



5TH CATEGORY - HISTORIC RACING
GROUP S
 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: | ISO | Model: | Grifo 327 |
| Period of Original Manufacture: | 1963 - 1973 | | |
| Motorsport Australia Historic Group: | Sb | | |
| Date of Issue of this Document: | 30/6/2022 | | |



Update Log

| | |
|-----------|---|
| 30/6/2022 | Document layout |
| 5/2020 | GM Motorsport Block Part # 88962516 added |
| | |

SECTION 1 - CHASSIS

1.1. CHASSIS

| | |
|---------------------------------|---------------------------------|
| Description: | Uni body |
| Period of Manufacture: | 1963 – 1974 |
| Manufacturer: | ISO |
| Chassis Number From: | N/A |
| Chassis Number location: | Top of RHF shock absorber tower |
| Material: | Steel |
| Comments | None |

1.2. FRONT SUSPENSION

| | | | |
|-------------------------------|--|--------------------|---|
| Description: | Independent with upper & lower wishbones | | |
| Spring Medium: | Coil | | |
| Damper Type: | Telescopic | Adjustable: | No |
| Anti-sway bar: | Yes | Adjustable: | No |
| Suspension adjustable: | Yes | Method: | Caster & camber by shims, toe by tie rods |
| Comments: | Ride height is free | | |

1.3. REAR SUSPENSION

| | | | |
|-------------------------------|--|--------------------|----------|
| Description: | Independent with De Dion Tube | | |
| Spring Medium: | Coil | | |
| Damper Type: | Telescopic | Adjustable | No |
| Anti-sway bar: | No | Adjustable: | N/A |
| Suspension adjustable: | Yes | Method: | By shims |
| Comments: | Spring rates and ride height are free. | | |

1.4. STEERING

| | | | |
|-----------------|--------------------|--------------|--------|
| Type: | Recirculating ball | Make: | Burman |
| Comments | None | | |

1.5. BRAKES

| | Front | Rear |
|--------------------------------------|-------------|-------------|
| Type: | Disc, solid | Disc, solid |
| Dimensions: | 300 mm | 301 mm |
| Material of drum/disc: | Alloy | Alloy |
| No. cylinders/pots per wheel: | Three | Three |
| Actuation: | Hydraulic | Hydraulic |
| Caliper make: | Girling | |
| Caliper type: | Fixed | |
| Material: | Cast iron | |
| Master cylinder make: | Girling | |
| Type: | Tandem | |
| Adjustable bias: | No | |
| Servo Fitted: | Yes | |
| Comments: | None | |

SECTION 2 - ENGINE

2.1. ENGINE

| | | | |
|---------------------------------|---|-------------------------|-----------|
| Make: | Chevrolet | | |
| Model: | 327 cubic inch | | |
| No. cylinders: | Eight | Configuration: | Veel |
| Cylinder Block-material: | Cast iron | Two/Four Stroke: | Four |
| Bore - Original: | 101.6 mm | Max allowed: | 103.10 mm |
| Stroke - original: | 82.55 mm | Max allowed: | 82.55 mm |
| Capacity - original: | 5354 cc | Max allowed: | 5513 cc |
| Identifying marks: | Casting numbers, refer appendix A New block added | | |
| Cooling method: | Liquid | | |
| Comments: | Refer Appendix A for component substitution <ul style="list-style-type: none"> • GM Performance Small Block: 10066034 • GM Performance Small Block: 88962516 Aluminium blocks are not permitted for this group. | | |

2.2. CYLINDER HEAD

| | | | |
|--------------------------------|--|------------------------|----------------------|
| Make: | Chevrolet | | |
| No. of valves/cylinder: | Two | Inlet: One | Exhaust: One |
| No. of ports total: | Eight | Inlet: Four | Exhaust: Four |
| No. of camshafts: | One | Location: Block | Drive: Chain |
| Valve actuation: | Pushrod and rocker | | |
| Spark plugs/cylinder: | One | | |
| Identifying marks: | Casting numbers, Refer Appendix A | | |
| Comments: | Conditional upon individual application <ul style="list-style-type: none"> • Refer Appendix A for component substitution • 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 | | |

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: | Oil Cooler permitted | | |

2.4. IGNITION SYSTEM

| | | | |
|-----------------|------------------------------|--|--|
| Type: | Points, Coil and Distributor | | |
| Make: | Delco Remy | | |
| Comments | None | | |

