



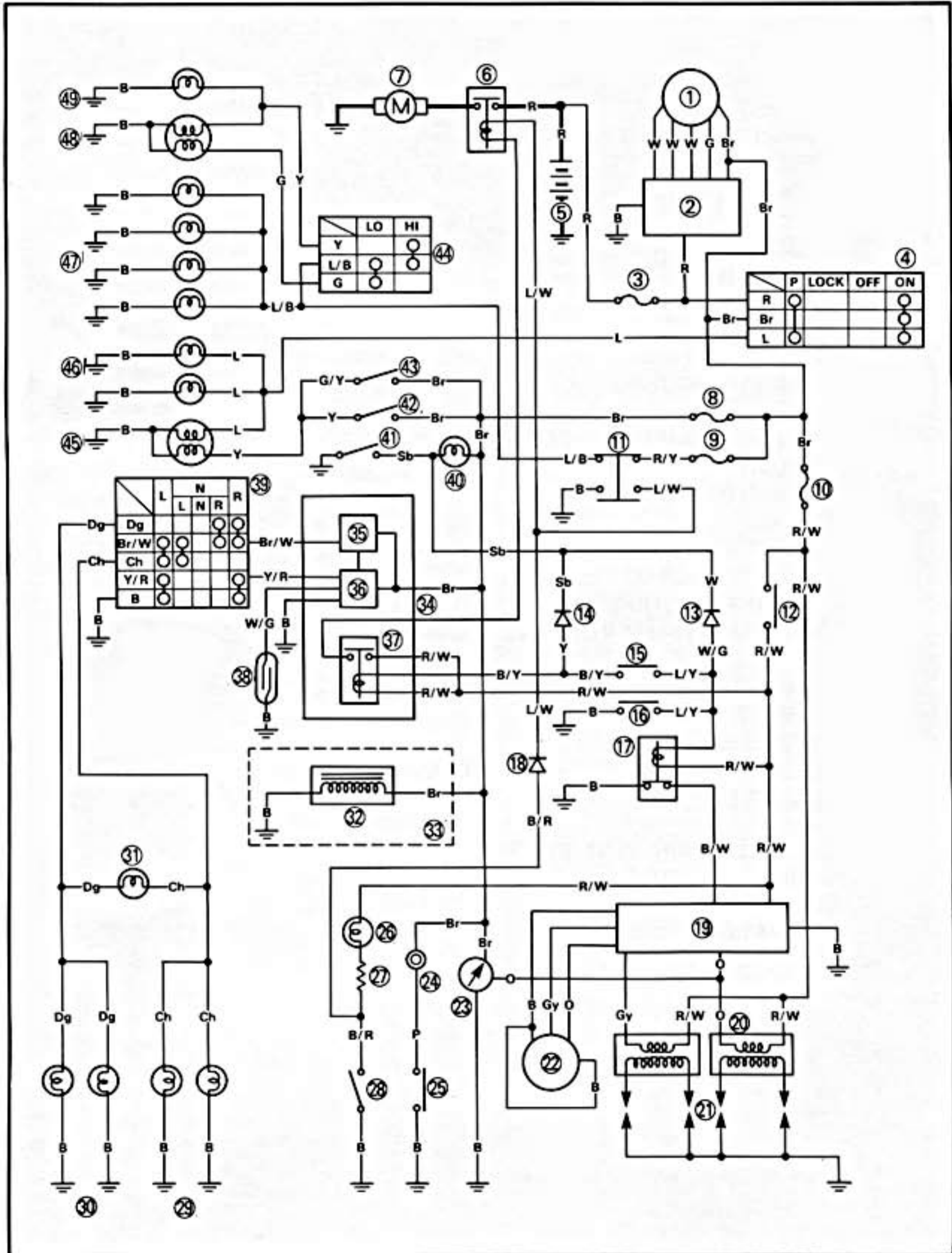
CHAPTER 6 ELECTRICAL

YX600S/SC CIRCUIT DIAGRAM	6-1
ELECTRICAL COMPONENTS	6-3
ELECTRICAL STARTING SYSTEM	6-5
CIRCUIT DIAGRAM	6-5
STARTING CIRCUIT OPERATION	6-7
TROUBLESHOOTING	6-8
STARTER MOTOR	6-18
IGNITION SYSTEM	6-25
CIRCUIT DIAGRAM	6-25
DESCRIPTION	6-27
OPERATION	6-27
PICKUP UNIT	6-27
TROUBLESHOOTING	6-28
CHARGING SYSTEM	6-37
CIRCUIT DIAGRAM	6-37
TROUBLESHOOTING	6-39
LIGHTING SYSTEM	6-45
CIRCUIT DIAGRAM	6-45
TROUBLESHOOTING	6-47
LIGHTING SYSTEM TEST AND CHECKS	6-52
SIGNAL SYSTEM	6-55
CIRCUIT DIAGRAM	6-55
TROUBLESHOOTING	6-57
SIGNAL SYSTEM TEST AND CHECKS	6-61
OIL LEVEL SWITCH TEST	6-64
CARBURETOR AIR VENT SYSTEM	6-65
CIRCUIT DIAGRAM	6-65
DESCRIPTION	6-67
OPERATION	6-67
TROUBLESHOOTING	6-68



ELECTRICAL

YX600S/SC CIRCUIT DIAGRAM





- | | |
|---|--|
| <ul style="list-style-type: none"> ① AC Magneto ② Rectifier/Regulator ③ Fuse (MAIN) ④ Main switch ⑤ Battery ⑥ Starter relay ⑦ Starter motor ⑧ Fuse (SIGNAL) ⑨ Fuse (HEAD) ⑩ Fuse (IGNITION) ⑪ "START" switch ⑫ "ENGINE STOP" switch ⑬ Diode ⑭ Diode ⑮ Clutch switch ⑯ Sidestand switch ⑰ Sidestand relay ⑱ Diode ⑲ Ignitor unit ⑳ Ignition coil ㉑ Spark plug ㉒ Pickup coil ㉓ Tachometer ㉔ Horn ㉕ "HORN" switch | <ul style="list-style-type: none"> ㉖ "OIL" indicator light ㉗ Resistor ㉘ Oil level switch ㉙ Flasher light (Left) ㉚ Flasher light (Right) ㉛ "TURN" indicator light ㉜ Air vent control valve ㉝ California only ㉞ Relay assembly ㉟ Flasher relay
(Included in relay assembly) ㊱ Flasher cancelling unit
(Included in relay assembly) ㊲ Starting circuit cut-off relay
(Included in relay assembly) ㊳ Reed switch ㊴ "TURN" switch ㊵ "NEUTRAL" indicator light ㊶ Neutral switch ㊷ Rear brake switch ㊸ Front brake switch ㊹ "LIGHTS" (Dimmer) switch ㊺ Tail/Brake light ㊻ License light ㊼ Meter light ㊽ Headlight ㊾ "HIGH BEAM" indicator light |
|---|--|

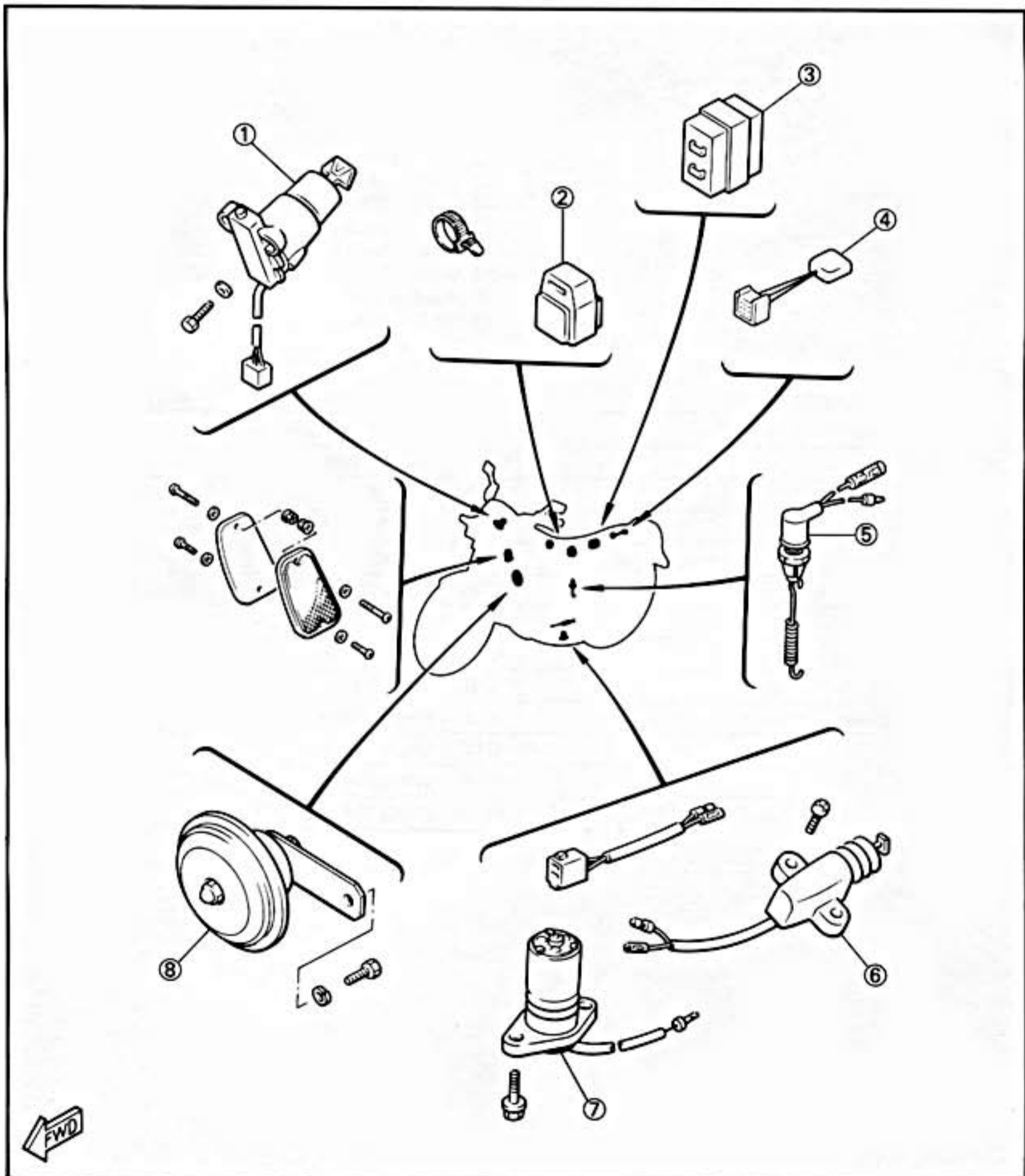
COLOR CODE

O	Orange	Y/R	Yellow/Red
R	Red	Br/W	Brown/White
L	Blue	R/W	Red/White
Br	Brown	R/Y	Red/Yellow
B	Black	B/R	Black/Red
Y	Yellow	B/W	Black/White
W	White	B/Y	Black/Yellow
G	Green	L/W	Blue/White
P	Pink	L/B	Blue/Black
Dg	Dark green	L/Y	Blue/Yellow
Ch	Chocolate	G/Y	Green/Yellow
Gy	Gray	W/R	White/Red
Sb	Sky blue	W/G	White/Green



ELECTRICAL COMPONENTS

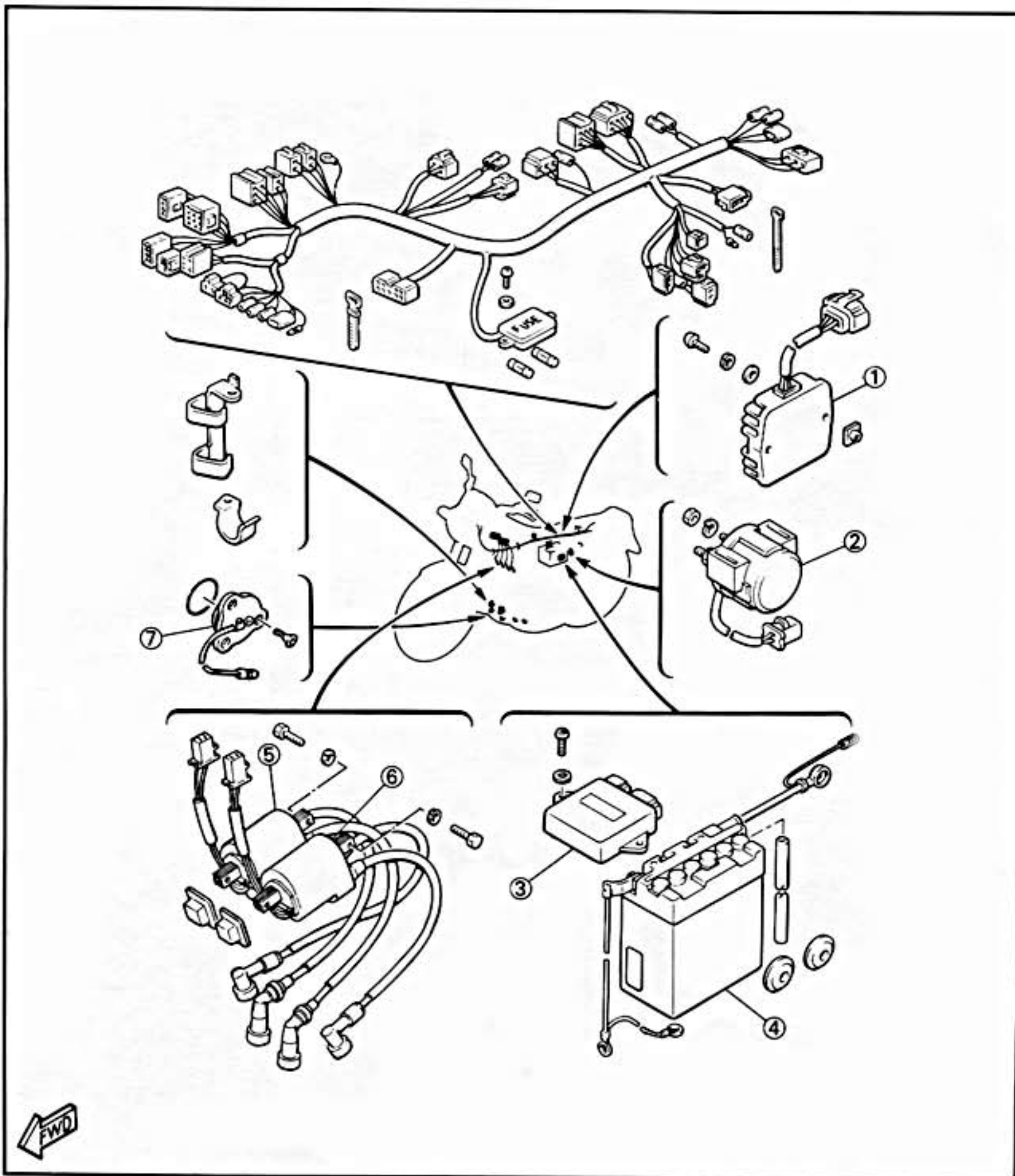
- ① Main switch
- ② Sidestand relay
- ③ Relay assembly
- ④ Diode assembly
- ⑤ Rear brake switch
- ⑥ Sidestand switch
- ⑦ Oil level switch
- ⑧ Horn



6



- ① Rectifier/Regulator
- ② Starter relay
- ③ Ignitor unit
- ④ Battery
- ⑤ Ignition coil (For #1, #4 cylinder)
- ⑥ Ignition coil (For #2, #3 cylinder)
- ⑦ Neutral switch

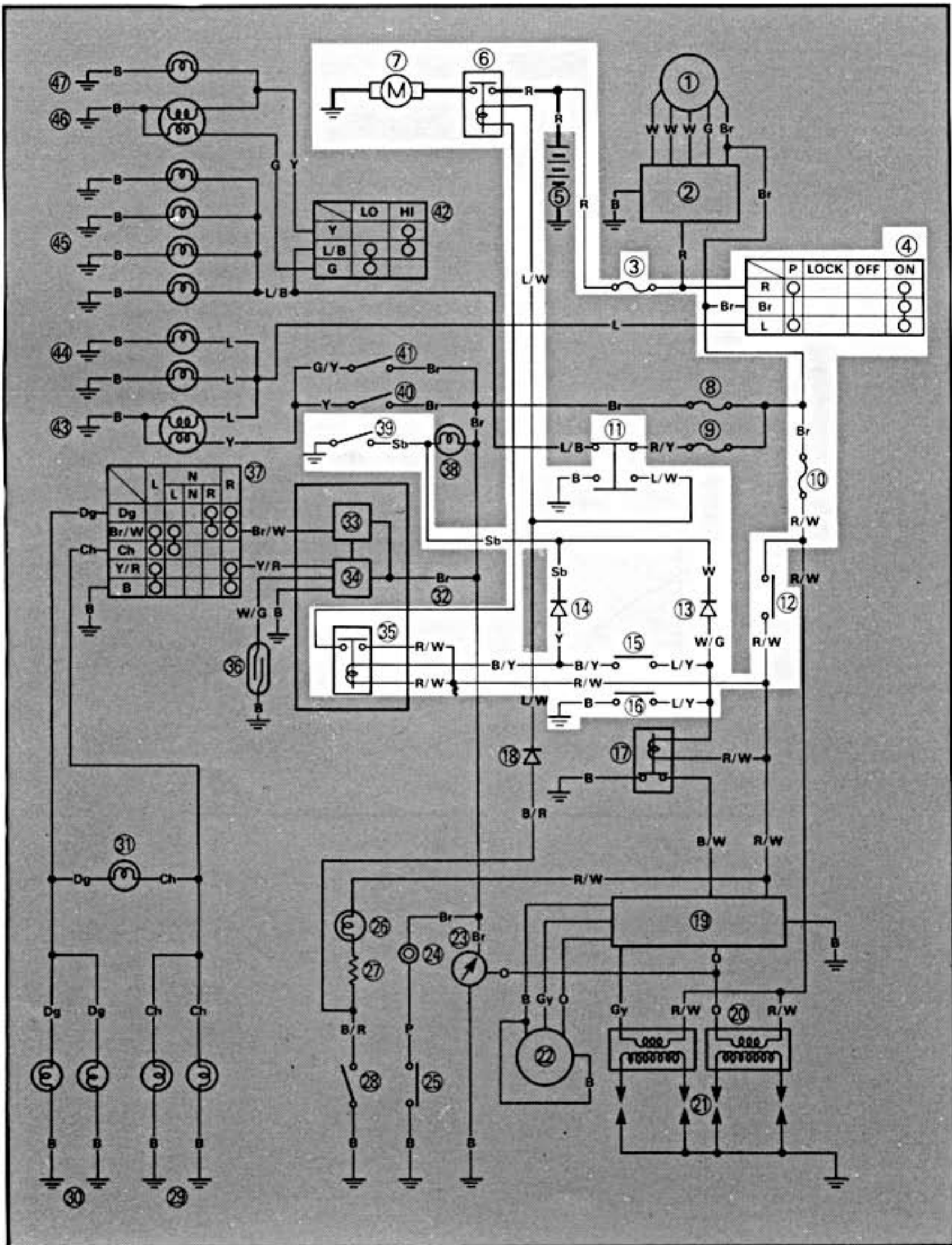


6

ELECTRICAL STARTING SYSTEM

CIRCUIT DIAGRAM

Below circuit diagram shows starter circuit.



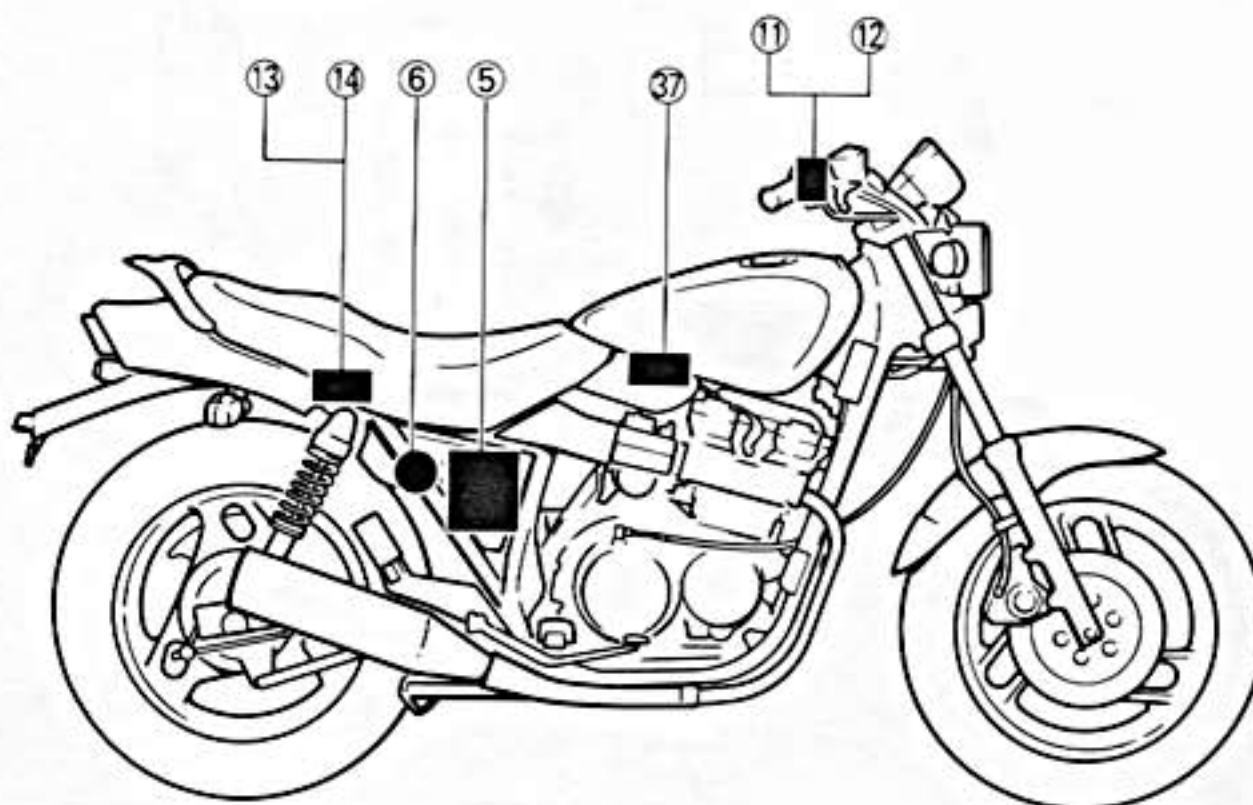
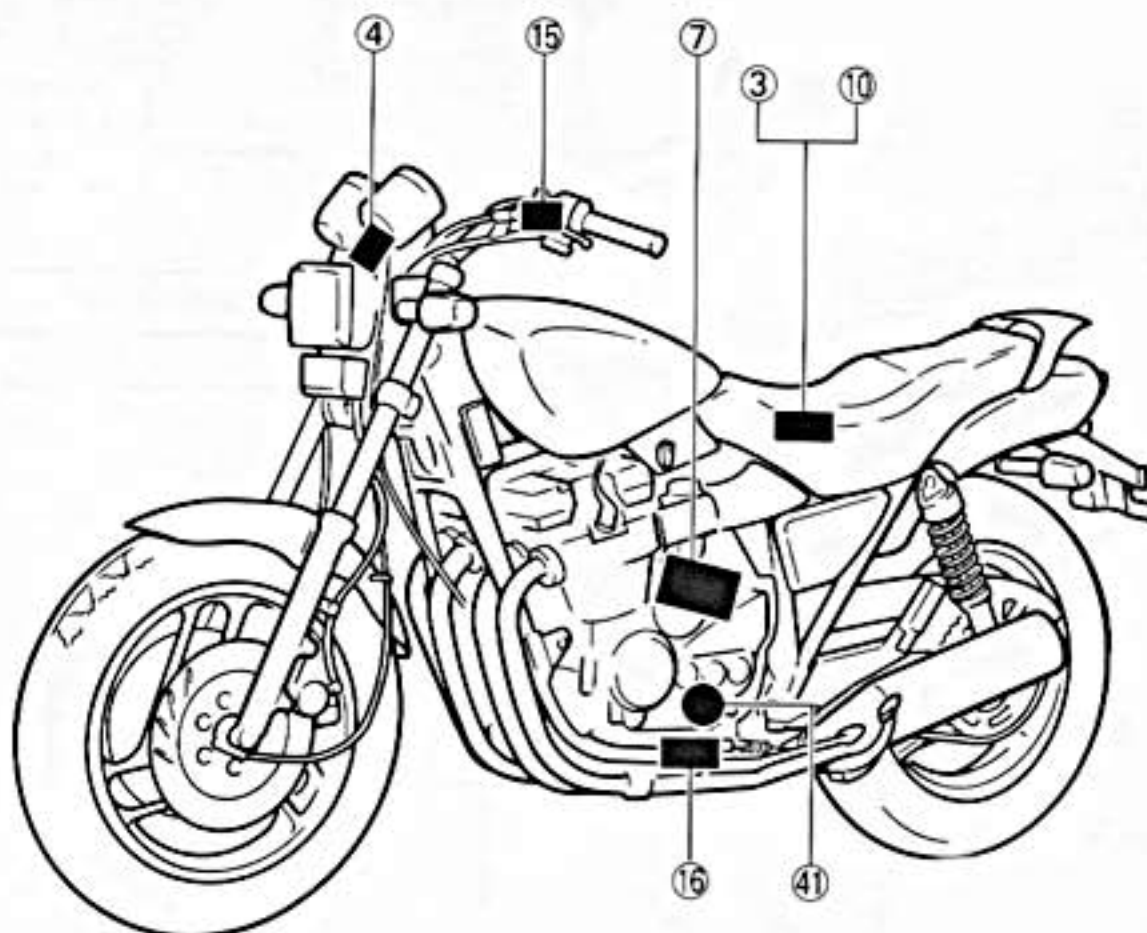
6



NOTE: _____

For the color codes, see page 6-2.

- | | |
|------------------------|--|
| ③ Fuse (MAIN) | ⑬ Diode |
| ④ Main switch | ⑭ Diode |
| ⑤ Battery | ⑮ Clutch switch |
| ⑥ Starter relay | ⑯ Sidestand switch |
| ⑦ Starter motor | ⑰ Starting circuit cut off relay
(Included in relay assembly) |
| ⑩ Fuse (IGNITION) | ⑱ Neutral switch |
| ⑪ "START" switch | |
| ⑫ "ENGINE STOP" switch | |



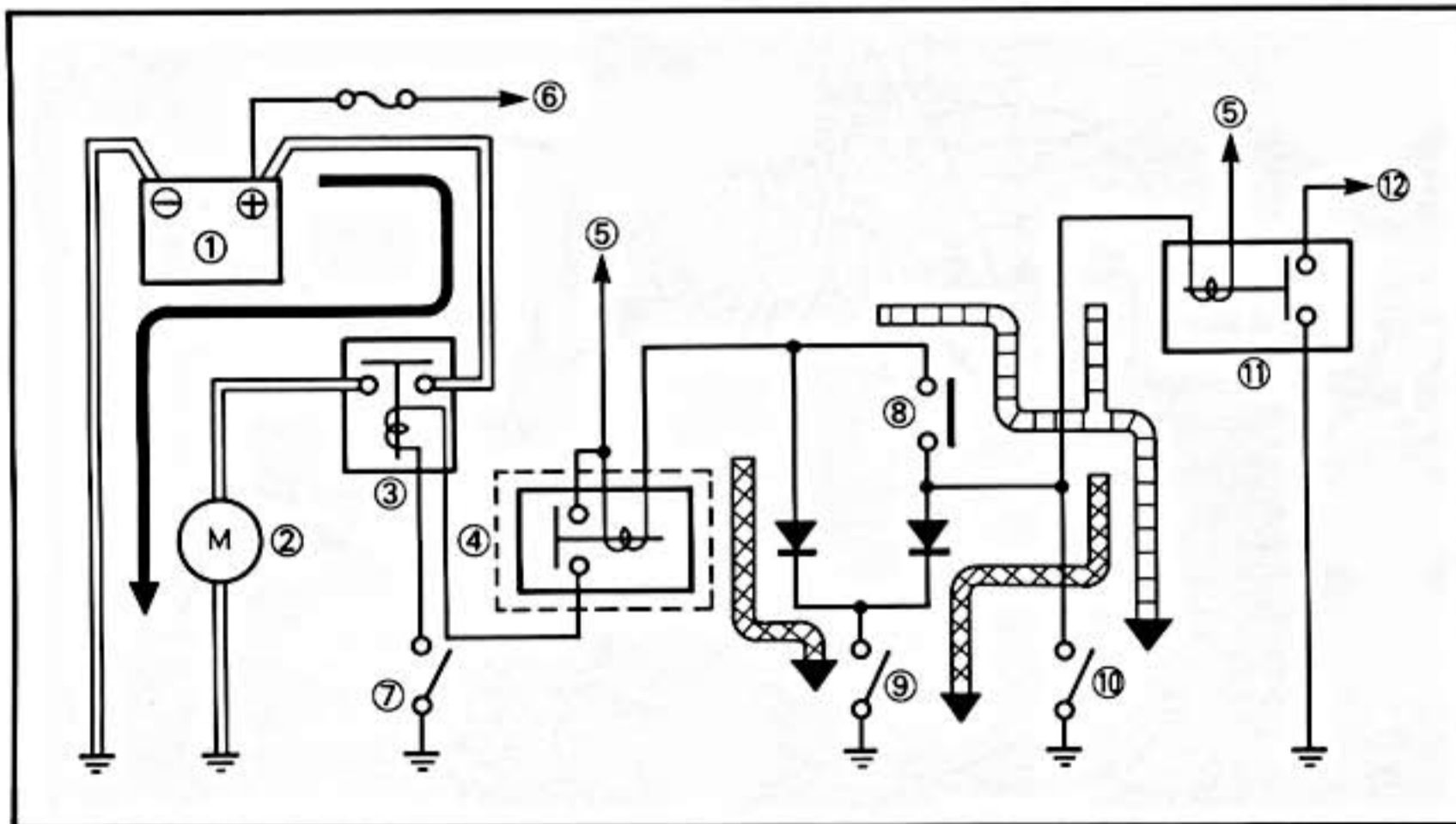
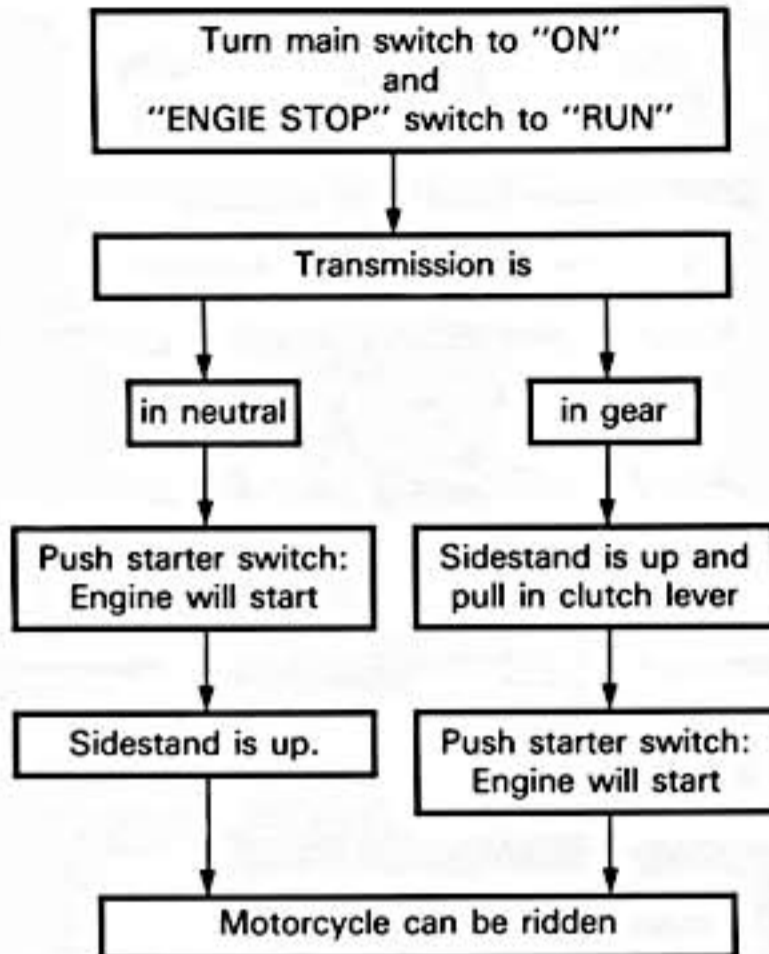


STARTING CIRCUIT OPERATION

The starting circuit on this model consists of the starter motor, starter relay, starting circuit cut-off relay, and sidestand relay.

