Tools Required:

Normal tools and equipment, and also special tools.
(See sheets "Special tools and additional special tools for Max").

Removing and Fitting Front Wheel
(F 01)

1. **Standard:** Remove the three fixing bolts, loosen the hexagon bolt on the left-hand pivoted link, and **unscrew the spindle.** Remove the wheel.

   Special: Disconnect the brake cable. Unscrew both pinch bolts on the pivoted links. Unscrew the spindle nut, and **withdraw the spindle.** Remove the wheel, disconnecting the speedometer drive and the brake anchorage. The latter can be left hanging on the forks.

2. Replace in the reverse order.

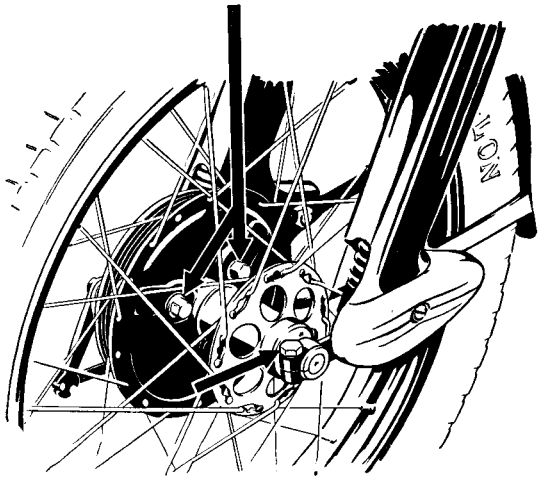


Fig. F 01

Removing and Fitting Rear Wheel
(F 02)

1. **Standard:** Unscrew the three fixing bolts. Unscrew the nut on the right-hand end of the spindle. **Unscrew the spindle.** Remove the mudguard and take out the rear wheel.

   Special: Disconnect the brake rod. Remove the mudguard. Unscrew the spindle nut and **withdraw the spindle.** Pull the wheel to the left clear of the six driving pins, and take it out to the rear.

2. Replace in the reverse order.

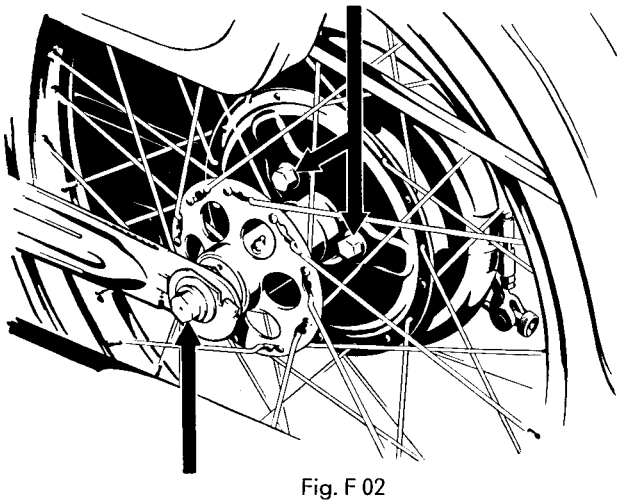


Fig. F 02

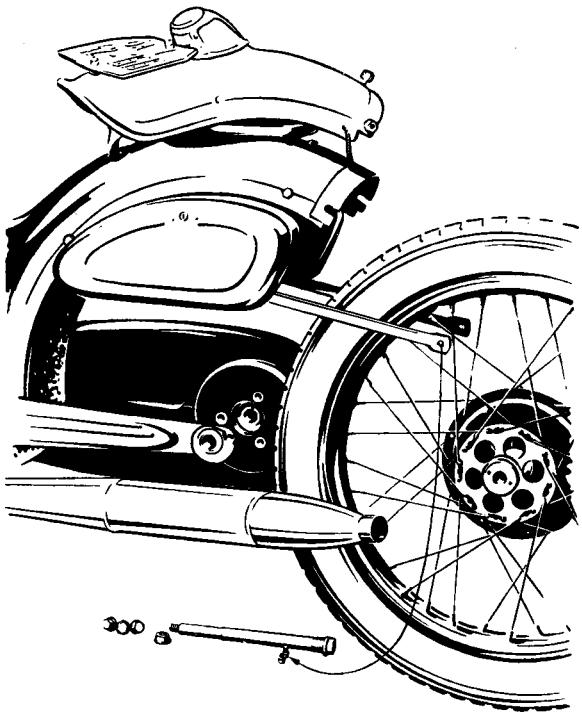


Fig. F 02 a

Ball Bearing and Seal in Hub. Removal and Fitting.

(F 03)

1. Remove front or rear wheel from frame. (see F 01 or F 02).
2. **Standard:** Unscrew the locking on the left-hand side by means of the special key. Use extractor to withdraw bearing.

   Special: Knock out the bearing sleeve with a punch and remove the brake plate. Remove the ring for the seal on the right-hand side. Push up the distance tube and knock out the ball bearing, washer, and seal to the left. Remove the circlip and seal on the right-hand side, and knock out the right-hand ball bearing.
3. Replace in the reverse order. (The seal is mounted in carrier ring).

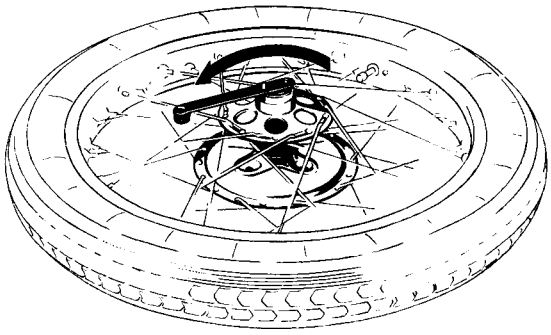


Fig. F 03

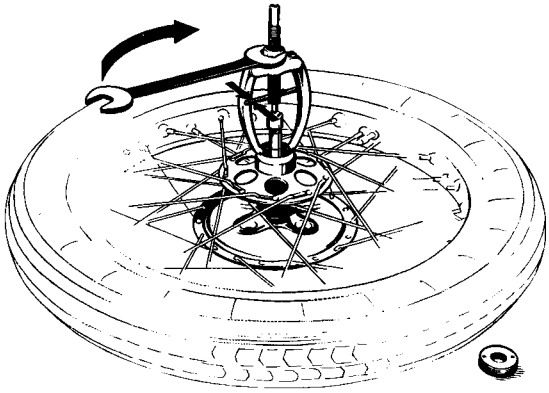


Fig. F 03 a

Front Brake Drum. Removal and Fitting.

(F 04)

1. **Special:** No separate operation required (see F 01).
2. **Standard:** Disconnect the cable from the brake lever. Remove the countersunk screw and the flexible shaft. Remove the brake plate and the brake drum after unscrewing the 3 bolts on the pivoted link.
3. **Standard:** Replace in the reverse order.

Rear Brake Drum. Removal and Fitting.

(F 05)

1. **Special:** No separate operation required (see F 02).

   Standard: Remove the rear wheel (see F 02). Remove the chaincase (see F 64). Remove the chain (see M 25).
2. **Standard:** Unscrew the three bolts on the right-hand crankcase cover. Disconnect the brake rod from the brake lever. Unscrew the nut on the brake-drum bearing flange and remove the thrust washer the eccentric plate, and the rear thrust washer. Remove the brake drum and brake plate.
3. **Standard:** Replace in the reverse order.

Front Brake Drum. Dismantling and Assembly.

(F 06)

1. **Special:** Operation not required (see F 02).
   Standard: Remove the front wheel from the frame (see F 01). Remove the front brake drum (see F 04).

2. **Standard:** Remove the circlip and cover on the left-hand side, and knock out the bearing bush using a brass punch. Remove the bearing plate from the brake drum. If it is defective knock out the ball bearing. Push out the seal with a screwdriver.

3. **Standard:** Replace in the reverse order.

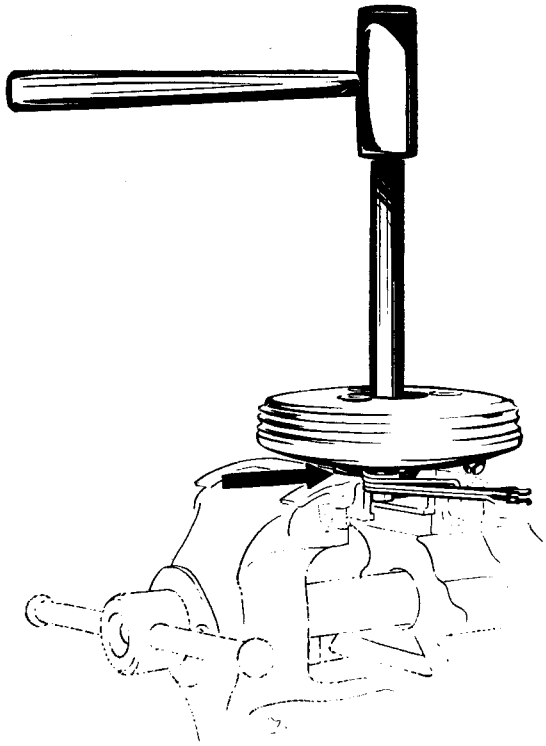


Fig. F 06

Rear Brake Drum and Cush-Drive. Dismantling and Assembly.

(F 07)

1. **Standard:** Remove the rear wheel (see F 02).
   Remove the rear brake drum (see F 05).
   Remove the chaincase (see F 64).
   Remove the chain (see M 25).
   Special: Remove the rear wheel (see F 02).
   Remove the chaincase (see F 64).
   Remove the chain (see M 25).
2. **Standard:** Knock out the bearing flange, remove the brake plate, and remove the circlip and the washer underneath it. Knock the bearing flange, the bush, and the shock-absorber rubbers out of the brake drum. Remove the bush.
   Special: Remove the nut on the rear-wheel drive, the washer (752 021), the eccentric plate, and washer (852 071). Remove the rear-wheel drive unit from the forks, and hold in a vice by the flat on the bearing bush. Remove the spring clip from the bearing flange and take out the spacer Remove the rubber shock-absorber elements.
3. Replace in the reverse order. **Lightly** oil the rubber shock-absorber elements to make them easier to assemble.

Renew Brake Linings.
Dismantle and Assemble Brake Shoes.

(F 08)

1. **Standard:** Remove the front wheel (see F 01). Remove the front brake drum (see F 04).
   or:
   Remove the rear wheel (see F 02).
   Remove the rear brake drum (see F 05).
   Remove the chaincase (see F 64).
   Remove the chain (see M 25).

   Special: Remove the front wheel (see F 01).
   or:
   Remove the rear wheel (see F 02).
2. **Special:** Remove the locking ring and washer on the bearing pin.
3. Tilt up one brake shoe with a screwdriver. The springs and brake shoes will then fall clear. Cut off the rivet heads on the inside of the brake shoes with a chisel. Then knock out the rivets with a punch and remove the brake linings.
4. When riveting on the new linings insert and clench over the central rivets first, and work outwards, in order to make certain that the linings are a good fit over the whole of the brake shoe. Attach both springs to the brake shoes, and fit the shoes in place.

Speedometer Drive. Removal and Fitting.

(F 09)

1. **Standard:** Remove the front wheel (see F 01). Remove the front brake drum (see F 04).
   Special: Remove the front wheel (see F 01).
2. **Standard:** After removing the stud pull the worm wheel out of the brake plate with a pair of pliers. Remove the bearing and force the large worm wheel out of the brake drum.
   Special: Unscrew the stud. in the speedometer casing and withdraw the speedometer driving worm.
3. Replace in the reverse order.

Front Forks. Removal and Fitting.

(F 20)

1. Remove the front wheel (see F 01).
2. Open the headlamp and unscrew both hexagon nuts. Remove the flexible shaft. Remove the headlamp and allow it to hang on one side (place a piece of cloth under it). Turn the forks to the left. Unscrew the damper knob. Remove the spring, the two spring washers, and the cap. Unscrew the two hexagon nuts (36 mm across flats) and remove the nut and bolt, the two lock washers, and the distance sleeve from the anchoring element on the front of the petrol tank. Remove the tab washer, the two friction discs, the anchor plate, and the handlebar support complete with handlebars. Allow the handlebars to hang down to one side (place a piece of cloth under them). Remove the lock washer. Unscrew the aligning nut using tool (048 422 003) and extension ring (078 791 902). Remove the top race, turn the forks **straight ahead,** and withdraw them downwards.

   Note: Be careful of the ball bearings which will fall out! (19 1/4-in balls in both the upper and the lower set).
3. **Fitting:** Attach the ball bearings to the top and bottom races with grease, and push the forks gently into place from underneath. As soon as they are in position turn them to the left so that they cannot slip out again. The remainder of the assembly process is performed in a similar nanner, but in the reverse order, to the stripping. Tighten up the aligning nut until there is no play in the forks, but they are able to turn freely.

