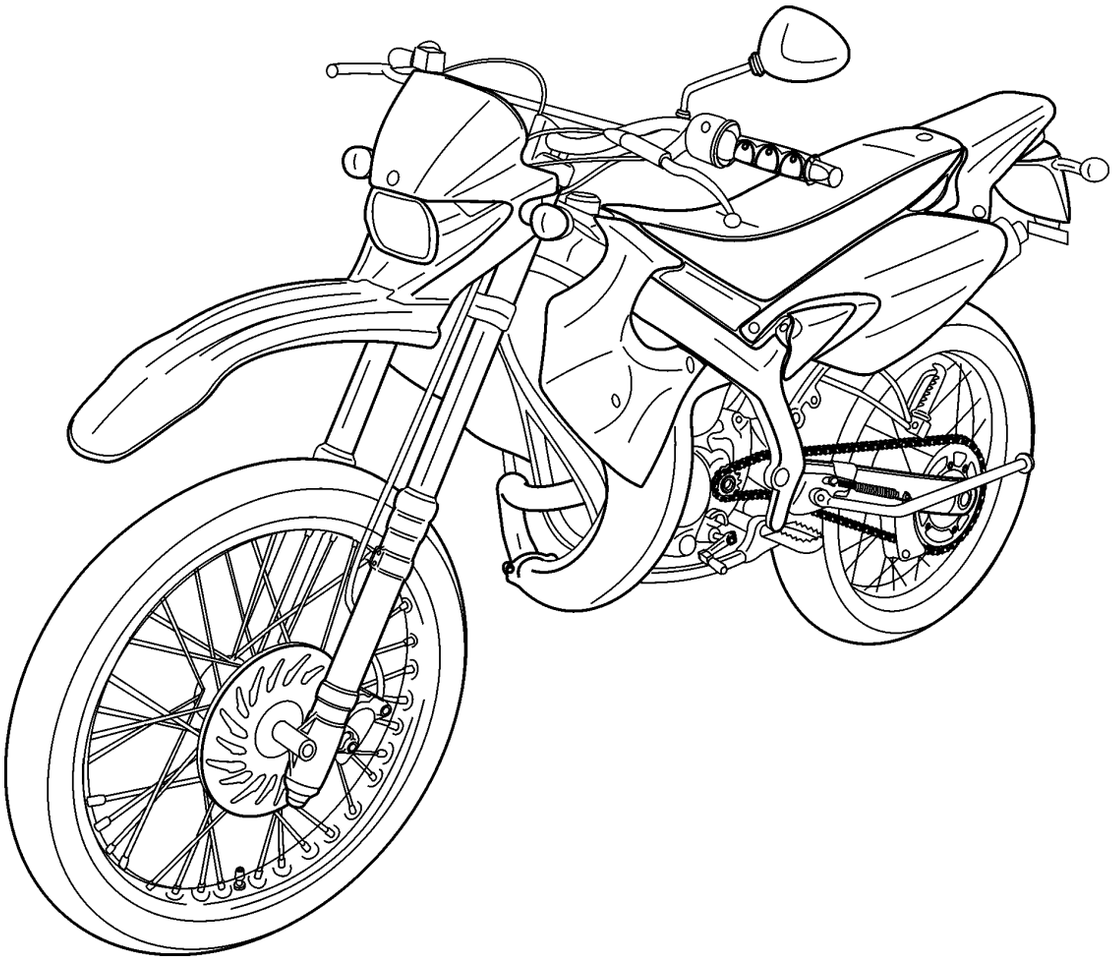
Malaguti
IDEE IN MOTO

B

ELECTRIC SYSTEM TROUBLESHOOTING



XTM - XSM

WORKSHOP MANUALS

B ELECTRICAL SYSTEM TROUBLESHOOTING

FIRST EDITION: 05/03

INTRODUCTION

• This publication describes all necessary steps for **troubleshooting concerning the electrical system** (of the models indicated on the front page) and of the possible service operations, which are necessary for their solution. It supplies the **trade technicians** (authorised customer service centres) with the necessary information for operating in compliance with the modern concepts of “good practice” and “safety at work”.

• Further information can be derived from the **“Chassis” workshop manual** - from the **“Engine” workshop manual** - from the **Spare Parts catalogue**.

• All described operations must be performed by technicians with the necessary skill and experience.

• The steps for the removal of body parts and of electrical and mechanical components, to allow access to wiring or electric components to service, can be taken from the Chassis Workshop Manual.

• We recommend you follow the information given in this publication with care.

• For any further information you may need, refer to the **Malaguti S.p.A.** Technical Department.

MANUAL UPDATES

• Updated **pages** of this publication will be delivered by us (*in a reasonable time*) already punched and therefore ready to be incorporated in the Manual. The superseded sheets should not be removed from the manual as they remain applicable to the servicing of pre-modified models.

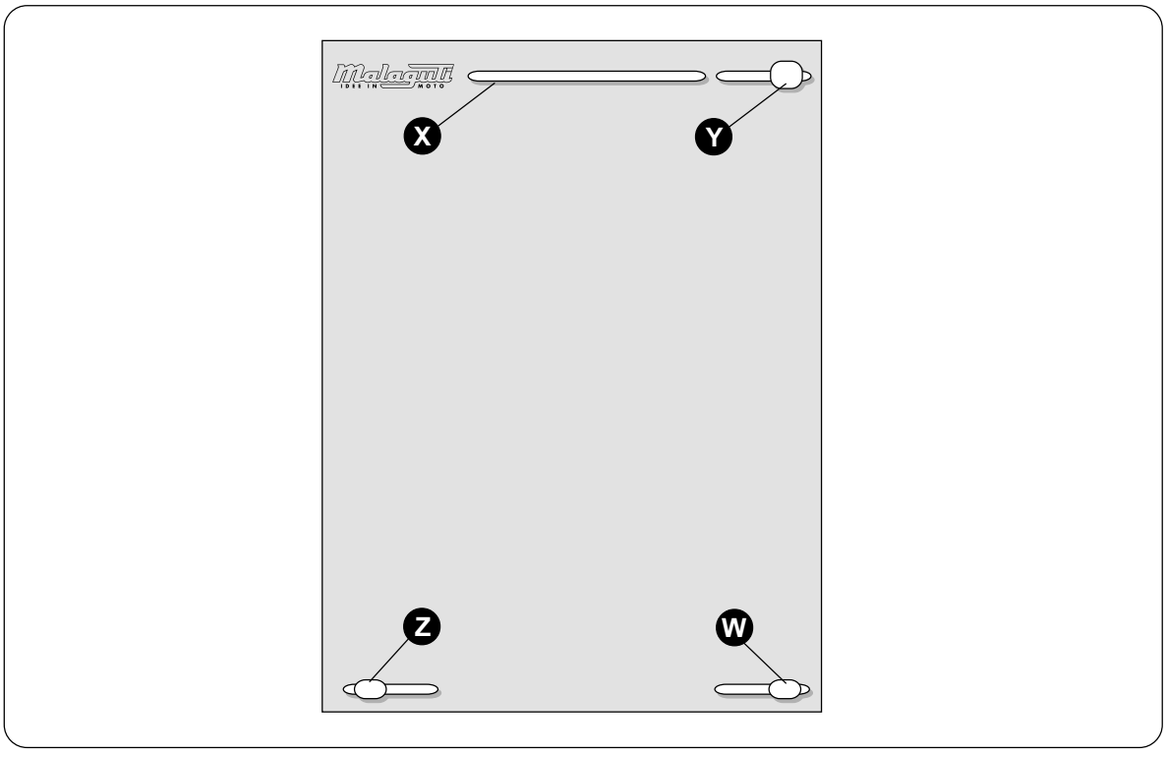
• **The table of contents** will be duly updated in the event that new pages are inserted, which render the consultation of the manual difficult.

• **IMPORTANT!** The Electrical System Troubleshooting Manual is to be considered as an essential **tool** to be properly kept up-to-date so as to maintain its “*validity*” over time.

NOTES FOR EASY CONSULTATION

PAGE LAYOUT

Y	Chapter
X	Section title
W	Page N°
Z	Date of issue



MODIFIED PAGES

- Modified pages shall bear the same number as those in the previous edition /pre-modified ones, followed by the letter **M**, with the **date of issue** appearing in the appropriate box.

- Modified pages may contain new illustrations; in this case, the added illustration (or illustrations) will bear the number of the illustration on the former page, followed by a letter.

ADDITIONAL PAGES

- Any additional pages shall bear the last number of the section to which they belong, followed by the letter **A** and the **date of issue**.

EDITING SYMBOLS

- Symbols have been provided for **quick and easy reference** (see page 6), identifying situations requiring utmost attention or providing practical suggestions or simple information.

- **These symbols** may appear **next to a text** (in which case they refer solely to the text itself), **next to a figure** (in which case they refer to the topic illustrated in the figure and to the relative text), or **at the top of the page** (in which case they refer to all the topics dealt with in the page).

Note:
*The meaning of the symbols should be duly memorised as their scope is to avoid having to repeat basic technical concepts or safety recommendations. They are therefore to be considered as veritable "**memory tags".** In case of any doubt as to their meaning, consult the page in which they are fully described.*

A) **CAUTION!** Recommendations and precautions regarding rider safety and motor vehicle integrity.

B) **WARNING!**
Situations entailing the risk of personal injury to maintenance or repair mechanics, other workshop personnel or third parties, or damage to environment, vehicle or equipment.

C) **FIRE HAZARD**
Indicates operations which may constitute a fire hazard.

D) **RISK OF EXPLOSION**
Indicates operations which may constitute a risk of explosion.

E) **TOXIC FUMES**
Indicates a possibility of intoxication or inflammation of the upper respiratory tract.

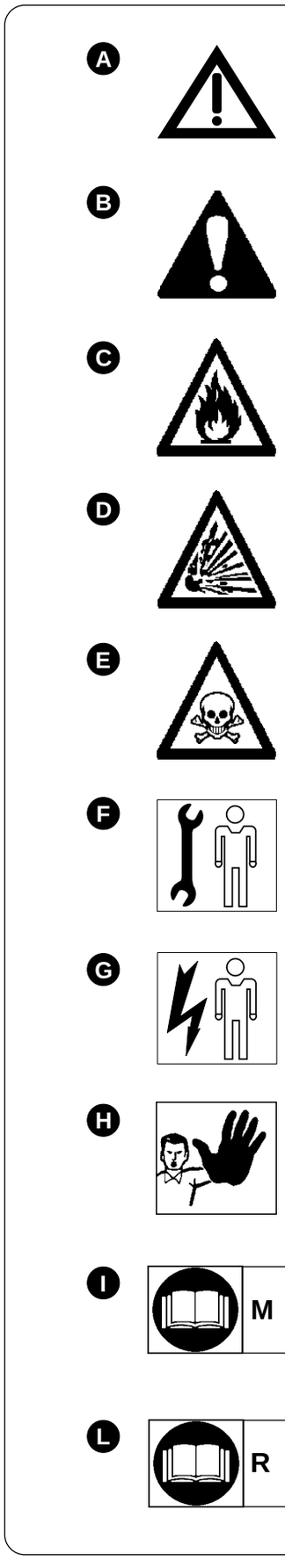
F) **MECHANICAL MAINTENANCE**
Operations to be performed only by an expert mechanic.

G) **ELECTRICAL MAINTENANCE**
Operations be performed only by an expert electrical/electronic technician

H) **NO!** Operations to be absolutely avoided

I) **ENGINE SERVICE MANUAL**
Indicates information which may be obtained by referring to said manual.