If the engine stop switch and the main switch are both on, the starter motor can operate only if:

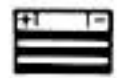
- The transmission is in neutral (the neutral switch is on).
- The sidestand is up (the sidestand switch is on) and clutch lever is pulled in (clutch switch is on).



- ① Battery
- ② Starter motor
- ③ Starter relay
- ④ Starting circuit cut-off relay
- ⑤ To "ENGINE STOP" switch
- ⑥ To main switch
- ⑦ "START" switch
- ⑧ Clutch switch
- ⑨ Neutral switch
- ⑩ Sidestand switch
- ⑪ Sidestand relay
- ⑫ To ignitor unit

- ← [Hatched box] WHEN THE TRANSMISSION IS IN NEUTRAL.
- ← [Hatched box] WHEN THE SIDESTAND IS UP AND CLUTCH LEVER IS PULLED IN.

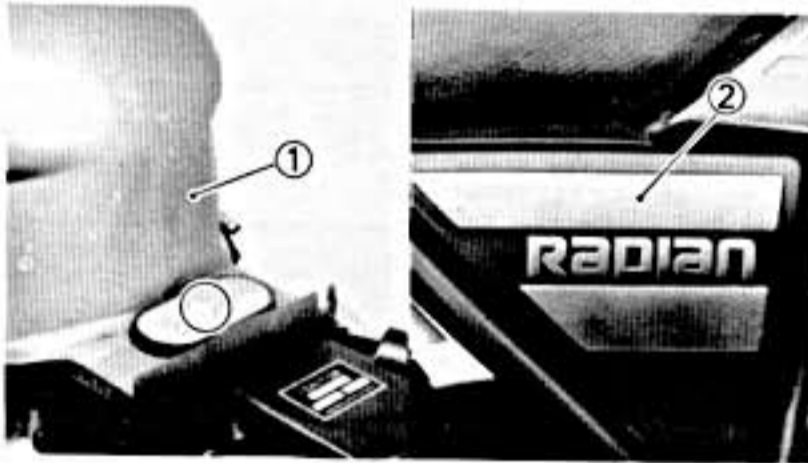
6



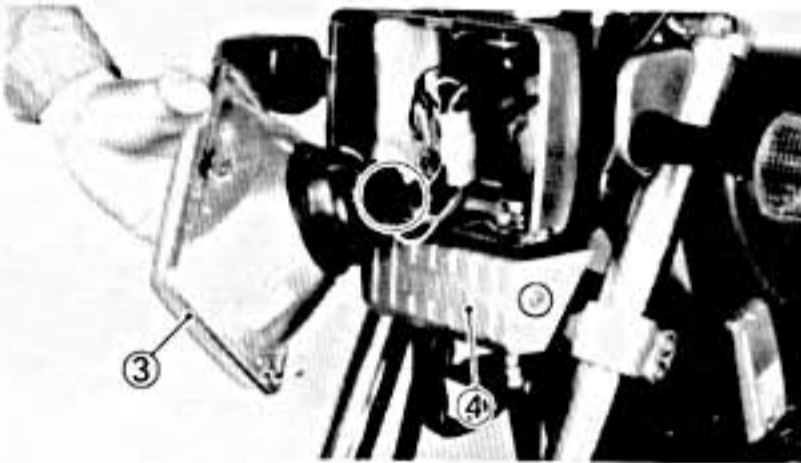
TROUBLESHOOTING

STARTER MOTOR DOES NOT OPERATE.

Before this troubleshooting, remove following parts.



- Seat
- Fuel tank ①
- Side cover (Right) ②
- Headlight lens unit ③
- Cover (Front) ④

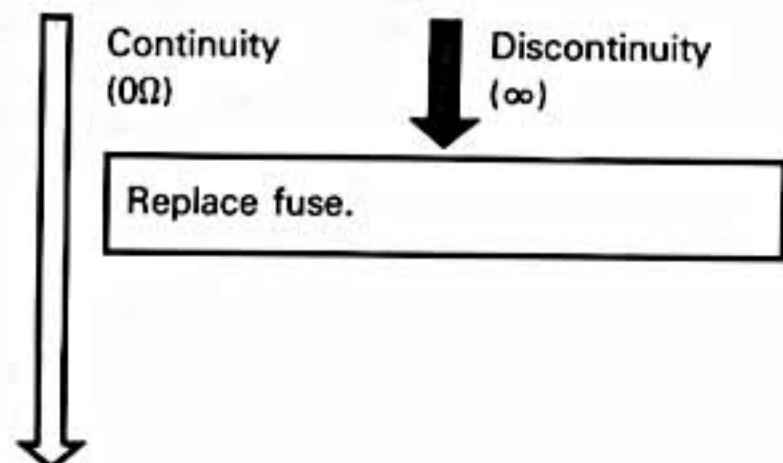


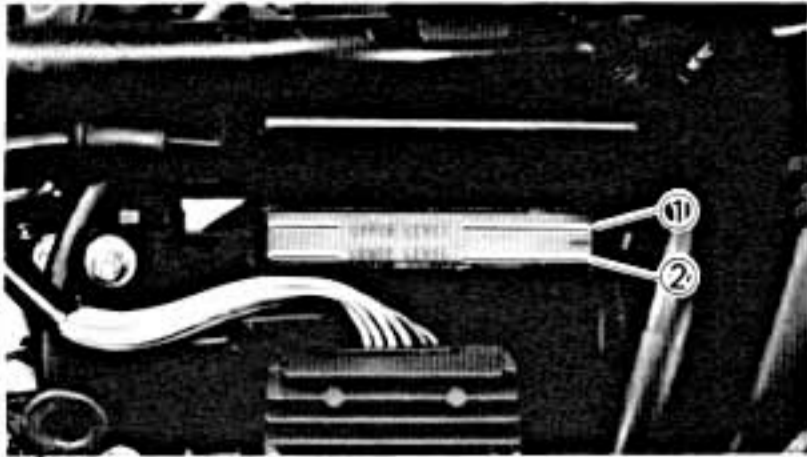
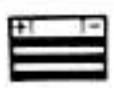
1. Fuse inspection

- Remove fuse (MAIN) and fuse (IGNITION).
- Connect Pocket Tester (YU-03112) to fuse and check it for continuity.

NOTE: _____

Set tester selector to " $\Omega \times 1$ " position.





2. Battery fluid level inspection
 - Fluid level should be between upper ① and lower ② level mark.

Correct Incorrect

↓

• Refill battery fluid.

CAUTION: _____

Refill with distilled water only; tap water contains minerals harmful to a battery.



3. Battery terminal inspection
 - Inspect battery terminal and connections.

OK Dirty or poor connection

↓

• Clean battery terminals using wire brush.

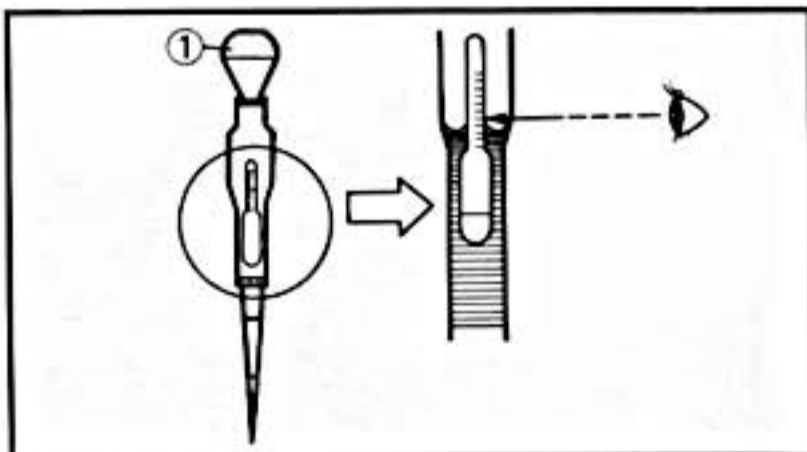
NOTE: _____

After cleaning terminals, apply grease lightly to both terminals.

• Connect battery leads correctly.

4. Battery fluid specific gravity inspection
 - Remove caps.
 - Inspect specific gravity of all cell using Battery Hydrometer ①.

Specific Gravity:
 1.280 ± 0.01 at 20°C (68°F)



6

**WARNING:**

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: **EXTERNAL**-Flush with water. **INTERNAL**-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

OK

↓ Low specific gravity

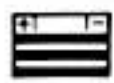
- Recharge battery

Charging Current:
1.2 amps/10 hrs

NOTE:

Replace the battery if:

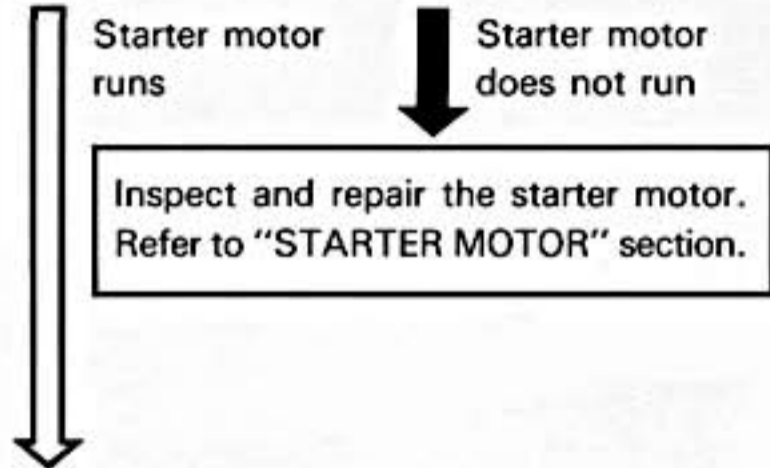
- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.
- Specific gravity readings after a long, slow charge indicate on cell to be lower than the rest.
- Warpage or buckling of plates or insulators is evident.



5. Connect battery positive (+) lead and starter motor lead; use heavy duty jumper lead ①.

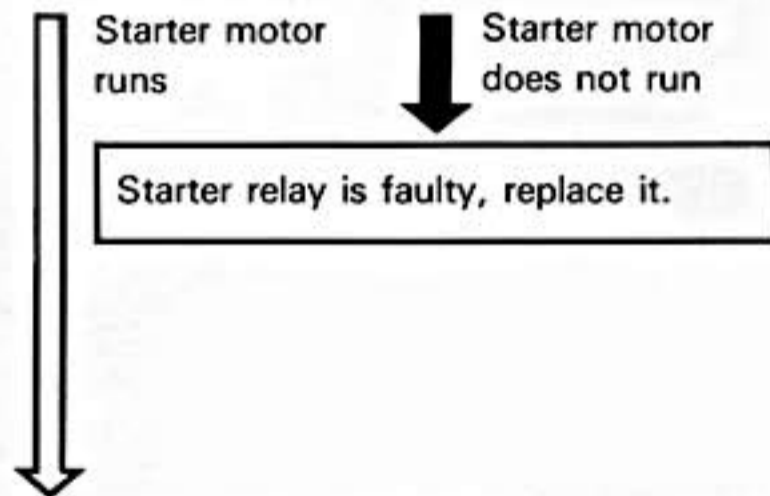
WARNING:

This test should be performed within a few seconds to prevent further damage. Also, there should be no flammables close to the starter relay.

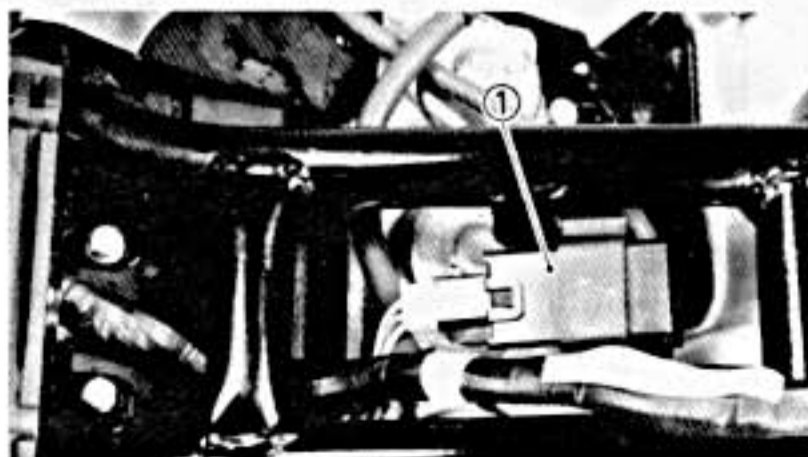


6. Starter relay conduct check
 - Disconnect starter relay leads (Blue/White, Red/White) and connect them to battery positive and negative lead use a jumper leads.

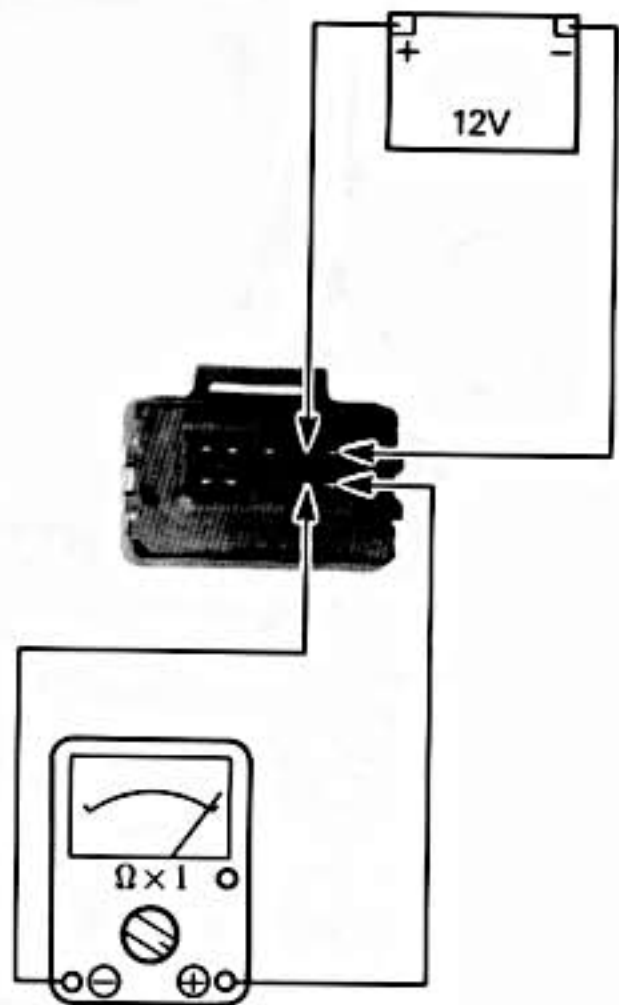
- ① Positive lead
- ② Negative lead



7. Starting circuit cut-off relay conduct check
 - Remove relay assembly ①.



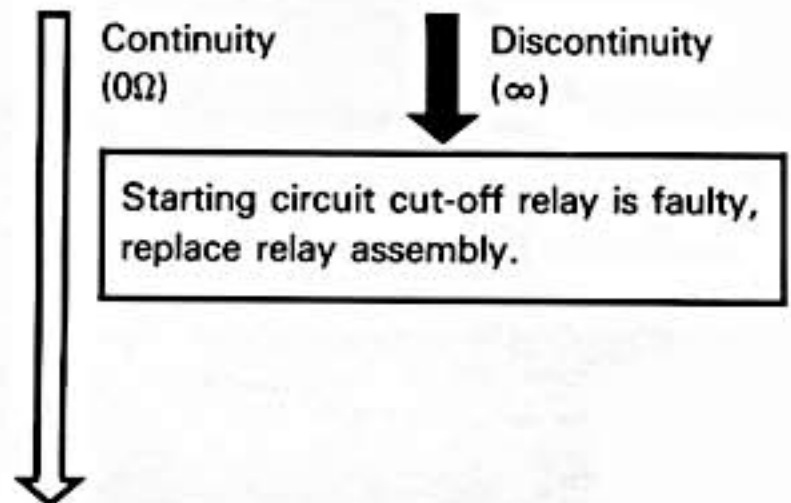
6



•Connect 12V battery and Pocket Tester (YU-03112) to starting circuit cut-off relay terminals as shows.

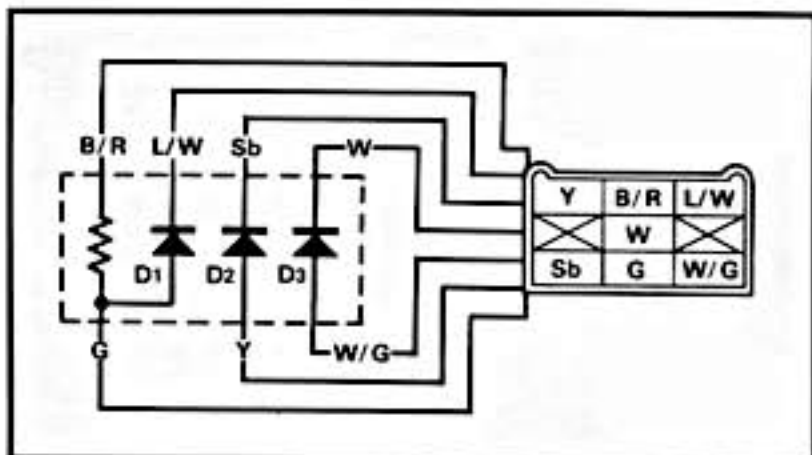
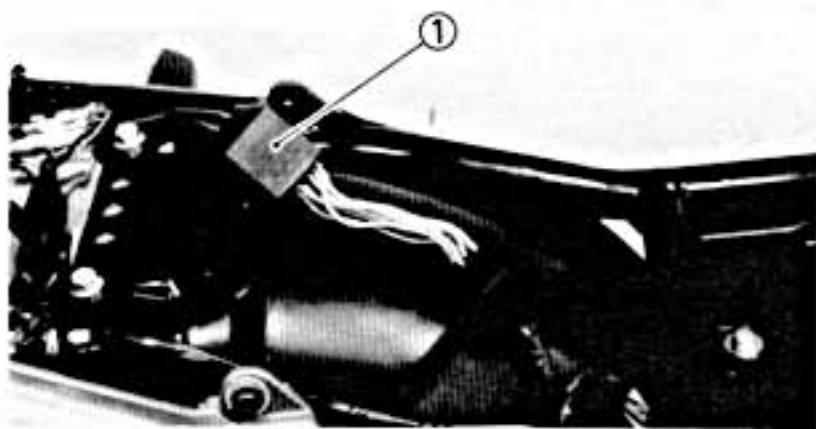
NOTE: _____

- Use full charge battery.
- Set tester selector to " $\Omega \times 1$ " position.



8. Diode assembly condition check

- Remove diode assembly ①.



•Connect Pocket Tester (YU-03112) to diode assembly terminals and check diode D₂ and D₃ condition. Refer to following table.

NOTE: _____

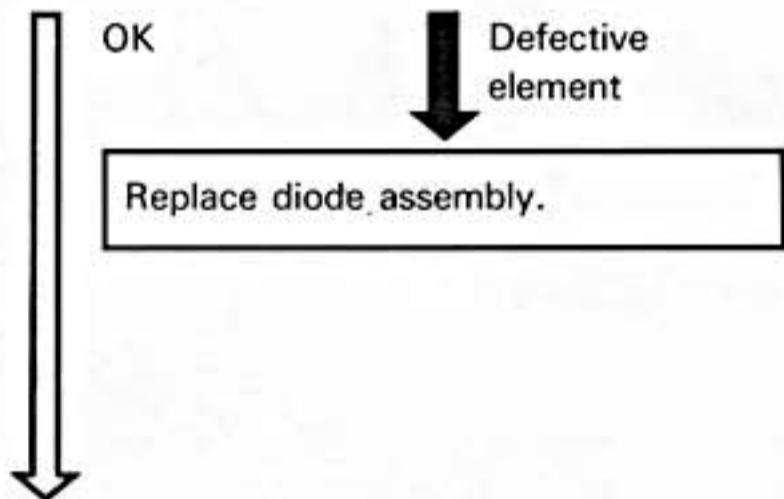
Set tester selector to " $\Omega \times 1$ " position.



Element	Pocket tester		Good
	(+)	(-)	
D ₂	Y	Sb	○
	Sb	Y	×
D ₃	W/G	W	○
	W	W/G	×

○: Continuity (0Ω)
 ×: Discontinuity (∞)

NOTE: _____
 The results "○" or "×" should be reversed according to the pocket tester polarity.



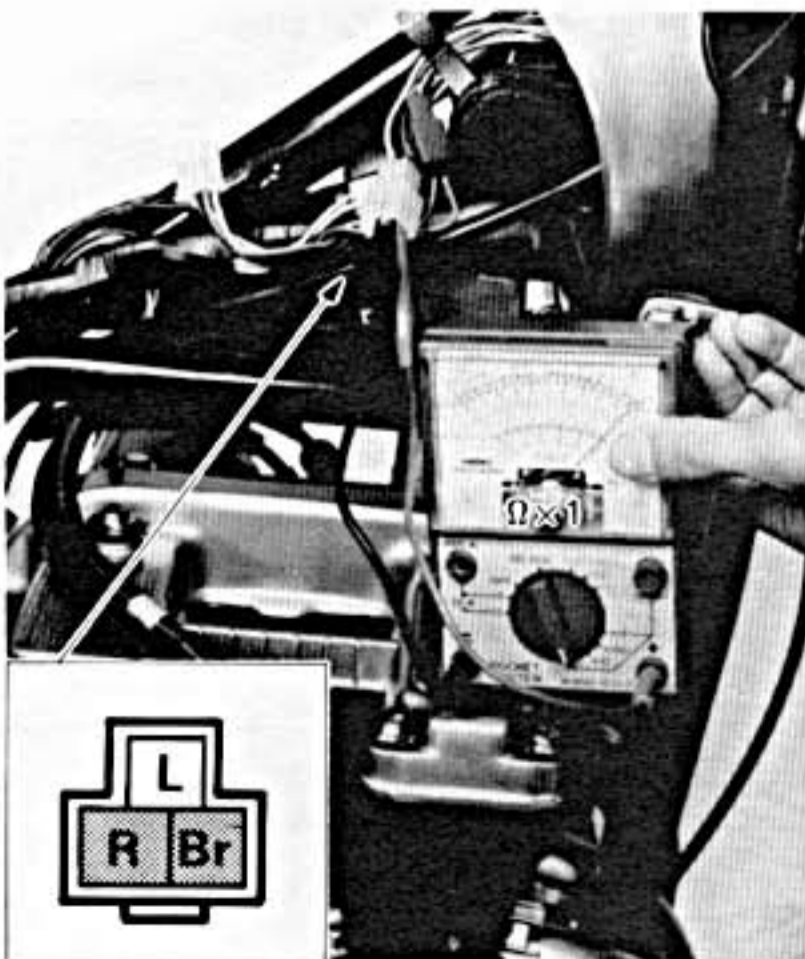
9. Main switch conduct check
- Disconnect main switch coupler (Brown, Red, Blue).
 - Connect Pocket Tester (YU-03112) to main switch leads (Brown, Red).

Tester (+) lead → Red lead
Tester (-) lead → Brown lead

NOTE: _____
 Set tester selector to "Ω × 1" position.

- Turn main switch to "ON" position and check it for continuity.

6

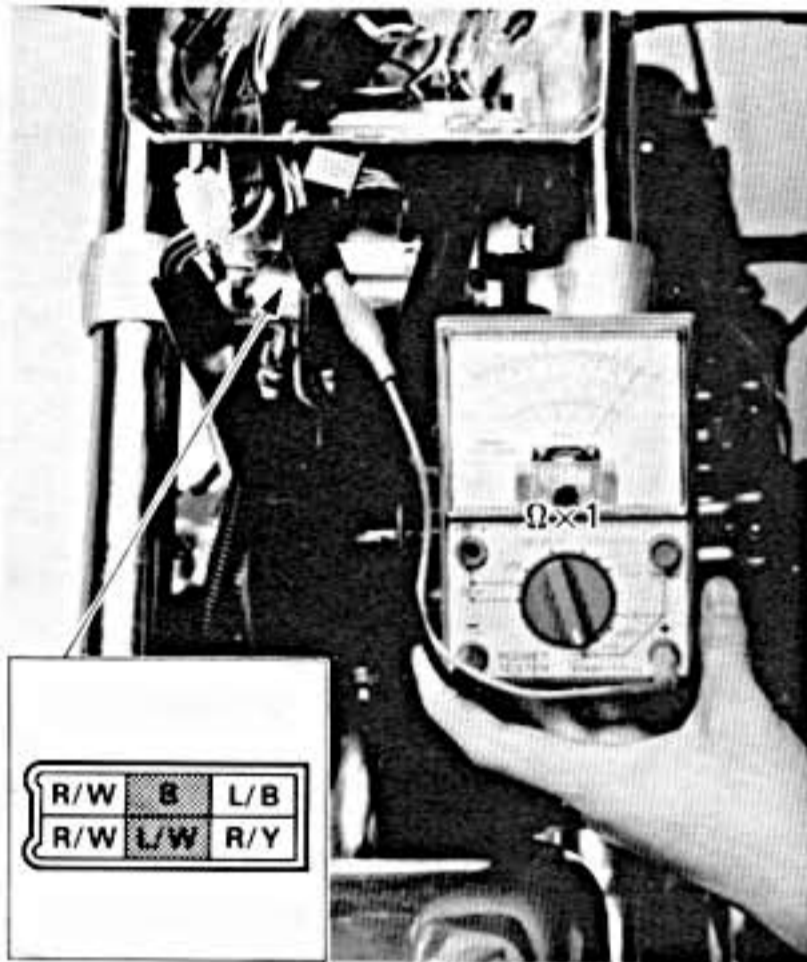




Continuity
(0Ω)

Discontinuity
(∞)

Main switch is faulty, replace it.



10. "START" switch conduct check

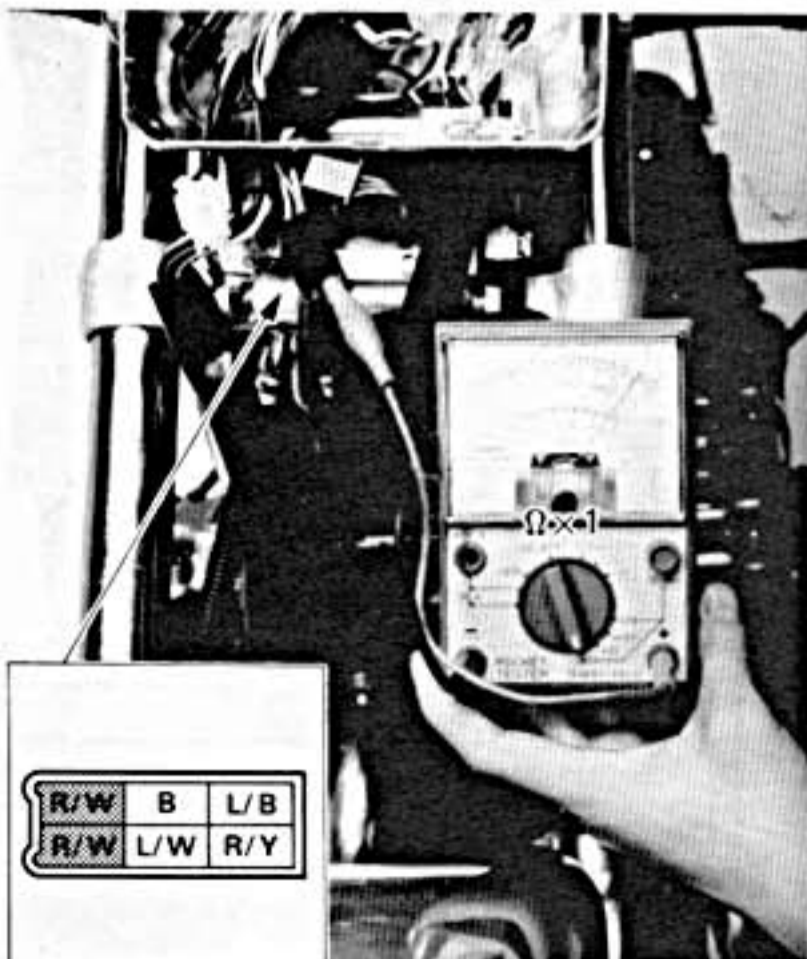
- Disconnect handlebar switch (Right) leads (Red/White, Red/White, Red/Yellow, Blue/Black, Blue/White, Black).
- Connect Pocket Tester (YU-03112) to handlebar switch leads (Blue/White, Black).

Tester (+) lead → Blue/White lead
Tester (-) lead → Black lead

NOTE:

Set tester selector to "Ω × 1" position.

- Push on "START" switch and check it for continuity.



Continuity
(0Ω)

Discontinuity
(∞)

"START" switch is faulty, replace handlebar switch.

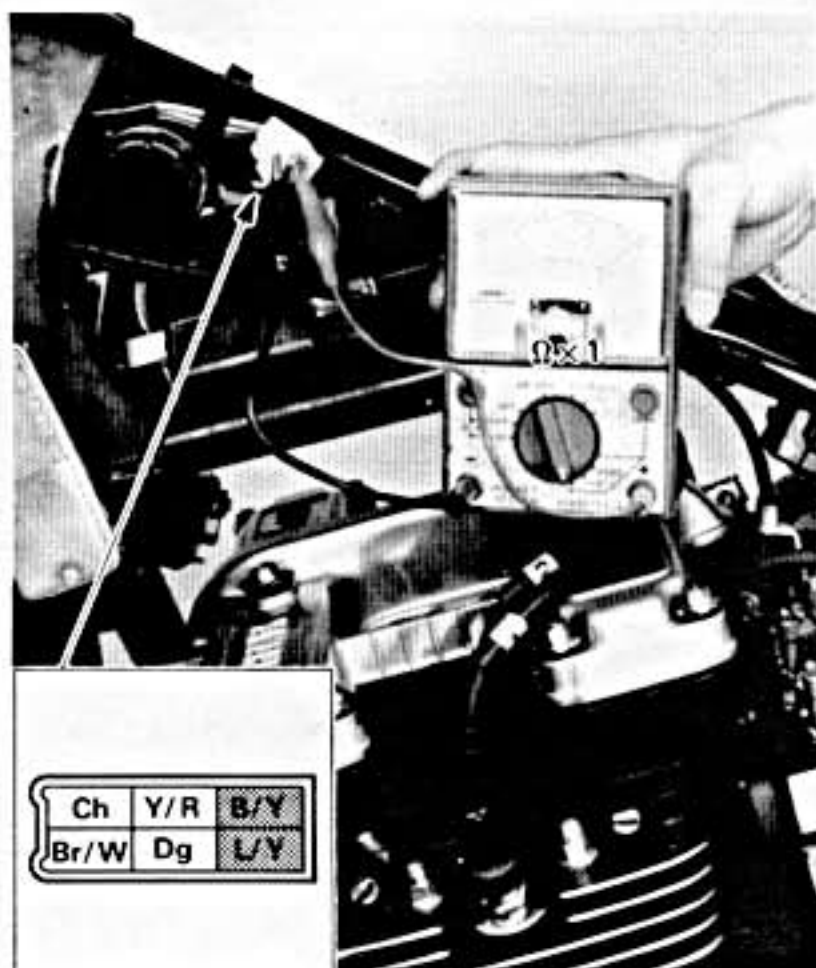
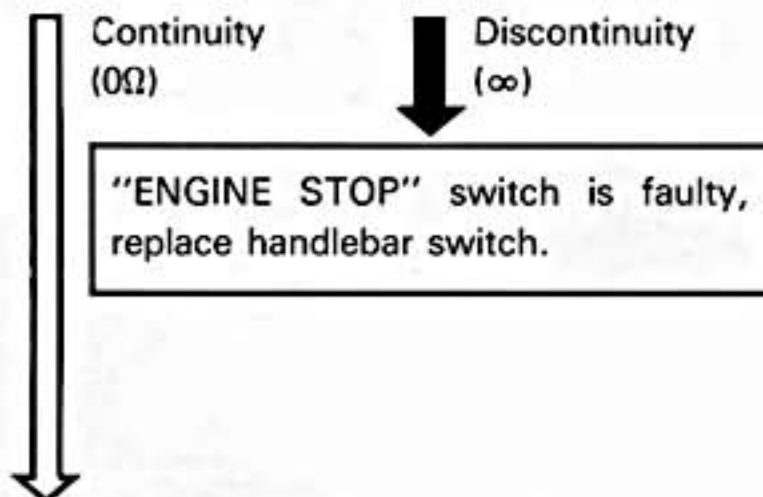
11. "ENGINE STOP" switch conduct check

- Disconnect handlebar switch (Right) leads (Red/White, Red/White, Red/Yellow, Blue/Black, Blue/White, Black).
- Connect Pocket Tester (YU-03112) to handlebar switch leads (Red/White, Red/White).

