

64 of Pint
2012 = 2902 / X PINT SAE 50

**SETTING-UP INSTRUCTIONS
MAINTENANCE MANUAL
REPAIR INSTRUCTIONS AND PARTS LIST FOR**

ALLSTATE

25 = 16
25X = 16
25
64%
25/16
150
100

P = 19
S = 4
L = 8

SPORT MOPED

MODELS NUMBER 810.94060 and 810.94069

This is the Model Number of your Allstate Sport Moped. It will be found on a plate fastened to the steering head. Always mention this number when communicating with us regarding the Sport Moped, or when ordering parts.

HOW TO ORDER REPAIR PARTS

All parts listed herein may be ordered through Sears, Roebuck and Co. or Simpsons-Sears Limited. When ordering parts by mail from the mail order house which serves the territory in which you live, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS: ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST.

1. The PART NUMBER
2. The PART NAME
3. The MODEL and SERIAL NUMBER
4. The NAME of item

This list is valuable. It will assure your being able to obtain proper parts service at all times. We suggest that you keep it with your other valuable papers.

**SEARS, ROEBUCK AND CO. U.S.A.
SIMPSONS-SEARS, LTD. CANADA**

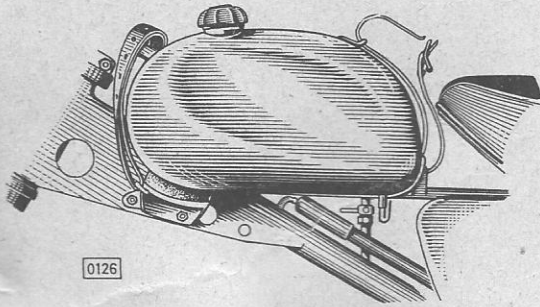
SETTING-UP INSTRUCTIONS

Instructions for unpacking, assembling and final operations. Carefully follow the procedure explained below to get your "Allstate 60 ccm Sport" ready to start:

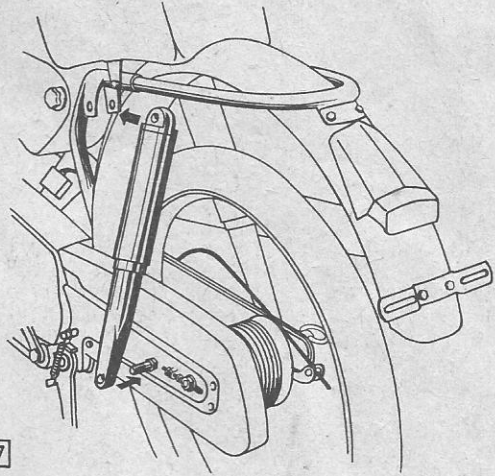
1. Undo the package and unpack the vehicle. The front wheel, the front mudguard and the linch pin will be found loose within the packing. The fuel tank will be found tied to the front fork. The suspension units are fixed to the rear mudguard support. The tail light is packed loose with the rear mudguard. The handlebar is tied to the right-hand side of the frame tube.
2. Prop up the vehicle and fit the front wheel contained in the packing. Install tubular brake stop of the right-hand side sliding tube in its recess in the brake plate. Fit linch pin (washer at the right). Fit the nut and tighten by means of the spark plug wrench. Then tighten the two binding screws on the fork tube.
3. Fasten the front mudguard to the mudguard supports by means of the four screws.
4. Fasten the handlebar to the top fork lug by means of four screws.
5. Fix the clutch control cable to the clutch lever by means of the nipple (operate the declutching lever at the crankcase).
6. Fix brake cable and speedometer cable to front brake plate.
7. Pull the necessary length of the cable connecting the head-lamp switch with the headlamp into the headlamp.
8. Put the fuel tank into the felt pads provided for it on the tube frame and lash it by means of the two straps. Then put on the fuel hose connecting the tank with the carburettor.
9. Before their final fixing, unscrew the rear suspension units at their top end fastening, put them into their fastening bolts (bottom end) and screw them by means of cap nuts (bottom ends) and screws (top ends).
10. The two footrests are mounted upside down and must be turned.
11. Screw on tail light end tail light support.

Help the "Allstate" 60 ccm Sport to work for you efficiently! We trust it will offer you great satisfaction.

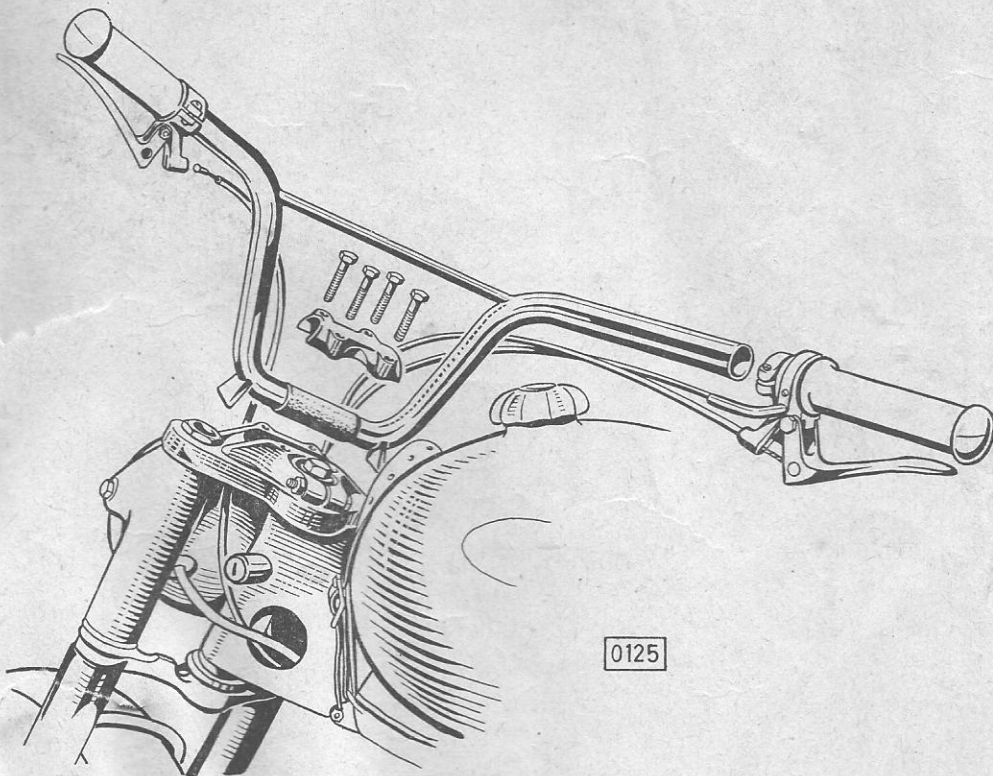
USE ORIGINAL SPARE PARTS ONLY !



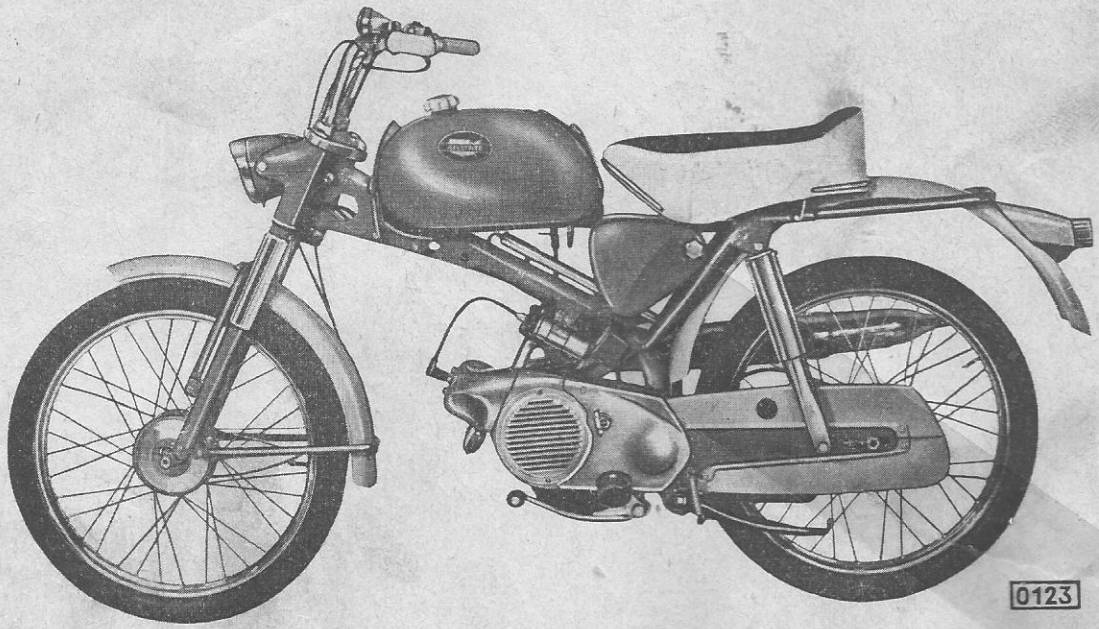
0126



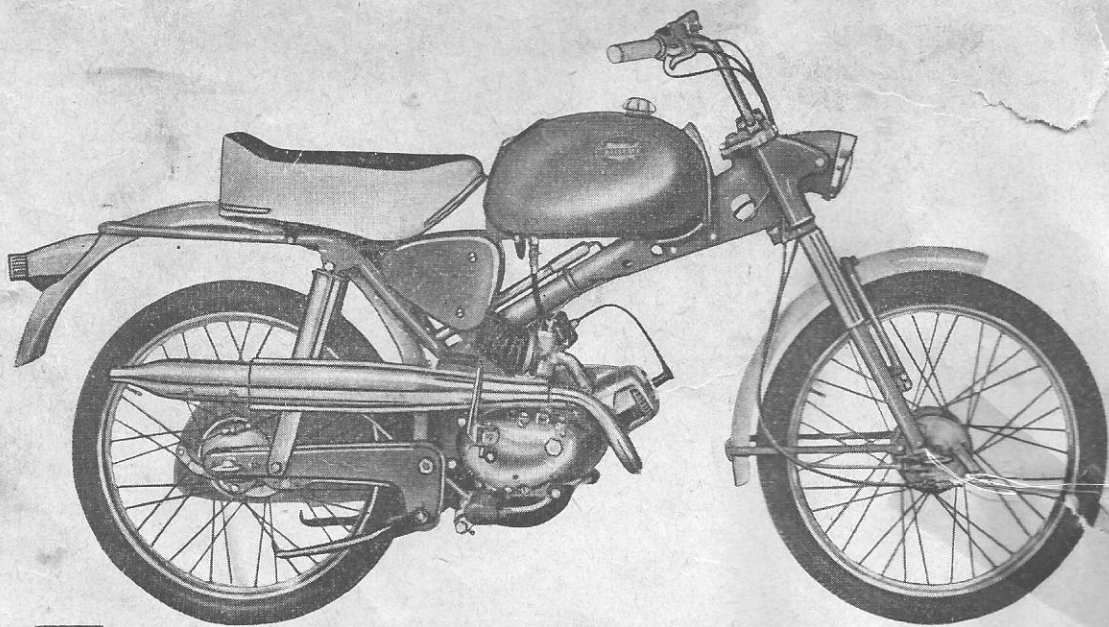
0127



0125



MODEL 810.94060
MODEL 810.94069



OPERATING AND MAINTENANCE MANUAL

are glad to learn that you have become owner of a

ALLSTATE 60 ccm SPORT

We can only compensate your confidence in our product by offering you all the experience gathered in half a century of bicycle and motorcycle production.

In spite of the graceful appearance the Allstate 60 ccm Sport is just as rigid and reliable as the world-famous Allstate motorcycles.

Riding this motorcycle is a child's play: on you get and off you go! Nevertheless, we must ask you to read this booklet first of all, so you know to handle your new motorcycle to ensure long years of faithful service. We won't keep you long. We just want to tell you the most important things about your motorcycle in brief. You yourself will reap the benefit.

TECHNICAL DATA

Engine

Puch two-stroke single-piston engine with reverse scavenging, air cooling by radial blower, intake silencer, kickstarter.

Bore: 42 mm (1.65 in.).

Stroke: 43 mm (1.7 in.).

Piston displacement: 59,6 cc (3.6 cu. in.).

Compression ratio 1:10, Spark advance 1 mm.

Lubrication

Engine lubrication by adding oil to the fuel (ratio 1:25, i. e. 4%).

Spark plug

Champion L/5.

Carburettor

with automatic starting device, air filter and intake silencer.

Power transmission

From engine via disk clutch to gear box by helical gears. Three-speed gear to rear wheel: roller chain 12.7 × 5.21 × 8.5 mm (0.499 in. × 0.205 in. × 0.334 in.).

Gearbox

The change-speed gear is of the dog-clutch type with three speeds and a kickstarter. Footoperated gear shift with automatic control mechanism. Three-disc-clutch in oil. Gearbox lubrication by filling oil into gearbox. Oil quantity required: 350 cc (21.37 cu. in.).

Gearings

Engine-gear	69 : 19	i=3.63	
1st speed	40 : 11	i=3.6	i total=34.11
2nd speed	34 : 17	i=2.0	i total=18.76
3rd speed	24 : 20	i=1.25	i total=11.25
Rear wheel reduction	31 : 12	i=2.75	

Electrical installation

Bosch flywheel magdyno 6 V 28 W with 18 W tail light and exterior sparking coil (primary sparking coil).

Headlamp: light outlet 120 mm ϕ (4.72 in. dia.), Bilux bulb 6.4 V 25/25 W.

Stop and tail light: Bilux bulb 6 V 18/3 W.

Chassis

Light robust tubular frame with pressed sheet steel underguard to protect the engine against stone chips. Elastic fuel tank suspension and foot rests.

Springing

Front: Telescopic fork with hydraulic shock absorption.

Springing travel: 90 mm.

Rear: Pivoted fork with hydraulic telescopic suspension units.

Springing travel: 90 mm.

Wheels

Front and rear wheel fitted with full width hub and internal acting brake, 105 mm (4.13 in.) dia., width 25 mm (0.98 in.), operated by brake pedal on r. h. side. Linchpins front and rear.

Tyres

Tyre size: 23—2.25" Grip S 19".

Capacities:

Fuel tank: 8.5 l gasoline-oil mixture 1:25 (i. e. 4%), reserve included.

Gearbox: 350 c. c. motor oil SAE 40—50.

Telescopic fork: 100. c. c. motor oil SAE 40—50 for right and left part of fork respectively.

Rear suspension units: 65 c. c. shock absorber oil each.

Saddle

Bench seat.

Equipment

Closed chain case, speedometer, cylinder-mortise lock as steering lock, center stand, klaxon, tool kit.

Performance and consumption.

Max. engine performance 4.5. Top speed 75 km/h approx.

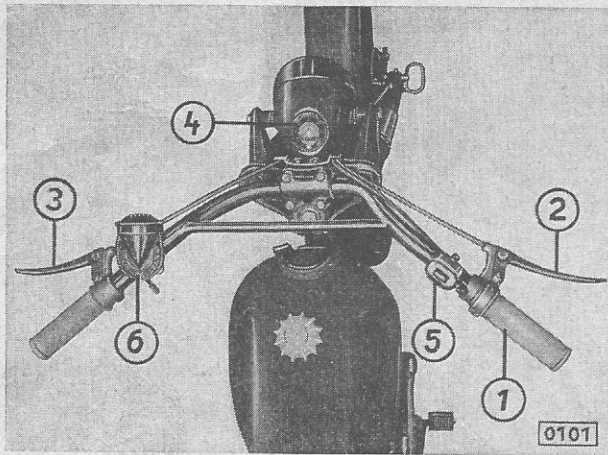


Fig. 1: Handlebar and controls:

- | | |
|------------------------|--------------------|
| 1 throttle twist grip | 2 hand brake lever |
| 3 clutch control lever | 4 speedometer |
| 5 electrical switch | 6 klaxon |

Consumption

2.2 litres per 100 km at 52.5 km/h=107miles to one U. S. gal. at 33 m. p. h. or 128 miles to one Imp. gal. at 33 m. p. h.

Hill climbing ability

1st speed 33%, 2nd speed 17%, 3rd speed 6%.

Dimensions

Wheel base 1200 mm, overall length 1980 mm, overall height 980 mm, max. width 600 mm, seat height 800 mm, ground clearance 175 mm.

Weight

Dry weight 64 kg, total permissible weight 70 kg.