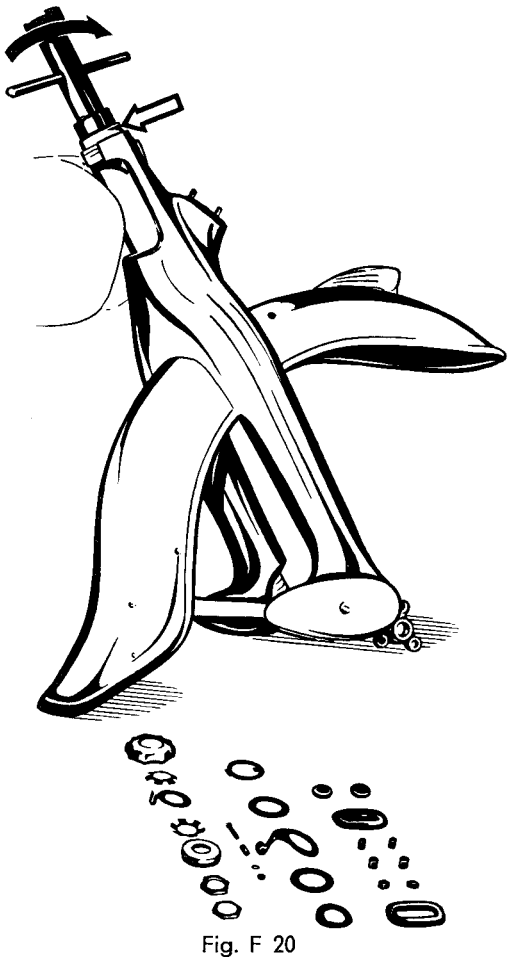


Fig. F 20

Steering-Head Bearings, Races, and Balls. Removal and Fitting.

(F 21)

1. Remove the front wheel (see F 01).
   Remove the forks (see F 20).
2. Knock out the lower bearing race through the two holes provided in the forks; use a 5-mm dia. punch, and hit up from underneath. Two holes are also provided at top and bottom of the steering head on the frame for knocking out the ball-bearing races.

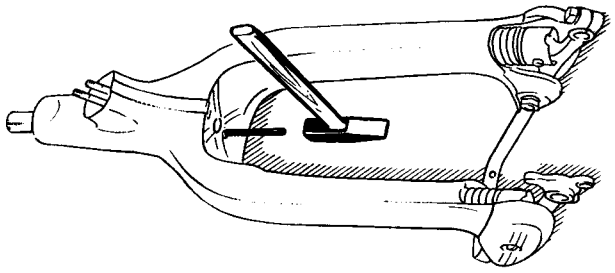


Fig. F 21

3. **Assembly:** Use a tube to knock the lower race into place in the forks. Knock the bearing races into place in the steering head with a brass punch. For remaining work see F 20.

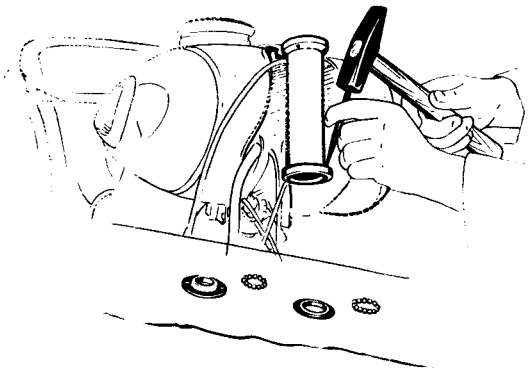


Fig. F 21 a

Front Springs. Removal and Fitting.

(F 22)

1. Remove front wheel (see F 01).
   Remove front brake drum (see F 04).

2. Remove covers (one countersunk screw each). Remove circlip on the inside of the bearing pin. Push the pivoted link up slightly, and knock out the bearing pin. The pivoted link can then be swung round to the rear. Unscrew the complete spring assembly using special spanner (078 791 901).

3. Assemble in the reverse order. (On older machines note that the larger cutout in the cover goes to the rear). The bearing pins must be thoroughly oiled.

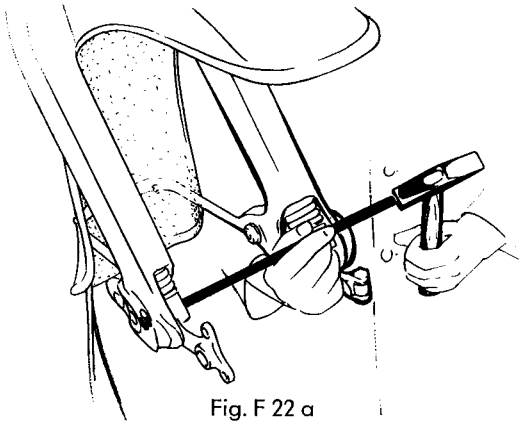


Fig. F 22 a

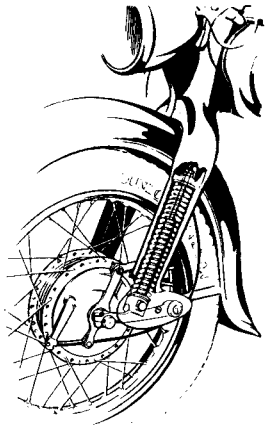


Fig. F 22

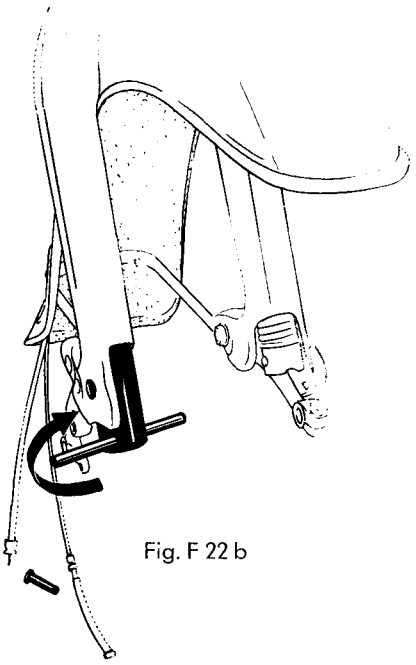


Fig. F 22 b

Telescopic Shock Absorbers. Removal and Fitting.

(F 23)

1. Remove the front wheel (see F 01).
   Remove the front brake drum (see F 04).
   Remove the front forks (see F 22).
2. Loosen the threads by means of a number of blows.
   Standard: Hold the spring in a vice. Unscrew the two M 8 nuts on the shock absorber and the upper spring retainer, and screw the upper spring retainer out of the spring with the aid of special key (078 791 901). Remove the shock absorber. When changing the front springs both the upper and the lower spring retainers must be removed.
3. Replace in the reverse order.

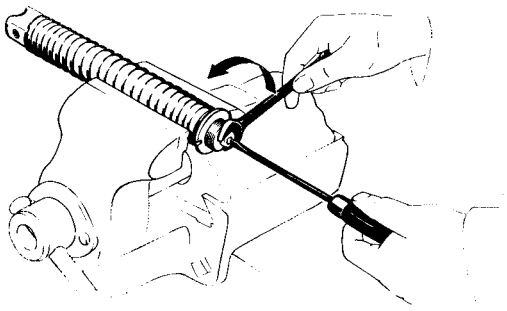


Fig. F 23

Special: Stripping and assembling pre-stressed spring and shock absorber. From vehicle No. 1 288 521 / 788 809.

1. Remove spring and shock absorber, using special key (078 791 901). Place complete assembly in fixture (088 891 922), and tighten nut slightly. Hold the shock-absorber tie rod with a screwdriver and unscrew both nuts. Unscrew the nut on the jig and remove the spring retainer, the cover, the sleeve, the two rubber washers, and the spring.
2. Assembly: Place the shock absorber in the fixture. Pull the tie rod completely out. Attach the sleeve, one rubber washer, and the knurled nut, and press together with the jig until the sleeve projects from the spring retainer. Fit the rubber washer and the covers and secure with both nuts.

   To tighten up the lower nut and to hold it while tightening up the lock nut, it is advisable to use a special spanner. This can be made up in any workshop out of an ordinary 14-mm 12-sided ring spanner, the thickness being reduced to 4 mm (0.16 in) and the outside of the ring section being reduced if necessary to ensure that the spanner does not extend beyond the nut when it is tightened up and does not bind against the edge of the knurled nut.

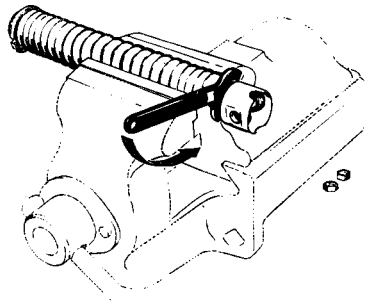


Fig. F 23 a

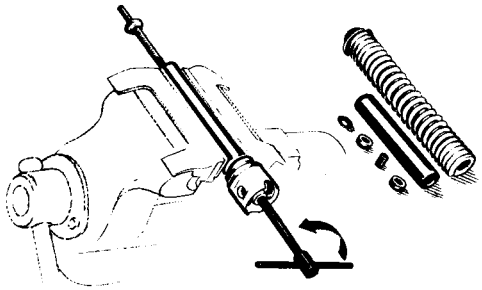


Fig. F 23 b

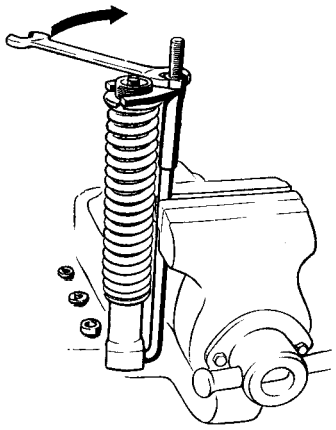


Fig. F 23 c

Pivoted Links (Left-Hand and Right-Hand). Removal and Fitting.

(F 24)

1. Remove front wheel (see F 01).
   Remove front brake drum (see F 04).
2. Remove both covers after unscrewing the two countersunk screws. Remove the circlip on the inside of the bearing pin. Press the pivoted link slightly upwards and knock out the bearing pin. Unscrew the hexagon nut on the inside. Withdraw the bearing bolt and remove the pivoted link.
3. Replace in the reverse order.

Replacing Bushes in Pivoted Links.

(F 25)

1. Remove front wheel (see F 01):
   Remove front brake drum (see F 04).
   Remove pivoted links (see F 24).
2. Knock out old bushes, and press in new. Then ream out to 17.01—17.018 mm.

Front Mudguard. Removal and Fitting.

(F 26)

1. Remove front wheel (see F 01).
2. Disconnect cable from brake lever, detach speedometer drive cable from brake plate. Unscrew the two bolts on the mudguard stay and on the inside of the mudguard at the top. Remove mudguard.
3. Replace in the reverse order.

CONTROLS and CABLES

Handlebars (and Fittings). Removal and Fitting.

(F 40)

1. After disconnecting the cables (see F 45, 50, 51, 52, and 55) unscrew the pinch bolt on the dipper switch and the countersunk screw on the air control lever, and remove these two items with their leads and cable. Unscrew the two hexagon bolts on the front of the handlebar mounting. Remove the handlebars and fittings.
2. Replace the complete handlebar in the reverse order.

Handlebar Bend. Stripping and Assembly.

(F 41)

1. Remove the handlebars (see F 40).
   Remove the control levers (see F 44).
   Remove the throttle twistgrip (see F 45).
   Remove the fixed grip (see F 47).
   Disconnect the cables for the clutch, hand brake, air control, and valve lifter.
2. Assemble in the reverse order.

Speedometer. Removal and Fitting.

(F 42)

1. Open headlamp casing. Unscrew speedometer cap nut and hexagon nut. Remove clip. Disconnect lead for illumination. Withdraw speedometer upwards.
2. Replace in the reverse order.

Speedometer Drive Cable. Removal and Fitting.

(F 43)

1. Unscrew hexagon nut for speedometer drive cable from the brake plate and withdraw the speedometer drive cable. Open headlamp, unscrew the cap nut, and withdraw the upper end of the speedometer drive cable. Loosen the clip on the mudguard and pull the shaft upwards clear of the mudguard.
2. Replace in the reverse order.

Control Levers. Removal and Fitting.

(F 44)

1. Disconnect the cables (see F 50, 51, 52, and 55). The hand-brake lever, air lever, clutch lever, and valve lifter can be removed if the pivot bolts are removed. If the grips are first taken off (see F 45 and F 47) the brackets can be slid off the handlebars after the pinch bolts have been loosened.
2. Assemble in the reverse order.

Throttle Twistgrip. Removal and Fitting.

(F 45)

1. Roll the outer end of the rubber grip back for about 20 mm (3/4 in). Unscrew the countersunk screw in the end cap and remove it. Disconnect the end cap from the slider, turn the twistgrip slightly outwards, and remove it.
2. Assemble in the reverse order.

Fixed Grip or Rubber Grip on Twistgrip. Removal and Fitting.

(F 47)

1. Slightly lift the inner end of the rubber grip with a small screwdriver and pour in a few drops of petrol. Withdraw the grip with a twisting motion.
2. To replace the grips, wet the handlebars with petrol and push the grip on quickly with a twisting motion.

Slider. Removal and Fitting.

(F 48)

1. Remove the throttle twistgrip (see F 45).
2. Loosen the clamp blot on the carburettor. Unscrew the cap. Unscrew the jet holder. Turn the float chamber. Turn the carburetter outwards. Withdraw the throttle and air slides. Detach the cable from the throttle slide, and the cable can then be disconnected from the slider on the handlebars.
3. Assemble in the reverse order.

