

## **HMC Do's, Dont's, Rulings and Helpful hints List**

### **PLEASE READ THE BELOW FIRST**

**CHEATING:** *Our rules are simple. They are not exact in many areas as "the spirit of sportsmanship" is the primary focus. The "Statement of Purpose" will take precedence in any rule dispute. If an entrant is found to have contravened the spirit of the rules he will risk disqualification from any further involvement with HMC. In other words, cheating is not something that will be taken lightly. READ THE RULES and ask questions.*

### **NOW YOU CAN CARRY ON READING THE ARTICLE BELOW:**

#### **CAR ELIGIBILITY**

NO HMC race car can be a Convertible or a Sports Car.

For full vehicle eligibility list refer [here](#)

#### **ENGINE**

The engine block deck height (crankshaft centreline to top of block) MUST remain the same as what your vehicle came with from the factory. Cylinder head to block combination cannot be mixed outside the factory specifications.

For example Cleveland heads on a 9.5 Windsor block is NOT correct. Some cars came with several engine combinations, stick to the one you choose. The crankshaft main bearing journal size MUST remain factory. NO Billet, Honda, NASCAR or other non-factory crankshafts.

When using any aftermarket replacement Engine Block NO external machining to lighten the block is allowed.

Based on a small block Chevy engine the largest size available pre 1978 for most vehicles was 400 cubic inch. We consider this the largest size acceptable for any small block engine powered HMC race car, plus an allowable '030 or '060 over bore. (resulting in a maximum of 406ci and 410ci respectively). NO small block engines larger than this 410ci are allowed.

The maximum engine size for all Big Block engines is 468 cubic Inches and this is based on a pre December 1977 454ci Chev bored to '030 or '060 oversize. Therefore the maximum engine capacity is 468ci.

Aluminium blocks are not allowed. Only ZL1 1969 Camaros were made with all-aluminium engines. However, they are NOT eligible for HMC as only 70 were produced and do not meet the rule requiring 100 or more to have been produced.

For "Standard Series Production" vehicles that came with a factory big block engine and factory aluminium heads factory, NO cylinder head modifications are allowed other than seating the valves. Heads MUST be fitted as per the manufacture specifications, NO welding or modifying of ports. If you have or have purchased a set of modified heads these will need to be replaced, they

cannot be put back to standard. In other words they MUST be STOCK STANDARD and bolted directly on but with a nice valve job.

For replacement alloy heads on Big Block Chev engines, ONLY GM Performance Parts 12363408 Bare Bowtie can be fitted, out of the box, NO modifications allowed.

If you use a cast iron cylinder head on any big block engine vehicle, these may be modified for performance gain but as per the rules the "Port Spacing" and "Valve Angle" MUST remain standard.

Small Block Ford Engines cannot use the "FORD RACING N351 NASCAR CAST IRON CYLINDER HEAD M-6049-N351" as the valve angle has been altered.

Ford Small Block engines can use Gurney Westlake Aluminium Cylinder heads as these were used in New Zealand Motorsport in "Period" pre 1978.

Camshafts are free, but in all cases the camshaft tunnel in the engine block MUST remain unchanged from the vehicle manufacturer's size

Any style of exhaust header/extractor system that fit the vehicle without modifications to the vehicle's structure or steering can be used. Headers/Extractors in either standard steel or stainless tubing are allowed.

There is a maximum RPM limit for larger engines. Vehicles over 302ci will be required to have a HMC approved limiting chip fitted as below.

<b><u>Engine Capacity</u></b>	<b><u>RPM Limit</u></b>
Up to 307ci (4.95 litre)	No RPM limit
308ci to 350ci (5 litre to 5.7 litre)	7500RPM limit
351ci and above (5.8 litre and over)	7000RPM limit

Any vehicle with an obvious speed advantage may also be required to be fitted with a RPM limiting chip at the discretion of the HMC Directors and/or Technical Auditors

## **ENGINE ACCESSORIES**

All vehicles MUST have the engine in the original position. Not 1" back, or 1" down, the ORIGINAL position.

