

CREA
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Norton

1963

The World's Best Roadholders



Norton

The most famous name in motorcycling

Norton Motor cycles carry a reputation for quality which is second to none. It is a reputation built over half a century of successful International racing; of winning countless races all over the world, including 34 T.T. races; of producing fast and safe motor cycles which have those *indefinable*, race-bred qualities of superb handling, magnificent roadholding and reliability.

All Norton machines are developed with a background of racing experience coupled with engineering skill of the highest order. Every new feature is road tested and race tested over thousands of arduous miles before being incorporated in a production machine. The Production Machine Races of Thruxton and Silverstone are their proving grounds.

The 1963 Norton Range includes two Sports Specials—the now famous 650 Sports Special, outright winner of the 1962 Thruxton 500 mile Production Machine Race and the 1,000 Kilo Production Touring Machine Race at Silverstone; and the Dominator 88 Sports Special, 500 c.c. Class winner at Silverstone and at Thruxton for the third year in succession. These outstanding machines have all the traditional Norton safe handling attributes, together with the powerful performance of racing machines.

For the single cylinder enthusiast the ever-reliable E.S.2 and Model 50 singles remain. The 250 and 350 High Camshaft Twins with their four stroke, integral engine-gearbox power units also continue. The world famous Dominator 99 disappears to make room for the more powerful Dominator 650. The 500 c.c. Dominator 88 completes this year's range of Norton roadholders.

GUARANTEE

TERMS AND CONDITIONS OF SALE AND GUARANTEE

In this Guarantee the word "machine" refers to the motor cycle, scooter, motor cycle combination or sidecar, as the case may be, purchased by the Purchaser.

In order to obtain the benefit of this Guarantee, the Purchaser must correctly complete the attached registration form and return it to us within fourteen days of the purchase.

We will supply, free of charge, a new part in exchange for, or, if we consider repair sufficient, will repair free of charge any part proved; within six months of the date of purchase of any new machine, or within three months of its renewal or repair in the case of a part already renewed or repaired; to be defective by reason of our faulty workmanship or materials. We do not undertake to bear the cost of fitting such new or repaired part or accessory.

Any part considered to be defective must be sent to our Works, carriage paid, accompanied by the following information:—

- (a) Name of purchaser and his address
- (b) Date of purchase of machine
- (c) Name of dealer from whom the purchase was made
- (d) Engine and Frame numbers of machine

This Guarantee shall not extend to defects or

damage appearing after misuse, neglect, abnormal stress or strain, or the incorporation or affixing of unsuitable attachments or parts and in particular:—

- (a) Hiring out
- (b) Racing and Competitions
- (c) Adaptation or alteration of any part or parts after leaving our Works
- (d) The attaching of a sidecar in a manner not approved by us or to an unsuitable motor cycle

This Guarantee shall not extend to machines whose trade mark, name or manufacturing number has been altered or removed, or in which has been used any part not supplied or approved by us, or to tyres, saddles, chains, speedometers, revolution counters and electrical equipment or to parts supplied to the order of the Purchaser and different from our standard specification.

Our liability and that of our dealer who sells the machine, shall be limited to that set out in paragraph 3 and no other claims including claims for consequential damage or injury to person or property, shall be admissible.

All other conditions and warranties statutory or otherwise and whether express or implied are hereby excluded and no guarantee other than

that expressly herein contained applies to the machine to which this Guarantee relates or any accessory or part thereof.

REPAIRS GUARANTEE

Whilst the highest standard of workmanship and materials is aimed at, we cannot accept liability for any defects appearing more than three months after the machine, assembly or component has left our Works after being repaired.

We will repair or replace at our option free of charge any defective work, materials or parts relating to the repairs carried out by us appearing within that time but shall not be under any further or other liability for any other loss or damage whether direct or consequential and our liability shall be limited to the cost of so making good.

We do not accept liability in respect of parts of proprietary manufacture, e.g. tyres, saddles, chains, speedometers, revolution counters and electrical equipment which may be used by us in effecting a repair. All other conditions and warranties statutory or otherwise express or implied are hereby excluded.



DE-LUXE

Norton

250

250 c.c. High Camshaft Twin

A 250 c.c. machine with a brilliant engine which combines high performance with excellent fuel economy. Safe, lively, efficient, this machine is the ideal mount for the younger enthusiast. In Standard trim or with the modern, partially enclosed styling of the De-Luxe model, the 250 has no equal.

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. Quick release seat for access to tool tray and oil filler cap on De-Luxe.

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

OPTIONAL EQUIPMENT. Straight handlebars.

OPTIONAL EXTRAS. Fully enclosed rear chain case. Chrome guards (Standard model only).

COLOUR FINISH. De-Luxe: Off-White and Black. Standard: Flamboyant Burgundy and Black. Optional finish: De-Luxe: Blue and Dove Grey. Standard: Red and Dove Grey.



