

CAMS

5TH CATEGORY - HISTORIC RACING

GROUP Nb

APPROVED VEHICLE SPECIFICATION

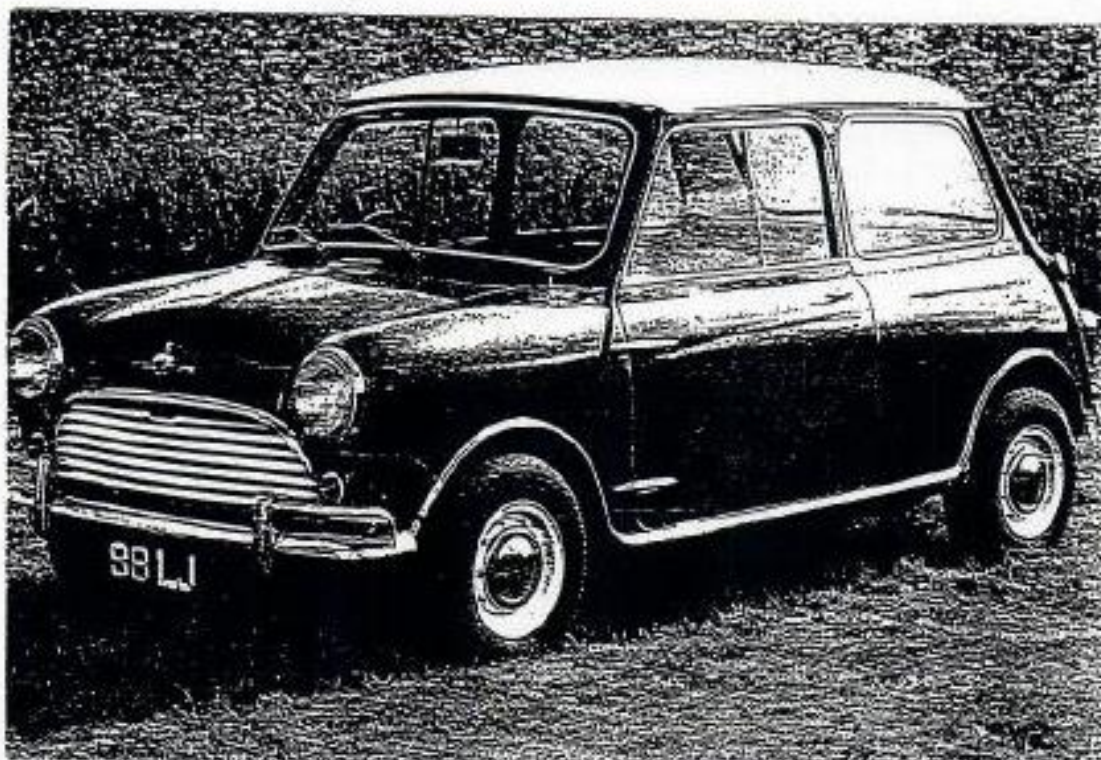
This form details the approved specifications of individual vehicle models in the 5th Category Historic car group. To be issued with an Historic Log Book, cars need to comply with these specifications, the physical appearance shown in the illustrations and the general historic rules as detailed in the current CAMS Manual of Motor Sport.

Make of Car: Austin/Morris Model: Mini Cooper 'S' - Mk1

Period of Original Manufacture: 1964 - 1967
(NOTE : Specification changes introduced after 1/1/1965 are not eligible under Group Nb requirements)

CAMS Historic Group: Nb

Date of Issue of this Document: February 1999



SECTION 1 - CHASSIS

1.1 CHASSIS FRAME

Description: Manufacturer: Chassis no. from: Chassis no. location: Material: Comments:	Unitary Construction British Motor Corporation KA2S4 of C/A2S7 or YK2S2 prefix Various Steel Any Mk1 Body shell permitted	Period of Manufacture: Dec. 1964 - Oct. 1967
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1.2 FRONT SUSPENSION

Description: Spring medium: Damper Type: Anti-sway bar: Suspension adjustable: Comments:	Independent by Single Top Arm and Lower Wishbone Rubber Cone Telescopic Permitted to be fitted No See Note 2 - Appendix 'A'	Adjustable: Permitted Adjustable: Permitted Method:
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1.3 REAR SUSPENSION

Description: Spring medium: Damper type: Anti-sway bar: Suspension adjustable: Comments:	Independent by Trailing Link Rubber Cone Telescopic Permitted to be fitted No See Note 2 - Appendix 'A'	Adjustable: Permitted Adjustable: Permitted Method:
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1.4 STEERING

Type: Comments:	Rack & Pinion	Make: BMC
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1.5 BRAKES