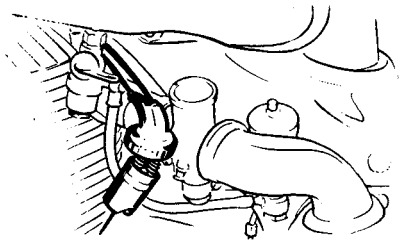


Fig. F 48

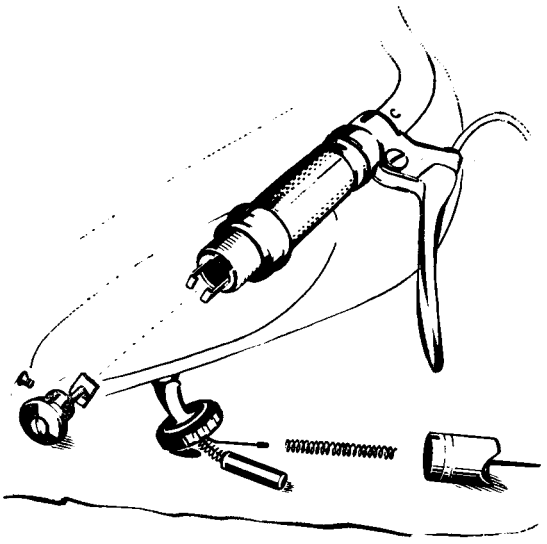


Fig. F 48 a

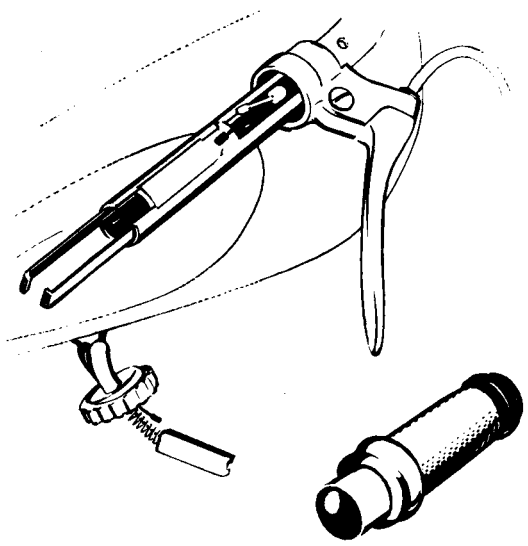


Fig. F 48 b

Clutch Cable. Removal and Fitting.

(F 50)

1. Remove the right-hand crankcase cover (see M 50).
2. Unscrew the lock nut on the adjuster. Disconnect the nipple on the cable from the slot in the clutch-operating lever, taking care not to lose the helical spring. Pull the cable and adjuster out of the cover. Disconnect the cable from the clutch control lever.
3. Replace in the reverse order.

Hand-Brake Cable. Removal and Fitting.

(F 51)

1. Disconnect the cable from the brake lever on the brake plate. Loosen the lock nut and unscrew the adjuster. Straighten two clips on the right-hand inside of the mudguard, and disconnect the cable from the control lever.
2. Replace in the reverse order.

Valve-Lifter Cable. Removal and Fitting.

(F 52)

1. Disconnect the cable from the control lever. Unscrew the adjuster on the cylinder head (shaft). Disconnect the lower end of the cable.
2. Replace in the reverse order.

Throttle Cable. Removal and Fitting.

(F 53)

1. Remove the throttle twistgrip (see F 45).
2. Unscrew the clip on the carburettor body and on the connecting tube. Unscrew the jet holder on the carburetter body and turn the float chamber outwards. Unscrew the cap. Withdraw the throttle and air slides from the carburetter. Disconnect the cable from the throttle slide and from the slider in the twistgrip and withdraw it from the handlebars.
3. Replace in the reverse order.

Air Control Cable. Removal and Fitting.

(F 55)

1. Disconnect the cable from the air slide (see F 53). Then unscrew the countersunk screw on the control lever and disconnect cable from the lever and the casing.
2. Replace in the reverse order.

FRAME

Frame, Front Part. Removal and Fitting.

(F 60)

1. Remove saddle (see F 72).
   Remove fuel tank (see F 80).
   Remove engine (see M 01).
   Partly remove headlamp (see E 13).
   Disconnect clutch cable from handlebar control lever.
   Remove handlebars (see F 40).
   Remove front wheel (see F 01).
   Remove front forks (see F 20).
   Remove oiltank (see F 83).
   Remove frame, rear part (see F 61).
   Remove rear wheel (see F 02).
   Remove exhaust pipe (see F 70).
   Remove rear mudguard (see F 62).
   Remove chaincase (see F 64).
   Remove rear forks (see F 63).
   Remove rear springing (see F 65).
   Remove centre stand (see F 74).
2. Replace in the reverse order.

Frame, Rear Part. Removal and Fitting.

(F 61)

1. Remove rear wheel (see F 02).
   Remove chaincase (see F 64).
   Remove rear brake drum (see F 05).
   Remove oil tank (see F 83).
   Remove silencer (see F 70).
2. Remove silencer attachment by unscrewing the three bolts on the rear part of the frame. Unscrew the two self-locking nuts on the two expansion bolts and then remove the rear part of the frame. Take care not to damage the two armoured leads which run from the cable harness into the rear part of the frame.

   Note! If a new rear frame is to be fitted, the following items will also have to be removed:

   Battery (see E 16).
   Battery box (see E 15).
   Tool box (see F 76).
   Rear mudguard (see F 62).

Rear Mudguard. Removal and Fitting.

(F 62)

1. Detach reflector and rear light (see E 09).
2. Remove rear light and withdraw cable. Unscrew the bolts on the left and right-hand stays. Unscrew the collar nuts Remove the mudguard.
3. Replace in the reverse order.

Rear Forks. Removal and Fitting.
(**F 63**)

1. Remove rear wheel (see F 02).
   Remove chaincase (see F 64).
   Remove rear brake drum (see F 05).
   Remove rear part of frame (see F 61).
2. Remove the cover strip. Unscrew the hexagon nut on the upper arm of the forks from the spring holder using a screwdriver inserted in the slot of the fork bolt to prevent rotation. Remove the locking ring from the rear-fork spindle, and knock out the spindle. Use a punch with a counterbore to accommodate the grease nipple. A number of washers of various thicknesses will be found between the frame and the rear forks to take up any side play in the forks.
3. Replace in the reverse order, noting that the cover strip must be fitted with the chamfered edge to the rear.

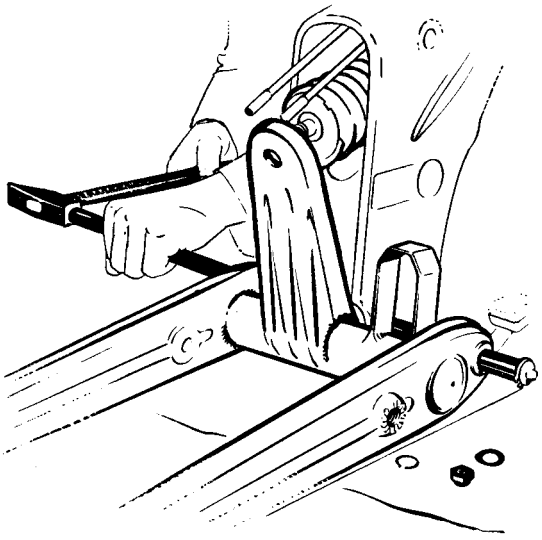


Fig. F 63 a

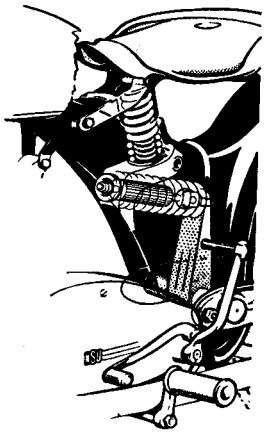


Fig. F 63

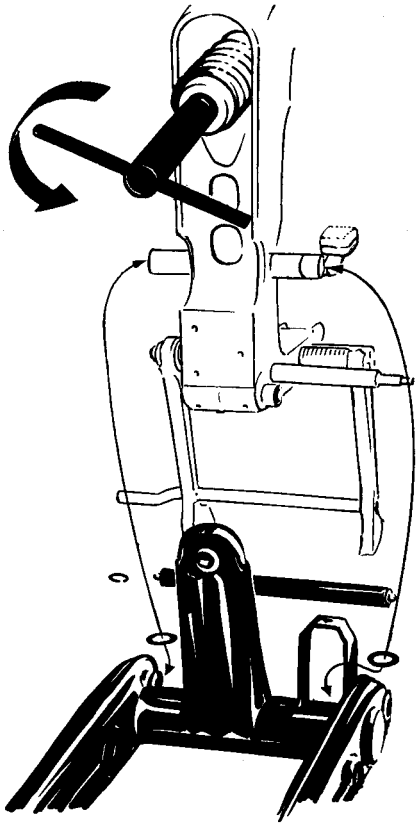


Fig. F 63 b

Chaincase. Removal and Fitting.

(F 64)

1. Unscrew the nut and lock nut on the rear hexagon bolt and remove the distance tube (in the centre). Unscrew two bolts with lock washers above and below the rear axle. Unscrew the hexagon bolts on the top and bottom halves of the chaincase (at the front). Then slightly loosen the five countersunk screws on the right half of the crankcase and remove the two sections of the chaincase.
2. Replace in the reverse order. When fitting the chaincase sections make certain that they mate properly.

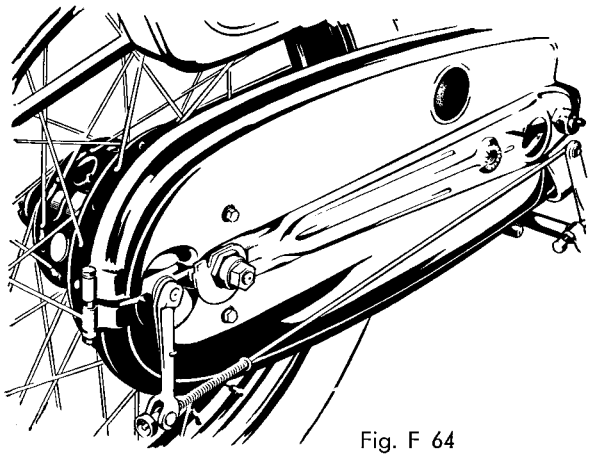


Fig. F 64

Rear Springing. Removal and Fitting.

(F 65)

1. Remove the rear wheel (see F 02).
   Remove the chaincase (see F 64).
   Remove the brake drum (see F 05).
   Unscrew the bolt and remove the air filter cover.
   Remove the oil tank (pipes can be left attached to the tank) (see F 83).
   Remove the rear part of frame (see F 61).
   Remove the rear forks (see F 63).
2. Standard: Then unscrew the complete rear springing assembly, including shock absorber, from the rear forks using the special key (078 791 905). Hold the spring in a vice, and unscrew the two M 10x1 nuts on the shock absorber and the upper spring holder. Unscrew both spring holders from the spring using a special key (088 891 913 or 078 791 905). Take care not to lose the washers and rubber rings.
3. Replace in the reverse order. It is **absolutely essential** that the slot in the fork bolt on the telescopic shock absorber is horizontal.

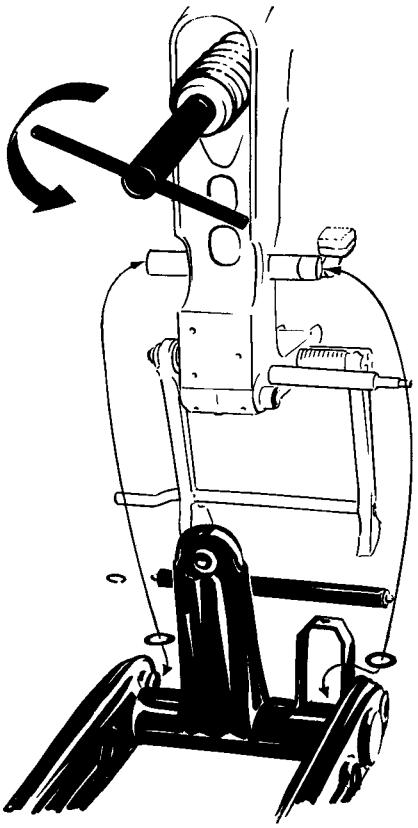


Fig. F 65

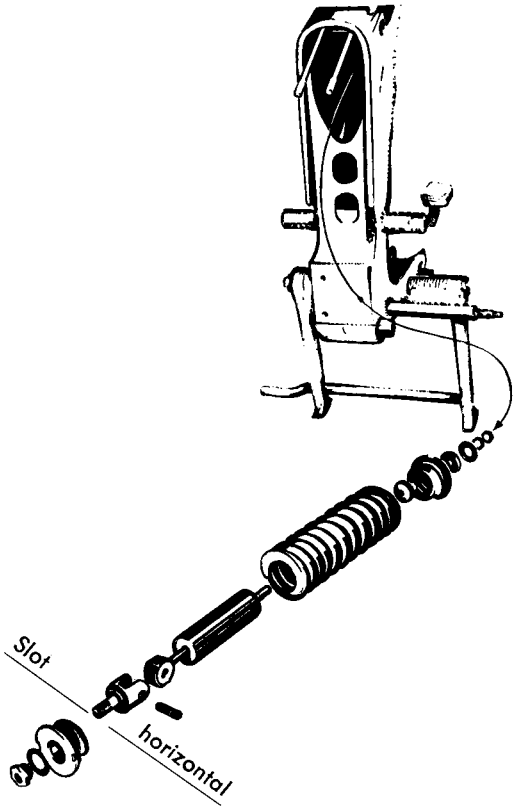


Fig. F 65 a

1. **Special: Removal and Fitting of Pre-Stressed Springs and Shock Absorber** from frame No. 1 288 521 / 788 809. Attach fixture (088 891 923) to the frame. Tighten the turnbuckle slightly. Remove the silencer attachment by unscrewing three bolts. Unscrew the flat-head screw. Remove the two self-locking nuts on the rear frame. Remove the rear part of the frame and the cover strip. Unscrew the hexagon nut and the lock washer (lock the tie rod with a screwdriver). Loosen the turnbuckle and remove the fixture. Remove the locking ring and knock out the rear-fork spindle using a suitable punch (take care not to lose the thrust washers). Remove the forks complete with spring and washer. Unscrew the shock absorber using key (088 891 920).
2. Assembly: Attach the complete shock absorber, using key (088 891 920). Pull the tie rod out completely. Insert spring and washer. Fit rear forks with thrust washers. Knock in and lock the spindle (use oil).

