Road Test Report of

THE

MORRIS MINI-COOPER

Reprinted from

The Motor

September 20, 1961

MinipassionMini.com
**Make:** Morris  
**Makers:** Morris Motors, Ltd., Cowley, Oxford.

**Type:** Mini-Cooper.

### Test Data

**Conditions:** Weather: Dry, hot with slight breeze.  
Temperature: 66°F-77°F,  
Barometer: 29.5 in. Hg.  
Surface: Dry concrete and tarred macadam.  
Fuel: Premium-grade pump petrol.  
(Note: With Research Method Octane Rating.)

**Instruments:**  
Speedometer at 30 m.p.h.: 35 ft.  
Speedometer at 60 m.p.h.: 1% slow.  
Speedometer at 80 m.p.h.: 1% slow.  
Distance recorder: 1% slow.

**Weight:**  
Kerb weight (laden, but with oil container and fuel approx. 50 miles): 12½ cwt.  
Front/rear distribution of kerb weight: 62/38.  
Weight laden at tested: 16½ cwt.

**Maximum Speeds:**  
Mean top speed around banked circuit: 70.2 m.p.h.  
Best one-way 1-mile time equals: 87.4 m.p.h.

**“Maximum” Speed:**  
(Timed quarter mile after one mile accelerating from rest)  
Mean of opposite runs: 82.3 m.p.h.  
Best one-way time equals: 84.1 m.p.h.

**Speed in Gears:**  
3rd gear: 63 m.p.h.  
2nd gear: 46 m.p.h.  
1st gear: 28 m.p.h.

**Fuel Consumption:**  
44.5 m.p.g. at constant 30 m.p.h. on level.  
11.0 m.p.g. at constant 40 m.p.h. on level.  
21.0 m.p.g. at constant 50 m.p.h. on level.  
15.0 m.p.g. at constant 60 m.p.h. on level.  
13.5 m.p.g. at constant 70 m.p.h. on level.  
21.0 m.p.g. at maximum speed of approx. 85 m.p.h. or over.

**Overall Fuel Consumption:** 1.04 miles, 30.75 gallons, equal 3.46 m.p.g. (9.15 litres/100 km).

**Touring Fuel Consumption:** (m.p.g. at steady speed mid-way between 30 m.p.h. and maximum, less 5% allowance for acceleration) 40.5 m.p.g.

**Fuel Tank Capacity:** (makers’ figure) 33 gallons.

**Steering:**  
Turning circle between kerbs:  
Left: 31½ ft.  
Right: 29½ ft.  
Turning circle from lock to lock: 2 ft.

**Brakes from 30 m.p.h.:** (tested when warm, see text)  
0.30 g retardation (equivalent to 33 ft. stopping distance) with 90 lb. pedal pressure.  
0.50 g retardation (equivalent to 37 ft. stopping distance) with 120 lb. pedal pressure.  
0.16 g retardation (equivalent to 12 ft. stopping distance) with 50 lb. pedal pressure.  
0.25 g retardation (equivalent to 120 ft. stopping distance) with 25 lb. pedal pressure.

**ACCELERATION TIMES:**  
0-30 m.p.h.: 4.8 sec.  
0-60 m.p.h.: 11.8 sec.  
0-100 m.p.h.: 26.3 sec.  
Standing quarter mile: 21.1 sec.

**Hill Climbing at Sustained Steady Speeds:**  
Max. gradient 10-30 m.p.h.: 1 in 12.4 (Tapley 180 lb. lon).  
Max. gradient 30-50 m.p.h.: 1 in 7.5 (Tapley 292 lb. lon).  
Max. gradient 50-80 m.p.h.: 1 in 5.3 (Tapley 415 lb. lon).
The Morris Mini-Cooper

New duo-tone colour schemes, a chromium-plated grille and the Morris Cooper motif are the only exterior features which distinguish this from standard Mini-Minors.

