



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.

Make of Car:	Ford	Model:	Falcon XW (1) GT, (2) GT HO (3) GT HO Ph 2
Period of Original Manufacture:	1969 to 1970		
Motorsport Australia Historic Group:	Nc		
Date of issue of this document:	August 2019		



<i>Update Log</i>	
August 2020	Replacement Cleveland cylinder block 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 four door sedan
Period of Manufacture:	1969 – 1970
Manufacturer:	Ford Motor Co.
Chassis no. from:	JG33XXXXXXX
Chassis no. location:	Radiator support panel, front upper left & Id plate on the radiator support panel in 1969 and ADR type plate on the LHS of the firewall in 1970. Original engine number stamped into left suspension tower.
Material:	Steel
Comment:	None

1.2 FRONT SUSPENSION			
Description:	Independent, upper wishbone, lower arm with track rod.		
Spring Medium:	Coil		
Damper Type:	Telescopic	Adjustable:	No
Anti-sway bar:	Fitted	Adjustable:	No
Suspension adjustable:	Yes	Method:	Caster, camber and toe, spring height
Comment:	None		

1.3 REAR SUSPENSION			
Description:	Live axle		
Spring medium:	Leaf		
Damper type:	Telescopic	Adjustable:	No
Anti-sway bar:	Only HO Series 1 & 2	Adjustable:	No
Suspension adjustable:	Yes	Method:	By spring height
Comment:	None		

1.4 STEERING			
Type:	Recirculating ball	Make:	Ford
Comment:	None		

1.5 BRAKES			
	Front	Rear	
Type:	Disc, vented	Drum	
Dimensions:	286 x 23.9 mm	254 x 63.5 mm	
Material:	Cast iron	Cast iron	
No. cylinders/pots per wheel:	One	One	
Actuation:	Hydraulic	Hydraulic	
Caliper Make:	Kelsey Hayes / Ford		
Caliper Type:	Single piston, floating		
Caliper Material:	Cast		
Master cylinder make:	PBR	Type:	Tandem
Adjustable bias:	No		
Servo Fitted:	Yes		
Comment:	None		

SECTION 2 - ENGINE

2.1 ENGINE			
Make:	Ford		
Model:	Windsor (GTHO) Cleveland (GTHO and GTHO Phase 2)		
No. cylinders:	Eight	Configuration:	Veel
Cylinder block material:	Cast iron	Two/Four Stroke:	Four
Bore - Original:	101.6 mm	Max. allowed:	103.1 mm
Stroke:	89.0 mm		
Capacity - original:	5766 cc	Max. allowed:	5937 cc
Cooling method:	Liquid		
Identifying marks:	Windsor C90E - 6015B, Cleveland DOAE-6015-J or G on lower right hand side of block, observer from below.		
Comment:	GTHO changed from Windsor to Cleveland Feb – March 1970 For Replacement Block See Appendix A		

2.2 CYLINDER HEAD					
Make:	Ford				
No. of valves/cylinder:	Two (2)	Inlet:	One (1)	Exhaust:	One (1)
No. of ports total:	Eight (8)	Inlet:	Four (4)	Exhaust:	Four (4)
No. of camshafts:	One (1)	Location:	Block	Drive:	Chain
Valve actuation:	Pushrod & rocker				
Spark plugs/cylinder:	One				
Identifying marks:	Identification marks are 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.				
Comment:	Note that inlet valves and exhaust valves are in the same plain in the Windsor engine; in the Cleveland engine they are in different plains, being 'canted' in US language. For replacement Windsor Cylinder heads see Appendix A				

2.3 LUBRICATION			
Method:	Wet sump		
Oil cooler standard:	No		
Comment:	None		

2.4 IGNITION SYSTEM	
Type:	Coil, points & distributor
Make:	Autolite
Comment:	None

2.5 FUEL SYSTEM			
Carburettor Make:	Autolite (Series 1) Holly (Series 2 & 3)	Model:	4300 – 4V 4150C – 4V
Carburettor number:	One		
Comment:	None		

SECTION 3 – TRANSMISSION

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

3.2 TRANSMISSION			
Type:	Synchromesh		
Make:	Ford, Top loader		
No. forward speeds:	Four	Gearbox location:	Behind engine
Gear change type and location:	Floor, remote		
Case material:	Cast iron	Identifying marks:	
Comment:	Series 1 uses 28 spline output shaft, Series 2 & 3 use longer (105 mm) 31 spline output shaft.		

3.3 FINAL DRIVE			
Make:	Ford	Model:	9 inch
Type:	Live axle		
Wheel drive method:	Rear		
Ratios:	3.0, 3.25 or 3.5 to 1		
Differential type:	LSD, Traction-lok, GTHO and GTHO Phase 2 also used Detroit locker		
Comment:	None		

3.4 TRANSMISSION SHAFTS (EXPOSED)	
Number:	One
Description:	Open tail shaft, Series 2 & 3 105 mm shorter than series 1
Comments:	Axle to be 28 splines unless Detroit locker fitted then 31 spline axles required.

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

SECTION 4 - GENERAL

4.1 FUEL SYSTEM				
Tank Location:	Boot floor	Capacity:	GT GTHO GTHO Phase2	73 litres 164 litres 164 litres
Fuel pump type and location:	Mechanical on block	Make:	Ford	
Comment:	None			

4.2 ELECTRICAL SYSTEM			
Voltage:	12	Alternator:	Fitted
Battery Location:	Engine bay, RHF		
Comment:	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		
Comment:	None		

4.5 SAFETY EQUIPMENT	
<i>Refer applicable Group Regulations</i>	

Appendix A

Block

Ford replacement block for the Windsor engine:

Part number M-6010BOSS35195,

- Must be in conjunction with MSD Soft Touch rev Limiter Part no 8728 with a 7500 RPM limit.
- Must be in an easily accessible position within the engine bay.
- The limiter will be subject to testing at race meetings,

Aftermarket replacement block for the Cleveland engine:

The ARROW Ford 351 Cleveland Small Block

- Must be in conjunction with MSD Soft Touch rev Limiter Part no 8728 with a 7500 RPM limit.
- Must be in an easily accessible position within the engine bay.
- The limiter will be subject to testing at race meetings,

Cylinder Head

Replacement cast iron heads Permitted upon individual application with the logbook endorsed and the engine sealed.

- The World Products Windsor Senior cylinder head (200cc runner and 64cc chamber)
- The Dart "Iron Eagle 180" Cylinder head part no 13310010

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 that 12mm from the port face.



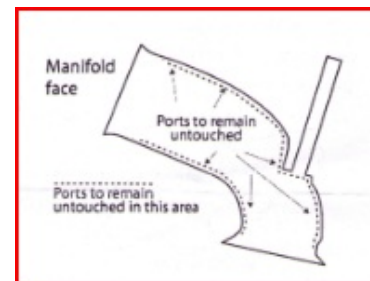
Sealing procedure for engines using the substitute cylinder head

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 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.

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.
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.



Appendix B

Bodywork

It is essential that detail of external bodywork and interior trim correspond with original production form of model concerned.

Summarising:

- All Models 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
- 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.

GTHO and GTHO phase 2

- must have front air dam and
- XW Phase 2 only has an 8000-rpm tacho.

Rear Wing

- A rear wing was not fitted to any XW model.