

**ASSOCIATION OF
AUTHORISING
BODIES**



RULES & REGULATIONS

2020 EDITION

JUNIOR SPECIAL



"The Association reserve the right to alter/amend the Rule Book as required, and that the Association has the right to review and amend any Class or Construction Rules at the end of each racing year."

**VALID FROM JANUARY 2020
UNTIL FURTHER NOTICE**

ALL PREVIOUS EDITIONS ARE INVALID

IT IS THE RESPONSIBILITY OF THE DRIVER/CONSTRUCTOR TO ENSURE THAT ALL VEHICLES CONFORM FULLY TO THE REGULATIONS AND RULES CONTAINED WITHIN THIS RULEBOOK.

IF THE REGULATIONS AND RULES DO NOT STATE THAT "YOU CAN DO IT" THEN IT MUST BE PRESUMED THAT IT CANNOT BE DONE.

JUNIOR SPECIAL

**FOR GENERAL BASIC CONSTRUCTION RULES (i.e. Basic requirements for all class of “Special” vehicle).
SEE SEPARATE RULE BOOK –SPECIALS – GENERAL.**

JUNIOR SPECIAL

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JUNIOR SPECIAL.

A single seat-racing rear wheel drive vehicle.

Constructed in accordance with NASA specified construction regulations for Autograss Racing on an unsealed surface only.

The engine, transmission/gearbox and certain suspension components specified as being provided from a named donor vehicle.

1. STATEMENT of CONFORMITY.

Only methods of construction and modifications as listed are permitted. Any further modifications, other than those permitted, are prohibited. Any modifications other than those listed within the Vehicle Construction Rules are specifically excluded.

i.e. If the rules do not “say” that a modification is permitted then it is not allowed.

2. GENERAL**2.1 Standard Production Components.**

Where the use of standard production components is a requirement or specified by the “Junior Special” Vehicle Construction Rules & Regulations.

NASA reserves the right to have any part removed from a competitor’s vehicle and retain that part for examination to ensure compliance with the original donor vehicle manufacturers standard production details. Such components may be returned to the competitor concerned or confiscated at the discretion of the NASA Chief Scrutineer.

NASA reserves the right to designate the information reference source and the method of component checking.

Note.

The “Vehicle Check Sheet” data and other designated information source will be used in conjunction with the particular vehicle Palgrave / Glasses Guide Technical Services Data Sheet as a reference when checking the eligibility and legality of the vehicle and or any of its components.

2.2 Permitted Donor Vehicle.

Vauxhall Corsa 3dr/5dr hatchback saloon 1196cc (1.2 Litre).

3. TECHNICAL NOTES – As Specials - General.**4. ENGINE****4.1 Permitted Engine.**

Vauxhall Corsa 1196cc (1.2 Litre) SOHC engine - 1993 to 2000.

Bore – 72.00mm.

Stroke – 73.40mm.

12 NZ – With Distributor ignition system. Compression Ratio 9.1:1.

12 NZ – Distributor less ignition system. Without catalytic. conversion. Compression ratio 9.1:1.

C12 NZ – Distributor less ignition system. With cat. Conversion. Compression ratio 9.1:1 or 10.1:1.

X 12 SZ Distributor less ignition system (Coil Pack). Compression ratio 10:1.

4.2 Engine Specification.

i. The engine must remain as per the donor vehicle manufacturer’s original specification.

ii. All parts used must comply with the permitted vehicle manufacturer’s original specification and permitted vehicle’s Glasses Guide Technical Services Data Sheet (T.S.D.). The donor vehicle manufacturer’s parts specifications and T.S.D. sheet will be used as a reference when checking the eligibility and legality of the engine and transmission/gearbox and their components.

iii. Standard production originals and NASA Scrutineers Committee permitted replacement engine/gearbox components only must be used.

iv. The interchanging of any unspecified components between the specified donor vehicle manufacturer’s engine & gearbox and any other engine & gearbox is prohibited.

v. The modification or alteration of any part or component using any standard production parts to alter its working design is prohibited.

4.3 Pistons & Cylinder Overbore.

The cylinder oversize bore or re-bore is on the manufacturers original engine size, as fitted to the make and model of the of permitted donor vehicle.

Standard replacement or NASA Scrutineers Committee permitted pistons only are permitted.

A maximum of + 0.500 mm oversize bore is permitted.

NASA Scrutineers Committee Permitted Pistons.

“King Pistons” C12NZ – 12NZ Dia. 72.00 +0.50. – 18-3010183.

4.4 Component Treatment.

Shot-peening or tuft-riding of engine components permitted.

4.5 Balancing of Components.

The permitted engine’s original manufacture’s connecting rods, crankshaft, pistons, flywheel and clutch cover plate may be balanced.

Note.

i. One assembly/set consisting of one connecting rod and big end cap from the same cylinder must remain as standard (Not balanced or lightened). The remaining units and components may be balanced to match.

ii. Pistons: One Piston to remain as standard. The remaining pistons may be balanced to match. To be balanced by means of spot drilling only.

