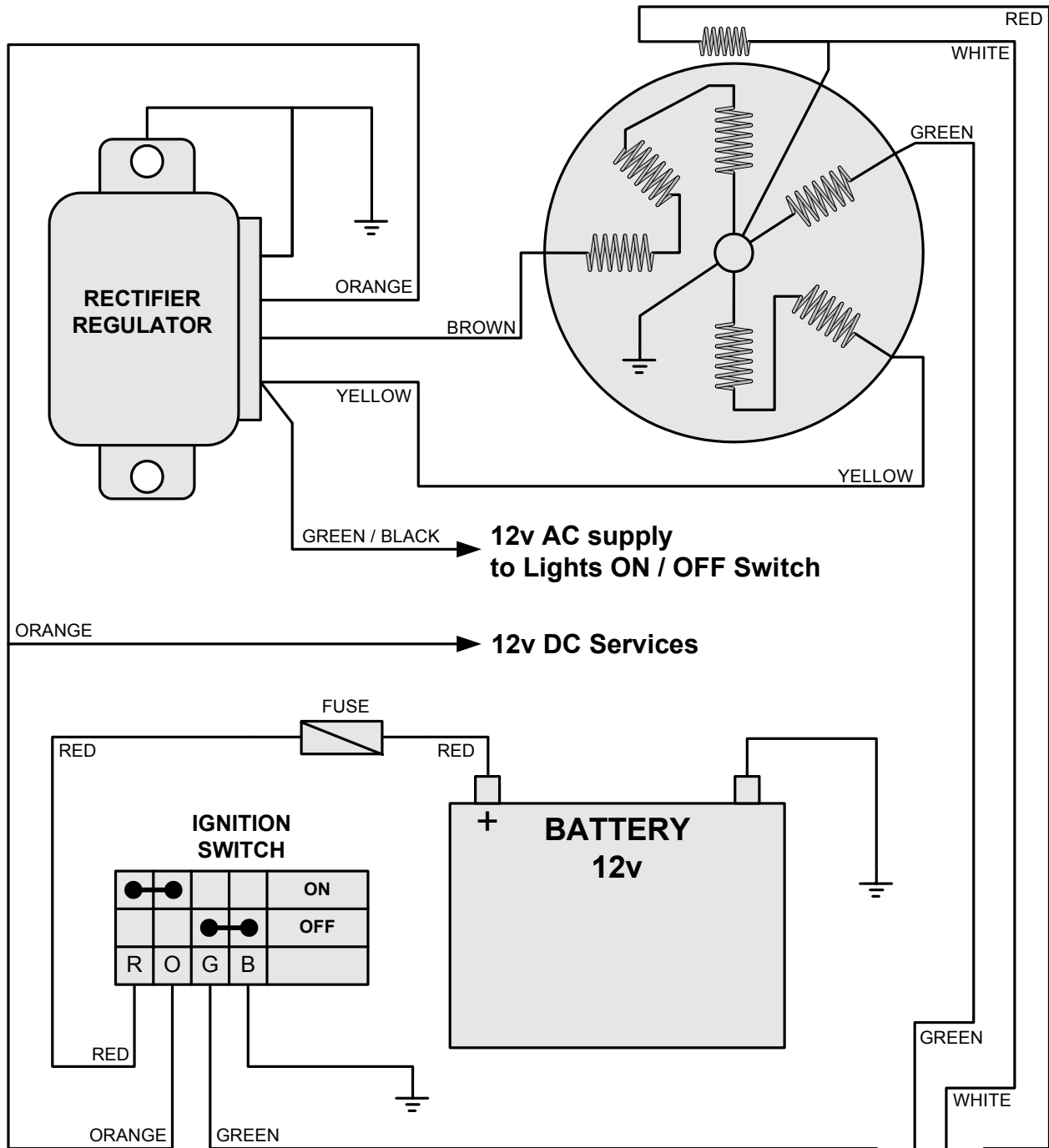


H@K & GSM Charging / Ignition

Piaggio Ltd.

23/04/02

Gilera engine



- * Stator has separate coils for AC, DC and Ignition circuits.
Brown wire = supply for DC (battery circuit)
Yellow wire = supply for AC circuit
Green wire = supply for ignition
- * Important that Stator has a good earth to engine and engine must have good earth to chassis and battery.
- * All Lights are powered by 12v AC
- * Ignition is self generating and does not need the other electrical circuits or the battery.
- * Ignition is stopped by shorting the charge coil (green wire) to earth.
Check: Unplug Green wire from stator and CDI unit. You should have continuity from green to earth with ignition OFF and no continuity with ignition ON.

This information should not be used for Derbi Engine bikes

H@K & GSM Notes

Modifying the exhaust.

Piaggio can not recommend de-restricting for any reason. Be aware that if a moped is de-restricted then it becomes a 50cc motorcycle and should be re-registered. These vehicles may not conform to the requirements to become a motorcycle.

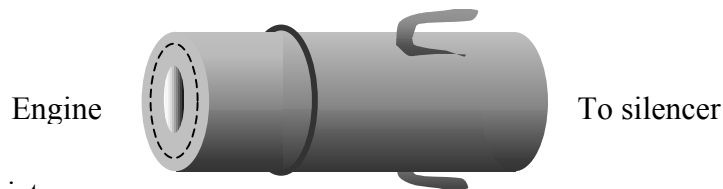
Un-officially and to save possible damaging experimentation the following information is given.

Enlarge the hole in the end of the exhaust, where it plugs into the engine.

The end of the exhaust is a piece of mild steel bar with a small hole drilled through it, this hole needs enlarging to about 18 - 20mm (3/4 inch).

The steel bar is case hardened to comply with "anti-tamper legislation". To soften the hardening; heat the end to bright cherry red and then let it cool naturally. Then you should be able to drill it.

Re-jet with a #60 or 62 main jet. It is a standard DellOrto jet.



Useful contacts for jets are:

Contact Developments 0118-943-1180

VE (Malossi) 011594-62991

ENGINE CUTTING OUT OR FAILURE TO START IN WET WEATHER

1. Check plugs and sockets, grease when re-assembling.
2. Check float bowl for water. Rain can get into the air box especially if vehicle is parked. Water can then run into the carburetor and ultimately fill the float bowl. Drill a small hole in bottom of air box to let any water out and use silicon to seal the air box cover.

ENGINE CUTS OUT, THEN WILL RE-START AFTER A FEW MINUTES.

Most likely in cool and or damp weather, early morning , late evening.

Suspect; Carburetor Icing.

