



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.

Make of Car:	Ford	Model:	Mustang
Period of Original Manufacture:	1968		
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

May 2020	Corrections in Engine comments and sealing procedure

SECTION 1 - CHASSIS

1.1. CHASSIS

Description:	Uni-body two door coupe
Period of Manufacture:	1967
Manufacturer:	Ford Motor Co.
Chassis Number From:	8(F, R or T)07(A, C, D, F or K)000001 E.g., 8F07D00001
Chassis Number location:	Left hand front inner front fender
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:	No	Adjustable:	N/A
Suspension adjustable:	No	Method:	N/A
Comments:	Refer to Appendix A. Overhead rear traction bars may be installed – refer to Appendix A.		

1.4. STEERING

Type:	Recirculating ball and nut	Make:	Ford
Power steering	RAM type system		
Comments	Power steering - See Appendix B. For fitment of a collapsible steering column see Appendix C.		

1.5. BRAKES

	Front	Rear
Type:	Disc, vented	Drum, twin leading shoe
Dimensions:	286 mm x 21 mm	254 mm x 63.5 mm
Material of drum/disc:	Cast Iron	Cast iron
No. cylinders/pots per wheel:	Three	Two
Actuation:	Hydraulic	Hydraulic
Caliper make:	Girling Kelsey Hayes	
Caliper type:	Floating	
Material:	Cast iron	
Master cylinder make:	Ford	
Type:	Tandem	
Adjustable bias:	No	
Servo Fitted:	Yes	
Comments:	None	

SECTION 2 - ENGINE

2.1. ENGINE

Make:	Ford		
Model:	Windsor 302		
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:	76.2 mm	Max allowed:	76.2 mm
Capacity - original:	4942 cc	Max allowed:	5089 cc
Identifying marks:	C8AE or C8OE Engine block number is stamped on a flat horizontal surface behind the inlet manifold.		
Cooling method:	Liquid		
Comments:	Ford replacement block for the Windsor engine, part number M-6010-BOSS302 is approved for use. See Appendix D.		

2.2. CYLINDER HEAD

Make:	Ford		
No. of valves/cylinder:	Two	Inlet: One	Exhaust: One
No. of ports total:	Eight	Inlet: One	Exhaust: One
No. of camshafts:	One	Location: Block	Drive: Chain
Valve actuation:	Pushrod and rocker		
Spark plugs/cylinder:	One		
Identifying marks:	302 cast into heads adjacent to rocker stud boss.		
Comments:	Tunnel Port heads allowed if using factory 4 bolt engine block or approved HC substitute. For approved replacement heads see Appendix D.		

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:	Autolite	Model:	4300-4V
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:	267 mm
No. of Plates:	One
Actuation:	Hydraulic
Comments:	None

3.2. TRANSMISSION

Type:	Synchromesh
Make:	Ford Top Loader or Borg Warner T10
Gearbox location:	Behind engine
No. forward speeds:	Four
Gearchange type and location:	Remote lever floor
Case material:	Cast iron (Ford Top Loader) Alloy (Borg Warner T10)
Identifying marks:	N/A
Comments:	None

3.3. FINAL DRIVE

Make:	Ford	Model:	9 inch
Type:	Live axle		
Ratios:	Various		
Differential type:	Open/Free		
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:	Period cast	Material - Allowed:	Alloy
Fixture method:	Studs	No. studs:	Five
Wheel dia. & rim width	FRONT		REAR
Original:	7" x 14" 8" x 15"		7" x 14" 8" x 15"
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:	75 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.		
Comments:	None		

4.3. BODYWORK

Type:	Closed touring	Material:	Steel
No. of seats:	Four	No. doors:	Two
Comments:	1967 body permitted when modified (indicator recesses are removed) to match 1968 configuration and external cosmetics.		

