

Section

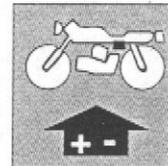
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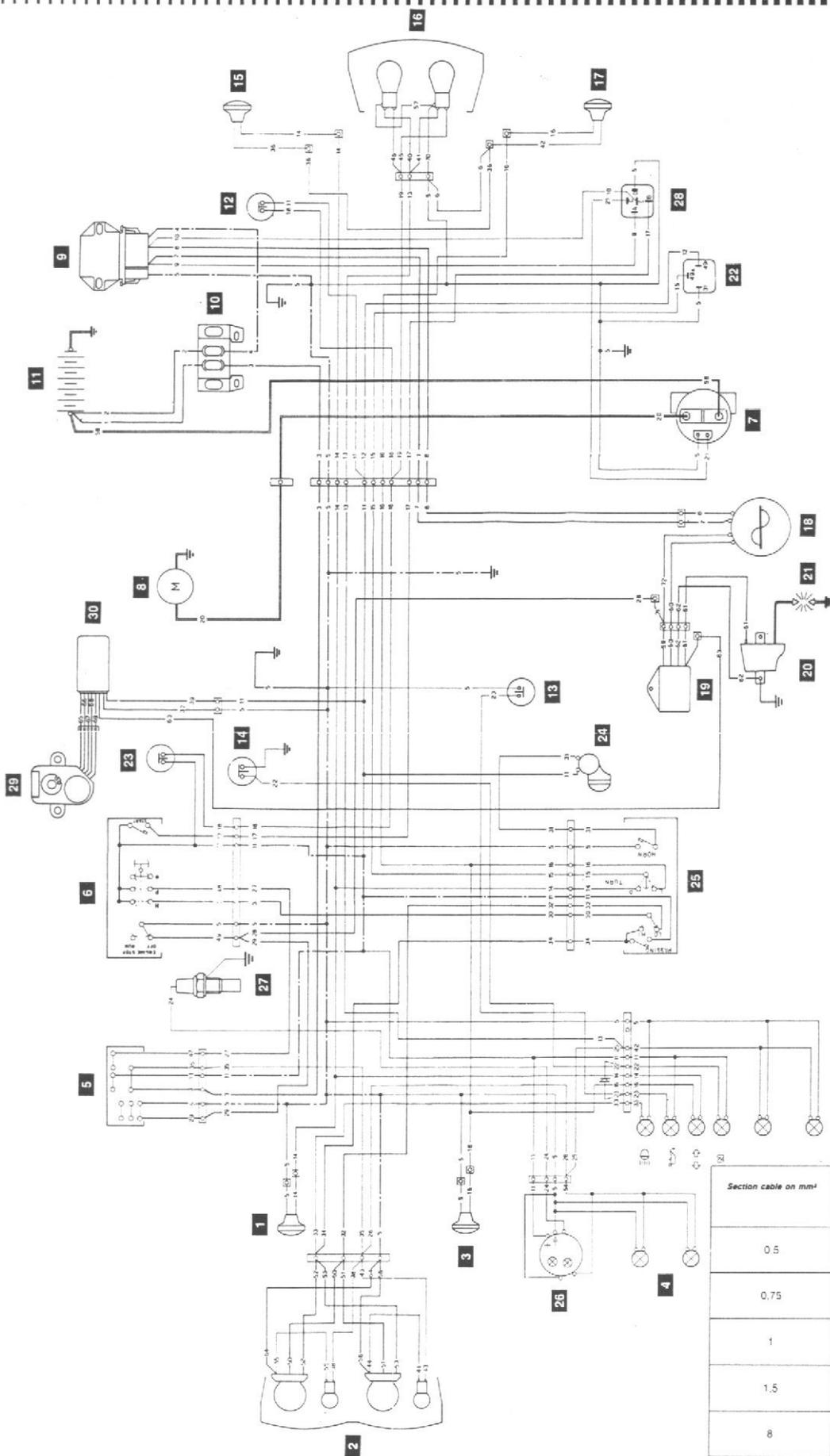


