



2022 Saloon Car Racing Nationals
Sydney Motorsport Park September 30th – October 2nd 2022
Sporting Regulations

1. CATEGORY ORGANIZERS

- (i) The organizers of the championship shall be Saloon Car Racing Association inc, herein referred to as "the Organizers"
- (ii) Event Manager Nash Harris 0421 395 315
- (iii) Category Manager (CM) Justin Chaffey 0403 323 453 scra@outlook.com.au
- (iv) Eligibility Officer: (EO) As appointed by SCRA

2. AUTOMOBILE MARKINGS

- (i) Competition Numbers shall be allocated on order of receipt of entry or at the promoters discretion, number 1 may be used by the winner of Pro class at the most recent Saloon Car Nationals
- (ii) Each automobile must display the following series markings, appropriately attached and positioned as detailed below at all times.
- (iii) The series markings will be provided by the Category Manager.
 - Front guards = Bridgestone

3. GRID DETERMINATION

- (i) The grid Heat 1 will be in order of qualifying fastest to slowest.
- (ii) The grid for heat 2,3 and race 1

4. HEAT AND RACE LENGTHS

- (i) Heat 1,2,3 number of laps as per event schedule
- (ii) Race 1 Saloon Car Nationals number of laps as per event schedule

5. GRID POSITIONS

- (i) Heat 1: in order of fastest to slowest qualifying times
- (ii) Heat 2-3 progressive from heat 1
- (iii) Race 1 Progressive from heat 3

6. DETERMINATION OF WINNERS

- (i) The winner of Pro class shall be the highest placed car from Race 1 complying with group A technical regulations

- (ii) The winner of Pro-AM class shall be the highest placed car from race 1 complying with group B technical regulations

7. TECHNICAL REGULATIONS

1. GENERAL

1.1 These regulations are based on Holden Commodore V6-3.8 litre sedans and Ford Falcon six cylinder 3.9 and 4.0 litre sedans marketed and manufactured in Australia by General Motors Holden and the Ford Motor Company respectively and restricted in specification to those listed herein. The vehicles are to be representative of massproduced family sedans with limited modifications permitted. The intention of these regulations is to use large scale production-based vehicles with limited modifications designed to make the cars more suitable for competition use, therefore producing a relatively affordable entry to motor sport. It is intended that the vehicles shall have even performance and thus emphasise driver ability over vehicle tuning and preparation.

1.2 All vehicle parts and specifications are to remain consistent with the nominated model as supplied by the vehicle manufacturer or authorised supplier at any one time, except as otherwise permitted or specified in these regulations. Each modification or alteration must be undertaken with application of automotive engineering standards.

1.3 Any aspect relating to the construction and/or modification of the vehicle which is not expressly permitted in these regulations is forbidden. Modifications permitted are allowed only on the condition that the weights, specifications and/or dimensions as documented in the relevant Appendices of these regulations and relevant Motorsport Australia Vehicle Homologation Documents are adhered to.

1.4 The use of any carbon fibre or titanium components is prohibited unless specifically authorised in these regulations. Unless specifically authorised in the present regulations, or supplied as standard by the manufacturer, the use of any coating other than conventional or high temperature paints on any component of the complete vehicle is prohibited.

1.5 Each engine, transmission, final drive assembly and the engine Electronic Control Unit (ECU) shall be sealed prior to the commencement of any qualifying session or race. The only seal recognised for this purpose shall be a seal supplied and recorded by SCRA (Saloon Car Racing Association). Each seal shall only be affixed by a Motorsport Australia-approved sealer as detailed in Appendix G. This shall not prohibit the addition of a seal by an event official for judicial or scrutiny purposes. The presence of a seal will not protect the car from being subject to a protest, or from examination by scrutineers.

1.6 Wherever an ACL component is specified, a Mahle or Nason-branded component with the same part number may be utilised as an alternative.

2. DEFINITIONS

SCRA Saloon Car Racing Association

Group A all AU Falcons and VT,VX,VY,VZ Commodores

Group B all EA,EB Falcons and VN/VP Commodores

3. ELIGIBILITY

3.1 Group A

(a) Holden Commodore

(i) Vehicles eligible are the four-door VT Holden Commodore sedans with 3.8 litre V6 engines and five speed manual transmissions.

(ii) It is permitted to use a four-door VT,VX,VY,VZ Holden Commodore sedan bodyshell in which case each requirement and regulation for the VT Holden Commodore must be applied, except where specified in these regulations.

(b) Ford Falcon

(i) Vehicles eligible are the four-door AU Ford Falcon sedans with 4.0 litre six-cylinder MPI engines, five-speed manual transmissions, live rear axle assemblies and four-wheel disc brakes.

(c) Component Specifications

(i) Scrutineers may refer to the workshop manuals (in printed and electronic formats) and the parts catalogues published specifically for the VT Holden Commodore sedan and the AU Ford Falcon sedan respectively. Scrutineers may also carry out direct comparison of vehicle components.

3.2 Group B

(a) Holden Commodore:

(i) Vehicles eligible are the four-door VN/VP Holden Commodore sedans live axle with 3.8 litre V6 engines, five speed (T5) manual transmissions, and four-wheel disc brakes. The eligible vehicles are described by the manufacture VIN prefix 6H8V NK19, 6H8V NL19 and 6H8V NX19, 6H8V PK19, 6H8V PL19.

(b) Ford Falcon

(i) Vehicles eligible are the four-door EA/EB (Series 1 EB only) Ford Falcon sedans with 3.9 litre six cylinder MPI engines, five-speed (T50D) manual transmissions and four-wheel disc brakes. The eligible vehicles are 18733, 18933, 18133, 18734, 18934, 18134, 18737, 18937, 18132

(c) Component Specifications

(i) Scrutineers may refer to the workshop manuals and the parts catalogues published by General Motors Holden and the Ford Motor Company of Australia, specifically for the VN/VP Holden Commodore sedan and the EA/EB Ford Falcon sedan respectively. Scrutineers may also carry out direct comparison of vehicle components.

4. COACHWORK

(a) It is permitted to remove the front indicator assemblies from front guards

(b) Additional fastening bolts may be added to the front and rear bumper fascia. Said bolts must be for securing the bumper bars only.

(c) External body trim (decorations) e.g., side protection mouldings may be removed.

(d) It is permitted to cut a hole in the passenger floor, not forward of the front door hinge, for the fitment of a Timing transmitter holder

(e) The edges of the mudguard panels may be folded back if they protrude inside the wheel housing. Plastic wheel arch splash guards may be removed

(f) Bonnet and boot lid fasteners may be removed provided an alternative closing system is fitted.

(g) It is permitted to fit an insert of a clear polycarbonate material in part of the glazed area of each rear door. The polycarbonate material may incorporate a single ventilation duct. The original window glass must be retained and must secure the polycarbonate material insert.

(h) The windscreen may incorporate electric heating elements

(i) Group A

(i) Commodore (A) Each Commodore must be fitted with an SS or S pack front bumper fascia and boot lid wing as fitted and supplied by GM Holden, or an aftermarket replacement that retains the original external shape, dimensions and pitch.

