



**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	Model:	VG Pacer	Hemi 245
			VH Pacer	Hemi 265
			VH Pacer	Hemi 265
Period of Original Manufacture:	1968 - 1971			
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 construction		
Period of Manufacture:	1968 - 1971		
Manufacturer:	Chrysler Australia		
Chassis Number From:	VG7S23 or VG7S41 VH7S29**** Chassis D364C (C-1972, D-1973)		
Chassis Number location:	RHS Firewall		
Material:	Steel		
Comments	None		

1.2. FRONT SUSPENSION

Description:	Independent - upper wishbone & lower arm with castor rod		
Spring Medium:	Torsion bar		
Damper Type:	Telescopic	Adjustable:	No
Anti-sway bar:	Yes	Adjustable:	No
Suspension adjustable:	Yes	Method:	Caster, camber and toe
Comments:	Refer to Appendix A		

1.3. REAR SUSPENSION

Description:	Semi elliptic Hotchkiss		
Spring Medium:	Semi elliptical leaf		
Damper Type:	Telescopic	Adjustable:	No
Anti-sway bar:	No	Adjustable:	N/A
Suspension adjustable:	No	Method:	N/A
Comments:	Refer to Appendix A		

1.4. STEERING

Type:	Recirculating ball	Make:	Chrysler
Comments	None		

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	

SECTION 2 - - ENGINE

1.1. ENGINE

A. 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:	Engine fitted to VH. External single stage, wet, belt driven oil pump allowed. Refer Appendix A.		

1.2. 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		

1.3. 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.		

1.4. IGNITION SYSTEM

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

1.5. FUEL SYSTEM

Carburettor Make:	Carter	Model:	2 or 4 Barrel
Carburettor Number:	One		
Size:	Various		
Fuel injection Make:	N/A	Type:	N/A
Supercharged:	No	Type:	N/A
Comments:	E34 option – 4 barrel E35 option – 4 Barrel		

SECTION 2 - ENGINE

1.6. ENGINE

B. 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 VH. External single stage, wet, belt driven oil pump allowed. Refer Appendix A.		

1.7. 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		

1.8. 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.		

1.9. IGNITION SYSTEM

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

1.1. FUEL SYSTEM

Carburettor Make:	Carter	Model:	2 or 4 Barrel AVS
Carburettor Number:	One		
Size:	Various		
Fuel injection Make:	N/A	Type:	N/A
Supercharged:	No	Type:	N/A
Comments:	E34 option – 4 barrel E35 option – 4 Barrel		

SECTION 3 - TRANSMISSION

3.1. CLUTCH

Make:	Borg and Beck
Type:	Diaphragm
Diameter:	235 mm
No. of Plates:	One *
Actuation:	Mechanical
Comments:	VH with A84 track pack used twin plate 228.6 mm clutch plates

3.2. TRANSMISSION

Type:	Borg Warner
Make:	Three speed
Gearbox location:	Behind engine
No. forward speeds:	Three or Four
Gearchange type and location:	H pattern – central location
Case material:	Cast iron casing, aluminium tailhousing
Identifying marks:	N/A
Comments:	None

3.3. FINAL DRIVE

Make:	Borg Warner	Model:	Sure Grip
Type:	Live rear axle		
Ratios:	Various		
Differential type:	Semi floating hypoid		
Comments:	None		

3.4. TRANSMISSION SHAFTS (EXPOSED)

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

3.5. WHEELS & TYRES

Wheel type - Original:	Steel – Sports style Alloy	Material - Original:	Steel Alloy (Period)
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:	5.5" x 14"		5.5" x 14"
Allowed	8" x 14"		8" x 14"
Tyre Section:			
Allowed:	Refer approved tyre list.		
Aspect ratio - minimum:	60% minimum aspect ratio.		
Comments:	None		

SECTION 4 GENERAL

4.1. FUEL SYSTEM

Tank Location:	Under boot floor	Capacity:	86 litres
Fuel pump, type:	Electrical	Make:	Holley
Comments:	None		

4.2. ELECTRICAL SYSTEM

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

4.3. BODYWORK

Type:	VG - Coupe or Sedan VH - Sedan	Material:	Steel
No. of seats:	Five	No. doors:	VG - Two or Four VH – Four
Comments:	<p>VG and VH 245 models have red and black grille.</p> <p>VG and VH 245 models have decals:</p> <ul style="list-style-type: none"> • "245 PACER HEMI" on the bonnet • body stripe from rear to middle of front door <p>All VH 265 models have decals:</p> <ul style="list-style-type: none"> • 'HEMI 265' qtr-panel • 1 x 'HEMI-PACER' beaver panel • 1 x 'HEMI 265' (bonnet) decal • "HEMI 265" on rear quarter panel • Black stripes – Option codes A88/A84 - across top of boot and top of rear 		

4.4. DIMENSIONS

Track - Front:	1519 mm	Rear:	1530 mm
Wheelbase:	2070 mm	Overall length:	4570 mm
Approved Manufacturer's kerb weight:	1311 kgs		
Approved minimum racing weight:	1285 kgs		
Comments:	None		

4.5. SAFETY EQUIPMENT

Refer applicable Group Regulations

Appendix A

Suspension

Front

Spring height adjustment permitted.

Rear

Spring height adjustment permitted.

Engine

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.