

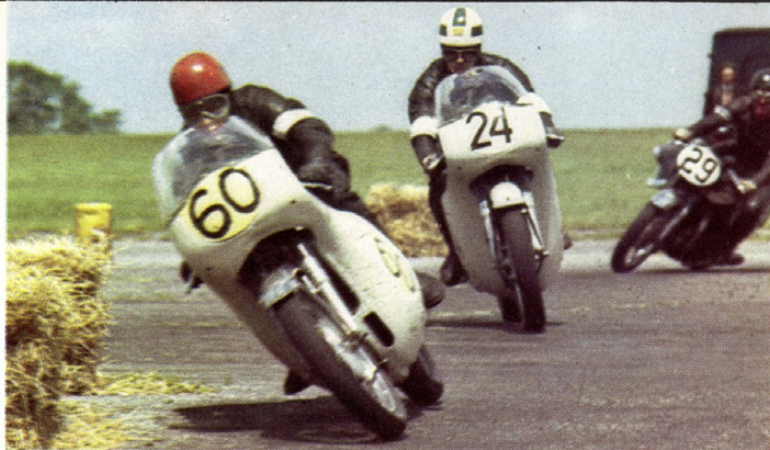


ES400

Norton 1964



From every point of view.....Norton wins.....



For the thrill of tremendous power . . . For machines you simply can't whip . . . Norton – the world's best road-holders.

In over fifty years of highly successful competition experience, Norton machines have also won a distinguished reputation for superb road-holding, safe handling and sheer technical reliability. A well deserved reputation – as thousands of ordinary motor cyclists have discovered.

You see, everything Norton has learnt on the race tracks of the world is incorporated into the standard Norton production machines. Today's Norton models have been developed against this racing background and are built to exacting specifications that have been put to the test over thousands of gruelling miles to ensure maximum safety at maximum speeds. What's more, each individual Norton machine is road tested by an expert before it leaves the factory. That way you know the Norton of your choice is roadworthy in *every* respect – and measures up to the traditionally high Norton standards of all that is best in motor cycle design, production and performance.

The new 400 c.c. ES400 is a case in point. It is also the first British 4-stroke machine to include an electric starter and built-in indicator lights. These exclusive features mark a step forward and, once again, Norton pioneers the way!

Norton also offers four other distinctive models for 1964. Each ahead of the field in its own class . . . each a proven winner in the popularity stakes.

Lightweight and middleweight touring riders will find everything they're looking for in the Norton 250 and 350 High Camshaft Twin Machines – with their 4-stroke, integral engine-gearbox power units. The big bike enthusiast can choose one of the two Sports Specials – the Dominator 650 SS, winner of 'The Machine of the Year' title and twice outright winner at Thruxton this year and last, or the Dominator 88 SS, the 500 c.c. class winner at Silverstone, and at Thruxton for two years running.

1st again...with press-button starting!

The NEW NORTON ES400

400cc high camshaft twin

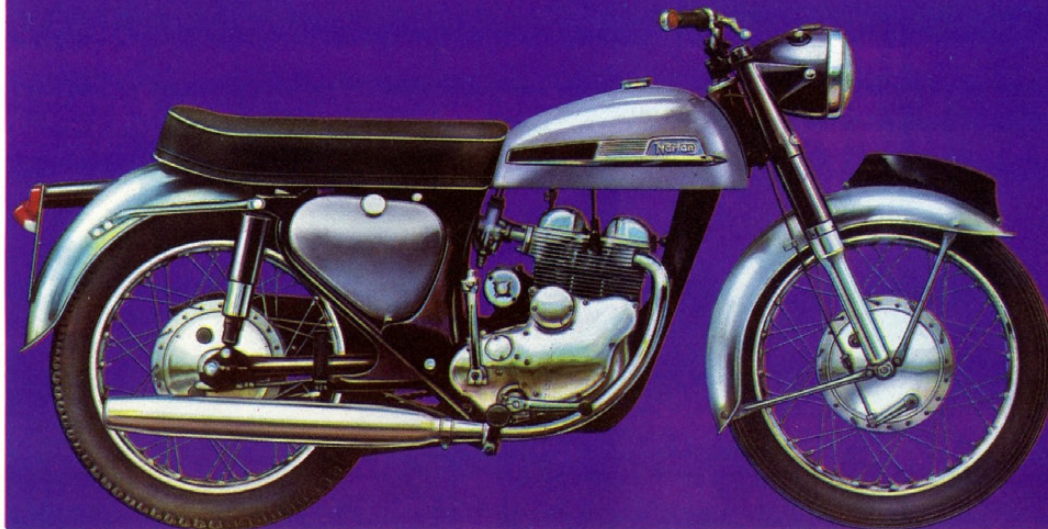


1. STARTING POWER. The willing electric starter gives you power at the touch of a button. Everyone who's ever been stalled in heavy traffic, held up while getting back to neutral and unfolding the kick starter will want push button starting. Now you just pull in the clutch, press the button and away!