L) **SPARE PARTS CATALOGUE**
Indicates information which may be obtained by referring to said catalogue



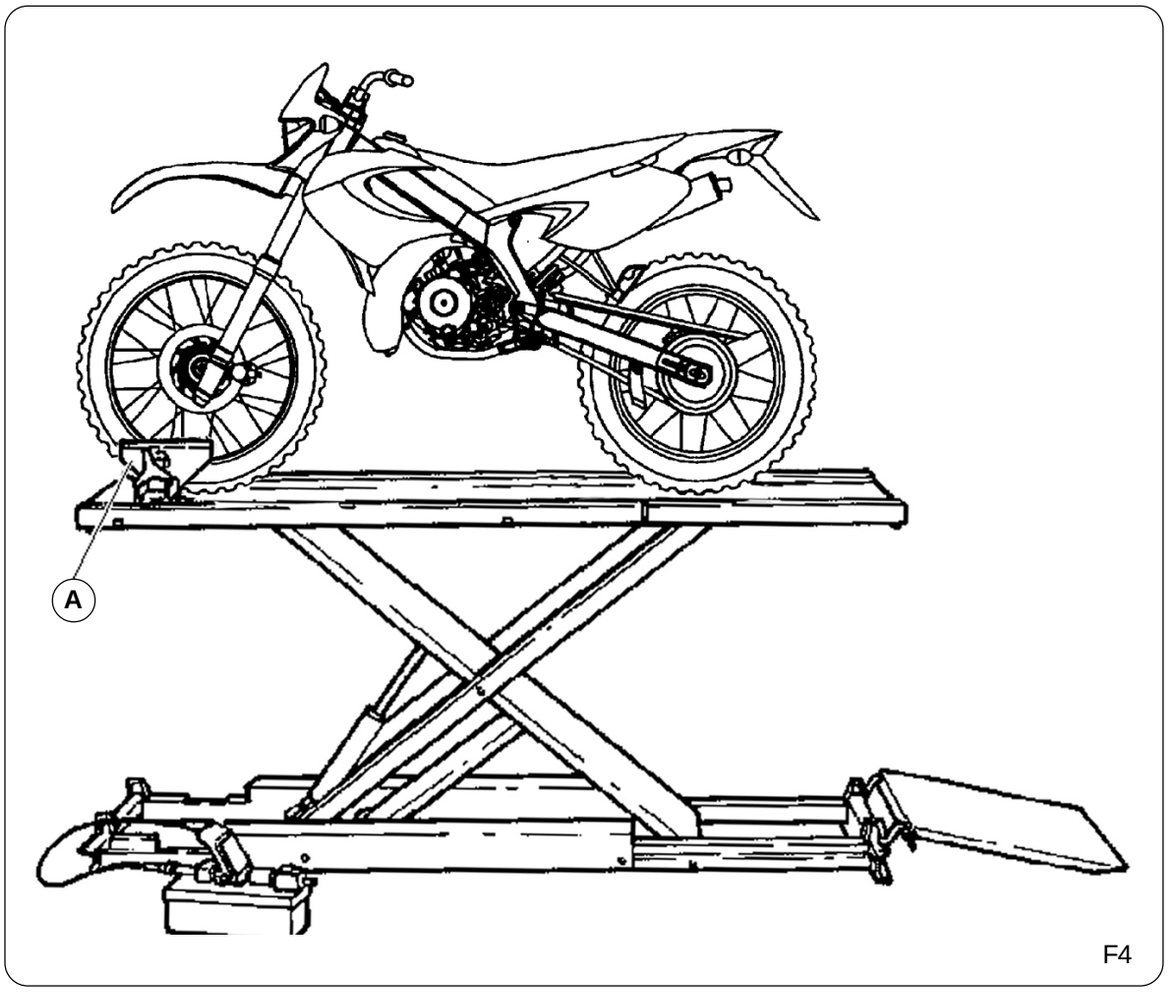
ABBREVIATIONS

F	Figure
Cs	Tightening torque
P	Page
Pr	Paragraph
S	Section
Sc	Diagram
T	Table
V	Screw

Note:
*The letter **V** in the illustrations refers to retaining or adjusting screws. The **number** following this letter refers to the number of the same type of screw in the unit or component described and illustrated. Letters **not followed by a number** indicate **a single screw**. In case of **different screws** being referred to in the illustration, the letter **V** is followed by a **number** and a **small letter**, for instance: **(V4a).***
*Unless otherwise specified, units and components are reassembled by proceeding in the **reverse order** of removal.*

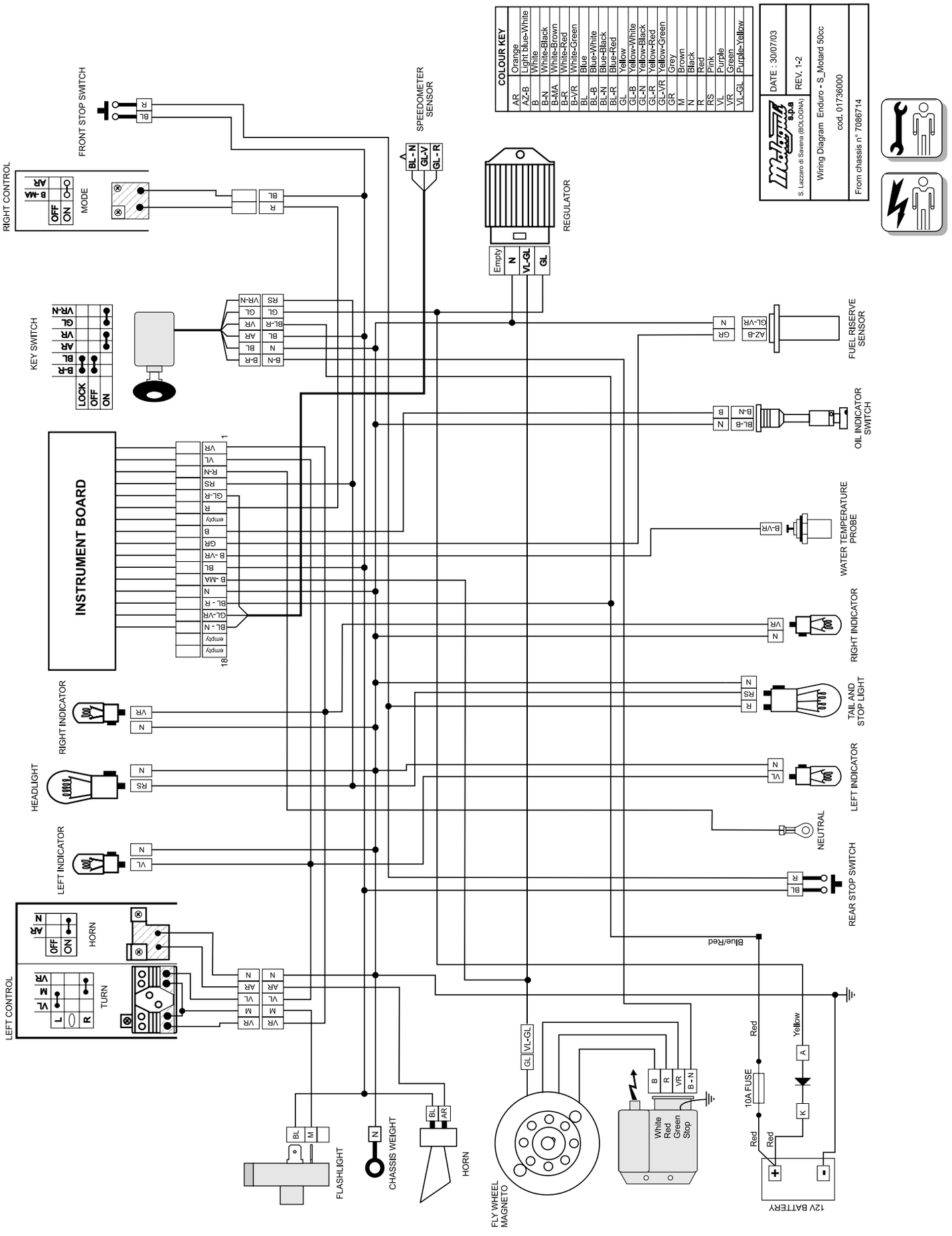
ENGLISH

Before any servicing, make sure that the motorbike is perfectly stable.
The front wheel should preferably be anchored to the equipment (A - F 4) integral with the lifting board.



F4

WIRING DIAGRAM



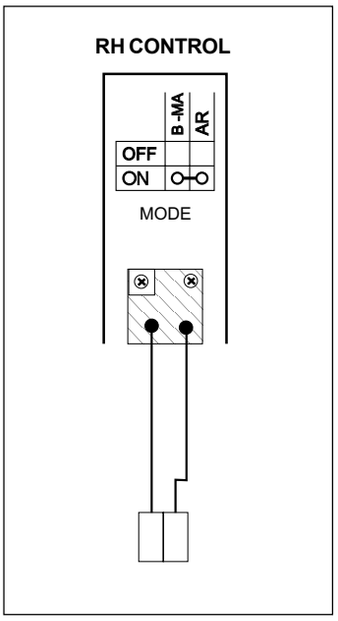
CONNECTION OF THE SWITCHES DESCRIBED IN THIS MANUAL

This manual contains connection diagrams, like the one illustrated hereby, which illustrate how switch terminals should be connected (key switch, brake switch, MODE button, etc.).

The first column from the left indicates the different positions of the switch, the top line the colour of the wires connected to the switch terminals.

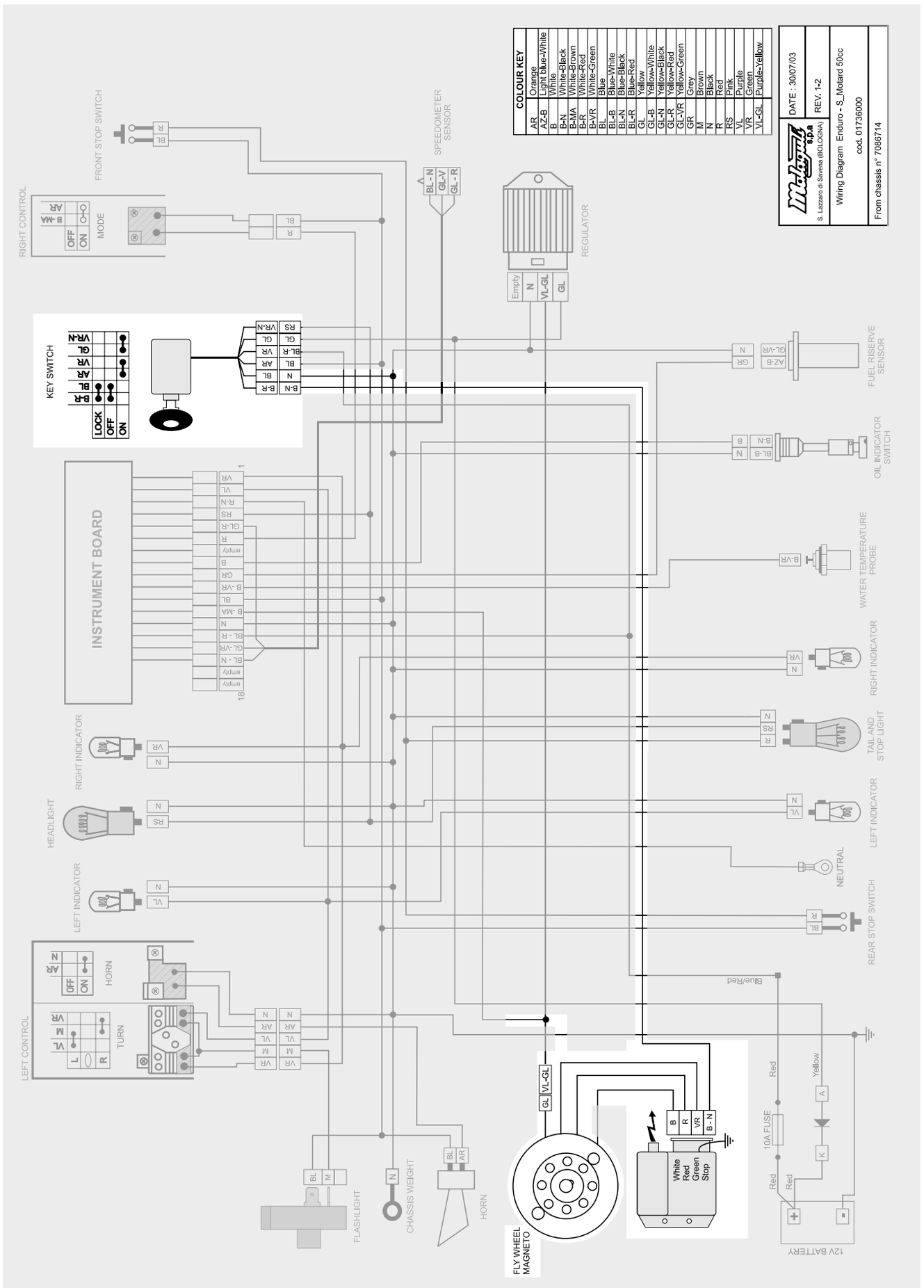
The symbol " O–O" identifies terminals in which there is a condition of continuity, i.e. a closed circuit, in a certain position of the switch.

In this diagram:
"**B-MA** and **AR**": there is continuous contact when the switch is "**ON**".



