

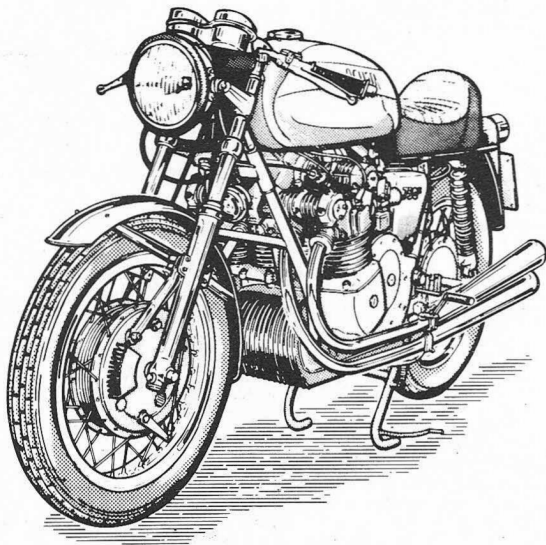


750
Sport

Libretto di uso e manutenzione
Riders manual
Manuel d'instructions

750 Sport

C.C. 4 CYLINDERS



**USE AND
MAINTENANCE**

N.L. 126-4

MECCANICA VERGHERA - S.p.A.
VIALE ADRIATICO, 50 - 21010 Verghera - (VARESE) ITALY
Tel. 0331-228200 - Telex 31057 AGUSTA

Quick reference:

— maximum breaking-in speeds	see page	3
— fuel and lubricants to be used	see page	6
— tire pressure	see page	5
— changing engine oil	see page	26
— spark plug gap setting	see page	27
— removal of wheels	see page	42
— location and type of electric fuses	see page	48
— headlight adjustment	see page	50

INDEX

	Page
— Breaking-in	2
— General data	4
SECTION I	
CONTROLS AND INSTRUMENTS	
Motorcycle - main controls and instruments	9
SECTION II	
USE OF MOTORCYCLE	
Lifting motorcycle on its center stand	17
Engine starting	17
Motorcycle starting and riding	18
When riding	21
Stopping the motorcycle	22
SECTION III	
MAINTENANCE — ADJUSTMENTS	
General information	23
Periodic inspection and lubrication	23
Engine — Gearbox	26
Spark plugs	27
Distributor	31
Fuel cocks	33
Carburetors	33
Starter-generator belts	33
Valve clearance adjustment	34
Adjustment of control cables	35
Front fork	40
Steering bearing play adjustment	41
Rear fork bearing play adjustment	41
Removal of wheels	42
Rear bevel-gear-drive box	45
Electrical system and components	47
Motorcycle storage	52
SECTION IV	
TROUBLE SHOOTING	53
TECHNICAL DATA	61

BREAKING-IN

GENERAL INFORMATION

Although the motorcycle is delivered without any limiting device to the normal operation of the carburetors, it is advisable to avoid constantly demanding the maximum power and speed from the engine. For maximum life of all components it is recommended that instructions listed in Table I be carefully followed.

RECOMMENDATIONS FOR THE FIRST OPERATING PERIOD

- A breaking-in period of at least 1800 miles (3000 km) is recommended.
- The RPM limit may be gradually increased to reach the maximum allowable limit after the first 1800 miles (3000 km).
- Avoid holding the maximum speeds outlined in Table I for a long period of time.

Note

Avoid riding with throttle full open,

especially when climbing slopes. It is advisable to shift into a lower gear.

- After starting slowly warm up the engine and avoid running it at too high a RPM rate.
- After the first 300 miles (500 km) change the oil while the engine is hot and clean the mesh filter. After the first 600 miles (1000 km) again change the oil and replace the filter element. Make sure that all hardware, connections, etc. are perfectly tight.

WARNING

Always make sure that all hardware, connections, etc. are perfectly tight, so that your motorcycle is maintained in the best condition. Non-compliance with this recommendation will be prejudicial to a safe riding.

- After the first 1800 miles (3000 km) again change the oil while the engine is hot.

BREAKING-IN PERIOD – MAX. ALLOWABLE SPEEDS						
Mileage	km	Max. allowable speed and R.P.M. M.P.H. (km/h)				
		1st Gear	2nd Gear	3rd Gear	4th Gear	5th Gear
0—600	0—1000	32 (51) 5000 RPM	45 (72) 5000 RPM	64 (103) 5500 RPM	76 (123) 5700 RPM	90 (145) 6000 RPM
600—1800	1000—3000	38 (61) 6000 RPM	53 (86) 6000 RPM	70 (112) 6000 RPM	90 (145) 6500 RPM	106 (170) 7000 RPM

Table I. Maximum allowable speeds (breaking-in period)

Note

After the breaking-in period, the oil must be changed every 3600 miles (6000 km) (see Section III, LUBRICATION DIAGRAM).

GENERAL DATA

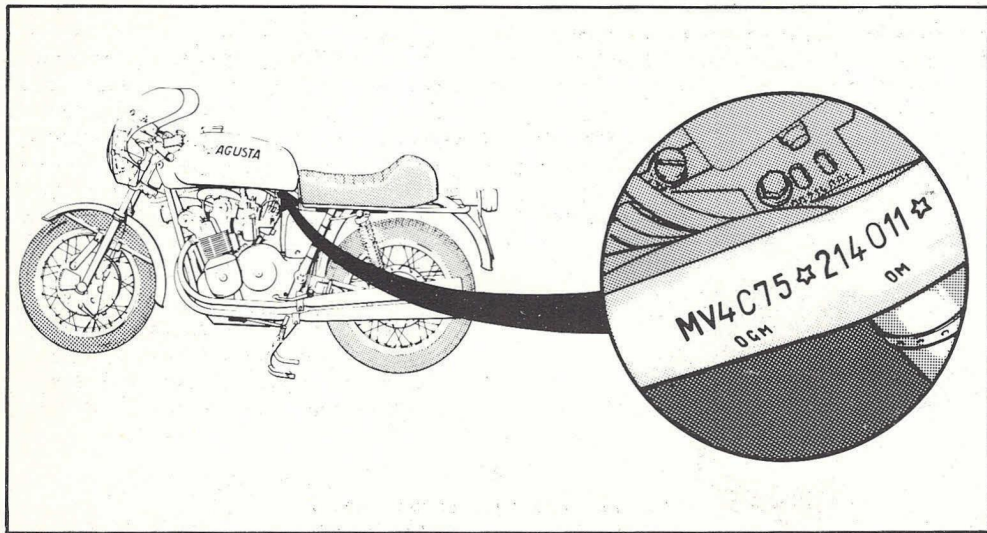


Figure 1-1. Motorcycle identification serial number

MOTORCYCLE IDENTIFICATION

Every single motorcycle is identified by a serial number stamped on its frame in the position shown in figure 1-1. This number is for motorcycle identification as required by law and is also entered in the "Certificate of Ownership".

Note

Always refer to this identification serial number on any spare-parts order.



SERVICING

Refer to Tables II and III for any information relative to servicing points, products and quantities.

TIRE PRESSURE

Front tire	28.4 to 31.2 psi (2 to 2.2 kg/cm ²)
Rear tire	34 to 38.3 psi (2.4 to 2.7 kg/cm ²)

CAUTION

The above mentioned tire pressures are indicative and are only valid for the "METZELER" tires originally installed. In case of replacement with other tires strictly follow the manufacturer's directions.

Note

The spring load of the rear shock absorbers can be adjusted for solo or dual riding (see figure 1-2, sheet 3 of 3).

Part to be refuelled or lubricated	Quantity		Product (5)	Note
	U.S. gals. (lt)	lbs. (kg)		
Fuel tank (1)	6.3 (24)		Gasoline (98-100 Oct.)	—
Engine gear box (2)		8.8 (4)	AGIP SINT 2000 oil	See page 26
Rear wheel bevel-gear		0.8 (0.4)	AGIP F.1 ROTRA SAE 90 oil	See page 45
Telescopic fork (3)		0.39 (0.18)	— AGIP F.1 ROTRA AFT oil — AGIP F.1 OSO 55 oil (summer)	See page 40
Wheel hubs and movable frame parts	As required		AGIP F.1 GREASE 33FD	—
Cable in sheaths	As required		AGIP F.1 GREASE 15	—
Disc brakes hydraulic fluid reservoir (4) (if installed)	As required (3/4 of capacity)		FIAT Special Fluid Blue Label	See page 37

- (1) Gasoline quantity outlined in this table is the total quantity necessary for filling the tank (5.3 U.S. gal. reserve supply) (20 lt + 4 reserve supply).
- (2) The oil listed in this Table is of the Multigrade type and may be used year round.
- (3) Oil quantity listed in this Table is for one leg only of the telescopic fork.
- (4) The hydraulic brake fluid, shown in this Table, is the one originally supplied. As many hydraulic brake fluids may be mixed, any other good hydraulic brake fluid may be used to bring the fluid in the reservoir to its proper level.
- (5) See Table III for a list of alternate suppliers and the specific name of their equivalent products.

Table II. Servicing, capacities, products

Supplier	Lubricants				
AGIP	OIL SINT 2000	OIL F.1 ROTRA SAE 90	OIL F.1 OSO 55	F.1 GREASE 33 FD	F.1 GREASE 15
VALVOLINE	—	Valvoline X 18 SAE 90	—	—	—
TOTAL	—	Total EP SAE 90	Total Azolla 30	—	Totalgrease PG
SHELL	—	Shell Spirax EP SAE 90	Shell Tellus Oil 29	Shell Retinax AX - DX	Alvania Grease 3
MOBIL	—	Mobilube GX SAE 90	—	—	Mobilgrease Special
GULF	—	Gulf Gear Lubricant SAE 90	Gulf Harmony 54 AW	—	—
FINA	—	Fina Pontonic N	Fina Arian Hytip	Fina Bentex A3	—
FIAT	—	—	Oliofiat AP 51	—	—
ESSO	—	Esso Gear Oil GP SAE 90	Esso Hydraulic Oil Medium	Esso Bearing Grease B2	Chassis Grease H
BP	—	BP Gear Oil EP SAE 90	BP Auto hydr. Oil 65	—	Energrease L2 Multipurpose

Table III. Lubricants

SECTION I

MOTORCYCLE – MAIN CONTROLS AND INSTRUMENTS

MOTORCYCLE – MAIN CONTROLS AND INSTRUMENTS

This Section contains a description of the use of the main controls and instruments of the motorcycle. The numbers, shown below, correspond and refer to the parts shown in figure 1-2, sheet 1, 2 and 3 of 3.

1. CLUTCH CONTROL LEVER used to disengage the engine from the transmission. It must always be operated when using the gear control pedal (33) and when stopping the motorcycle.
2. IGNITION SWITCH KEY, for lights and engine starting, with four positions:
 - **Key inserted:** all circuits off.
 - **First step clockwise:** engine ready to start and actuation of warning horn, country horn, and flashing and brake

lights. Key non-removable.

- **Second step clockwise:** engine ready to start and actuation of lights. Key non-removable.
- **First step counterclockwise:** parking lights. Key removable.

