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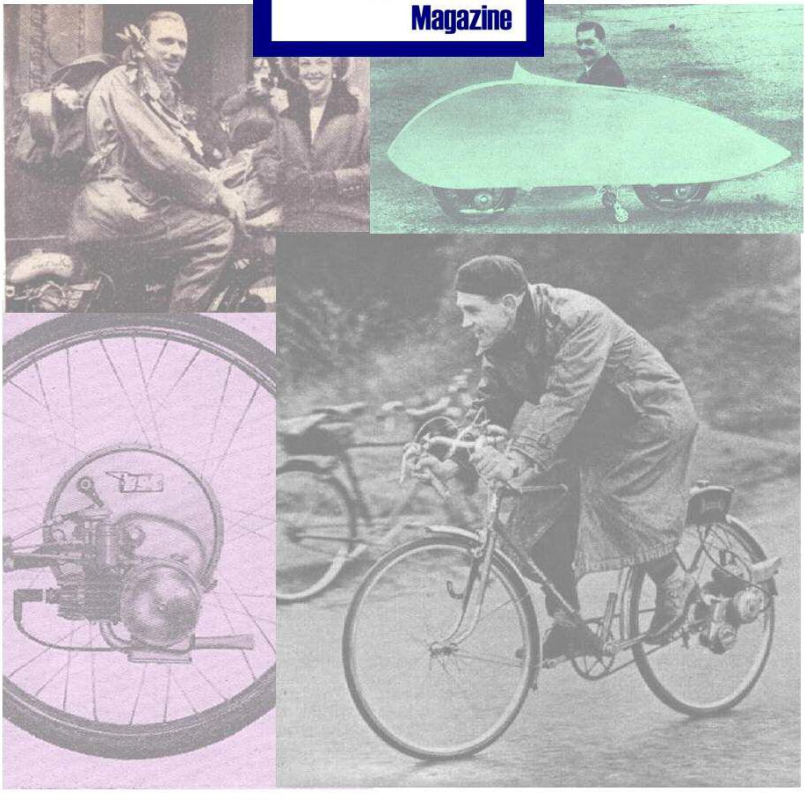

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OWNERS HANDBOOK
and
WORKSHOP MANUAL

for service and maintenance of the

047 AF-A

with «BLOCK-MOTOR»

and

automatic clutch

A. CLAEYS

flandria

Contents

IMPORTANT : In all communications relating to Service or Spares, please quote the Model, Year of Manufacture, Frame Number, Engine Number and Colour of your machine.
When ordering Spares the Code (IBM)Number and full part description should also be given.

NOTE : The illustrations and descriptions in this book are not binding and the Manufacturer reserves the right to make changes at any time. While the basic features of any model will remain the same, such changes as Flandria deem necessary to units, parts or accessories, whether by way of improvement or for any manufacturing or commercial reason, will not necessarily be noted in this book.

NOTE : L.H. and R.H. refer respectively to the Left-hand and Right-hand sides of the machine from the driving position.

SPARE PARTS SERVICE

In the U.K. all Flandria Spare Parts are supplied only through the Sole U.K.Concessionnaires, YIELDNASH LIMITED and, through them, also to certain Distributors authorised by Yieldnash Limited. Users are advised to insist on these genuine 'Flandria' spare parts as the use of others may invalidate the guarantee if fitted to your machine.

Issued in Belgium by the Manufacturers :

A.CLAEYS-Flandria
Torhoutsteenweg 118
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Sole U.K. Concessionnaires :

YIELDNASH LIMITED
Temple House
34/36 High Street
SEVENOAKS
Kent TN13 1JG

Controls and Instruments :

Sit down upon your machine and fully acquaint yourself with the position and function of the various controls as follows :

Foot operated : - The Pedals:
- tread backwards to start
- tread forwards to cycle (see under 'Starting the engine')

Hand operated : - Handlebar Arrangement ; Fig.1 :

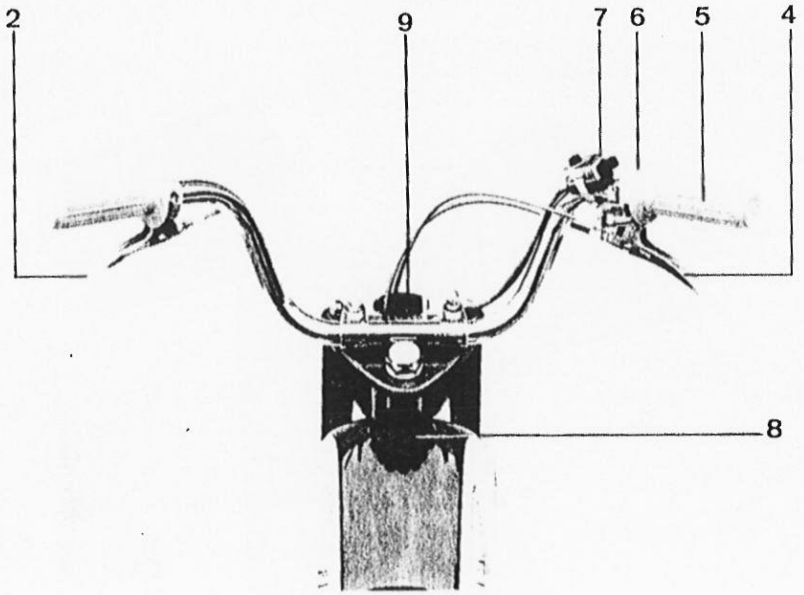


Fig. 1

- left hand : (2) rear brake lever

- right hand : (4) front brake lever
(5) throttle twistgrip
(6) choke, used to enrich the mixture when starting from cold
(7) combination switch for lights, ignition cutout and horn button

The light switch has 3 positions :
centre = off
to side = beam
to other side = dip

To the left front of the chainguard : - fuel tap with 3 positions

arrow down (normal position) = open
arrow forward 'R' = reserve
arrow backwards 'Z' = off

To the left of the steering column : - steering lock

always ensure this is unlocked before starting the engine

Top centre of the fuel tank is the filler cap (8)

- twist anti-clockwise to open
- twist clockwise to close

A combined mileometer and speedometer (9) is incorporated in the headlamp.

Pre-Running check

Before starting your machine it is advisable to check the following daily :

- fuel supply
- tyre pressures
- front and rear brakes
- lights
- chain
- your machine is supplied with the correct oil in the crankcase and clutch

Fuel supply

The tank holds 3,5 litres (approx. 6 pints)

A reputable two-stroke oil such as TOTAL Two-Stroke should be used, 1:32 proportion oil to petrol. Do not be tempted to use 1:25 or 1:20 as this will give no advantage and will only cause unnecessary carbon deposits in the cylinder head.

