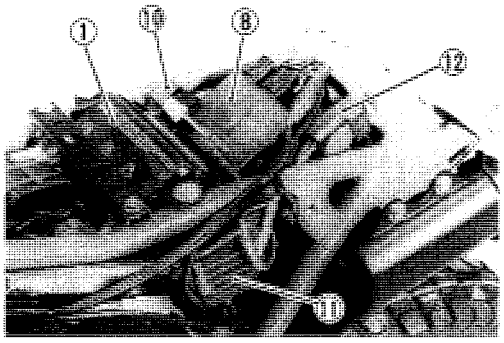
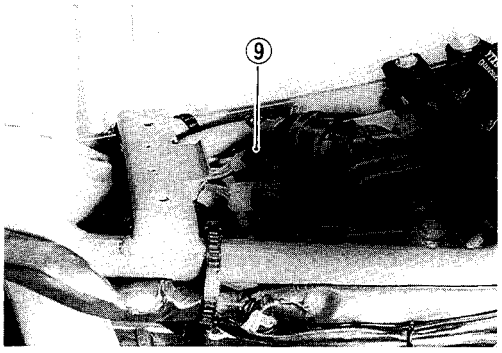
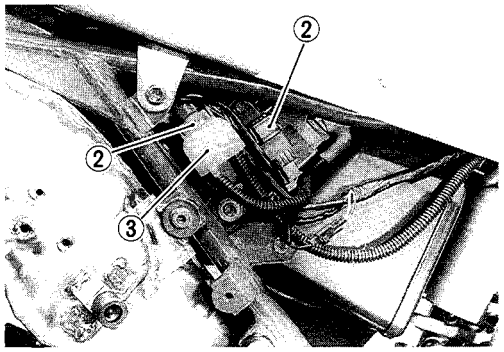
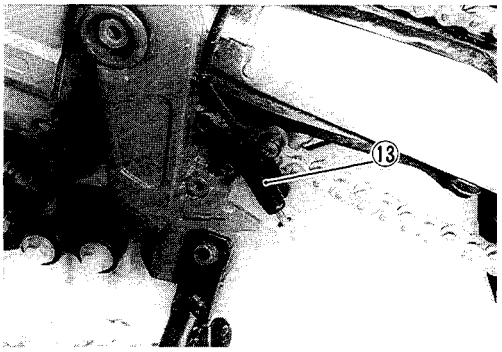
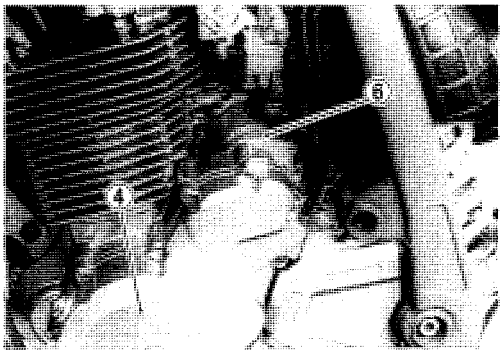
LOCATION OF ELECTRICAL COMPONENTS