2. GOING POWER. Minimum reciprocating weight - maximum efficiency, that's the power magic of the ES400. Short piston stroke, high camshaft, light racing type valve gear - it all adds up to a high revving power plant smooth as a jet turbine, that simply thrives on high speed cruising, and gives exhilarating acceleration.

3. HOLDING POWER. The ES400 is above all a Norton. Road holding and handling are of the highest order; the big 'Road Holder' forks make sure of that. This is a motor cycle that you can rely on under the most arduous conditions.

4. STOPPING POWER. The massive brakes will pull you up like a giant's hand. As fitted to the 500 c.c. SS and the 650 c.c. SS machines which have swept the board in Europe's long distance races for the past two years, they are housed in brightly polished hubs with deep cooling fins.



5. LIGHTING POWER. A full 12-volt lighting system means that the ES400 is just as happy by night as by day. The big headlamp with its 50/40 w. bulb throws out a wide powerful beam, lighting the road hundreds of yards ahead.

6. PLUS COMFORT. Settle on to the luxurious twin seat, the ES400 fits you as though 'tailor made'. The seat height; the set of the handle bars; the placing of the controls; the smooth suspension, all combine to make the ES400 the most comfortable motor cycle. Try one for yourself!

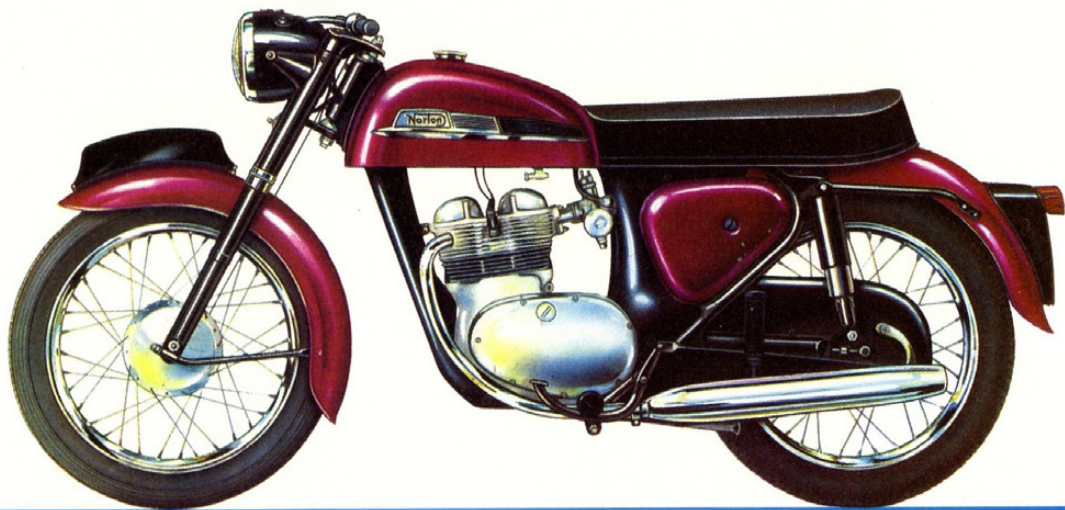
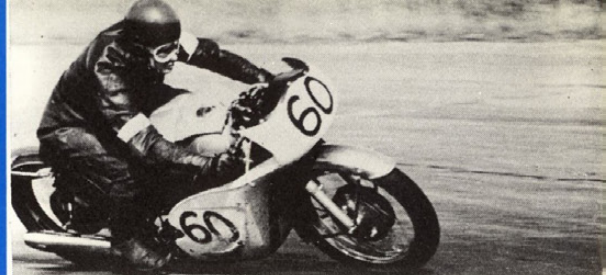
Norton

JUBILEE

250

high camshaft twin

Safe, lively, trustworthy, here's a machine for the younger enthusiast. The ideal mount for the newcomer to motor cycling. It's a good-looking 250 c.c. machine, with a spritely engine 'which delivers its urge freely and smoothly right up the scale. For main road cruising, the speedometer needle could be kept on the 60 m.p.h. mark indefinitely', said *Motor Cycle's* road tester, and of course, the handling you'd expect from a Norton.



