



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>	Austin/Morris	<b>Model:</b>	Mini Cooper "S" Mark 2
<b>Period of Original Manufacture:</b>	Jan 1965 to end of 1971		
<b>Motorsport Australia Historic Group:</b>	Nc		
<b>Date of Issue of this Document:</b>	17 October 2024		
<b>Comments</b>	An Austin Cooper "S" is permissible in Nc form with provisions – refer Appendix A		



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

***Update Log***

19/07/2024	Timing cover clarification
17/10/2024	Clarification of wording re movement of instrument panel

## SECTION 1 - CHASSIS

### 1.1. CHASSIS

<b>Description:</b>	Uni – body
<b>Period of Manufacture:</b>	Jan 1965 to end of 1971
<b>Manufacturer:</b>	British Motor Corporation
<b>Chassis Number From:</b>	YKG2S2**** or YKG2S4****
<b>Chassis Number location:</b>	Various
<b>Material:</b>	Steel
<b>Comments</b>	None

### 1.2. FRONT SUSPENSION

<b>Description:</b>	Independent - upper & lower arms with lower castor bar		
<b>Spring Medium:</b>	Rubber cone or Hydrolastic		
<b>Damper Type:</b>	Telescopic	<b>Adjustable:</b>	No
<b>Anti-sway bar:</b>	None	<b>Adjustable:</b>	No
<b>Suspension adjustable:</b>	Yes	<b>Method:</b>	No
<b>Comments:</b>	Front suspension lower control arms and castor bars may be made adjustable.		

### 1.3. REAR SUSPENSION

<b>Description:</b>	Independent - trailing arms		
<b>Spring Medium:</b>	Rubber cone or Hydrolastic		
<b>Damper Type:</b>	Telescopic	<b>Adjustable:</b>	No
<b>Anti-sway bar:</b>	None	<b>Adjustable:</b>	No
<b>Suspension adjustable:</b>	No	<b>Method:</b>	No
<b>Comments:</b>	Adjustable camber brackets and slotted pivot hole permitted.		

### 1.4. STEERING

<b>Type:</b>	Rack and pinion	<b>Make:</b>	BMC
<b>Comments</b>	None		

### 1.5. BRAKES

	Front	Rear
<b>Type:</b>	Disc, solid	Drum, single leading shoe
<b>Dimensions:</b>	190 mm x 9.5 mm	178 mm x 31.75 mm
<b>Material of drum/disc:</b>	Cast iron	Cast iron
<b>No. cylinders/pots per wheel:</b>	Two	One
<b>Actuation:</b>	Hydraulic	Hydraulic
<b>Caliper make:</b>	Lockheed	
<b>Caliper type:</b>	Fixed	
<b>Material:</b>	Cast iron	
<b>Master cylinder make:</b>	Lockheed	
<b>Type:</b>	Single	
<b>Adjustable bias:</b>	No	
<b>Servo Fitted:</b>	Yes	
<b>Comments:</b>	None	

## SECTION 2 - ENGINE

### 2.1. ENGINE

<b>Make:</b>	BMC		
<b>Model:</b>	"A" Series 9FSAY engine number prefix		
<b>No. cylinders:</b>	Four	<b>Configuration:</b>	In-line (transverse)
<b>Cylinder Block-material:</b>	Cast iron	<b>Two/Four Stroke:</b>	Four
<b>Bore - Original:</b>	70.61 mm	<b>Max allowed:</b>	72.11 mm
<b>Stroke - original:</b>	81.28 mm	<b>Max allowed:</b>	81.28 mm
<b>Capacity - original:</b>	1273 cc	<b>Max allowed:</b>	1328 cc*
<b>Identifying marks:</b>	N/A		
<b>Cooling method:</b>	Liquid		
<b>Comments:</b>	<ul style="list-style-type: none"> <li>* Note 1: - Blocks from a Mk 2 prefix 9FXEY &amp; 1100 prefix 12 (usually) allowed.</li> <li>* Note 2: - if the original type of camshaft drive is changed, a timing cover is mandatory.</li> <li>* Note 3: - Original stroke only. With reduced stroke, the bore is free and the max capacity is 1300 cc</li> </ul>		