You can use any High Performance or Heavy Duty aftermarket starter motors but at all times it MUST remain in the original manufacturer's position

The Alternator, Water and Power Steering pumps MUST be belt driven just like the original, but alternative cog tooth belts can be used, Electric water pumps are not allowed.

Any style of Aluminium or Copper Radiator and engine oil coolers can be used and custom mounted for fitment, Radiator overflow catch tanks can be steel, aluminium or plastic. Electric cooling fans can replace the manufacturer's style fan system.

## **FUELING**

Fuel Injection can be used but MUST be Mechanical and a "Period" part. NO electronic fuel injection.

Irrespective of whether using a single carburettor, multiple carburettors, IDA or side draft Webers or period correct fuel Injection, it all MUST fit under the "Standard Series Manufacturer's Production" bonnet and the "Manufacturer's Standard Series Production" bonnet scoop. Vehicles that didn't come with raised bonnets or additional bonnet scoop fitment may mean that multiple carburettors (either down draft or side draft) won't fit, so they cannot be used.

Mechanical Fuel Pumps mounted in the original engine position or electric fuel pumps mounted in the boot area is allowed. Fuel pumps for Mechanical Fuel Injection MUST be mounted as period. Fuel lines are free but MUST be as per MSNZ regulations.

Please Note: When using electric fuel pumps it is advised to use an engine oil pressure fuel pump cut off switch for safety

## **CLUTCH AND GEARBOX:**

A replacement gearbox is allowed (e.g. Jericho or Tex101) but it MUST be a "Direct Bolt in Replacement".

NO adaptations are allowed or gearbox's that don't resemble the look of the original style. NO Hollinger, Saenz or other gearboxes types.

The original rear gearbox cross member MUST be used, "minor" alterations to allow the easement of the gearbox removal and replacement are allowed but that is all. It cannot be modified beyond this, 80 percent of the original cross member MUST remain.

You can use the original gearbox with an internal dog box gear kit fitted.

On all replacement gearboxes the style of shifter and linkages MUST remain the same as the manufacturer produced on your particular vehicle. For example on the Mustang and Camaro, the shifter was externally mounted on the tailshaft with exposed linkages attached to side levers on the gearbox, this style MUST remain.

NO sequential shifters but we will allow "Long" style H pattern slide shifters. Aftermarket shifter boots and levers are allowed.

For the ease of fitment of a Jerico or Tex101/G-force Transmission/gearbox - alternative aftermarket bellhousings can be used, but they MUST be constructed from only steel or aluminium. They MUST be of the same depth/length and dimension as the original and with the starter motor mounting in its original position. The bellhousing MUST accommodate the manufacturer's original flywheel/flexplate size. NO small flywheel or reverse mount starter bellhousings are allowed.

You MUST use a minimum diameter 7.25" race clutch (e.g. Tilton/AP triple plate) but other race clutch is allowed except modern style carbon clutches.

Some vehicles on the HMC eligibility list may have come with a 5 speed gearbox fitted from the factory (eg Chev Monza). This original gearbox can be retained but if it is replaced with any other alternative gearbox, than that gearbox MUST be a 4 speed.

### **DIFF AND REAR END:**

All traction devices on the Rear Suspension MUST be as "Period" this will usually ONLY be under or over-ride type traction bars. Otherwise you MUST be able to PROVE your type of traction/bar device was used in "period" - back when your vehicle was raced from NEW in FIA/SCAA racing only. We recommend you provide your proof for approval prior to commencing construction.

Under and over-ride traction bars are allowed on any HMC car, but MUST be mounted directly above or below the rear leaf spring only in a style that would have been used "period".

A Ford 9" diff can replace any other diff in any HMC vehicle. When using a Ford 9" Diff Head the casing MUST be cast iron, this can be original or aftermarket. Aftermarket aluminium casings are NOT permitted.

NO cambered rear axles/and or hubs, not even a fraction of a degree.

A Watts linkage and/or Panard bar is a "period" race part and allowed on all HMC vehicles even if it didn't come with one from the factory.