3. INSTRUMENT PANEL

4. TACHOMETER

5. HEADLIGHT

6. DRIVING BEAM WARNING LIGHT (blue) lights up when driving beam switch (21) is operated.

7. SPEEDOMETER with mileage counter.

8. FRONT DISC BRAKE FLUID RESERVOIR – Optional. Refer to Section III "MAINTENANCE – ADJUSTMENTS" for details.

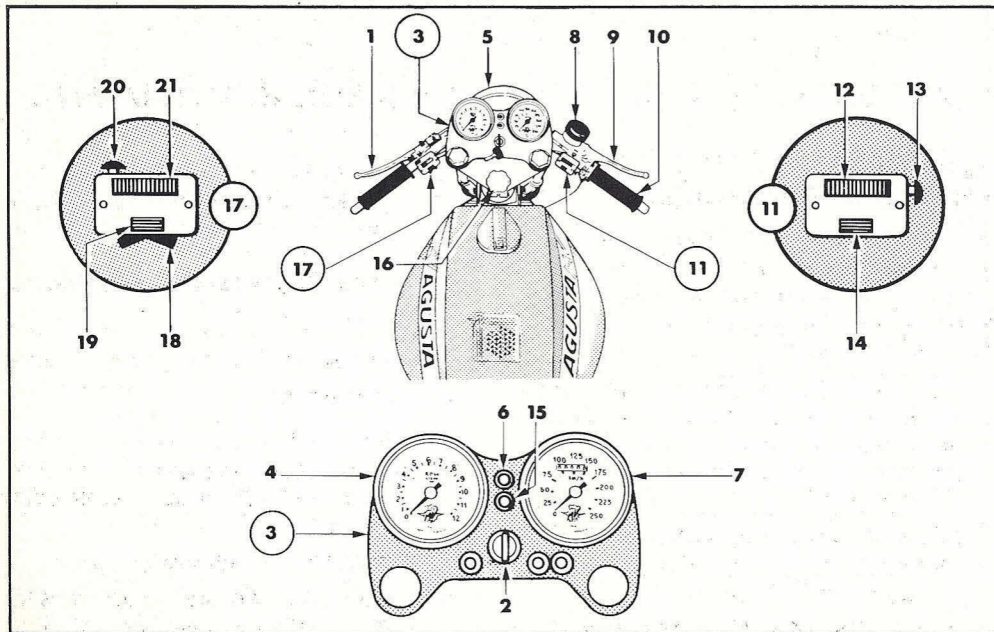


Figure 1-2. Motorcycle main controls and instruments (sheet 1 of 3)

1. Clutch control lever
2. Ignition switch key (for lights and engine starting)
3. Instrument panel
4. Tachometer
5. Headlight
6. Driving beam warning light (blue)
7. Speedometer
8. Front disc brake fluid reservoir
9. Front brake control lever
10. Throttle grip
11. Switch box
12. High and low beams switch
13. Flashing lights switch
14. Engine starting button
15. Generator warning light (red)
16. Steering damper knob
17. Switch box
18. Directional lights switch
19. Warning (town) horn button
20. Country horn button
21. Hight/low light beam switch

Legend figure 1-2 (sheet 1 of 3)

9. FRONT BRAKE CONTROL LEVER mechanically operates the drum type brake or

hydraulically operates the optional disc type brake.

10. THROTTLE GRIP. Refer to Section III "MAINTENANCE – ADJUSTMENTS" for details.

11. SWITCH BOX containing:

12. HIGH and LOW BEAMS SWITCH

13. FLASHING LIGHTS SWITCH

14. ENGINE STARTING BUTTON

15. GENERATOR WARNING LIGHT (Red).

When the red light shows it means that the voltage supplied by the generator is NOT sufficient to recharge the battery. This warning light must light up when the engine is not running after the key has been inserted in switch (2). For further details see "WHEN RIDING", Section II.

16. STEERING DAMPER KNOB which, when turned clockwise or counterclockwise, increases or decreases the resistance in the rotation of the handlebar.

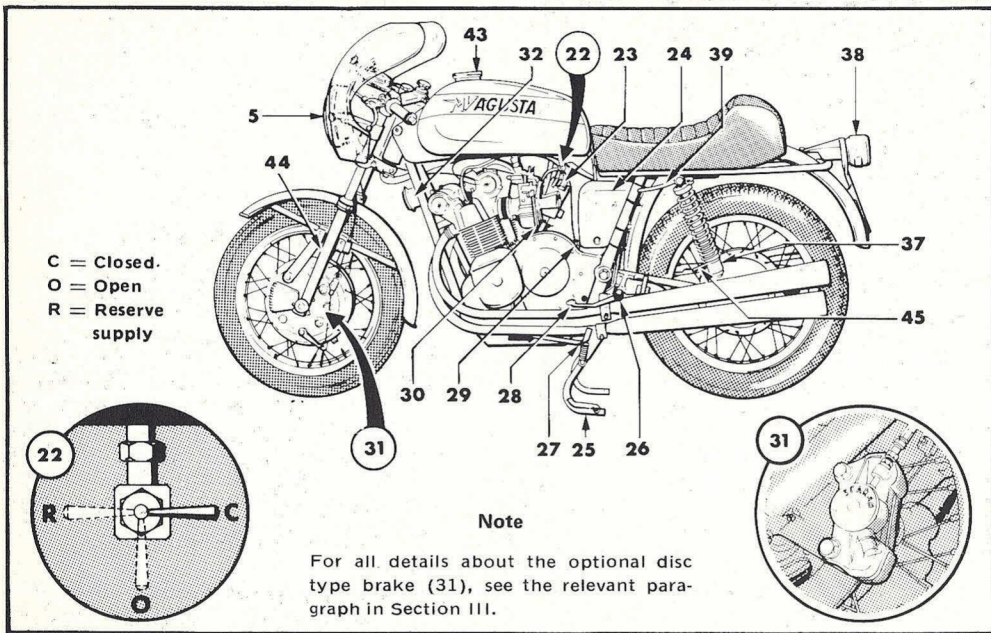


Figure 1-2. Motorcycle main controls and instruments (sheet 2 of 3)

- 22. Fuel cock with reserve supply
- 23. Distributor
- 24. Battery holder
- 25. Center stand
- 26. Left hand foot rest
- 27. Side stand
- 28. Rear brake control pedal
- 29. Oil filler cap
- 30. Carburetors
- 31. Disc brake housing

Legend figure 1-2 (sheet 2 of 3)

- 17. SWITCH BOX containing:
 - 18. DIRECTIONAL LIGHTS SWITCH
 - 19. WARNING or TOWN HORN BUTTON
 - 20. COUNTRY HORN BUTTON
 - 21. HIGH/LOW LIGHT BEAM SWITCH
- 22. FUEL COCK — Left side. See figure 1-2, sheet 2 of 3 for operation.
- 23. DISTRIBUTOR. See Section III "MAINTENANCE — ADJUSTMENTS" for details.
- 24. BATTERY HOLDER — Left side. See Section III "MAINTENANCE — ADJUSTMENTS" for details and (41) for Right side.
- 25. CENTER STAND for parking. See Section II "USE OF MOTORCYCLE".
- 26. LEFT HAND FOOT REST
- 27. SIDE STAND
- 28. REAR BRAKE CONTROL PEDAL mechanically operates the rear drum type brake.
- 29. OIL FILLER CAP. See Section III "MAINTENANCE — ADJUSTMENTS" for details.
- 30. CARBURETORS. See Section III "MAINTENANCE — ADJUSTMENTS" for details.
- 31. DISC BRAKE HOUSING — Optional. See figure 1-2, sheet 2 of 3 for detail, and see Section III "MAINTENANCE — ADJUSTMENTS" for further information.
- 32. WARNING or TOWN HORN
- 33. GEAR CONTROL PEDAL. See Section II "USE OF MOTORCYCLE" for details.
- 34. RIGHT HAND FOOT REST

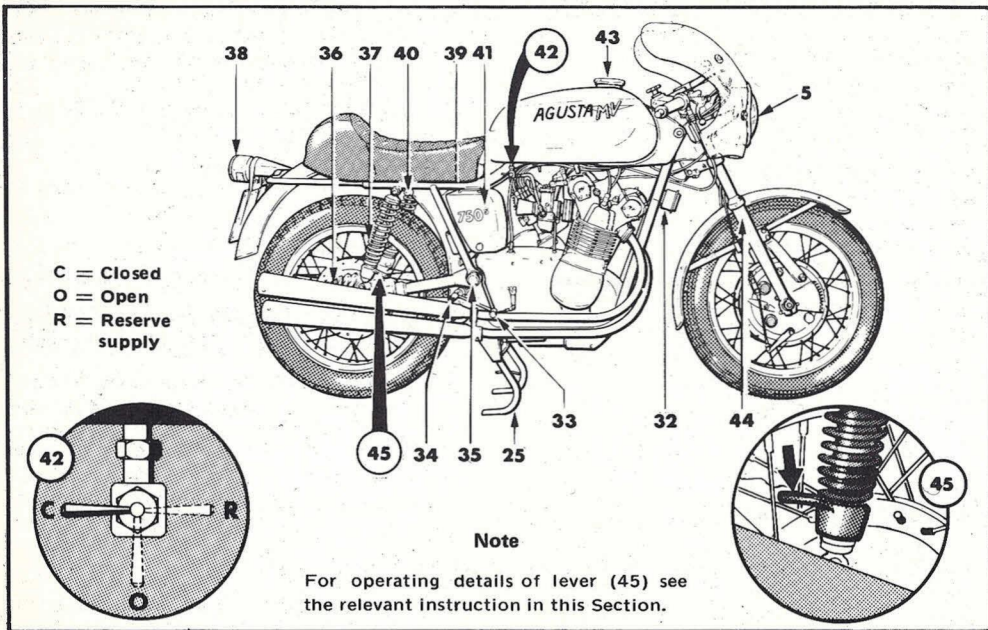


Figure 1-2. Motorcycle main controls and instruments (sheet 3 of 3)

- 32. Warning (town) horn
- 33. Gear control pedal
- 34. Right hand foot rest
- 35. Rear fork and pivot
- 36. Rear transmission box
- 37. Rear shock absorber
- 38. Tail light
- 39. Lifting grip
- 40. Saddle release device
- 41. Battery holder
- 42. Fuel cock with reserve supply
- 43. Fuel filler cap
- 44. Front shock absorber
- 45. Rear shock absorber adjusting lever

Legend figure 1-2 (sheet 3 of 3)

- 35. REAR FORK and PIVOT. See Section III "MAINTENANCE – ADJUSTMENTS" for details.
- 36. REAR TRANSMISSION BOX
- 37. REAR SHOCK ABSORBER
- 38. TAIL LIGHT

MV750S

- 39. LIFTING GRIP
- 40. SADDLE RELEASE DEVICE
- 41. BATTERY HOLDER – Right side. See Section III "MAINTENANCE – ADJUSTMENTS" for details and (24) for Left side.
- 42. FUEL COCK – Right side. See figure 1-2, sheet 3 of 3 for operation.
- 43. FUEL FILLER CAP
- 44. FRONT SHOCK ABSORBER
- 45. REAR SHOCK ABSORBER ADJUSTING LEVER to adjust the load for solo or dual riding. For the heavier load, turn the lever counterclockwise until hearing the stop-click corresponding to "MAX" position.



SECTION II

USE OF MOTORCYCLE

LIFTING MOTORCYCLE ON ITS CENTER STAND

(25, figure 1-2)

To lift the motorcycle, press the protruding arm of the stand with your foot (as shown in figure 2-1), while holding the lifting grip (39, figure 1-2) and the handlebar.

ENGINE STARTING

Cold start

CAUTION

Make sure that gear control pedal (33, figure 1-2) is in neutral.

Perform the following in sequential order:

MV750S

Note

Numbers between parenthesis refer to figure 1-2 (unless otherwise indicated).

— Open both fuel cocks (22 and 42).

a. Insert key (2) and turn it clockwise to the first step.

b. Turn throttle grip (10).

Note

In cold weather connect the STARTER device to the four carburetors by lifting lever (1, figure 2-2) and keep the device inserted until engine starts.

c. Press engine starting button (14).

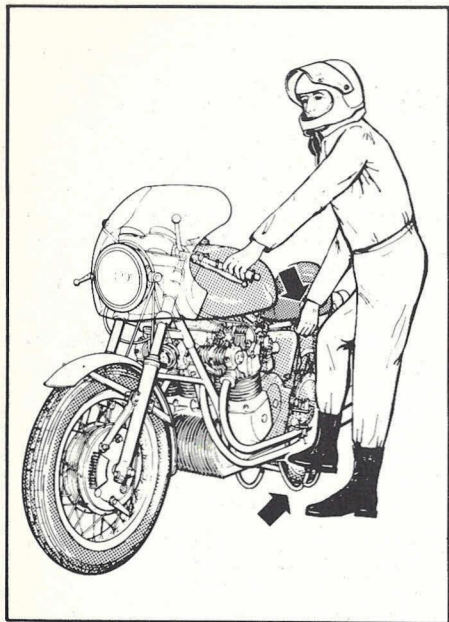


Figure 2-1. Lifting motorcycle on its center stand

CAUTION

Do not press starting button any longer than strictly necessary. If engine fails to start, repeat above procedure after a few seconds until engine starts. Do not immediately open the throttle in order to allow complete oil circulation.

Hot start

Repeat cold start procedure but DO NOT insert the starter device.