STANDARD

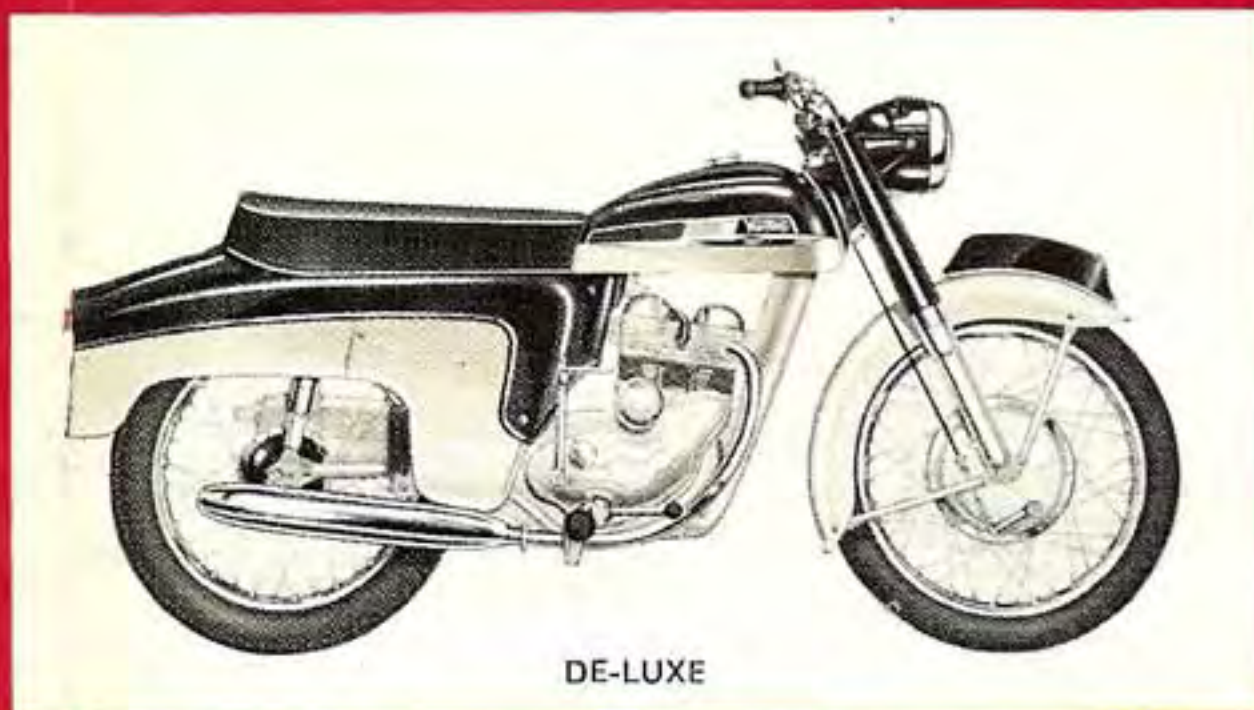
Norton

NAVIGATOR

350

350 c.c. High Camshaft Twin

Winner of the 350 c.c. Production Machine Class at Silverstone, the Navigator, with its twin cylinder, four stroke, engine-gearbox power unit is outstanding in its class. It is a middle-weight machine for fast, fatigue-free touring with all the traditional Norton handling qualities.



DE-LUXE

ENGINE. Twin cylinder, four stroke engine-gearbox unit of 349 c.c. capacity 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 600 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 aero-dynamic shaped 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 water-proof material with white piping. Quick release seat for access to tool tray and oil filler cap on De-Luxe.

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

OPTIONAL EQUIPMENT. Straight handlebars.

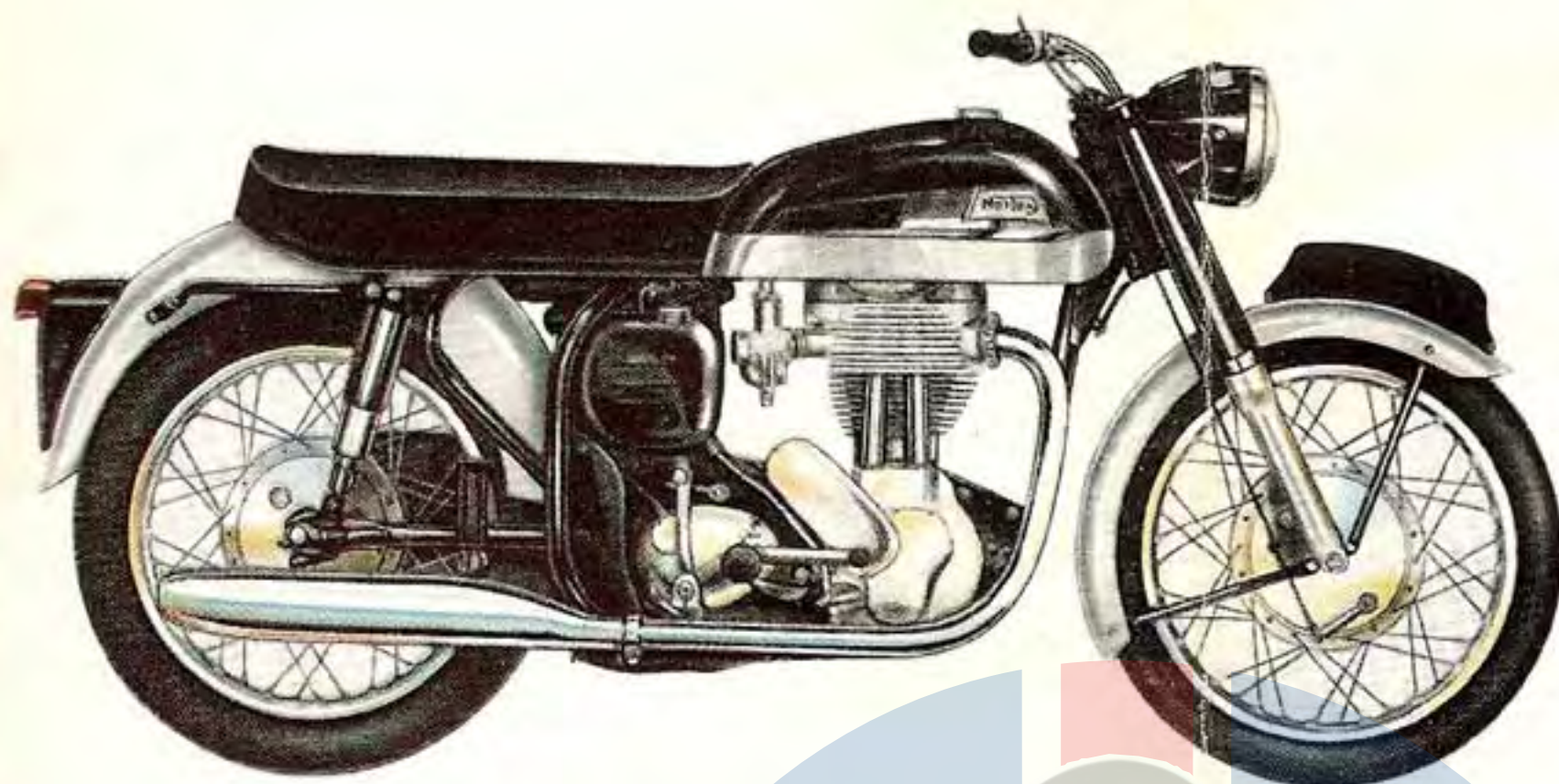
OPTIONAL EXTRAS. Totally enclosed rear chain case. Chrome guards (Standard model only).

COLOUR FINISH. De-Luxe: Black and Dove Grey. Standard: Polychromatic Blue and Black.

OPTIONAL FINISH. Standard: Blue and Dove Grey.



STANDARD



Norton

MODELS

50

350 c.c. Single

E.S.2

500 c.c. Single

These outstanding examples of single cylinder machines are world renowned for their reliability and general performance. The E.S.2 is also noted for sidecar work and on these machines R.A.C. Patrolmen cover millions of miles every year.

ENGINE. Very reliable and robust single cylinder O.H.V. Light alloy head and cast iron barrel deeply finned for efficient cooling. Fly-wheel is a rigid, bolted up assembly using a double-row roller big end. Dry sump lubrication with Norton constant mesh force feed oil pump. Model E.S.2, 500 c.c. with bore and stroke of 79 x 100. Model 50, 350 c.c. with bore and stroke of 71 x 88. Both engines employ coil ignition.

GEARBOX. 4 speed, positive foot change, driven through a multi-plate clutch with bonded friction plates and built-in vane type shock absorber. Single roller primary chain running in oil-bath case.