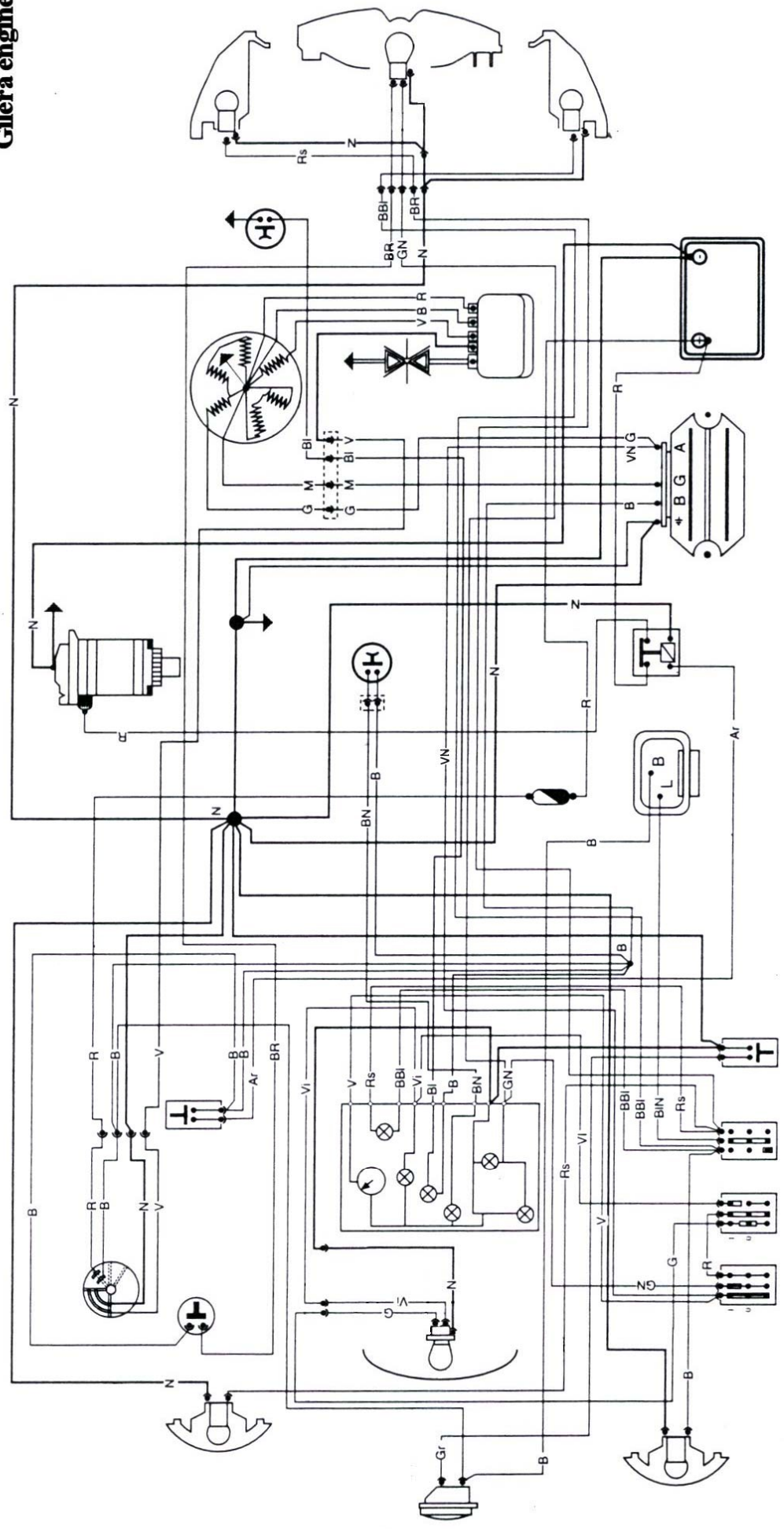
Carburetor has a warm water supply but the engine must be hot before this can function.

Check thermostat is closing. Look for water in air box (see note above). Blank off bottom 1/3rd of the radiator to help engine reach temp' and run warmer during the winter.

- Headlight is 35 / 35 halogen, giving main and dip. No side / parking light is fitted. All the lights run from 12 volt AC supply.
- Tail light is a conventional single 12v 21/5w bulb.
- Spark plug is Champion N2C or NGK BR9ES. Should give no problem in normal use.
- The tyre tread pattern on GSM is the opposite way round on front and rear.
- Non-cat exhaust is 813888. It has a washer tack welded into exhaust, this is easily removed. Fit larger main jet p/n. 813171
- H@K green is 431 "Aprile Green" Note that only the frame is painted.
- GSM grey is PM 2/6. Note that only the frame is painted.
- Rotor puller tool part number is 020581Y.

Wire diagram with indicators and electric starting

H@K & GSM
Gilera engine



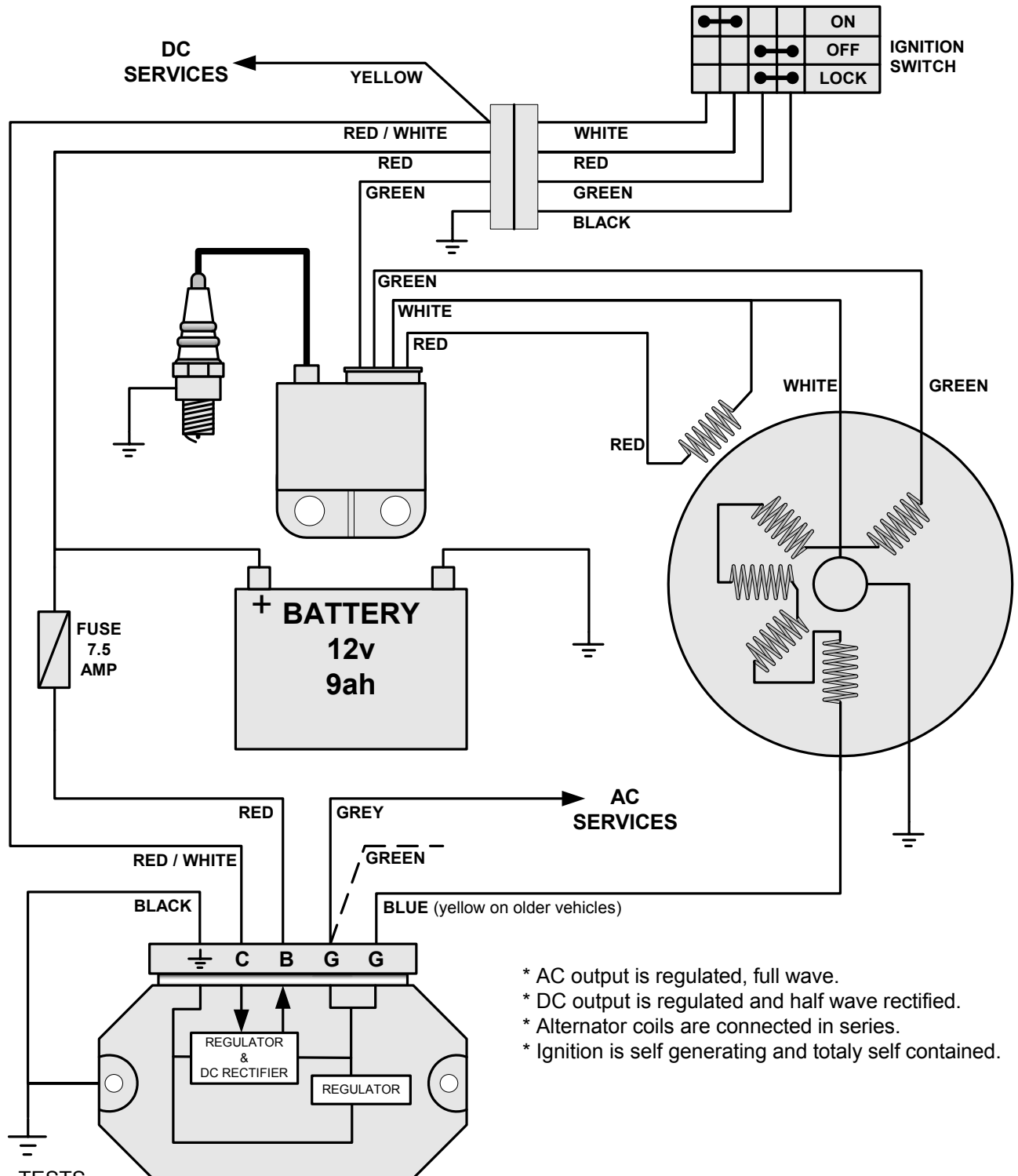
WIRE COLOUR CODING: **B**=White - **BI**=Blue - **G**=Yellow - **M**=Brown - **N**=Black - **BV**=White-Green - **GN**=Yellow-Black - **Gr**=Grey - **Rs**=Pink - **R**=Red - **Vi**=Purple - **V**=Green - **VN**=Green-Black - **BN**=White-Black - **BBI**=White-Blue - **BV**=White-Green - **GV**=Yellow-Green - **Ar**=Orange - **GrBI**=Grey-Blue - **GrN**=Grey-Black - **BR**=White-Red - **RN**=Red-Black - **BIN**=Blue-Black.