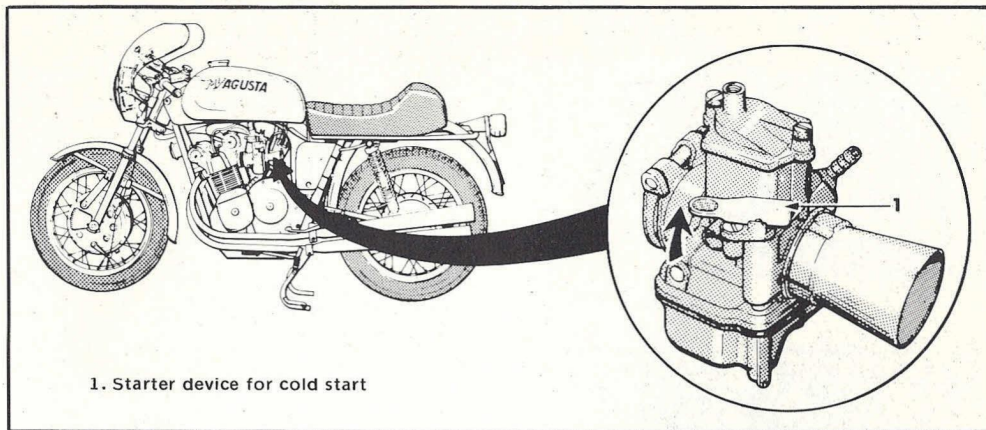
Note

- When engine is hot, it may be necessary to open the throttle fully and gradually release it when engine starts running.

MOTORCYCLE STARTING AND RIDING

After having started the engine perform following procedures:

- a. Squeeze clutch control lever (1) and enga-



1. Starter device for cold start

Figure 2-2. Carburetors; STARTER device

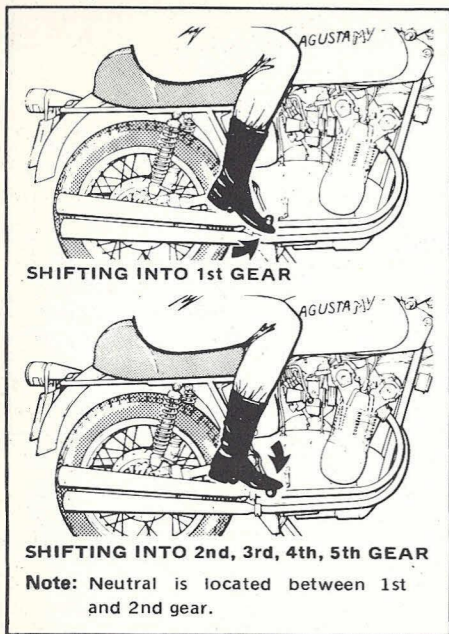
ge low gear pulling up gear control pedal (33).
See figure 2-3 for gear control pedal details.

b. Slowly release clutch control lever and at the same time progressively open throttle grip

to reach required engine RPM for engaging a higher gear.

Note

During breaking-in period refer to Table I. After breaking-in refer to Table IV.



SHIFTING INTO 1st GEAR

SHIFTING INTO 2nd, 3rd, 4th, 5th GEAR

Note: Neutral is located between 1st and 2nd gear.

Figure 2-3. Use of gear control pedal

Gear shifting

SHIFTING FROM A LOWER INTO A HIGHER GEAR

For shifting from a lower into a higher gear it is necessary first to reach the required engine RPM, quickly close throttle grip, fully squeeze the clutch lever and shift into the higher gear by depressing the gear control pedal (see figure 2-3). Slowly release clutch lever and accelerate engine. Repeat above procedure for shifting into succeeding higher gears.

CAUTION

When it is necessary to reduce speed, do not hesitate to shift into a lower gear.

SHIFTING FROM A HIGHER GEAR INTO A LOWER ONE

To shift from a higher gear into a lower one it is necessary to close throttle grip, fully squeeze clutch lever, accelerate quickly (to allow gear synchronisation) and pull up gear control pedal. Gently release clutch lever.

WHEN RIDING

- Do not ride for long periods of time at the maximum RPM shown in Tables IV or I (breaking-in period), especially in the lower gears.
- For a longer life of the rear tire avoid sudden bursts of speed.
- Never exceed the maximum allowable RPM even when riding downhill.
- Generator red warning light must always be off. It only lights up when engine RPM drops below 2200.
- It is strongly recommended that no riding be done when the oil level is below the "MIN" mark on the dip stick.
- When riding do not keep your hand on clutch lever.
- Avoid riding below engine minimum RPM (2200).

After 1800 miles (3000 km)					
	Gear control pedal position				
	1st Gear	2nd Gear	3rd Gear	4th Gear	5th Gear
Max. speed M.P.H. (km/h)	54 (87)	71 (115)	104 (168)	124 (199)	135 (218)
Max. R.P.M.	8500	8500	9000	9000	9000 (*)
(*) Engine can easily exceed the maximum R.P.M. stated above, equivalent to a speed higher than 135 M.P.H. (218 km/h).					

Table IV. Maximum allowable speeds (after breaking-in period)

- It is suggested to avoid clutch slipping for a quick pickup. Do not ride downhill with gear control pedal in neutral and clutch disengaged.
- To avoid excessive wear and overheating of the brakes it is suggested that, when riding downhill, the engine compression be used by down-shifting to a lower gear; usually to the same gear that would be used for going up the hill.

STOPPING THE MOTORCYCLE

To stop the motorcycle perform the following procedures:

Note

Numbers between parenthesis refer to figure 1-2.

- Close throttle grip (10).
- Depress rear brake pedal (28) and at the same time squeeze front brake lever (9).

Note

Always operate front and rear brakes at the same time.

- Just before motorcycle stops, squeeze clutch lever and shift into neutral.

CAUTION

When the motorcycle is stationary and the engine is running, always shift into neutral to avoid unnecessary clutch wear. Neutral is located between the first and second gears (see figure 2-3).

Notes

- When parked, the motorcycle must stand on its center stand. Do not lean is against walls, etc.
- When using side stand (27, figure 1-2) it is suggested that the fuel cocks be turned off. The slant position of the motorcycle with cocks open may cause an excessive fuel flow into the carburetors, with subsequent difficult starting.

Engine stop

Remove ignition key from switch after having turned it to its central position.

MAINTENANCE — ADJUSTMENTS

GENERAL INFORMATION

The perfect efficiency and the life of your motorcycle essentially depend on the careful execution of maintenance and adjustment procedures. Before starting these procedures, it is necessary to thoroughly clean the motorcycle.

Note

The mileage values shown on the periodic inspection and lubrication tables are intended as average values.

PERIODIC INSPECTION AND LUBRICATION

Motorcycle cleaning

Use a brush and kerosene to clean engine case, hub and rear transmission box. Dry completely.

Painted parts must be washed with water using a sponge and then dried with a chamois.

CAUTION

Avoid using gasoline, kerosene, etc. on painted parts as the paint will be damaged.

When cleaning the motorcycle and using a water hose with a nozzle, make sure that:

- engine is cold
- carburetor air intakes are covered.

Avoid use of water on the saddle or other parts which can be damaged by moisture (distributor cap, battery, ignition system, electrical system and brake shoes).

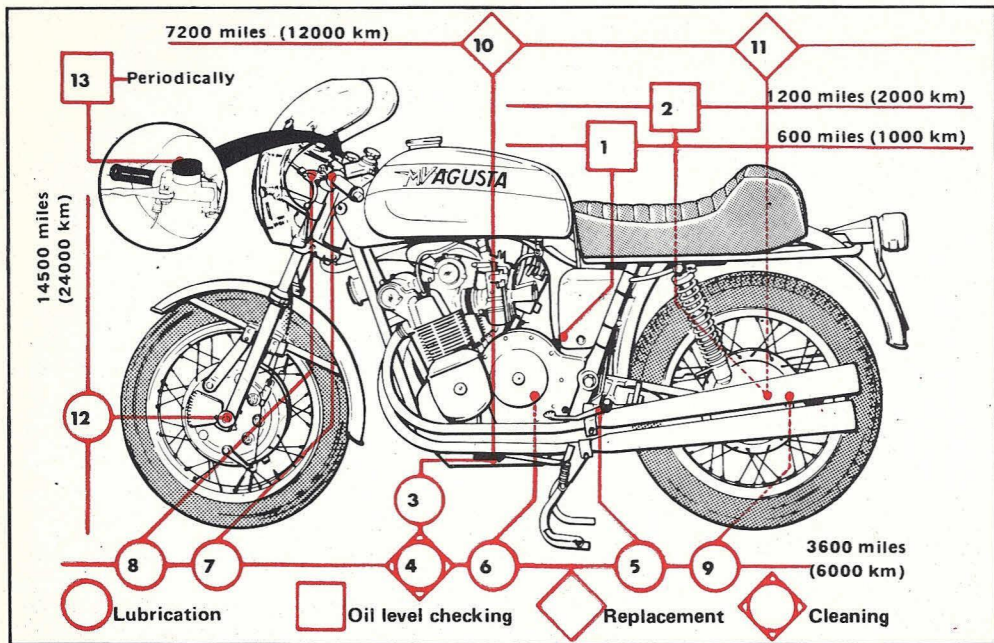


Figure 3-1. Lubrication diagram

KEY TO LUBRICATION DIAGRAM					
Item	Description	Mileage (km)	Procedure	Products	Note
1	Engine: oil	600 (1000)	Check level	AGIP Sint 2000	See page 26
2	Rear bevel-gear box: oil	1200 (2000)	Check level (1)	AGIP F.1 Rotra SAE 90	See page 45
3	Engine: oil	3600 (6000)	Change (*)	AGIP Sint 2000	See page 26
4	Oil filter	3600 (6000)	Clean (1)	—	See page 27
5	Brake and gear control pedal: pivots	3600 (6000)	Lubricate (*)	SAE 90 Oil	—
6	Transmission rod	3600 (6000)	Lubricate (*)	SAE 90 Oil	—
7	Levers on handlebar: joints	3600 (6000)	Lubricate (*)	SAE 90 Oil	—
8	Handlebar lever cables: joints	3600 (6000)	Lubricate (*)	SAE 90 Oil	—
9	Rear brake cam: pivot	3600 (6000)	Lubricate (*)	Grease melting at 360°F (180°C)	—
10	Oil filter element	7200 (12000)	Replace	—	See page 27
11	Rear bevel-gear box: oil	7200 (12000)	Change (1)	AGIP F.1 Rotra SAE 90	See page 45
12	Front and rear wheels: bearings	14500 (24000)	Refil with grease	Grease melting at 360°F (180°C)	—
13	Front brake oil reservoir (if installed)	Periodically	Check level	FIAT Blue Label special fluid	See page 37

(*) These procedures must also be performed after the first 600 miles (1000 km). As far as engine oil (item 3) is concerned, see also instructions for break-in period.

(1) These procedures must also be performed after the first 1200 miles (2000 km).

Periodic lubrication

Lubrication of motorcycle parts must be made as close to the mileage shown in the Lubrication Diagram (see figure 3-1), which also shows the points to be lubricated. The column "Note" indicates the page number where the procedure is described.

CAUTION

Use only AGIP lubricants recommended. If you wish to use lubricants of other suppliers, **use only** those products listed in Table III, Lubricants. If not otherwise specified, never mix lubricants of different qualities or from different suppliers.

Periodic inspection

Figure 3-2 is a schematic of the maintenance procedures to be periodically performed at the intervals stated. The careful execution of all inspections, cleaning and adjustments listed in

the relevant table will prevent most troubles and assure a safe riding. Numbers shown in the drawing refer to the corresponding key, where the page numbers for the procedures are also listed.

ENGINE AND GEAR BOX

Checking the level and oil change

(See figure 3-3)

For checking the oil level remove cap and dip stick (1).

Oil level must correspond to the upper hack on the dip stick marked MAX. After the breaking-in period the oil must be changed at 3600 miles (6000 km) intervals. This procedure must be performed when the engine is hot by removing the magnetic plug (2) located on the net filter cover. To clean and replace filters, remove individual covers (3) and (4) by loosening the relevant screws.

Magnetic plug

Under normal conditions traces of metal residue in powder form may be found on the magnetic plug. However, metal scale on the

magnetic plug is a sure indication of unusual wear or failure of one or more of the engine components. In this case see an authorized Service Station.

Oil filters

- Mesh filters should be cleaned with gasoline and dried with compressed air every time you change oil, if possible.
- The filter element must be replaced every two oil changes.

CAUTION

When reinstalling filters be sure to reinstall cover screws in their respective holes.

SPARK PLUGS

(See figure 3-4)

Use a suitable wrench to remove the spark plugs. If the spark plugs are dirty, clean them with a wire brush or by sandblasting. If insulators are cracked or broken, replace spark plugs.