### 2.2. CYLINDER HEAD

<b>Make:</b>	BMC		
<b>No. of valves/cylinder:</b>	Two	<b>Inlet:</b> One	<b>Exhaust:</b> One
<b>No. of ports total:</b>	Five	<b>Inlet:</b> Two	<b>Exhaust:</b> Three
<b>No. of camshafts:</b>	One	<b>Location:</b> Block	<b>Drive:</b> Chain
<b>Valve actuation:</b>	Pushrod and rockers		
<b>Spark plugs/cylinder:</b>	One		
<b>Identifying marks:</b>	AEG163 or 12G940, Eleven studs		
<b>Comments:</b>	<p>Compared with the other "A" series heads, the Cooper head has two additional studs (11 as against 9), the additional being a 5/16" stud adjacent to the thermostat housing and a 3/8" at the rear of the head.</p> <p>Note: - if the original type of camshaft drive is changed, a timing cover is mandatory.</p>		

### 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>	Fitted	<b>Location:</b>	Behind grille
<b>Comments:</b>	None		

### 2.4. IGNITION SYSTEM

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

### 2.5. FUEL SYSTEM

<b>Carburettor Make:</b>	SU	<b>Model:</b>	HS2
<b>Carburettor Number:</b>	Two		
<b>Size:</b>	1 ¼"		
<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>	Borg & Beck
<b>Type:</b>	Diaphragm
<b>Diameter:</b>	185 mm
<b>No. of Plates:</b>	One
<b>Actuation:</b>	Hydraulic
<b>Comments:</b>	None

**3.2. TRANSMISSION**

<b>Type:</b>	Synchromesh, not on first*
<b>Make:</b>	BMC
<b>Gearbox location:</b>	Below engine
<b>No. forward speeds:</b>	Four
<b>Gearchange type and location:</b>	H pattern floor mounted
<b>Case material:</b>	Alloy
<b>Identifying marks:</b>	N/A
<b>Comments:</b>	Gearbox part numbers must be: 22G333, 22A1288 or 22G1128. Non synchromesh internals (dog box) allowed. * 22G1128 gearbox has synchro on first

**3.3. FINAL DRIVE**

<b>Make:</b>	BMC	<b>Model:</b>	N/A
<b>Type:</b>	Combined as transaxle		
<b>Wheel drive method:</b>	Front		
<b>Ratios:</b>	Various		
<b>Differential type:</b>	Free/open		
<b>Comments:</b>	None		

**3.4. TRANSMISSION SHAFTS (EXPOSED)**

<b>Number:</b>	Two
<b>Location:</b>	Transaxle
<b>Description:</b>	Halfshaft with Hardy-Spicer or donut rubber universal joints and CV joints
<b>Comments:</b>	None

**3.5. WHEELS & TYRES**

<b>Wheel type - Original:</b>	Pressed disc	<b>Material - Original:</b>	Steel
<b>Wheel type - Allowed:</b>	Steel Alloy (period style)	<b>Material - Allowed:</b>	Steel Alloy
<b>Fixture method:</b>	Studs	<b>No. studs:</b>	Four
<b>Wheel dia. &amp; rim width</b>	<b>FRONT</b>		<b>REAR</b>
<b>Original:</b>	4.5" x 10"		4.5" x 10"
<b>Allowed</b>	6" x 10"		6" x 10"
<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, LHR Quarter panel	<b>Capacity:</b>	25 litres x 2
<b>Fuel pump, type:</b>	Electric	<b>Make:</b>	SU AUF 201
<b>Comments:</b>	None		

### 4.2. ELECTRICAL SYSTEM

<b>Voltage:</b>	12	<b>Alternator fitted:</b>	Generator
<b>Battery Location:</b>	Boot		
<b>Comments:</b>	None		

