Norton - Norton_Commando_750_Manual_de_intretinere

COMMANDO
SERVICE
NOTES

COMPLETE WITH ELECTRIC START

Text - Tim Stevens, John Hudson

Editor -- Alan Osborn
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One of the most popular, the 750 Interstate 1973, with Combat engine, signified by black barrels.
Photo credit: Motor Cycle
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Addendum 1980
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SERVICE NOTES ON THE NORTON COMMANDO

Covering all models up to and including Mk. III
Original Text: T. R. Stevens Collation: Al Osborn
These service notes are based on the parts list and are intended to supplement it and the workshop manual. They were written by Mr. T
. R. Stevens for the club magazine Roadholder, and appeared in it from Sept/Oct '74 to May/
June '77, he group numbers referring to the groups in the parts list. When collating these notes I have taken the opportunity to edit and update them where time and experience have dictated improvements. Further assistance from T.R.S. and Mr L. Emery being used, while not inconsiderable extra notes have been added by our President Mr. J. Hudson.

Mr T. R. Stevens was Quality Engineer and then Service Engineer at Norton Villiers Andover 1970-74, he is at present lecturer in Motorcycle Engineering at Merton Technical College.
John Hudson worked with the Norton Development Shop from 23rd January 1955, initially as a fitter tester, finally leaving the NVT complex in the summer of 1976 at its abolition. Voted as Life Honorary Member of the Club and President for the second time in Sept 1970.
Les Emery, member of NOC since 1971, rose to National Committee in 1973 as Membership Secretary. He then took charge of the spares scheme with regard to the twin cylinder machines.

Al Osborn joined the Club in 1970 rising to National Committee level as Assistant Editor in 1972, later becoming Chairman from 1974-77.
SPARES SERVICE
Les Emery. 37 Albion Street. Rugeley. 5tatfs. Tel: (09984) 3974.

T.R.S, Test-rides a Fastback.

Diagram; by T.R.S. and Richard Graham (North London).
Front cover:- 1971 Fastback
Rear cover:- 1972 Fastback. now with Roadster upswept exhaust system.
The opinions contained (in these service notes are entirely -those of the authors. They have no endorsement from any

Norton factory, N.V.T., Norton Andover. or any such organization.

Notes in italics have been added for this edition by Alan Osborn, 9 Chapel Road, W. Ealing. London, W.13, from whom further copies are available.
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THE MOST SIGNIFICANT CHANGES IN THE MANY COMMANDO MODELS