Note

In any case spark plugs must be replaced every 7200 miles (12000 km).

The spark plug gap must be 0.019" to 0.024" (0.5 to 0.6 mm) for old as well as new spark plugs; see figure 3-4. It is suggested that the spark plug type not be changed with another one having a different heat rating. Many engine troubles can be avoided by constantly using spark plugs of the same type. When reinstalling the spark plugs perform the following:

- Inspect the washers located under plugs to see that they are in good condition; if not, replace them.
- Lubricate spark plug threads with one drop of oil to facilitate any future removal.
- Fit spark plugs into the threaded holes and turn them by hand for at least two revolutions to be sure that they are not cross-threaded.
- Use a special wrench to tighten spark plugs; avoid overtightening.

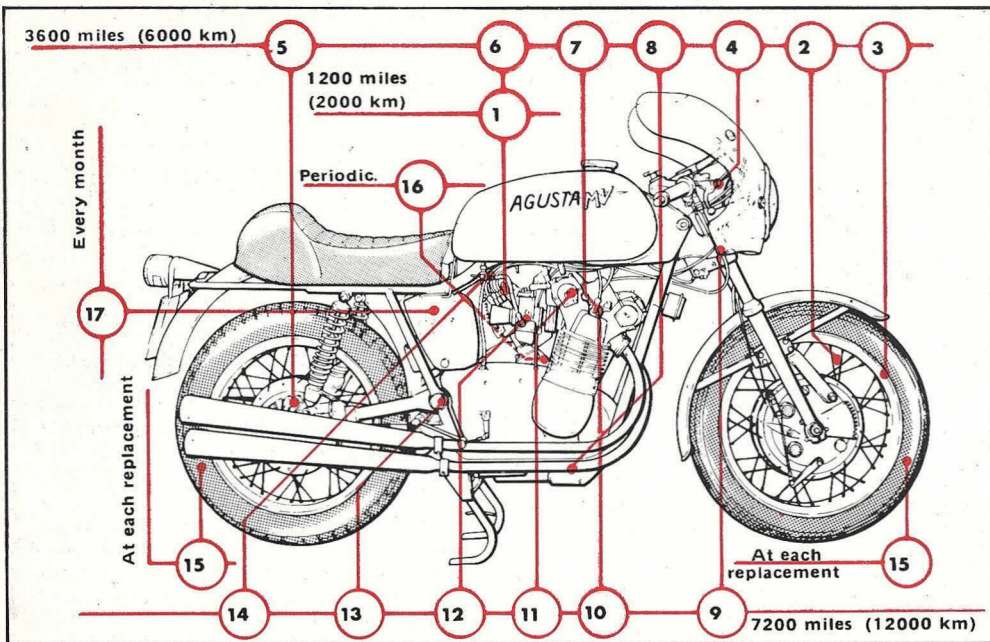


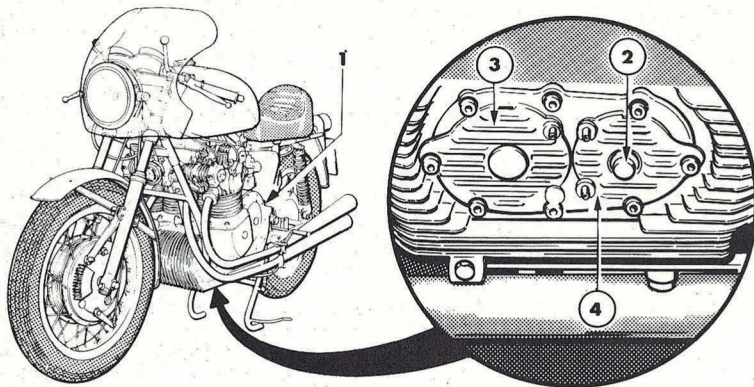
Figure 3-2. Periodic inspection diagram

PERIODIC INSPECTION TABLE

Item	Description	Mileage (km)	Procedure	Note
1	Distributor	1200 (2000)	Clean cap and rotor arm contacts (1)	See page 31
—	Hardware (attaching parts)	3600 (6000)	Make sure that hardware is perfectly tightened (use a normal wrench without extension) (*)	—
2	Wheel spokes	3600 (6000)	Restore tension (1)	See page 45
3	Rim truing	3600 (6000)	Check (1)	See page 45
4	Front drum type brake	3600 (6000)	Adjust cable tension	See page 35
5	Rear brake	3600 (6000)	Adjust cable tension	See page 38
—	Front disc type brake	3600 (6000)	Visually check puck wear	—
6	Contact-breaker	3600 (6000)	Check platinum breaker points for clearance and clean (1)	See page 31
7	Spark plugs	3600 (6000)	Clean and check spark gap clearance (1)	See page 27
8	Starter-generator belts	3600 (6000)	Check for tension (1)	See page 33
9	Steering tube: bearings	7200 (12000)	Adjust clearance, if necessary (1)	See page 41
10	Spark plugs	7200 (12000)	Replace	See page 27
11	Valves	7200 (12000)	Check for clearance between cams and sockets (1)	See page 34
12	Carburetors: filters	7200 (12000)	Clean (1)	—
13	Rear fork pivot: bearings	7200 (12000)	Adjust clearance, if necessary (1)	See page 41
14	Fuel cocks: filters	7200 (12000)	Clean (1)	See page 33
15	Wheel balancing	—	Check at every change of tires	See page 45
16	Clutch	Periodically	Adjust cable tension	See page 38
17	Battery: electrolyte	Every month	Fill to level	See page 49

(*) These procedures must also be performed after the first 600 miles (1000 km).

(1) These procedures must also be performed at the end of the first 1200 miles (2000 km).



1. Oil filling cap with dip stick
2. Oil draining magnetic plug
3. Mesh filter cover (intake)
4. Filter element cover (pressure)

Figure 3-3. Engine and gearbox; checking the level and oil change

DISTRIBUTOR

(See figure 3-5)

At approximately 3600 mile (6000 km) intervals it is necessary to check the clearance between contact-breaker points. When contact-breaker points are in the open position, clearance must be 0.014" to 0.018" (0.35 to 0.45 mm). If clearance is lesser or greater, adjust it as follows:

- Loosen the screw (1) which secures the adjusting arm of the contact breaker point.
- Relocate the arm as necessary to obtain the required clearance.
- Secure the arm by tightening the screw (1).
- Inspect with a thickness gauge to be sure the required clearance has been obtained.

Note

If contact points require cleaning, use the proper superfine file.

Every 1200 miles (2000 km) remove carbon deposits from distributor cap and from rotor

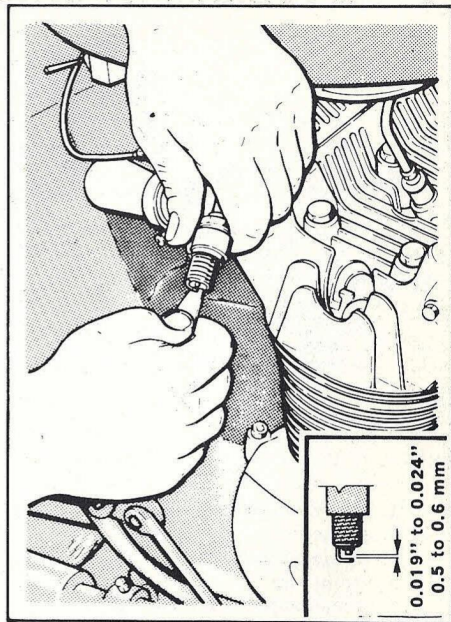


Figure 3-4. Spark plugs

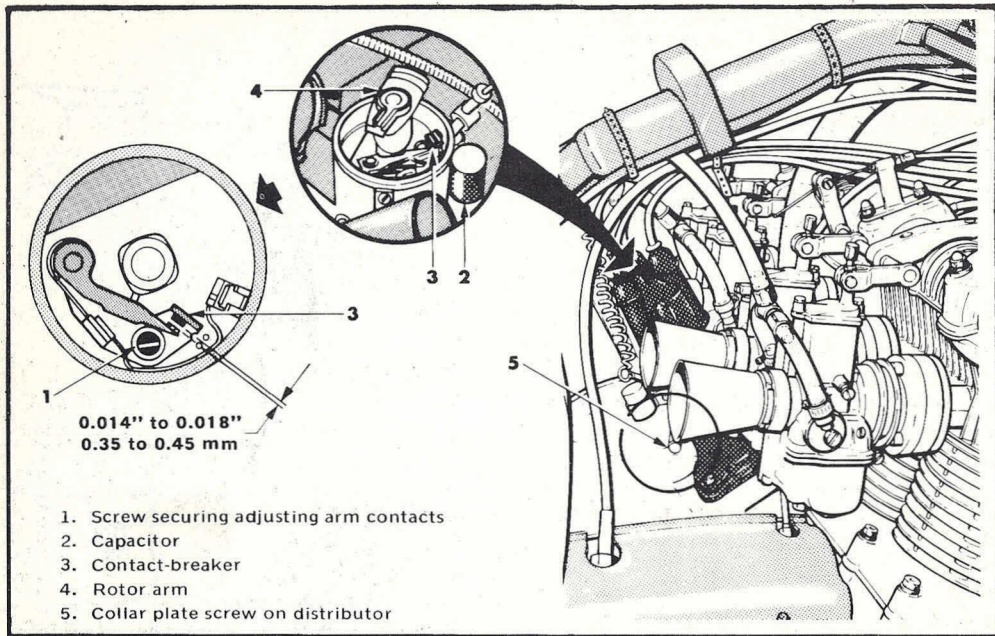


Figure 3-5. Distributor; inspection and adjustment

arm. The above mentioned procedures may also be performed on a bench stand. In this case it is necessary to remove distributor from its bracket by removing plate screw. DO NOT loosen the collar plate screw (5) on the distributor.

Spark advance adjustment

Refer to Workshop Manual of the motorcycle for all necessary details and information.

FUEL COCKS

(See figure 3-6)

The carburetors are gravity fed from the fuel tank located above them.

Two cocks located one on each side under the fuel tank connect the tank with the carburetors through a hose. Each cock has three positions: C closed, O open, R reserve supply (see figure 1-2). At 7200 mile (12000 km) intervals it is advisable to clean the fuel cock filters. Disassemble the cocks, clean with gasoline and dry with compressed air.

Note

Before reinstalling the filters make sure

there is no evidence of cracks or distortions.

CARBURETORS

The carburetors are already adjusted for their best performance. However, as carburation may change over a long period of use of the motorcycle it will therefore, become necessary to readjust the carburetors. As the carburetor adjustment is extremely critical, it should be performed by a specialist only. In any case refer to the motorcycle Workshop Manual.

STARTER-GENERATOR BELTS

(See figure 3-7)

At 3600 mile (6000 km) intervals it is necessary to inspect the starter generator belts for condition and tension. To adjust the tension of inboard and outboard belts (1), (2), loosen starter-generator anchor plate securing nut (3). Relocate starter-generator as necessary to obtain the correct belt tension and tighten the nut (3) again. If after this procedure the outboard belt is still too tight or too slack, relocate the shims on the forward adjustable pulley.

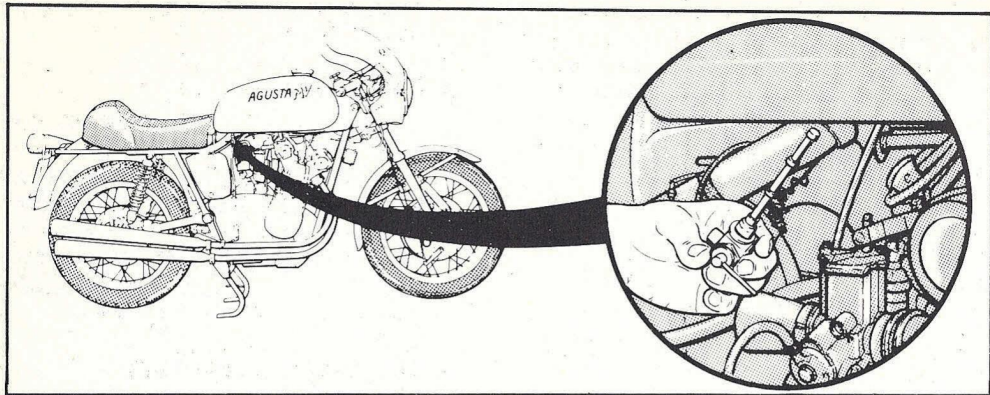


Figure 3-6. Fuel cocks; filter cleaning

To increase the tension of the outboard belt, remove the split pulley (4) and reposition one or two shims outboard, so that the pulley groove becomes narrower and causes the outer belt to run along the outer edge.