- iii. Conrods: To be balanced to manufacturers standard only. Removal of metal by spot grinding or spot drilling for “Balancing purposes” is permitted for “Little end” and “Big end cap” only. Removal of metal from “H” section part of conrod prohibited.
- iv. The crankshaft, flywheel and clutch cover plate to be balanced by means of either or spot grinding or spot drilling.
- v. Crankshaft webs: A minimum of one crankshaft web must remain as factory finish. Crankshaft webs must not be chamfered, radiused, narrowed, knife edged, or smoothed or polished. If, in the opinion of the scrutineer, the crankshaft has been modified during the balancing process to improve its performance in other areas then it will be deemed illegal.

4.6 Camshaft.

A standard production and/or standard production replacement camshaft obtained from **either** a bona-fide Vauxhall Dealer or AE or a replacement camshaft as manufactured by a NASA specified aftermarket camshaft manufacturer only is permitted. The camshaft identification reference or code number must be retained and remain visible.

Vauxhall part ref/no: - 90444758.

AE part ref/no: - CAM453 / CKS2453 EC6111.

BGA part ref/no: - 12NZ / C12NZ / X12SZ –CS2314 / CS2314FK.
X12SZ - CS2372K.

NASA permitted camshaft:

Newman Cams: - NASA JS08

Cam Lift.

For the Vauxhall Corsa 1196cc engine the maximum cam lift shall be: Inlet: = 4.8mm. Exhaust: = 5.2mm.

Cam Belt.

For the Vauxhall Corsa 1196cc engine the cam-belt type and manufacture is Free.

4.7 Water pump.

Standard production original and replacement engine mounted water pump only permitted.

4.8 Ignition System.

Ignition Leads & Spark Plugs Free.

Distributor and Distributor less systems.

- a). The standard production Distributor/Distributor less (DIS) system /ECU system must be retained in its entirety and remain in its original standard production form.
- b). The ECU must be fitted in a readily accessible location and be mounted such that it is easily removable.
- c). The ECU shall be marked with identification showing the vehicle club prefix and vehicle number.
- d). The placing of any substance or use of devices, including electrical resistors whether within the wiring system or elsewhere, to provide false and or non-standard information to the ECU or any part of the fuel delivery control system is prohibited.
- e). For ECU's that are fitted with a vehicle immobiliser facility, the particular ECU immobiliser function **MUST** be overridden or disconnected. The method of modification to achieve this is free, provided no other function of the ECU is affected.
- f). NASA reserves the right to:
 - i. Remove and retain the ECU fitted to the competitor's vehicle and retain that unit for inspection.
 - ii. Remove the ECU and substitute it for NASA supplied unit for a set time period e.g. the duration of a race meeting or a stated number of races.
 - iii. Remove the ECU and substitute it for a unit as used by another competitor.
 - iv. Place a “Scrutineers Seal” onto the ECU for a specified period of time chosen by the Chief Scrutineer.
- g). NASA shall not be held responsible for the performance or damage of the above unit.
- h). One ECU only must be fitted at all times. The fitting of a “Spare” or “Standby” ECU is prohibited.
- i). For the Vauxhall Corsa 1196cc the Distributor less (DIS) GM Multec Electronic Control Unit (ECU) system must be retained.
- j). The fitting of a distributor to a “Distributor less” cylinder head is prohibited.
- k). “Rev Limiters” must operate at **6250** rpm maximum.

Note.

Competitors are strongly advised to ensure that their “rev limiters” are set below the stated maximum rpm as their own instrumentation at “Home”, “Workshop” or elsewhere may provide a different reading to the NASA designated checking instruments. In the event of any discrepancy; the RPM reading as per the NASA designated instruments will be used as the datum. RPM readings found to be above the stated maximum will result in disqualification and a report for disciplinary action.

4.9 Cylinder Head.

The cylinder head **MUST** be the correct type for the engine involved.

- Chemical and or “Ultrasonic” clean only permitted. “Sodium Bicarbonate (Soda Blasting)” cleaning permitted.
- i. Reconditioning of the cylinder head and its associated components must be carried out in accordance with the original manufacturer's recommendations and accepted “reconditioning and repair” practise only.
Reconditioning and or removal of metal that is carried out to the extreme will result in components etc; being deemed as outside the Class regulations and thus illegal.
Absolute minimum cylinder head thickness = **94mm**.
 - ii. The inlet port and exhaust port surfaces, within the cylinder head, must remain as manufacturers original standard production finish and dimensions. See Fig. 36.
The “cleaning” or “smoothing” of port surfaces by removing metal or polishing of the original standard production finish via the use of wire brushes and or flap wheels and or grinding stones and or any other method, including refinishing a modified port, is not permitted.

iii. Valves and Valve Inserts.

A “3 angle cut” to valve & valve seat permitted.

Note.

- a). The top face of any valve insert fitted must be below or in line with the combustion chamber face.
- b). The depth of the valve insert must be not greater than 6mm.
- c). Maximum throat diameter of inlet valve inserts. – See Check Sheet.
- d). The cylinder head valve throat must remain as standard production diameter and “As cast” finish.
- e). When fitting a replacement valve insert it is not permitted to machine the valve throat beyond the depth of the new valve insert.
There must be a minimum of 1mm un-machined depth at the internal lowermost part or base of the insert.
- f). If a valve has 3 angle cut as standard then the modification or machining to less than or more than 3 angles is prohibited.
- g). The “valve seat” must remain within the “area” and or “boundary limit” of the original standard valve seat.
- h). For both valve and insert “valve seat” the border line or edge between each individual “angle cut” must be clearly visible. The “merging” or “blending” and or joining together of the separate angle cut surfaces is prohibited.
- v). Valve Head Diameter.
See Check Sheet.

