

Lambretta

125 dl

150 dl

200 dl

instruction booklet

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MOTOR DIVISION



Lambretta

125 DL

150 DL

200 DL

**instruction
booklet**



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We are honoured and pleased to welcome you amongst the owners of the **LAMBRETТА** and we appreciate your choice of our product.

The **LAMBRETТА** was designed and built in our works. It has reached you after exacting checks and tests, thus ensuring the perfection and long life of our product.

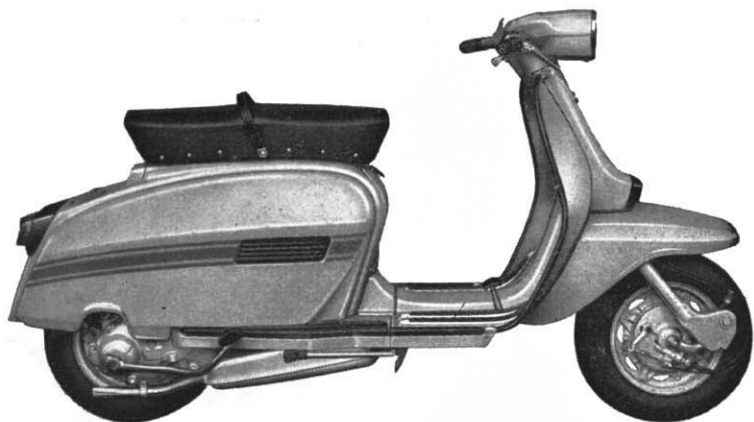
The life of your vehicle depends very much on the care and maintenance you give it. We have here, briefly summarised some fundamental hints and instructions which, we feel, will help you in knowing and making the most of your new machine.

Remember we have created in this country and throughout the world a network of Authorised Lambretta Service Dealers, with trained personnel and fully equipped with tools and original spare parts to ensure the perfect operation of your machine. Accept our advice and take advantage of their skill and expert knowledge at any time, bearing in mind that every member of this great Lambretta Organization is at your service.

We wish you "Bon voyage" and a wonderful time on your new **LAMBRETТА** designed for you the connoisseur.

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LAMBRETTA 125 cc - 150 cc



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LAMBRETTA 200 cc

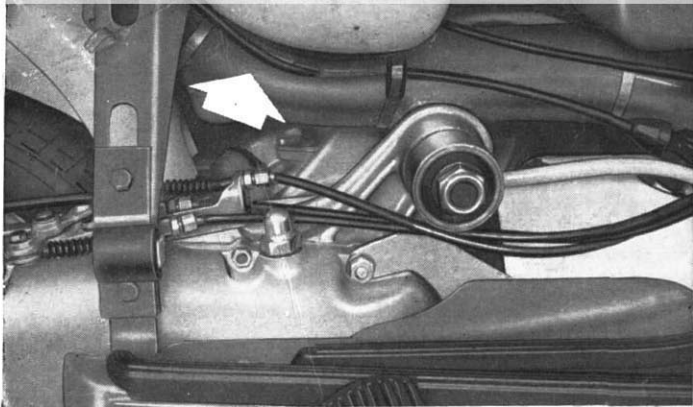
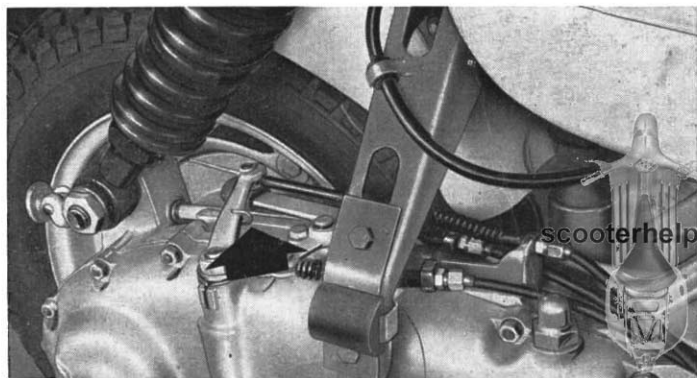


Fig. 1

IDENTIFICATION

The frame and engine numbers, which serve to identify your machine in accordance with the Rules and Regulations, are stamped as shown in figures 1 and 2. These numbers should always be quoted when requesting spare parts.

Fig. 2





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	125 cc	150 cc	200 cc
ENGINE	Two stroke single cylinder, forced air cooled.		
Bore	2.05 in	2.24 in	2.6 in
Stroke	2.28 in	2.28 in	2.28 in
Capacity	19 sq.in	23.1 sq.in	30.7 sq.in
Compression ratio	7.85	7.8	7.3
Max output (IGM)	7.3 HP	9.27 HP	11.74 HP
Starting	at 6200 r.p.m.	at 6300 r.p.m. By pedal.	at 6200 r.p.m.
Carburettor DELLORTO type	SH 1/20	SH 2/22	SH 2/22
Max jet	98	118	118
Pilot jet	45	45	45
Starting jet	50	50	50
Diffuser	20	22	22
Air filter	Cartridge type.		
IGNITION	By flywheel magneto and external H.T. coil.		
Spark plug: with long screw thread (18 mm)	BOSCH W 225 T2 - MARELLI CW 240 L CHAMPION N 4		
Fixed spark advance	$21^{\circ} \pm 1^{\circ}$ (corresponding to $0.087'' \div 0.105''$ of piston stroke from T.D.C.)		
Maximum opening of contact points of the flywheel	$1/64''$ (0.35-0.45 mm)		



