ASSOCIATION OF AUTHORISING BODIES

NATIONAL AUTOGRASS SPORT ASSOCIATION LTD.

RULES & REGULATIONS

2025 EDITION

STOCK HATCH

"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 2025
UNTIL FURTHER NOTICE

ALL PREVIOUS EDITIONS ARE INVALID

NEW REGULATIONS ARE MARKED #

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.

STOCK HATCH

Version A4
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FOR GENERAL BASIC CONSTRUCTION RULES (i.e., Basic requirements for all class of saloon vehicle).
SEE SEPARATE RULE BOOK –SALOONS – GENERAL.

CLASS - STOCK HATCH

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STOCK HATCH STEERING COMMITTEE
In order to ensure continuity, efficiency and allow for constructive working on the transition from a sub class to a fully NASA recognised Class; a Stock Hatch Steering Committee will continue to be in place. The purpose of this committee is to act as an advisory committee, consulting with the NASA scrutineers and directly with the Board of Directors. The SHSC will no longer have the right to create rules for the class however their advice and consultancy will be a major influence on the rules put forward for rulebooks going forward. The SHSC will be appointed certain disciplinary and procedural permissions in order to continue efficiently work alongside the NASA officials and Scrutineers. This committee will be in place for an undetermined period and until the Board of Directors considers the committee no longer required.

CLASS SPECIFICATION – STOCK HATCH
Must be a Front Wheel Drive Hatchback vehicle, with an engine that has only two valves per cylinder.
See Rule 2.1 for Permitted & Non-Permitted vehicle information.

a). **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 regulations and rules do not state that "you can do it" then it must be presumed that it cannot be done.

b). A suitable Front Wheel Drive (FWD) three or five door "Hatchback" mass produced, and marketed by a NASA recognised automobile manufacturer, may be used as a base vehicle and modified in accordance with the class regulations.

Prohibited Vehicles.
See Rule 20 Check Sheet; if in any doubt please contact your NASA/League Scrutineer or the Stock Hatch Steering Committee.

c). Definition of "Standard" for the Stock Hatch class of vehicle.
A mass-produced vehicle, and or parts thereof, that has been available for general sale through or via the original manufacturer or importer's entire dealer network within the United Kingdom.
It must be noted that the principal of severely restricted modification is absolute.
Note.
Any vehicle constructed using methods or components in order to defeat the spirit of the class will be deemed as non-compliant and excluded.
Any vehicle that may be considered as a "Homologation Special" is specifically excluded.
Any engine, drive train or body parts sold or intended for "competition and or Motorsports" use is restricted.
The only permitted "non-standard" and or "competition" components are:
Suspension springs and shock absorbers.
Certain specified shared components.
Certain specified replacement brake components.
Body shell wheel arches.
All other "competition" components are prohibited, unless otherwise specified in these rules.
Where a competitor and or constructor requires clarification on any aspect of the rules then they must contact the "Stock hatch Steering Committee" (SHSC) and or NASA authorised responsible scrutineer at the earliest opportunity.

d). Shared Components – Restricted.
It is permitted to use certain components from the same original manufacturer of the donor vehicle.
e.g., For a Vauxhall donor vehicle any permitted Vauxhall component may be used.
However, no modification to any component/part is permitted to allow any such "shared" components/parts to be fitted/installed and or used with the exception of Peugeot to Citroen and vice versa where listed as permitted in these rules.

Prohibited Shared Components.
Engine components.
Gearbox components.
ECU.

e). All vehicles must be maintained in good, tidy and presentable condition. Cars presented at scrutineering with obvious and or excessive body damage will not be permitted to race.

f). All rules will be absolute until amended by NASA, under advice from the SHSC. Ideally rule amendments will be considered at the end of a racing season and issued prior to following racing season.

1 ENGINE / TRANSMISSION

1.1 Permitted Engine.
A single engine must be used (See definitions).
The engine must have only two valves per cylinder.
The engine must remain "as produced" by the original vehicle manufacturer in its entirety.
The use of a "Hybrid" engine i.e., an engine created by mixing of components from a different type and or cubic capacity engine(s) is prohibited.
The original engine manufacturer's engine identification numbers must remain and be legible; where illegible it is the competitor's responsibility to identify the specification and origin.
The use of turbochargers, superchargers and or any form of forced induction is NOT permitted.

Engine cubic capacity.
Minimum cubic capacity – 1131cc
Maximum cubic capacity – 1600cc

Note.
i. If bored out to the maximum permitted allowance of 20thou / 0.5mm, this may take the engine cc over the cubic capacity limit. This is deemed acceptable and is permitted.
ii. The engine, engine ancillaries (See Definitions) and transmission and gearbox must remain "as produced" and as per the vehicle Manufacturer's original specification.
iii. The engine must be normally aspirated as standard production.

Prohibited Engines.
Engines Intended/produced for rear wheel drive (RWD) vehicles.
Also see Rule 20. - Check Sheet.
Note.
The list of prohibited engines is not fixed.
It is the Competitors and/or race vehicle constructor's responsibility to contact a SHSC Scrutineer to confirm that the engine chosen is eligible before using it in the vehicle.
NASA & SHSC reserves the right via an appointed Scrutineer to permit, reject and or prohibit an engine as being suitable or unsuitable for the class at any time.

Engine & Transmission – Materials.
The engine materials and gearbox/transmission materials must be as standard production.

Engine Modification - Restricted.
The only machining permitted is that required for a "Standard" overhaul/rebuild. Race/Competition preparation prohibited.

Cylinder Head.
The cylinder head MUST be the correct type for the engine concerned.
i. Reconditioning of the cylinder head and its associated components, if done must be carried out in accordance with the original manufacturer's recommendations and accepted "reconditioning and repair" practice only. Excessive removal of metal or reconditioning and or chamber radiusing that is carried out to the extreme will result in the components etc; being deemed as outside the Class regulations and thus illegal and non-compliant.
ii. Head Thickness.
The cylinder head may be "re-faced" and or "skimmed", however the cylinder head thickness must remain such that no more metal is removed than as necessary for re-facing as part of a repair and or rebuild only, as opposed to competition and or "race" preparation.
NASA and the SHSC reserve the right to reject a cylinder head where removal of metal is considered and deemed to be excessive.
iii. The inlet port and exhaust port surfaces, within the cylinder head, must remain as manufacturers original standard production finish and dimensions (See drawing No 1).
iv. Cleaning:
Cleaning up or smoothing by removing metal or polishing of the original standard production finish of the cylinder head inlet and exhaust ports is not permitted.
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.
Chemical, decarbonising fluid and or "Ultrasonic" clean only permitted. "Sodium Bicarbonate (Soda Blasting)" cleaning permitted.
v. Valves and Valve Inserts.
As Standard Production OE type only is permitted.
'K-lined' valve guides not permitted.
Replacement valve seats are not permitted.
Valves, including valve stem, seat and valve head must remain as original manufacture except for permitted modification only.
Reconditioning and or alterations including cleaning up or smoothing by removing metal or polishing of the original standard production finish from standard production finish is not permitted and prohibited.
Permitted modification - A "3 angle cut" to valve head valve seat only.

