

5TH CATEGORY - HISTORIC RACING
GROUP N
 APPROVED VEHICLE SPECIFICATION

This form details the approved specifications of individual vehicle models in the 5th Category Historic car group. To be issued with an Historic Log Book, cars need to comply with these specifications, the physical appearance shown in the illustrations and the general historic rules as detailed in the current Motorsport Australia Manual.

Make of Car:	Valiant Charger	Model:	VH Charger Hemi 215
			VH Charger XL Hemi 245
			VH Charger R/T E37 Hemi 265
			VH Charger R/T E38 Hemi 265
			VH Charger R/T E48 Hemi 265
			VH Charger R/T E49 Hemi 265
Period of Original Manufacture:	July 1971 – March 1973		
Motorsport Australia Historic Group:	Nc		
Date of Issue of this Document:	1 January 2024		



Refer to The *Manual*, Historic Appendix, Vehicle Eligibility, General Requirements & Historic Touring Cars Group N Regulations for permitted modifications.

Update Log

1/1/2024	Inclusion of kerb and minimum racing weights

1. - CHASSIS

1.1. CHASSIS

Description:	Unitary
Period of Manufacture:	June 1972 to March 1973
Manufacturer:	Chrysler Australia
Chassis Number From:	VH7S29**** Chassis D364C (C-1972, D-1973)
Chassis Number location:	RHS Firewall
Material:	Steel
Comments	None

1.2. FRONT SUSPENSION

Description:	Independent with torsion bar		
Spring Medium:	Torsion bar		
Damper Type:	Telescopic	Adjustable:	No
Anti-sway bar:	Yes	Adjustable:	No
Suspension adjustable:	Yes	Method:	Caster, camber and toe, spring height
Comments:	None		

1.3. REAR SUSPENSION

Description:	Semi elliptic Hotchkiss		
Spring Medium:	Semi elliptic leaf		
Damper Type:	Telescopic	Adjustable:	No
Anti-sway bar:	No	Adjustable:	N/A
Suspension adjustable:	Yes	Method:	Spring height
Comments:	None		

1.4. STEERING

Type:	Recirculating ball	Make:	Chrysler
Comments	16:1 ratio available in R/T E37 and R/T E49 models with: * A84 option * A87 option		

1.5. BRAKES

	Front	Rear
Type:	Disc, ventilated	Drum
Dimensions:	280 mm x 22.3 mm	229 mm x 58 mm
Material of drum/disc:	Cast iron	Cast iron
No. cylinders/pots per wheel:	Two	Two
Actuation:	Hydraulic	Hydraulic
Caliper make:	Girlock	
Caliper type:	Floating	
Material:	Cast iron	
Master cylinder make:	Girlock	
Type:	Tandem	
Adjustable bias:	No	
Servo Fitted:	Yes	
Comments:	None	

2. - ENGINE

2.1. ENGINE

A. Hemi 215

Make:	Chrysler		
Model:	Hemi 215		
No. cylinders:	Six	Configuration:	Four
Cylinder Block-material:	Cast iron	Two/Four Stroke:	Four
Bore - Original:	89.4 mm	Max allowed:	90.9 mm
Stroke - original:	93.47 mm	Max allowed:	93.47 mm
Capacity - original:	3520 cc	Max allowed:	3637 cc
Identifying marks:	Next to distributor "D" prefix. Second Digit - size 1 215 2 245 3 265 Third Digit – performance level: 1 Low Compression 2 Standard Performance (1 BBL) 3 High Performance (2 BBL) 4 Premium Performance (Pacer, R/T & 770) 5 Six Pack (E37 & E48) 6 Six Pack (E38 & E49) Fourth Digit - gearbox 1 Auto 3 3 speed manual 4 4 speed manual Fifth Digit - year of manufacture: A 1970 B 1971 C 1972		
Cooling method:	Liquid		
Comments:	None		

2.2. CYLINDER HEAD

Make:	Chrysler		
No. of valves/cylinder:	Two	Inlet: One	Exhaust: One
No. of ports total:	Twelve	inlet: Six	Exhaust: Six
No. of camshafts:	One	Location: Block	Drive: Chain
Valve actuation:	Pushrod and rocker		
Spark plugs/cylinder:	One		
Identifying marks:	N/A		
Comments:	None		

2.3. LUBRICATION

Method:	Wet sump	Oil tank location:	N/A
Dry sump pump type:	N/A	Location:	N/A
Oil cooler standard:	No	Location:	N/A
Comments:	External single stage, wet, belt driven oil pump allowed. Refer Appendix A.		