If the outboard belt is too tight, remove the split pulley and reposition one or two shims inboard.

Note

Belt tension is correct if, applying a hand pressure of approximately 20 lbs (10 kg), the slack is $3/64$ to $1/16$ " (1 to 1.5 cm).

VALVE CLEARANCE ADJUSTMENT

Valve clearance adjustment is a critical procedu-

re and requires the knowledge of engine disassembly procedures. Adjustment is made by replacing the valve adjusting disc (supplied in different thicknesses) **when the engine is cold**. It is advisable to apply to an authorized Service Station. In any case, refer to the motorcycle Workshop Manual.

ADJUSTMENT OF CONTROL CABLES

Throttle control grip and cable

(See figure 3-8)

The throttle control grip must rotate freely. From time to time it is advisable to remove grip. The cable play must not exceed ($1/64''$ to $3/64''$) (0.5 to 1 mm), otherwise adjust play by means of screws (2, figure 3-8) located on carburetor lever control.

FRONT BRAKE CONTROL CABLE

Drum type brake

(See figure 3-9)

The front drum brake is controlled by two cables simultaneously operated by the lever

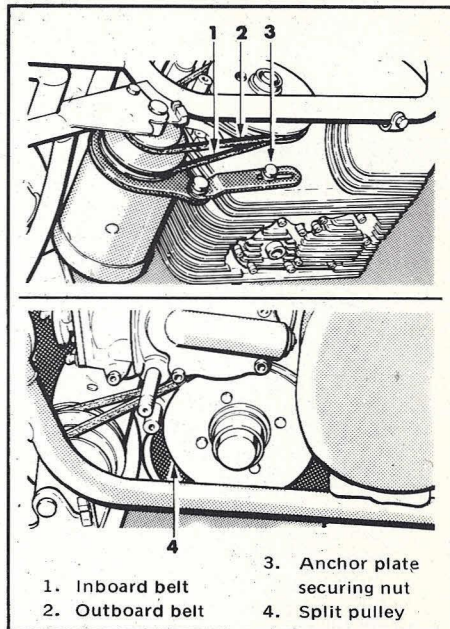


Figure 3-7. Starter-generator belt tension adjustment

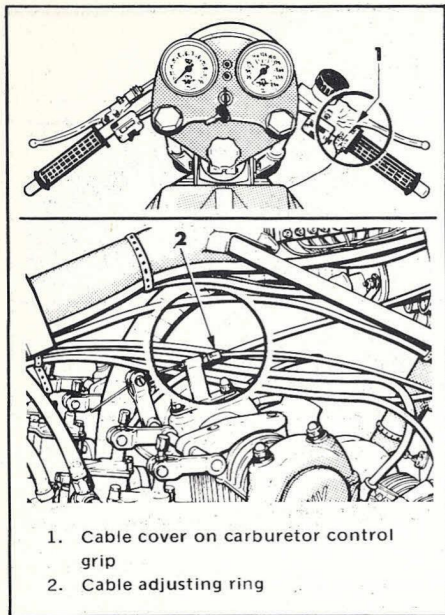


Figure 3-8. Throttle control grip and cable adjustment

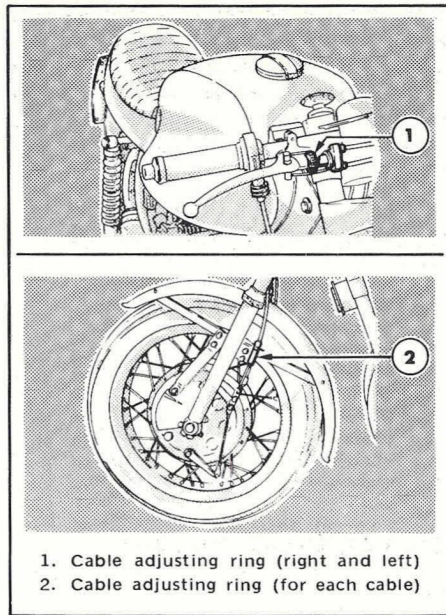


Figure 3-9. Front drum brake control cable adjustment

located on the handlebar. Simultaneous adjustment of both cables is obtained by operating knurled ring (1) on handlebar.

Adjustment of each cable is obtained by operating threaded rings (2) located on sliding fork. For a good adjustment, a play of $13/64''$ (5 mm), as measured on the lever where cable end is fastened, must exist before brake shoes are activated.

Disc type brake model – Optional:

(See figure 3-10)

The front disc brake is hydraulically controlled by a pump with oil reservoir placed on the handlebar. This type of brake does not require any special maintenance procedure. It is only necessary to periodically check the reservoir (1) for level of brake fluid, paying attention that it constantly corresponds to $3/4$ of the total reservoir capacity.

At 3600 mile (6000 km) intervals visually check brake pucks for wear. If excessively worn, replace them.

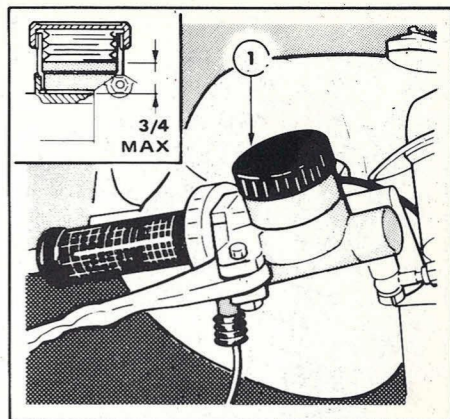


Figure 3-10. Front disc brake fluid reservoir

Note

During the first 60 miles (100 km) in breaking-in period avoid braking suddenly in order to obtain a correct setting of brake pucks and constant good performance.

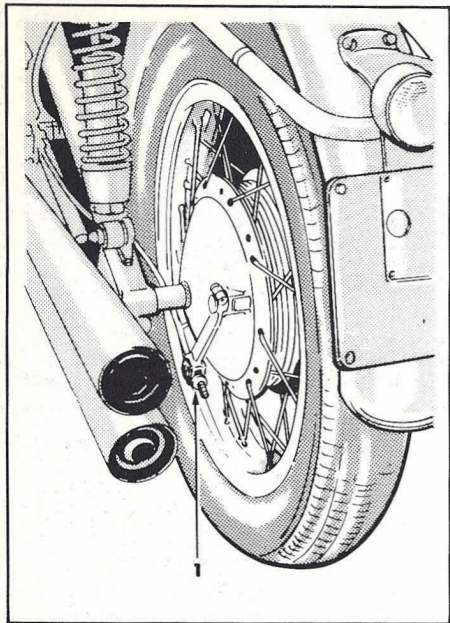


Figure 3-11. Rear brake control cable adjustment

Rear brake control cable

(See figure 3-11)

To adjust, turn nut (1) while holding with a $13/64''$ (5 mm) wrench the nut located at the cable end. For correct adjustment a play of approximately $13/64''$ (5 mm), as measured at the lever end on brake drum is required.

Clutch control cable

(See figure 3-12)

The clutch control must be constantly adjusted so that the control lever idle stroke is approximately $1/8''$ to $11/64''$ (3 to 4 mm), measured at the lever attaching point on handlebar. This idle stroke is obtained by turning the knurled rings (1) on handlebar and at the end of cable (2) on the left side of the engine.

Note

If this adjustment is insufficient, tighten or loosen the adjusting screw on the clutch control rod located inside the clutch housing, as directed hereafter.

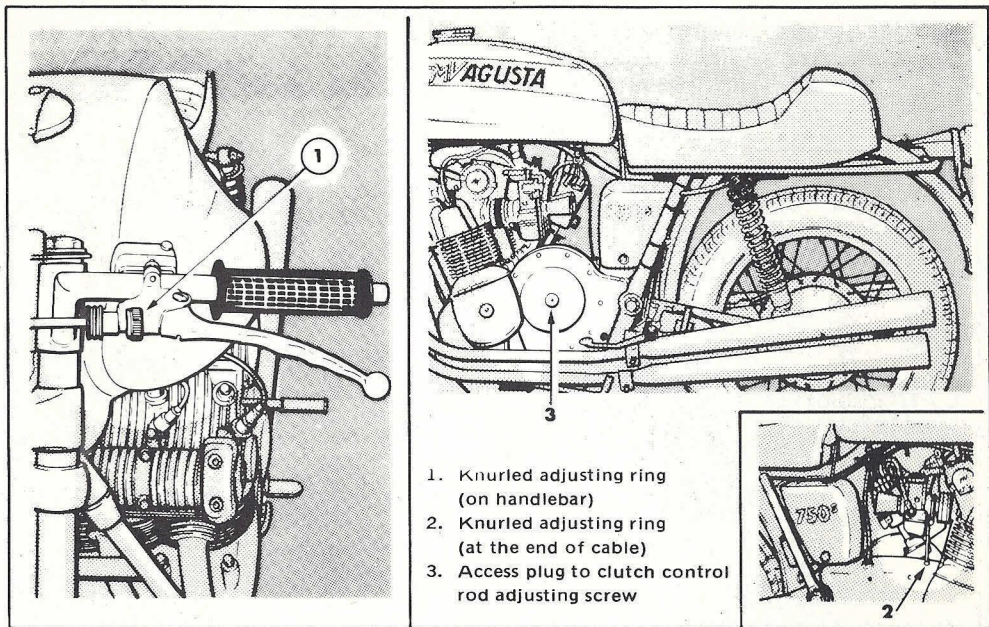


Figure 3-12. Clutch control cable adjustment

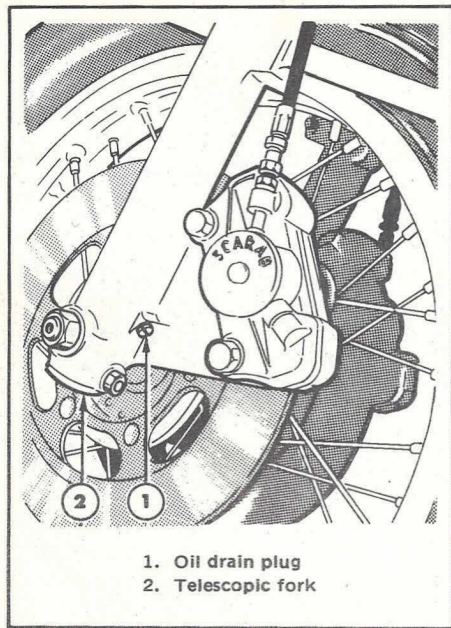


Figure 3-13. Front fork; oil change

To gain access to the clutch control rod adjusting screw remove plug (3) on the left hand cover. Loosen the nut with a box wrench and inserting a screw driver through the box wrench, turn the adjusting screw (clockwise if play is excessive, counterclockwise if play is insufficient). It is recommended to avoid no-play conditions. Tighten nut, holding the adjusting screw, reinstall plug (3) on cover and check gasket condition.

FRONT FORK

(See figures 3-13 and 3-14)

The telescopic fork does not require any special maintenance procedure. It is advisable, however, to check the quantity and condition of the oil contained in the legs at 15000 mile (24000 km) intervals.

The oil is drained by removing plug (1, figure 3-13), located at the bottom of each leg, and by loosening upper plugs (4, figure 3-14).

Depress the fork several times to be sure that oil has been completely drained out. Filling is made through the upper plugs located on the fork head (4, figure 3-14) after having tightened plug (1, figure 3-13). Fluid is AGIP F.1

ROTRA ATF oil, that contains additives for hydraulic systems.

STEERING BEARING PLAY ADJUSTMENT

(See figure 3-14)

At 7200 mile (12000 km) intervals it is necessary to check the fork pivot bearing play. To perform this inspection place the motorcycle on its center stand and shake fork, in order to make evident any possible bearing play. To remove play, loosen screw (1) securing upper fork head and setting nut (2) by about one turn, holding bearing nut (3) in place by means of a proper wrench. Remove play by turning nut (3) and at the same time lock nut (2). When axial play has been removed, rolling is correct if, raising the motorcycle from the ground, the fork rotates to the right or left without binding. Tighten screw (1) located on fork head.