4.10 Air Box & Filter Box & Air Filter.

The standard production air box must be retained in its entirety and remain in its standard production form, without any modification, and fitted in its standard production location on the top of the Fuel Injection Unit.

Vauxhall Corsa 1196cc – Air Box reference number:

GB 90324 005 – PPT20 – Mann 3909168901.

Air Entry Pipe/Ductwork.

All the air must enter the air box via the standard production single 55mm diameter entry orifice.

Air intake/inlet pipe/ducts up to the casing stub free.

Air Filter type and location.

Free, however it must be fitted such that it is to the rear of the roll cage uprights.

4.11 Fuel Injection Unit/Throttle Body.

Type number and size is restricted.

- i. The standard production GM Fuel Injection Unit/Throttle body must be retained in its standard production form and location/position.

The 1196cc (1.2) standard production throttle body only is permitted: - See Check Sheet.

- ii. All the air must enter the air box via the standard production single 55mm diameter entry orifice.

- iii. The Fuel Injection Unit/Throttle body must be fitted with a throttle return spring. See Rule 10.10.

Note.

Fuel Injection Unit depending upon its location may be required to have protection bars fitted. See PROTECTION – Rule 20.9.

4.12 Engine Fuel System.

- i. The standard production engine fuel system shall be retained and remain in its standard production form.
- ii. Fuel Sensors, including inlet/exhaust manifold items and their wiring and connectors/connections shall be retained and remain in their standard production location and form.
- iii. Vauxhall Corsa 1196cc - The Multec single-point fuel injection system must be retained.
- iv. Inlet Manifold.
The standard production inlet manifold shall be retained and remain in its standard production form.
- v. Fuel Pump – Type and location – Restricted. See Rule 21.2.
- vi. Octane Coding plug. – Type – Restricted.
The standard production 1196cc series engine plug must be fitted. Either: 91 RON or 95 RON.

4.13 Engine Oil System.

- i. The engine oil pump must remain as standard production.
- ii. The fitting of an oil breather catch tank permitted.
- iii. The fitting of an oil cooler is permitted.

5 ENGINE SEALING & CAPACITY LABELLING.5.1 Engine Sealing.

The engine must have available at all times provision for the fitting of at least one readily accessible scrutineers wire seal/tag, such that the fitting of the wire seal/tag prevents access to internal engine components.

6 ENGINE LOCATION.6.1 Engine Location and Mountings.

The engine must be positioned anywhere to the rear of the rear roll cage uprights in a transverse format with the engine block forward of the drive shafts.

The engine must be within the chassis structure. i.e. there must be chassis space-frame structure steel tube bars to the front, both sides and rear of the engine and transmission unit.

As a rule of thumb in the event of a potential roll over or side/rear impact the chassis structure must be such that it is struck initially. It also must contain the engine/gearbox unit within the chassis structure in the event of any mountings failure.

“Engine mounting brackets”

The location of the “Engine mounting brackets” in relation to the vehicle space-frame chassis must be such that it/they shall be no further forward than the front face of the rear roll cage upright. See Fig. 34a & 34b.

Engine to “Engine mounting” mounting is free i.e. “Solid” type engine mountings permitted.

7 TRANSMISSION.

7.1 Permitted Transmission/gearbox. - See Check Sheet.

7.2 Transmission/gearbox.

The transmission or gearbox must remain as per the manufacturer's original specification, complete with all gears retained, including reverse gear.

i. Gear Selector mechanism.

A single gear lever must be fitted to control the operation of the transmission system "Gear change" mechanism. Modifications to gear selector rod & rod housing free.

Steering wheel mounted or operated gear change devices are prohibited.

ii. Gear Ratios. - See Check Sheet.

iii. Differential. - The differential must be free revolving at all times.

iv. Differential Turning Torque.

The differential must have a turning torque of a maximum of 3 lb/ft (36lbf/in) (0.34Nm) at all times, when measured at the wheel hub. i.e. When the transmission is set to neutral and the nearside wheel and tyre raised off the ground whilst the offside wheel and tyre assembly remains on the ground, and vies-versa, then when a torque wrench is applied onto the wheel hub nut the maximum turning torque of the differential and drive-shaft assembly must not exceed the stated maximum regardless of the temperature of the unit.

v. Crown-wheel & Pinion (CWP) Ratio. - See Check Sheet.

vi. Constant Velocity (C.V.) Joints & Drive Shafts.

As original standard production.

Standard production original and replacement C.V. joints only permitted.

vii. Drive Shafts.

Standard production original and replacement drive shafts only permitted.

7.3 Transmission Location – Restricted.

The transmission must be located such that it is connected to the engine as per original manufacturer's specification.

The transmission may be positioned anywhere to the rear of the rear roll cage uprights within the chassis structure, in a transverse format provided that:

i. The curved front face of the engine-mounting bracket protrudes no further forward than the rear face of the rear roll cage upright. – See Fig.34a & 34b.

ii. The front face of the centre of the suspension tie bar bracket protrudes no further forward than the front face of the rear roll cage upright. – See Fig.34a & 34b.