Engine. 249 c.c. twin cylinder, o.h.v. engine with integral gearbox; twin high-level camshafts; 60 mm. bore; 44 mm. stroke and a compression ratio of 8.75 to 1. Maximum b.h.p. is developed at 7,000 r.p.m. with a maximum speed of approximately 75 to 80 m.p.h. and a petrol consumption in the region of 70 to 90 m.p.g. New type contact breaker allows for individual timing of each cylinder. Coil ignition system incorporating an emergency starting device.

Gearbox. Integral 4-speed gearbox unit driven by a duplex chain, with adjustable tensioner, through a multi-plate clutch with bonded friction plates and built-in, vane-type rubber shock absorber. Positive foot operation.

Forks. Extremely efficient, multi-rate, telescopic type giving riding comfort at all speeds with roadholding and steering in the best Norton tradition.

Frame. Duplex type with very rigid centre channel section and pressed steel front member. Two-way hydraulically damped rear swinging arm pivoting on bonded rubber bushes.

Brakes. 6" dia. x 1" smooth acting, efficient with full width hubs front and rear and chromium styling flanges.

Lighting Equipment. Crankshaft mounted alternator; 13 A.h. battery; powerful quickly adjustable 7" headlamp with pre-focus double filament bulb. Speedometer, ammeter, lighting switch and ignition switch incorporated in the headlamp shell. Wide-angle rear/stop light with built-in reflector.

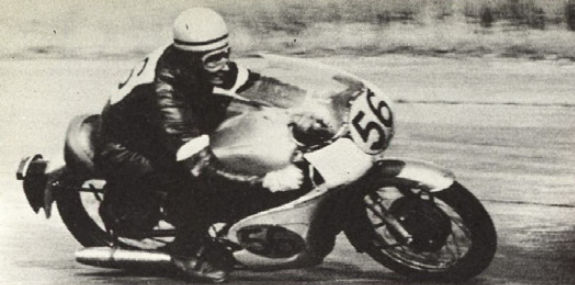
Twin Seat. Foam rubber cushion covered in black waterproof material with white piping.

Tyres. Avon, high hysteresis 3.25 x 18 rear, 3.00 x 18 front.

Optional Equipment. Upswept handlebars.

Optional Extras. Fully enclosed rear chain-case. Chrome guards.

Colour Finish. Flamboyant Burgundy and Black.



Norton

NAVIGATOR

350

high camshaft twin

Ideal for fast comfortable touring, 'there's nothing quite like it on the British market', says *Motor Cycling*. 'The low centre of gravity and light overall weight combined with other factors like wheel base and fork geometry allowed it to be flung into any sort of bend.' With its 350 c.c. twin cylinder, 4-stroke, engine gearbox unit the Navigator is a smooth tireless worker.

Engine. Twin cylinder, 4-stroke engine-gearbox unit of 349 c.c. with high-level camshafts, 63 mm. bore, 56 mm. stroke and a compression ratio of 8.5 to 1. Maximum b.h.p. is developed at 6,800 r.p.m. giving a top speed of around 85 m.p.h. with a petrol consumption of 70 to 85 m.p.g. An exceptionally rigid forged crankshaft is fitted with big end bearings similar to those used on the 500 c.c. and 650 c.c. machines. Extremely efficient cooling is achieved by the air passages between the monobloc cylinder barrel and between the push-rod tunnels. Very short push-rods and light valve gear contribute to the outstanding reliability and efficiency of this remarkable engine. Ignition system incorporating an emergency starting device, is employed. Twin coils and contact breakers allow separate timing for each cylinder. Integral 4-speed gearbox with positive foot operation.

Forks. Norton 'Roadholder' forks, a name which is now synonymous with perfect road-holding and hair-line steering.

Frame. A very strong bolted-up, tubular frame with aerodynamic front down member and a two-way hydraulically damped rear swinging arm pivoting on bonded rubber bushes.

Brakes. Front 8" x 1 1/4", Rear 6" x 1".

Lighting Equipment. Crankshaft mounted 6-volt, 50 watt alternator; 13 A.h. battery; quickly adjustable 7" headlamp with speedometer, ammeter, ignition switch and lighting switch incorporated in top of headlamp shell. Wide angle rear/stop light with built-in reflector.