REAR FORK BEARING PLAY ADJUSTMENT

(See figure 3-15)

At 7200 mile (12000 km) intervals check the bearing play. To perform this inspection, place

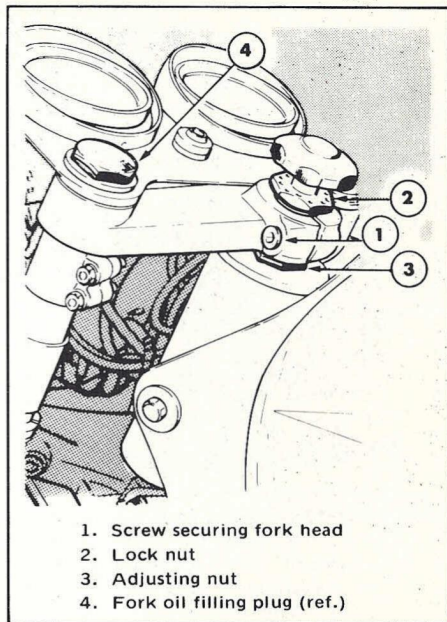


Figure 3-14. Steering bearing play adjustment

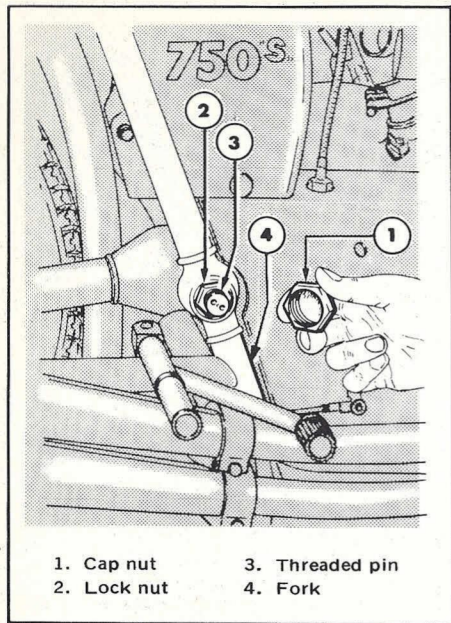


Figure 3-15. Rear fork bearing play adjustment

the motorcycle on its center stand and shake rear wheel sidewise to make evident any possible bearing play. To remove play, remove cap nut (1), loosen lock nut (2) and tighten threaded pin (3) with a proper wrench. Repeat shaking to make sure that no play is any longer evident and then slightly loosen threaded pin (3) to avoid excessive tightening of bearings. Tighten lock nut (2) holding pin in place. Reinstall the cap nut (1). Check that the distance between frame and fork bearing housing is the same on both sides.

REMOVAL OF WHEELS

Removal of front wheel with drum type brake (See figure 3-16)

Proceed as follows:

- a. Place the motorcycle on its center stand (see figure 2-1).
- b. Lift the front wheel by means of the appropriate support rod (1, figure 3-16) stored under engine case.
- c. Remove pins (2) from brake control cable forks.

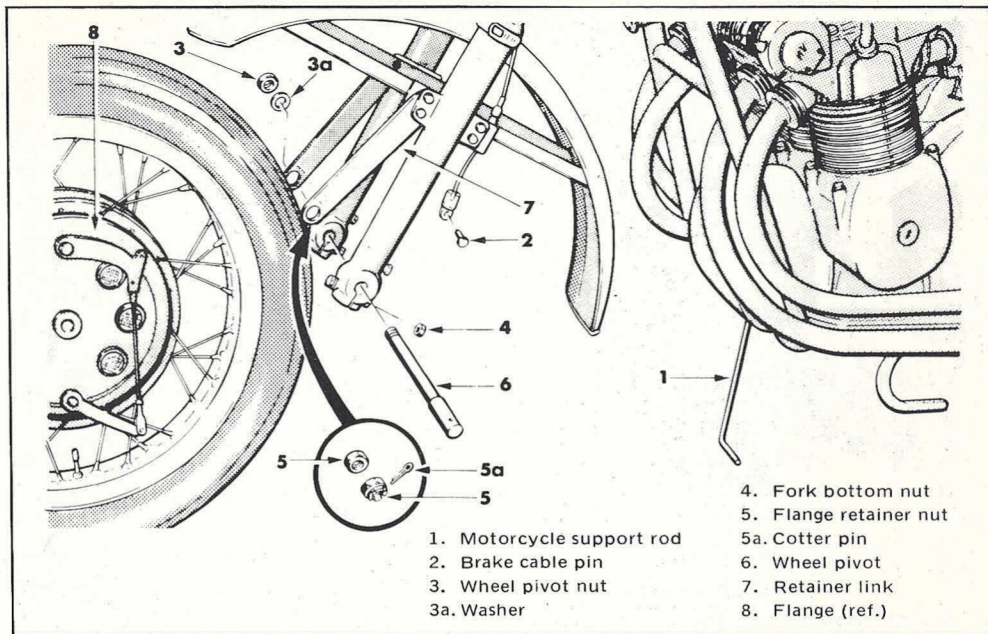


Figure 3-16. Removal of front wheel with drum type brake

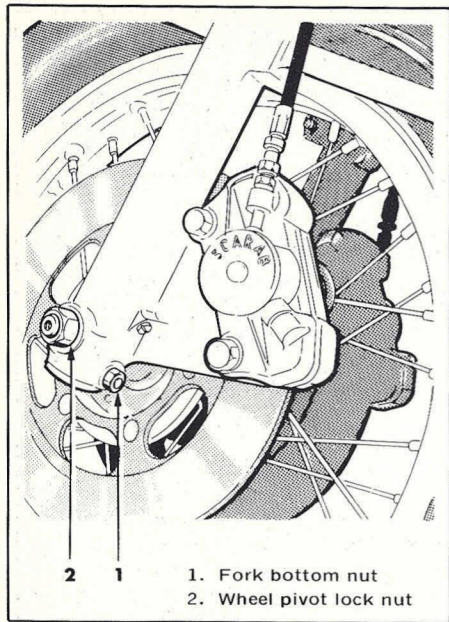


Figure 3-17. Removal of front wheel with disc type brake model

- d. Loosen wheel pivot nut (3).
- e. Loosen both nuts (4) at the fork bottom.
- f. Remove nuts (5) from retainer links.
- g. Remove retainer links from pivots.
- h. Remove nut (3) and wheel pivot (6).

CAUTION

During reassembly clean and grease the wheel pivot before installation and **secure nuts with new cotter pins (5a).**

Removal of front wheel with disc type brake (See figure 3-17)

Proceed as follows:

- a. Place the motorcycle on its center stand (see figure 2-1).
- b. Lift the front wheel by means of the appropriate support rod (1, figure 3-16) stored under engine case.
- c. Loosen both nuts (1, figure 3-17) at the bottom of each fork leg.
- d. Remove nut (2) and wheel pivot.

CAUTION

During reassembly clean and grease wheel pivot before installation.

Removal of rear wheel

(See figure 3-18)

Proceed as follows:

- a. Place the motorcycle on its center stand (see figure 2-1).
- b. Remove both left exhaust silencers (1, figure 3-18).
- c. Remove cable tension control nut (2) from threaded barrel and extract cable.
- d. Remove nut (3) to extract brake shoe flange tie rod.
- e. Loosen nut (4) on left rear fork leg.
- f. Remove nut (5) and extract wheel pivot (6).

Note

During reassembly clean and grease pivot

prior to installation. Lubricate with grease the wheel splined coupling.

SPECIAL REMARKS

Spokes and rims

For good riding, rims must have no distortions and all spokes must have the same tension. When checking spoke tension make sure that spoke end does not protrude from nipple head, as it could damage tube. Rim concentricity and twist must not exceed 1/64" (0.5 mm). Make sure that both wheels equipped with tires are perfectly balanced.

REAR BEVEL-GEAR DRIVE BOX

(See figure 3-19)

Level checking and oil change

Oil level must be checked at 1200 mile (2000 km) intervals and oil must be changed after the first 1200 miles (2000 km) and subsequently at 7200 mile (12000 km) intervals. Oil level can be visually checked. When the motorcycle is placed **in a perfectly horizontal position**, the oil level must skim the lower edge of plug hole (1). Use a suction pump to change oil.

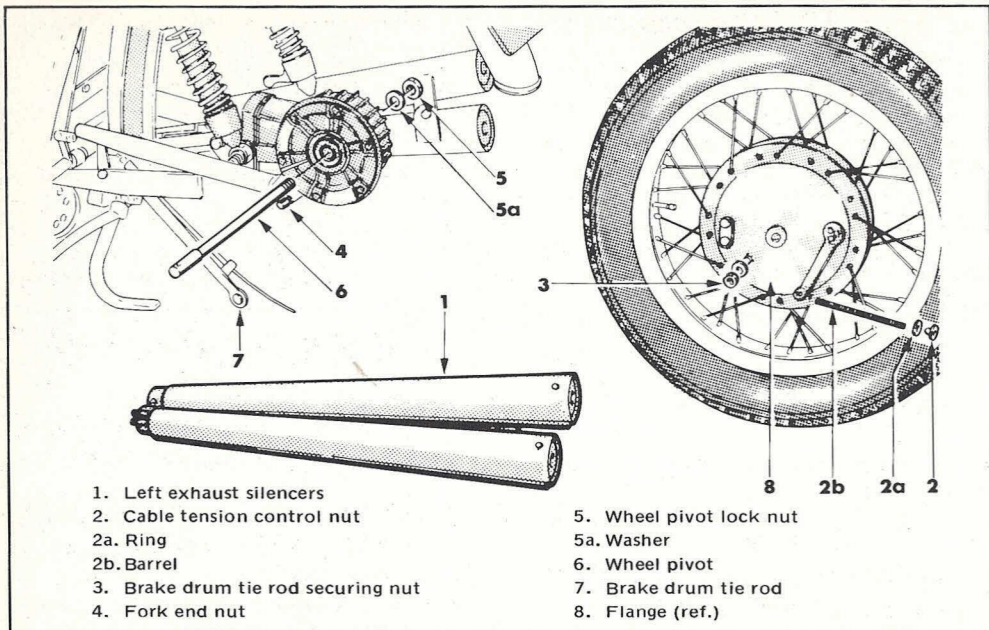


Figure 3-18. Removal of rear wheel

ELECTRICAL SYSTEM AND COMPONENTS

Schematic diagrams in figures 3-23 and 3-24 show the electrical equipment and connections. The normal system rated voltage is 12 V.

Current is supplied by the starter-generator and a 32 Ah battery. A voltage regulator is located between the starter-generator and the battery. Besides the ignition and starting system, the battery feeds the following fuse-protected components (see figure 3-20):

- Driving beam and warning lights: 8 Amp. fuse (1).
- Passing beam light: 8 Amp. fuse (2).
- Front and rear position lights: 8 Amp. fuse (3).
- Stop and direction lights and horn: 8 Amp. fuse (4).

Note

To gain access to fuse box, release pin (5, figure 3-20) and tilt saddle.