FORKS. "Roadholder" front forks.

FRAME. "Featherbed" frame with centre and prop stands fitted.

BRAKES. Powerful, non-fade. Front, 8" x 1 1/4". Rear, 7" x 1 1/4".

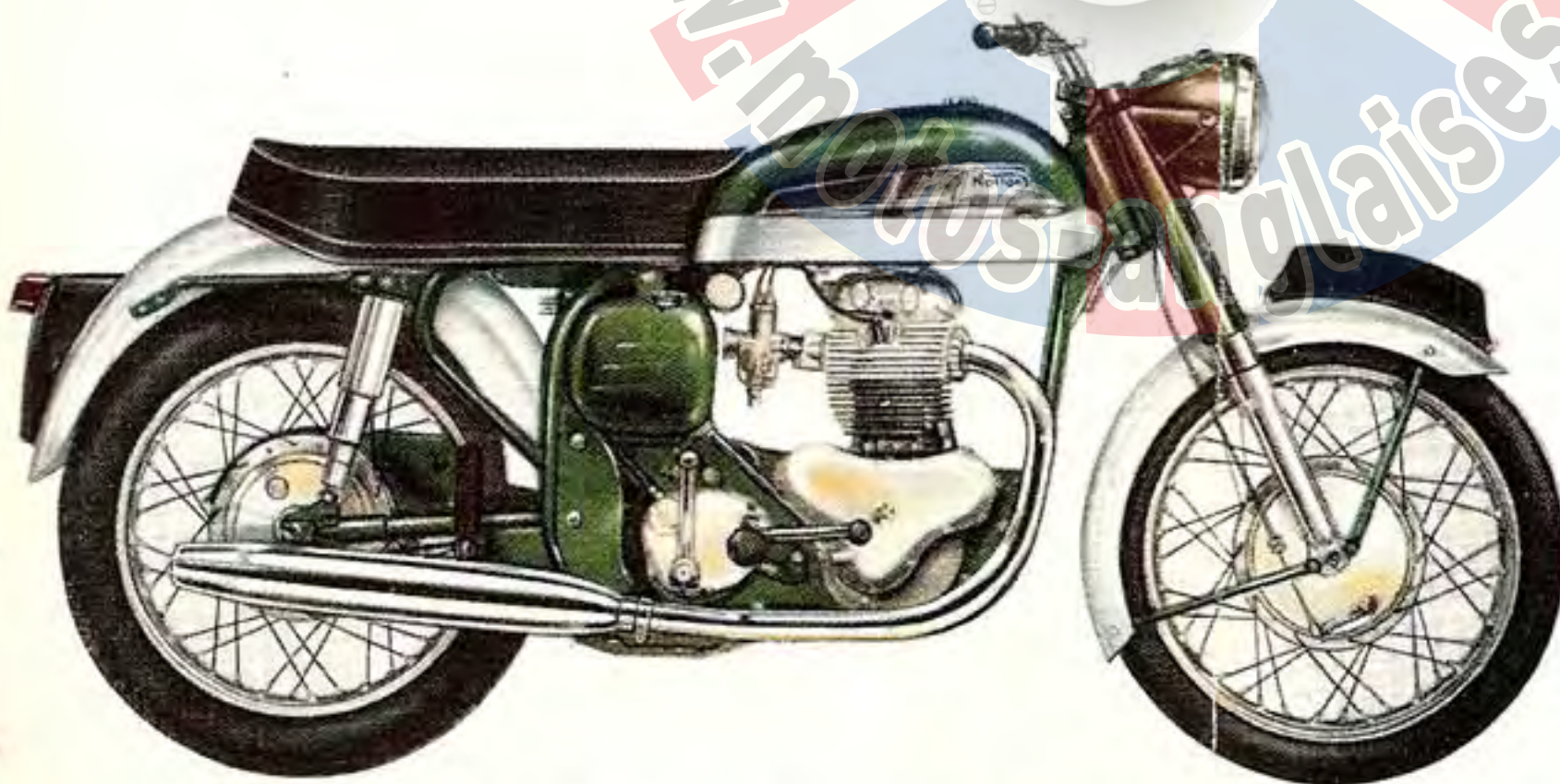
LIGHTING. 6 volt, 60 watt, crankshaft mounted alternator; 13 A.H. battery; adjustable headlamp with speedometer, ammeter, combined lighting and ignition switch in headlamp shell. Combined rear/stop lamp with built-in reflector.

WHEELS. Quickly detachable rear wheel. Tyres: High hysteresis. Front, 3.00 x 19. Rear, 3.50 x 19.

OPTIONAL EQUIPMENT. Straight handlebars. Sidecar specification. (E.S.2 only).

OPTIONAL EXTRAS. Fully enclosed rear chain case. Chrome guards.

COLOUR FINISH. Black with two-tone tank and white mudguards.



Norton

DOMINATOR

88

STANDARD

500 c.c. Vertical Twin

Powerful, good looking and with the built-in stability of the race-bred "Featherbed" Frame, this 500 is an established favourite with the experienced rider.

ENGINE. 497 c.c. vertical twin, O.H.V. engine with bore and stroke of 66 x 72.6 and a compression ratio of 8.5 to 1; unique crankshaft tapering in hollow section for perfect stress harmony; light alloy cylinder head with integral rocker boxes and easily accessible tappet adjustment; deeply finned barrel giving exceptionally efficient cooling. Dry sump lubrication with Norton, constant mesh, force feed pump. Coil ignition system incorporating an emergency start device. Chain driven camshaft incorporating tensioning slipper.

GEARBOX. 4 speed positive foot change, driven by a single roller chain through a multi-plate clutch with bonded friction plates and vane-type shock absorber.

FORKS. "Roadholder" forks, hydraulically controlled with 2-way damping, single-rate springs housed within large diameter main tubes. Extremely efficient and robust.

FRAME. "Featherbed" frame giving incomparable roadholding and stability. Tubular, duplex all welded construction with great lateral and torsional rigidity. Swinging arm, 2-way damped, pivoting on bonded

rubber bushes.

BRAKES. Front, 8" x 1 1/4". Rear, 7" x 1 1/4". Smooth, powerful, non-fade. Full width hubs in lightweight polished alloy well ribbed for efficient cooling.

LIGHTING. 6 volt, 60 watt, crankshaft mounted alternator; 13 A.H. battery; headlamp incorporating 120 m.p.h. speedometer, ammeter and combined lighting/ignition switch. Combined rear/stop lamp with built-in reflector.

TWIN SEAT. Extremely comfortable, slim foam rubber cushion with waterproof covering. Quickly detachable for access to tool tray.

WHEELS. Quickly detachable rear wheel. Tyres: High hysteresis. Front, 3.00 x 19. Rear, 3.50 x 19.