125 cc

150 cc

200 cc

CLUTCH

TRANSMISSION

Reduction ratio

GEARBOX

Overall gear ratios:

- 1st speed
- 2nd speed
- 3rd speed
- 4th speed

WHEELS AND BRAKES

Wheels

Rims: in pressed sheet, split
in two halves

Tyres

Tyre pressure:

- front tyre pressure
- rear tyre pressure:
- rider only
- with pillion

BRAKES

Multi disc in oil bath.

By chain in oil bath.

15/46=1/3.07 | 15/46=1/3.07 | 18/47=1/2.61

Constant mesh gearbox, alternatively keyed off
the rear axle.

- | | | |
|-----------|-----------|----------|
| 1 : 15.34 | 1 : 15.34 | 1 : 13.5 |
| 1 : 10.73 | 1 : 10.73 | 1 : 9.14 |
| 1 : 7.97 | 1 : 7.97 | 1 : 6.79 |
| 1 : 6.13 | 1 : 5.65 | 1 : 5.22 |

Interchangeable.

2.10

3.5-10

12 lbs.sq.in.

18 lbs.sq.in.

32 lbs.sq.in.

Front and rear internal expansion. | Front brake disc type.

Mechanical control by handfor front wheel, by
pedal forrear wheel.

LUBRICATION

Transmission, clutch and gearbox
 — Crankcase capacity

SILENCER**STEERING****SUSPENSIONS:**

— front

— rear

FRAME**CENTRE STAND****ELECTRICAL EQUIPMENT**

The electrical equipment is fed by the 6V flywheel magneto with poles

125 cc**150 cc****200 cc**

By petrol/oil mixture with 4% of oil (AGIP F.1 2T) during the running-in and with 2% of oil after the first 900 miles.

Oil AGIP F.1 Rotra SAE 90
 21 ozs.

With expansion in double room.
 Driven by means of steel tubular fork.

By means of trailing links and helical springs placed in the fork arms.

Telescopic shock-absorbers.

Swinging engine unit with shock absorber carrying two helical springs.

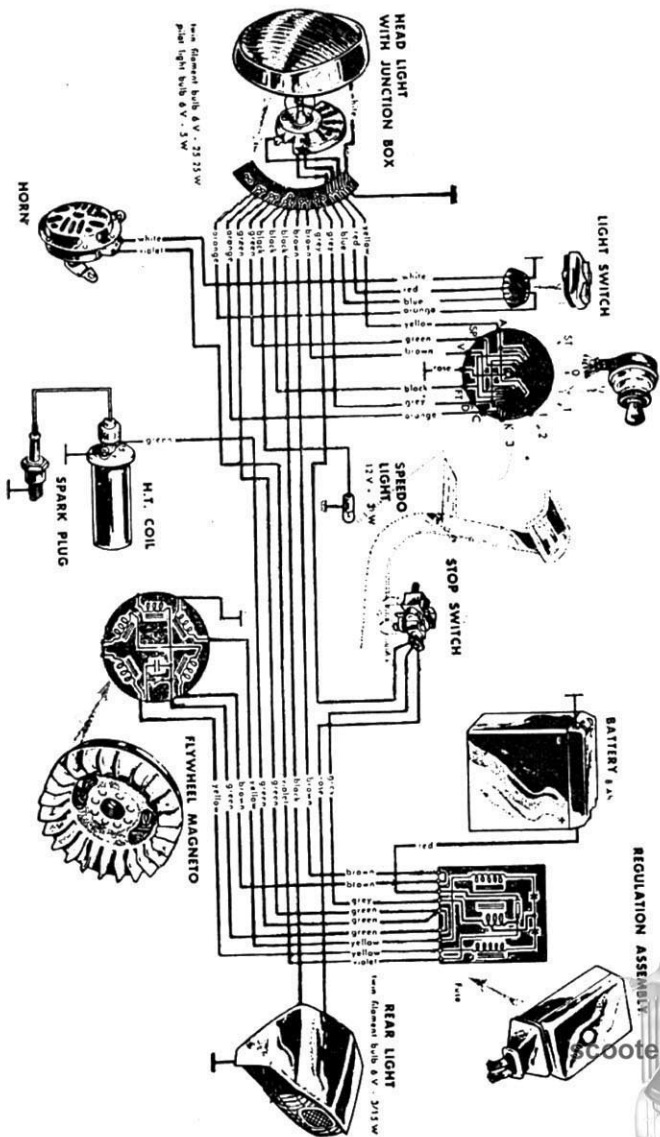
Central in steel tube. Bodywork in pressed steel sheet.

With two arms.