NO traction device can be mounted on the centre top of the diff housing and though to inside the cockpit. . A diff centre traction device such as a limited slip diff is allowed. NO electronic traction or stability devices are allowed.

Any diff ratio is allowed. Multi axle splines are allowed. Aftermarket full floater diffs are allowed

The diff housing MUST resemble the look of the original diff housing. NO square shape or extra braced diff housings are allowed (especially relevant for Ford 9inch housings).

### **WHEELS AND BRAKES:**

Wheels MUST be fixed to the front and rear hubs with the same number of mounting studs as per the factory, this usually means 5 (five) wheels studs for most vehicles. However a vehicle with 4 (four) wheel mounting studs may be changed to use 5 (five) wheel mounting studs.

Please go to the main regulations page for particular vehicle wheel widths and Diameter Sizes..

The maximum Front Disc rotor dimensions are 12.25" (112mm) X 1.3/8" (35mm) thick. Rear rotor diameter and thickness is free

Brake calipers MUST be a "Historic, bolt together, 2 piece, lug mount" design and have a maximum of four(4) pistons per caliper, per wheel.

Even though all Brake Calipers MUST be a 2 piece lug mount design you cannot use any other caliper of the same description that is modern, EG: a 2007 Landcruiser front brake caliper for example.

Brake calipers MUST be either an original style (pre 1978) like a Corvette caliper for a Camaro, or a Thunderbird Caliper for a Mustang or you can use a Corvette caliper on a Mustang if you like.

The only exception you can use is a new replacement caliper such as a Wilwood, Sierra, JFZ, AP, (there are others) but you can only use their "Historic" style calipers MUST be a "Bolt together 2 piece lug mount" version. Any Sand Cast or Billet aluminium or Steel/Iron caliper meeting these criteria is allowed

The body of a two piece bolt together brake caliper MUST be, when bolted together, have no other material or spacers holding the two bodies apart. A good example of this is the Wilwood GT6000 and Outlaw 3000/4000 calipers, these calipers are NOT compliant.

A list of acceptable Calipers are:

1. GNIII 6 Piston Grand Nationals(Please note: This Caliper is Obsolete and must be replaced by a 4 piston caliper by Dec 2020) (The new GNR replacement caliper with additional bracket is not allowed)
2. Superlite 4 piston(Superlite 6 not allowed)
3. Dynalite 4 Piston range allowed
4. Coleman (Series 1, 2 3 and 4. Parts Numbers 555-100 through to 565-106)
5. AP Racing 4 piston range allowed
6. Serria 4 piston range allowed
7. There are others so if unsure please ask the class coordinators or technical officers

It is important that when you select a caliper that it is BOTH a "two piece bolt together" AND "lug mount" style in a 4 piston. Many manufacturers' use these specifications in various designs, but it MUST have both these criteria.

A swing style brake pedal, firewall forward mounted master cylinder pedal box system is allowed because they were used in "period". The master cylinder fluid reservoirs MUST remain directly mounted to the master cylinder/cylinders on the firewall. NO reverse mount, NO floor mounted pedal box systems and NO remote reservoirs.

Any master cylinder bore size is allowed.

Any Handbrake Parking device and its components can be removed.

## **SUSPENSION, STEERING**

Most vehicles on the HMC eligibility list came with a "Worm and Peg" manual steering box, this can be replaced with any other manufacturer's "Worm and Peg" power steering box even if it is modern, BUT it MUST be mounted in the same position as the factory original.

These rules apply to manual "Rack and Pinion" steering.

Steering is a safety critical item, so please take care here.

Removable Steering Wheels are allowed

The most any front suspension point can be moved is 30mm. The front spring eye of the rear leaf springs MUST remain in the original position. Narrower rear leaf springs can be used for tyre clearance.

GM vehicles like Holdens and Camaros with a bolt in sub-frame MUST retain this original sub-frame and although the rubber bushes can be replaced with other materials (nolathane,

aluminium or steel) the sub-frame MUST still remain in the original position in relationship to the vehicle body.

