



5TH CATEGORY - HISTORIC RACING  
**GROUP Nc**  
 APPROVED VEHICLE SPECIFICATION

This form details the approved specifications of individual vehicle models in the 5th Category Historic car group. To be issued with a Historic Logbook, 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.

<b>Make of Car:</b>	Holden	<b>Model:</b>	HK Monaro GTS 327
<b>Period of Original Manufacture:</b>	1968		
<b>Motorsport Australia Historic Group:</b>	Nc		
<b>Date of issue of this document:</b>	May 2018		



<i>Update Log</i>	
May 2020	GM Motorsport Block Part # 88962516 added

Refer to Motorsport Australia Manual, Vehicle Eligibility, Historic Touring Cars,  
 General Requirements & Nc Regulations for permitted modifications.

## SECTION 1 - CHASSIS

1.1 CHASSIS FRAME	
Description:	Uni Body with sub frames
Period of Manufacture:	Feb. to Dec.1968
Manufacturer:	Holden
Chassis no. from:	81837K\$\$***** \$\$ = assembly plant code, *****= sequence number
Chassis no. location:	Chassis rail
Material:	Steel
Comment:	None

1.2 FRONT SUSPENSION			
Description:	Independent with upper & lower wishbones		
Spring Medium:	Coil		
Damper Type:	Telescopic	Adjustable:	No
Anti-sway bar:	Fitted	Adjustable:	No
Suspension adjustable:	Yes	Method:	Caster & camber by shims
Comment:	None		

1.3 REAR SUSPENSION			
Description:	Live rear axle		
Spring medium:	Semi elliptical leaf		
Damper type:	Telescopic	Adjustable:	No
Anti-sway bar:	None		
Suspension adjustable:	Yes	Method:	Height
Comment:	None		

1.4 STEERING			
Type:	Recirculation ball	Make:	Holden
Comment:	None		

1.5 BRAKES			
	Front	Rear	
Type:	Disc	Drum	
Dimensions:	10 ½ x 5/8 inch	10 x 2 inch	
Material:	Cast iron	Cast iron	
No. cylinders/pots per wheel:	Two	One	
Actuation:	Hydraulic	Hydraulic	
Caliper Make:	Chevrolet		
Caliper Type:	Fixed		
Caliper Material:	Cast iron		
Master cylinder make:	GM	Type:	Duel
Adjustable bias:	No		
Servo Fitted:	Yes		
Comment:	None		

## SECTION 2 - ENGINE

<b>2.1 ENGINE</b>			
<b>Make:</b>	Chevrolet		
<b>Model:</b>	Small Block - 327		
<b>No. cylinders:</b>	Eight	<b>Configuration:</b>	Vee
<b>Cylinder block material:</b>	Cast iron	<b>Two/Four Stroke:</b>	Four
<b>Bore - Original:</b>	101.6 mm	<b>Max. allowed:</b>	103.1 mm
<b>Stroke - original:</b>	82.55 mm	<b>Max. allowed:</b>	82.55 mm
<b>Capacity - original:</b>	5354 cc	<b>Max. allowed:</b>	5513 cc
<b>Cooling method:</b>	Water		
<b>Identifying marks:</b>	Refer appendix A, Casting number, New Block added		
<b>Comment:</b>	Refer appendix A for component substitution <ul style="list-style-type: none"> <li>• GM Performance Small Block: 10066034</li> <li>• GM Performance Small Block: 88962516</li> </ul>		

<b>2.2 CYLINDER HEAD</b>					
<b>Make:</b>	Chevrolet			<b>Type:</b>	OHV
<b>No. of valves/cylinder:</b>	Two	<b>Inlet:</b>	One	<b>Exhaust:</b>	One
<b>No. of ports total:</b>	Eight	<b>Inlet:</b>	Four	<b>Exhaust:</b>	Four
<b>No. of camshafts:</b>	One	<b>Location:</b>	Block	<b>Drive:</b>	Chain
<b>Valve actuation:</b>	Pushrod & rocker				
<b>Spark plugs/cylinder:</b>	One				
<b>Identifying marks:</b>	Refer Appendix A				
<b>Comment:</b>	Conditional upon individual application Refer appendix A for component substitution <ul style="list-style-type: none"> <li>• Dart Iron Eagle 180 SBC 23 Degree cast iron part no 10120010</li> <li>• RHS "Pro Action" 23 degree Cast Iron SBC head – (180cc Intake Runner/64cc chamber). Part No. 12317 straight plug Part No. 12318 angled plug</li> </ul>				