Tyres

The tyres back and front should be checked for defects and to ensure that the treads are in good condition within the law. It is recommended that the tyres should be kept at a pressure according to makers specification (this varies slightly with different makes of Tyre).

Brakes

Neither brake lever should travel before operating the brakes. Adjusters will be found upon the rear brake hub plate and at each hand control, all of which will adjust the length of the brake cable concerned.
Brake cables should be kept as short as possible consistent with the brake shoes not binding in either hub. After making an adjustment always ensure that each wheel can turn freely.

LIGHTS

It is essential that these are kept in working order and any malfunction should be corrected immediately.

The chain should be kept lightly oiled (see 'Lubrication'). Correct tension of the chain is important and it can be dangerous to run it too slack or too tight. It should have a free play of 10 mm (about 3/8 ins.) as shown in Fig.2. To adjust the chain tension see under 'Maintenance'.

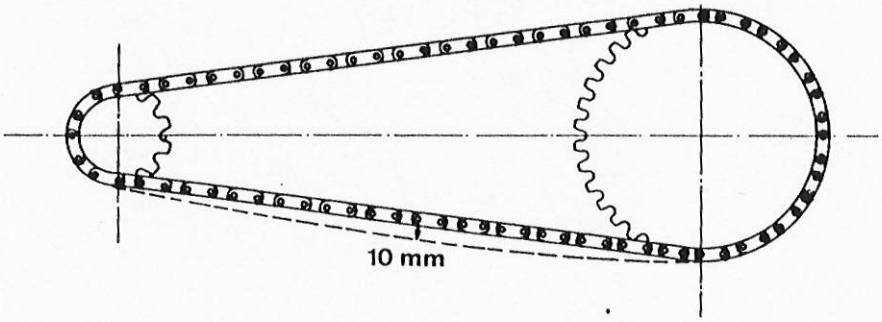


Fig.2

Starting the engine

Always : a) release the steering lock
b) open fuel tap
c) lower machine from stand
d) sit astride the machine
e) apply the L.H. (rear) brake

Starting from cold :
f) apply choke by pushing control (6) Fig.1 to the left, keeping the throttle closed
g) keeping the left foot on the ground tread firmly back on the R.H.pedal with your right foot. If the engine does not start, bring the pedal up again with your foot and repeat the process.(The pedals are free to turn a half revolution to facilitate this process.) As soon as the engine starts open the throttle slightly. Too much throttle will cause the engine to stall. The choke will open automatically as soon as the throttle is used.

Starting a warm engine :
Adopt the above procedure but without operating the choke control which should be kept fully open (to the right).

NOTE : The engine can also be started by pedalling forwards. Follow the above procedure but, instead of back pedalling, cycle forward for about 10/11 yards at which point a slight back pedalling should cause the engine to fire.

Should the carburettor and cylinder become flooded, back pedalling several times when riding with the

throttle open should start the engine without difficulty.

Driving from new : Running in

It is important to treat a new machine carefully, especially over the first 600 miles. All working surfaces of the machine, including the clutch and brakes require bedding-in and if this is done carefully it will enhance the life and performance of your machine.

For the first 350 miles you should not use more than 3/4 throttle and, during this period it is important not to let the engine labour. For instance, on a steep hill aid it with the pedals so that the engine is not overloaded. Also avoid quick acceleration or deceleration. At the end of the period (after 350 miles) you may gradually increase engine speeds; it is recommended not to use full throttle until 600 miles have been completed.

General running

Your machine is fitted with a Flandria 2,2 HP automatic engine. The clutch and gear operate automatically according to the engine speed and load. You can aid the engine with the pedals at any speed. When descending long hills you can close the throttle and stop the engine; if the engine is left running you should keep the throttle slightly open. In order to accelerate again open the throttle.
Back pedalling is possible at any time but should be avoided when the engine is only idling.

Cycling

The machine may be pedalled forwards without operating the other controls. When cycling the engine can be started on the move by back pedalling as described under 'Starting the engine'(above).

Braking

As indicated above, the front and rear brakes are operated by independent hand controls. It is preferable to use the rear L.H. brake or both brakes together.
Strong application of the front brake alone can cause the machine to tip forward or induce a front wheel skid.

Parking

To stop the engine, press the ignition cutout switch on the front of the combination switch(7) Fig.1. When leaving your machine standing for any length of time close the fuel tap and, for security, use the steering lock.

The machine is fitted with a sprung kickstand situated under and behind the pedal crankshaft. To operate on level ground, dismount, push the stand down with one foot while pulling the machine itself upwards and back.
On a hill always point the machine up the gradient.

Maintenance :

Cleaning :

If your machine is to maintain its new appearance despite the effects of air pollution, rain and mud, regular care is necessary. Paint and chrome work may be washed using a sponge and water with a mild detergent.
Heavy deposits of mud should first be softened with water before rubbing with the sponge.
Rinse with clean water and dry off with a chamois leather.
Special care is needed during extreme conditions such as in sea-spray or on salted roads. Use petrol or white spirit to remove spots of grease or tar.

The exterior of the engine should be kept clean and free of oil, dust and dirt. This can best be done with a brush dipped in petrol and subsequent use of a clean, soft, lint free cloth. Pay particular attention to the cooling fins on the cylinder and cylinder head. If these are coagulated the engine will run hot causing damage.

Lubrication :

1) The engine is lubricated by the oil/fuel mixture. We recommend TOTAL 2-Stroke 1:32 mix in petrol. Higher proportions of oil are not advised and will only cause unnecessary carbon deposits in the engine.

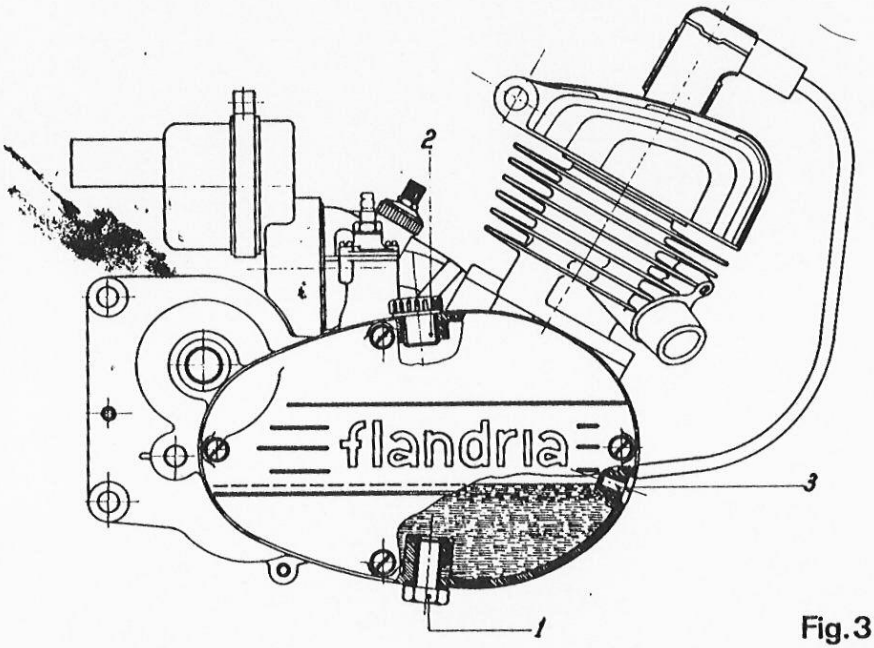


Fig.3

2) Crankcase and Clutch (fig.3)

After the first 300 miles : Before leaving the factory the crankcase is filled with a special oil. At 300 miles this oil should be drained, when the engine is hot, by removing the plug(1).
To ensure good drainage the machine can be tilted on one side and then the other. Replace the plug(1) and refill with special oil through the filler hole(2).

