instruction booklet

Lambretta INNOCENTI X200 SPECIAL

INNOCENTI motor division

INNOCENTI **motor division**

It is our pleasure to congratulate you on your choice of a **LAMBRETTA Special X 200** *— our machine for the ambitious. Your preference for this machine encourages us to treat you as a specialist — a super sportsman — a connoisseur in the field of scootering.*

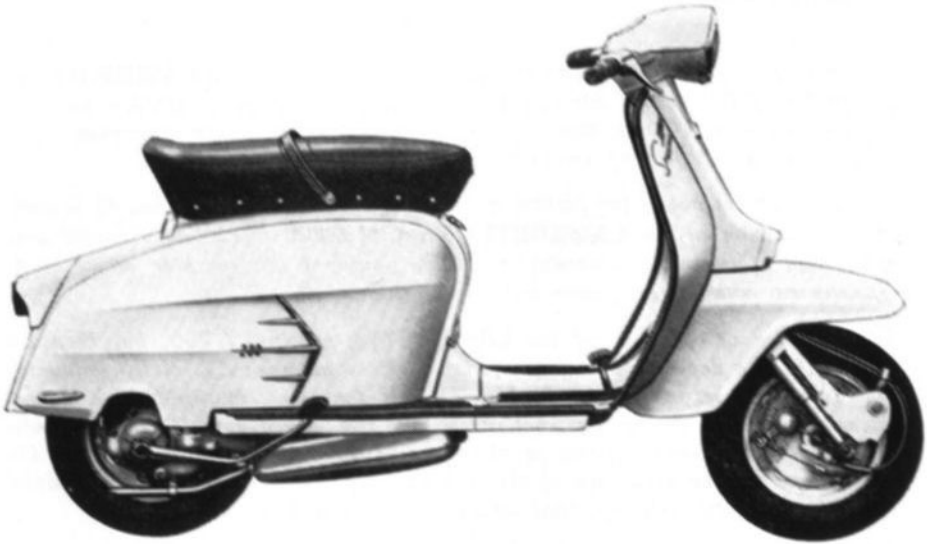
You have always hoped for perfection in performance. We have achieved it with the introduction of the **LAMBRETTA Special X 200** *Years of research and application of the most rigourous tests have produced this machine which combines speed with safety, power with comfort.*

The standard of efficiency of the **LAMBRETTA Special X 200** *has been set at a peak. We depend on you to maintain this standard by carefully following the instructions set out in this booklet. Do not deny your machine the care and attention necessary for perfect scootering. We have created a network of authorized Lambretta Service Agents in this country and throughout the world. Do not hesitate to take advantage of the skill and expert knowledge of their trained personnel who are fully equipped to assist and guide you.*

We wish you «Bon Voyage» on your new **scooter** *designed for you, the connoisseur.*

Lambretta

LAMBRETTA CONCESSIONAIRES LTD
TROJAN WORKS - PURLEY WAY - CROYDON - SURREY



Lambretta INNOCENTI Special X 200

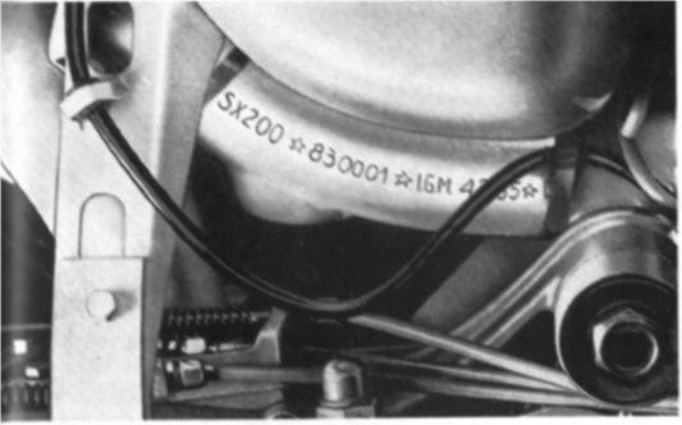


Fig. 1

Fig. 2

IDENTIFICATION OF THE SCOOTER

The frame and engine numbers, which serve to identify your scooter in accordance with the Rules and Regulations, are stamped as show nin figures 1 and 2. These numbers are repeated on log-book, and should always be quoted when requesting spare parts.

KEYS

The sets of keys supplied with your scooter are for the main light switch in the centre of the handlebar facing the driver, see fig. 3, for the steering lock fitted under the left hand of the handlebar and for the luggage box situated in the central front rib of the frame (fig. 4). Each key has a number stamped on it and the same number is stamped on the lock or switch itself, so that in the case of loss, a replacement can be obtained by quoting the appropriate number.