Pull the fork up by means of jig (088 891 923) until the hexagon nut and lock washer can be tightened up. **The slot in the tie rod must be horizontal.**

Place the cover strip on the rear part of the frame so that the narrow edge of the strip is at the front. Attach the rear part of the frame and scew up the self-locking nuts one or two turns. Screw up the turnbuckle on the fixture until the holes in the front and rear parts of the frame line up, and screw in the centre screw (flat head) using lock washers. Remove the jig. Tighten up the self-locking nuts. Make certain that the cover strip is in its proper position. Fit the silencer attachment.

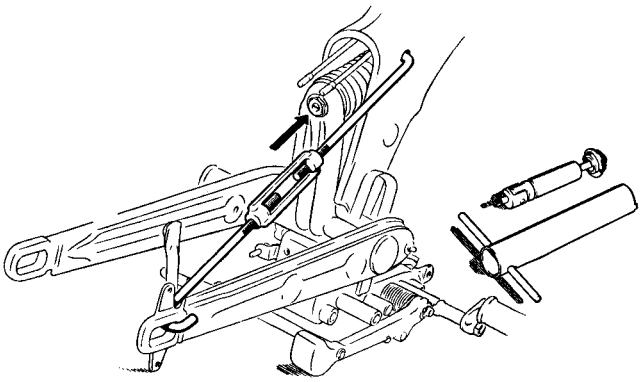


Fig. F 65 b

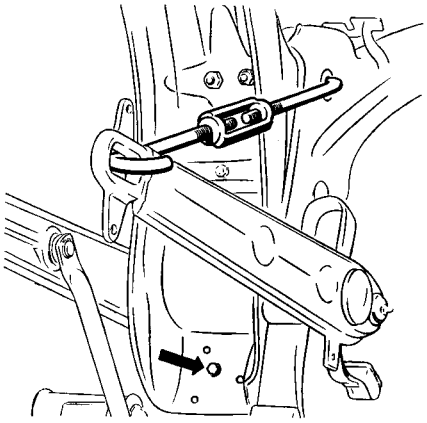


Fig. F 65 c

Exhaust System. Removal and Fitting.

(F 70)

1. Unscrew the nut on the right-hand end of the foot-rest rod. Remove the right-hand foot rest and its hanger. Withdraw the rod and left-hand foot rest to the left. Unscrew the hexagon bolt on the silencer attachment. Unscrew the exhaust pipe from the cylinder head with the special spanner supplied in the kit of tools provided with the machine. Unscrew the M 6 bolt and the nuts on the silencer pipe clamp. Remove the silencer from the exhaust pipe. Remove the exhaust pipe from the cylinder head and withdraw it complete with its seal.
2. Replace in the reverse order.

Pivoted Saddle and Spring. Removal and Fitting.

(F 72)

1. Unscrew the M 10x1 nut on the left-hand side of the saddle support underneath the fuel tank, as also the M 10x1x108 hexagon bolt. A thread is tapped on the left-hand side of the saddle support. Withdraw the saddle with springs, rubber plug, and spring cups. Take care not to lose the two thrust washers.
2. Assemble and replace in the reverse order. Make certain that the bearing bushes on the frame on the spring cover and the two springs and spring cups are well greased.

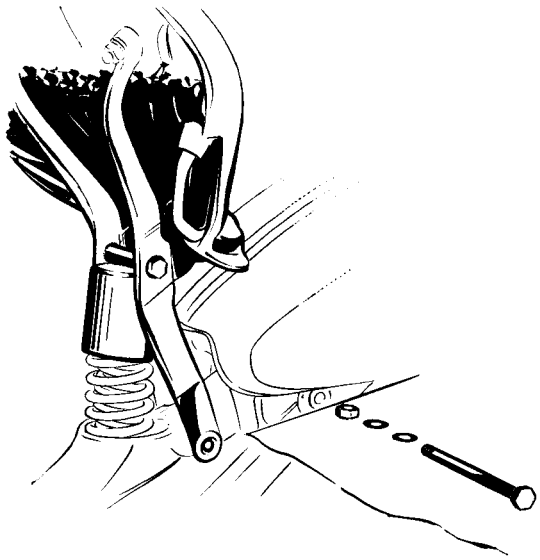


Fig. F 72

Centre Stand (and Return Springs). Removal and Fitting.

(F 74)

1. Remove the left-hand split pin and knock the spindle out to the right. Remove the stand and springs.
2. Replace in the reverse order. Make certain that the return springs are properly seated.

Luggage Carrier. Removal and Fitting.

(F 75)

1. Unscrew the three hexagon bolts on the rear part of the frame and remove the luggage carrier.
2. Replace in the reverse order.

Tool Box. Removal and Fitting.

(F 76)

1. Open the tool box and unscrew either three M 6 hexagon nuts with lock washers or three hexagon bolts with lock washers. Remove tool box.
2. Replace in the reverse order.

Petrol Tank. Removal and Fitting.

(F 80)

1. Remove saddle. (see F 72).
2. Close fuel tap and pull off tubing. Unscrew M 7x15 hexagon bolt with two lock washers and one plain washer on the rear tank mounting a few turns. Unscrew either two M 8x15 hexagon bolts with lock washers or one M 8x98 hexagon bolt with lock washer and nut (depending on fittings employed) on the two front mounting brackets on the frame. If the second type of fitting is used there will also be a spacer tube to remove. Lift the front of the fuel tank. Bend up the clip for the cable harness and remove it. Push the tank slightly to the rear and lift off.
3. Replace in the reverse order.

Knee Grips. Removal and Fitting.

(F 81)

1. Insert a small screwdriver in the slit in the rubber under the badge, and unscrew the M 6x6 screw situated under the slit. Take off the knee grip. The rubber knee grip can easily be stripped off the mounting plate.
2. When replacing the knee grip it is advisable first to screw the mounting plate lightly to the tank, allowing is to hang vertical. Then lightly damp the rubber grip with petrol and pull it over the mounting plate. Turn the knee grip to its correct position and tighten up the screw through the slit in the rubber.

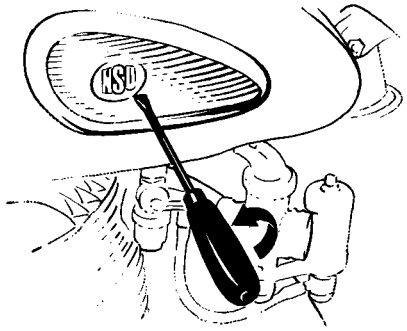


Fig. F 81

Fuel Tap. Removal and Fitting.

(F 82)

1. Remove the fuel pipe from the tap. Lean the machine over to the right. Unscrew the cap nut between the tank and the fuel tap. Remove the tap.
2. Replace in the reverse order. Make certain that the cap nut is screwed up tightly and that the adaptor for the petrol pipe is in the correct position.

Oil Tank. Removal and Fitting.

(F 83)

1. Remove air filter cover. Unscrew the pinch bolt on the air filter tube. Remove the cover complete with tube. Then slacken back the cap nuts securing the two oil pipes, and remove the drain plug and filler cap. Drain the oil out of the tank. Remove the mounting bolts and washers. Unscrew the cap nuts and remove the oil tank. Unscrew the oil filter and clean all the parts.
2. Replace in the reverse order.

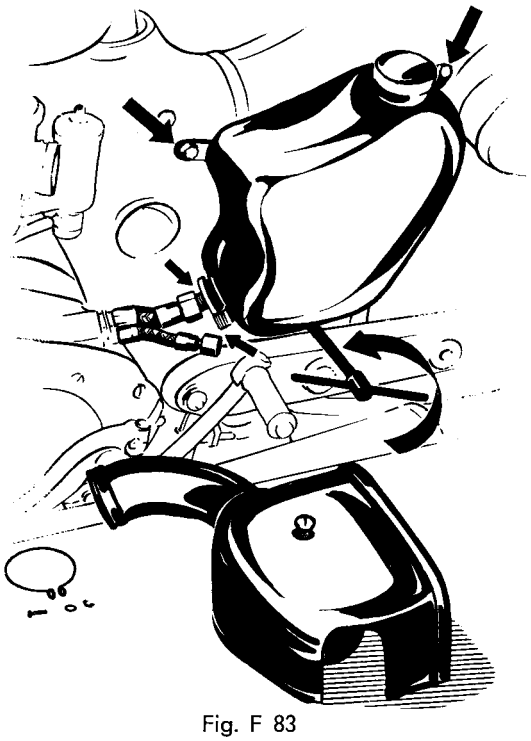


Fig. F 83

ELECTRICAL INSTALLATION

Cable Harness. Removal and Fitting.

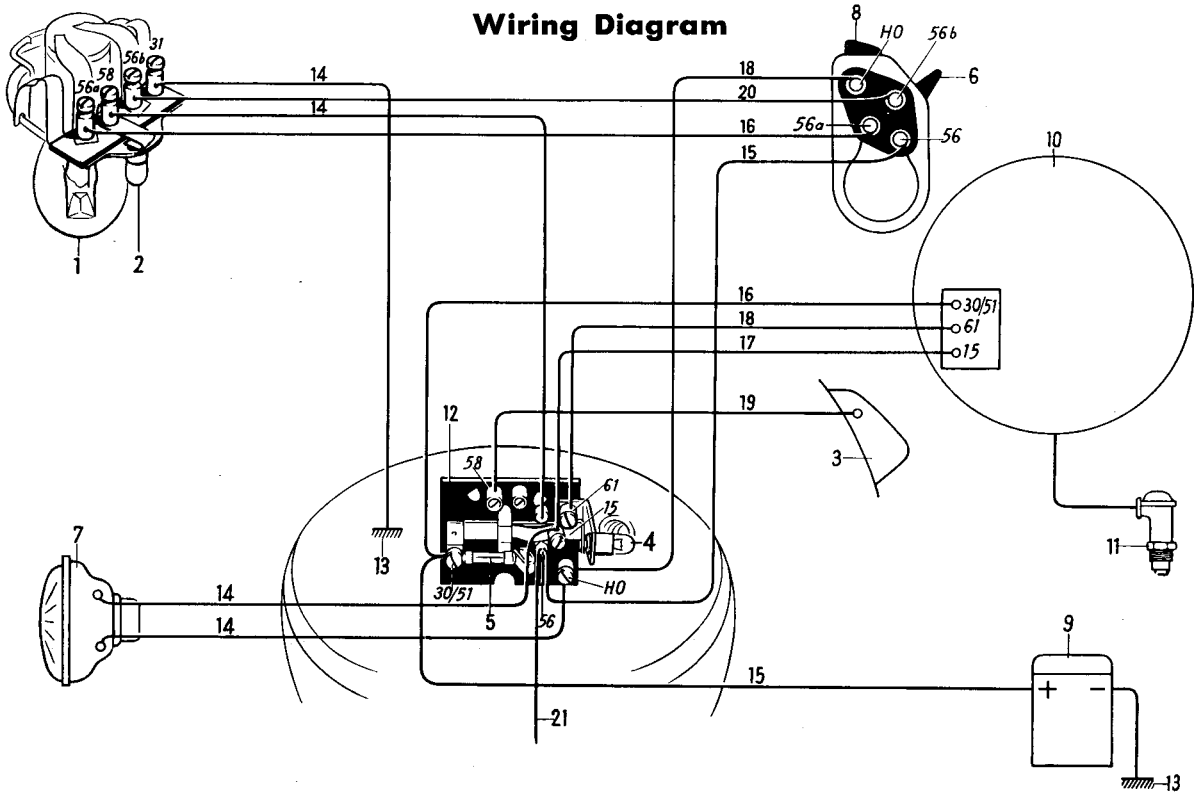
(E 01 to E 05)

To prevent damage always disconnect the battery before starting work on the electrical system.