Check the correct oil level by removing screw(3). Use one of the following oils only :

CASTROL TQF Automatic Transmission Fluid
SHELL TELLUS T 17
MOBIL FLUIDE 62

Other types of oil are unsuitable and will cause irrevocable damage.

- after every subsequent 600 miles : Check the oil level by removing the screw (3). Top up as necessary to maintain level indicated in fig.3 . Do not overfill.
- every 1250 miles : change oil completely, following the above procedure.

3) Chain

Keep the chain lightly oiled. It should be cleaned from time to time by removing it and bathing it in petrol. After drying soak in oil and then drip dry before replacing.

4) Brake and Throttle Cables :

Every 625 miles the inner cables should be removed from the controls and lightly oiled. Allow the oil to run down cable into the outer cable.

5) Telescopic Forks : The bush sleeves are self lubricating. A little grease should be applied periodically to the tubes themselves.

6) Wheel Hubs : These are packed with special grease at the factory. They should be checked and repacked with grease of good ball-bearing quality every 1250 miles.

Carburettor Jet

At 300 miles the special running-in jet (52) should be replaced with the normal jet (50) this will be found screwed into the carburettor casing behind the air filter. (Newer models are already fitted with the 50 jet which is satisfactory for running-in these machines).

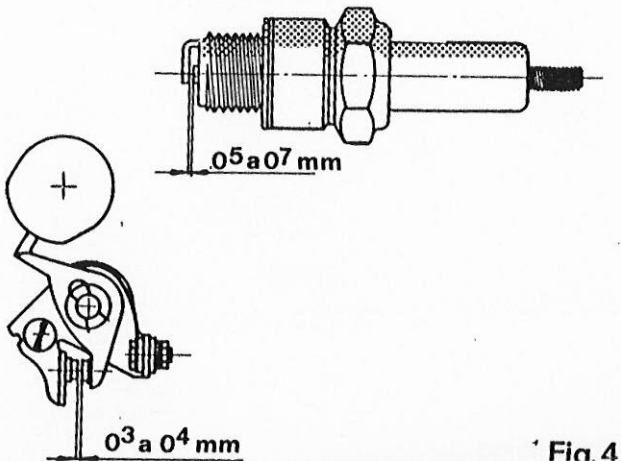


Fig.4

Every 1250 miles, when changing the oil, remove and check the sparking plug. Remove any carbon deposits with a steel brush. Check and adjust the gap between the points which should be 0,5 to 0,7 mm (.020 to .027 ins) Replace the sparking plug when the points are badly corroded using Bosch W225 T1, Champion L10-S or Lodge H14.

Chain (Fig.2)

Every 1250 miles, or after removal of rear wheel or chain, check and adjust the chain tension. It should have a free play of 10 mm (about 3/8 ins) and adjustment is by means of nuts on the tension screws on the rear forks after loosening the rear axle fixing nuts.
On machines with swinging arms and shock absorbers, the tension should be checked with the arms in various positions.
Finally, always check the rear wheel alignment before tightening the fixing nuts and then double check the tension.

Silencer and Exhaust Pipe :

At. 1250 miles it is desireable to dismantle and thoroughly clean out the silencer and exhaust system. Remove any carbon deposits with a wire brush. This action should be repeated every 2500 miles and, if heavy deposits are found, burning out may be necessary.
If this is so take care not to overheat the pipe which will cause discolouration of the chrome.

Carburettor and Air Filter (Fig.5)

Every 1250 miles remove the carburettor and air filter, dismantle (see under "Overhaul") and wash carefully in petrol. Clear the jet with compressed air. When reassembling the carburettor use a new gasket. Take care that the gauze of the air filter is not blocked.

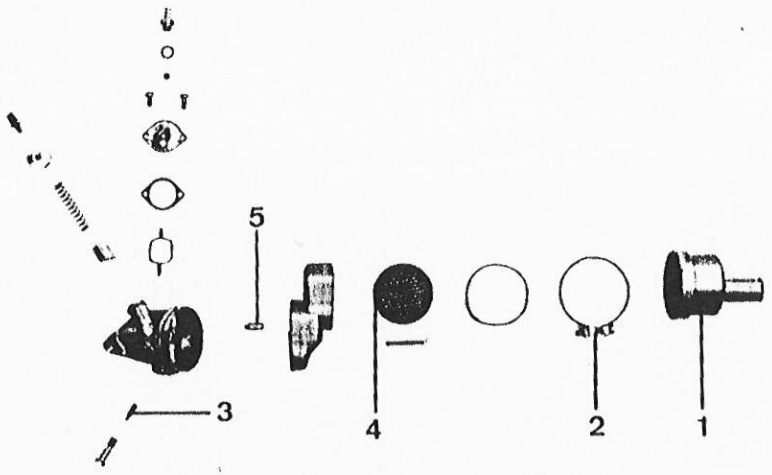


Fig. 5

Fuel Line

Every 3750 miles, empty the fuel tank, remove the fuel pipe and tap and clean out thoroughly with the aid of petrol and then compressed air.
When reassembling ensure correct fitting of the fibre sealing washer.

Slow running

The throttle cable will tend to stretch especially when new. If the engine tends to cut out without using the throttle control the cable should be shortened by using the adjustment nut found by the throttle twistgrip. Release the locking nut and then turn the screw anti-clockwise to shorten the cable. If it is necessary to keep the brakes applied when stationary the engine is probably running too fast, which is dangerous and causes excessive wear to the clutch. Always remember to retighten the locking nut.