OPERATING LEVER

1. Throttle twist grip (Fig. 1/1)
On the right handlebar, operates the carburettor (Bowden cable adjustable).

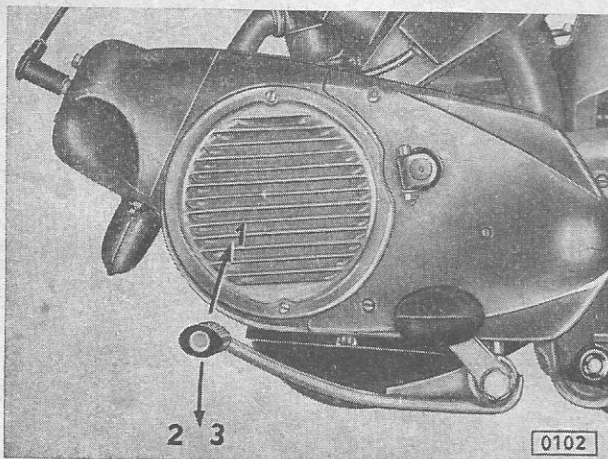


Fig. 2: Foot-operated gear shift lever

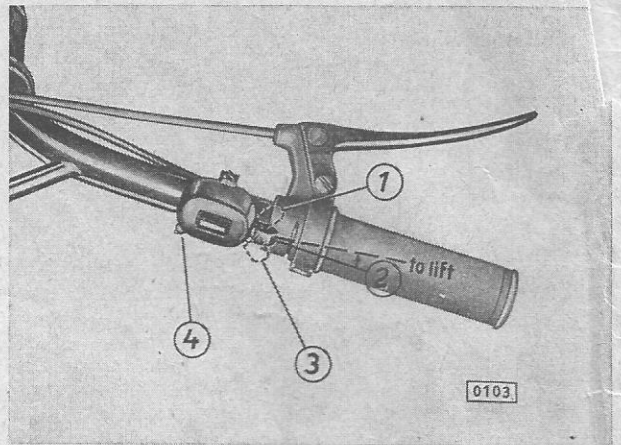


Fig. 3: Electrical switching:

- | | |
|-----------------------|--------------------------|
| 1 light turned off | 2 dimmed light turned on |
| 3 main beam turned on | 4 cutting-out the engine |

2. Hand brake lever (Fig. 1/2)
On the right handlebar. It actuates the front wheel brake (adjustable Bowden cable).
3. Clutch control lever (Fig. 1/3)
On the left handlebar. It disengages the clutch (Bowden cable adjustable).
4. Foot-operated gear shift (Fig. 2)
Close by the left-hand side foot rest support, serves for changing gears. By lifting the control lever you engage the first speed, by stepping down, the second and third gears. Gears may be shifted only when the engine is running!
5. Switches (Fig. 1/5 and Fig. 3)
The following control switches are mounted on the left handlebar:
Fig. 3/1 shows how to operate the engine cut-out
Fig. 3/2 dimmed light turned on
Fig. 3/3 main beam turned on
Fig. 3/4 shows how to operate the engine cut-out button.
6. Choke control (Fig. 6)
On the carburettor. When cold starting you close the choke slide by depressing. As soon as you take off the choke slide opens automatically.
7. Klaxon (Fig. 1/6)
The klaxon is operated from the left handlebar.
8. Speedometer (Fig. 1/4)
The speedometer serves to indicate speed and to record the distance covered.
9. Fuel feed tap (Fig. 4)
Below the fuel tank, on the r.h. side. 3 positions: "on" (Fig. 4/1), "reserve" (Fig. 4/2) and "off" (Fig. 4/3). You can go about 10 km (6 miles) on reserve fuel.

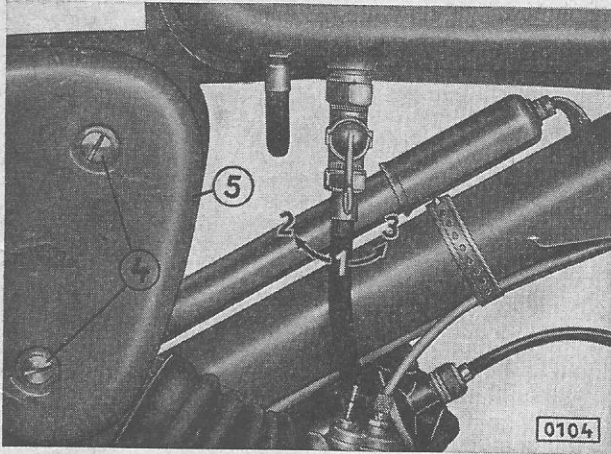


Fig. 4: Fuel feed tap:

- | | |
|----------------|-----------------|
| 1 "on" | 2 "reserve" |
| 3 "off" | 4 Muffer screws |
| 5 Muffer cover | |

10. Kickstarter for starting the engine
11. Foot brake pedal on r. h. s. of foot rest support. Actuates the rear wheel brake (Bowden cable adjustable). The rider's feet rest on the foot-rests.
12. The steering lock open as follow: put in the key, turn counterclockwise and remove the mortise lock.

BEFORE RIDING THE MOTORCYCLE

A. Check oil level in the gearbox:

1. Unscrew oil level plug (Fig. 5/2).
2. The oil quantity is correct if a little oil issues at the bore of the oil level plug with vehicle propped up on the center stand.

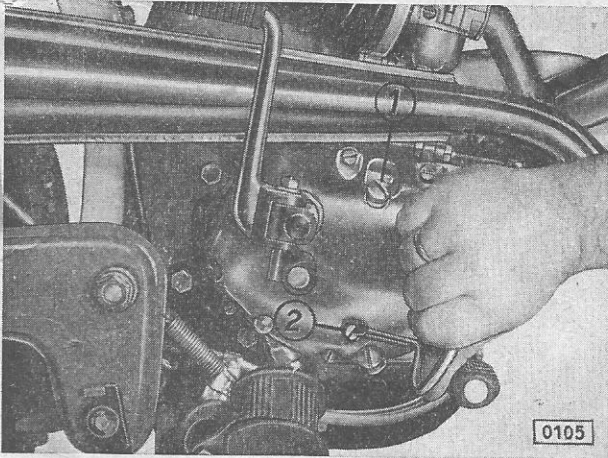


Fig. 5: Checking the oil level in the gearbox:

- | | |
|-------------------|------------------|
| 1 oil filler plug | 2 oil level plug |
|-------------------|------------------|
3. If no oil issues: unscrew oil filler plug (Fig. 5/1) and fill up with branded engine oil (summer SAE 40—50, winter SAE 20—30), until oil issues from the bore of the oil level plug (Fig. 5/2).

4. Screw in the oil level plug (Fig. 5/2).
5. Screw in the oil filler plug (Fig. 5/1).

B. Check tyre pressure

- Front wheel: 1.75 atü (25 lbs/squ)
Rear wheel: 2.25 atü (32 lbs/squ).

C. Fill up with petrol mixture

- Petrol (gasoline) and branded engine oil SAE 50 (vide oil table) at a ratio 1 : 25 (=4%), i. e. 40 cc (2.4 cu. in.) oil to litre of petrol.

Attention! Never fill up with pure petrol (gasoline).

OPERATING INSTRUCTIONS

A. Open fuel feed tap (Fig. 4).

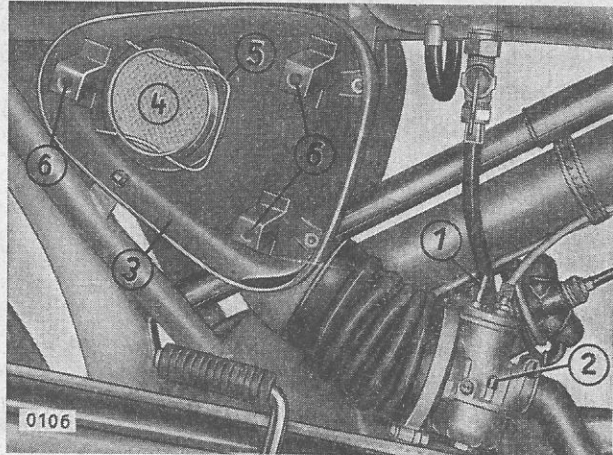


Fig. 6: Carburettor choke:

- | | |
|--------------------------|--------------------|
| 1 bolt for starter slide | 2 tickler |
| 3 intake silencer (open) | 4 air filter |
| 5 retaining spring | 6 cover fastenings |

B. With cold engine only

Press choke slide controll on the carburettor (Fig. 6/1) and if necessary gently flood carburettor by pressing the tickler (Fig. 6/2).

C. Starting

1. Open throttle only slightly, i. e. turn twist grip a little (Fig. 7).

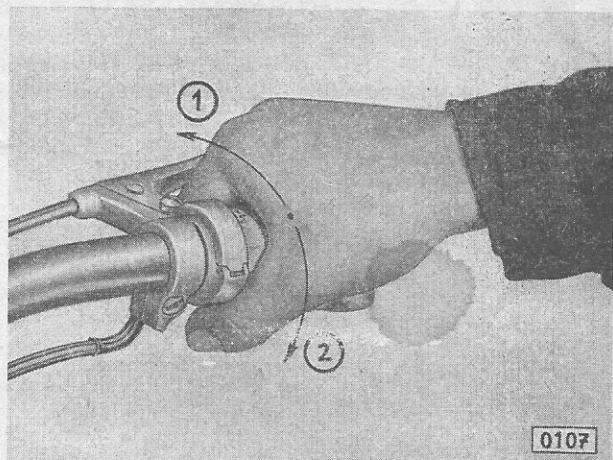


Fig. 7: Throttle twist grip:

- | | |
|-------------------|------------------------|
| 1 throttling down | 2 opening the throttle |
|-------------------|------------------------|

2. Press automatic starter bolt (Fig. 6/1).
3. Vigorously step on the kickstarter pedal, until the engine starts running.
4. With cold engine open the throttle slowly. When opening the throttle piston in the carburetter the starter slide is opened simultaneously (automatic starter device).

D. Moving off

1. Pull clutch lever, engage 1st speed (Fig. 2).
2. Slowly release clutch lever, at the same time opening the throttle (Fig. 7).
3. Put the feet on the foot rests.
4. Open throttle still wider until normal cycling speed (about 10 km/h=6 m. p. h.) is attained. The first speed which you have engaged is designed for starting and going uphill. For normal riding the 3rd speed is used.

E. Changing to the second speed

1. Throttle down.
2. Pull clutch lever at once, engage 2nd speed.
3. Release clutch lever.
4. Open throttle quickly.

F. Changing to the third speed

Having attained a speed of 20 km/h (14 m. p. h.) continue operation as described in item E above.

When going in top speed or having reached the top speed, throttle down to about 3/4. The loss of speed will be hardly perceptible, while there will be a considerable drop in fuel consumption. Regulate speed by means of throttle which should always be opened very gradually. Jerky opening up of throttle increases fuel consumption. Slow down by closing throttle.

Braking

The vehicle has two brakes of ample dimensions. Make it your habit to use both brakes simultaneously. Do not be afraid of applying the front wheel brake. Its effect is even greater than that of the rear wheel brake due to the increasing load on the front wheel during the braking operation. Only when the road is slippery or icy, caution is advisable. Reduce your speed already when approaching a bend. Braking in the bend increases the danger of skidding.

The braking effect of blocked wheels is very poor, the danger of skidding, however, is increased. Therefore, use the brakes gently, not vigorously. They are soft and highly effective, which makes correct braking very easy. When going downhill leave at least the third speed engaged and do not disengage the clutch.

G. Changing down

1. Throttle back.
2. Pull clutch lever, shift to lower speed.

3. Release clutch lever.
4. Open throttle quickly.

Change down:

1. When the speed drops perceptibly on up-grades.
2. When you are forced to ride slowly, e. g. in town traffic.

H. Stopping

1. Throttle back.
2. Apply brakes.
3. Shortly before stopping pull clutch lever, shift to neutral.
4. Release clutch lever.

If the engine should be stopped:

1. Press short-circuit button.
2. Shut fuel feed tap.

CLEANING AND MAINTENANCE

Cleaning is the fundamental element of all maintenance. The large, smooth surfaces of the Allstate 60 ccm Sport make it very easy indeed. A sharp jet of water should be avoided, as it is detrimental to the paint and involves the danger of water getting into brakes and bearings or penetrating into carburetter and ignition, thus causing trouble. The best method of exterior cleaning is to use a big, soft sponge. The dirt should first be washed off with plenty of water, since rubbing the paint with a half-dry sponge would cause tiny grains of sand to scratch the finish and destroy its lustre. The surface should be wiped dry with chamois-leather. The application of some mild paint wax after the washing is very much to be recommended, as it will preserve the attractive appearance of the vehicle for a long time. Even the bright parts will be grateful for a modest measure of maintenance. It is advisable to clean them from time to time, especially before the motorcycle is laid up for the winter. After the cycle has been operated for some time, the engine case will be dirty. The simplest way of cleaning it is washing with a tepid solution of soap flakes or some washing lotion.

After the Initial 500 km (300 Miles)

Change oil in gearbox:

1. Ride scooter until the engine gets warm.
2. Remove oil filler plug (Fig. 5/1).
3. Remove oil drain plug (Fig. 8/1).
4. Drain oil.
5. Screw in oil drain plug.
6. Fill up with 250 cc (15.26 cu. in.) of rinsing oil.
7. Screw in oil filler plug (Fig. 5/1).
8. Start engine, let it run for a short while, and stop it.
9. Remove oil drain plug.
10. Drain of rinsing oil.
11. Screw in oil drain plug.

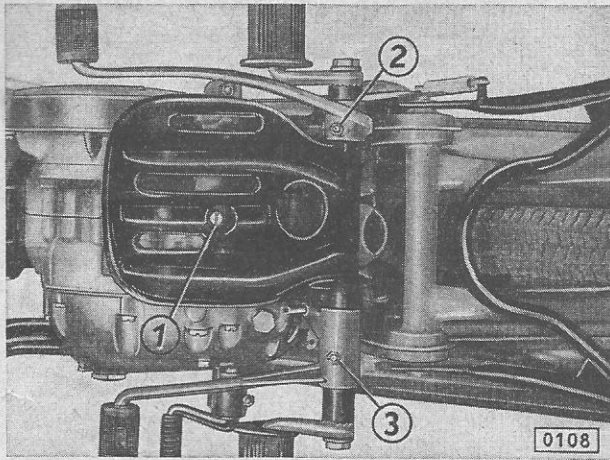


Fig. 8: Drain oil:

1 Gearbox drain plug 2 Lubrication nipple for foot-operated gear shift lever 3 Lubrication nipple for brake pedal

12. Remove oil level plug (Fig. 5/2).
13. Fill up with motor oil (summer SAE 40—50 winter SAE 20—30) (300—350 cc/18.5—21.5 cu. in.), until oil issues from the bore of the oil level plug (Fig. 5/2).
14. Fit oil level plug.
15. Screw in oil filler plug.

After every 500—1000 km (300—600 miles), depending on whether the machine has been subjected to great strain

- a) Clean and lubricate chain (having cleaned the chain, it is even more advisable to put the chain into some liquid chain lubricant). This work should be done whenever the chain is dirty or dry. The life of the chain depends on the maintenance.
- b) Lubricate bearings:
 1. Brake and clutch levers: lubricate sliding surfaces of the levers.
 2. Throttle twist grip and throttle cable:

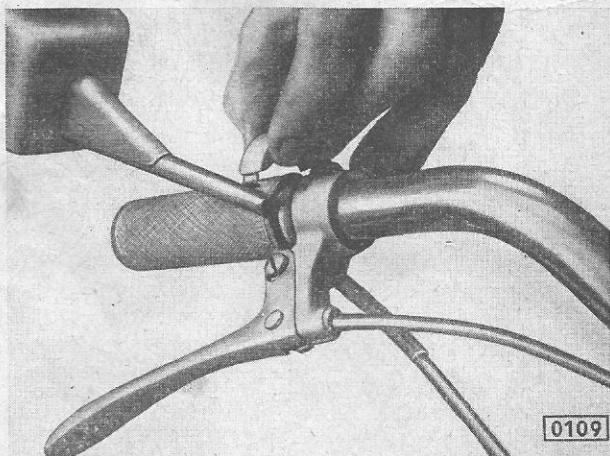


Fig. 9: Lubricating the throttle twist grip

Raise cover of hand lever bracket (Fig. 9), oil sliding surface of twist grip and cable ferrule opening, turn twist grip both ways several times, and replace cover.

3. Clutch cable:
 - Lubricate wire, grease bolt, pull clutch lever several times.
 4. Front brake cable: lubricate wire.
 5. Lubricate the gear-shifting control lever (Fig. 8/2, 8/3) bearing as well as the foot brake control lever bearing by means of a grease gun (push once or twice).
 6. Lubricate the prop stand bearing by means of an oil squirt.
- c) Clean air filter:
 1. Take off the 3 screws (Fig. 4/4, 6/6), then remove cover of intake muffler (Fig. 4/5).
 2. Pull out retaining spring (Fig. 6/5) of filter element and take out filter element (Fig. 6/4).
 3. Wash filter element by plunging it into pure cleaning petrol.
 4. Plunge filter element briefly into motor oil and allow for dripping off.
 5. Re-install filter element by means of the retaining spring.
 6. Re-fit cover of intake muffler and tighten by means of the 3 screws.
 - d) Grease speedometer drive thru grease nipple on the front brake with grease gun (squirt once or twice).
 - e) Grease speedometer cable:
 1. Unscrew union nut (Fig. 13/5) at the bottom.
 2. Grease cable.
 3. Re-connect cable.

After every 3000—4000 km (1900—2500 miles)

- a) Check oil level in the gearbox.
- b) Grease linchpins and chain tighteners.
 1. Dismantle linchpins and grease them.
 2. Lubricate the threads of chain tighteners. These jobs should be performed with every dismantling.
- c) Clean exhaust end pipe (Fig. 10):
 - Unscrew and take off exhaust end pipe, then disassemble and clean it.
 - Re-assemble and mount in reverse order.
- d) Grease brake shafts brake plate (1 or 2 squirts from the grease gun only).
- e) Decarbonizing the exhaust port:
 1. Loosen exhaust muffler at its rear fastening, remove one out of the two fastening screws.
 2. Unscrew exhaust flange (front end) and turn downwards.
 3. Engage 3rd speed, crank the engine by means of the rear wheel until piston is in its bottom dead center position.
 4. Carefully remove oil carbon from exhaust port, take care not to damage piston or cylinder working surface.