1. Remove the right-hand crankcase cover (see M 50).
   Remove the rear wheel (see F 02).
   Remove the saddle (see F 72).
   Remove the petrol tank (see F 80).
2. When disconnecting and connecting leads, check by means of the wiring diagram. If necessary mark the leads as they are disconnected.
3. The best way of inserting new leads is to pull them through with the old leads (connect the ends together). In the case of the lead to the rear light the cable clips on the inside of the rear part of the frame must be undone.

   For E 05 dipper lead see E 10.

Wiring Diagram



1 = Head Light Bulb
2 = Parking Light Bulb
3 = Rear Lamp
4 = Ignition Warning Lamp
5 = Fuse
6 = Dip Switch
7 = Horn
8 = Horn Button
9 = Battery
10 = Generator
11 = Spark Plug
12 = Base Plate
13 = Earth
14 = Black
15 = White
16 = Red
17 = Yellow
18 = Blue
19 = Green
20 = Grey
21 = Cable to Speedometer Light

Horn. Removal and Fitting.

(E 08)

1. Unscrew all screws and disconnect leads. Remove horn.
2. Replace in reverse order.

Rear Light. Removal and Fitting.

(E 09)

1. Unscrew bolt on rear light casing and remove casing. Take out bulb and disconnect lead. Unscrew clip and remove with rubber base pad.
2. Replace in reverse order.

Dipper Switch. Removal and Fitting.

(E 10)

1. Unscrew cheese-head screw on lower part of switch. Remove switch. Remove terminal strip from casing and disconnect lead.
2. Replace in reverse order.

Headlamp Glass and Reflector. Removal and Fitting.

(E 12)

1. Open the headlamp after unscrewing the lower slotted screw. Turn the spring clip on the rear of the reflector upwards and withdraw the bulb holder and the terminal strip. Use a screwdriver to remove the two stirrup springs between the reflector and the mounting ring. Bend up the clips for the springs and remove the reflector.

   Note! Do not touch the polished surface of the reflector.

   If the headlamp glass is to be replaced the six spring clips for holding the reflector which are fitted between the rim and the mounting ring must be removed with the aid of a small screwdriver.

2. When inserting the glass remember that there are different types of glass available. In one the flutes should be vertical and the clear section on top, while in the other the flutes are in the form of a triangle which should be fitted with the point downwards. Replacing the glass and reflector is effected in the reverse order to removal.

Headlamp. Removal and Fitting.

(E 13)

1. **In order to avoid causing any damage, make a point of disconnecting the battery before starting work.**

   Unfasten the screw and remove the headlamp cover. Turn up the clip and remove the reflector. Unscrew the knurled nut on the speedometer drive cable and withdraw the shaft downwards clear of the headlamp casing. Unscrew the hexagon nut on the speedometer bracket; remove the speedometer illumination bulb from the speedometer head and withdraw it upwards. Remove the dipper switch from the handlebars. Disconnect the lead from the terminal on the ignition switch, bend up the clip, and withdraw the cable harness downwards. Unscrew two nuts on the casing and the forks. Disconnect terminal 31 and remove both bulbs. Take off headlamp casing.

2. Replace in the reverse order, connecting up the leads in accordance with the wiring diagram.

Battery. Removal and Fitting.

(E 15)

1. Open battery box. Remove the rubber band and take out the battery. Disconnect +ve and —ve terminals.
2. When reconnecting the battery, make certain that the —ve terminal is earthed.
3. Replace in the reverse order.

Battery Box. Removal and Fitting.

(E 16)

1. Remove the battery (see E 15).
2. Unscrew the nuts on the two rear mounting bolts and remove the box. If the box is to be replaced, remove the rubber pads and stick them in place in the new box.
3. Replace in the reverse order.

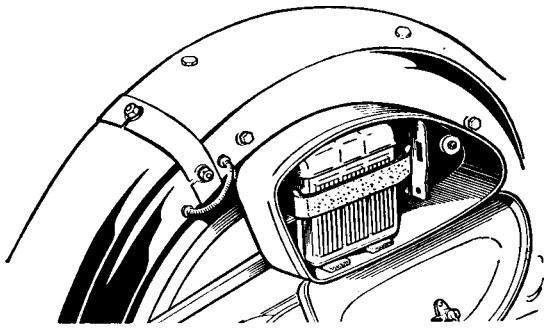


Fig. E 16

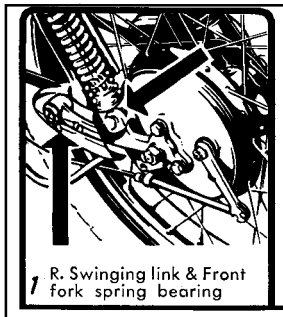
CARE and MAINTENANCE

Grease Vehicle
(W 01)

1. Follow the instructions given in the lubrication chart and in the Instruction Book.

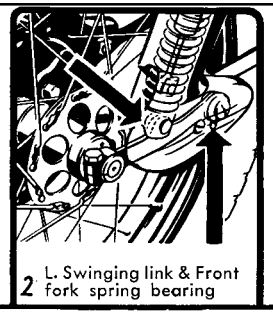
Lubrication Point	Method of Lubrication	Lubricant
***Engine** (including gearbox) 6, 14, 15	see p. 3	**In warm weather SAE 30. Use a branded engine oil. In cold weather SAE 20, below freezing point SAE 10, if obtainable. Use a branded engine oil.**
Control levers 16, 17	Apply a few drops of oil.	**Use branded SAE 30 oil.**
Chain Lubricating pad 5	see p. 3	**As for engine**
Air filter 7	see p. 3	**Thin oil**
Front wheel spring bearings, joints and brake controls, stand bearings 1, 2, 8, 9, 10, 11, 12, 13	apply a few drops of oil and grease	
Brake pivots (on Full Hub Brakes)	Remove occasionally, clean off old grease, pack with fresh grease	
High pressure grease nipples, 1, 2, with full hub also on swinging link 18, 20, 21	Sexeral strokes with grease gun	
Rear fork 3. 4	see p. 3	**High-pressure grease**
Front and rear hub, brake-drum bearing on rear wheel 23, 24, 25	see p. 3	
Throttle twist grip and choke lever 26	Grease internal parts	
Cables	Use lubricating apparatus	
Steering-head bearing 27	see p. 3	
Rear chain 19	see p. 3	**Chain grease**
Contact breaker lubricating pad 28	see p. 3	**Hot bearing grease: pour point 150—160° C (300—320° F)**
Sludge traps on crankshaft 22	clean: see p. 3	

***Do not add any graphite compound to the lubricating oil.**
Centrifugal force will cause an additive of this type to become lodged in the sludge traps on the crankshaft, and will in time block the oil passages to the crank pin, thereby interrupting the flow of oil to the connecting rod.



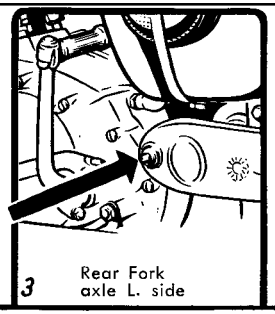
1 R. Swinging link & Front fork spring bearing

Every 300 miles



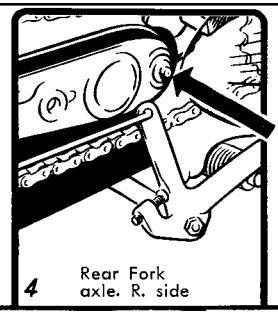
2 L. Swinging link & Front fork spring bearing