VESPA PX 125 / 150 / 200 Charging & Ignition

Piaggio Ltd.

04/07/02

Electronic Ignition



- * AC output is regulated, full wave.
- * DC output is regulated and half wave rectified.
- * Alternator coils are connected in series.
- * Ignition is self generating and totally self contained.

TESTS.

1. ALTERNATOR OUTPUT.

Unplug regulator. blue and earth = 26 - 30 vac @ 3000 rpm.

Unplug stator. red to white = 90 -140 ohms. green to white = 800 -1100 ohms.

2. BATTERY CHARGING.

Insert an ammeter between red wire and battery +.

With engine @ 3000 rpm and battery @ 13 vdc the ammeter should read 1.5 - 2 amps

* IN CASE OF OVER CHARGING.

un-plug the regulator and check that you have battery voltage on the red / white wire that plugs into terminal "C". The regulator needs this input to function correctly.

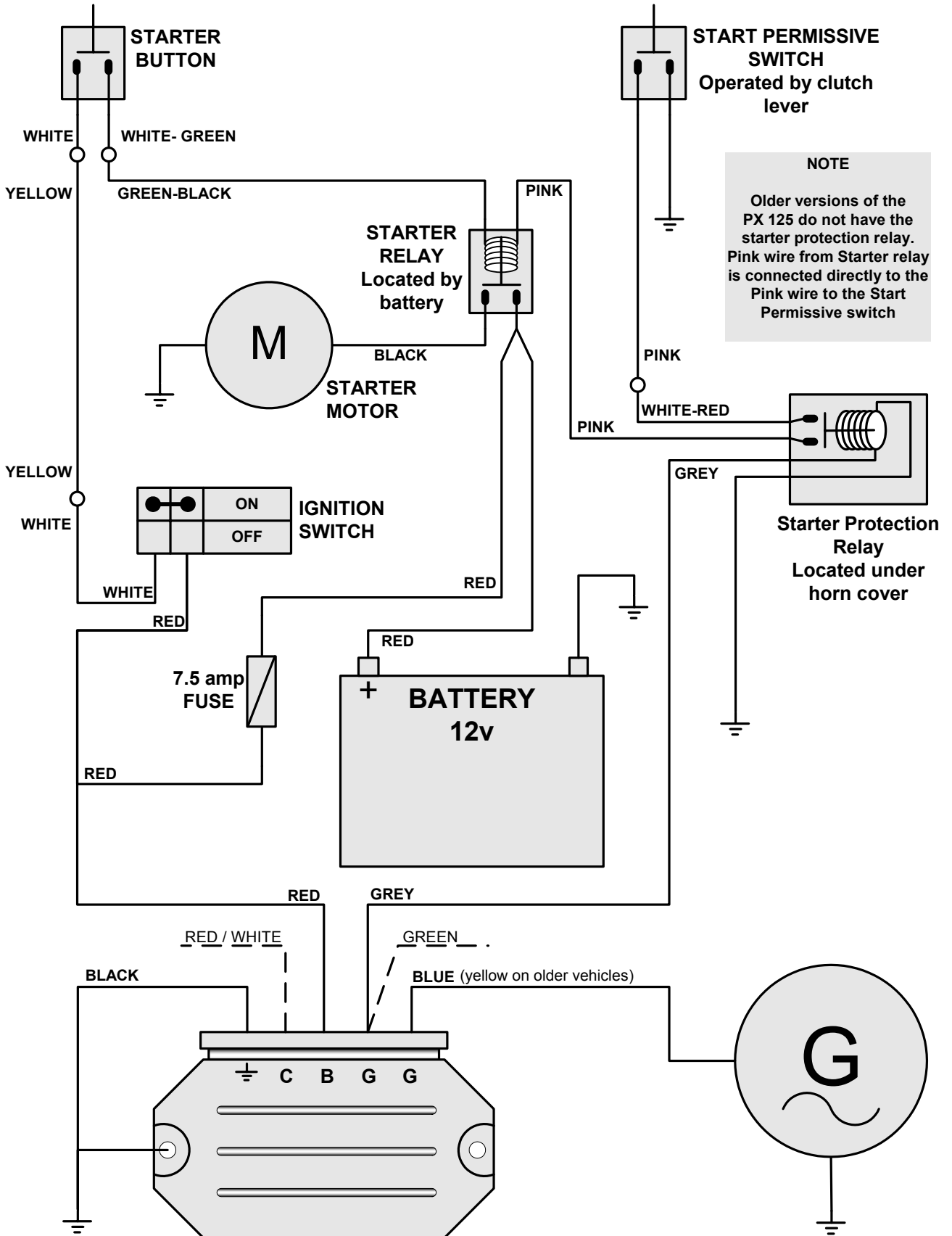
* Check for good earthing between engine and chassis / battery / regulator.

PX 125 / 150 / 200 Start Permissive circuit

Piaggio Ltd.

25/08/2005

Refer to Service Station Manual



PX 125 / 150 / 200E Indicator Circuit

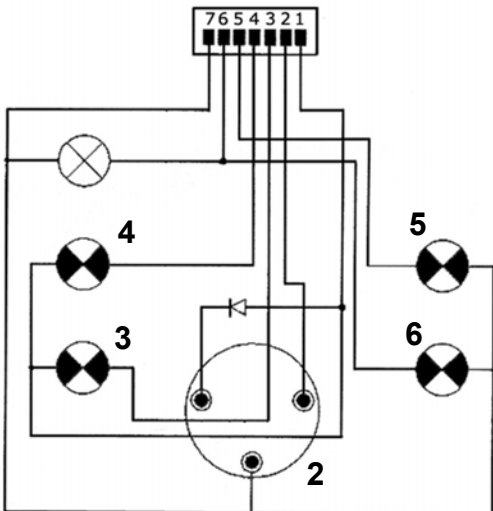
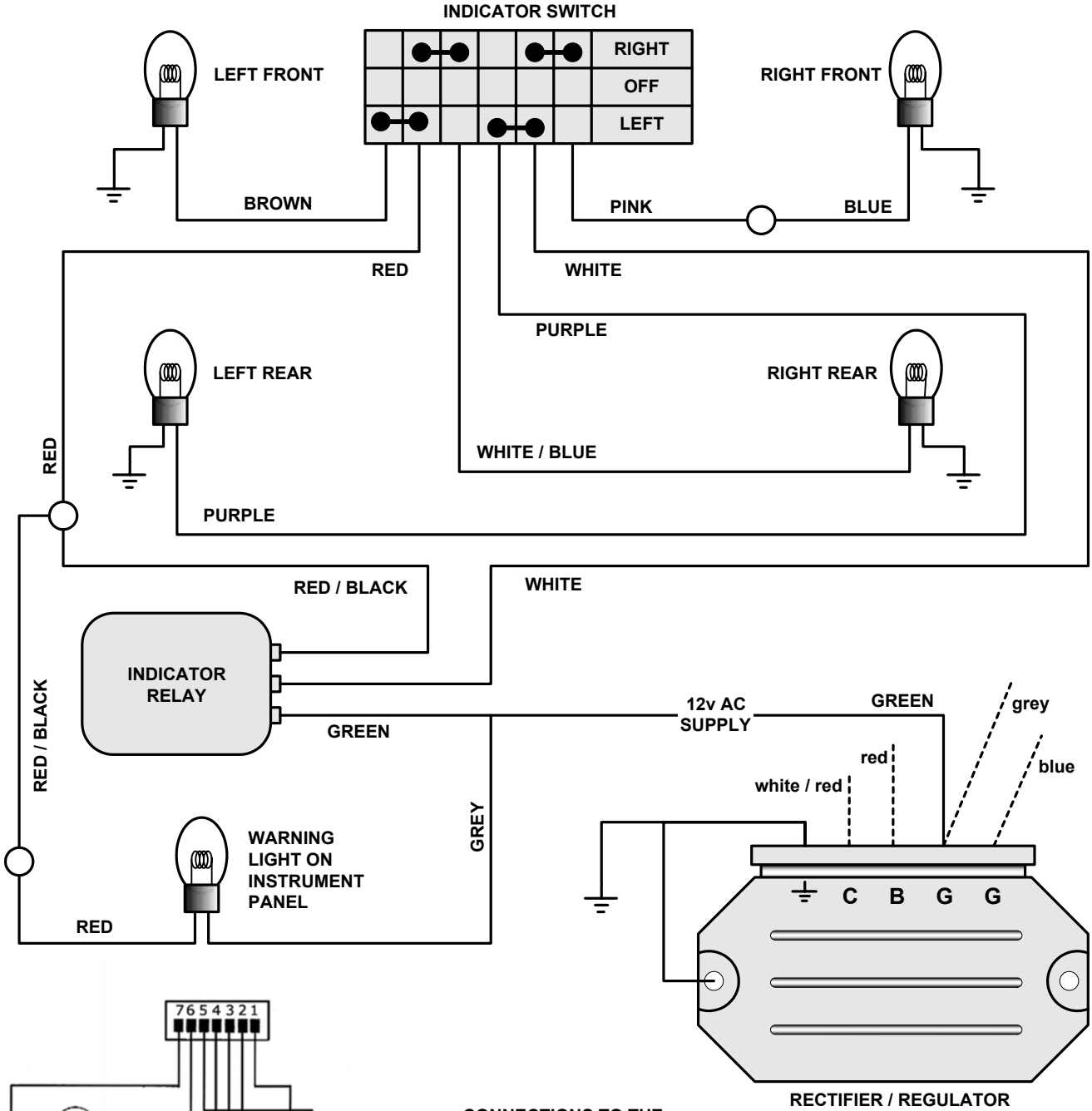
Piaggio Ltd.