ENGLISH

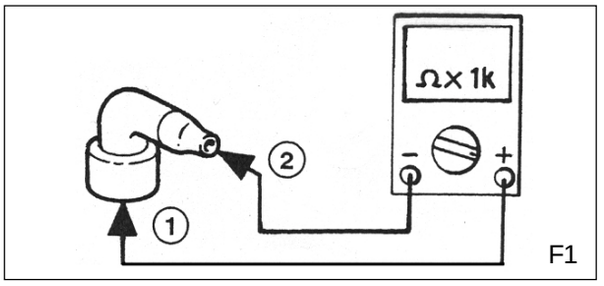
IGNITION SYSTEM CIRCUIT



IGNITION SYSTEM TROUBLESHOOTING

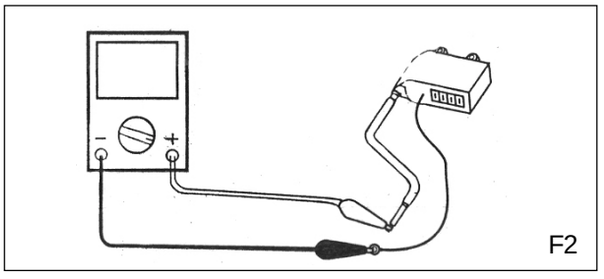
A) Check resistance of the spark plug cap

- Detach the spark plug cap from the H.V. cable and connect the **tester (kΩ)** as follows (F1):
- Tester (+) terminal ⟶ side 1
- Tester (-) terminal ⟶ side 2
- Spark plug cap resistance: **5 kΩ (20°C)**
- Not compliant: replace the spark plug cap



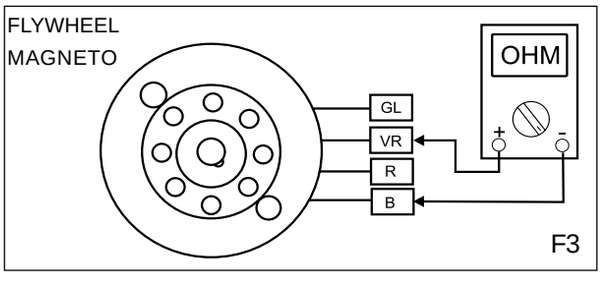
B) Check resistance of the electronic control unit

- Connect the **tester (kΩ)** to the control unit as follows (F2):
- Tester (+) terminal ⟶ H.V. cable
- Tester (-) terminal ⟶ lead terminal (green cable)
- Secondary winding resistance: **5-6 kΩ (20°C)**
- Not compliant: replace the control unit



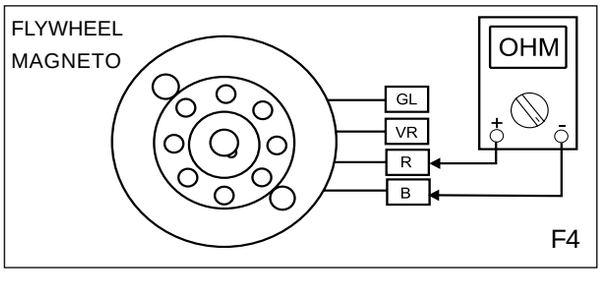
C) Check resistance of power supply cable (green cable)

- Connect the **tester (Ω)** to the flywheel as follows (F3):
- Tester (+) terminal ⟶ green cable
- Tester (-) terminal ⟶ white cable
- Power supply resistance: **640-780 Ω (20°C)**
- Not compliant: replace the flywheel magneto



D) Check pick-up resistance (red cable)

- Connect the **tester (Ω)** to the flywheel as follows (F4):
- Tester (+) terminal ⟶ red cable
- Tester (-) terminal ⟶ white cable
- Pick-up resistance: **100-140 Ω (20°C)**
- Not compliant: replace the flywheel magneto



E) Check key switch

- Disconnect the connector and connect the **tester (Ω)**:

1) - Tester (+) terminal ⟶ red/white cable

KEY OFF	--	CONTINUITY
KEY ON	1ST CLICK	DISCONTINUITY
KEY ON	2ND CLICK	DISCONTINUITY

Up to chassis n° 7086713

- Tester (-) terminal ⟶ blue cable

KEY OFF	CONTINUITY
KEY ON	DISCONTINUITY

From chassis n° 7086714

2) - Tester (+) terminal ⟶ orange cable

KEY OFF	--	DISCONTINUITY
KEY ON	1ST CLICK	CONTINUITY
KEY ON	2ND CLICK	DISCONTINUITY

Up to chassis n° 7086713

- Tester (-) terminal ⟶ green cable

KEY OFF	DISCONTINUITY
KEY ON	CONTINUITY

From chassis n° 7086714

3) - Tester (+) terminal ⟶ yellow cable

KEY OFF	--	DISCONTINUITY
KEY ON	1ST CLICK	CONTINUITY
KEY ON	2ND CLICK	CONTINUITY

Up to chassis n° 7086713

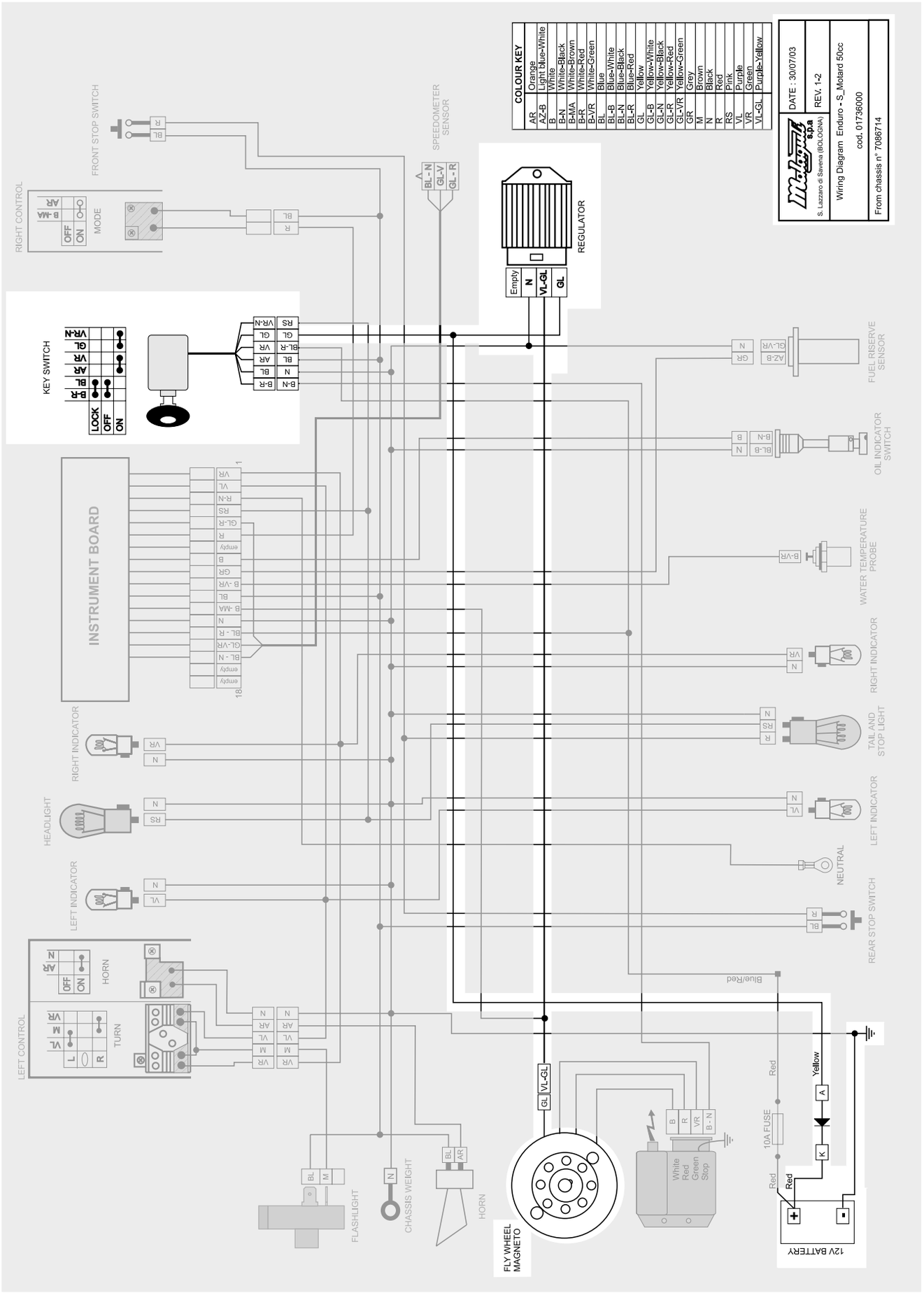
- Tester (-) terminal ⟶ green/black cable

KEY OFF	DISCONTINUITY
KEY ON	CONTINUITY

From chassis n° 7086714

WARNING: if the white/black cable leading from the switch is grounded, the motor does not start.

CHARGING SYSTEM CIRCUIT

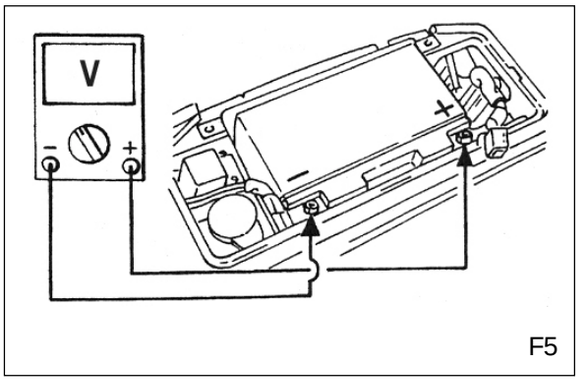


CHARGING SYSTEM TROUBLESHOOTING

If the battery is still flat, after it has been replaced or recharged, proceed as follows:

A) Check charging voltage

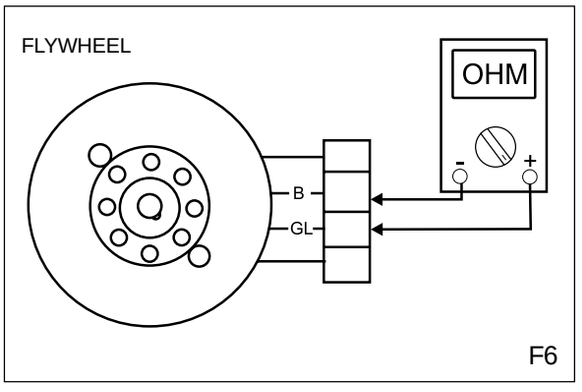
- Connect the **tester (20 V DC)** to the battery as in (F5):
- Tester (+) terminal ⟶ + battery pole
- Tester (-) terminal ⟶ - battery pole
- Start the engine at approx. 7000 RPM
- Voltage measured **13.5-14V**
- Not compliant: continue searching



F5

B) Check the flywheel magneto charging coil

- Disconnect the connectors from the flywheel magneto and connect the **tester (Ω)** as follows (F6):
- Tester (+) terminal ⟶ yellow cable
- Tester (-) terminal ⟶ white cable
- Charging coil resistance: **0.2-0.4Ω (20°C)**
- Not compliant: replace the flywheel
- Compliant: continue searching



F6

C) Check that the cables have been connected to the regulator connector in the right sequence (see wiring diagram).

D) Check continuity (tester Ω) of the yellow/purple cable leading from the flywheel to the regulator.

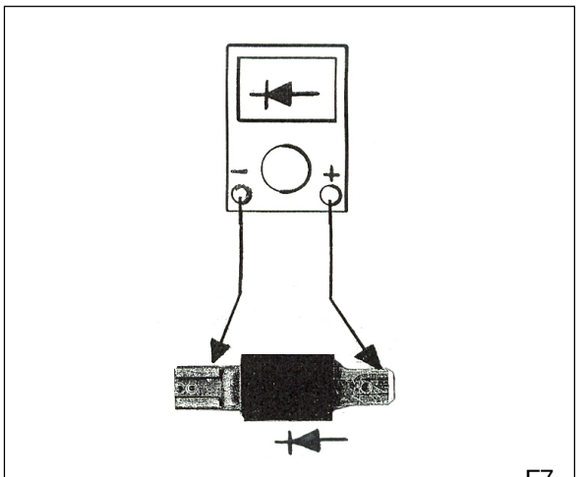
E) Check continuity of the yellow cable (tester Ω) leading from the regulator to the battery (pole +).

F) Check continuity (tester Ω) of the black grounding cable connected to the regulator connector.

G) Check the rectifier diode (F7)

The diode is under the seat, connected to the yellow cable leading to the (+) pole of the battery.