2.5. FUEL SYSTEM

| | | | |
|-----------------------------|---------------|---------------|-------------|
| Carburettor Make: | Holley Carter | Model: | Four barrel |
| Carburettor Number: | One | | |
| Size: | | | |
| Fuel injection Make: | N/A | Type: | N/A |
| Supercharged: | No | Type: | N/A |
| Comments: | None | | |

SECTION 3 - TRANSMISSION

3.1. CLUTCH

| | |
|-----------------------|-------------|
| Make: | Borg Warner |
| Type: | Diaphragm |
| Diameter: | 264 mm |
| No. of Plates: | One |
| Actuation: | Hydraulic |
| Comments: | None |

3.2. TRANSMISSION

| | |
|--------------------------------------|------------------------------|
| Type: | 4 speed synchromesh |
| Make: | Borg Warner |
| Model | T10 |
| Gearbox location: | Behind engine |
| No. forward speeds: | Four* |
| Gearchange type and location: | Floor – remote |
| Case material: | Cast iron or aluminium alloy |
| Identifying marks: | |
| Comments: | *ZF 5 Speed Optional |

3.3. FINAL DRIVE

| | | | |
|---------------------------|---------------------------|---------------|-----|
| Type | Sprung unit | | |
| Make: | N/A | Model: | N/A |
| Wheel drive method | Rear | | |
| Ratios: | Various | | |
| Differential type: | Limited slip differential | | |
| Comments: | None | | |

3.4. TRANSMISSION SHAFTS (EXPOSED)

| | |
|---------------------|---|
| Number: | Three |
| Location: | Gearbox to differential |
| Description: | Open tailshaft, transmission to Sprung unit, Halfshaft sprung unit to wheels. |
| Comments: | None |

3.5. WHEELS & TYRES

| | | | |
|-----------------------------------|---------------------------|-----------------------------|--------------------------|
| Wheel type - Original: | Steel disc Wire | Material - Original: | Steel |
| Wheel type - Allowed: | Period alloy | Material - Allowed: | Steel Aluminium Alloy |
| Fixture method: | Studs or Centre nut | No. studs: | Five |
| Wheel dia. & rim width | FRONT | | REAR |
| Original: | 6" x 15" | | 6" x 15" |
| Allowed | 7" x 15" | | 7" x 15" |
| Tyre Section: | | | |
| Original: | | | |
| Allowed: | 225/60 – 15 | | 225/60 – 15 |
| Aspect ratio - minimum: | 60% minimum aspect ratio. | | |
| Comments: | Refer approved tyre list. | | |

SECTION 4 GENERAL

4.1. FUEL SYSTEM

| | | | |
|-------------------------|------------------|------------------|-----------|
| Tank Location: | Under rear floor | Capacity: | 75 litres |
| Fuel pump, type: | Electric/rear | Make: | N/A |
| Comments: | None | | |

4.2. ELECTRICAL SYSTEM

| | | | |
|--------------------------|--------|---------------------------|------------|
| Voltage: | Twelve | Alternator fitted: | Alternator |
| Battery Location: | Boot | | |
| Comments: | None | | |

4.3. BODYWORK

| | | | |
|----------------------|--------------|-------------------|---------------------------|
| Type: | Sports Coupe | Material: | Steel and Aluminium alloy |
| No. of seats: | Four | No. doors: | Two |
| Comments: | None | | |

4.4. DIMENSIONS

| | | | |
|-----------------------|---------|------------------------|---------|
| Track - Front: | 1410 mm | Rear: | 1410 mm |
| Wheelbase: | 2502 mm | Overall length: | 4368 mm |
| Curb weight | 1000 kg | | |
| Dry weight: | | | |
| Comments: | None | | |

4.5. SAFETY EQUIPMENT

| |
|------------------------------------|
| Refer applicable Group Regulations |
|------------------------------------|

Appendix

Block

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

Logbook endorsed and the engine sealed required.

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.

Logbook endorsed and the engine sealed required.

88962516 Engine Block Casting Numbers

N/A

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 Heads

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 | | | | | | |

Approved substitute heads are:

- 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 are 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 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.

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 1.94" in diameter for the inlet, and 1.6" 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 match inlet and exhaust ports to manifold to a maximum of the allowed depth 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. 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.
4. Valve seat cutting/grinding is allowed, but the original valve sizes of inlet and exhaust must be retained. No machining is permitted under the valve seat.
5. No machining is permitted in the combustion chamber. Combustion chambers must be left completely untouched except for original machining by the manufacturer. i.e. 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.

