

# HMC Guidelines and Regulations

## **Statement of Purpose**

***The objective of HMC is to encourage those with Historic Muscle Cars to participate in motor racing where the cars on grid are as close to period correct as possible. Historic racing is about comradeship, enjoyment and the spirit of running a period car. We are not about championships, winning, egos or trophies. It is a class where "the cars are the stars" and we do race but with a respect for others on the circuit. Poor or over exuberant driving will not be tolerated. We are trying to create a safe environment for car owners to bring out their historic cars to enjoy driving them with the knowledge that at the end of the day they can go home unscathed.***

***Our regulations 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 regulations dispute.***

## **CAR ELIGIBILITY**

Please Read the **HMC** Eligibility List.

***All cars that race in HMC must have a MSNZ Schedule T&C/HMC Certificate of Description***

## **ENGINE**

***Note : As of August 2020 all engines in all new builds for HMC from this date must be of the correct size as manufactured for the model of the car that it represents.***

***The reason for this is to come in to line with the historic regulations under MSNZ Schedule T&C which have been recently updated and brought inline with the disciplines in other countries and MSNZ Schedule K.***

***Those cars that have been built to our older regulations prior to this date will still be included in our group but if an engine rebuild is required it is preferred to revert back to the factory sized engines as originally specified for the make and model of your car.***

***There will be no stroked crankshafts allowed as of this date.***

***It is recommended that the maximum you may bore your engine to is '060' thou over bore.***

***Any queries please contact the Eligibility Committee re engine sizes for your model car.***

***Aftermarket 'Dart Little M' or 'Dart SHP' (excluding the Dart SHP Pro) cast iron replacement engine blocks are allowed.***

The engine block deck height (crankshaft centreline to top of block) all must remain the same as what your vehicle came with from the factory. ***(Original Equipment specifications).***

***Dart Eagle Iron heads are allowed but they must meet and comply with the factory OE specifications regarding valve angle and port sizes and all other dimensions.***

***No lightening of engine blocks is allowed.***

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, or non-factory sized crankshafts are permitted.

Aluminium blocks are not allowed. Only ZL1 1969 Camaro's were made with all-aluminium engines. However, they are not eligible for HMC as only **69** were produced and do not meet the rule requiring 100 or more to have been manufactured on a factory production line and sold to the general public.

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 Chevrolet 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 and no welding of the ports are allowed.

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.

***Holden heads for the 308 must be the factory manufactured heads for the period the car represents. No later model 304 Siamese, EFI heads or aftermarket alloy replacement heads are allowed.***

***All heads must be cast iron and any aftermarket cast iron heads must have prior approval of the HMC Eligibility Committee.***

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 the original larger engines as per the old HMC rules and will be required to have a HMC approved limiting chip fitted as below.***

#### **Engine Capacity**

Up to <b>300</b> cu in	No RPM Limit
<b>301</b> to <b>348</b> cu in	7500 RPM
<b>349</b> cu in and above	7000 RPM

***All correct sized engines as per the model of the car will have no RPM limit applied unless the vehicle has an obvious speed advantage then it may be required to be fitted with a RPM limiting chip at the discretion of the HMC Eligibility Committee.***

#### **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.

#### **FUEL SYSTEMS**

Fuel Injection can be used but it must be Mechanical and a 'Period' ***approved unit.***

No electronic fuel injection allowed.

***Fuel Injection on any big block engines is not allowed.***

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 ***for the year the vehicle represents.***

***No under bonnet carburettor air intake trays unless it is a copy of ducting as used in period. Induction systems should technically be as the cars ran in period using carburettors and intake manifolds as available in that era.***

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:**

***Factory Gearboxes recommendations are as follows:***

***General Motors, Muncie M20, M21, M22, Super T10***

***Ford, Toploader, Super T10***

***Mopar, A833, New Process, Super T10***

***AMC, Super T10***

***Holden, Holden M20, M21, (Torana, Super T10)***

***The only replacement gearbox allowed in lieu of the original factory gearboxes are the following, Jerico for Ford/Mopar or Tex101 for Chevrolet/Holden but it must be a Direct Bolt in Replacement.***

***All replacement gearboxes must have the same number of gears as the original it is replacing and be of a historic 'H' shift pattern***

***No adaptations or other gearboxes are allowed.***

No Hollinger, Saenz or sequential gearboxes types are allowed.

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 tail shaft with exposed linkages attached to side levers on the gearbox, this style must remain.

Aftermarket shifter boots and levers are allowed but ***no sequential shifters.***

For the ease of fitment of a Jerico or Tex101/G-force Transmission/gearbox - alternative aftermarket bell housings 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 bell housing must accommodate the manufacturer's original flywheel/flex plate size.

No small flywheel or reverse mount starter bell housings are allowed.

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

**DIFF AND REAR END:**

***It is recommended that all diffs preferably be from the same manufacturer that your car represents. ie Ford diff for a Ford car, Chevrolet diff for a Chevrolet car, etc.***

***Any issues please contact the Eligibility Committee.***

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/SCCA 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". 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:**

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.

**All wheels must be of a classic design which best represents the period/era of the car.**

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

#### **BRAKES:**

The maximum Front Disc rotor dimensions are 12.25" (315mm) X 1.3/8" (35mm) thick.