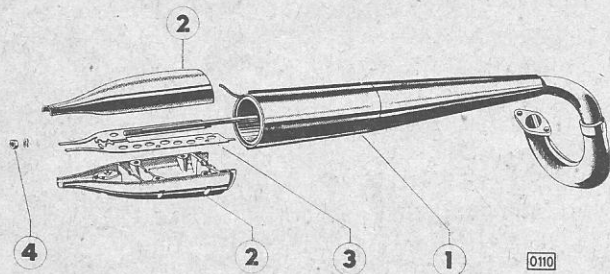


Fig. 10: Clean exhaust end pipe:

- 1 exhaust silencer 2 exhaust end pipe
 3 exhaust gasket 4 hexagon nut

5. Mount exhaust assembly in reverse order and tighten the screws.

f) Have the lubricator felt pad of the contact breaker greased by an authorized workshop.

After every 6000—8000 km (3700—5000 miles)

Replace oil in the gearbox. Change oil in the telescopic fork and in rear suspension units.

After every 15.000 km (10.000 miles)

Grease road wheel bearings.

This job should be performed by a workshop.

How to lay up the motorcycle for the winter?

If you wish to lay up your vehicle for the winter and get the same amount of enjoyment out of riding it next spring, we would advise you to observe the following rules:

1. Ride the motorcycle until the engine is really warm, drain oil from gearbox and primary drive, fill up gearbox with fresh oil.
2. Thoroughly remove dust, dirt and oil deposits from the vehicle.
3. Clean all rust spots.
4. Grease all bright, unpainted parts with some nonacid grease.

5. Grease thru all nipples with grease gun until fresh grease issues (beware of excessively greasing the brake toggles and speedometer drive).
6. Carefully clean the final drive chain and lubricate with some viscous oil.
7. Use some good paint-wax for all painted parts.
8. To prevent the fuel tank from rusting fill it right up. In case the room where the motorcycle is kept should not be fireproof, you have to drain the tank and rinse with oil subsequently. The fuel feed tap should be shut in any case.
9. Unscrew spark plug and remove carburetter. Displace piston to T.D.C., fill up cylinder with 30 cc (1.83 cu. in.) of engine oil thru the intake port, repeatedly step on the kickstarter pedal, screw in spark and fit carburetter.
10. Inflate tyres to correct pressure.
11. Keep the motorcycle in a dry room, prop up the vehicle on the center stand and cover it with canvas or packing paper.
12. Every 2 or 3 weeks repeatedly step on the kickstarter pedal with the fuel feed tap closed.

It is most dangerous to start and run the engine of the laid-up motorcycle for a short while from time to time, because the engine will not get sufficiently hot in the course of this procedure, vapour will condense from the fuel, which will cause bearings and cylinder liner to rust.

How to prepare the motorcycle for operation?

1. Unscrew spark plug (fig. 12), and crankcase venting screw, shut the fuel feed tap and step on the kickstarter pedal repeatedly.
2. Screw in mount spark plug and crankcase venting screw (Fig. 11), open fuel tap and start the engine.

WHEN IN DIFFICULTIES

The engine fails to start, the engine stalls...

because	therefore
1. the fuel feed tap is shut,	open fuel feed tap (Fig. 4) or switch over to "Reserve".
2. the fuel tank is empty or almost empty,	switch fuel feed tap over to "Reserve" or fill up with petrol mixture.
3. the spark plug has become oily,	clean the spark plug.
4. the spark plug is defective,	replace the spark plug.
5. the breaker gap is not correct,	adjust the breaker gap with 0.5 mm (0.0196 in.) by bending the ground wire.

6. the ignition cable has worked loose or come off, tighten spark plug connector and re-connect the Ignition cable.
7. because it is getting too much or too little gas, open throttle about 1/3.
8. a) the motorcycle has been tilted with open fuel feed tap or fell over, Start with throttle wide open. If the engine is badly flooded, drain petrol mixture from crankcase by unscrewing the drain plug (Fig. 11)
- b) the choke slide has been operated with warm engine,

- | | |
|-----------------------------------|--------------------------------|
| 9. the fuel pipe is clogged, | blow through the fuel pipe. |
| 10. the fuel feed tap is clogged, | have it cleaned by a workshop. |

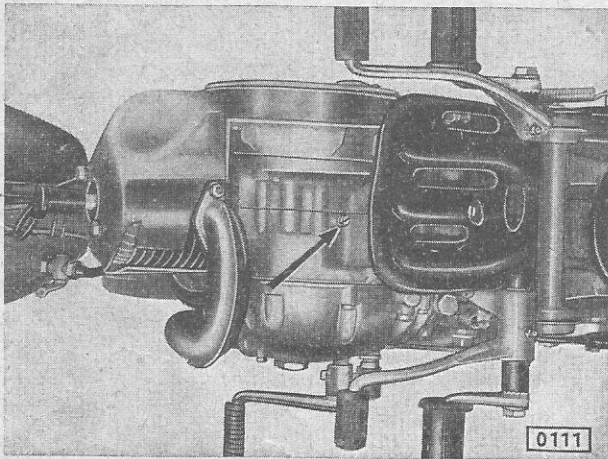


Fig. 11: Crankcase drain plug

- | | |
|---|-------------------|
| 11. the main jet is clogged, | clean main jet. |
| 12. there are impurities at the valve seat of the float needle, | clean valve seat. |

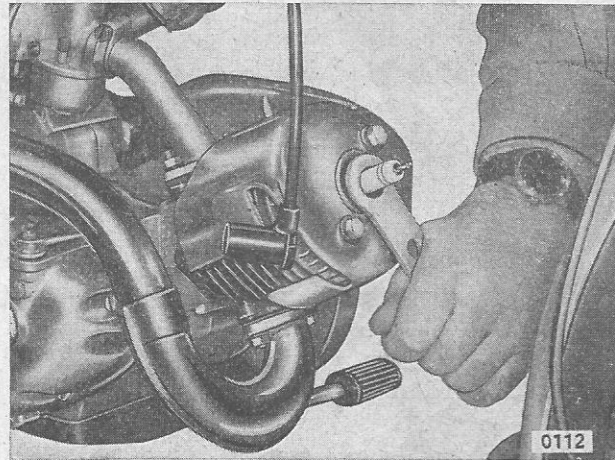


Fig. 12: Removing the spark plug

The engine runs uneven or intermittently

because

therefore

- | | |
|--|---|
| 1. there is not enough fuel in the tank, | turn fuel feed tap to "Reserve" (Fig. 4), refuel with petrol mixture. |
| 2. the carburetter is loose, | tighten carburetter holding screws. |
| 3. the float leaks, | replace the float. |
| 4. the ignition cable is not properly connected, | tighten spark plug connector and re-connect the ignition cable. |
| 5. the spark plug is defective, | replace the spark plug (Fig. 12). |
| 6. the composition of the fuel mixture is not correct, | drain fuel tank, refuel with correct petrol mixture ratio 1 : 25 (=4%). |

Poor Performance

because

therefore

- | | |
|--|---|
| 1. the exhaust is clogged, | remove oily deposits from the exhaust. |
| 2. the carburetter is loose, | tighten carburetter holding screws. |
| 3. the spark plug is defective, | replace the spark plug. |
| 4. the brakes catch, | adjust the brakes. |
| 5. the clutch slips, | adjust clutch. |
| 6. the exhaust port is clogged, | decarbonize exhaust port. |
| 7. the float leaks, the float needle is deformed (jams), | check all parts of the float chamber and replace if necessary. |
| 8. the air filter is clogged, | clean air filter. |
| 9. the fuel mixture is not correct, | drain fuel tank, and refuel with correct mixture, ratio 1 : 25 (=4%). |

MAINTENANCE WORK

If there is any work to be done that you feel you cannot carry out yourself, turn to your agent for advice.

He will only be too glad to help you.

Replacing (cleaning) the spark plug

1. Detach cable from spark plug.
2. Unscrew spark plug by means of spark plug spanner.
3. Clean electrodes. Test spark plug (4.—7.).
4. Put cable plug on the new (clean) spark plug.

5. Put the spark plug thread to a bright part of the engine ("ground").
6. Step on the kickstarter pedal. This should produce evident sparking between the electrodes. If this is not the case, clean electrodes and check the gap.
7. Detach the ignition cable.
8. Screw in spark plug, 2—3 turns by hand.
9. Tighten spark plug with spark plug spanner.
10. Mount cable plug.

Dismantling the front wheel

1. Unscrew left-hand side lynch pin nut by means of the spark plug wrench.
2. Slacken binding screws at the eyes of the fork (Fig. 13/1).

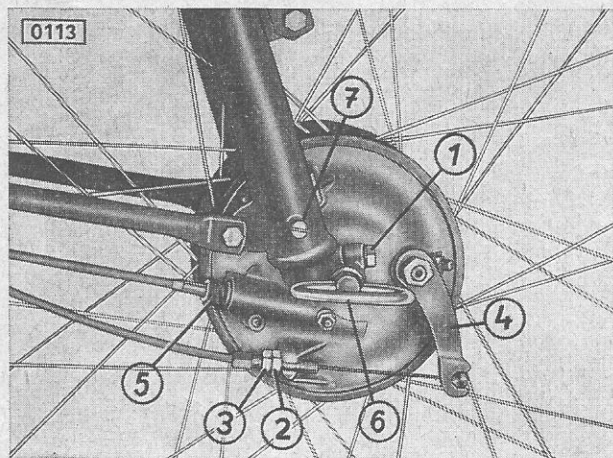


Fig. 13: Dismantling the front wheel:

- | | |
|-------------------------------------|---------------------|
| 1 Retaining screw | 2 front counter nut |
| 3 rear counter nut | 4 brake lever |
| 5 speedometer drive shaft union nut | 6 lynch pin handle |
| | 7 oil drain plug |

3. Detach brake control cable from brake plate. Unscrew to this and the front counter nut (Fig. 13/2) of the setscrew, turn rear counter nut (Fig. 13/3) so as to slacken the cable and detach cable nipple from brake lever (Fig. 13/4) at brake plate. Then pull out setscrew and remove cable through slot of brake plate.
4. Slacken union nut (Fig. 13/5) of speedometer cable and detach the cable from brake plate.
5. Pull out lynch pin by the handle (Fig. 13/6).

Fitting the front wheel

Fitting is executed in an order reverse to dismantling. Before mounting the lynch pin, put washer on it. Then put in lynch pin, place lynch pin nut and tighten. When tightening lynch pin nut, hold up at the abovementioned handle, then tighten binding screws at fork parts.

Dismantling the rear wheel

1. Take down chain guard (Fig. 15) after opening the four front screws (Fig. 14/1) and the rear tightening strap.
2. Pull out lacking spring (Fig. 16/1, 18/4) and take out retaining bolt so as to be able to remove brake retaining shackle (Fig. 18/5).
3. Unscrew left-hand side lynch pin nut (Fig. 16/2, 14/2) by means of spark plug wrench, hold up at right-hand side handle (Fig. 16/3, 18/6).
4. Pull out lynch pin by the handle. Push wheel slightly towards front wheel so that the chain may be lifted from sprocket (Fig. 16).
5. Slightly incline the vehicle, pull rear wheel

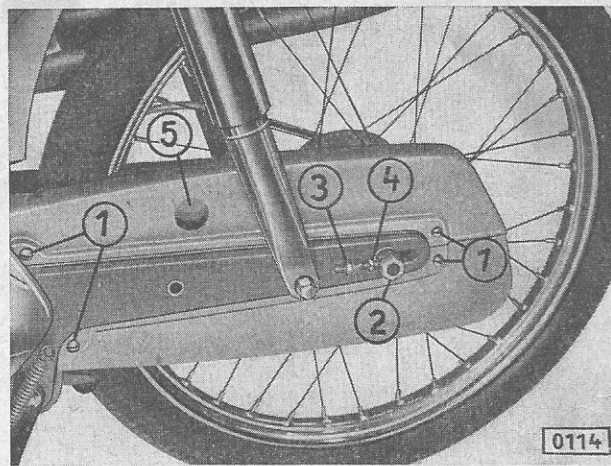


Fig. 14: Dismantling the rear wheel:

- | | |
|--|--------------------------|
| 1 fastening screws | 2 lynch pin nut |
| 3 counter nut | 4 chain stretching screw |
| 5 inspection hole (to check chain tension) | |

downwards and pull brake plate out of hub (Fig. 16/4). After having removed brake plate, take off rear wheel.

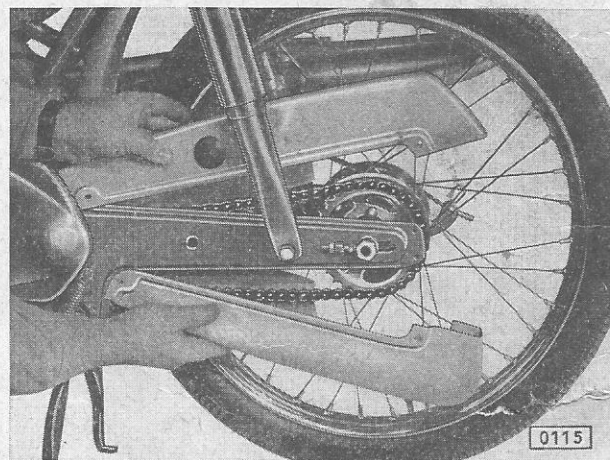


Fig. 15: Removing chain guard

Fitting the rear wheel

Fitting the rear wheel is done in an order reverse to dismantling. When mounting the lynch pin, take care not to forget the washers on both sides!

Chain stretching

Be careful to check chain tension with loaded motorcycle! In the middle between the two sprockets, the chain should have an up-down play of 10 to 15 mm (Fig. 14/5). Take care also to reset the brake retaining shackle of the brake plate in case of repeated re-stretching of the chain. Three fastenings are provided for this purpose for the retaining shackle to be screwed upon. In case of chain renewal, fasten the retaining shackle again on foremost fastening.

1. Slacken counter nuts (Fig. 14/3).
2. Slacken lynch pin.
3. Tighten both chain-stretching screws (Fig. 14/3)

equally till chain tension is correct. If chain is overstretched, slacken chain stretching screws.

4. Tighten counter nuts again.

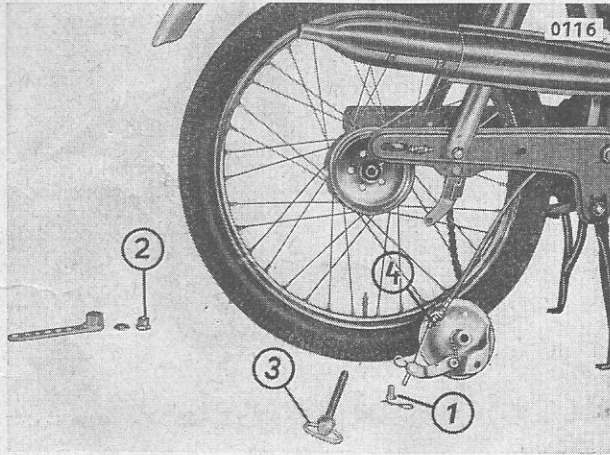


Fig. 16: Dismantling the rear wheel:
 1 bolt and locking spring 2 linch pin nut
 3 linch pin 4 brake plate

Resetting the clutch

When measured at outer end, the clutch release lever (Fig. 17/1) on the crankcase cover should have a free play of 2 to 3 mm.

1. Hold adjusting steere screw (Fig. 17/2) at crankcase cover eye.

Excessive clutch play (2a—4a):

2a. Slacken front counter nut by some turns (Fig. 17/3).

3a. Turn rear counter nut (Fig. 17/4) in the same sense until play is correct.

4a. Tighten front counter nut.

Clutch play insufficient (2a—4b).

2b. Slacken rear counter nut (Fig. 17/4) by some turns.

3b. Turn front counter nut (Fig. 17/3) in the same sense until play is correct.

4b. Tighten rear counter nut.

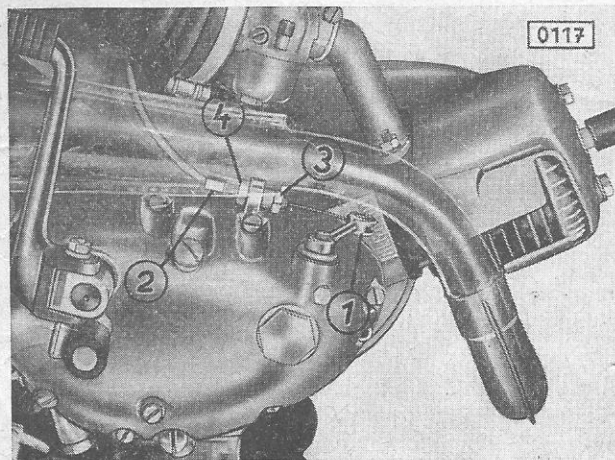


Fig. 17: Clutch adjustment:
 1 clutch control lever 2 setting screw
 3 counter nut front 4 counter nut rear

Adjusting the brakes

Front wheel:

The hand brake lever should not be able to go down to the grip.

