

## SPECIFICATIONS OF AUTOMOBILES

3rd Category – Touring Cars

Group 3H – HQ Holden

CONFEDERATION OF  
AUSTRALIAN MOTOR SPORT

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## 1. DEFINITION

This is a Formula based on HQ Holden Series Australian four-door, six-cylinder, 202 sedan and components from those vehicles marketed and manufactured in Australia during the period 1971 to 1974 and restricted in specification so as to emphasise driver ability rather than design and preparation of the vehicle.

The intention of these regulations is to provide a low cost point of entry for newcomers to the sport of motor racing. It is a simple formula with limited modifications permitted, all of which are designed to make the vehicles more suitable for competition use.

No component of the power train, front suspension, rear suspension or brakes may be altered, modified, or changed, nor be of other than General Motors-Holden's manufacture, unless specifically authorised in these regulations. The re-siting of components is considered to be a modification.

All modifications are strictly prohibited except as specifically authorised within these Regulations.

## 2. PREAMBLE

CAMS has adopted the HQ Holden category as an entry-level circuit racing sedan formula. CAMS is ultimately responsible for the approval of the present regulations or changes thereto, and is responsible for publishing the regulations via the CAMS Manual of Motor Sport and associated bulletins as necessary. HQ Racing Australia Incorporated (HQRA) is recognised by CAMS as the sole entity representing competitors in this entry-level sedan formula. The HQRA is made up of a representative from each of the CAMS and HQRA affiliated state associations.

HQRA is recognised by CAMS as the sole competitor entity that may make recommendations regarding the maintenance of and/or proposed changes to technical regulations for this entry-level category, and/or to sporting regulations for the conduct of competition activity for such vehicles.

CAMS will consult with HQRA regarding the maintenance of and/or changes to the present Technical and/or sporting regulations. HQRA will be responsible for consultation processes within its membership and with other interested parties as may be appropriate from time to time.

Vehicles shall conform to the General Requirements for Automobiles as laid down in "General Requirements for Cars and Drivers" in the CAMS Manual and the present regulations.

The HQRA Technical Manual, as published by CAMS from time to time, must be read in conjunction with the present regulations to ensure that cars are constructed and prepared in accordance with the regulations. The HQRA Technical Manual will be made available to all HQRA members or by contacting the HQRA National Administrator.

### 3. ELIGIBILITY

#### 3.1 Vehicles eligible

Vehicles Eligible are the six-cylinder "202" (red motor) HQ Holden, four-door sedans with front disc brakes described by the manufacturer for identification and ordering as a four-door sedan: HQ 80169, HQ 80269, HQ 80369, HQ 80469, HQ 81169, HQ 81269, HQ 8M69, HQ 8N69, HQ 8P69.

A Scrutineer may refer to the workshop manual published by General Motors-Holden's, specifically for the six-cylinder, four-door HQ Holden, and to the General Motors-Holden's general catalogue in which all spare parts are listed.

A Scrutineer may also carry out direct scrutiny by comparison with a genuine Holden part obtained from a recognised Holden's dealer.

Original equipment parts must be used unless specifically approved otherwise.

#### 3.2 Seals

Power train components must be sealed as required in the HQ Technical Manual. The only seals that shall be recognised for this purpose are "Roto Seals" as supplied by the HQRA. This shall not apply to seals applied by an event scrutineer.

### 4. WEIGHTS AND DIMENSIONS

<b>Minimum racing weight (with driver)</b>	1365kg
<b>Overall length</b>	4810mm (max)
<b>Overall width - front</b>	1903mm
<b>Overall width - rear</b>	1886mm
<b>Wheelbase</b>	2847mm (max)
<b>Track - front</b>	1631mm (max)
<b>Track - rear</b>	1590mm (max)

#### 4.1 BALLAST

Ballast may be used to achieve the minimum weight requirements, and, if used, shall comply with CAMS requirements (see "Definitions - Technical" - refer "General Requirements for Cars and Drivers"). Ballast must be located in the confines of the driver's cockpit, and clearly visible and assessable by Scrutineers.

#### 4.2 RIDE HEIGHT

At least 100mm ground clearance for any sprung component of the vehicle (excluding exhaust system measured without driver).