ELECTRIC SYSTEM

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WIRING DIAGRAM



Section cables coding

Section cable on mm ²	Cables N°
0.5	5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 31, 33, 35, 36, 38, 40, 41, 42, 43, 44, 45, 46, 54, 55, 57, 70
0.75	7, 8, 27, 28, 29, 30, 32, 34, 37, 39, 47, 48, 49, 50, 51, 52, 53, 56, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 71, 72
1	4
1.5	1, 2, 3
8	20, 58





ELECTRIC SYSTEM

Key to wiring diagram.

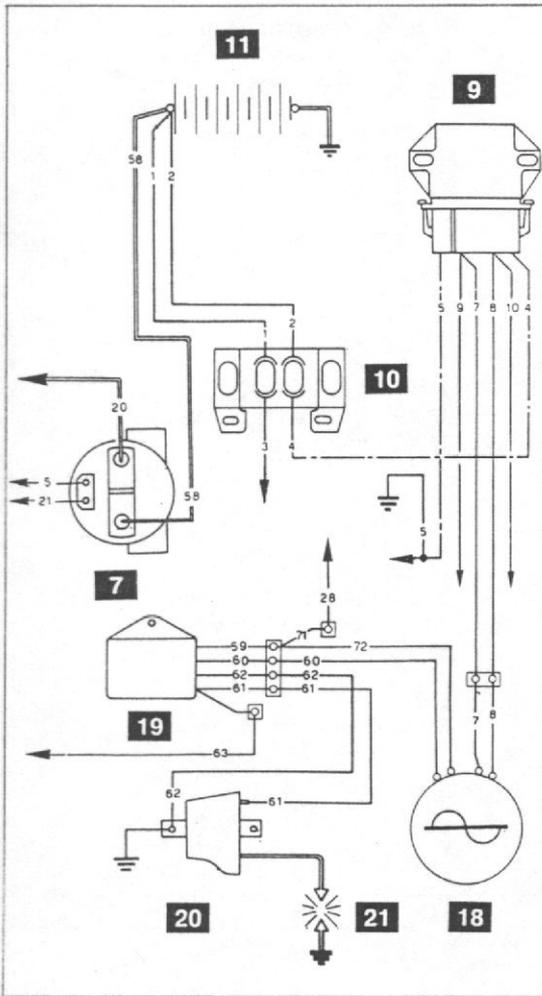
- 1 RH front indicator
- 2 Headlamp
- 3 LH front indicator
- 4 Instrument lighting
- 5 Key switch
- 6 Right switch
- 7 Starter switch
- 8 Starter motor
- 9 Regulator
- 10 Regulator
- 11 Battery
- 12 Rear stop switch
- 13 Oil level switch
- 14 Neutral switch
- 15 RH rear indicator
- 16 Rear light
- 17 LH rear indicator
- 18 Alternator
- 19 Electronic unit
- 20 H.T. coil
- 21 Spark plug
- 22 Turn signal flash device
- 23 Front stop switch
- 24 Horn
- 25 Left switch
- 26 Thermometer
- 27 Thermistor
- 28 Starting control box
- 29 Petrol level switch
- 30 Valve control motor
- 31 Valve control center unit