ADJUSTMENT OF TELESCOPIC FORKS (Fig.6)

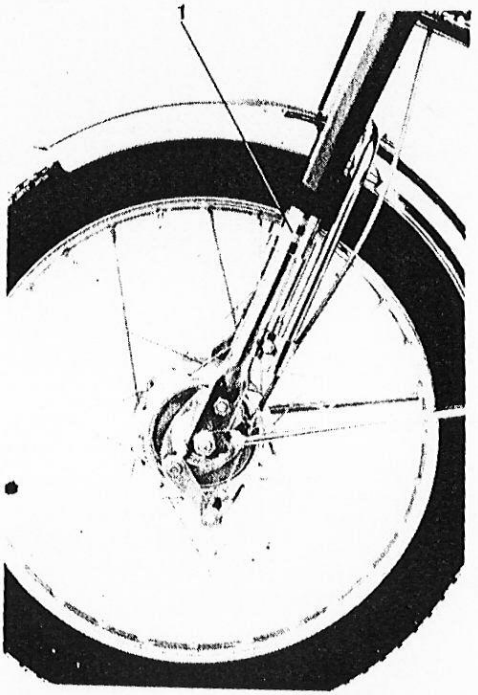


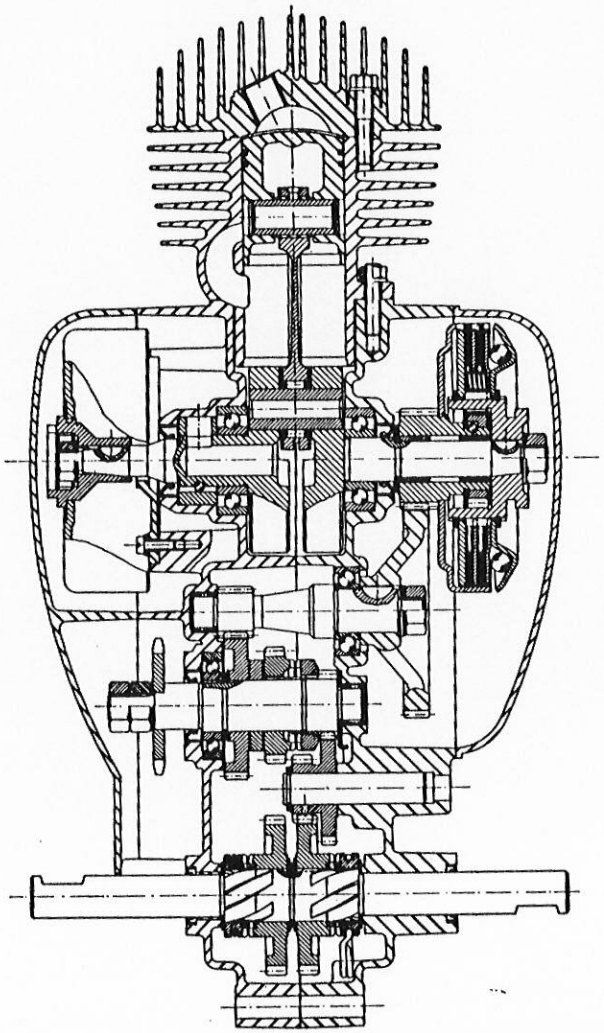
Fig. 6

When necessary :This may be carried out by tightening of the knurled Chromium ring(1) at the bottom of each fork housing, using an adjustable wrench. Take care not to overtighten, and check carefully that the free movement of the fork is not impaired and is equal on both sides.

Every 2500 miles check all nuts and bolts and tighten as required.

MAINTENANCE SUMMARY

AFTER 300 MILES	Drain and refill engine crankcase. Change carburettor jet where necessary
AFTER 1250 MILES	Clean out exhaust pipe and silencer.
EVERY 625 MILES	Lubricate throttle cable. Lubricate brake cables.
EVERY 1250 MILES	Grease wheel hubs. Clean sparking plug. Adjust chain tension. Clean chain if necessary. Change oil in engine crankcase.
EVERY 2500 MILES	Clean carburettor and air filter. Clean out exhaust pipe and silencer. Tighten all nuts and bolts.
EVERY 3750 MILES	Clean out fuel supply line.



MOTOR FLANDRIA «MONOMATIC»

Technical details

1. Engine : Single cylinder air-cooled two-stroke with reverse scavenging
   Bore 40 mm
   Stroke 39,7 mm
   Compression ratio 7,8 : 1
   Capacity 49,7 cc
   Stroke : bore ratio 1,007:1

Specification

a) Cylinder :-cast iron 40 mm bore
   (the cylinder is marked with the last figure of the piston size)
   Base gasket : oil impregnated paper, graphite coated one side

b) Cylinder head : Aluminium with four fixing bolts without gasket

c) Casings : Clutch and Magneto Casings in polished aluminium

d) Piston : Aluminium (the piston size (mm) is marked 39,94 - 39,95 or 39,96 and the matching cylinder 4, 5 or 6 respectively.)

e) Piston Rings : Two compression rings 0,15 mm gap (oversizes 0,3 - 0,6 - 0,9 - to be indicated when ordering.)

f) Gudgeon Pin : 14 mm dia. - length 32,8 mm floating

g) Connecting Rod : Single profile steel

h) Little End : Bronze bush with three oil control holes

i) Big End : Needle roller bearing with oil control apertures

j) Crankshaft : (i) Main bearings (2) Roller races 20x42x12 No.6004.
(ii) Jointing rings (2) 17x28x7 single lip.

2. Performance : Maximum Speed ± 30 m.p.h.
Fuel consumption 133 m.p.g.
Climbing ability appr. 11° from standing start.

3. Transmission : Crankshaft : intermediate axle - 24 : 57
Intermediate axle : drive shaft - 12 : 38
Chain gear reduction - 13 : 24
Overall reduction - 14 : 1

4. Fuel and oil : a) lubrication of driving gear 350 cc (0,6 pt) Castrol TQF, Shell Tellus T 17 or Mobil Fluide 62.
b) engine lubrication : 1:32 oil/petrol mixture in tank

5. Ignition : Bosch flywheel Magneto 0.212.005.007
102 mm dia.
Bosch ignition coil MZAN 71 22
Bosch lighting coil 6V - 17W
Bosch Sparking plug
W 225 T1 (Gap 0,5-0,7 mm)
Ignition advance 2,75 mm before T.D.C.
Contact breaker gap 0,3-0,4 mm

6. Carburettor : Encarwi A.30
Main jet (running-in only) 52
Main jet (normal) 50

7. Clutch and intermediate gear shaft :
Automatic centrifugal clutch assembly on crankshaft operated by 32 ball flyweights.

Intermediate shaft mounted on left in a INA needle roller bearing 12x16x10 (No BK.1210) and on the right in a ball race bearing 17x35x10 (No.6003).

8. Driving shaft : Specially hardened and polished steel mounted on left in ball-race bearing (No.16004) 20x42x8 and on the right

in a INA needle roller bearing (No. BK.1210) 12x16x10.

9. Pedal shaft : Specially hardened and polished steel mounted on the left in a bronze bush 16x18x10 and on the right in the aluminium seating of the casing.