Slacken counter nut (Fig. 13/2). Turn nut (Fig. 13/3) on brake adjusting sleeve until brake has good grip again. In case of excessive re-adjustment (brake slips), slacken nut on brake adjusting sleeve. Tighten counter nut.

Rear wheel:

The adjusting screw of the rear brake cable (Fig. 18/1) will be found on the brake adjusting sleeve on the brake plate. For adjustment purposes, first slacken slotted collar nut (Fig. 18/3) of the adjusting screw.

Then open adjusting sleeve screw until brake has good grip again. Retain adjusting sleeve screw by the spanner, tighten counter nut (Fig. 18/2) and collar nut.

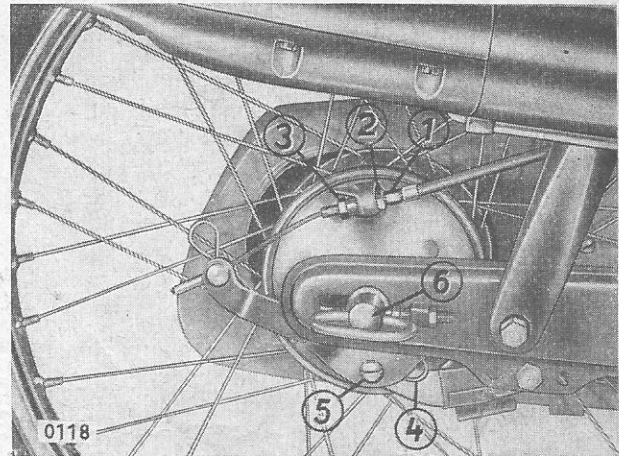


Fig. 18: Adjusting rear brake:
 1 adjusting screw 2 fore-end counter nut
 3 rear counter nut 4 retaining spring
 5 retaining bolt 6 linch pin cap nut

Oil change in the telescopic fork

Oil change in both the telescopic fork and the rear suspension units should only be executed in a garage.

Cleaning the main jet

1. Slacken binding screw (Fig. 19/1) and swivel carburetter.

2. Unscrew annular float chamber (Fig. 19/2) and main jet (Fig. 19/3).

3. Clean main jet by blowing through or by means of a bristle. Never utilize a wire.

4. Mount main jet and tighten gently. Install float chamber.

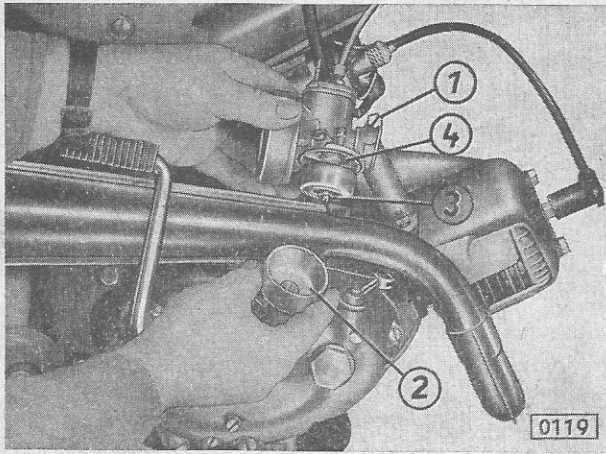


Fig. 19: Removing the main jet:

- | | |
|-----------------|-----------------|
| 1 binding screw | 2 float chamber |
| 3 main jet | 4 pin |

Checking the carburettor float

1. Slacken binding screw (Fig. 19/1) and swivel carburetter.
2. Dismount float chamber (Fig. 19/2).
3. Cautiously remove pin (Fig. 19/4) from float, dismantle float and detach the float needle. If required clean valve seat in the carburettor.
4. Check point of needle regarding damage! Replace the float if it leaks!
Assemble in reversed order of dismantling.

Cleaning the carburetter

1. Slacken retaining screw (Fig. 20/1) of carburetter.

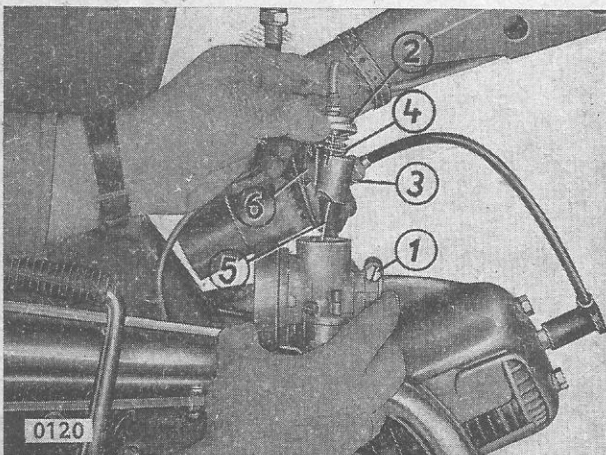


Fig. 20: Cleaning the carburetter:

- | | |
|------------------|--------------------|
| 1 binding screw | 2 cover |
| 3 throttle slide | 4 spring and cable |
| 5 jet needle | 6 starter slide |

2. Remove carburetter.
3. Remove cap (Fig. 20/2).
4. Pull out throttle piston (Fig. 20/3) with valve needle and pressure spring.
5. Press throttle piston (Fig. 20/3) and cap together

(Fig. 20/2), release throttle cable from piston, pull out cable with spring (Fig. 20/4) and cap.

6. Take out valve needle (Fig. 20/5) with retaining spring. Clean all parts, if necessary exchange retaining spring. Fix needle in the third notch from above and insert it into the needle bore of the throttle piston.
Re-assemble in reverse order.

Setting idling speed

The idling engine should run on safely.

1. Start the engine.
2. Turn throttle control twist grip (Fig. 7) right down ("Throttle down").
3. If engine threatens to peter out, screw in throttle piston stop screw until the engine runs smoothly when being warm (Fig. 21).

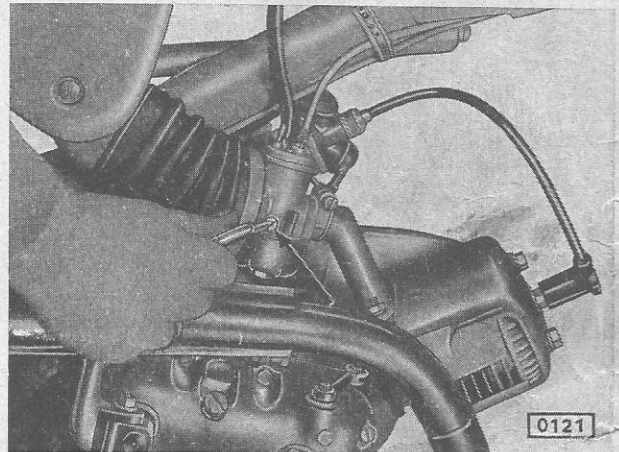


Fig. 21: Adjusting the stationary run

Cleaning the fuel pipe

(Fuel tank may be drained for this purpose)

1. Shut fuel cock.
2. Pull fuel pipe from top and bottom couplings.
3. Blow through fuel pipe.

Setting the Headlamp

Correct adjustment of the headlamp is checked in the following way:

Charge motorcycle with one person, place it in front of a vertical wall at 5 m distance to it, switch on the far beam. The light cone center should be just as high above the ground as the center of the headlamp. The upper limit of the dimmed light should be 5 cm below the far beam light cone center. This setting may be adjusted on the headlamp.

A good advice:

In case you are no specialist, possible failures may escape your attention. By a rapid repair, the specialist is able to save you unnecessary expenses. Therefore bring your motorcycle every 3000 km to a representative, he will give it a quick revision and, if necessary, will decarbonize it. Every 10.000 km, have it checked thoroughly!

Lubricating table

1. Chain	Clean and oil every 500—1000 km
2. Prop stand	Oil every 500—1000 km
3. Brake shafts	Lubricate every 3000—5000 km
4. Contact breaker	Have lubricating felt greased by the Puch representative every 5000 km
5. Brake cable, clutch cable, throttle control cable	Oil every 500—1000 km (motor oil)
6. Fuel tank	Admixture of motor oil (SAE 40—50 for summer and winter) at a rate of 1 to 25 (= 4%).
7. Gearbox	Oil change after the first 500 km; check gear oil level every 3000—5000 km; oil change every 6000—8000 km
8. Telescopic fork oil	After 6000—8000 km
9. Oil change in the rear suspension units	After 6000—8000 km
10. Hand control levers	Oil sliding surfaces every 500—1000 km

11. Twist grip	Oil every 500—1000 km
12. Linch pins	Oil thread every 3000—5000 km
13. Chain-stretching screws	Oil thread every 3000—5000 km
14. Air filter	Clean filter element every 3000 km, plunge it into oil
15. Speedometer drive	Lubricate by means of a grease gun every 1000 km
16. Bearings of brake and gearshift levers	Lubricate by means of a grease gun every 1000 km

Oil table

The following oil brands are particularly qualified to be utilized for the gaz-oil mixture that runs your motorcycle. Other high class oils SAE 40—50 may also be used on condition that their viscosity is not under 2.3 E at 100° C.

- BP Energol Two Stroke
- Castrol Grand Prix 50 or Two Stroke
- Esso 2 T motor oil
- Gasolin Super SAE 50 or Gasolin Fix
- Mobiloil TT or Mobilmix TT
- PAM Selfmix or Veedol Two Stroke Selfmix
- Shell 2 T oil for two-stroke engines or Shell X-100/40 or 50

(Firms are quoted in alphabetical order.)

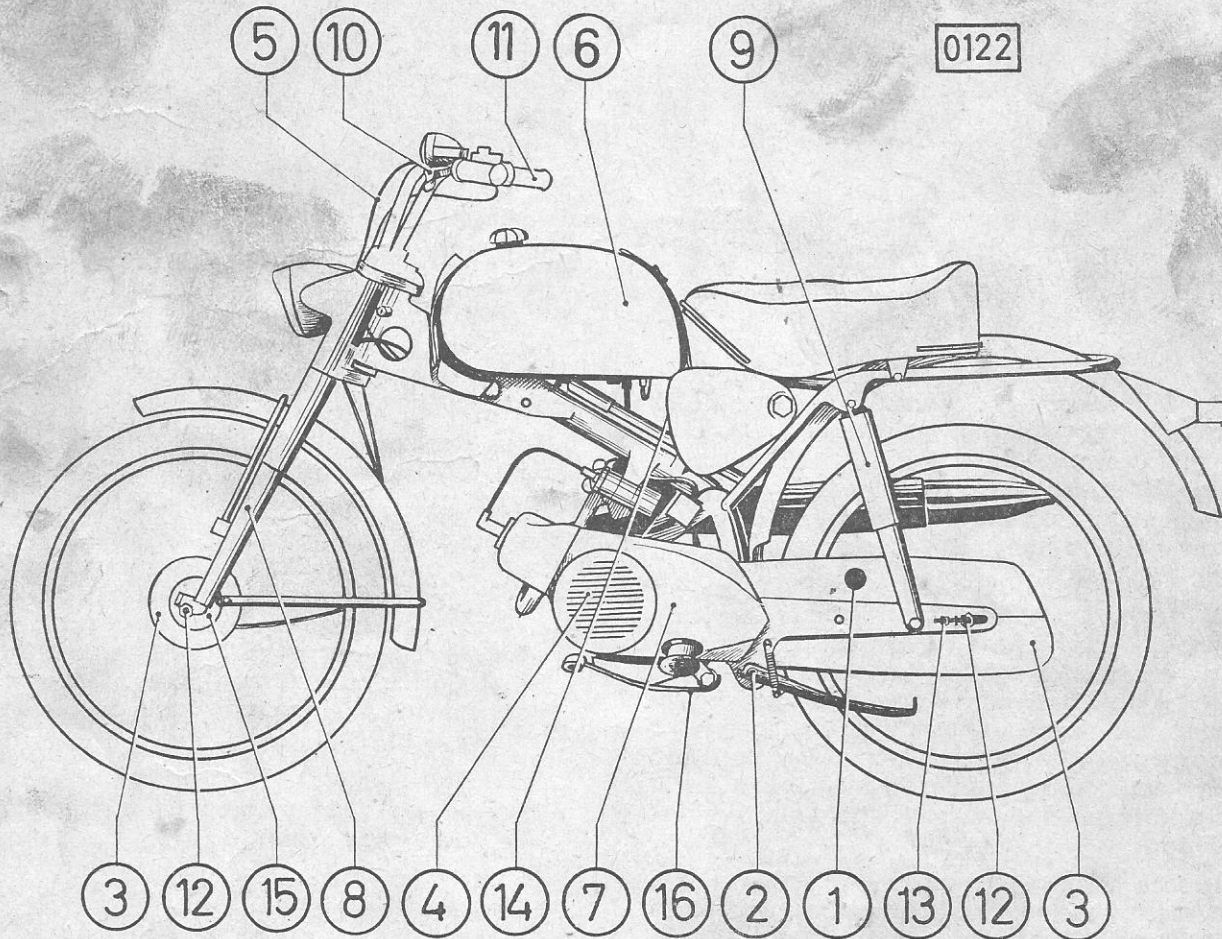


Fig. 22: Lubrication table

REPAIR INSTRUCTIONS

PREFACE

This repair manual is not supposed to be a textbook for beginners, but a book of reference for the workshop and the experienced rider of motorcycle. We have therefore omitted all those explana-

tions which are obvious to the expert. In the first place we want to show how to go about repairs in a professional way. This will save the repair shop time and money.

THE ENGINE

I. STRIPPING THE ENGINE

1. Removing left engine casing:

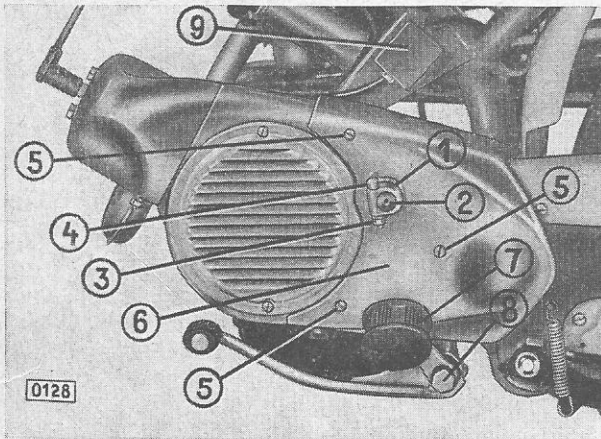


Fig. 1: Removing the engine from the frame:

- | | |
|---|-----------------------|
| 1 cubic clamping piece for release spring | 5 lens head screws |
| 2 starter shaft | 6 fairing plate |
| 3 nut | 7 foot rest |
| 4 cotter | 8 screw for foot rest |
| | 9 protection cap |

Take down hub (fig. 1/1) of kickstarter shaft (fig. 1/2), remove nut (fig. 1/3) from key, knock out key (fig. 1/4) (with copper piece). Slacken the three screws (fig. 1/5) and take down casing (fig. 1/6) after loosening and turning down the foot rest (fig. 1/7) and (fig. 1/8). Take down kickstarter (2/1) crank after removing the key (fig. 2/2).

2. Taking down foot rest support with underguard: Unhook brake control cable from brake pedal. Disconnect stop light switch cable. Disconnect linking rod between foot-operated gearshift lever and automatic shifting mechanism at engine end. After bending the locking plate and removing the nuts, take down the two lower engine fastening bolts which hold the foot rest support.
3. Squeeze off protecting cap (fig. 1/9) of cable sockets by means of a screw driver and pinch off cables. Pull off spark plug socket.

4. Taking down the chain.

Open chain master link, take chain off the sprocket. In case the chainguard is not mounted

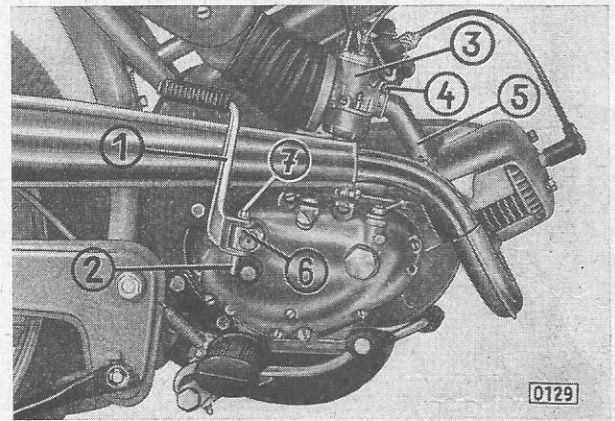


Fig. 2: Removing the engine from the frame:

- | | |
|---------------------------------|------------------------|
| 1 starting crank | 3 carburettor |
| 2 cotter | 4 clamp screw |
| 5 carburettor connecting sleeve | 6 cubic clamping piece |

(see operating instructions), reinstall chain master link and leave chain hanging on pivoted fork.

5. After slackening the binding screw (fig. 2/4), pull carburettor (fig. 2/3) off the carburettor socket piece (fig. 2/5).
6. Unhook clutch control cable: Slacken counter nut of adjusting sleeve screw on engine crankcase cover eye (fig. 5/8), pull cable. Turn declutching lever in direction into which motorcycle moves (fig. 5/1) detach cable. Do not lose slotted nipple holder: Take down slotted counter nut and pull cable cut of adjusting sleeve (fig. 5/8).
7. Take down muffler: Unscrew the two hexagon nuts on cylinder, take down muffler after removing the fastening screws on frame.
8. Lift engine from frame: Slacken nut of top engine fastening screw, pull

out engine fastening screw and lift engine from frame.

