

MINI-COOPER S VS FALCON SPRINT

Two leading rally cars are confronted with each other and compared by David Phipps.

Can anyone imagine a better way of spending a day than being let loose in the cars that finished first and second in the Monte Carlo Rally? The winner, of course, was a Morris Mini-Cooper S driven by Paddy Hopkirk and Henry Liddon, a beautifully-prepared car which was as immaculate at the end of the rally as it had been at the start. Mechanically it is virtually standard, the only engine modifications being the use of 1½-inch SU carburetors instead of the normal 1¼-inch units, plus flat-top pistons giving a compression ratio of 10.5 to one. Final drive gearing is 4.13 to one (against 3.77 to one standard) in the interest of improving both acceleration and maximum speed (the standard car will not exceed 6200 rpm in top gear on the level) and Hopkirk was given a limit of 7000 rpm, or 7500 rpm if he was pushed.



Front-wheel-drive Mini-Cooper S is faster into the corners . . .

Like the Mini-Cooper, Bo Ljungfeldt's Ford Falcon finished the rally unscathed, which is more than can be said for some of its teammates. The test car was not the identical one driven by Ljungfeldt in the rally but an almost exact replica, and we used it for a week's time, which was quite an experience. There aren't many compact cars around that will cover a standing quarter-mile in 14.2 seconds, or accelerate from 10 mph to 100 mph *in top gear* in under 22 seconds! In addition, the Falcon, with heavy-duty suspension and 185 x 15 Dunlop SP tires, handles better than many sports and GT cars, runs dead straight at high speed, has surprisingly light steering and very good brakes (discs front, drums rear; with servo booster). The only complaint against the brakes is a tendency for the rear wheels to lock up on occasion—a fault that lies partly in the braking force distribution and partly in the suspension system.

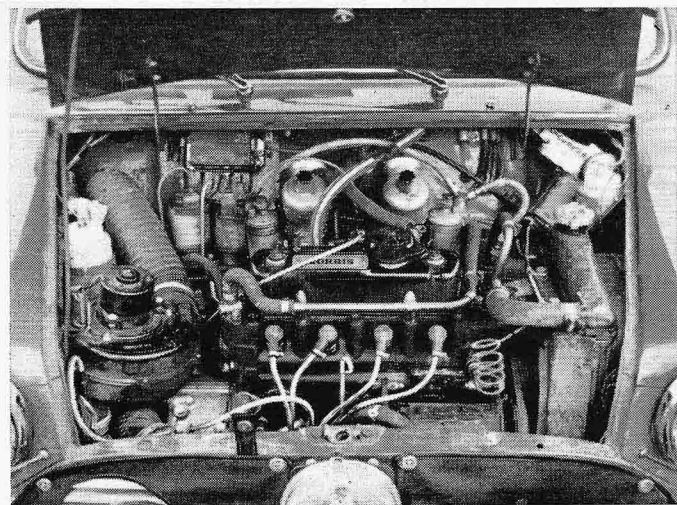
Bo Ljungfeldt was fastest man on every special section of the rally, and the car he used was basically a Ford Falcon Sprint V-8 fitted with the optional high-performance "289." The chief engine modifications—all catalog items, available (theoretically) from Ford dealers everywhere—are two dual-throat Carter carburetors, a high-lift camshaft, and 10-to-one compression. There's also an oil radiator, and an alternator has taken the place of the generator.

Ford's four-speed all-synchro transmission has closer-than-standard ratios and a really excellent shift, and the rear axle contains a limited-slip differential. Final drive ratio is 4.51-to-one in the interest of maximum acceleration rather than maximum speed, but wheelspin in first gear assumes such proportions that the actual performance would probably not be much worse with the standard 3.50-to-one gearing.

