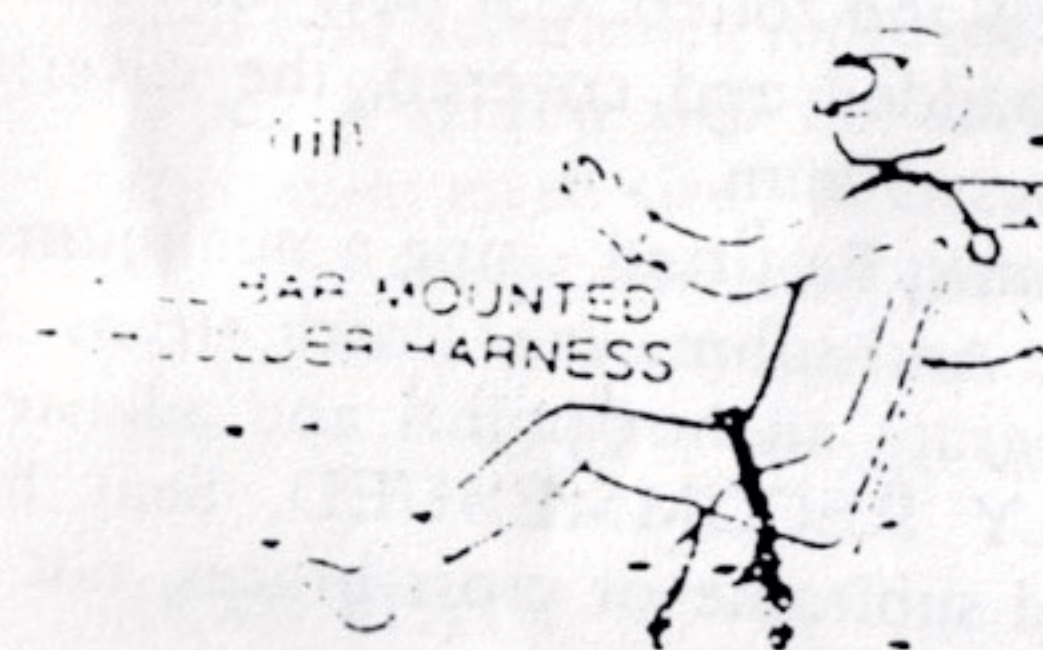
INSTALLATION OF DRIVER RESTRAINT SYSTEMS

FIG. 8 (I)



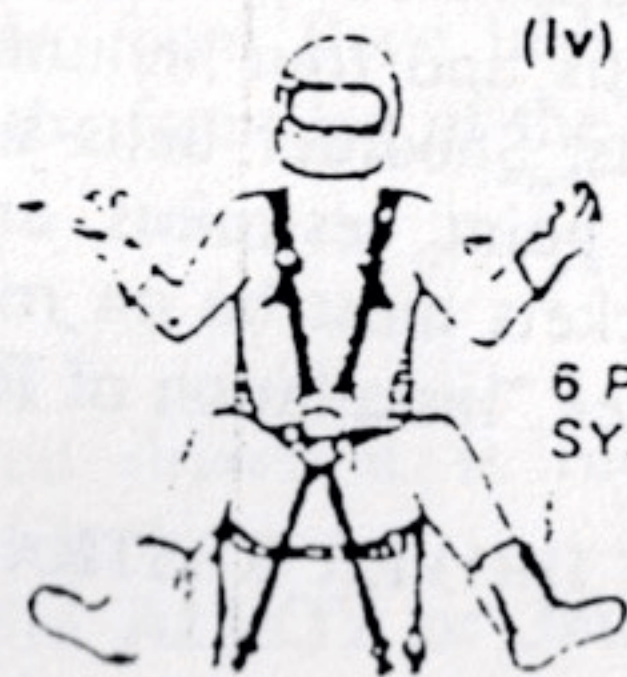
SEAT BELTS SHOULD BE ANCHORED APART THE SAME DISTANCE AS THE DRIVER IS WIDE. MOUNTING BRACKETS SHOULD BE ANGLED THE SAME DIRECTION AS BELT PULL AND NOT TILTED IN OR OUT

(III)



SHOULDER HARNESS SHOULD BE ANCHORED AT A 45 DEGREE ANGLE FROM THE SEAT & MOUNTED TO A ROLL BAR CROSS BRACE LOCATED 4 INCHES BELOW THE SHOULDER LINE