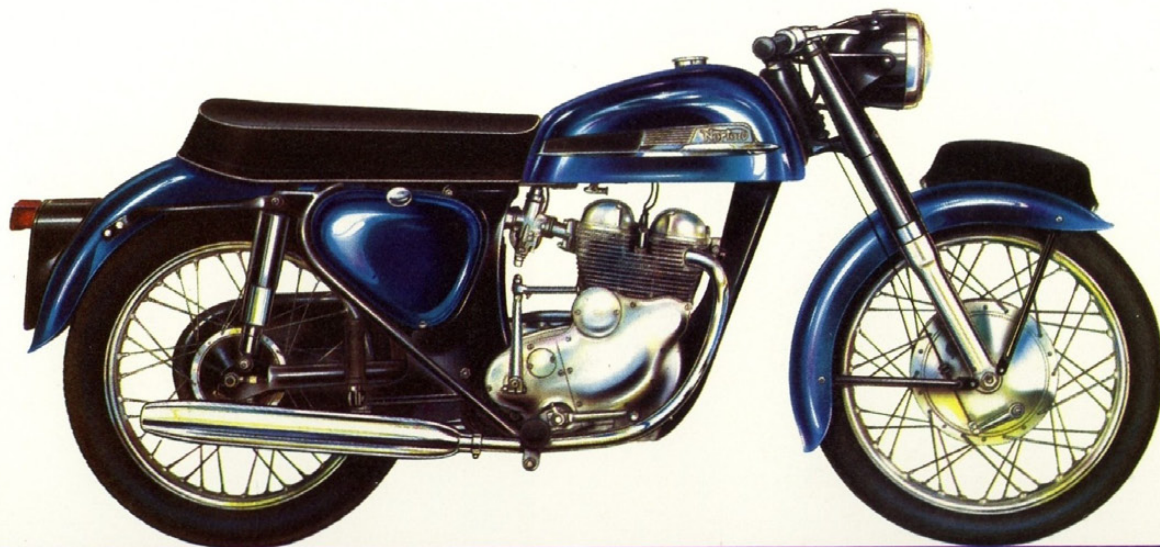
Twin Seat. Slim-line foam rubber seat covered in black waterproof material with white piping.

Tyres. Avon, high hysteresis 3.25 x 18 rear, 3.00 x 19 front.

Optional Equipment. Upswept handlebars.

Optional Extras. Totally enclosed rear chain-case. Chrome guards.

Colour Finish. Polychromatic Blue and Black.





(winner of the Thruxton 500-mile production race two years running)

PHIL READ TALKS SPORTS SPECIALS

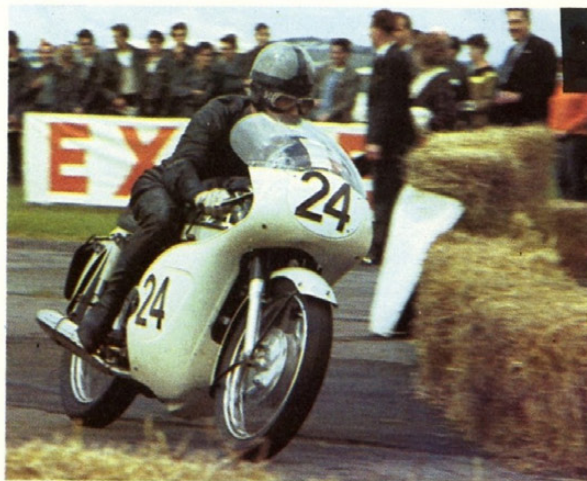
'As a professional, when it comes to motor cycle performance, my personal standards are higher than average. They have to be. So when I tell you that the Norton Sports Specials are the most exceptional standard production machines it has ever been my pleasure to ride, you can be sure they are indeed something "special".

'In my opinion, biased, perhaps, because of the personal successes Brian Setchell and I have won on it – the big Dominator 650 Sports Special can't be bettered. It's powerful, fast and lively – yet handles at speed like a Manx. And is so unbelievably comfortable to ride.

'Just look at its record. Outright winner of the Thruxton 500-mile Production Machine Race (as Brian and I have good reason to know) two years running. Outright winner of the Silverstone 1,000-mile Production Touring Machine Race as well as winner of the "Machine of the Year" award in just over a year. And, if it hadn't been for a spot of bad luck, the Setchell/Read combination were on the way to winning the Bemsee "1,000" at Oulton Park. We shouldn't complain, though. We finished second.

