

The 597 c.c. Norton

1960 ROAD TESTS

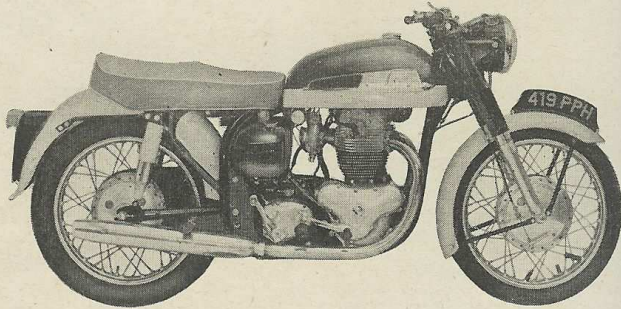
'DOMINATOR 99'

Sporting version

of standard

tourer gives

100 plus performance



Specification

ENGINE

Type Parallel-twin four-stroke
 Bore 68 mm.
 Stroke 82 mm.
 Cubic capacity 597 c.c.
 Valves Overhead (push-rod)
 Compression ratio 8.2:1
 Carburettors Twin Amal "Monobloc,"
 1 1/16-in. choke
 Ignition Lucas battery-powered coil,
 automatic advance
 Peak power speed 6,600 r.p.m.
 Lubrication Dry sump with double gear pump
 Starting Kickstarter

TRANSMISSION

Separate gearbox with footchange
 Ratios 4.8, 5.8, 8.1 and 12.2:1
 Speed at 1,000 r.p.m. in top gear 16 m.p.h.
 Speed equivalent to revs. at maximum power
 rating:
 Second gear 65 m.p.h.
 Third gear 90 m.p.h.
 Fourth gear 108 m.p.h.

Primary drive Single-row oilbath chain
 Final drive Single-row chain, mostly enclosed
 Clutch Bonded, multi-plate in oilbath
 Shock-absorber Rubber vane-type in clutch
 centre

CYCLE PARTS

Frame Full duplex cradle, welded and brazed
 Front suspension Telescopic forks with coil
 springs and two-way hydraulic
 damping
 Rear suspension Swinging fork with two
 adjustable Girling hydraulically
 damped spring units
 Tyres Avon, ribbed 3.00x19 in. front,
 studded 3.50x19 rear
 Brakes 8-in. front, 7-in. rear.
 Total lining area 30 sq. in.
 Fuel tank 3 1/2 gal.
 Oil tank 4 1/2 pints
 Generator Lucas 6-v. RM15 alternator
 with full-wave rectification for
 battery charging, ignition and
 lights
 Lamps 30/24-w. head; 3-w. pilot; 6/18-w.
 tail/stop; 1.8-w. speedometer
 Battery Lucas 6-v. 12 a.h.
 Speedometer Smiths 120 m.p.h. with trip
 Seating Q.D. dual seat
 Stands Centre, prop

Tool kit Spanners: 3 open-ended; 1 box;
 14 mm. plug; 1 special wheel-nut;
 1 Girling "C". Two Tommy bars.
 Two tyre levers. Pliers. Combination
 screwdriver/c.b. spanner. Allen
 key. Tool bag.
 Toolbox Open-top compartment under seat
 Finish Black and white stove enamel; grey-
 check seat cover; chromium-plated
 sundries.

OTHER EQUIPMENT

Tyre pump; h.c. pistons
PRICES
 Machine £288 5s. 10d. (inc. £49 5s. 10d. P.T.)
 Extras Port polishing, £1 5s. 4d.; twin
 carburettors, £7 14s. 5d.; rear chain-
 case, £3 0s. 4d. (all inc. P.T.)
 Total as tested £300 5s. 11d.
Tax £3 15s. p.a. (from Oct. 1, £1 7s. per
 4 months)
Makers Norton Motors, Ltd., Bracebridge
 Street, Birmingham, 6.

'Motor Cycling' Test Data

Conditions. Weather: Warm, dry, calm.
 (Barometer 29.20 in. Hg. Thermometer
 67° F. Wind northerly 0-3 m.p.h.). Surface
 (braking and acceleration): Dry asphalt.
 Rider: 11 1/2 stone, wearing two-piece suit,
 wellington boots and safety helmet;
 normally seated (except for "Best certified
 M.I.R.A. maximum"). Fuel: Super grade
 (101 research method octane rating).

Venue: Motor Industry Research Associa-
 tion Station, Lindley.

Speed at end of standing 1,000 yd.:
 East 83 m.p.h.
 West 83 m.p.h.

Best certified M.I.R.A. maximum
 (rider prone) 103.6 m.p.h.