(IV)



CROTCH STRAP MOUNTS AS FAR APART AS COMFORTABLE

FIG. 13

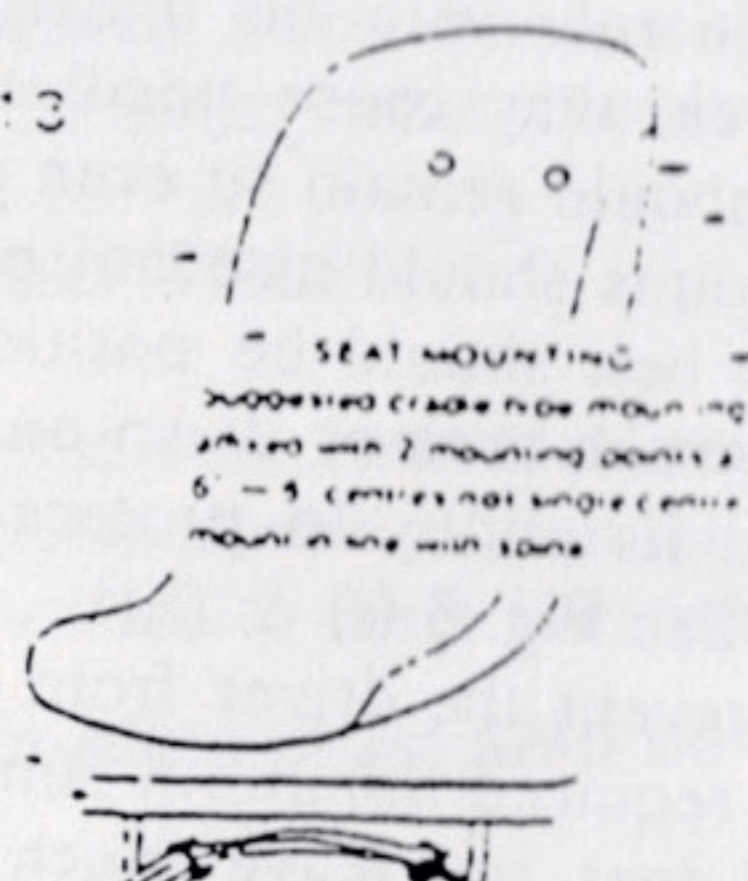
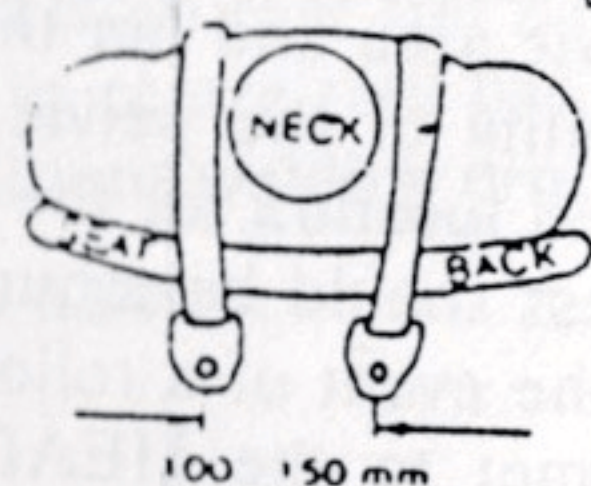


FIG. 7

SEE RULE 14

(V)



Submarine straps serve two purposes:-

To secure the lap strap down across the driver's hips, so in the event of an accident it is not pulled up across the stomach by the shoulder straps. To prevent the driver from sliding forward and out of the harness. When the driver is seated in an upright position, as in most sedans, a five-point system (a single anti-submarine or crotch strap) is considered adequate (Fig. 8 (iv)). For extra assurance a double strap anti-submarine belt can be used (Fig. 8 (iv)). When the driver is seated in a semi-reclining position a six-point system (two anti-submarine or crotch straps) is preferable. Most drivers find the two anti-sub strap system more comfortable regardless of the type of car. In many instances, the anti-submarine straps are mounted much too far forward of the seat. This practice could cause unnecessary injury of the body; can slide partially out of the seat before being restrained when the strap contacts the groin. It is much more practical to cut a slot in the seat bottom so the anti-submarine strap can be anchored in line with the chest. Fig. 8 (I). Because of the difference (often vast) in competition vehicles, a "standard" method of mounting is impractical. Good judgement and common sense in inspecting restraint system mounts is needed. Safety equipment is often neglected in favour of performance equipment, but its proper operation when the need arises is essential to survival. Window nets and arm rests are optional.