Tie-rod ends can be replaced with rose joint rod ends.

Suspension arm upper and lower "Ball Joints" MUST remain but you can use "Longer Taper" style upper ball joints to help with suspension geometry.

Upper and Lower Suspension arms MUST remain original but can be modified with material added for strength, bushes can be replaced with bearings or others forms of bushing and arms bent to correct ball joint angle. But at all times the factory style suspension arms MUST remain in service and can't be so modified that they cannot be identified as the original piece.

Aftermarket tube type arms are NOT permitted.

The manufacturer's factory original front stub axle spindle MUST remain and be used or an identical forged reproduction version of what was fitted to your particular vehicle.

Aftermarket offset lowering type stub axles are not legal and cannot be used.  
Stub stiffener sleeves can be added to the stub axle for strength.

Only single or double adjustable shock absorbers, mounted in the original manufacturer's position are allowed. Shock absorbers with attached spherical bearings at each end are allowed. You CANNOT use any 3 (or more) way upwards, adjustable or canister (remote or otherwise) style shocks.

## **BODYWORK**

Every HMC vehicle MUST have its Manufacturer's identification VIN number attached.

NO carbon fibre or other modern composite panels are allowed.

For other significant alternative body work, such as bonnet scoops, rear spoilers, fibreglass panels, bolt on flares and others, these items are ONLY allowable if the Manufacturer produced 100 or more vehicles with each item. This is an FIA regulation used in Historic motorsport.

A good example of this is the flares and scoops on an A9X Torana hatchback, as 101 vehicles were made, the fitment of this componentry is eligible.

Side marking indicators and park lamps that are mounted into the side of the front and rear fenders/mudguards can be removed but any holes left in the body work MUST be filled or have a covering plate. Front forward facing park lamps can be removed and used as brake duct cooling vents

The passenger's side floor and sill can be modified for side exit exhaust or muffler clearance.

Original style bumpers of the same factory material MUST be used, if steel and chrome were used, this is how they MUST be. NO painted or fibreglass bumpers unless factory original.

The original manufacturer's wiper system, motor, arms and levers along with TWO wiper arms MUST always be fitted and working with an operating switch in reach of the driver

Perspex or Plexiglas is only allowed in the rear window, the only time you are allowed plexi-glass side windows is if your race car has British/European HTP (Historic Touring Car Passport). The rear window MUST be 5mm thick (MSNZ rule).

All the side windows MUST roll up and down on the original window mechanisms and be in the original frames. Quarter and rear side windows MUST operate as per original specification. You cannot fix the side and door windows solid. All internal door mechanisms MUST be in place and cannot be drilled or lightened.

All door and door opening stainless roof rail mouldings and weather-stripping rubbers, inner sill plates as fitted by the manufacturer MUST be retained and fitted. External front and rear windscreen stainless mouldings as fitted by the manufacture MUST be retained and fitted.

The bonnet and boot lid MUST remain on the original manufacturer's mounting/opening attachment hinges. Neither the Bonnet or boot lid can be a lift off style. Factory hold down latches can be removed and replaced by aftermarket quick release style clip pins or rubber/spring loaded external holding clips.

Only 1965/6 Mustang Coupes and Fastbacks can use the Shelby R-model fibreglass Front valance panel or R-Model Plex-I glass rear window or the correct Shelby hood/bonnet. If an eligible Plex-I Glass rear window is used it cannot have any vent holes drilled in it.

Fender flaring is allowed BUT it MUST be kept within the "spirit" of HMC rules. Flares MUST aesthetically suit the vehicle they are on. This is a judgement call which the HMC directors/auditors will rule on. Oversize fender flares will not be allowed just because you have used over-positive outward offset wheel rims. The "Sports Sedan" box flare look were they are usually large and don't match the silhouette of the vehicle is not in the spirit of the HMC rules. Please use common sense when having your vehicle fender flares done or seek advice.

Modifying or tubbing the inside half of the inner rear wheel well is strictly prohibited. Modifying the outer half of the inner wheel well solely for tire clearance in conjunction with fitting of a fender flare is allowed.

