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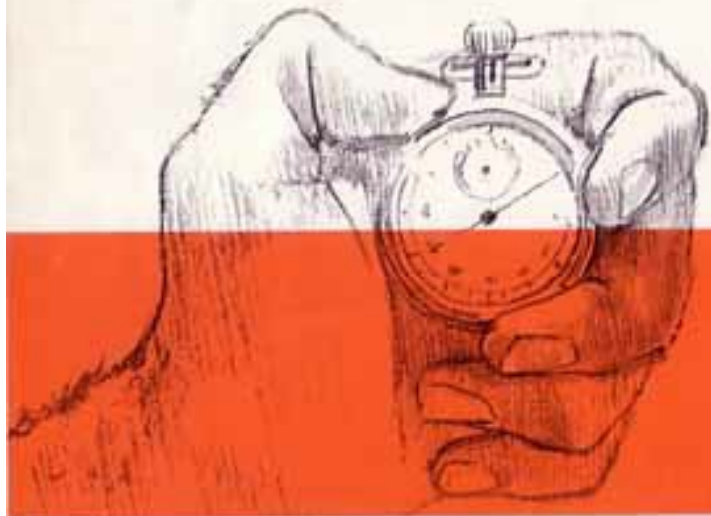
MINI-COOPER

'S' TYPE

1963

No ~~319~~
56





Specially developed from the Mini-Cooper, for use in trials, rallies, and competition events for the enthusiast who requires something extra

The success story bestowed on the amazing Mini-Cooper saloon is now legend throughout the world. Its performance is generally accepted to be in advance of many cars of much bigger capacity, but for the enthusiast who requires just a little extra for competition events such as speed trials and rallies the 'S'-type Mini-Cooper has been specially developed.

The engine is entirely new, having been developed from racing experience. The special crankshaft is larger in diameter to give long life under competition conditions. Valves are of Nimonic steel and the connecting rods are of a special type, incorporating floating gudgeon pins.

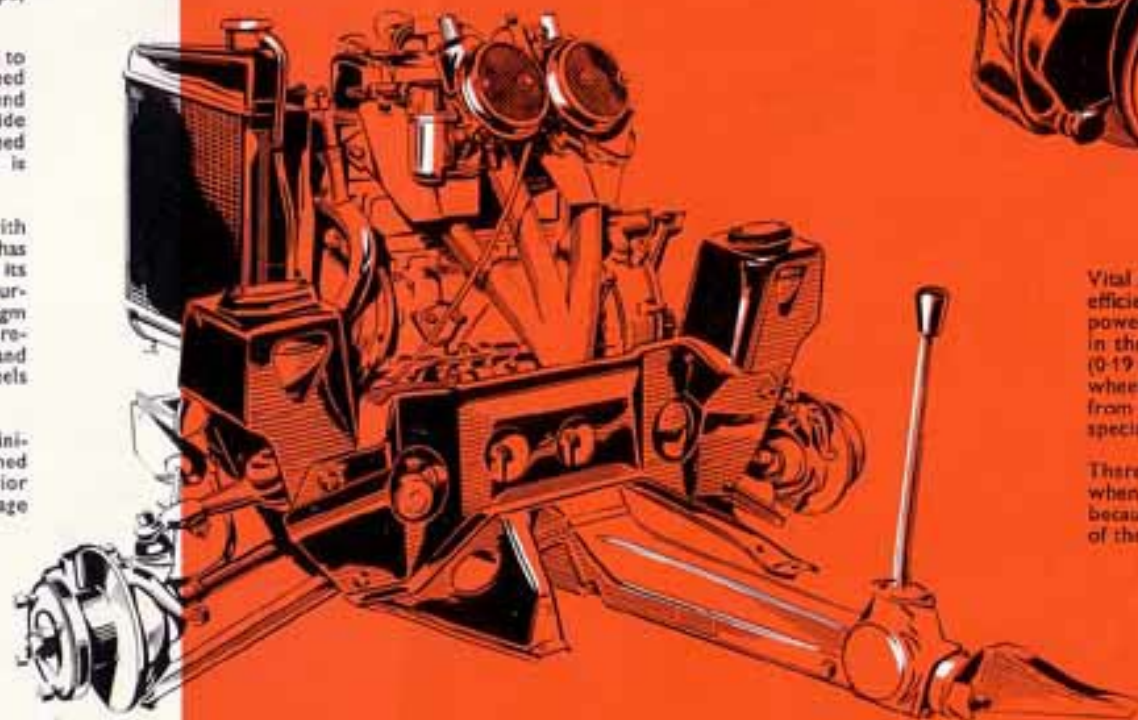
Being a little over 1 litre in capacity, this latest addition to the Mini range has phenomenal acceleration, and a top speed to match well in excess of 90 m.p.h. The proved all-round independent suspension and 145-10 5P tubed tyres provide the necessary extra grip-tight road-holding for high-speed performance—a feature with which the Mini-Cooper is already well endowed.