— Cable colour coding

POS.	COLORE / COLOR	POS.	COLORE / COLOR
1	Rosso - Red	37	Bianco-Nero/White-Black
2	Rosso - Red	38	Giallo - Yellow
3	Rosso - Red	39	Arancio-Bianco/Orange-White
4	Arancio - Orange	40	Giallo - Yellow
5	Blu - Blue	41	Giallo - Yellow
6	Blu - Blue	42	Blu - Blue
7	Giallo - Yellow	43	Giallo - Yellow
8	Giallo - Yellow	44	Blu - Blue
9	Giallo - Yellow	45	Verde - Green
10	Giallo - Yellow	46	Verde - Green
11	Verde-Nero/Green-Black	47	Grigio - Grey
12	Verde-Nero/Green-Black	48	Giallo - Yellow
13	Giallo - Yellow	49	Bianco-Rosso/White-Red
14	Rosso-Nero/Red-Black	50	Nero - Black
15	Blu-Nero/Blue-Black	51	Nero - Black
16	Azzurro - L.T. Blue	52	Bianco/White
17	Giallo-Rosso/Yellow-Red	53	Bianco/White
18	Verde - Green	54	Giallo - Yellow
19	Verde - Green	55	Blu - Blue
20	Nero - Black	56	Blu - Blue
21	Giallo-Blu/Yellow-Blue	57	Blu - Blue
22	Giallo-Verde/Yellow-Green	58	Rosso - Red
23	Rosa - Pink	59	Nero-Rosso/Black-Red
24	Arancio - Orange	60	Rosso-Nero/Red-Black
25	Giallo - Yellow	61	Bianco-Blu/White-Blue
26	Giallo - Yellow	62	Nero-Bianco/Black-White
27	Giallo-Nero/Yellow-Black	63	Bianco-Blu/White-Blue
28	Bianco-Rosso/White-Red	64	Blu - Blue
29	Bianco-Rosso/White-Red	65	Rosso - Red
30	Verde-Rosso/Green-Red	66	Nero - Black
31	Grigio - Grey	67	Arancio - Orange
32	Nero - Black	68	Blu - Blue
33	Bianco - White	69	Giallo - Yellow
34	Bianco - White	70	Blu - Blue
35	Giallo - Yellow	71	Nero-Rosso/Black-Red
36	Blu - Blue	72	Nero-Rosso/Black-Red



ELECTRIC SYSTEM

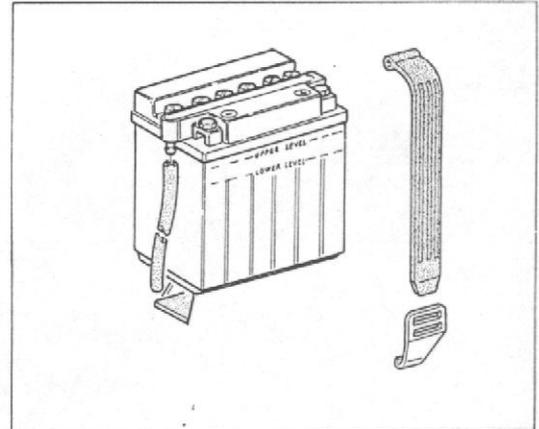
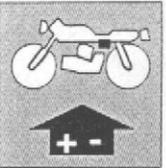


Electric ignition equipment.

The ignition equipment is composed of:

- Generator 12V-120W
- Electronic coil
- Electronic unit
- Voltage regulator
- Electric starter switch
- Spark plug

For the key to electrical components and cable colour coding see the wiring diagram.

**Battery.**

The 12V-9 Ah battery is delivered dry and must be activated by introducing in its cells some electrolyte specifications of which are remarkable on the card put on the bike. After this operation have the battery at rest for two hours. Then have a 8 hours charge with current **not higher than 1 A.**

This charge finished, bring electrolyte to level and connect battery to the breather pipe, then putting it into its seat.

Connect the red cable to + and the blue one to - after taking out the bolt joining the battery cables one another.



Only under these conditions, motorcycle is ready to start.





Remind that the battery life is depending upon its maintenance and not upon its operation period or distance run.

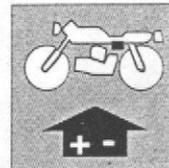
EVERY MONTH, or more frequently, under an hot climate, it is necessary to check its level and, if the case, to add distilled water in its cells.

In case that to frequent charges with distilled water are required, check the recharge circuit.