	125 cc	150 cc	200 cc
Nominal power of flywheel magneto		30 Watts	
Front headlight	Headlamp 6V - 25/25 W (pilot light, main and dipped beams).		
Rear light	Headlamp 6V - 3/15 W (pilot light, number plate light, stop light).		
Main switch	On handlebar, right hand, near the hand grip.		
Horn	On the light switch.		
Battery 6V - 8 Ah	On request.		
Fuse (8A)	In the electrical equipment with battery.		
SIZE - WEIGHTS AND PERFORMANCES			
Overall length	70.8 in		
Overall width (handlebar)	26.8 in		
Overall height	39.8 in		
Wheelbase	50.8 in		
Unladen weight in running conditions	221.5 lbs	221.5 lbs	238.1 lbs
Fuel tank capacity		1.78 imp.gals	
— reserve capacity		1 ³ / ₄ pints	
Fuel consumption (according to CUNA standard)	112.7	86.2	70.6
Maximum speed	m.p.imp.gal	m.p.imp.gal	m.p.imp.gal
Climbing ability with full load:	56.7 mph	62.4 mph	68.8 mph
1st speed	7%	9%	11%
2nd speed	13%	15%	18%
3rd speed	21%	23%	28%
4th speed	35%	36%	40%



WIRING DIAGRAM (machine with battery)



WIRING DIAGRAM (machine without battery)

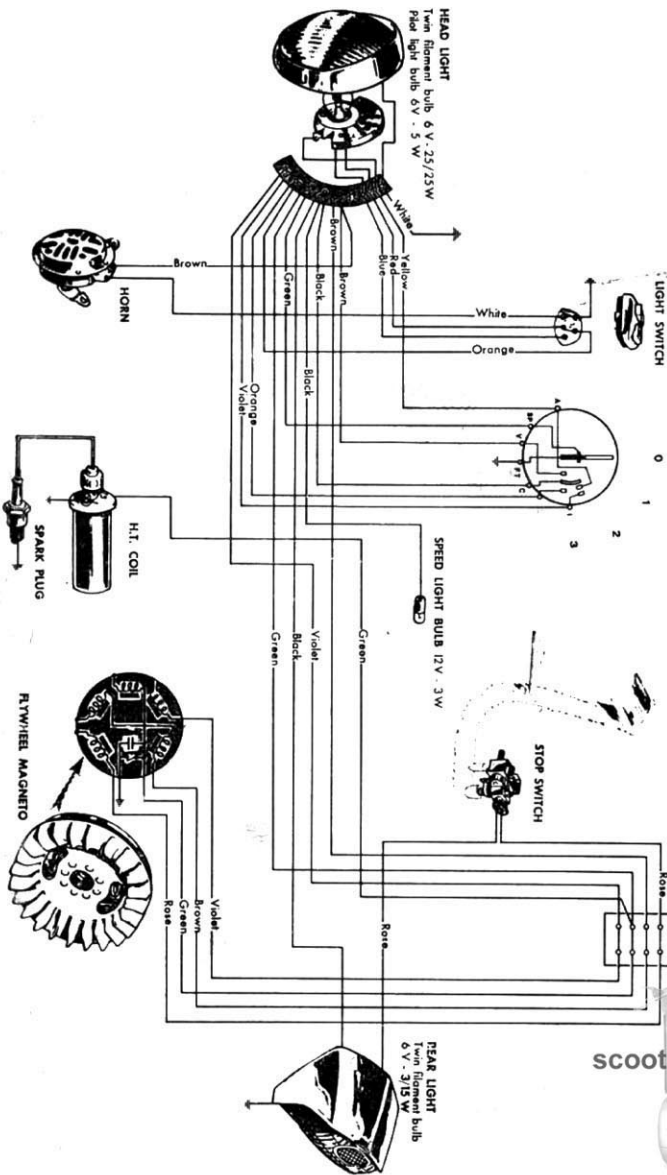




Fig. 3

KEYS

The sets of keys supplied with your scooter are for the steering lock fitted under the left hand of the handlebar (see fig. 3) and for the luggage box situated in the central front rib of the frame (fig. 4) and the ignition/lighting switch.

Each key has a number stamped on it and the same number is stamped on the lock, so that in case of loss, a replacement can be obtained by quoting the appropriate number.

Fig. 4

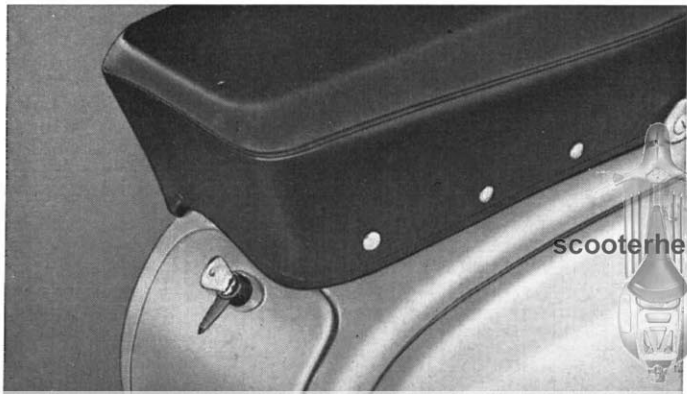
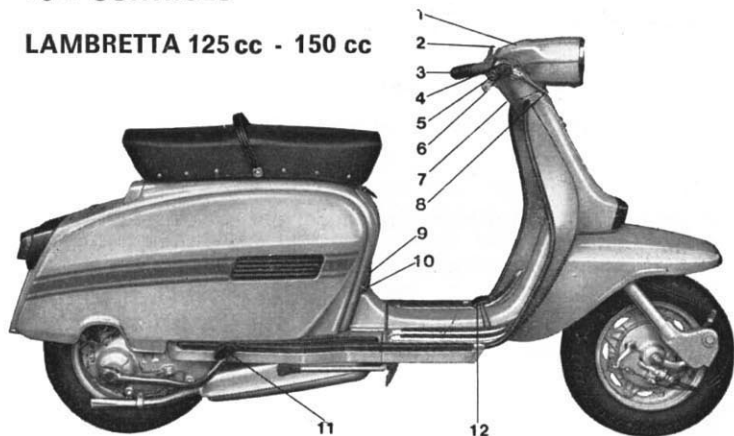


