

The instruments and switches

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|---------------------------------|---------------------------------------|
| 1. Heater control. | 9. Ignition warning light. |
| 2. Wiper switch. | 10. Headlamp main-beam warning light. |
| 3. Ignition and starter switch. | 11. Temperature gauge. |
| 4. Lighting switch. | 12. Oil pressure gauge. |
| 5. Mixture control (choke). | 13. " " warning light. |
| 6. Speedometer. | 14. Windshield washer control. |
| 7. Total distance recorder. | 15. Instrument panel light switch. |
| 8. Fuel level gauge. | 16. Oil filter warning light. |

Water temperature gauge

The temperature gauge indicates the temperature of the coolant entering the radiator from the cylinder head. After the initial rise in temperature during the warming-up period any undue upward change in reading calls for immediate investigation. The gauge does not react instantaneously to changed conditions, but does so slowly.

Lubrication warning lights

Two orange warning lights, one on each side of the instrument panel face, are provided. The light on the left hand side indicates lubrication oil pressure and the light on the right indicates oil filter operation.

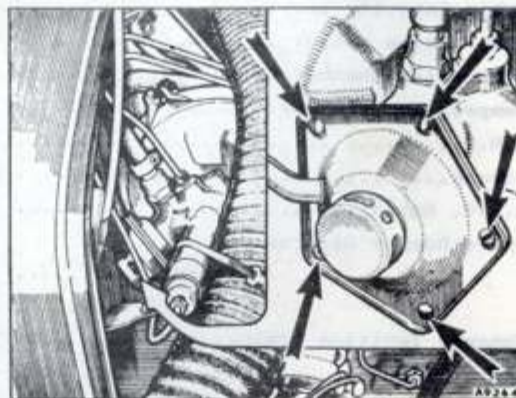
When the ignition is switched on the oil pressure light should glow and as soon as the engine starts the light must go out. If the light continues to glow the engine must be stopped immediately and the cause of the lack of pressure investigated. Similarly if the light begins to glow whilst driving the engine must be stopped and the cause must immediately be investigated.

When the oil filter warning light commences to glow this is an indication that the oil filter is no longer operative and must be replaced as soon as possible within a maximum of a further 300 miles.

12,000 MILES

Servo air filter

Detach the air valve cover by removing the five screws, push the air valve located in the centre of the under side of the cover off its seat, and blow compressed air at low pressure into the filter chamber. Do not lubricate the filter or attempt to remove it from the air valve cover. Release the outer end of the heater air intake hose to gain access to the filter unit.



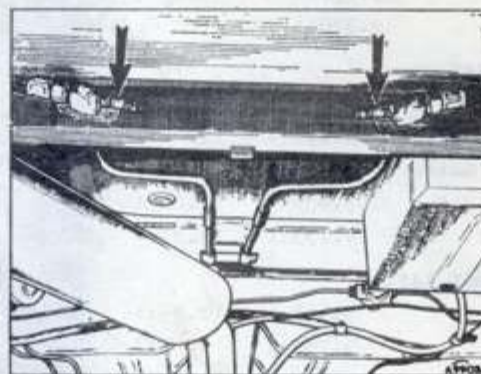
Indicating the retaining screws for the air valve cover and location of the servo

The above operation must be carried out in addition to the Maintenance Attention detailed in the Driver's Handbook.

HYDROLASTIC SUSPENSION

Under no circumstances must the system be tampered with. The valves shown in the illustration must not be touched.

Should the suspension system suffer damage and lose fluid, the suspension arms on the damaged side of the vehicle will contact both the front and rear bump rubbers. In this condition the car can be driven with complete safety at 30 m.p.h. over metalled roads to the nearest authorized Dealer.



The Hydrolastic suspension. Do not open these valves without the correct equipment OF COMPETITION HYDROLASTIC FLUID

The
MORRIS
cooper "S"

**DRIVER'S HANDBOOK
SUPPLEMENT**

For use with Driver's Handbook TP 757

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**THE BRITISH MOTOR CORPORATION
(AUSTRALIA) PTY. LIMITED**

PART No: TP 766A

GETTING THE BEST FROM YOUR MORRIS COOPER "S"

The engine fitted to your Cooper "S" is a highly developed unit and it is essential that you should know something about the specialized maintenance it requires if you are to maintain it at the peak of its mechanical efficiency.

Special recommendations on the sparking plugs, ignition settings, and fuel to be used are given and it is stressed that failures may occur if these are not strictly adhered to. Particular care is needed with this engine owing to its high ratio, which makes it sensitive to variations in fuel, ignition timing, and the heat range of the sparking plugs.

CHOICE OF FUEL

High octane fuels have been produced to improve the efficiency of engines by allowing them to operate on high compression ratios, resulting in better fuel economy and greater power. Owing to the high compression ratio of the Cooper "S" engine, fuels with an octane rating below 100 are not suitable.

SPARKING PLUGS

The correct grade of sparking plug for use under normal driving conditions is the Champion N9Y. Plugs of a lower heat range (hotter running) should not be used, otherwise pre-ignition will occur, with consequent rise in combustion temperature and possible engine damage. For competition work or hard driving where high output is constantly sustained the Champion N3 sparking plug should be used. This is a cooler running plug and will ensure lower combustion temperatures and an increased margin of safety. Accumulated deposits of carbon, leaking or cracked insulators, and thin electrodes are all causes of pre-ignition. The plugs should therefore be examined, and adjusted at the specified intervals and defective ones renewed.