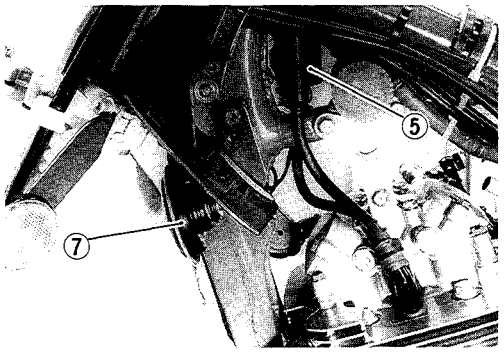






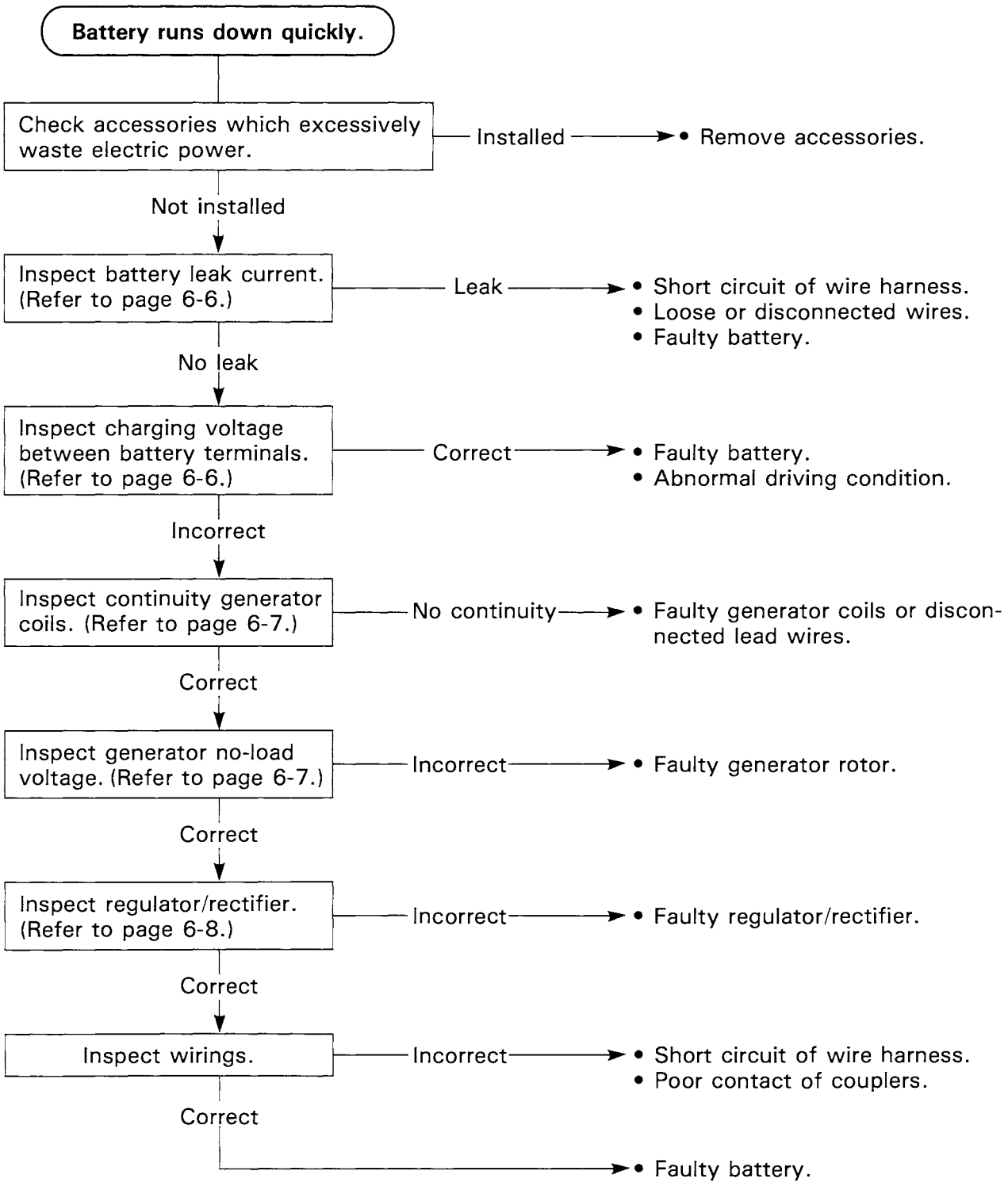






① Battery
② Fuse
③ Starter relay
④ Generator
⑤ Ignition coil
⑥ Starter motor
⑦ Horn
⑧ CDI unit
⑨ Diode
⑩ Turn signal relay
⑪ Regulator/rectifier
⑫ Side-stand/ignition interlock relay
⑬ Side-stand switch

TROUBLESHOOTING



Others

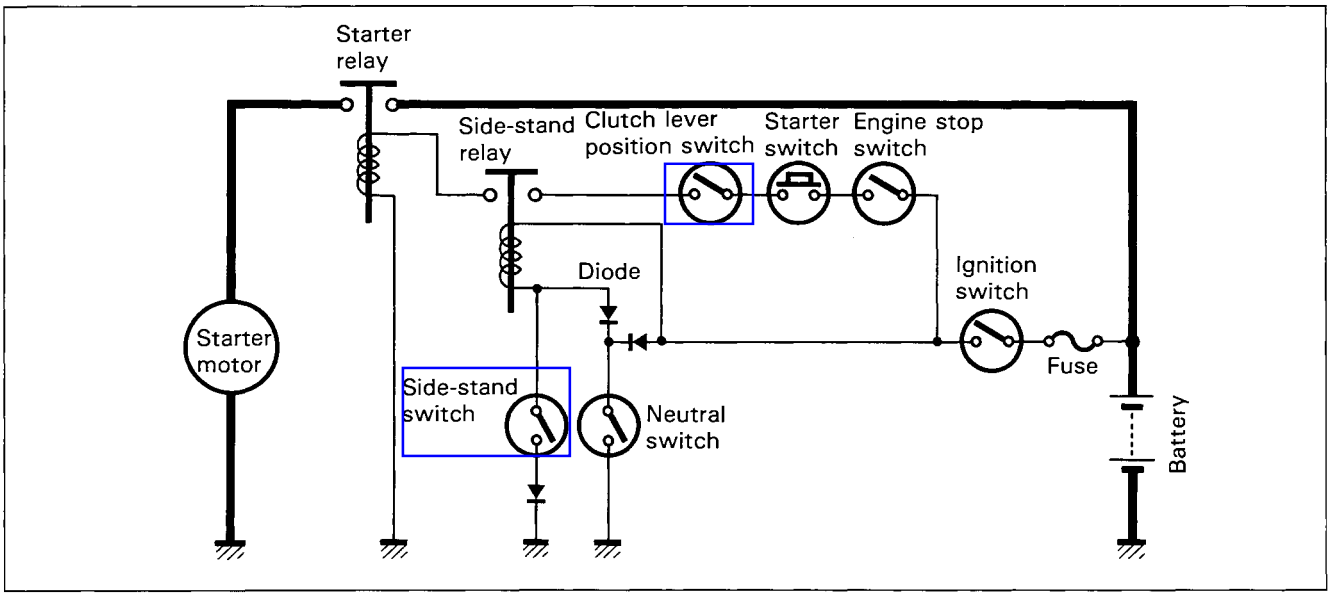
Battery overcharge	• Faulty regulator/rectifier • Faulty battery • Poor contact of generator lead wire coupler

STARTER SYSTEM AND SIDE-STAND/IGNITION INTERLOCK SYSTEM

STARTER SYSTEM DESCRIPTION

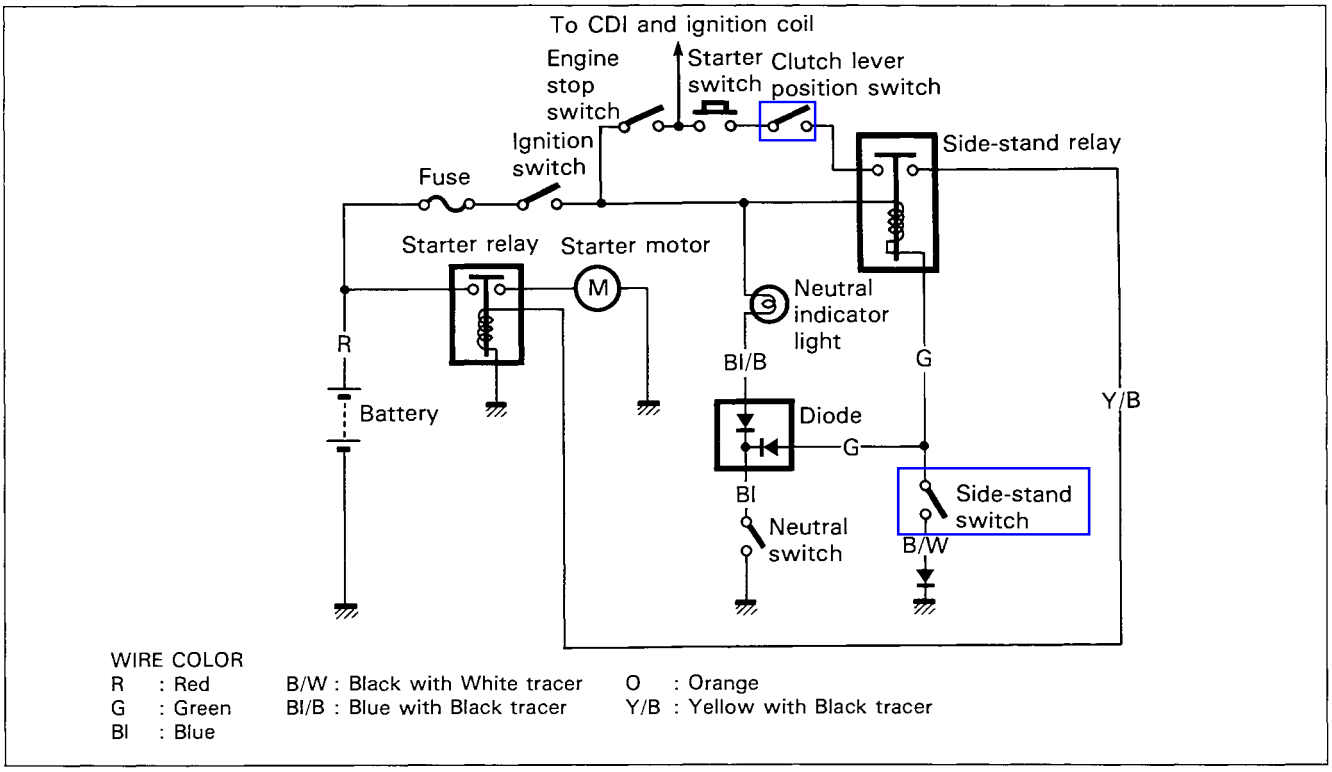
The starter system is shown in the diagram below: namely, the starter motor, starter relay, side-stand relay, side-stand switch, neutral switch, clutch lever position switch, starter switch, engine stop switch, IG switch and battery.