A Wolf Cub in Sheep's Clothing

As one of the world’s most compact genuine four-seat cars, the Morris Mini Minor is famous also for its immensely responsive steering. When the name Cooper is added to its title, the Mini Minor justifies identification with the builders of world championship-winning Grand Prix cars by having a larger and more sporting engine, close-ratio gears and disc front brakes which lift its road performance into an even higher class. With a top speed of just over 85 m.p.h. and effortless top gear acceleration such as one associates with considerably larger cars as well as very quick acceleration when the gears are used, the “Mini” becomes an extremely rapid car on ordinary give-and-take roads.

First impressions are not of a sporting car, however, but of a compact yet roomy saloon which is much more “de luxe” in its furnishing than the majority of small cars. Upholstery has been smartened up, and the washable plastic roof lining now carries a proper interior lamp; the centrally placed instrument nacelle has been widened to accommodate a thermometer and oil pressure gauge although it remains rather remote from the driver’s normal sight line and, after dark, only the speedometer and fuel contents gauge are illuminated. Less conspicuous improvements are also welcome, sliding windows in the doors having much more satisfactory catches than were fitted to early Mini-Minors (although the hinged rear quarter windows are still liable to blow shut at high cruising speeds, blowing open again when a door is slammed!) and the starter operating from the ignition key instead of from a button. Availability of a fresh-air interior

Oil pressure and water temperature gauges supplement the improved centrally mounted speedometer dial. Better upholstery and a remote control gear lever are also standard features.

In Brief

Price £465, plus purchase tax
£214 7s. 3d. equals £679 7s. 3d.

Capacity ....... 997 c.c.

Unladen kerb weight .. 12½ cwt.

Acceleration:
20-40 m.p.h. in top gear .. 11.8 sec.
0-50 m.p.h. through gears 11.8 sec.

Maximum top gear gradient 1 in 12.4.

Maximum speed .... 85.2 m.p.h.

“Maximile” speed .. 82.3 m.p.h.

Touring fuel consumption .. 40.5 m.p.g.

Gearing: 14.9 m.p.h. in top gear at
1,000 r.p.m.; 27.4 m.p.h. at 1,000 ft./min. piston speed.
heater brings a welcome end to misting-up dangers in humid weather, although on our test car the push-pull cable operation of its hot water valve failed. A carpeted floor in the luggage locker is another improvement, especially as this floor over the spare wheel can readily be removed for special occasions when every possible cubic inch of space is required.

Such refinements as these emphasize that the Mini-Cooper is not a racing Mini-Minor, but a better all-round car than the lower-priced versions which preceded (and of course continue in production alongside) it. Engine tuning alone could have given power at high r.p.m., but the long-stroke crankshaft which increases engine displacement from 848 c.c. to 997 c.c. also gives such figures as top gear acceleration from 20 to 40 m.p.h. in only 11.8 sec. That sort of urge in top gear, and ability to exceed 85 m.p.h. on the level, would be highly satisfactory for a conventional saloon car of 2-litre engine size.

A moderate degree of tune has been applied to the engine, although it will still run on premium petrol without demanding “100 octane” fuel. Our test model had a lumpy and rather fast tick-over, perhaps partly due to the special camshaft which lets it breathe well at high r.p.m. but not helped by awkward access to two S.U. carburetters, adjuster screws on which have only the feeblest springs to discourage them rotating as the engine vibrates. A very real advantage of this twin-carburettor long-stroke engine was its willingness to pull smoothly and hard almost immediately after a start from cold, and although at low cruising speeds it uses slightly more fuel than the smaller single-carburettor engine, overall petrol economy is excellent for such a roomy and lively car.

Welcome though its “big car” ability to overtake or sweep easily uphill in top gear may be, this version of the Mini-Minor also has closer spacing of its four gearbox ratios. Marks on the speedometer dial which it seems purposeless to overstep suggest maxima of approximately 65 m.p.h. in 3rd gear, 45 m.p.h. in 2nd gear and nearly 30 m.p.h. in 1st gear, these being the change-up speeds used when recording (with two men and some heavy test equipment aboard) such figures as from rest to 50 m.p.h. in 11.8 sec. and to 70 m.p.h. in 26.3 sec.