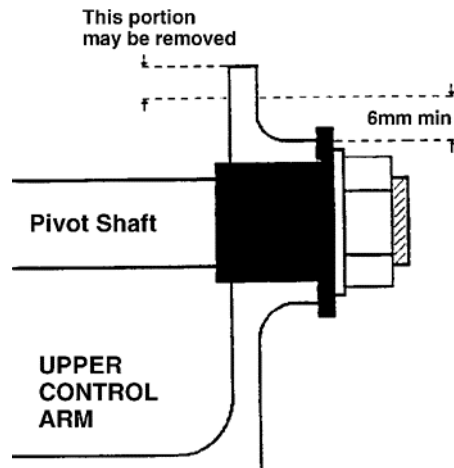
### 5. COACHWORK

- (a) All bodywork including any subsequent repair of 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 is possible. Presentation of race cars is to be of a standard acceptable to the Chief Scrutineer.
- (b) External body trim decoration (excluding gutter, side window and windscreen trim) of less than 25mm width may be removed.
- (c) The safety cage must comply with Cams Schedule J (General Requirements) Type 3 specifications.
  - (i) Any additional bracing or reinforcements must be within the confines of the six (6) mounting points.
  - (ii) It is not permitted to weld mounting points to the bodyshell.
  - (iii) The safety cage must be located entirely within the cockpit.
  - (iv) Bolts securing the safety cage to the floor must be attached only to that floor and any reinforcing plates; and must not pass through or be attached to any chassis rails.
- (d) The edges of mudguard panels may be folded back if they protrude inside the wheel housing.

- (e) Exterior appearance and dimensions must be as originally manufactured. All lenses and lamps must be of original type and appearance except for front nose panels which may be made of a composite material.
- (f) The interior must be complete as manufactured save that:
  - (i) floor coverings may be removed;
  - (ii) seats may be removed and the driver's seat replaced with another in compliance with Schedule C (refer "General Requirements for Cars and Drivers");
  - (iii) hood lining may be removed;
  - (iv) door arm rests may be removed;
  - (v) the steering wheel may be replaced;
  - (vi) the jack and spare wheel must be removed;
  - (vii) the kick panels, pillar linings, sun visors, rear parcel shelf covering and boot floor covering may be removed; and
  - (viii) door trims may be replaced by others of similar materials and appearance to the original.
- (g) A footrest may be fitted to the left of the clutch pedal. A floor covering of anti-slip style, e.g. checker plate, may be bolted to the driver's side floor of the cockpit, forward of the driver's seat.
- (h) The chassis rails and floor pan may not be modified in any way other than as provided for above, save for the fitment of a floor type gearshift. Seam welding of the body, or the attachment of any additional strengthening is prohibited. Save for stitch welding of the front lower rear control arm mounts, welding adjacent to the existing mounting rivets, no longer than 25mm is permissible for the purpose of preventing cracking.
- (i) Four retaining tabs (two upper and two lower) may be fitted to retain the rear window, subject to their not being greater than 50mm in length, 25mm in width and 3mm thick.
- (j) It is permitted to cut a hole in the passenger floor well for the fitment of a Dorian transmitter holder. This must be between the floor drain plug and the gearbox cross-member.
- (k) The primary bonnet catch must be disabled. The bonnet release cable must be removed. A minimum of two bonnet pins made only of ferrous metal shall be fitted.
- (l) The use of later model (HJ-X-Z) door assemblies is permitted.
- (m) The use of fluted front guards as used on production SS and GTS models is not permitted.
- (n) A minimum of a 5 point safety harness in compliance with Schedule I of the CAMS Manual of Motor Sport will be mandatory.
- (o) The fitment of the front outer bumper brackets is optional.
- (p) The rear quarter panel flasher lights maybe removed. If removed the aperture must covered.

## 6. SUSPENSION

- (a) The front and rear suspension and steering arms shall be standard HQ Holden as defined in Regulation 3. The upper control arm adjusting/retaining bolts are free save that they must be of the same stress grading and not be longer than 70mm, measured from the shoulder. A self-locking type nut must be fitted. The minimum amount of material may be removed from the right hand upper control arm in the area adjacent to the steering shaft, to prevent fouling. An explanatory diagram follows.