Engine Nos.
126,125 FIRST COMMANDO, 17E(3 'G4. Silver tank, panels and frame-orange (!1 seat. Green blob on tank. 131,180 Now called FASTBACK, Conventional color scheme. Gusset below head-stock replaced by horizontal bracing tube (under tank). (The first frames broke).
131,257 First "S" type made for American market. Smaller rounded (Roadster type) tank. High level parallel PIPES left hand side, with reverse cone shape silencers. Points on the end of the cam shaft, REV. counter drive inboard. Six volt coils with ballast resistor, 1971.
133,668 FASTBACK receives "S" type technical mods. Po ints, coils, etc. 135,140 First ROADSTER with low pipes, upswept silencers, reverse cone absorption type.
139,571 FASTBACK Mk II fitted with Roadster exhaust system.
142,534 Mk II ROADSTER, Mk 111 FASTBACK, same 4:10 tyres on both wheels. Fork gaiters and F/bed type yokes dropped, bare chrome stanchions introduced. Lucas h/bar lever switches introduced and indicators. Centre stand mounted on g/box Shock absorber fitted in rear wheel. Jan, '72 Consecutive engine numbers which had continued since W.W. II abandoned. New system and numbers introduced.
200,001 FASTBACK Mk. IV, ROADSTER Mk. IV. New crankcase castings, with breather behind c/case (not from end of camshaft). First double roller main bearings.
200,976 First COMBAT engine. Compression ration raised to 10:1 by machining head, double S camshaft fitted. Black barrel-. 32mm carbs. Disc brake right hand side behind fork leg, Models now 'Fastback' and 'Roadster.'
212,278 INTERSTATE. Larger black or blue (5 gal) tank, seat longer. Low level Interstate silencers. (Most Combat engines were later modified to standard engine specification and stronger main bearings fitted, i.e. Superblends (barreled rollers). Small sump plug introduced, later models with car type oil filter. 16H type (pre-war) front brake shoes with speedo drive clearance no longer used in Commando rear wheel. (Shame!).
220,000 COMBAT engine abandoned but 32mm carbs retained. Roadster Mk. V, Interstate Mk. V only. No more Fastbacks. Black instrument pods.
230,000 Square rear light. Different fork geometry. Box section head steady. 230,935 Last 750 COMMANDO (unless you know better.)
300,001 April '73, first 850 Mk. I. Barrel fixings altered, bronze clutch plates fitted, balance pipe in exhaust pipes. Strengthened swinging arm. larger sump plug reintroduced.
306,591 Mk. IA. Larger, quiet air box and annular discharge (bean can) silencers. Candy apple red tank also available. Chain guard plastic extension added. 2nd gear ratio raised by one tooth (to reduce noise readings).
307,091 Slimmer Interstate tank, 4 1/2 gals approx.
307,311 850 Mk. IIA. Improved paint, 30mm ports but 32mm carbs (for flexibility). Various small detail mods., such as mud flaps, third sleeve gear bush added. Black and blue tanks dropped, red and a few "traditional"

silver tanks. Fork gaiters reintroduced and lower bars. Tach drive oil leak reduced (supposedly).
309,600 Larger, stronger kick start.

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GROUP 1.- Crank assembly inc. pistons, camshaft and timing gear

CON RODS: Con rods don't usually give trouble -- the unbushed little-end never wears and trouble at the big end can usually be traced to a fault elsewhere, particularly running out of oil. Rods should be free from nicks and deep scratches especially up the sides from the bolt holes. Fatigue life can be improved by shot-peening, but this is only important for racing where stresses are much increased.
John Hudson: I have never seen dural rods shot-peened at the work:. For racing they were polished all over and if the steel caps did not match the contour of the outside of the rod they were filed to shape before polishing.
Everyone misses a very important point in Norton con rod bolts -as supplied they have a razor sharp edge on the underside of the head and this should be carefully filed off and the bolt rotated in lathe chuck or drilling machine and the head polished with emery tape. Otherwise, the turning torque of the Phillidas nut causes this sharp edge to scrape a shaving of dural off the side of the eccentric recess in the rod as the bolt is pulled down which, of course, then remains under the head of the bolt and prevents its seating and tightening properly. This can have happened on original assembly at the works, so whenever bolts are removed from the rods, check that there is not already a shaving in the
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bottom of the recess. > >

BIG ENDS: Big ends wear very slowly if oil is cared for. After a main bearing job the shells should be changed because the hard bits of bearing circulating with the oil become embedded in the soft shells and can score the crank. At the same time, of course. the crank should be dismantled and all the sludge scraped out.
CRANKSHAFTS: When having a crank reground specify in writing the size you want and the radius between the crank pins and the webs (0.090in Rad, 2.25mm) then check that the work has been carried out properly before reassembling.

Crank breakages can generally be placed to a radius too small-and not necessarily on a reground crank. New cranks have broken at fairly low mileages because of tight radii - particularly around the drive-side main bearing. Even cracks across the webs can start at the junction of the crankpin and web. Be careful too, when removing main bearing inners by the traditional chisel method - nicks in the crank are just as bad as tight radii. Rig end bolts need not be replaced, unless you are going racing; a tried and tested bolt is better than
a new one which might fail.

Nuts should be used once only and not over tightened (or under tightened) If a nut comes off or a bolt breaks, it is usually