### 4.3. BODYWORK

<b>Type:</b>	Closed touring	<b>Material:</b>	Steel and Aluminium
<b>No. of seats:</b>	Four	<b>No. doors:</b>	Two
<b>Comments:</b>	Refer Appendix A		

### 4.4. DIMENSIONS

<b>Track - Front:</b>	1233 mm	<b>Rear:</b>	1202 mm
<b>Wheelbase:</b>	2036 mm	<b>Overall length:</b>	3054 mm
<b>Approved Manufacturer's kerb weight:</b>	640 kg		
<b>Approved minimum racing weight:</b>	593 kg		
<b>Comments:</b>	For dimensions where flares are fitted, refer Appendix A		

### 4.5. SAFETY EQUIPMENT

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

## Appendix A

### Bodywork

#### Flares, Perspex, and Aluminium Panels

Part Numbers for Flares, Perspex, and Aluminium Panels are as follows:

- Aluminium Doors: # C/A JJ 3379
- Aluminium Boot/Bonnet: # C/A JJ 3380
- Flare Kit: # C/A JJ 3316
- Flare Kit: # C/A JJ 3353
- Perspex Window: # C/A JJ 3363.

A non-opening Perspex window kit is permissible, subject to the use of appropriate window seals.

#### Dimensions where flares are fitted

When viewed from above, the maximum width between the outside edge of the flares shall not exceed Front 1475 mm, Back 1435 mm.

#### Speedo aperture opening modifications

- The firewall may be modified to allow for the insertion of a carburettor box. The box to be adequately sealed.
- The dimensions of the aperture shall not exceed 175 mm high and 215 mm wide.
- The instrument binnacle may be moved to accommodate the carburettor box. The instrument panel may be moved, as a maximum, toward the interior of the car, as close to the original centre line position as possible, to a point where the speedometer bezel is in line with the front of the top of the dashboard and the front of the parcel shelf.

### Additional notes for Eligibility Officers

These notes are intended to assist Eligibility Officers in assessing candidate cars for classification under Group Nc regulations.

The Cooper 'S' as a model continued to be subject to technical development over a number of years – FIA Group 2 Variants were being documented as late as 1970.

- **September 1965**
  - Cooper S Mark 1 in production in Australia with two fuel tanks giving 11 gallons (50 litres) capacity;
  - laminated windscreen
  - seat belts of the approved type for racing with Three–point fixing
  - It was in production until April 1969
  - Engine was 1.275 litre with twin SU's
- **October 1965**
  - Australian cars were fitted with wind up windows
- **1967**
  - Cooper S Mark II introduced in UK, with oval S badge and bolt on wheel arch flares
- **May 1969**
  - Mark 11 introduced in Australia
- **1970**
  - UK Mk 3 cars were fitted with an updated grille
- **August 1971**
  - Body design updated and the new model sold as a Clubman
  - Cooper S was replaced by Clubman GT 1275

Cars with wind up windows should represent Australian cars and have a heater, twin tanks and short number plate indentation.

Cars with sliding windows should represent UK cars with optional heater, optional twin tanks and long number plate indentation.

The use of Aluminium door skins is permitted only on sliding window types.

Aluminium bonnet and boot options from the era may be used only in their complete form.

Most Series Production cars were Aust. built Mk.1 & Mk 2, with Hydro suspension, wind up windows, heater, and 2 tanks.

Improved Production cars were usually English spec. i.e.: Dry suspension, sliding windows, optional heater, optional tanks and long number plate indentation.

### **Austin Cooper "S"**

An Austin Cooper "S" is permissible in Nc form with the following provisions:

- Single fuel tank;
- English Mk. II or Mk III style grille (Same as Morris, except for wavy slats);



- Clubman style tail lights;
- Plus, all badge work, chrome work, interior cosmetics are applicable to that model.

All other specifications shall apply as per Morris Cooper 'S'.