STEERING

- Original type must be used. eg. rack remains rack. Maybe modified.
- Must be in sound condition. Steering joints to be split pinned as required.
- Wire spoke or wood rim steering wheels not permitted.
- Steering column to be securely mounted to the roll cage dash bar.
- Hub of steering wheel to be padded with dense resilient foam and covered.
- Reduction steering is permitted.

SUSPENSION

- A Modified Production race car must use a complete metal body with the suspension mounting points in original position and being used.
- Suspension to remain of standard type except that the use and position of panhard bars and/or sway bars is optional.

- b) Suspension arms may be fabricated, must retain original design function and must not vary in length whilst in motion. Suspension components must attach directly to original mounting points. Straps for mounting shockers or suspension arms etc. are permitted. Coil over unit is not equivalent of coil spring plus shock absorber.
- c) Original front stub axles must be used. Front hubs to be of a mass produced passenger car type and mount directly to original stub axles.
- d) Fully adjustable front ends may be used in this class.
- e) Any McPherson type front strut must use the original mounting point bolt holes in the original position on the body.
- f) Weight jacking systems incorporated into the spring mountings are permitted but are not to be adjustable from the driving seat.
- g) 5th ARMS, lift bars, coil over units or any other derivatives are accepted in Class.
- h) Additional shock absorber/s and/or spring/s permitted.
- i) Rail cars are not permitted in this class.