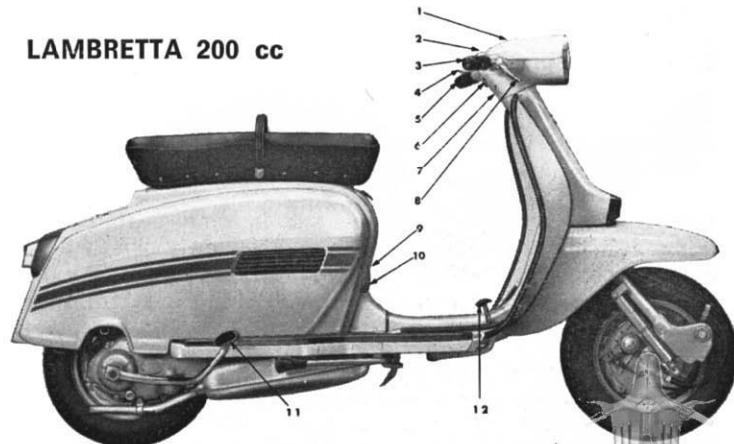
Fig. 5 CONTROLS

LAMBRETTA 125 cc - 150 cc



1. Speedometer - 2. Clutch lever - 3. Gear change control - 4. Light switch - 5. Throttle twist grip - 6. Ignition switch - 7. Antitheft device - 8. Front brake lever - 9. Fuel tap - 10. Starting control lever - 11. Starter pedal - 12. Rear brake pedal.

LAMBRETTA 200 cc



1. Speedometer - 2. Light switch - 3. Throttle twist grip - 4. Gear change control - 5. Ignition switch - 6. Antitheft device - 7. Front brake lever - 8. Fuel tap - 9. Starting control lever - 10. Starter pedal - 11. Starter pedal - 12. Rear brake pedal.

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CONTROLS

Fig. 5 shows the controls on your scooter. They are:

Right hand: throttle twist grip and front brake lever, headlight dip switch.

The ignition/lighting switch has the following positions, operated by key:

ST - Ignition off, parking lights on (machine with battery)

0 - Ignition off, lights off

1 - Ignition on, lights off

2 - Ignition on, city lights on

3 - Ignition on, headlight on

Left hand: clutch control lever and gear change twist grip.

Centre - facing driver: ignition and lighting switch and, under left hand handlebar arm, the steering lock. To lock machine, turn front wheel full lock, left or right and turn key $\frac{1}{2}$ turn. The key can be extracted from lock whether in locked or unlocked position.

On top of handlebar: Speedometer.

Right hand side: Rear brake pedal, which also controls stop light switch.



On the central frame rib under the front part of saddle.

On left hand side: 3-way fuel tap (closed, open, reserve) see fig. 6.

When machine is at stand-still, it is advisable to turn tap to closed position. The fuel tank contains a total of 1.78 galls. (8.1 Lt) of fuel. When riding, tap should be in open position, and when you switch over to reserve you still have 1 $\frac{3}{4}$ pints (0.75 Lt) available (in other words a further 19 miles approximately).

On right hand side: start control. Turn start control lever 180° anticlockwise (only when starting on a cold engine). Return to original position as soon as engine is running steadily.

On right hand side of machine: kickstart pedal. Before starting, ensure that gear is in neutral.

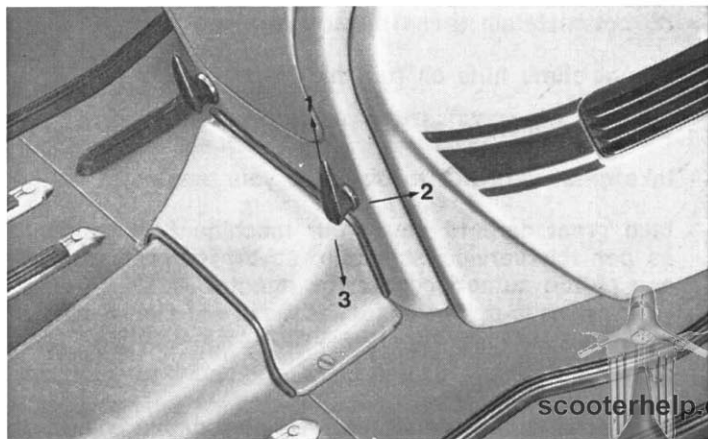


Fig. 6

1. Closed

2. Open

3. Reserve



SERVICE INSTRUCTIONS

During running-in period

(first 900 miles) keep strictly to the following rules:

- use a mixture of 4% oil (1 part in 25) (AGIP F.1 **two stroke**) and good standard petrol;
- do not exceed the following speeds:

	1st gear	2nd gear	3rd gear	4th gear
125 cc . . . mph	12	19	24	31
150 cc . . . mph	12	19	24	34
200 cc . . . mph	15,5	22	31	37,

- do not maintain these speeds for long periods;
- do not climb hills on full throttle;
- do not accelerate at full throttle;
- take great care **not to overheat** your engine;
- take great care to have your machine fully serviced, as per the service schedule, at the correct time, by one of the authorized service agents;
- change crankcase oil after the first 900 miles.

Remember that the life of your scooter depends entirely on the running-in schedule being properly maintained.



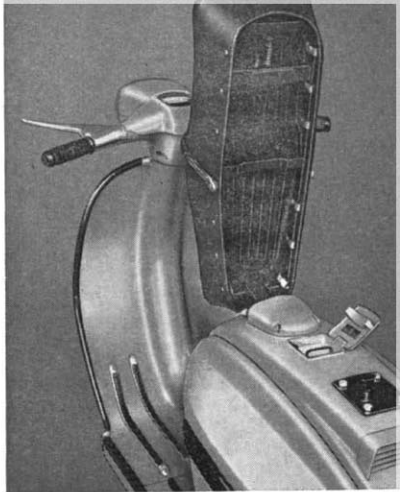


Fig. 7

FUEL - FUEL TANK

After the running-in period, use mixture of **2%** oil (1 part in 50) for 125 - 150 cc and **4%** (1 part in 25) for 200 cc (AGIP F.1 **two stroke**).

To reach the fuel tank filler cap:

open the lid situated on the central frame rib behind the driver's seat. See fig. 7.

SIDE-PANEL REMOVAL

The side panels are fixed by means of two springs (fig. 8).

To remove the side-panel lift the spring and remove it away from the side panel edge pushing towards the wheel.

To replace put the side-panel in its correct position on the frame, and push the springs upwards. www.motocyclehelp.com
to engage it on the internal edge of the panel.



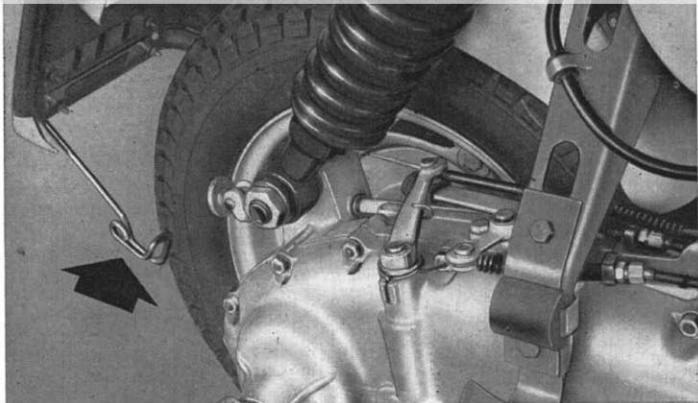


Fig. 8

WHEELS

To remove the front wheel:

- unscrew the four dome nuts fixing rim to hub (care must be taken not to unscrew the other nuts);
- unscrew the two nuts holding hub to trailing links;
- slip wheel from links and hub, taking care not to pinch or bend the front brake and speedometer drive cables.

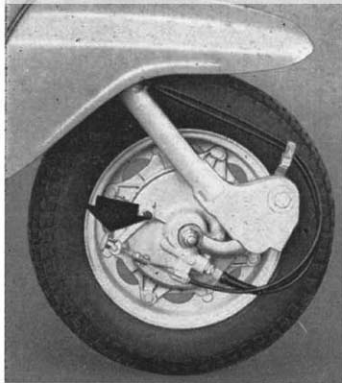
To remove the rear wheel:

- unscrew the four dome nuts and slip wheel from hub.

To remove tyre from rims:

- remove wheel (as above);
- ensure that tyre is fully deflated;
- unscrew the four nuts holding the rims together.





Expansion brake



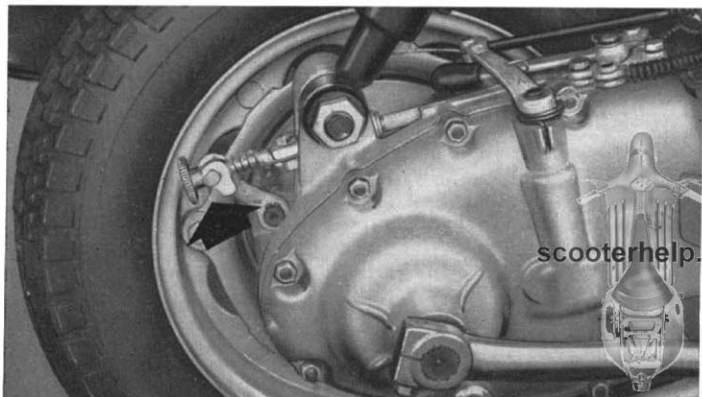
Fig. 9

Disc brake

BRAKES

Ensure that the brakes are kept regularly adjusted so that the wheel is completely free to rotate, but the braking effect begins immediately the lever or pedal is used. Adjustment is carried out by means of two adjusters (see fig. 9 and 10).