Dismantling and assembly instructions

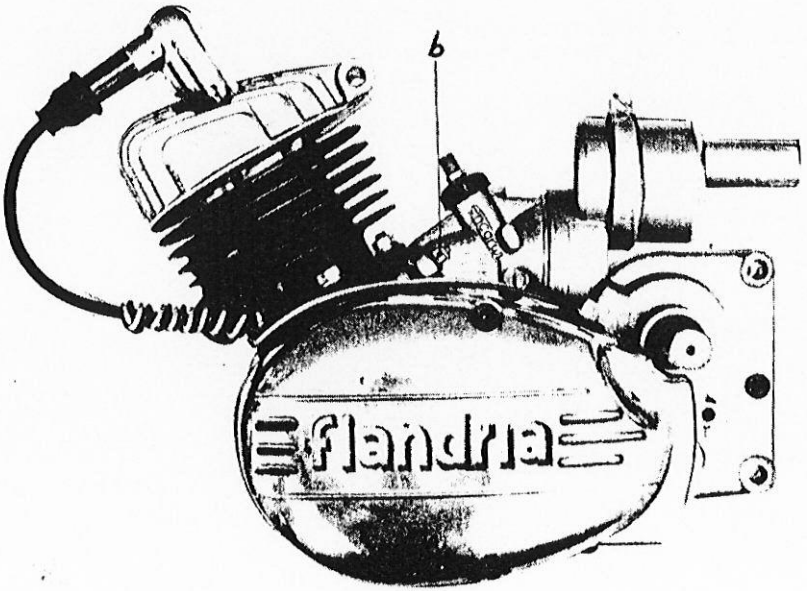
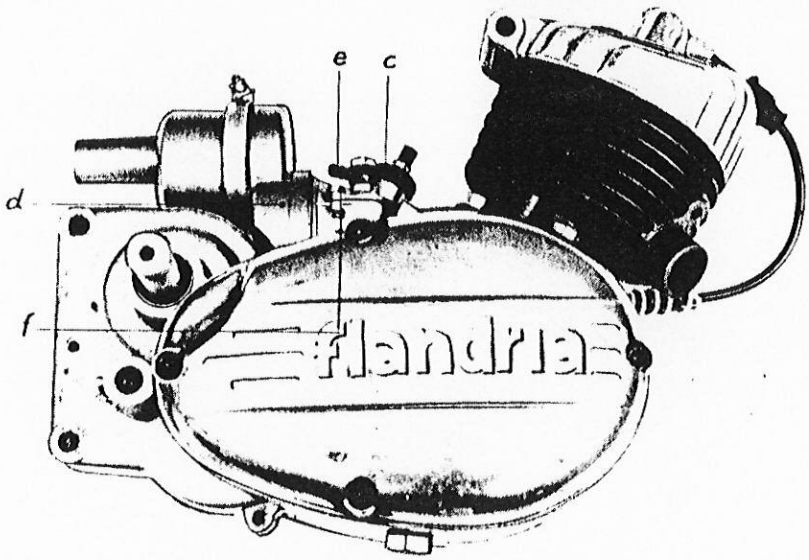


Fig. 7

1. Carburettor (fig. 7 & 8)

- close fuel tap
- remove chainguard
- remove fuel pipe from carburettor
- unscrew both fixing nuts (fig.7(b)) with 8 mm spanner
- remove base washers and fibre washers
- lift carburettor from studs
- unscrew fuel valve (c) and leave this hanging on the throttle cable
- undo screw (d) and remove air-inlet silencer
- remove jet holder with screwdriver or 9 mm spanner
- remove jet from jet holder with screwdriver
- unscrew connecting nipple (e) and remove fuel filter
- remove 2 screws (f) of float chamber cover and remove float
- wash all parts carefully in clean fuel and blow through with compressed air
- reassemble in reverse order



2. Cleaning of contact breaker points

Fig. 8

- remove the two fixing screws and take off flywheel casing
- turn flywheel until points are closed (see fig.4)
- insert an emery card or fine file between points and rub evenly ensuring surfaces remain parallel
- re-adjust point gap as instructed (see below)
- re-assemble in reverse order

3. Adjustment of ignition

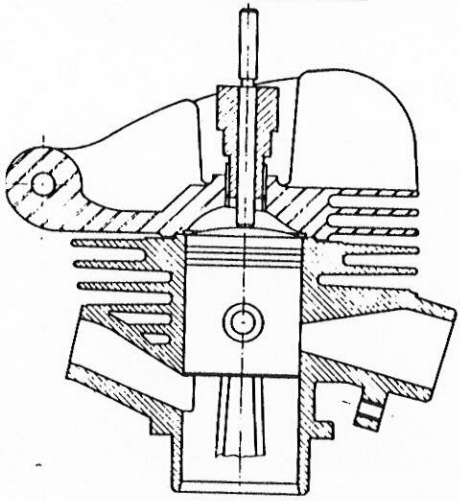


Fig. 9

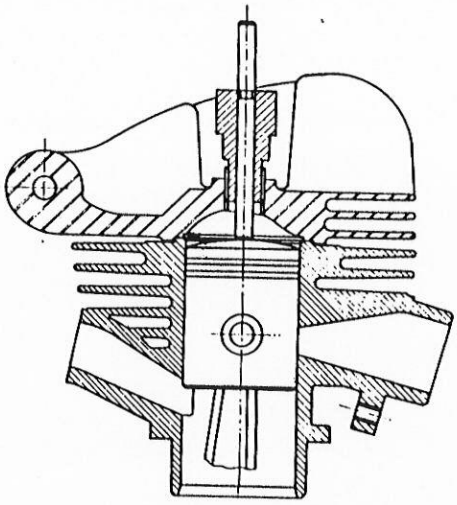


Fig. 10

- remove flywheel casing as above
- check gap with points fully open (0,3 - 0,4 mm max)
- if not loosen contact bearer screw, place feeler gauge 0,35mm between points
- place screwdriver in the gap of the anchor plate (on left hand side near the contact bearer screw) and move contact bearer to left or right to increase or decrease gap as required. The feeler gauge should pass firmly but freely between the points without moving the breaker arm (fig.4).
- re-tighten the contact bearer screw, and re-check gap
- remove sparking plug and fit dummy plug (special tool)
- place gauge pin in dummy plug, bring piston to T.D.C. (fig.9)and ensure that the lower groove corresponds with the top surface of the dummy plug (the piston must touch the pin so tighten or loosen the dummy plug until the lower groove of pin is in line as above)
- turn flywheel anti-clockwise until the upper part of the groove in the gauge pin falls level with the top surface of the dummy plug (this places the piston 2,75 mm before T.D.C.) (fig.10)
- in this position the contact breaker must just start to separate
- ignition timing can be adjusted, if necessary, as follows:
  - loosen the 2 screws in anchor plate
  - to retard ignition, turn anchor plate anti-clockwise
  - to advance ignition, turn anchor plate clockwise
  - bring contact points exactly to the point of separation
  - re-tighten anchor plate screws