Adoption of the traditional sports car remote control brings this model’s gear lever to a very convenient position, but with the transverse engine and front-wheel drive involves mechanical complexities. The gear control is very satisfactorily positive, but after some 3,000 miles was still heavy to use on our test car; synchronmesh is provided on the upper three gears, and although better than hitherto it remains rather easy to override. Despite the high bottom gear, restating with two or three people in the car is possible on a 1 in 4 hill, and the handbrake holds securely even on steeper gradients if pulled up with reasonable firmness.

An exhaust note which is business-like but not aggressive, a new 16-blade fan to push air transversely through the radiator, and widespread use of sound-absorbing material make this model at least as quiet as earlier Mini-Minors and at times usefully quieter. It can cruise very effortlessly at 70 m.p.h. or more, but when driven hard it reminds one, by appreciable power roar and road rumble augmented by general fussiness towards the maximum speeds in the lower gears, that this is a small and light car. It is obviously unfair, but given a small saloon which performs like larger models costing perhaps twice as much, one tends to expect also the refinement of a much heavier and more cumbersome vehicle. Nothing could be less cumbersome than a Mini-Minor, and either by chance or thanks to the nylon tyres fitted to Cooper models, our test car seemed more than normally responsive to a light touch on its steering. One cannot say that it is anything but stable, yet it takes very little steering movement to swing the Mini-Cooper round an obstacle during fast driving. Taken into a corner as fast as seems safe or a little faster, this little saloon slaws its way round with a good deal of “drift” but a notably stubborn reluctance to spin or run out of road.

More power means that the effect normal to front-wheel-driven cars (which, if the accelerator pedal is released whilst cornering, self-centre their steering less strongly and show less understeer) is a little more evident, but it never seems to become embarrassing.

By 1961 standards Mini-Minors have unusually firm suspension, but damping is gentle and the progressiveness of rubber springs is such that one cannot ever detect a bump stop coming into harsh
The Morris Mini-Cooper

A carpeted floor over the spare wheel can be removed if extra luggage space is needed.

On a secondary road the ride can be lively, but it is shock free and has no exaggerated movements such as can induce carsickness in more softly sprung vehicles—major humps or hollows which worry some soft-riding cars are almost totally ignored. Riding comfort seems just as good in the back seat as in front.

Application of disc brakes to the front wheels has certainly achieved the desired result of eliminating fade in severe conditions. Several stops from 60 m.p.h. or more, made in a quick series, can produce a smell of hot brakes as large amounts of energy are dissipated, but instead of their effectiveness fading the brakes then become rather more responsive to moderate pedal pressures. In utter contrast to what has been normal, the one circumstance which can require an embarrassingly large pedal effort to bring the wheels close to locking is the need to make an emergency stop when the brakes are completely cold as a result of the pedal having remained untouched during a good many miles.

Whilst some people who have not yet experienced it for themselves are still incredulous concerning the very large amount of passenger space which can exist in a car only 10 ft. 6 in. long, most keen motorists know what a miracle has been performed by banning the engine and gear-box to a tight-packed spot at the very front of the body and putting four tiny wheels at the extreme corners of the car, which is allowed to protrude out doors and under the sides provide unrestricted elbow room, above four capacious parcel compartments which cannot be insulted with the name "pockets"—there is also a spacious shelf and plenty of parcel space under the rear seat.

Men with very long legs will usually require both the rear seat and the driving position, but can in fact drive long distances in reasonable comfort and have room for two adult passengers behind them. Small peddles are spaced widely enough to accommodate broad shoes, yet not so far apart as to rule out intentional toe-and-heel operation of brake and accelerator simultaneously. Sliding windows, when combined with a rear window exhaler heater which can be set to admit unheated air to the body, provide reasonably draught-free ventilation. Rigid door handles in place of pull straps are an orthodoxy which pleases passengers, even though handles at the rear exteriors of front-hinged doors are less accessible than were the straps.

The ability of ordinary Morris Minis to make fast point-to-point progress on far from perfect roads is by now a very widely observed phenomenon. With maximum and cruising speeds raised by 10-15 m.p.h. and much-improved acceleration, this Cooper version of Alec Issigonis' remarkable design is even faster, its higher 3rd gear being especially welcome for taking more promptly and safely.