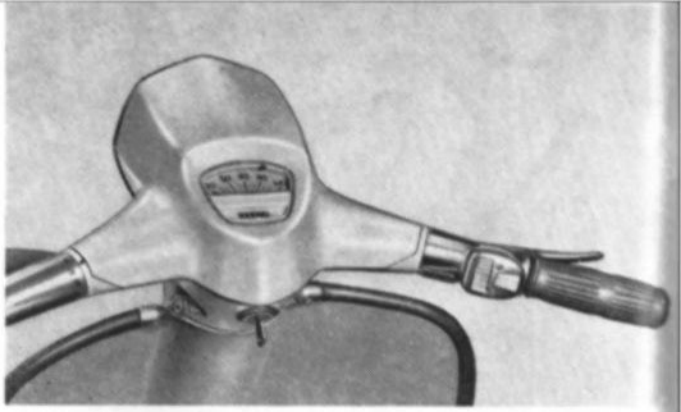


Fig. 3

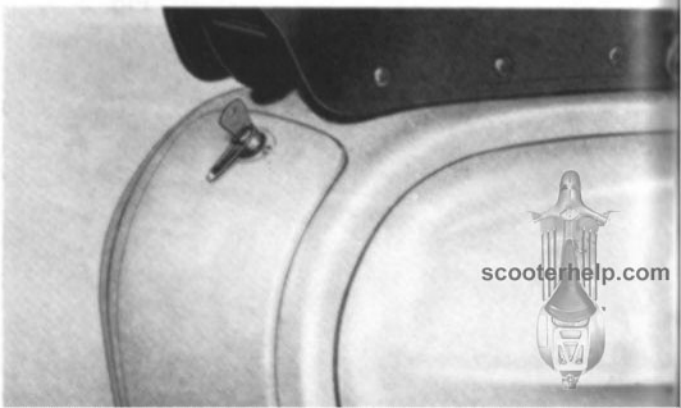


Fig. 4

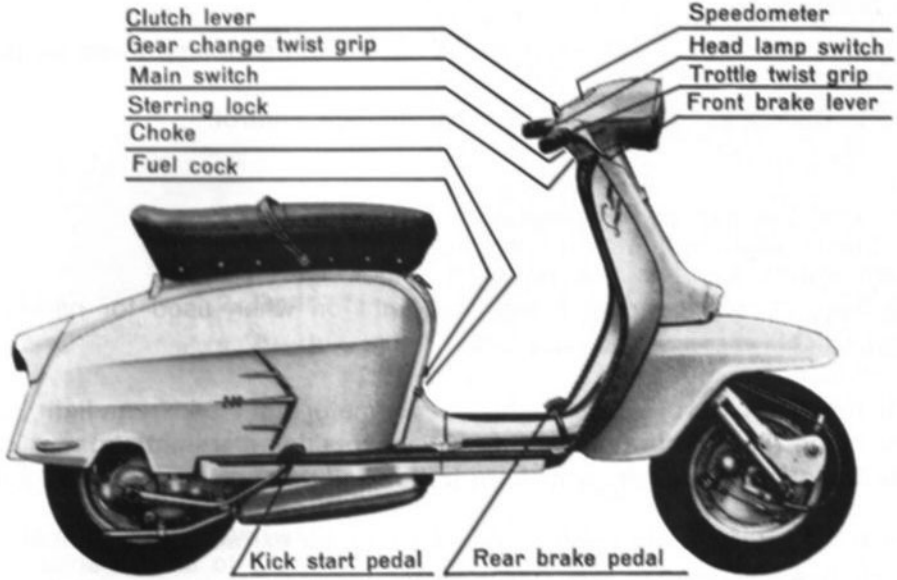


Fig. 5

CONTROLS

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

On the handlebar

Right hand: front brake lever, throttle twist grip and head-lamp beam switch with horn button.

Left hand: Clutch control lever and gear change control.

Centre:

on top: speedometer and head-lamp;
facing driver: main switch and steering lock.
The main switch key has five positions; clockwise:

— pilot light, speedometer light and rear light on when used for parking;
— (key vertical) machine at standstill - lights out;
— day riding-lights out;
— night riding (in town) - pilot light, speedometer light and rear light on;
— night riding (in country areas) - headlamp, speedometer light and rear light on.

The headlamp beam switch, with horn button, is fitted near to the light hand twist grip.

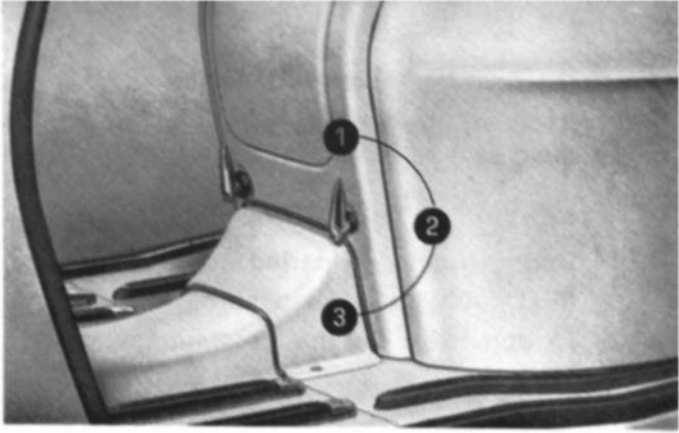
In the first two positions to the left, the key can be extracted from main switch.

Under left hand handlebar arm: steering lock.

To use steering lock, turn handlebar full lock to either o fleft and then turn key half a turn.

On the footboard

Right hand side: Rear brake pedal.