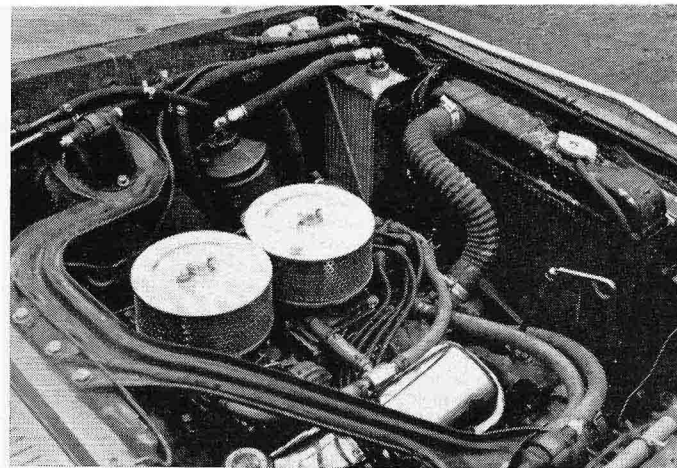
Due to the lack of suitable tires for the standard 13-inch wheels, the Falcon uses 15-inch wheels. The front springs are 20% stiffer than standard and the rear springs have a heavier wind-up leaf. Adjustable shock absorbers are fitted to all wheels. To save weight, such



but the 285-bhp V-8 Falcon is considerably faster on the way out.



Transversely mounted in-line four is almost in standard tune.



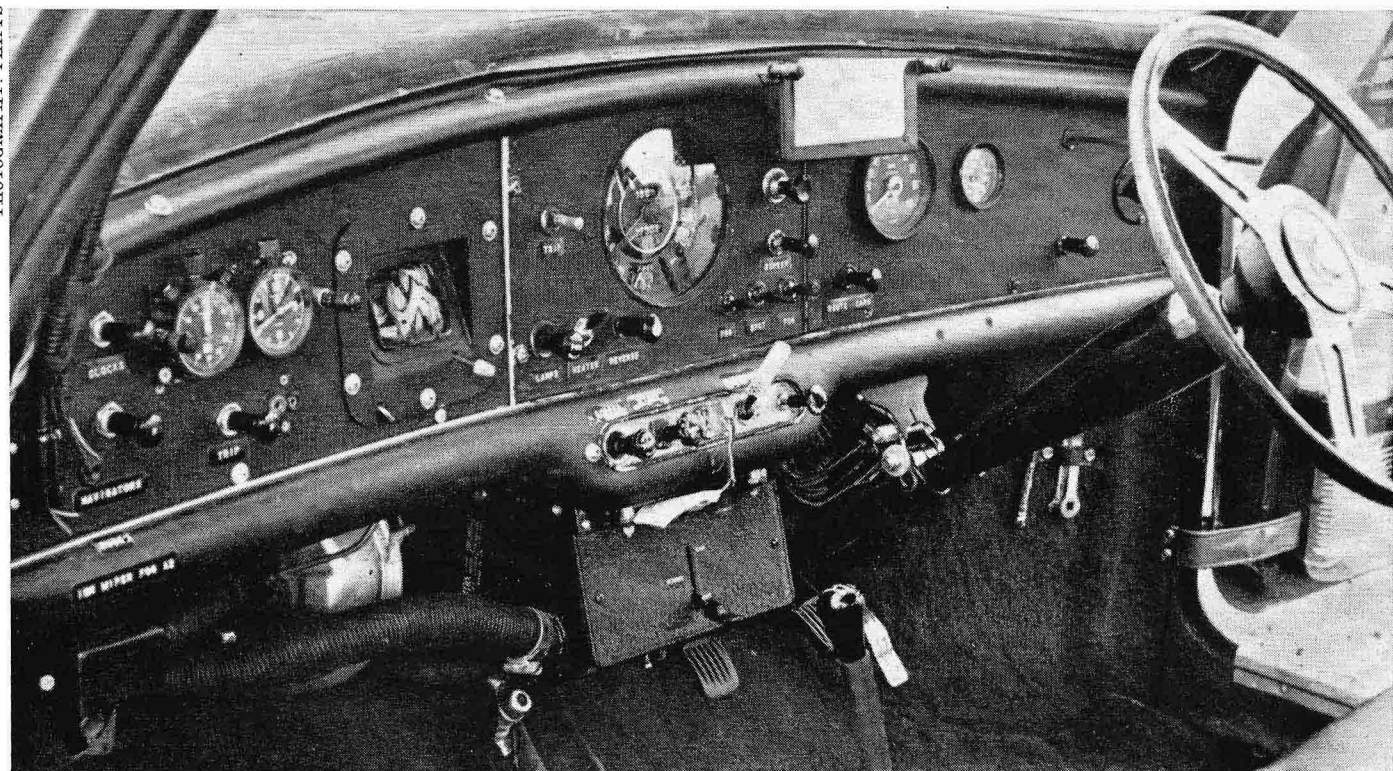
Falcon's great V-8 has two Carter carburetors and oil cooler.