(ii) Falcon (A) Each Falcon must be fitted with either an AU XR6 front bumper fascia and boot lid wing as fitted to the AU XR-6 model by Ford Australia, or an aftermarket replacement that retains the original external shape and dimensions.

(j) Group B

(i) Where the vehicle was originally equipped with external embellishments which may have an aerodynamic effect, such as spoilers, wings, skirts etc., these must be removed.

(ii) It is permitted to strengthen the original Commodore panhard bar mounting bracket on the bodyshell.

5. COCKPIT AND LUGGAGE COMPARTMENT

(a) it is permitted to remove all interior non mechanical items from the cockpit excluding steering wheel, door trims, upper crash pad of dash board, driver's seat

(b) It is permitted to replace the steering wheel and driver's seat. When a quick-release steering wheel assembly is fitted, the original upper steering shaft (column) length shall be maintained (± 50 mm). The quick-release steering wheel assembly adaptor shall not exceed 75mm in length.

(c) It is permitted to replace the door trims with metal trims; i.e., fabricated from sheet aluminium. The door trims must be fastened with screws and be readily removable.

(d) It is permitted to relocate the interior door opening devices. The interior door opening mechanisms must remain functional

(e) A footrest may be fitted to the left of the clutch pedal. A floor covering of anti-slip type may be fixed to the floor of the habitable, forward of the driver's seat. Replacement pedal pads are permitted. (f) A clutch and/or accelerator pedal stop may be fitted

(g) It is permitted to remove all heater and air conditioning components throughout.

(h) it is permitted to remove all sound deadening throughout.

6. SAFETY CAGE 6.1 SAFETY CAGE

(a) No part of the safety cage may penetrate the front or rear firewalls, save for mounting bolts.

7. SUSPENSION AND STEERING

(a) Each suspension bush or bump stop may be replaced with an aftermarket item of elastomeric construction.

(b) It is permitted to remove the original rubber spring insulators. Solid spacers of uniform section may be fitted between the springs and their unmodified mounting points to achieve a desired ride height, with a maximum spacer/s thickness of 30mm in total on any one spring.

(c) It is permitted to fit aftermarket suspension stabiliser bar link pins, It is permitted to remove or render the stabiliser bars and associated hardware inoperative

(d) A front strut brace may be fitted between the front suspension towers. If fitted, the strut brace shall be attached by bolting only at the suspension towers

(e) It is permitted to fit adjustable front suspension tension rods.

(f) Wheel alignment on the front wheels is free within the limits of the specified components, save that the maximum negative camber at each front wheel is 5°

(g) The maximum front and rear track dimensions shall be the distance between the outermost part of the walls of each tyre on the same axle measured in line with the axle centreline as presented for competition

(h) It is permitted to fit an oil cooler to the power steering system. It is permitted to vent the power steering fluid reservoir into a catch tank.

(i) Vehicle Dimension / Weight limits:

Model	AU	VT/VX/VY/VZ	VN/VP	EA/EB
Min racing height	90mm	100mm	100mm	100mm
Minimum Racing weight			1350kg	1430kg
Maximum Front Track	1854mm	1900mm	1780mm	1875mm
Maximum Rear Track	1825mm	1846mm	1760mm	1820mm
Maximum Wheelbase	2800mm	2820mm	NA	NA

(j) Group A

(i) Commodore VT/VX/VY/VZ

(A) it is permitted to

(B) The Commodore upper steering shaft (column) may be replaced with a VY Commodore upper steering shaft.

(C) Reposition the lower control arm inner pivot point on the "K" frame an equal amount on both sides, on a horizontal plane in line with the centre of the original pivot points. The distance between the horizontal centre line of this pivot point and the upper mounting surface of the K frame to the chassis rail shall be 92mm (\pm 3mm), as per Dimension A of Appendix D of these regulations.

(D) Relocate the bolt holes on the front strut mounting perches to obtain the desired negative camber and ride height measurement. After achieving the desired measurement, it is required to weld a washer over any slotted hole to prevent movement.

(E) Fit a front strut bearing retainer

(F) Shorten the rear shock absorber dust cover by a maximum of 120mm

(G) Machine the top section of the front strut shaft to reduce its effective length by a maximum of 10mm, as per Appendix F of these regulations

(H) The following specified components must be utilised in each respective vehicle. All such components must be supplied by Pedders Suspension and be identifiable by the Pedders Suspension part number:

Location	Part Number
Front Strut	9435 L&R Pedders gas ryder
Rear shock absorber	9195 or 9095 Pedders gas Ryder
Front Spring	5601 Pedders Racing coil
Rear Spring	SO108378VT King springs Racing Coil

(ii) Falcon AU

- (A) It is permitted to reinforce the AU Falcon front stabiliser bar mounting brackets
- (B) The Falcon front suspension uprights must be as fitted to the series two AU model (front mounted brake caliper)
- (C) The AU Falcon top inner camber kits are free save that they must utilise the original mounting points and respect the vertical height. The centre of the top wishbone pivot point on the camber kit may be lowered by 15mm from standard or be a minimum of 10mm and a maximum of 25mm from the centre of the mounting stud as per Appendix E of these regulations.
- (D) It is permitted to relocate the AU Falcon front damper assembly lower mounting hole a maximum of 20mm to achieve the desired ride height.
- (E) The following specified components must be utilised in each respective vehicle. All such components must be supplied by Pedders Suspension and be identifiable by the Pedders Suspension part number:

Location	Part Number
Front Strut	9434 L&R Pedders gas ryder
Rear shock absorber	9180 Pedders gas Ryder
Front Spring	5626 Pedders Racing coil
Rear Spring	2181 Pedders Sportsryder Coil

(k) Group B

(i) Commodore VN/VP (A) It is permitted to strengthen the original Commodore panhard bar mounting bracket on the bodyshell.

(B) The following specified components must be utilised in each respective vehicle. All such components must be supplied by Pedders Suspension and be identifiable by the Pedders Suspension part number:

Location	Part Number
Front shock absorber	9795 Pedders Sportsryder cartridge
Rear shock absorber	9094 Pedders gas sports ryder
Front Spring	5623 Pedders Racing coil
Rear Spring	2129 pedders sports ryder coil
Front Swaybar	4803 Pedders Swaybar
Rear Swaybar	OEM 16mm or 19mm
Pan Hard Bar	4633 Pedders adjustable panhard rod
Strut top	Pedders or Kmac strut top

(ii) Falcon EA/EB

(A) It is permitted to fit XF Falcon eccentric camber adjustment pins

(B) The following specified components must be utilised in each respective vehicle. All such components must be supplied by Pedders Suspension and be identifiable by the Pedders Suspension part number:

Location	Part Number
Front shock absorber	9899 or 9934 Pedders gas sports ryder
Rear shock absorber	9080 Pedders gas sports ryder
Front Spring	5622 Pedders racing coil
Rear Spring	2181 Pedders sportsryder
Front Swaybar	4812 Pedders swaybar
Strut top	5800 Pedders caster camber kit or Kmac

(l) The minimum racing height shall be measured from any fully-sprung component of the vehicle, excluding the complete exhaust system.