II. DISASSEMBLING THE ENGINE

Fan and flywheel magneto

1. Remove fan hood (fig. 3/11):
Unscrew spark plug. Loosen retaining bolts and remove the hood. Put engine with l. h. side on top on a workbench.

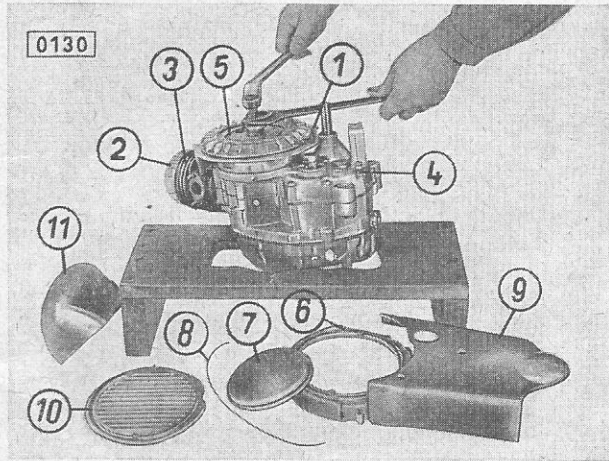


Fig. 3: Removing the flywheel magneto:

- | | |
|---------------------------|-----------------|
| 1 base plate | 6 fan housing |
| 2 cylinder head | 7 cover plate |
| 3 cylinder | 8 wire loop |
| 4 hexagon head screw | 9 fairing plate |
| 5 flywheel with fan wheel | 10 fan cover |
| | 11 fan hood |
2. Remove fan cover (fig. 3/10):
Unscrew two screws and lift off the cover.
 3. Remove fan housing (fig. 3/6):
Unscrew 4 bolts and remove the housing.
 4. Remove cover plate (fig. 3/7):
Take off circlip (fig. 3/8) and disk.
 5. Remove flywheel (fig. 3):
Unscrew nut, remove flywheel with fan wheel (fig. 3/5) by means of puller (special tool part. no. 050.7012).

Cylinder and Piston

1. Unscrew nuts and remove the cylinder head (fig. 3/2).
2. Remove cylinder (fig. 3/3):
(Take care that the piston cannot be damaged by striking against the housing.)
3. Take circlip off the piston (fig. 4) with circlip pliers (fig. 4/1) and remove gudgeon pin and piston by turning. (Do not vigorously knock out the gudgeon pin.)

Visual control:

On no account should the skirt of the piston be

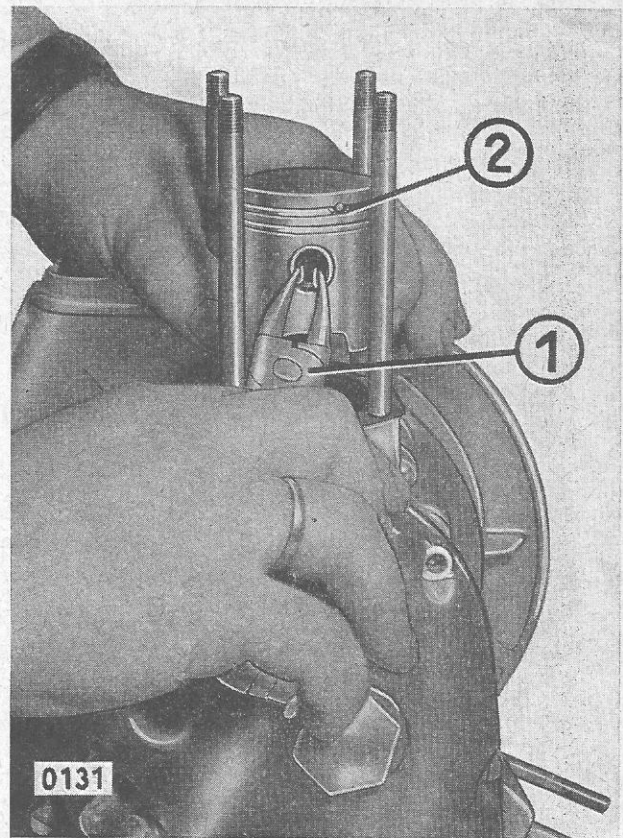


Fig. 4: Removing the circlip from the piston pin:
1 circlip pliers 2 piston ring gap

decarbonized, even if it has become quite black. The piston rings must move perfectly freely in their respective grooves. Never remove piston rings without good reason! Rings gummed up with burnt oil, and their grooves, must be thoroughly cleaned. When removing such rings take care not to damage or stretch them unduly. Do not interchange them and put them back in correct position. If any ring is blackened excessively, it is defective and should be replaced. If a ring was removed, it should be rolled around the groove to make sure that it is quite free. On the other hand the axial play should not exceed 0.15 mm (0.0059 in.) (noise). Subsequently put the rings in the bore by means of piston, so the joints of the rings (fig. 4/2) become visible. Minimum gap 0.1 mm (0.00393 in.), max. gap 0.8 mm (0.03159 in.) without affecting the performance (the gap becomes larger due to wear of rings after a certain time of operation).

Retaining Clip and Gearbox Sprocket

1. Remove retaining clip:
Unscrew two screws and take off the retaining clip.
2. Removing the gearbox chain sprocket:
Open lock plate on the nut, unscrew nut, lift off sprocket as well as toothed intermediate disk. Turn engine over!

Crankcase cover

1. Unscrew centering screw (fig. 5/2, guide for clutch bearing nut).
2. Unscrew crankcase cover retaining screws (fig. 5/5) — 7 screws — loosen cover by means of rubber mallet and raise cover. Turn clutch release lever until the shaft passes the ball nut (fig. 5/1), lift cover clear and slip thrust washer from starter shaft.

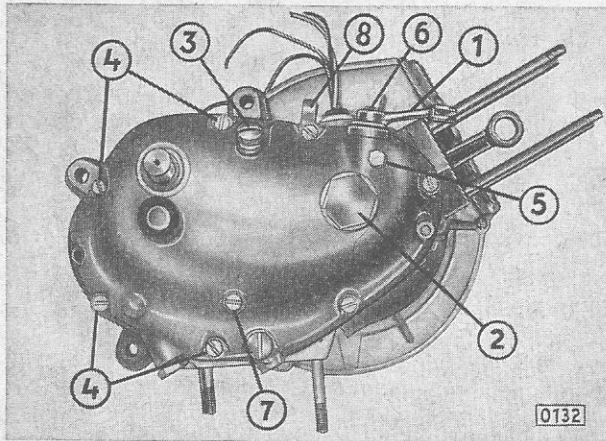


Fig. 5: Engine block from r. h. side:

- | | |
|--------------------------|---------------------------------|
| 1 clutch release lever | 5 locking screws |
| 2 centering screw | 6 clutch release shaft |
| 3 oil filter plug | 7 oil level plug |
| 4 crankcase cover screws | 8 opening for the setting screw |

3. The clutch release shaft cannot be pulled off before the crankcase cover has been lifted. Unscrew fixing bolt (fig. 5/5) of clutch release shaft. Remove clutch release shaft (fig. 5/6) together with the clutch release lever (fig. 5/1).

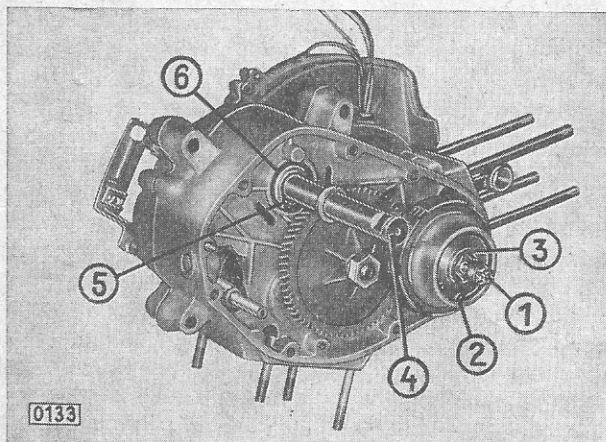


Fig. 6: Primary drive and clutch:

- | | |
|----------------------|---------------------------|
| 1 ball nut | 4 starter shaft |
| 2 snap ring (clutch) | 5 snapping (startershaft) |
| 3 clutch bearing | 6 cap |

Clutch and Primary Drive

1. Take large snap ring (fig. 6/2) off the clutch bearing (fig. 6/3), remove set bolt and clutch bearing (fig. 6/3). Open lock plates of nuts on the counter shaft and crankshaft journal, fits sprocket holder (special tool part no. 360.1.70.

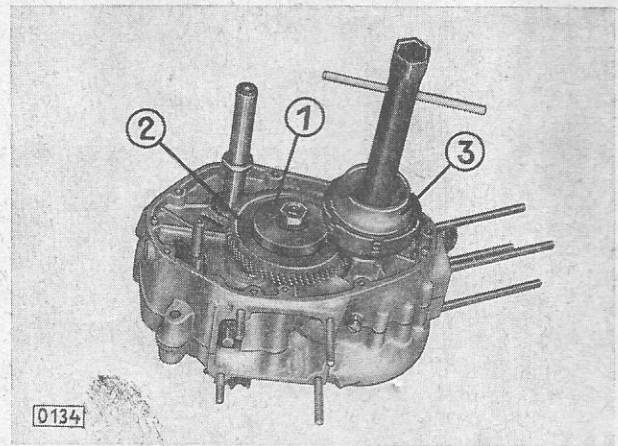


Fig. 7: Primary drive and clutch:

- | | | |
|----------------|----------------------|---------------|
| 1 Gear bracket | 2 large driving gear | 3 spring cage |
|----------------|----------------------|---------------|

- 014.1 fig. 7/1) on the large driving pinion (fig. 7/2 and 8/11) and loosen nuts (fig. 8/13 and 8/14, first of all nuts on the large driving pinion, then nut of the clutch). Subsequently remove lock plates (fig. 8/12 and 8/15), spring collar of clutch spring (fig. 8/1), spring (fig. 8/2) and spring cage (fig. 7/3 and 8/3). Remove clutch hub (fig. 8/4), disk (fig. 8/5), thrust washer, clutch housing (fig. 8/6) bushing (fig. 8/7) and thrust washer (fig. 8/10). Take snap ring (fig. 8/9) off the crankshaft journal.
2. Remove large driving pinion (fig. 7/2 and 8/11).

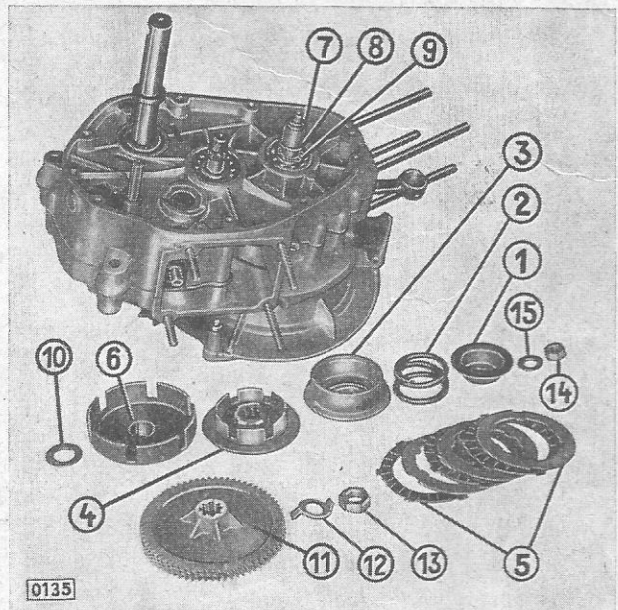


Fig. 8: Removing the driving gear and disassembling the clutch:

- | | |
|-------------------|-----------------------|
| 1 spring collar | 8 thrust washer |
| 2 clutch spring | 9 snap ring |
| 3 spring cage | 10 thrust washer |
| 4 clutch hub | 11 large driving gear |
| 5 disks | 12 locking plate |
| 6 clutch housing | 13 hexagon nut |
| 7 bearing bushing | 14 hexagon nut |
| | 15 locking plate |

Crankcase and Transmission

1. Unscrew automatic shifting mechanism:

After opening the four fastening screws, pull the shifting mechanism (fig. 9/1) off the four bolts (fig. 9/2). In case gear shifting does not give rise to complaint, do not disassemble any further the automatic shifting mechanism.

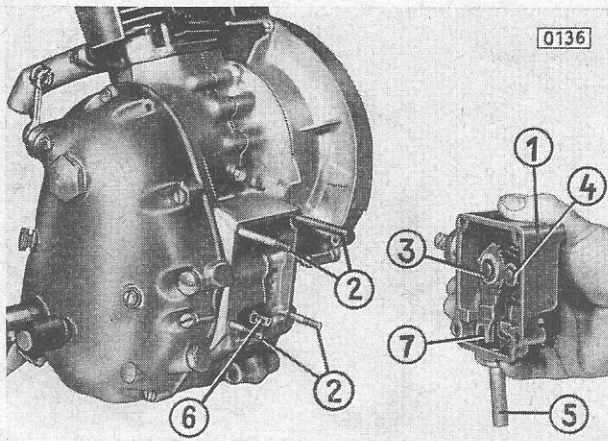


Fig. 9: Unscrew automatic shifting mechanism:

- | | |
|--------------------------------|-----------|
| 1 automatic shifting mechanism | 4 circlip |
| 2 bolt | 5 catch |
| 3 circlip | 6 bolt |
| | 7 recess |

If disassembling reveals necessary, take down the two circlips (fig. 9/3) and (fig. 9/4), unscrew the fixing bolt (fig. 9/5) and take the various parts out of the gearshift housing (see page Δ). Assembling is done inversely.

2. Remove base plate (fig. 3/1):

Unscrew 4 screws and remove base plate (replace gasket).

3. Remove armature plate:

Mark position of armature plate on the housing, unscrew 3 screws (fig. 18/1), remove armature plate and put it into flywheel (to preserve the magnetism).

4. Remove roller from crankshaft journal.

5. Remove 2 tightening plugs (rubber), unscrew crankcase retaining bolts (8 fillister head screws and 2 hexagon head screws). Turn engine over again and remove r. h. half of the crankcase.

6. The crankshaft is carried in 3 bearings. In the r. h. half an ordinary small ball bearing is placed near the 2 main bearings. Lift r. h. half of crankcase by knocking cautiously. Remove crankshaft (fig. 10), main shaft (fig. 11/1) with gearshift assembly (fig. 13 and 16) and counter shaft (fig. 14/1), as well as starter intermediate shaft (fig. 12/1) and starter shaft (fig. 15/4). Take care of the thrust washers and rollers of the

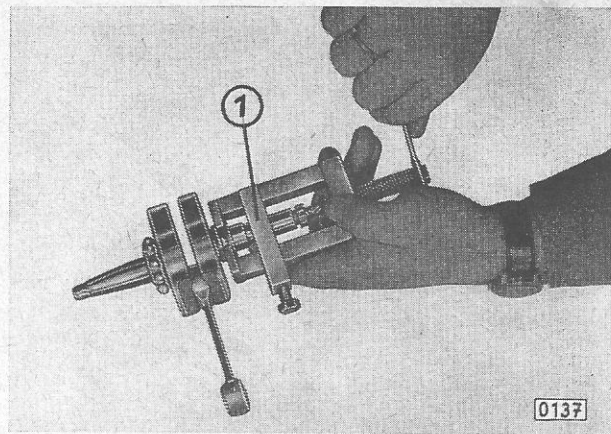


Fig. 10: Removing the crankshaft bearing ball races:
1 ball race puller

bearings! (The rollers for all 3 bearings are of the same size.)

7. Replace the seal rings, if they are defective (hard). Both seal rings are pressed on with the caulking edges facing inward.
8. In case the crankcase shall be replaced, remove bushings, rubber seal rings, ball bearings of crankshaft and counter shaft, as well as the bearing races of the crankshaft. The crankshaft ball bearing will be removed together with the rubber seal ring.
9. The crankshaft races may be removed with a puller (fig. 10/1, special tool no. 350.1.70.011.0).

III. REASSEMBLING THE ENGINE

Wash all engine parts in paraffin and dry with compressed air.

Crankcase and crankshaft:

If you have to mount a new crankcase, mount bushings, rubber seal rings and ball bearing for counter shaft. Press in crankshaft main bearing with a suitable mandrel from inside. For easier balancing of the crankshaft axial play the distance of the crankshaft bearings ought to be measured. For this purpose the inner races and ball rows have to be fitted in the outer races (the marking on the inner races always facing the outside of the crankcase). Now you have to measure the distance between the central flange and the inner ball race by means of a depth gauge or a precise vernier caliper. These figures including the thickness of the gasket 0.2 mm (0.007871 in.) have to be added. The ten and hundred of the resulting amount have to be marked on the inside of the crankcase (also vide paragraph 2) the same as on the original crankcase. Do not replace the crankcase halves but in pairs as they are finished jointly.

1. When putting on the left crankcase half spread grease on the roller bearing-races of main shaft and counter shaft and put in rollers (fig. 11/4).