body panels as the hood, trunk lid, front fenders and doors were made of fiberglass. The most striking thing about this Falcon, on first acquaintance, is the flexibility of the engine, and this is also the most lasting impression. The test car suffered from an occasional slight hesitation in the carburetor department, but otherwise its response was nothing short of explosive. As we bounced and rattled out into the countryside, we became increasingly aware of the exhaust note, and on the open road conversation became impossible—not that the passenger seemed inclined to voice anything but an occasional high-pitched scream!

After the Falcon, the Mini-Cooper S didn't seem to go at all. We rowed it along with the gear lever, checked several times to see whether the handbrake was still on, and then discovered that we were doing around 80 after all and had gone around several quite distinct corners without really noticing them. The secret of the Falcon is torque—you just get in there with your right foot, press gently, and it responds instantly in any gear by thumping you in the back and departing into the next county. The Mini gets similar results by the use of 7000 rpm in the gears, and 7000 rpm around most of the turns. It handles like a precision instrument, in which x degrees of lock and y° throttle opening = cornering speeds far higher than most people would imagine physically possible. The car can be sent flying into corners, the driver thinking "we'll never make it!" only to find the little car sailing around with such ease that the driver begins to wonder if he was really trying. And if he ever does overdo things completely and gets resigned to the idea of understeering through the hedge or over the precipice, an instinctive easing of the throttle will bring the tail around and send the car heading towards the next potential disaster, but still firmly on the road with all four wheels and answering to the helm.

On really tight corners, or on narrow roads where there is a likelihood of traffic from the opposite direction, the Mini is potentially faster than the Falcon be-

PHOTOGRAPHY: PHELPS

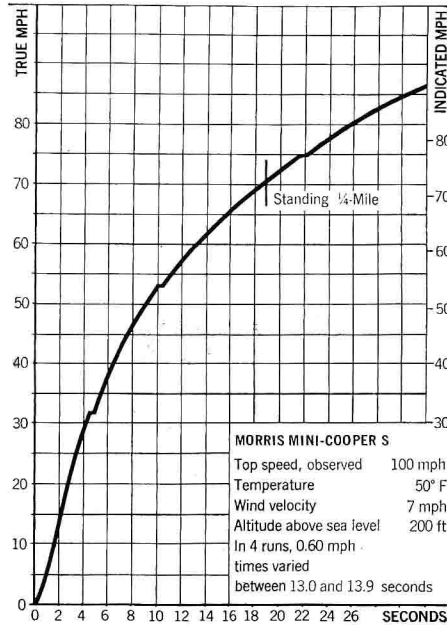


Instrumentation in the Mini is almost simple, and everything is clearly labeled. Two watches were used but no Halda Speed Pilot.