- (b) All road springs (front and rear), must be control units as specified, viz:

<b>front:</b>	Pedders Part No. 5608
<b>rear:</b>	Pedders Part No. 5609

- (c) The springs must be used on the relevant end of the car. They may not be further modified. The springs must be attached to the original mounting points. Ride height may be adjusted by the fitment of solid spacers, of uniform section, between the springs and their unmodified mounting points to achieve desired ride height. The maximum combined spacer thickness of any one spring is 20mm. It is permitted to extend the rear spring seat upper and lower retaining sleeve, by a maximum of 50mm.

- (d) The shock absorbers (dampers) must be control units as specified, viz:

<b>front:</b>	Pedders Part No. GSR 9033
<b>rear:</b>	Pedders Part No. GSR 9067

- (e) The hole in the lower control arm for the shock absorber may be enlarged to permit the fitting of the specified shock absorbers. The length of the bolts used to secure the shock absorbers and their fastening devices are free.
- (f) Front wheel alignment settings are free within the range of adjustment provided originally by the manufacturer. It is permitted to replace the shim stacks in the front suspension by solid spacers made of ferrous material.
- (g) The camber on each front wheel must not exceed 3° negative. The rear wheel camber must not exceed 0° ±1° negative.
- (h) It is permitted to remove material from or remove (but not replace) the bump stop rubbers.
- (i) It is permitted to use and fit front wheel bearing pre-load spacers.
- (j) Later model Radial Tuned Suspension (RTS) type chassis rails are not permitted.
- (k) The flexible steering coupling may be replaced with a commercially available aftermarket coupling. No modification is permitted to the steering shaft to fit an aftermarket coupling.

## 7. BRAKES

### 7.1 FRONT BRAKES

- (a) The friction material of pads is free. The method of attachment of the friction material to the backing plate is free. The area of the rubbing surface of the friction material and that of the backing plate may be smaller but not greater than the area as noted in the HQ Holden Recognition document.
- (b) The maximum permitted thickness of the backing plate is 6mm. The retention of the pad assembly in the caliper must be by the method prescribed by the manufacturer of the pad assembly.
- (c) Under no circumstances are modifications to the caliper permitted.

- (d) Only the following Caliper part numbers will be permitted:
  - (i) PBR: LH 9933233 / PBR: RH 9933234
  - (ii) Girlock: LH 9929899 / Girlock: RH 9929900

## 7.2 REAR BRAKES

- (a) Brake linings are free, as is the method of attachment to the brake shoe. It is permitted to cut two (2) 40mm diameter holes in each backing plate as per illustration in the Technical Manual. The width of the brake shoes shall be 44.4mm and the maximum length of the shoes shall be 262.9mm.
- (b) The internal diameter of the rear wheel cylinders is free, providing that it is one of uniform size.
- (c) The self-adjusting mechanism may be removed from the rear brakes.

## 7.3 BRAKES GENERAL

- (a) It is permissible to add one flexible pipe (maximum outside diameter 75mm) to carry air to the brakes of each wheel. An entry scoop (maximum external size 250mm x 65mm) may be fitted to each pipe. All brake entry scoops must remain within the perimeter of the car. It is permitted to fit a simple retaining bracket to the exit of the brake duct hose. It must not perform any function other than to locate the hose.
- (b) The original brake pressure limiting valve spring may be modified or replaced.
- (c) Original brake flexible hoses may be replaced by others of aeronautic quality.
- (d) It is permitted to strengthen the brake booster mounting by the addition of a bracket between the booster diaphragm body and the body of the car. The recommended method may be found in the HQ Technical Manual.

## 8. WHEELS AND TYRES

- (a) **Diameter:** front and rear 14"
- (b) **Width:** front and rear 7" or 8"
- (c) Wheels are otherwise free, subject to their compliance with Schedule E (refer "General Requirements for Cars and Drivers").
- (d) Each tyre shall be Kenda Klever H/P KR 15 P235/60R14 96H. Each tyre must be marked by one of the state HQ Racing Associations. At any time during practice, qualifying or racing the depth of tread, when measured at any point other than the shoulder of the tyre, shall be not less than 1.5mm.