Tester (+) lead → Red/White lead
 Tester (-) lead → Red/White lead

NOTE: _____
 Set tester selector to " $\Omega \times 1$ " position.

- Turn "ENGINE STOP" switch to "RUN" position.



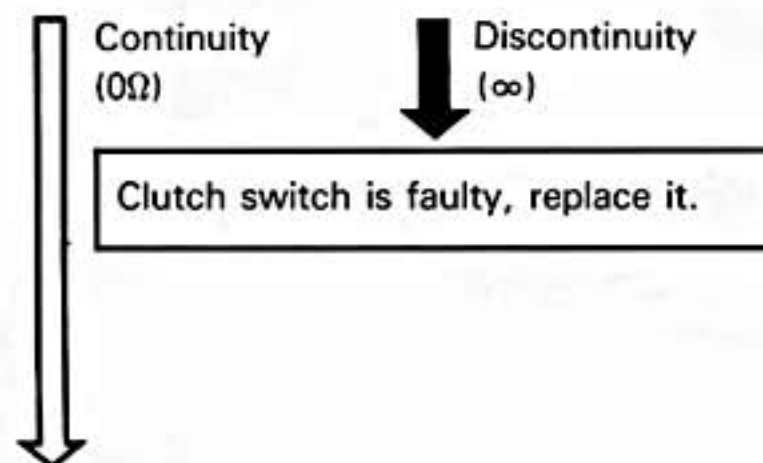
Ch	Y/R	B/Y
Br/W	Dg	L/Y

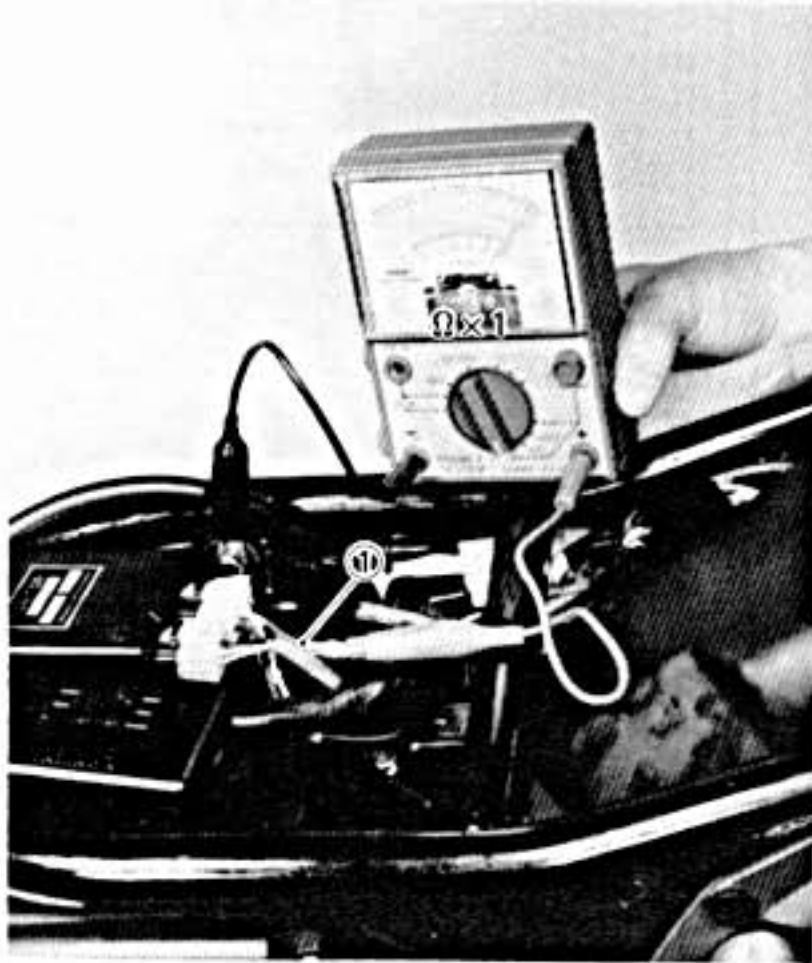
12. Clutch switch conduct check
- Disconnect handlebar switch (Left) leads (Chocolate, Yellow/Red, Black/Yellow, Brown/White, Dark Green, Blue/Yellow).
 - Connect Pocket Tester (YU-03112) to clutch switch leads (Black/Yellow, Blue/Yellow).

Tester (+) lead → Black/Yellow lead
 Tester (-) lead → Blue/Yellow lead

NOTE: _____
 Set tester selector to " $\Omega \times 1$ " position.

- Clutch lever is pulled and check clutch switch for continuity.





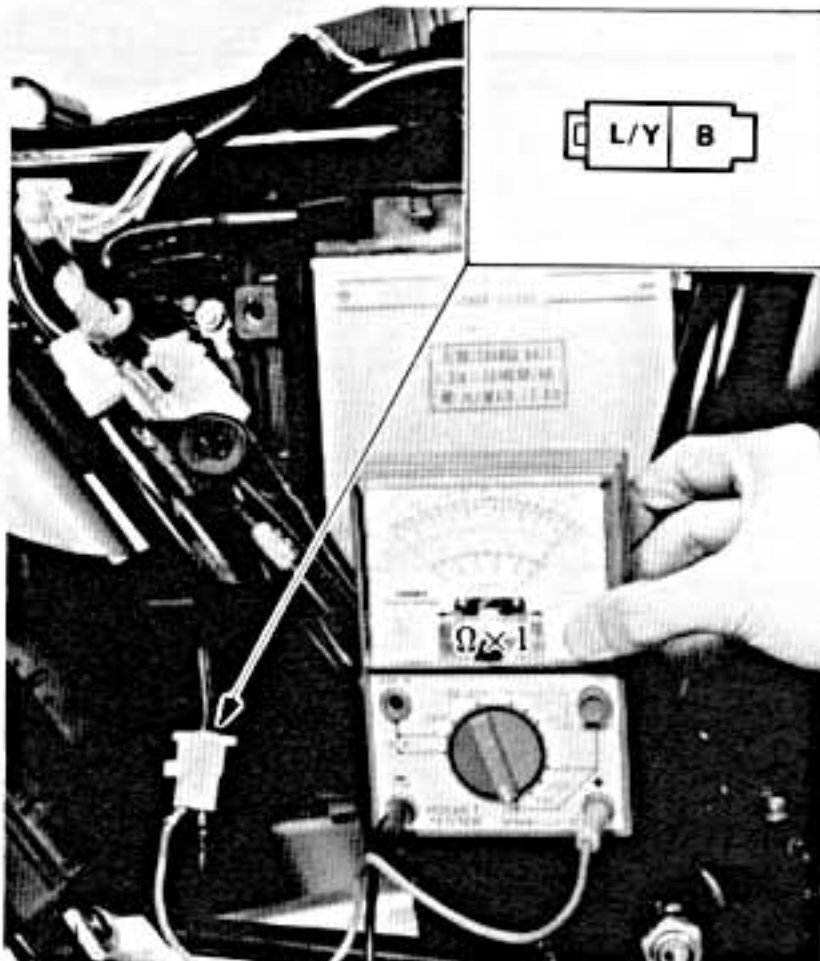
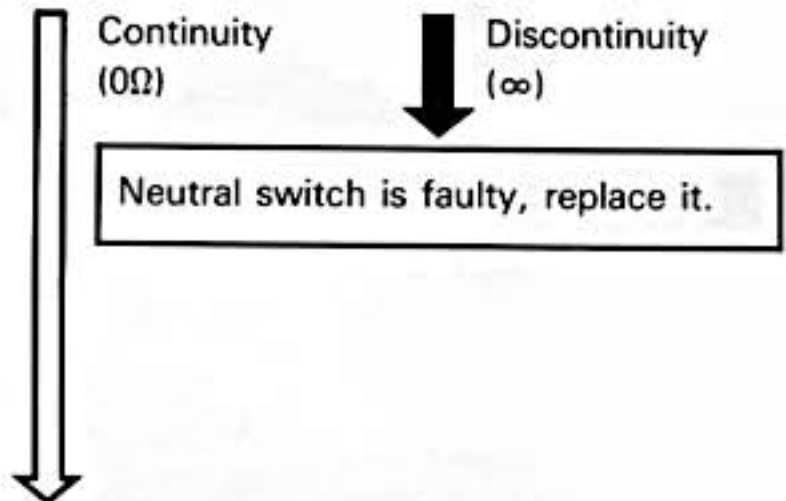
13. Neutral switch conduct check

- Disconnect neutral switch lead (Sky blue) ①.
- Connect Pocket Tester (YU-03112) to neutral switch lead and frame earth lead.

Tester (+) lead → Sky blue lead
 Tester (-) lead → Frame earth

NOTE: _____
 Set tester selector to "Ω × 1" position.

- Transmission is in neutral and check neutral switch for continuity.



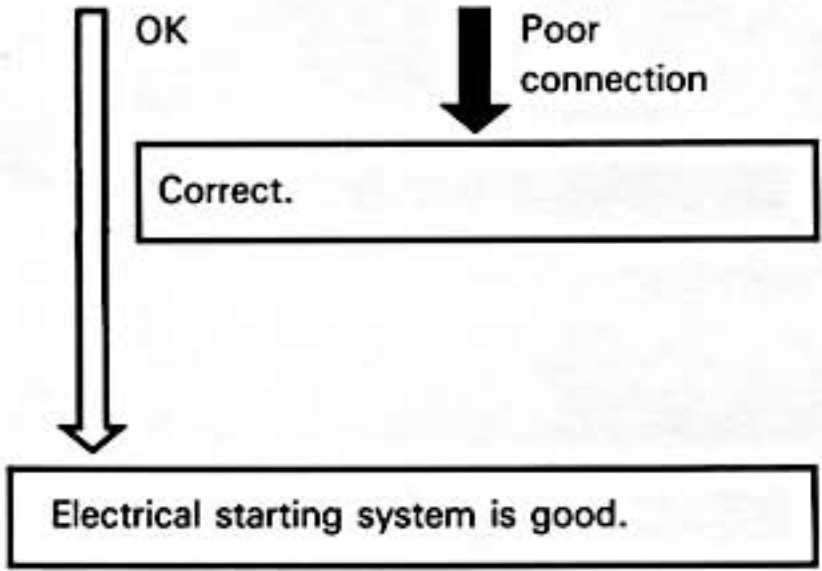
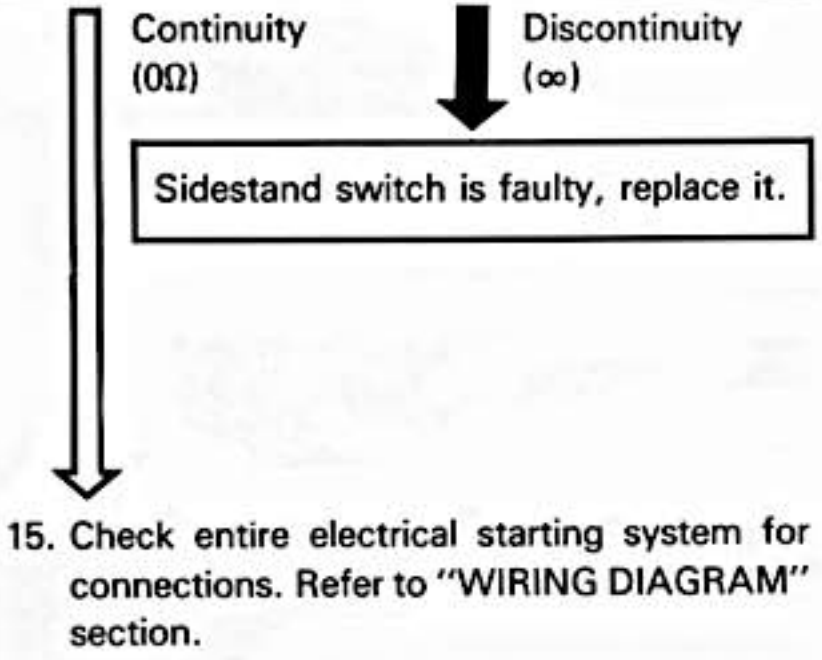
14. Sidestand switch conduct check

- Disconnect sidestand leads (Blue/Yellow, Black).
- Connect Pocket Tester (YU-03112) to sidestand switch leads.

Tester (+) lead → Blue/Yellow lead
 Tester (-) lead → Black lead

NOTE: _____
 Set tester selector to "Ω × 1" position.

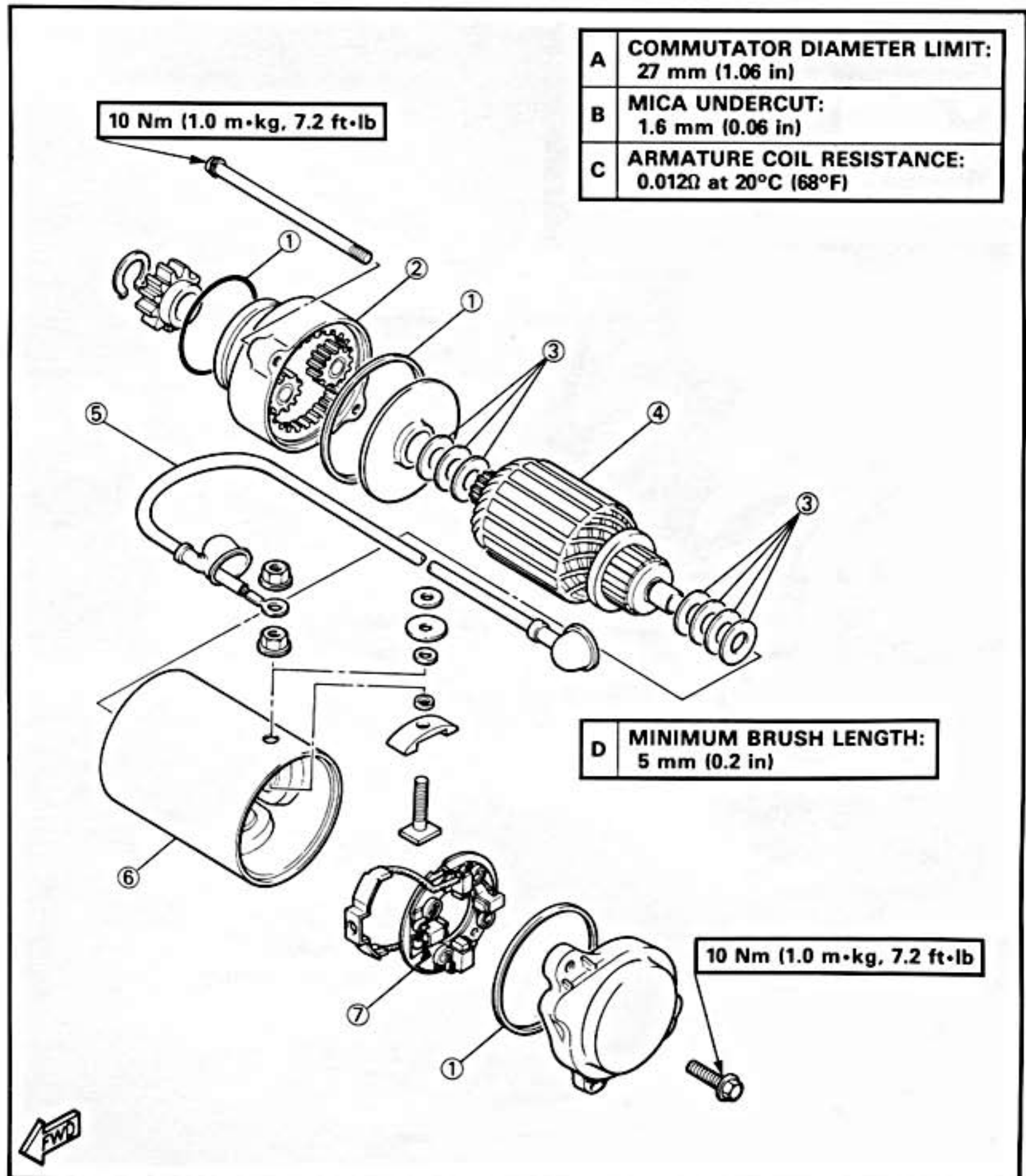
- Place motorcycle on centerstand.
- Sidestand is up and check sidestand switch for continuity.



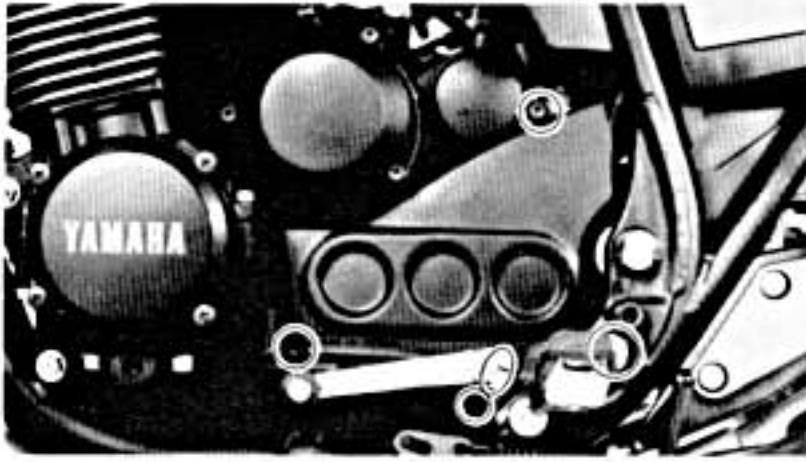


STARTER MOTOR

- ① O-ring
- ② Gear assembly
- ③ Shims
- ④ Armature coil assembly
- ⑤ Starter motor lead
- ⑥ Yoke assembly
- ⑦ Brush assembly



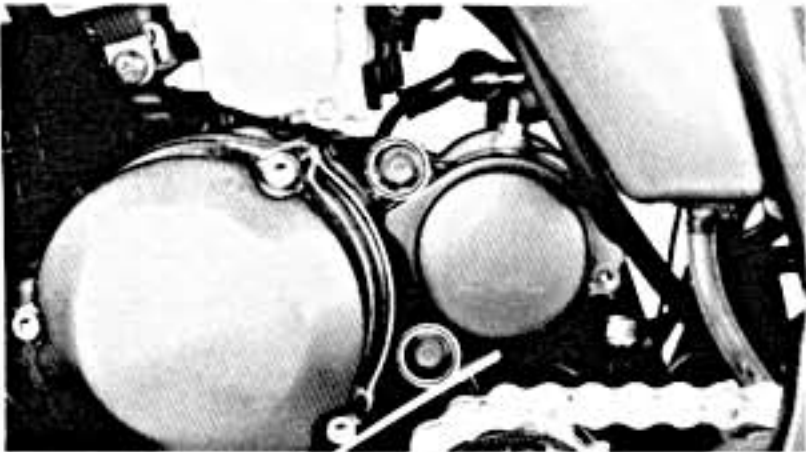
6

**Removal**

1. Remove:
 - Footrest (Left)
 - Change pedal
 - Cover (Drive sprocket)



2. Remove:
 - Starter motor lead



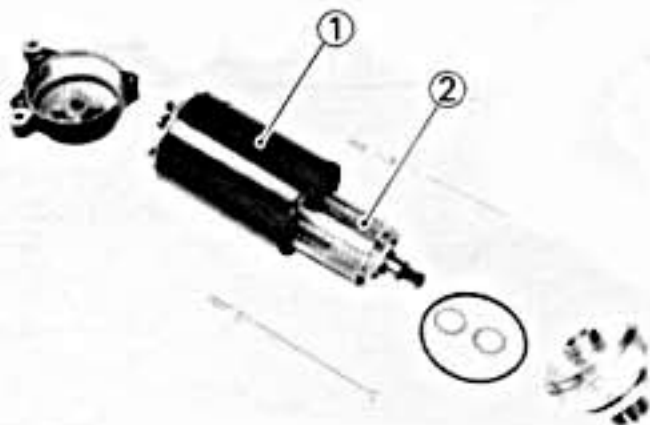
3. Remove:
 - Starter motor

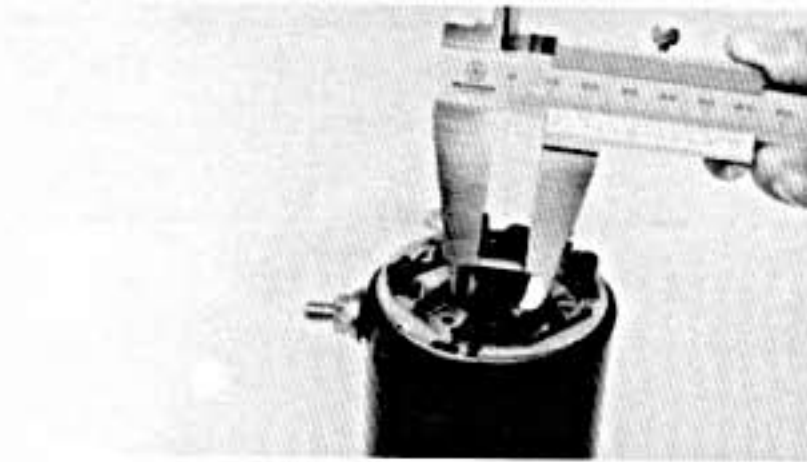
Disassembly

1. Remove:
 - Screws



2. Remove:
 - Yoke assembly ①
 - Armature coil assembly ②





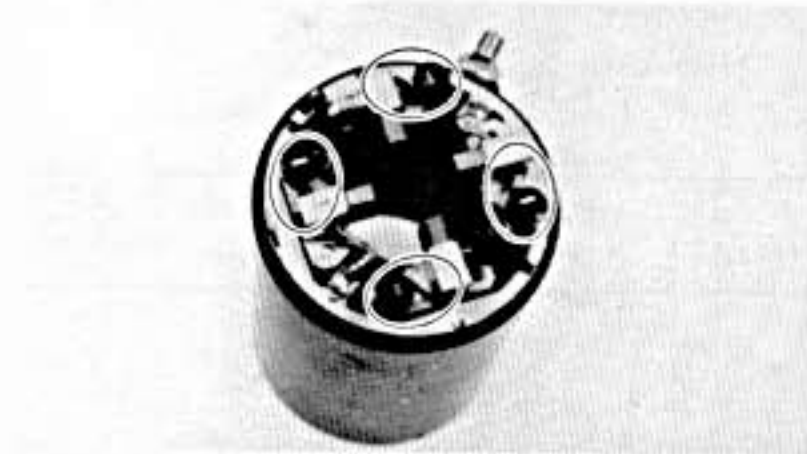
Inspection and Repair

1. Measure:

- Brush length (each)
Out of specification → Replace brush.

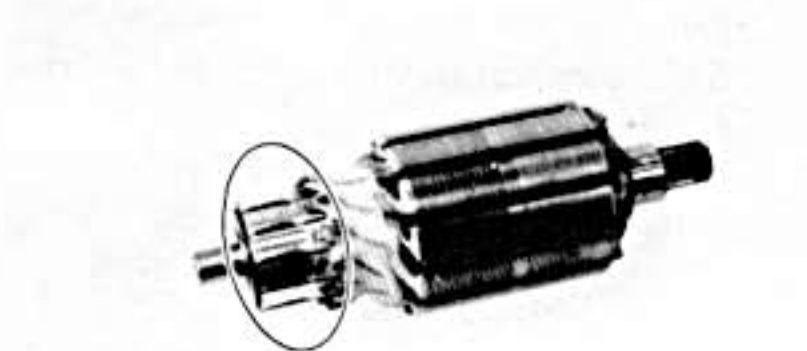


Minimum Brush Length:
5 mm (0.2 in)



2. Inspect:

- Brush spring
Damage → Replace.

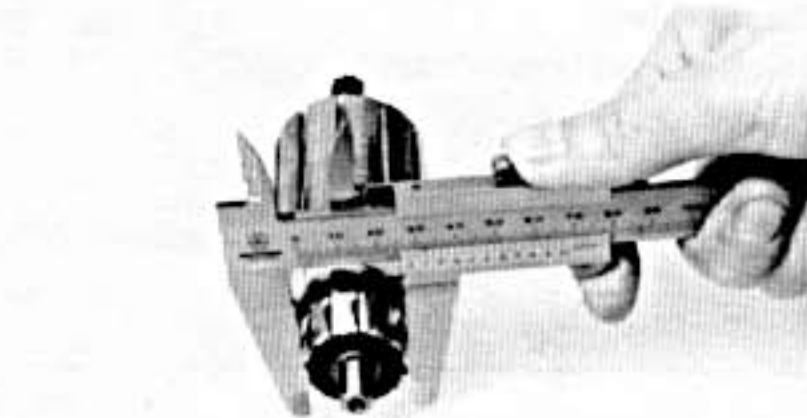


3. Inspect:

- Commutator (Outer surface)
Grooved wear/Burning/Scratches →
Smooth out using a sandpaper (#500 ~
600).

NOTE: _____

Sand the commutator outer surface lightly and evenly.

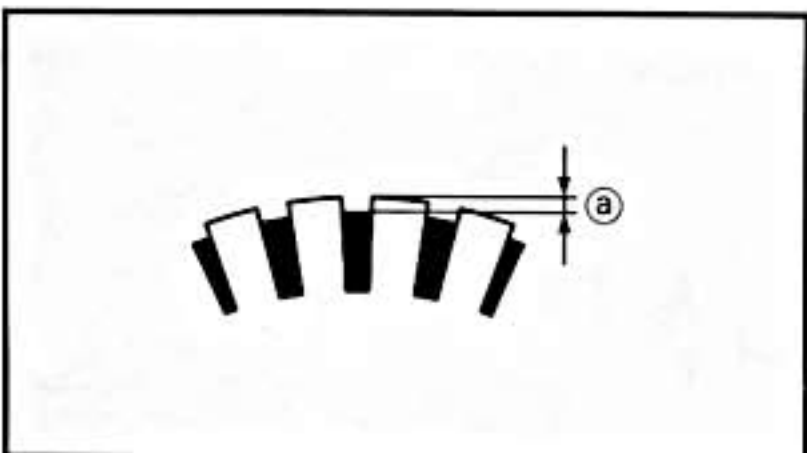


4. Measure:

- Commutator diameter
Out of specification → Replace.



Outside Diameter Limit:
27 mm (1.06 in)



5. Measure:

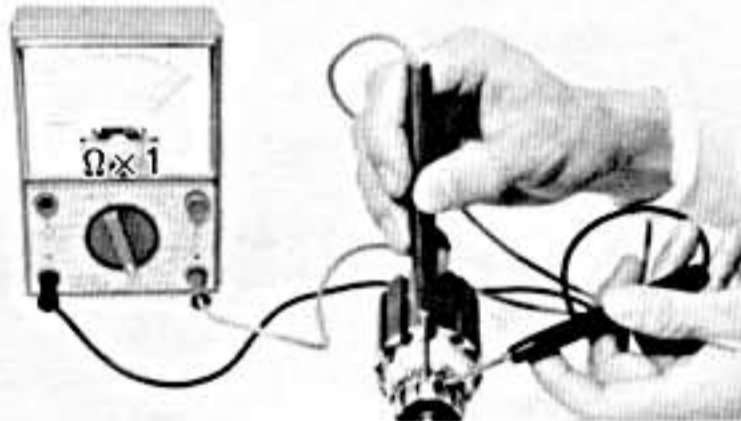
- Mica undercut (a)
Out of specification → Scrape mica using a
hacksaw blade.



Mica Undercut (a):
1.6 mm (0.06 in)

NOTE: _____

The mica insulation of the commutator must be undercut to ensure proper operation of the commutator.



6. Measure:

- Armature coil resistance
- Out of specification → Replace.

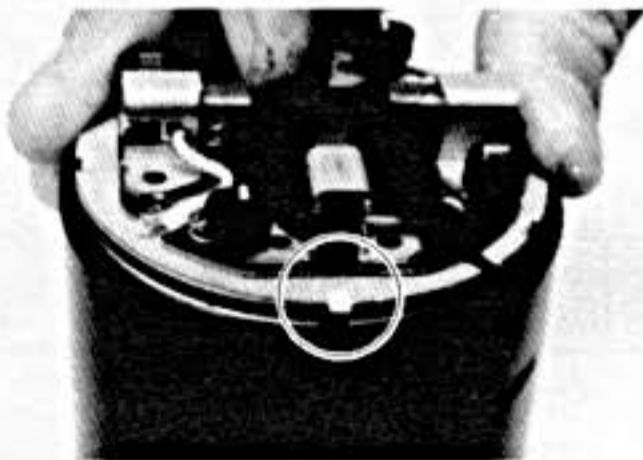


Armature Coil Resistance:
 0.012Ω at 20°C (68°F)



7. Check:

- Armature coil insulation
- Set the pocket tester selector to " $\Omega \times 1\text{K}$ " position.
 Continuity → Replace.



Assembly

Reverse the "Disassembly" procedure. Note the following points.

1. Install:
 - Brush assembly

NOTE: _____

Fit the projection onto the recess.

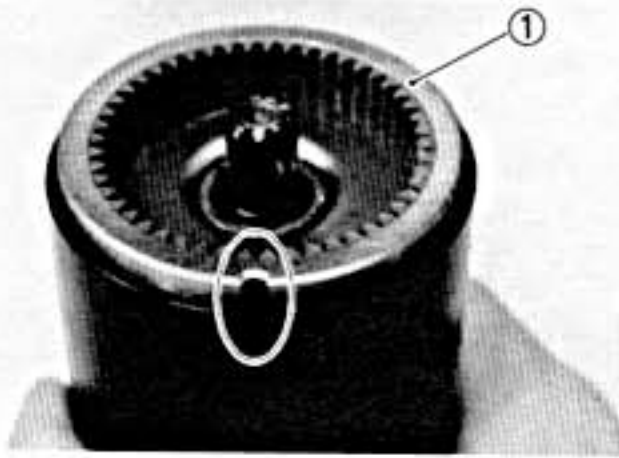


2. Install:
 - Bracket ①

NOTE: _____

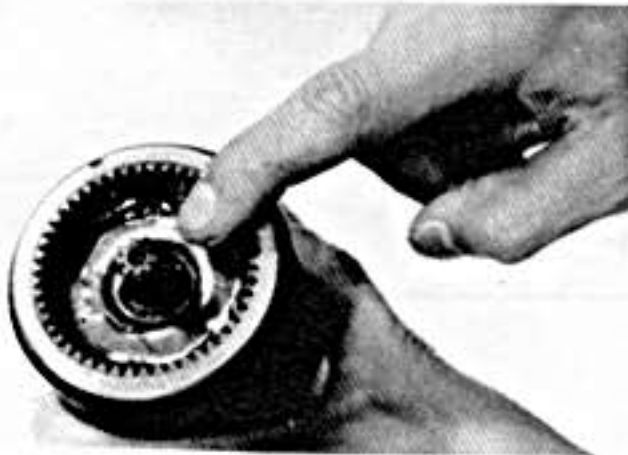
Fit the recess to the projection.

6



3. Install:
• Ring gear ①

NOTE: _____
Fit the recess to the projection.

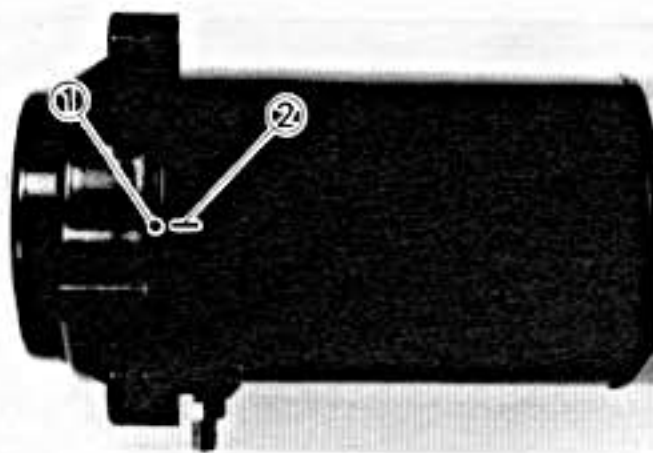


4. Apply:
• Lithium soap base grease



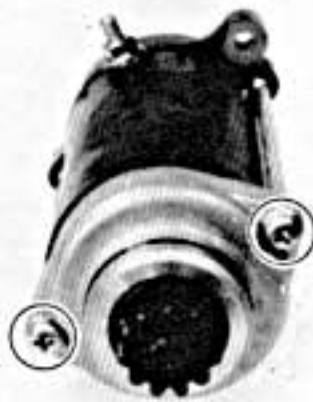
5. Install:
• Gear assembly ①

NOTE: _____
Fit the pin into the ring gear recess.