2.4. IGNITION SYSTEM

Type:	Points, distributor & coil
Make:	Optional
Comments	Breakerless electronic ignition permitted

2.5. FUEL SYSTEM

Carburettor Make:	Carter	Model:	RBS
Carburettor Number:	One		
Size:	Single barrel downdraught		
Fuel injection Make:	N/A	Type:	N/A
Supercharged:	No	Type:	N/A
Comments:	None		

SECTION 2 - ENGINE

2.1. ENGINE

B. Hemi 245

Make:	Chrysler		
Model:	Hemi 245		
No. cylinders:	Six	Configuration:	In line
Cylinder Block-material:	Cast iron	Two/Four Stroke:	Four
Bore - Original:	95.5 mm	Max allowed:	97.00 mm
Stroke - original:	93.47 mm	Max allowed:	93.47 mm
Capacity - original:	4015 cc	Max allowed:	4142 cc
Identifying marks:	Next to distributor "D" prefix. Second Digit - size 1 215 2 245 3 265 Third Digit – performance level: 1 Low Compression 2 Standard Performance (1 BBL) 3 High Performance (2 BBL) 4 Premium Performance (Pacer, R/T & 770) 5 Six Pack (E37 & E48) 6 Six Pack (E38 & E49) Fourth Digit - gearbox 1 Auto 3 3 speed manual 4 4 speed manual Fifth Digit - year of manufacture: A 1970 B 1971 C 1972		
Cooling method:	Liquid		
Comments:	External single stage, wet, belt driven oil pump allowed. Refer Appendix A.		

2.2. CYLINDER HEAD

Make:	Chrysler		
No. of valves/cylinder:	Two	Inlet:	One
		Exhaust:	One
No. of ports total:	Twelve	inlet:	Six
		Exhaust:	Six
No. of camshafts:	One	Location:	Block
		Drive:	Chain
Valve actuation:	Pushrod and rocker		
Spark plugs/cylinder:	One		
Identifying marks:	N/A		
Comments:	None		

2.3. LUBRICATION

Method:	Wet sump	Oil tank location:	N/A
Dry sump pump type:	N/A	Location:	N/A
Oil cooler standard:	No	Location:	N/A
Comments:	External single stage, wet, belt driven oil pump allowed. Refer Appendix A.		

2.4. IGNITION SYSTEM

Type:	Points, distributor & coil
Make:	Optional
Comments	Breakerless electronic ignition permitted

2.5. FUEL SYSTEM

Carburettor Make:	Carter	Model:	RBS
Carburettor Number:	One		
Size:	Single barrel downdraught		
Fuel injection Make:	N/A	Type:	N/A
Supercharged:	No	Type:	N/A
Comments:	None		

SECTION 2 - ENGINE

2.1. ENGINE

C. Hemi 265

Make:	Chrysler		
Model:	Hemi 265		
No. cylinders:	Six	Configuration:	In line
Cylinder Block-material:	Cast iron	Two/Four Stroke:	Four
Bore - Original:	99.3 mm	Max allowed:	100.8 mm
Stroke - original:	93.47 mm	Max allowed:	93.47 mm
Capacity - original:	4340 cc	Max allowed:	4474 cc
Identifying marks:	Next to distributor "D" prefix. Second Digit - size 1 215 2 245 3 265 Third Digit – performance level: 1 Low Compression 2 Standard Performance (1 BBL) 3 High Performance (2 BBL) 4 Premium Performance (Pacer, R/T & 770) 5 Six Pack (E37 & E48) 6 Six Pack (E38 & E49) Fourth Digit - gearbox 1 Auto 3 3 speed manual 4 4 speed manual Fifth Digit - year of manufacture: A 1970 B 1971 C 1972		
Cooling method:	Liquid		
Comments:	Engine fitted to R/T 37, R/T 38, R/T 48, and R/T 49		

2.2. CYLINDER HEAD

Make:	Chrysler		
No. of valves/cylinder:	Two	Inlet:	One
No. of ports total:	Twelve	inlet:	Six
No. of camshafts:	One	Location:	Block
Valve actuation:	Pushrod and rocker		
Spark plugs/cylinder:	One		
Identifying marks:	N/A		
Comments:	None		

2.3. LUBRICATION

Method:	Wet sump	Oil tank location:	N/A
Dry sump pump type:	N/A	Location:	N/A
Oil cooler standard:	No	Location:	N/A
Comments:	External single stage, wet, belt driven oil pump allowed. Refer Appendix A.		