Fig. 10



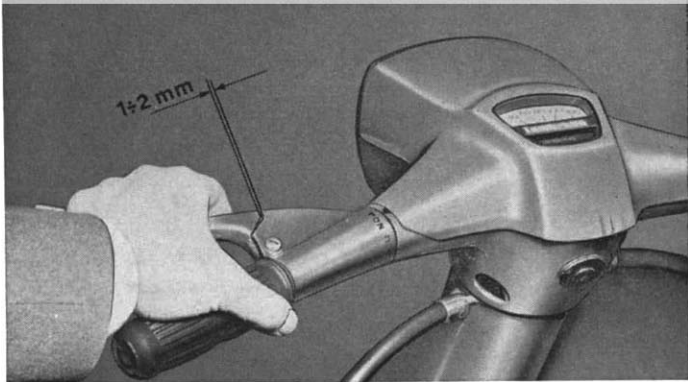
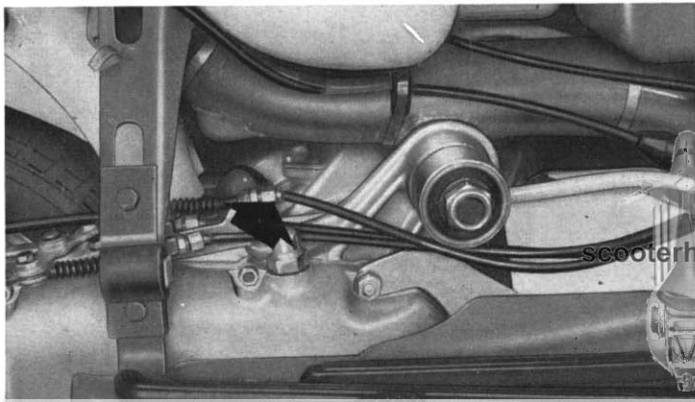


Fig. 11

CLUTCH

Keep the clutch constantly adjusted, so that it begins to slip when the clutch lever is in the position shown on fig. 11. The adjustment is carried out by turning the adjuster illustrated in fig. 12.

Fig. 12



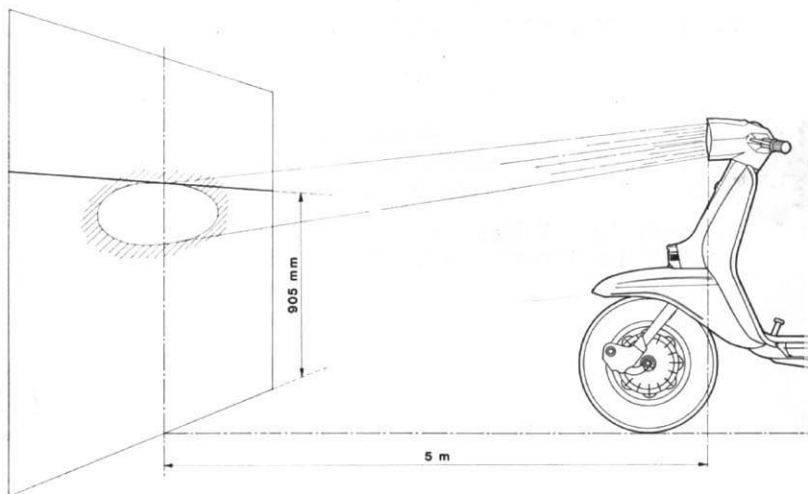


Fig. 13

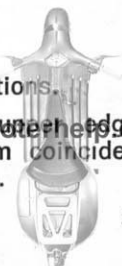
HEADLAMP ADJUSTMENT

Check tyre pressures.

Place a vertical screen as shown in fig. 13.

Put the scooter under the normal load conditions.

Adjust beam by means of screw until the upper edge of the zone illuminated by the dipped beam coincides with the horizontal line traced on the screen.



FUSE (machines with battery)

If, when the ignition/lighting switch is in position 2 the lights do not operate, check the fuse. If this has failed replace it and check the circuit for the cause.

To reach the 8 A fuse, protecting the equipment, remove the left hand panel, open the rectifier-regulator cover (see figs. 14-15).

IMPORTANT: To avoid possible bulb failure, ensure that the lights are not switched on while engine is running without the battery properly connected.

Fig. 14



Fig. 15



LUGGAGE BOX AND TOOLS

The luggage box is fitted into the central frame rib under the front part of the driver's seat. A pair of keys for this box is supplied with the scooter (see page 6). In the luggage box, a tool kit is supplied consisting of:

- 1 double ended box spanner 21 - 13 mm for the spark plug and wheel nuts;
- 1 hexagon key (10 mm) to be used for unscrewing the oil-drain plug;
- 1 double ended spanner 8 - 10 mm;
- 1 screwdriver.