Cylinder Head Gasket.
Standard replacement type only permitted.

Cylinder Head Cam Cover.
Standard replacement type only permitted.

Camshaft.
A standard production or standard production replacement camshaft only is permitted. The camshaft must remain in its original standard production form and correctly correspond to the engine used.
Note.
NASA and the SHSC reserves the right to have a camshaft removed from a competitor's vehicle and retain that camshaft for examination to ensure compliance with the original vehicle manufacturers standard production details. The use of a non-compliant camshaft is a disciplinary offence.

Engine Block.
Cylinder "Re-bore" permitted – Maximum +0.020" / 0.5mm. This "re-bore" is on original engine capacity, not the class maximum cc – see Engine Capacity – Note i.
Linear boring – "Re-sleeving" of engine block prohibited.
"Decking/Skimming/Re-facing" of engine block top surface prohibited.

Balancing & Lightening
Balancing of any component prohibited.
Lightening of components is prohibited.

Engine Ancillaries.
All original pulleys must be retained including crankshaft pulley – modification prohibited.
The original alternator may be retained or removed, if retained the alternator must remain in its standard production location and position.

Ignition System.
Spark Plugs – Free.
Standard production ignition coils and leads must be retained.

Distributor.
The original vehicle manufacturer's standard production distributor (as listed in Palgrave/Glass's Guide Technical Services Data Sheets) or standard production replacement distributor only is permitted and must be correctly fitted.
Internal modifications to the distributor are prohibited. Removal/modification of distributor "weights" prohibited.

ECU
a). The standard production Distributor less (DIS) system / Electronic Control Unit (ECU) shall be correct for the engine fitted and must be retained in its entirety and remain in its original standard production form. It must be complete with the correct engine system sensors. E.g., Engine RPM & TDC etc. Modification prohibited.
b). The standard production Distributor less (DIS) system / Electronic Control Unit (ECU) and associated sensors and Diagnostic "reader"/" interrogator" "plug in" connections (OBD port) must remain in their original standard production locations and must work. i.e., Be capable of operating when connected.
Note.
i An OBD port must operate as standard and be readable at all times. No device may be connected/plugged into the port that has to be removed and or unplugged to enable a reader to be connected/plugged into it.
ii. Where a model of vehicle has an ECU but no diagnostic reader connector fitted as standard production a reader plug is not required to be fitted. False claims regarding original non-fitment will be subject to disciplinary action.
c). One ECU only must be fitted at all times. The fitting of a "Spare" or "Standby" ECU is prohibited.
The ECU shall be marked with identification showing the vehicle club prefix and vehicle number.
d). The placing of or use of devices, whether within the wiring system or elsewhere, to provide false 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 may be disabled or overridden or disconnected by data reprogramming via diagnostic socket, or disconnecting of immobiliser "chip" by "clipping off", provided no other function of the ECU is affected. Any and or all other ECU rewriting, remapping, chip replacement (chipping), re-soldering, removal and or re-fitting of component(s) and or performance enhancing modification are not permitted.
f). The ECU is to be mounted in a easily readily accessible position and location to enable inspection, sealing and or replacement
g). "Rev Limiters" for the engine concerned must operate at the original manufacturer's specification.
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.

Note.
NASA & SHSC reserves the right to:
i. Remove and or retain the ECU fitted to the competitor's vehicle and retain that unit for inspection.
ii. Remove the ECU and substitute it for NASA / SHSC 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 Scrutineer.
v. Connect a "reader" to read and or check ECU settings.
vi. NASA / SHSC shall not be held responsible for the performance or damage of the above unit, for the purpose of inspection.

1.2 Engine & Transmission/Gearbox Location – Restricted.
The engine and transmission must be fitted in the original standard production location and position in the vehicle/chassis.

1.3 Engine & Transmission/Gearbox Mountings – Restricted.
All engine and gearbox/transaxle and axle mountings must be retained in their original positions, be of good order and be appropriate to that vehicle make.
Standard production original flexible and NASA & SHSC permitted replacement engine/gearbox/axle "mountings" only must be used.
Modification that are other than minor to facilitate "permitted engine / gearbox swap" to and or of such mountings prohibited.
The use of "solid" mountings and or conversion of "rubber / flexible type" mountings to "solid poly bush type" mountings prohibited.

1.4 Gearbox/Transmission – Type – Restricted.
A standard production gearbox/transmission must be used.
The gearbox/transmission must fit directly to the engine without any modification to either engine nor gearbox/transmission.
The gearbox/transmission used must be appropriate to the vehicle and or original vehicle manufacturer.
It is permitted to swap the original gearbox/transmission with that produced by the same original vehicle manufacturer.
e.g., Vauxhall - Astra or Nova cars may only use Vauxhall components. Ford - KA or Fiesta may only use Ford components.

Specific Vehicles - Permitted Gearbox Modification.
VW and Seat Vehicles only.
Post 1983 Type 020 – post 1983 Gearbox only.
The inner hub flange conical springs and conical thrust washers must be removed.
Upon removal it is strongly recommended that a scrutineer is contacted to ensure rule compliance.
Non-compliance will result in disciplinary action.

Gear Ratios- Restricted.
The original standard production gear ratios for the gearbox/transmission used must be retained.
It is not permitted to change a gear cluster from "standard" and must be as manufacturers specification.
Note.
It is prohibited to "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 a Wide Ratio (WR) or Close Ratio (CR) or other ratios into a single gearbox. E.g., Fit a CR 2nd gear into a WR gearbox or vice-versa.