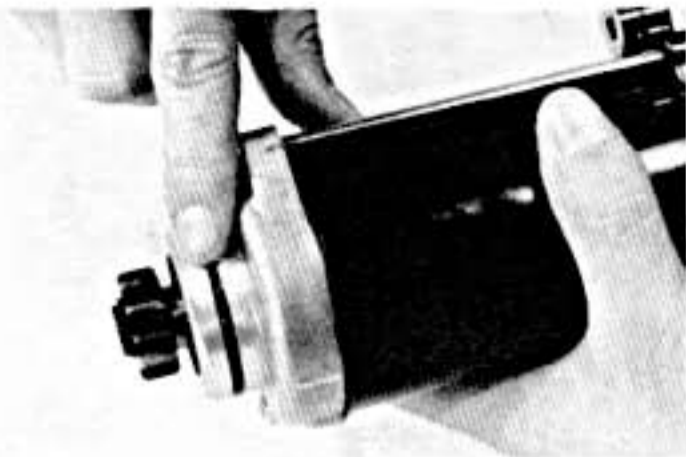
6. Install:
• Brush cap

NOTE: _____
Align the match mark ① on the brush cap with the match mark ② on the yoke assembly.



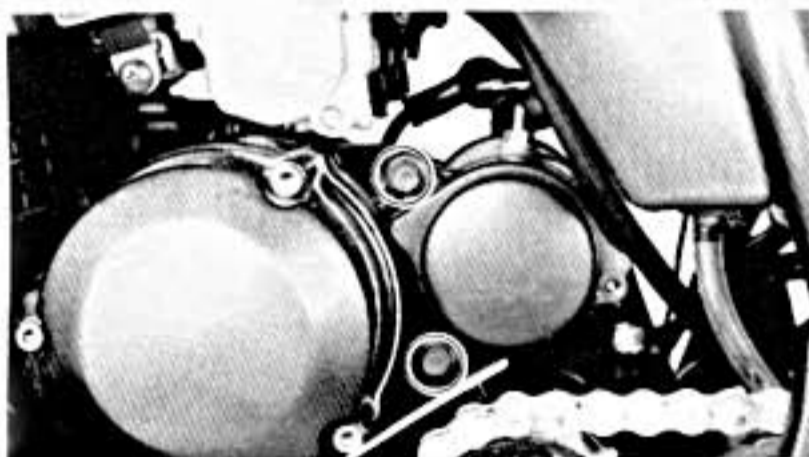
7. Install:
• Screws

	10 Nm (1.0 m•kg, 7.2 ft•lb)
---	-----------------------------

**Installation**

Reverse the "Removal" procedure. Note the following points.

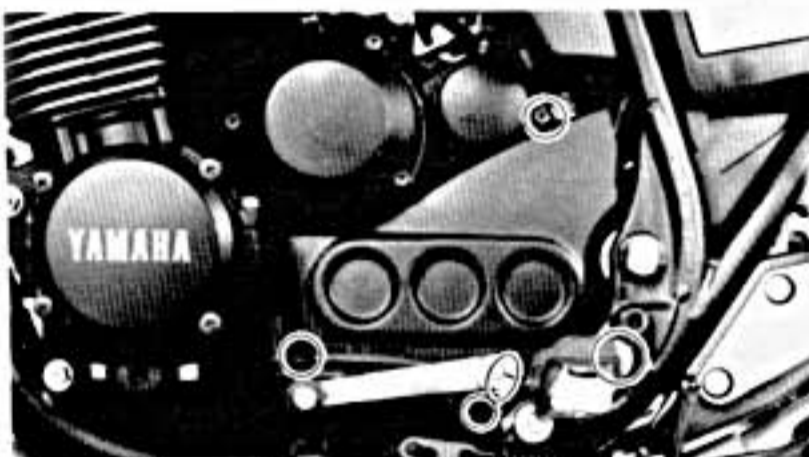
1. Apply:
 - Lithium soap base grease



2. Install:
 - Starter motor



10 Nm (1.0 m•kg, 7.2 ft•lb)



3. Install:
 - Cover (Drive sprocket)
 - Change pedal
 - Footrest (Left)



Bolt (Change pedal):
10 Nm (1.0 m•kg, 7.2 ft•lb)

Bolt (Footrest):
70 Nm (7.0 m•kg, 50 ft•lb)



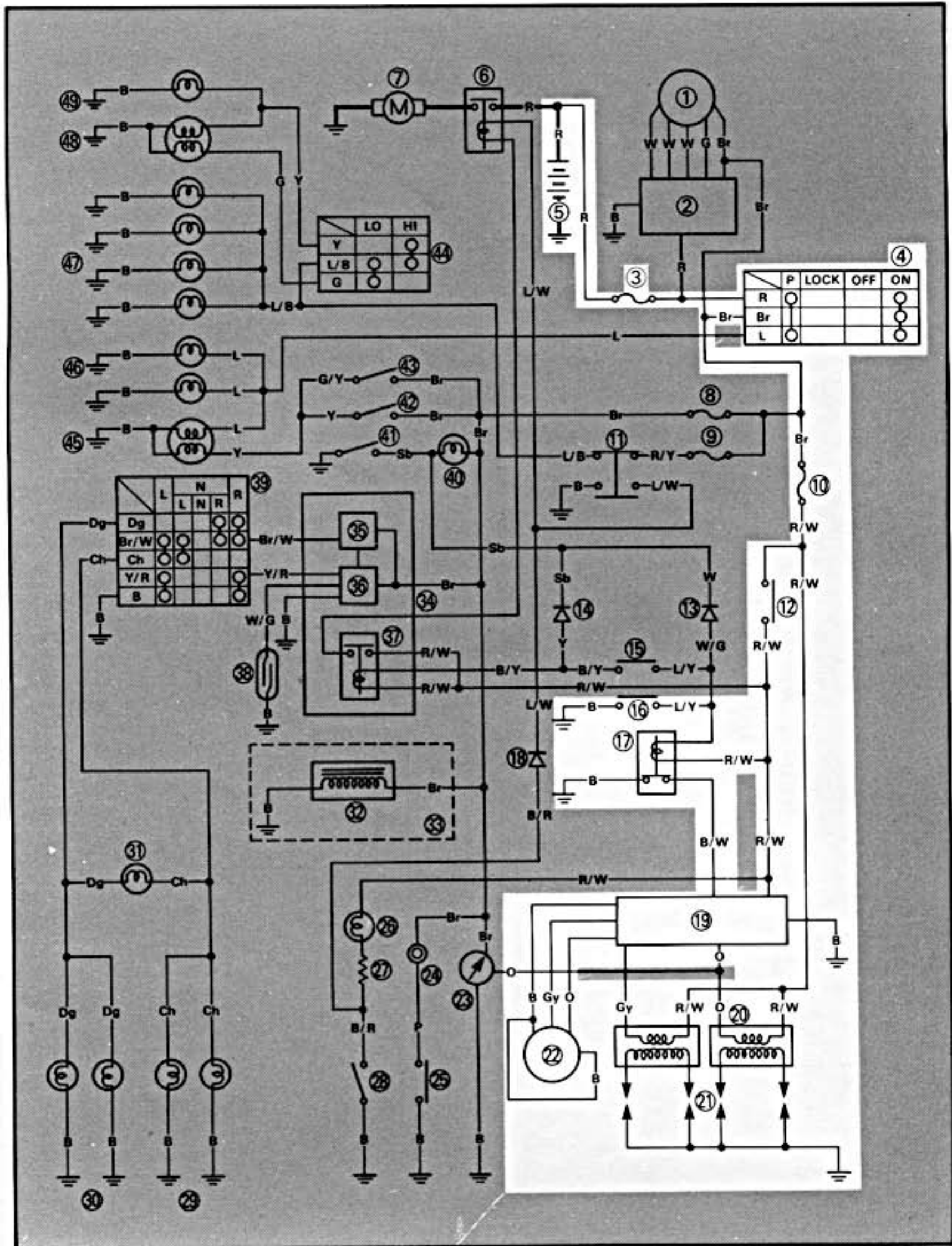
MEMO



IGNITION SYSTEM

CIRCUIT DIAGRAM

Below circuit diagram shows ignition circuit.



6

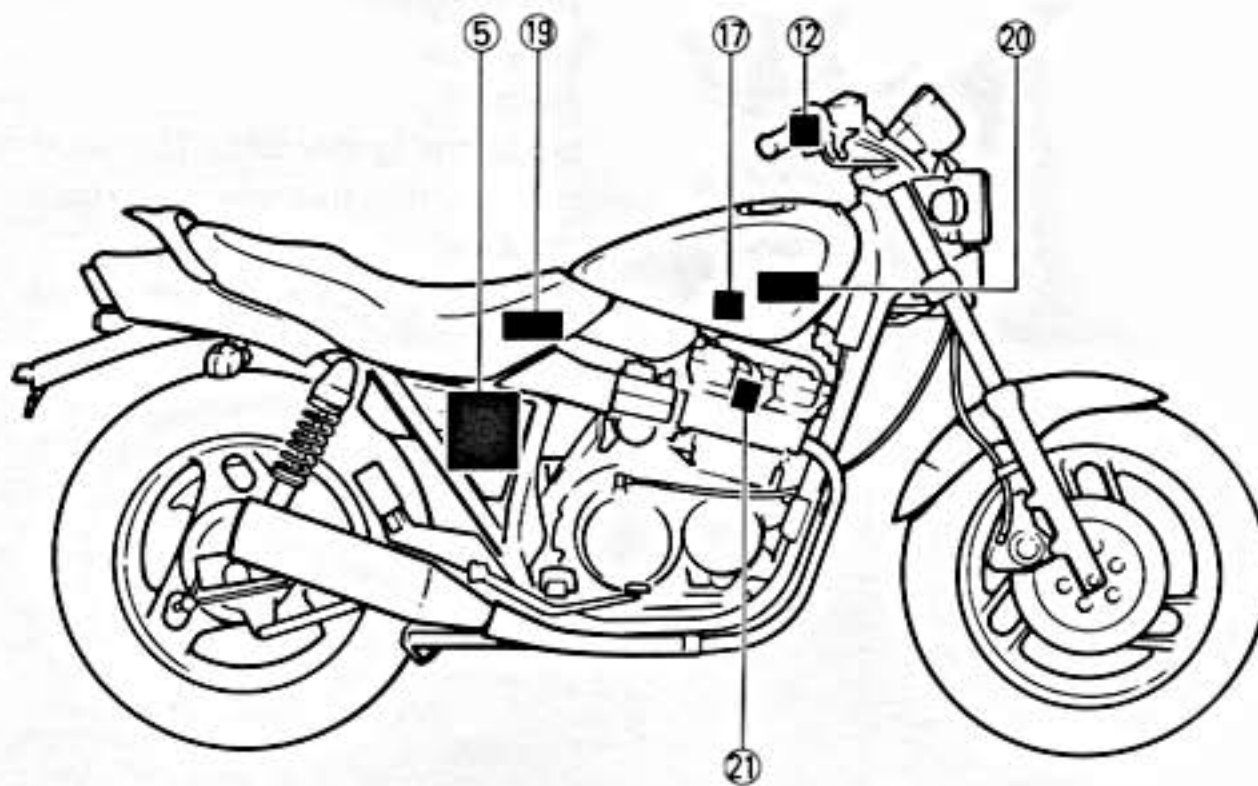
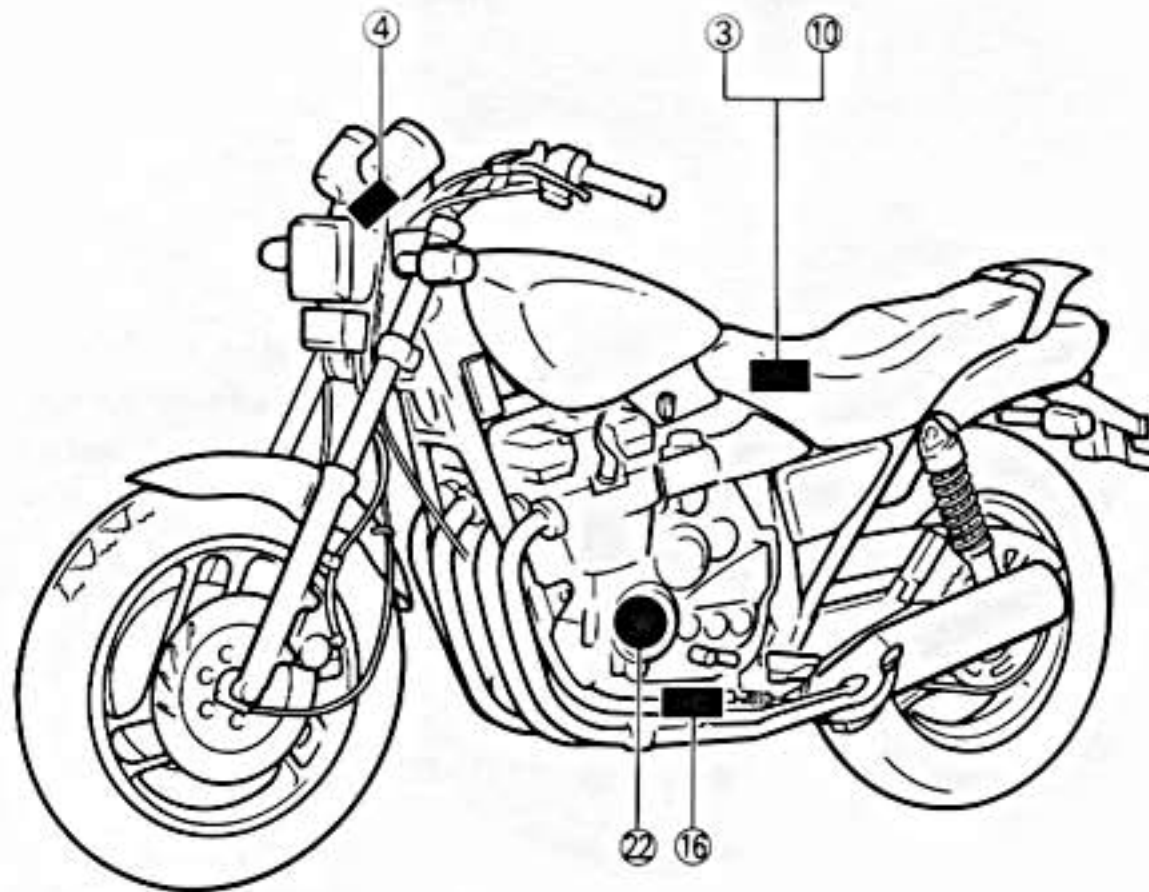


NOTE: _____

For the color codes, see page 6-2.

- ③ Fuse (MAIN)
- ④ Main switch
- ⑤ Battery
- ⑩ Fuse (IGNITION)
- ⑫ "ENGINE STOP" switch
- ⑯ Sidestand switch

- ⑰ Sidestand relay
- ⑲ Ignitor unit
- ⑳ Ignition coil
- ㉑ Spark plug
- ㉒ Pickup coil





DESCRIPTION

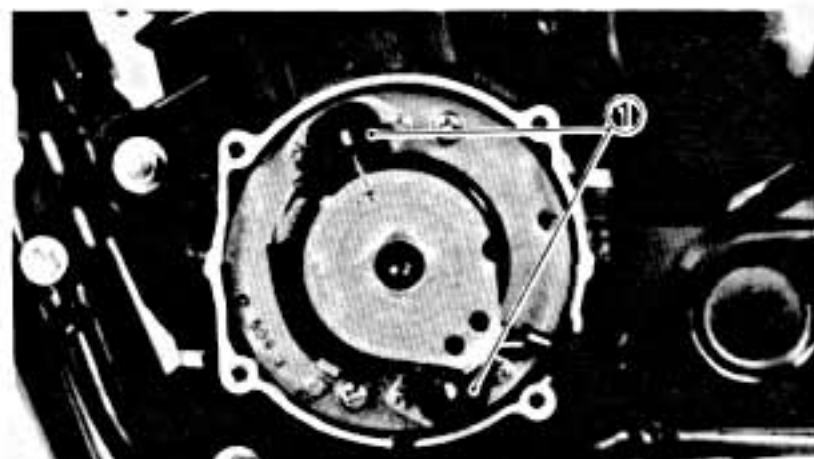
This model is equipped with a battery operated, fully transistorized, breakerless ignition system. By using magnetic pickup coils, the need for contact breaker points is eliminated. This adds to the dependability of the system by eliminating frequent cleaning and adjustment of points and ignition timing. The TCI (Transistor Control Ignition) unit incorporates an automatic advance circuit controlled by signals generated by the pickup coil. This adds to the dependability of the system by eliminating the mechanical advancer. This TCI system consists of two units; a pickup unit and an ignitor unit.



OPERATION

The TCI functions on the same principle as a conventional DC ignition system with the exception of using magnetic pickup coils and a transistor control box (TCI) in place of contact breaker points.

① TCI unit



PICKUP UNIT

The pickup unit consists of two pickup coils ① and a flywheel mounted onto the crankshaft. When the projection on the flywheel passes a pickup coil, a signal is generated and transmitted to the ignitor unit. The width of the projection on the flywheel determines the ignition advance.

The pickup coils are located in the left crankcase cover.

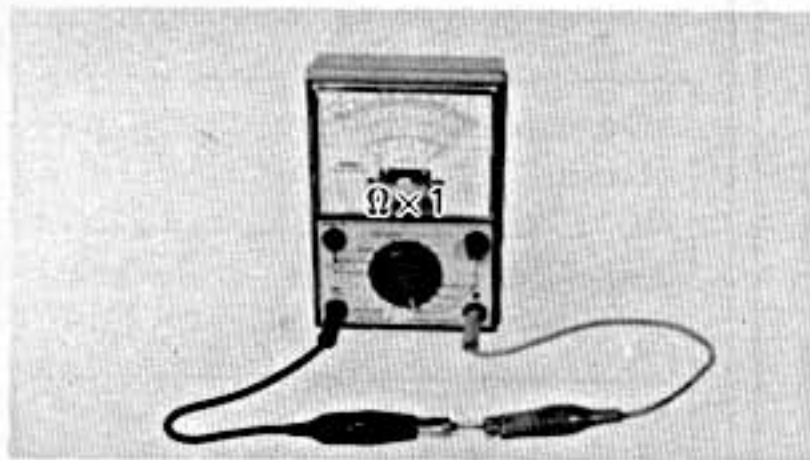
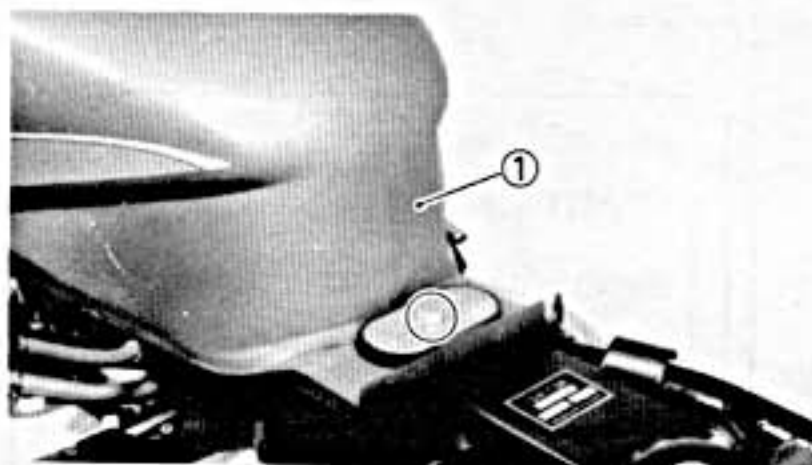


TROUBLESHOOTING

IF IGNITION SYSTEM SHOULD BECOME INOPERATIVE (NO SPARK OR INTERMITTENT SPARK).

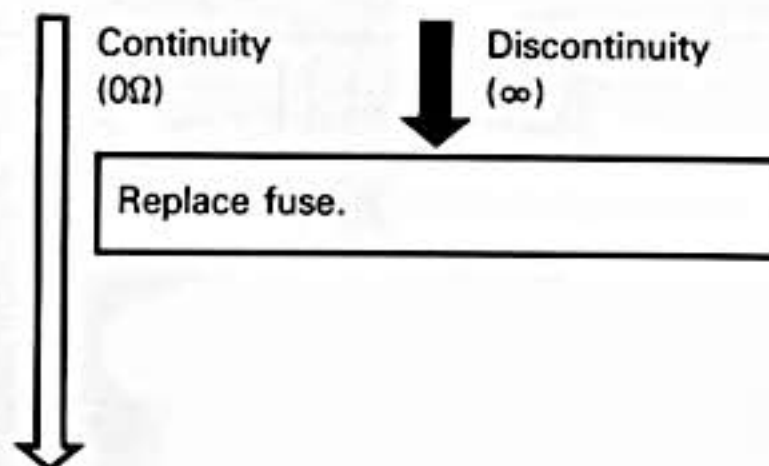
Before this troubleshooting, remove following parts.

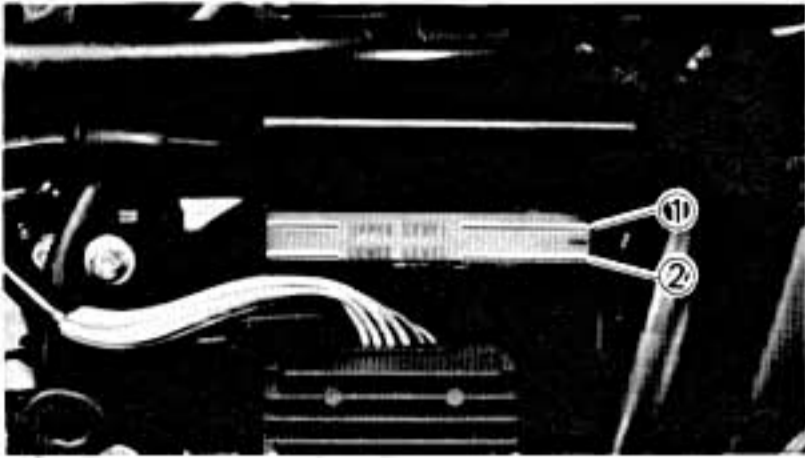
- Seat
- Fuel tank ①
- Side cover (Right) ②



1. Fuse inspection
 - Remove fuse (MAIN) and fuse (IGNITION).
 - Connect Pocket Tester (YU-03112) to fuse and check it for continuity.

NOTE: _____
 Set tester selector to " $\Omega \times 1$ " position.





2. Battery fluid level inspection

- Fluid level should be between upper ① and lower ② level mark.

Correct ↓ Incorrect

• Refill battery fluid.

CAUTION: _____

Refill with distilled water only; tap water contains minerals harmful to a battery.



3. Battery terminal inspection

- Inspect battery terminal and connections.

OK ↓ Dirty or poor connection

• Clean battery terminals using wire brush.

NOTE: _____

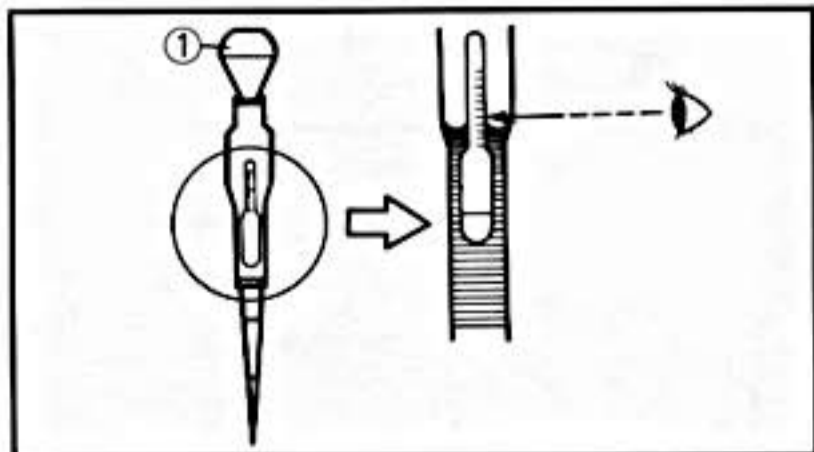
After cleaning terminals, apply grease lightly to both terminals.

• Connect battery leads correctly.

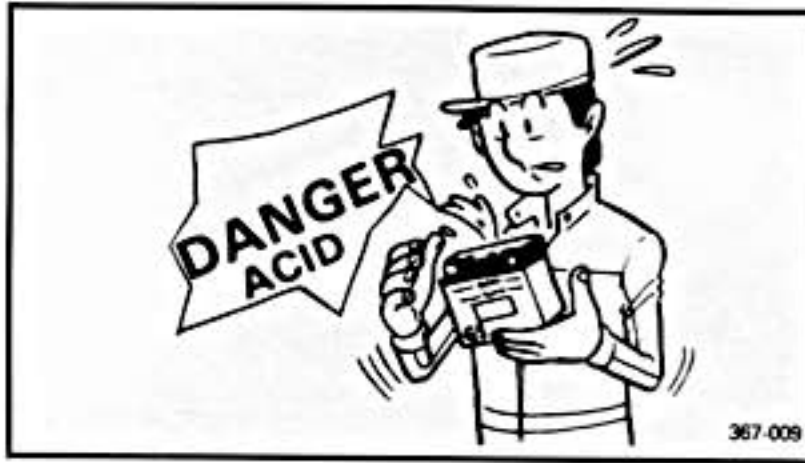
4. Battery fluid specific gravity inspection

- Remove caps.
- Inspect specific gravity of all cell using Battery Hydrometer ①.

Specific Gravity:
1.280 ± 0.01 at 20°C (68°F)



6

**WARNING:**

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: **EXTERNAL**-Flush with water. **INTERNAL**-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

OK

Low specific gravity
↓

- Recharge battery

Charging Current:
1.2 amps/10 hrs

NOTE:

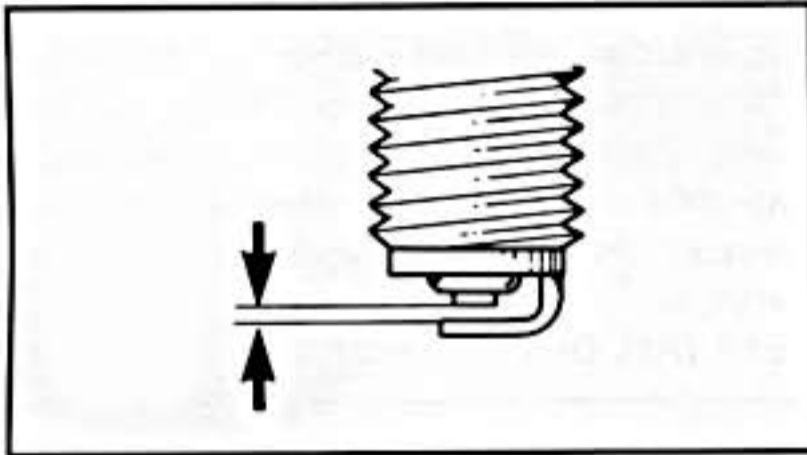
Replace the battery if:

- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.
- Specific gravity readings after a long, slow charge indicate on cell to be lower than the rest.
- Warpage or buckling of plates or insulators is evident.



5. Spark plug inspection

- Remove spark plug.
- Clean spark plug with spark plug cleaner, if necessary.
- Inspect electrode, insulator and plug gap. Refer to "CHAPTER 2—SPARK PLUG INSPECTION" section.



Plug Gap:

0.6 ~ 0.7 mm (0.024 ~ 0.028 in)

OK

No good

Replace or regap spark plug.

6. Ignition spark gap test

- Connect Electro Tester (YU-33260) ① as shown.

② Spark plug lead

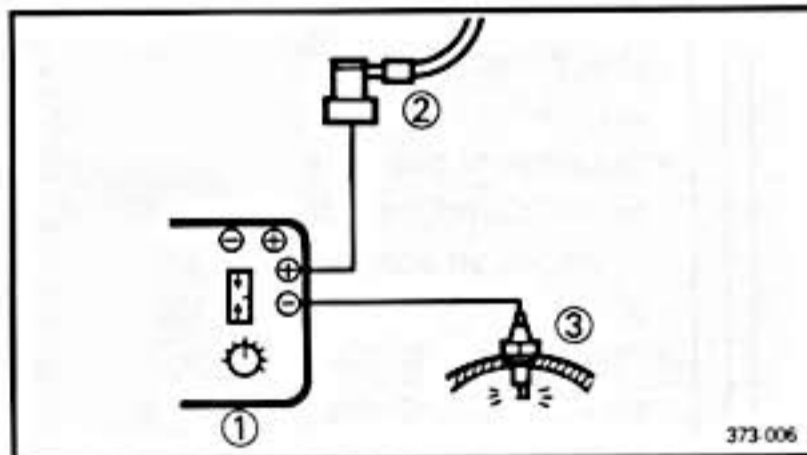
③ Spark plug

- Start the engine, and increase the spark gap until misfire occurs. (Test at various r/min between idle and red line.)

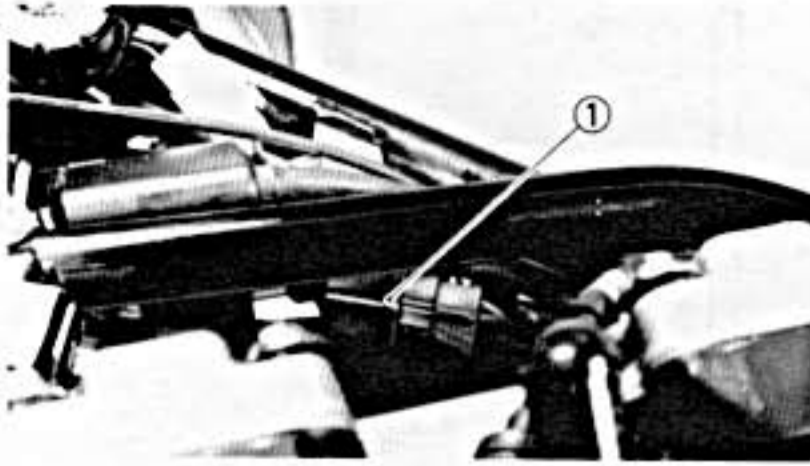
CAUTION:

Do not run the engine in neutral above 6,000 r/min for more than 1 or 2 seconds.