Morris Mini-Cooper S Monte Carlo

Importer: BMC-Hambro, Inc.
734 Grand Avenue,
Ridgefield, New Jersey

Zero to	Seconds
30 mph	4.0
40 mph	6.4
50 mph	9.0
60 mph	13.4
70 mph	18.3
80 mph	25.4
90 mph	38.0
Standing ¼ mile	71 mph in 18.8



ENGINE

Water-cooled transverse in-line four, cast iron block, 3 main bearings
Bore x stroke.....2.78 x 2.69 in 71 x 68 mm
Displacement.....65 cu in 1071 cc
Compression ratio.....10.5 to one
Carburetion.....Twin SU HS-4
Valve gear.....Pushrod-operated overhead valves.
Power (SAE).....75 bhp @ 6300 rpm
Torque.....61 lb-ft @ 5000 rpm
Specific power output.....1.15 bhp per cu in, 70 bhp per liter
Usable range of engine speeds.....2000-7500 rpm
Electrical system.....12-volt, 50 amp-hr battery
Fuel recommended.....Super Premium
Mileage.....28-32 mpg
Range on 13-gallon tank.....365-415 miles

DRIVE TRAIN

Clutch:.....7½-inch single dry plate
Transmission.....4-speed, non-synchro first.

Gear	Ratio	Over-all	mph/1000	Max rpm
Rev	3.20	13.20	4.25	33.0
1st	3.20	13.20	4.25	33.0
2nd	1.92	7.91	7.10	54.6
3rd	1.25	5.18	10.9	84.0
4th	1.00	4.13	13.6	100.0
Final drive ratio				4.13 to one

CHASSIS

Unit-construction, all-steel body
Wheelbase.....80 in
Track.....F 48 R 46 in
Length.....120 in
Width.....55.75 in
Height.....49.0 in
Ground clearance.....6.0 in
Curb weight.....1680 lbs
Test weight.....1930 lbs
Weight distribution front/rear.....60/40%
Pounds per bhp (test weight).....25.75
Suspension F Ind., parallel wishbones and rubber cone springs.
R Ind., trailing arms and rubber cone springs.

Brakes.....7½-in discs front, 7-in drums rear, 160 sq in swept area, power assisted
Steering.....Rack and pinion
Turns lock to lock.....2¼
Turning circle.....29.5 ft
Tires.....5.20 x 10
Revs per mile.....1062

CHECK LIST

ENGINE

Starting.....Good
Response.....Excellent
Noise.....Poor
Vibration.....Fair

DRIVE TRAIN

Clutch action.....Very good
Transmission linkage.....Fair
Synchromesh action.....Good
Power-to-ground transmission.....Very good

BRAKES

Response.....Excellent
Pedal pressure.....Good
Fade resistance.....Fine
Smoothness.....Good
Directional stability.....Very good

STEERING

Response.....Excellent
Accuracy.....Excellent
Feedback.....Good
Road Feel.....Excellent

SUSPENSION

Harshness control.....Good
Roll Stiffness.....Excellent
Tracking.....Very good
Pitch control.....Good
Shock damping.....Very good

CONTROLS

Location.....Poor
Relationship.....Fair
Small controls.....Fair

INTERIOR

Visibility.....Very good
Instrumentation.....Good
Lighting.....Excellent
Entry/exit.....Fair
Front seating comfort.....Good
Front seating room.....Unacceptable
Rear seating comfort.....—
Rear seating room.....—
Storage space.....Good
Wind noise.....Fair
Road noise.....Fair

WEATHER PROTECTION

Heater.....Fair
Defroster.....Fair
Ventilation.....Fair
Weather sealing.....Very good
Windshield wiper action.....Good

QUALITY CONTROL

Materials, exterior.....Good
Materials, interior.....Good
Exterior finish.....Good
Interior finish.....Very good
Hardware and trim.....Very good

GENERAL

Service accessibility.....Excellent
Luggage space.....Adequate
Bumper protection.....Poor
Exterior lighting.....Excellent