25/11/2005

Piaggio Ltd.

NOTE.

The indicators flash alternately; front - back (not both together)
This is to reduce the current needed



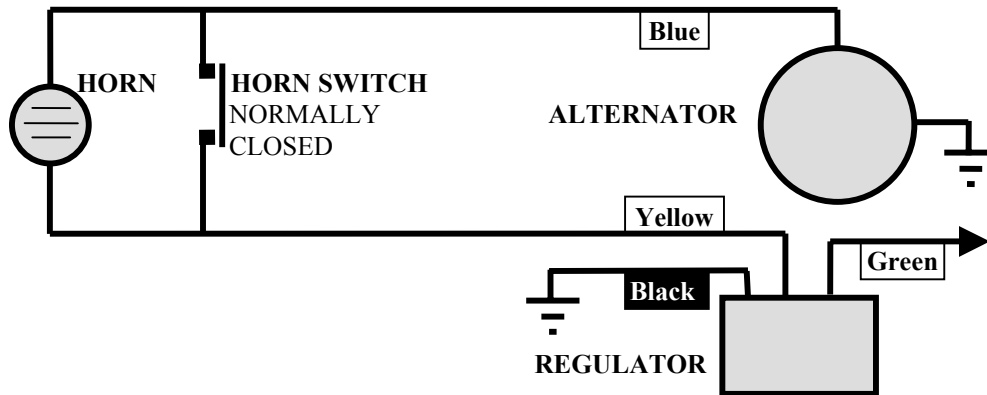
CONNECTIONS TO THE INSTRUMENT PANEL

1. 12+ DC
2. Fuel Gauge
3. Low Fuel Warning
4. Turn Signal Warning
5. High Beam Warning
6. Illumination / Lights On
7. Earth

NOTE.

The Turn Signal Warning light has a permanent live feed (Grey).
When the Red / Black wire is live the light will be off because it has 12+ on both wires.
When the Red / Black is not live the light will come on because it is earthed through the indicator bulbs
(only when the indicator switch is selected)

VESPA T5 HORN



The T5 has a very simple 12 volt AC electrical system but one thing may not be clear when you look at the wiring diagram.

It appears that the output from the alternator goes firstly through the horn, this does not make much sense. If you are fault finding it is important that you understand how the system works.

Explanation:

1. Out put from the alternator is the **blue** wire to the horn switch.
2. Horn switch is **normally closed**.
3. From there the **yellow** wire continues to the regulator.
4. Electricity always takes the easy path, so the current passes through the switch rather than through the coil in the horn.
5. When the horn button is pressed and the circuit is broken and then the current will have to pass through the horn and the horn will sound.
6. Power still reaches the regulator because the horn does not use all the power available and it does not break the circuit.

Why is this unusual system used?

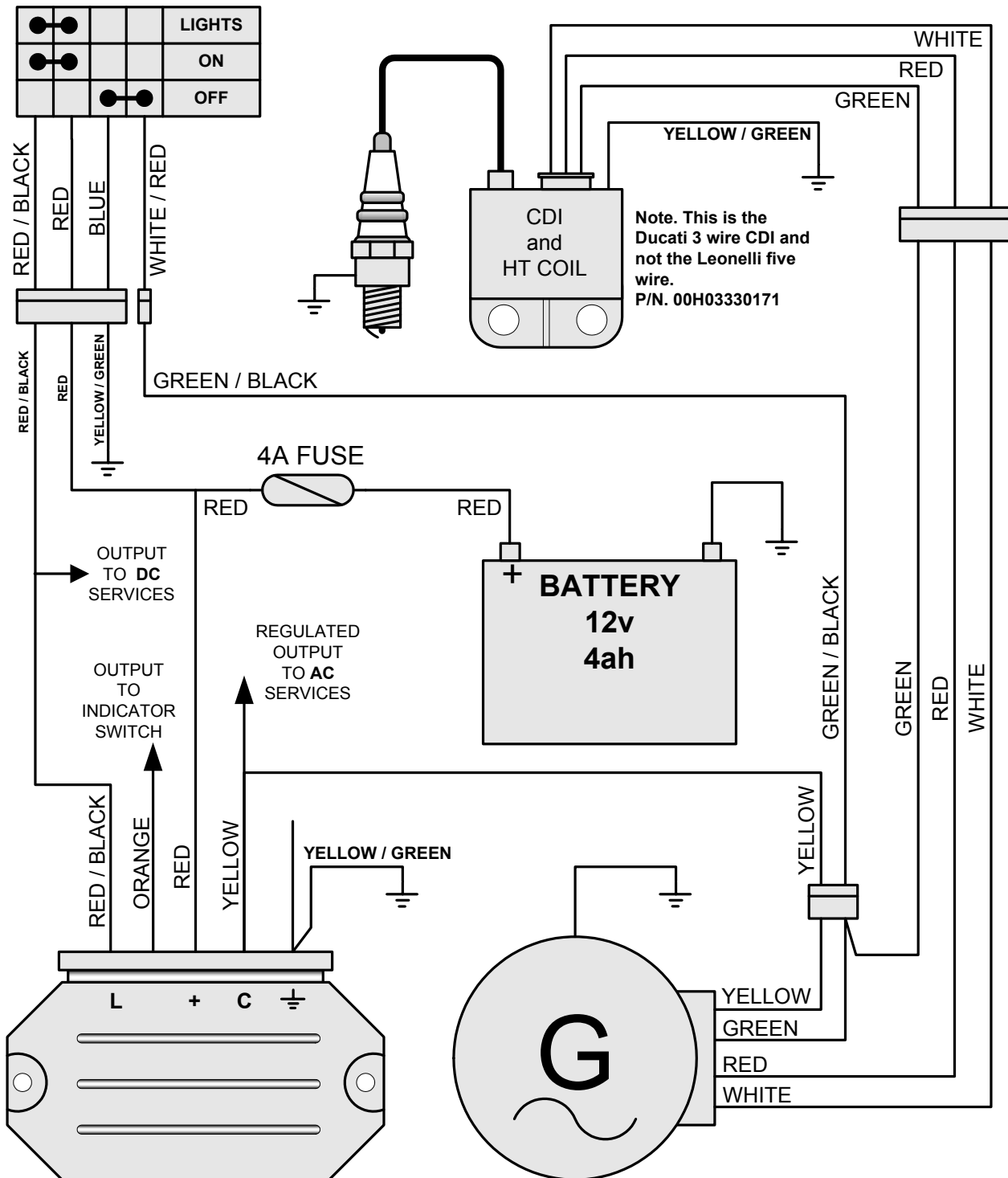
To ensure that all the current is available for the horn when it is operated. On any circuit the horn may not sound efficiently if it is supplied with low power.