Note. Gearbox to "Gearbox mounting" mounting is free. i.e. "Solid" type engine mountings permitted.

7.4 Clutch.

Standard production original and replacement clutch cover & plate only permitted.

7.5 A single clutch foot pedal must be fitted to control the operation of the "Clutch mechanism or engaging" drives to the transmission system mechanism from the engine. The use of hand operated drives prohibited.

8 VEHICLE DIMENSIONS & WEIGHTS.

8.1 Vehicle Wheelbase –Restricted.

Minimum = 1828mm (72") (6').

Maximum - Free provided it remains within stated Specials – General - Rule 2.4 overall dimensions.

8.2 Vehicle Weight – Restricted.

The total weight of the complete vehicle excluding driver at any time must be of an absolute minimum of **455 Kg**.

Note.

i. Vehicles may be subject to a minimum weight spot check, using any NASA designated corner weight scales, at any NASA designated time, frequency and location during a race meeting. This will be carried out by Scrutineers or other designated officiating persons.

ii. Vehicles found below the absolute minimum weight of 455 Kg will be immediately disqualified from the race meeting concerned and the competitor(s) will be reported for disciplinary action.

iii. A refusal to comply with a request to weigh a vehicle will result in immediate disqualification from the race meeting concerned and the competitor will be reported for disciplinary action.

iv. Competitors are strongly advised to ensure that their vehicles are above the absolute minimum weight as their own scales at "Home", "Workshop" or elsewhere may provide a different reading to the NASA designated scales. In the event of any discrepancy the weight as per the NASA designated scales will be used as the datum.

v. NASA reserves the right to amend and or revise the minimum weight at any time.

8.3 Vehicle ride height.

The vehicle ride height is free.

NASA reserves the right via an appointed Official and or Scrutineer to reject a vehicle ride height (too high or too low) deemed as not fit for purpose to ensure full control of the vehicle and unsuitable for the shock and stress loadings of the "Autograss racing environment".

9 STEERING.

9.1 Steering Wheel.

A full circumference steering wheel must be used. It must have a minimum diameter of 330mm (13").

9.2 Steering Wheel Mounted Controls. - Restricted

Steering wheel mounted controls prohibited.

10 CHASSIS & ROLL CAGE - As Specials - General.**11 CHASSIS PANELS - As Specials - General.****12 SAFETY SHIELDS & GUARDS - As Specials - General.****13 PROTECTION.****13.1 Side Protection.**

For Junior Specials side protection is mandatory.

A "Side protection bar" to protect the drivers compartment over a minimum distance of from the rear roll cage upright to the front roll cage upright **MUST** be fitted. The side protection bar may be extended forward no further than within 50mm of the rear of the front wheel & tyre assembly and no further rearwards than within 50mm of the front of the rear wheel & tyre assembly.

Note.

There must be a minimum of 3 points of connection, 2 of which must be onto the rear chassis or roll cage upright at the rear of the driver's compartment. See Fig 12. It may be welded or bolted.

If bolted it must be bolted by means of a minimum of a single 10mm High Tensile steel bolt at each point of connection with the main chassis.

13.2 Side Protection bar construction must be fit for purpose.

NASA reserves the right via a Scrutineer to reject a construction component choice due to size and ability and or capacity to provide the necessary protection.

Multiple or excessively large or oversized or "Heavyweight" protection bars may be regarded as ballast/reinforcement and prohibited.

14 SUSPENSION.**14.1 Suspension - Type Restricted.**

Suspension components must be of metal.

"Inboard" suspension is not permitted.

The use of competition / motorsports derived and or uprated and or modified and/or adjustable and/or "Remote reservoir" and or "Piggyback" type units are including all Bilstein, Spax, AVO, G.max, Koni prohibited.

For all units the piston rod diameter must be a maximum of 20mm.

N.B.

As of January 2021 - Front suspension - Only single adjustment units will be permitted.

14.2 Rear Suspension Type Restricted.

The permitted donor vehicle's complete standard production "Front" suspension bottom tie bars, bottom inner and outer track control arms, uprights/wheel hubs, and MacPherson strut must be used. The fitting of an anti roll bar is optional, however if fitted the standard production item must be used.

Suspension Legs/Struts.

i.. A GM Vauxhall O.E. - Corsa 1200cc standard production Struts - Part Number GM 72119025.

Or proprietary manufactured replacement MacPherson strut (One piece without removable insert) is permitted. If proprietary after market replacement unit is used it must not be of retail cost of more than the GM original OE replacement unit.

Standard production replacement units as manufactured by:

"KYB – Excel/Ultra"; "Monroe – Original/Reflex" permitted.

The use of competition / motorsports derived and or uprated and or modified and/or adjustable and/or "Remote reservoir" and or "Piggyback" type units are including all Bilstein, Spax, AVO, G.max, Koni prohibited.

The piston rod diameter must be a maximum of 20mm.

ii. The use of adjustable spring platforms are prohibited.

iii. The permitted donor vehicle's standard production "Front" suspension leg/struts may be fitted with a metal "Wedge" to minimise bending. Maximum height of metal wedge 100mm. See Fig. 35.

iv. The Tie Bar standard production mountings must be used to fit the components to the steel space-frame fixing points. The design of Space-frame fixing point is free. The rear face of the centre part of the bush housing must be no further forward than the rear face of the rear roll cage upright- See Figs 34a & 34b.