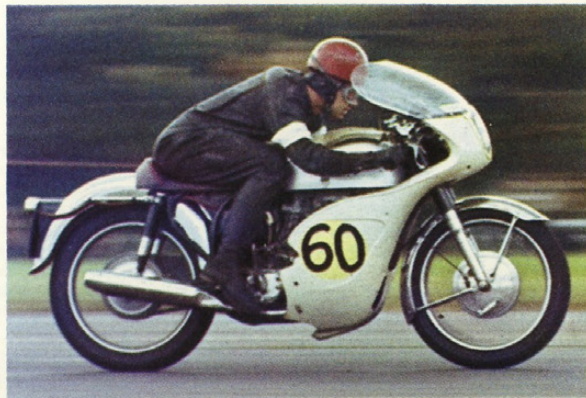
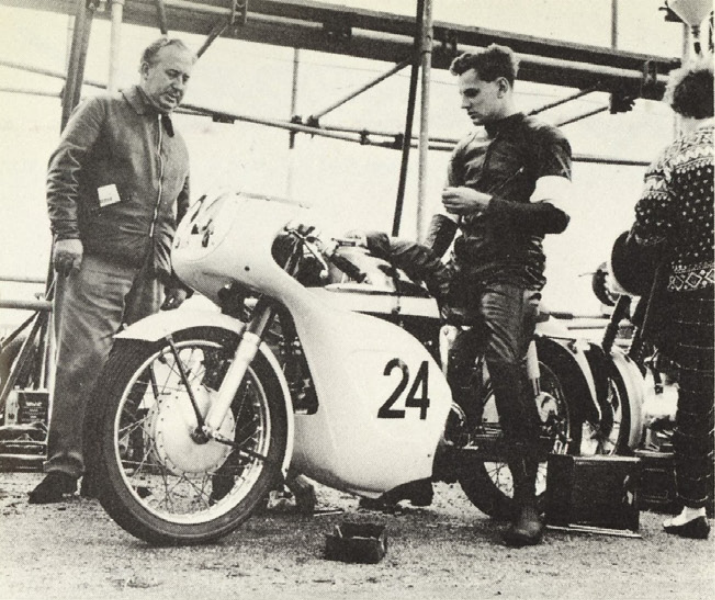
'As for the Dominator 88 Sports Special, well what more can I say than to remind you that this machine won the 500 c.c. Class at Silverstone and did the same at Thruxton in three successive years. A great bike that's really proved itself.

'Both these models are better than ever for 1964 with a very important improvement – a new 12-volt electrics system – and these, the machines that I race, are the self-same machines you can buy – specially built for outstanding performance.'



Phil Read.

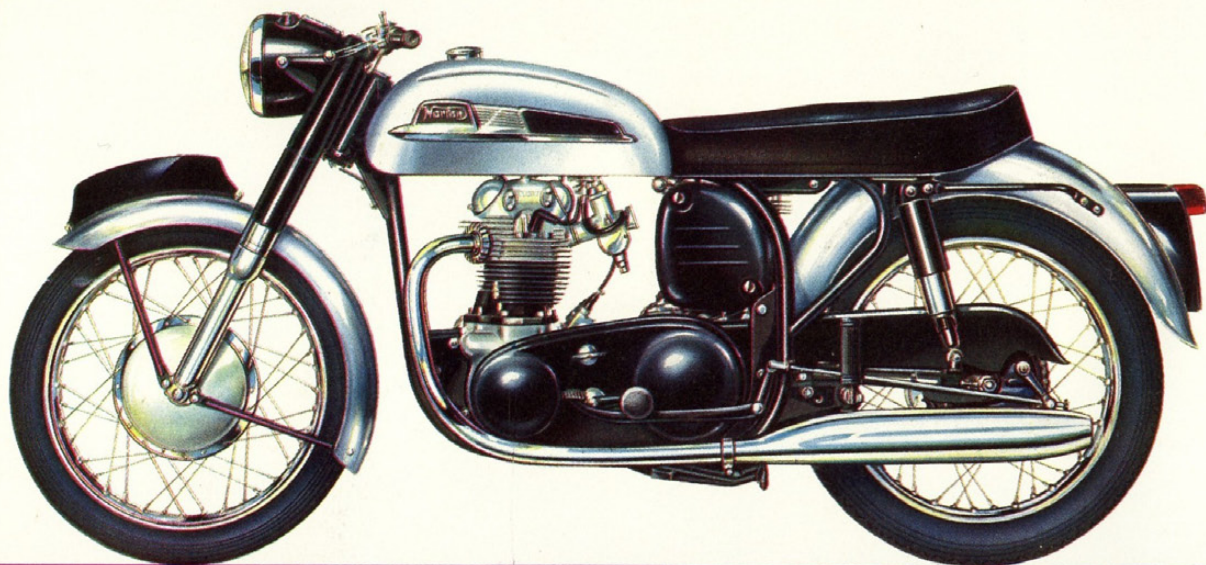




Very special

Norton

DOMINATOR 88 SPORTS SPECIAL 500cc vertical twin



Engine. 88SS. 497 c.c. o.h.v. vertical twin (66 mm. bore × 72.6 mm. stroke).

650SS. 647 c.c. o.h.v. vertical twin (68 mm. bore × 89 mm. stroke).