Type: Dimensions: Material of drum/disc No. cylinders/pots per wheel: Actuation: Caliper: Make, Material, Type: Master cylinder make: Adjustable bias Servo Fitted Comments:	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">Front</td> <td style="text-align: center;">Rear</td> </tr> <tr> <td style="text-align: center;">Disc</td> <td style="text-align: center;">Drum</td> </tr> <tr> <td style="text-align: center;">190 mm x 9.5 mm</td> <td style="text-align: center;">178 mm x 31.75mm</td> </tr> <tr> <td style="text-align: center;">Cast Iron</td> <td style="text-align: center;">Cast Iron</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">Hydraulic</td> <td style="text-align: center;">Hydraulic</td> </tr> <tr> <td style="text-align: center;">Lockheed, Cast Iron, 2-Pot</td> <td style="text-align: center;">Type: Single Piston</td> </tr> <tr> <td style="text-align: center;">Lockheed</td> <td></td> </tr> <tr> <td style="text-align: center;">No</td> <td></td> </tr> <tr> <td style="text-align: center;">Optional</td> <td></td> </tr> </table>	Front	Rear	Disc	Drum	190 mm x 9.5 mm	178 mm x 31.75mm	Cast Iron	Cast Iron	2	1	Hydraulic	Hydraulic	Lockheed, Cast Iron, 2-Pot	Type: Single Piston	Lockheed		No		Optional		Dual system permitted with adjustable bias. Modification to rear brake regulating valve permitted. Adjustment not permitted from drivers normal position. Servo Optional. Ventilated discs NOT permitted.
Front	Rear																					
Disc	Drum																					
190 mm x 9.5 mm	178 mm x 31.75mm																					
Cast Iron	Cast Iron																					
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Lockheed																						
No																						
Optional																						

SECTION 2 - ENGINE

2.1 ENGINE

Make:	BMC		
Model:	A Series		
No. cylinders:	4	Configuration:	In Line
Cylinder Block-material:	Cast Iron	Four Stroke	
Bore - Original:	70.6 mm	Max. allowed:	Refer Comments
Stroke - original:	81.33 mm -	Max. allowed:	81.33 mm
Capacity - original:	1275 cc	Max. allowed:	1300 cc
Cooling method:	Water Cooled		
Identifying marks:	9F/SA/Y or 9F/XE/Y. Block has thin sump web, side covers.		
Comments:	Bore may be varied and stroke reduced provided capacity does not exceed 1300 cc. See Note 3 - Appendix A regarding alternative blocks.		

2.2 CYLINDER HEAD

Make:	BMC		
No. of valves/cylinder:		Inlet: 1	Exhaust: 1
No. of ports total:	5	Inlet: 2	Exhaust: 3
No. of camshafts:	1	Location: In cyl. Block	Drive: Roller chain
Valve actuation:		Pushrods and Rockers	
Spark plugs/cylinder:		1	
Identifying marks:	AEG 163, 126940..		
Comments:	Compared with 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 tooth belt camshaft drive is permitted subject to enclosure within the original timing chain case.		

2.3 LUBRICATION

Method:	Wet Sump	Oil tank location:	N/A
Dry sump pump type:	N/A	Location:	N/A
Oil cooler standard:	Yes	Location:	Behind grille
Comments:			

2.4 IGNITION

Type:	Coil and Breaker type distributor
Make:	Lucas
Comments:	Any form of breakerless or transistorised ignition system prohibited.

2.5 FUEL FEED

Carburettor: Make:	Twin SU HS2 (1 1/4")	Type:	
Fuel injection Make:		Type:	
Supercharged:			
Make:			
Comments:	Other Period carburettors permitted (incl. Weber 45DCOE) subject to integrity of firewall being maintained (see Note 5 Appendix 'A').		

SECTION 3 - TRANSMISSION

3.1 CLUTCH

Make:	Borg & Beck	Type:	Diaphragm
No. of Plates:	1	Diameter:	185 mm
Actuation:	Hydraulic		
Comments :			

3.2 TRANSMISSION

Type:	Manual 4-speed, Synchronesh on 2 nd , 3 rd and 4 th		
Make:	BMC	Model:	Mk1
No. forward speeds:	4	Gearbox location:	Below cyl. block
Gearchange type :	Remote floor mounted	Location:	Centre floor
Case material:	Aluminium	Identifying marks:	226 333 22A 1522
Comments:	Mk1 Straight cut/close ratio gears permitted. "Dog" type non-synchronesh gear sets NOT permitted.		