Depressing the starter switch (on the right handlebars switch box) energizes the relay, causing the contact points to close which connects the starter motor to the battery. The motor draws about 70 amperes to start the engine.



SIDE-STAND/IGNITION INTERLOCK SYSTEM DESCRIPTION

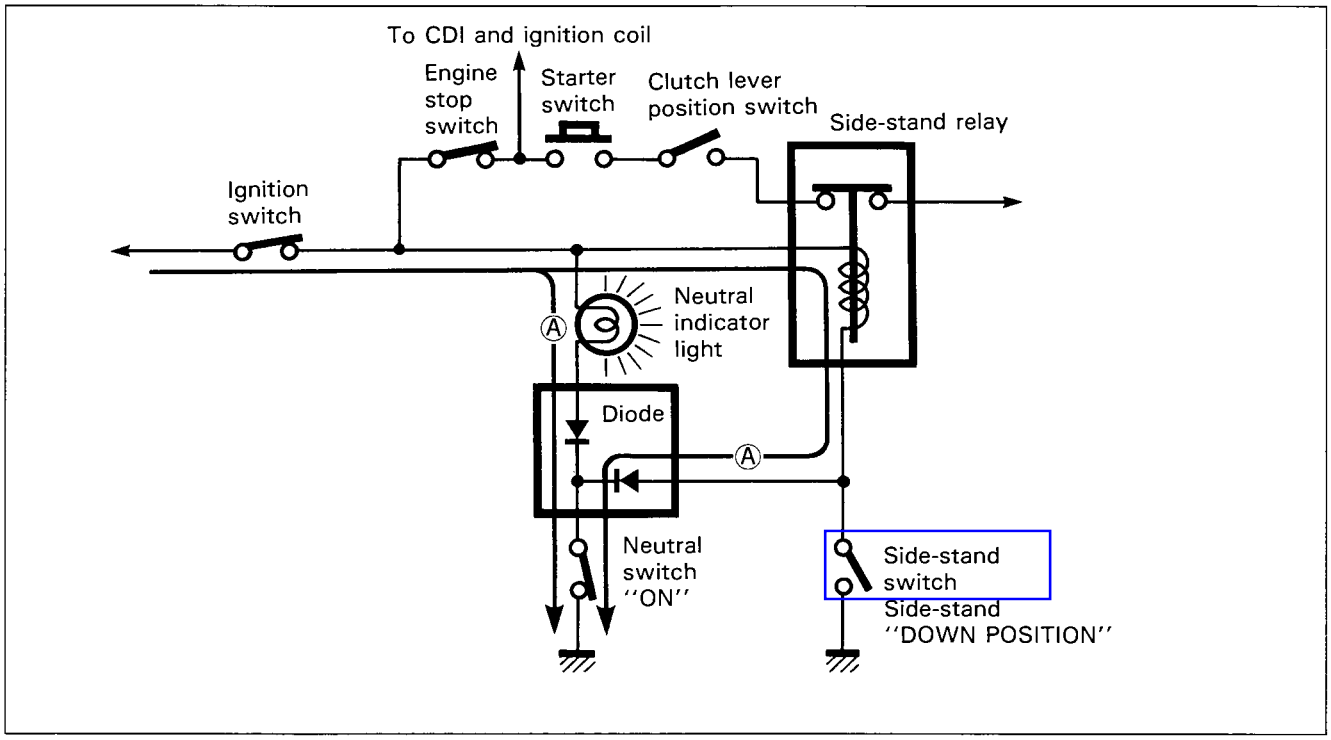
This side-stand/ignition interlock system is to prevent starting the motorcycle with the side-stand left down. The system is operated by an electric circuit provided between the battery and ignition coil.