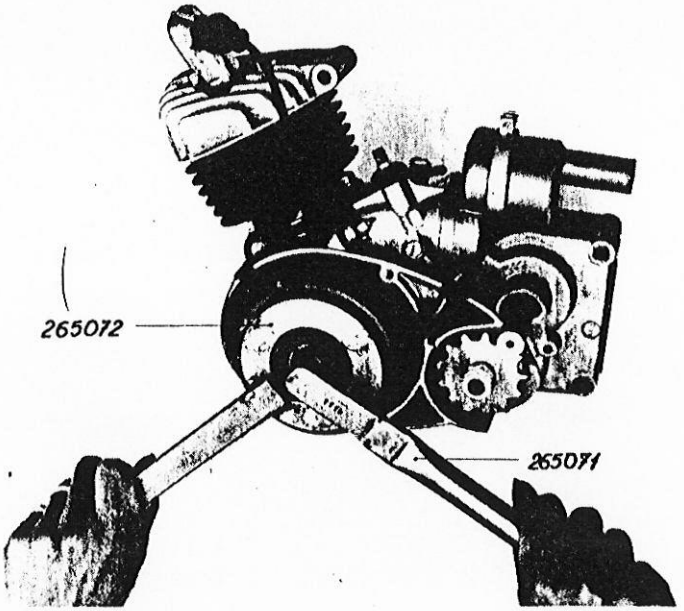


Fig.11

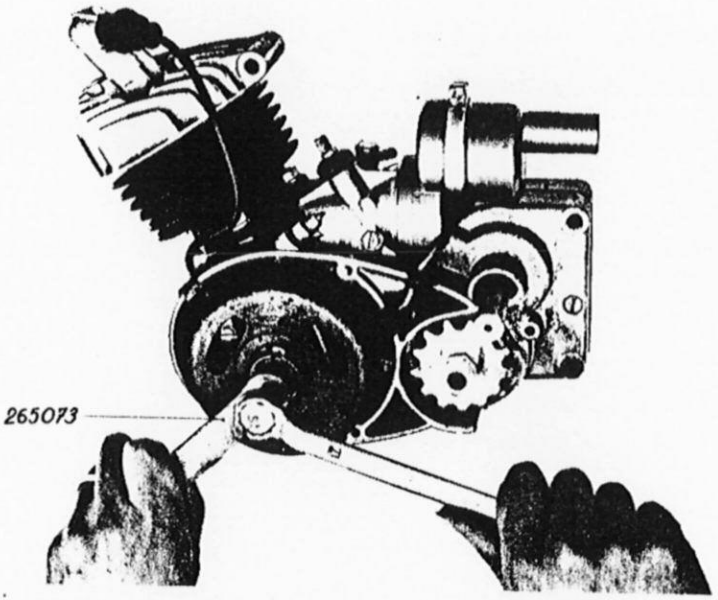


Fig. 12

Dismantling and assembly of flywheel magneto (figs 11 & 12)

- remove flywheel casing
- remove centre nut with socket spanner (265071) 14 mm whilst holding flywheel stationery with special key (265072)
- screw the flywheel remover (265073) into the flywheel and tighten the nut with a normal ring spanner (ensure that the flywheel remover is screwed well into the base of the flywheel to avoid damage to the thread)
- remove flywheel by screwing in the central bolt of the extractor tool (take care not to lose the key from the keyway in the centre spindle)
- remove sparking plug cap from cable (fig.13(a)
- remove lighting and ignition cut-out cables from connecting piece (fig.13 (b)&(c))
- unscrew the 2 fixing screws from anchor plate (do not lose base washers and rings and note order and direction for replacing
  It is most important when replacing contact breakers to replace correctly the insulation ring and to ensure that the spring of the contact cam is insulated - grease the cam spindle and lubrication felt with vaseline
- push out the condenser with a 16 mm blank punch (this covers the whole surface of the condenser and avoids damage)

- re-assemble in reverse order taking care correctly to replace flywheel key in its keyway.

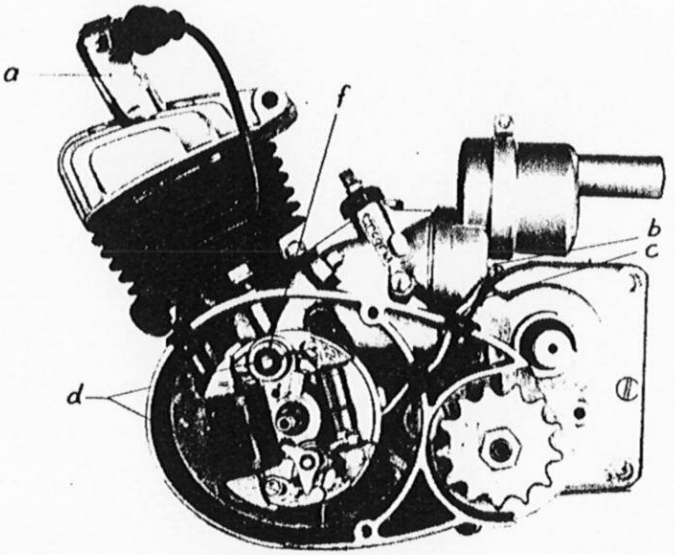


Fig. 13

To ensure correct centring of coils a ring 80 mm dia. and 30 mm height is used.
The anchor plate is placed under the ring and the coils mounted with the contacts almost touching the ring uniformly, to avoid drag.
The gap between the contacts and ring (and subsequently the flywheel rotor) should be between 0,15 - 0,20 mm.

Dismantling clutch

- drain oil from clutch housing by removing drain plug with 17 mm spanner
- remove the four screws from clutch casing (note positions and lengths of screws) and take off cover and gasket
- immobilise clutch plate centre locking ring with a 32 mm open end spanner and remove locking nut with a 17 mm ring spanner (fig.14)
- withdraw clutch assembly using an extractor tool (fig.15)
- remove key and the thrust bearing (cage with 5 roller bearings)
- remove clutch base complete with lug washer from base (observe positioning and direction as parts are removed to ensure correct replacement)
- remove spring circlip from cover plate, turn clutch assembly upside down and then clutch plates, friction plates, springs and the 32 ball flyweights can be separated. (the 32 balls are a complete set and are intended to leave a free space in the housing - do not put in an extra ball bearing to fill this space.)