1. Closed
2. Open
3. Riserva

Fig. 6

On the central frame rib under the front part of saddle

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

When machine is at stand-still. it is advisable to turn tap to closed position. The tank contains a total of 1.8 galls. (8,1 Lt) of fuel. When riding, tap should be in open position, and when you have to switch to reserve you still have 1 ½ pints (0,8 lt) available (in other words a further 20 miles approximately).

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

On right hand side of machine

Kickstart pedal. Before kick starting, ensure that gear is in neutral, insert key into main switch, turning in to position 3.

SERVICE INSTRUCTIONS

During running-in period

(first 1000 miles) keep strictly to the following rules:

— do not exceed the following speeds:

	1st gear	2nd gear	3rd gear	4th gear
m. p. h.	**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.

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

Fuel - Fuel tank

During running-in period and after use a mixture of 4 % oil **AGIP F.1 2 T** and standard petrol 98 ÷ 100 O.N.

To reach the fuel tank filler cap:

— free the saddle hold by pressing on rear portion (see fig. 7);

— lift saddle forward and open lid on frame rib. (see fig. 8).

The tank contains a total of 1,9 galls. of which 1 1/2 pints reserve (for the fuel tap, see page 7).

Fig. 7

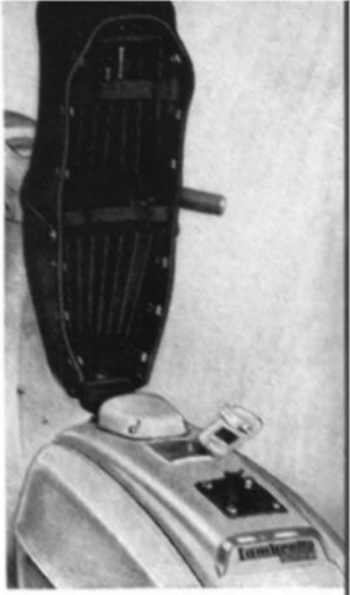


Fig. 8

Wheels

Tires 3.5 - 10

Pressure: front 12 lbs per sq. inch (0,9 kg/sq.cm); rear 18 lbs per sq. inch (1,25 kg/sq.cm) with rider only; rear 32 lbs per sq. inch (2,25 kg/sq.cm) with pillion rider.

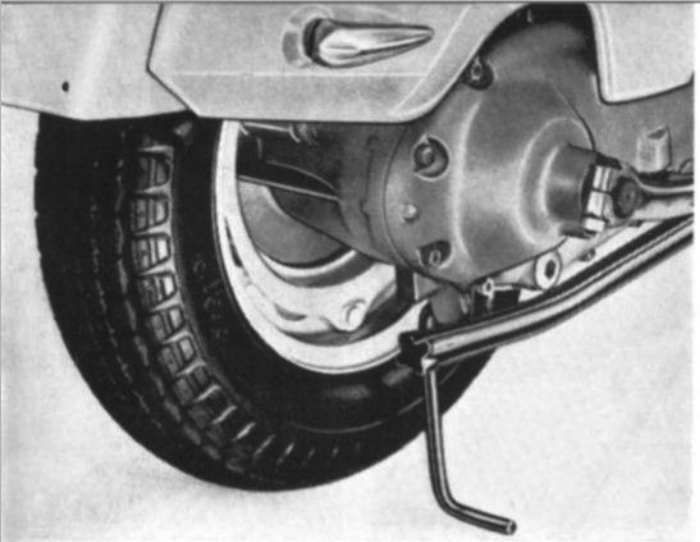


Fig. 9

Wheels are interchangeable. To dismantle, lift machine on its stand. The necessary tools will be found in the luggage box (see pag. 14).

To dismantle 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 dismantle the rear wheel:

— fit the wheel lift stand, supplied in kit, to the lug on crankcase (see fig. 9);
— unscrew the four dome nuts and slip wheel from hub.

To dismantle tire from rims:

— dismantle wheel (as above);
— ensure that tire is deflated;
— unscrew the four nuts holding the rims.

Brakes

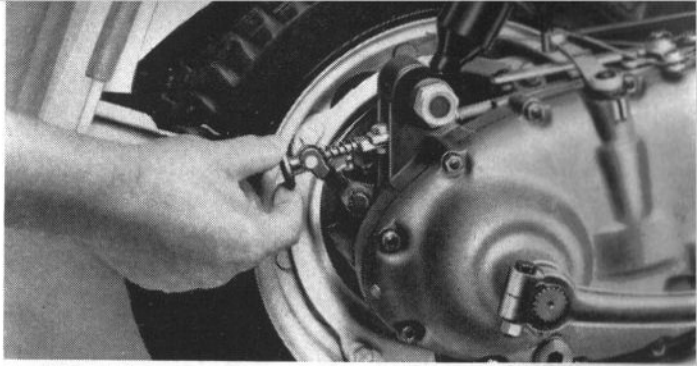


Fig. 10

Fig. 11

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. 10 and 11).