OPTIONAL EQUIPMENT. Straight handlebars. Sidecar specification.

OPTIONAL EXTRAS. Enclosed rear chain case. Chrome guards.

COLOUR FINISH. Green and Off-White.

Norton

DOMINATOR

650

STANDARD

650 c.c. Vertical Twin



Photo by Motor Cycling

Packing tremendous power, yet wonderfully docile in traffic the Dominator 650 is a joy to ride. The surging power of the vertical twin engine is coupled with roadholding and general handling attributes which Norton alone, with their vast experience of fast and safe machines, can produce. This is the machine for the experienced rider who insists upon the very best in motor cycles.

ENGINE. 647 c.c. vertical twin, O.H.V. with bore and stroke of 68x89. New type cylinder head with parallel inlet tracts and wide splayed exhaust ports for extra performance and increased cooling. Special multi-rate valve springs; light alloy tubular push rods; high performance camshaft; high compression (8.9 to 1) solid skirt pistons; crankshaft assembly based on the very successful 88/99 components but with larger diameter journals and greater flywheel effect. Twin exhaust pipes with specially tuned silencers. Coil ignition system incorporating an emergency start device.

GEARBOX. 4 speed, positive foot change driven through a heavy duty multi-plate clutch with bonded friction plates and vane-type shock absorbers.

FORKS. "Roadholder" forks, 2-way damping, hydraulically controlled single rate springs housed within large diameter main tubes.

FRAME. "Featherbed" frame famed for roadholding and stability. Tubular, duplex welded construction with great lateral rigidity and torsional resistance. Swinging arm 2-way damped, pivoting on bonded rubber bushes.

BRAKES. Front, 8" x 1 1/2". Rear, 7" x 1 1/2". Smooth, powerful, non-fade. Full width light weight polished alloy hubs.

LIGHTING. 6 volt, 60 watt, crankshaft mounted alternator; 13 A.H. battery; headlamp incorporating 120 m.p.h. speedometer, ammeter and lighting/ignition switch. Combined rear/stop lamp with built-in reflector.

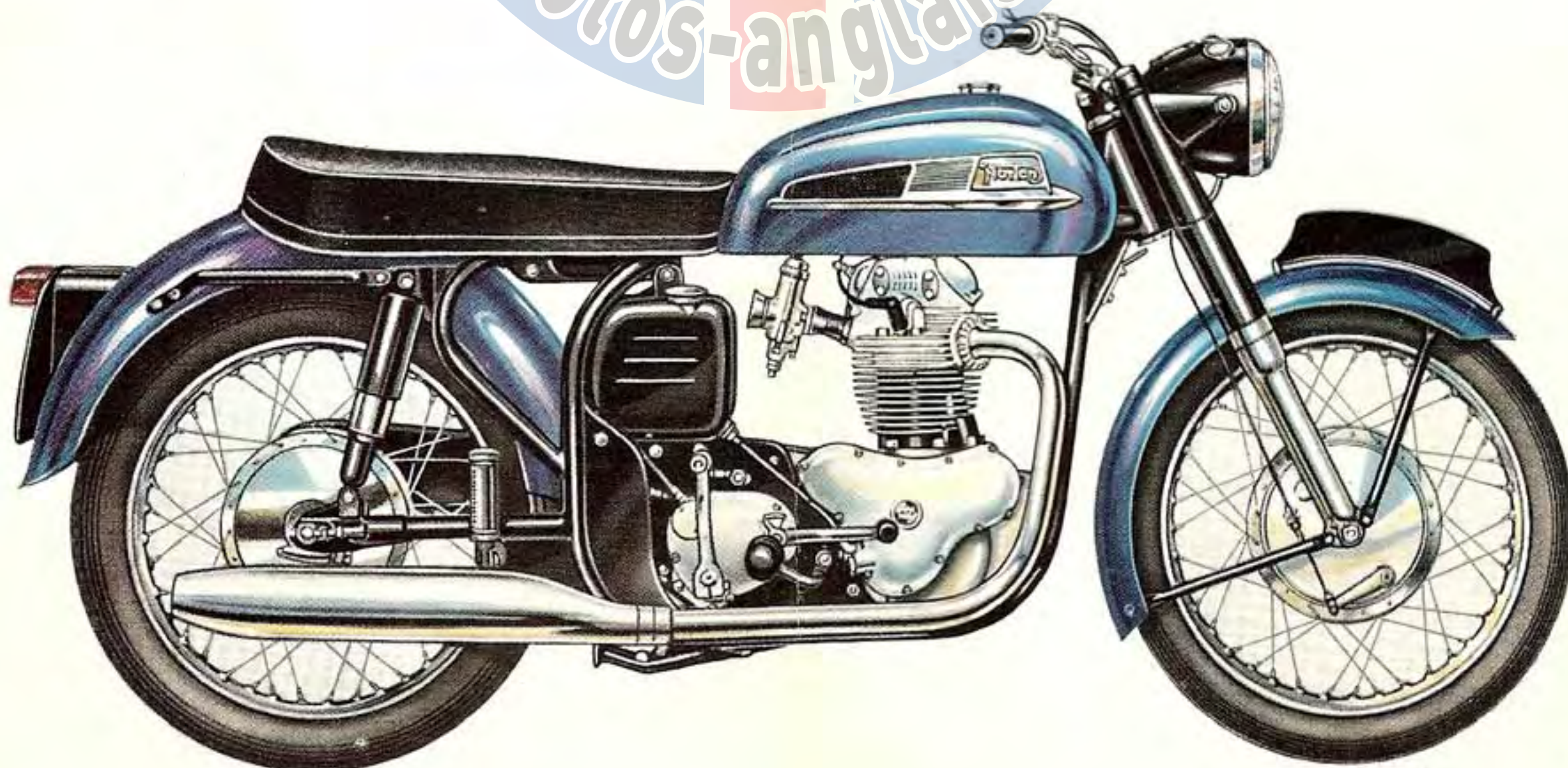
TWIN SEAT. Comfortable, slim, foam rubber cushion with waterproof covering. Quickly detachable for access to tool tray.