Braking from 30 m.p.h. (all brakes): 9 yd.

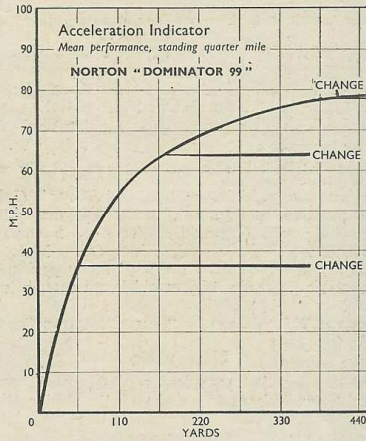
Fuel consumption:
 At constant 30 m.p.h. 103 m.p.g.
 50 m.p.h. 77 m.p.g.
 500-mile overall figure 54 m.p.g.

Speedometer
 30 m.p.h. indicated = 27.70 m.p.h. true
 40 m.p.h. indicated = 37.57 m.p.h. true
 50 m.p.h. indicated = 45.98 m.p.h. true
 60 m.p.h. indicated = 55.13 m.p.h. true
 70 m.p.h. indicated = 65.27 m.p.h. true
 80 m.p.h. indicated = 74.39 m.p.h. true
 90 m.p.h. indicated = 83.91 m.p.h. true
 100 m.p.h. indicated = 93.34 m.p.h. true
 110 m.p.h. indicated = 102.6 m.p.h. true

Mileage Recorder 4% optimistic

Electrical Equipment
 Top gear speed at which generator
 output balances:
 Ignition only 21 m.p.h.
 Minimum obligatory lights 24 m.p.h.
 Full lights 34 m.p.h.

Weights and Capacities
 Certified kerbside weight (with
 oil and 1 gal. fuel) 394 lb.
 Weight distribution, rider
 normally seated:
 Front wheel 42%
 Rear wheel 58%
Tank capacity (metered):
 Total 3.4 gal.
 Reserve 1/2 pint



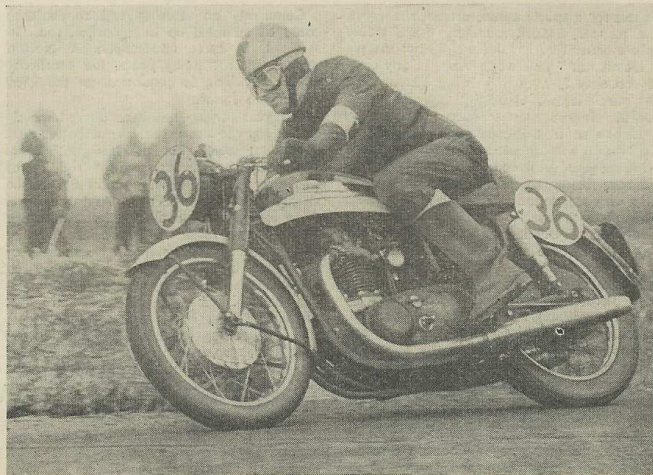
IN the twin-carburetter "unenclosed" version of the "Dominator 99" 600 c.c. vertical-twin, Norton Motors, Ltd., offer a fast solo motorcycle perfectly suited to the hard rider who wants a machine that will give performance and service over a long period with truly minimal maintenance. The "Dominator" series has an outstanding reputation for stamina and reliability.

This model, as our test proved, is well capable of a three-figure maximum speed, returns an acceptable fuel consumption, is by no means noisy and has first-class roadholding. Additionally, finished in its black and white gloss-enamel décor, it has a pleasing appearance.

The test machine was actually the same one that Comerfords, Ltd., Thames Ditton, Surrey, had lent to two *Motor Cycling* staffmen for the Thruxton 500-mile race in June, in which it finished. It was subsequently restored to standard touring trim by replacement, with standard equipment, of the racing tyres, controls and 10:1 c.r. pistons. W-split skirt pistons, at 8.2:1 ratio, were substituted and the "99" was once more run-in. Finally, Nortons gave it the once-over to check that this extended mileage and racing-treatment had not resulted in any fall-off in performance. It had not.

It is well worth recording that from the time the machine was taken, brand-new, from Comerfords showrooms, right up to the conclusion of the test, no electrical fault of any kind appeared. The A.C. generator, the battery-powered coil ignition and the lights worked perfectly, even in the Finishers' enclosure after the 500-mile race. The equipment fitted is Lucas.