The machine is supplied with a plastic mudflap, to be fitted on the central web of the frame, under the rear number plate.

STARTING - RUNNING - STOPPING

To start the scooter:

- place on centre stand;
- ensure that gear is in neutral;
- open fuel tap;
- turn starting control lever - **only** when engine is cold;
- **keeping throttle to minimum**, kick start machine;
- as soon as engine is turning over, open the throttle slightly;
- if the starting control lever has been used, return to original position;
- during cold weather, run engine a few minutes to warm up before using machine.



To move off:

- bring machine off its stand;
- with engine ticking over, pull clutch lever and put into 1st gear by rotating left twist grip;
- left clutch lever out slowly, accelerating engine gradually to maintain constant revolutions;
- continue to accelerate until you have reached the correct speed to change up to a higher gear.

To change gear:

- close throttle;
- pull clutch lever;
- engage next gear;
- let clutch lever out accelerating gradually at the same time.
- Do not hesitate to drop to a lower gear, although it will reduce speed.

To stop engine:

- close throttle;
- pull clutch lever;
- put gear into neutral;
- stop engine by turning ignition key to position « 0 ».



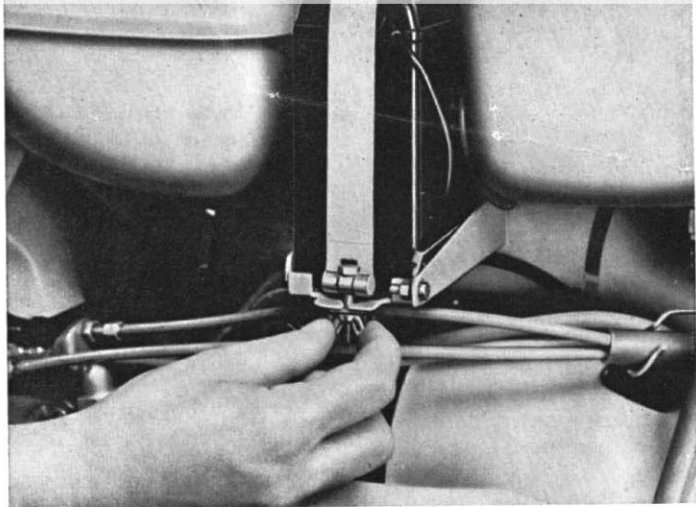


Fig. 16

PERIODIC MAINTENANCE

Every 4 weeks (only for machines with battery):

Add distilled water to parking light battery until water is about $\frac{1}{4}$ " (mm 5) over the top of cells. To do this it is necessary to remove battery, as shown in fig. 16, loosening the set screw, so to unhook the support band itself.

Grease battery terminals with vaseline.

Every 1250 miles (2000 km):

Brakes: check adjustment.

Spark plug: check, clean electrodes with file and adjust gap to 0.020" (mm. 0.5-0.6).



Lubrication: Crankcase: re-establish level with **oil AGIP F.1 Rotra SAE 90**. To do this, unscrew oil level and filler plugs, pour in oil until this begins to flow from level plug (see fig. 17).

Clutch cable knuckles
Gear change cable knuckles,
twin lever
Rear brake knuckles
Front brake knuckles
Front brake cam pin
Rear brake cam pin
Handlebar control lever knuckles
Rear brake pedal pin

Grease with
AGIP F.1 Grease 15

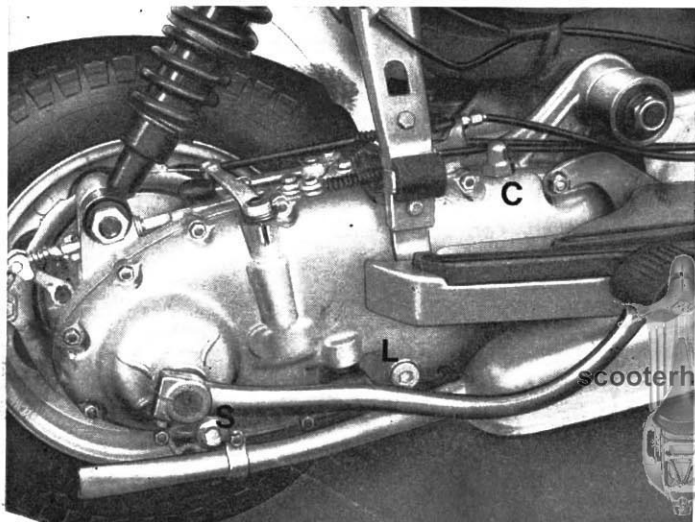
Every 2500 miles (4000 km):

Clutch control: check adjustment.

Flywheel magneto contact breaker points: clean and set gap 1/64" (mm 0.35-0.45): we suggest that adjustment of this part is carried out by Authorized Service Agent.

C - oil filler plug **L** - oil level plug **S** - oil drain plug

Fig. 17



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Flywheel magneto cam oil pad: lubricate.

Carburettor air filter: Take out filter cartridge from air inlet box (see fig. 18-19), clean by sharking and blowing with low pressure air. **Do not wash in petrol.**

We strongly recommend to rechange the filter cartridge every 6.500 miles (Km. 10.000).