Suspension mountings.

i. The suspension unit top mount must be as standard production and mountings to chassis must be at a single fixed point.

ii The use of a spacer between the mounting bracket and suspension leg top mount permitted.

14.3 Rear Suspension Springs

Type and spring rating free, however they must fit onto the permitted donor vehicle's standard production "Front" suspension leg/struts.

14.4 Rear Suspension "steering arms" for nearside & offside uprights/wheel hubs.

Must be of metal. Type & mounting free.

"Rose Joints" may be fitted for track adjustment.

14.5 Rear Suspension Bushes.

Type, material and size – Free.

15 WINDSCREEN/GLASS – As Specials - General.**16 SAFETY HARNESS - As Specials - General.**

17 SEAT - As Specials - As Specials - General.**18 FIRE EXTINGUISHER - As Specials - General.****19 VEHICLE IDENTIFICATION - As Specials - General.****20 ELECTRICAL / INSTRUMENTS**

20.1 Battery Size and Number off – Restricted.
A single 12 Volt battery only must be used.

20.2 Instrumentation and gauges.
Instrumentation and gauges free.
The use of an engine “Rev counter” and or “Speedometer” and their associated tachometer drive mechanisms/sensors permitted.
The use of gear change “Shift light” system(s) prohibited.
The use of “Data” and or “Data Logging” systems prohibited.

21 FUEL.

21.1 The standard production donor engine fuel injection system must be retained.

21.2 Fuel Pump and Regulator Type – Restricted.
i. The original donor vehicle fuel delivery pump may be retained or removed and replaced with an equal capacity fuel pump.
ii. Type and capacity of fuel regulator on the fuel flow pipe-work up to the Multec Injection Unit free. However the fuel pressure must be as standard production.

21.3 Fuel filter.
Type and capacity of fuel filter free.

22 COOLING SYSTEMS

22.1 Water Radiator Type & Number – Restricted.
A single water-cooling radiator must be fitted.
The radiator must be of a type as fitted to a standard production road vehicle.
The repositioning of the original radiator – radiator hose connection points is permitted.
Note.
Water temperature sensors must be retained and be correctly fitted.
The placing of any substance or use of devices, including electrical resistors whether within the wiring system or elsewhere, to provide false and or non-standard information to the ECU with regard to water temperature is prohibited.

22.2 Oil Sump.
As standard production.

22.3 Oil Pump.
As standard production.

23 BRAKES

23.1 Front Brakes.
Type is Free.

23.2 Rear Brakes - Restricted.
The permitted donor vehicle's standard production “Front” braking system including discs and callipers must be used.
Brake Disc:- Vauxhall Corsa standard production diameter = 236mm.
Brake Disc:- Vauxhall Corsa standard production thickness = 12.7mm Maximum. 9.7mm Minimum.
The lightening of any other braking components is prohibited.

24 WHEELS

24.1 Type – Restricted.
“Beadlock” wheels prohibited.

24.2 Diameter – Restricted.
Maximum permitted wheel diameter is 14”.

24.3 Modification – Restricted.
Modification of a proprietary manufactured wheel is prohibited.

24.4 Wheel Spacers – Type restricted.
The fitting of wheel spacers is permitted.
Spacer thickness – Maximum 25mm.

25 TYRES

25.1 Tyre Size (All Axles) – Restricted.
Minimum Size – 145 x 13
Maximum size – 185/70 x 14

26 EXHAUST & SILENCING**26.1 Exhaust Manifold – Restricted.**

The standard production cast iron engine exhaust manifold complete with Lambda sensor must be retained in its original standard production position and form.

26.2 The exhaust system beyond the manifold is free. However the exhaust system must have a single outlet pipe. The engine exhaust system manifold and pipe-work must be fitted such that it is to the rear of the roll cage uprights. i.e. no manifold or pipe-work shall protrude further forward than the rear roll cage uprights. Catalytic Converters are permitted.

27 BALLAST**27.1 Ballast.**

Ballast is not permitted.

28 VEHICLE CHECK SHEET – CLASS Junior Specials.

NASA reserves the right to designate the information reference source and the method of component checking.

Note.

The 'Vehicle Check Sheet' data and other designated information source will be used in conjunction with the particular vehicle Palgrave / Glasses Guide Technical Services Data Sheet as a reference when checking the eligibility and legality of the vehicle and or any of its components.

Vehicle Weight.

Absolute minimum = **455Kg.**

Permitted Engine.

Vauxhall Corsa 1196cc (1.2 Litre) SOHC engine - 1993 to 2000 Vauxhall Manufacture.

Bore – 72.00mm.

Stroke – 73.40mm.

12 NZ – With Distributor ignition system. Compression Ratio 9.1:1

12 NZ – Distributor less ignition system. Without catalytic. conversion. Compression ratio 9.1:1.

C12 NZ – Distributor less ignition system. With cat. Conversion. Compression ratio 9.1:1 or 10.1:1.

X 12 SZ Distributor less ignition system (Coil Pack). Compression ratio 10:1.

