

# Historic Muscle Cars



## Appendix 6 – Schedule T&C, Modified Saloon, Group 2

### APPROVED VEHICLE SPECIFICATION

This form details the approved specifications or individual vehicle models for Historic competition, Section 5 Schedule T&C, Group 2 Historic Saloon car. To be issued with a COD, cars need to comply with these specifications, the physical appearance shown in the illustrations and the general historic rules as detailed in the current MSNZ Manual of Motorsport.

<b>Make and Model of Car:</b>	Chevrolet Camaro
<b>Period of Original Manufacture:</b>	1967 to 1968
<b>MSNZ Historic Group:</b>	Saloon Group 2
<b>Date of Issue of this document:</b>	July 2018



Refer to MSNZ Manual of Motorsport, Vehicle Eligibility, Historic Saloon Cars, General Regulations & Appendix 6 Regulations for permitted modifications.

## **SECTION 1 – CHASSIS**

### ***1.1 CHASSIS FRAME***

<b>Description:</b>	Uni Body, Two door coupe with sub frame
<b>Period of Manufacture:</b>	September 1966 to December 1968
<b>Manufacture:</b>	Chevrolet
<b>Chassis number from:</b>	N100001 - 300001
<b>Chassis Number Location:</b>	Left hand side or dash
<b>Material:</b>	Steel

#### **COMMENTS:**

None

### ***1.2 FRONT SUSPENSION***

<b>Description:</b>	Independent wishbones
<b>Spring Medium:</b>	Coil
<b>Damper Type:</b>	Telescopic
<b>Anti-Sway bar:</b>	Fitted
<b>Suspension Adjustment:</b>	Shims for caster & camber, tie rod for toe

#### **COMMENTS:**

Original wishbones must be used, these can be strengthened and modified but must retain their original form. Suspension pick up points may be moved by up to 30mm. Bushing material can be replaced and offset upper inner pivot shafts approved. Springs must be correct for the period and the type and location unchanged. Shock absorbers must be of appropriate period type and the use of original mounts, but spherical bearing ends are approved, they may not utilize external gas/fluid reservoirs and/or canisters. Outer Ball Joints must remain. Aftermarket conventional type sway bar with adjustable end links maybe fitted, IE, made of solid steel bar bent to shape. Diameter of sway bar is free. Hollow Sway Bars are not permitted.

### ***1.3 REAR SUSPENSION***

<b>Description:</b>	Live rear axle
<b>Spring Medium:</b>	Semi-elliptical leaf
<b>Damper Type:</b>	Telescopic
<b>Damper Adjustable:</b>	No
<b>Anti-Sway bar:</b>	Fitted
<b>Anti-Sway bar adjustable:</b>	No
<b>Suspension Adjustable:</b>	Yes
<b>Method:</b>	Spring height/lowering blocks

#### **COMMENTS:**

Springs must be correct for the period and the type and location are unchanged. Shock absorbers must be of the appropriate period and use the original mounts but spherical ends are allowed. They may not utilize external gas/fluid reservoirs and/or canisters. Aftermarket conventional type sway bar with adjustable end links maybe fitted, IE, made of solid steel bar bent to shape. A Panhard rod or Watts linkage using spherical rod ends may be employed. Additional control arms may be fitted but in doing so, the original components must remain functional. The original axle and suspension must not be overridden.

### ***1.4 STEERING***

**Type:** Recirculating ball and nut  
**Make:** GM Saginaw only

#### **COMMENTS:**

GM Saginaw power steering box approved. Tie rod ends may be changed to spherical bearing rod ends. The use of a support sleeve over the stub axle spindle is approved.

### ***1.5 BRAKES, FRONT***

**Make:** GM  
**Type:** Disc, vented rotor  
**Dimensions:** 25.4mm X 282mm  
**Disc Material:** Cast iron  
**Caliper Make:** GM, Delco Moran  
**Caliper Type:** Two piece bolt together fixed lug mount  
**Caliper Material:** Cast iron  
**Caliper Pistons per wheel:** Four  
**Actuation:** Hydraulic  
**Master Cylinder Make:** GM Tandem  
**Adjustable Bias:** No  
**Brake Booster Servo:** GM

#### **COMMENTS:**

Replacement calipers of a 4 pot, two piece bolt together fixed lug mount design of Steel or Aluminium are approved. Replacement disc rotor assemblies with those of a two or three-piece curve vain vented construction design with a similar appearance and material is permitted. Rotors and can be floating but must be a maximum size of 315mm(12.40 inches) X 35 mm(1.38 inches). Non-standard pedal boxes are permitted provided the original pedal location, pendulum & configuration is maintained. Master cylinders with reservoir must remain firewall mounted.