Light alloy cylinder head block, with integral rocker box, and shrunk-in valve seats: parallel induction tracts with large diameter inlet valves: double helical valve springs: forged steel rockers with screwed-in adjusters: alloy push-rods with hardened steel end fittings: large diameter iron alloy tappets: single chain-driven camshaft mounted to fore of cylinder barrels: built-up forged steel crankshaft with large diameter central iron flywheel, supported by ball and roller bearings: plain big-end bearings: 2-piece 'Y' alloy connecting rods: forged alloy pistons with three rings: one-piece cast-iron cylinder block with integral push-rod tunnels: crankshaft driven gear type oil pump: carburation by twin Amal Monoblocs: ignition by magneto, with automatic advance and retard.

Gearbox. Separate 4-speed, with medium-close ratios: positive foot change: light alloy shell and end covers: wide tooth heavy duty pinions: driven through five plate clutch which incorporates rubber vane shock absorber: single primary chain housed in pressed steel oil bath.

Frame. The famous Norton 'Featherbed' with its race-bred handling and road-holding. Full twin tube duplex cradle of welded construction, gusseted at steering head and swinging fork pivot for extreme rigidity. Robust rear fork pivots on bonded rubber bushes and movement controlled by

sports specials!

Norton

DOMINATOR 650 SPORTS SPECIAL 650cc vertical twin

adjustable Girling units.

Forks. New 'Roadholders' with built-in thief-proof lock: progressive two-way oil damping: single rate springs housed within heat treated tubular steel stanchions: light alloy sliders with chromed steel extensions.

Wheels. 19" diameter chrome plated steel rims fitted with Avon high hysteresis tyres - sizes: Front 3.00 x 19; Rear 3.50 x 19 Grand Prix.

Hubs and Brakes. Large diameter die-cast light alloy hubs, with deep cooling fins and internal strengthening webs: front brake drum cast into hub: one-piece rear drum and sprocket bolted up to hub, giving a Q.D. rear wheel: ball journal bearings support hubs on high tensile steel spindles. Brake sizes - Front 8" x 14", Rear 7" x 14".

Lighting. 12-volt: crankshaft mounted alternator: two 6-volt batteries mounted in series: Zener diode: adjustable 7" diameter headlamp with 50/40 w. double filament head bulbs: combined rear and stop light with integral reflector.

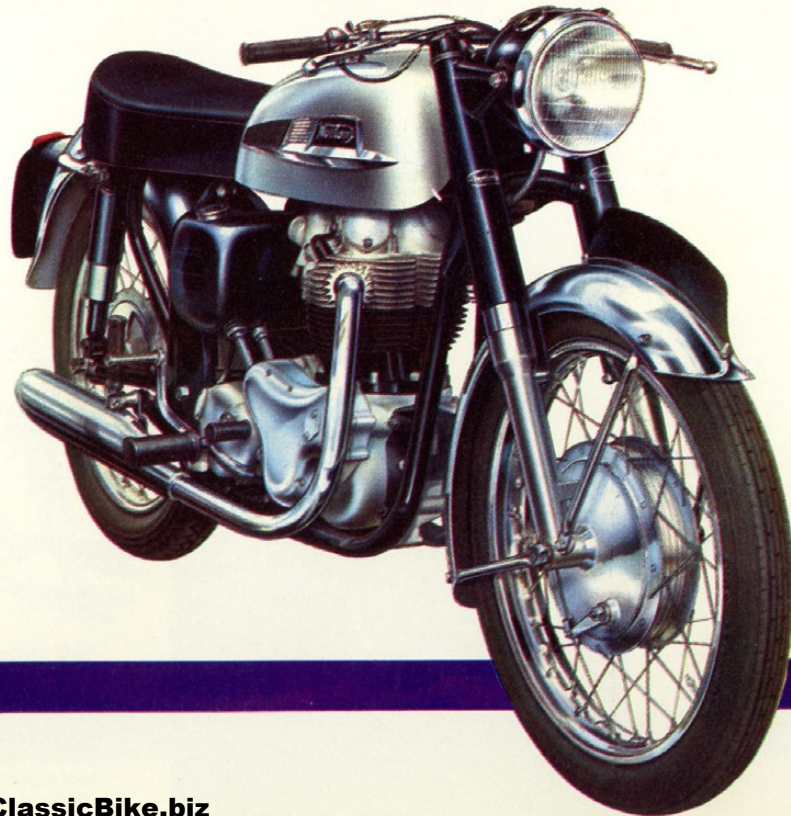
Tanks. 3.5-gallon pressed steel petrol tank, completely rubber mounted: single two-level tap. 4.5 pint pressed steel oil tank.