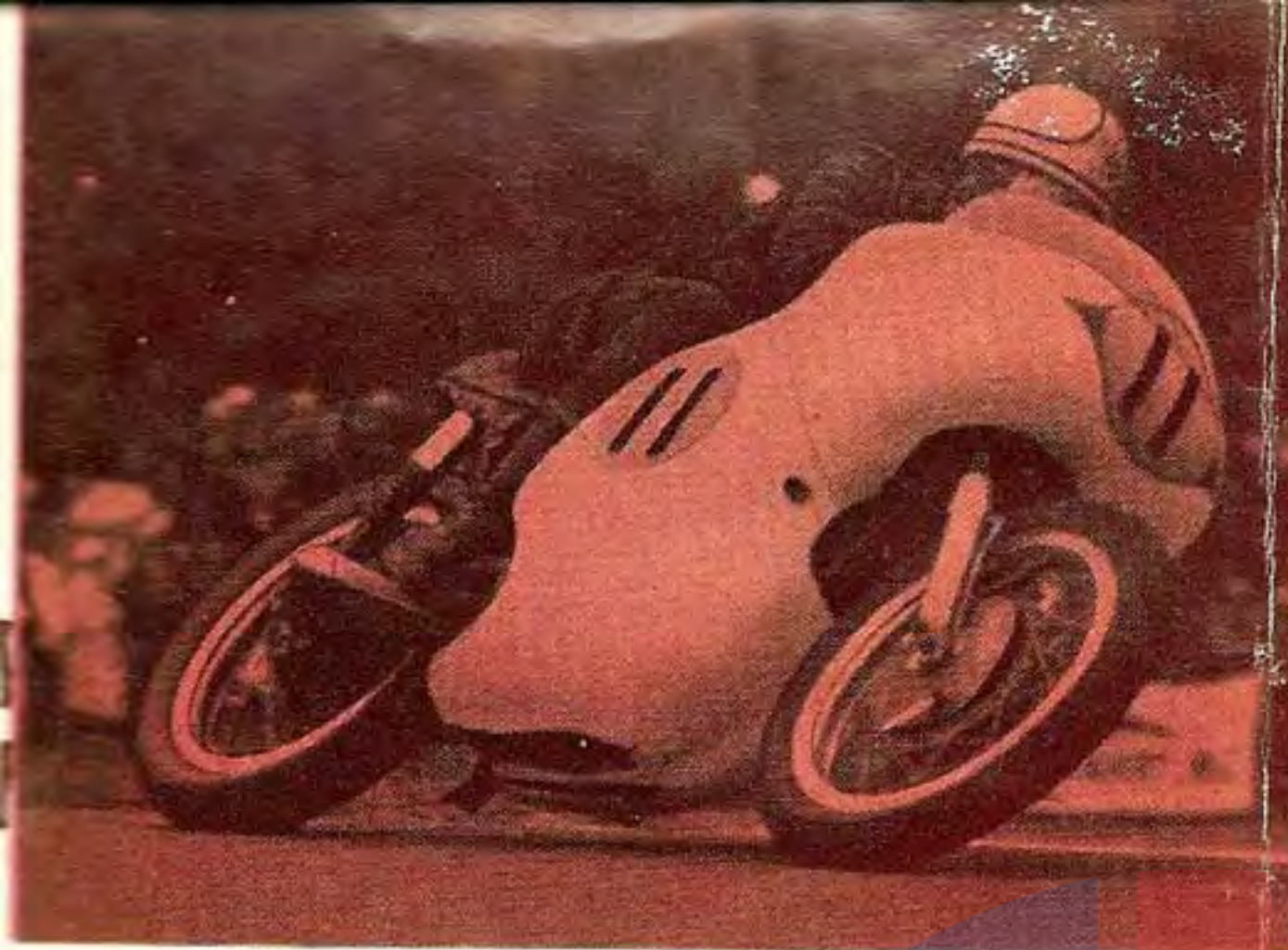
WHEELS. Quickly detachable rear wheel. Tyres: Avon high hysteresis Front, 3.00x19; Rear, 3.50x19 G.P.

OPTIONAL EQUIPMENT. Straight handlebars. Sidecar specification.

OPTIONAL EXTRAS. Enclosed rear chain case. Chrome guards.

COLOUR FINISH. Polychromatic Blue and Black.

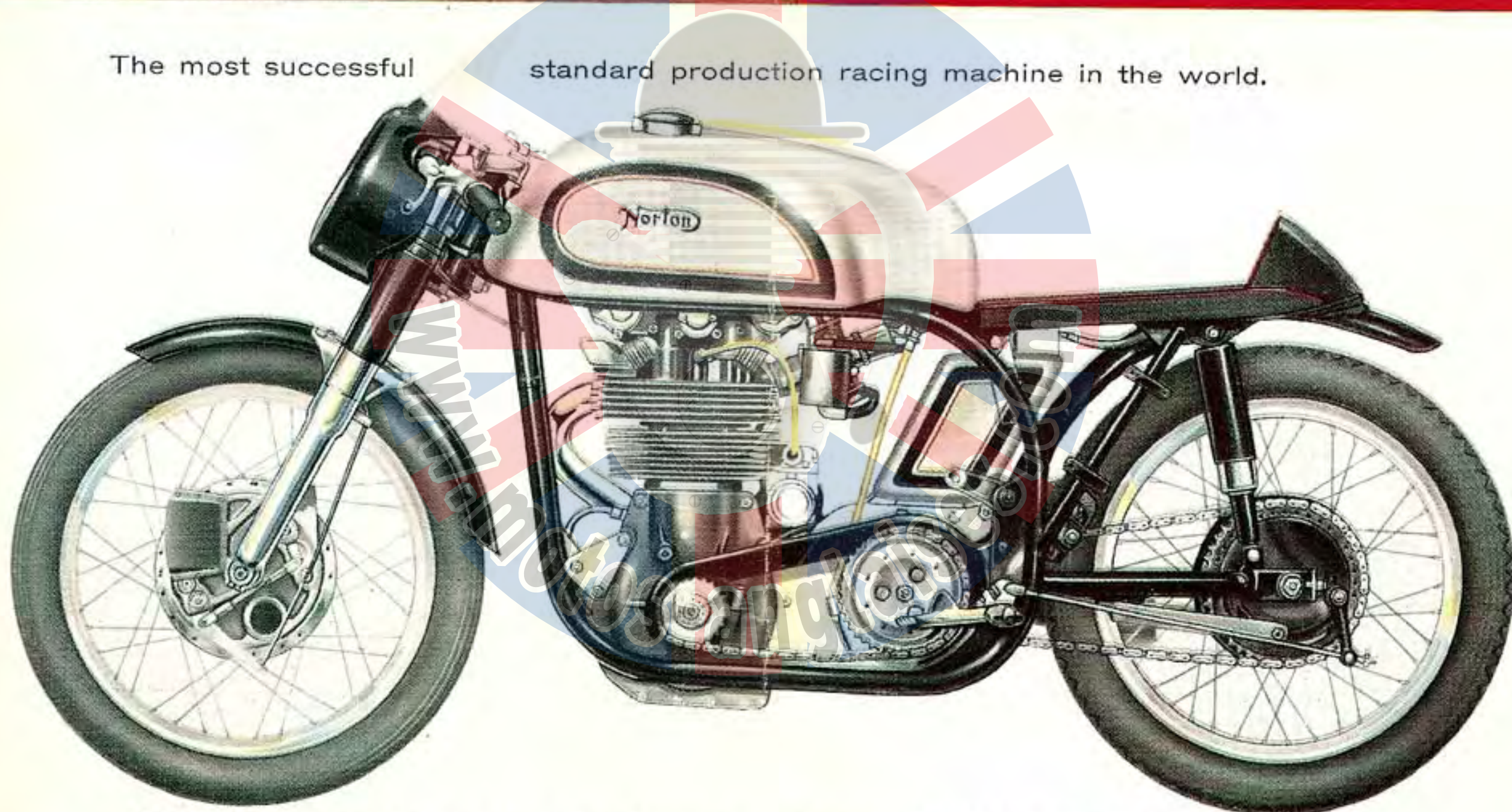




MANX 30/40

Photo by Motor Cycle

The most successful standard production racing machine in the world.