- Remove the diode and connect the tester (⟝⟞) as follows:
- Tester (+) terminal ⟶ terminal 1
- Tester (-) terminal ⟶ terminal 2
- The value measured must be (⟝⟞ 435)
- Not compliant: replace the diode

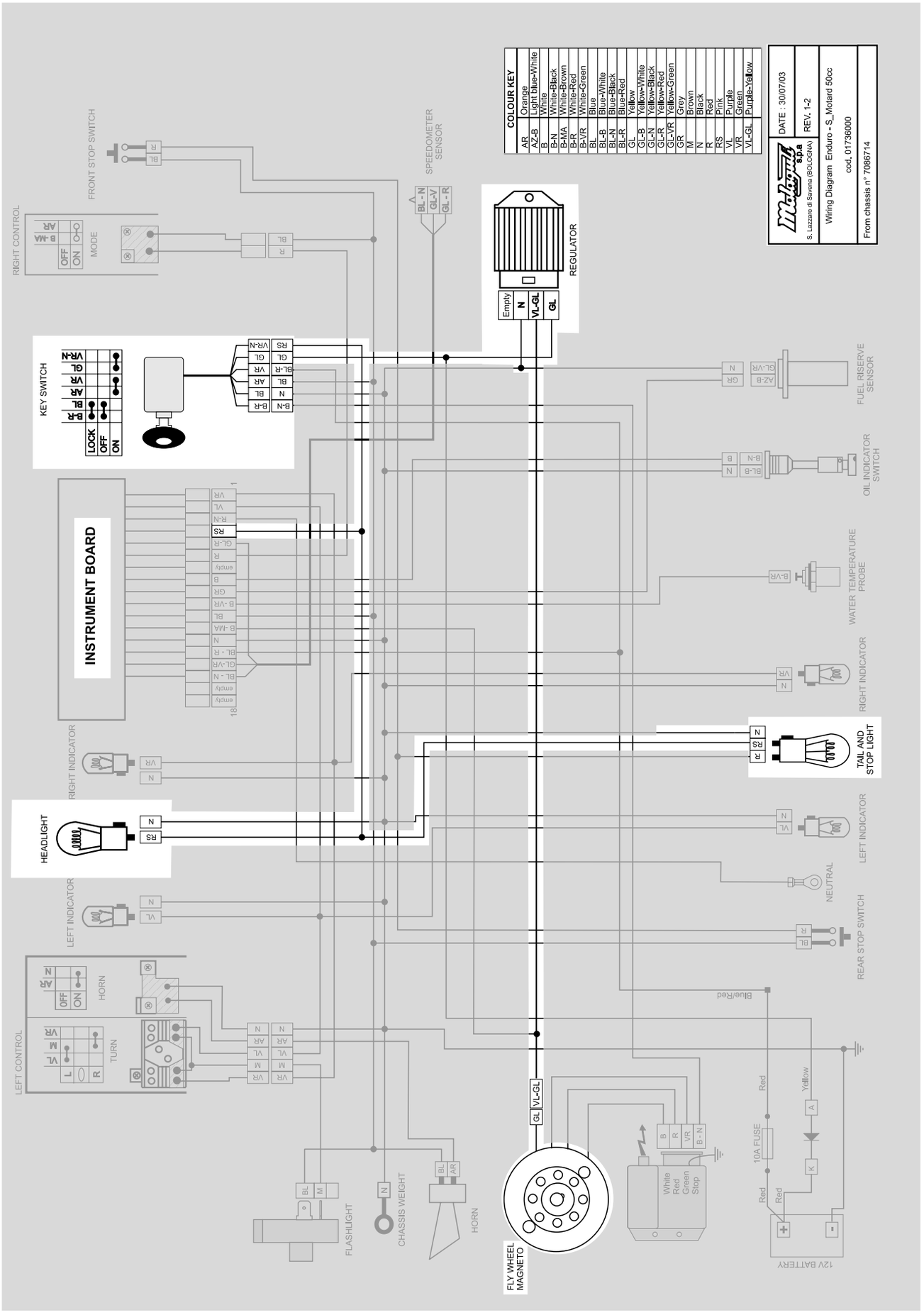


F7

WARNING: **to avoid troublesome inconveniences on electrical components, make sure the diode is fitted before connecting the battery.**

H) If all checks have positive results, replace the regulator.

LIGHT SYSTEM CIRCUIT



LIGHT SYSTEM TROUBLESHOOTING

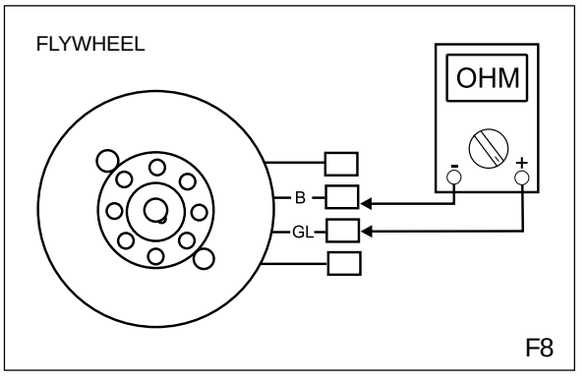
WARNING: the vehicle's lights come on when the key is in its "ON" position.

If the lights do not work, proceed as follows:

A) Check the light coil resistance (F8)

- Disconnect the flywheel connector and connect the **tester (Ω)**:

- Tester (+) terminal ⟶ yellow cable
- Tester (-) terminal ⟶ white cable
- Light coil resistance: **0.2_0.4Ω (20°C)**
- Not compliant: replace the flywheel
- Compliant: continue searching



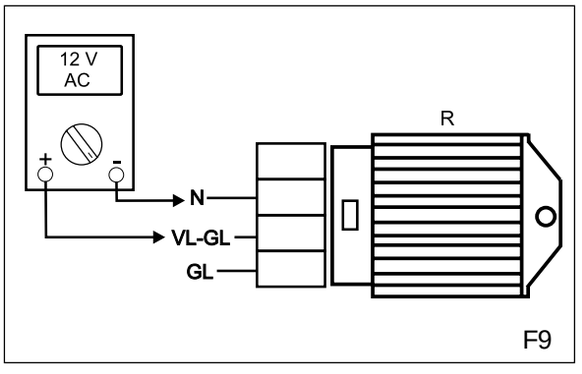
B) Make sure that the cables of the regulator connector are correctly positioned and firmly secured in place (see wiring diagram).

C) Check continuity (tester Ω) between the yellow cable leading from the flywheel and the purple/yellow cable leading to the regulator.

D) Check ground continuity (tester Ω) between the black cable in the regulator and a grounded point of the frame (to be tested after disconnecting the regulator terminal board).

E) Check the voltage regulator (F9)

- Connect the **tester (AC)** to the regulator connector (leaving the latter plugged in)
- Tester (+) terminal ⟶ purple/yellow cable
- Tester (-) terminal ⟶ black cable
- Start the engine at 7000 RPM
- The voltage measured should be: **12 volts**
- Not compliant: replace the regulator
- Compliant: continue searching



F) Check continuity (tester Ω) of the yellow cable leading from the regulator to the key switch.

G) Check the key switch (see page 11).
(SWITZERLAND version only)
Check continuity (tester Ω) of the pink cable leading from the key switch to the left hand switch. If there is no continuity, replace the left hand switch.

If the headlights are not working, proceed as follows:

A) Check continuity of the lamp and lamp socket
- Discontinuity: replace the lamp and/or lamp socket
- Continuity: continue searching

B) Check voltage delivered to the front lamp socket
- Connect the **tester (20V AC)** to the lamp socket
- Tester (+) terminal ⟶ pink cable
- Tester (-) terminal ⟶ black cable
- Turn the key to “ON”.
- Start the engine at 7000 RPM
- The voltage measured should be: **12 volts**
- Not compliant: continue searching.

C) Check continuity of the pink cable
- Connect the **tester (Ω)** to the pink cable leading from the key switch to the headlight connector.
- No continuity: the pink cable is interrupted. Repair (see wiring diagram).
- Continuity: black cable interrupted. Repair by providing a jumper between the black cable connected to the headlight and a grounded point of the frame.

(SWITZERLAND version only - If the front parking light does not work)
Check continuity of the pink cable
- Connect the **tester (Ω)** to the pink cable leading from the key switch to the parking light lamp socket.
- No continuity: the pink cable is interrupted. Repair (see wiring diagram)
- Continuity: black cable interrupted. Repair by providing a jumper between the black cable connected to the parking light lamp socket and a grounded point of the frame.

If the low beam is not working, proceed as follows:

A) *(SWITZERLAND version only)*
Check continuity of the lamp
- Discontinuity: replace the lamp.

B) *(SWITZERLAND version only)*
Check left hand switch.
Connect the **tester (Ω)** to the switch as follows:
- Tester (+) terminal ⟶ white/blue cable
- Tester (-) terminal ⟶ pink cable
- Turn the switch light to the “LO” symbol.
- No continuity: replace the left hand switch.
- Continuity: the white/blue cable leading from the left hand switch to the lamp socket is interrupted. Repair (see wiring diagram)

If the low beam light is not working but the low beam indicator light is, proceed as follows:

A) ***(SWITZERLAND version only)***
Check continuity of the lamp
- Discontinuity: replace the lamp.

B) ***(SWITZERLAND version only)***
Check continuity of the blue cable leading from the left hand switch to the lamp socket.
- No continuity: repair the blue cable (see wiring diagram).

If the low beam light and indicator light are not working, proceed as follows:

A) ***(SWITZERLAND version only)***
Check left hand switch.
Connect the **tester (Ω)** to the switch as follows:
- Tester (+) terminal ⟶ blue cable
- Tester (-) terminal ⟶ pink cable
- Turn the light switch to the “HI” symbol.
- No continuity: replace the left hand switch.

If the low beam indicator light is not working, proceed as follows:

A) ***(SWITZERLAND version only)***
Check continuity of the light bulb
- Discontinuity: replace the light bulb.

B) ***(SWITZERLAND version only)***
Check continuity of the blue cable leading from the left hand switch to the lamp socket of the instrument board indicator light.
- No continuity: the blue cable is interrupted. Repair (see wiring diagram)
- Continuity: there is no grounding point. Repair by providing a jumper between the black cable connected to the lamp socket and a grounded point of the frame.

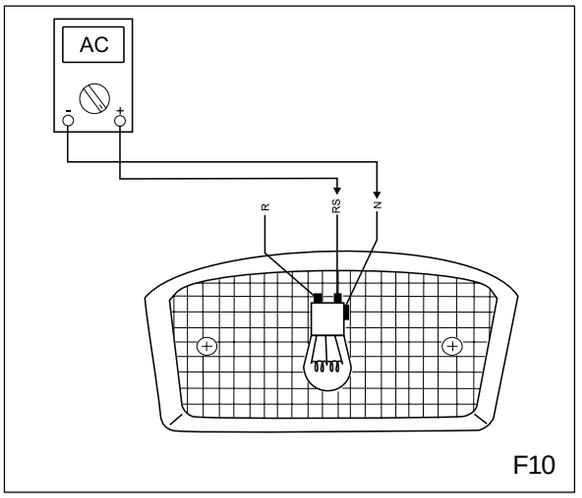
If the tail light does not work, proceed as follows:

A) Check continuity of the lamp

- Discontinuity: replace the lamp

B) Check the voltage delivered to the rear lamp socket

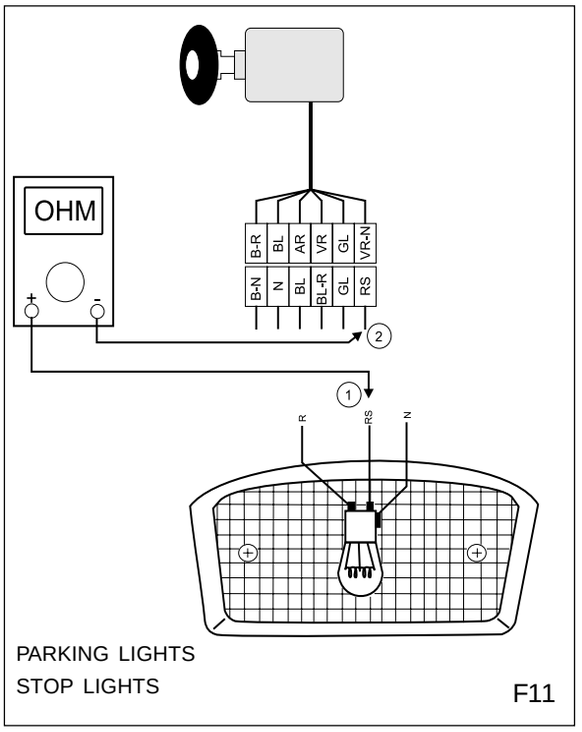
- Connect the **tester (AC 20V)** to the lamp socket (F10)
- Tester (+) terminal ⟶ pink cable
- Tester (-) terminal ⟶ black cable
- Turn the key to “ON”.
- Start the engine at 7000 RPM
- The voltage measured should be: **12 volts**
- Not compliant: continue searching



F10

C) Check continuity of the pink cable

- Connect the **tester (Ω)** as follows (F11):
- Tester (+) terminal ⟶ terminal 1
- Tester (-) terminal ⟶ terminal 2
- No continuity: the pink cable leading from the key switch to the tail light is interrupted. Repair (see wiring diagram).