Gilera RCR & SMT 50 Charging / Ignition

Piaggio Ltd.

13/01/2004

Derbi engine



NOTES.

Earth wires are: YELLOW / GREEN.

Ignition is separate to AC & DC circuits. Ignition is shorted to earth to stop the engine.

STATOR VALUES. GREEN to EARTH = 820 ohms \pm 10% (CDI charging coil)

GREEN to WHITE = 700 ohms \pm 10%

RED to EARTH = 140 ohms \pm 10% (Ignition pick up coil)

RED to WHITE = 100 ohms \pm 10%

YELLOW to EARTH = 0.7 ohm \pm 10% (AC & DC circuit charging coil)

YELLOW to WHITE = 0.5 ohm \pm 10%

HT COIL secondary. 3.4 K Ohms \pm 15%. PLUG CAP. 5 K OHMS \pm 15%

Regulated Voltage: Fully charged battery and engine running: Battery voltage should be 13.5 v \pm 0.5 v.

GILERA RCR 50 & SMT 50

The RCR and SMT are basically re-badged Derbi Sendas. The Senda has been produced in several versions. The RCR and SMT are as follows:

No electric start.

No carburettor heater.

No radiator fan.

The ignition system uses the three wire Ducati system, not the five wire Leonelli.

Stator: 00H03300701

Complete rotor / stator assy: 00H03301011

CDI : 00H03330171

Main fuse is 4 amp. Next to battery.

Sprockets are: front:13t Rear: 53t

Chain is: 130 links

No neutral light.

Lights are switched on from the ignition switch. Positions are:

Off + Lock

Off

Ignition

Ignition + Lights

Indicator relay is part of the rectifier / regulator.

Carburettor is: Dell Orto

Main jet is: #56 on early bikes and # 62 for 2005 onward

Part numbers for mirrors are:

Right hand (DX): ODN00H02205671

Left Hand (SX): ODN00D02200671

OIL PUMP CABLE.

2003 vehicles have the oil pump cable connected to the pump. Later vehicles may have the cable disconnected and the pump held slightly open by a wire spring clip. The reason for this is to prevent over oiling at full throttle when restricted. The spring clip gives an average of 1.4% oil mix. Slight over oiling at tick over and about 1% mix at full throttle. It is very important that a good quality FULLY SYNTHETIC 2 stroke oil is used. Do not be tempted to connect the cable unless you are de-restricting the bike when the cable MUST be connected and the pump adjusted normally.

DE-RESTRICT.

Piaggio's advice is: Do not de-restrict for any reason.

To improve top speed slightly:

Drill four 3 mm holes in the restrictor at the engine end of the exhaust pipe and fit a larger main jet #60 if your bike is an early one with a #56 fitted as standard.

2005 onward the bikes have a #62 as standard, to improve change the needle to a #11 and lower it by one notch. The #62 jet should be OK.

Or to fully de-restrict:

Remove restrictor tube from engine end of the exhaust pipe.

Increase main jet about four sizes.

Raise needle one notch.

Adjust slow running mixture, it is air bleed so screw in to richen.

Re-set idle speed to about 1900 rpm.

The extra power will allow the bike to pull higher gearing, you should fit a z=14 front sprocket, p/n: 00H02805371.

Italy suggests fitting a one step colder plug but I doubt that we need to do this.

X9 RANGE.

CHANGING THE ODDOMETER DISPLAY TO SHOW MILES

This should be done at PDI. See manual 594284. Pages 9-4 and 4-57

1. Press and hold the TRIP and M buttons.
2. Turn on the ignition.
3. Release the buttons

The display will now show "miles".

SERVICE LIGHTS

The time and date functions should be set at PDI to ensure that the service lights will come on at the correct time. Service Station Manual 594284 4-61 and owners hand books have details for setting the clock.

RE-SETTING THE SERVICE LIGHTS

If one or more of the service lights is flashing follow this procedure:

1. Remove the central panel between the headlights, this is retained by 5 cross head screws.
2. You will find a button above the headlight unit marked "RES"
3. Turn on the ignition. One of the three service lights is flashing.
4. Briefly press the button. The light before the one you want to reset should light.
5. Press and hold the button. The light you want to reset will start flashing faster. While it is flashing fast release the button. Now the light should have gone out.
6. Turn off the ignition and turn back on to prove the light has been cancelled.

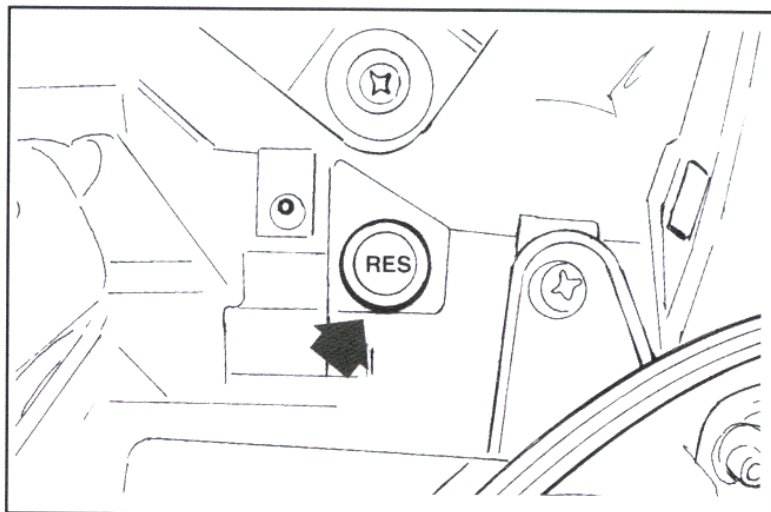
If you have another light to reset; repeat the above steps.

If when you briefly press the button the light that comes on is not the one before the one you want to reset then briefly press the button again to make the light scroll along.

Wiring to the "RES" button is Grey/Green and Black. Grey/Green goes to the digital instrument panel and Black is to earth.

Service Station Manual for 125/180 (594284 1st update) page 4-59 has complete details.

Service Station Manual for 500 chassis (594523) page 4-15 has complete details.



X9 UNDER THE FRONT PANEL

The front panel between the headlights is retained by five cross head screws. Remove the panel to access the service light reset button and the two headlight relays. It is not necessary to remove the panel to adjust the headlight beam. The adjuster screw can be accessed through the small grill near the top of the panel.



SERVICE LIGHTS

The time and date functions should be set at PDI to ensure that the service lights will come on at the correct time. Service Station Manual 594284 4-61 and owners hand books have details for setting the clock.

RE-SETTING THE SERVICE LIGHTS

If one or more of the service lights is flashing follow this procedure:

1. Turn on the ignition. One of the three service lights is flashing.
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4. Turn off the ignition and turn back on to prove the light has been cancelled.