Decarbonise cylinder, cylinder head, piston head and silencer We strongly recommend that this work be carried out by an Authorized Service Agent.

Lubrication: Crankcase: drain oil completely through drain plug (see fig. 17) when the engine is warm.

Replace drain plug, unscrew, filler and lever plugs; pour in oil until this flows from level plug.

Quantity of oil needed 1¼ pints of **AGIP F.1 Rotra SAE 90.**

Speedometer drive box: grease with **AGIP F.1 Grease 15.**

Front wheel bearings: grease with **AGIP F.1 Grease 30.**

Front suspension knuckles: grease with **AGIP F.1 Grease 15.**

Fig. 18

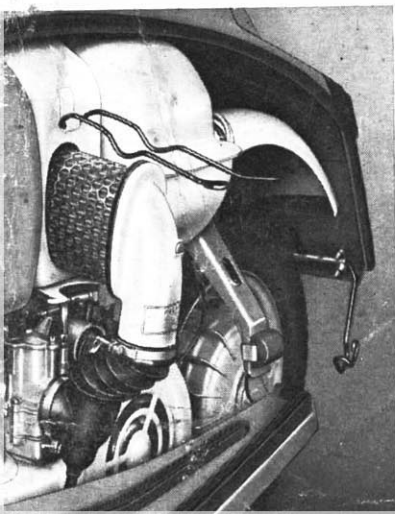
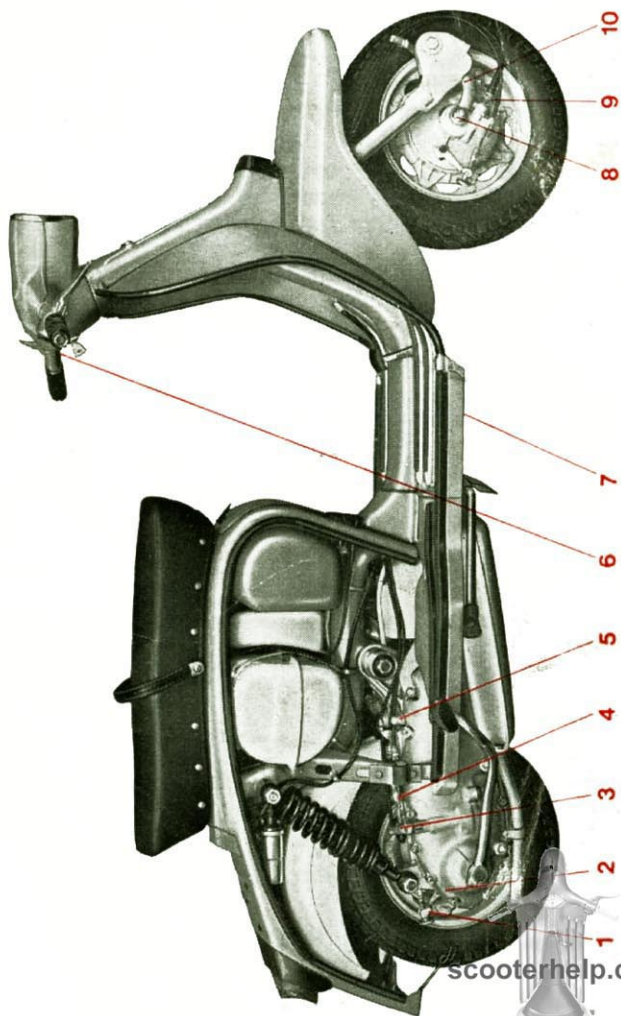


Fig. 19





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Flooded carburettor

close fuel tap, open throttle and endeavour to kick start. Or, unscrew and dry out spark plug, replace plug and kick start the motor.

Damaged carburettor float

have it replaced at a Service Agent.

Ignition faults

If current is reaching H.T. Lead:

- **dirty spark plug**
- **electrodes non adjusted or worn**
- **faulty spark plug**

unscrew and clean.

adjust to 0.020" (0.5-0.6 mm).

replace with a new one.

If current does not reach H.T. Lead:

- **contact breaker points faulty**
- **Flywheel magneto or H.T. coil circuits shorting**

take machine to an Authorized Service Agent.

take machine to an Authorized Service Agent.

Engine knocking

Incorrect mixture

draw out and replace with correct fuel mixture.

Pre-ignition

clean spark plug. Decarbo-nise cylinder head.

Ignition too far advanced

see an Authorized Service Agent.

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Engine misfires

Irregular flow of fuel to the carburettor	check and clean out fuel passages.
Spark plug electrode gap too wide	re-adjust to correct gap.
Dirty spark plug	unscrew and clean out.
Contact points dirty or not adjusted	clean and adjust gap between points.

Explosion in carburettor

Pre-ignition due to excessive overheating of spark plug	change spark plug for one of a higher heat range.
Carbon deposits on spark plug	clean out spark plug.

Loss of power or excessive overheating

Weak mixture	adjust by closing slightly the carburettor air screw.
Incorrect timing	adjust timing. Take machine to an Authorized Service Station.
Exhaust port or silencer partially obstructed	clean out port or silencer.
Cylinder head loose	tighten cylinder head nuts.

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