F11

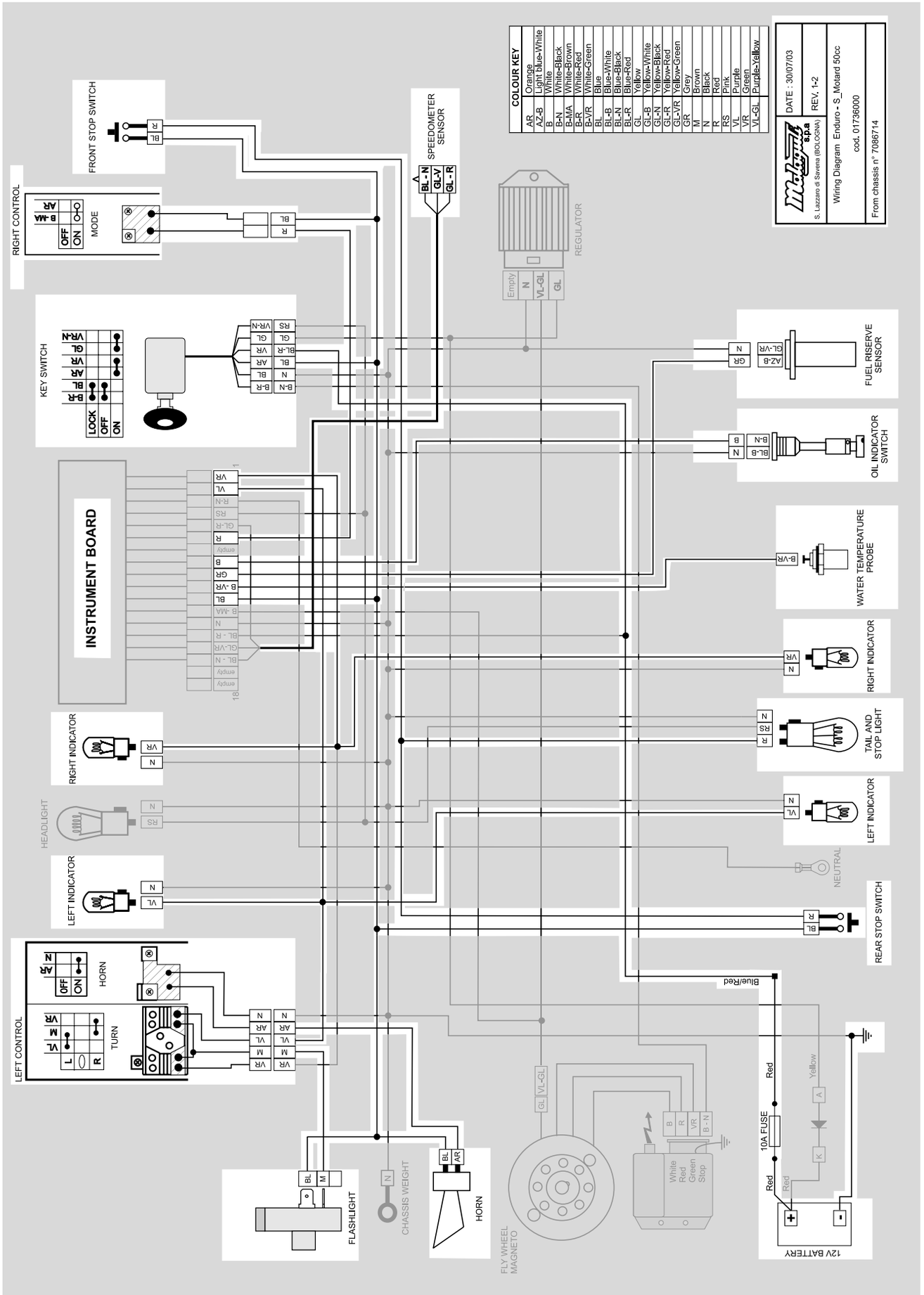
WARNING: if the ground connection is lacking (black cable), the stop light will not come on either.

If the number plate light is not working, proceed as follows:

A) ***(SWITZERLAND version only)***
Check continuity of the lamp and lamp socket.
- Discontinuity: replace the lamp and/or lamp socket.
- Continuity: continue searching.

B) ***(SWITZERLAND version only)***
Check continuity of the pink cable
- Connect the **tester (Ω)** between the pink cable of the tail light lamp socket and the pink cable of the number plate light lamp socket.
- No continuity: the pink cable is interrupted. Repair (see wiring diagram)
- Continuity: there is no grounding point. Repair by providing a jumper between the black cable connected to the lamp socket and a grounded point of the frame.

SIGNALLING SYSTEM CIRCUIT



TURN INDICATOR TROUBLESHOOTING

If the turn indicators do not blink, proceed as follows:

A) Check the turn indicator switch (F12)

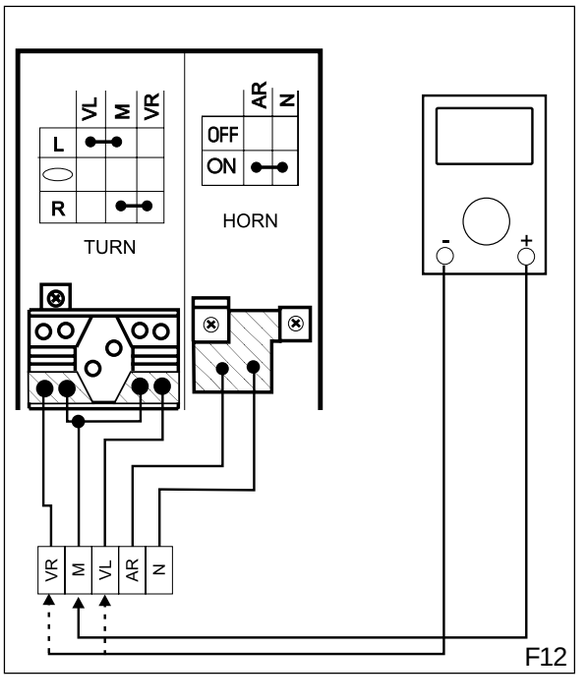
- Disconnect the 5-way connector from the left hand switch **(tester Ω)**.
- Put the button in left hand indicator position

- Tester (+) terminal ⟶ brown cable
- Tester (-) terminal ⟶ purple cable

- Put the button in right hand indicator position

- Tester (+) terminal ⟶ brown cable
- Tester (-) terminal ⟶ green cable

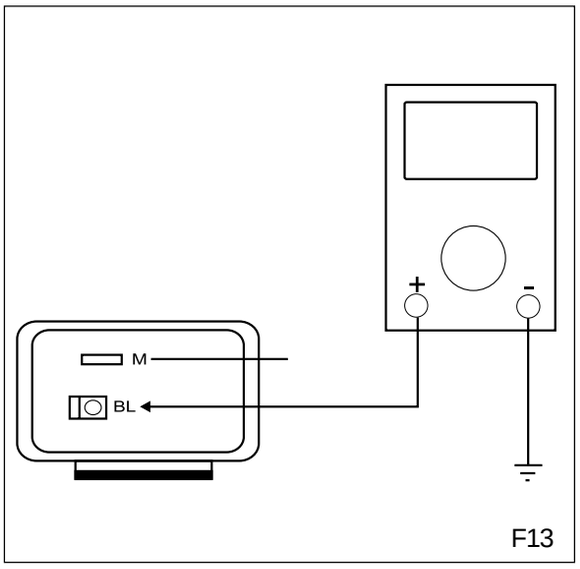
- There must be continuity in both cases
- No continuity: replace the left hand switch
- Continuity: continue searching.



F12

B) Check the voltage delivered to the flashlight (F13)

- Disconnect the flashlight connector and connect the **20 V DC tester**:
- Tester (+) terminal ⟶ blue cable
- Tester (-) terminal ⟶ cable grounded to frame
- **Turn the key "ON"**
- **Voltage =0**: blue cable interrupted. Repair (see wiring diagram).
- **Voltage 12 Volts**: continue searching.



F13

C) Check continuity of brown cable

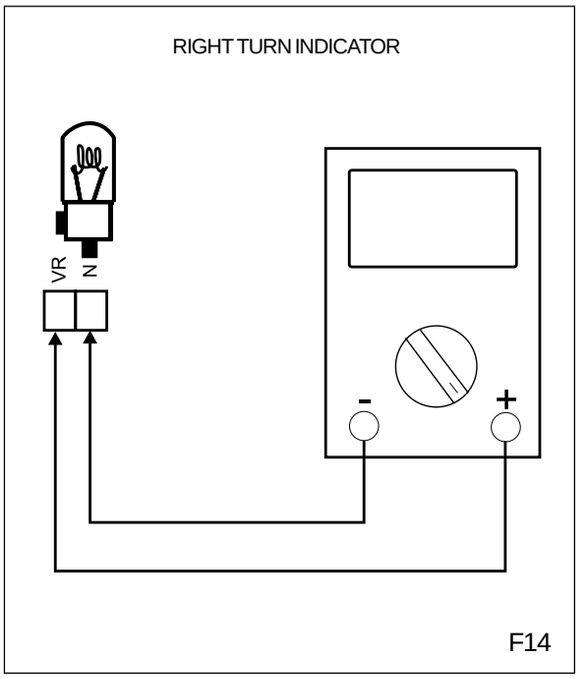
- Connect the **OHM tester** between the terminal plugged into the flashlight connector and the terminal plugged into the 5-way connector of the left hand switch; both connectors must be disconnected.
- Continuity: replace the flashlight.
- No continuity: brown cable interrupted Repair (see wiring diagram).

ENGLISH

Check the voltage delivered to the lamp socket connector of the turn indicators; proceed as follows:

A) Check the right indicator (F14)

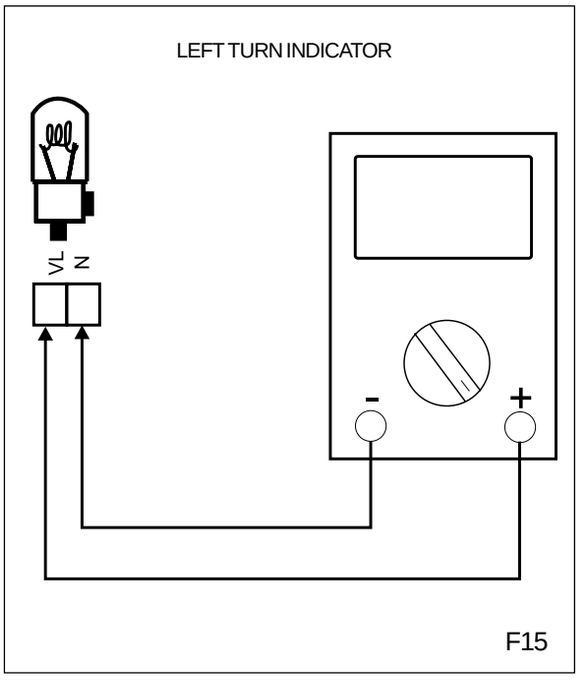
- Disconnect the terminal of the right hand lamp socket and connect the **tester (20V DC)**:
- Tester (+) terminal ⟶ green cable
- Tester (-) terminal ⟶ black cable
- Key switch in “ON” position
- Put the switch in right hand indicator position:
- **Voltage 12 Volts**: compliant
- **Not compliant**: the circuit between the turn indicator switch and the lamp socket connector is faulty. Repair (see wiring diagram).



F14

B) Check left indicator (F15)

- Disconnect the left lamp socket terminal and connect the **tester (20 V DC)**:
- Tester (+) terminal ⟶ purple cable
- Tester (-) terminal ⟶ black cable
- Key switch in “ON” position
- Put the switch in left hand indicator position
- **Voltage 12 Volts**: compliant
- **Not compliant**: the circuit between the turn indicator switch and the lamp socket connector is faulty. Repair (see wiring diagram).



F15

STOP LIGHT TROUBLESHOOTING

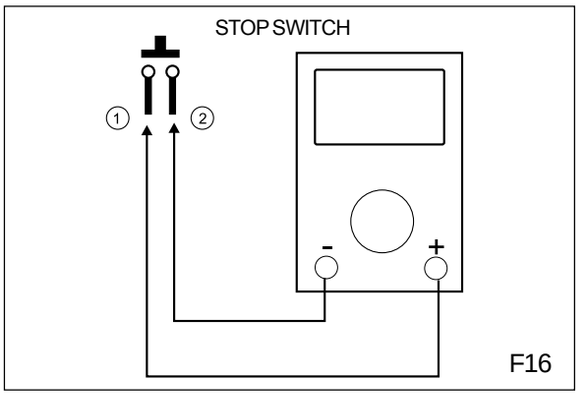
If the stop light is not working, proceed as follows:

A) Check continuity of the lamp and lamp socket with a tester (Ω)

- Discontinuity: replace the lamp or lamp socket
- Continuity: continue searching

B) Check front and rear stop light switch

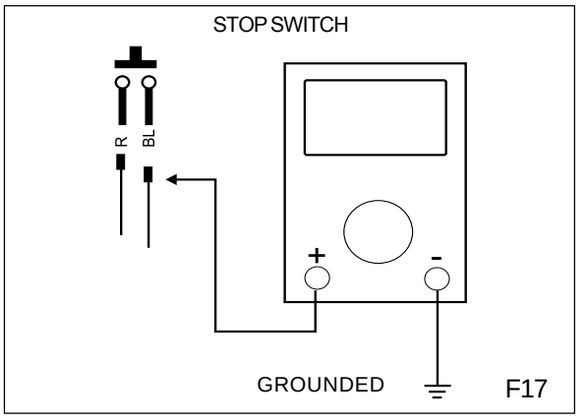
- Disconnect the red and blue terminals and connect the **tester (Ω)** to the switch terminals (F16).
- Tester (+) terminal ⟶ terminal 1
- Tester (-) terminal ⟶ terminal 2
- **Operate the brake lever.**
- Discontinuity: replace the stop light switch.
- Continuity: continue searching.



