



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.

<b>Make of Car:</b>	Ford	<b>Model:</b>	Falcon XW (1) - GT (2) - GT HO (3) - GT HO Phase 2
<b>Period of Original Manufacture:</b>	1969 to 1970		
<b>Motorsport Australia Historic Group:</b>	Nc		
<b>Date of Issue of this Document:</b>	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

<b>Description:</b>	Uni-body four door sedan
<b>Period of Manufacture:</b>	1970 - 1971
<b>Manufacturer:</b>	Ford Motor Company
<b>Chassis Number From:</b>	JG33XXXXXX
<b>Chassis Number location:</b>	Radiator support panel, front upper left & Id plate on the radiator support panel in 1969
<b>Material:</b>	Steel
<b>Comments</b>	None

### 1.2. FRONT SUSPENSION

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

### 1.3. REAR SUSPENSION

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

### 1.4. STEERING

<b>Type:</b>	Recirculating ball	<b>Make:</b>	Ford
<b>Comments</b>	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
<b>Type:</b>	Disc	Drum
<b>Dimensions:</b>	286 mm x 23.9 mm	254 mm x 63.5 mm diameter
<b>Material of drum/disc:</b>	Cast iron	Cast iron
<b>No. cylinders/pots per wheel:</b>	One	One
<b>Actuation:</b>	Hydraulic	Hydraulic
<b>Caliper make:</b>	PBR Ford two piston	
<b>Caliper type:</b>	Cast iron	
<b>Material:</b>	Floating	
<b>Master cylinder make:</b>	PBR	
<b>Type:</b>	No	
<b>Adjustable bias:</b>	Yes	
<b>Servo Fitted:</b>	None	
<b>Comments:</b>	Cast iron	

**SECTION 2 - ENGINE**

**2.1. ENGINE**

<b>Series 1 – GT</b>			
<b>Make:</b>	Ford		
<b>Model:</b>	Windsor 351		
<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>	89.0 mm	<b>Max allowed:</b>	89.0 mm
<b>Capacity - original:</b>	5766 mm	<b>Max allowed:</b>	5937 mm
<b>Identifying marks:</b>	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.		
<b>Cooling method:</b>	Liquid		
<b>Comments:</b>	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.		

<b>Series 2 and 3 – GT HO and GT HO Phase 2</b>			
<b>Make:</b>	Ford		
<b>Model:</b>	Cleveland 351		
<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>	89.0 mm	<b>Max allowed:</b>	89.0 mm
<b>Capacity - original:</b>	5766 mm	<b>Max allowed:</b>	5937 mm
<b>Identifying marks:</b>	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.		
<b>Cooling method:</b>	Liquid		
<b>Comments:</b>	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

<b>Make:</b>	Ford		
<b>Model:</b>	Windsor		
<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 and rocker		
<b>Spark plugs/cylinder:</b>	One		
<b>Identifying marks:</b>	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.		
<b>Comments:</b>	For Replacement Windsor head see Appendix A		

<b>Make:</b>	Ford		
<b>Model:</b>	Cleveland 351		
<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 and rocker		
<b>Spark plugs/cylinder:</b>	One		
<b>Identifying marks:</b>	DOAE 6090 H or R Located on unmachined area adjacent to the head gasket surface (visible only with head removed).		
<b>Comments:</b>	None		

## 2.3. LUBRICATION

<b>Method:</b>	Wet sump	<b>Oil tank location:</b>	N/A
<b>Dry sump pump type:</b>	N/A	<b>Location:</b>	N/A
<b>Oil cooler standard:</b>	No	<b>Location:</b>	N/A
<b>Comments:</b>	Oil cooler permitted		

## 2.4. IGNITION SYSTEM

<b>Type:</b>	Points, coil & distributor		
<b>Make:</b>	Autolite		
<b>Comments:</b>	Breakerless electronic ignition permitted		

## 2.5. FUEL SYSTEM

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

## SECTION 3 - TRANSMISSION

### 3.1. CLUTCH

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

### 3.2. TRANSMISSION

<b>Type:</b>	Synchromesh
<b>Make:</b>	Ford Top loader
<b>Gearbox location:</b>	Behind engine
<b>No. forward speeds:</b>	Four
<b>Gearchange type and location:</b>	Remote lever floor
<b>Case material:</b>	Cast iron
<b>Identifying marks:</b>	N/A
<b>Comments:</b>	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

<b>Make:</b>	Ford	<b>Model:</b>	9 inch
<b>Type:</b>	Live axle		
<b>Ratios:</b>	3.00:1, 3.25:1, 3.5:1		
<b>Differential type:</b>	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		
<b>Comments:</b>	None		

### 3.4. TRANSMISSION SHAFTS (EXPOSED)

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

### 3.5. WHEELS & TYRES

<b>Wheel type - Original:</b>	Pressed disc	<b>Material - Original:</b>	Steel
<b>Wheel type - Allowed:</b>	Cast	<b>Material - 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>	6" x 14"		6" x 14"
<b>Allowed</b>	8" x 15"		8" x 15"
<b>Tyre Section:</b>			
<b>Allowed:</b>	Refer approved tyre list.		
<b>Aspect ratio - minimum:</b>	60% minimum aspect ratio		
<b>Comments:</b>	None		

## SECTION 4 GENERAL

### 4.1. FUEL SYSTEM

<b>Tank Location:</b>	Boot floor	<b>Capacity:</b>	Series 1 – GT – 73 litres Series 2 -GT HO and GT HO Phase 2 – 164 litres
<b>Fuel pump, type:</b>	Mechanical, left side of engine block.	<b>Make:</b>	Ford
<b>Comments:</b>	None		

### 4.2. ELECTRICAL SYSTEM

<b>Voltage:</b>	12	<b>Alternator fitted:</b>	Alternator
<b>Battery Location:</b>	Engine compartment RHF		
<b>Comments:</b>	None		

### 4.3. BODYWORK

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

### 4.4. DIMENSIONS

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

### 4.5. SAFETY EQUIPMENT

Refer applicable Group Regulations
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## **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.

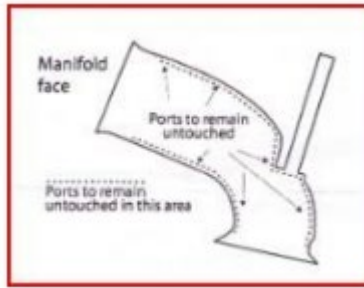
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Subject to the heads being in the manufactured state, save for refacing of the cylinder gasket face and matching of the inlet ports by not more than 12mm from the port face.

#### **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.