The gearbox/transmission Gear Selector mechanism.
The standard production gear lever and gear selector/linkage system must be retained to control the operation of the gearbox/transmission system "Gear change" mechanism.
Adjustable gear linkages are permitted provided they are to the same specification as the adjustable linkages sold by the engine manufacturer. Motorsport/competition derivatives prohibited. "Pinned" type linkages prohibited.
Automatic/semi-automatic or any form of automatic derivative components may not be used within gearbox and or gear selector.
Steering wheel mounted or operated gear change devices are prohibited unless with the specific written permission from the NASA Board.
"Quick Shift" gear lever or gear selector devices are prohibited.

1.5 Clutch – Restricted.
The 'Clutch' foot pedal assembly must be of standard production, location, form and materials.
Standard production original and replacement clutch cover & plate only permitted.
The clutch cover plate may be balanced to the original manufacturer's standard only

1.6 Drive.
Drive must only affect the two front wheels as per Class specification.

1.7 Differential.
The correct standard production differential CWP and ratio must be fitted in the correct gearbox.
Interchanging of differentials prohibited.
The differential must be 'Free' revolving at all times.
The differential must have a turning torque of a maximum of 3 lb/ft (36 lbf/in) (4 Nm) 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 vice-versa, then when a torque measuring device 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.
Note.
"Locked" or "Welded" or "Powerlock" or "Quaife" or "Gripper" or "Limited Slip" type differentials or "Close Tolerance" "Blue" type and or incorrectly shimmed differentials (i.e. types that are 'free' when cold and "Seized"/"Locked" when at normal operating temperature), are not permitted.
NASA & SHSC reserve the right to carry out differential turning checks at any time during a race meeting, including directly after any race. Failure to permit a check and or non-compliance found following a check is a disciplinary offence.

1.8 Drive Shafts & Hubs – Restricted.
The original standard production transmission including drive shafts and wheel hubs must remain of the same vehicle manufacturer with no modification.

1.9 Component Sealing
Provision must be made by the competitor for the engine – Rocker/cam Cover, Cylinder Head and ECU to enable a scrutineer's seal to be fitted at all times.
There must be provision for the fitting of at least one readily accessible scrutineer's wire seal/tag, such that the fitting of the wire seal/tag prevents access to the selected components.
Engine/Rocker/cam Cover/Cylinder Head.
A minimum of two adjacent engine cylinder head retaining studs or bolts must have a single 1.2mm (1/16") diameter hole pre-drilled in each of them.

i. Where the method of cylinder head retention is by means of stud and locking nut the hole must be located above a cylinder head retaining locknut but below the top surface of the stud. (See Fig 2a).
ii. Where the method of cylinder head retention is by means of a bolt the hole must be located through two adjacent edges of the hexagon head of the bolt. (See Fig.2b)
iii. Where cylinder head retaining studs and bolts are inaccessible, then a single 2mm (1/16") diameter hole must be pre-drilled in two accessible parts or areas of the engine.

Mandatory Sealing.
The engine and ECU must be "sealed" whichever of the following take place first.
1. Prior to the first UKAC and or BAS Championship Race.
2. Prior to two race meetings are completed.
Note.
"Gearbox/Transmission sealing is not compulsory under 1 or 2 above. However, it is mandatory at the request of any NASA Scrutineer and or SHSC member.
Please contact the SHSC if there are any problems in getting your car sealed and or are unsure as to specific location of the provision for the required seal.
"Breaking" or undoing/loosening a seal without a scrutineer's authorisation is prohibited.

2 CHASSIS/BODY SHELL

2.1 The bodyshell must be complete in its ENTIRETY, including all inner and outer wings, roof, bonnet/engine cover, luggage compartment lid (boot/tailgate), doors, floorpan, front bulkhead, rear seat bulkhead and backrest panel, rear inner wheel arches, rear seat pan, boot floor, rear valance and seams fitted.
Note.
i. Replacement panels.
Standard production or NASA permitted proprietary manufactured replacement body panels only to be used.
The removal of any vehicle panel including engine cover/bonnet/luggage compartment lid/boot lid and replacement of the same with non-proprietary replacement metal panels is prohibited.
ii. Composite material panels.
The use of non-metal automotive "composite material" panels attached to a metal bodyshell are permitted only on vehicles with such panels fitted by the original vehicle manufacturer as a standard production item to that make and model.
iii. Drivers Compartment panels.
Protruding and or sharp brackets/tags may be removed.
iv. Sound Deadening Material, Under seal & Seam sealer.
All internal bodyshell sound deadening material, and external under-seal and seam-sealer may be removed or retained. If removed, removal to be achieved by wire brushing and or scrapping/scouring/rubbing only.
Note.
Bodyshell preparation by chemical dipping and or shot / bead / sand type blasting and or by means of "burning." (i.e. using a fire and or flame producing device to remove a substance and or substances from the vehicle bodyshell) is not permitted.

Permitted & Non-permitted vehicles.
See Check Sheet.

2.2 Bonnet & Tailgate.
Bonnet/Tailgate hinges may be retained or removed.
Removal or "skinning" of bonnet strengthening braces/ribs prohibited.
Removal or "skinning" of tailgate strengthening braces/ribs prohibited.

2.3 Doors.
"Skinning" of "Front" driver and passenger doors permitted. See Definitions.
"Skinning" of "Rear" doors prohibited.

Door Hinges
Door hinges may be retained or removed.

2.4 Bumpers.
The complete standard production original front and rear bumpers may be retained or removed and replaced.
A replacement bumper must be of a virtually similar shape design and size to the original.
All associated metal components (bumper inner steel support), framework and brackets must be retained.
Removal of either front or rear bumpers is prohibited.
Note
Provision of additional bumper fixing supports permitted, however maximum 4 (four) 8mm bolts per bumper.
Where a bumper is damaged whilst racing and requires repair, cable ties may be used as a temporary support until a replacement bumper is fitted.
Failure to ensure that a bumper remains fitted during racing is a Black Flag (Race Disqualification) offence.

2.5 Wheel Arches.
Front and rear wheel arches may have slight local modification and trimming/cutting back of a maximum of 50mm from the original to suit wheel & tyre assembly.
The wheel arch may be "folded" out and or extended to a maximum of 15mm protrusion from the standard production wheel arch for the vehicle concerned. Any extension must be to the same specification material as the original wheel arch and all sharp edges smoothed/rounded off before racing. Excessive removal or addition of material prohibited.
Note.
i. The wheel and tyre assembly must not protrude more than 20mm beyond the wheel arch.
ii. For the Vauxhall Nova / Corsa vehicle the front wing "Splash guard" may be retained or removed.
iii. "Trailer" type wheel arches and or beaded arches prohibited.
iv. Gusseting and or sill extensions prohibited.