This is the fastest production saloon car of its size ever to figure in our regular series of Road Test Reports. So much performance, combined with a lot of practical merit and quite a high standard of refinement, will obviously cause many people decide that a sum of about £680 is better spent on this model than on something bigger but no better.

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### Specification

**Engine**
- Cylinders: 4 (Transversely mounted engine)
- Bore: 1.71 in.
- Stroke: 2.71 in.
- Cubic capacity: 897 cu. in.
- Piston area: 18.9 sq. in.
- Valves: In-line o.h.v. (pushrods)
- Compression ratio: 8.5:1
- Carburetters: 1.5 L. inclination, type HS2
-是
- Piston
- Electrolysis of exhaust system
- Ignition timing control: centrifugal and vacuum
- Oil filter: Yes
- Purifier, full-flow: Yes
- Piston speed: 3,200 r/min.

**Transmission**
- Clutch: B.M.C. 7 in. single dry plate
- Top gear (4/3m): 3.75:1
- 3rd gear (4/3m): 5.11:1
- 2nd gear (4/3m): 7.91:1
- 1st gear (4/3m): 12.09:1
- Reverse: 12.68:1
- Front wheel driving shafts: Birfield with constant velocity outer universal joints
- Final drive: Helical gears from transverse gearbox
- Top gear m.p.h. at 1,000 r/min: 14.5
- Top gear m.p.h. at 1,500 r/min: 27.4

**Chassis**
- Brakes: Lockheed hydraulic, discs at front with two-ratio pressure booster valve, separate rear with pressure-limiting valve.
- Brake dimensions: Front discs 7 in. x 1 in.; rear drums 7 in. x 1 in.
- Fricion area: 45 sq. in.
- Suspension: Front: independent by transverse wishbones and split wishbone, and adjustable coil spring and shock absorber
- Rear: independent by trailing arms and telescopic shock absorbers
- Tyres: Dunlop Gold Seal nylon tubeless, 5.50-10

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### Coachwork and Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locks: With ignition key</td>
<td>None</td>
</tr>
<tr>
<td>Ignition/switch, driver's door, luggage locker</td>
<td>None</td>
</tr>
<tr>
<td>Glove lockers</td>
<td>None</td>
</tr>
<tr>
<td>Map pockets</td>
<td>None</td>
</tr>
<tr>
<td>Wide compartments in two doors</td>
<td>None</td>
</tr>
<tr>
<td>and on each side of rear seat</td>
<td>None</td>
</tr>
<tr>
<td>Parcel shelves</td>
<td>Full-width on facia</td>
</tr>
<tr>
<td>Ashtrays</td>
<td>1 front, 2 rear</td>
</tr>
<tr>
<td>Cigar lighter</td>
<td>None</td>
</tr>
<tr>
<td>Interior lights</td>
<td>One in roof (manual switch only)</td>
</tr>
<tr>
<td>Interior heater</td>
<td>Smiths recirculation heater and dimmer</td>
</tr>
<tr>
<td>(Fresh-air type optional extra)</td>
<td>None</td>
</tr>
<tr>
<td>Car radio</td>
<td>Radiomobile as optional extra</td>
</tr>
<tr>
<td>Extras available</td>
<td>Fresh-air heater, radio</td>
</tr>
<tr>
<td>Fresh-air heater</td>
<td>Upholstery material</td>
</tr>
<tr>
<td>Sun visors</td>
<td>Leathercloth</td>
</tr>
<tr>
<td>Two, hinge mounted</td>
<td>Floor-covering</td>
</tr>
<tr>
<td>Instruments</td>
<td>Leathercloth</td>
</tr>
<tr>
<td>Speedometer</td>
<td>Floor-covering</td>
</tr>
<tr>
<td>Exterior colours standardised</td>
<td>Satin finish</td>
</tr>
<tr>
<td>Six doublecombinations</td>
<td>None</td>
</tr>
<tr>
<td>Alternative body styles</td>
<td>None</td>
</tr>
<tr>
<td>(Fewer-powered engine ass't. available in same body)</td>
<td>None</td>
</tr>
</tbody>
</table>