(m) Ballast may be used to achieve the minimum weight requirements, and, if used, shall comply with Motorsport Australia requirements.

(n) The maximum Racing Track dimension shall be the distance between the outermost part of the walls of each tyre

8. BRAKES 8.1 BRAKES GENERAL

- (a) The brake pads are free. The retention of the pad assembly in the caliper must be by the method envisaged by the manufacturer of the caliper assembly.
- (b) Anti-lock braking systems (ABS) must be removed.
- (c) It is permitted to fit a residual line pressure valve to the braking system.
- (d) Original brake pipes and flexible hoses may be replaced by others of adequate strength and quality. (e) It is permitted to fit a variable brake pressure proportioning valve in the rear brake line. This valve may be mounted within reach of the driver whilst racing
- (f) The handbrake and all associated components, linkages, brackets, cables and return springs may be disconnected or removed.
- (g) The master cylinder may be replaced by one interchangeable with the original. The bore size and internal valving are free
- (h) Brake ducting
 - (i) It is permitted to fit one flexible pipe (maximum 100mm internal diameter) to carry air to each front and rear brake. No other apertures are permitted for brake air intake ducts.
 - (ii) All ducted air must be for brake cooling only.
 - (iii) It is permitted to modify the front bumper on group B vehicles as per appendix A
 - (iv) The fitting at the exhaust end of the pipe is free, subject to the only modifications made to other components being those required to provide attachment of the fitting. Brake rotor protection shields may be removed or modified for brake cooling.

8.2 BRAKES FRONT

- (a) Front brake rotors shall be of ferrous material with the maximum dimensions of 330mm diameter and maximum thickness of 32mm.
- (b) Brake hats are free. (c) All vehicles are permitted to use any OEM Holden Commodore or Ford Falcon twin piston front brake caliper or direct replacement of.
- (c) Group A Vehicles are permitted to use front calipers as per 8.8
- (d) or Wilwood front brake caliper - Wilwood part number 120-13267-N (RH) and 120-13267-N (LH).

8.3 BRAKES REAR

- (a) It is permitted to modify the AU Falcon rear braking system with the fitment of 328mm x 26mm brake rotors and Ford brake calipers part numbers SX2K327A and SX2K328A(Ford Territory).
- (b) It is permitted to modify the VT Commodore rear braking system with the fitment of 316mm x 18mm brake rotors and any Holden single-piston rear brake calipers (i.e., a caliper which was originally designed to be used on the rear). In order to fit the permitted rear brake modification, it is permitted to fit an aftermarket caliper mounting bracket.

9. WHEELS AND TYRES

- (a) all 4 wheels and tyres fitted must be of the same size.
- (b) A metallic wheel spacer may be added behind each wheel in compliance with schedule E.
- (c) At the commencement of practice, qualifying or racing the tread, shall be not less than 1.5mm depth when measured at any point, save that this does not apply to the shoulder of the tyre
- (d) GROUP A
 - (i) wheels are free save that they must be 17" x 8" with A minimum weight of 10kg
 - (ii) Shall only be fitted with Bridgestone Potenza RE11 Type SR2 235/45R17 tyres as supplied by Bridgestone
- (e) GROUP B
 - (i) wheels are free save that they must be 16"x8" with a minimum weight of 8.5kg or 17" x 8" with A minimum weight of 10kg
 - (ii) shall only be fitted with Bridgestone Potenza RE11 Type SR2 225/50R16 or 235/45R17 tyres as supplied by Bridgestone

10. FUEL AND FUEL TANKS

- (a) Only Commercial Fuel is permitted. With the exception of ambient atmospheric air, no other substance may be added to the intake charge of the engine.
- (b) To facilitate both fuel sampling and pressure testing, a Jiffy-Tite 2000 series "dry break" coupling (female coupling only) shall be fitted to the fuel system under the bonnet
- (c) Original equipment fuel injectors may be replaced by other interchangeable units.

(d) Fuel pressure must not exceed 400kPa. (e) The main fuel tanks must be as provided by the manufacturer and may be baffled or filled with antispray foam. (f) Fuel caps are free. (g) It is permitted to fit one anti-surge fuel tank of 5.5 litre maximum capacity and one additional electric fuel pump in the rear of the vehicle, If the anti-surge tank/pump kit components are mounted inside the rear luggage compartment (boot) area, a fireproof and liquid-proof bulkhead must separate the cockpit from the rear luggage compartment. (h) it is permitted to replace and relocate the factory fuel lines filters fuel pump

11. ELECTRICAL

11.1 GENERAL

(a) The location of the battery is free. The maximum battery size must be that which can fit the standard battery tray in each vehicle.
 (b) It is permitted to remove the central locking components, radio, interior lights and any non-functional electrical wiring, modules and connectors.
 (c) It is permitted to replace the wiring loom save that the following electrical equipment remains operational: windscreen wipers, head and tail lights, stop lights including the high-level light. Fuses and a master electrical circuit breaker may be added to the electrical system.

(d) Supplementary switches and instruments may be fitted.

(e) A windscreen demister may be fitted **11.2 ECU and IGNITION**

(a) The only ECU permitted is the sealed model 4424 Stinger or SCRA EM80, as supplied by Engine Management Systems P/L (EMS) or MoTeC 13130AJ as supplied by SCRA.

(b) The Specified ECU must be located in the front passenger area and be readily accessible for inspection.

(c) The original ECU connector (plug) in the vehicle wiring harness (as fitted by the manufacturer) must be removed.

(d) It is permitted to fit an ignition module supplied by EMS.

(e) it is permitted to remove the MAP and MAF sensor and idle control motor; a blanking plate must be fitted to the resulting apertures.

(f) It is permitted to relocate the coil packs of the AU Falcon within the engine compartment.

(g) Maximum engine RPM must be set by (EMS), MoTeC or the authorised SCRA sealer and not exceed the maximum parameters set for each vehicle as follows

Model	Maximum Engine RPM Permitted
VT/VX/VY/VZ Commodore	6250rpm
AU Falcon	5800rpm
Group B EA/EB Falcon and VN/VP Commodore	5600rpm

11.3 DATA DEVICES

(a) It is permitted to fit a data storage device, including a multi-display dash with only ability to store vehicle data. Data logging shall be limited to lap timing, drive line and engine function only.

(b) Any device which has the capability of outputting any signal or data to the vehicle ECU, or that is capable of altering the vehicle engine functions in any way, irrespective of whether it is being used or not will be considered to be an ECU and therefore in breach of these regulations. Any such unit is specifically not permitted in the vehicle during competition. The data storage device must be mounted in a visually accessible position.

(c) The software for the data storage device must not show any pin allocations set-up to read sensors other than those permitted.

(d) The use of any form of real time telemetry or the transmission of any data other than a lap trigger signal to or from the vehicle is specifically prohibited.

