

Model **150 cc.**

Light motorcycle, "Green Guardian,"

with added variants

mod. SPORT

operation and maintenance instructions

FOREWORD

This booklet provides an essentially practical description of the operation and maintenance instructions for the **Agusta model M.V. Gran Turismo (G.T.) 150 cc. Light motorcycle.** The instructions herein contained are to be construed as those suitable for the motorcycle when operated under best conditions.

Consult authorized Agusta representatives for prompt, dependable service when giving the motorcycle its regular, routine inspection and check-up.

See supplement for variants concerning Agusta model M.V. 150 cc. Sport (R.S.) model light motorcycle.

GENERAL SPECIFICATIONS

Engine:

Four stroke - overhead valve - single cylinder
Cast iron cylinder
Light-alloy cylinder head with inserted valve seats.
Bore: 59.5 mm - Stroke: 54 mm - Displacement: 150 cc.
Maximum power 8 HP at 5700 RPM.
Four-speed gear box
Multiple-disc clutch vaning in oil bath
Kick starter
Forced lubrication system
Flywheel magneto with automatic advance

Chassis:

Special-steel tubular frame
Telescopic front fork with hydraulic damping
Rear suspension with swinging Fork with hydraulic dampers
Electrical system - 6 Volts
Wheelbase: 1285 mm
Wheels and tires: rear 2.75 x 18" R, front 2 3/4 x 18"
Max. speed: 95 Km/hr.
Weight with full standard equipment: 102 Kg. (with full supply of fuel and oil).

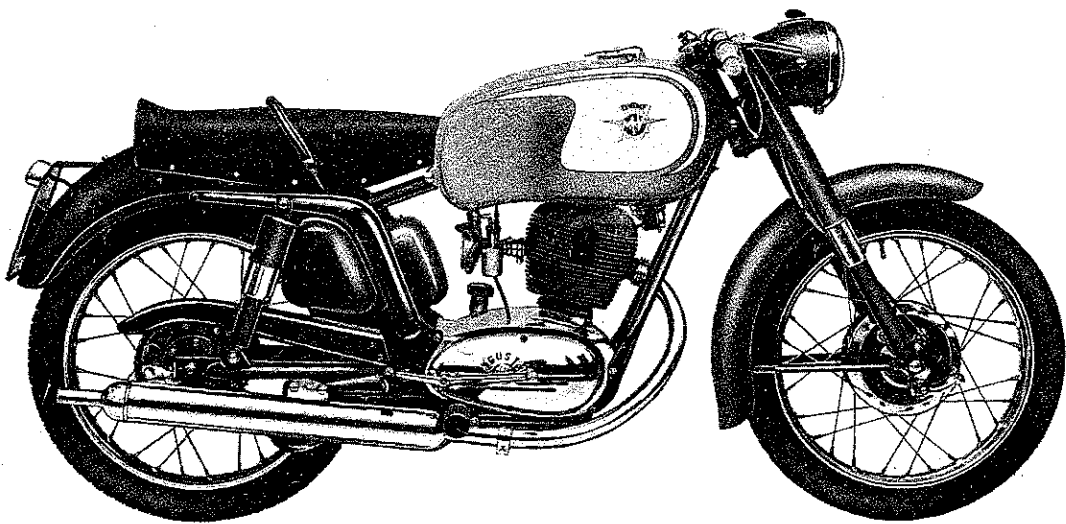
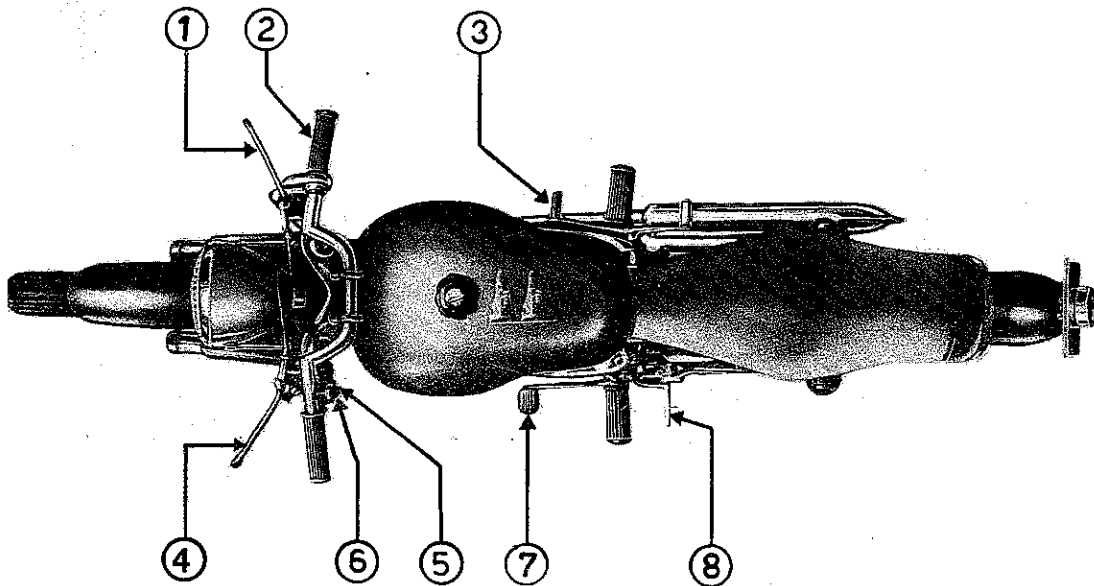