ENGINE. Both engines are of basically similar design employing bevel driven double overhead camshafts; light alloy heads; "Alfin" barrels; electron crankcases; high tensile steel connecting rods and crankshafts; and forged light alloy pistons. The compression ratio of 11 to 1 is suitable for International racing fuels. "Lucas" rotating magnet magnetos and "Amal" G.P. type carburetors are fitted.

TRANSMISSION. Close ratio four speed gearbox together with a three-plate clutch employing bonded inserts; primary chain oil is carried in the frame tube.

FRAME. Double loop, bronze welded "Reynolds" 531 tube.

Brackets are fitted for the attachment of a fairing.

SUSPENSION. "Roadholder" telescopic front forks employing hydraulic damping; swinging fork rear controlled by "Girling" suspension units.

WHEELS. Light alloy serrated rims, electron hubs, brake plates and shoes. The new front brake is a "twin" type employing twin leading shoes on both sides. The surface area is 71½ sq. in and large air scoops are fitted.

TANKS. Light alloy, rubber mounted, with quick action filler caps.

FINISH. Black and silver enamel with chromium plating.

Models	Bore and Stroke (mm.)	Cylinder Capacity	Compression Ratio	Gear Ratio	Weight	Petrol Tank Capacity	Oil Tank Working Capacity	Tyre Size	Brake Dimensions
30M	86 × 85.6	499 c.c.	11 to 1	Top 4.23 2nd 5.63 3rd 4.65 Bot. 7.52	313	5 Gal.	7½ pts.	F.3.00 × 19 R.3.50 × 19	Front: Double 7" × 1½" wide
40M	76 × 76.7	348 c.c.	11 to 1	Top 5.12 2nd 6.81 3rd 5.64 Bot. 9.11	307	5 Gal.	7½ pts.	F.3.00 × 19 R.3.50 × 19	Rear: 7" dia. × 1½" wide

Norton

DOMINATOR

650

Sports Special

650 c.c. Vertical Twin

Sports

Station-Service G.M.M.
271, Avenue Barthelot
LYON (7e)
Agent Norton

7600,00

TTC avec complète-
tours

ENGINE. 647 c.c. O.H.V. vertical twin with basic specification similar to the 650 c.c. machines but with twin carburettors incorporating special balance system in induction tracts to facilitate low speed running. Magneto ignition with automatic advance and retard mechanism. Maximum power is developed at 6,800 r.p.m. giving 49 b.h.p.

GEARBOX. 4 speed positive foot change with heavy duty, multi-plate clutch as fitted to all 650 c.c. machines.

FORKS. "Roadholder" forks; straight handlebars and ball ended levers.

FRAME. Racebred "Featherbed" frame, famous for its safe roadholding qualities and extreme rigidity.

BRAKES. Front, 8" x 14". Rear, 7" x 14". Very powerful, non-fade.

LIGHTING. Crankshaft mounted low output alternator for lighting only: 13 A.H. battery; powerful, headlamp with 150 m.p.h. speedometer and lighting switch in headlamp shell. Combined rear/stop lamp with built-in reflector.

TYRES. Avon 3.00 x 19 front, 3.50 x 19 G.P. rear tyre. Q.D. rear wheel.

OPTIONAL EXTRAS. Folding kick start. Rev. counter. Chrome guards. Fully enclosed rear chain case.

COLOUR FINISH. All black with silver tank.

Specials

Specially designed to give outstanding performance, these Sports Specials, at the same time, offer the highest degree of safety. Race bred, race proved, they are without equal for high performance machines.

Norton

DOMINATOR

88

Sports Special

500 c.c. Vertical Twin



ENGINE. 497 c.c. vertical twin, O.H.V. with basic specification similar to the Model 88 Standard but using twin carburettors; new type cylinder head as fitted to the 650's; multi-rate valve springs; light alloy push rods; high performance camshaft; high compression pistons of 9.5 to 1. Magneto ignition with Automatic Advance and retard.

FORKS. "Roadholder" forks; straight handlebars with racing type, ball ended levers.

FRAME. Racebred "Featherbed" frame giving maximum roadholding and stability.

BRAKES. Front, 8" x 1 1/4". Rear 7" x 1 1/4".

LIGHTING. Low output crankshaft mounted alternator for lighting only. Adjustable headlamp. Combined rear/stop lamp.

WHEELS. Quickly detachable rear wheel with Avon G.P. tyre 3.50 x 19. Front tyre, 3.00 x 19.

OPTIONAL EXTRAS. Folding kickstart. Rev. counter. Chrome guards. Fully enclosed rear chain case.

COLOUR FINISH. All black with silver tank.



The Dominator 88 Sports Special won the 500 c.c. Class in the 1962 1,000 Kilo Production Touring Machine Race at Silverstone and the 1962 500 mile Production Machine Race at Thruxton for the third successive year. The Dominator 650 Sports Special was the outright winner in both these events.