Every 300 miles



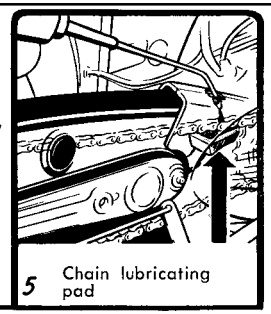
3 Rear Fork axle L. side

Every 300 miles



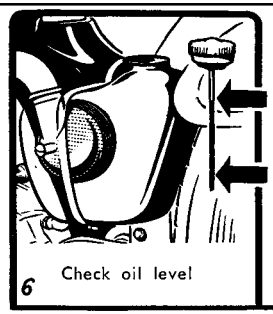
4 Rear Fork axle. R. side

Every 300 miles



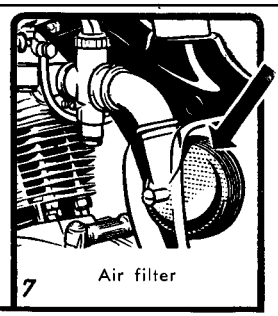
5 Chain lubricating pad

Every 300 miles



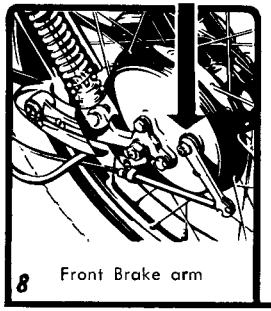
6 Check oil level

Every 600 miles



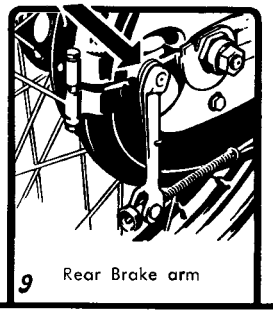
7 Air filter

Every 600 miles



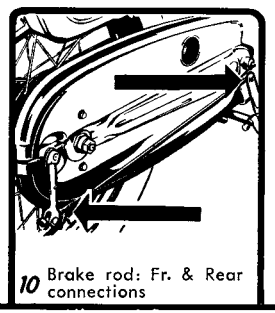
8 Front Brake arm

Every 600 miles



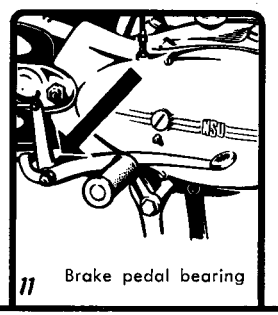
9 Rear Brake arm

Every 600 miles



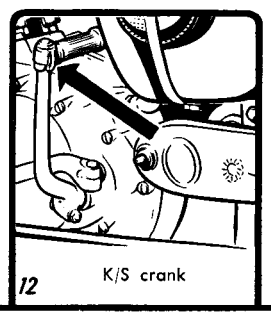
10 Brake rod: Fr. & Rear connections

Every 600 miles



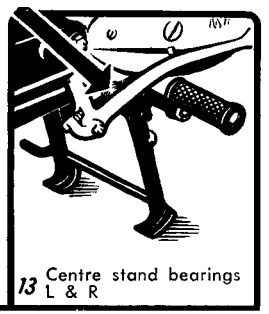
11 Brake pedal bearing

Every 600 miles



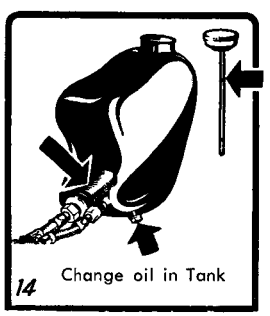
12 K/S crank

Every 600 miles



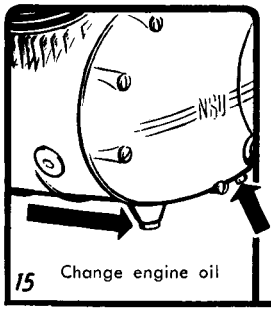
13 Centre stand bearings L & R

Every 600 miles



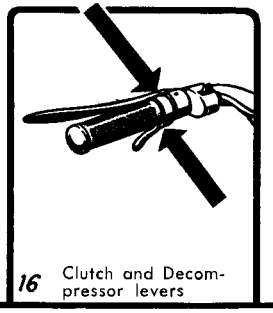
14 Change oil in Tank

Every 1200 miles



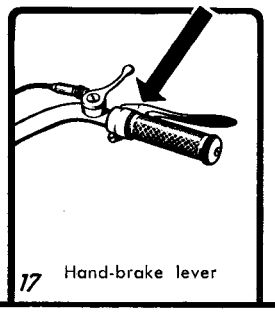
15 Change engine oil

Every 1200 miles



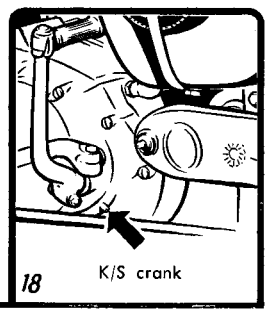
16 Clutch and Decompressor levers

Every 1200 miles



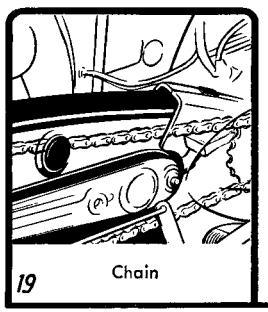
17 Hand-brake lever

Every 1200 miles



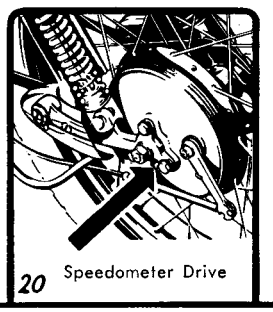
18 K/S crank

Every 1200 miles



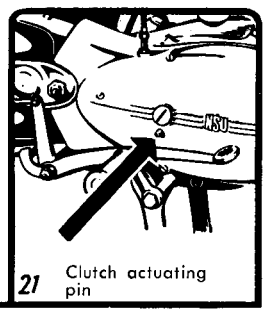
19 Chain

Every 2500 miles



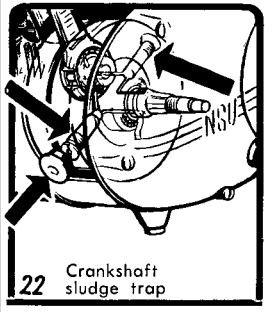
20 Speedometer Drive

Every 2500 miles



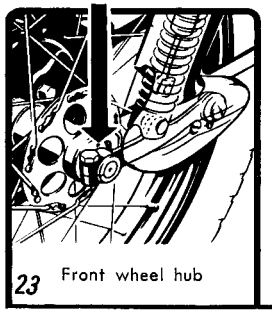
21 Clutch actuating pin

Every 2500 miles



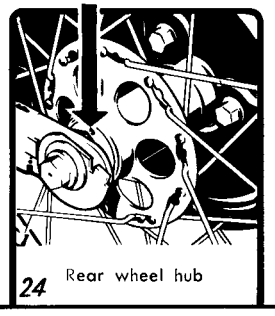
22 Crankshaft sludge trap

Every 2500 miles



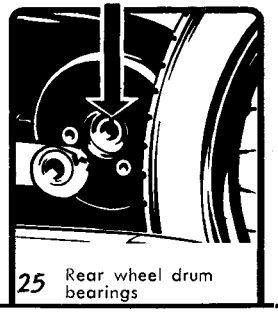
23 Front wheel hub

Every 5000 miles



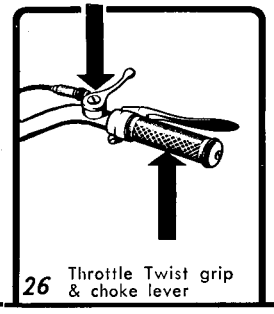
24 Rear wheel hub

Every 5000 miles



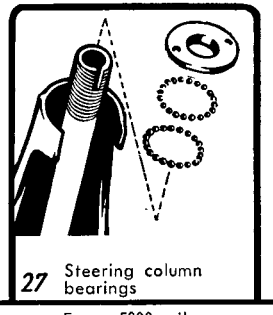
25 Rear wheel drum bearings

Every 5000 miles



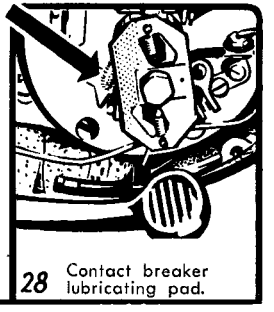
26 Throttle Twist grip & choke lever

Every 5000 miles



27 Steering column bearings

Every 5000 miles



28 Contact breaker lubricating pad.

Every 5000 miles

Lubrication

Clean all grease points or nipples before lubricating. During bad weather grease the running gear and control linkages (front and rear forks, front fork bearings, brake linkage, and the kickstarter spindle) more frequently than specified. If a squeak develops, grease **at once!**

Rear fork. Force in grease until it emerges from the bearings on either side.

Felt pad for lubricating chain. After removing the rubber plug on the top of the chaincase, soak this thoroughly in oil.

Checking oil level. Allow the engine to idle until the oil level in the tank remains constant. Then stop the engine and at once top up with oil to the level of the upper mark on the dipstick and **no higher.** The oil level must not be allowed to fall below the level of the lower mark on the dipstick. Wipe the dipstick with a dry rag before making the measurements.

Air filter. After removing the cover lift out the filter element and wash it thoroughly in petrol. Blow through with compressed air, and then dip it in thin oil. Allow the surplus oil to drip off. If necessary clean before the specified mileage has been covered.

Oil change. On the **oil tank** remove the filler plug (with dipstick) when the engine is warm, and also the drain plug. Allow all the used oil to drain off. Then unscrew the gauze filter.

On the **engine** remove the drain plugs on the bottom of the crankcase and on the left-hand crankcase cover. Allow all the used oil to drain off, leaning the machine over to the left to make sure that the crankcase cover is completely emptied. Clean the three drain plugs with petrol, and also the gauze filter, with which particular care should be taken; then replace them on the engine and oil tank.

Pour 1 litre (1 3/4 pints) of SAE 20 engine oil into the oil tank. Run the engine in neutral for a few minutes, and look into the tank to make sure the oil is being circulated properly. Drain off this oil completely as described above, and pour in 1 litre (1 3/4 pints) of fresh engine oil. **Allow the engine to run until the oil level in the tank remains constant, and then at once top up with fresh oil to the level of the upper mark on the dipstick, and not higher. Oil capacity 2 litres (3 1/2 pints).**

Driving chain. The condition and tension of the chain is checked by viewing it through the inspection port on the chaincase. The chaincase can be removed if the two front and the three rear bolts are unscrewed. Then remove the flat spring on the chain and undo the spring link. When the chain has been removed, wash it thoroughly in petrol or paraffin, using a brush, bending each link in turn to make sure that all the dirt is removed. Rinse the chain through in petrol or paraffin, and then lay it in heated chain grease and move it to and fro. When the grease has partly cooled remove the chain and allow any surplus grease to drip off. The spring on the spring link should be attached in such a way that its closed end points in the direction of motion of the chain.

Front and rear hubs. Remove the wheels. Unscrew the locking ring. In the case of a full-width hub withdraw the bearing bush. Remove all traces of old grease and pack with fresh grease.

Brake-drum bearings on rear wheel. Remove the wheel. Remove the chaincase and the driving chain. Unscrew the cap nut on the end of the forks, and remove the bearing bush and cover plate, or, in the case of full-width hubs, the bearing bush, from the brake drum. Remove all traces of old grease, and pack with fresh grease.

Sludge traps on crankshaft. Unscrew the plug on the front of the crankcase. Turn the crankshaft by means of the kickstarter until it is in the correct position, and unscrew both sludge traps. Clean these out thoroughly in petrol, and replace them; lock them in place by means of a centre-punch. Don't forget the plug and washer on the crankcase.

Steering-head Bearings. After removing the steering-head damper, the handlebar mounting, and the aligning nut together with the upper race, clean all the components of both the upper and lower bearings, and repack in fresh grease.

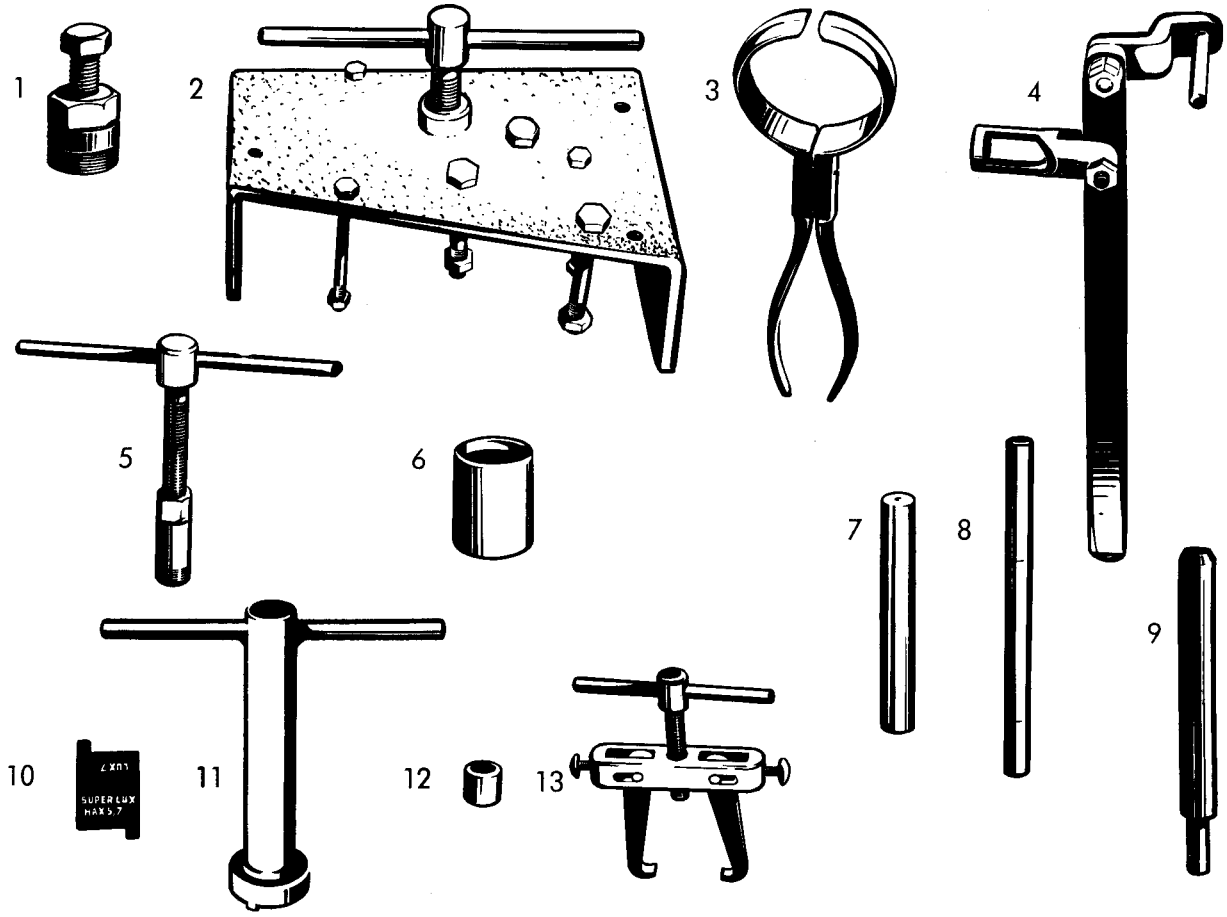
Lubricating pad on contact breaker. Spread a layer of the specified grease to a thickness of 1 mm (0.04 in) on the pad and rub it in.

The standard times are calculated for work carried out on vehicles with standard equipment. The time required for any cleaning that may be necessary is **not** included.

		Time for task (hrs)	Additional work repuired	**Total time** (hrs)
Engine				
M 01	Remove engine from frame and replace (with test run on bench)	1½	———	1½
M 02	Dismantle and assemble engine (with necessary adjustments)	11¼	M 01	12¾
M 04	Remove and fit cylinder head	2½	M 01	4
M 05	Strip and assemble cylinder head	½	M 01, M 04	4½
M 06	Adjust tappets	½	———	½
M 07	Grind in valves, true up valve seats	¾	M 01, M 04 M 05, M 06	5¾
M 08	Remove and fit camshaft housing	1¼	———	1¼
M 09	Strip and assemble camshaft housing	½	M 08	1¾
M 10	Remove and fit cylinder and piston	1	M 01, M 04	5
M 11	Decarbonise cylinder head and exhaust system	½	M 01, M 04	4½
M 12	Remove and fit gudgeon pin (including reaming)	¼	M 01, M 04, M 10	5¼
M 15	Remove and fit clutch	1½	———	1½
M 16	Remove and fit left-hand crankcase cover	1	M 15	2½
M 17	Remove and fit radial seal for clutch	¼	M 15, M 16	2¾
M 18	Remove and fit starter spring	¼	M 15, M 16	2¾
M 19	Remove and fit compression spring for kickstarter pawl	¼	M 15, M 16	2¾
M 21	Remove and fit chain sprocket (on engine)	¼	M 50	½
M 22	Remove and fit radial seal on chain-sprocket nut	¼	M 50	½
M 25	Remove and fit rear chain	¼	M 50	½
M 30	Fit replacement crankshaft or replace bearings and bed in	¼	M 01, M 02	13
M 31	Remove and fit crankcase	¼	M 01, M 02	13
M 35	Remove and fit gearbox and gearchange mechanism		M 01, M 02	12¾
M 36	Remove and fit gearbox mainshaft bearings and bushes	¼	M 01, M 02	13
M 37	Adjust gearchange mechanism by means of eccentric pin	¼	———	¼
M 40	Remove and fit eccentric rod valve gear	½	M 01, M 04, M 08, M 10, M 15, M 16 M 18, M 41,	9¼
M 41	Remove and fit bearing plate	¼	M 15, M 16	2¾
M 42	Remove and fit seal for left-hand crankshaft stub in bearing plate	¼	M 15, M 16, M 41,	3
M 45	Remove and fit oil pump	¼	M 15, M 16, M 41,	3
M 46	Strip and assemble oil pump	¼	M 15, M 16, M 41, M 45	3¼
M 47	Change oil; clean oil filter gauze and sludge traps	½	———	½
M 48	Remove and fit oil pipes	¼	———	¼
M 50	Remove and fit right-hand crankcase cover	¼	———	¼
Ignition system and dynamo				
Z 01	Adjust ignition timing	¼	M 50	½
Z 02	Remove and fit dynamo; adjust	½	M 50	¾
Z 03	Remove and fit contact-breaker points; adjust	¼	M 50	½
Z 04	Remove and fit condenser; check	¼	M 50	½
Z 05	Remove and fit ignition coil; check	¼	M 50	½
Z 06	Remove and fit ignition leads	¼	M 50	½
Z 07	Remove and fit regulator; check	½	M 50	¾