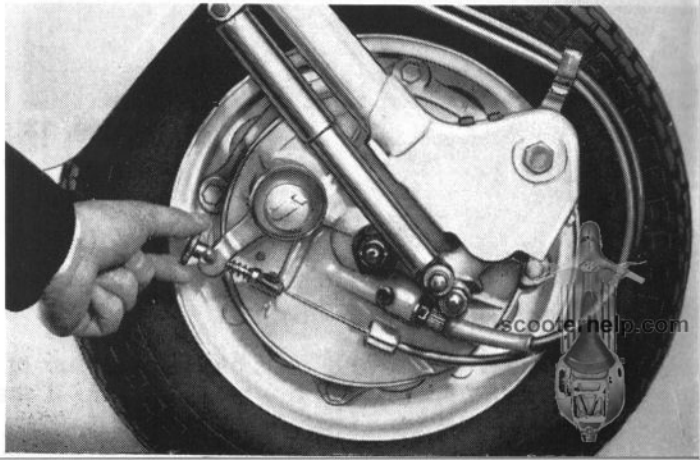


Fig. 12

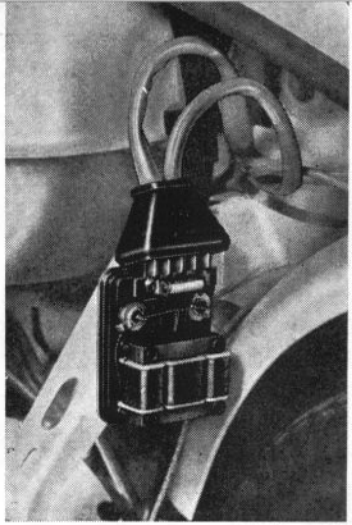


Fig. 13

Rectifier, fuse

Should the lights not function when turning the main switch key to the first position on the left and pressing the foot brake, check that the fuse has not blown. If so, replace and check for the cause of the short circuit.

The 8 A fuse which protects the electrical instalation can be reached by removing the left hand side panel and taking off the cover of the box containing the rectifier-impendence fuse group (fig. 12-13).

Attention - To avoid possible burning up of the lamps, when the engine is operating the lights must **not** be lighted up if the battery is not reguarly connected.

Clutch

Keep the clutch constantly adjusted, so that it begins to slip when clutch levers is in the position shown on fig. 14. The adjustment is carried out by turning the adjuster illustrated in fig. 15.

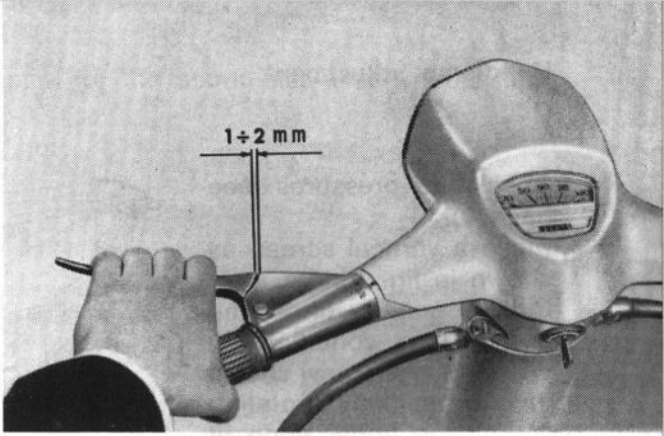
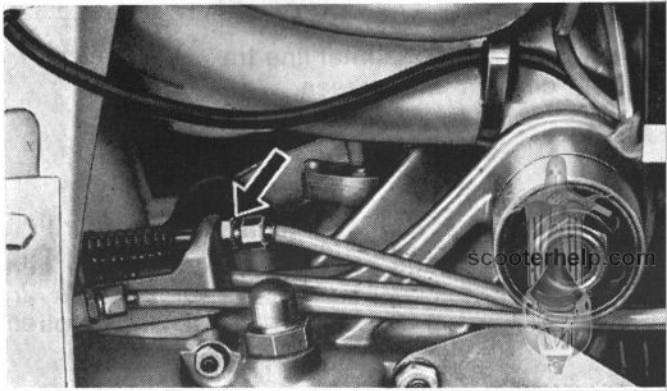


Fig. 14 1 ÷ 2 mm equal to 1/16" approx. **Fig. 15**



Headlamp adjustment

Check tire pressures (see page 9).
Place a vertical screen as shown in fig. 16.
Put the scooter under the normal load conditions.
Loosen the V screw shown on the headlamp, rotating it until the upper edge of the zone illuminated by the diped beam coincides with the horizontal line traced on the screen.