All non-permitted engines, including their components are prohibited.

Permitted Cylinder Head – Restricted.

The cylinder head must be of Vauxhall manufacture.

Cylinder Head Thickness.

Absolute minimum cylinder head thickness = 94mm.

Cylinder Head Valve Insert Depth and Throat Internal Diameter.

The depth of the valve insert must be not greater than 6mm.

The diameter of the valve insert internal throat must be no greater than: Inlet = 30mm. Exhaust = 25.5mm

Camshafts.

Permitted type.

Vauxhall part ref/no: - 90444758.

AE part ref/no: - CAM453 / CKS2453 EC6111.

BGA part ref/no: - 12NZ / C12NZ / X12SZ –CS2314 / CS2314FK.

X12SZ - CS2372K.

Newman Cams: - NASA JS08

The Kent Cams AST11 camshaft and all manufacturers "Sports/Sports R/Stock Rod/Rally/Competition/Race" camshafts are prohibited.

Cam Lift.

1196cc.

Maximum = Inlet = 4.8mm (0.1889").

Maximum = Exhaust = 5.2mm (0.1973").

Valve Head Diameter.

1196cc.

Maximum = Inlet = 33.1mm

Maximum = Exhaust = 29.1mm

Pistons.

A maximum of + 0.500 mm oversize bore is permitted.

The oversize bore or re-bore is on the permitted engine's manufacturers original engine size, as fitted to the make and model of permitted donor vehicle.

Standard replacement pistons only are permitted.

The pistons must be the correct type for the engine concerned.

It is not permitted to fit 10:1 compression pistons in a 9.1:1 compression engine.

Pistons must not protrude above the cylinder block top face.

Check for non-standard pistons.

NASA Scrutineers Committee Permitted Pistons.
 “King Pistons” C12NZ – 12NZ Dia. 72.00 +0.50. – 18-3010183.

Permitted Distributor.
Distributor Type 12NZ & C12NZ Engine.

Check correct distributor is fitted.

Distributor Less Type (Coil Pack) Engines.
 Check correct ECU is fitted.
 Check ECU for non-standard “Chips” and or “Resistors”.

Rev Limit.
 Maximum = **6250** rpm.

Water pump.
 Standard production original and replacement engine mounted water pump only permitted.

Check for modifications to water pump or pump pulley and/or impeller.

Air Box & Filter Box & Air Filter.
 The standard production air box must be retained in its entirety and remain in its standard production form, without any modification, and fitted in its standard production location on the top of the Fuel Injection Unit/Throttle Body/Pot.

Vauxhall Corsa 1196cc – Air Box reference number:
 GB 90324 005 – PPT20 – Mann 3909168901.

Check for cuts or holes to allow extra airflow.

Permitted “Throttle Body/Pot”.
 The 1196cc (1.2) standard production throttle body only is permitted:
 GM – 17087071.
 GM - 17090049.
 GM – 17093148.
 Injector colour = Black.

The 1.4 throttle body is prohibited: GM – 17096179.

Permitted Octane Coding Plug.
 The standard production 1196cc series octane coding plug must be fitted. Either: 91 RON or 95 RON.

Transmission/Gearbox.

The following gearboxes only are permitted.

Vauxhall Corsa 1196cc. F10/4 WR & F10/5 WR gearbox.

Gear	Input gear Teeth	Output Gear Teeth	Ratio.
1	11	39	3.55 : 1
2	23	45	1.96 : 1
3	33	43	1.30 : 1
4	37	33	0.89 : 1
5	37	29	0.71 : 1
Reverse			3.31 : 1
Differential:		3.74 or	4.18
Final drive Teeth		19	17
Output Teeth		71	71

Vauxhall Corsa 1196cc F13/4 WR or F13/5 WR gearbox (Up to 1997).

Gear	Lay gear Teeth	Output Gear Teeth	Ratio
1	11	39	3.55 : 1
2	23	45	1.96 : 1
3	33	43	1.30 : 1
4	33	35	0.89 : 1
5	37	29	0.71 : 1
Reverse			3.31 : 1
Differential		3.94 : 1 or	4.18 : 1
Final drive Teeth		18	17
Output Teeth		71	71

Vauxhall Corsa 1196cc F13/4 WR or F13/5 WR gearbox (1997 - 2000).

Gear	Lay gear Teeth	Output Gear Teeth	Ratio
1	11	41	3.73 : 1
2	23	45	1.96 : 1
3	23	30	1.31 : 1
4	33	35	0.95 : 1
5	37	29	0.76 : 1
Reverse			3.31 : 1
Differential		3.94 : 1 or	4.18 : 1
Final drive Teeth		18	17
Output Teeth		71	71

Vauxhall Corsa 1196cc F13/5 CR gearbox (1997 - 2003).

Gear	Lay gear Teeth	Output Gear Teeth	Ratio
1	11	41	3.73 : 1
2	21	45	2.14 : 1
3	21	30	1.43 : 1
4	33	37	1.12 : 1
5	33	29	0.89 : 1
Reverse			3.31 : 1
Differential		3.74 : 1 or	3.94 : 1
Final drive Teeth		19	18
Output Teeth		71	71

Note.

It is Competitors responsibility to contact a Scrutineer to confirm that particular gearbox, gear ratios and/or differential are eligible. i.e. permitted by the NASA Scrutineers Committee **before** using them.

