



5TH CATEGORY - HISTORIC RACING GROUP N APPROVED VEHICLE SPECIFICATION
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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:	Ford	Model:	Falcon XW (1) - GT (2) - GT HO (3) - GT HO Phase 2
Period of Original Manufacture:	1969 to 1970		
Motorsport Australia Historic Group:	Nc		
Date of Issue of this Document:	September 2021		



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

Update Log

August 2020	Replacement Cleveland cylinder block added
September 2021	General revision

SECTION 1 - CHASSIS

1.1. CHASSIS

Description:	Uni-body four door sedan
Period of Manufacture:	1969 - 1970
Manufacturer:	Ford Motor Company
Chassis Number From:	JG33XXXXXX
Chassis Number location:	Radiator support panel, front upper left & Id plate on the radiator support panel in 1969
Material:	Steel
Comments	None

1.2. FRONT SUSPENSION

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

1.3. REAR SUSPENSION

Description:	Live rear axle		
Spring Medium:	Semi-elliptical leaf		
Damper Type:	Telescopic	Adjustable:	No
Anti-sway bar:	Yes – only HO Series 1 and 2.	Adjustable:	N/A
Suspension adjustable:	No	Method:	N/A
Comments:	None		

1.4. STEERING

Type:	Recirculating ball	Make:	Ford
Comments	Recirculating ball 20:1 ratio Power steering - RAM assist – 16:1 ratio. Original non collapsible column may be replaced with collapsible column from the later XY Falcon which retains original appearance and indicator switch location.		

1.5. BRAKES

	Front	Rear
Type:	Disc	Drum
Dimensions:	286 mm x 23.9 mm	254 mm x 63.5 mm diameter
Material of drum/disc:	Cast iron	Cast iron
No. cylinders/pots per wheel:	One	One
Actuation:	Hydraulic	Hydraulic
Caliper make:	PBR Ford two piston	
Caliper type:	Cast iron	
Material:	Floating	
Master cylinder make:	PBR	
Type:	No	
Adjustable bias:	Yes	
Servo Fitted:	Yes	
Comments:	Cast iron	

SECTION 2 - ENGINE

2.1. ENGINE

Series 1 – GT			
Make:	Ford		
Model:	Windsor 351		
No. cylinders:	Eight	Configuration:	Vee
Cylinder Block-material:	Cast iron	Two/Four Stroke:	Four
Bore - Original:	101.6 mm	Max allowed:	103.1 mm
Stroke - original:	89.0 mm	Max allowed:	89.0 mm
Capacity - original:	5766 mm	Max allowed:	5937 mm
Identifying marks:	Windsor C90E - 6015B, on lower right-hand side of block, observed from below. Located low on right side of block – most easily sighted from below car on stands.		
Cooling method:	Liquid		
Comments:	Ford replacement block for the Windsor engine, part number M-6010BOSS35195 is approved for use, in conjunction with MSD Soft Touch rev Limiter Part no 8728 with a 7500 RPM limit. See Appendix A.		

Series 2 and 3 – GT HO and GT HO Phase 2			
Make:	Ford		
Model:	Cleveland 351		
No. cylinders:	Eight	Configuration:	Vee
Cylinder Block-material:	Cast iron	Two/Four Stroke:	Four
Bore - Original:	101.6 mm	Max allowed:	103.1 mm
Stroke - original:	89.0 mm	Max allowed:	89.0 mm
Capacity - original:	5766 mm	Max allowed:	5937 mm
Identifying marks:	Cleveland DOAE-6015-J or G on lower right-hand side of block, observer from below. Located low on right side of block – most easily sighted from below car on stands.		
Cooling method:	Liquid		
Comments:	GTHO changed from Windsor to Cleveland Feb – March 1970 For Replacement Block see Appendix A. ARROW Ford 351 Cleveland Small Block engine block is approved for use, in conjunction with MSD Soft Touch rev Limiter Part no 8728 with a 7500 RPM limit. See Appendix A.		

2.2. CYLINDER HEAD

Make:	Ford		
Model:	Windsor		
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:	Located on unmachined area adjacent to the head gasket surface (visible only with head removed). Windsor has "351" and "WF" on top surface of the head visible with rocker cover removed.		
Comments:	For Replacement Windsor head see Appendix A		

Make:	Ford		
Model:	Cleveland 351		
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:	DOAE 6090 H or R Located on unmachined area adjacent to the head gasket surface (visible only with head removed).		
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:	Oil cooler permitted		

2.4. IGNITION SYSTEM

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

2.5. FUEL SYSTEM

Carburettor Make:			
Series 1 - GT:	Autolite	Model:	4300-4V
Series 2 and 3 – GT HO and GT HO Phase 2:	Holley	Model:	4150-4V
Carburettor Number:	One		
Size:	Various		
Fuel injection Make:	N/A	Type:	N/A
Supercharged:	No	Type:	N/A
Comments:	None		

SECTION 3 - TRANSMISSION

3.1. CLUTCH

Make:	Ford
Type:	Diaphragm
Diameter:	241.5 mm
No. of Plates:	Two
Actuation:	Hydraulic
Comments:	None

3.2. TRANSMISSION

Type:	Synchromesh
Make:	Ford Top loader
Gearbox location:	Behind engine
No. forward speeds:	Four
Gearchange type and location:	Remote lever floor
Case material:	Cast iron
Identifying marks:	N/A
Comments:	Series 1 - GT uses 28 spline shaft. Series 2 and 3 (GT HO and GT HO Phase 2) use longer (by 105 mm) 31 spline output shaft.