		Time for task (hrs)	Additional work repuired	**Total time** (hrs)
Carburettor				
V 01	Remove and fit air filter; clean	¼	———	¼
V 02	Remove and fit carburetter; clean and adjust	¼	V 01	½
Wheels, brakes, and forks				
F 01	Remove and fit front wheel	¼	———	¼
F 02	Remove and fit rear wheel	¼	———	¼
F 03	Remove and fit ball bearings and seals in hub	½	F 01 or F 02	¾
F 04	**Standard:** Remove and fit front brake drum	¼	F 01	½
F 05	**Standard:** Remove and fit rear brake drum	¼	F 02, F 64, M 25	1
F 06	**Standard:** Strip and assemble front brake drum	¼	F 01, F 04	¾
F 07	**Standard:** Strip and assemble rear brake drum and shock absorber	¼	F 02, F 05, F 64, M 25	1¼
	Special:	¼	F 02, F 64, M 25	1
F 08	**Standard:** Renew brake linings (each brake), strip and assemble brake shoes	¾	F 01, F 04 **or** F 02, F 05, F 64, M 25	1¼ 1¾
	Special:	¾	F 01 or F 02	1
F 09	**Standard:** Remove and fit speedometer drive	¼	F 01, F 04	¾
	Special:		F 01	¼
F 20	Remove and fit front forks	1¾	F 01	2
F 21	Remove and fit bearing shells, races, and balls	1	F 01, F 20	3
F 22	Remove and fit front fork springs	½	F 01, F 04	1
F 23	Remove and fit telescopic shock absorbers	¼	F 02, F 04, F 22	1¼
F 24	Remove and fit pivoted links (left-hand and right-hand)	¾	F 01, F 04	1¼
F 25	Replace bushes in pivoted links	½	F 01, F 04, F 24	1¾
F 26	Remove and fit front mudguard	½	F 01	¾
Controls and Bowden Cables				
F 40	Remove and fit handlebars (with fittings)	½	———	½
F 41	Remove and fit handlebar bend	½	F 40, F 44, F 45, F 47	1½
F 42	Remove and fit speedometer	¼	———	¼
F 43	Remove and fit flexible shaft	¼	———	¼
F 44	Remove and fit control levers	¼	———	¼
F 45	Remove and fit throttle twistgrip	¼	———	¼
F 47	Remove and fit fixed grip or rubber grip on twistgrip	¼	———	¼
F 48	Remove and fit slider in twistgrip	¼	F 45	½
F 50	Remove and fit clutch cable	¼	M 50	½
F 51	Remove and fit hand-brake cable	¼	———	¼
F 52	Remove and fit valve-lifter cable	¼	———	¼
F 53	Remove and fit throttle cable	¼	F 45	½
F 55	Remove and fit air control cable	¼	———	¼

		Time for task (hrs)	Additional work required	**Total time** (hrs)
Frame				
F 60	Remove and fit frame, front part	¼	M 01, F 01, F 02, F 20, F 40, F 61, F 62, F 63, F 64, F 65, F 70, F 72, F 74, F 80, F 83	9¾
F 61	Remove and fit frame, rear part	1¼	F 02, F 05, F 65, F 70, F 83	3
	(additional when replacing)		F 76, E 15, E 16	¾
F 62	Remove and fit rear mudguard	¼	E 09	½
F 63	Remove and fit rear forks	1½	F 02, F 05, F 61, F 64	3½
F 64	Remove and fit chaincase	¼	———	¼
F 65	Remove and fit rear springing	½	F 02, F 05, F 61, F 63, F 64, F 83	4½
F 70	Remove and fit exhaust system	¼	———	¼
F 72	Remove and fit pivoted saddle (and springs)	¼	———	¼
F 74	Remove and fit centre stand (with return springs)	¼	———	¼
F 75	Remove and fit luggage carrier	¼	———	¼
F 76	Remove and fit tool box	¼	———	¼
F 80	Remove and fit petrol tank	¼	F 72	½
F 81	Remove and fit knee grips	¼	———	¼
F 82	Remove and fit fuel tap	¼	———	¼
F 83	Remove and fit oil tank	½	———	½
Electrical Installation				
E 01	Horn lead	Remove and fit cable harness: ¼	M 50, F 72, F 80, F 02	2¼
E 02	Rear-light lead			
E 03	Battery lead			
E 04	Lighting lead			
E 05	Remove and fit dipper lead	¼	E 10	½
E 08	Remove and fit horn	¼	———	¼
E 09	Remove and fit rear light	¼	———	¼
E 10	Remove and fit dipper switch	¼	———	¼
E 12	Remove and fit headlamp glass and reflector	¼	———	¼
E 13	Remove and fit headlamp	¾	———	¾
E 15	Remove and fit battery	¼	———	¼
E 16	Remove and fit battery box	¼	E 15	½
Care and Maintenance				
W 01	Grease machine	¼	———	¼



One set of special Tools for the Max Comprises:

Fig. No. 1	1 Extractor for clutch drum	938 103 647
Fig. No. 2	1 Jig for withdrawing and fitting bearing plates and crankshaft	088 891 900
Fig. No. 3	1 pair Piston-ring pliers	088 891 901
Fig. No. 4	1 Jig for removing and fitting valves	088 891 902
Fig. No. 5	1 Extractor for needle-bearing bushes	088 891 903
Fig. No. 6	1 Assembly bush for seal on clutch pinion	088 891 904
Fig. No. 7	1 Inspection spindle for connecting rod	088 891 906
Fig. No. 8	1 Checking mandril, for camshaft housing	088 891 907
Fig. No. 9	1 Gudgeon pin extractor	088 891 908
Fig. No. 10	1 Gauge for clutch	088 891 911
Fig. No. 11	1 Key for spring holder — Rear Spring (Max from vehicle No. 1 248 495 / 748 605).	078 791 905
Fig. No. 12	1 Spacer bush for withdrawing driving pinion	088 891 914
Fig. No. 13	1 Withdrawing tool for driving pinion	088 891 917

These tools are supplied only in complete sets, the number for which is **088 891 910.**

On the next page there are descriptions of other special tools, some of which had previously been developed for other types of machine, but which are also necessary **for carrying out repairs to the Max properly and efficiently.**

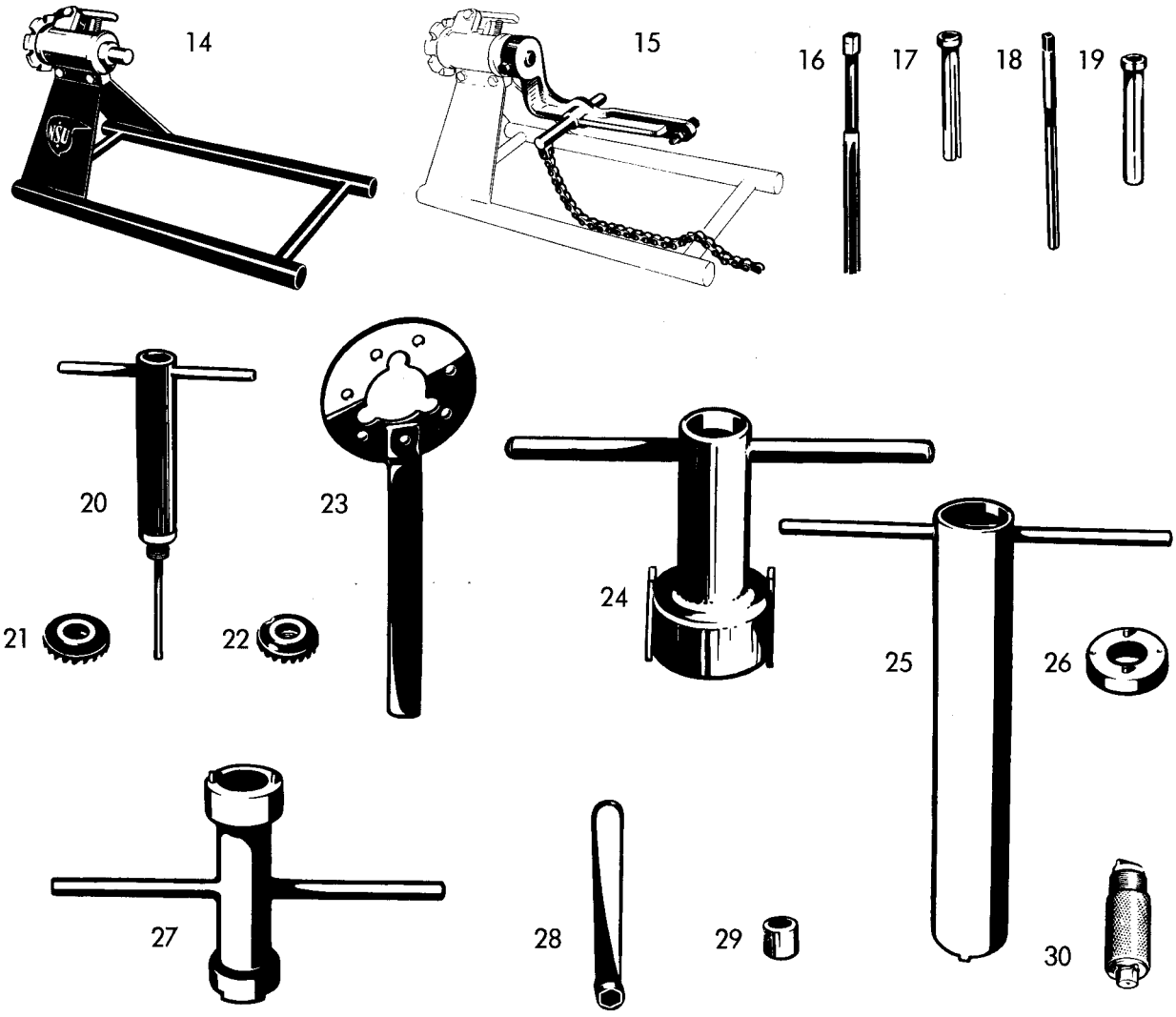


Fig. No. 14	1	Assembly stand, jig	All	048 422 000
Fig. No. 15	1	Clamping attachment (less chain)	Max/Lux	078 791 900
Fig. No. 16	1	Reamer, 8.00 mm dia., for inlet valve guide	Max	088 891 912
Fig. No. 17	1	Guide bush, 6.5x8.00 mm dia. for inlet valve guide	Max	088 891 915
Fig. No. 18	1	Reamer, 9.00 mm dia., for exhaust valve guide	Max/Konsul	128 110 345
Fig. No. 19	1	Guide bush, 6.5x8.98 mm dia., for exhaust valve guide	Max/Konsul	088 891 916
Fig. No. 20	1	Standard holder for valve seat cutters	Fox 4-stroke	048 422 020
Fig. No. 21	1	Valve seat cutter	Konsul	128 110 341
Fig. No. 22	1	Spherical cutter	Max	088 891 924
Fig. No. 23	1	Holder for clutch	Quick/Lux/Max	018 103 567
Fig. No. 24	1	Box spanner for spring holder (up to vehicle No. 1 248 494 / 748 604)	Lux/Max	088 891 913
Fig. No. 25	1	Box spanner for front fork springs	Lux/Max	078 791 901
Fig. No. 26	1	Extension ring for steering-head taper	Lux/Max	078 791 902
Fig. No. 27	1	Box spanner for steering-head taper	Fox	048 422 003
Fig. No. 28	1	Special spanner	Fox	048 422 015
Fig. No. 29	1	Bush for forcing on driving pinion	Super-Lux/Max	088 891 921
Fig. No. 30	1	Key for sludge traps	Max	088 891 918

Supplement

to Max repair Manual, May 1956 Edition

(Repairs on **"Supermax" Models from No. 1 830 801 / 3 224 062 onwards** differing from the normal repair work on "Max" models)

Additif

à l'Instruction de Réparation des Modèles MAX, édition du Mai 1956

(c. a. d. réparations à exécuter à la **SUPERMAX,** à partir du **No: 1 830 801 / 3 224 062,** dérivant des autres travaux aux modèles MAX.)

AANVULLING

tot de MAX-WERKPLAATSHANDLEIDING, uitgave Mei 1956

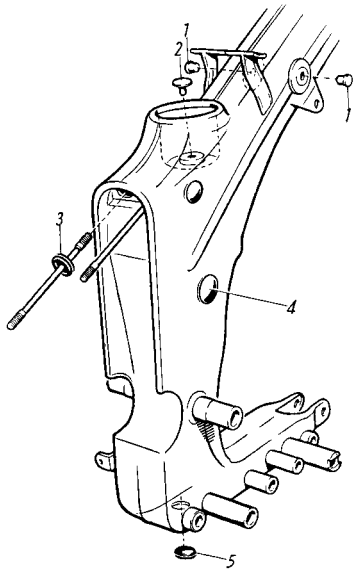
(Reparaties, die voor de **SUPERMAX** af **No. 1 830 801 / 3 224 062** anders zijn dan voor de vroegere MAX-typen).

NSU WERKE AKTIENGESELLSCHAFT, NECKARSULM

1. Carburetter . . . . . Bing Type 2/26/55; Main jet 100; Needle jet 2.66; Slow-running jet 50; Needle position: - 2; Mixing chamber insert 5; Pilot air screw 1½ turns open.