### ***1.6 BRAKES, REAR***

**Type:** Drum or optional disc  
**Dimensions:** Original 50mm X 241mm Drums  
**Disc or Drum Material:** Cast Iron  
**Caliper Make:** GM, Delco Corvette  
**Caliper Type:** Two Piece Bolt Together Fixed Lug Mount  
**Caliper Material:** Cast Iron  
**Caliper Pistons:** Four

#### **COMMENTS:**

Replacement disc rotor assemblies with those of a two or three-piece curve vain construction of a similar appearance and material is permitted but must be a maximum size of 315mm(12.40 inches) X 35mm(1.38 inches) and can be floating. Replacement 4 piston calipers of a two piece bolt together fixed lug mount design of steel or aluminium approved.

## **SECTION 2 – ENGINE**

### ***2.1 ENGINE***

<b>Make:</b>	Chevrolet
<b>Model:</b>	Small and Big Block
<b>No. cylinders:</b>	Eight
<b>Configuration:</b>	Vee
<b>Cylinder Block Material:</b>	Cast Iron
<b>Two/Four Stroke:</b>	Four
<b>SB Bore – Original:</b>	101.6 mm or 4 inches
<b>BB Bore – Original:</b>	104.0 mm or 4.094 inches
<b>SB Stroke – Original:</b>	88.392 mm or 3.50 inches
<b>BB Stroke – Original:</b>	95.5 mm or 3.760 inches
<b>Capacity – Original:</b>	Small Block 5733cc or 350ci. Big Block 6500cc or 396ci
<b>Cooling Method:</b>	Fluid
<b>Identifying marks:</b>	Casting numbers, refer GM Manufactures specifications

#### **COMMENTS:**

**Small Block:** Aftermarket cast iron engine blocks allowed. Block deck height, camshaft tunnel size and placement must remain as per factory. Maximum over bore of 030 inches (0.762mm) or 060 inches (1.524mm) allowed. Crankshaft stroke must remain standard.

**Big Block:** Aftermarket replacement cast iron block allowed but must be to original factory GM manufactures specification. Block deck height, camshaft tunnel size and placement must remain as factory standard. Maximum over bore of 030 inches (0.762mm) or 060 inches (1.524mm) allowed. Crankshaft stroke must remain standard.

### ***2.2 CYLINDER HEAD***

<b>Make:</b>	GM
<b>No. of valves/cylinder - inlet:</b>	One
<b>No. of valves/cylinder – exhaust</b>	One
<b>Total no. of ports – inlet</b>	Four
<b>Total no. of ports – outlet</b>	Four
<b>No. of Camshafts:</b>	One
<b>Camshaft Location:</b>	In Block
<b>Camshaft Drive:</b>	Chain
<b>Valve actuation:</b>	Pushrods and Rockers
<b>Spark Plugs/Cylinder:</b>	One
<b>Identifying marks:</b>	Refer to Manufacture

#### **COMMENTS:**

**Small Block:** Aftermarket replacement Cast iron cylinders are approved but must remain the GM manufactures 23 degree valve angle

**Big Block:** Aftermarket cast iron cylinder heads are approved but must remain the factory style 26-degree intake valves canted 4 degrees, and 17 degree exhaust valves canted 4 degrees. Approved aftermarket factory aluminium GM Bowtie oval or rectangle port cylinder heads can be used.

### **2.3 LUBRICATION**

**Method:** Wet Sump  
**Oil Cooler Standard:** No

#### **COMMENTS:**

Aftermarket front pulley driven belt drive block mounted dry sump pump system approved. Dry sump tank mounting must be in engine bay, cockpit behind drivers/passengers seat or in boot. Oil Cooler approved. **Please Note:** Dailey dry sump/billet pan mounted pump systems not allowed.

### **2.4 IGNITION SYSTEM**

**Type:** Coil and Distributor  
**Make:** Delco Remy

#### **COMMENTS:**

Aftermarket MSD style ignition approved but must remain with an operating distributor and single coil.

### **2.5 FUEL SYSTEM**

**Carburettor Make and Model:** Rochester Quadrajet, Holley 1450/60 Series  
**Carburettor number:** One and/or two  
**Pump:** AC Delco Mechanical

#### **COMMENTS:**

Mechanical fuel injection and multiple carburettors approved but must always fit under the standard production bonnet without modification. Boot mounted electric fuel pump approved.

## **SECTION 3 - TRANSMISSION**

### **3.1 CLUTCH**

**Make:** GM  
**Type:** Diaphragm  
**Diameter** 280mm  
**No of Plates:** One  
**Actuation:** Mechanical/Levers

#### **COMMENTS:**

Hydraulically operated multi plate race clutch approved.