It is not permitted to:

Change a gear cluster from "standard". i.e.

- Fit a gear cluster or any gear from a non "F10" or non "F13" gearbox into a "F10" or "F13" gearbox.
- "Manufacture" a gearbox gear cluster using OE standard components to produce a unit with non-OE "Standard" gear ratios or "Gears". i.e. Mix up WR or CR ratios into a single gearbox. E.g. Fit a CR 2nd gear into a WR gearbox or vice-versa.

Clutch.

Standard production original and replacement clutch cover & plate only permitted.

Check for lightening and or excessive "balancing grinds/holes".

Suspension.

Tie Bars – Check for non standard machining/shape altering and or drilled holes.

Rear Suspension units – Check that only permitted units fitted.
GM original OE/ KYB – Excel/Ultra"; "Monroe – Original/Reflex"

NOT - Bilstein, Spax, AVO, G.max, Koni .

Brakes.

Rear Brakes - Restricted.

Brake Disc:- Vauxhall Corsa standard production diameter = 236mm.

Brake Disc:- Vauxhall Corsa standard production thickness = 12.7mm Maximum. 9.7mm Minimum.

Check for lightening the rear brake discs by "Thinning" and or "Diameter reduction" and or grooving, slotting or drilling and or other machining.

Tyres.

Size (All Axles) – Restricted.

Minimum Size – 145 x 13

Maximum size – 185/70 x 14

Wheelbase.

Minimum = 1828mm (72") (6').

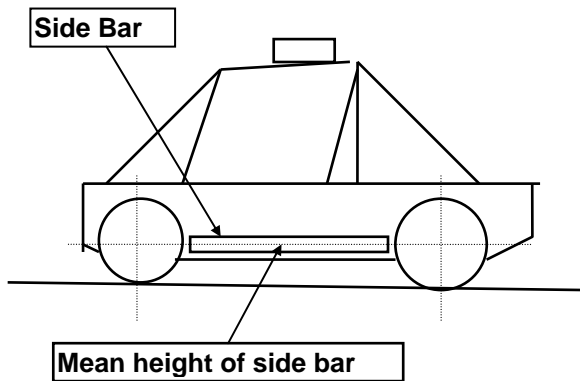
See T.S.D Manual Sheet for other measurements.

NASA RULE BOOKS DRAWINGS – CLASS JUNIOR SPECIALS**FIGURES.**

All as SECTION 1.

Additional Figures applicable to class - Junior Specials:-

FIGURE 30 SIDE PROTECTION BAR LOCATION.



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Note.

Side Protection mandatory for Junior Specials

See Figures 9, 10, 11, 12, 13 in SPECIALS - GENERAL.

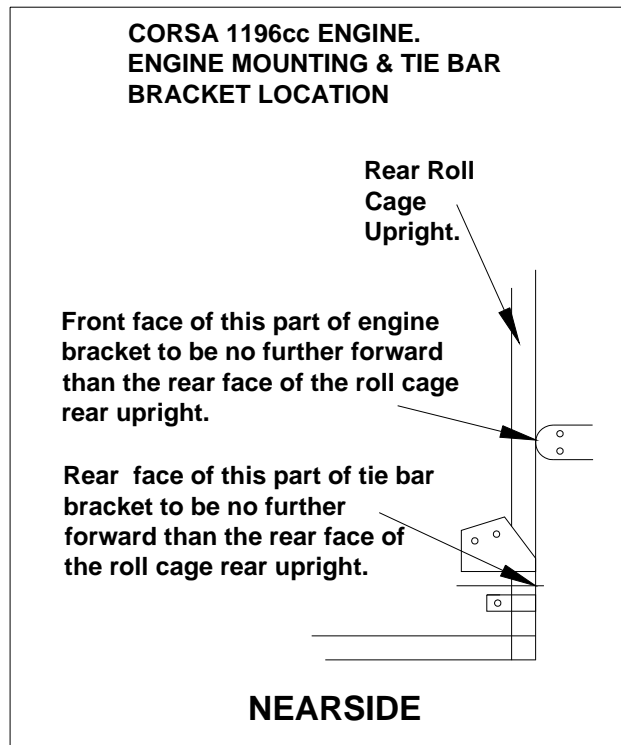
FIGURE 31a – ENGINE SEALING

See Figures 31a - SPECIALS - GENERAL.