If you have another light to reset; repeat the above steps.

If when you briefly press the button the light that comes on is not the one before the one you want to reset then briefly press the button again to make the light scroll along.

Wiring to the “RES” button is Grey/Green and Black. Grey/Green goes to the digital instrument panel and Black is to earth.

STATOR COIL VALUES

Refer to the relevant Service Station Manual / wiring diagram

Vehicle	Ign. Pick Up ①	Ign. Charging ①	AC Circuit	DC Circuit	
50cc 2T	Red - White 88 Ω (\pm 5 Ω)	Green - White 970 Ω (\pm 50 Ω)	Blue / Grey - Earth 25 - 30v AC ②	Yellow - Blue 25 - 30v AC ③	Red - Battery Positive 1.5 - 2 amp (charged bat.=13v)
50cc 2T Purejet	Red - Brown Value not quoted	n/a	n/a	Any yellow - yellow 0.7 - 0.9 Ω ① Yellow to earth = no continuity	
Runner 125 Hexagon 2T	Red - Brown 90 - 140 Ω	Green - White 50 - 150 Ω	n/a	Yellow - Yellow 27 - 30v AC ②	
Liberty 125 ET4 original	Red - Brown 100 - 130 Ω	Green - White 300 - 400 Ω	Blue / Grey - Earth 25 - 30v AC ②	Yellow - Red 26 - 30v AC ③	Red - Battery Positive 1.5 - 2 amp (charged bat.=13v)
Skipper 2T Typhoon 125	Red - Brown 90 - 140 Ω	Green - White 100 - 160 Ω	n/a	Yellow - Yellow 27 - 30v AC ②	
Leader (all) 125 / 180	Green - Black 105 - 124 Ω	n/a	n/a	Any yellow - yellow 0.7 - 0.9 Ω ① Yellow to earth = no continuity	
Hexagon 250 GT & GTX	Green / White - Blue / Yellow 50 - 170 Ω	n/a	n/a	Any yellow - yellow 0.1 - 1.0 Ω ① Yellow to earth = no continuity	
X9 250	White / Yellow - Yellow >> 200 Ω	n/a	n/a	Any yellow - yellow >> 0.6 Ω ① Yellow to earth = no continuity	
X9 500 B 500 Nexus	Engine speed & position sensor Green-Black = 680 Ω \pm 15% ④	n/a	n/a	Any yellow - yellow 0.2 - 1.0 Ω ① Yellow to earth = no continuity Battery charge > 20amps, lights on, high revs.	
PX125 / 200	Red - White 90 - 140 Ω	Green - White 800 - 1100 Ω	Blue - Earth 26 - 30v AC ②	Ammeter between red and battery positive. 1.5-2 amps @ 3000 rpm. (charged battery. i.e. 13v)	

- ① Test to be carried out with the stator un-plugged and engine stopped.
- ② Test to be carried out with rectifier / regulator disconnected and engine running.
- ③ Test to be carried out with rectifier / regulator and battery disconnected.
- ④ Test with unit unplugged.

Piaggio, Vespa, Gilera

AUTOMATIC CHOKE OPERATION

The automatic choke units used on Piaggio scooters are all basically the same and all work in the same way.

Remember that the choke defaults to being **ON** so it is unlikely that a cold starting problem is due to a malfunctioning choke.

Operation.

- The choke unit has a plunger that is pushed down to close off a hole at the bottom of a drilling in the carburettor.
- A wax pellet is heated electrically and expands, as it heats up it pushes out the plunger. As the wax warms the electrical resistance measured across it increases until it becomes open circuit. In most circumstances the choke will then remain off purely by the heat of the engine.
- The time taken for the choke to turn off is controlled only by the rate at which the wax expands. The ambient temperature will affect the time taken for the choke to turn off. Cold weather will mean the choke stays on longer etc.
- The choke is activated once the engine has started and **not** when the ignition is turned on.

50 & 80 cc two stroke engines.

These scooters have headlights that are run from 12 volts AC.

12 volts AC is used to operate the choke. AC can only be supplied when the engine is running so the choke can not begin to turn off until the engine is running.

125 & 180 cc two stroke engines.

These engines have an all 12 volt DC system.

When the ignition is turned on there is 12 volts supplied to the choke but the circuit is not completed to earth and no current can flow. So the choke will not turn off if the ignition is left on before starting the engine.

When the engine starts the rectifier / regulator completes the circuit to earth (via the grey wire) and the choke will turn off during the next few minutes.

125 four stroke engines. (not Leader)

Sfera 125 uses an AC system like the 50 / 80 cc engines.

ET4 employs a relay so that the choke will be powered by DC but is triggered by the AC supply when the engine starts.

Leader four stroke engines.

These engines have an all 12 volt DC system.

When the ignition is turned on there is 12 volts supplied to the choke but the circuit is not completed to earth and no current can flow. So the choke will not turn off if the ignition is left on before starting the engine.

When the engine starts the CDI unit completes the circuit to earth (via the white / black wire) and the choke will turn off during the next few minutes.

50 four stroke.

Connected to the AC output from the rectifier / regulator so power is only available when the engine is running.

250 Hexagon & X9 250 (Honda engines).

AC powered by one of the three phase (yellow) wires direct from the generator.

Injected Engines.

Injected engines do not need a choke because the ECU monitors the ambient air temperature and engine temperature and will apply a suitably rich mixture when needed.

Faults.

The most likely fault is the choke remaining ON. Symptoms will be anything that may be caused by a rich mixture.

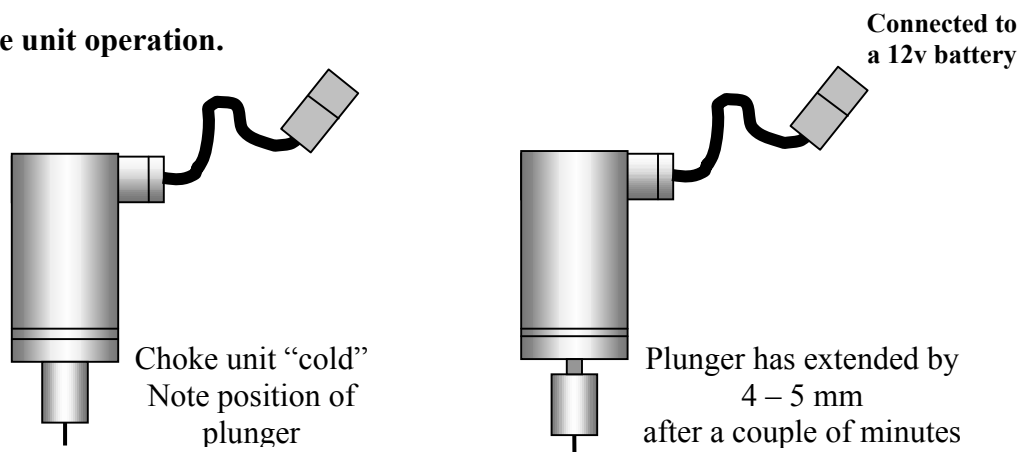
1. High fuel consumption.
2. Black spark plug.
3. Rough running when hot. OK when ridden hard but rough and four stroking at 20 mph.
4. Fails to start. Plug is found to be black and fouled.

To check the choke unit is operating.

Refer to diagram 1.

1. Remove choke unit from the carburettor.
2. Measure the distance the plunger is protruding from the body, when it is cold.
3. Attach a 12 volt battery to the socket and leave it for a two or three minutes.
4. The plunger should have extended by 4-5 mm.
5. Disconnect the battery.
6. The plunger should retract slowly over a couple of minutes.

Dia.1. Choke unit operation.