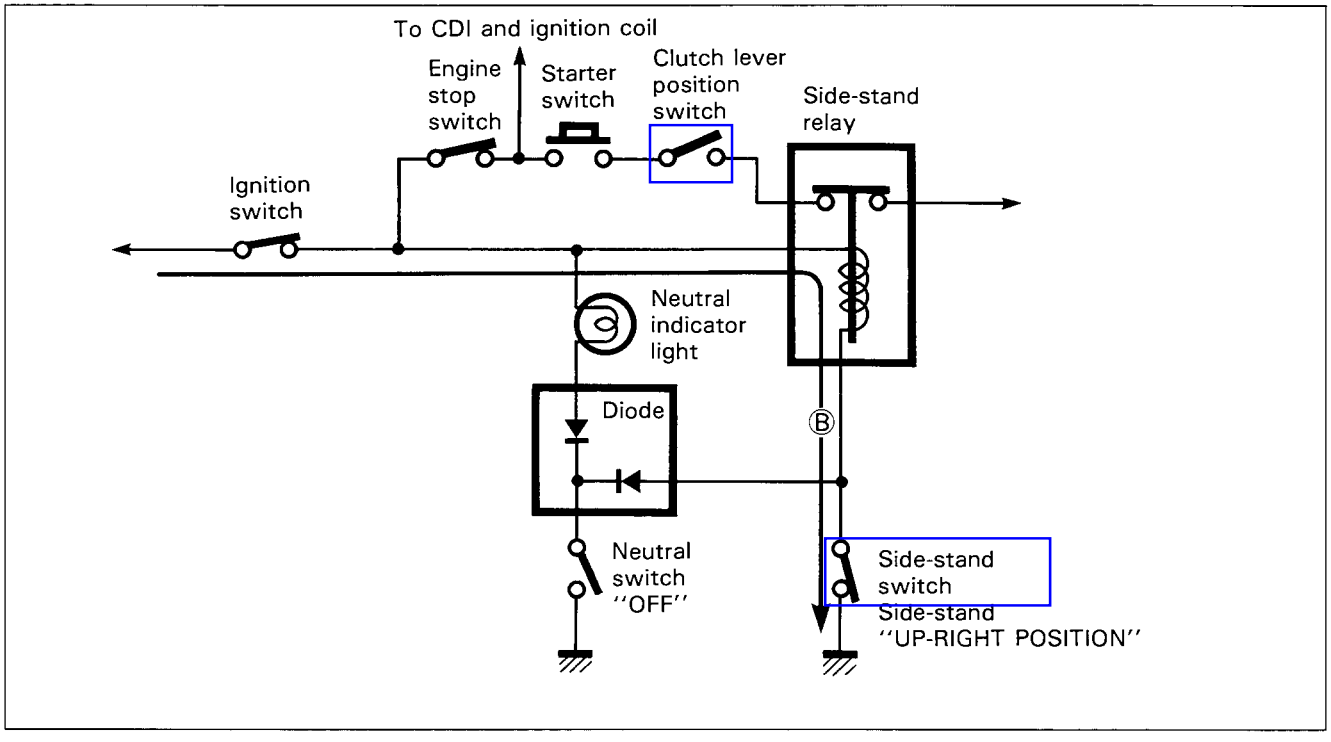
The circuit consists of relay, lamp, diode and switches and decides to live the ignition coil depending on the position of the TRANSMISSION and SIDE-STAND with the neutral and side-stand switches working mutually.

The ignition coil lives only in two situations as follows.

1. Transmission: ''NEUTRAL (ON)'' Side-stand: ''DOWN (OFF)''
   The current flow Ⓐ turns ''ON'' the relay and the ignition coil lives even the side-stand is kept down. This is or warming up the engine.



2. Side-stand: ''UP-RIGHT (ON)''
   The current flow Ⓑ turns ''ON'' the relay and the ignition coil lives. The engine can be easily started at any transmission position.



TROUBLESHOOTING

Starter motor will not run.

The transmission is in neutral. Turn on the ignition switch with the engine stop switch in "RUN" position.
Check whether to hear the click noise from the starter relay when the starter button is pushed.

- Clicks → Check whether to run the starter motor when connect the starter motor terminal to the battery ⊕ terminal directly. (Do not use thin wire, because a large amount of current flows.)
  - Run
    - Faulty starter relay
    - Loosen or disconnected starter motor lead wire
  - Not run
    - Faulty starter motor
- No click

Measure the starter relay voltage at the starter relay connectors (between Y/G ⊕ and B/W ⊖) when the starter button is pushed.

- Not voltage
  - Faulty ignition switch
  - Faulty engine stop switch
  - Faulty neutral switch
  - Faulty diode
  - Faulty side-stand relay
  - Faulty starter button
  - Faulty clutch lever position switch
  - Poor contact of connector
  - Open circuit in wiring harness
- Voltage measured

Check the starter relay. (Refer to page 6-14.)

- Incorrect
  - Faulty starter relay
- Correct
  - Poor contact of the starter relay

Starter motor runs when the transmission is in neutral, but does not run with the transmission in any position except neutral, with the side-stand up position.

Check the side-stand switch. (Refer to page 6-16.)

- Incorrect
  - Faulty side-stand switch
- Correct
  - Open circuit in wiring harness
  - Poor contact of connector