Minimum Spark Gap: 6 mm (0.24 in)



6

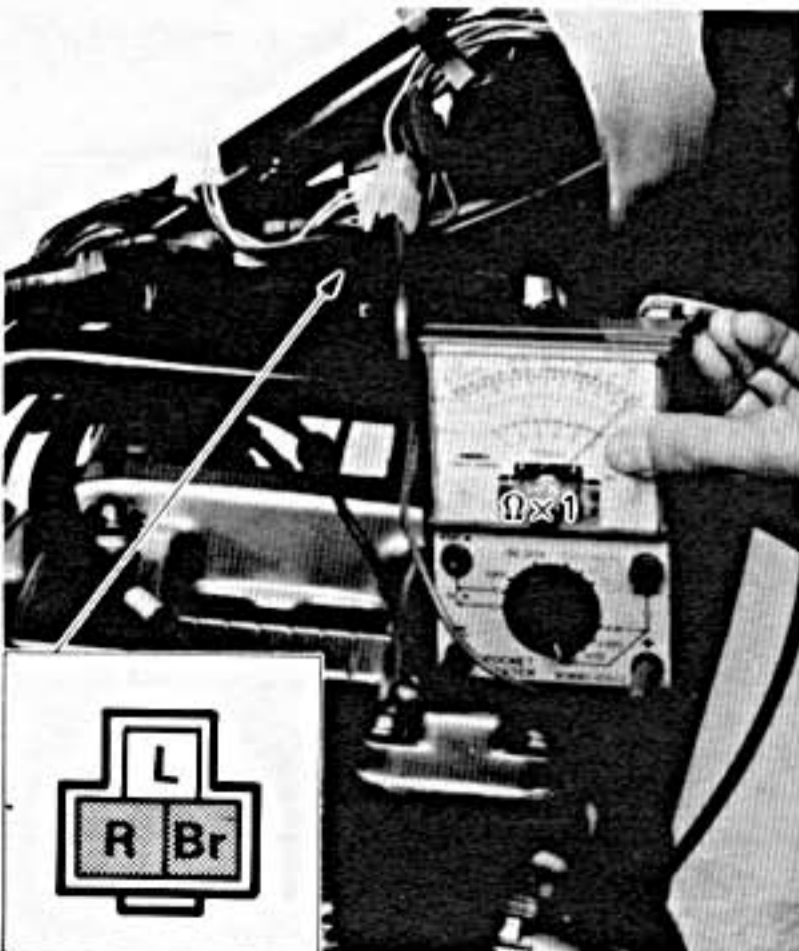
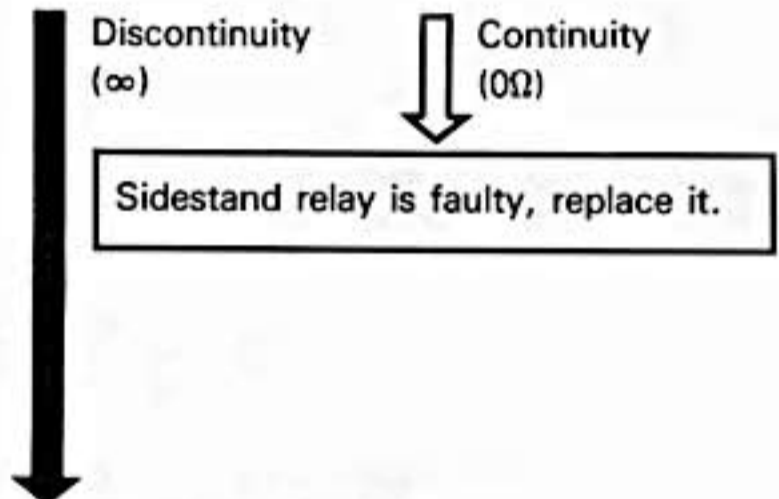
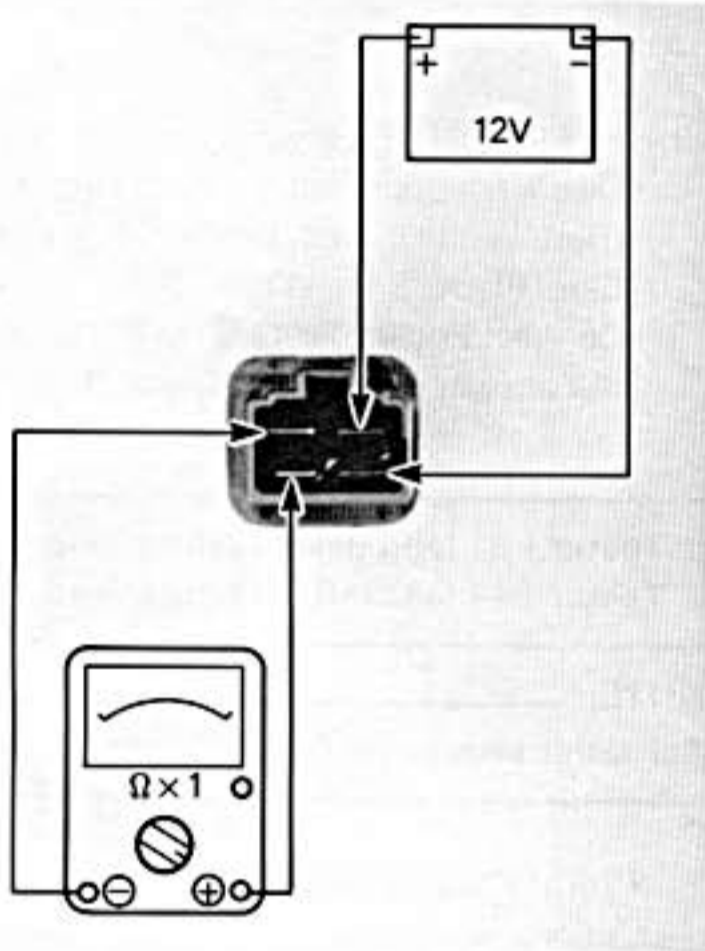


7. Sidestand relay conduct check

- Remove sidestand relay ①
- Connect 12V battery and Pocket Tester (YU-03112) to sidestand relay terminals as shown.

NOTE: _____

- Use full charge battery.
- Set tester selector to " $\Omega \times 1$ " position.



8. Main switch conduct check

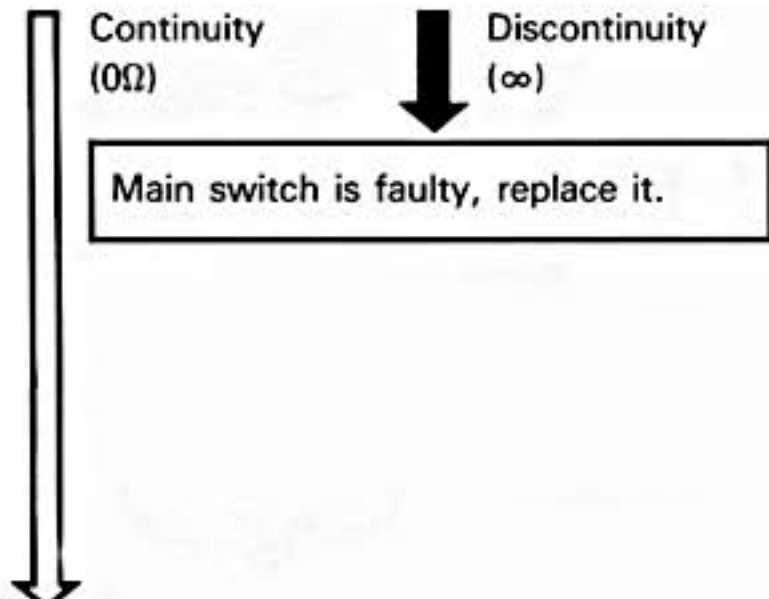
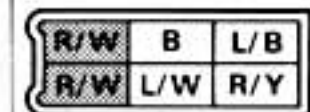
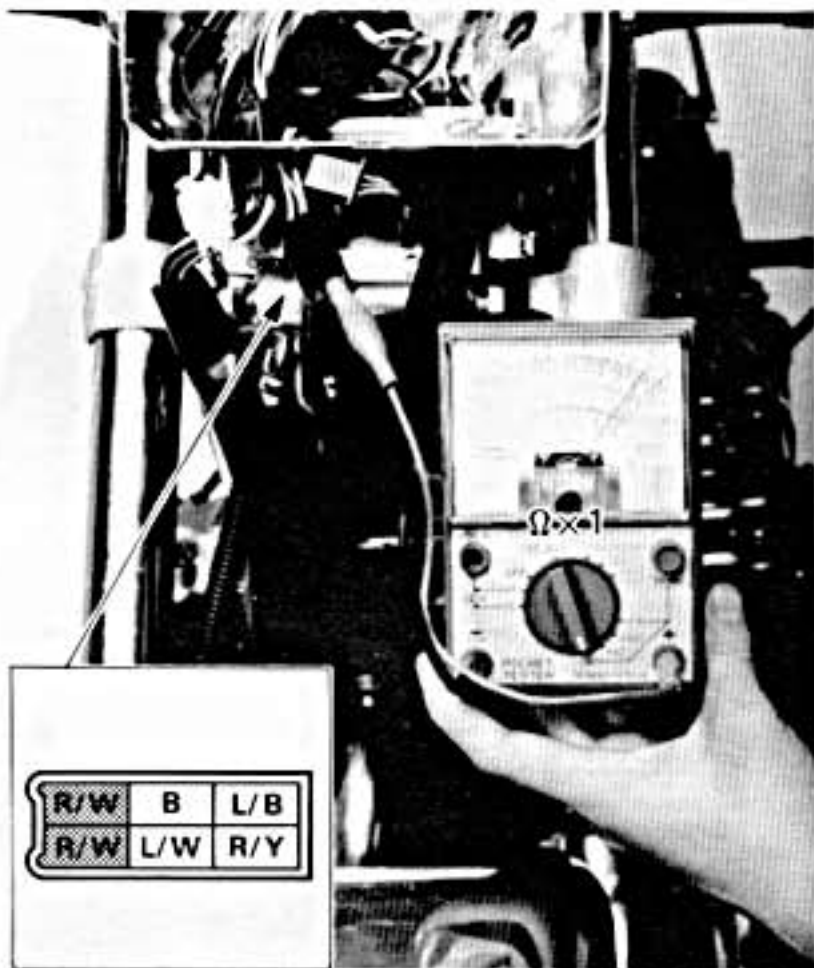
- Disconnect main switch coupler (Brown, Red, Blue).
- Connect Pocket Tester (YU-03112) to main switch leads (Brown, Red).

Tester (+) lead → Red lead
 Tester (-) lead → Brown lead

NOTE: _____

Set tester selector to " $\Omega \times 1$ " position.

- Turn main switch to "ON" position and check it for continuity.

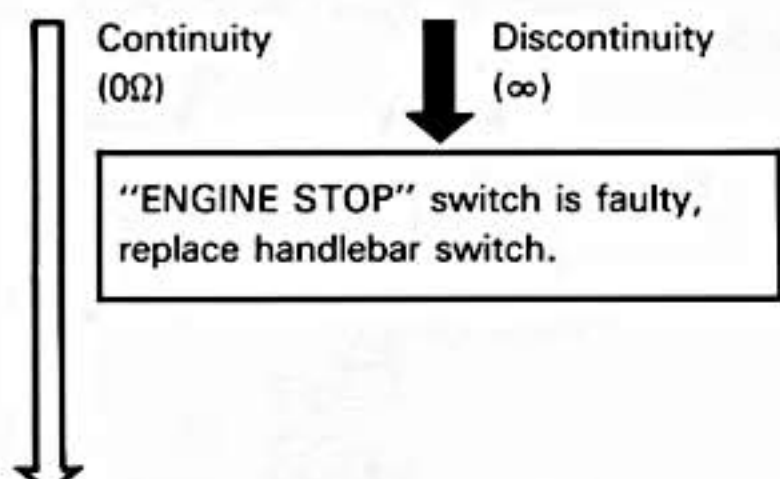
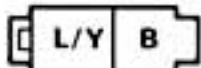
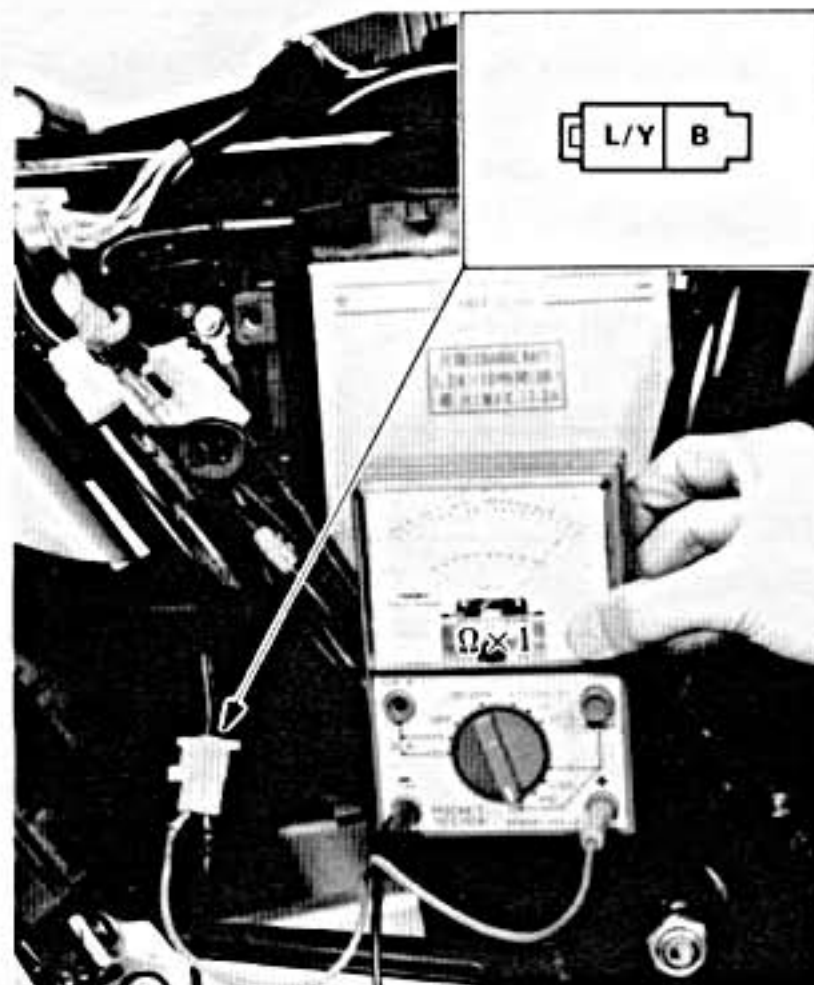


9. "ENGINE STOP" switch conduct check
- Disconnect handlebar switch (Right) leads (Red/White, Red/White, Red/Yellow, Blue/Black, Blue/White, Black).
 - Connect Pocket Tester (YU-03112) to handlebar switch lead (Red/White, Red/White).

Tester (+) lead → Red/White lead
 Tester (-) lead → Red/White lead

NOTE: _____
 Set tester selector to "Ω × 1" position.

- Turn "ENGINE STOP" switch to "RUN" position.



10. Sidestand switch conduct check
- Disconnect sidestand leads (Blue/Yellow, Black).
 - Connect Pocket Tester (YU-03112) to sidestand switch leads.

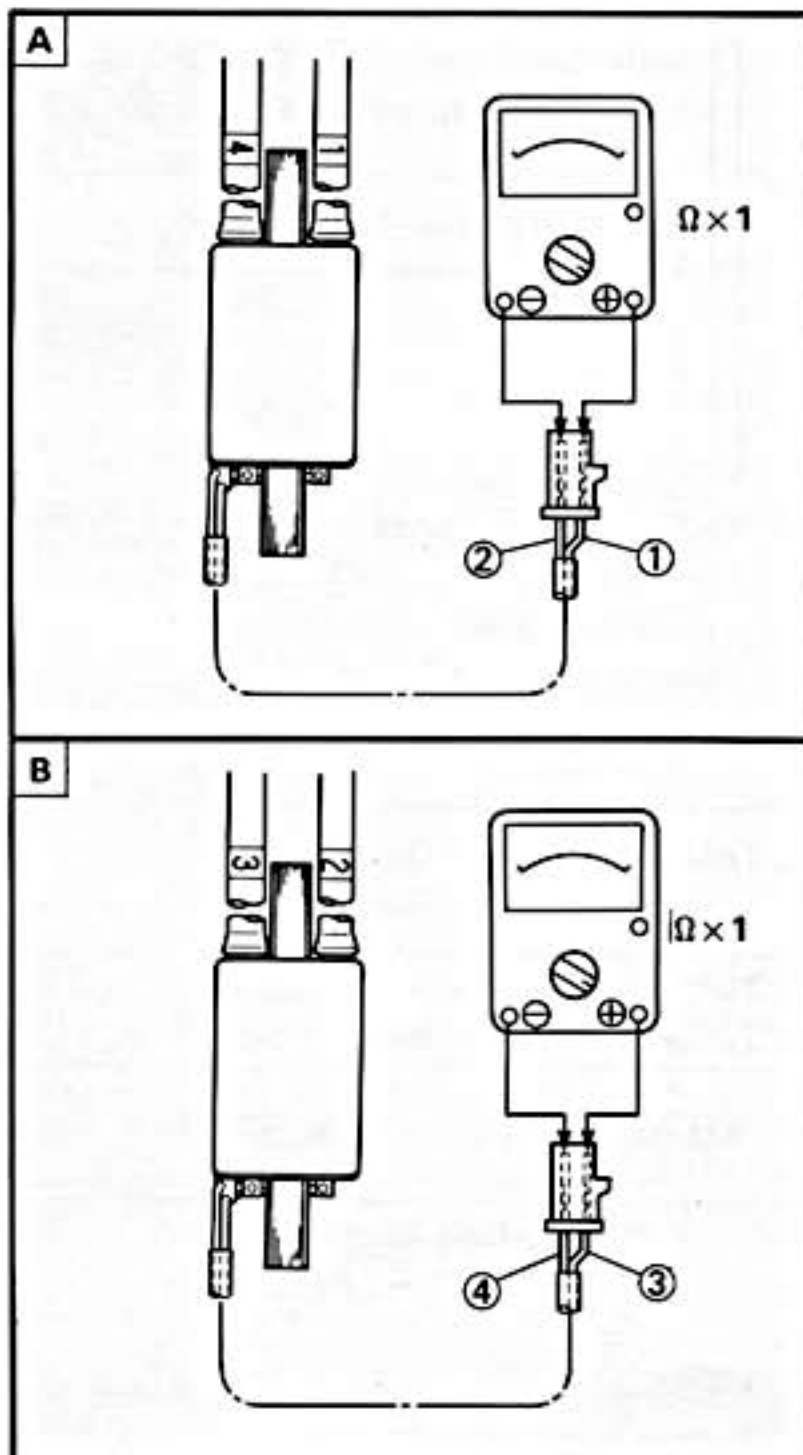
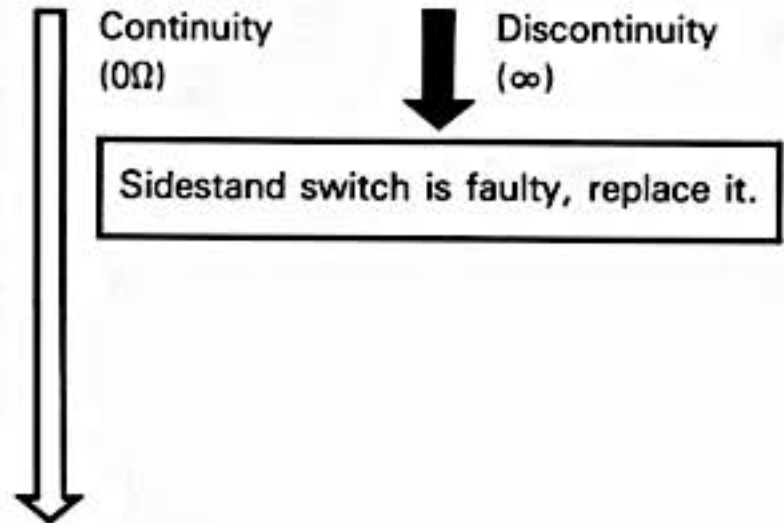
Tester (+) lead → Blue/Yellow lead
 Tester (-) lead → Black lead

6



NOTE: _____
Set tester selector to " $\Omega \times 1$ " position.

- Place motorcycle on centerstand.
- Sidestand is up and check sidestand switch for continuity.



11. Ignition coil resistance test

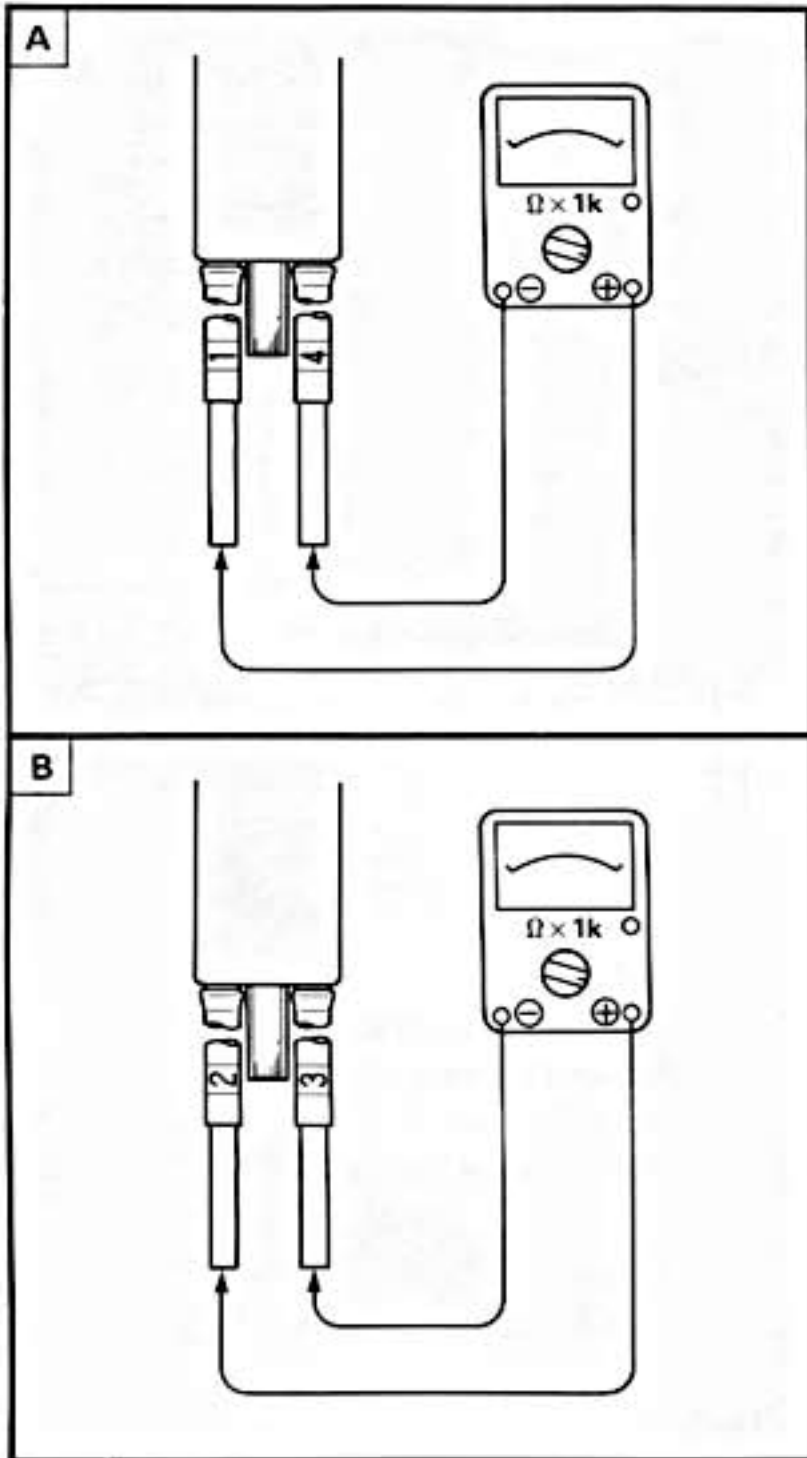
- Disconnect ignition coil leads and spark plug leads.
- Connect Pocket Tester (YU-03112) to ignition coil lead.

<p>A Ignition coil for #1, #4 cylinder Tester (+) lead → Orange lead ① Tester (-) lead → Red/White lead ②</p>
<p>B Ignition coil for #2, #3 cylinder Tester (+) lead → Gray lead ③ Tester (-) lead → Red/White lead ④</p>

- Measure primary coil resistance

	<p>Primary Coil Resistance: 2.43 ~ 2.97 Ω at 20°C (68°F)</p>
--	---

NOTE: _____
Set tester selector to " $\Omega \times 1$ " position.




- Connect Pocket Tester (YU-03112) to spark plug leads.

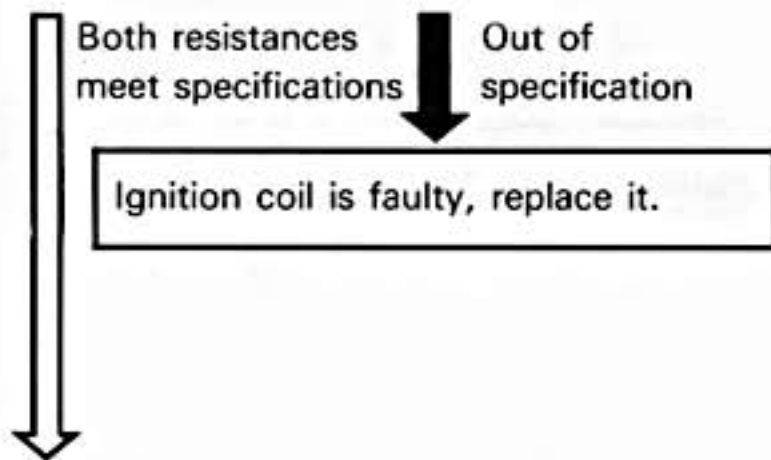
A Ignition coil for #1, #4 cylinder
 Tester (+) lead → #1 spark plug lead
 Tester (-) lead → #4 spark plug lead

B Ignition coil for #2, #3 cylinder
 Tester (+) lead → #2 spark plug lead
 Tester (-) lead → #3 spark plug lead

- Measure secondary coil resistance.

 **Secondary Coil Resistance:**
 10.56 ~ 15.84 kΩ at 20°C (68°F)

NOTE: _____
 Set tester selector to "Ω × 1K" position.




12. Pickup coil resistance test.

- Disconnect pickup coil leads (Orange, Gray, Black) at ignitor unit.
- Connect Pocket Tester (YU-03112) to pickup coil leads.

Tester (+) lead → Orange lead
 Tester (-) lead → Black lead

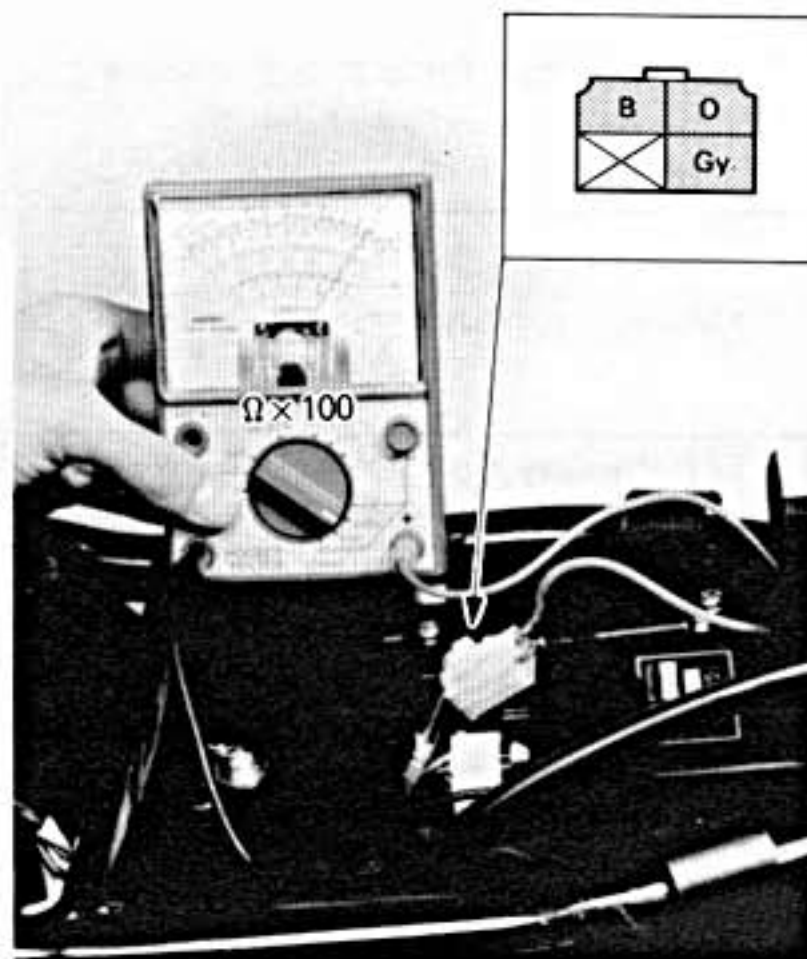
Tester (+) lead → Gray lead
 Tester (-) lead → Black lead

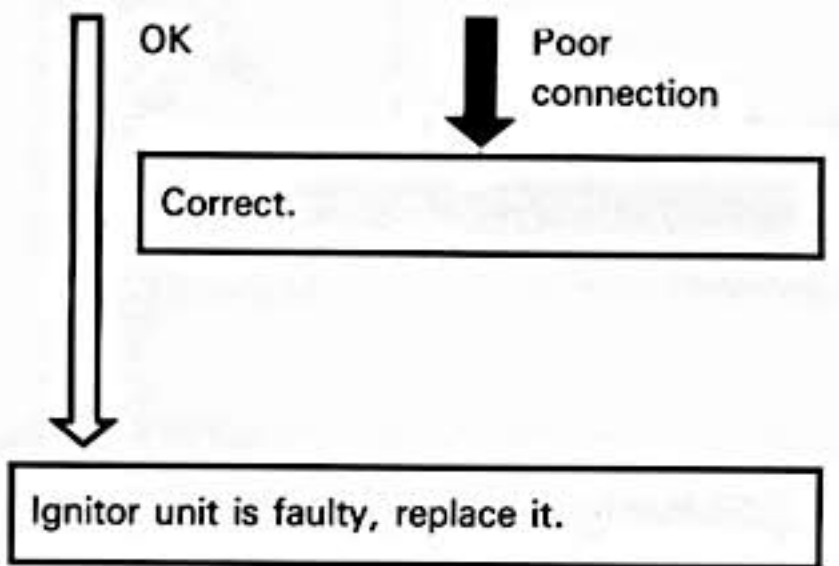
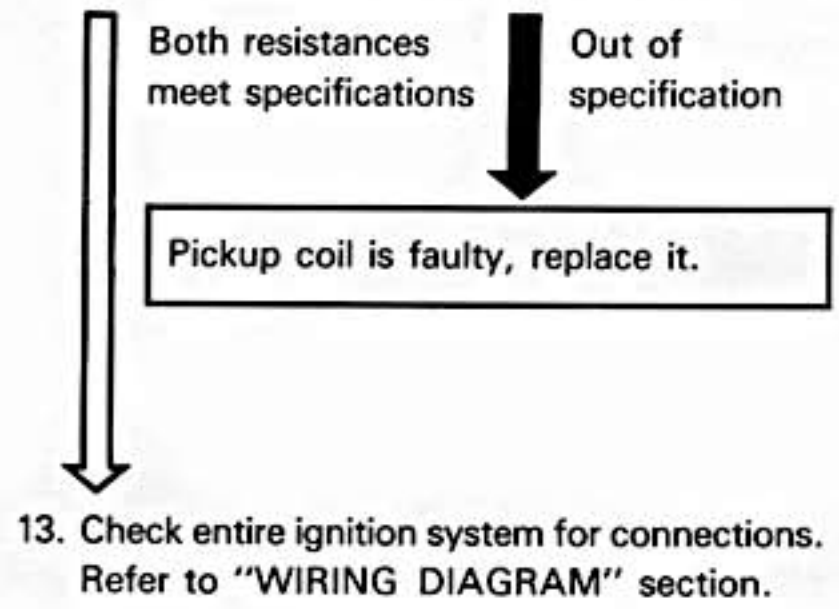
- Measure pickup coil resistance.

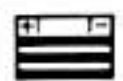
 **Pickup Coil Resistance:**
 108 ~ 132 Ω at 20°C (68°F)

NOTE: _____
 Set tester selector to "Ω × 100" position.