Original manufacturer's inner front fenders/guards MUST be fitted, but these can be modified slightly for rollcage through bar clearance and/or fitment of catch tanks, etc

67/8/9 Gen 1 Camaros can use the factory 69 style steel cowl hood/bonnet. NO aftermarket non stock height raised cowl hood/bonnets. 1965/6 Mustangs can use the optional period 65/6 Shelby fibreglass bonnet. 1967/8 Mustangs can use the short style aftermarket 67/8 Shelby fibreglass bonnet.

## **INTERIOR**

The heater box, heater, heater fan and hoses and/or AC unit can be removed, the remaining holes in the firewall MUST be covered and this can be either a plate screwed in place or permanently welded in.

When constructing the roll cage, consideration **MUST** be made when attaching the side intrusion bars so they clear all the inside door window winders, arm rest and other attachments. Original style door panels **MUST** always be fitted, **NO** Aluminium or non-original door panels.

The passenger's area in the vehicle from the seat forward shall retain all visual aspects of a production car, specifically **NO** intrusion into the passenger seat and floor area by the roll cage and its bracing, especially the foot-well area. There should be **NO** impeding of vision through the windscreen.

**NO** Carbon Fibre or Carbon-Fibre look alike material can be used anywhere on any HMC vehicle. Aftermarket gauges with Carbon Fibre print and backing is not allowed.

The original dash padding and attaching frame work **MUST** be retained. The dash frame and dash pad can be modified for roll cage clearance. The instrument panel in front of the driver can be replaced with a fabricated metal panel to hold race style instruments; this will also be allowed on some vehicles that came with centre mounted gauges. The original glove box lid **MUST** be fitted but can be non-operational

The manufacturer's inside door panels, arm rests and the rear seat side panels **MUST** be retained. The original window winders, door handles and arm rests **MUST** remain.

The headlining, rear seat(s) and carpets may be removed. Aluminium or steel mounted foot floor plates can be used on both the driver's and passenger's side.

## **ELECTRICAL**

All the original electrical wiring and components can be removed and the vehicle rewired to operate only the required items (ignition, starter, wipers and head/tail lights). Switches can be mounted in an alternative position, but **MUST** be able to be reached by the driver when strapped into the vehicle.

The battery if not mounted in its original position **MUST** always be mounted in the boot (not inside the drivers/passenger area). The battery type fitted **MUST** be capable of starting the vehicle multiple times without any external assistance.

Indicators, horn and interior lighting (the related operating switches and wiring) are not required and can be removed.

All headlights and tail lights **MUST** be fitted and working, with an operating switch within the reach of the driver when strapped into the vehicle

The **ONLY** electronic device allowed in any HMC vehicle will be the engine's Ignition system, which in most cases will be a MSD or similar unit. In all cases it **MUST** be a single distributor mounted in its original position internally triggering the spark plugs. **NO** crank trigger or multi Ignition coil units.

**NO** in-car intercom systems that will enable the driver to talk to any outside person while racing is allowed.



NO car mounted electronic timing, GPS device or any other electronic monitoring/reporting device that enables the driver to monitor his lap times or plot the actual race track course or otherwise aid his performance is allowed. Only a transponder linked to the official track timing system used on the day is allowed.

## **DRIVERS**

Only the car owner and his immediate family (Mother, Father, Son or Daughter) can race the vehicle at HMC events, any other driver outside this MUST have the prior approval of the HMC directors. If the vehicle owner "Leases" out the vehicle all drivers MUST have the HMC Directors prior approval. The HMC Directors won't accept a vehicle being sold for a nominal amount just so that person can race a vehicle at an HMC event.

**All of the above is to help keep a cost effectiveness and parity in classic racing while giving major consideration to keeping the class historically correct. If you can't find the answers to your questions with the above please E-mail [dmathers@xtra.co.nz](mailto:dmathers@xtra.co.nz) for further definitions and rulings. In all cases when a decision needs to be made this will be undertaken by the HMC Directors and Auditors only.**

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