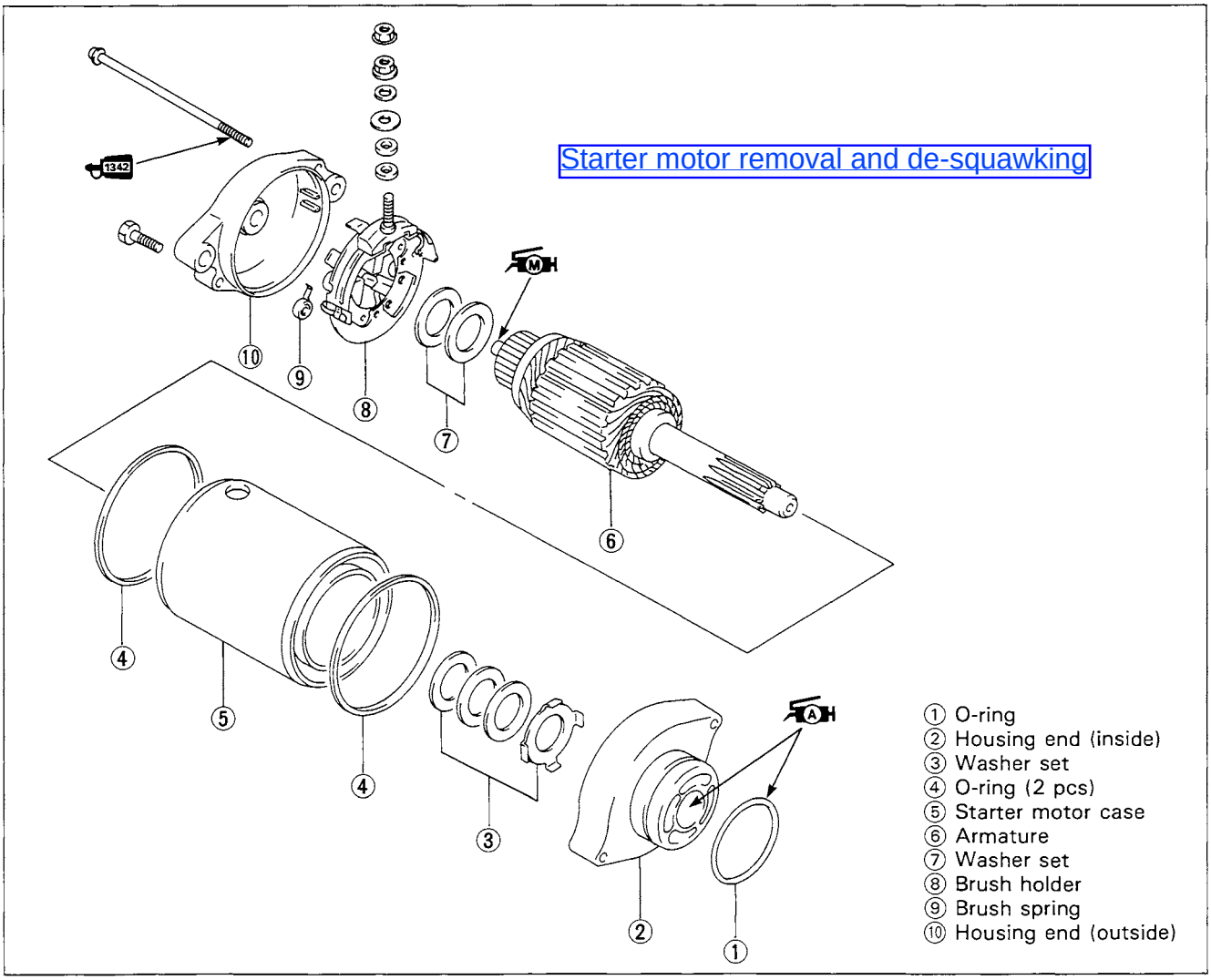
Others

Engine does not turn though starter motor runs.	• Faulty starter clutch

STARTER MOTOR REMOVAL AND DISASSEMBLY

- Remove the exhaust pipe.
- Remove the cam drive chain tensioner.
- Disconnect the starter motor lead wire and remove the starter motor by removing the mounting bolts. (Refer to page 3-11.)

- Disassemble the starter motor as shown in the illustration.

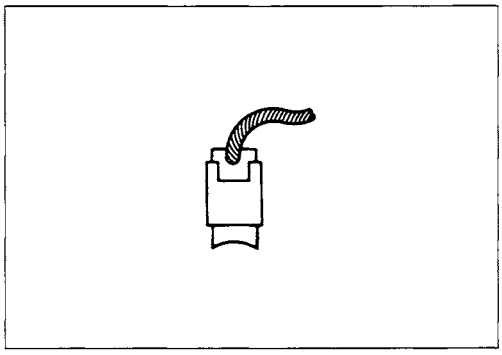


Starter motor removal and de-squawking

STARTER MOTOR INSPECTION

CARBON BRUSH

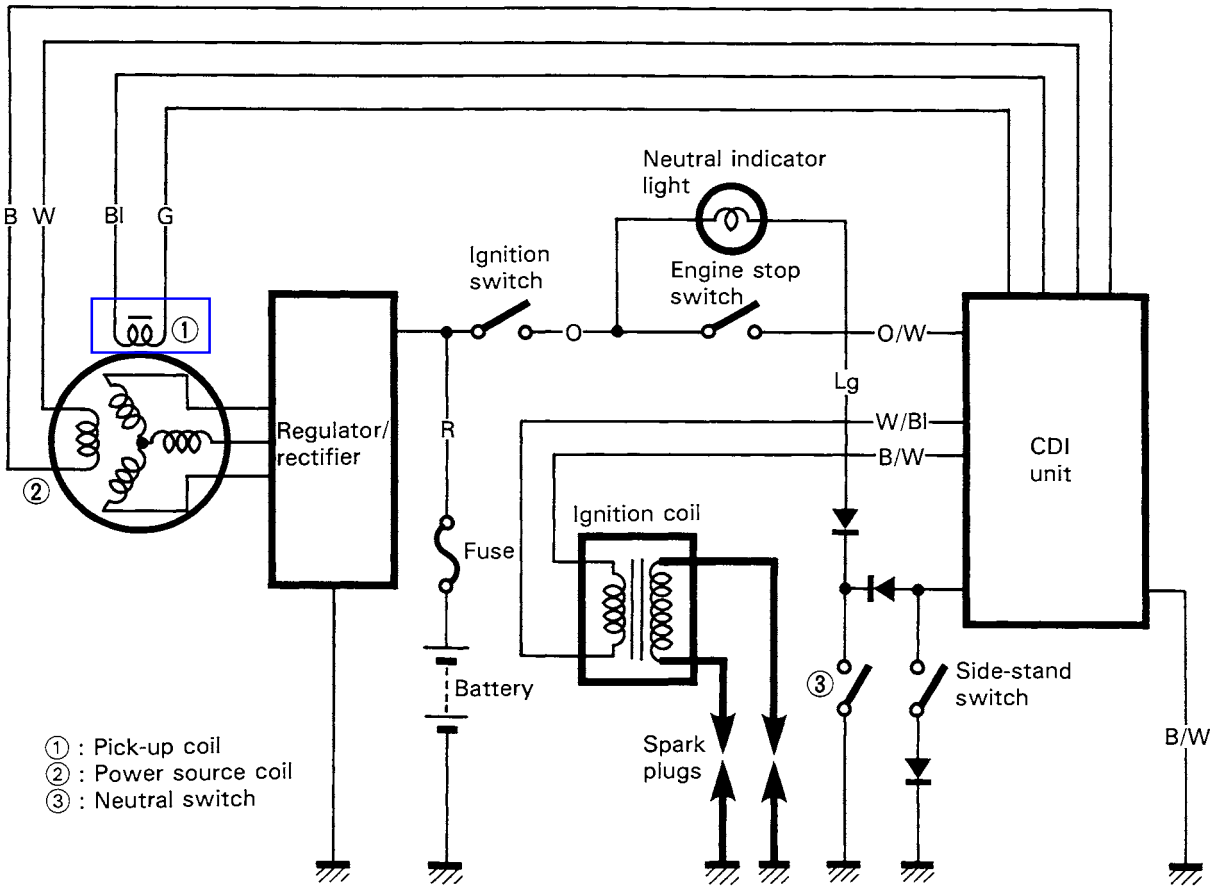
Inspect the brushed for abnormal wear, crack or smoothness in the brush holder.
If the brush has failed, replace the brush sub assy.