DYNAMIC IGNITION SETTING

Standard setting 100 octane fuel, 3° A.T.D.C. at 600 R.P.M.

It is of the utmost importance that the above setting is always maintained. It will be appreciated that any variation in the contact breaker gap will affect the ignition setting, and your particular attention is called to the 6,000 miles check of the distributor points specified in the Driver's Handbook. After adjusting the contact breaker gap, check the ignition timing, and correct if necessary.

TUNING FOR ALTERNATIVE FUELS

Should the car be used for normal city driving where the use of super grade fuel would be more economical and desirable, it is recommended that the engine be adjusted to the following specifications.

For temporary use of super fuel, set ignition timing dynamically to 10° A.T.D.C. at 600 R.P.M.

For permanent use of super fuels, replace distributor centrifugal advance springs with Part No. 54412714 and reset ignition dynamically to 5° B.T.D.C. at 600 R.P.M.

It must be accepted that with either of these deviation from standard setting, performance will deteriorate without causing damage to the power unit.

MORRIS COOPER "S"

GENERAL DATA

Use in conjunction with Drivers Handbook TP 757

Engine.....	4-cylinder, overhead valves
Bore & Stroke	2.781 in x 3.2 in.
Cubic Capacity	1275 c.c.
Compression ratio:	9.75:1
Combustion Chamber Capacity.....	21.4 c.c.
Compression Pressure.....	150 P.S.I. Minimum
B.H.P.....	75 at 5,800 R.P.M. (78 groos)
Torque.....	80lbs/ft. at 3,000 R.P.M.
R.A.C. Rating.....	12.4 H.P.
Valve Rocker Clearance	
	Standard..... .012"
	Competition..... .015"
Dynamic Ignition Timing.....	3° A.T.D.C. at 600 R.P.M.
Spark Plugs.....	Champion N 9Y
Spark Plug gap.....	.025"
Wheel Size.....	4½J x 10
Tyre Size.....	145 x 10 Radial Ply
Tyre Pressure..... Front.....	28 P.S.I.
Tyre Pressure..... Rear	24 P.S.I.

GEARBOX	STANDARD	OPTIONAL
Top	1.0:1	1.0:1
Third	1.357:1	1.242:1
Second	1.916:1	1.780:1
First	3.320:1	2.568:1
Reverse	3.320:1	2.568:1

OVERALL GEAR RATIOS

		1st and reverse	2nd	3rd	4th
Standard Final Drive	3.444:1	11.02:1	6.60:1	4.67:1	3.444:1
Optional Gear Ratio	3.765:1	12.05:1	7.21:1	5.11:1	3.765:1
" " "	3.939:1	12.06:1	7.54:1	5.34:1	3.939:1
" " "	4.133:1	13.27:1	7.92:1	5.61:1	4.133:1

OPTIONAL GEARBOX RATIO

	3.444:1	18.84:1	6.13:1	4.28:1	3.444:1
	3.765:1	9.66:1	6.70:1	4.68:1	3.765:1
	3.939:1	10.12:1	7.02:1	4.89:1	3.939:1
	4.133:1	10.61:1	7.35:1	5.13:1	4.133:1

ROAD SPEED IN TOP AT 1,000 R.P.M.

3.444:1	16.07 m.p.h.
3.765:1	14.7 m.p.h.
3.939:1	14.06 m.p.h.
4.133:1	13.4 m.p.h.

Brake Operating System	Hyd. power assist.
Rear Drum Dia.	7 ins.
Master Cyl. Bore Dia.	.70 in.
Front Wheel Caliper Bore Dia.	1¼ in.
Rear Wheel Cyl. Bore Dia.	½ in.
Front Brake Disc Dia.	7½ in.
Type of Carburetter	Twin S.U. HS2 (1¼)"
Carburetter Jet Size	.090in.
Carburetter Needle Size Std.	M
" " " Weak	EB
" " " Rich	AH2
Carburetter Spring	Red
Type of Air Cleaner	Paper Element
Weight of Flywheel	16¼ lbs.
Valve Timing - Inlet	5° B.T.D.C.
	45° A.B.D.C.
Valve Timing - Exhaust	51° B.B.D.C.
	21° A.T.D.C.
Valve Lift	.318 in.
Safety Belts	B.M.C. Britax
Brake Linings- Front	DS 11 Pads
Brake Linings- Rear	DON 202
Normal kerb weight	1411 lbs.

DIMENSIONS:

Track	Hydrolastic Suspension.
	Front: 4.5 in. rim 49¼ in. (nominal)
	Rear: 4.5 in. rim 47-21/32 in. (nominal)

NOTE: Readings to be taken at centre line of the tyre bag at normal tyre and suspension pressures, together with a vehicle load of 500 lbs.

Turning Circle	31 ft. 7"
Fuel Tank Capacity(twin tanks)	11 gallons
Windscreen	Laminated Glass
Suspension	Front Hydrolastic. Competition displacer unit, and special fluid.
	Rear " " "