(e) A lap timing device which has the sole function of timing each lap or laps is permitted.

12. EXHAUST 12.1 EXHAUST SYSTEM:

(a) The exhaust system is free from the exit of the cylinder head.

(b) The exhaust system may be coated with materials other than paint (eg, ceramic/high temperature coatings).

12.2 EXHAUST MOUNTING

- (a) It is permitted to raise the rear passenger footwell on one side of the vehicle only to a maximum vertical height of 75mm and a maximum width of 300mm to accommodate the muffler. Such modification shall be fully welded to the remaining floor pan, which can extend into the underside of the rocker panel box section of no more than 30mm deep by 300mm wide cut out of the underside of the rocker panel and shall serve no purpose other than to accommodate the muffler.
- (b) It is permitted to modify the pinch weld flanges under the sill panel (locally) to facilitate the exit of the exhaust.
- (c) it is permitted to add additional exhaust hangers for the sole purpose of mounting the exhaust.

13. COOLING SYSTEM 13.1 ENGINE:

- (a) It is permitted to remove the original fan and fit a replacement electric fan. The fan shroud may be removed.
- (b) The thermostat is free as is the control system of the fan.
- (c) The original radiator may be replaced provided that the original mounting points are utilised, the front plane of the radiator remains in the same location as the original and that no modifications are carried out for its fitment.
- (d) The radiator design, construction and fitment must serve no purpose other than to cool the engine coolant.
- (e) A protective mesh screen may be fitted in front of the radiator.
- (f) A water filter may be fitted to the top radiator hose.
- (g) It is permitted to fit radiator air ducting to the front of the radiator to aid engine cooling, provided that the bodywork is not altered for the purpose of its fitment, nor may it be fitted outside the confines of the standard bodywork.
- (h) All ducting must serve no other purpose other than radiator coolant cooling.

13.2 TRANSMISSION:

- (a) It is permitted to fit a transmission lubricant cooler, filter and pump. The cooler, filter and pump must be fitted beneath the vehicle in the "seat well" area as per Appendix C of these regulations and must only be utilised for the cooling of the transmission lubricant.
- (b) It is permitted to drill and tap a thread into the transmission casing to accommodate the cooler return line.

14. TRANSMISSION

14.1 General:

- (a) Only the T5 manual five-speed Borg-Warner gearbox and bell or the Tremec six speed manual gearbox may be used.
- (b) A circular hole of diameter 50mm must be made in the bottom of the bell housing to facilitate inspection of the clutch assembly and flywheel
- (c) It is permitted to replace the original rear countershaft bearing retainer with an aftermarket unit. (e) It is permitted to carry out local modification of the gearbox casing to allow the fitment of alternate bearings.
- (d) Internal gearbox components are free save that they shall perform the original operation of the T5 for Holden Commodore and the T50D for the Ford Falcon, i.e., synchromesh operation.
- (e) Dog tooth engagement is prohibited.
- (f) It is permitted to fit an aftermarket gear shifter subject to the original shift pattern being retained. The gear change lever is free, save that the replacement must serve only as a gear change lever, and it must be attached in the original manner.
- (g) The only permitted gearbox ratios are as per the table below

14.2 VT/VX/VY/VZ Commodore AU Falcon

- (a) To facilitate the fitment of the T5 (VT) and T50D (AU) manual transmissions it is permitted to modify the rear transmission mounting and cross-member, and the gear change aperture in the floor pan.

15. CLUTCH

General

- (a) The clutch assembly may be replaced by one in accordance with Authorised Parts (refer Article 23).

(b) The pressure plate assembly cover must be of steel construction. It must use a single driven plate. The minimum diameter of the clutch driven plate for both models is 240mm

(c) It is permitted to fit a clutch pedal stop.

Group A:

(i) It is permitted to shorten the front section of the Commodore tailshaft or utilise the front section of a V8 automatic (VT) tailshaft to obtain the correct fitment to the T5 manual transmission.

(ii) It is permitted to elongate the VT Commodore tailshaft centre bearing mounting bolt holes to facilitate the correct fitment of the tailshaft.

(iii) It is permitted to replace the front tailshaft yoke (VT) with the yoke suited to the T5 manual transmission as fitted to the VN-VP model Commodores.

16. DIFFERENTIAL

16.1 General

(a) The differential action of the rear axle must be disabled. A "mini spool" may be fitted to the existing differential casing or a full spool may replace the original differential carrier assembly.

(b) It is permitted to fit mechanically identical replacement rear axles or half shaft assemblies

(c) It is permitted to fit one flexible pipe to carry air to the final drive assembly.

(d) Rear axle bearing retainer plates are free

Group A

(i) It is permitted to fit a VT Commodore V8 differential housing and gears to the Commodore.

(ii) It is permitted to fit the Harrop "Enduro" differential cover (Harrop part no. 99-ACVR6941-00) to the VT Commodore.

16.2 Ratios The only permitted final drive gear ratios are as per table below

17. ENGINES

17.1 General

(a) Engine mounts may be replaced with commercially available items that retain the OEM engine position and angle.

(b) It is permitted to fit extra engine breathers, but all breathers must discharge to a catch tank which is vented to the atmosphere

(c) It is permitted to fit an engine oil cooler provided that the bodywork is not altered for the purpose of its fitment, nor may it be fitted outside the confines of the standard bodywork.

(d) Each engine shall be sealed prior to assembly in accordance with 1.5.

18. ENGINE - VT/VX/VY/VZ COMMODORE

The only permitted engine is the V6 Ecotec engine as fitted to the VT Holden Commodore.

18.2 CYLINDER HEADS:

(a) The maximum inlet valve size is 45.7mm and the exhaust 38.6mm.

(b) Cylinder heads: It is permitted to machine the valve seats in the cylinder heads at 45° with the overcut/ undercut angles/radii being free. It is permitted to reclaim the valve seats as per the manufacturer's specifications, including through the use of a seat insert.

(c) It is permitted to machine the top of the valve guides to a minimum height of 20mm above the spring seat.

(d) It is permitted to machine the ports from the valve seat to the untouched valve guide boss with the largest diameter at the valve seat. All machine work must be concentric with the centre line of the original valve guide.

(e) It is permitted to machine the cylinder head face parallel to the original surface to obtain the minimum combustion chamber volume.

(f) The use of hardened or machined valve collets and retainers is permitted.

(g) The valve springs are free subject to there being a maximum of two springs per valve. It is permitted to fit shims under the valve springs.

(h) It is permitted to machine the valve spring seats to obtain the correct valve spring installed height. It is permitted to de-burr the valve spring seats locally after machining, provided it is to industry standards. Other hand or mechanical finishing of the valve spring seats is not permitted.

(i) Cylinder head stud fasteners may replace cylinder head bolts.