2.6 Air Cooling holes.
The cutting or forming of additional air cooling or air inlet/exit holes to supplement the existing front or other grilles etc; in any panel/area of the vehicle is prohibited.

2.7 Towing Eye
Towing eye must be fitted at the front and rear of the vehicle however must not protrude beyond the body line.

2.8 Sub-frames.
Where a vehicle is fitted with a "sub-frame" as standard production then the original sub-frame(s) may be retained or replaced as permitted and governed by the "shared component" requirements.

2.9 Vehicle Track
The track is restricted.
See Check Sheet.

3 WINDSCREEN & GLASS – As Saloons General.

4 STEERING

4.1 Steering System.
The steering system from the steering wheel to the front wheels must remain standard to the same manufacturer with no modification. Standard production original and replacement steering components only permitted. (See rule 4.4).
Steering wheel and boss free.

4.2 Steering Column.
The steering column must remain as standard production and it must be retained in its original standard production location/position.
Alteration of position/location is only permitted for reason of safety. i.e., If the roll cage construction for the make/model of vehicle is such that there is a clash between the location of both and no other solution.
If repositioned - The column must be mounted from the front roll cage cross bar.
Protruding and or sharp brackets/tags may be removed from the main column outer tubing.
Note.
The steering wheel height/angle adjustment bracket/lever must be securely fixed in its chosen height/angle location by welding or secondary fastening.
It is not permitted to shorten nor lengthen the original standard production steering column other than steering wheel boss.
It is not permitted to remove the original standard production steering column and replace it with an alternative column.

4.3 Steering Rack
The standard production original steering rack vehicle mountings must be retained in their original position and be appropriate to the vehicle make and model.

4.4 Power Steering
The original standard production power steering may be retained or removed and replaced. i.e., rack and associated parts.
If removed the power steering rack may be replaced with a non-power steering rack from the same original standard production make and model of vehicle.
For a non-power steering model, the replacement of the standard production steering rack with a power steering rack is permitted.
Power steering electric pump and associated pipes may be retained or removed.
“Quick” or “High Ratio” steering racks are not permitted.

4.5 Tie Rod – Dust Boots
Must be standard to manufacturer.

5 SAFETY HARNESS – As Saloons General.

6 SEAT - As Saloons General.

7 FIRE EXTINGUISHER – As Saloons General.

8 IDENTIFICATION – As Saloons General.

9 ELECTRICAL / INSTRUMENTS

9.1 Wiring Harness
The standard production general wiring harness and the charging system. may be retained or removed and replaced provided the requirements of Saloons – General – Section 9 are complied with.

9.2 Instrumentation and Gauges
The use of an engine “Rev counter” and or “Speedometer” and their and tachometer associated drive mechanisms and or sensors permitted.
Original vehicle manufacturer standard production “Rev limiter” system must remain as manufactured.
All other add-on “Rev limiter” systems are prohibited.

9.3 Battery type – Restricted.
The standard production electrical battery may be retained or removed and replaced.
A single 12 Volt electrical battery only must be used. Type and electrical capacity free.
Battery location – as Saloons General Rule 9.8.
Note.
Commercial and or agricultural vehicle battery prohibited.
The use of a “large” dimension size battery may be deemed as ballast and prohibited.
The suitability of the type of battery for use with or without a charging system and its ability to hold a sufficient electrical charge for the duration of a race and any required race re-runs must be borne in mind during battery type choices.

9.4 Engine Starting system – Restricted.
Starter motor must be standard as manufactured, no high torque / return starter motors to be used.

10 FUEL

10.1 Fuel Delivery - Restricted.
The original standard production method of fuel deliver must be retained.
The changing of carburetion to fuel injection and vis-versa is prohibited.
i.e., If an engine is fitted with carburettor, then it must remain as carburetted.
If an engine is fitted with fuel injection, then it must remain as fuel injection.
The fuel delivery system must remain within the engine compartment.

Carburetion.
A single carburettor only must be used. The original standard production carburettor may be retained or removed and replaced.
If replaced the carburettor chosen must fit directly onto the original standard production inlet manifold without the use of an adaptor(s) or modification of either carburettor or inlet manifold.
Twin/multi-carburettor system prohibited.

Fuel Injection.
The original standard production fuel injection system must be retained in its entirety, including all engine management and or control equipment.
Modification to fuel injection system prohibited.

10.2 Fuel Sensors.
Fuel Sensors shall be retained and remain in their standard production form.

10.3 Air Filter and Housing.
Air filter and or associated housing free provided it/they remain within the original engine compartment.

10.4 Inlet manifold.
The standard production inlet manifold must be retained in its standard production form and location & position. Modification prohibited.

10.5 Fuel Pump.
The original standard production fuel pump may be retained or removed and replaced.
Fuel pump type and capacity free.

10.6 Fuel Regulator.
Fuel pressure regulator type and capacity must be as standard production.

10.7 Accelerator.
The standard production “Accelerator” or “Throttle” pedal, must be retained to control the operation of the fuel delivery system to the engine.
The vehicle original “throttle” system may be retained or replaced by a “Fly by Wire” throttle system as permitted and governed by the “shared component” requirements.
Note.
The accelerator cable/connection system must be sufficiently routed, shielded from any heat source, and lubricated to minimise the risk of seizure.

“Fly By Wire” Systems.
Original standard production “Fly by Wire” throttle systems permitted.
Where such a system is to be fitted as a replacement for the vehicle original “throttle” system, the absolute minimum modification/alteration only is permitted to enable installation of the throttle and pedal box system.

10.8 Fuel Tank Location – Restricted.
The fuel tank or “Fuel cell” must not be fitted anywhere on the vehicle at a point that is forward of the most forward part of the engine block.

10.9 Carbon/Charcoal Canister.
The original vehicle manufacturers fitted “Evaporative carbon/charcoal canister” may be retained or removed.
If removed remaining hose connections must be blanked off with metal.

11 COOLING SYSTEMS

11.1 Cooling System.
As standard production and be correct for the engine fitted and must be retained in its entirety and remain in its original standard production form.
Note.
Radiators - see rule 11.3.