IGNITION SYSTEM

DESCRIPTION

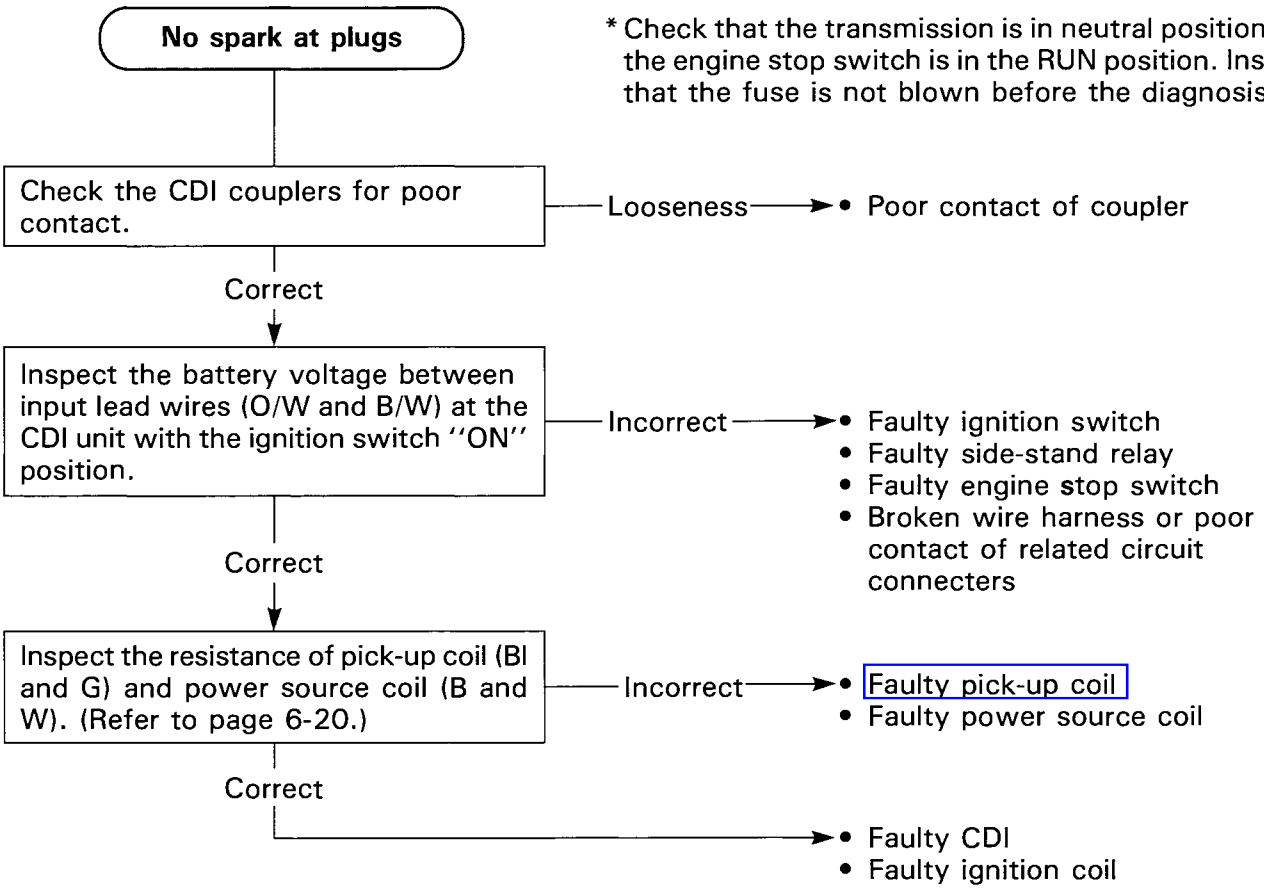
In the capacitor discharged ignition system, the electrical energy generated by the magneto charges the capacitor. This energy is released in a single surge at the specified ignition timing point, and current flows through the primary side of the ignition coil. A high voltage current is induced in the secondary windings of the ignition coil resulting in strong spark between the spark plug gap.



WIRE COLOR

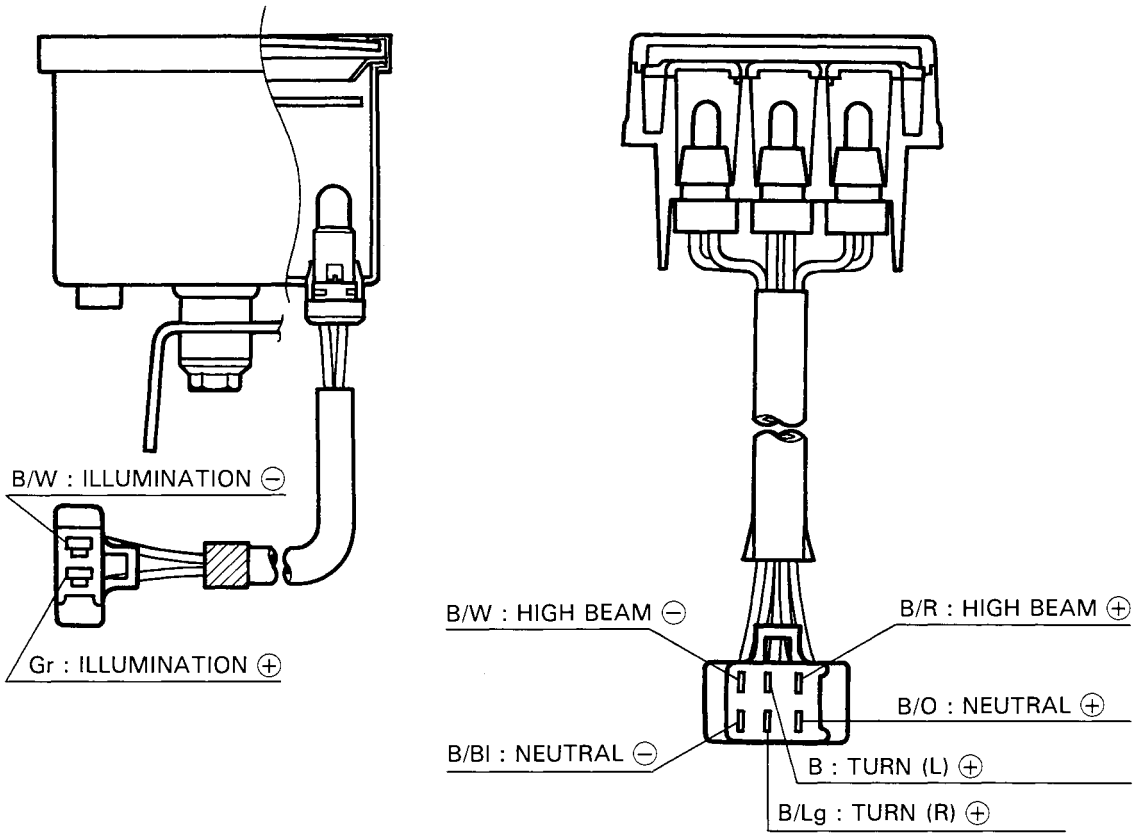
B	: Black	O	: Orange
W	: White	R	: Red
G	: Green	Lg	: Light green
Bl	: Blue	O/W	: Orange with White tracer
		B/W	: Black with White tracer
		W/Bl	: White with Blue tracer

TROUBLESHOOTING



* Check that the transmission is in neutral position and the engine stop switch is in the RUN position. Inspect that the fuse is not blown before the diagnosis.