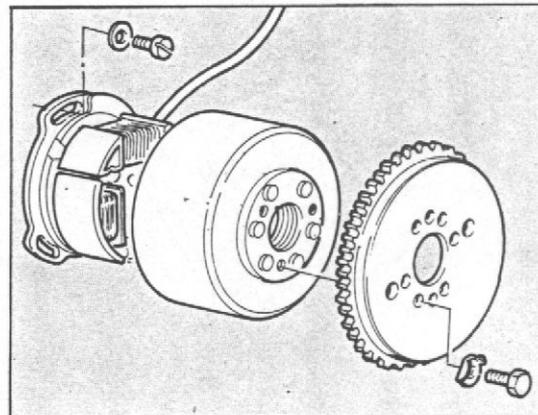
Battery must be kept clean and greased on terminals. When the motorcycle remain inactive, carry out a fresh charge EVERY MONTH.



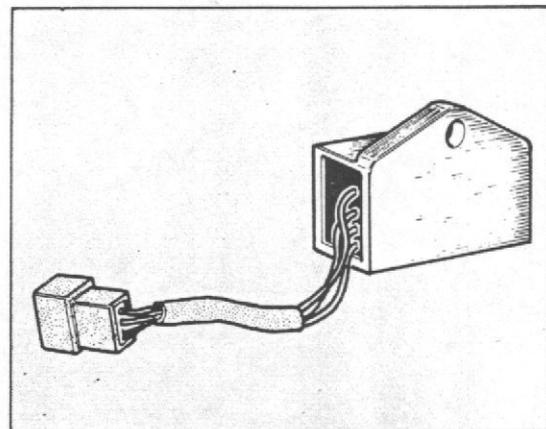
Do not start the engine with battery disconnected from connection cables of electric system, since same should be damaged.

**Generator.**

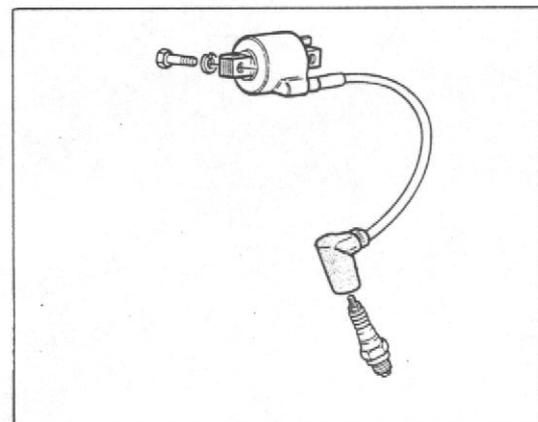
It is consisting in a 12V - 120W alternator placed into the L.H. side cover of the engine. Ignition spark start: about 350 r.p.m.

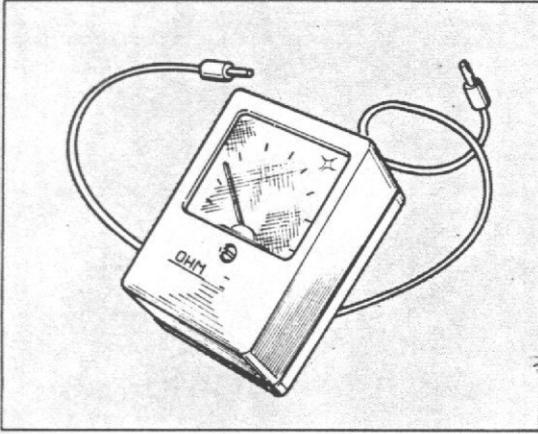
**Electronic device.**

The electronic device is fastened to the electric cable protection cover located inside the L.H. upper beam of the bearing frame.

**Coil.**

The coil is fastened to the engine lubrication oil tank, in the back. Make sure that the ground cable is properly fastened in any oxide- and paint-free spot.





Alternator checking.

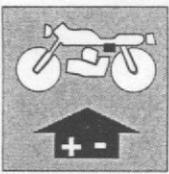
From regulator disconnect the two yellow cables coming from alternator, taking care to insulate them so that no risk of contact may raise.

Have the engine heated up about 3000 r.p.m. and measured the tension under no-load using to this purpose a voltmeter for alternate current with scale up to 50V.

This instrument will show a certain voltage.