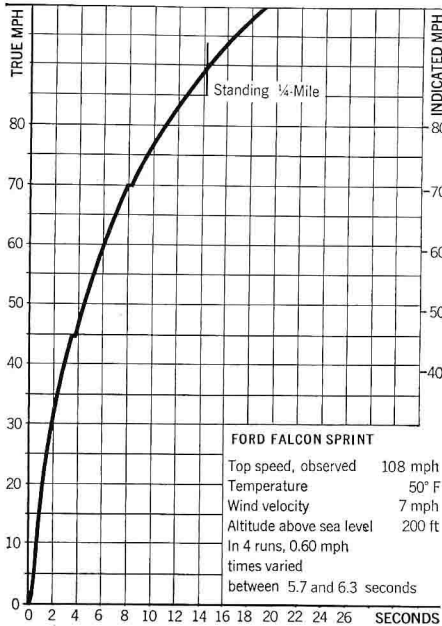


Ford Falcon Monte Carlo

Manufacturer: Ford Division, Ford Motor Co.
20000 Rotunda Drive,
Dearborn, Michigan

ACCELERATION

Zero to	Seconds
30 mph	1.9
40 mph	2.9
50 mph	4.4
60 mph	6.0
70 mph	8.0
80 mph	11.0
90 mph	14.5
100 mph	19.3
Standing 1/4 mile	89 mph in 14.2



ENGINE

Water-cooled V-8, cast iron block, 5 main bearings
Bore x stroke 4.00 x 2.87 in, 102 x 73 mm
Displacement 289 cu in, 4727 cc
Compression ratio 10.0 to one
Carburetion Two Carter dual-throat downdraft
Valve gear Pushrod-operated overhead valves
Power (SAE) 285 bhp @ 5500 rpm
Torque 275 lb-ft @ 4650 rpm
Specific power output 0.99 bhp per cu in, 60.4 bhp per liter
Usable range of engine speeds 1000-7000 rpm
Electrical system 12-volt, 63 amp-hr battery
Fuel recommended Super premium
Mileage 10-15 mpg
Range on 22-gallon tank 220-330 miles

DRIVE TRAIN

Clutch 10-inch single dry plate
Transmission 4-speed all-synchro
mph/1000 Max
Gear Ratio Over-all rpm mph
1st 2.26 9.96 7.5 50
2nd 2.20 9.92 7.7 52
3rd 1.66 7.49 10.2 71
4th 1.31 5.91 12.9 90
Final drive ratio 4.51 to one

CHASSIS

Unit-construction, all-steel body, with several fiberglass panels.
Wheelbase 109.5 in
Track F 55.6 R 56.0 in
Length 181.6 in
Width 71.6 in
Height 54.5 in
Ground clearance 8.0 in
Curb weight 2850 lbs
Test weight 3100 lbs
Weight distribution front/rear 53/47%
Pounds per bhp (test weight) 10.88
Suspension: F Ind., unequal-length wishbones and coil springs, anti-roll bar.
R Rigid axle, semi-elliptic leaf springs.
Brakes . . . 11 1/2-in discs front, 11-in drums rear, 288 sq in swept area
Steering Recirculating ball
Turns lock to lock 2 3/4
Turning circle 39 ft
Tires 185 x 15
Revs per mile 795

CHECK LIST

ENGINE

Starting Good
Response Fair
Noise Unacceptable
Vibration Good

DRIVE TRAIN

Clutch action Very good
Transmission linkage Excellent
Synchromesh action Excellent
Power-to-ground transmission Poor

BRAKES

Response Good
Pedal pressure Good
Fade resistance Fine
Smoothness Good
Directional stability Very good

STEERING

Response Very good
Accuracy Excellent
Feedback Very good
Road feel Good

SUSPENSION

Harshness control Unacceptable
Roll stiffness Very good
Tracking Excellent
Pitch control Good
Shock damping Fair