Now well established as the smallest car to be fitted with front disc brakes, the system of the 'S'-type Mini-Cooper has further super-safety features developed in parallel to its performance. Larger front disc brakes are fitted and the four-wheel hydraulic system includes a 5½ in. (0.14 m.) diaphragm servo providing assistance on the foot brake. A pressure-limiting valve in the line between the master cylinder and the rear brakes reduces the possibility of the rear wheels locking under high pedal pressure.

In spite of its tuned mechanical nature, the 'S'-type Mini-Cooper nevertheless remains a perfect family saloon. Trimmed and equipped exactly as the Mini-Cooper saloon, the interior provides ample comfort for four adults with room for luggage in spite of its compact proportions.

Truly a remarkable combination of ingenious design and engineering perfection, providing the competition enthusiast with the cheapest means of pursuing his sport without impairing the manufacturer's warranty on his vehicle!

The new 'S'-type engine is a big-bore, short-stroke type, of 1071 c.c. capacity. This overhead-valve twin-carburettor engine, four-speed close-ratio gearbox with baulk ring synchromesh on second, third, and top, and front-wheel final drive are all assembled as one complete unit and transversely mounted on a separate sub-frame. Almost everything of a major mechanical nature requiring periodic maintenance or adjustment is there beneath the bonnet, ingenious design enabling high-speed servicing of the Mini-Cooper at no more inconvenience than the raising of its bonnet top!



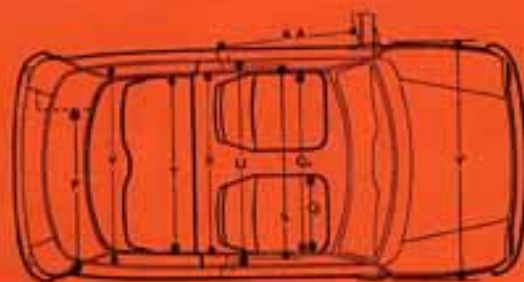
Vital to any competition car is an efficient braking system. The power to stop quickly is inherent in the 'S'-type saloon. The 7½ in. (0.19 m.) disc brakes on the front wheels are a further development from those successfully designed specially for the Mini-Cooper.

There can be no lack of confidence when motoring at high speed because safety is a built-in feature of the 'S'-type Mini-Cooper!

Emphasis is definitely on the instrument panel in competition events. And there is no difficulty in deciphering what is happening in the 'S'-type Mini-Cooper. The instruments are contained in a centrally placed oval nacelle, the speedometer contains a fuel gauge, and separate gauges are provided for water temperature and oil pressure. Concealed illumination is provided for night driving.



Specification



Dimensions

AA 3 ft. 8 in. (0.81 m.)	A 3 ft. 1½ in. (0.95 m.)	B 3 ft. 10½ in. (0.88 m.)	C 1 ft. 6 in. (0.46 m.)	D 1 ft. 5 in. (0.43 m.)
E 1 ft. 7 in. (0.40 m.)	F 1 ft. 8 in. (0.51 m.)	G 1 ft. 1½ in. (0.34 m.)	H 1 ft. 1 in. (0.33 m.)	I 11 in. (0.29 m.)
J (min.) 7½ in. (0.19 m.)	J (max.) 1 ft. 4½ in. (0.42 m.)	J (min.) 1 ft. 0½ in. (0.32 m.)	K 6½ in. (0.17 m.)	L (max.) 3 ft. 7½ in. (1.10 m.)
L (min.) 3 ft. 5 in. (1.04 m.)	M (max.) 3 ft. 8½ in. (1.13 m.)	M (min.) 3 ft. 2½ in. (0.98 m.)	N 1 ft. 6 in. (0.46 m.)	O 1 ft. 10 in. (0.56 m.)
P 3 ft. 2 in. (0.97 m.)	Q1 1 ft. 8 in. (0.51 m.)	Q2 3 ft. 7½ in. (1.10 m.)	R 3 ft. 5 in. (1.04 m.)	S 3 ft. 9½ in. (1.14 m.)
T 3 ft. 5 in. (1.04 m.)	U 3 ft. 10 in. (1.17 m.)	V 3 ft. 8½ in. (1.13 m.)	W 6 ft. 8 in. (2.03 m.)	X 4 ft. 5 in. (1.35 m.)
Y 4 ft. 7½ in. (1.41 m.)	Z 10 ft. 0 in. (3.05 m.)	Boot Cap'y 5½ cu. ft. (0.16 m. ³)	Weight 125 cwt. (635 kg.)	