<b>2.3 LUBRICATION</b>			
<b>Method:</b>	Wet sump		
<b>Oil cooler standard:</b>	None		
<b>Comment:</b>	None		

<b>2.4 IGNITION SYSTEM</b>	
<b>Type:</b>	Coil, points & distributor
<b>Make:</b>	Delco
<b>Comment:</b>	None

<b>2.5 FUEL SYSTEM</b>			
<b>Carburettor Make:</b>	Rochester	<b>Model:</b>	Quadrajets
<b>Carburettor number:</b>	One	<b>Size:</b>	750
<b>Type:</b>	Four barrel		
<b>Comment:</b>	None		

### SECTION 3 - TRANSMISSION

<b>3.1 CLUTCH</b>			
<b>Make:</b>	Various		
<b>Type:</b>	Diaphragm		
<b>Diameter:</b>	11 inch	<b>No. of Plates:</b>	One
<b>Actuation:</b>	Hydraulic		
<b>Comment:</b>	None		

<b>3.2 TRANSMISSION</b>			
<b>Type:</b>	Synchromesh		
<b>Make:</b>	GM, Saginaw		
<b>No. forward speeds:</b>	Four	<b>Gearbox location:</b>	Behind engine
<b>Gear change type and location:</b>	H pattern, remote floor shift		
<b>Case material:</b>	Cast iron	<b>Identifying marks:</b>	N/A
<b>Comment:</b>	None		

<b>3.3 FINAL DRIVE</b>			
<b>Make:</b>	Chevrolet	<b>Model:</b>	Salisbury, 10 bolt
<b>Type:</b>	Live rear axle		
<b>Wheel drive method:</b>	Shaft		
<b>Ratios:</b>	Various		
<b>Differential type:</b>	Limited slip		
<b>Comment:</b>	None		

<b>3.4 TRANSMISSION SHAFTS (EXPOSED)</b>	
<b>Number:</b>	One
<b>Description:</b>	Open tail shaft
<b>Comment:</b>	None

<b>3.5 WHEELS &amp; TYRES</b>			
<b>Wheel type - Original:</b>	Disc	<b>Material - Original:</b>	Steel
<b>Allowed:</b>	Cast	<b>Allowed:</b>	Alloy
<b>Fixture method:</b>	Studs	<b>No. studs:</b>	Five
<b>Wheel dia. &amp; rim width:</b>	<b>FRONT</b>		<b>REAR</b>
<b>Original:</b>	14 x 6 inch		14 x 6 inch
<b>Allowed:</b>	15 x 8 inch		15 x 8 inch
<b>Tyres allowed:</b>	60% minimum aspect ratio, refer approved tyre list.		
<b>Comment:</b>	None		

## SECTION 4 - GENERAL

### 4.1 FUEL SYSTEM

<b>Tank Location:</b>	Boot	<b>Capacity:</b>	N/A
<b>Fuel pump type and location:</b>	Mechanical, engine block	<b>Make:</b>	GM
<b>Comment:</b>	None		

### 4.2 ELECTRICAL SYSTEM

<b>Voltage:</b>	Twelve	<b>Alternator:</b>	Fitted
<b>Battery Location:</b>	Engine compartment		
<b>Comment:</b>	None		

### 4.3 BODYWORK

<b>Type:</b>	Closed	<b>Material:</b>	Steel
<b>No. of seats:</b>	Five	<b>No. doors:</b>	Two
<b>Comment:</b>	None		

### 4.4 DIMENSIONS

<b>Track - Front:</b>	1451 mm	<b>Rear:</b>	1451 mm
<b>Wheelbase:</b>	2819 mm	<b>Overall length:</b>	4694 mm
<b>Dry weight:</b>	1498 kg		
<b>Comment:</b>	None		

### 4.5 SAFETY EQUIPMENT

Refer applicable Group Regulations

## Additional Information

Deletion of the following Permitted

- floor mounted Tachometer.
- fresh air heater/demister.