Electrical system nomenclature

(See figures 3-23 and 3-24)

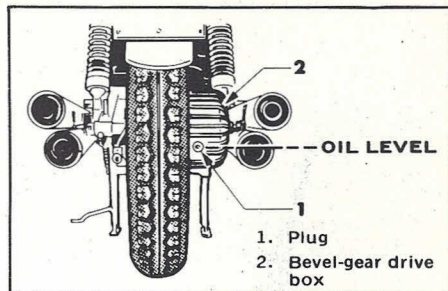


Figure 3-19. Rear bevel-gear drive box

1. Front position light 2.5 W spherical bulb
2. Driving and passing beams 40/45 W AS EUROPEAN bulb
- 3.4. Instrument lighting 2.5 W spherical bulbs
- 5.6. Driving beam and generator warning lights, all glass 2.5 W bulbs
7. Switch with removable key
8. Switch box for warning (town) horn, direction lights, driving and passing beams switch (country horns optional)

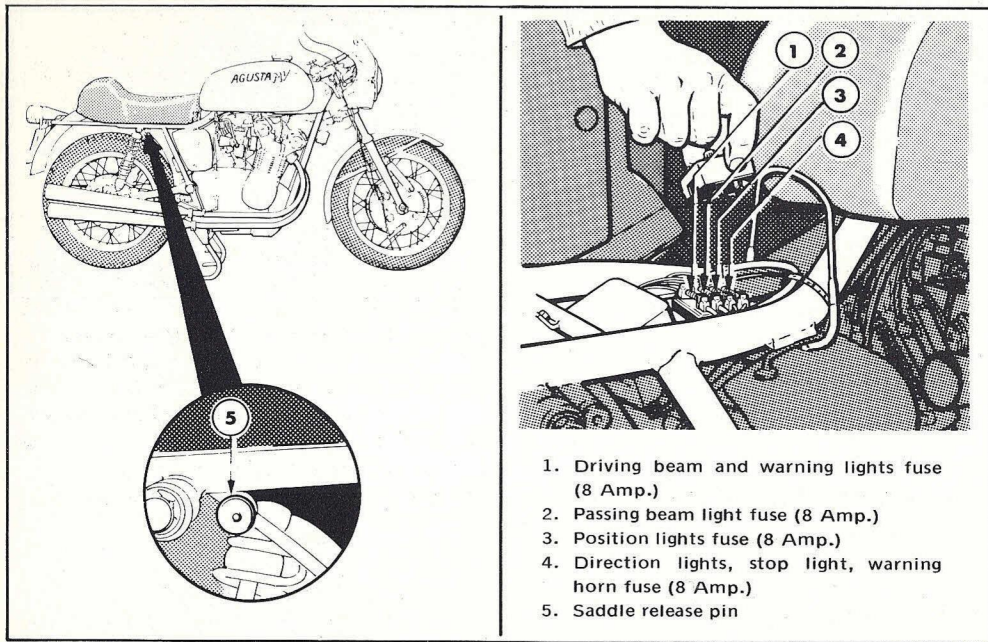


Figure 3-20. Fuse box

9. Switch box for engine starting, driving beam switch, flashing lights
10. Warning horn (town)
11. High-voltage coil
12. Spark plugs
13. Distributor
14. Fuses
15. Voltage regulator
16. Battery
17. Starter-generator
18. Stop switch
19. Two beam 5/20 W spherical bulb

Optional equipment for standard model:

DIRECTION LIGHTS:

20. Rear direction lights, 21 W spherical bulbs
21. Flashing unit
22. Front direction lights, 21 W spherical bulbs

ANTI-NOISE SHIELDING:

23. 3 μ F capacitor on HV coil
24. 3 μ F capacitor on voltage regulator

25. 4.5 μ F capacitor on starter-generator
26. Spark plug caps with metal shielding and integral 1000 Ω resistor (France: 5000 Ω)
27. Distributor rotor arm with integral resistor

Battery

(See figure 3-21)

This component of the electrical system requires the greatest care. To gain access to the battery it is necessary to remove the lateral protections by unscrewing the two knurled knobs. To remove the battery, remove screw from clamp barrels and take off battery clamp. Inspect battery fluid level every month (more frequently in warm weather) and, if necessary, add distilled water to each cell, so that the plates are constantly kept under water (3/64" to 3/32") (1 to 2 mm).

CAUTION

It is strictly recommended that distilled water only be used.

Check that contacts with poles and clips are

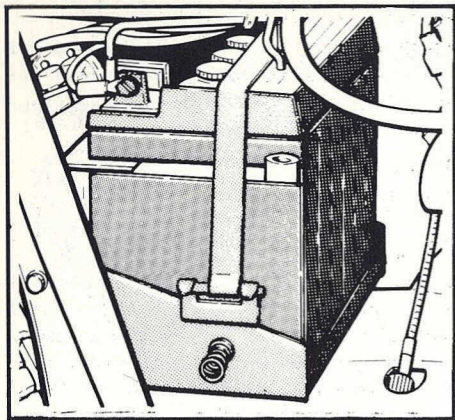


Figure 3-21. Battery

clean and tight. Smear them with vaseline to avoid corrosion. Avoid completely running down the battery to prevent rapid deterioration of the plates.

Note

All of the above procedures can be

performed without removing the battery from the motorcycle.

Headlight adjustment

(See figure 3-22)

Horizontal and vertical beam adjustments must be made at the same time as follows:

a. Place the motorcycle in its normal riding position (center stand must not be used) in front of a white screen.

b. Have the wheels well aligned and, observing the conditions shown in figure 3-22, switch on the driving beam and adjust it horizontally and vertically.

c. Switch on passing beam and adjust the beam upper edge to the height shown in figure 3-22.

Note

To adjust the beam operate on both screws, one on each side of the headlight.

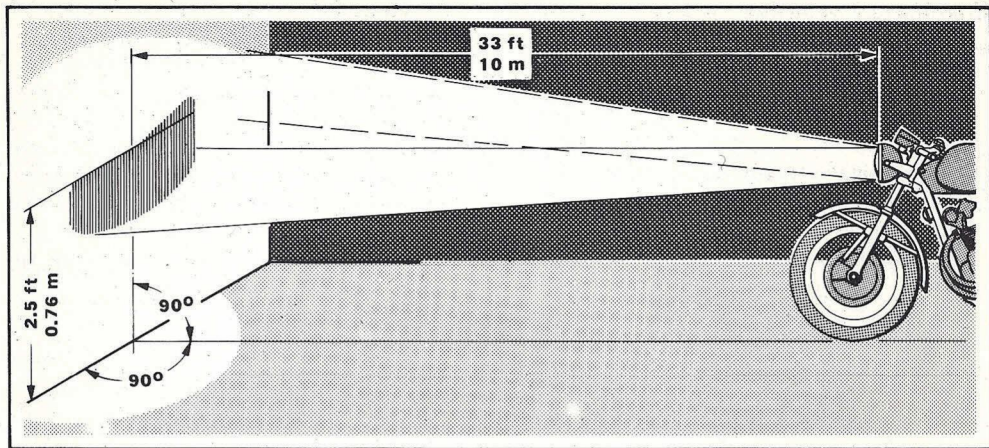


Figure 3-22. Headlight adjustment

CAUTION

To clean rear and/or front light reflectors use a very soft brush or compressed air. DO NOT rub with a cloth and DO NOT touch the reflecting surface with your fingers.

MOTORCYCLE STORAGE

When a long period of inactivity is foreseen, thoroughly clean the motorcycle as follows:

- Completely drain gasoline from tank and from carburetors.
- Clean tank and carburetor gasoline filters.
- Remove the battery, put it in a dry place and fully discharge and subsequently charge it every month to prevent oxidation of the plates.
- Introduce into cylinders through spark plug holes a small quantity of corrosion preventive oil and rotate engine shaft three or four times, in order to cover cylinder walls with a protective film.
- Raise the motorcycle on its center stand and the special support rod, so that tires are not in contact with ground. Clean the tires and reduce pressure.
- Cover all non-painted metal parts with an anti-rust grease.

SECTION IV

TROUBLE SHOOTING

TROUBLE AND POSSIBLE CAUSE

REMEDY

Difficulty in starting or failure to start the engine.

1. Fuel feed

Fuel does not reach carburetor due to:

- lack of gasoline in tank
- cocks closed or necessity to connect reserve supply
- clogged or dirty cocks and/or carburetor filters
- clogged bleed hole in gasoline filler cap

Faulty carburetion due to:

- clogged nozzles
- clogged or dirty ducts

Carburetor flooding due to:

- foreign matter in float needle seat on float chamber cover
- pierced float

Fill with gasoline 98/100 Octane.

Open cocks or turn cock to R position.

Clean with gasoline and compressed air.

Clear bleed hole and clean with compressed air.

Remove and clean with compressed air.

Clean with gasoline and compressed air.

Clean with compressed air.

Replace.

Note - To eliminate the gasoline from a flooded carburetor, close fuel cocks, open throttle grip and operate starter several times. If the engine does not start, remove and dry the spark plugs.

2. Ignition

Current does not reach the spark plugs:

Note - To check if current reaches a spark plug: remove the cable from each spark plug and touch engine head with non-insulated cable terminals, while operating the starter to turn the engine over several times. Observe if a spark is generated.

- | | |
|---|--|
| — high voltage cables cracked | Replace cables. |
| — high voltage coil and distributor cable terminals (copper snaps) oxidized | Clean or replace. |
| — cracked distributor cap | Replace. |
| — breaker points out of adjustment | Adjust to required clearance (1/64") (0.4 mm). |
| — dirty breaker points | Clean with a very fine file. |
| — worn breaker points | Replace. |
| — loose capacitor | Tighten setting screw. |
| — shorted or malfunctioning capacitor | Replace. |

TROUBLE AND POSSIBLE CAUSE

REMEDY

- high voltage coil non-operating

Replace.

Current reaches spark plug but no spark is generated:

Note - To check if spark plug generates a spark: remove the spark plug from its seat, touch cylinder head with non-insulated side (after having reconnected the ignition cable) while operating the starter to turn the engine over several times. Observe if the spark is generated.

- dirty spark plug
- incorrect gap
- worn electrodes or cracked insulator

Clean.

Adjust to required gap (0.019" to 0.024") (0.5 to 0.6 mm).

Replace spark plug.

3. Starting

When depressing the starter button the starting motor does not revolve:

- key not inserted properly
- battery down

Check that key has been turned one step clockwise.

Recharge battery.

TROUBLE AND POSSIBLE CAUSE

- loose or corroded battery lead terminals
- slipping starter-generator belts
- oxidized starter button contacts
- faulty voltage regulator

4. Erratic operation

Engine stops when throttle grip is fully opened:

- engine is too cold
- carburetor main nozzle dirty

Knocking:

- fuel not appropriate
- self-ignition caused by overheating as a result of carbon deposits on piston heads and in combustion chambers
- excessively advanced ignition

Engine cuts out:

- incorrect gasoline flow to carburetors
- excessive spark plug gap
- dirty spark plugs
- dirty breaker points
- breaker points not adjusted correctly

REMEDY

Tighten and clean or replace the terminals.
Check and restore required tension.
Clean.
Replace.

Let engine idle for a few minutes.
Clean with compressed air.

Use gasoline 98/100 Octane.
Disassemble and clean.

Adjust advance.

Clean gasoline filters and carburetor nozzles.
Adjust gap.
Clean.
Clean.
Adjust.

TROUBLE AND POSSIBLE CAUSE

- loose capacitor
- faulty capacitor
- dirty distributor cap

Carburetors coughing:

- too lean air-gasoline mixture
- air infiltration to carburetors

- intake valve do not seal perfectly
- self-ignition due to carbon deposits
- dirty spark plug
- excessively advanced ignition

Back-firing:

- water in carburetor or tank
- outlet valves do not seal perfectly
- too rich air-gasoline mixture

REMEDY

Tighten screw.

Replace.

Clean cap and rotor arm contacts.

Slightly close air regulating screw on carburetors. Check and tighten carburetor screws and nuts. Check condition of isolating ring between carburetor and cylinder head and if necessary replace it. Carburetor fitting attaching screws must not be threaded all the way in. The head of the three screws must protrude 1/8" to 5/32" (3 to 4 mm) from fitting.

Grind valves and seats.

Clean and scale pistons and cylinder heads.

Clean.

Adjust advance. Refer to Workshop Manual.

Disassemble tank and carburetor and clean.

Grind valves and seats.

Slightly open air regulating screw on carburetors.

TROUBLE AND POSSIBLE CAUSE

Excessive fuel consumption (black smoke):

- pierced float
- incorrect seating of float needle
- imperfect carburetor nozzle hole
- retarded ignition

Excessive oil consumption (blue smoke):

- excessive clearance between cylinder and piston
- stuck, worn or broken piston rings
- excessive clearance between intake valves and guides

Noisy engine:

- excessive clearance between:
 - cylinder and piston
 - crank pin, rollers and connecting rod head
 - cams, valve caps
 - camshaft gears

The motorcycle does not hold the road:

- steering group too stiff
- tire pressure too low

REMEDY

Replace.

Replace needle or clean seat with compressed air.

Replace nozzle.

Adjust timing

Ream cylinders and install oversized pistons.

Replace.

Replace worn parts.

Ream cylinders and install oversized pistons.

Replace connecting rod assembly.

Adjust.

Replace gears.

Adjust.

Inflate to required pressure.

TROUBLE AND POSSIBLE CAUSE

- tire pressure too high
- worn tires
- front suspension too stiff
- rear suspension too stiff
- wheels unbalanced
- rims distorted
- loose spokes

Insufficient braking (drum brakes):

- excessive idle stroke of rear brake pedal
- brake lining worn out
- brake lining dirty with grease
- scratched drum
- excessive idle stroke of control lever on handlebar
- cables too stiff inside sheaths

Insufficient braking (front disc brake):

- worn pucks
- air bubbles in pump on handlebar

REMEDY

Inflate to required pressure.

Replace.

Check oil condition and quantity in each leg.