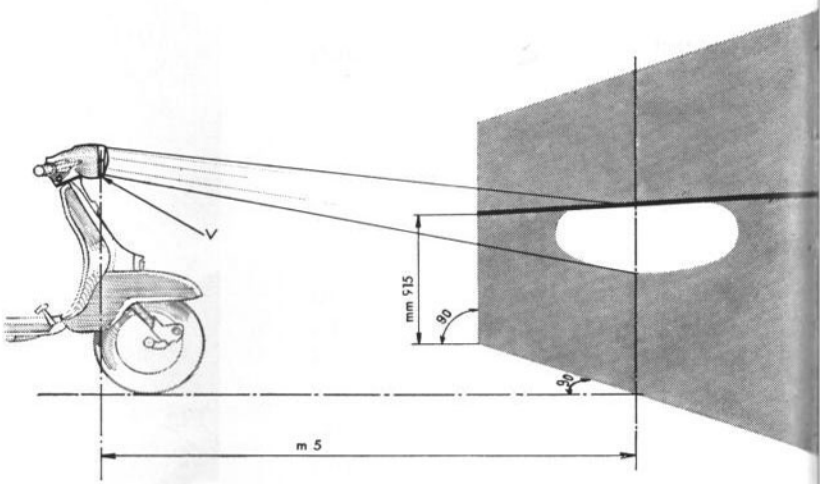


Fig. 16

Luggage box and tools

The luggage box is moulded into the central frame rib under the front part of the dual seat. A pair of keys for this box are supplied with the scooter (see page 4).
In the luggage box, a tool kit is supplied consisting of:

1 double ended box spanner 21 - 14 mm. for the spark plug and wheels nuts;
1 10 mm. allen spanner for oil plugs;
1 spanner 14 - 27 mm. for rear wheel nut:
1 double ended spanner 8 - 10 mm.;
1 screwdriver;
1 rear wheel lifting stand;
1 points file;
1 4 mm. allen spanner for trunnion grub screws.

Starting - Running - Stopping

To start the scooter:

— place on centre stand;
— ensure that gear is in neutral;
— insert key into main switch and turn to position of day riding (see page 6);
— open fuel tap (see page 7);
— turn starting control lever - **Only** when engine is cold (see page 7);
— keeping throttle to minimum, kick start machine;
— as soon as engines it turning over, give slight acceleration to warm up;
— if the starting control lever has been used, return to original position.

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;
— let 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;
— insert next gear;
— let clutch lever out slowly, accelerating gradually at the same time.
— Do not hesitate to change down, when wanting to appreciably reduce speed.

To stop engine:

— close throttle;
— pull clutch lever;
— put gear into neutral;
— cut out engine by turning main switch key to vertical position.

PERIODIC MAINTENANCE

Every 4 weeks:

Add distilled water to parking light battery until water is about 1/4" (mm. 5) over the top of cells. To do this it is necessary to take battery out from its seat, as shown in fig. 17.
Grease battery terminals with vaseline.

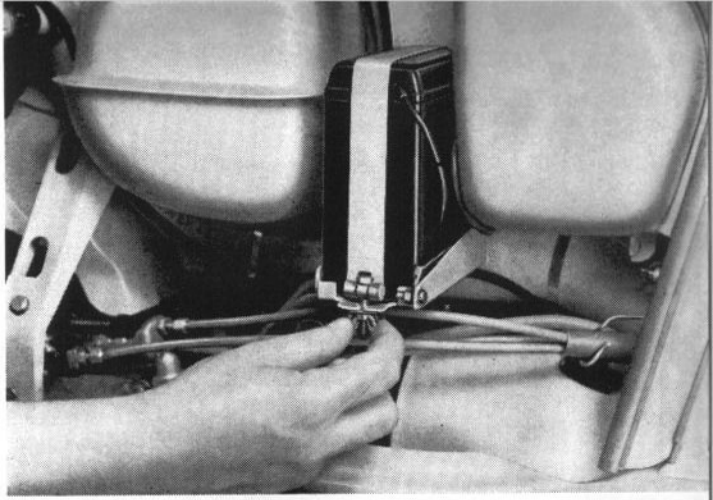


Fig. 17

Every 1250 miles (2000 km):

Brakes: check adjustment (see page 11).

Spark plug: check, clean electrodes with kit file and adjust gap to 0,020"-0,025" (mm. 0,5 ÷ 0,6).

Carburettor Air Filter: Take out filter cartridge in from air inlet box (see fig. 18-19), shake and blow with low pressure air. **Do not wash in petrol.**

Fig. 18

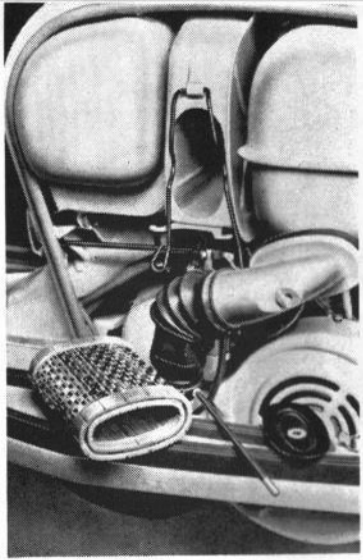


Fig. 19

Lubrication

Crankcase: re-establish level with **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. 20).