ENGINE: In-line, water-cooled, overhead-valve, 4-cylinder. Three-bearing counterbalanced crankshaft, 1½ unit with clutch, gearbox, and final drive, installed transversely at front of car. Bore 2.781 in. (70.6 mm.); stroke 2.687 in. (68.26 mm.); cubic capacity 65.35 cu. in. (1071 c.c.); compression ratio 9 : 1; standard b.h.p. 48 at 5,750 (70 gross) r.p.m.; maximum torque 42 lb. ft. at 4,500 r.p.m.

Fuel System: Two S.U. carburettors, type HS2, with pancake-type air cleaners. S.U. electrical fuel pump, type SP, mounted under tank at rear. Petrol tank capacity 5½ gallons (25 litres). Fuel filters in pump and fuel tank.

Lubrication System: Full pressure to engine bearings; sump forms oil bath for gearbox and final drives; internal gear-type pump driven by camshaft; full-flow oil filter with renewable element; gauze strainer in sump; magnetic sump drain plug; oil capacity, including transmission, 8 pints (4.5 litres) approximately, plus 1 pint (0.57 litre) for filter.

Ignition System: 12-volt, coil, and distributor with automatic and vacuum control.

Cooling System: Pressurized radiator with pump, fan, and thermostat; capacity approximately 5½ pints (3 litres), plus 1 pint (0.57 litre) for heater when fitted.

CHASSIS: Transmission: Clutch, 7½ in. (184 mm.) diameter designed to withstand high-speed running, hydraulic operation by pendant pedal. Gearbox, 4-speed with baulk ring synchromesh on second, third, and top; is unit with engine and final drive, remote control central floor gear change lever. Final drive on front wheels via helical spur gears, universal joints, and open shafts; drive casing in unit with engine and gearbox.

Gear Ratio	3.765 : 1 (17/64) Standard Final Drive		3.44 : 1 (18/62) Optional Final Drive	
	Overall	Road Speeds at 1,000 r.p.m.	Overall	Road Speeds at 1,000 r.p.m.
Reverse	3.20 : 1	12.05 : 1	11.022 : 1	—
1st	3.20 : 1	12.05 : 1	4.39 m.p.h.	11.022 : 1
2nd	1.92 : 1	7.21 : 1	7.67 m.p.h.	6.599 : 1
3rd	1.36 : 1	5.11 : 1	10.63 m.p.h.	4.674 : 1
Top	1.00 : 1	3.765 : 1	14.70 m.p.h.	3.444 : 1
14.70 m.p.h.				

Optional Gearbox	3.765 : 1 (17/64) Final Drive		3.44 : 1 (18/62) Final Drive	
	Overall	Road Speeds at 1,000 r.p.m.	Overall	Road Speeds at 1,000 r.p.m.
Reverse	2.57 : 1	9.66 : 1	8.85 : 1	—
1st	2.57 : 1	9.66 : 1	5.73 m.p.h.	8.85 : 1
2nd	1.78 : 1	6.70 : 1	8.26 m.p.h.	6.13 : 1
3rd	1.24 : 1	4.68 : 1	11.64 m.p.h.	4.28 : 1
Top	1.00 : 1	3.765 : 1	14.70 m.p.h.	3.44 : 1
14.70 m.p.h.				

Steering: Rack and pinion; 2½ turns lock to lock; 2-ropes, 15½ in. (0.40 m.) diameter steering-wheel; turning circle 31 ft. (9.45 m.). Track (with 3½-in. rim wheels)—front 3 ft. 11½ in. (1.21 m.), rear 3 ft. 10½ in. (1.18 m.). Track (with 4½-in. rim wheels)—front 4 ft. 9½ in. (1.24 m.), rear 3 ft. 11½ in. (1.21 m.).

ROAD WHEELS: Pressed-steel, 4-stud fixing, 145-10 SP tubed tyres on 3½-in. or 4½-in. rims. Chromium embellishers fitted.