Overhaul.

Balance wheels.

Align or replace.

Adjust tension.

Adjust.

Replace.

Clean.

If scratches are not deep, polish out with emery cloth; if they are deep, remove and have them turned at a Service Station.

Adjust.

Lubricate.

Replace.

Check oil level in reservoir: if insufficient, fill it to

TROUBLE AND POSSIBLE CAUSE

- air bubbles in pump on handlebar (cont.)
- clogged braking system hoses
- broken braking system LH or RH hoses
- worn or scratched discs
- inefficient pump (on handlebar)

Electrical system:

- generator warning light does not go out
- bulbs or electric components non-operating:
 - burnt fuse
 - burnt bulbs
 - inefficient electric component

REMEDY

level and brake several times to bleed brake lines standing still, until perfect operating condition is restored.

Clean or replace.

Replace.

Replace.

Replace.

Generator is not charging.

Inefficient voltage regulator.

Replace.

Replace.

Replace.

TECHNICAL DATA

ENGINE

Type	4 stroke "Otto" cycle
Number of cylinders	4
Position of cylinders	in line transverse to the motorcycle axis and with a 20° angle of inclination
Firing order	1-3-4-2
Bore	2.55" (65 mm) diameter
Stroke	2.20" (56 mm)
Total displacement	45.3 cu.in. (743 cc)
Compression ratio	10 : 1
Maximum power	69 HP (DIN) at 8500 RPM
Maximum torque	42.6 ft.lbs. (5.9 kgm) at 7500 RPM
Maximum RPM	9000
Ignition timing:	
— intake opens	48° before TDC
— intake closes	68° after BDC
— exhaust opens	70° before BDC
— exhaust closes	36° after TDC
Normal clearance between valve and cap, cold engine	intake 0.010" (0.25 mm), exhaust 0.012" (0.30 mm)
Engine lubrication	pressure lubrication with oil in crankcase

Carburetors:

— type	Dell'Orto VHB 27 AD and VHB 27 AS
— diameter of choke tube	1.09" (27 mm)
— main nozzle	No. 128
— idle nozzle	No. 45
— throttle valve	No. 40
— tapered needle	V 7
— groove	2nd
— nozzle	265 M
— air intake	long horn type
— air regulating screw opening	1 turn

Ignition system type

— fixed advance	battery-coil ignition
— automatic advance	18° to 20°
— total advance	28° to 30°
— breaker points clearance	46° to 50°
	1/64" (0.4 mm)

Spark plug

— Spark gap	BOSCH 260 W, long reach, 0.55" (14 mm) diameter
	0.024" (0.6 mm)

Battery

Electric system supply	12 V 32 Ah
------------------------	------------

Primary transmission

Clutch	gears
Gearbox	multiple disc in oil mist
— gear ratios	5-speed, constant mesh gears
	1st 2.38 : 1
	2nd 1.69 : 1

— gear ratios (cont.)	3rd 1.29 : 1
	4th 1.09 : 1
	5th 1 : 1
Secondary transmission	Universal joint
Drive ratios:	
— engine to transmission shaft	1.066 : 1
— transmission shaft to wheel	2.688 : 1
Total drive ratios	1st 11.68 : 1
	2nd 8.45 : 1
	3rd 6.47 : 1
	4th 5.44 : 1
	5th 4.98 : 1

Frame

Frame type	tubular steel, double cradle
Front suspension	hydraulic telescopic fork
Rear suspension	swinging arm with hydraulic shock absorbers
Brakes	— front: 9.05" (230 mm) diameter x 1.18" (30 mm) double drum brake
	— front: 11.23" (280 mm) diameter disc brake (optional)
	— rear: 10.23" (260 mm) diameter x 1.77" (45 mm) drum brake
Wheel rims	18 x 3 light alloy

Tires	use a type suitable for a speed over 125 MPH (200 km/h) – front: 3.50 x 18 ribbed – rear: 4.00 x 18 patterned
Dimensions:	
– maximum width	2.46 ft (750 mm)
– maximum length	6.73 ft (2105 mm)
– maximum height	3.26 ft (1020 mm)
– height of saddle	2.56 ft (800 mm)
– minimum ground clearance	0.51 ft (160 mm)
Wheel base	4.44 ft (1390 mm)
Weight, dry	517 lbs (235 kg)
Number of persons	2 (driver + one passenger)
Maximum speed after breaking-in	1st RPM 9000 57 MPH (92 km/h)
	2nd RPM 9000 80 MPH (128 km/h)
	3rd RPM 9000 105 MPH (168 km/h)
	4th RPM 9000 125 MPH (199 km/h)
	5th RPM 9000 135 MPH (218 km/h)
Oil consumption	1.8 lb for 1000 miles (0.5 kg for 1000 km)

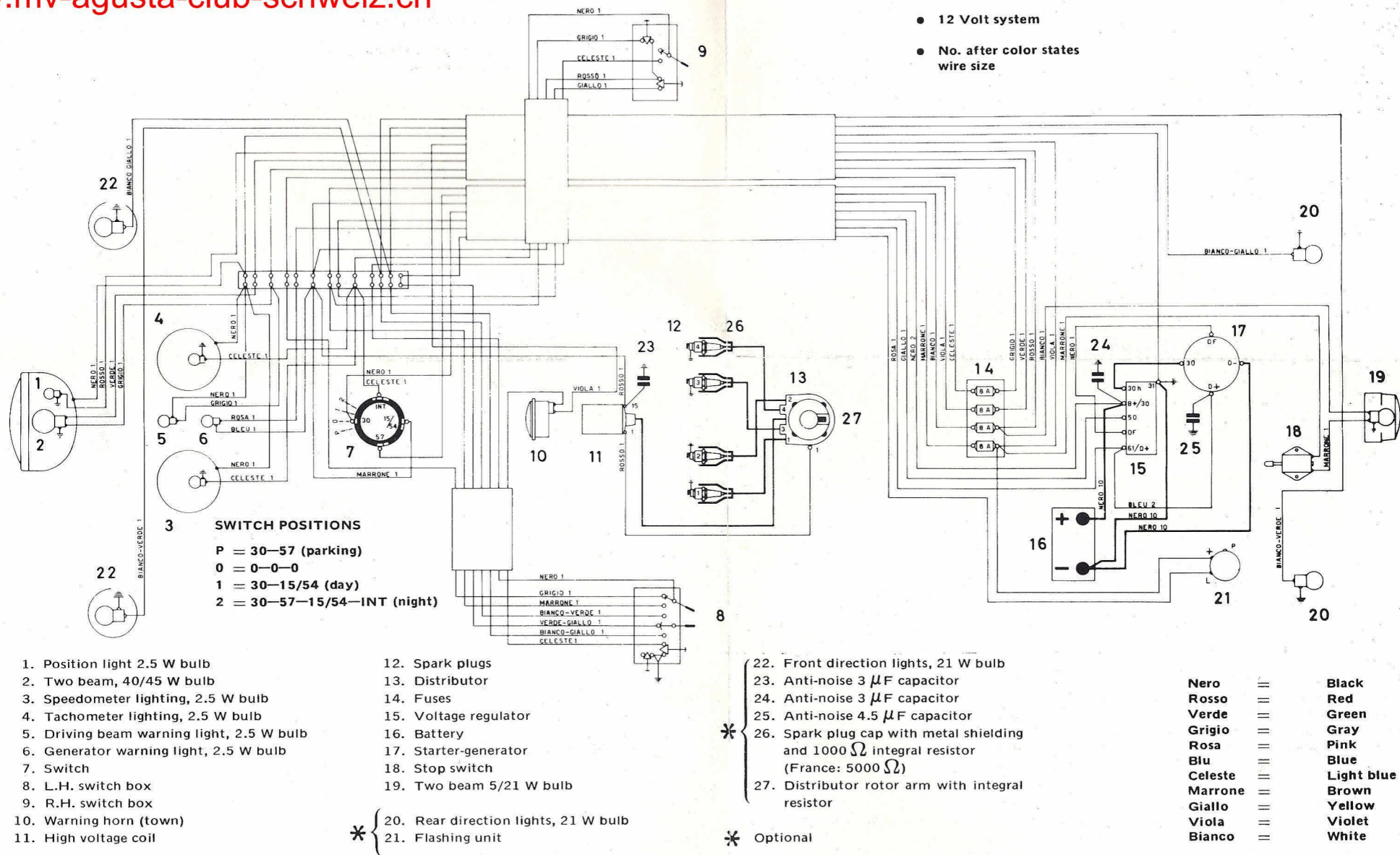


Figure 3-23. Electrical system schematic diagram (standard model)

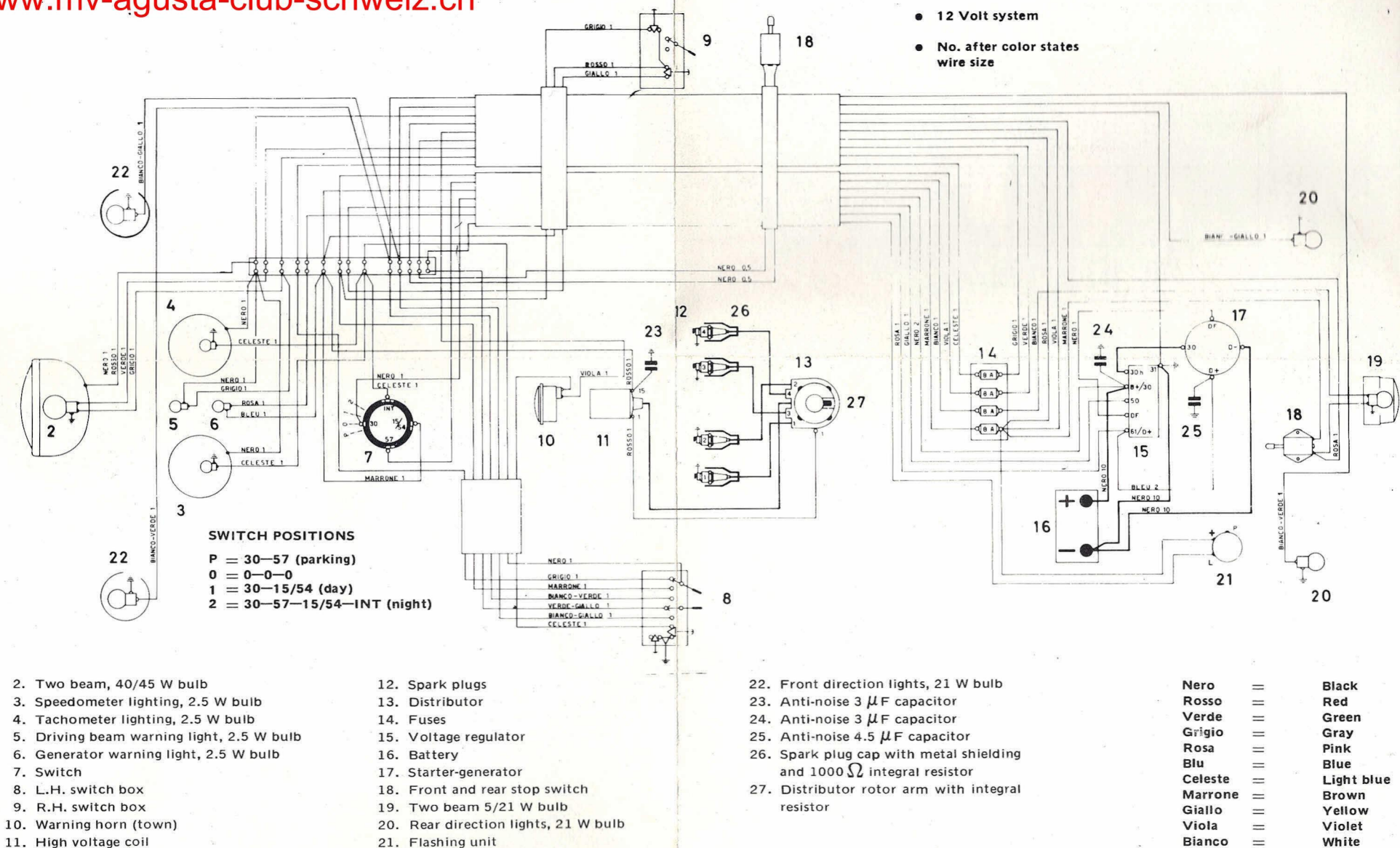


Figure 3-24. Electrical system schematic diagram (U.S. model)