11.2 Sealed Systems.
When sealed radiator systems are used, they must be of a permitted manufactured type, and be fitted with an approved pressure relief device, in good working order.

11.3 Radiator - Restricted.
Original standard production water cooling radiator may be retained or replaced with equal mass-produced type provided the absolute minimum modification is required for fitting.
The use of special, purpose made non-mass production, sports derived and or those requiring excessive modification to fit radiator types prohibited.

Water/Oil Cooling Radiator Location – Restricted.
The cooling radiators must be fitted at the standard production location within the vehicle engine compartment.

Radiator Cooling Fan.
Original standard production radiator cooling fan assembly may be retained or replaced with equal.
All electric fan assemblies must remain within the vehicle engine compartment.

11.4 Secondary Expansion Tank.
A secondary water-cooling system expansion tank may be fitted. Maximum capacity 1 Litre.

11.5 Water pipes/Hoses.
The standard production water pipes/hoses may be retained or replaced with equal pipes/hoses.
Water pipes/hoses must be of metal or proprietary flexible hose. Silicone hoses prohibited.
Type and number of connections free. Type of hose clamps free, however they must be fit for purpose.

11.6 Water Pump - Restricted.
Standard production original and direct replacement water pump only permitted.
Modifications to water pump or pump pulley and/or impeller prohibited.

11.7 Oil Cooler/radiator type – restricted.
The fitting and use of an oil cooler/radiator is permitted. If an oil cooler/radiator is used it must be of a proprietary manufactured type only and be securely fixed such that it is within the vehicle engine compartment.

11.8 Oil Sump & Pick Up Pipe.
No modifications permitted.

11.9 Oil Filter
Standard production original and direct replacement oil filter only permitted

Peugeot/Citroen Vehicles only.
The non-metal oil filter may be removed and replaced with a metal oil filter.
To achieve this, for Phase 2 and Phase 3 vehicles, the standard Phase 2 and Phase 3 exhaust manifold, downpipes and non-metal oil filter may be removed and replaced with the Mk1 exhaust manifold, downpipes and metal oil filter assembly.
No other modification is permitted.

12 BRAKES

12.1 Brake system including Hoses/Pipes
The standard production braking system must be retained, be correctly installed/fitted and be in good working order.
Standard production original and replacement brakes and brake components of the same vehicle make only permitted.
The 'Brake' foot pedal assembly must be of standard production materials.
Brakes may be subject to random spot checks of foot pedal operation whilst on the starting line and or at any time.
Note.
Sports/performance/motorsports derivatives brake components unless listed as permitted are prohibited.

i. The rear brake compensator may be removed. Handbrake – see rule 12.2.
ii. ABS valve chest and associated wiring may be retained or removed.
iii. The practice of "Thinning" or lightening brake discs or drums or other braking components by "Thinning" and or "Diameter reduction" and or "Grooving", "Slotting" or "Drilling" and or other machining is prohibited.
iv. Non-standard replacement after-market brake drums prohibited.
v. All other modification of brake discs or drums or other braking components is prohibited.

Brake Pipes/Hoses
The original standard production brake fluid pipes and hoses may be replaced with aftermarket brake fluid pipes and hoses of proprietary manufacture only. "Braided" brake hoses permitted.

12.2 Handbrake.
The original vehicle handbrake and or parking brake, including the cable and its associated components may be retained or removed.
If retained the handbrake/parking brake components must be as original standard production, remain as original manufacture, be correctly installed/fitted, be in good working order and operate the rear wheels braking system only. The original vehicle handbrake system is considered equal to a start line handbrake.
Conversion to a "Fly-Off" handbrake by repositioning standard handbrake components permitted.
If removed a hand lever operated start line handbrake must be fitted. The start line handbrake may be a cable or hydraulic system hydraulic system that operates upon the vehicle braking system.
See Saloons General - Rule 12.3.

12.3 Brake Proportioning - Restricted.
The fitting and use of a brake system proportioning "Bias Pedal Box / Brake Balance Bar" and or brake proportioning valve and associated adjustment mechanisms (including knob or lever or handle) is prohibited.
The fitting of a brake fluid shut off or isolation tap to facilitate the isolation or deactivation of any part of the braking system is prohibited.
NASA reserves the right via an appointed Official and or Scrutineer to carry out a spot check brake test at any time to ensure Saloons General Rule 12.1 is complied with.

13 WHEELS

13.1 Wheels – Restricted.
The wheels must be standard production or NASA permitted proprietary replacement wheel.

i. Diameter - Free.
ii. Wheel Width is free
iii. Offset/Inset is free, provided that the wheel rim including tyre must not protrude more than 20mm beyond the original wheel arch. The use of wheel spacers permitted. (See Rule 13.2).
iv. "Beadlock" and/or Beadlock type wheels are prohibited.
v. "Billet" and or "Billet Type" wheels are prohibited.
vi. The use and or fitment of a wheel adaptor and or combined adaptor and spacer to fit wheels of a different PCD from standard prohibited.

Wheel fitment
i. The use of different wheel diameter sizes on the offside and nearside of the vehicle is prohibited.
ii The use of different wheel diameter sizes on the front and rear axles is permitted.
iii. It is permitted to mix types (Steel/Alloy) of wheels on a vehicle, provided the same type of wheel is fitted on each pair of axles.

13.2 Wheel Spacers – Type restricted.
The fitting of wheel spacers is permitted. Maximum width 50mm (N.B. width may be subject to reduction in future).
i. The use of different wheel spacer sizes on the offside and nearside of the vehicle is prohibited.
ii The use of different wheel spacer sizes on the front and rear axles is permitted.
iii. A wheel spacer must be of proprietary manufacture, be of solid uniform one piece that incorporates an integral backing plate.
iv. The alteration of or thinning or machining of proprietary wheel spacers is prohibited.
vi. The associated wheel studs must be of a one-piece type and of correct size.
vi. When wheel spacers are used, it is permitted to use correct extended studs or extended wheel bolts to facilitate the use of the spacers.

13.3 Wheel Studs
It is permitted to change the standard wheel studs to a longer in length steel type only to enable correct wheel fitment. Excessive length types prohibited.

14 TYRES – As Saloons General.

15 EXHAUST

15.1 Exhaust System.
The original standard production exhaust manifold for the engine must be retained – modification prohibited.
Engines which use “Four branch” exhaust manifolds are prohibited.
Exhaust system from the manifold outwards is free.