Dimensions. Seat height - 31": ground clearance 6.25": weight 398 lbs.

Colour Finish. Jet black primarily with silver petrol tank and chrome plated mudguards.

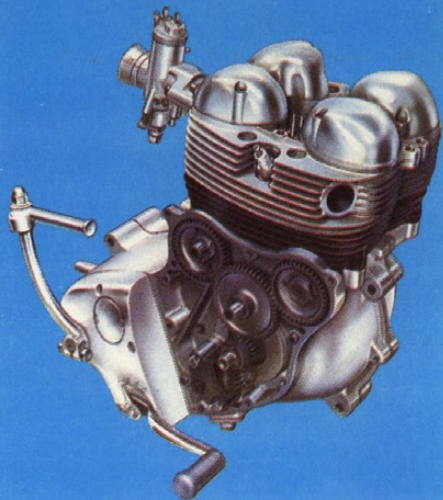
Optional. Sidecar forks, gears and suspension.

Optional Extras. Dolphin fairings. Rev-counter. Fully enclosed rear chain-case, steering damper, safety bars.



LIGHTWEIGHT TWIN ENGINE

This outstanding lightweight vertical twin engine is famous in 250 c.c. and 350 c.c. form as the smooth and flexible power plant of Norton Jubilee and Navigator models. For 1964 extensive development has led to a 400 c.c. version with electric self-starter which which powers the new model ES400. The performance of all 3 engines is a tribute to the basic design construction. The high camshafts permit super light valve gear giving smooth, turbine-like, high-revving characteristics. Simple and positive valve adjustment is provided by eccentric rocker spindles. The whole unit is elegantly finished with bright polished, timing side covers, primary chaincase and rocker covers. Kick-start and gear-change levers are in durable, bright chrome plate finish.



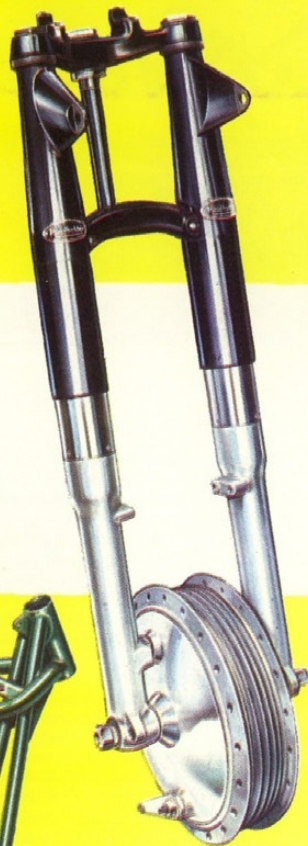
Q.D. REAR WHEEL

A feature of machines using the 'Featherbed' frame is the quickly detachable rear wheel which is speedily and easily withdrawn without moving the brake drum, rear chain or chaincase by simply taking out the 3 rubber plugs on the off-side of the rear wheel hub, removing the 3 sleeve nuts with the tubular spanner provided and removing the wheel spindle from the off-side, leaving near-side nut untouched.

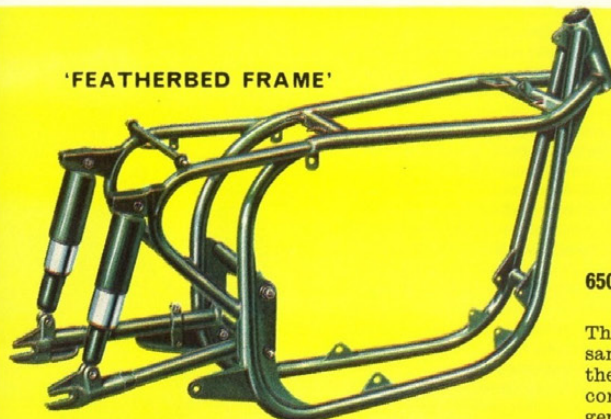


'ROADHOLDER' FORKS

These world-famous forks use large diameter main tubes and two-way hydraulic damping. The fork legs are designed to give the utmost rigidity for attachment to the wheel hub and strength at brake torque stop anchorage. The full width, 8" die cast hub is deeply ribbed for maximum cooling, and has an 8" x 1 1/4" cast-in brake drum.