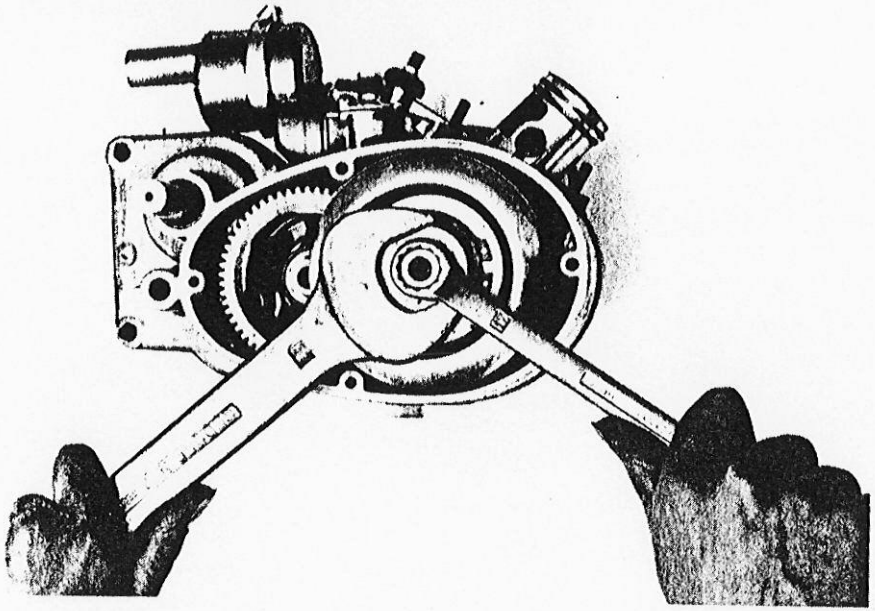


Fig. 14

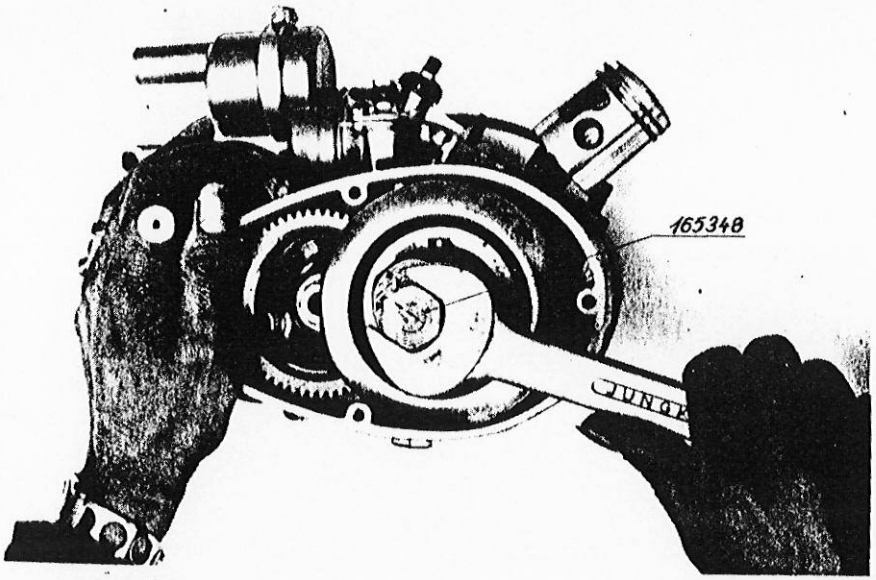


Fig. 15

Clutch re-assembly

- assemble ball flyweights, clutch and friction plates, springs and pressure plate
- push on cover plate and fit spring circlip, ensuring that this fits tightly into its grove
- place base lug washer in correct position on crankshaft
- mount clutch base on crankshaft
- mount thrust bearing
- insert the key into its keyway
- press the pre-assembled clutch assembly on to the crankshaft taking care to locate the keyway over the key, replace spring washer and tighten nut

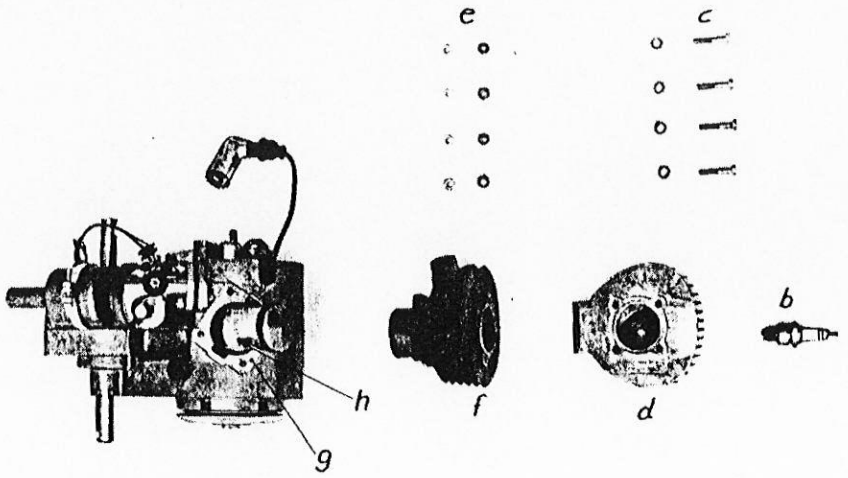


Fig 16

Dismantling and assembly of cylinder head and piston (fig.16

- remove sparking plug cover (a) and remove sparking plug(b)
- remove 4 cylinder head bolts and washer(c) with 10 mm socket spanner and take off cylinder head (d)
- remove 4 nuts and washers (e) from cylinder base with 10 mm open end spanner and carefully remove cylinder (f) and base gasket (g) (graphite coated side face down on crankcase when re-assembling)
- remove the 2 spring circlips from gudgeon pin ends (h)
- push out gudgeon pin and remove piston from connecting rod (when replacing piston ensure that the arrow on top of the piston is pointing to the exhaust outlet
- remove piston rings if necessary (take care as these rings will snap with rough handling or undue force)
- assemble in reverse order

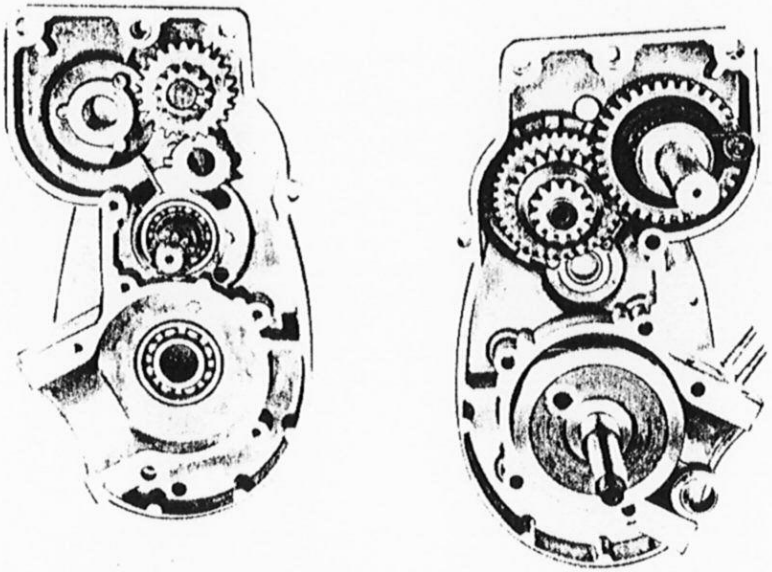


Fig. 17

Dismantling casings (fig.17)