18.3 CAMSHAFT:

(a) The only Camshaft permitted shall be Crow Cams part number TASCCO3800 or Clive Cams part number VTSSTC3800. Each Camshaft must match the Crow Cams cam doctor report for that specific Camshaft. NOTE: Camshafts available from: Clive Cams Ph. (03) 9758 5977 Crow Cams Ph. (03) 9357 0469

(b) It is permitted to remove the internal balance shaft and gears, whereupon the rear balance shaft bearing oil supply hole may be blocked. The timing chain and gears are free. The Camshaft phase angle in relation to the crankshaft is free.

18.4 CRANKSHAFT & CONNECTING RODS:

(a) The crankshaft journals may be reground a maximum of 1.0mm (.040") undersize, with a maximum stroke of 86.4mm.

(b) The crankshaft minimum weight shall be 15.20kg.

(c) The connecting rods may be re-sized and machined to provide additional side clearance and to attain the correct piston height. The connecting rod minimum weight is 610g. Localised machining is authorised to facilitate the use of replacement rod bolts. Shot peening treatment of connecting rods is permitted.

(d) Main and connecting rod bearings are free save that they must maintain the original external dimensions. It is permitted to dowel the flywheel to the crankshaft.

18.5 BALANCING:

(a) All rotating and reciprocating components may be balanced by the removal of metal only from the locations so provided by the manufacturer.

(b) Piston balancing will be achieved by removal of metal from the underside of the piston only.

(c) Only the specified flywheel as supplied by Adelaide Clutch Service (part number FGM112C) is permitted. The flywheel may be machined on the friction surface only and balanced to a minimum weight of 9.50kg.

(d) The minimum torsional damper weight shall be 3.50kg.

(e) It is permitted to use a Powerbond torsional damper (Harmonic balancer).

8.6 INTAKE MANIFOLD:

(a) The intake manifold may be glass bead blasted. It may be machined on the cylinder head and block mating faces to obtain correct fitment to the engine.

(b) Match porting of the inlet manifold ports for a maximum distance of 6mm from each left and right hand face is permitted, as per Appendix B of these regulations.

(c) The original air cleaner box must be removed and replaced with a cone-type replacement air element. The element must be attached directly to the controlled air intake tube as supplied by Pacemaker – part number 5100. It is permitted to remove the inlet manifold mounting lug to obtain correct fitment of the intake tube. It is permitted to fit the air temperature sensor to the Pacemaker tube. The original air flow meter must be removed, and any device, bracket or component used to enclose or partly enclose the air intake element is prohibited.

(d) The PCV system must be removed, and the resulting holes in the inlet manifold and throttle body must be mechanically sealed.

18.7 LUBRICATION:

(a) Baffling of the sump is permitted save that the external appearance of the sump is as supplied by the manufacturer as standard.

(b) The oil pressure relief valve spring may be shimmed.

(c) It is permitted to fit an engine oil cooler provided that the bodywork is not altered for the purpose of its fitment, nor may it be fitted outside the confines of the standard bodywork.

18.8 ENGINE BLOCK:

(a) The engine block may be re-bored to a maximum of 1.00mm (0.040") oversize.

(b) The only pistons permissible shall be ACL/Nason part number 6MKRY3802 or 6MKRY9381S or Precision Parts Australia part number PHO3800L6040MMS. For ACL 6MKRY3802 and Precision Parts Australia part number PHO3800L6040MMS (c) The minimum cylinder head combustion chamber volume is 50cc. For ACL/Nason 6MKRY9381S pistons the minimum cylinder head combustion chamber volume is 54cc.

(d) The minimum permissible piston weight, with gudgeon pin, is 474g

(e) The connecting rods may be replaced with Part No. 29FGFECAPM as supplied by "Spool" with a minimum weight of 615g

(f) The piston rings shall comply with the following requirements:

(i) There must be two compression rings and a segmented oil ring on each piston;

(ii) 'Gapless' piston rings are not permitted;

(iii) The piston ring gaps may be adjusted; however, the ends of each compression ring must be parallel to the centre line of the cylinder bore.

(g) The engine block face may be machined in a plane perpendicular to the cylinder bores. The 6MKRY93802 and PHO3800L6040MMS pistons must not protrude above the block face any more than 0.25mm (0.010") from the engine block face at TDC.

(h) For the sole purpose of achieving equal piston deck heights, it is permitted to machine a minimal amount of material from the top surface (crown) of any four (4) pistons per engine.

(i) The ACL6MKRY9381 pistons must not protrude above the block face at TDC.

18.9 HEAD GASKET:

(a) The cylinder head gaskets must be of standard configuration type and dimensions for the model with the following minimum thickness: 0.95mm

18.10 VALVE TRAIN:

(a) It is permitted to shim the rocker arm pedestals to obtain the correct tappet settings.

(b) It is permitted to fit an external timing pointer to the timing chain cover.

19. ENGINE – AU FORD FALCON

19. ENGINE – AU FORD FALCON ENGINE TYPE:

The only permitted engine is the 4.0 litre MPI engine as fitted to the AU Ford Falcon.

19.2 CYLINDER HEAD:

(a) The valves' seat faces must be re-cut at 45°. Back cutting of the valves is permitted.

(b) The maximum inlet valve size is 47.0mm and the exhaust 41.0mm.

(c) Cylinder head: It is permitted to machine the valve seats in the cylinder head at 45° with the overcut and undercut angles/radii being free. It is permitted to reclaim the valve seats as per the manufacturer's specifications. It is permitted to machine the ports from the valve seat to the untouched valve guide boss with the largest diameter at the valve seat. All machine work must be concentric with the centre line of the original valve guide.

(d) It is permitted to machine the cylinder head face to obtain a minimum combustion chamber volume of 50cc for part number 6MKRY4002 pistons, and a minimum combustion chamber volume of 57cc for part number 6MKRY9414S and Precision Parts Australia part number PFO3986L6040MMS pistons. It is permitted to fly cut the 6MKRY4002 piston to facilitate exhaust valve clearance.

(e) Machining of the head face is permitted provided it is parallel to the original surface.

(f) The use of hardened and/or machined collets and retainers is permitted. The valve springs are free subject to there being a maximum of two springs per valve. It is permitted to fit shims under the valve springs.

(g) It is permitted to machine the valve spring seats to obtain the correct valve spring installed height. It is permitted to de-burr the valve spring seats locally after machining, provided it is to industry standards. Other hand or mechanical finishing of the valve spring seats is not permitted.

(h) Cylinder head stud fasteners may replace cylinder head bolts.

SPECIFICATIONS OF AUTOMOBILES

14.13 CAMSHAFT:

(i) The only Camshaft permitted shall be Crow Cams part number TASCCO3900AU or Clive Cams part number SSTC4000. Each Camshaft must match the Crow Cams cam doctor report for that specific Camshaft. NOTE: Camshafts available from: Clive Cams Ph. (03) 9758 5977 Crow Cams Ph. (03) 9357 0469

(j) The timing chain and gears are free

(k) The Camshaft phase angle in relation to the crankshaft is free

19.3 CRANKSHAFT & CONNECTING RODS:

(a) The crankshaft journals may be reground to a maximum stroke of 99.3mm.