17. TRACK

Original plus 50mm maximum. Centreline-centreline, refer Fig. 9

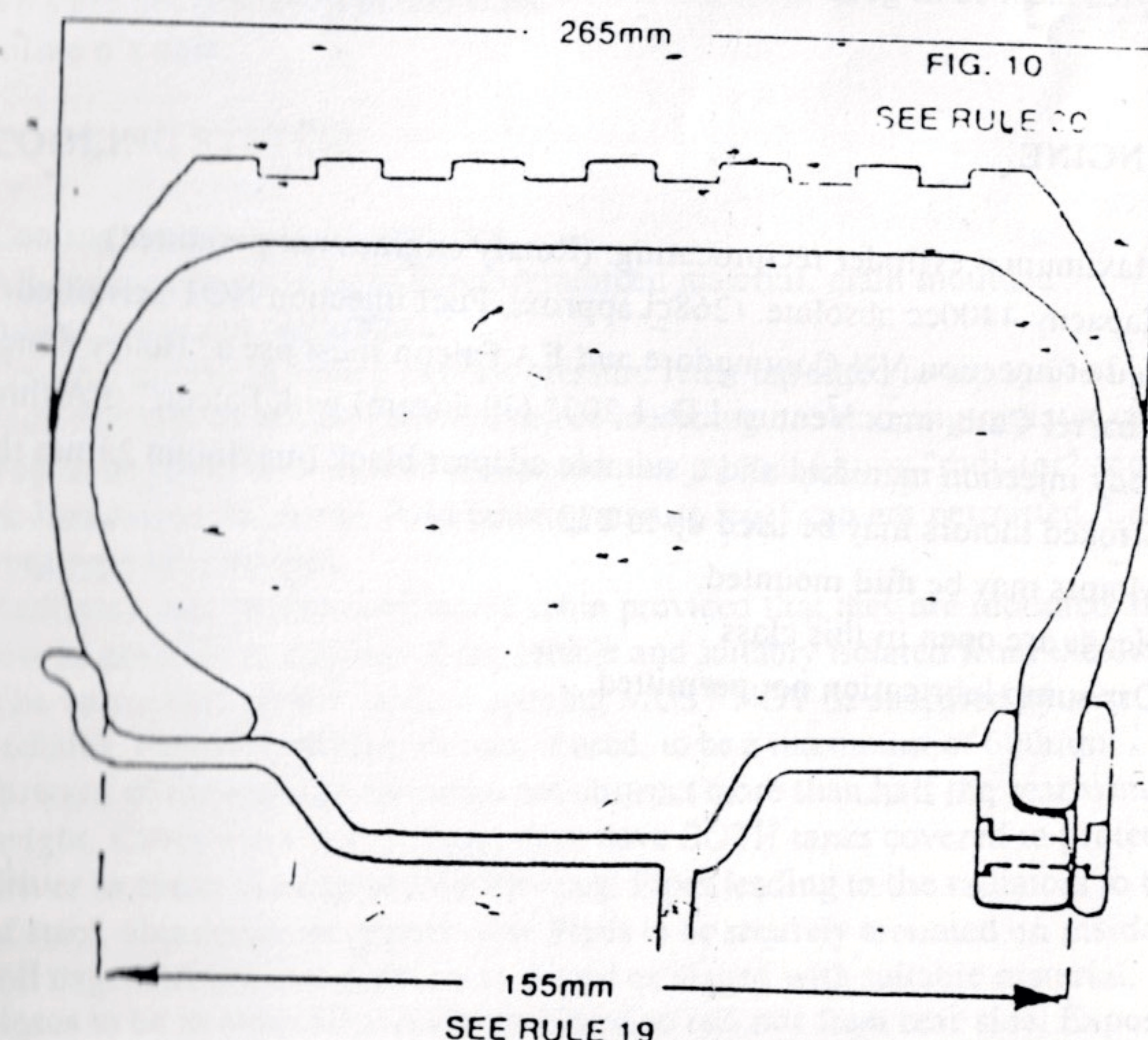
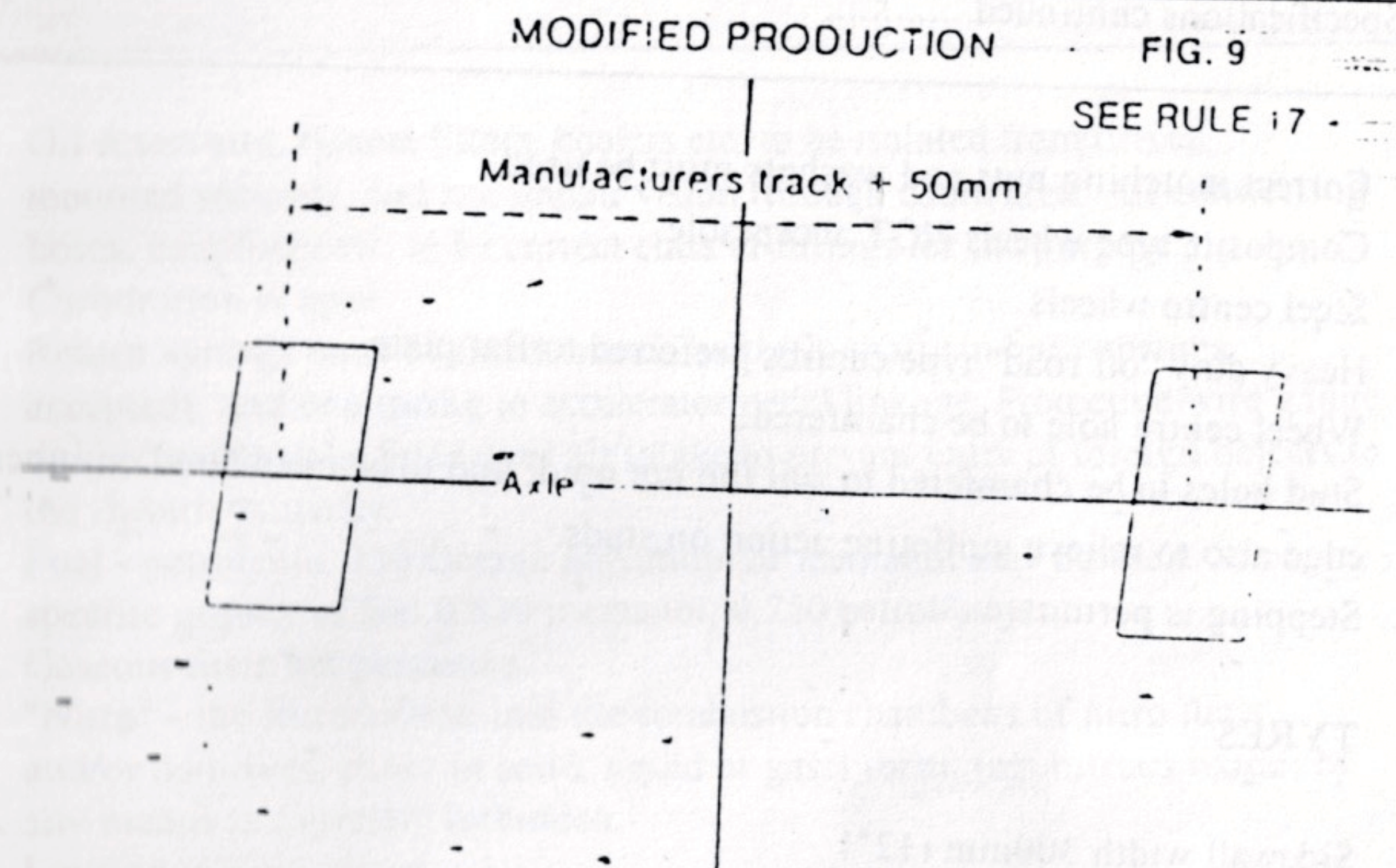
18. WHEELBASE