Fig. 1 - Gran Turismo (G.T.) model 150 cc. light motorcycle



- 1) Front brake lever
- 2) Throttle
- 3) Foot gear lever
- 4) Clutch hand lever

- 5) Light switch
- 6) Horn button
- 7) Rear brake pedal
- 8) Kick starter

Fig. 2

INSTRUCTIONS FOR ENGINE TIMING

The following are the standard data used by the manufacturer.

Ignition:

Total magneto advance: 38°

Valve timing (Data valid for checking valve timing with 0.2 mm tappet clearances):

Intake valve starts to open	30° before top dead center
Intake valve closes	80° after bottom dead center
Exhaust valve starts to open	80° before bottom dead center
Exhaust valve closes	55° after top dead center

Tappet adjustment (operating clearances):

Intake valve tappet clearance (with engine cold)	0.03 mm
Exhaust valve tappet clearance (with engine cold)	0.03 mm

Cylinder head:

Compression ratio: 7.5 : 1

DESCRIPTION FOR OPERATION AND ADJUSTMENT OF MOTORCYCLE

Clutch

The clutch is of the type running in oil, with 3 driving and 3 driven discs, and is located at the left, on the main drive shaft side. The clutch is operated by a hand lever on the handlebar and is used to separate the engine from the transmission. The clutch lever should not be jerked rapidly when using, but, instead, should be slowly and gradually opened and closed. The lever should have 3 or 4 mm of play, obtained by adjusting the small barrel on the handlebar.

The clutch should be adjusted from time to time by means of the adjustment screw provided for that purpose behind the plug in the cover on the left hand side of the motorcycle.

Gear box

Four speeds, with sliding gears, shifted by a selector operated by foot pedal. With the gears in neutral, shift into first gear by pressing the rear end of the pedal. To go from first, or low, to second gear, press on the front end of the pedal, the same as is done for going from second to third and from third to high gear. When shifting down, press only on the rear of the pedal. Always use the clutch to separate the motor from the drive when shifting in either direction.

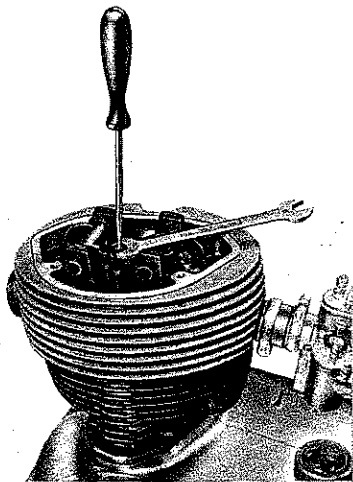


Fig. 3 - Diagram showing tappet adjustment.

Valve system

The valve system is of the overhead type, with coil springs and rocker arms. The rocker arms are driven by push rods. Correct play between the valves and rocker arms is, as already mentioned, 0.03 mm, with engine cold. The valve clearances are set by removing the cover from the cylinder head and adjusting the nut and screw as shown in Fig. 3.

Engine Lubrication

Pressure lubrication is provided by an oil pump with removable filter, which draws oil directly from the crankcase.