F16

C) Check the voltage delivered to the blue cable inserted in the stop light switch (20 V DC tester) (F17)

- Tester (+) terminal ⟶ blue cable
- Tester (-) terminal ⟶ grounded to the frame
- **Turn the key "ON"**
- The voltage measured should be: **12 Volts**.
- Not compliant: blue cable interrupted. Repair (see wiring diagram)
- Compliant: continue searching.

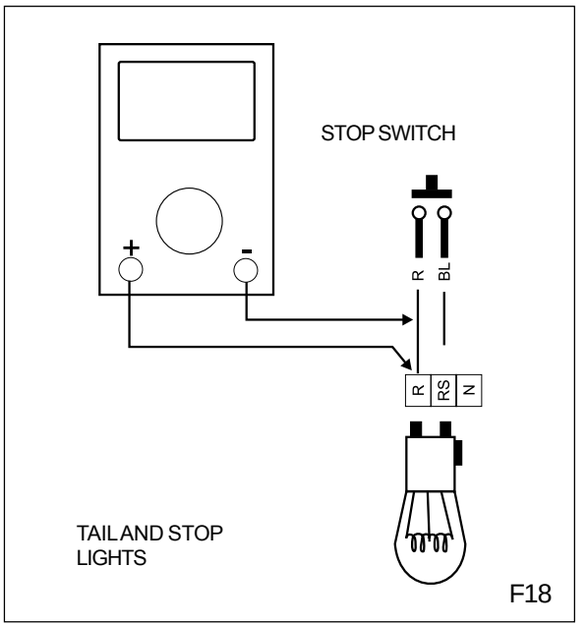


F17

D) Check continuity of the red cable between the terminal inserted in the stop switch and the terminal inserted in the tail light.

- Discontinuity: red cable interrupted. Repair (see wiring diagram) (F18).

WARNING: if the grounding connection is lacking, the tail light will not come on either.



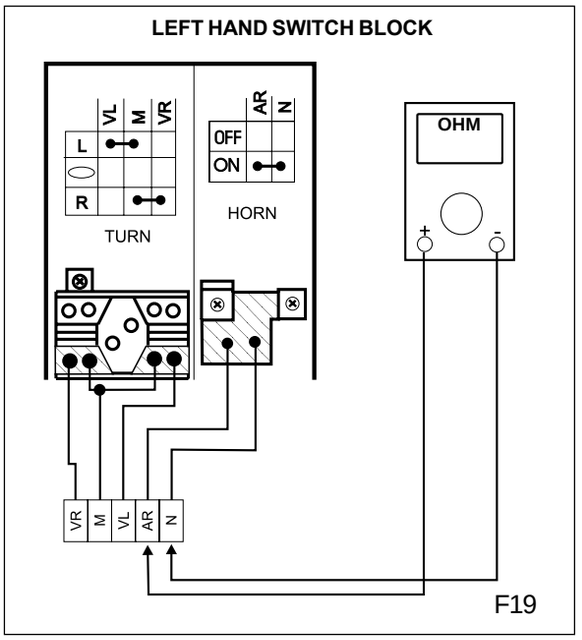
F18

HORN TROUBLESHOOTING

If the horn is not working, proceed as follows:

A) Check the "HORN" button

- Disconnect the 5-way connector from the left hand switch and connect the **tester (Ω)** (F19)
- Tester (+) terminal ⟶ orange terminal
- Tester (-) terminal ⟶ black terminal
- **Press the "HORN" button**
- Discontinuity: replace the left hand switch
- Continuity: continue searching.



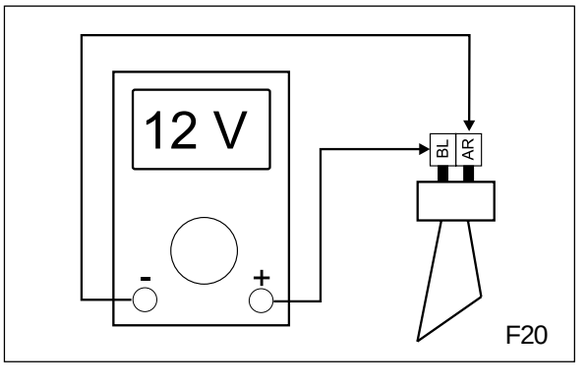
F19

B) Check grounding of the black cable of the 9-way switch of the harness

- Connect **the OHM tester** as follows:
- Tester (+) terminal ⟶ black cable
- Tester (-) terminal ⟶ grounded to frame
- No continuity: black cable interrupted. Repair by providing a jumper between the black cable and a grounded point of the frame.
- Continuity: continue searching.

C) Check voltage delivered to the horn

- Disconnect the terminals of the horn and connect the **tester (20V DC)** (F20)
- Tester (+) terminal ⟶ blue terminal
- Tester (-) terminal ⟶ orange terminal
- **Key switch in "ON" position**
- **Press the "HORN" button**
- **Voltage 12V**: replace the horn.
- No power: continue searching.

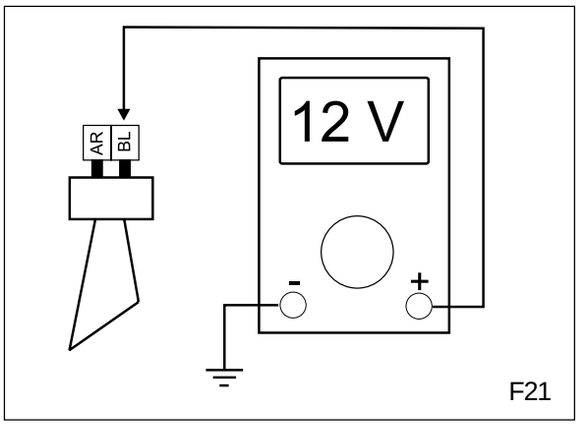


F20

D) Check voltage delivered to blue cable (F21) (20 V DC Tester)

- Tester (+) terminal ⟶ blue terminal
- Tester (-) terminal ⟶ grounded to frame
- **Key switch in "ON" position**
- No power: blue cable interrupted: repair (see wiring diagram).

Voltage 12V: orange cable interrupted between the terminal inserted in the 5-way connector of the harness and the terminal inserted in the horn. Repair (see wiring diagram).



F21

WATER TEMPERATURE PROBE TROUBLESHOOTING

If the motor is hot and the instrument's indicator is reading 0, proceed as follows:

- Disconnect the white/green cable of the water temperature probe and ground it:

A) Red light on and digital temperature scale at maximum level:

- Replace the water temperature probe (on the head).

B) Red light blinking and digital temperature scale signalling only one notch:

- Check continuity (**tester** Ω) of the white/green cable leading from the water temperature probe to the digital instrument.
- Continuity: replace the digital instrument.
- Discontinuity: the white/green cable is interrupted. Repair (see wiring diagram).

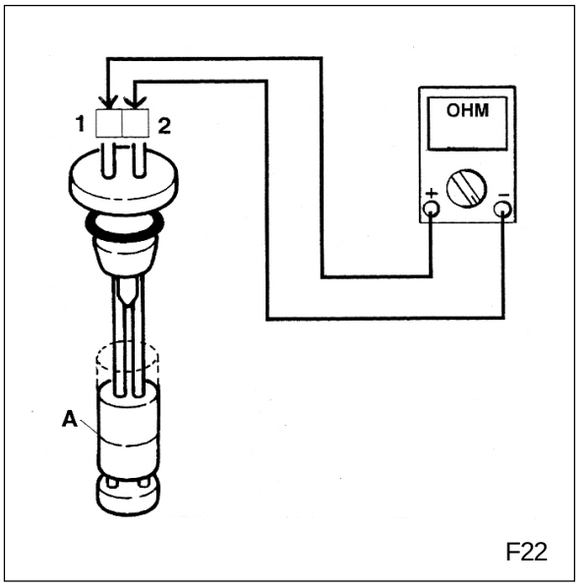
Warning: the red light will also blink if the white/green water temperature probe cable has come loose.

MIXTURE OIL INDICATOR LIGHT TROUBLESHOOTING

If the mixture oil indicator light only comes on in check mode, proceed as follows:

A) Check the oil probe

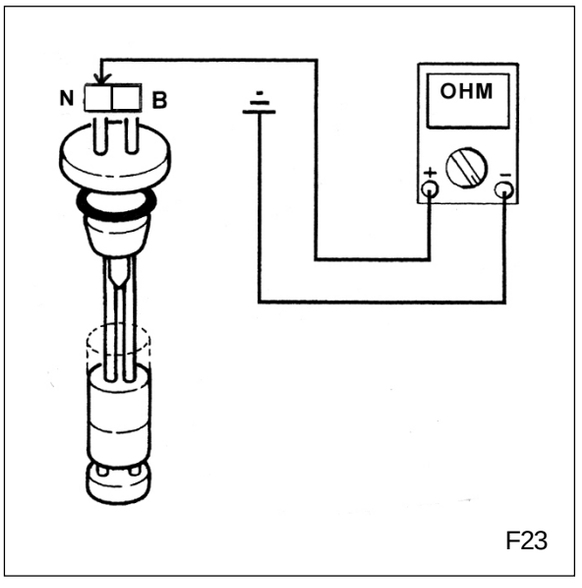
- Take the oil probe out of the tank, disconnect the connector and connect the **OHM tester** (F22).
- Tester (+) terminal ⟶ coupling 1
- Tester (-) terminal ⟶ coupling 2
- Whilst keeping the probe upright, float "A" must run freely and position itself at the base of the probe.
- Discontinuity: the probe is faulty. Repair.
- Continuity: continue searching.



F22

B) Check the grounding continuity of the black cable of the connector plugged into the probe

- Disconnect the connector from the probe and connect the **OHM tester** (F23).
- Tester (+) terminal ⟶ black cable
- Tester (-) terminal ⟶ grounded to frame
- Discontinuity: the black cable is interrupted. Repair by providing a jumper between the black cable and a grounded point of the frame.
- Continuity: the white cable leading from the probe to the digital instrument is interrupted. Repair (see wiring diagram).



F23

ENGLISH

FUEL RESERVE INDICATOR LIGHT TROUBLESHOOTING

If the fuel reserve indicator light only comes on in check mode, proceed as follows:

A) Disconnect the probe connector and provide a jumper between the grey cable and the black cable.

- Turn the switch “ON”.
- Light on: replace the petrol probe.
- Light off: continue searching.

B) Check grounding continuity (tester Ω) between the black cable and a grounded point of the frame.

- Discontinuity: black cable interrupted. Repair by providing a jumper between the black cable and a grounded point.
- Continuity: the cable leading from the probe to the digital instrument is interrupted. Repair (see wiring diagram).

NEUTRAL INDICATOR LIGHT TROUBLESHOOTING

A) The neutral light stays on, even if the vehicle is in gear.

- Check whether the red/black cable is grounded.
- Disconnect the red/black cable of the “neutral” switch fastened to the motor casing and connect the **tester (Ω)** as follows:
- Tester (+) terminal ⟶ red/black cable
- Tester (-) terminal ⟶ grounded to frame
- Continuity: red/black cable grounded. Repair.
- Discontinuity: replace the “neutral” switch.

B) The neutral light only comes on in check mode.

- Check continuity **(tester Ω)** of the red/black cable leading from the neutral switch to the digital instrument.
- Discontinuity: red/black cable interrupted. Repair.
- Continuity: replace the “neutral” switch.

SPEEDOMETER SENSOR TROUBLESHOOTING

If speed is not signalled, proceed as follows:

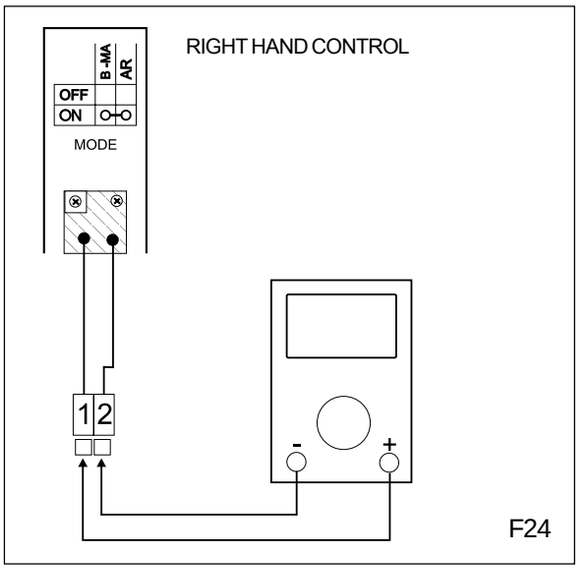
- make sure the digital instrument is correctly connected (see wiring diagram).
- if the cables leading to the instrument’s connector are correctly inserted, replace the speedometer sensor and its electronic transmission.