15.2 Exhaust route.
The exhaust pipes must be fitted external to the vehicle bodyshell floorpan.
i.e., They may be routed from the engine compartment either to the tunnel and or below the floorpan to the exit point.

15.3 The engine exhaust system outlet must end at the rear of the vehicle, and not protrude beyond 50mm of the vehicle bodyline. The outlet must be at a point that is easily accessible for the taking of noise level test measurement readings.
The outlet end must be at a point between the rear of the “B” pillar and the rear of the vehicle.
Note.
The outlet pipe must exit the vehicle at a height not more than the vehicle floorpan from ground level, and point either horizontally or downward at an angle of not more than 30^{o} from the horizontal.
Where multiple exhaust pipes are fitted, they must end at a single point.
Exhaust pipe(s), which may be regarded as being of excessive diameter, are prohibited.

15.4 Exhaust “Heat Wrap”
The engine exhaust system from the manifold outwards (excluding manifold) may be fitted with any form of “Heat Wrap”.

16 SAFETY SHIELDS

16.1 Sump Guard - Restricted.
The fitting of a sump guard is prohibited.

16.2 Flywheel Shield
A flywheel shield to interrupt an imaginary line between the vehicle driver and engine flywheel may be fitted.
The shield if fitted to be no more than 100mm from the flywheel bell-housing/enclosure.
The shield to be constructed from steel plate, minimum 6mm (¼in), thickness 460mm (18ins) high, 100mm (4ins) width.

17 SUSPENSION

17.1 Suspension type is restricted.
The suspension system must remain as originally fitted to the vehicle make by the original vehicle manufacturer.
It is not permitted to modify any suspension component unless the alteration of the component concerned is specified within the rules.

17.2 All bodyshell suspension system component mountings must be retained in their original positions and be appropriate to that vehicle make i.e. The modification or re-positioning or replacing of original suspension mountings and or use of “Rose Joints” is prohibited.

17.3 Wheel Camber & Wheel Castor
It is not permitted to alter the camber / geometry of the suspension.
Modification of suspension components, suspension leg and or hub to suspension leg mounting brackets prohibited.
Note.
Slight deviation from standard as a result of race track conditions is acceptable. Excessive deviation of the camber angle from standard prohibited.
NASA / SHSC reserves the right via an appointed Scrutineer to inspect and or subject the suspension to measurement for compliance with the regulations. NASA /SHSC reserve the right to designate the information reference source and the method of component checking.

17.4 Suspension components. – Restricted.
The original suspension shock absorbers, suspension leg/struts, front and rear springs, torsion bars, may be retained or replaced with uprated units. Suspension leg/struts fitted with a metal "Wedge" is prohibited.
The use of front suspension height adjustable spring platforms is prohibited.
Note:
i. Single adjustment type shock absorbers only are permitted.
ii. 'Remote Reservoir' & 'Piggy-back Reservoir' type dampers, and/or shock absorbers and/or inserts and/or suspension leg/struts are prohibited.
iii. For all dampers/shocks/suspension units, the rod diameter must be a maximum of 22mm and the unit be of a type that can be obtained/bought "over the counter" at any standard car parts supplier/motor factor.
iv. Motorsport type or motorsport derived type suspension is prohibited.
v. "Monotube" style stand alone canister systems and "Air" suspension prohibited.
vi. The use of "Roller Top" or "Spherical Bearing" Concentric or Eccentric or Two-Piece type or "Solid" suspension leg/strut Top Mounts or Mountings is prohibited.
vii. The use of any mechanical or other device to alter the suspension geometry is prohibited.
viii. The Gusseting, welding/plating of any unspecified component is prohibited.

17.5 Front and Rear Suspension Springs - Restricted.
The standard production suspension springs may be retained or replaced with alternative units from any car of the same make range, however they must be fitted correctly onto the suspension unit concerned.
Sport style lowering springs may be fitted.
Note.
The welding of coil springs is prohibited.

17.6 Front & Rear Suspension Bushes & Bump Stops.
The standard production suspension bushes and bump stops may be removed or retained.
If removed and replaced proprietary manufactured types only permitted. Rose joint / "Group 4" type or similar prohibited.

17.7 Strut Brace.
A "Strut Brace" may be fitted transversely between the engine compartment suspension top turret housings.
The Strut Brace may, via the Top Turret Housing, be connected (bolted) to the front roll cage upright.
See Fig 1.
A "Lower Strut Brace" may be fitted transversely between the engine compartment suspension lower connections.
All strut braces may be adjustable and be of the "bolt" on type. It is acceptable practice for adjustable style strut braces to be welded / pinned or sealed in a set position so the said brace cannot be altered between races.
The upper and lower strut braces must not be interconnected and or joined with each other.

17.8 Vehicle ride height.
For lowering of suspension, a maximum of 60mm movement per unit/spring is permitted.
Any car where the ride height is felt to be too high or too low to enhance the cars performance will be required to alter its ride height in respect of safety.
No minimum or maximum ride heights will be given, except for specified vehicles. The ride height will be compared to cars in full road spec trim (unladed).
NASA / SHSC reserves the right via an appointed 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".

18 PROTECTION

18.1 Distributor Protection.
Prohibited.

18.2 Rear Protection.
Prohibited.

19 BALLAST

19.1 The fitting of and or use of ballast is prohibited.
Note.
The use of over large or inappropriate components and or structures may be deemed as ballast and prohibited.

20 VEHICLE CHECK SHEET

NASA reserves the right to designate the information reference source and the method of component checking and to revise the check sheet data at any time.
Note.
The 'Vehicle Check Sheet' data and other designated information source will be used in conjunction with the particular vehicle Haynes Manuals / Palgrave / Glasses Guide Technical Services Data (TSD) Sheet and/or vehicle original manufacturer's technical information/data as a reference when checking the eligibility and legality of the vehicle and or any of its components.

Components used must be "Standard production" or "Standard production replacement" items unless otherwise specified.
Components specifically manufactured for and or fitted to "Rally", "Homologation" "Motorsport", and or "Competition" including low volume/number (e.g., less than 500) "Limited edition" and or "Special" type models or variants of vehicle by the original vehicle manufacturer or manufacturer appointed organisation or company are prohibited.
In the event of any doubt a Scrutineer must be contacted for clarification before using the component concerned.

In order that an engine, engine ancillaries, and gearbox may be checked to ensure standard components have been used, given below are a set of dimensions and details.