4.4. DIMENSIONS

Track - Front:	1526 mm	Rear:	1519 mm
Wheelbase:	2743 mm	Overall length:	4663 mm
Dry weight:	1188 kg		
Comments:	None		

4.5. SAFETY EQUIPMENT

Refer applicable Group Regulations

Appendix A

Suspension

Front

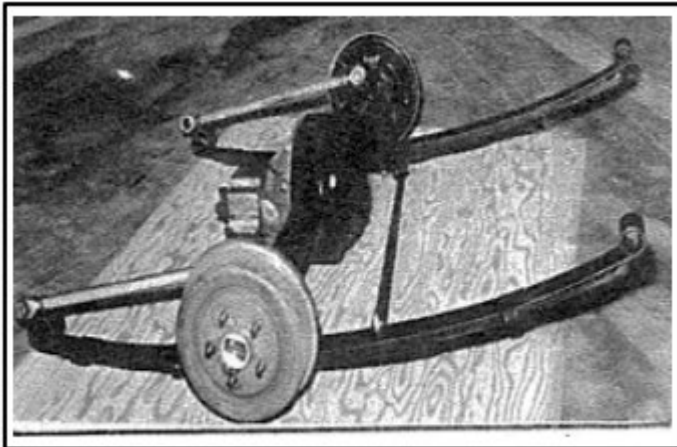
Spring height adjustment permitted.

Rear

Spring height adjustment permitted.

Traction Bar installation

These bars are permitted to enter the interior of the car to a point beneath the rear seat. The forward end of the traction bar must be a bushing and the axle end may be a spherical joint. No part of these bars or their attachment points may be connected to any part of the roll cage. The interior floor opening should have some sealing to prevent the ingress of foreign material & water etc.



Overhead rear traction Bars

Appendix B

Power steering – LHD

RAM type system, which was a factory produced solution from Ford for 1964 to 1969 (inclusive) for left-hand drive Ford Mustangs.

Power steering – RHD

Approved is a RAM type system, which was a factory produced solution from Ford for 1964 to 1969 (inclusive) for left-hand drive Ford Mustangs.

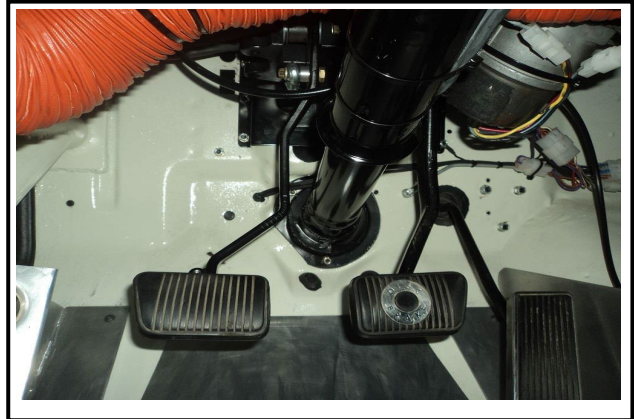
The fitting of this approved solution to a right-hand drive vehicle involves the placement of the RAM system upside-down. This results in the hoses for the RAM system being at the bottom of the RAM, rather than the top, as is the case with fitment on a left-hand drive vehicle.

Appendix C

Replacement of solid steering column with collapsible type.

The original steering column main outer tube and steering shaft is replaced with a collapsible steering column main outer tube and steering shaft from an Australian XA to XC Ford Falcon.

The Ford Falcon main tube is modified by removing the spot-welded Ford Australia mount and drilling a hole in the column for the Ford USA mount that bolts into the dashboard.



The Ford Falcon main outer tube will locate in the original lower firewall mount. An original Ford Australia coupler can then be used to join the collapsible inner shaft to the original steering box.



The original Ford USA steering column top and switches can then be mounted on the top of the Collapsible column to retain the original look and functions.

Appendix D

Block

Ford replacement block for the Windsor 302 engine, part number M-6010BOSS302 is approved for use. Logbook endorsed and the engine sealed required.

Cylinder Heads

Approved cast iron cylinder heads are:

- Dart Iron Eagle No. 1330008 *
- RHS Pro Action Small Block Ford No. 35305
- World Products Windsor Junior.

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.