3.3. FINAL DRIVE

Make:	Ford	Model:	9 inch
Type:	Live axle		
Ratios:	3.00:1, 3.25:1, 3.5:1		
Differential type:	The correct assembly must be used according to the model car. Series 1 - GT - Traction Lok Series 2 and 3 (GT HO and GT HO Phase 2) – Detroit locker		
Comments:	None		

3.4. TRANSMISSION SHAFTS (EXPOSED)

Number:	One
Location:	Gearbox to final drive
Description:	Open tailshaft with twin uni joints
Comments:	Steel

3.5. WHEELS & TYRES

Wheel type - Original:	Pressed disc	Material - Original:	Steel
Wheel type - Allowed:	Cast	Material - Allowed:	Alloy
Fixture method:	Studs	No. studs:	Five
Wheel dia. & rim width	FRONT		REAR
Original:	6" x 14"		6" x 14"
Allowed	8" x 15"		8" x 15"
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:	Boot floor	Capacity:	Series 1 – GT – 73 litres Series 2 -GT HO and GT HO Phase 2 – 164 litres
Fuel pump, type:	Mechanical, left side of engine block.	Make:	Ford
Comments:	None		

4.2. ELECTRICAL SYSTEM

Voltage:	12	Alternator fitted:	Alternator
Battery Location:	Engine compartment RHF		
Comments:	None		

4.3. BODYWORK

Type:	Sedan	Material:	Steel
No. of seats:	Five	No. doors:	Four
Comments:	See Appendix B		

4.4. DIMENSIONS

Track - Front:	1510 mm	Rear:	1487 mm
Wheelbase:	2827 mm	Overall length:	4690 mm
Dry weight:	1444 kg		
Comments:	None		

4.5. SAFETY EQUIPMENT

Refer applicable Group Regulations

Appendix A

Suspension

Front

Ride height and spring rate may be changed by variation of coil springs; Change of sway bar diameter permitted; dampers free subject to original mountings being used and period technology limitation. Spring height adjustment permitted.

Rear

Spring height adjustment permitted.

Engine

Block – Series 1 - GT

Ford replacement block for the Windsor engine, part number M-6010BOSS35195 is approved for use, in conjunction with MSD Soft Touch rev Limiter Part no 8728 with a 7500 RPM limit. The limiter will be subject to testing at race meetings, and will be located in an easily accessible position within the engine bay.

Block - Series 2 and 3 – (GT HO and GT HO Phase 2)

ARROW Ford 351 Cleveland Small Block engine block is approved for use, in conjunction with MSD Soft Touch rev Limiter Part no 8728 with a 7500 RPM limit. The limiter will be subject to testing at race meetings, and will be located in an easily accessible position within the engine bay.

Cylinder Head – Series 1 - GT

The World Products Windsor Senior cylinder head (200cc runner and 64cc chamber) may be used.

The Dart "Iron Eagle 180" Cylinder head (part no 13310010) may be used.

Subject to the heads being in the manufactured state, save for refacing of the cylinder gasket face and matching of the inlet ports by not more than 12mm from the port face.

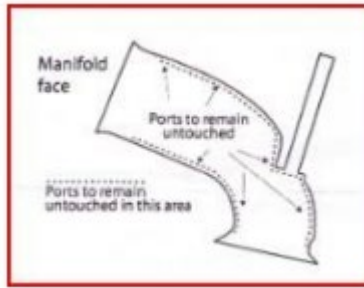
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The Dart "Iron Eagle 180" Cylinder head (part no 13310010) may be used.

Subject to the heads being in the manufactured state, save for refacing of the cylinder gasket face and matching of the inlet ports by not more than 12mm from the port face.

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.



Sealing procedure for engines with substitute heads

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 of the correct diameter for the inlet, and 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.

Appendix B

Bodywork – Series 1 - GT

- Must have driving lights, bonnet locking pins of 'hairpin' type with pins attached by Bowden cable, small air intake on right side of bonnet, stainless capping on rear window weather seal and two horizontal decorative strips across boot.
- Internally 'full' instrumentation is required whilst trim must be 'Fairmont' level - material of door trims comes up to window glass level and there are two courtesy lights on 'C' pillar in addition to roof light.
- A Rear wing was not fitted.

Bodywork – Series 2 and 3 (GT HO, GT HO Phase 2)

- Must have driving lights, bonnet locking pins of 'hairpin' type with pins attached by Bowden cable, small air intake on right side of bonnet, stainless capping on rear window weather seal and two horizontal decorative strips across boot.
- Internally 'full' instrumentation is required whilst trim must be 'Fairmont' level - material of door trims comes up to window glass level and there are two courtesy lights on 'C' pillar in addition to roof light.
- Must have front air dam.
- GT HO Phase 2 must have an 8000 RPM tachometer.
- A Rear wing was not fitted.