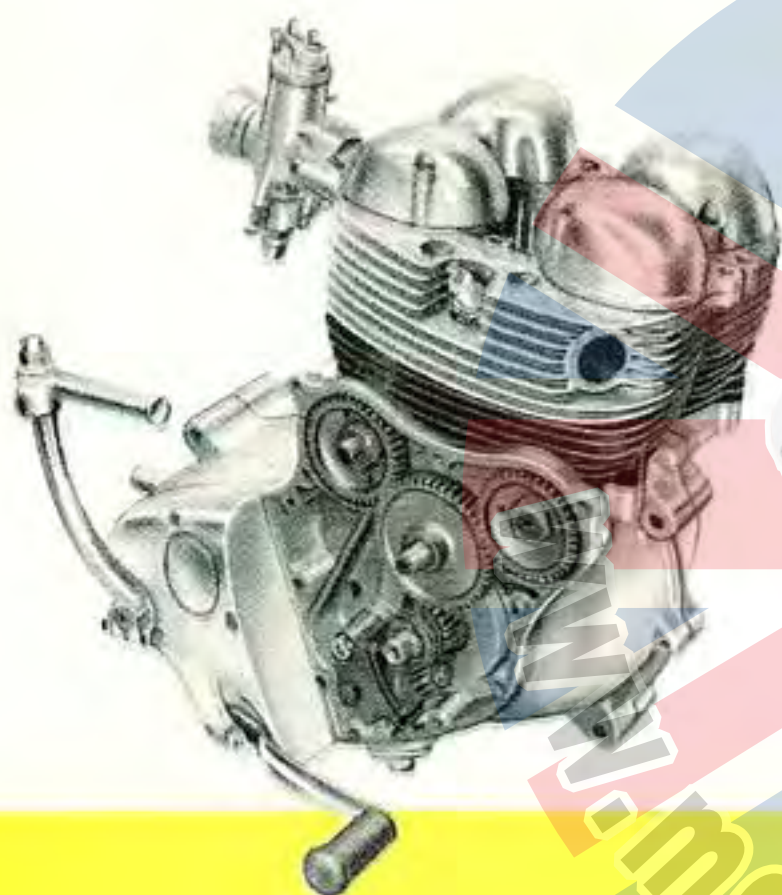
Rearward mounted footrests with gear lever and brake pedal to suit are obtainable for the 88 and 650 Sports Specials from Norton Service Department.

Some features which

contribute to **Norton** safety,

250 ENGINE

This 250 c.c., parallel twin, O.H.V. engine and gearbox unit is an outstanding example of Norton design. 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. A new-type contact breaker allows for individual timing of each cylinder. The whole unit is elegantly finished with bright polished, timing side covers, primary chaincase and rocker covers. Kickstart and gear-change levers are in durable, bright chrome plate finish.



Q.D. REAR WHEEL

A feature of machines using the "Feather-bed" 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 offside, leaving nearside nut untouched.

G.P. TYRE

This is a new type of rear tyre specially designed by Avon for high speed motoring using a racing pattern tread on a nylon casing. Fitted to all 650's and Sports Specials.

All Norton machines are fitted with Avon high hysteresis tyres for maximum safety.



INSTRUMENT GROUP

This typical arrangement of the instruments for the Sports Specials shows the optional 8,000 r.p.m. rev. counter resiliently mounted in a bracket attached to the top of the fork leg. The whole group is easily visible in all riding positions.



'FEATHERBED' FRAME

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.

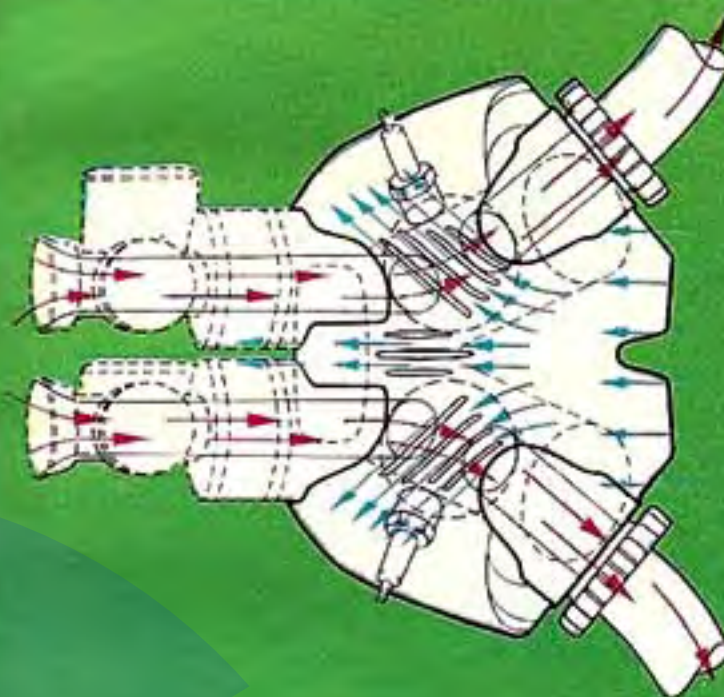


reliability and performance



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.



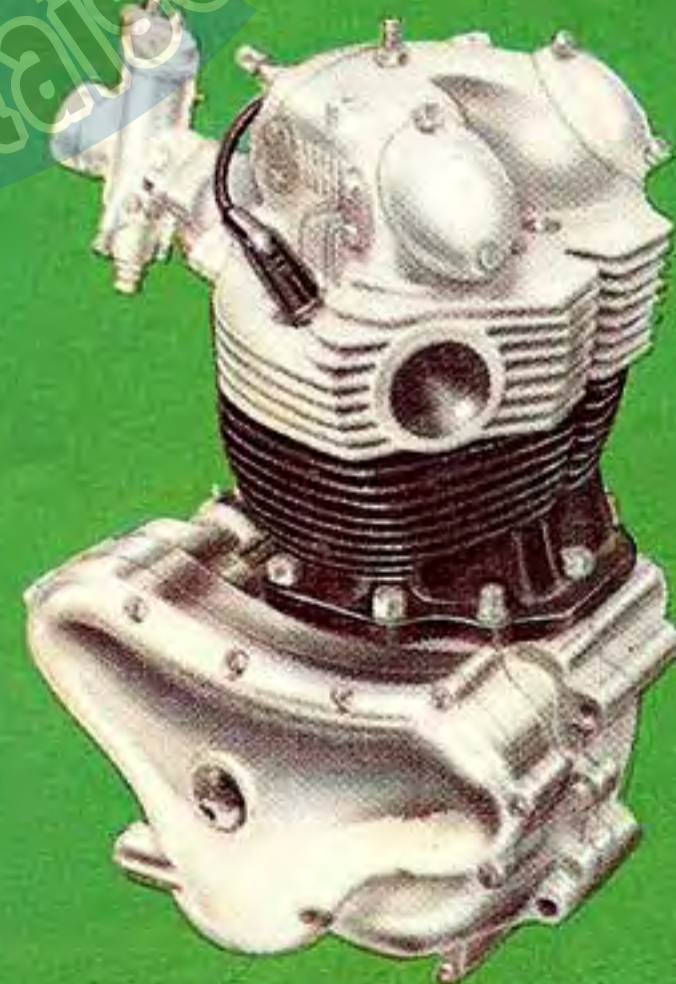
650 c.c. CRANK ASSEMBLY

This new assembly is of the same patented design as the very successful 88/99 components but with larger diameter journals of 1 1/2" 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.



650 c.c. ENGINE

Designed for high performance, this new, vertical twin, O.H.V. engine has a new type cylinder head with superior air flow and increased output efficiency; a new flywheel assembly with larger big end journals; high performance camshaft; light alloy tubular push rods; solid skirt pistons; new multi-rate valve springs.