CONTROLS

Location Excellent
Relationship Very good
Small controls Fair

INTERIOR

Visibility Good
Instrumentation Fair
Lighting Excellent
Entry/exit Very good
Front seating comfort Excellent
Front seating room Very good
Rear seating comfort —
Rear seating room —
Storage space Excellent
Wind noise Fair
Road noise Fair

WEATHER PROTECTION

Heater Very good
Defroster Very good
Ventilation Very good
Weather sealing Very good
Windshield wiper action Good

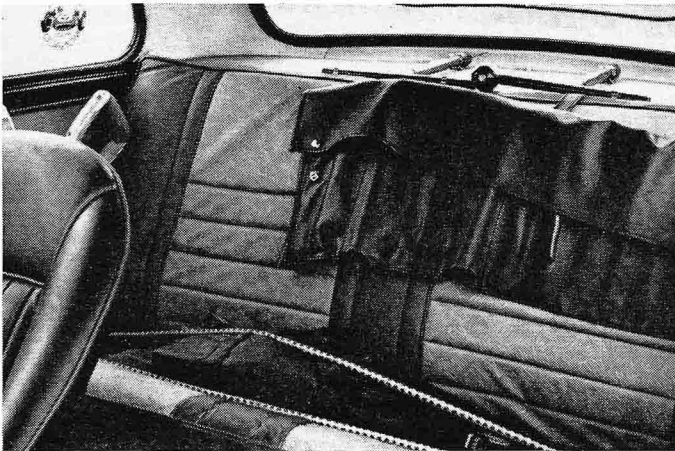
QUALITY CONTROL

Materials, exterior Fair
Materials, interior Good
Exterior finish Fair
Interior finish Good
Hardware and trim Good

GENERAL

Service accessibility Fair
Luggage space Very good
Bumper protection Good
Exterior lighting Excellent





Rear seat of Mini-Cooper S has been arranged for instant tools.



Spare tire in the Mini is held by a quick-release spring clamps.

cause of its diminutive size. But on reasonable roads, highways, and racing circuits the Ford is faster (as indeed it should be) using power as a function of road-holding: the Mini may well be faster into a turn but the Ford will invariably be quicker out of it.

Surprisingly, the Mini engine is quite smooth. It gives only a little more power than the production model, and yet it feels as if it could sustain 7000 rpm forever. The noise level is fairly high at this speed, but there's none of the gear lever vibration so common (and annoying) on the standard Mini.

In contrast to the Falcon, the Mini in rally form is considerably heavier than standard, and its acceleration figures are quite close to those of the production Mini-Cooper S in spite of the 4.13 to one final drive. A standing-start quarter-mile takes 18.8 seconds and reaches 60 mph in 13 seconds. Although more than twice as slow as the Falcon on acceleration, there's surprisingly little difference between the two cars in maximum speed. The Falcon runs out of revs at about 108 mph and the Mini at about 100 mph.

From the manner in which it was built and prepared—and above all, driven—Hopkirk's *deserved* to win the 1964 Monte Carlo rally. In a year when luck, the weather, and the whims of the organizers had a minimal effect, Hopkirk's victory can be described as a triumph of science. Had the rally been a race, Ljungfeldt would have won easily—but then a 4.7-liter car *should* be faster than a 1.1-liter car. It's a special tribute to Hopkirk and the Mini that they equalled Ljungfeldt's time on one of the special sections.

We drove the Mini back to BMC at Cowley (Oxford) over some byroads that could well have been in the Côte d'Or region of France, rudely disturbing a pheasant and two hares on the way, and then we thundered back to London in the Falcon. Long after returning it to Ford we were driving quietly along in a Cortina, still hearing the rhythmic beat of the Falcon V-8 in our heads—loud and clear, gorgeously noisy!

C/D



The Falcon's tachometer is unobtrusively located in corner of windshield; co-driver put trust in both clocks and Halda Speed Pilot.