6



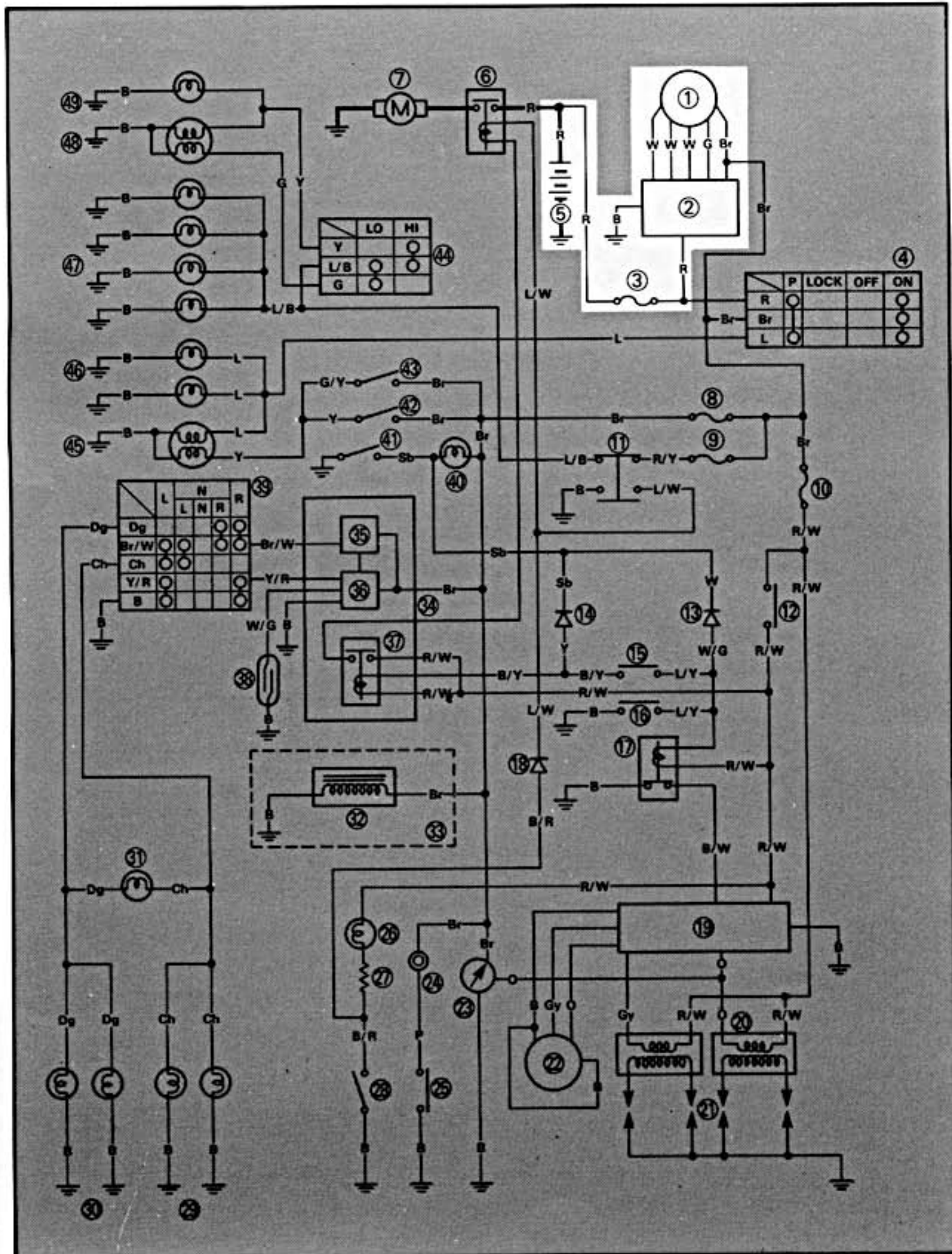




CHARGING SYSTEM

CIRCUIT DIAGRAM

Below circuit diagram shows charging circuit.

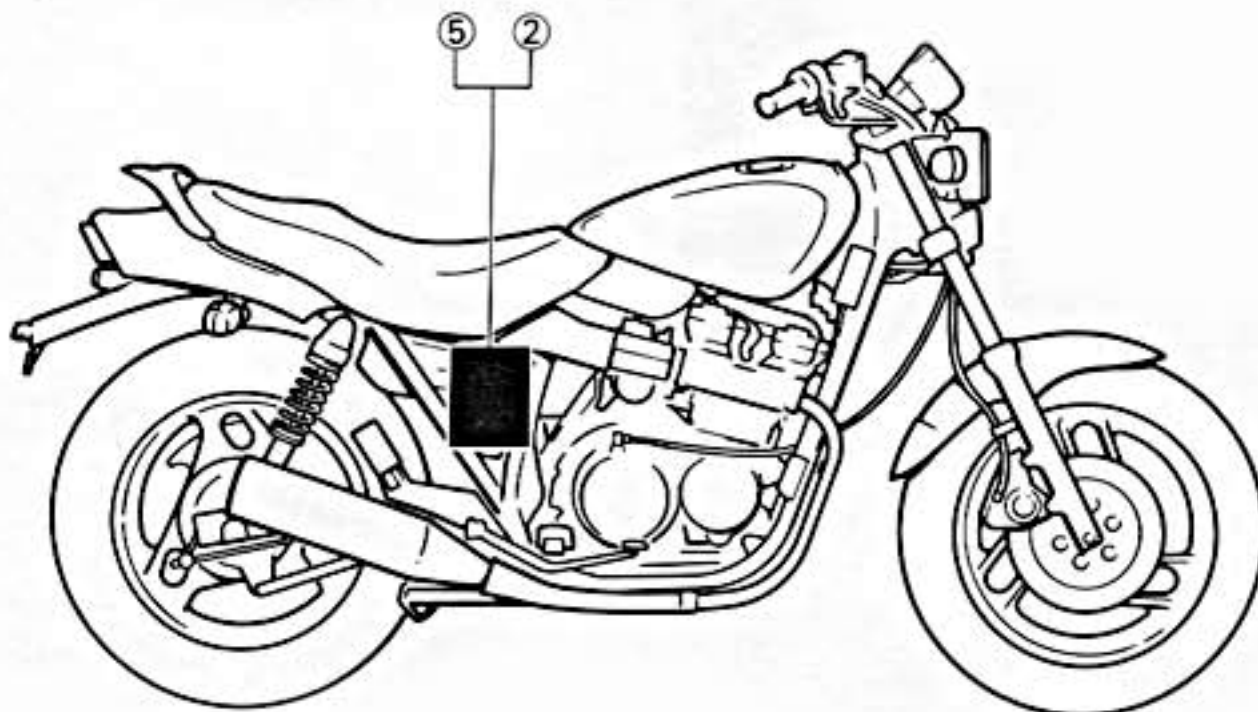
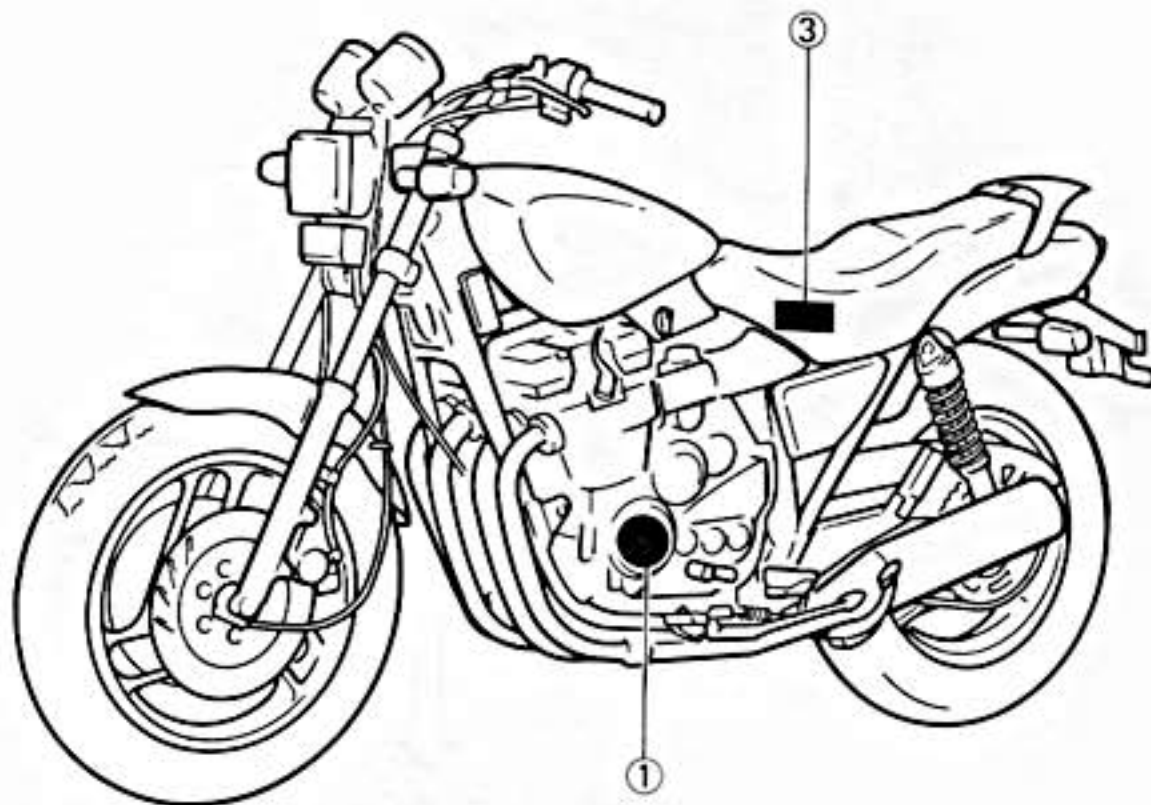




NOTE: _____

For the color codes, see page 6-2.

- ① AC Magneto
- ② Rectifier/Regulator
- ③ Fuse (MAIN)
- ⑤ Battery



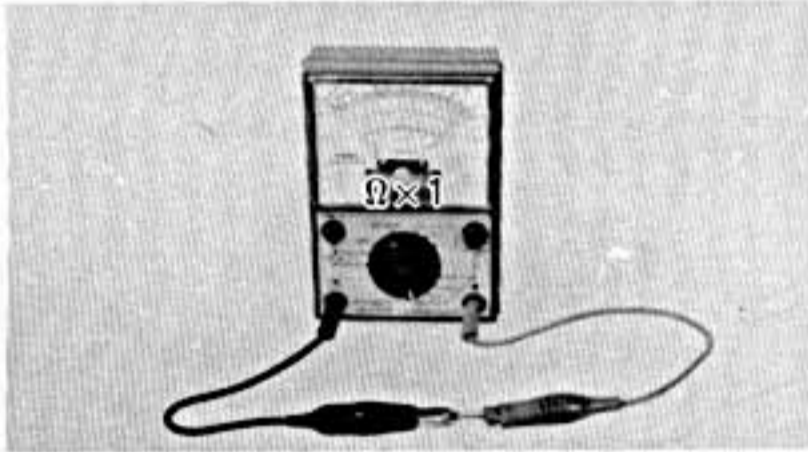


TROUBLESHOOTING

THE BATTERY IS NOT CHARGED.

Before this troubleshooting, remove following parts.

- Seat
- Side cover (Right)

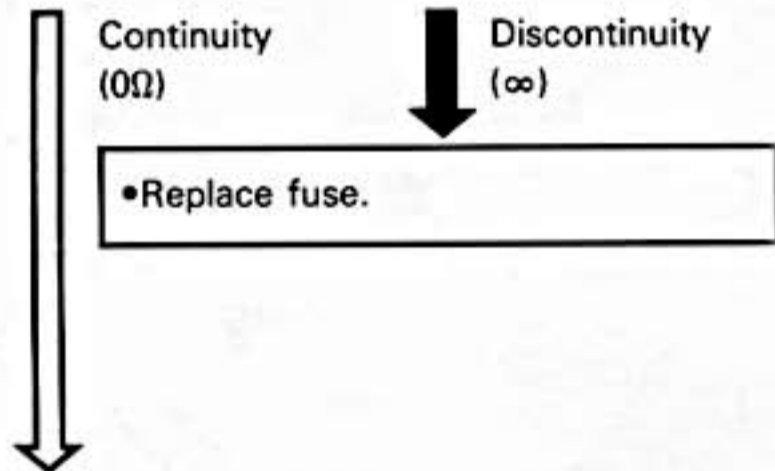


1. Fuse inspection

- Remove fuse (MAIN).
- Connect Pocket Tester (YU-03112) to fuse and check it for continuity.

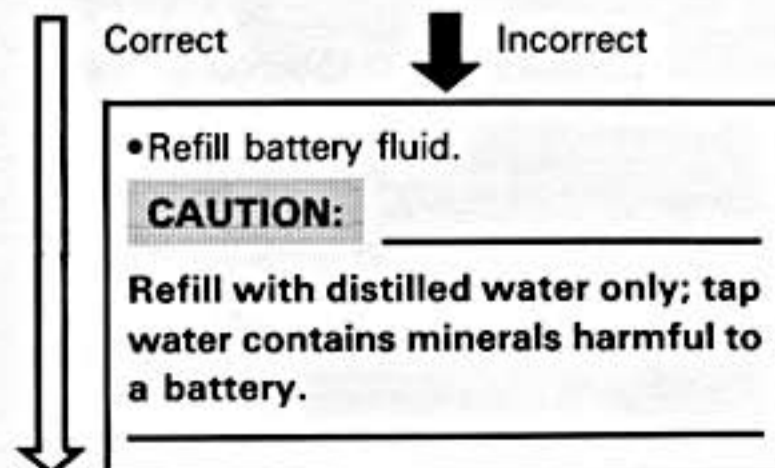
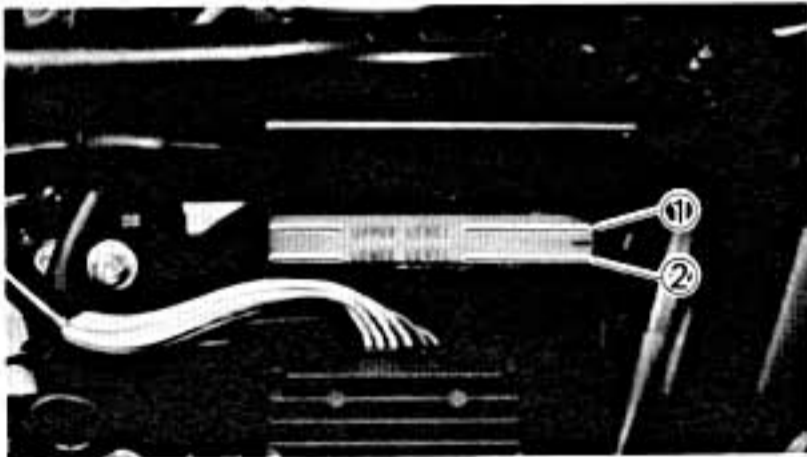
NOTE: _____

Set tester selector to "Ω × 1" position.

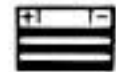


2. Battery fluid level inspection

- Fluid level should be between upper ① and lower ② level mark.

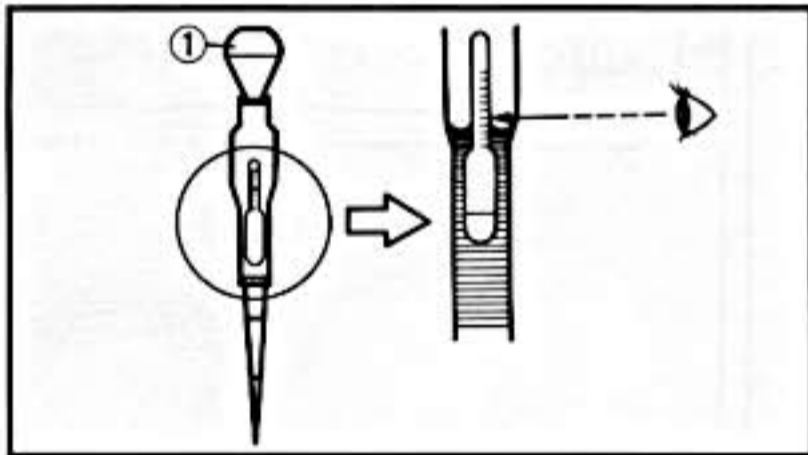
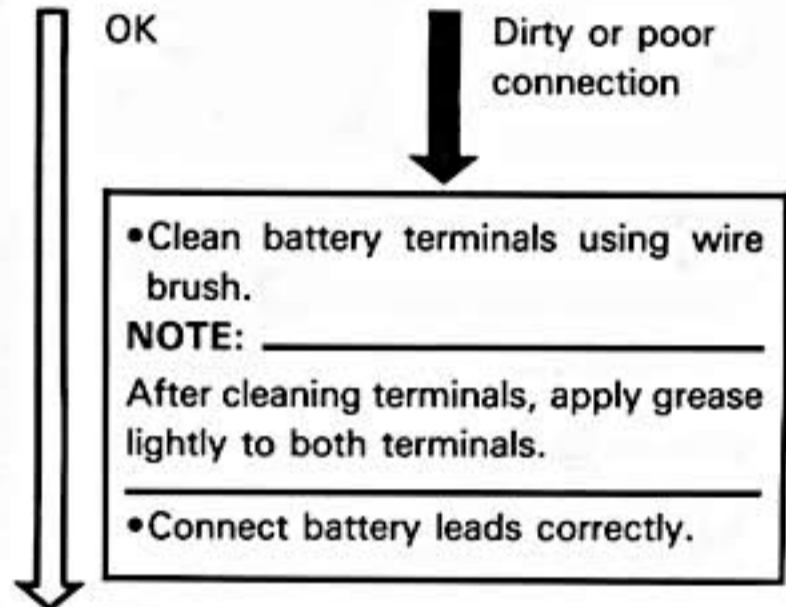


6



3. Battery terminal inspection

- Inspect battery terminal and connections.



4. Battery fluid specific gravity inspection

- Remove caps.
- Inspect specific gravity of all cell using Battery Hydrometer ①.

Specific Gravity:
 1.280 ± 0.01 at 20°C (68°F)



WARNING: _____

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: EXTERNAL-Flush with water. INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.



OK

↓ Low specific gravity

- Recharge battery.

Charging Current:
1.2 amps/10 hrs

NOTE: _____

Replace the battery if:

- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.
- Specific gravity readings after a long, slow charge indicate on cell to be lower than the rest.
- Warpage or buckling of plates or insulators is evident.

5. Charging voltage test

- Connect Pocket Tester (YU-03112) to battery.

NOTE: _____

Set tester selector to "DC20V" position.

Tester (+) lead → Battery (+) terminal
Tester (-) lead → Battery (-) terminal

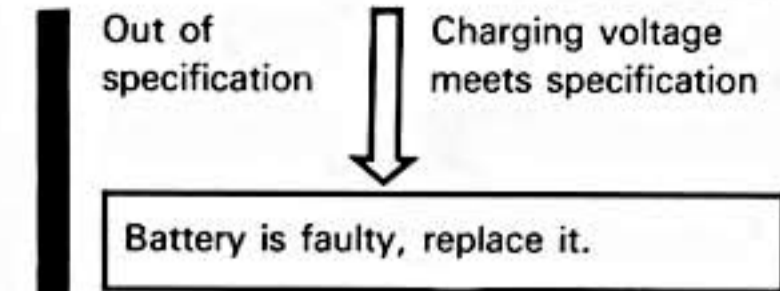
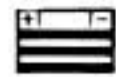
- Start engine and accelerate to about 5,000 r/min.
- Measure charging voltage.



Charging Voltage:
14 ~ 15 V at 5,000 r/min



6

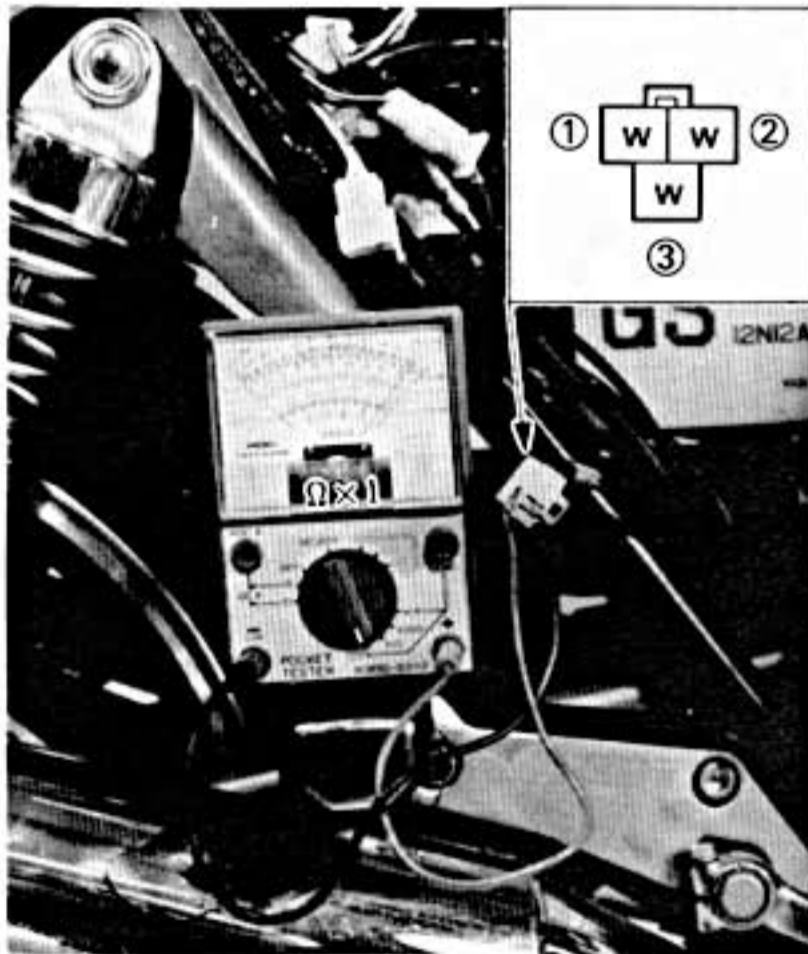


6. Stator coil resistance test

- Disconnect AC magneto leads (White, White, White).
- Connect Pocket Tester (YU-03112) to AC magneto leads.

NOTE: _____

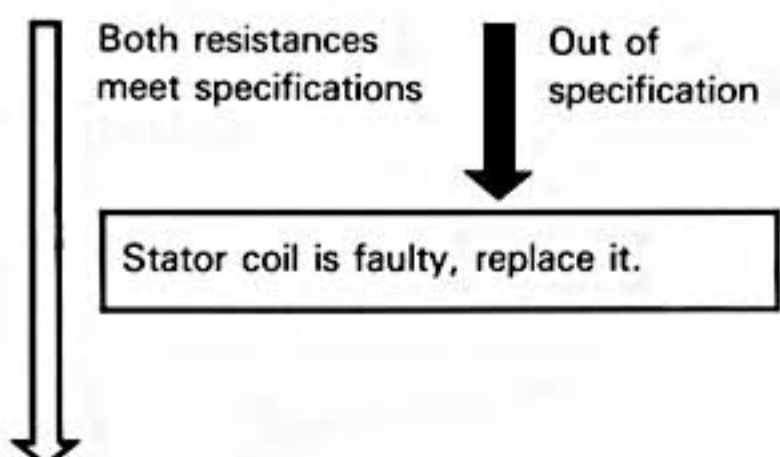
Set tester selector to " $\Omega \times 1$ " position.

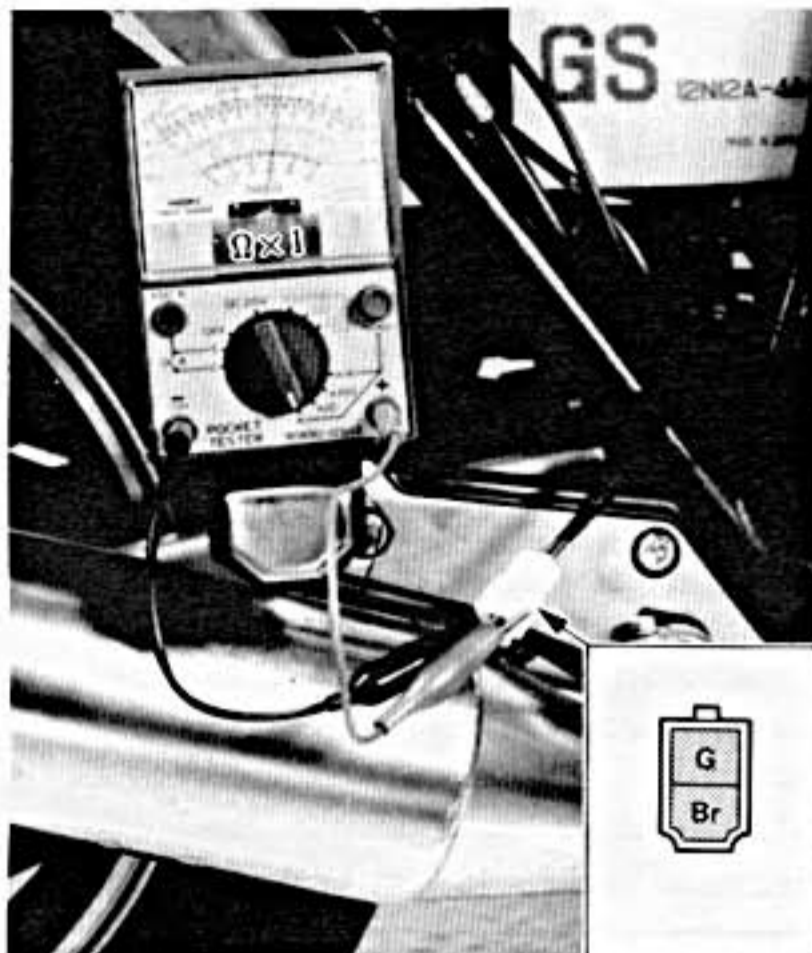


<p>Stator Coil (1) Tester (+) lead → White lead ① Tester (-) lead → White lead ③</p>
<p>Stator Coil (2) Tester (+) lead → White lead ② Tester (-) lead → White lead ③</p>

- Measure stator coil resistance.

<p>Stator Coil Resistance: White ① - White ② 0.5 ~ 0.6 Ω at 20°C (68°F) White ② - White ③ 0.5 ~ 0.6 Ω at 20°C (68°F)</p>





7. Field coil resistance test.

- Disconnect AC magneto leads (Green, Brown).
- Connect Pocket Tester (YU-03112) to AC magneto leads.

NOTE: _____

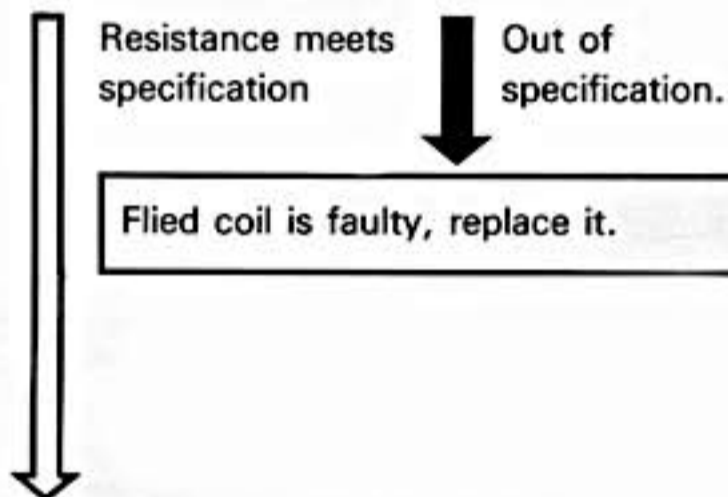
Set tester selector "Ω × 1" position.

Tester (+) lead → Green lead
 Tester (-) lead → Brown lead

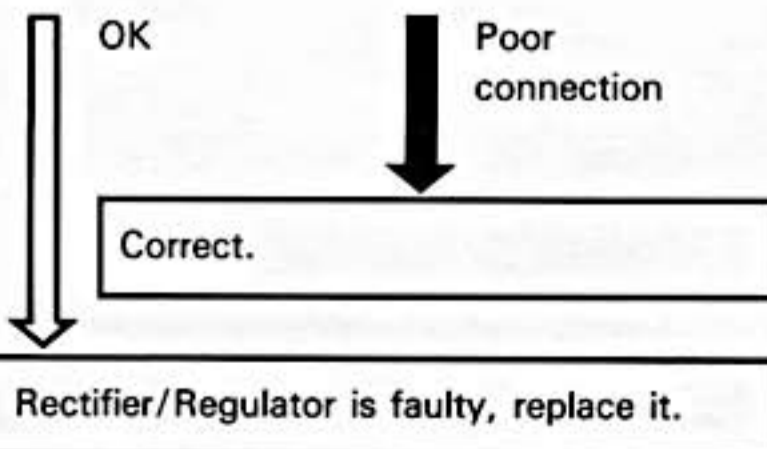
- Measure field coil resistance.



Field Coil Resistance:
 2.7 ~ 3.3Ω at 20°C (68°F)



8. Check entire charging system for connections. Refer to "WIRING DIAGRAM" section.





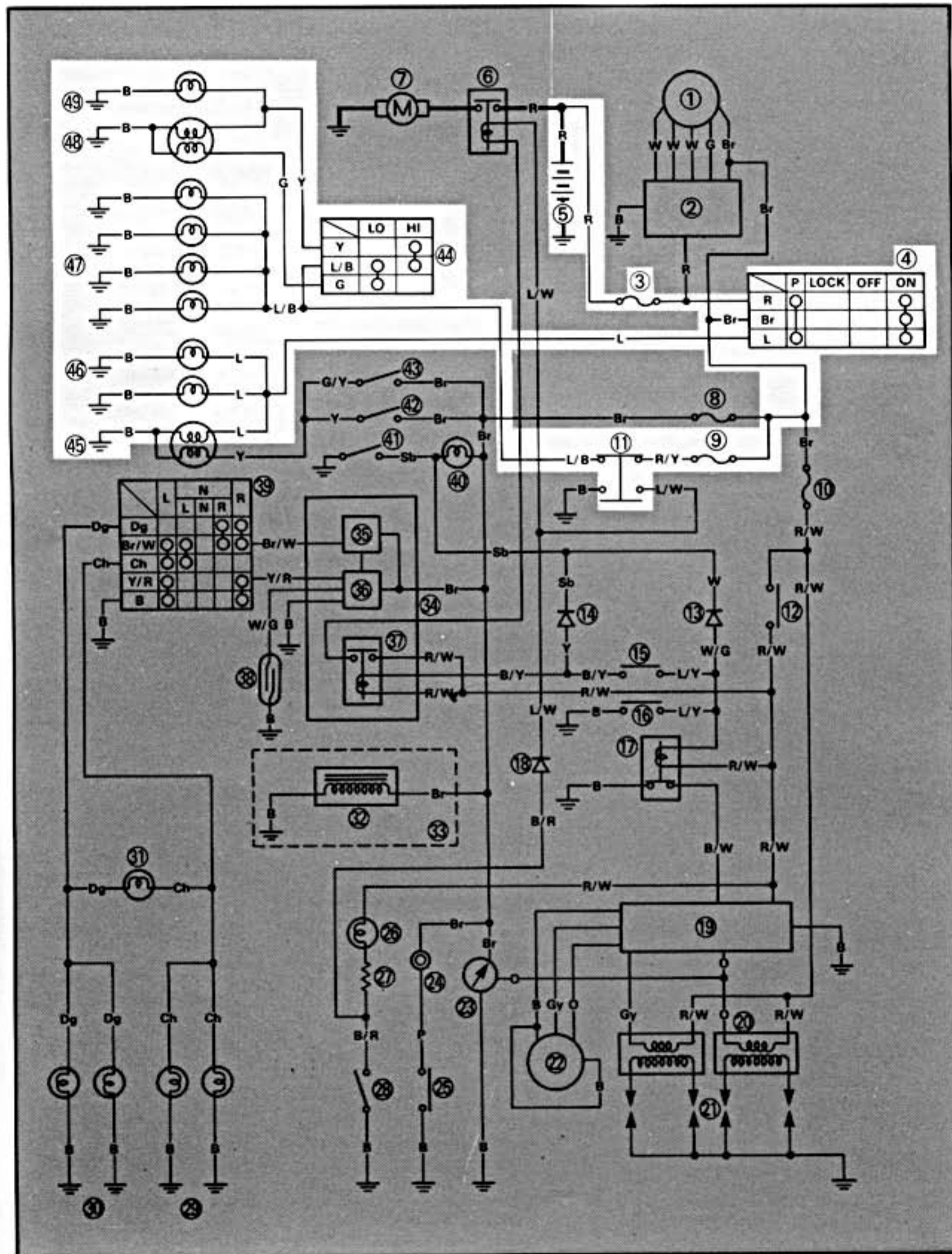
MEMO



LIGHTING SYSTEM

CIRCUIT DIAGRAM

Below circuit diagram shows lighting circuit.