All dimensions given, either maximum or minimum, include tolerances to cover all manufacturing deviations.

Any standard component checked will be within the dimensions given, hence any deviation at all above a maximum or below a minimum shows an ILLEGAL COMPONENT.

As all dimensions given include a tolerance for manufacturing deviations, where an engine is checked and found to have 10% of dimensions, to the absolute limit given, this unit will be deemed ILLEGAL.

The original suspension dimensions will be used if it is felt a vehicle may be outside variations through normal wear and tear, a check may be carried out to ensure standard components have been used and correctly fitted.

PERMITTED AND PROHIBITED VEHICLES.
The lists of permitted and prohibited vehicles are not fixed.
NASA & SHSC reserves the right via an appointed Scrutineer to permit, reject and or prohibit a vehicle/bodyshell as being suitable or unsuitable for the class at any time.

PERMITTED VEHICLES - Restricted
Any front wheel drive hatchback, unless otherwise specified.
Austin/Leyland/Rover Metro.

PROHIBITED VEHICLES.

General Description Type.
Any non homologated specials, saloon vehicles, non-mass-produced vehicles.
Any vehicle that has a chassis that is not integral (Monocoque) with the bodyshell including following examples of non-permitted vehicles:

Station Wagon models.
“Sports” car/Cabriolet/Convertible models.
2 door “Coupe” models.
RWD models
4WD models.
Non-specified “Estate” and or Dual Purpose (Pick Up) models of vehicle.
Vans.
Vehicles with a width greater than 2.0 Meters.

Specific vehicles.
Audi TT.
Austin A40 Farina. A30. A35. Allegro Estate.
Austin/Morris/Leyland/Rover – Mini & Mini Derivatives.
Citroen C1.
Peugeot 106 “Rally” specification models.
Peugeot 107.
Smart Car /Forfour/Roadster (All Models).
Subaru – Justy (4WD).
Fiat - Panda (4WD).
Fiat X19.
Ford Escort Mk 1 & 2.
Jeep.
Land Rover, Range Rover, Discovery, Defender, Freelander.
Shogun.
Vauxhall Nova - Sport specification models.
Vauxhall Tigra.

PROHIBITED ENGINES.
Engines with more than 2 valves per cylinder.
Engines intended and or produced for rear wheel drive (RWD) vehicles.
Peugeot “Rally.”
Nova Sport.
Opel Cadet Sport.
Note.
The list of prohibited engines is not fixed.
It is the Competitors and/or race vehicle constructor’s responsibility to contact a Scrutineer to confirm that the engine chosen is eligible before using it in the vehicle.
NASA & SHSC reserves the right via an appointed Scrutineer to permit, reject and or prohibit an engine as being suitable or unsuitable for the class at any time.

DIMENSIONS AND DETAILS ARE GIVEN IN ORDER OF AN ENGINE STRIP and or VEHICLE CHECK.

ENGINE: - As permitted by official technical datasheets including Palgrave/Glasses Guide and Haynes.

CYLINDER HEAD.
Head Thickness – Check for excessive removal of metal.
Citroen & Peugeot TU engine - minimum head thickness = 110.4mm.
Vauxhall engine - minimum head thickness = 94.8mm.

VALVE LIFT & VALVE TIMING.
As Standard Production – Check if correct. Refer to official technical datasheets including Palgrave/Glasses Guide and Haynes.

VALVE GUIDES.
A standard production OE or NASA & SHSC permitted reconditioned and or replacement type only is permitted.'

VALVE SPRINGS.
Valve Spring Free Length = As permitted by official technical datasheets including Palgrave/Glasses Guide and Haynes.

VALVE HEAD DIAMETER.
Inlet valve head diameter (Max) = As permitted by official technical datasheets including Palgrave/Glasses Guide and Haynes.
Exhaust valve head diameter (Max) = As permitted by official technical datasheets including Palgrave and Haynes.

CAMSHAFT.
A original manufacturer standard production and/or OE replacement camshaft only is permitted. The camshaft must remain in its original standard production form and must be correct for the particular engine cubic capacity.
The production or adaptation or modification of a camshaft to provide the listed valve timing and/or valve lift, but non-standard timing and/or valve lift at regular degrees of rotation is prohibited.
Camshaft VVT Controller & System must be as standard production.

CAM HEIGHT.
Maximum Inlet = As Std Production – As permitted by official technical datasheets including Palgrave/Glasses Guide TSD and Haynes.
Maximum Exhaust = As Std Production – As permitted by official technical datasheets including Palgrave/Glasses Guide TSD and Haynes.
The cam height (measurement from base/bottom of base circle to top/highest point of lobe nose) must be correct for the particular engine's cubic capacity.

ENGINE BLOCK
Check if top surface has been machined – "Decked", Skimmed, Re-faced.

PISTONS.
Pistons to be as standard production original and replacement complete with identification marks.
Piston skirts and or tops/bowls must not be shortened/skimmed or modified.
Oversized piston may be used of max 20thou / 0.5mm.

Piston Rings.
The omission of any piston ring is prohibited.
Where 3 ring pistons are originally used, 3 rings MUST be fitted.

CRANKSHAFT.
Crankshaft Stroke = As Standard Production – As permitted by official technical datasheets including Palgrave and Haynes.

FUEL INJECTORS/RAIL.
Fuel Injection Multiple Point = As permitted by official technical datasheets including Palgrave and Haynes.
Injectors and fuel rail must be standard and correct for engine.
Injectors and fuel rail from other models and or vehicles prohibited.

ECU
Must be in its original standard production form.
Check for ECU rewriting, remapping, chip replacement (chipping), re-soldering and or not standard production soldering, electrical path changes, removal and or re-fitting of component(s) and or other modification.

REV LIMIT.
"Rev Limiters" must operate at standard production rpm maximum = As permitted by official technical datasheets including Palgrave and Haynes. See NASA Rev Limit Chart.

FLYWHEEL AND CLUTCH.
The starter ring gear must be the correct type for the flywheel used.
Standard production original and replacement clutch only permitted.

MAIN BEARINGS.
Standard production original and replacement types for the particular engine block used only permitted.

GEARING FULL STRIP CHECK.
During a full strip, the legal number of teeth in the gearbox will be based on official technical datasheets including Palgrave and Haynes.

