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:	Austin/Morris	**Model:**	Mini Cooper “S” Mark 2
Period of Original Manufacture:	Jan 1965 to end of 1971		
Motorsport Australia Historic Group:	Nc		
Date of Issue of this Document:	17 July 2024		
Comments	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

SECTION 1 - CHASSIS

1.1. CHASSIS

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

1.2. FRONT SUSPENSION

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

1.3. REAR SUSPENSION

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

1.4. STEERING

Type:	Rack and pinion	**Make:**	BMC
Comments	None		

1.5. BRAKES

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

SECTION 2 - ENGINE

2.1. ENGINE

Make:	BMC		
Model:	"A" Series 9FSAY engine number prefix		
No. cylinders:	Four	**Configuration:**	In-line (transverse)
Cylinder Block-material:	Cast iron	**Two/Four Stroke:**	Four
Bore - Original:	70.61 mm	**Max allowed:**	72.11 mm
Stroke - original:	81.28 mm	**Max allowed:**	81.28 mm
Capacity - original:	1273 cc	**Max allowed:**	1328 cc*
Identifying marks:	N/A		
Cooling method:	Liquid		
Comments:	* Note 1: - Blocks from a Mk 2 prefix 9FXEY & 1100 prefix 12 (usually) allowed. * Note 2: - if the original type of camshaft drive is changed, a timing cover is mandatory. * Note 3: - Original stroke only. With reduced stroke, the bore is free and the max capacity is 1300 cc		

2.2. CYLINDER HEAD

Make:	BMC				
No. of valves/cylinder:	Two	**Inlet:**	One	**Exhaust:**	One
No. of ports total:	Five	**Inlet:**	Two	**Exhaust:**	Three
No. of camshafts:	One	**Location:**	Block	**Drive:**	Chain
Valve actuation:	Pushrod and rockers				
Spark plugs/cylinder:	One				
Identifying marks:	AEG163 or 12G940, Eleven studs				
Comments:	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. Note: - if the original type of camshaft drive is changed, a timing cover is mandatory.				

2.3. LUBRICATION

Method:	Wet sump	**Oil tank location:**	N/A
Dry sump pump type:	N/A	**Location:**	N/A
Oil cooler standard:	Fitted	**Location:**	Behind grille
Comments:	None		

2.4. IGNITION SYSTEM

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

2.5. FUEL SYSTEM

Carburettor Make:	SU	**Model:**	HS2
Carburettor Number:	Two		
Size:	1 ¼"		
Fuel injection Make:	N/A	**Type:**	N/A
Supercharged:	No	**Type:**	N/A
Comments:	None		

SECTION 3 - TRANSMISSION

3.1. CLUTCH

Make:	Borg & Beck
Type:	Diaphragm
Diameter:	185 mm
No. of Plates:	One
Actuation:	Hydraulic
Comments:	None

3.2. TRANSMISSION

Type:	Synchromesh, not on first*
Make:	BMC
Gearbox location:	Below engine
No. forward speeds:	Four
Gearchange type and location:	H pattern floor mounted
Case material:	Alloy
Identifying marks:	N/A
Comments:	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

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

3.4. TRANSMISSION SHAFTS (EXPOSED)

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

3.5. WHEELS & TYRES

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

4.2. ELECTRICAL SYSTEM

Voltage:	12	**Alternator fitted:**	Generator
Battery Location:	Boot		
Comments:	None		

4.3. BODYWORK

Type:	Closed touring	**Material:**	Steel and Aluminium
No. of seats:	Four	**No. doors:**	Two
Comments:	Refer Appendix A		

4.4. DIMENSIONS

Track - Front:	1233 mm	**Rear:**	1202 mm
Wheelbase:	2036 mm	**Overall length:**	3054 mm
Approved Manufacturer's kerb weight:	640 kg		
Approved minimum racing weight:	593 kg		
Comments:	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. Not to protrude beyond a line between the front face of the parcel shelf and window surround base.

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'.