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

Grease with **AGIP F.1 Grease 15**

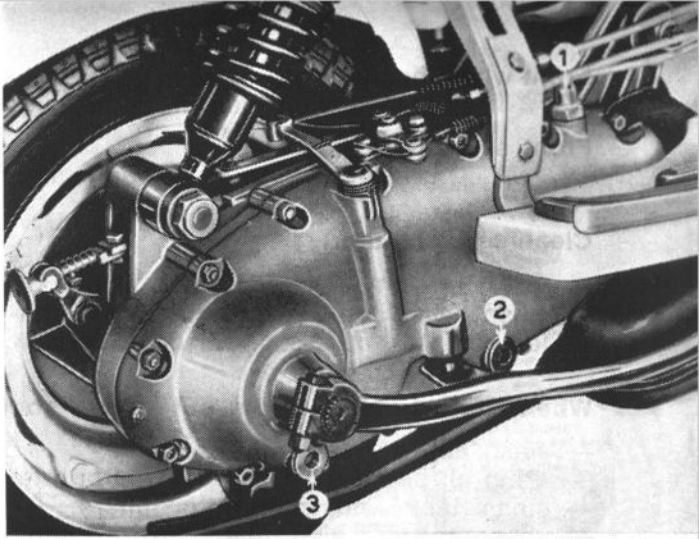
Every 2500 miles (400 km):

Clutch control: check adjustment (see page 13).

Flywheel magneto contact breaker points: clean and set gap 1/64" (mm. 0,35 ÷ 0,45); we suggest that adjustment on this part should be carried out by authorized Service Agent.

Flywheel magneto cam oil pad: lubricate with oil drop.

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



1. Filler plug. 2. Level plug. 3. Drain plug. **Fig. 20**

Lubrication

Crankcase: drain oil completely through drain plug (see fig. 20). Replace drain plug; unscrew filler and level plugs; pour in oil until this flows from level plug. Quantity of oil needen 1 1/4 pints of **AGIP F.1 Rotra SAE 90.**

Speedometer Drive Box: grease with gun through nipple (about 1 gr.) of grease **AGIP F.1 Grease 15.**