If no movement is noticed or an high lack of voltage balance is noticed between the yellow cables in respect with the earth, it means the stator is defective; therefore it will be necessary to arrange an Ohmmeter verification, measuring insulation between the tested cable and the earth.

The insulation must be total.

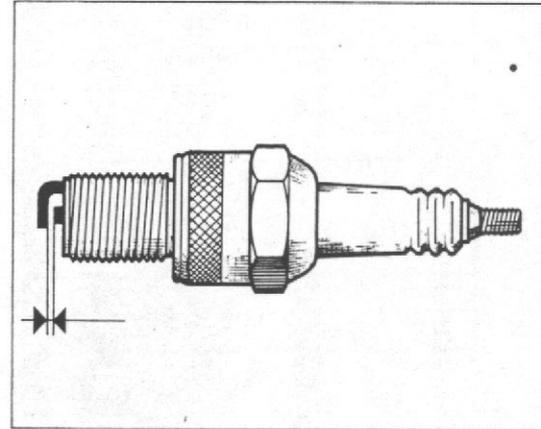


Checking the voltage regulator.

With the lights off, run the engine at 6000 rpm. The battery voltage should increase gradually until it reaches the preset regulator setting (approx. 14-15 V), while charging current should decrease gradually until it reaches 0.5 A.

- If the charging current does not drop and the battery **voltage continues to increase above** 15 V then the regulator is faulty and should be replaced.
- If on the other hand the voltage remains below 13 V and the charging current remains high then the battery is probably faulty or discharged. Recharge the battery.
- If the voltage does not increase to the required value and the current remains low then the alternator should be checked.

To check the alternator, disconnect the 2 yellow cables from the regulator and use a tester or a lamp tester to check that the yellow cables or the winding are not earthing. If these parts are functioning properly then the regulator is faulty and should be replaced.

**Spark plug.**

Use CHAMPION N2C spark plugs; the spark plug gap is: 0.019 in. Clean the dirt away from the base of the spark plug before removing it from the cylinder.

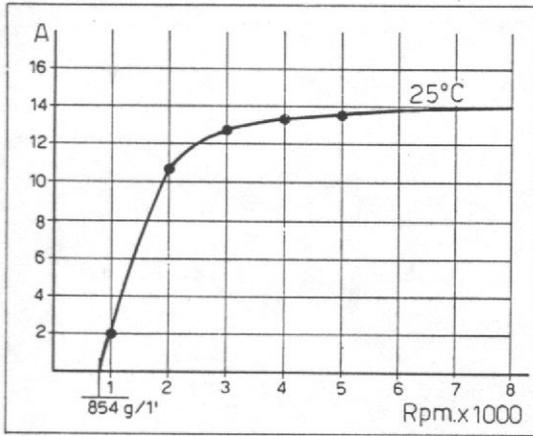
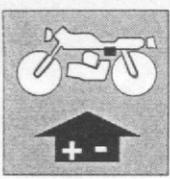
It is very useful to examine the state of the spark plug just after it has been removed from the engine since the deposits on the plug and the colour of the insulator provide useful indications concerning the heat rating of the plug, carburation, ignition and general engine condition.

Before refitting the plug, thoroughly clean the electrodes and the insulator using a brass-metal brush.

Apply a little graphite grease to the plug thread; fit and screw the plug home by hand and then tighten to the correct torque using a plug spanner.

Plugs which have cracked insulators or corroded electrodes should be replaced.



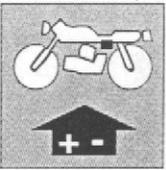


Checking the recharge system on vehicle.