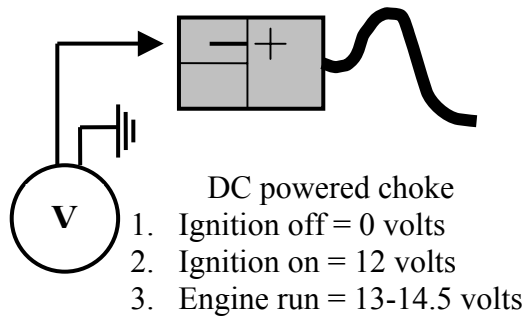
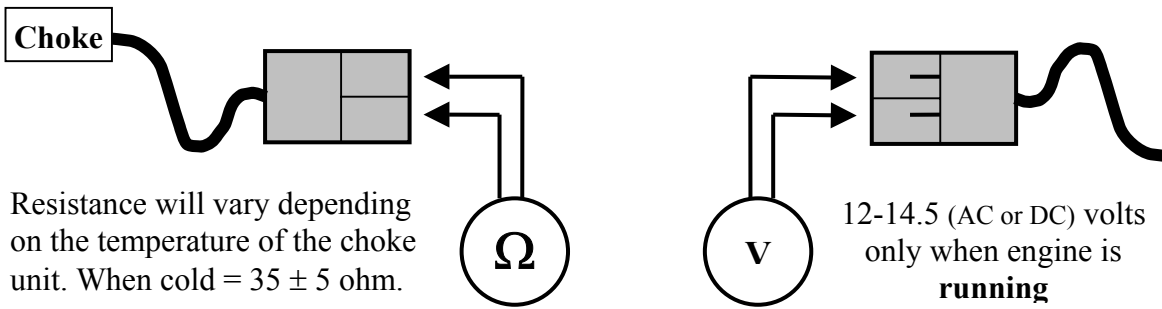
To check the choke circuit.

Refer to diagram 2.

1. Follow wire from the choke unit until you find a grey two pin plug and socket. Unplug.
2. Resistance check will confirm continuity through the choke unit.
3. To prove the choke circuit. Connect a voltmeter across the two pins of the socket. With the engine running you should have 12-14.5 volts (AC or DC depending on the engine type, see the notes above). If no voltage then the choke will not turn off.

Note. Remember that the choke defaults to being ON. If the choke does not turn off the symptom will be a black and fouled plug. Or; The scooter starts and idles ok and runs at speed ok. When riding slowly (15 - 20 mph) the engine runs very roughly.

Dia.2. Choke unit power supply.



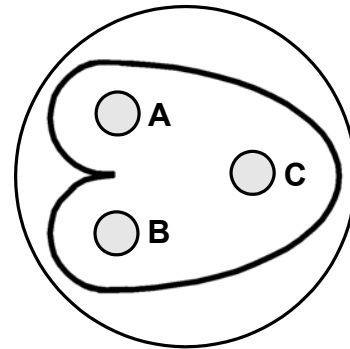
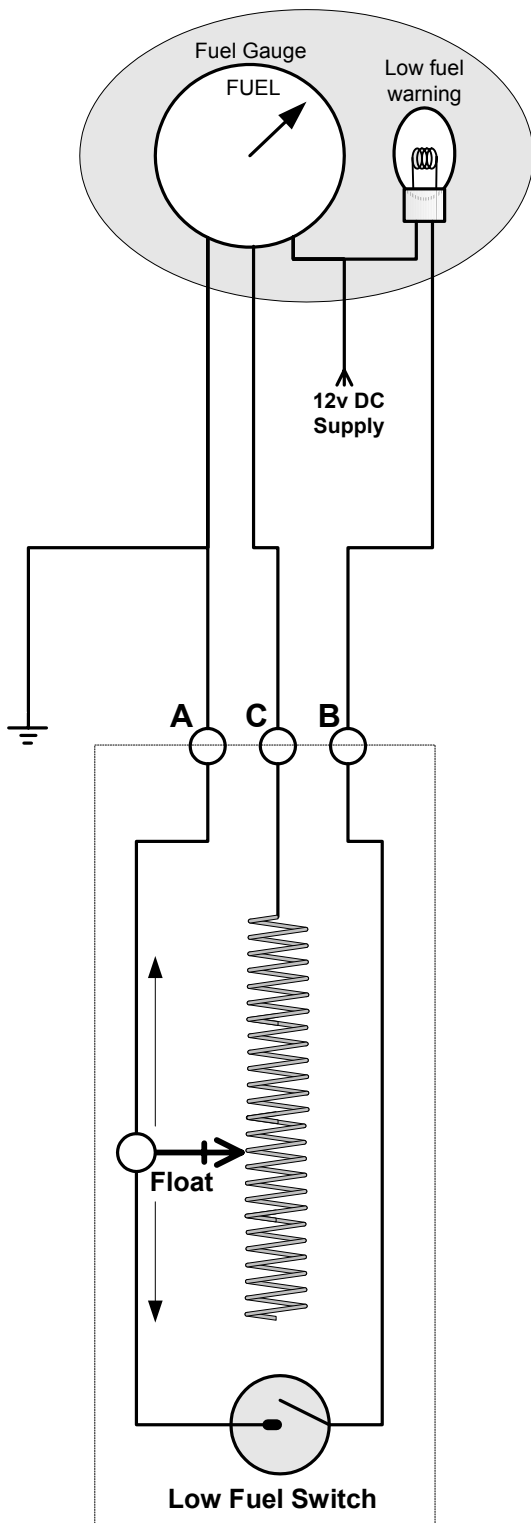
Note. Choke units all look much the same but are different and it is important to use the correct choke in the correct carburettor.

Fuel Gauge & Sender Circuit

Piaggio Ltd

14/10/2003

Piaggio Ltd



Top view of fuel sender unit socket

The fuel sender units on our automatic scooters may look different but the circuit and method of operation is always basically the same.

Vehicles without a fuel gauge have a low fuel warning light. They will have a two pin wiring connector. The wiring logic will be the same.

Remember that the power is supplied to the instrument panel and the tank unit is earthing it rather than sending power to the instruments.

WIRING

A = BLACK

B = GREEN / YELLOW

C = GREEN / WHITE

TESTS

A - C

Low fuel level \gg 100 ohms

High fuel level \gg 3 ohms

A - B

Low fuel level = 0 ohms

High fuel level = open circuit

INSTRUMENT PANEL DISPLAY

Several Piaggio vehicles now have electronic instruments. Please make sure you are familiar with their operation and settings.

B (Beverly)

Clock and trip counter will re-set if voltage drops below 4,5v. Total distance record is “non-volatile” and can not be affected.

Changing the odometer display to show miles.

1. Ignition off
2. Press and hold down the MODE and CLOCK buttons
3. Turn on the ignition
4. Miles or Km will be displayed to show which is selected. Turn off and start again to change it

DNA

Changing Km/h speedo and Km distance to MPH and Miles.

This should be done at PDI. See Service station Manual. Originally the manual said that the change can only be made if less than 6km show on the total distance. This is no longer true, the change can be made as often as needed at any distance.

1. Press and hold down the MODE and CLOCK buttons.
2. Turn on the ignition. The display will remain blank.
3. Wait until the display shows the letters “MPH”. Then you can release the buttons.
4. Wait for the instrument to go through the normal start up and you will notice that it now displays MPH.

ICE

Changing Km/h speedo and Km distance to MPH and Miles.

This should be done at PDI. See Service station Manual.

1. Press and hold down the MODE and CLOCK buttons.
2. Turn on the ignition. The display will remain blank.
3. Wait until the display shows the letters “MPH”. Then you can release the buttons.
4. Wait for the instrument to go through the normal start up and you will notice that it now displays MPH.

Nexus 500

Clock.