Original, within 1% ABSOLUTE. See also 7 "Measuring of Cars".

19. WHEELS

300mm(12") maximum width.

Wheels must be in a good condition and free from cracks.
 Competition type "Wide Five" wheels and hubs NOT permitted.
 Dual stud pattern drilling are NOT permitted.
 Wire wheels and/or dual wheel not permitted.
 Balance weights to be securely fastened or taped.
 Rim edges to be rolled or rounded off if rim protrudes pass the tyre side wall.
 Covering not to be welded to outer section of rim.
 Wheels may be reinforced provided they meet with the approval of the V.L.S.D.A. Committee or the Chief Scrutineer "Mag" wheels.



Correct matching nuts and washers must be used.
 Composite type wheels NOT acceptable.
 Steel centre wheels.
 Heavy duty "off road" type centres preferred to flat plate.
 Wheel centre hole to be chamfered.
 Stud holes to be chamfered to suit the nut used, and to be chamfered on inner edge also to relieve guillotine action on studs.
 Stepping is permitted.

20. TYRES

Sidewall width 300mm (12")
 Tyres must be in good condition. Any race tyre is permitted.

21. ENGINE

- a) Maximum 6 cylinder reciprocating. (Rotary engines not permitted). Capacity 4400cc absolute. (268ci approx). Fuel injection NOT permitted. In lieu of injection VN Commodore and EA Falcon must use a "Holley 350cfm" 2 barrel Carb. max Venturi I.D. 1.203" (30.56mm) with Falcon EA throttle body injection manifold and a suitable adaptor block (maximum 25mm thick)
- b) Stroked motors may be used up to 272.
- c) Motors may be mid mounted.
- d) Heads are open in this class
- e) Dry sump lubrication not permitted.

Oil reservoirs, remote filters, coolers etc. to be isolated from driver, mounted securely, and not impair vision through cabin area. All connecting hoses, couplings etc, to be correct class of fittings for the purpose.

Carburation is open
 Return springs must be fitted to each butterfly shaft (in-built springs accepted), and one spring to accelerator pedal linkage. Protective wire gauge or air cleaner to be fitted over air intake to prevent entry of foreign objects to the throttle butterfly.

Fuel - petroleum, 130 Octane maximum or methanol may be used. Max. specific gravity of fuel 0.820 methanol, 0.750 petrol/avgas.

Gaseous fuels not permitted.

"Nitro" - the introduction into the combustion chambers of nitro fuels and/or additives, either in solid, liquid or gases form, (eg: nitrous oxide) by any means is expressly forbidden.

Ignition, not restricted.

V6's are not permitted in this class.

Inline 6's only.

COOLING SYSTEM

Cooling system may be modified.

All radiator hoses to be of fabric reinforced material. plain moulded rubber hoses not permitted.

Cooling system to have a manual pressure relief tap fitted to top tank of each radiator to release pressure before loosening or removing radiator cap. Tap to be fitted with hose to direct steam to ground. Lower "radiator" caps to be lock wired for safety. Push button pressure relief cap not permitted. Lever vent type may be used.

Radiators may be mounted inside cabin provided that they are mounted as low as possible in the rear of the vehicle and suitably isolated from the driver. The upper half of rear window opening MUST NOT be obscured by rear radiator. Radiator ducting shroud, if used, to be a maximum of 600mm forward of the radiator and must not obstruct more than half the rear window height. Cabin mounted radiators must have BOTH tanks covered to protect driver in event of a cap or tank blowing. Pipes leading to the radiators to be of steel, aluminium or copper tube. Pipes to be securely mounted on inside of roll cage. All internal pipes to be ducted or lagged with suitable material. Hoses to be as short as possible and fitted to radiator from rear side. Exposed hoses or joints not permitted in cabin area. Fans to have shroud or suitable guard.