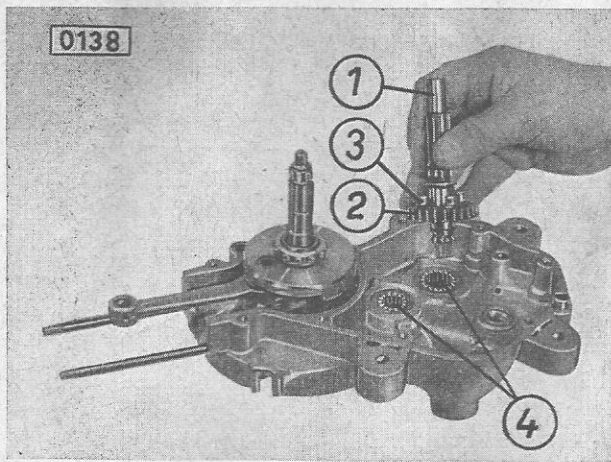


Fig. 11: Mounting the main shaft:

- | | |
|--------------------|---------------------------|
| 1 main shaft | 3 dogs (third speed gear) |
| 2 third speed gear | 4 rollers (ball races) |

2. Lubricate crankshaft bearings and mount crankshaft with tapered journal (generator end) facing downward (fig. 11). If **new** crankshaft main bearings are mounted or a new crankshaft was fitted, the axial play of the crankshaft must be readjusted and should be 0.05—0.15 mm (0.00199—0.0059 in.). Crankshaft and crankcase are precisely gauged by the manufacturer and the result is marked (vide above). Before pressing the inner races on the crankshaft journals attach as many (if possible an equal number on right and left side) 0.1 mm (0.00393 in.) spacer shims as required for obtaining the correct play. Specific size for bearing distance 36 mm (1.4173 in.), the actual size is marked and varies between 35.95 and 36.15 mm (1.4153—1.4232 in.).

Only the hundredth-millimeter of the actual size is marked. Negative allowance (35.)95—(35.)99 mm (1.3779) 0.0374 in. — (1.3779) 0.03897 in. and positive allowance (36.)01 — (36.)15 mm (1.4173) 0.000393 in. — (1.4173) 0.0059 in. The crankcase allowance varies between (36.)20 and (36.)40 (1.4173) 0.00787 in. and (1.4173) 0.01575 in. (only the hundredth of millimeters are marked).

Example no. 1:

(36.)05 mm (1.4173) 0.00196 in. positive allowance is marked on the crankshaft and (36.)40 mm (1.4173) 0.01575 in. on the crankcase. Consequently the axial play is 0.35 mm (0.013779 in.). You have to attach one 0.1 mm (0.00393 in.) spacer shim below each inner ball race, so the axial play is reduced to the correct figure of 0.15 mm (0.0059 in.).

Example no. 2:

(35.)97 mm (1.3779) 0.03818 in. negative allowance is marked on the crankshaft and (36.)40 (1.4173) 0.01575 in. on the crankcase. Consequently the axial play is 0.43 mm (0.0169 in.). Attach two 0.1 mm (0.00393 in.) spacer shims below one and one spacer shim below the other inner ball race so the axial play of 0.13 mm (0.005118 in.) is obtained.

Gearbox and gearshift device

Assembling the three-speed gear

1. Slip third speed gear (fig. 11/2) on the main shaft (fig. 11/1) — dogs facing inward — and fit main shaft in the roller bearing.
2. Slip top and bottom thrust washers (fig. 12/2) on the starter intermediate shaft (fig. 12/1) and fit shaft in the bearing bushing (fig. 12/3).

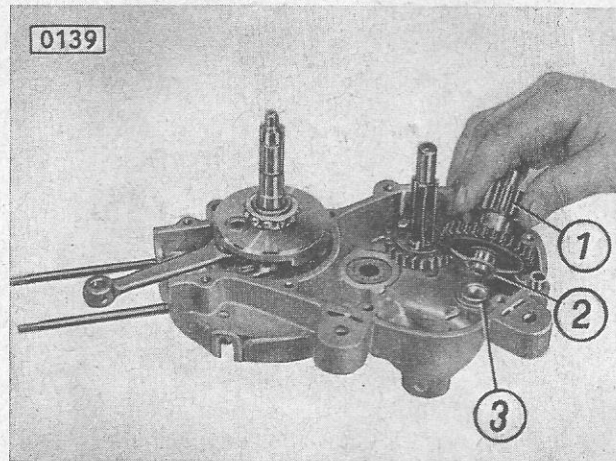


Fig. 12: Mounting the starter intermediate shaft:

- | | |
|------------------------------|-------------------|
| 1 starter intermediate shaft | 2 thrust washer |
| | 3 bearing bushing |

3. Slip second speed gear (fig. 13/3) — dogs facing third speed gear — on the main shaft. Engage gearshift fork (fig. 13/1) in the second gear engaging groove (fig. 13/3) on the main shaft.

Do not yet put the guide shaft of the gearshift fork in the bore provided on the crankcase, so the second speed gear which is held by the gearshift fork will naturally be on top of the main shaft (facing the first speed gear)

4. Stick thrust washer (fig. 14/2) on the counter shaft compl. (fig. 14/1) with grease (near the third speed gear).

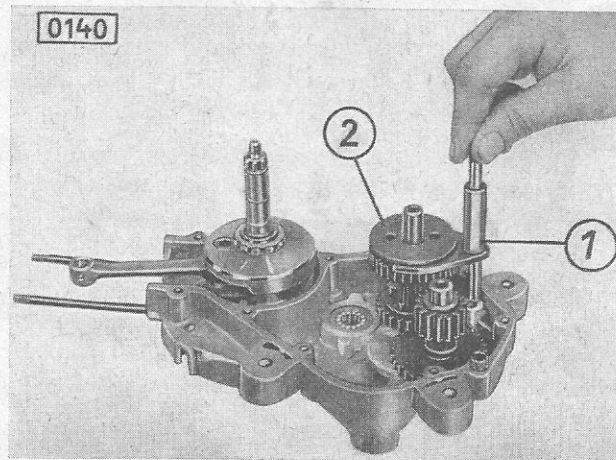


Fig. 13: Mounting the gearshift assembly:

- | | |
|------------------|---------------------|
| 1 gearshift fork | 2 second speed gear |
|------------------|---------------------|

5. Fit counter shaft in the roller bearing in a transverse position at the same time making register the driving ring of the second speed gear on the counter shaft in the driving groove of the second speed gear on the main shaft. Only now push the gearshift fork into guide in the crankcase and rotate counter shaft to make sure of good function.
6. Slip first speed gear (fig. 15/1) — dogs facing downward — on the main shaft. Reduce axial play of main shaft by attaching thrust washers of various sizes (fig. 15/2). Axial play 0.05 — 0.3 mm (0.00196 — 0.01181 in.).

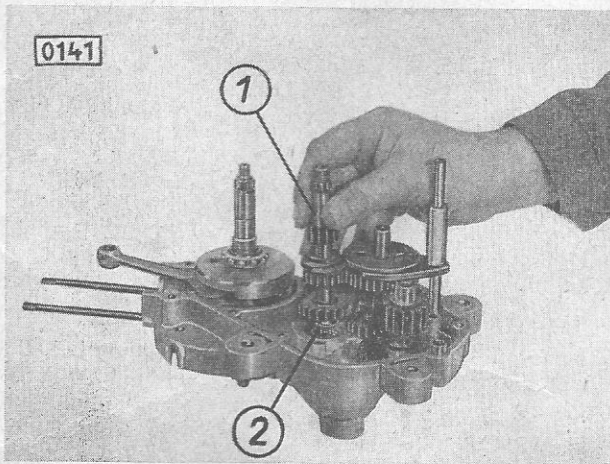


Fig. 14: Mounting the counter shaft:

- 1 counter shaft 2 thrust washer

7. Put thrust washer (fig. 15/3) into starter shaft bearing. Mount starter shaft (fig. 15/4) with snap ring ahead. The brake spring (fig. 15/6) of the starting device should protrude transversely on the front, so the spring loop almost contacts the crankcase. (Also mind stops in the r. h. crankcase half.)
8. Replace crankcase gasket and mount r. h. crankcase half:
Whether the brake spring (fig. 15/6) registers correctly between the stops may be observed through the opening provided (fig. 16/1). The brake spring should move up and down when turning the starter shaft.
9. Turn over the crankcase and screw it together. Attach an aluminium washer for sealing to each of the long bottom crankcase retaining bolts; hexagon head screws at the rear. If a new crankcase was used the r. h. crankshaft main bearing will only be fitted after having screwed together the crankcase. Rotate all shafts just for control. If necessary readjust main shaft axial play.
10. Mounting the automatic shifting mechanism:
Bring selector fork and automatic shifting mechanism in idling position. Put in new gasket and push shifting mechanism upon the

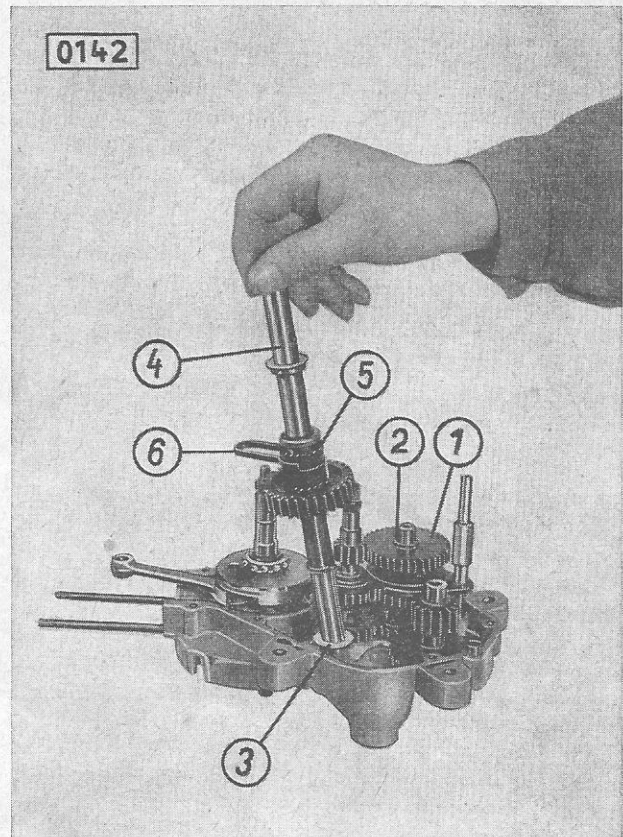


Fig. 15: Mounting the starter shaft:

- | | |
|--------------------------|--------------------|
| 1 first speed gear (main | 3 thrust washer of |
| 2 thrust washer of first | starter shaft |
| speed gear | 4 starter shaft |
| | 5 driver |
| | 6 brake spring |

four bolts on the crankcase. The peg of the

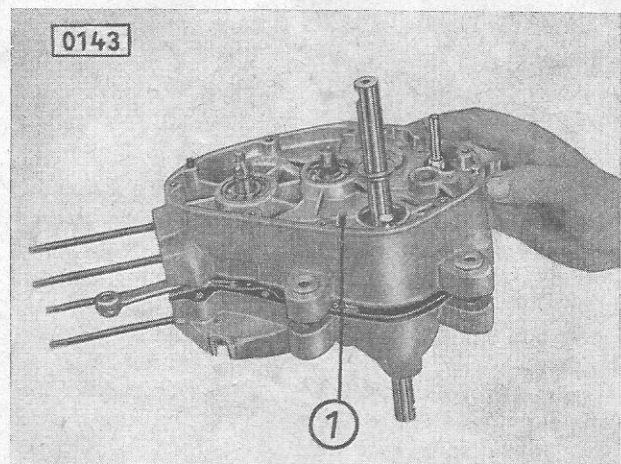


Fig. 16: Mounting the r. h. crankcase half

selector fork (fig. 9/6) must catch in the recess of the gear shifting quadrant (fig. 9/7). Push on the automatic gear shifting mechanism completely and fix by means of the four nuts on the crankcase.

Primary Drive and Clutch

1. Fit large driving pinion (fig. 7/2 and 8/11) on the counter shaft. Mount snap ring (fig. 9/9) on the crankshaft journal and fit thrust washer (fig. 8/10, 22/15/1,7) and lubricated bushing (fig. 8/7) with cone facing upwards on the crankshaft journal.
2. Assemble clutch housing (fig. 8/6), thrust washer (26/15/1) and clutch hub (fig. 8/4) on the crankshaft journal.
3. Clutch assembling:
Fit alternately friction disks and steel disks (fig. 8/5), mount clutch spring (fig. 8/2) and spring collar (fig. 8/1).
4. Fit the nut lock plates on counter shaft and crankshaft, screw nut to the counter shaft, hold driving pinion (fig. 7/2 and 8/11) (with special tool part no. 360.1.70.014.1) and tighten nut properly.
5. While you still hold the large driving pinion tighten nut on the clutch spring collar until the spring collar and first steel disk slip.
6. Close lock plates of nuts on counter shaft and crankshaft.
7. Mount clutch bearing (fig. 6/3) and fit snap ring (fig. 6/2). Take care that the ball bearing of the set bolt is pressed into the housing as far as possible, otherwise the clutch release shaft will not register.

Crankcase Cover

1. Mounting the crankcase cover:
Scrape off damaged gasket and replace it. Spread jointing compound on the cover and fit gasket. The side of the gasket facing the engine should be covered with grease.
2. Mount clutch release shaft (fig. 5/6) and screw in fixing screw (fig. 5/5). Slip thrust washer (26/16/1) on the starter shaft (fig. 6/4) and mount cover. Take care to insert the gearshift rail into the guide bore without tilting and turn clutch release lever in a way that the clutch release shaft passes the ball nut (fig. 6/1). Mount 7 cover retaining bolts (fig. 5/4) (the front bolt near the cylinder is a little larger), tighten crosswise starting from the center.
3. Screw up centering screw (fig. 5/2) and turn set bolt and ball nut until the ball nut reaches the center of the centering screw bore. The play of the clutch release lever (fig. 5/1) should not be less than 10 mm (0.3937 in.). Otherwise remove locking wire from ball nut (fig. 6/1) and readjust the nut. Remount locking wire.

Piston and Cylinder:

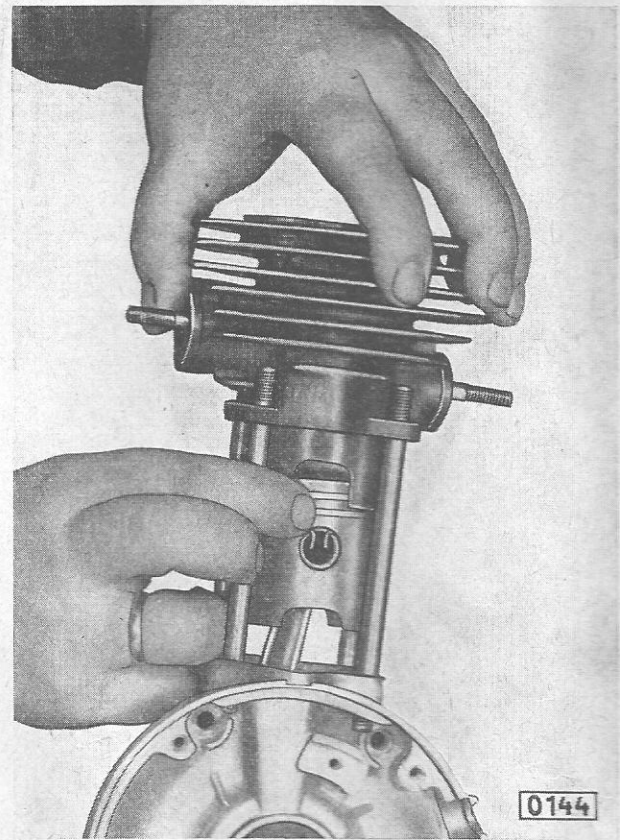


Fig. 17: Mounting the cylinder

1. Lubricate piston pin bushing in the connecting rod, preheat piston (60° C approx.) and fit with piston ring gaps ahead. Lubricate and fit piston pins.
Mount piston pin snap rings (it is advisable to replace the snap rings).
2. In case the gasket glued to the cylinder flange is defective, scrape it off and replace by new one. The gasket which you stick on to the cylinder with jointing compound, should be greased with some viscous grease.
3. Lubricate piston rings and turn them round in their grooves until the piston ring pegs reach the center of the piston ring gaps.
4. Lubricate cylinder barrel and mount cylinder. Take care not to damage the piston rings (fig. 17).
5. Mount cylinder head (fig. 3/2) (fins in a right angle to moving direction), put 4 washers on the bolts, front r. h. and rear l. h. side neck nuts, screw hexagon nuts to the remaining bolts and tighten crosswise (fig. 3/2).

Gearbox Chain Sprocket and Retaining Clip

1. Mounting the gearbox chain sprocket:
Fit toothed intermediate disk, sprocket wheel,

lock plate, screw on nut and tighten properly (while holding the sprocket with special tool. no. 050.7025 [10 teeth sprocket], no. 050.7026 for 11 teeth sprocket, no. 050.7015 for 12 teeth sprocket, and 364.1.70.001.1 13 teeth sprocket), close lock plate.