## 9. ENGINES

- (a) It is permitted to use any Holden 202 or 3.3 red motor, six-cylinder in-line engine block. The use of titanium components is prohibited from the engine assembly.
- (b) Replacement pistons of non-forged construction are permitted. They must have a flat or concave top.
- (c) Pistons as are shown in a widely-distributed catalogue must have three ring grooves, each of which must be fitted with piston rings as supplied by a ring manufacturer.
- (d) The piston crown may be machined for the purpose of reducing compression.
- (e) The piston machining must be perpendicular to the cylinder bore, save for the wall created to achieve the desired depth. Any machining of the piston bowl is to be of concave shape, concentric to the centre of the piston and perpendicular to the cylinder bore, save for the walls of the bowl formed to achieve the desired depth.
- (f) The maximum diameter for a piston shall be 93.65mm (3.687") (measured 51mm (2.00") from the top of piston).

### 9.2 ENGINE BLOCK:

- (a) The engine block must be a Holden "red, blue or black motor" block bearing the casting mark "202" or "3.3", of which the:
  - (i) bore shall be 93.83mm (3.694"); and
  - (ii) stroke shall be 82.50mm (3.250").
- (b) It is permitted to machine the cylinder block face, but angle planing is prohibited.

- (c) With regards to a blue or black block ONLY, it is permitted to re-sleeve two (2) cylinders only and bore out to a maximum of 0.060" from standard bore size.
- (d) It is permitted to re-sleeve all cylinders on a red block ONLY.
- (e) Core hole covers in the block may be mechanically fastened.
- (f) Local machining of later blocks to facilitate fitment of 202 (2811930 and 9937262) cylinder heads only is allowed.

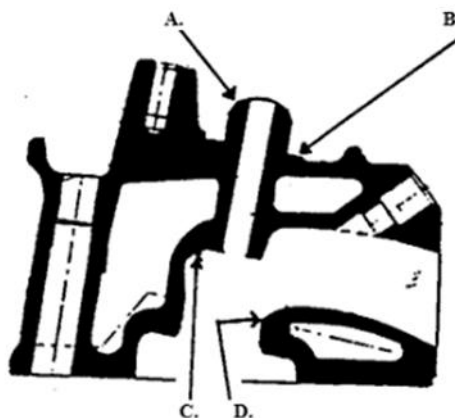
### 9.3 CYLINDER HEAD:

- (a) The cylinder head must be of the large combustion chamber type, using bridge type rocker gear. Casting numbers are: 2811930 / 9937262.
- (b) Facing or shimming of the rocker bridges is permitted.
- (c) Six-cylinder rocker arms (PN 2811931 or 92018908) must be used.
- (d) Adjustable push rods are permitted to a maximum length of 229.3mm (9.030").
- (e) The minimum unswept volume achieved by the sum total of combustion chamber, piston bowl and any positive deck volumes measured at top dead centre shall be 45cc per cylinder.
- (f) Planing of the cylinder head face is permitted subject to angle planing being prohibited.
- (g) The rocker cover is free.

### 9.4 VALVES:

- (a) It is permitted to reclaim inlet and exhaust valve seats.
- (b) Valves are free, subject to the maximum head size for the exhaust being 34.9mm (1.375") and inlet being 42.55mm (1.675").
- (c) Valve springs are free subject to there being only one spring per valve.  
**As of 1 July 2017** each valve spring must be manufactured to a cylindrical shape, externally and internally.
- (d) It is permitted to fit shims under the valve spring.
- (e) Each valve spring shroud may be removed.
- (f) It is permitted to machine each valve spring seat to obtain the correct installed height (Diagram 1, B).
- (g) Each valve must be retained as envisaged by General Motors Holden.
- (h) It is permitted to machine the ports from the valve seats to the valve guide boss, providing a minimum valve guide boss length of 50.8mm (2.0") is maintained, using a parallel or tapered cutter, with the largest diameter of any taper at the valve seat.
- (i) Any machining or throating must not extend past the valve guide boss (Diagram 1, C).
- (j) Multiple or compound taper machining from the valve seat area towards the valve guide boss is not permitted.
- (k) Machining of the throat of the port must be a constant taper and/or parallel to the axis of the valve guide.
- (l) No further modification is permitted except for re-radiusing in the top of the throat of the port.
- (m) The valve guide boss must not be modified (Diagram 1, A).
- (n) The centre line of the valve guide must be the axis of rotation of the cutter.
- (o) It is permitted to machine the combustion chamber locally in the area of the valve head, provided always that the edge of the valve head is within 3.2mm (0.125") of the vertical wall of the combustion chamber if machined concentric to guide post production.
- (p) Hand or mechanical finishing of the head ports or guide bosses is not permitted, including the removal of burrs or similar left by cutting or machining tools.
- (q) Where the throat meets the port a distinct edge is formed that must not be modified (Diagram 1, D).
- (r) Each valve guide bore shall have the minimum dimension of: Inlet 8.69mm (0.3420") Exhaust 8.71mm (0.3430").