TABULATED SPECIFICATION

MODEL	250 STANDARD	250 DE-LUXE	NAVIGATOR STANDARD	NAVIGATOR DE-LUXE	MODEL 50
CAPACITY c.c.	249	249	349	349	348
ENGINE TYPE	O.H.V.	O.H.V.	O.H.V.	O.H.V.	O.H.V.
BORE STROKE	60 x 44	60 x 44	63 x 56	63 x 56	71 x 88
COMPRESSION RATIO	8.75	8.75	8.5	8.5	7.3
No. OF CYLINDERS	2	2	2	2	1
GEAR RATIO: TOP	6.76	6.76	5.72	5.72	5.59
" " THIRD	8.8	8.8	7.44	7.44	6.8
" " SECOND	12.5	12.5	10.6	10.6	9.5
" " FIRST	19.7	19.7	16.7	16.7	14.28
REAR CHAIN	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"
FRONT CHAIN	$\frac{3}{4}$ " DUPLEX	$\frac{3}{4}$ " DUPLEX	$\frac{3}{4}$ " DUPLEX	$\frac{3}{4}$ " DUPLEX	$\frac{1}{2}$ " x 305"
TYRES: FRONT	3.00 x 18	3.25 x 18	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	3.25 x 18	3.50 x 19
CARB: AMAL	MONOBLOC	MONOBLOC	MONOBLOC	MONOBLOC	MONOBLOC
" TYPE	375/43	375/36	375/48	375/47	376/68
CHOKE SIZE	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	1"
MAIN JET No.	130	130	170	170	210
THROTTLE SLIDE No.	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$
BRAKES: FRONT	6" dia. x 1"	6" dia. x 1"	8" dia. x 1 $\frac{1}{2}$ "	8" dia. x 1 $\frac{1}{2}$ "	8" dia. x 1 $\frac{1}{2}$ "
REAR	6" dia. x 1"	6" dia. x 1"	6" dia. x 1"	6" dia. x 1"	7" dia. x 1 $\frac{1}{2}$ "
PETROL TANK	3 GALLS.	3 GALLS.	3 GALLS.	3 GALLS.	3 $\frac{1}{2}$ GALLS.
OIL TANK	3 $\frac{1}{2}$ PTS.	3 $\frac{1}{2}$ PTS.	3 $\frac{1}{2}$ PTS.	3 $\frac{1}{2}$ PTS.	4 $\frac{1}{2}$ PTS.
WEIGHT	320 LBS.	325 LBS.	330 LBS.	335 LBS.	377 LBS.
OVERALL LENGTH	80"	81"	80"	81"	85"
OVERALL WIDTH	26"	26"	26"	26"	27"
SEAT HEIGHT	29"	29"	29"	29"	31"
GROUND CLEARANCE	5 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "
WHEELBASE	52 $\frac{1}{2}$ "	52 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	55 $\frac{1}{2}$ "

MODEL	MODEL E.S.2.	88 STANDARD	88 SPORTS	650 STANDARD	650 SPORTS
CAPACITY c.c.	490	497	497	647	647
ENGINE TYPE	O.H.V.	O.H.V.	O.H.V.	O.H.V.	O.H.V.
BORE STROKE	79 x 100	66 x 72.6	66 x 72.6	68 x 89	68 x 89
COMPRESSION RATIO	7.1	8.5	9.5	8.9	8.9
No. OF CYLINDERS	1	2	2	2	2
GEAR RATIO: TOP	4.75	5.0	5.0	4.53	4.53
" " THIRD	5.8	6.1	6.1	5.52	5.52
" " SECOND	8.08	8.5	8.5	7.57	7.57
" " FIRST	12.16	12.75	12.75	11.6	11.6
REAR CHAIN	$\frac{3}{4}$ " x $\frac{1}{2}$ "	$\frac{3}{4}$ " x $\frac{1}{2}$ "	$\frac{3}{4}$ " x $\frac{1}{2}$ "	$\frac{3}{4}$ " x $\frac{1}{2}$ "	$\frac{3}{4}$ " x $\frac{1}{2}$ "
FRONT CHAIN	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"	$\frac{1}{2}$ " x 305"
TYRES: FRONT	3.00 x 19	3.00 x 19	3.00 x 19	3.00 x 19	3.00 x 19
REAR	3.50 x 19	3.50 x 19	3.50 x 19GP	3.50 x 19GP	3.50 x 19GP
CARB: AMAL	MONOBLOC	MONOBLOC	MONOBLOC	MONOBLOC	MONOBLOC
" TYPE	376/17	376/66	376/288 + 9	389/71	376/288 + 9
CHOKE SIZE	1 $\frac{1}{8}$ "	1"	1 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "
MAIN JET No.	270	240	250	320	250
THROTTLE SLIDE No.	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3 $\frac{1}{2}$
BRAKES: FRONT	8" dia. x 1 $\frac{1}{2}$ "	8" dia. x 1 $\frac{1}{2}$ "	8" dia. x 1 $\frac{1}{2}$ "	8" dia. x 1 $\frac{1}{2}$ "	8" dia. x 1 $\frac{1}{2}$ "
REAR	7" dia. x 1 $\frac{1}{2}$ "	7" dia. x 1 $\frac{1}{2}$ "	7" dia. x 1 $\frac{1}{2}$ "	7" dia. x 1 $\frac{1}{2}$ "	7" dia. x 1 $\frac{1}{2}$ "
PETROL TANK	3 $\frac{1}{2}$ GALLS.	3 $\frac{1}{2}$ GALLS.	3 $\frac{1}{2}$ GALLS.	3 $\frac{1}{2}$ GALLS.	3 $\frac{1}{2}$ GALLS.
OIL TANK	4 $\frac{1}{2}$ PTS.	4 $\frac{1}{2}$ PTS.	4 $\frac{1}{2}$ PTS.	4 $\frac{1}{2}$ PTS.	4 $\frac{1}{2}$ PTS.
WEIGHT	384 LBS.	390 LBS.	390 LBS.	398 LBS.	398 LBS.
OVERALL LENGTH	85"	85"	85"	85"	85"
OVERALL WIDTH	27"	27"	26"	27"	26"
SEAT HEIGHT	31"	31"	31"	31"	31"
GROUND CLEARANCE	6 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "
WHEELBASE	55 $\frac{1}{2}$ "	55 $\frac{1}{2}$ "	55 $\frac{1}{2}$ "	55 $\frac{1}{2}$ "	55 $\frac{1}{2}$ "

Sidcar Specification, which is available on all models except 250 c.c. and 350 c.c. Twins, includes:— Heavier rate front fork springs, crown and column of different angle for trail correction, heavier duty shock absorbers, engine sprocket of reduced size.

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