FIGURE 31b – ENGINE SEALING

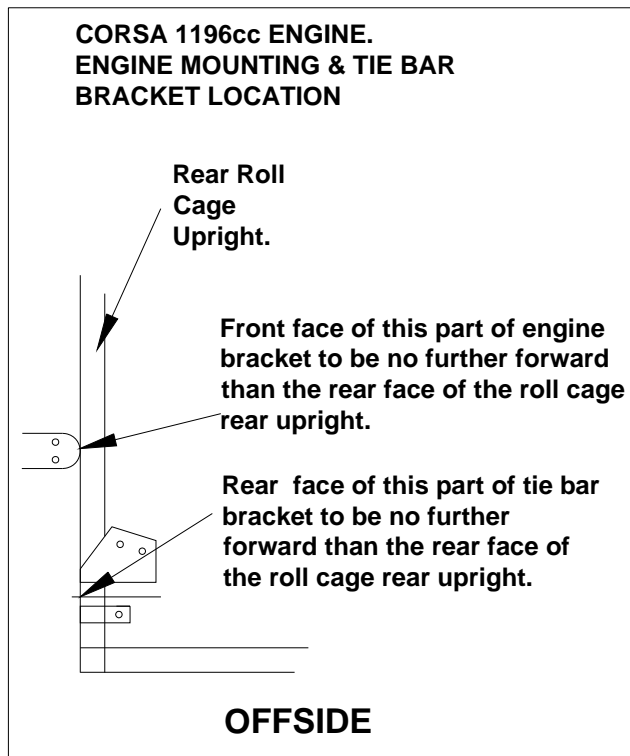
See Figures 31b - SPECIALS - GENERAL.

FIGURE 34a ENGINE MOUNTING & TIE BAR LOCATION.



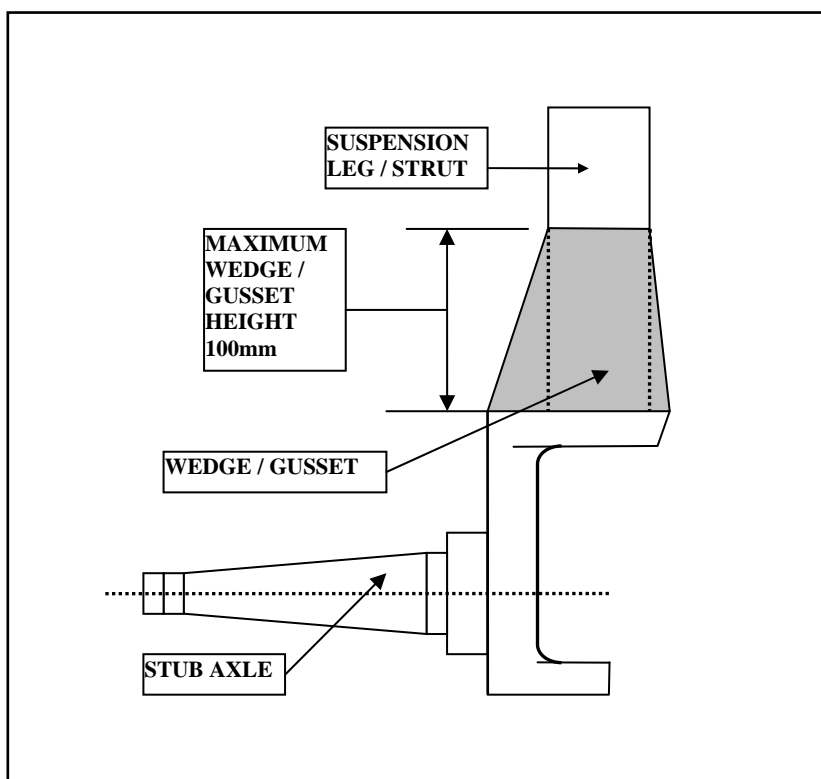
gii

FIGURE 34b



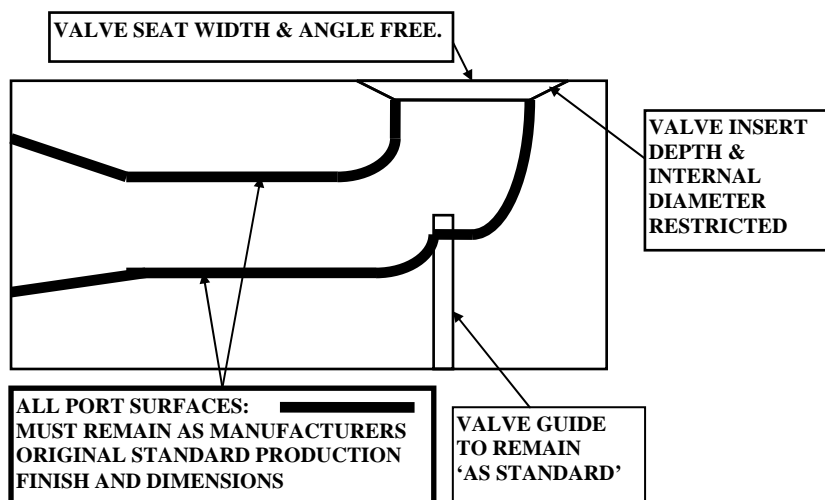
gii

FIGURE 35 SUSPENSION LEG/STRUT "WEDGING."



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FIGURE 36 CYLINDER HEAD PORTS.



The surfaces of the combustion chamber and inlet port must remain as produced by the original vehicle manufacturer. i.e. "Rough as cast"
 Polishing and or Machining and or Grinding and or Reshaping of surfaces is prohibited. Chemical clean only permitted.

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**The construction rules in this book are intended
for use by Autograss cars taking part in
Autograss events as defined by the
NATIONAL AUTOGRASS SPORT
ASSOCIATION
on a natural surface and are not necessarily
considered safe for other forms of motor sport.**

**Drivers are advised that if they intend using their
cars at events, other than events as defined by the
NATIONAL AUTOGRASS SPORT
ASSOCIATION
They should ensure that their cars comply with
the organiser's construction rules.**

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