**Diagram 1**



**9.5 CAMSHAFT:**

- (a) It is permitted to fit an alloy or steel timing gear with spur or helical teeth.
- (b) Alternative locking of the timing gear to the camshaft is permitted: a bolt of maximum size 4" x 3/8" UNC socket head cap screw may be fitted down the centre of the camshaft from the front. An offset key on the camshaft is permitted. Camshaft timing is free.
- (c) All engines must use the camshaft profile number 933, supplied by Wade Engineering or Clive Cams. Valve lifters are free, save that they must be of hydraulic operation and have a maximum diameter of 21.41mm (0.842").

**9.6 CRANKSHAFT AND CONNECTING RODS:**

- (a) It is permitted to heat treat or chemically treat the crankshaft. The crankshaft must be as standard fitment to a 202 Holden red engine.
- (b) Each connecting rod must be original with a centre to centre dimension of 133.35mm (5.250"). It is permitted to shot-peen the connecting rods.
- (c) The connecting rod bolts and nuts are free. No other modification to each connecting rod is permissible for the purpose of non-genuine connecting rod nut and bolt fitment.

**9.7 LUBRICATION:**

- (a) Baffle plates may be added to the removable section of the oil pan. The capacity may not be increased.
- (b) The oil strainer is free below the pick-up tube which must remain unmodified.
- (c) The oil pump is free. Oil coolers are not permitted.

**9.8 FLYWHEEL:**

- (a) Doweling the flywheel to the crankshaft is permitted.
- (b) Only six-cylinder retaining bolts must be used.
- (c) Machining of the flywheel is allowed, but on the clutch face only.
- (d) The flywheel diameter shall be 277.4mm.
- (e) The flywheel minimum weight shall be 9800g.
- (f) The flywheel ring gear to clutch face dimension shall be a minimum of 19.56mm.

**9.9 BALANCING:**

- (a) All rotating and reciprocating parts may be balanced by normal automotive methods. The harmonic balancer may be bolted to the crankshaft. If a washer is used it must be no greater in diameter than the balancer and no thicker than 3.2mm.

- (b) The harmonic balancer may be from any source provided that it is not fluid-filled. The harmonic balancer must be used in such a way that no component can become detached from the engine whilst running. Any non-standard configuration harmonic balancer must be securely fixed to the crankshaft by a bolt of minimum diameter of 7/16".

#### 9.10 EXHAUST:

The exhaust system is free from the exit of the cylinder head save that it must be for the purpose of exhaust function only. Any heat shielding must be of a wrap or coating method to a maximum thickness of 10mm.

#### 9.11 COOLING:

- (a) A replacement water radiator of similar construction and design (save cross flow operation) to original specification is permitted subject to there being no modification to the original bodywork. Mounting of the radiator must be in the original position being parallel with the original radiator support panel and it utilising the original mounting points. Its design, construction and fitment must serve no purpose other than to cool the engine coolant. It is permitted to remove the original radiator fan and aluminium spacer in which case a replacement electric radiator fan is permitted.
- (b) The heater hoses and manifold heating hoses may be removed and the resulting holes may be plugged. A water filter may be fitted in the top radiator hose.