The clock time and date functions MUST BE SET AT PDI. Because the service icon intervals are controlled by time as well as mileage.

Changing the odometer display to show miles.

This should be done at PDI.

1. Press and hold the TRIP and M buttons.
2. Turn on the ignition.

Nexus cont.

Service icons.

There are two icons on the display to remind the owner that certain servicing is due. These icons are controlled by elapsed mileage and elapsed time so it is important to set the date and time correctly at PDI. If you do not do this you may find the icons come on at the wrong time (and you will get a grumpy customer).

SERVICE: Comes on after first 1000km and then after every 6000km.

This light also comes on after one year even if the distance has not been covered.

BELT: Comes on after every 12000km.

Re-setting service icons.

If one or both of the service icons is flashing follow this procedure:

1. Press "MODE" and "ODO/SET" buttons at the same time. Keep pressing the buttons and turn on the ignition, after about 3 seconds, the two icons icon will light. Release the buttons.
2. Press the "MODE" button briefly (for less than 1 second) to select the icons in a sequence. The selected icon must turn on with a solid light.
3. Press the "MODE" button for more than 3 seconds to reset the selected icon;
Note that the "SERVICE" function also resets the date.

Don't forget to reset service icons when you do a service, even if they are not flashing (scooter has come in early). If you do not do it the customer will be back in a few days with an icon flashing. That makes you look bad and again you have a grumpy customer.

X9

Clock.

The clock time and date functions **MUST BE SET AT PDI**. Because some of the service light intervals are controlled by this.

Changing the odometer display to show miles.

This should be done at PDI. See Service Station Manual.

3. Press and hold the TRIP and M buttons.
4. Turn on the ignition.
5. Release the buttons

The display will now show "miles".

Service lights.

There are three lights on the display to remind the owner that certain servicing is due. These lights are controlled by elapsed mileage and elapsed time so it is important to set the date correctly at PDI. If you do not do this you may find the lights come on at the wrong time (and you will get a grumpy customer).

OIL: Comes on after first 1000km (625 miles) and then after every 3000km

SERVICE: Comes on after first 1000km and then after every 6000km.

This light also comes on after one year even if the distance has not been covered.

BELT: Comes on after every 18000km.

X9 cont.

Re-setting service lights.

If one or more of the service lights is flashing follow this procedure:

1. Remove the central panel between the headlights, 5 cross head screws retain this.
2. You will find a button above the headlight unit marked "RES"
3. Turn on the ignition. One of the three service lights is flashing.
4. Briefly press the button. The light before the one you want to reset should light. If the light that comes on is not the one before the one you want to reset then briefly press the button again to make the light scroll along. When you have the light before alight, then:
5. Press and hold the button. The light you want to reset will start flashing faster. While it is flashing fast release the button. Now the light should have gone out.
6. Turn off the ignition and turn back on to prove the light has been cancelled.

If you have another light to reset; repeat the above steps.

Don't forget to reset service lights when you do a service, even if they are not flashing (scooter has come in early). If you do not do it the customer will be back in a few days with a light flashing. That makes you look bad and again you have a grumpy customer.

It is probably worth going through the re-set procedure for all three lights at PDI because if the battery had been connected previously the counter will have started from the wrong day.

ZIP

The Zip now has electronic instruments. The speedometer is still the traditional analogue display but it is now electronically controlled. The odometer is now digital LCD. It is supplied showing the distance in Km. It can be changed to show miles but only if it is changed during the first 10km. CHANGE IT AT PDI.

Changing the odometer display to show miles.

1. Ignition off
2. Press and hold the button on top of the leg shield.
3. Turn on ignition. LCD display will show "Cont" (km) or "EnGL" (miles)
4. Briefly press button to toggle between the two alternatives.
5. When the correct press and hold the button for more than one second.
6. Turn ignition off. Turn back on to confirm the setting is now correct.

Re-setting the "Change Oil" warning.

At 6000km an oil change warning will be displayed on the LCD display for 10 seconds every time the ignition is turned on. Cancel this at service.

1. Press and hold the button at top of the leg shield.
2. Turn ignition on.
3. Release button and turn ignition off. Turn ignition back on to check that the warning has been cancelled.

Remote Seat Release

Piaggio Ltd

01/02/2006

Vehicles now fitted with remote seat release.

X8 X9 500 evo Nexus

Replacing the remote control key battery and adding new keys.

Battery is a CR1616

To zero the control unit.

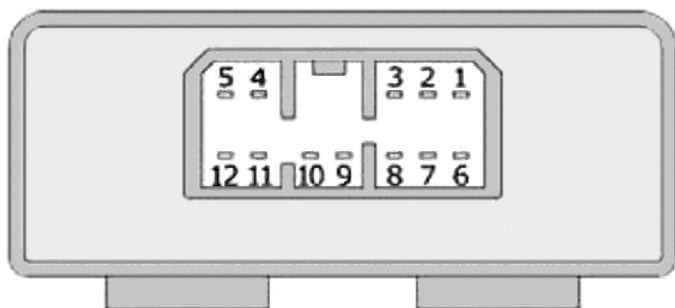
1. Remove the front shield to access the saddle opening reception/control unit.
2. Two cables protrude from the electric wiring, one is black (earth) and the other is black-blue (Nexus & X9) or white (X8) from Pin 3 of the controller.
3. Connect the two cables for at least 10 seconds to delete all remote controls stored in the controller.

To program the remote control : Nexus

1. Insert the ignition key (do not turn on).
 2. Press and hold the remote control button. Turn the key to ON, release the button, return the key to OFF within 4 seconds.
 3. Wait 1 to 8 seconds
 4. Repeat steps 2 and 3 for 4 times more without removing the key.
The control unit will open the saddle to confirm the successful programming.
- You can program up to 7 remote controls by the above procedure.

To program, the remote controls, X9 500 evo and X8

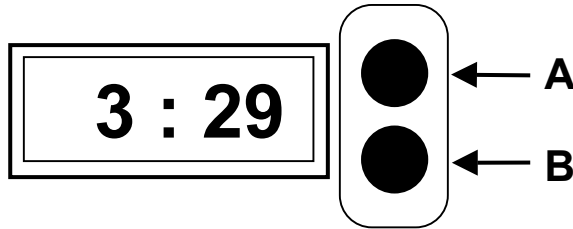
1. Insert the ignition key, switch to «ON» for 1 to 3 seconds, then set it to «OFF».
 2. Within 10 seconds, reset the switch to «ON» and within 3 seconds, press the remote control button, then set to «OFF» again.
 3. If the saddle opens with this last operation, the programming was successful.
- You can program up to 7 remote controls by the above procedure.



1. Aerial - violet
2. Seat actuator
3. Reset
4. +12v
6. +12v switched
7. Earth - black
10. Trunk actuator
11. Pre-wiring for alarm (X8 & X9)
12. Pre-wiring for alarm (X8 & X9)

Setting the clock.

Any Piaggio / Gilera / Vespa scooter with a separate two button clock.



The clock should be displaying the hours and minutes with the two dots flashing.

- ❑ Press button A once and the month and day will be displayed for about five seconds.
- ❑ Press and release button B once and the clock will alternately display the day and month and then the hour and minute.
- ❑ Press and hold button B and you can set the month by pressing button A repeatedly until the correct month is displayed. Release button B
- ❑ Press and hold button B again and you can set the day by pressing button A repeatedly until the correct day is displayed. Release button B
- ❑ Press and hold button B again and you can set the hours by pressing button A repeatedly until the correct hour is displayed. Release button B
- ❑ Press and hold button B again and you can set the minutes by pressing button A repeatedly until the correct minutes are displayed. Release button B
- ❑ Press and release button B again and it will return the display to the normal hours and minutes.
- ❑ To return to the normal display at any time repeatedly press button B until the normal display is shown.