Rear rotor diameter and thickness is free.

**You can use a two piece steel rotor with an aluminium hat.**

Brake callipers must be either the original factory supplied Corvette **J56** calliper for a Chevrolet or a Thunderbird/**Lincoln/Kelsey Hayes** calliper for a Ford

Aftermarket replacement brake callipers are allowed but must be of a 'Historic, bolt together, 2 piece, lug mount' design and have a maximum of four (4) pistons per calliper, per wheel and be sand cast aluminium or steel/iron but cannot be of modern design **or materials.**

The body of a two piece bolt together brake calliper must be, when bolted together, have no other material or spacers holding the two bodies apart, eg Wilwood GT6000 and Outlaw 3000/4000, are not compliant.

#### **The list of recommended replacement callipers are as follows:**

1. **Wilwood** GN III 6 Piston (Grand National) Please note: While this callipers was previously allowed the calliper is now obsolete and **will need to** be replaced by a 4 piston calliper when due for replacement. The new GNR replacement calliper with additional bracket is not allowed
2. **Wilwood** Superlite 4 piston (Superlite 6 not allowed)
3. **Wilwood** 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 **historic** range allowed.
6. **Historic 4 ( this is a 4 piston replacement and the only billet aluminium calliper allowed)**

There are others that may comply so please ask the **HMC Eligibility Committee for a ruling..**

A swing style brake pedal, firewall forward mounted master cylinder pedal box system is allowed as they were used in period.

The master cylinder fluid reservoirs must remain directly mounted to the master cylinder/cylinders on the firewall. **No in car mounting allowed.**

No reverse mount, floor mounted pedal box systems and remote reservoirs are allowed.

Any master cylinder bore size is allowed.

**NOTE : all cars manufactured with front or rear drum brakes, these should be retained unless the model was manufactured or homologated with disc brakes. If in doubt, ask. Again this is to bring inline with the historic regulation but mainly affects pre 1967 cars.**

Any Handbrake Parking device and its components can be removed.

## **SUSPENSION, STEERING**

Most vehicles on the HMC eligibility list came with a factory Worm and Peg manual steering box. This can be replaced with the **factory** Worm and Peg power steering box, but it must be mounted in the same position as the original.

This also apply to manual Rack and Pinion steering.

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

Removable Steering Wheels are allowed.

### ***Electric power steering units are not 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 Camaro's 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.

Note : 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**

All vehicles 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 and **aluminium** panels, bolt on flares and others, these items are only allowable if the Manufacturer produced 100 or more vehicles **and is representative of that actual model of the car and engine combination.**

A example of this is the flares and scoops on an A9X Torana hatchback, as 101 vehicles were made, the fitment of this component is allowed on a Torana.

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 **if required** 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 and comply with Schedule A, MSNZ Manual

Perspex or Plexiglas is only allowed in the rear window.  
The rear window must be **4.5mm** 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 period aftermarket quick release style clip pins or rubber/spring loaded external holding clips.

Only 1965/6 Mustang Coupes can use the Shelby R-model fibreglass Front valance panel or the correct Shelby hood/bonnet.

Fender flaring is allowed but it must be kept within the spirit **of these regulations**.

Flares must aesthetically suit the vehicle they are on.

This is a judgement call which the Eligibility **Committee** will rule on.

Oversize fender flares and Sports Sedan/Schedule E box flares are not allowed.

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 roll cage through bar clearance and/or fitment of catch tanks, etc

**Only 1969 Camaro's can use the factory 69 style steel cowl hood/bonnet.**

**The 67/8 Camaro's should only use the correct flat or SS/RS bonnet.**

**XA/XB/XC Falcon Coupes must use the correct factory bonnets for the actual model.**

**No XC bonnet scoop or rear boot spoiler are allowed on a XA/XB.**

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 **period** 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 and carpets may be removed but it is recommended that the rear seat be replaced with an upholstered cover or the rear seat retained.***

Aluminium or steel mounted foot floor plates can be used on both the driver's and passenger's side.

***It is important to keep the interior of the car looking as factory period as possible.***

## **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 **6AL** 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 computer aided electronic ignition systems are allowed.***

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.

## **REPLACEMENT PARTS DUE TO UNAVAILABILITY**

***If you have a part that you are unable to replace due to non manufacture and/or scarcity please advise the Eligibility Committee and they will approve a suitable period or similar replacement part and add to the regulations as being allowable.***

***Please note that if a part is found to be available regardless of cost it will not be changed.***

## **GENERAL**

Only the car owner and their immediate family (Mother, Father, Son or Daughter) can race the vehicle at **NZHM&SC Inc event**.

If the vehicle owner Leases out the vehicle all drivers must have prior approval to race.

We will not allow a vehicle being sold for a nominal amount just so that person can race a vehicle at **one of our events**

***All drivers must complete the Driver Registration Form and be a NZHM&SC Inc financial member.***

***It is important that the car is representative of the make, model and year as declared in your Certificate of Description so that it is historically correct. Any alterations must be approved and be in keeping with our philosophy as per MSNZ Appendix 6.***

***NZHM&SC Inc are an invite only organisation and prior approval of the driver and the car must be sort before joining our group.***

***We are here to help and if you do have any queries or questions please ask by contacting one of our Committee Members.***

Last updated August 2020