### 10. INDUCTION SYSTEM

- (a) The carburettor must be a single throat downdraft Stromberg BXV-2 or BXUV-3 with one of the following code numbers;
  - (i) 23-3052
  - (ii) 23-3053
  - (iii) 23-3075
  - (iv) 23-3076
  - (v) 23-3084
  - (vi) 23-3073
  - (vii) 23-3091
  - (viii) 23-3092.
- (b) The venturi diameter shall be 30.94mm (max).
- (c) The maximum size of the flange hole of the carburettor exit port shall be 36.4mm for early and 40.00mm for late.
- (d) Carburettor jets are free. An adjustable carburettor main jet may be fitted. In order to fit the jet, the minimum modification may be made to the carburettor and under no circumstances may any component associated with the adjustable jet extend beyond 50mm from the original carburettor casing.
- (e) It is permitted to remove the choke butterfly and associated linkages from the carburettor. The resultant apertures must be mechanically plugged.
- (f) An air cleaner (part number HQ900AL) as supplied by Speco Thomas or equivalent of same physical dimension and design must be used exclusively. The air filter element is free save that the element to be used must be circular with a diameter of 225mm and a height of 50mm, commercially available, unmodified from the manufacturer's specification and fits the current control air cleaner body.
- (g) It is permitted to use a HQ Holden V8 carburettor float, needle and seat.
- (h) The inlet manifold must bear casting numbers beginning with 2820781 (early) or 2825951 (late) including HQ production variants (e.g. 2820781-88-1).
- (i) An in-line fuel filter may be fitted in the fuel line provided that the filter is within 300mm of the fuel pump.
- (j) The carburettor float bowl may be baffled.
- (k) The PCV system must be removed and the resultant hole in the inlet manifold mechanically sealed. A catch tank complying with the requirements of Schedule B (refer "General Requirements for Cars and Drivers") must be fitted. The internal diameter of all hoses between the rocker cover and catch tank must be at least 19mm.



- (l) It is permitted to block off the air horn vacuum passage.
- (m) It is permitted to add insulation material to the original fuel pipe, from the fuel pump to the carburettor. The addition of such insulation must be carried out in such a manner that the maximum diameter of the insulated portion of the fuel pipe is no more than 19mm.
- (n) It is permissible to fit a heat shield supplied by HQRA between the carburettor and the inlet manifold for the purpose of reducing engine bay heat into the carburettor.
- (o) It is permitted to use a maximum of two exhaust/intake manifold gaskets with a maximum overall thickness of 3mm.

## 10.2 FUEL PUMP

- (a) A 12 volt solid state electronic fuel pump with an in-built pressure regulator may be fitted in place of the original mechanical fuel pump. The electronic fuel pump will have a maximum manufacturer specification of 7psi at the pump outlet. The fuel pump is to be fitted within 500mm of the existing fuel tank outlet within the confines of the boot compartment. Approved fuel line is to be used for the fitment of the pump utilising as much as practical of the existing standard fuel line. The existing fuel pump mount on the block must be blanked off using an after-market fuel pump blanking plate. The fuel line to the carburettor will be by means of an approved fuel hose from the existing fuel outlet at the chassis rail to the fuel line from the existing fuel pump to carburettor fuel line. Wiring of the fuel pump will be in line with current electric fuel pump requirements Schedule C, article 10 (refer "General Requirements for Cars and Drivers").

## 11. IGNITION

- (a) Any Lucas or Bosch ignition coil may be used. Mounting of the ignition coil maybe relocated to the brake pressure differential switch bolt.
- (b) The mechanical advance curve of the distributor may be modified and the vacuum advance mechanism may be disconnected or removed.
- (c) A single point Bosch distributor must be used.

## 12. ELECTRICAL SYSTEM

- (a) The location of the battery is free, save that it may not be located in the habitacle.
- (b) The maximum battery size must be that size battery that can fit the standard HQ Holden battery tray.
- (c) The electrical system must be complete as manufactured with all components in the original location, save for the addition of supplementary switches, gauges and electric fan (if fitted). Supplementary gauges may only consist of the following: tachometer, oil pressure and oil temperature gauge, water pressure and water temperature gauge, amp or voltmeter, air/fuel ratio monitor of non-logging type with a single sensor and a fuel pressure gauge. Any dash mounted fuel pressure gauge is not to introduce fuel and or fuel lines into the cock pit of the race car.
- (d) As a minimum, the following items must be operational: windscreen wipers, head lights, stop lights, tail lights and the alternator. No supplementary gauge, performance monitoring instrument or sensor with the capacity to hold data in memory or to transmit information outside the vehicle is permitted. The carriage of electronic voice communication devices within the car is prohibited.
- (e) No switches or other mechanisms are permitted which prevent the standard operation of the generator.
- (f) Any Holden 12 volt starter motor may be fitted. It must be capable of starting the engine at the start of the event. None of its parts may be removed during the event.
- (g) The fitment of a high level brake lamp is mandatory. This lamp must be retained by mechanical fasteners - not exclusively by adhesives.
- (h) The pulley on the alternator is free, save that its diameter may not exceed 100mm overall. The mounting brackets are free.