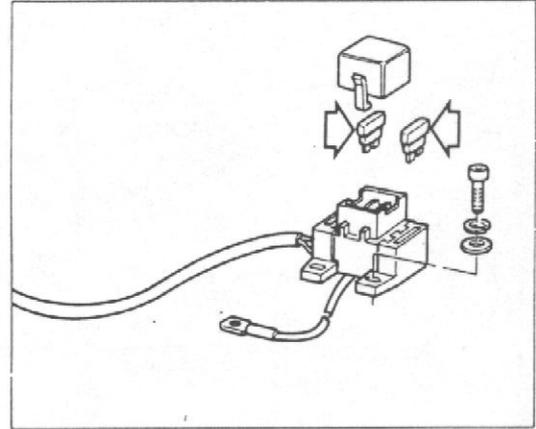
The recharge system is consisting in a flywheel alternator generating a single-phase current regulated by an electronic diodes regulator.

System checking is carried out as follows:

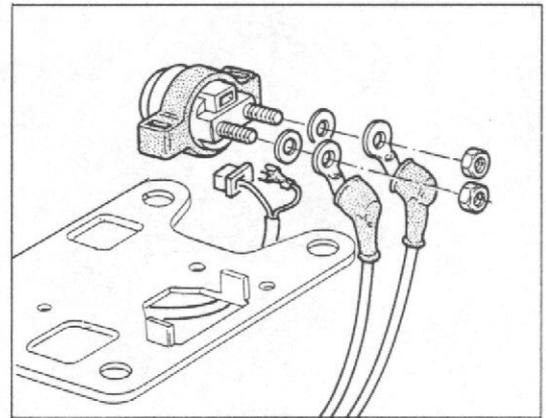
- ascertain that the electric installation and connections are correct and fuses not burnt.
- Disconnect the positive pole of battery and interpose between it and the + pole an Ammeter for direct current.
- Fit a d.c. voltmeter between the positive and negative pole of the battery and make sure that the battery tension is ranging between 12.5 and 14 V (if not, recharge it). Insert the contact key and start engine, progressively increasing speed up to about 6000 r.p.m.

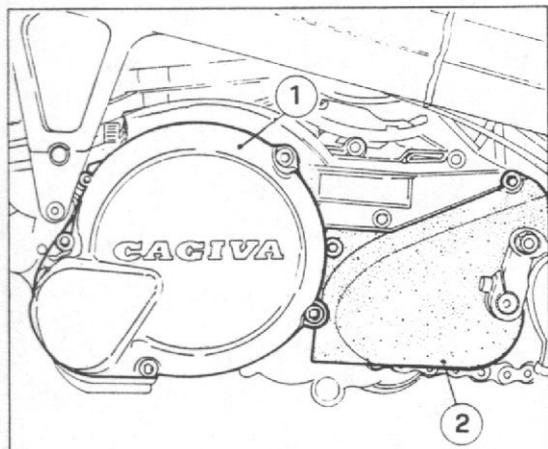
**Fuses box.**

It is located in the panel holding the electric devices under the pilot seat. Access to the fuses is allowed by removing the transparent protection cover. The box contains 4 fuses of 15A, two of which are spare fuses. Replace the fuse with a spare or a new one having the same characteristics.

**Solenoid starter.**

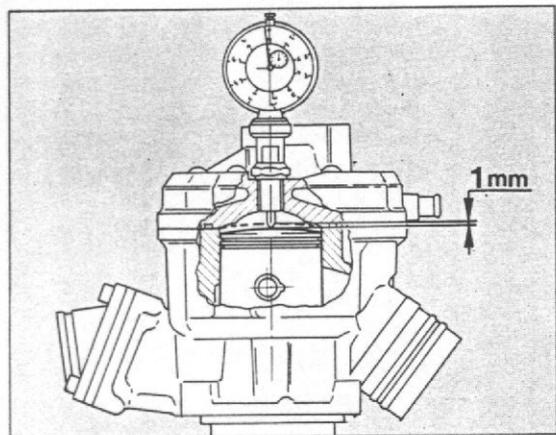
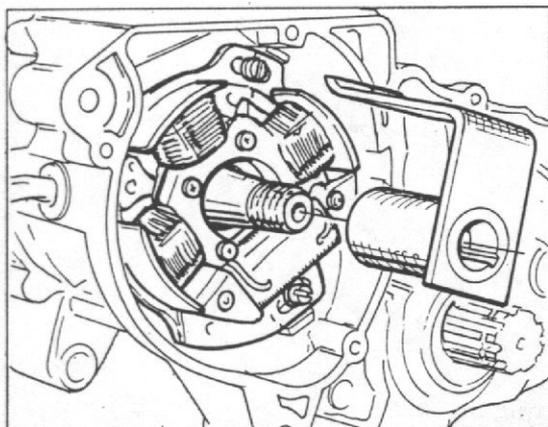
The solenoid starter is elastically connected to the panel holding the electric devices, under the pilot seat. In case of disassembly, to connect it to the installation, carefully follow the main diagram.