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

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

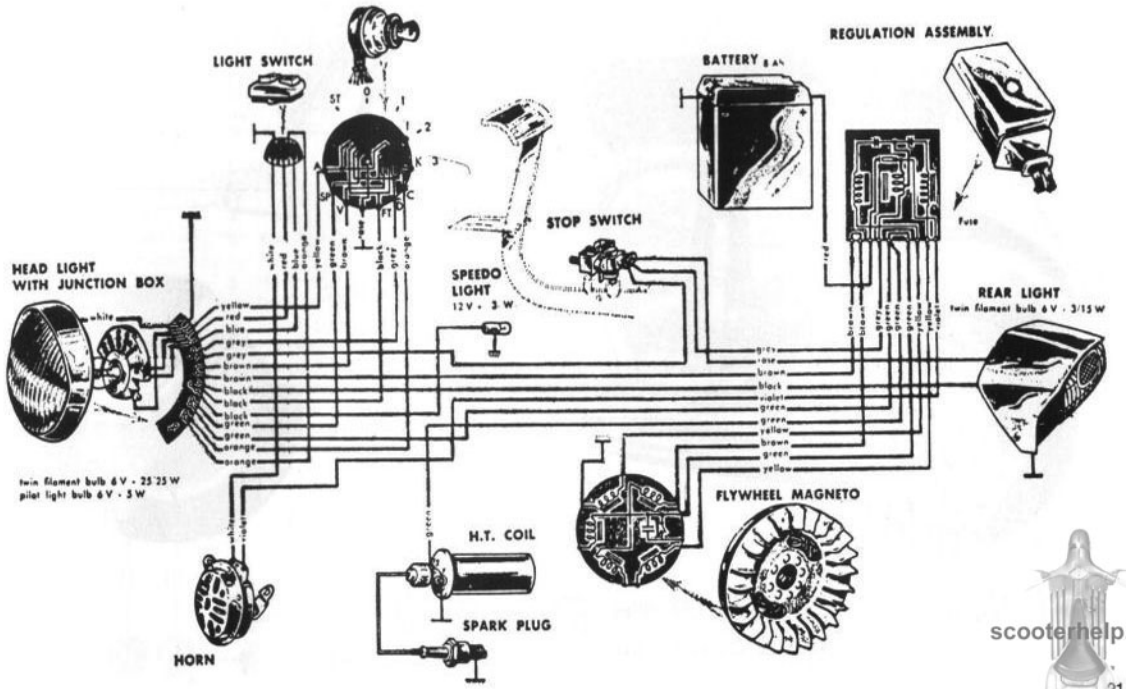
Cleaning of scooter

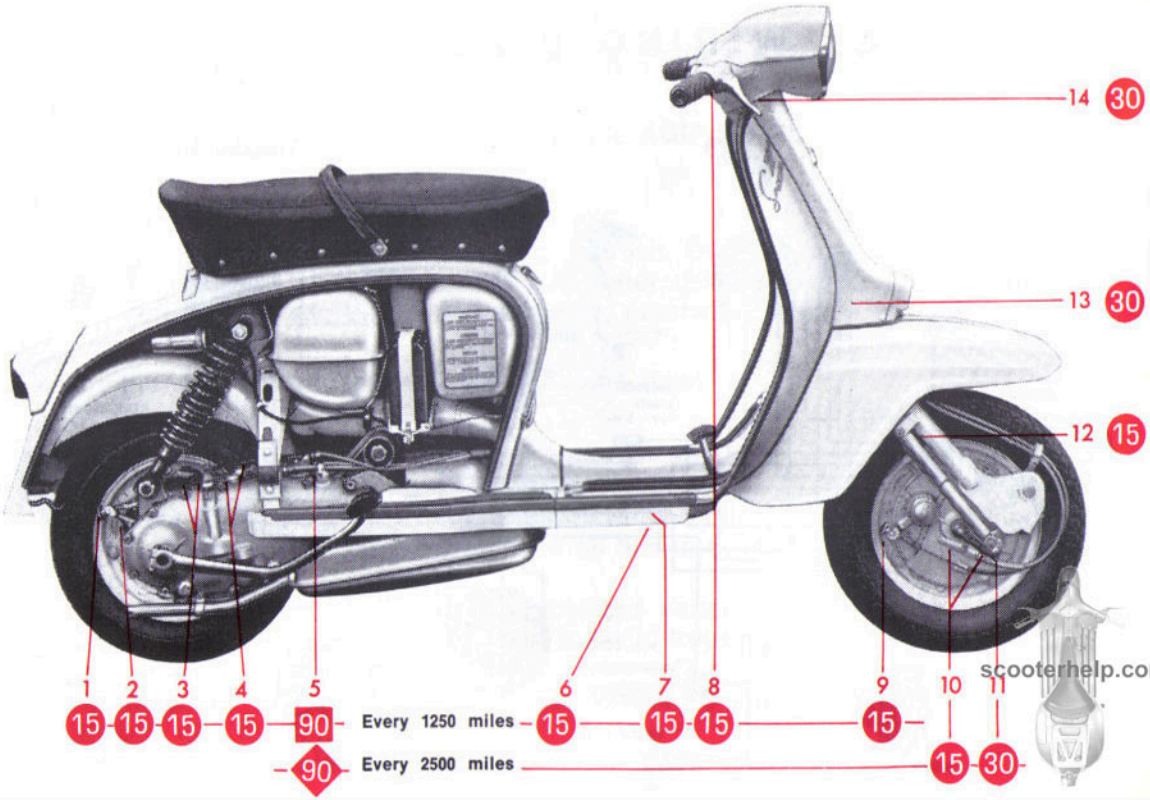
— Wash engine with petroleum, using a brush. Dry with clean rags;
— wash cellulosed and plastic parts with water, using a sponge. Dry with chamois leather. **Do not use petrol or petroleum,** otherwise damage will result.

When the scooter remains out of use some time:

— wash and dry carefully as above;
— drain all petrol from tank and carburettor;
— clean tank and carburettor filters;
— unscrew spark plug, insert few drops of engine oil, rotate engine by hand two or three times to ensure a protective oil film in cylinder barrel. Replace spark plug;
— coat with anti-rust grease all non-painted parts;
— take out battery; place in dry place to avoid freezing; have it re-charged monthly at an Authorized Service Agent;
— lift machine off the ground by placing blocks carefully under frame; tires should not reach the floor;
— clean and deflate tires;
— cover machine.

WIRING DIAGRAM




14 30
13 30
12 15
1 15
2 15
3 15
4 15
5 90
Every 1250 miles
6 15
7 15
8 15
9 15
10 15
11 30
90 Every 2500 miles
scooterhelp.com

LUBRICATION DIAGRAM (See page 30)

PERIODIC LUBRICATION - **(1)** Rear brake knuckles. **(2)** Rear brake cam pin. **(3)** Clutch and gear change knuckles. **(4)** Gear change knuckles twin lever. **(5)** Crankcase: change oil after miles (500 km). **(6)** Rear brake pedal pin. **(7)** Rear brake knuckles. **(8)** Levers and controls on the handlebar: lubricate end cylinder of the clutch and brae cables, throttle and gear control drive box knuckles. **(9)** Front brake knuckles. **(10)** Speedometer drive box and suspension knuckles. **(11)** Front wheel bearings.

LUBRICATE THESE PARTS WHEN ASSEMBLING SCOOTER AFTER OVERHAUL:

1. Parts (1), (3), (4), (7), (9) should be lubricated with **AGIP F.1 Grease 15.**
2. Steering ball bearings, parts (13), (14), should be lubricated with **AGIP F.1 Grease 30.**
3. Handlebar control lever knuckles (8), and side panel hooks should be lubricated with **AGIP F.1 Grease 15.**
4. Front suspension helical springs (12) should be smeared with **AGIP F.1 Grease 15.**
5. Introduce a little **AGIP F.1 Grease 15** in control cable coating before mounting wires.

15 means - **AGIP F.1 Grease 15.** 30 means **AGIP F.1 Grease 30.**

90. means **AGIP F.1 Rotra SAE 90.**

Grease. Re-establish level. Change oil.