## 13. TRANSMISSION

### 13.1 CLUTCH

- (a) It is permitted to replace the clutch assembly with one of diaphragm type designed and sold for installation as a replacement part for a Holden one tonne truck.

- (b) The driven plate diameter shall be 219.08mm (8.625").
- (c) It is permitted to modify the method of actuation - i.e. cable, rod or hydraulic - save that clutch fork part number either HQ 7448624 or HX-Z 9945714 is utilised.
- (d) A replacement bell housing part no. 92002426, as fitted to HZ series cars, may be used.

### 13.2 GEARBOX

- (a) Only the original three-speed manual gearbox may be used.
- (b) The extension housing may be replaced by an extension housing sourced from a four-speed M20 or M21 gearbox.
- (c) Local modification is permitted for the purpose of the retention of the rear main gearbox bearing only.
- (d) The steering column gear linkage may be replaced by a floor shift mechanism, in which case it is permitted to modify the bodywork only as necessary for the fitment of the shift mechanism.
- (e) The gearbox cluster shall have the part No. 7434307.
- (f) The gearbox ratios shall be:

Gear	Ratio
1st	3.07:1 (17/27 teeth)
2nd	1.68:1 (23/20 teeth)
3rd	1.00:1 (29/15 teeth)
Reverse	3.59:1

### 13.3 DIFFERENTIAL

- (a) The non-limited-slip differential as fitted to the six-cylinder or V8 HQ Holden must be used. Later H-series fine-spline rear axle shafts are permitted and the appropriate differential gears to suit these shafts may be used. Baffling of the differential housing is permitted. It is permitted to modify the differential breather by the addition of suitable tubing.
- (b) The only final drive ratio which may be used is 3.55:1 (number of teeth 39/11), Banjo or Salisbury type (limited slip prohibited).
- (c) It is prohibited to shim the differential beyond manufacturer's specifications.
- (d) At all times the suspended wheel must rotate freely.
- (e) It is permissible to modify the bottom of a Salisbury differential housing for the purpose of fitting a drain plug with a means of safety wiring said plug.

### 13.4 TAILSHAFT

- (a) The tailshaft is free save that it must be of one piece and of single tube steel construction. The use of the tailshaft yoke, pinion flange and universal joints from a V8 Holden is permitted.

## 14. FUEL

- (a) Only Pump Fuel as defined in Schedule G, Article 2.1 (refer "General Requirements for Cars and Drivers"), may be used. The original fuel tank may be filled with anti-spray foam.
- (b) It is permitted to modify the fuel tank breathers with the addition of suitable tubing. The fuel sender float arm on the sender unit/fuel pick-up assembly may be removed.
- (c) In order to retrieve fuel for testing purposes, a valve and fittings as supplied by HQRA shall be fitted to the bottom of the standard carburettor fuel supply pipe.

## 15. NON-GENUINE PARTS

- (a) The use of non-genuine GMH replacement parts as specified herein is permitted.
- (b) The parts must be standard replacement parts in terms of configuration and functional dimensions.

- (c) Parts must be of similar material and shall not result in any unauthorised modifications to any other component, such as;
- (i) Gaskets and seals
  - (ii) Bearings
  - (iii) Engine valve spring retainers and collets.
  - (iv) Water pump
  - (v) Brake discs and brake drums
  - (vi) Carburettor repair kits
  - (vii) Throttle bodies
  - (viii) Fuel pump and/or repair kits
  - (ix) Thermostat
  - (x) Ignition components
  - (xi) Fan belt
  - (xii) Voltage regulator
  - (xiii) Water hoses and clamps
  - (xiv) Suspension bushes:
    - (A) McKay bushes part numbers A1121, A1202 and A1203
    - (B) GMH part numbers 2807098, 2805098 and 9942588
  - (xv) Ball joints and tie rod ends
  - (xvi) Brake cylinders and repair kits
  - (xvii) Universal joints
  - (xviii) Window glass
  - (xix) Filter
  - (xx) Transmission components
  - (xxi) Differential side gear shims
  - (xxii) Bodywork components
  - (xxiii) Body panels
  - (xxiv) Pinion spacers
- (d) An MLS (Multi Layered Steel) construction head gasket is not permitted to be used.
- (e) Fasteners will be free, save for complying with the above and not be a lesser specification.