(b) The crankshaft minimum weight shall be 29.40kg.

(c) The connecting rods may be re-sized and machined to provide additional side clearance and to attain the correct piston height.

(d) The connecting rod minimum weight is 615g. Localised machining is authorised to facilitate the use of replacement rod bolts. Shot peening treatment of connecting rods is permitted.

(e) Main and connecting rod bearings are free save that they must maintain the original external dimensions.

(f) It is permitted to dowel the flywheel to the crankshaft.

19.4 BALANCING:

(a) All rotating and reciprocating components may be balanced by the removal of metal only from the location so provided by the manufacturer. Piston balancing will be achieved by removal of metal from the underside of the piston only.

(b) The flywheel may be machined on the friction surface only and be balanced to a minimum weight of 9.100kg.

(c) It is permitted to use an after-market flywheel as supplied by Adelaide Clutch Service part number FFD112C.

(d) The minimum torsional damper (harmonic balancer weight shall be 4.30kg.

(e) It is permitted to use a Powerbond torsional damper (Harmonic balancer).

19.5 INTAKE MANIFOLD:

(a) The intake manifold may be glass bead blasted. It may be machined on the cylinder head mating face to obtain correct fitment to the engine.

(b) Match porting of the inlet manifold ports for a maximum distance of 6mm from the mounting face is permitted, as per Appendix B of these regulations.

(c) The original air cleaner box must be removed and replaced with a cone-type replacement air element attached directly to the controlled air intake tube as supplied by Pacemaker – part number 4100AU.

(d) It is permitted to remove the inlet manifold mounting lug to obtain correct fitment of the intake tube. Any device, bracket or component used to enclose or partly enclose the air intake element is prohibited.

(e) It is permitted to fit an after-market vacuum tank.

19.6 LUBRICATION:

(a) Baffling of the sump is permitted save that the external appearance of the sump is as supplied by the manufacturer as standard.

(b) The oil pressure relief valve spring may be shimmed.

19.7 ENGINE BLOCK:

(a) The engine block may be rebored to a maximum oversize of 1.0mm (.040”).

(b) The only pistons permissible shall be ACL/Nason part number 6MKRY4002 or 6MKRY9414S and Precision Parts Australia part number PFO3986L6040MMS. The minimum weight of each piston with gudgeon pin shall be 499g.

(c) The piston rings shall comply with the following requirements:

(i) There must be two compression rings and a segmented oil ring on each piston;

(ii) 'Gapless' piston rings are not permitted;

(iii) The piston ring gaps may be adjusted; however, the ends of each compression ring must be parallel to the centre line of the cylinder bore.

(d) The engine block face may be machined in a plane perpendicular to the cylinder bores. The pistons must not protrude from the engine block face at TDC.

(e) For the sole purpose of achieving equal piston deck heights, it is permitted to machine a minimal amount of material from the top surface (crown) of any four (4) pistons per engine.

(f) It is permitted to fit extra crankcase breathers but all breathers must discharge to a catch tank that is vented to the atmosphere.

19.8 CYLINDER HEAD GASKET

(a) The cylinder head gasket must be of standard configuration type and dimensions for the model with the following minimum thickness: 0.70mm.

20. ENGINE – VN/VP HOLDEN COMMODORE

It is only permitted to use the Holden V6 engine as fitted to the Commodore VN Series 1 and 2, and Commodore VP Series 20.2

CYLINDER HEADS:

(a) It is permitted to machine the valve seats in the cylinder heads at 45° with the overcut angles/radii being free. The valve seat faces must be re-cut at 45°. Back cutting of the valves is permitted.

(b) The maximum inlet valve size is 43.56mm and the exhaust is 37.97mm.

(c) It is permitted to reclaim the valve seats as per the manufacturer's specifications, including through the use of a seat insert.

(d) It is permitted to refurbish valve guides using thin wall type valve guides (K-Line or equivalent). (e) It is permitted to machine the cylinder head face parallel to the original to obtain a minimum combustion chamber volume of 36cc for ACL part number 3800 pistons and 37.5cc for ACL part number 9380 pistons and Precision Parts Australia part number PHO38006040MMS pistons.

(f) It is permitted to machine the ports from the valve seat to the untouched valve guide boss with the largest diameter of any taper at the valve seat. All machine work must be concentric with the centre line of the original valve guide.

(g) The use of hardened or machined valve collets and retainers is permitted.

(h) The valve springs are free subject to there being a maximum of two springs per valve. It is permitted to fit shims under the valve springs.

(i) It is permitted to machine the valve spring seats to obtain the correct valve spring installed height. (j) It is permitted to de-burr the valve spring seats locally after machining, provided it is

to industry standards. Other hand or mechanical finishing of the valve spring seats is not permitted. (

k) It is permitted to fit an external timing pointer to the timing chain cover. It is permitted to slot the crank angle sensor to permit timing adjustment.

(l) Cylinder Head stud fasteners may replace cylinder head bolts.

20.3 HEAD GASKET:

(a) The cylinder head gaskets must be of standard configuration type and dimensions for the model with a minimum thickness of 0.95mm.

20.4 VALVE TRAIN:

(a) It is permitted to shim the rocker arm pedestals to obtain the correct tappet settings.

20.5 CAMSHAFT: (a) All cars must be fitted with the Crow Cams part number SCRA3800 Camshaft or a Clive Cams part number VNSSTC3800. Each Camshaft must match the Crow Cams cam doctor report specific for that Camshaft. NOTE: Camshafts available from: Clive Cams Ph. (03) 9758 5977 Crow Cams Ph. (03) 9357 0469 (b) It is permitted to remove the balance shaft and gears. (c) The timing chain and gears are free. The Camshaft phase angle in relation to the crankshaft is free. 20.6 CRACKSHAFT AND RODS:

(a) The crankshaft journals may be reground a maximum of 1.0mm undersize, with a maximum stroke of 86.36mm. The crankshaft minimum weight shall be 16.00kg bare (VN) or 15.50 (VP).

(b) The connecting rods may be re-sized and machined to provide additional side clearance and to attain the correct piston height, and to facilitate the use of replacement rod bolts. The connecting rod minimum weight is 640.0 grams. Shot peening treatment of connecting rods is permitted.

(c) Main and connecting rod bearings are free save that they must maintain the original external dimensions.

(d) It is permitted to dowel the flywheel to the crankshaft.

20.7 BALANCING:

(a) All rotating and reciprocating components may be balanced by the removal of metal only from the locations so provided by the manufacturer.

(b) Piston balancing will be achieved by removal of metal from the underside of the piston only.

(c) The flywheel may be machined on the friction surface only and balanced to a minimum weight of 9.50kg.

(d) It is permitted to use a Powerbond torsional damper (Harmonic balancer).

20.8 INTAKE MANIFOLD:

(a) The intake manifold may be glass bead blasted. It may be machined on the cylinder head and block mating faces to obtain correct fitment to the engine.

(b) Match porting of the inlet manifold ports for a maximum distance of 6mm from each left and right hand face is permitted in accordance with Appendix B.