6

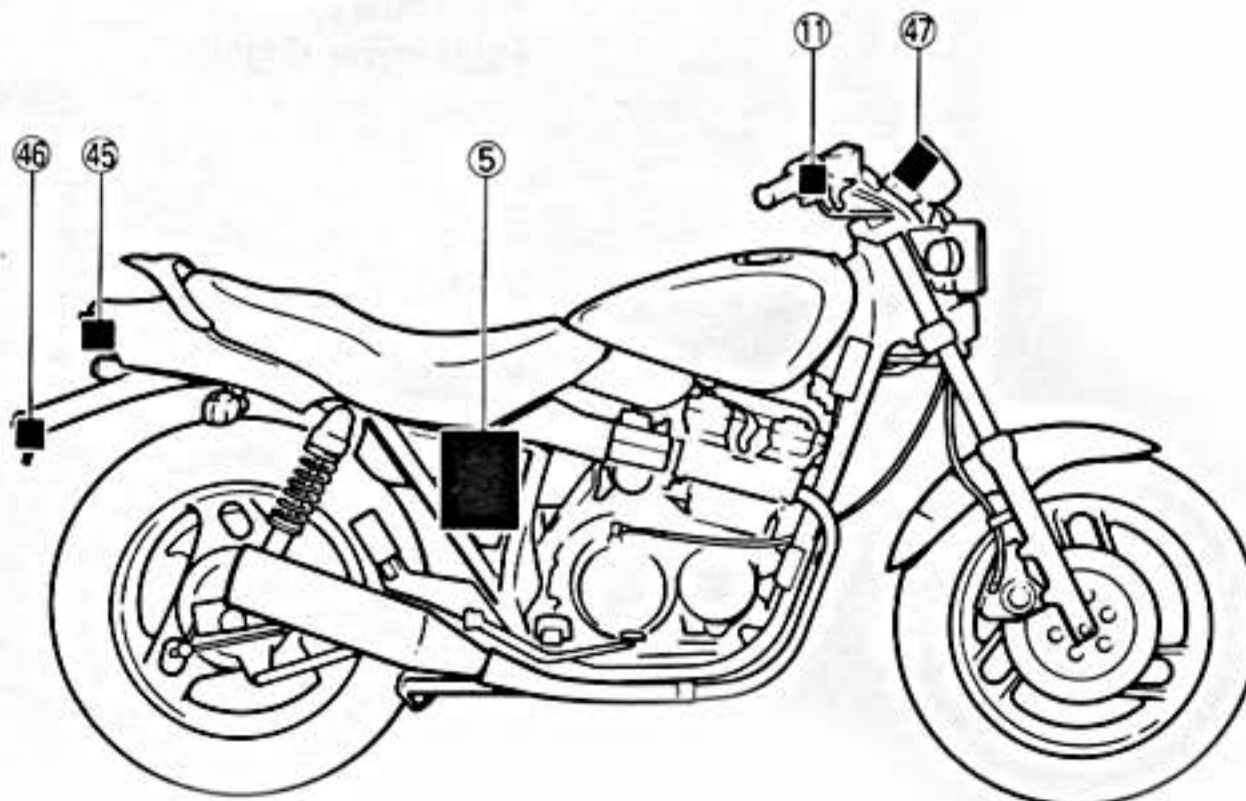
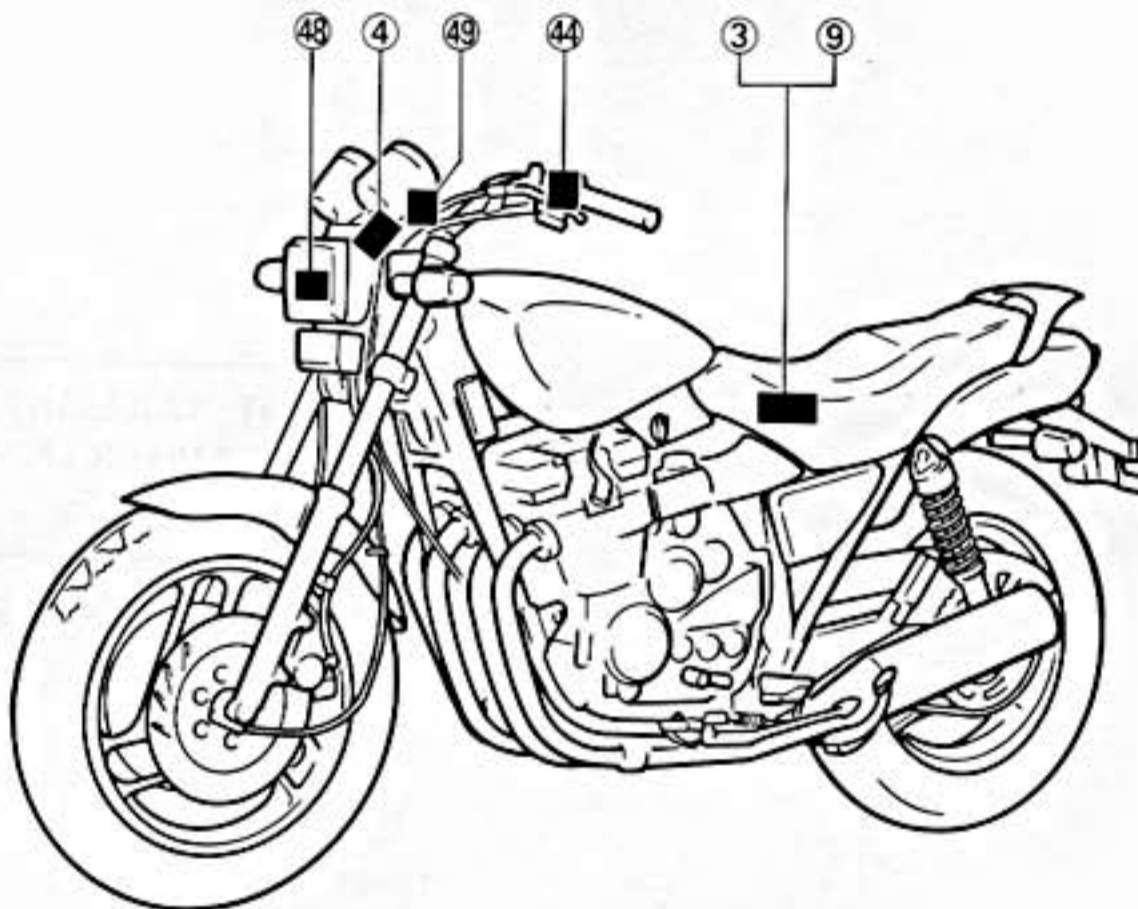


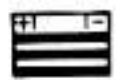
NOTE: _____

For the color codes, see page 6-2.

- ③ Fuse (MAIN)
- ④ Main switch
- ⑤ Battery
- ⑨ Fuse (HEAD)
- ⑪ "START" switch
- ④④ "LIGHTS" (Dimmer) switch

- ④⑤ Tail/Brake light
- ④⑥ License light
- ④⑦ Meter light
- ④⑧ Headlight
- ④⑨ "HIGH BEAM" indicator light



**TROUBLESHOOTING**

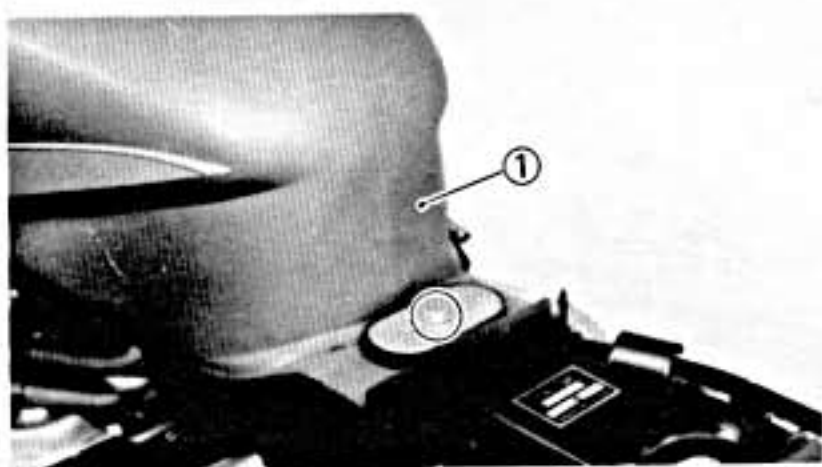
The battery provides power for operation of the headlight, taillight, license light and meter light. If none of the above fail to operate proceed further. Low battery voltage indicates either a faulty battery, low battery fluid level or a defective charging system.

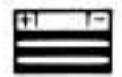
Also check fuse condition. Replace any "Open" fuses.

HEADLIGHT, TAILLIGHT, LICENSE LIGHT AND METER LIGHT DO NOT COME ON.

Before this troubleshooting, remove following parts.

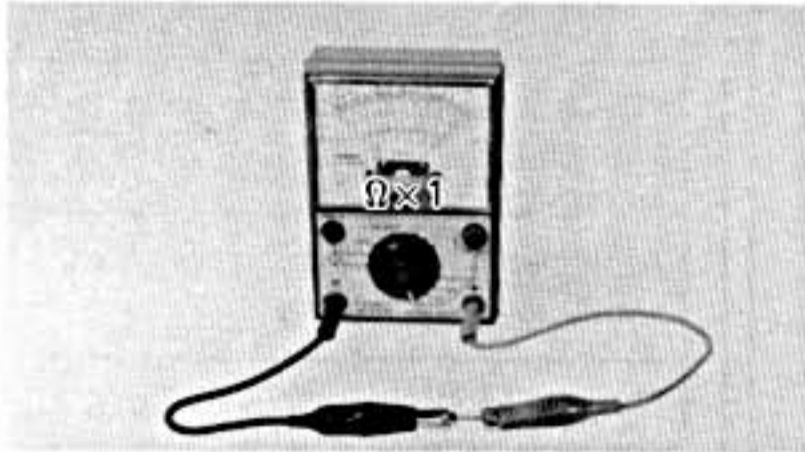
- Seat
- Fuel tank ①
- Side cover (Right) ②





NOTE: _____

Check each bulb first before performing the following check.

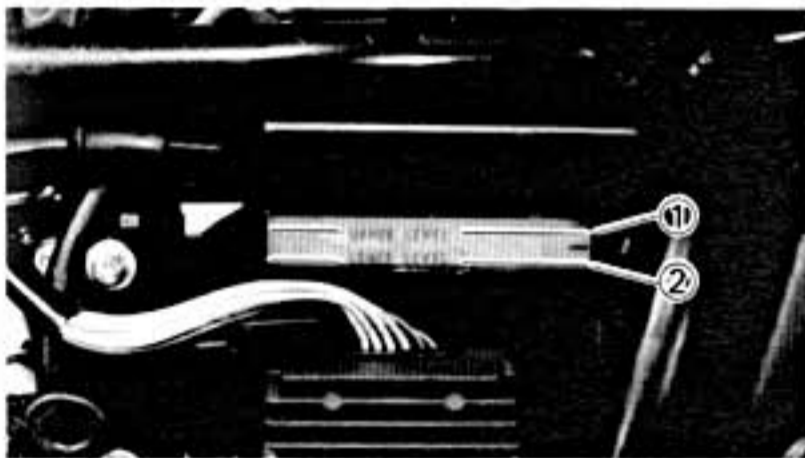
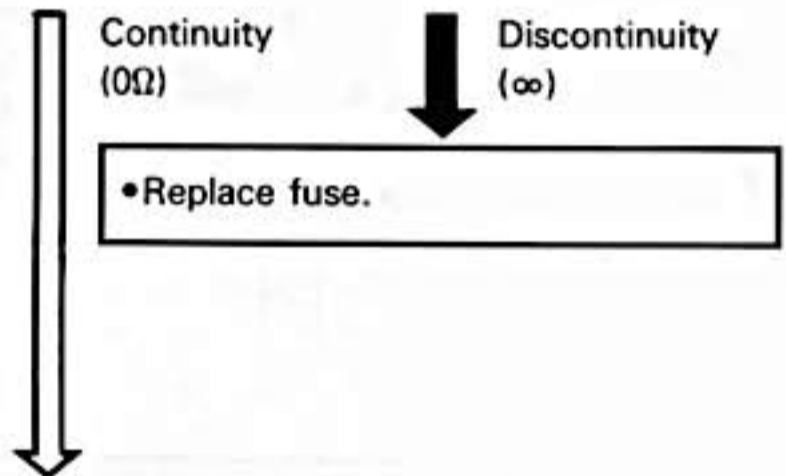


1. Fuse inspection

- Remove fuse (MAIN) and fuse (HEAD).
- Connect Pocket Tester (YU-03112) to fuse and check it for continuity.

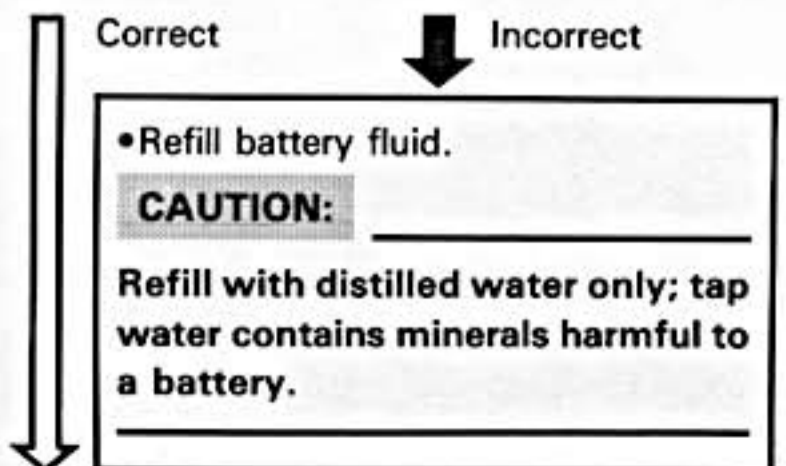
NOTE: _____

Set tester selector to "Ω × 1" position.



2. Battery fluid level inspection

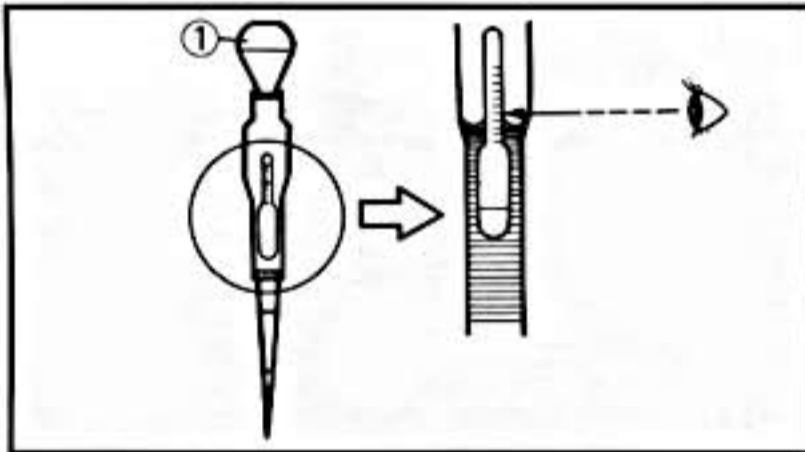
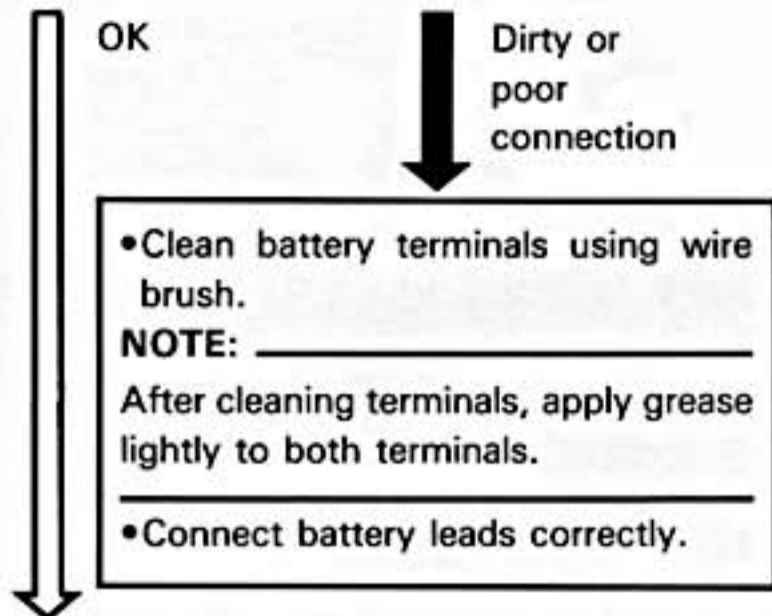
- Fluid level should be between upper ① and lower ② level mark.





3. Battery terminal inspection

- Inspect battery terminal and connections.



4. Battery fluid specific gravity inspection

- Remove caps.
- Inspect specific gravity of all cell using Battery Hydrometer ①.

Specific Gravity:
 1.280 ± 0.01 at 20°C (68°F)

WARNING: _____

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: **EXTERNAL**-Flush with water. **INTERNAL**-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.





OK

Low specific gravity



- Recharge battery.

Charging Current:
1.2 amps/10 hrs

NOTE: _____

Replace the battery if:

- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.
- Specific gravity readings after a long, slow charge indicate on cell to be lower than the rest.
- Warping or buckling of plates or insulators is evident.

5. Main switch conduct check

- Disconnect main switch coupler (Brown, Red, Blue).
- Connect Pocket Tester (YU-03112) to main switch leads.

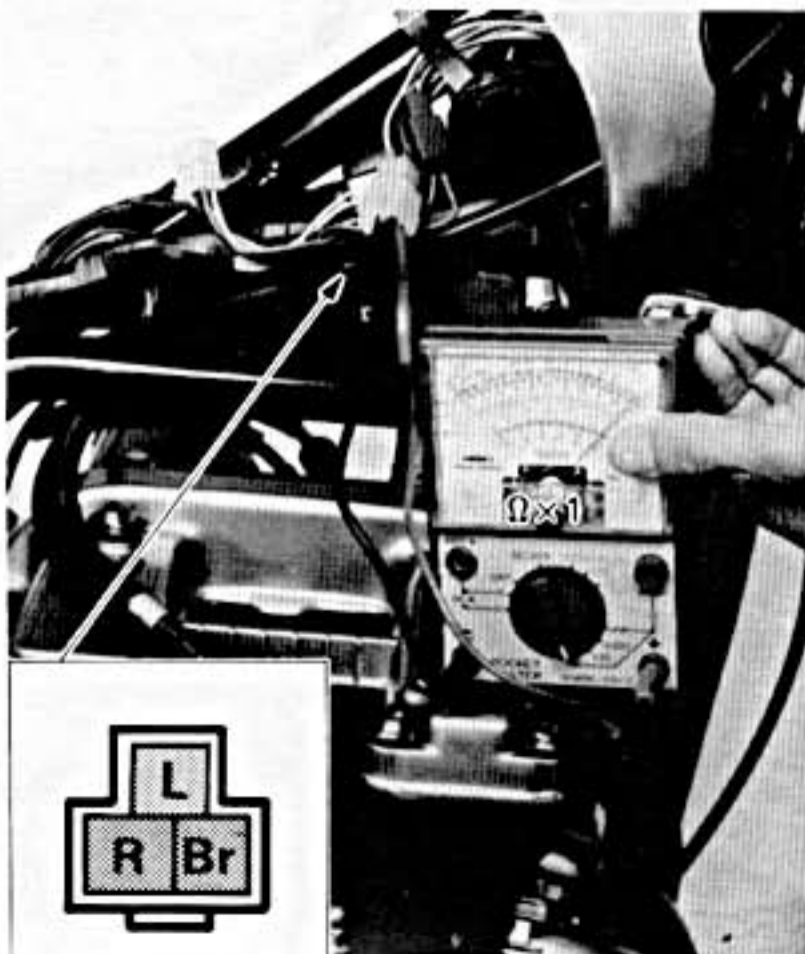
Tester (+) lead → Red lead
Tester (-) lead → Brown lead

Tester (+) lead → Red lead
Tester (-) lead → Blue lead

NOTE: _____

Set tester selector to " $\Omega \times 1$ " position.

- Turn main switch to "ON" position and check it for continuity.



6



Continuity exists on both circuits Continuity does not exist on one circuit



Main switch is faulty, replace it.

6. "START" switch conduct check

- Disconnect handlebar switch (Right) leads (Red/White, Red/White, Red/Yellow, Blue/Black, Blue/White, Black).
- Connect Pocket Tester (YU-03112) to handlebar switch leads (Blue/Black, Red/Yellow).

Tester (+) lead → Blue/Black lead
 Tester (-) lead → Red/Yellow lead

NOTE: _____

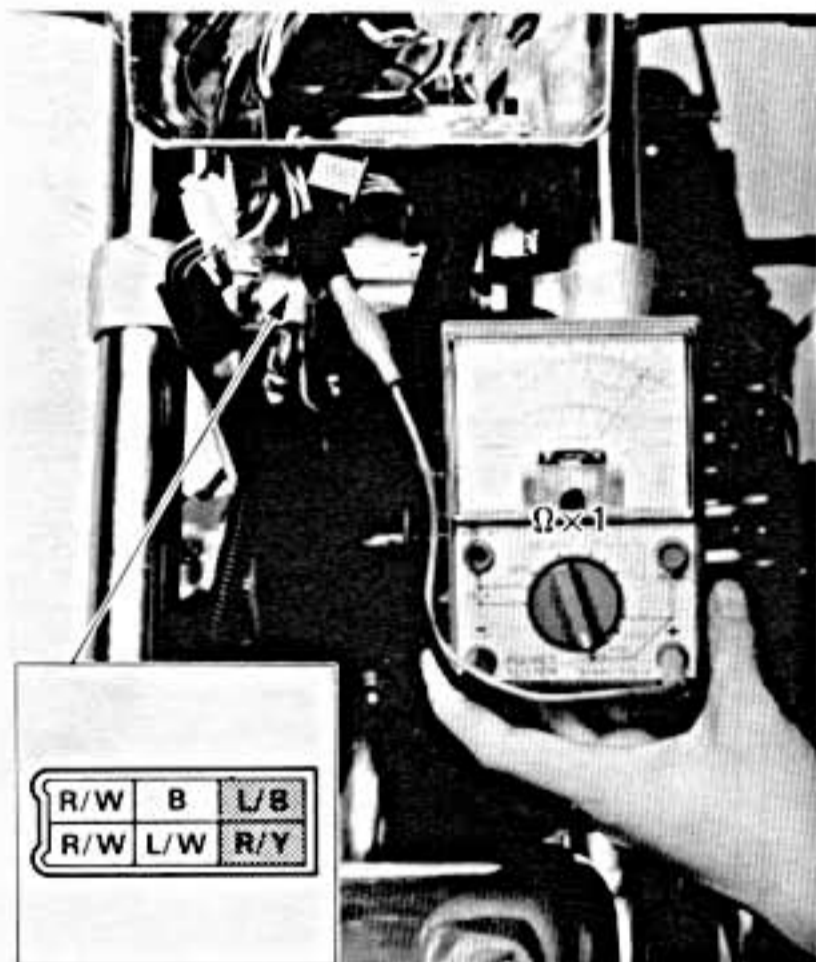
Set tester selector to " $\Omega \times 1$ " position.

Continuity (0 Ω) Discontinuity (∞)

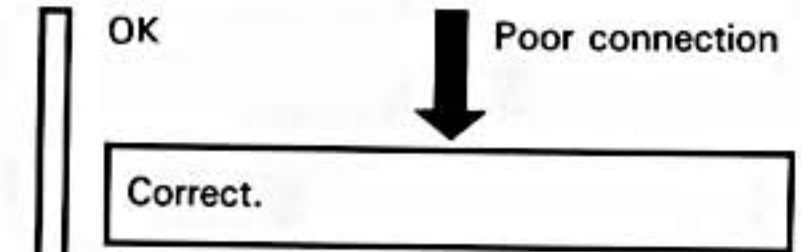


"START" switch is faulty, replace handlebar switch.

7. Check entire lighting system for connections. Refer to "WIRING DIAGRAM" section.



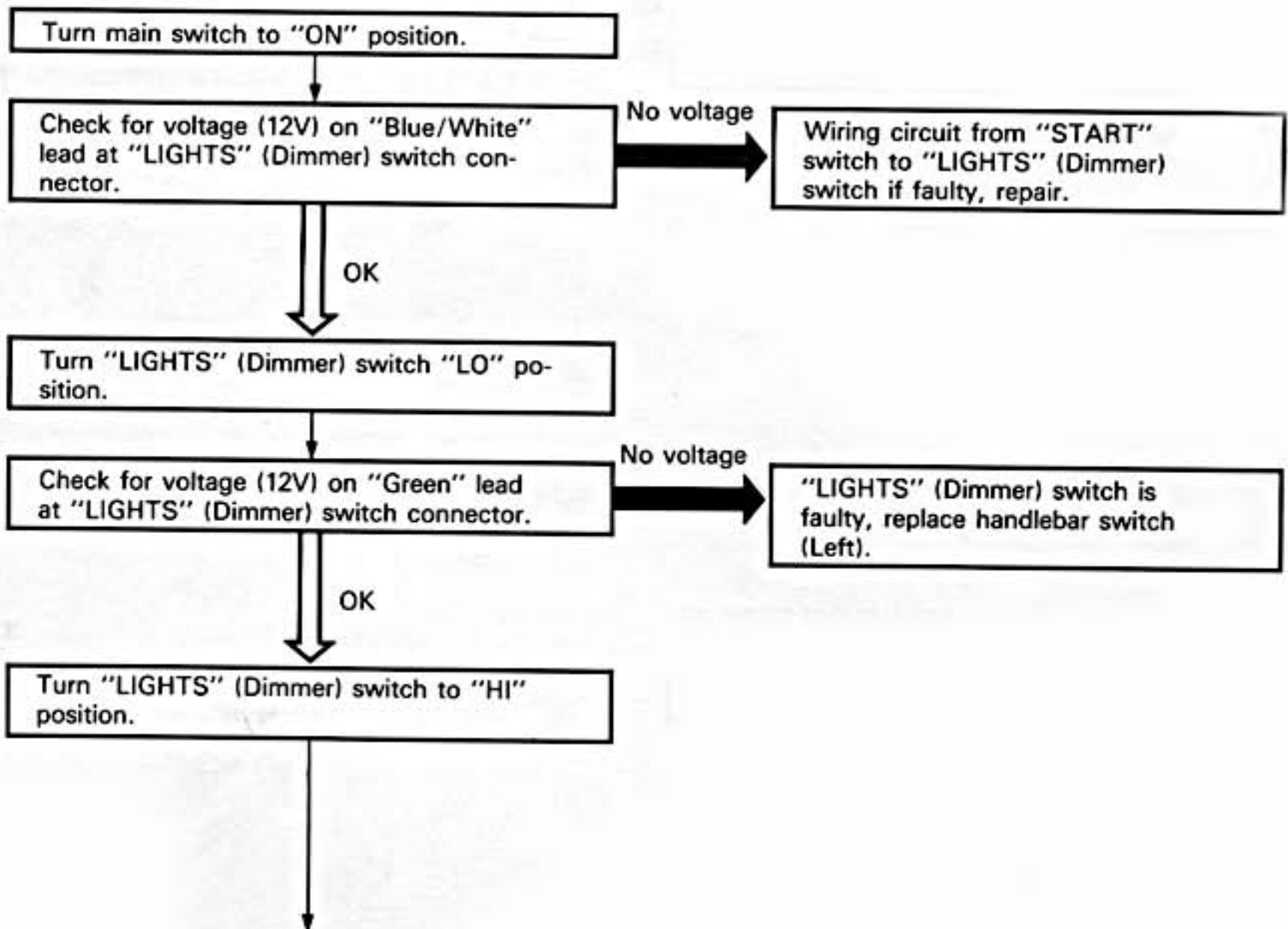
6



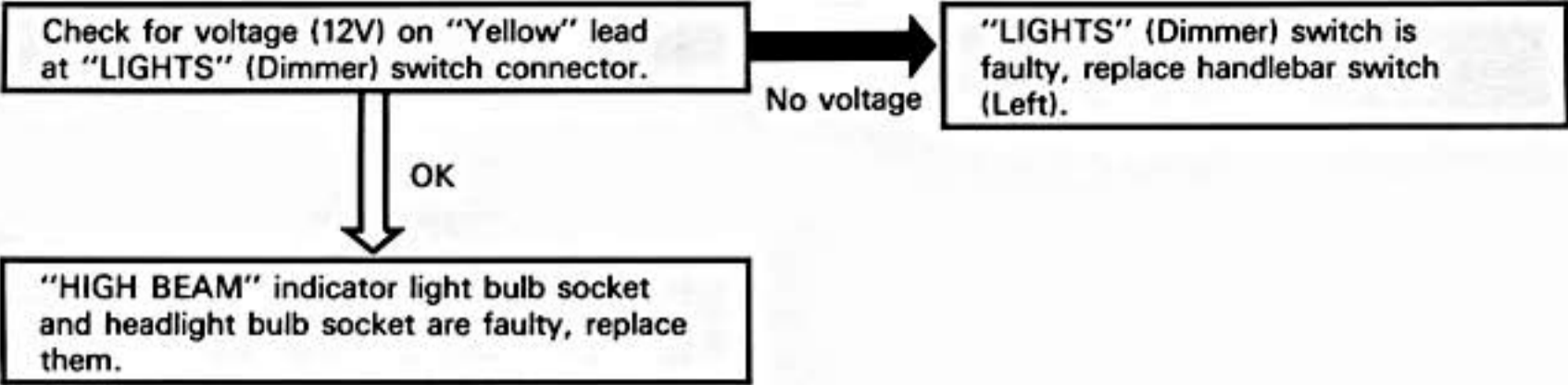
8. Check condition of each circuit for lighting system.
Refer to "LIGHTING SYSTEM TEST AND CHECKS" section.

LIGHTING SYSTEM TEST AND CHECKS

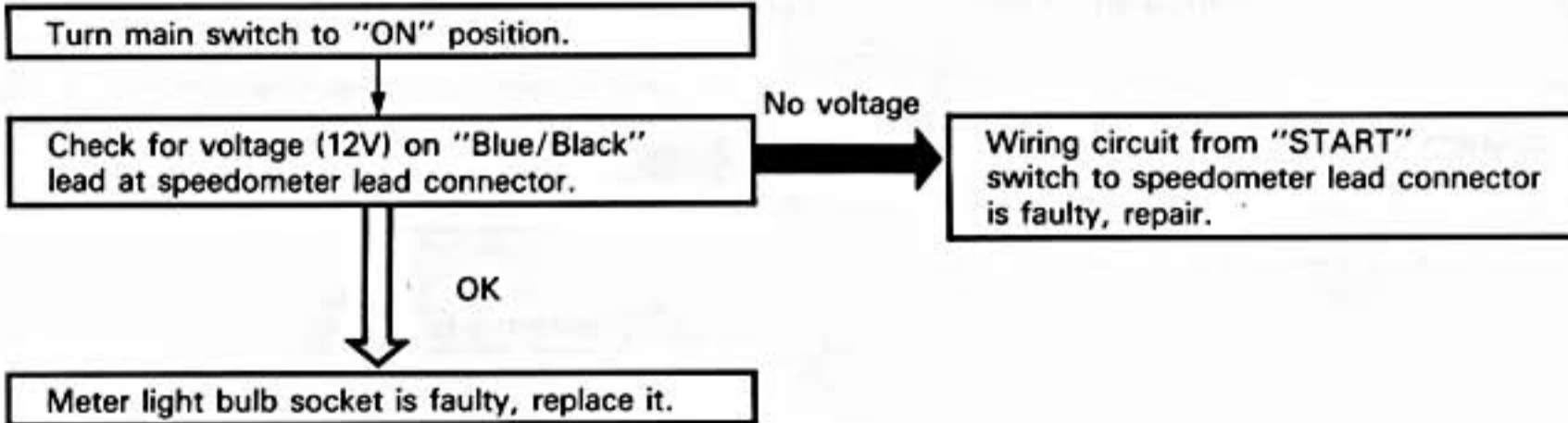
Headlight and/or "HIGH BEAM" indicator light do not come on.