DIFFERENTIAL TURNING TORQUE.
The differential must have a turning torque of a maximum of 3 lbf/ft (36 lbf/in) (4 Nm) 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 vice-versa, then when a measuring device is applied onto the wheel hub nut the maximum turning torque of the differential and driveshaft assembly must not exceed the stated maximum regardless of the temperature of the unit.

SUSPENSION.
Front Wheel Camber = As permitted by official technical datasheets including Palgrave and Haynes.
Rear Wheel Camber = As permitted by official technical datasheets including Palgrave and Haynes.

VEHICLE WIDTH & TRACK.
All vehicles above the width of 2.0 meters whether as original standard production specification and or modified in accordance with class specific rules are prohibited.

The wheel and tyre assembly must not protrude more than 20mm beyond the wheel arch.

WHEELBASE.
As permitted by official technical datasheets including Palgrave and Haynes.

VEHICLE WEIGHT.
Free.

See official technical datasheets including Palgrave and Haynes, for other measurements.

NASA STOCK HATCH REV LIMIT CHART.

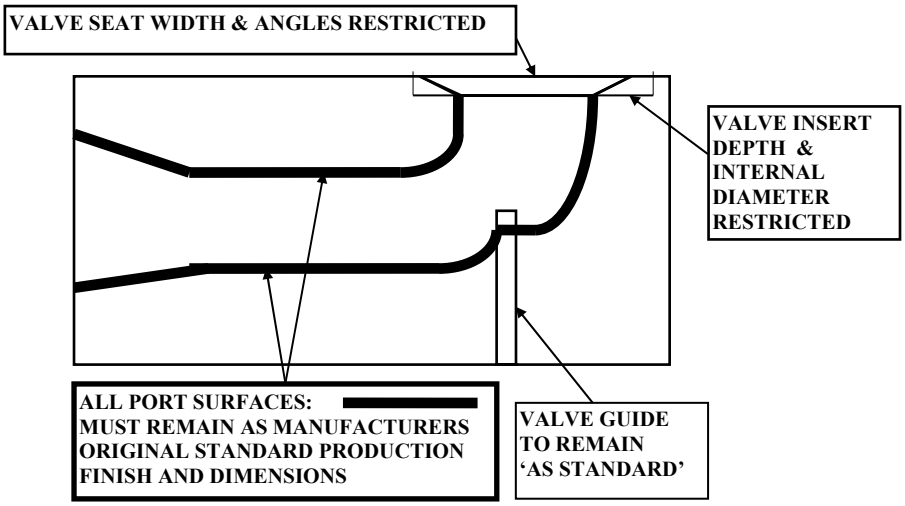
Listing of current popular and or commonly used Stock Hatch vehicles.

VEHICLE	**ECU TYPE**	**NASA REV LIMIT (ABSOLUTE)**
CITROEN		
SAXO		
Mk1 VTR	Large Bosch Single Plug ECU	6650
Mk1 / Mk2 Cross Over	Large Bosch Single Plug ECU	6650
VTR Mk2 / Mk3	Bosch M744 3 Plug	6600
AX		
GTi 1.4	Motronic	7000
GTi 1.4	Marelli (External C/O Adjustment)	7250
PEUGEOT		
1.6 Xs / Cross Over	Motronic	6650
1.6 Xsi Mk1	Marelli	6950 (Constant)
1.4 Xsi	Motronic	7000
1.4 106	Marelli (External C/O Adjustment)	7250
FORD		
Ka Sport	Siemens	6480
VAUXHALL		
NOVA		
GSI	Bosch / Motronic	6150 / 6480
GSE	Siemens	6050 / 6300

Note.
i). All other vehicles require scrutineer permission and ‘rev limit’ upon request only.
ii). If “Rev Limiter” does not sound as manufactured then scrutineers have the right to carry out further investigations.
iii). The scrutineer’s decision is final.

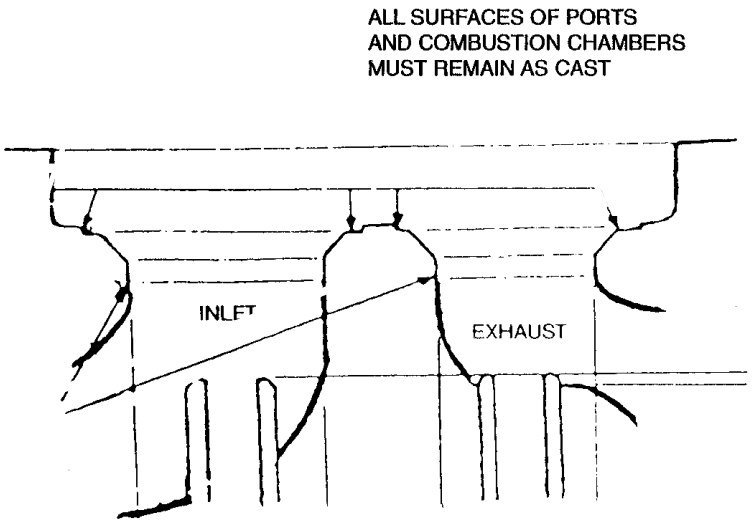
FIGURES & DRAWINGS.

DRAWING 1 CYLINDER HEAD INLET & EXHAUST 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.
Valve insert must not protrude above head surface - See Check sheet
for maximum depth & internal diameter.

DRAWING No. 2 CYLINDER HEAD INLET & EXHAUST 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.
Valve Seat angle to be as Standard production.
Valve seat and or insert to be as Standard production.
"3 angle" valve seat permitted.

FIGURES

FIGURE 1 PERMITTED FRONT SUSPENSION
STRUT BRACE BAR MOUNTING.

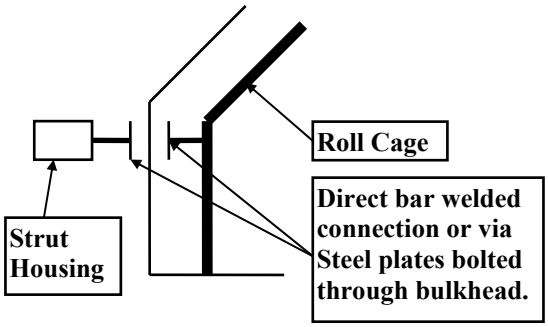


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FIGURE 2a – ENGINE SEALING – As Fig 12a – Saloons General.

FIGURE 2b – ENGINE SEALING - As Fig 12b – Saloons General.

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.