'FEATHERBED FRAME'



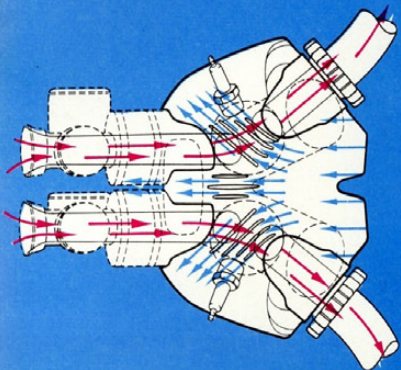
650 c.c. CRANK ASSEMBLY

This new assembly is of the same patented design as the very successful 88/99 components but with larger diameter journals of 1 1/4" and a wider flywheel which gives greater flywheel effect. This well-proved design is unique in that the crankshaft tapers in hollow section, from large to small, in perfect stress harmony.

This famous race-bred frame is a high quality, high grade steel tube, all-welded duplex loop construction, liberally gusseted at the rear for optimum rigidity of the swinging arm. Note the unique head construction giving rigidity in all planes, one of the main reasons for the wonderful steering characteristics of Norton. The rear fork ends are solid forged for maximum strength.

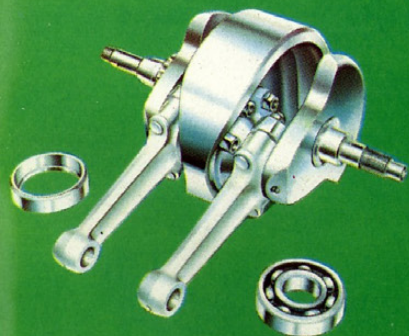
650 c.c. CYLINDER HEAD

This is a unique and race-proved light alloy cylinder head of patented design. The diagram shows how the parallel inlet tracts and wide splayed exhaust ports increase the output efficiency and how the natural flow of air across the cylinder heads gives maximum cooling.



SPECIFICATION

	250 Jubilee	350 Navigator	ES 400	500 SS	650 SS
Capacity c.c.	249	349	384	497	647
Bore x Stroke	60 x 44	63 x 56	66 x 56	66 x 72.6	68 x 89
Compression Ratio	8.75 : 1	8.5 : 1	7.9 : 1	9.5 : 1	8.9 : 1
Amal Carburettor Choke Size	$\frac{2\frac{1}{2}}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$1\frac{1}{16}$ "	$1\frac{1}{8}$ "
Rear Chain	$\frac{1}{2}$ " x .305"	$\frac{1}{2}$ " x .305"	$\frac{1}{2}$ " x .305"	$\frac{5}{8}$ " x $\frac{1}{4}$ "	$\frac{5}{8}$ " x $\frac{1}{4}$ "
Front Chain	$\frac{3}{8}$ " Duplex	$\frac{3}{8}$ " Duplex	$\frac{3}{8}$ " Duplex	$\frac{1}{2}$ " x .305"	$\frac{1}{2}$ " x .305"
Tyres Front	3.00 x 18	3.00 x 19	3.00 x 19	3.00 x 19	3.00 x 19
Rear	3.25 x 18	3.25 x 18	3.25 x 18	3.50 x 19GP	3.50 x 19GP
Brakes Front	6" dia x 1"	8" dia $1\frac{1}{4}$ "	8" dia x $1\frac{1}{4}$ "	8" dia x $1\frac{1}{4}$ "	8" dia x $1\frac{1}{4}$ "
Rear	6" dia x 1"	7" dia x $1\frac{1}{4}$ "	7" dia x $1\frac{1}{4}$ "	7" dia x $1\frac{1}{4}$ "	7" dia x $1\frac{1}{4}$ "
Petrol Tank	3 galls.	3 galls.	3 galls.	3 $\frac{5}{8}$ galls.	3 $\frac{5}{8}$ galls.
Oil Tank	3 $\frac{1}{2}$ pts.	3 $\frac{1}{2}$ pts.	3 $\frac{1}{2}$ pts.	4 $\frac{1}{2}$ pts.	4 $\frac{1}{2}$ pts.
Seat Height	29"	29"	29"	31"	31"
Ground Clearance	5 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	6 $\frac{1}{4}$ "	6 $\frac{1}{4}$ "
Wheel Base	52 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "



GUARANTEE

Norton Machines are Guaranteed for 12 Months

All Norton Motor Cycles are sold by appointed dealers and the terms and conditions of sale are identical in all respects to those adopted by the British Cycle and Motor Cycle Industries Association Ltd – except for the guarantee period. Norton are so confident of the technical excellence of their machines that the period of guarantee has been doubled to 12 months. A copy of the full Guarantee is available on request.

Norton Motor Cycles Limited, 44 Plumstead Road, SE18, England. Tel: WOOLwich 1223 – Telegrams: ICANHOPIT LONDON TELEX. Telex No 2-2617.

Norton are made by the A.M.C. Group – First and Foremost makers of Motor Cycles