* If only one spark plug does not spark, it is defective or high-tension cord is disconnected because one ignition coil furnishes two spark plugs.

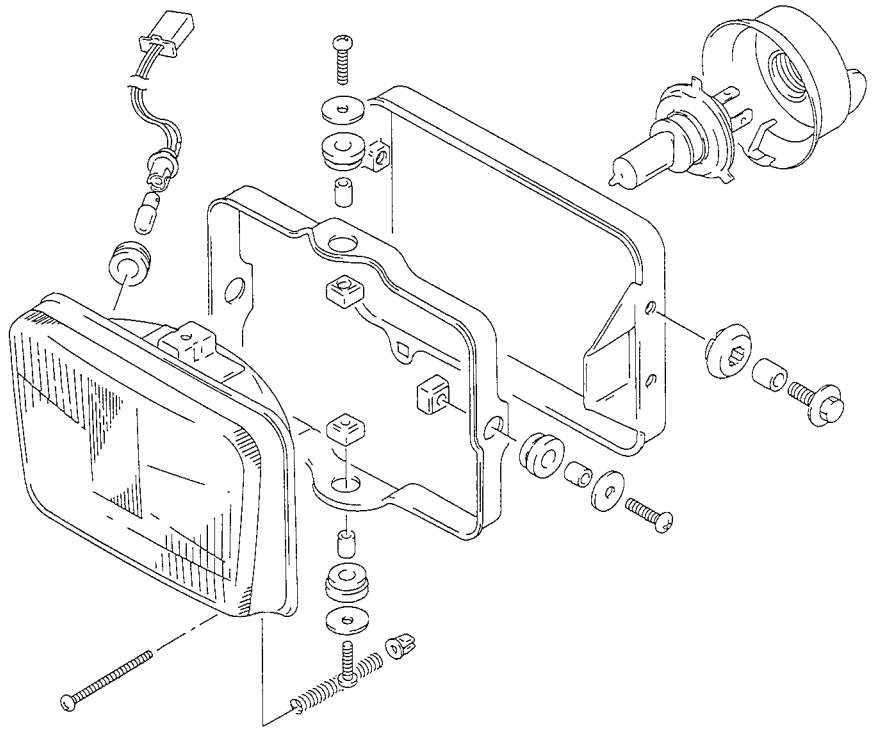


ITEM	⊕ Probe of tester to:	⊖ Probe of tester to:
ILLUMI	Gr	B/W
HIGH BEAM	B/R	B/W
NEUTRAL	B/O	B/Bl
TURN (L)	B	B/Lg
TURN (R)	B/Lg	B

B : Black
Gr : Gray
B/Bl : Black with Blue tracer
B/O : Black with Orange tracer
B/R : Black with Red tracer
B/Lg : Black with Light green tracer
B/W : Black with White tracer

LAMPS

HEADLIGHT

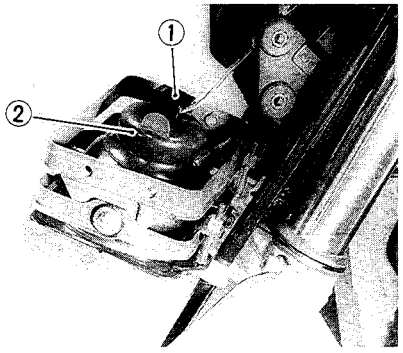


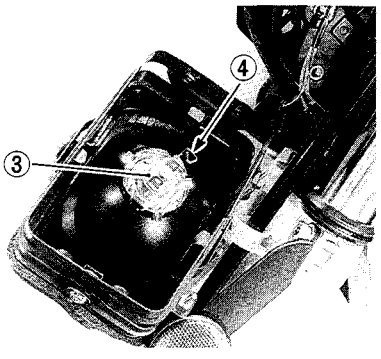
Headlight bulb: 12V 60/55W
Position light bulb: 12V 4W (Except E-03,24,28,33)

NOTE:
Adjust the headlight, both vertical and horizontal, after reassembling.

BULB REPLACEMENT

- Remove the headlight. (Refer to page 5-21.)
- Disconnect the socket ① and remove the rubber cap ②.
- Remove the bulb ③ by unlocking the bulb holder spring ④.
- Reassemble the bulb in the reverse order of removal.