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### Maintenance

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sump and transmission 8 pint plus 1 pint in filter</td>
<td>S.A.E. 30 engine oil above freezing or S.A.E. 10W down to 20°F</td>
</tr>
<tr>
<td>Gearbox and final drive lubricated from engine</td>
<td>S.A.E. 90 hypoid gear oil</td>
</tr>
<tr>
<td>Steering gear lubricant</td>
<td>T.C.D. static</td>
</tr>
<tr>
<td>Cooling system capacity</td>
<td>55 psi plus 1 pint in optional heater (2 drain taps)</td>
</tr>
<tr>
<td>Chassis lubrication</td>
<td>By grease gun every 10 miles on 10 points</td>
</tr>
<tr>
<td>Ignition timing</td>
<td>T.C.D. static</td>
</tr>
<tr>
<td>Cones (breakage)</td>
<td>0.014 in</td>
</tr>
<tr>
<td>Sparking plug cap</td>
<td>Champion N4</td>
</tr>
<tr>
<td>Sparking plug gap</td>
<td>0.026 in</td>
</tr>
</tbody>
</table>

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Valve timing: intake opens 16° before t.d.c. and closes 56° after b.d.c.; exhaust opens 51° before b.d.c. and closes 21° after t.d.c.; Tappet clearances: inlet 0.007 in., exhaust 0.012 in., front wheel toe-out 2 in.

Camber angle: 1° normally laden

Caster angle: 1° normally laden

Steering swivel pin inclination: 9° normally laden

Tyre pressures: Front 24 lb., Rear 22 lb.

Brake fluid: Lockheed (S.A.E. Spec. 70-H-7)

Battery: Lucas GLT57A, 12 volt 34 amp. hr.

Miscellaneous: Top up carburettor dashpots with S.A.E. 20 engine oil
AN EXPLANATION OF SPECIAL TERMS IN THE DATA PANEL OF "THE MOTOR" ROAD TESTS

THE following notes may assist readers of these reprints who are unfamiliar with some of the special terms regularly used:

Kerb weight: The weight of the car ready to be tested with oil, water, tools and fuel for approximately 30 miles.

Laden weight: Kerb weight plus driver, one passenger and standard test apparatus.

Tapley figures: Acceleration and hill-climbing ability of the car measured by the instrument of this name, which consists of a damped pendulum. Gradients climbable in top gear equivalent to the Tapley figure recorded are set out separately.

Braking figures: With the friction coefficient between tyres and road at the normally accepted maximum coefficient of unity the rate of retardation on the car cannot exceed 32.2 ft. per second— the acceleration of gravity: this would be equivalent to stopping the car in 30.1 ft. from 30 m.p.h. The recorded figures are therefore set out as a percentage of gravity, with the equivalent stopping distances.

Maximum speed: Timed by two observers on a level road in both directions with sufficient run-in (between 1 and 3 miles) to ensure that the car has reached its terminal velocity.

Acceleration: Top-gear accelerations are taken from rolling starts—i.e., when timing between 30 and 50 m.p.h. full throttle has been given at well below 30 m.p.h. This applies to other acceleration times in a fixed gear.

Standing start acceleration times: Are the best that can be recorded by the testers using the fastest possible rather than the smoothest getaway from rest, and upward gear changes on full throttle when this is practicable.

Fuel consumption: The steady speed figures are the average of runs in opposing directions consuming a measured 1/10 gallon. The overall figure is based on a mixture of town and country driving and reflects the natural pace of the car so that if an unchanged engine and transmission system were transferred from a car having moderate road holding to one outstanding in these characteristics the overall consumption would tend to suffer.

Touring fuel consumption: Based, empirically, on the m.p.g. at a steady speed midway between 30 m.p.h. and the maximum, less 5/6 to allow for acceleration, this figure will be found close to that obtained by many private owners in the course of normal week to week motoring.

Under and oversteer: An understeering car will tend to be naturally straight-running and be stable in cross winds, but will require unexpected steering lock to carry it round a corner of given radius. An oversteering car corners willingly but may wander on the straight and is often sensitive to cross winds.

Equipment: This is correct as at the time of road test, and should be checked if a purchase is contemplated at some substantially later date.

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