23. TRANSMISSION

- a) Gearbox must have a minimum of two forward gears and reverse gear.
- b) All driveline components must be derived from mass produced passenger cars and remain visually standard externally. Internal modifications are permitted except that the use of "quick change" systems in the driveline is specifically prohibited.
- c) For SAFETY "full floating" rear axle assembly recommended. Conversion to floating hubs is permitted.
- d) SCATTERSHIELD - front engined cars, not using competition type enclosed clutch or competition bell housing, must fit a 3mm minimum steel scattershield to cover up 180 deg of bell housing and be securely mounted.
- e) Tailshaft must be fitted with 360 deg. hoops at front and rear. Front hoop to be a minimum of 40mm x 5mm MS or equivalent, be round, no larger than twice the diameter of the tailshaft, and be securely mounted approximately 150mm from the universal joint. 6mm chain suitably mounted through the floor can form lower part of hoop. Rear hoop to be as above except that it may be elongated vertically to permit suspension movement.
- f) Tailshaft and universal joints to be correctly phased and be suitable for the application.
- g) Rear axle bearing retaining rings - if using a rear axle assembly not fitted with floating axles, a new retaining ring must be fitted at replacement of bearing on axle. Ring must be an interference fit with the axle. When in place retaining ring is to be tack welded to the axle using small diameter low hydrogen rod or low amperage.
- h) Tap autos must have operative reverse gear.

ALTERNATIVELY

Bearing and retaining ring to be fitted using correct grades of "Loctite" Retaining compound or an equivalent and applied in accordance with manufacturers instructions.

Failure to observe these procedures will incur a penalty, especially if an axle is dislodged.

- i) Wheel studs - Grade 8, 12mm (1/2") minimum all vehicles, except Mini (7/16" for use with 10" wheels only).

BRAKES

Effective, foot operated, hydraulic brakes to be fitted. Brakes to be fitted on a minimum of three(3) wheels. Left hand front brake only may be removed. Adjustable brake systems permitted.

FUEL TANK AND FUEL SYSTEM

Original fuel tank must be removed and replaced by a tank/s of up to 72 litres for petrol or 120 litres for Methanol. Area beneath tank to be cut out, giving adequate ventilation and ensuring that spillage can remain in vehicle.

Pressurised fuel tank/s NOT permitted.

Filler cap to be a positive seal, behind a fire wall and inside body. Fuel tanks over 25 litres must be baffled. Fuel tanks to be constructed of min. 1.0mm steel or min. 2.0mm aluminium allow. All joints to be welded or lapped and brazed.

Tank/s to be securely mounted in the REAR of the car, in a suitable cradle attached to the bar work, with a minimum clearance of 150mm forward of the lower rear end of the boot panel and 300mm minimum from side of vehicle.

and isolated from driver by a firewall. Tank to be protected by substantial bar work on all sides. Fig 11. Fuel tank protector bar : (underslung tank only) bar vehicle, protecting a line from the rear wheel centre to the bar. Protector must be as low as and wider than the tank. Fig. 11.

Tank vents to be fitted with an anti-spill device.

All methanol Drivers and passengers MUST wear fire proof overalls.

MUD FLAPS

Mud flaps are to be fitted securely and not be more than 3" from the ground and must be as close as possible to the back wheels.