(c) The original air cleaner box must be removed and replaced with a cone-type replacement air element directly attached to the unmodified front snorkel tube mounted in its original location. The PVC system must be removed, and the resulting holes in the inlet manifold and throttle body must be mechanically sealed.

20.9 LUBRICATION:

(a) Baffling of the sump is permitted, save that the external appearance of the sump is as supplied by the manufacturer as standard.

(b) The oil pressure relief valve spring may be shimmed.

20.10 ENGINE BLOCK:

(a) The engine block may be re-bored to a maximum of 1.0mm oversize.

(b) The only pistons permissible shall be ACL part number 6MKRY3800 or part number 6MKRY9380 and Precision Parts Australia part number PHO38006040MMS pistons. The minimum permissible piston weight, with gudgeon pin, is 555g.

(c) The piston rings shall comply with the following requirements:

(i) There must be two compression rings and a segmented oil ring on each piston;

(ii) 'Gapless' piston rings are not permitted;

(iii) The piston ring gaps may be adjusted, however the ends of each compression ring must be parallel to the centre line of the cylinder bore.

(iv) Where ACL pistons are fitted, piston ring pack ACL part number MP1727 (for 6MKRY3800 pistons) or M1812 (for 6MKRY9380 pistons) shall be used.

(d) The engine block face may be machined in a plane perpendicular to the cylinder bores. The pistons must not protrude from the engine block face at TDC.

(e) For the sole purpose of achieving equal piston deck heights, it is permitted to machine a minimal amount of material from the top surface (crown) of any four (4) pistons per engine.

21. ENGINE – EA/EB FORD FALCON

It is only permitted to use the Ford 3.9 litre multi-point electronic fuel injected engine as fitted to the Falcon EA and EB Series 1.

21.2 CYLINDER HEAD:

(a) It is permitted to machine the valve seats in the cylinder head at 45° with the overcut and undercut angles/radii being free. The valve seat faces must be re-cut at 45°. Back cutting of the valves is permitted. The maximum inlet valve size is 47.0mm and the exhaust is 39.0mm.

(b) It is permitted to reclaim the valve seats as per the manufacturer's specifications, including through the use of a seat insert.

(c) It is permitted to machine the cylinder head face to obtain a minimum combustion chamber volume of 55cc (for 6MKRY2809 and 6MKRY3900 pistons) and 57cc for 6MKRY9390 pistons and Precision Parts Australia part number PFO39006040MMS pistons. Angle milling is not permitted.

(d) It is permitted to machine the ports from the valve seat to the untouched valve guide boss with the largest diameter of any taper at the valve seat. All machine work must be concentric with the centre line of the original valve guide.

(e) The following dimensions must be respected:

(i) Valve guide total length: minimum 62.2mm.

(ii) Valve guide protrusion: maximum 19.1mm above guide boss on top of cylinder head.

(f) The use of hardened and/or machined collets and retainers is permitted. The valve springs are free subject to there being a maximum of two springs per valve. It is permitted to fit shims under the valve springs.

(g) It is permitted to machine the valve spring seats to obtain the correct valve spring installed height. It is permitted to de-burr the valve spring seats locally after machining, provided it is to industry standards.

(h) Other hand or mechanical finishing of the valve spring seats is not permitted.

(i) It is permitted to use Camshaft rocker arms as fitted to Ford Falcon six-cylinder models EA to EF. (j) The cylinder head gasket must be of standard configuration type and dimensions for the model with a minimum thickness of 0.70mm.

(k) Cylinder Head stud fasteners may replace cylinder head bolts.

21.3 CAMSHAFT:

(a) The Camshaft shall be Crow Cams part number SCRA3900 or Clive Cams part number SSTC3900. NOTE: Camshafts available from: Clive Cams Ph. (03) 9758 5977 Crow Cams Ph. (03) 9357 0469

(b) Each Camshaft must match the Crow Cams cam doctor report specific for that Camshaft.

(c) The timing chain and gears are free. The Camshaft phase angle in relation to the crankshaft is free.

21.4 CRANKSHAFT AND RODS:

(a) The crankshaft journals may be reground to a maximum 1.0mm undersize with a maximum stroke of 99.31mm. The crankshaft minimum weight shall be 25.75kg.

(b) The connecting rods may be re-sized and machined to provide additional side clearance and to attain the correct piston height, and to facilitate the use of replacement rod bolts. The connecting rod minimum weight is 610g. Shot peening treatment of connecting rods is permitted.

(c) Main and connecting rod bearings are free save that they must maintain the original external dimensions.

21.5 BALANCING:

(a) All rotating and reciprocating components may be balanced by the removal of metal only from the locations so provided by the manufacturer.

(b) Piston balancing will be achieved by removal of metal from the underside of the piston only.

(c) The flywheel may be machined on the friction surface only and balanced to a minimum weight of 11.00kg. The minimum torsional damper weight shall be 4.40kg.

21.6 INTAKE MANIFOLD:

(a) The intake manifold may be glass bead blasted. The manifold may be machined on the cylinder head mating face to match the cylinder head and thus obtain correct fitment to the engine.

(b) Match porting of the inlet manifold ports for a maximum distance of 6mm from the mounting face is permitted as per Appendix B. The inlet manifold must be Ford part number 87DA9425.

(c) The original air cleaner box must be removed and replaced with a cone-type replacement air element attached directly to the unmodified front snorkel tube, elbow and external support bracket. 21.7 LUBRICATION:

(a) Baffling of the sump is permitted. Save that the external appearance of the sump is as supplied by the manufacture as standard.

(b) The oil pressure relief valve spring may be shimmed.

(c) It is permitted to fit an engine oil cooler provided that the bodywork is not altered for the purpose of its fitment, nor may it be fitted outside the confines of the standard bodywork.

21.8 ENGINE BLOCK:

(a) The engine block may be rebored to a maximum oversize of 1.0mm.

(b) The only pistons permissible shall be ACL part number 6MKRY2809, 6MKRY3900 or 6MKRY9390 and Precision Parts Australia part number PFO39006040MMS.

(c) The minimum weight of each piston and gudgeon pin shall be 600 grams for 6MKRY2809 pistons, 562g for 6MKRY3900 pistons or 558g for 6MKRY9390 and PFO39006040MMS pistons.

(d) The piston rings shall comply with the following requirements:

(i) There must be two compression rings and a segmented oil ring on each piston;

(ii) 'Gapless' piston rings are not permitted;

(iii) The piston ring gaps may be adjusted, however the ends of each compression ring must be parallel to the centre line of the cylinder bore.

(iv) Where ACL pistons are fitted, piston ring pack ACL part number MP1717 shall be used.

(e) The engine block face may be machined in a plane perpendicular to the cylinder bores.

The pistons must not protrude from the engine block face at TDC.

(f) For the sole purpose of achieving equal piston deck heights, it is permitted to machine a minimal amount of material from the top surface (crown) of any four (4) pistons per engine.