“MODE” BUTTON TROUBLESHOOTING

If the functions of the digital instrument are not changed when the “Mode” button is pressed, proceed as follows:

A) Check the “MODE” button

- Disconnect the 2-way connector of the “MODE” button and connect the **OHM tester** as follows (F24):
- Tester (+) terminal ⟶ terminal 1
- Tester (-) terminal ⟶ terminal 2
- Press the “MODE” button
- Discontinuity: replace the “MODE” button
- Continuity: continue searching.



B) Check the power supply of the blue cable

- Connect the **tester (20V DC)** as follows:
- Tester (+) terminal ⟶ blue cable
- Tester (-) terminal ⟶ grounded to the frame
- Turn the switch "ON":
- Power measured must be 12 V.
- Not compliant: the blue cable is interrupted. Repair (see wiring diagram).

C) Check continuity of red cable ("MODE" pulse)

- Connect the **OHM tester** as follows:
- Tester (+) terminal ⟶ red cable ("MODE" connector)
- Tester (-) terminal ⟶ red cable (digital instrument connector)

Discontinuity: red cable interrupted. Repair (see wiring diagram).
Continuity: replace the digital instrument.

REVOLUTION COUNTER TROUBLESHOOTING

Check continuity of the white/brown cable leading to the digital instrument and the purple/yellow cable leading from the flywheel magneto.
Discontinuity: white/brown cable interrupted. Repair (see wiring diagram).
Continuity: replace the digital instrument.

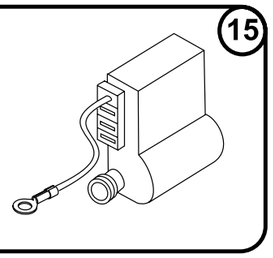
CONFIGURATION OF THE DIGITAL INSTRUMENT CONNECTOR

Pos.	Meaning	Colour
1	Indicator	green
2	Indicator	purple
3	Neutral	red/black
4	Lights	pink
5	Hall sensor input	yellow/red
6	MODE button	red
7	NC	-
8	Oil	white
9	Fuel	grey

Pos.	Meaning	Colour
10	Water probe	white-green
11	Under key	blue
12	RPM	white-brown
13	Negative	black
14	Battery positive terminals	blue-red
15	Hall sensor GND	black
16	Hall sensor VDC	blue-black
17	NC	-
18	NC	-

ELECTRICAL COMPONENT LAYOUT

1) INSTRUMENT BOARD
2) HEADLIGHT
3) HORN
4) SWITCH WITH KEY
5) LEFT CONTROL
6) SPEEDOMETER SENSOR
7) FRONT RIGHT INDICATOR
8) FRONT LEFT INDICATOR
9) RIGHT CONTROL
10) WATER TEMPERATURE PROBE
11) REAR STOP SWITCH
12) OIL INDICATOR SWITCH
13) FUEL RESERVE SENSOR
14) FLY WHEEL MAGNETO
15) "CDI" CONTROL UNIT
16) REGULATOR
17) FLASHLIGHT
18) BATTERY
19) REAR RIGHT INDICATOR
20) TAIL AND STOP LIGHT
21) REAR LEFT INDICATOR
22) FRONT STOP SWITCH
23) NEUTRAL INDICATOR LEAD TERMINAL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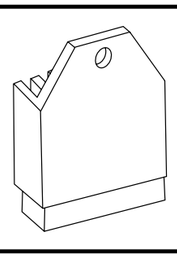
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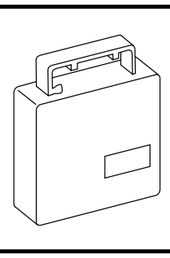
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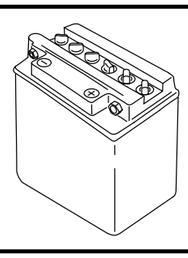
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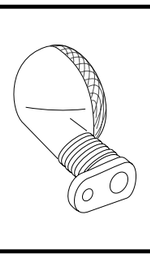
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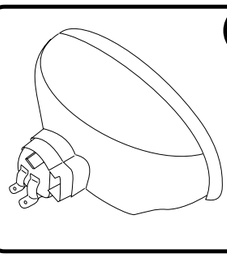
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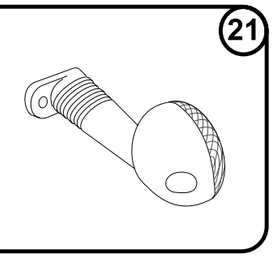
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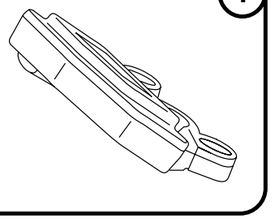
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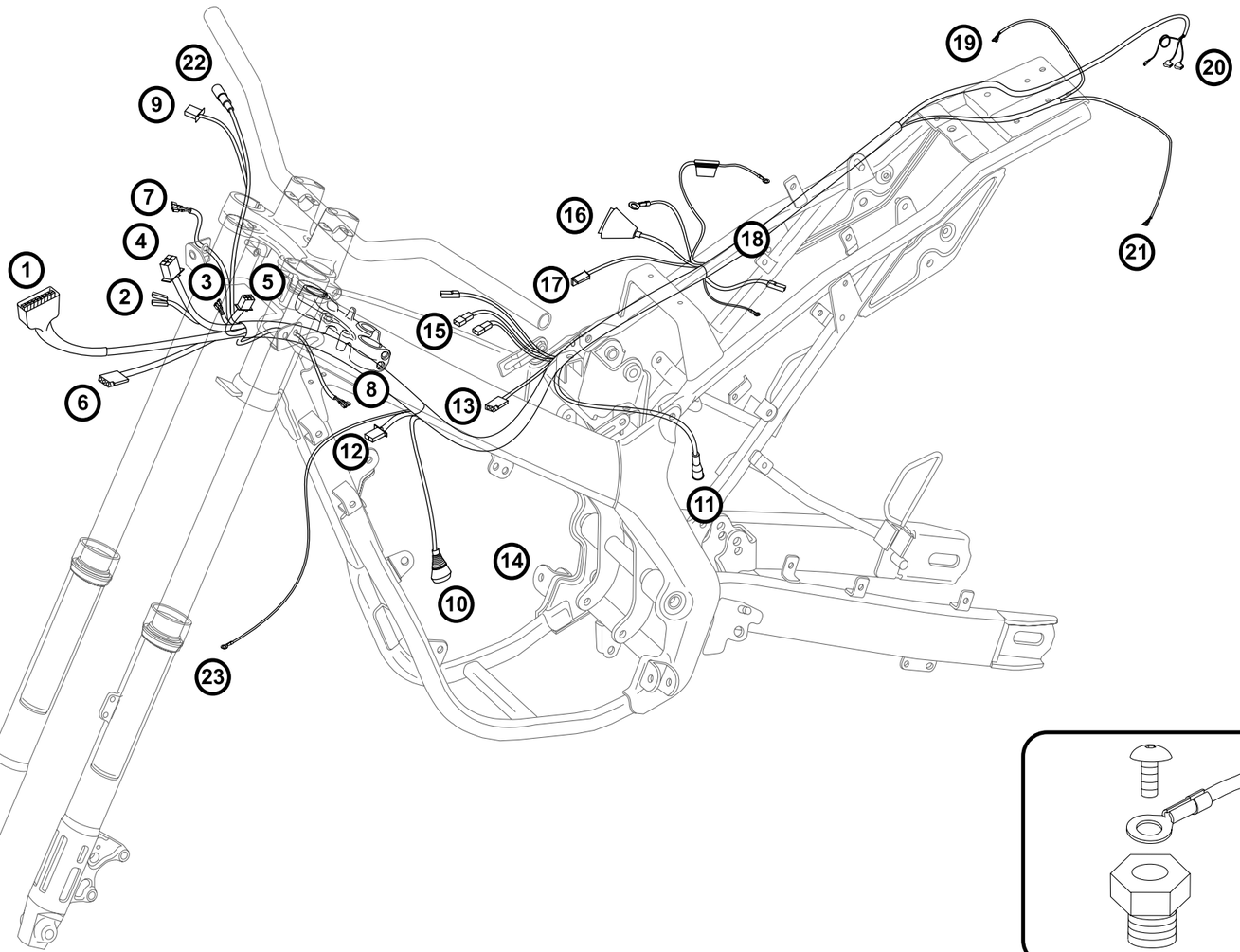

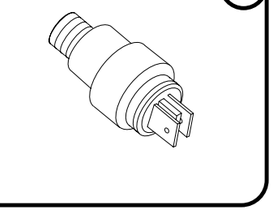
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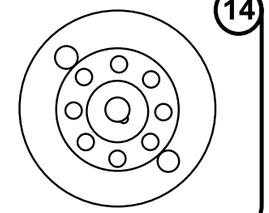
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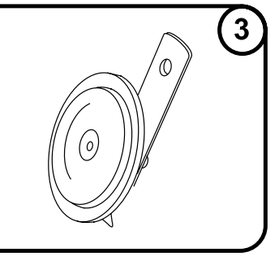
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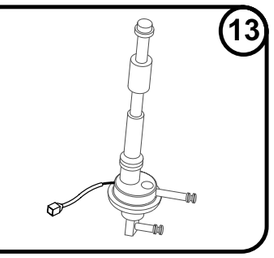
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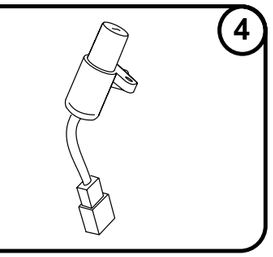
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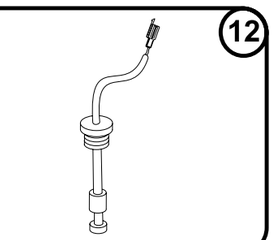
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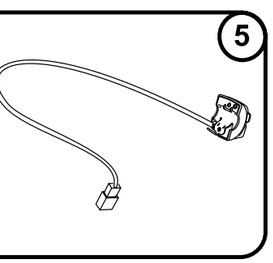
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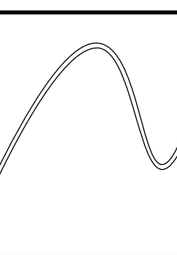
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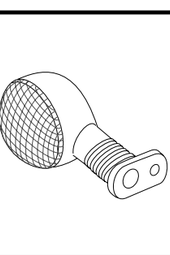
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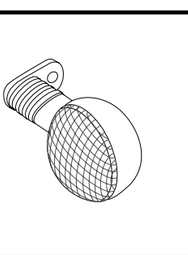
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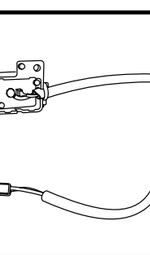
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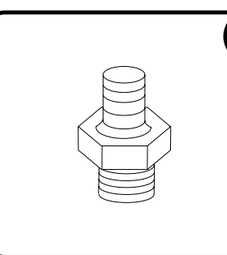
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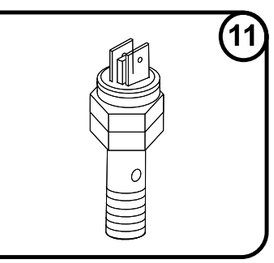
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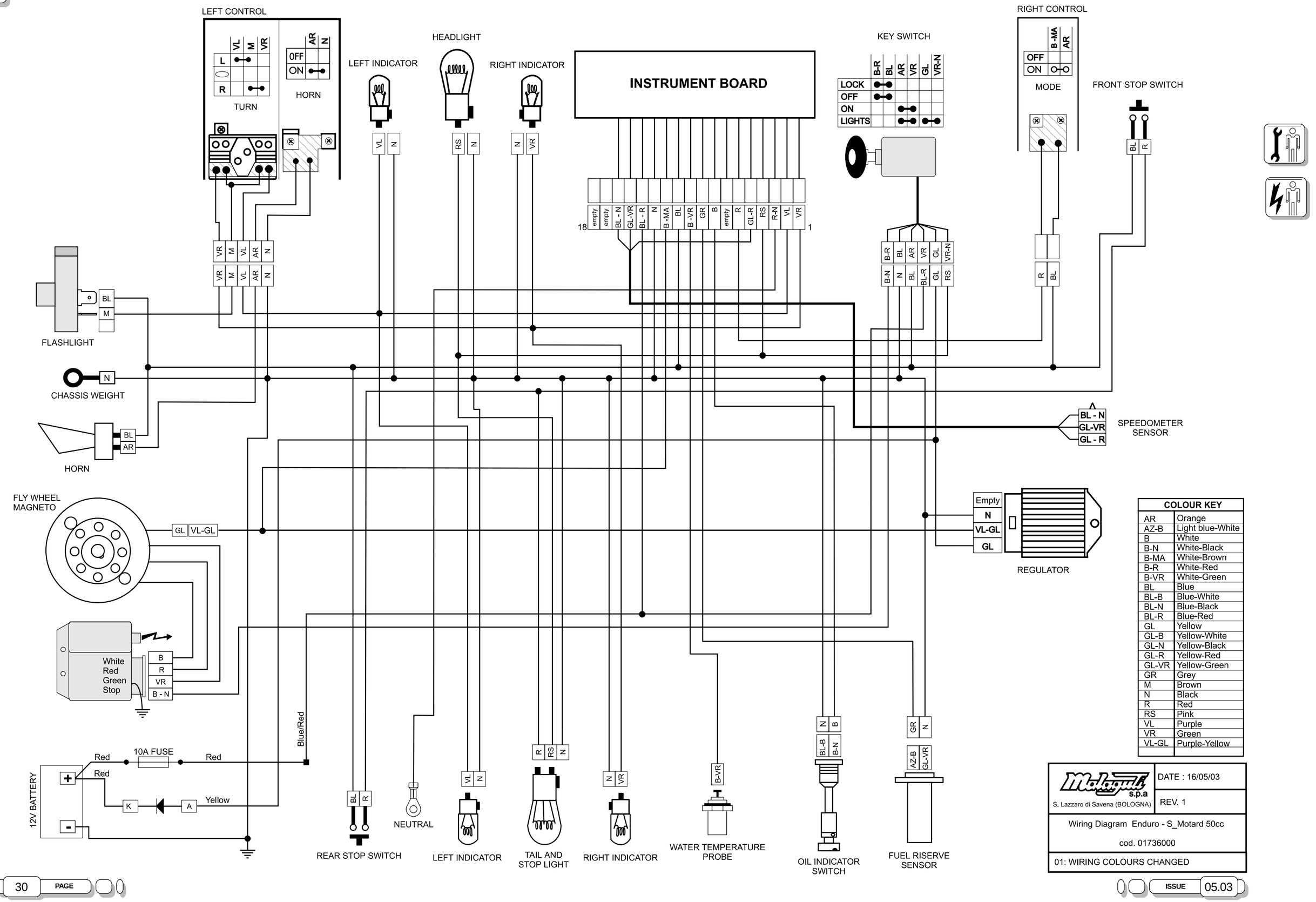
ENGLISH