The oil complete its cycle and falls back into the crankcase. A graduated dip stick is used to read the oil level in the engine crankcase. The dip stick is taken out by first unscrewing the oil fill cap located on the crankcase. The dip stick shows the maximum and minimum oil levels. See the following paragraphs for the type and quality of oil to be used. It is recommended that Mobiloil AF be used in winter time and Mobiloil BB in summer.

Centrifugal oil separator in the engine crankshaft

Over a long period of time, the oil in circulation deposits sludge and impurities. These impurities can be removed by means of a special device.

- Remove the plug in the bottom of the crankcase.
- Turn the crankshaft until the screws located in the crankshaft counter weights line up with the hole
- Unscrew said screws and, after thorough cleaning with gasoline, replace them and tighten them down snugly.

Replace the plug in the crankcase with its gasket.

It will be well to perform this operation every two or three oil changes and to have it done by an authorized Agusta representative.

Firing

The high-voltage coil located under the tank provides a high-voltage spark to the spark plug. The low-voltage current to the primary side of the coil is supplied by the generator. The magneto gives 38° advanced firing. The amount of the firing advance can be adjusted by means of the contact-breaker plate, held to the crankcase by three screws. The contact-breaker point gap should be 0.04 mm.

Spark Plug

Marelli type 240 spark plug, or equivalent, is recommended.

Horn and Lights

The front headlight (high and low beam) is supplied by current from the generator, which also supplies the tail light and horn.

The headlight is fitted with a 6 V., 25 x 25 W. twin-element lamp.

The tail light is fitted with a 6 V., 3 W. lamp.

Carburetor

The carburetor is the Dell'Orto model MA 18, with manually operated choke control and interchangeable jets, as well as idle adjustment screw. Carburetor has 18 mm. diam. diffuser and No. 72 size maximum jet.

Fuel and oil

Petrol: Tank capacity approx. 15 litres.

Crankcase oil: approx. 1.7 litres Mobiloil BB or AF.

Fuel consumption: 2.5 litres per 100 Km.

Performance

In low gear: 33 Km/hr.; in 2nd gear: 54 Km/hr.; in 3rd gear: 78 Km/hr.; in high gear: 95 Km/hr.

Climbing ability: better than 20 %.

Braking

The wheel brakes, are of the expanding-shoe type, operating against a 125 mm diam. brake drum.

To adjust the front brake control, set the cabl sheath adjustment (A), located on the flange so as to leave 6 to 8 mm play in the brake hand lever on the handlebars (see Fig. 5 A). To adjust the foot-pedal operated rear brake, turn the wing nut (B) mounted on the rod which controls the brake so that the play in the brake pedal is no greater than 8 to 10 mm (Fig. 5 B).

Wheels and Tires

The rims are size $2\frac{1}{4} \times 18''$. The low-pressure tires are $2\frac{3}{4} \times 18''$ for the front wheel and $2.75 R \times 18''$ for the rear wheel. Recommended tire pressures are 1.3 Atm. for the front tire and 1.7 Atm. for the rear.

Driving chain

The rear wheel driving chain tension must be properly adjusted, and should be adjusted to leave 5 to 6 mm up-and-down play.

To change the chain adjustment:

- loosen the nuts which hold the rear wheel in place
 - shift the rear wheel forwards or backwards by adjusting the chain take-up screws
 - retighten down the nuts which hold the rear wheel.
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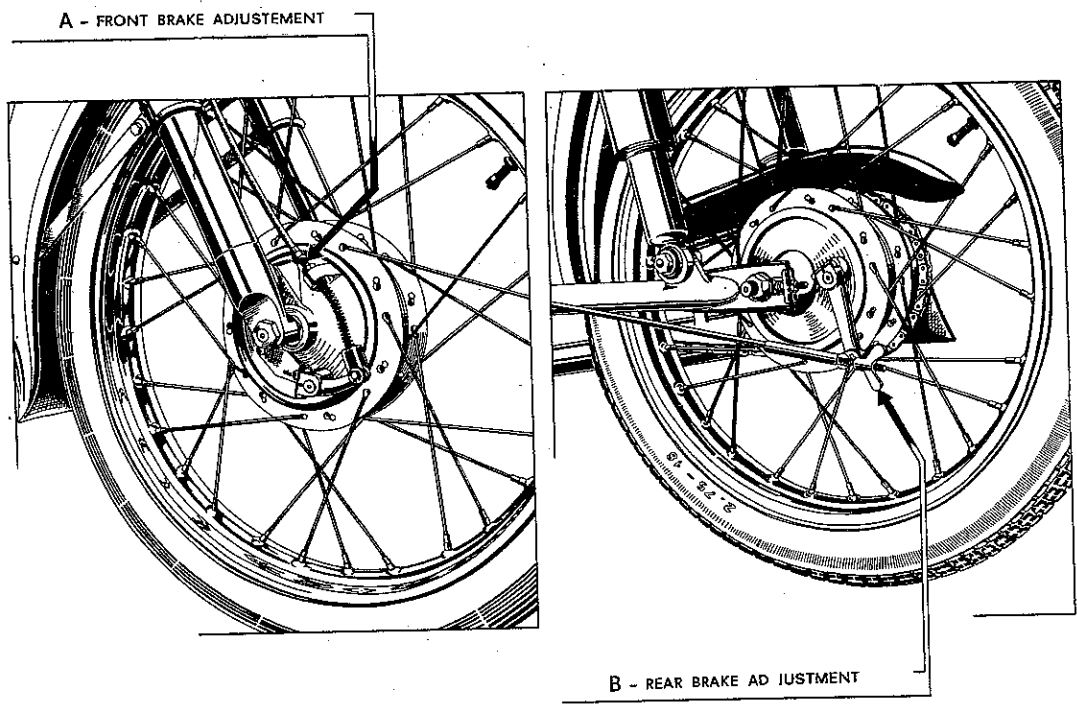


Fig. 5 - Brake adjustment diagram.

Whenever the rear wheel is shifted, make sure that it lines up perfectly with the front wheel. The alignment between wheels is of maximum importance for the motorcycle's ability to hold the road.

Front and Rear Suspension

No maintenance care is required. If the shock-absorbers should not function properly, it is recommended that application be made either to the factory or to an authorized Agusta representative to have them checked and adjusted.

Chassis lubrication

The chassis should be lubricated at regular intervals, using Mobilgrease MP.

INSTRUCTIONS FOR STARTING UP

Before trying to start up the engine, check to see that there is fuel in the tank and that the cock in the fuel line is open. Check the oil level in the crankcase. Check that the gasoline reaches to the carburetor; keep the choke lever on the carburetor all the way down; make sure the gears are in neutral. Then open up the throttle part way (about 1/5 of its total travel)

shove down the starting pedal. As soon as the engine has started up, pull in on the clutch lever and throw the shifting foot lever into low gear, gradually opening the throttle and releasing the clutch lever. The engine should not be allowed to run at high speed when it has just been started, especially when cold, as time should be allowed for the oil to circulate in the lubricating system and to warm up.

MOTORCYCLE MAINTENANCE INSTRUCTIONS

- y 500 Km. - Check the oil level.
 - y 2,000 Km. - Clean the spark plug and check the spark plug gap, which should be between 0.6 and 0.7 mm wide.
 - y 3,000 Km. - Clean oil filter. Adjust brake controls. Adjust play in chain. Change crankcase oil, refilling with new oil of the specified grade.
 - y 4,000 Km. - Adjust the clutch to between 3 and 4 mm play, which setting should always be maintained.
 - y 5,000 Km. - Remove the chain and clean it in a bath containing kerosene and oil. Check the carburetor and clean all carburetor parts.
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recking in the engine

When breaking in the motorcycle care should be taken not to exceed moderate speed during the first 1,500 Km. on the road. A general inspection of all bolts and nuts for tightness should be made after the first 1,000 Km. The crankcase oil should be changed after the first 500 Km., refilling with new oil of the specified grade.

ouble Shooting

When the engine fails to start, or stops while running, the cause may be found in either the fuel system or in the ignition system.

Some practical remedies to apply are listed below:

uel system troubles:

- 1) Fuel tank empty. Remember that the fuel tank has a reserve tank and that by setting the fuel cock to the reserve position the motorcycle can still run another 6 to 8 Km.
 - 2) Fuel line blocked off. Remove line and clean it out.
 - 3) Dirty carburetor. Disassemble carburetor and wash it in clean gasoline.
 - 4) Broken throttle control cable. Repair or replace cable.
 - 5) Water in carburetor. Clean the carburetor.
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- 3) Carburetor flooded (when gasoline comes out of the chamber). Open the throttle full and actuate the kick starter repeatedly with the fuel supply cock turned off.