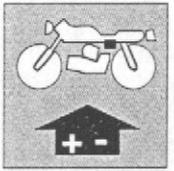




Ignition timing and checking.

To operate on the flywheel-alternator it is necessary to remove the engine L.H. cover (1) and the chain pinion protecting cover (2). Ignition, electronic type, does not require any maintenance; in case of components removal carry out its timing operating as follows: with the aid of a dial gauge and without rotor re-assembly, install too no. **48803** (3) on the crankshaft, bring piston to T.D.C. and in this position put the dial gauge on zero; have the notch placed on the stator in coincidence with the one on the tool and check that piston has carried out a stroke of 0.03937 in. In case this does not occur, loosen the three stator screws and rotate it until the correct advance conditions is restored.

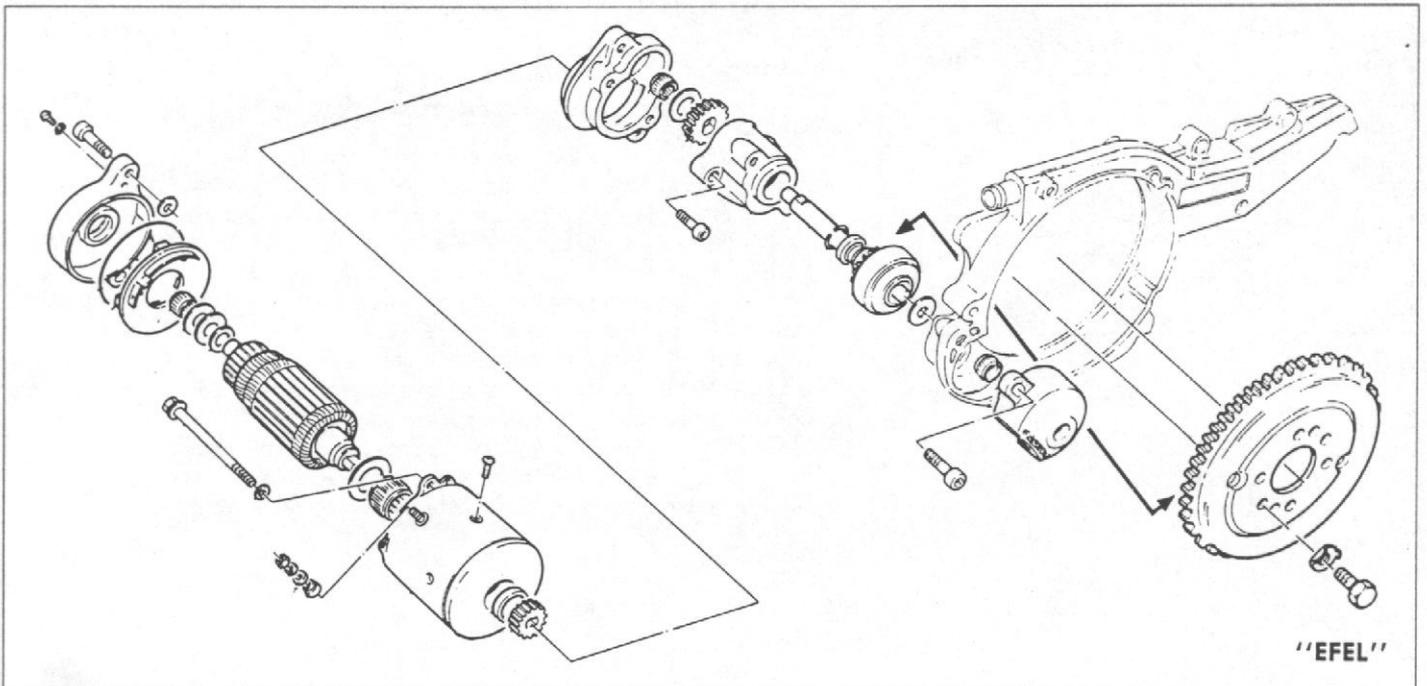


**Starter Motor.**

Nominal voltage: 12 V.
Absorber power: 500 W

Prova a vuoto - Free running check - Essai à vide - Leerlaufprüfung - Prueba a vacío	
Voltage	11,2 V
Current	30 A
Speed	10.000 G/1' - R.P.M. - tr/1' - /Min.

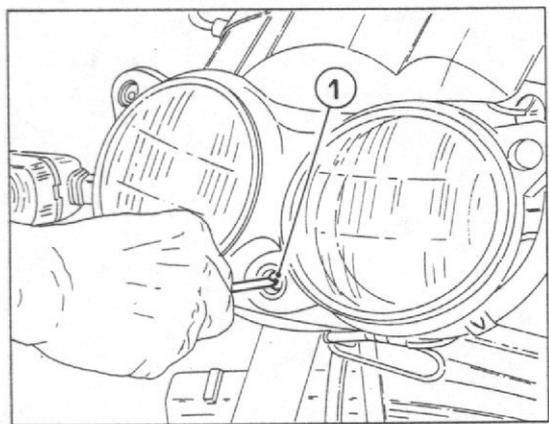
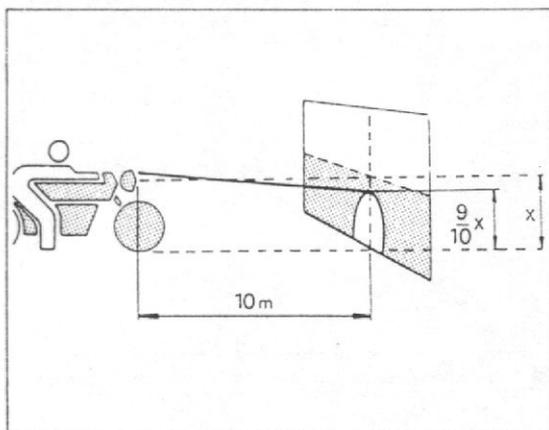
Prova di spunto - Check under load - Essai de démarrage - Anlassprüfung - Prueba de desputado	
Voltage	6,4 V
Current	212 A
Torque	0,4 Kgm - Kg.m - Kgm - KGM

**Starter motor maintenance.**

Maintenance operations on the starter motor involve checking the brushes for wear, that the stator and rotor do not touch, and that they are correctly insulated. It is advisable to carefully lubricate the motor's moving parts with «AGIP F.1 GREASE 30».



ELECTRIC SYSTEM



1) Light adjustment screw.

Headlamp.

The front headlamp is fitted a dipping bulb for main and dipped beams and a pilot/side lamp bulb.

Particular care should be taken to adjust the headlamp beam; adjust as follows:

- position the motorcycle at 33 ft from a flat wall;
- check that the bike is on a level surface and that the headlamp axis is at right angles to the wall;
- the bike should be in a vertical position;
- measure the distance from the ground to the centre of the headlamp lens and then mark a cross at the same height on the wall;
- switch on to dipped beam; the upper limit of the beam should be at a height which is no greater than $9/10$ of the height from the ground of the centre of the headlamp;
- adjust the headlamp orientation by turning the screw (1) (in the STREAMLINED VERSION a hole for the screwdriver is provided on the headlight fairing);
- by tightening the screw (1) the light beam is directed downwards;
- by unloosing the screw (1), the light beam is directed upwards.