COLOUR KEY	
AR	Orange
AZ-B	Light blue-White
B	White
B-N	White-Black
B-MA	White-Brown
B-R	White-Red
B-VR	White-Green
BL	Blue
BL-B	Blue-White
BL-N	Blue-Black
BL-R	Blue-Red
GL	Yellow
GL-B	Yellow-White
GL-N	Yellow-Black
GL-R	Yellow-Red
GL-VR	Yellow-Green
GR	Grey
M	Brown
N	Black
R	Red
RS	Pink
VL	Purple
VR	Green
VL-GL	Purple-Yellow

Malaguti s.p.a
S. Lazzaro di Savena (BOLOGNA)

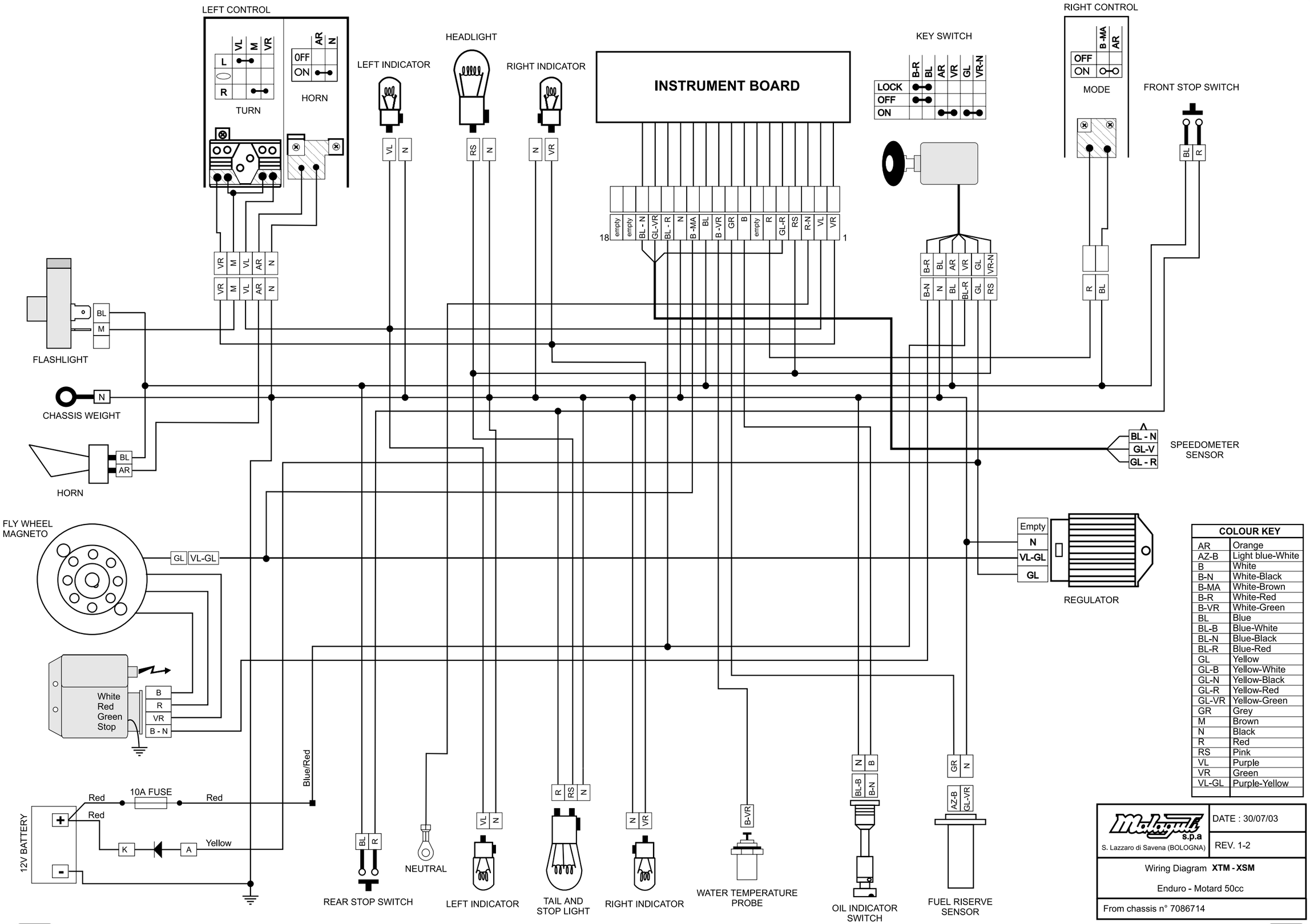
DATE : 16/05/03

REV. 1

Wiring Diagram Enduro - S_Motard 50cc

cod. 01736000

01: WIRING COLOURS CHANGED



COLOUR KEY	
AR	Orange
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B-N	White-Black
B-MA	White-Brown
B-R	White-Red
B-VR	White-Green
BL	Blue
BL-B	Blue-White
BL-N	Blue-Black
BL-R	Blue-Red
GL	Yellow
GL-B	Yellow-White
GL-N	Yellow-Black
GL-R	Yellow-Red
GL-VR	Yellow-Green
GR	Grey
M	Brown
N	Black
R	Red
RS	Pink
VL	Purple
VR	Green
VL-GL	Purple-Yellow

Malaguti s.p.a
S. Lazzaro di Savena (BOLOGNA)

DATE : 30/07/03

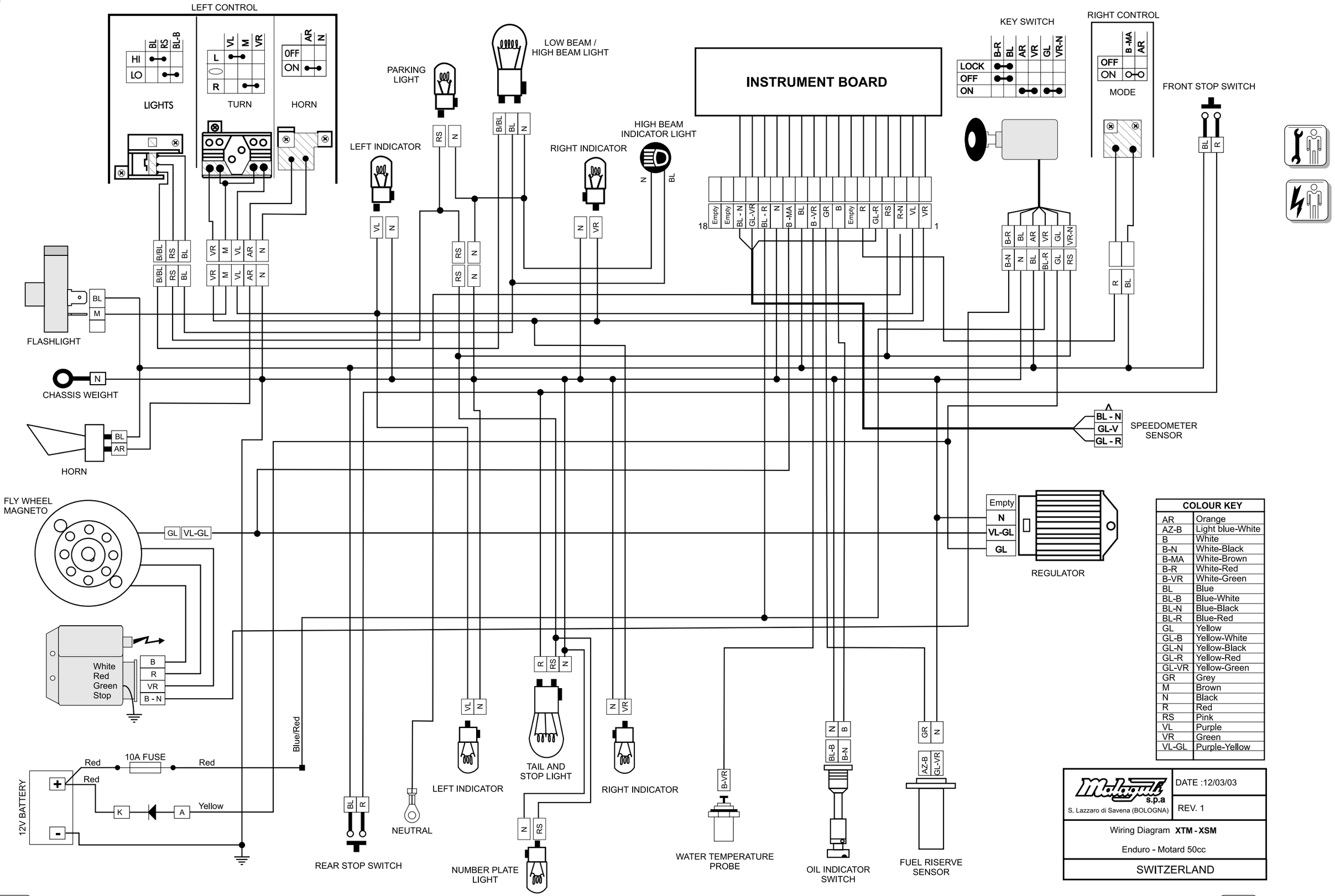
REV. 1-2

Wiring Diagram **XTM - XSM**

Enduro - Motard 50cc

From chassis n° 7086714

ENGLISH



COLOUR KEY	
AR	Orange
AZ-B	Light blue-White
B	White
B-N	White-Black
B-MA	White-Brown
B-R	White-Red
B-VR	White-Green
BL	Blue
BL-B	Blue-White
BL-N	Blue-Black
BL-R	Blue-Red
GL	Yellow
GL-B	Yellow-White
GL-N	Yellow-Black
GL-R	Yellow-Red
GL-VR	Yellow-Green
GR	Grey
M	Brown
N	Black
R	Red
RS	Pink
VL	Purple
VR	Green
VL-GL	Purple-Yellow

Malaguti s.p.a
S. Lazzaro di Savena (BOLOGNA)

DATE :12/03/03

REV. 1

Wiring Diagram **XTM - XSM**

Enduro - Motard 50cc

SWITZERLAND