Ignition system troubles:

- 1) If the spark plug fails to spark when the crankshaft is rotated (with spark plug touching the cylinder) check for the following troubles:
- a) dirty spark plug: clean with wire brush
 - b) broken spark plug insulator: change the plug
 - c) wrong spark plug gap: adjust to 0.6-0.7 mm.
- 2) Spark plug wire broken or poorly insulated: repair wire if practical, or replace it.
- 3) Weak spark or lack of spark, even with a new spark plug in place: may be caused by the magneto breaker points not being properly lined up. Adjust them so they open to a gap of 0.4 mm.

4) If engine does not put out its normal power, the cause may be found to be a result of:

- Excessive clearance between the piston and cylinder walls due to excessive wear.
 - Valves fail to seat properly due to excessive wear.
 - Valves fail to close all the way due to improper adjustment of tappets.
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the engine heats up too much, the trouble may be caused by:

- Too rich or too lean mixture, due to wrong gasoline level in float chamber, caused by damaged float.



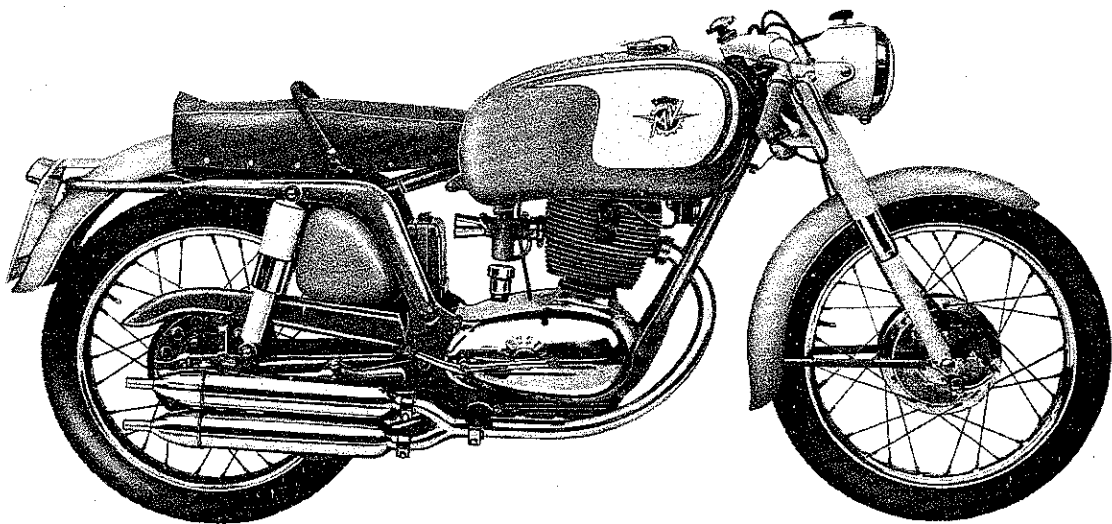


Fig. 6 - SPORT (R.S.) model 150 cc. light motorcycle.

SPORT MOD-L 150 cc. LIGHT MOTORCYCLE GENERAL SPECIFICATIONS

The **SPORT model 150 cc.** light motorcycle varies from the standard 150 cc. model as

Engine

Four-stroke, overhead valve, single cylinder
Cast iron cylinder
Light-alloy cylinder head with inserted valve seats
Bore: 59.5 mm, Stroke: 54 mm
Maximum power 9,5 HP at 6000 RPM
Four-speed gear box
Multiple disc clutch running in oil
Kick starter
Dell'Orto type M.B. 20B carburetor
Forced-lubrication system
Ignition by flywheel magneto with independent, high-voltage coil - automatic

Chassis:

Special-steel tubular frame
Telescopic front fork with hydraulic damping
Rear suspension with swinging fork, with hydraulic dampers
Electrical system - 6 Volts
Wheels with 2.75 x 18" R rear tires and 3 3/4 x 18 front tires
Maximum speed: 100 Km/hr.
Twin muffler
Fuel consumption: 2.8 litres per 100 Km.
Weight with full standard equipment: 102 Kg. (with full supply of fuel and oil).