- remove chain sprocket nut using 17 mm ring spanner with sprocket locked by an auxiliary chain anchored to pedal shaft with a ring (i.e. special tool)
- dismantle clutch, flywheel and cylinder
- remove 8 bolts (allen screws) from interior of casing on flywheel sidde (note lengths and positions of bolts)
- knock the crankshaft spindle from clutch side with fibre headed hammer to part the casing joint
- separate the casings and remove jointing washer
- gently knock out drive shaft and remove securing spring circlip to dismantle gear wheels (when re-assembling these should have a gap of 0,3 - 0,5 mm between them)
- remove pedal shaft and intermediate gear shaft
- if necessary press out locating bushes and roller bearings (take care to avoid damage to seatings)

Dismantling and assembly of pedal shaft

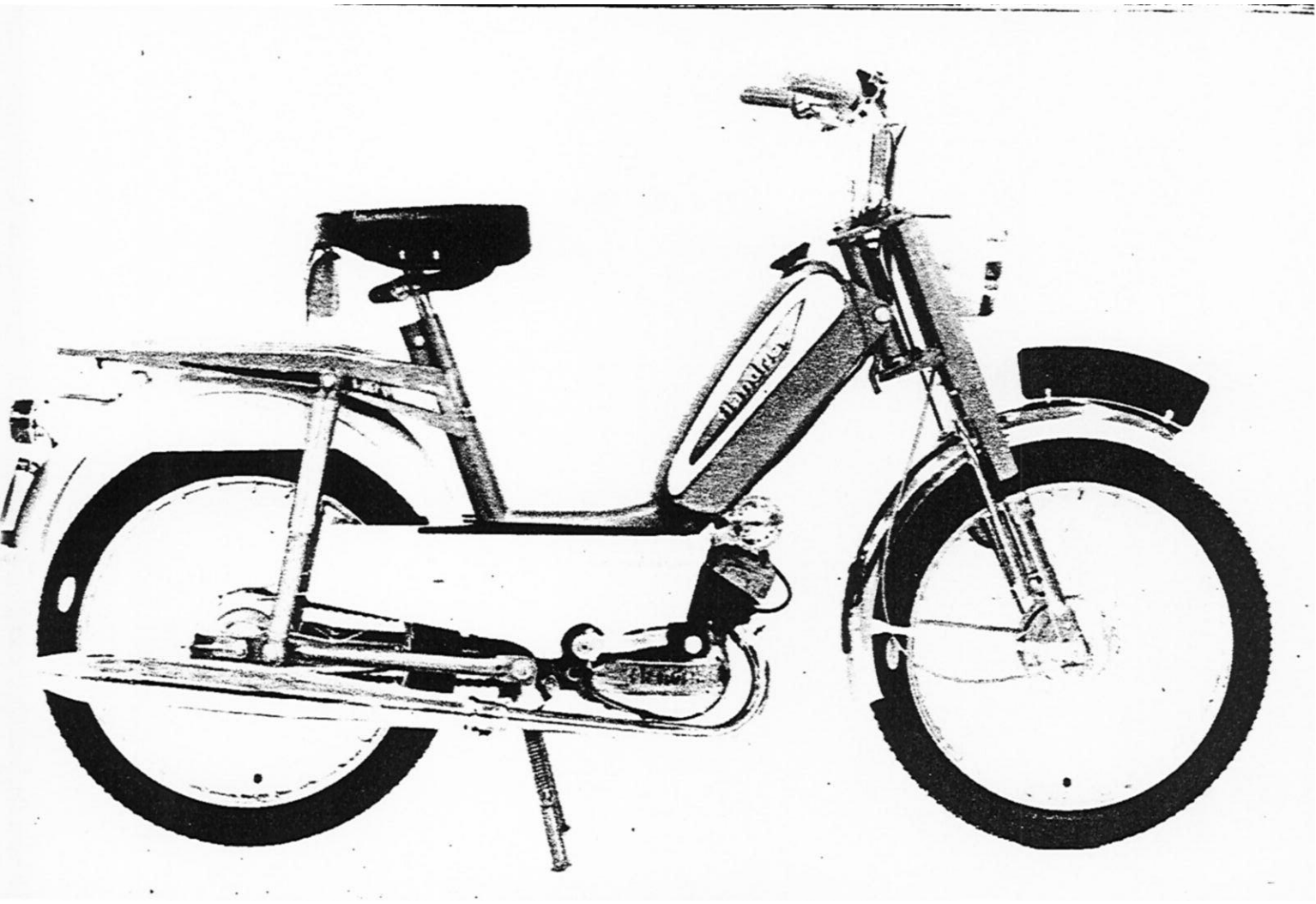
- push out spindle from flywheel housing
- remove base washers, distance bushes, slip rings, pressure springs, sprockets, tab washers and circlip
- when reassembling, ensure that the longest side of the shaft is mounted on the clutch side and that the spring ends are correctly located in the housings in the casing Do not forget to replace base washers.

Dismantling and assembly of crankshaft

- heat the flywheel casing (with blowlamp or blowtorch) evenly around the crankshaft to a temperature of 80°C
- when heated tap the end of the shaft from the outside with a fibre hammer
- to remove fuel valve place 2 screwdrivers under the valve and gently prise off the crankshaft
- the ball bearing should then be removed from its housing in the shaft, preferable with a magnet
- then carefully remove roller bearing (with 2 screwdrivers)
- to re-assemble, first replace the roller bearing, base washer and ball bearing, followed by fuel valve (use a little grease to hold the ball bearing in its cup)
- when re-assembling fuel valve ensure that the side marked with a small dot is mounted towards the roller bearing
- re-heat casing to 80°C locate the oil-seal ring and press the shaft into the casing.
  Sufficient heat should be used to avoid any undue force or hammering, and the shaft should slide easily into position

Re-assembly of engine

- in the reverse order to that described for dismantling taking care to follow each step and in the correct order
- to replace bearings in the casings always heat the casings first to 80°C and always place it in a perfectly flat position (never on locating pins)
- when re-assembling the drive shaft and crankshaft use the protecting cones (165212) and (165439) to avoid damage to the oil seal rings



Places I have been

Sheringham	1	3
Westruinton	1	2
East runton	2	1
Sywildpark	1	3
Overstrand	1	3
Northreps	7	3