(g) It is permitted to fit extra engine breathers, but all breathers must discharge to a catch tank vented to the atmosphere.

22. ACCESSORIES DRIVE:

(a) It is permitted to fit an additional idler pulley to support the power steering pump drive belt.

(b) It is permitted to fit a single serpentine belt and pulley/tensioner components to drive engine accessories.

23. AUTHORISED PARTS

The following parts may be from any source provided that their use does not result in unauthorised modification of any other component

Gaskets, clutch driven plate, clutch throw out bearing nuts, bolts, screws and other fasteners, seals lamps, engine cylinder head valves, battery, bearings, rear axles, fluid filters, engine ancillary drivebelts, water hoses and clamps, differential gears, water pump, head and taillight assemblies, idler pulleys, brake caliper kits, auxiliary gauges, shims and spacers, spark plugs, and leads, universal joints and CV joints, coil packs, wheel bearings, auxiliary bonnet fasteners, fuel pumps, gear shifter, valve rocker covers, tie rods, valve guides and pushrods, suspension stabiliser bar, link pin kits, suspension bushes, clutch pressure plate, brake rotors and rear brake caliper mounting, AU Falcon rear trailing arms, Rear view mirror/s

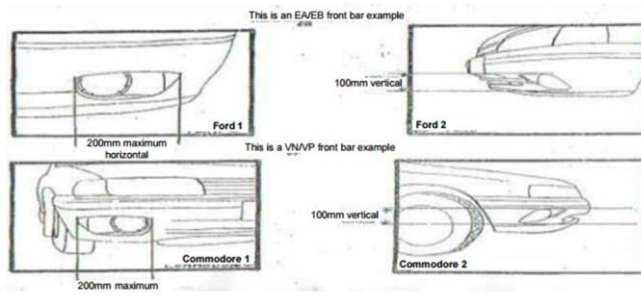
24. NON-GENUINE PARTS

The following replacement parts must be mechanically, functionally and dimensionally identical replacements for the original:

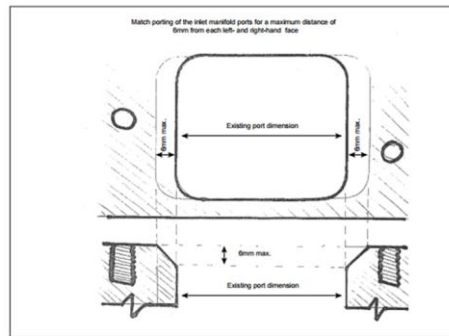
Window Glass, Water Pump, Ball Joints, Tie rod ends

25 Appendix A

Front Brake Duct Installation

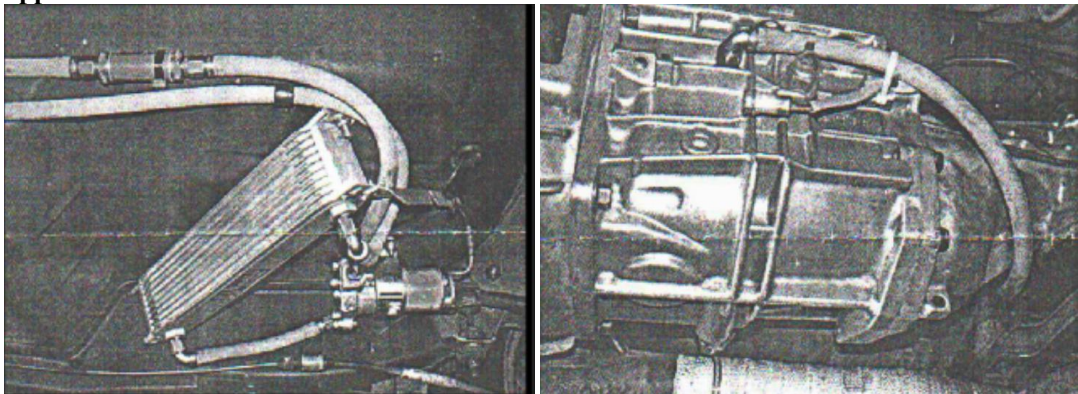


Appendix B

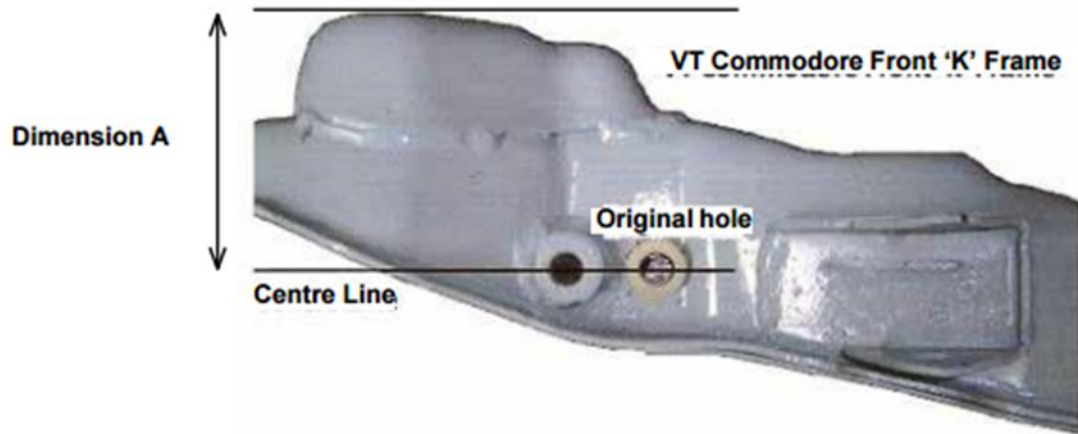


Match porting of inlet manifold

Appendix C

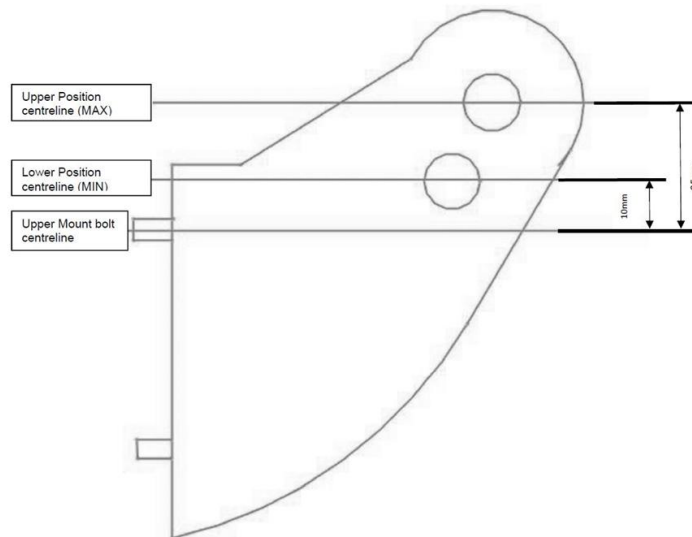


Appendix D



VT Commodore "K" Frame Modification

Appendix E



Appendix F