2. Mount retaining clip with two hexagon head screws and spring rings.

Flywheel Magneto, Ignition Timing and Fan

1. Put cotter of the flywheel magneto into crankshaft stub, mount magneto armature plate, while simultaneously pulling both cables through the plate and screw down the armature plate using 3 fillister head screws 15 mm (0.59 in.) long, as well as washers and toothed lock washers.
2. Fit tightening plug at the front crankcase retaining bolts. Screw on the base plate with new gasket (fig. 3/1) using 4 fillister head screws 12 mm long (0.4724 in.) and spring rings.
3. Mount flywheel and fanwheel (fig. 3/5): Fit washer and tighten nut. Mount fan housing (fig. 3/6) using 2 screws 20 mm long (0.7874 in.) at the rear, 2 short ones at the front. Ignition timing (fig. 18 and 19): Turn flywheel until the fully opened breaker gap (fig. 18/5) becomes visible thru the aperture in the flywheel. Measure the breaker gap which should be 0.4 mm (0.01575 in.) with a feeler gauge.

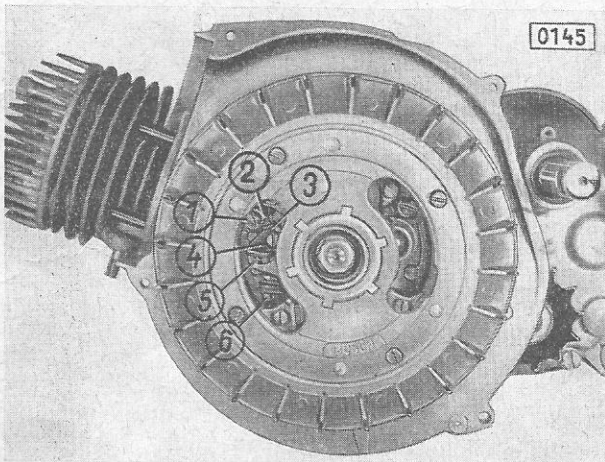


Fig. 18: Flywheel magneto:

- | | |
|--------------------------|------------------------------------|
| 1 fixing screw | 4 fixing screw for contact bracket |
| 2 stops | 5 breaker points |
| 3 opening on the contact | 6 nut for spring |

Burnt contacts should be smoothed with a contact file. Any correction of the gap that may prove necessary can be performed by adjusting the position of the contact carriers after having unscrewed the fixing screw (fig. 18/3). There is a small recess (fig. 18/3) on the contact carrier

and matching little stops (fig. 18/2) on the armature plate. Put screw driver thru recess on the contact carrier between the stops on the armature plate and adjust contact carrier by turning the screw driver (fig. 19). Moving the contact carrier upwards widens the gap, lowering the contact carrier reduces the breaker gap.

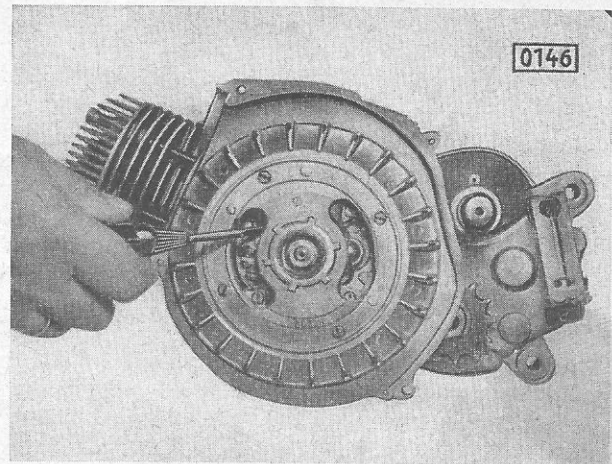


Fig. 19: Adjusting the breaker gap

(fit screw driver in the recess between two stops)

Subsequently retighten contact carrier fixing screws and check contact gap once more. If you want to determine the exact moment of the breaker points opening (sparking advance) you need a motorcycle storage battery (6 V/4-7 Ah) and a 6 V/10 W bulb. Two cables of about 0.5 m (1.64 ft.) should be soldered to the lamp socket (ground) and to the positive contact. (If a suitable lamp socket was used you need not solder the cables to the lamp.)

It is advisable to fit crocodile clips to the cable ends. While the breaker gap is closed one cable of the control lamp should be threaded thru the aperture on the flywheel and connected with the nut (fig. 18/6) of the screw that fixes the contact lever spring (this cable should not contact ground). The second cable is connected with the positive terminal of the battery. Another cable connected with the negative terminal should be brought in touch with the engine (ground), but not connected!

It should be stressed once more that the negative cable should only contact the engine with closed breaker gap. The control lamp connected burns brightly. Turn flywheel slowly counterclockwise (sense of engine rotation), until the lamp is perceptibly dimmed (to about half of the former intensity). The instant when the light intensity of the lamp is diminished the opening of the breaker points, i. e. the ignition point.

The flywheel must be held in this position. The ignition timing accomplished detach negative battery cable from crankcase, otherwise the

magneto will be demagnetized. Gauge the way of the piston between ignition point and T. D. C. (=sparking advance). Thread a narrow measuring tape with millimeterscale thru the spark plug hole up to the piston head (take care that the measuring tape is held straight). Now go on turning the flywheel counterclockwise while watching the scale of the tape, so you may determine the way of the piston between ignition point and T. D. C. (=sparking advance); correct sparking advance 1 mm (0.03937 in.). If the difference is less than 0.5 mm (0.0196 in.) it may be easily corrected by readjusting the breaker gap. A larger gap results in more, a smaller gap in less sparking advance.

In case the divergence exceeds 0.5 mm (0.0196 in.) you readjust the sparking advance by turning the armature plate. For this purpose unscrew the armature fixing bolts (fig. 18/1) which are well accessible thru the apertures on the flywheel. Turning the armature plate to the left (sense of engine rotation) results in less sparking advance, turning to the right (against engine rotation) results in more sparking advance. Subsequently retighten the fixing bolts. In case the position of the breaker points or of the armature plate have been altered, you have to repeat the measuring procedure. If battery and control lamp are not available you may easily check the ignition point by means of a cigarette paper.

Slip a narrow slip of paper thru the aperture in the flywheel and clamp it between the breaker points (with closed breaker gap.) Turn flywheel to the left (sense of engine rotation) until the breaker points will just release the slip of paper (opening of the breaker points=ignition point). Gauge sparking advance as mentioned above.

We want to stress, however, that due to wear of the contacts the method employing the cigarette paper is not quite reliable, especially with engines which have been operated some time already. For this reason we recommend the method using the 10 W control lamp.

4. Fit cover plate (fig. 3/7) and wire loop (fig. 3/8).
5. Fill 300 cc (18.3 cu. in.) oil into engine.
6. Mount fan hood (fig. 3/11).

IV. MOUNTING THE ENGINE IN THE FRAME

1. Nest engine in frame by means of top engine fastening screw.
2. Mount foot rest support with underguard: Install foot rest support together with the two lower engine fastening screws. Put on locking plate and nuts. Tighten and lock all three nuts. Install connecting rod between foot-operated gearshift lever and automatic shifting mechanism, lock it. Put in rear brake control cable at brake pedal and pinch brake light switch cable.
3. Fix the four dynamo to the cable clip on frame. The cable colours are important, always connect the same colours. Yellow = headlamp cable, black = short-circuiting cable, green = brake light cable, blue = cable of ignition coil. Finally put on protection cap (fig. 1/9).
4. Mounting the chain: Put on chain and close chain master link, then stretch chain.
5. Mount left engine casing: Put washer and spring on cranking shaft. Install casing (fig. 1/6) and fix by the three fastening screws (short screw next to rear wheel) (fig. 1/5).
6. Mounting the starting mechanism: Right-hand side: Put starting crank hub (fig. 2/6) upon starting shaft, install key (fig. 2/2) and washer and tighten together with nut (fig. 2/7). Left-hand side: Mount hub (fig. 1/1) on the starter shaft, stretch the spring slightly and hitch it to the hub, fit cotter and washer and tighten the nut (fig. 1/4).
7. Put in clutch control cable and adjust it (see operating instructions).
8. Push carburettor upon carburettor socket piece and fix by means of the binding screw (fig. 2/4).
9. Mount exhaust assembly (using new gasket) and fix by means of nuts and spring rings at front end and by the two fastening screws (washers spring rings) at rear end.

THE CHASSIS

The Handlebar (fig. 20)

Dismantling the handlebar:

1. First remove the clutch control grip complete with cable. For this purpose open the binding screw of the grip and pull off the grip.
2. Remove throttle twist grip complete with cables after slackening the binding screws.
3. Unscrew headlamp switch and disconnect wires, then pull cable assembly out of handle bars. When taking off the handle bars in order to execute repair operations at the telescopic fork, cables need not be disconnected as the cable assembly length suffices to lift the handle bars far enough so as to render possible execution or the repair operation.
4. Unscrew cover (fig. 20/1) of fork lug and take off handle bars. Mounting is done inversely.

Change of telescopic fork oil

Unscrew the two oil drain plugs (fig. 21/1) and remove gaskets, drain oil. It is recommended to press fork down during this operation. When all oil is out, 100 c. c. SAE 30—40 motor oil for each part are pressed into the two oil drain openings (fig. 21/1) by means of a grease gun. Then quickly mount the oil drain plugs and tighten.

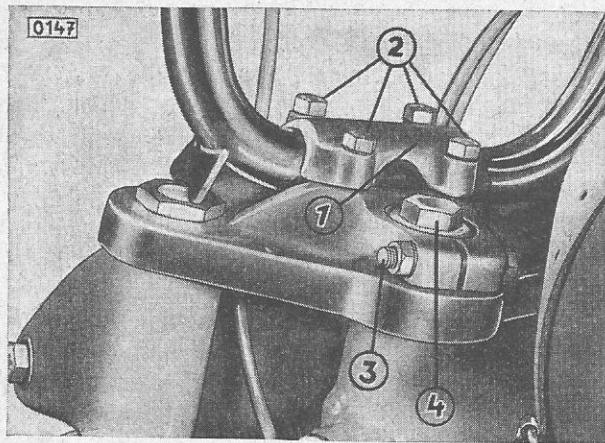


Fig. 20: Mounting the handlebar:

- | | |
|----------------------|--------------------------|
| 1 cover | 3 clamp screw |
| 2 hexagon head screw | 4 screw of steering head |

Taking off the telescopic fork complete

1. Dismantle front wheel, unscrew mudguard with mudguard supports and remove from below.
2. Drain oil.
3. Detach headlamps from handlebars by unscrewing the two fastening screws.
4. Disconnect clutch control cable from handlebar.
5. Pull off throttle twist grip with cables from handlebar.
6. Take off handlebars and put them on fuel tank, the headlamp switch need not be removed as the headlamp cable is sufficiently long.
7. Unscrew the two screws (fig. 21/2) and the two fastening screws of the fork parts (fig. 21/3). Slacken the binding screw (fig. 20/3) of the top fork lug and the screw at the steering head (fig. 20/4).
8. Hold fork at bottom fork lug (fig. 21/4) and remove carefully top fork lug (fig. 21/5). Remove top dust cover and bearing washer and take out fork downwards. Take care not to lose any balls (21 each).

Disassembling the telescopic fork

Clamp fork (when taken off) carefully into a vice (at bottom fork lug. Use wooden or lead cheeks).

1. Unscrew the two hexagon nuts (fig. 21/6) on the spring bolts (fig. 21/7)
2. Unscrew the grooved shells (fig. 21/8) from the two sliding tubes (fig. 21/7), pull off the two sliding tubes.
3. After slackening the two bottom fork parts screwings (fig. 21/10), remove pressure springs (fig. 21/11) from fork part tubes (fig. 21/12).
4. Slacken the two binding screws (fig. 21/13) and knock out the fork part tubes upwards out of the bottom fork lug. At the same time the facing tubes (fig. 21/14) are released.

When dismantling the fork only in part, the fork

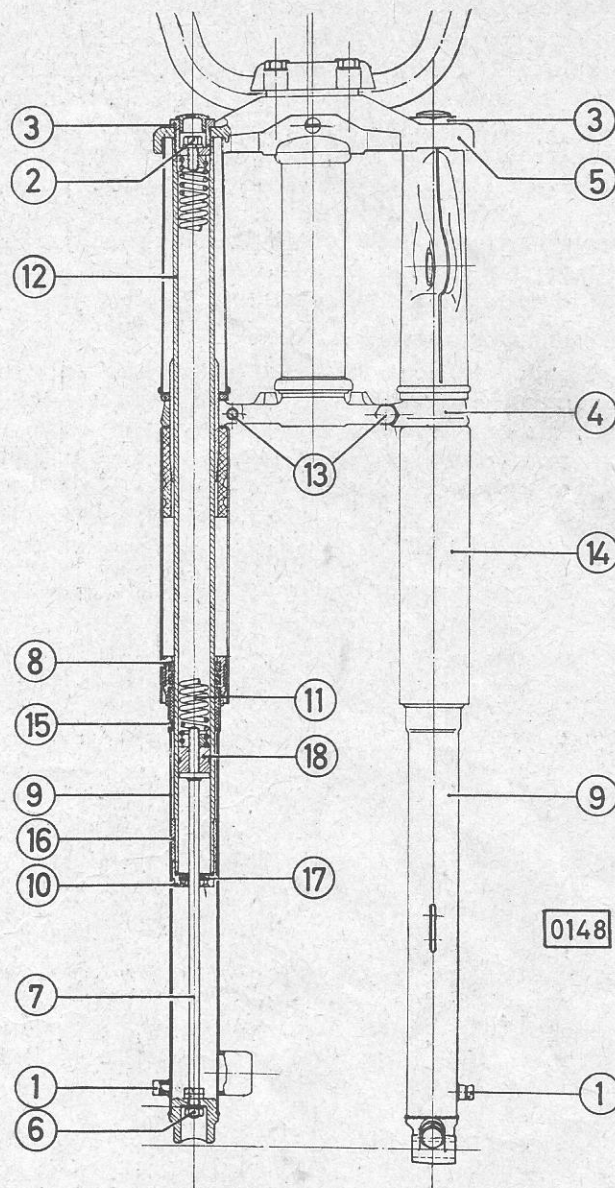


Fig. 21: Front wheel springing:

- | | |
|--------------------------|-----------------------------|
| 1 oil drain plug | 10 bottom joint of fork leg |
| 2 spring gusset screw | 11 spring |
| 3 top joint of fork leg | 12 interior fork tube |
| 4 bottom fork lug | 13 clamp screw |
| 5 top fork lug | 14 exterior fork tube |
| 6 hexagon nut | 15 top guide bushing |
| 7 spring supporting bolt | 16 bottom guide bushing |
| 8 grooved shell | 17 ring valve |
| 9 sliding tube | 18 damper piston |

needs not be taken out only the sliding tube and the spring are removed, after unscrewing the hexagon nut (fig. 21/2), the grooved sleeve (fig. 21/8), the nut (fig. 21/6) and the top fork part screwing (fig. 21/10). For this purpose, the front wheel, the mudguard and the handlebars must be removed beforehand as well as the oil drained. You should not take out a complete fork part without previously stripping the fork lugs.

Reassembling the telescopic fork

Before reassembling, check the various parts and replace those that are damaged. Gasket and felt ring should be replaced after every disassembling operation. The pressure springs should be replaced only by twos. Check sleeves (fig. 21/15) and (fig. 21/16), replace when radial play is 0.7—0.8 mm. Also check tightness of valve (fig. 21/17) and piston (fig. 21/18) every time you reassemble. Once the fork is reassembled, fill in 100 c.c. motor oil for each fork part.

Mounting the telescopic fork

Mounting is done in an order reverse to that observed when taking off. Replace steering bushes and washers when worn out. In case of renewal of bearing bushes, also put new balls (21 each). Press steering bushes into the frame tube up to the collar, but do not tilt.

Taking off the rear suspension units

1. Unscrew top fastening screws (fig. 22/1) and

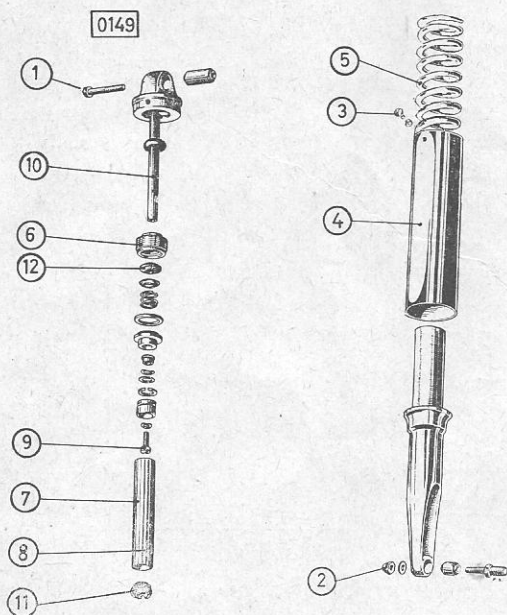


Fig. 22: Rear wheel springing:

- | | |
|-------------------|----------------------|
| 1 fastening screw | 7 damper cylinder |
| 2 bottom cap nut | 8 cross hole, bottom |
| 3 lens head screw | 9 nozzle screw |
| 4 facing tubes | 10 top strut head |
| 5 spring | 11 bottom plug |
| 6 sealing screw | 12 gooved seal ring |

pull suspension units backwards out of fastening lugs.

2. Unscrew bottom cap nuts (fig. 22/2) and take off suspension units.

Disassembling the suspension units, oil change

1. Take off the two lens head screws (fig. 22/3) and remove the facing tubes (fig. 22/4).
2. Through the pressure spring (fig. 22/5) coils put spanner (opening 22 mm) on to the sealing screw (fig. 22/6) and unscrew it.