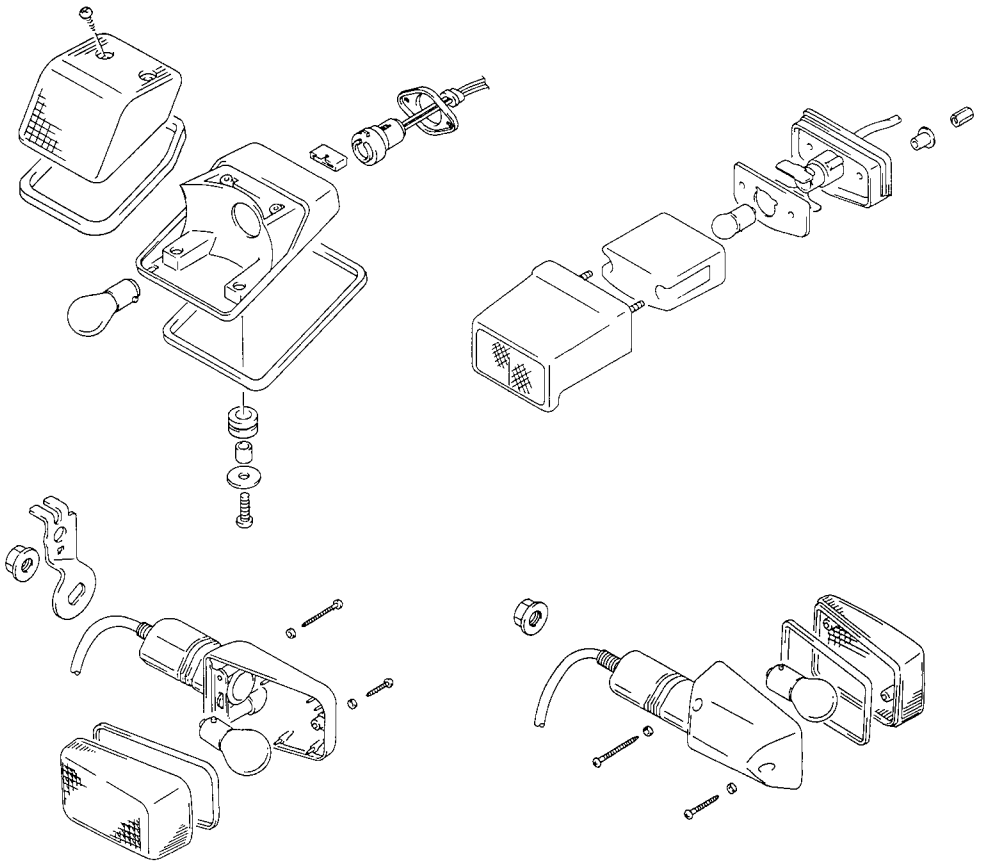




⚠ CAUTION

When replacing the headlight bulb, do not touch the glass. Grasp the new bulb with a clean cloth. If you touch the bulb with your bare hands, clean it with a cloth moistened with alcohol or soapy water to prevent early failure.

TAIL/BRAKE LIGHT, TURN SIGNAL LIGHT AND LICENSE PLATE LIGHT



Tail/Brake light bulb: 12V 5/21W
Turn signal light bulb: 12V 21W
License plate light bulb: 12V 5W

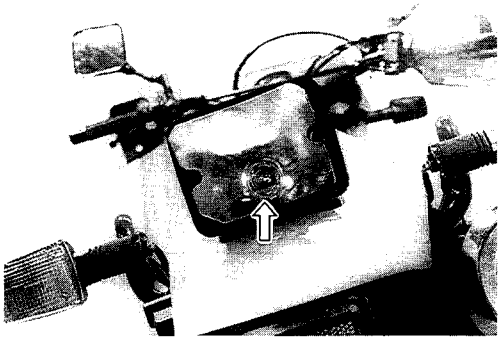
LED Conversion

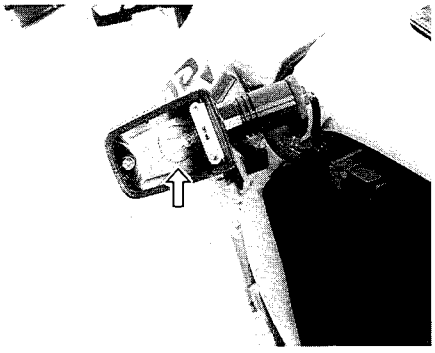
BULB REPLACEMENT

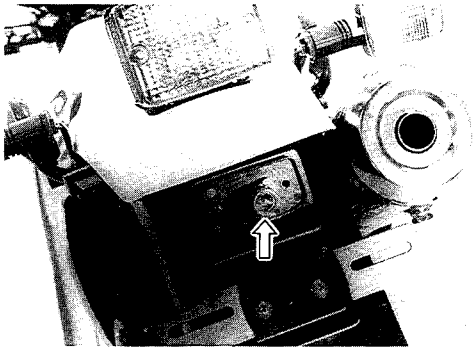
- Remove each light lens.
- Push in on the bulb, turn it to the left, and pull it out.

⚠ CAUTION

Do not overtighten the lens fitting screws.

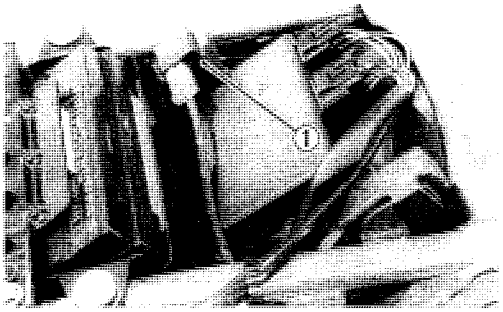






TURN SIGNAL RELAY

The turn signal relay ① is located under the seat.
If the turn signal light does not light. Inspect the bulb or repair the circuit connection.
If the bulb and circuit connection checked are correct, the turn signal relay may be faulty, replace it with a new one.



NOTE:
Be sure that the battery used is in full-charged condition.
Electronic relay for leds

SWITCHES

Inspect each switch for continuity with the pocket tester. If any abnormality is found, replace the respective switch assemblies with new ones.

09900-25002: Pocket tester

Tester knob indication: X 1Ω range

IGNITION SWITCH

Color / Position	R	O	O/Y	B/W	Gr	Br
OFF						
ON	○	○	○	○	○	○
LOCK						
P	○					○

LIGHTING SWITCH

Color / Position	O	Gr	Y/W
OFF			
•	○	○	
ON	○	○	○

DIMMER SWITCH

Color / Position	Y/W	W	Y
HI	○		○
LO	○	○	

TURN SIGNAL SWITCH

Color / Position	Lg	Lbl	B
L		○	○
PUSH			
R	○	○	

PASSING LIGHT SWITCH

Color / Position	O/R	Y
•		
PUSH	○	○

ENGINE STOP SWITCH

Color / Position	O	O/W
OFF		
RUN	○	○

STARTER BUTTON

Color / Position	O/W	Y/G
•		
PUSH	○	○

HORN BUTTON

Color / Position	B/Bl	B/W
•		
PUSH	○	○

FRONT BRAKE SWITCH

Color / Position	O	B
OFF		
ON	○	○

REAR BRAKE SWITCH

Color / Position	O	W/B
OFF		
ON	○	○

WIRE COLOR

B : Black **Lbl: Light blue** **R : Red**
Br : Brown **Lg : Light green** **Y : Yellow**
Gr: Gray **O : Orange** **W : White**
B/Bl : Black with Blue tracer
B/W : Black with White tracer
O/Bl : Orange with Blue tracer
O/R : Orange with Red tracer
O/W: Orange with White tracer
O/Y : Orange with Yellow tracer
W/B : White with Black tracer
Y/G : Yellow with Green tracer
Y/W : Yellow with White tracer