SUSPENSION: Front (includes final drive)—Independent with arms of unequal length. Swivel hubs mounted on ball joints. Rubber springs and shock absorbers mounted above upper arms. Upper arms mounted on needle-roller bearings and lower arms on rubber bearings at inner end. Fore and aft location by rubber-mounted tie-rod. **Rear**—Independent trailing arms with rubber springs and shock absorbers. Arms carry stub shafts for hubs, which have twin dual-purpose bearings. Telescopic hydraulic shock absorbers oil round.

BRAKES: Foot—All four wheels hydraulically operated by pendant pedal and supplemented by 3½ in. diaphragm servo. 7½ in. diameter disc brakes at front and 7 in. diameter 1½ in. wide drum brakes at rear. A pressure-limiting valve is introduced in the line between the master cylinder and the rear brakes. **Hand**—Hand-operated pull-up lever which operates on rear wheels.

ELECTRICAL: 12-volt, 43-amp-hr. capacity battery at 20-hr. rate, located under floor of boot. Double-dipping headlamps with foot-operated dip switch; sidelamps in headlamps with separate bulbs; rear lamps, stop lamps, reflectors, and flashers are all combined in single units; rear number-plate illuminating lamp; roof lamp with integral switch; separate front amber flashers, self-cancelling switch under steering-wheel with warning light in the end of the lever. Twin-blade electrical windscreen wipers. Single Windtune horn with push in centre of wheel. Concealed instrument illumination.

INSTRUMENTS: Speedometer, with fuel gauge and warning lights to show dynamo not charging and headlamp high-beam position. Separate gauges for oil pressure and water temperature. The various switches, including combined ignition/starter switch, are mounted on a panel in the centre of the parcel shelf.

COACHWORK: Four-seater, 4-light, 2-door saloon of all-steel unitary construction. Bonnet top hinged at rear edge and supported in open position by pivoted rod. Bonnet lock and safety catch incorporated behind radiator grills. Curved, toughened-glass, windscreen with twin-jet windscreen washer. The doors are hinged at their forward edges by outside hinges. Each door has a large inside pocket and is fitted with 2 independently adjustable sliding glasses. Exterior handle on driver's side has private lock; passenger's door locked from inside by trip catch. The doors are opened from inside by chromium-plated, lever-type handles. Hinged quarter windows. Wide, curved rear window. Rear luggage compartment contains spare wheel and tyre, and has drop-down, luggage-carrying lid with hinged number-plate and lockable handle. Bright plastic external finishers fitted to windscreen and rear window. Door window frames and lower panel sills have bright metal finishers. Chromium-plated wheel embellishers, rear number-plate lamp, fuel filler cap, also front/rear bumpers with over-riders and tubular extensions. Entire interior trim completed in washable vinyl-treated fabric; windscreen bottom rail and sideappings trimmed black to eliminate windscreen reflections. Ashtray incorporated in fascia. Large oval instrument panel, trimmed black, contains speedometer with oil pressure and water temperature gauges. Full-width parcel shelf runs beneath and contains central switch panel, interior anti-glare mirror and dual sun visors. Adjustable front seats. Front and rear seat cushions upholstered with polyether; squabs upholstered with rubberized hair. Companion box on each side of rear seat includes ashtray, interior roof lamp fitted. Parcel shelf behind rear seat and supplementary luggage space beneath. Kicking protectors fitted to doors and door sills. Entire floor, including plywood spare wheel cover in luggage compartment, covered in hard-wearing carpet, with underfelts. Fresh-air heater/demisters fitted. Extensive silent travel material applied to the main body panels.

OPTIONAL EQUIPMENT: Additional 5½-gal. (25-litre) fuel tank, oil cooler-ump guard, 5-00L—10 tubed tyres.

EXPORT AVAILABILITY: For the specific Export requirements encountered throughout the world numerous production variations are available. The following items can therefore be alternatively supplied at no extra cost: m.p.h. or km.p.h. speedometer; right- or left-hand steering; headlamp and flasher equipment to suit any overseas territory; rubber mats in lieu of carpet floor covering. Optional equipment at extra cost includes: fresh-air heater (heater is not considered standard equipment for Export markets); radio; laminated windscreen.

THE AUSTIN MOTOR COMPANY LIMITED
LONGBRIDGE BIRMINGHAM
AUSTIN MOTOR EXPORT CORPORATION LIMITED
LONGBRIDGE . . . BIRMINGHAM . . . ENGLAND

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