3. Take off suspension unit head with piston rod and piston as well as pressure spring.

Now the dashpot is freely accessible (fig. 22/7) and the dashpot oil may be drained. Then fill in the correct quantity of dashpot oil (65 c.c. for each suspension unit). Reassembling is done in an order reverse to that observed for disassembling. When mounting the dashpot, take care that the end with the small cross hole is the bottom end (fig. 22/8).

4. Unscrew the screw (fig. 22/9) and remove all parts from top suspension unit head (fig. 22/10).

5. Knock out bottom valve (fig. 22/11) from dashpot.

Reassembling the suspension units

Before reassembling check parts; renew rubber washers and gaskets. When mounting the dashpot, take care that the end with the small cross hole is the bottom end (fig. 22/8). The sealing washer (fig. 22/12) must be mounted so that the inscription points upwards.

Further reassembling in an order reverse to that of disassembling.

Mounting the suspension units

1. First put suspension unit upon bottom fastening bolt, install washer and cap nut.
2. Put top end of suspension unit into the fixing link, put on screw.
3. Tighten at both ends.

Taking out rear wheel pivoted fork (fig. 23)

1. Take off chain guard (see operating instructions).
2. Take off rear wheel (see operating instructions).
3. Take out suspension units (fig. 22 and 23/1).
4. Remove engine casing (fig. 1).
5. Unscrew axle nut of pivoted fork (fig. 23/2 and 23/3), knock out bearing bolt and take off pivoted fork with prop stand.
6. Strip prop stand: Unhook prop stand spring, remove washer (fig. 23/4) from prop stand bearing axle, pull prop stand bearing axle out at the other end and detach prop stand (fig. 23/5).

Mounting the rear wheel pivoted fork:

1. Mount prop stand on pivoted fork with pressed-in silent blocks (for pivoted fork bearing) and suspension units supports as well as with pressed-in prop stand bearing bushes and rubber buffers.
2. When mounting the suspension units, take care that they must be first attached to the pivoted fork and only then to the frame.
3. Mount pivoted fork in an order reverse to that observed for taking out.

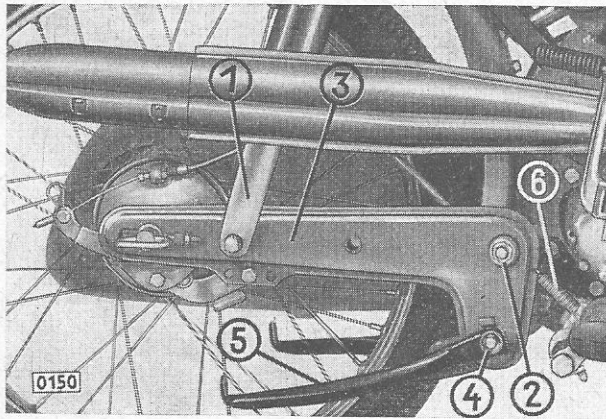


Fig. 23: Rear wheel swinging fork:

- | | |
|------------------|----------------|
| 1 telescopic leg | 4 Bz-circlip |
| 2 axle nut | 5 center stand |
| 3 swinging fork | 6 spring |

Hubs

a) Front wheel full width brake hub:

Start disassembling the hub from the brake plate side. Press thrust ring (fig. 24/1) off the spacer tube (fig. 24/2). Remove brake plate and brake shoes. Now you may easily accomplish any work on the brake or speedometer drive.

Seal rings (fig. 24/4) and ball bearings (fig. 24/6 and 24/7) should only be replaced if they are defective or if the bearings want greasing. In this case unscrew the slotted nut (fig. 24/3), hole of the rubber section of the seal ring (fig. 24/4) and press it off. Seal rings that have been removed cannot be used again, as they would no more protect the brakes against grease. Having removed the seal ring, you take the small snap ring (fig. 24/5) off the spacer tube. Now the l. h. ball bearing (fig. 24/6) may be dismantled by supporting the hub and pressing out the spacer tube (fig. 24/2) from the brake plate side. Subsequently the r. h. ball bearing (fig. 24/7) will be pressed out from the opposite having removed the large snap ring (fig. 24/8).

b) Speedometer drive

Having removed the brake plate (vide paragraph a) knock spanner sleeve out of the brake plate. Subsequently pull out the connecting piece and the driven speedometer wheel. Having dismantled the seal ring (48/37/4,5 mm = 1.89/1.457/0.177 in.) and the speedometer driving gear bushing and thrust washing may be removed if necessary.

For assembly take care that the driving shaft with Bz-circlip and thrust ring is fitted in the connecting piece with the square end head. Only now the pressure spring may be fitted. Check whether the plastic washer on the driven speedometer gear is tight.

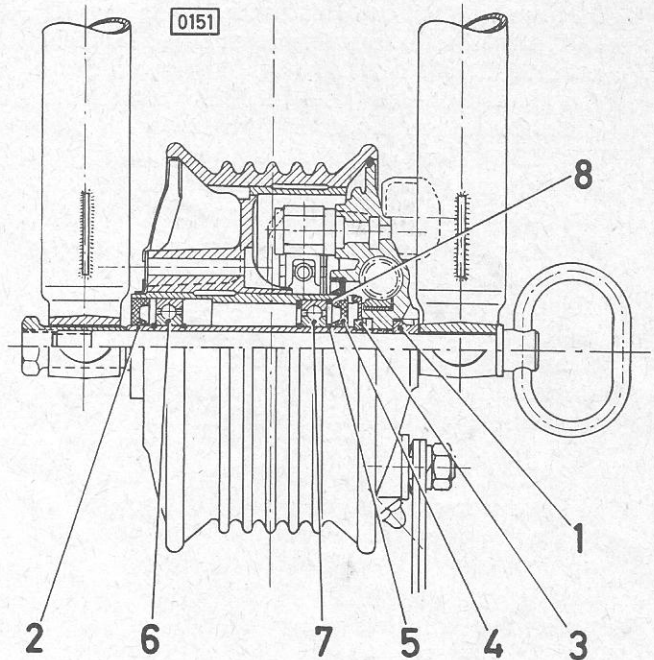


Fig. 24: Front wheel full-width brake hub:

- | | |
|---------------|----------------------|
| 1 thrust ring | 5 small snap ring |
| 2 spacer tube | 6 l. h. ball bearing |
| 3 slotted nut | 7 r. h. ball bearing |
| 4 seal ring | 8 large snap ring |

c) Rear wheel full-width brake hub

First remove brake plate with brake shoes, then press out of hub right-hand side thrust

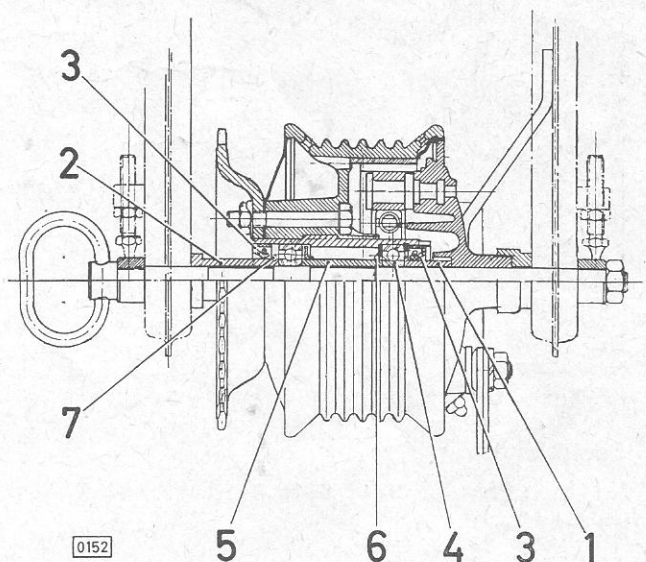


Fig. 25: Rear wheel full-width brake hub:

- | | |
|---------------------------|----------------------|
| 1 r. h. intermediate ring | 5 spacer tube |
| 2 l. h. intermediate tube | 6 supporting disc |
| 3 seal ring | 7 l. h. ball bearing |
| 4 r. h. ball bearing | 8 circlip |

sleeve (fig. 25/1) and left-hand side spacer (fig. 25/2) with the two sealing rings (fig. 25/3). Then press out right bearing (fig. 25/4) by means of the special device (pos. 121.7029) and take off distance sleeve (fig. 25/5) with centering plate (fig. 25/6). Finally press out bearing in hub. Until eventual change of rear sprocket, disassembling of hub is unnecessary.

Reassembling in reverse order, by observing the following hints: The right bearing is pressed in together with the centering plate (fig. 25/6) (stamping inside!). The sealing rings, before being pressed in, must be pushed upon sleeves (fig. 25/1 and fig. 25/2). In the case of the left-hand side spacer (fig. 25/2), the circlip (fig. 25/7) must first be taken off before mounting the sealing ring. Every time when reassembling, mount new sealing rings, as the brake is otherwise not sufficiently protected against penetrating grease.

Stripping the fuel tank

1. Drain fuel (fig. 26/1).
2. Pull off fuel pipe (fig. 26/2).
3. Undo the two straps (fig. 26/3 and fig. 26/4) and take off fuel tank.

Mounting in reverse order.

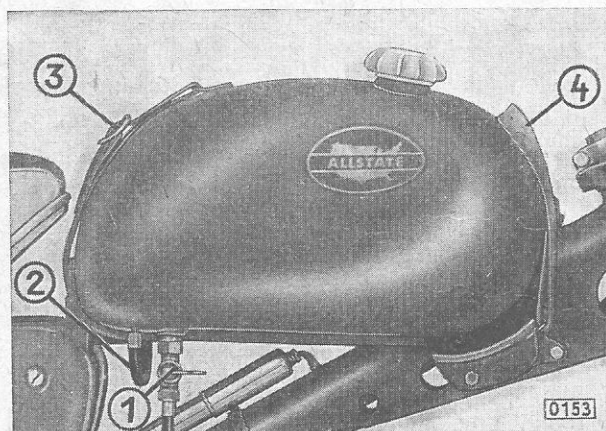


Fig. 26: Stripping the fuel tank:

- | | |
|-------------------|---------|
| 1 fuel tap | 3 strap |
| 2 connecting pipe | 4 strap |

Center stand

For mounting vide "Removing the rear wheel pivoted fork".

What to do when in difficulties care and maintenance, over hauling, adjustment

(For these chapters, please, compare the Operating Instructions)

Once again we wish to stress the importance of correctly adjusting the gearshift and the play of the clutch (compare the chapters "Engine Re-

Carburettor adjustment

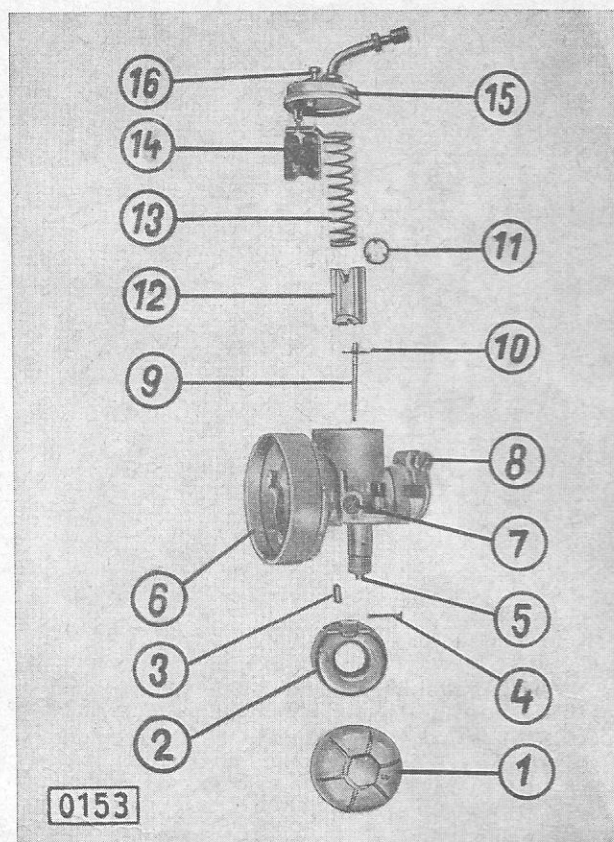


Fig. 27: Carburettor, exploded view:

- | | |
|---------------------------------------|--------------------------------------|
| 1 float cap | 9 jet needle |
| 2 ring float | 10 clamp spring |
| 3 float needle | 11 washer |
| 4 pin | 12 throttle piston |
| 5 main jet | 13 thrust spring for throttle piston |
| 6 carburettor housing | 14 start slide |
| 7 adjusting screw for throttle piston | 15 carburettor cover |
| 8 clamp screw | 16 cap screw |

assembling" and "Fixing the Engine to the Frame"). Carburettor Bing 1/17 (fig. 27). Main jet 90 (fig. 27/5). Needle position 3 and valve needle in third notch from top end, clamped) (fig. 27/9).

After a running-in distance of about 500 km (300 miles) main jet 88 (fig. 27/5) can be experimentally installed. It may remain, if acceleration from slow and average riding speeds is smooth and steady on opening the twist grip to full throttle, i. e. if get-away speed (or acceleration) and hill-climbing ability are not worse than with main jet 90. Main jet 90 should be reinstalled, if with main jet 88, on opening up to full throttle the speed increases very slowly or fails to increase altogether, or if it increases while the twist grip is being turned back. This means that the engine accepts gas badly. At the same time the hill-climbing ability will diminish. In such a case there is no point in using main jet 88 to save fuel, as the exact opposite will result.

TAIL - STOP- LIGHT

HEADLAMP 6 V 25/25 W

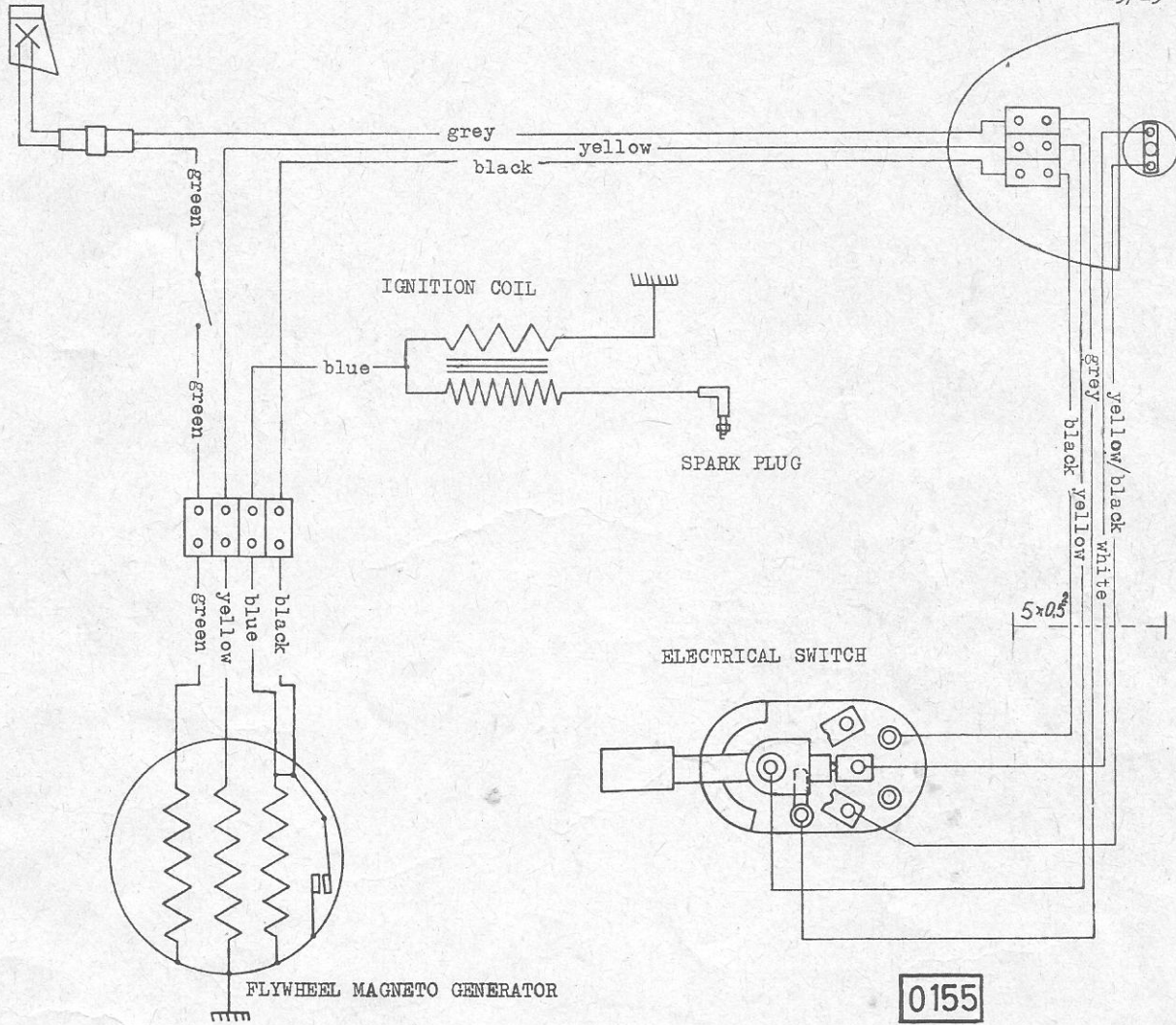


Fig. 28: Wiring diagram