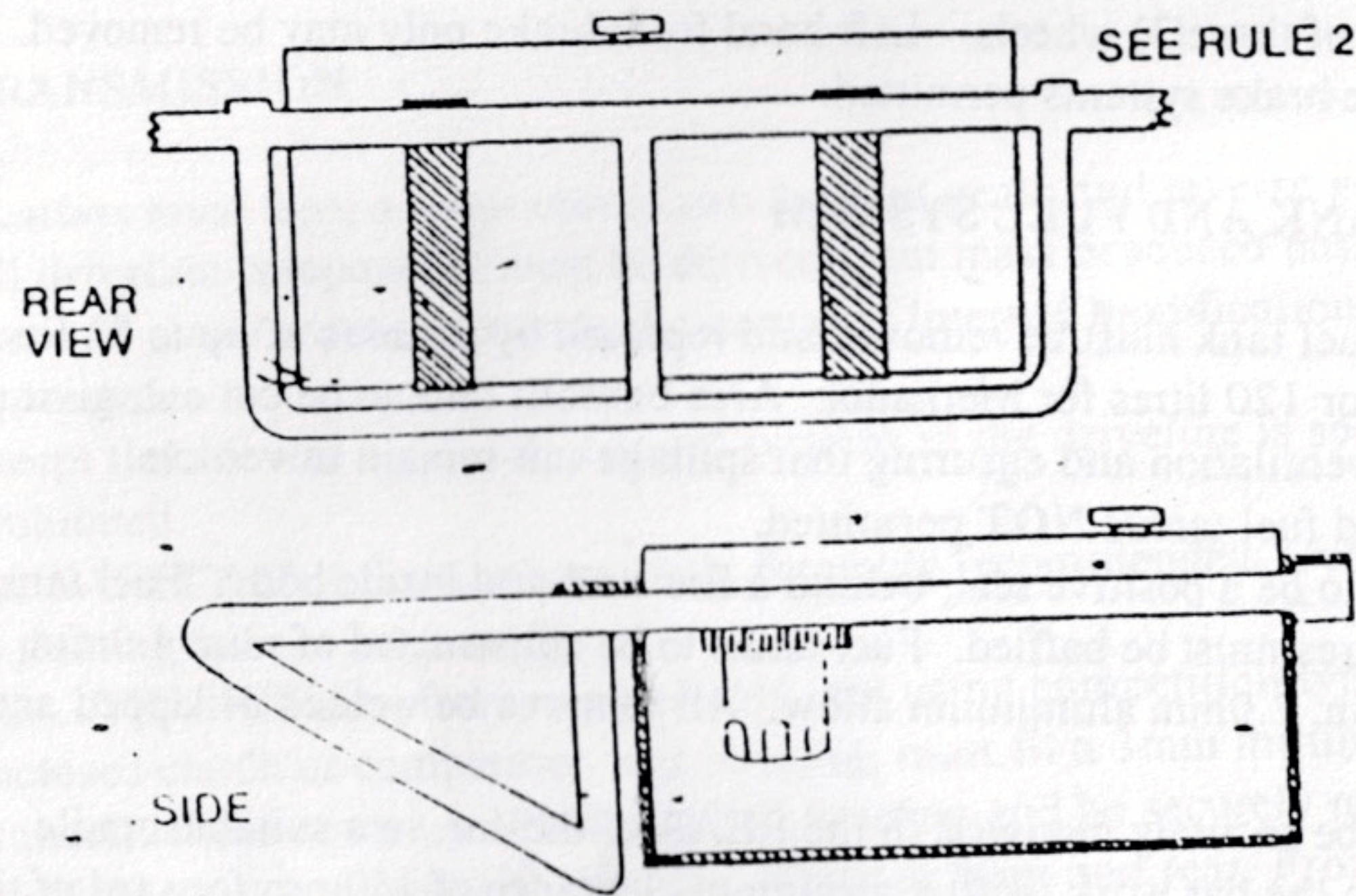
REAR VISION MIRROR

Optional

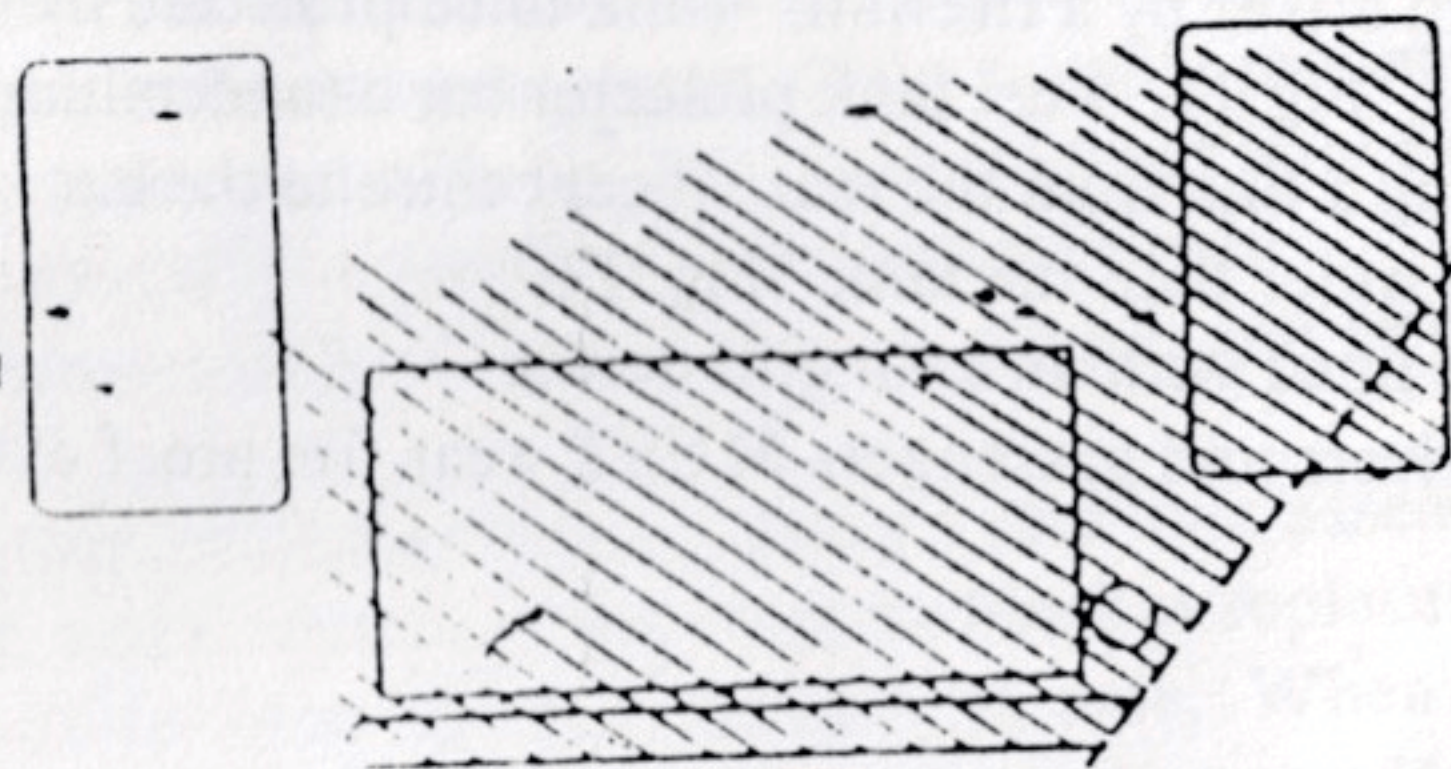