2. Oil tank . . . . . The oil should be changed every 1200 miles (2000 km). When doing this, besides cleaning the antechamber in the oil tank, unscrew the gauze filter and clean. (Do not attempt to flush the ultra-fine filter; this component should be changed every 3700 miles (6000 km). Unless these precautions are observed, damage to the engine and expensive repairs may result.

3. Engine performance . . . . . The entire air intake system through the frame has been thoroughly sealed at the Works, except for the two air intakes in the right and left hand sides of the frame, underneath the fuel tank. Unless this sealing is preserved, rough running and poor engine performance will be experienced.

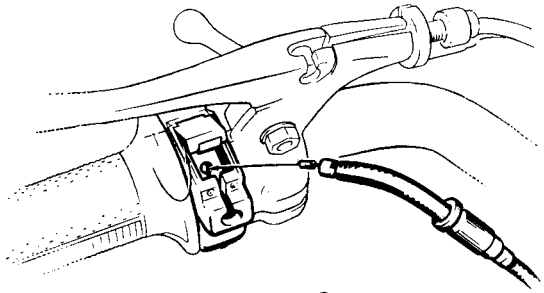


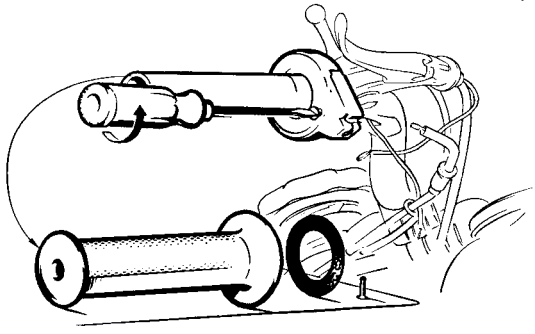
a) When fitting a dualseat, block both saddle bearing bushes with rubber plugs (1) Part No. 085 851 012. The rubber sealing plug (2) Part. No. 083 831 110 should be removed so that the dualseat can be screwed into position. (M 10 thread).

b) When fitting a frame rear part to the machine, the two necked-down bolts in the frame front part should be sealed with two rubber grommets (3) Part. No. 083 831 066.

c) The machining hole on the right-hand side of the frame front part should be sealed by means of a sealing cap (4) Part No. 073 731 055.

d) The outlet hole in the bottom of the frame front part should be sealed by means of a rubber cap (5) Part No. 083 831 104.

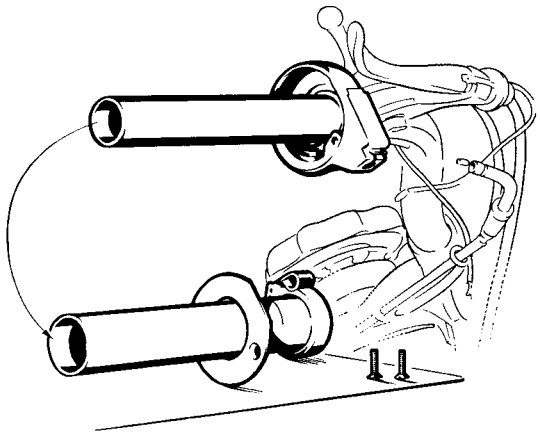




4. Frame

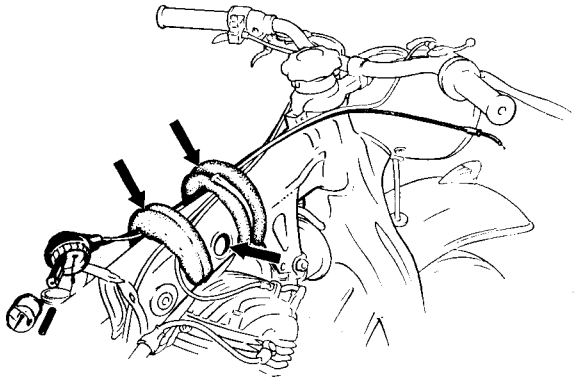
Throttle twistgrip. Removal and fitting (F 45).

1. Open the hinged cover on the twistgrip housing with a small screwdriver. Close the twistgrip. Pull the cable support out of the twistgrip housing, disengaging the cable nipple in the process. Slightly lift the inner end of the rubber grip with a small screwdriver and pour in a few drops of petrol. Withdraw the grip with a twist-



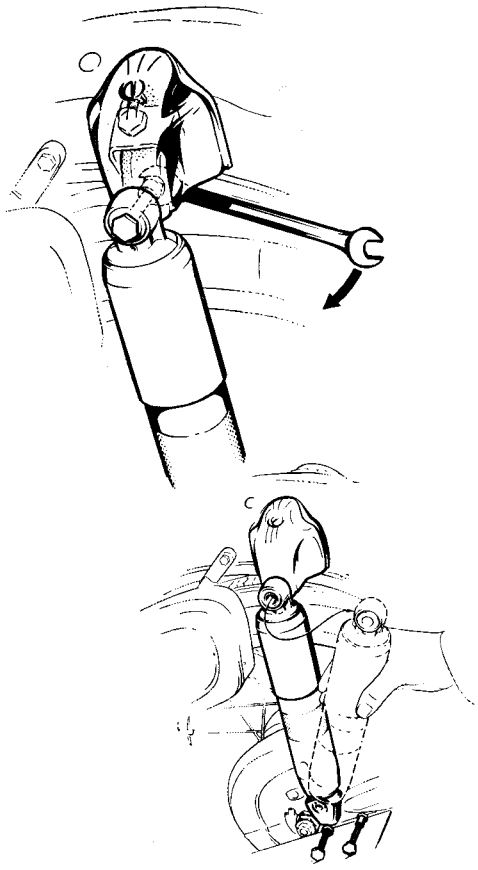
ing motion. Remove the thrust washer, unscrew the two countersunk screws and remove the twistgrip together with its cover.

2. Assemble in the reverse order. To replace the grip, wet both barrel and rubber grip with petrol and push the grip on with a **quick twisting motion.**



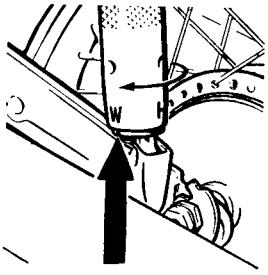
Throttle cable. Removal and fitting (F 53).

1. Pivoted saddle and spring. Removal and fitting (F 72).
   Petrol tank. Removal and fitting (F 80).
   Disconnect throttle cable from the twistgrip (see F 45). Roll the rubber cover off the carburetter. Unscrew the carburetter cap and disengage the control cable nipple from the throttle slide. Remove the throttle slide and spring. Bend the control cable clip up with a screwdriver and withdraw the cable.
2. Assemble in the reverse order. Fit the throttle slide to the carburetter and **only then** re-connect the cable nipple to the twistgrip.
   Important Note: Before fitting the petrol tank, make quite sure that **the two induction air intakes in the frame are not obstructed by the rubber petrol tank supporting pads,** as this would give rise to poor engine performance and high fuel consumption.
   The saddle (F 72) and the petrol tank (F 80) have to be taken off when removing or fitting any of the following control cables:
   Clutch cable (F 50)
   Valve lifter control cable (F 52)
   Air control cable (F 55)

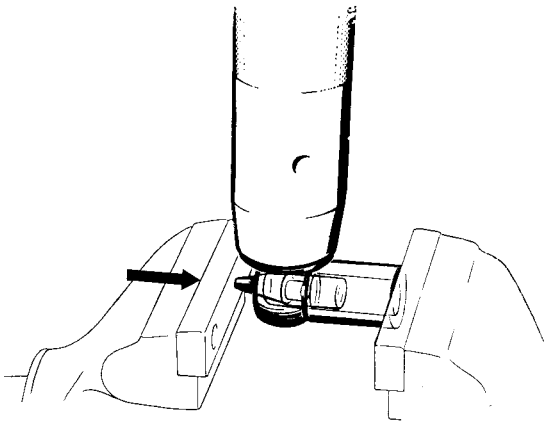


Rear springing. Removal and fitting (F 65).

1. Set both suspension units to "W" ("soft"). Undo the shouldered nut (14 mm across flats) on the inside of the top mounting lug and screw the bolt out (17 mm across flats). Undo the nut (17 mm across flats) on the inside of the bottom mounting and screw the bolt out (17 mm across flats). Push the suspension units out sideways and lift them off their bottom mountings.

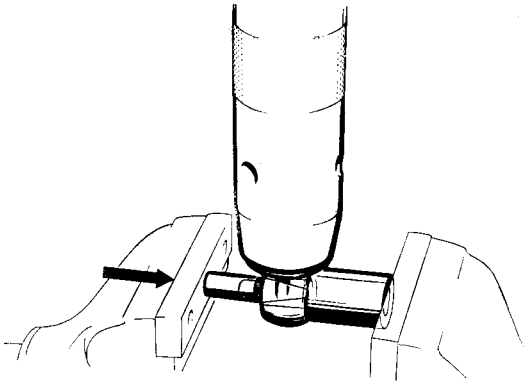


2. Reassemble in the reverse order, making sure that the little cast-in arrow on the lower pivot head is pointing outwards.

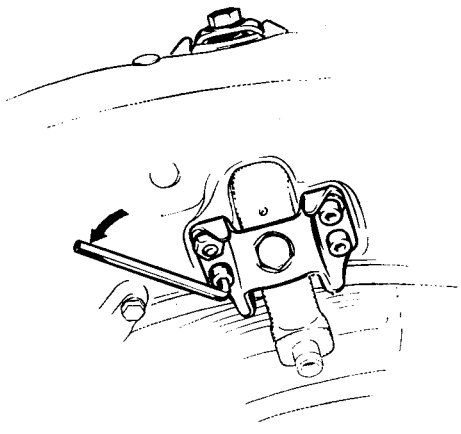


Rear suspension unit pivot head rubber buffers and bushes. Removal and fitting (F 66).

1. Suspension units. Removal and fitting (F 65).
2. Force the top pivot head bush out with a short length of tubing (3/4" i. d. (19 mm) and a tapered mandrel (43/64" o. d. (17 mm), using a vice to apply the required pressure, and remove the rubber buffer. Repeat the procedure on the lower pivot head, using 15/64" i. d. (16 mm) tubing and a 35/64" o. d. (14 mm) tapered mandrel. A **special tool set** (2 tubes and 2 mandrels), Part No. 088 891 927, is required for these operations.

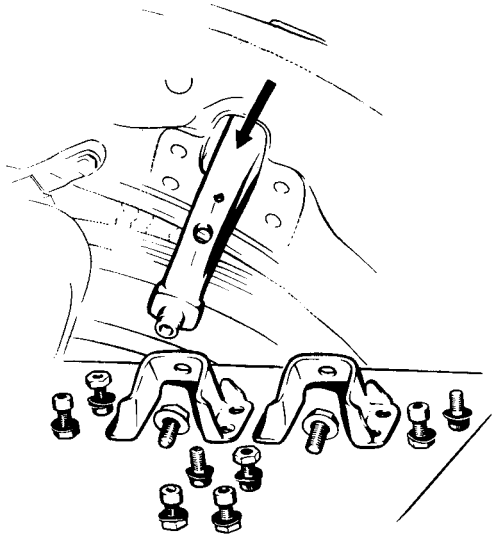


3. Assembly: Press or drive a new rubber buffer into the pivot head. Coat a new bush with oil and press it into position between the jaws of a vice, making sure that it projects by the same amount from either side of the rubber buffer.



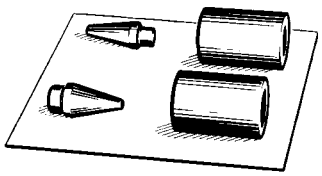
Suspension unit top mounting. Removal and fitting (F 67).

1. Rear suspension units. Removal and fitting (F 65). Remove the countersunk screw on the left-hand cover and remove both cover and moulding strip. Repeat on the right-hand side. Remove the 2 hexagon screws (17 mm across flats) and spring washers on the top side of the suspension unit mounting. Remove all the remaining nuts (14 mm across flats) and spring washers,



as well as the two Allen screws. Remove both mountings and lift the carrier bracket out sideways.

2. Assemble in the reverse order. Thoroughly tighten all screws and nuts.



5. Special Tools

1. Special tool set for fitting and removing rear suspension unit pivot head rubber buffers and bushes, Part No. 088 891 927 (4 parts to the set!)

6. Standard Job Times for Repair Tasks

	Time for task (hrs.)	Additional work required	Total time (hrs.)
	Temps unitaire (heures)	Travaux additifs nécessaires	Temps total (heures)
	Tijd uren	benodigde extrawerkzaamheden	Totaal tijd
Controls and Bowden Cables			
F 45 Remove and fit throttle twistgrip	1/4	—	1/4
F 50 Remove and fit clutch cable	1/4	F 72, F 80	3/4
F 52 Remove and fit valve-lifter cable	1/4	F 72, F 80	3/4
F 53 Remove and fit throttle cable	1/4	F 72, F 80	3/4
F 55 Remove and fit air control cable	1/4	F 72, F 80	3/4
Frame			
F 65 Remove and fit rear springing - suspension units	1/2	—	1/2
F 66 Remove and fit rear suspension unit pivot head bushes and rubber buffers	1/2	F 65	1
F 67 Remove and fit suspension unit top mountings	1/2	F 65	1