3.3 FINAL DRIVE

Make:	BMC	Model:	Cooper 'S'
Wheel driven	Front		
Ratios:	4.35:1, 4.267:1, 4.133:1, 3.938:1, 3.765:1, 3.647:1, 3.444:1		
Differential:	Free differential, Helical gears		
Comments:	LSD Permitted		

3.4 TRANSMISSION SHAFTS (EXPOSED)

Number:	2	Location:	Transaxle to front uprights
Description:	Solid steel shafts with Hardy-Spicer or Dunlop rubberised universal joints,		
Comments:			

3.5 WHEELS & TYRES

Wheel type: Original:	BMC steel disc	Material:	
		Original:	Steel
Allowed:	Alternative period style	Allowed:	Aluminium alloy
Fixture method:	Studs and nuts	No. studs:	4
	FRONT		REAR
Wheel dia. & rim width			
Original:	4.5" x 10"		4.5" x 10"
Allowed:	5.5: x 10"		5.5: x 10"
Tyre section:			
Original:	450 x 10"		450 x 10"
Allowed:	175 x 10"		175 x 10"
Aspect ratio - minimum:	60%		60%
Comments:			

SECTION 4 - GENERAL

4.1 FUEL SYSTEM

Tank Location: LH rear (in boot) Capacity: 25 Litres
Fuel pump, type and location: Electric, Rear sub-frame Make: SU AUF 201
Comments: Optional additional 25 litre tank permitted on right hand side of boot

4.2 ELECTRICAL SYSTEM

Voltage: 12 Generator fitted: Alternator
Battery Location: In boot
Comments:

4.3 BODYWORK

Type: Fixed head saloon Material: Steel
No. of seats: 4 No. doors: 2
Comments: See Note 5 - Appendix 'A'

4.4 DIMENSIONS

Track - Front: 1233 mm Rear: 1202 mm
Wheelbase: 2036 mm Overall length: 3054 mm
Dry weight: 640kg
Comments:

4.5 SAFETY EQUIPMENT

Fire extinguisher required
Seat belt required
Rollbar required
Electrical cut off switch required

APPENDIX A

Historic Group Nc - Mini-Cooper S Mk I - Additional Notes

These notes are intended to assist Eligibility Officers in assessing candidate cars for classification under Group Nc regulations. At all times the Group Nc regulations as published in the CAMS Manual of Motor Sport must be adhered to.

In considering Cooper 'S' 1275 cars, it must be borne in mind that production of the model is documented as having commenced on 7 December 1964 - less than a month before the termination of the Appendix J regulations of the time. Clearly the vehicle specifications related to that early period of production are the only ones acceptable under Group Nb. 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. Clearly the vast majority of such developments took place after Appendix J terminated, and thus are not 'period specifications' as far as Group Nb is concerned.

NOTE 1

Front and rear sway bars are permitted. However adjustment may only be by movement of linkage location, threaded adjustment etc.

NOTE 2

All suspension arms must be of BMC manufacture and be unmodified: "cutting and shutting" of these components is prohibited. Re-threading of caster arms is prohibited; however re-bushing or shimming to achieve caster change is permitted. Suspension pick-up points may be moved by not more than 25mm from original location. Adjustable shock absorbers are permitted; remote adjustment (ie from within cockpit) and the use of remote reservoir shock absorbers are not permitted.

NOTE 3

Replacement of the original Mk1 block with the Mk2 block or the 1100S block is authorised. The Mk2 block is identified by prefix 9F/XE/Y, has a vertical rib beside the dipstick, a thick bottom sump web and side covers. The 1100S block is generally prefixed "12", has no side covers, can have thick or thin sump web and has two core plugs at the flywheel end.

The 1100S head has 9 studs - by comparison the Mk1 head has 11 studs, the additional two being a 5/16" stud centrally placed near the thermostat housing, and a 3/8" stud centrally placed at the rear of the head.

NOTE 4

When viewed from above, no portion of the tyre tread is permitted to be visible beyond the mudguard moulding. It is acceptable for the tyre 'bag' to be visible.

NOTE 5

Any Mk 1 body is permissible provided the wipers 'gark' to the RH bottom of the windscreen and the doors are of sliding window type.

The following internal features of the Mk 1 (later versions were subject to change) should be present:

- The indicator arm includes a green light at the end and had only indicator function.
- The horn button was mounted on the centre of the steering wheel.
- The dip switch was floor mounted, near the clutch pedal.
- The instrument panel was vinyl covered and was attached by four self-tapping screws.
- The speedometer was a 120 mph instrument.
- The two small instruments had a circular needle action (later models had arc action).
- The gearshift lever was two-piece construction (see sketch) and chrome plated.
- Dashboard ventilator mouldings of steel.
- Chromed lower dashboard mouldings below speedometer.
- Chromed mouldings on front and rear side pockets.
- Chromed ashtray (with lid) on dashboard.
- Chromed ashtrays in rear side pockets.
- Aluminium or rubber kick-plates on door pockets.

In order to accommodate a Weber carburettor, it is permissible to reform the speedometer aperture sheet metal (removal of metal is not permitted) to achieve not more than 50mm increase in dimension. Note that the integrity of the firewall between engine compartment and passenger compartment must be maintained.

All trim items other than the floor mats must be in place.

The standard seat is not very robust and if used for competition it is recommended that the seat frame and mountings be strengthened.

Cooper S models were fitted with a brake/clutch pedal assembly of improved strength, and these are recommended.

Flared guards are not permitted.

NOTE 6

The Austin Cooper S version of the car is required to conform with all specification requirements detailed above and the differences in this model are:

"Austin" badges on bonnet and foot.
The distinctive Austin front grille.