## Appendix A

### Engine Block

Spare part 10066034 GM performance parts replacement small block 305, 327 & 350, four bolt design with split rear seal.

Spare part 88962516 GM performance parts replacement small block 305, 327 & 350, four bolt design with one-piece rear seal, a kit to retain split rear seals is available and will be permitted.

#### **88962516 Engine Block Casting Numbers**

TBA						
Or others by specific approval						

#### **10066034 Engine Block Casting Numbers**

3782870	3789817	3790721	3791362	3794460	3852174	3858174
3858180	3858190	3868657	3876132	3892657	3903352	3914660
3914678	3932368	3955618	3959512	3970010	3970014	3970016
Or others by specific approval						

### Cylinder Head

#### **GM Cylinder Head Casting Numbers**

3782461	3890462	3917291	3917292	3917293	3927185	3927186
3927187	3927188	3932441	3947041	3973414	3973487	3986316
3986339	3991492	3998916	3998993			
Or others by specific approval						

- Dart Iron Eagle 180 SBC 23 Degree cast iron part no 10120010
- RHS "Pro Action" 23 degree Cast Iron SBC head – (180cc Intake Runner/64cc chamber).  
Part No. 12317 straight plug  
Part No. 12318 angled plug
- The heads to be in the manufactured state, save for refacing the cylinder gasket face and matching the inlet ports by not more than 12mm from the port face.
- Dart Iron Eagle heads require the use of a MSD Soft Touch rev limiter Part No 8728 with a 7500 RPM limit. The limiter will be subject to testing at race meetings. The limiter will be located in an easily accessible position within the engine bay.
- Engine to be sealed as per procedure in this appendix.
- Once approved, endorsement and the engine seal numbers will be recorded in the logbook



### Chevrolet small block sealing procedure for engines using the substitute cylinder head

1. Engine to be assemble to short motor without sump.
  2. Heads to be assembled ready to be fitted to engine.
  3. 2 sump bolts/studs to be drilled. 2 top timing case bolts/studs to be drilled.
  4. The sealer will pick two valves from one cylinder of either head to be removed to check that under the valve head and the ports are unmodified and that the valve heads are 2.02" in diameter for the inlet, and 1.60" for the exhaust.
  5. Check the inlet and exhaust ports are unmodified except for the allowance allowed, from the manifold faces, into the port for manifold alignment.
  6. Combustion chambers are to be as per above.
  7. Measure bore and stroke.
  8. Note whether 2 bolt or 4 bolt block.
  9. Fit sump and fit seal. Seal timing case.
  10. Fit heads and drill holes in appropriate positions in the corners of the block and heads to enable wire and seals to be fitted.
  11. Seal heads to block. Note seal numbers. Competitor gets a signed sealers document.
- Note: If the heads are removed they must be re-sealed following the above points 4, 5, 10 and 11.

### Allowances

1. Surfacing of the head face is allowed to achieve required combustion chamber volume or restore the cylinder head from engine failure damage and/or overheating.
2. K Line .030" bronze valve guide inserts are allowed if required and to recondition to standard size from excessive wear.
3. Port matching in the cross hatched area for the inlet and exhaust ports to manifold to a maximum of the 12 mm from the manifold face. Inlet and exhaust ports must be left completely untouched from under the valve seats to within allowed depth from the manifold face.
4. Machining is allowed of the valve spring pad and valve guide outside diameter and length as well as pushrod holes. This will enable spring locators, valve springs, stem seals, valve spring installation height and pushrod clearance to be correctly set up and fitted.
5. Valve seat cutting/grinding is allowed, but the original valve sizes of 2.02" inlet and 1.60" exhaust must be retained. No machining is permitted under the valve seat.
6. No machining is permitted in the combustion chamber. Combustion chambers must be left completely untouched except for original machining by the manufacturer.



ie. No machining, no hard or soft wire brushing, no coarse or fine grinding either by hand, machine or high speed grinder etc, no shot peening, no sand blasting, no glass bead blasting, no water blasting, no hand scraping, no filing, no emery wheels or stones, no acid etching, no chiselling, no hammering or pneumatic peening, no flexi honing, no spark eroding, no removal of any metal by milling machine.

The only exception is the metal between the inlet valve head and the exhaust valve head which may be rounded in case it creates a hot spot.