This, then, is the background to *Motor Cycling's* assessment of the 1960 Norton twin-carburetter "Dominator 99" and it



The "Dominator 99" showing another aspect of its dual personality. Competing in the Thruxton International 500-miler with little other than the permitted changes to seat, controls, tyres and chains. On the bumpy airfield circuit its excellent roadholding gave it a considerable advantage.

emphasizes the stamina-reliability aspect. The mileage at the time of taking the electronically timed speed figures at M.I.R.A. was about 3,200. (The main recorder on the Smith's speedometer had gone adrift; it was grossly overreading.)

Maximum speed with the rider crouched right-down in best "let-her-out" style was 103.6 m.p.h., a very useful speed indeed and well up to "600" standards. This was taken on the banked circuit after an

approach of unlimited distance. A similar sitting-up figure was 87. Other speeds under *Motor Cycling's* standard, and therefore comparable, test conditions are shown in the data panel.

They may be summarized by saying that they represent all the performance that the normal rider can reasonably expect from a machine of this capacity class.

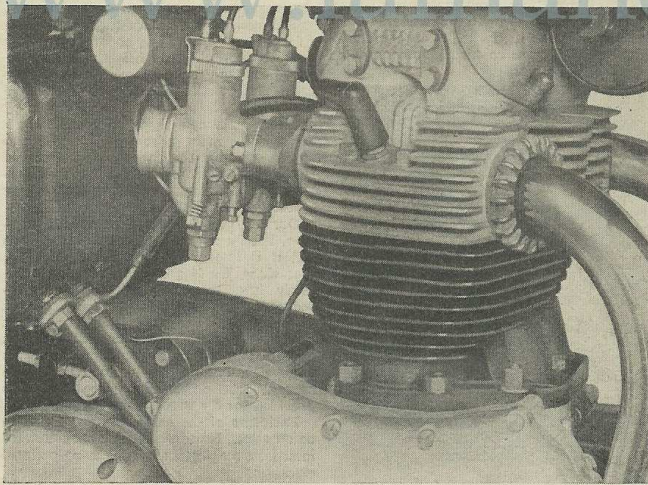
Acceleration was more than good for two reasons. One, when the "99" was flogged up through the gears it revved freely and climbed up the scale in each cog without hesitation; two, the taking of big handfuls of twistgrip was not made unpleasant by vibration. It is true that, like any vertical-twin engine, vibration is—must be—present; but we cannot imagine it forming the basis for a complaint by a rider. In short, attention is drawn to the commendable smoothness of the test mount.

Performance was found to be luxurious in yet another aspect. Engine design is such that there is punch all the way up the scale. The "Dominator" range is very well cammed, carburettered, valved and ported indeed. There was flexibility for both doddling along slowly in a high gear and for subsequent acceleration without recourse to the gearbox, if the rider so wished. It was not a sports machine on which one had to change down to get any worthwhile result. Of course, better acceleration always came from working the way up the box but good response also came when climbing up the rev. band in top gear.

In this context, and in its ability to idle reliably and start easily, "Mr. Norton" was awarded all the credit marks at the tester's disposal.

Perhaps the fuel consumption should not be commented on in quite such glowing terms. The 500-mile overall figure of 54 m.p.g. must be classed as merely "not unreasonable." It is about what one would

A23



Close-up of the twin-carburetter installation. The h.t. coil is above the bell-mouth of the nearer Monobloc. New-pattern barrel, head, camshaft and tappets are used for 1960

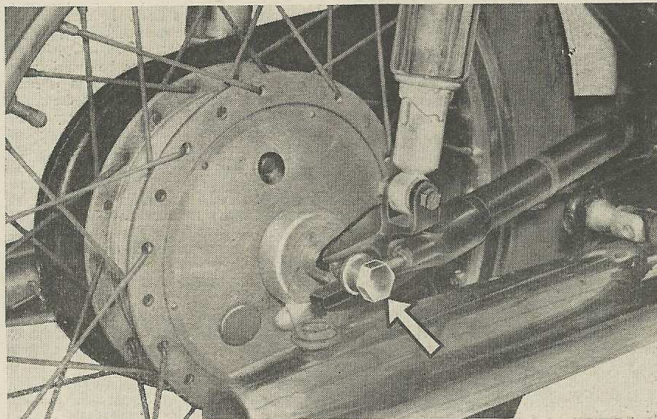
expect for a sports mount driven in a sporting manner. More mundane usage would give a better return. But we did not use the "Dominator" that way. And, in any case, if economy is a quality being sought then the purchaser would be well advised to opt for the single-carburettor version.