2.4. IGNITION SYSTEM

Type:	Points, distributor & coil		
Make:	Optional		
Comments	Breakerless electronic ignition permitted		

2.5. FUEL SYSTEM

Carburettor Make:	Carter	Model:	2V
Carburettor Make:	Weber	Model:	45 DCOE
Carburettor Number:	One *		
Size:	Two barrel downdraught *		
Fuel injection Make:	N/A	Type:	N/A
Supercharged:	No	Type:	N/A
Comments:	* R/T 37, R/T 38, R/T 48 and R/T 49 used three Weber 45 DCOE dual-throat carburettors		

SECTION 2 - TRANSMISSION

2.1. CLUTCH

Make:	Borg and Beck
Type:	Diaphragm
Diameter:	241 mm
No. of Plates:	One *
Actuation:	Hydraulic
Comments:	R/T 37, R/T 38, and R/T 49 used twin plate 228.6 mm clutch plates

2.2. TRANSMISSION

Type:	Syncromesh
Make:	Borg Warner
Gearbox location:	Behind engine
No. forward speeds:	Three speed Four speed
Gearchange type and location:	H pattern – central location <ul style="list-style-type: none"> • three speed – D12 option. • four speed – D20 option.
Case material:	Cast iron casing, aluminium tailhousing
Identifying marks:	N/A
Comments:	R/T 37, R/T 38 used three speed – D12 option. R/T 48 and R/T 49 used four speed – D20 option.

2.3. FINAL DRIVE

Make:	Borg Warner	Model:	Sure Grip
Type:	Live rear axle		
Ratios:	Various		
Differential type:	Semi floating hypoid		
Comments:	R/T 49 <ul style="list-style-type: none"> * D53 Option – Sure Grip 3.23 Rear Axle Ratio * D56 Option – Sure Grip 3.50 Rear Axle Ratio 		

2.4. TRANSMISSION SHAFTS (EXPOSED)

Number:	One
Location:	Gearbox to final drive
Description:	Open tail shaft with twin uni joints
Comments:	None

2.5. WHEELS & TYRES

Wheel type - Original:	Steel Alloy *	Material - Original:	Steel Alloy *
Wheel type - Allowed:	Steel Alloy (period style)	Material - Allowed:	Steel Alloy
Fixture method:	Stud and nut	No. studs:	Five
Wheel dia. & rim width	FRONT		REAR
Original:	6.5" x 14" 7" x 14" *		6.5" x 14" 7" x 14" *
Allowed	8" x 15"		7" x 14"
Tyre Section:			
Allowed:	Refer approved tyre list.		
Aspect ratio - minimum:	60% minimum aspect ratio.		
Comments:	* For R/T 37, R/T 38, R/T 48 and R/T 49 * Option A84 for R/T E49		

SECTION 3 GENERAL

3.1. FUEL SYSTEM

Tank Location:	Under boot floor	Capacity:	86 litres *
Fuel pump, type:	Electrical	Make:	Holley
Comments:	* R/T 48 and R/T 49 had 160 litre tanks – E48 option. * R.T 49 had A84 option – twin filler caps, mounted on rear quarter panels		

3.2. ELECTRICAL SYSTEM

Voltage:	12	Alternator fitted:	Alternator
Battery Location:	Engine bay		
Comments:	None		

3.3. BODYWORK

Type:	Coupe	Material:	Steel
No. of seats:	Five	No. doors:	Two
Comments:	All R/T models have a blacked-out grille. All R/T models have decals: <ul style="list-style-type: none"> • "HEMI 265" on bonnet • "HEMI 265" on rear quarter panel • Large "R/T" on the bonnet • Small "R/T" on the front guards and rear tail panel • "Hemi 6 Pack" on the Rear Quarter Panel • Stripe across read of front fender (bumble bee stripe) • A number "4" on the bumble bee stripe indicates that it is an E49 – 4 Speed equipped - – included with A66 Hood and Fender Dress-up package 		

3.4. DIMENSIONS

Track - Front:	1519 mm	Rear:	1530 mm
Wheelbase:	2070 mm	Overall length:	4570 mm
Approved Manufacturer's kerb weight:	1352 kgs		
Approved minimum racing weight:	1325 kgs		
Comments:	None		

3.5. SAFETY EQUIPMENT

Refer applicable Group Regulations

Appendix A

External oil pump

Three options of pump brands permitted, Johnson, Moroso and SCP.

The pumps are to be external single stage, wet, belt driven pump.

Maximum width of belt is to be 25mm.

Maximum width of rotor / gear on pump is 1.1 inches.

Mounting is to be below the horizontal centreline of the water pump.

Piping / Plumbing to be a maximum size of dash 12.

One hose in and one hose out of pump, single pick up, single return, can be via oil cooler / filter.

Pipes connected to the pump must be black in colour.