### **3.2 TRANSMISSION**

**Type:** Synchro-mesh  
**Make:** GM Muncie M20, M21 and M22 models  
**Gearbox Location:** Behind Engine  
**No. forward speeds:** Four  
**Gear change type and location:** Remote on floor  
**Case Material:** Aluminium

#### **COMMENTS:**

Replacement Jerico WC4-4 and/or Tex G-Force 101 gearbox approval but must be used with a tail-housing external mounted shifter unit with shifter linkages running forward alongside gearbox to side levers.

### **3.3 FINAL DRIVE**

<b>Make :</b>	GM
<b>Model:</b>	10 bolt or 12 bolt
<b>Wheel Drive Method:</b>	Rear
<b>Ratios:</b>	Various
<b>Differential:</b>	LSD
<b>Type:</b>	Live Rear Axle

#### **COMMENTS:**

Full Floating Hub Ends with zero camber are approved. Ratios are free, limited slip permitted.

### **3.4 TRANSMISSION SHAFTS (EXPOSED)**

<b>Number</b>	One
<b>Description:</b>	One piece open tailshaft

#### **COMMENTS:**

Two piece steel driveshaft with centre hanger and one piece aluminium driveshaft approved

### **3.5 WHEELS AND TYRES**

<b>Wheel type – Original:</b>	Disc
<b>Material – Original:</b>	Steel
<b>Fixture Method:</b>	Studs
<b>No. of stubs:</b>	Five
<b>Original Wheel Diameter:</b>	14 inch
<b>Original Rim Width:</b>	6 inch
<b>Tyres allowed:</b>	50% Minimum aspect ratio, Refer to Appendix 6 tyre rules

#### **COMMENTS:**

Maximum allowed wheel diameter 15 inches. Maximum allowed rim width 10 inches.

### **4.1 FUEL SYSTEM**

<b>Make:</b>	GM
<b>Tank Location:</b>	Boot Floor
<b>Capacity:</b>	68 Litres
<b>Fuel Pump type and location:</b>	Mechanical on engine block

#### **COMMENTS**

Boot mounted fuel cell fitment approved. Electric fuel pump approved.

### **4.2 ELECTRICAL SYSTEM**

<b>Voltage:</b>	12
<b>Alternator:</b>	Fitted
<b>Battery Location:</b>	Engine bay

#### **COMMENTS**

Boot mounted battery approved. Battery cannot be mounted inside cockpit. Headlights, tail-lights and brake lights must be fitted and working. Side marker and indicator lamps can be removed and holes filled.

### **4.3 BODYWORK/INTERIOR**

<b>Type:</b>	Coupe
<b>Material:</b>	Steel
<b>No of Seats:</b>	Four
<b>No of Doors:</b>	Two
<b>Spoilers Front:</b>	Factory
<b>Spoilers Rear:</b>	Factory
<b>Hood Scoop:</b>	None

#### **COMMENTS**

Aftermarket flares are not allowed. Any part of the wheel arch/wing pressing folded into the wheel arch, may be deformed, but not removed. This is to give clearance to the tyres but the outside appearance must remain original.

Two front seats must be fitted. Headlining and Carpet can be removed. Rear Seat can be removed, but a rear seat look-alike cover must be fitted in its place. Aftermarket dash gauges with the look of the period are approved. Glazing and its operation must remain. Rear window can be replaced with approved Perspex/Plexiglas, vent holes are not approved.

Fibreglass or Carbon panels not approved unless factory. Homologated Flared Guards and lightweight panels are not approved. Manufactures standard production spoilers and bonnet scoops made from the original material approved. 69 Camaro Cowl bonnet can be used.

PLEASE SEE NOTES: Rollcage construction side intrusion bars.



### **4.4 DIMENSIONS**

<b>Track – Front:</b>	1498.6 mm
<b>Track – Rear:</b>	1496.0 mm
<b>Wheelbase:</b>	2743.2 mm
<b>Overall Length:</b>	4691.4 mm
<b>Curb Weight:</b>	1435 KG's

### **4.5 SAFETY EQUIPMENT**

See MSNZ Appendix Six – Schedule AA and Appendix Two - Schedule A.

#### **COMMENTS**

**NOTES:** When constructing the rollcage side intrusion bars it is important to allow clearance for fitment of inside door arm rests, window winders and door opening handles.

#### ***4.6 ADDITIONAL COMMENTS***

If you are unsure of eligibility or the approved replacement components and/or other technical issues for the above vehicle please contact the MSNZ Historic Commission. Their details can be found on [www.motorsport.org.nz](http://www.motorsport.org.nz)