TROUBLE CHART
A GUIDE TO ASSIST IN THE TRACING AND RECTIFYNG COMMON FAULTS

Engine fails to start, or stops immediately

Possible cause:	Remedy:
Faulty fuel flow to carburettor	clean fuel lines and filters. clean out jets.
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.
Start control non adjusted	adjust thread regulator on the carburettor.
Damage carburettor float	have it replaced at Service Agent.
(if current is reaching H.T. lead) . . .	
— dirty spark plug	unscrew and clean.
— electrodes non adjusted	adjust to 0,020"-0,025" (0,5 ÷ 0,6 mm).
— faulty spark plug	replace with a new one.
(if current does not reach H.T. lead)	
— contact breaker points faulty . . .	take machine to Authorized Service Agent.

— Flywheel magneto or H.T. coil circuits shorting	take machine to Authorized Service Agent.

Engine knocking

Incorrect mixture	drain out and replace with correct fuel mixture.
Pre-ignition	clean spark splug. Decarbonise cylinder head.
Ignition too far advanced	see Authorized Service Agent.

Engine misfires

Irregular flow of fuel to the carburettor	check and clean out fuel line.
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 with a higher heat range.
Carbon deposits on spark plug . . .	clean out spark plug.

Loss of power or excessive overheating

Incorrect timing	adjust timing. Take machine on an authorized Service Station.
Exhaust port or silencer partially obstructed	clean out port or silencer.
Cylinder head loose	tighten cylinder head nuts.

MAIN FEATURES

Overall length	71'' (m. 1.800)
Overall width	27 1/2'' (m. 0.700)
Overall height	40 1/2'' (m. 1.030)
Wheel base (full load)	51''' (m. 1.290)

Central frame in steel tube.

Bodywork in pressed steel sheet.

Front suspension by means of trailing links, carrying two helical springs and shock absorbers.

Rear-suspension: swinging engine unit with shock absorber carrying two helical springs.

Centre stand with two arms.

Unladen weight . . . . . 260 lbs. (123 kg.).

Fuel tank capacity	1,8 imp. gals (8,1 lt.).
Maximum speed	66 m.p.h. (107 km/h).
Fuel consumption	93 m.p. imp. gal. (3,05 lt/100 km).
Uphill (rider only)	4th gear 11 % 3rd gear 18 % 2nd gear 28 % 1st gear 40 %

Engine

two stroke single cylinder. Forced air cooled.

Bore	66 mm
Stroke	58 mm
Capacity	198 cc
Compression ratio	1 : 7
Maximum output on driving shaft	11 HP. at 5.500 r.p.m.
Lubrication	Petrol.
Starting	Kickstart pedal.

Carburettor

DELLORTO SH 20 with central float chamber. Air filter cartridge type incorporated in air intake box.

Ignition

by flywheel magneto and external H.T. coil. Fixed advanced ignition.
Spark plug: heat range 240 Bosch scale.

Clutch

multi-disc in oil bath.

Trasmission

double dow chain with two shock dampers.

Gear box

Four-speed constant mesh in oil bath.

Rear wheel/driving shaft R.P.M. ratio:

1st 1 : 12.53	3nd 1 : 6.32
2nd 1 : 8.77	4th 1 : 4.82

As an alternative we may supply a gear assy with rear wheel/driving shaft R.P.M. ratio:

1st 1 : 13.95	3nd 1 : 6.68
2nd 1 : 8.98	4th 1 : 5.22

Wheels and brakes

Interchangeable wheels.
Rims: in pressed steel sheet, split in two halves.
Brakes: front - disc brake; rear - internal expansion.
Tires: 3.5 - 10".
Tires pressures:
front: 12 lbs/sq.in. (0.9 kg/sq.cm)
rear (rider only): 18 lbs/sq.in (1.25 kg/sq.cm)
rear (with pillion): 32 lbs/sq.in (2.25 kg/sq.cm)

Electrical equipment

General: flywheel magneto 30 watt 6 poles.
Fuse: 8 Amp.
Battery: 6 V, 8 Ah.

BULBS

POSITION	USE	No.	CHARACTERISTICS		
			ELECTR. DATA	BULB	SOCKET
Head lamp	dazzle and anti-dazzle light	1	6 V - 25/25 W	Spherical	BA 20 d
	pilot light	1	6 V - 5 W	Festoon	S 8,5/9,5
Rear light	number plate light/stop light	1	6 V - 3/15 W	Spherical	BAY 15 d/19
Speedometer	speedometer light	1	12 V - 3 W	Cylindrical	BA 9 s

NOTE. - To avoid possible burning out of bulbs, do not under any circumstance switch lights on when engine is running unless battery is properly connected.

LUBRICATION (See pages 22-23)

In case it should not be easy to finde AGIP products, we recommend, in relation to the various parts, the following lubricants:

For fuel mixture	**ENERGOL TWO STROKE**
(5) Crankcase	**ENERGOL GEAR OIL SAE 90**
(4) Gear change knuckles twin lever (3) Clutch and gear change knuckles (1) Rear brake knuckles - (9) Front brake knuckles Side panel hook - (7) Rear brake cam pin - (6) Rear brake pedal pin - (10) speedometer driver box and suspension knuckles - (12) Front suspension helical springs - (8) Levers and controls on the handlebar	**Grease with ENERGREASE A 1**
(11) Front wheel bearings - (13) (14) Steering ball bearings	**Grease with ENERGREASE L 3**

FOERIGN Lambretta ORGANIZATION

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