FIG. 11

SEE RULE 25



PROTECTION EXAMPLE



TRIM PLATE

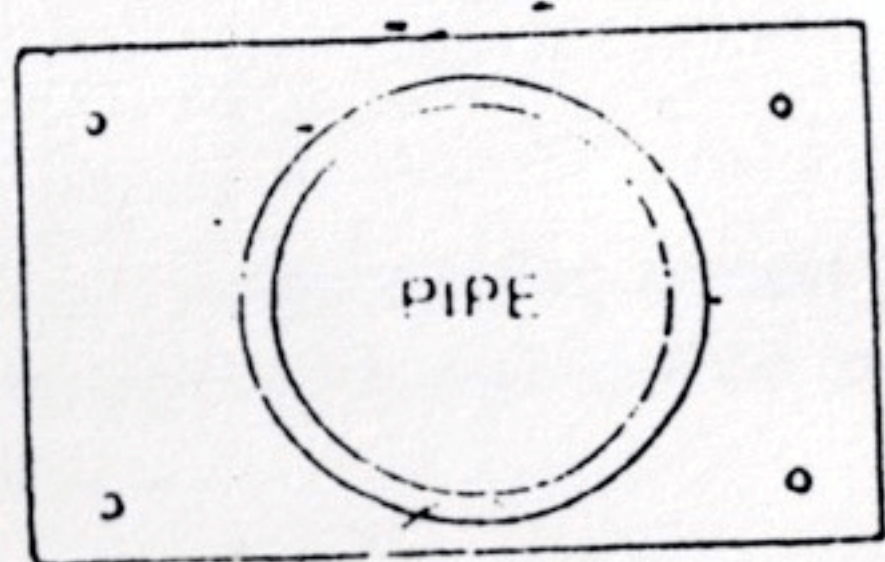


FIG. 12

SEE RULE 26