Unlike some twin-carb. layouts, that on the Norton was not demanding on the rider's wrist at the grip end, the double spring pressure being acceptable. A single-rotor grip with a junction box is the system used. The cables themselves were free from excessive friction. But it was found necessary to wrap the throttle and choke junction boxes in tape to stop them chattering where they rested atop the cylinder head.

A picture of acceleration would not be complete without reference to the gearbox, and its ability to be switched from one cog to another. To dismiss it in the phrase of being beyond criticism would be to give it less than its due space. Yet this is just what the A.M.C. box is. All gears went in smoothly, often so neatly that the tester wondered sometimes if they'd changed at all. No technique beyond normal throttle-clutch co-ordination was needed to get clash-free changes. Neutral was easily found from both second and bottom gears. The clutch did not drag or slip and was set up with no more than average spring pressure.

The transmission, then, did all that was asked of it. However, background whine was detectable in second and third gears, some people thought.

Accessible adjusters for both the gearbox and the rear wheel spindle enabled the chains to be tensioned with comparative ease. The nut on the top fixing bolt to the gearbox can be properly tightened only with a ring can be got on well because of the proximity of the oil lines. Here it would be appropriate to mention that the toolkit contained no spanner for one awkwardly placed cylinder-head nut nor one for the steering-head adjustment.



Truly q.d.! Remove the half-spindle (arrowed), three rubber plugs and the three sleeve nuts and the rear wheel is free. Chain and brake are undisturbed.

A24

Comments on steering and roadholding could be summed up in a phrase, too. In a word, in fact: impeccable. A Norton strongpoint for many years, the excellence of the handling is continued on the 1960 model, we found.

This year's frame has been altered, mostly on the top rails, to accept the new-style tank and dual seat, but it has not been, apparently, at the expense of rigidity of structure for the steering continues to be all that it ever was before. And as before, there is the usual comment for the record that the front forks are firm, a sacrifice that has been made to obtain the right sort of action on bumpy going.

Of course, the Featherbed-framed "99" can be whisked at speed over atrocious surfaces. On bends where other riders might be rolling it back a bit, the Norton pilot can keep it open and this is one of the factors contributing to the "Dominator's" ability to keep company with machines of larger capacity and considerably higher nominal performance.

Once more we found the 8-in.-dia. front anchor to be a leader amongst its kind, though juddering at speed set in when braking during running-in; no trouble was experienced thereafter. Both brakes were watertight. The rear is operated by rod and dances under the foot as the rear suspension moves on bumps; the rider swiftly accommodated himself to this adverse characteristic.

It has previously been stated that the electrics were blameless. Whilst one would always relish more light than that provided by the standard unit for a machine of this potential, there was enough for safe cruising in the "60s." The dipped beam was innocuous to oncomers and moderately useful to the rider; more spread, rather than a pool at the front wheel, would have been welcomed.

The Norton "99" is suitable for being ridden along both twisting country lanes and roads like M1. Its lights were a compromise between the conflicting requirements



Complex switchgear wiring-harness details. But this equipment was quite trouble-free during 3,500 miles. Note detachable key to ignition switch.

of these two types of road. The compromise was not a good enough one although it was on a par with that used by the majority of British motorcycle manufacturers—and similarly for the horn.

Sufficient current from the 6-volt A.C. generator was available for the ammeter to indicate a charge at all times. A box houses the battery; it offers quick enough access to the three cells for topping-up purposes.

For the 1960 season a new style of dual seat was developed. It represented a considerable advance on its predecessor, especially in that it becomes truly q.d. An upward tug at the rear frees the Terry-type clips and a rearward sliding action frees the seat from its mounting on the rear subframe, exposing the tooltray. It does not take 15 sec. either to remove or to replace the seat.

The new design is comfortable to both rider and passenger, just about long enough and at exactly the right height. It is upholstered in a grey check pattern; its appearance blends well with that of the rest of the machine.

Similarly, a new shape of petrol tank is fitted. Its main advantage is that it is narrower across the knee portion. One fuel tap is used, sited for the left hand; it contains a reserve position, holding back enough for six or seven miles.

Our test model featured rear-chain enclosure, left in place for the race. In a short test it is impossible to evaluate the claim that chain life is greatly extended but certainly the frequency of adjustment is reduced. Difficulty was experienced in getting the rubber bung to the inspection hole to slide neatly into place. On dropping it into the case and therefore having to remove the bottom half to same, it was discovered that no Phillips screwdriver was provided for the two securing screws.

Enclosure of the rear chain was found to be an asset. Norton are to be congratulated in at least making it available as an optional extra.

This then is the picture of a tried and proven design which has been developed over the course of more than half a decade into its present highly satisfying form.