6

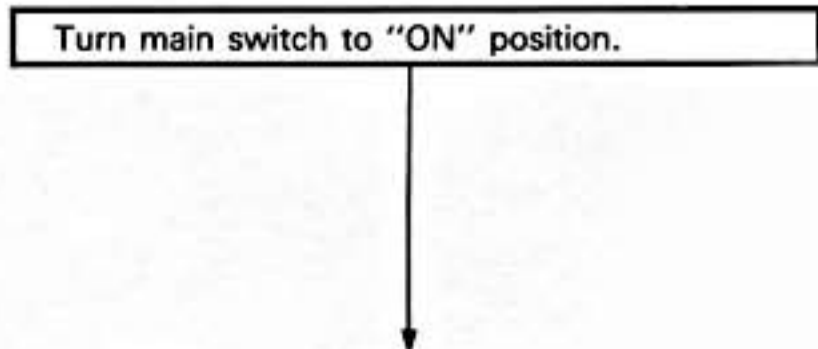


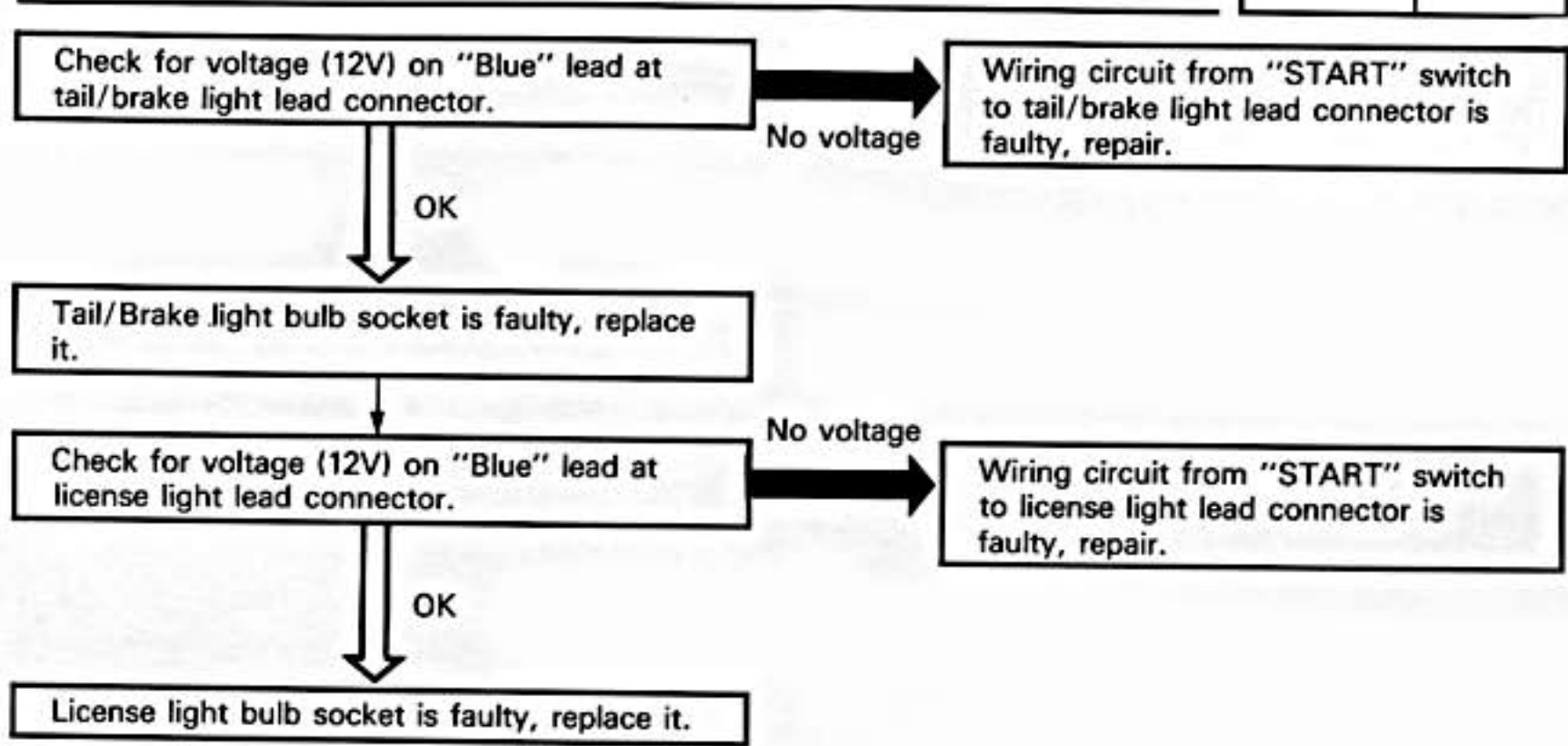
Meter lights do not come on.

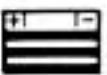


6

Taillight and/or license light do not come on.



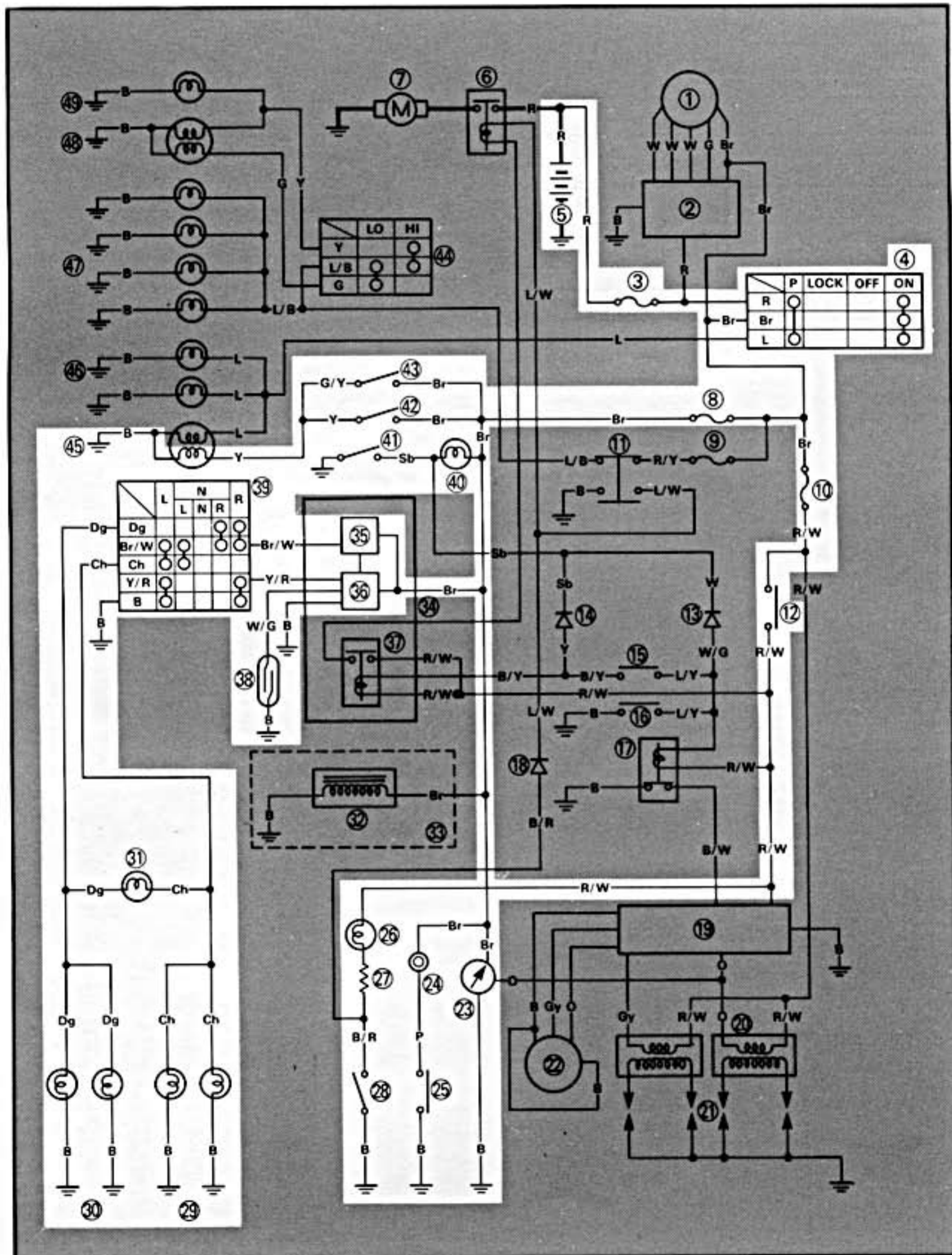




SIGNAL SYSTEM

CIRCUIT DIAGRAM

Below circuit diagram shows signal circuit.



6

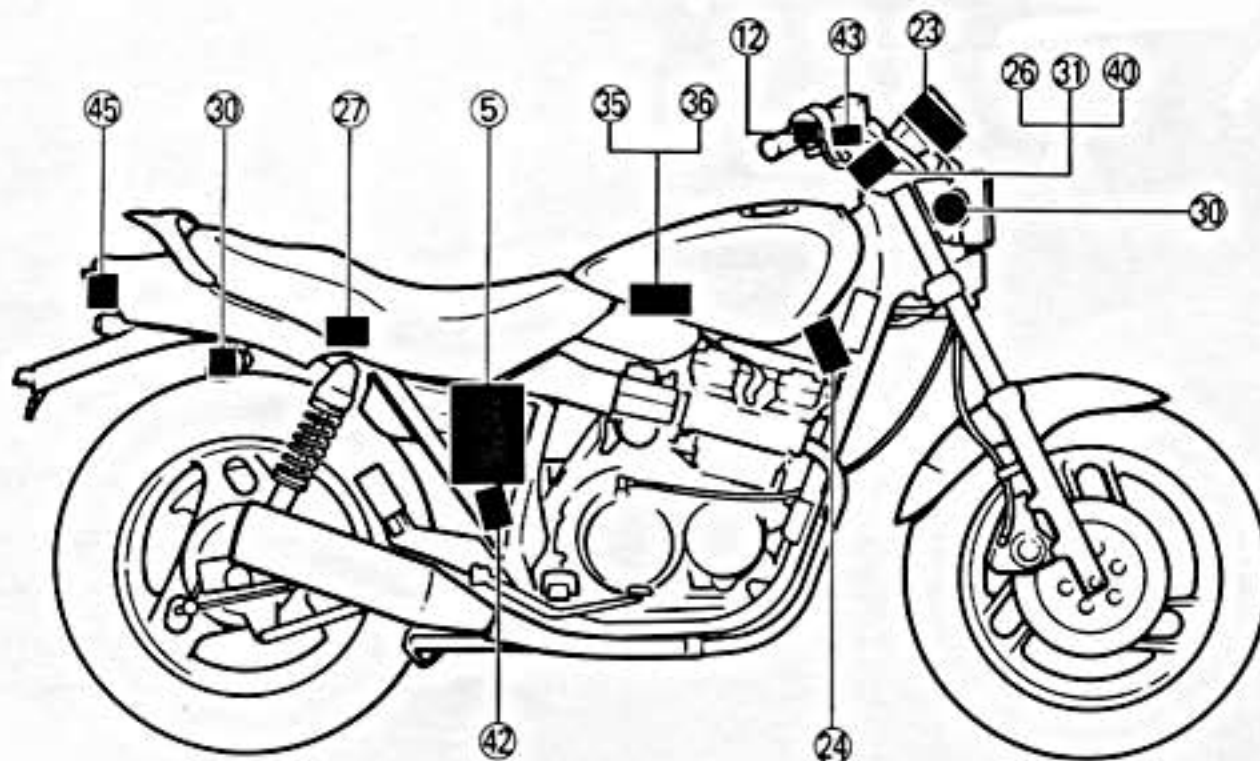
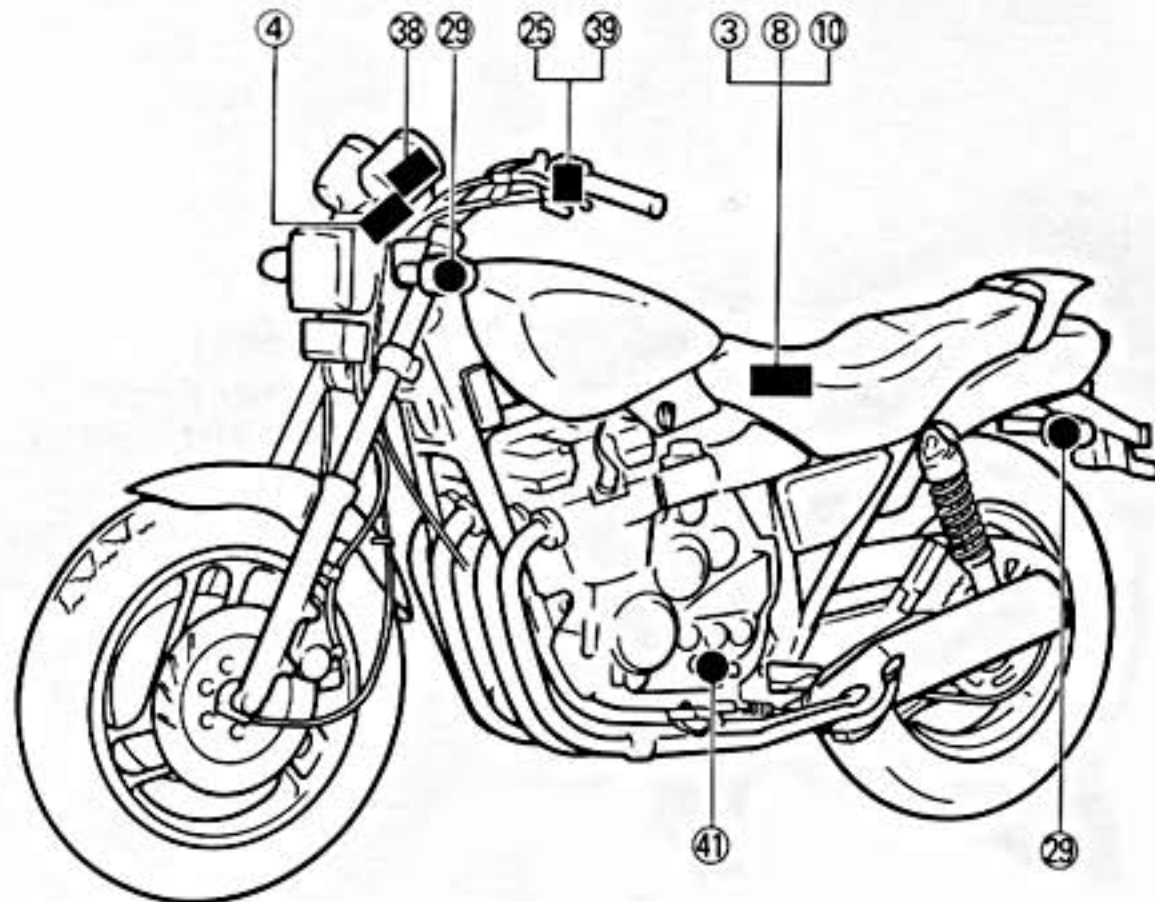


NOTE: _____

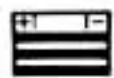
For the color codes, see page 6-2.

- ③ Fuse (MAIN)
- ④ Main switch
- ⑤ Battery
- ⑧ Fuse (SIGNAL)
- ⑩ Fuse (IGNITION)
- ⑫ "ENGINE STOP" switch
- ⑬ Tachometer
- ⑭ Horn
- ⑮ "HORN" switch
- ⑯ "OIL" indicator light
- ⑰ Resistor
- ⑱ Oil level switch
- ⑲ Flasher light (Left)

- ⑳ Flasher light (Right)
- ㉑ "TURN" indicator light
- ㉒ Flasher relay (Included in relay assembly)
- ㉓ Flasher cancelling unit (Included in relay assembly)
- ㉔ Reed switch
- ㉕ "TURN" switch
- ㉖ "NEUTRAL" indicator light
- ㉗ Neutral switch
- ㉘ Rear brake switch
- ㉙ Front brake switch
- ㉚ Tail/Brake light.



6



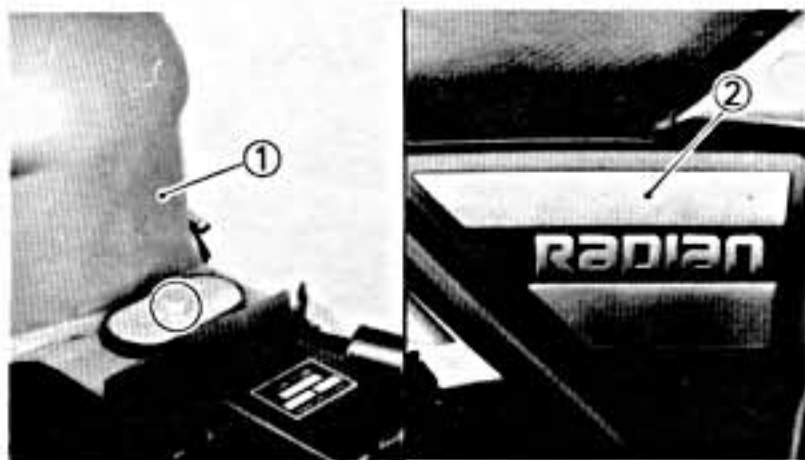
TROUBLESHOOTING

The battery provides power for operation of the signal system. If none of the above fail to operate proceed further. Low battery voltage indicates either a faulty battery, low battery fluid level, or a defective charging system.

Also check fuse condition.

Replace any "open" fuses.

Before this troubleshooting, remove following parts.



- Seat
- Fuel tank ①
- Side cover (Right) ②
- Headlight lens unit ③
- Cover (Front) ④



6

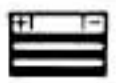


1. Fuse inspection

- Remove fuse (MAIN) fuse (IGNITION) and fuse (SIGNAL).
- Connect Pocket Tester (YU-03112) to fuse and check it for continuity.

NOTE:

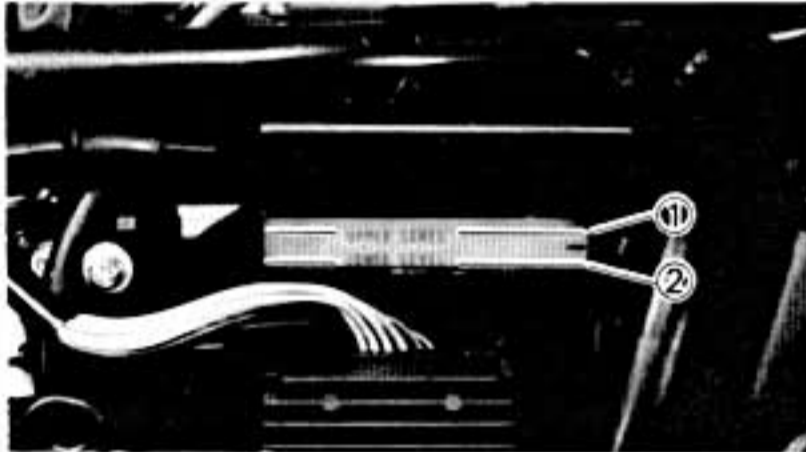
Set tester selector to " $\Omega \times 1$ " position.



Continuity.
(0Ω)

Discontinuity
(∞)

Replace fuse.



- 2. Battery fluid level inspection
 - Fluid level should be between upper ① and lower ② level mark.

Correct

Incorrect

• Refill battery fluid.

CAUTION:

Refill with distilled water only; tap water contains minerals harmful to a battery.



- 3. Battery terminal inspection
 - Inspect battery terminal and connections.

OK

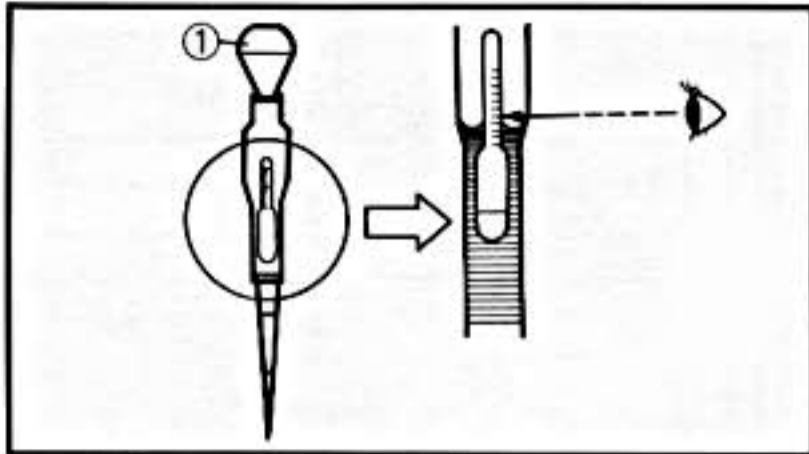
Dirty or poor connection

• Clean battery terminals using wire brush.

NOTE:

After cleaning terminals, apply grease lightly to both terminals.

• Connect battery leads correctly.



4. Battery fluid specific gravity inspection
- Remove caps.
 - Inspect specific gravity of all cell using Battery Hydrometer ①.

Specific Gravity:
 1.280 ± 0.01 at 20°C (68°F)

WARNING: _____

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: EXTERNAL-Flush with water. INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

OK

Low specific gravity

- Recharge battery.

Charging Current:
 1.2 amps/10 hrs

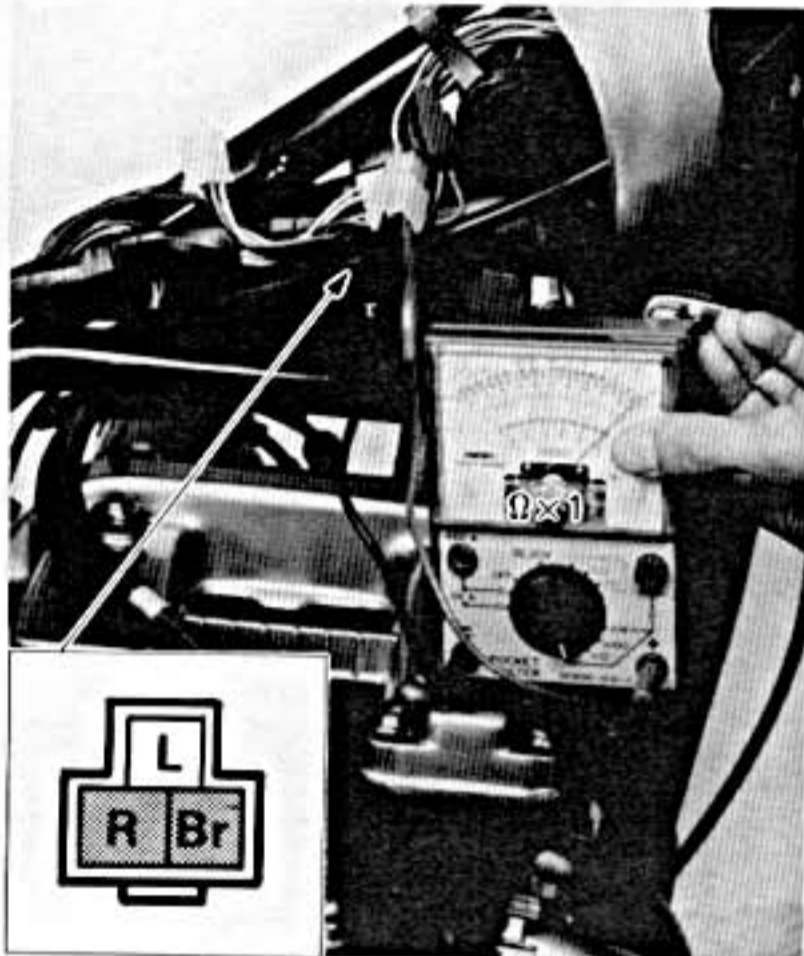
NOTE: _____

Replace the battery if:

- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.



- Specific gravity readings after a long, slow charge indicate on cell to be lower than the rest.
- Warpage or buckling of plates or insulators is evident.



5. Main switch conduct check

- Disconnect main switch coupler (Brown, Red, Blue).
- Connect Pocket Tester (YU-03112) to main switch leads.

Tester (+) lead → Red lead
 Tester (-) lead → Brown lead

NOTE:

Set tester selector to " $\Omega \times 1$ " position.

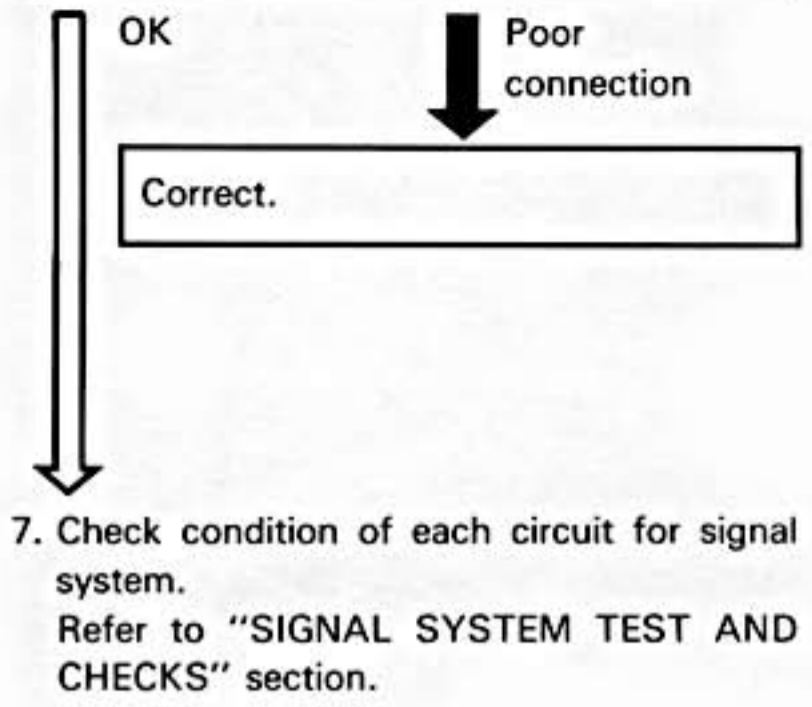
- Turn main switch to "ON" position and check it for continuity.

Continuity
 (0Ω)

Discontinuity
 (∞)

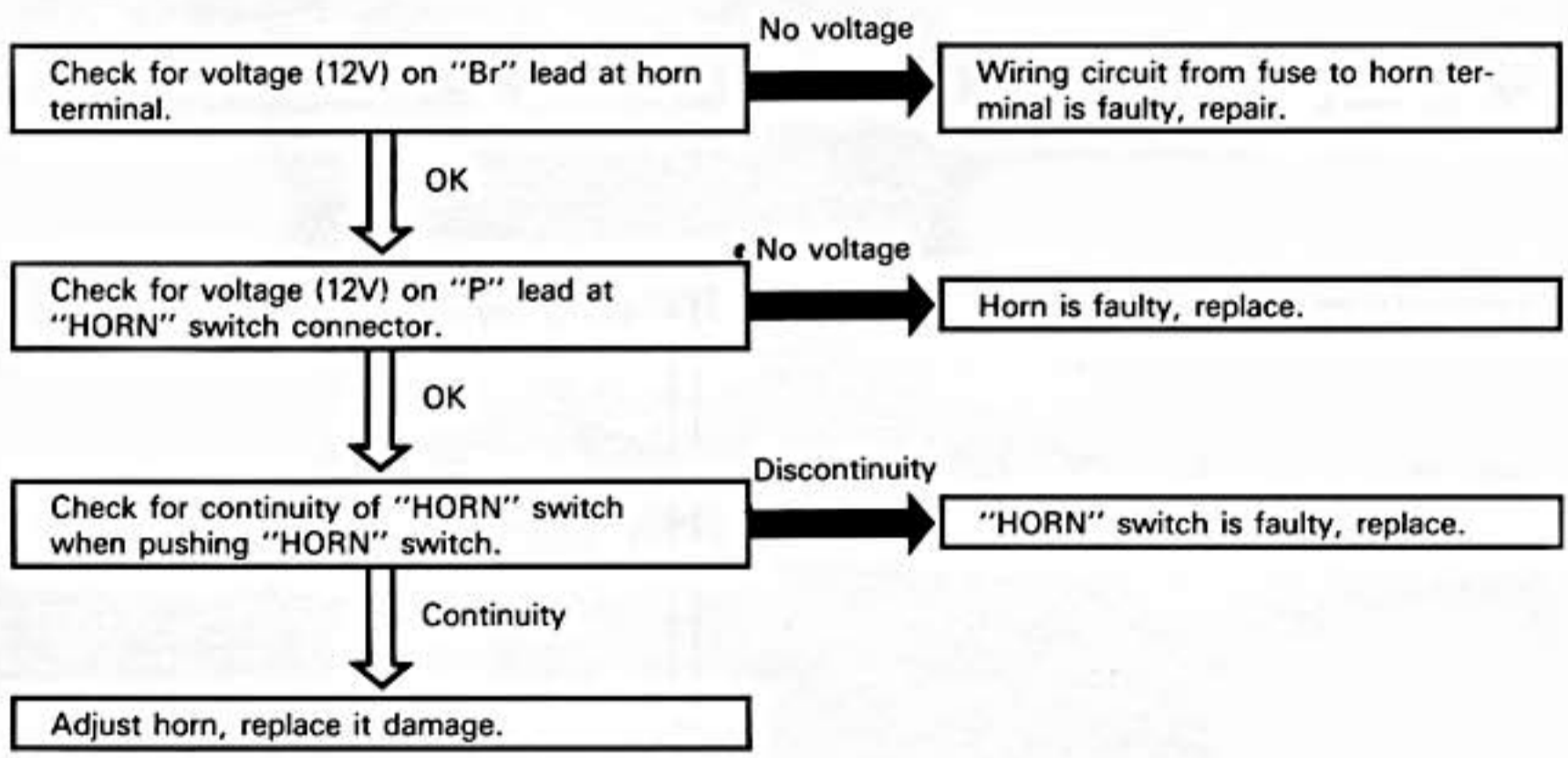
Main switch is faulty, replace it.

6. Check entire signal system for connections. Refer to "WIRING DIAGRAM" section.



SIGNAL SYSTEM TEST AND CHECKS

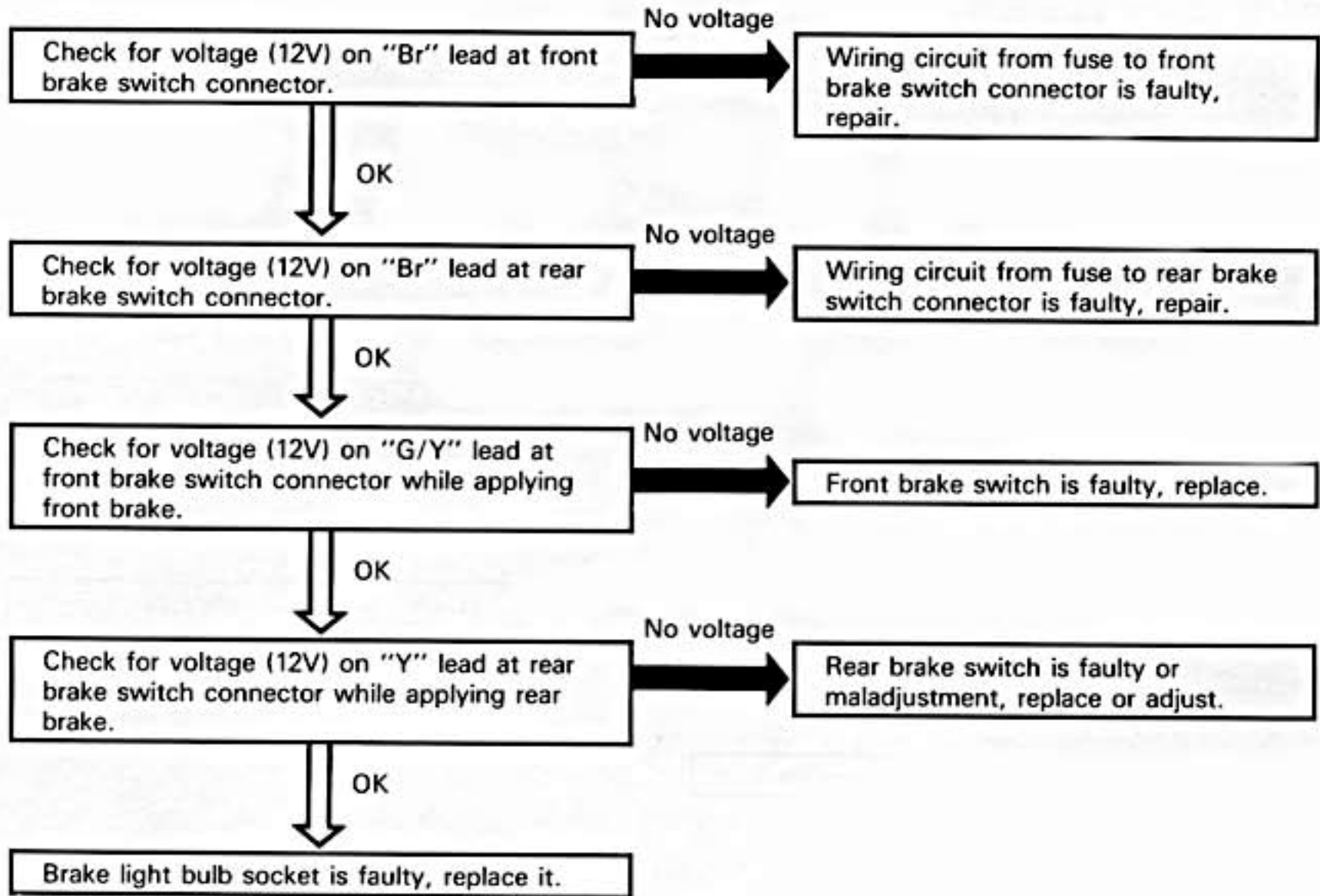
Horn does not work.



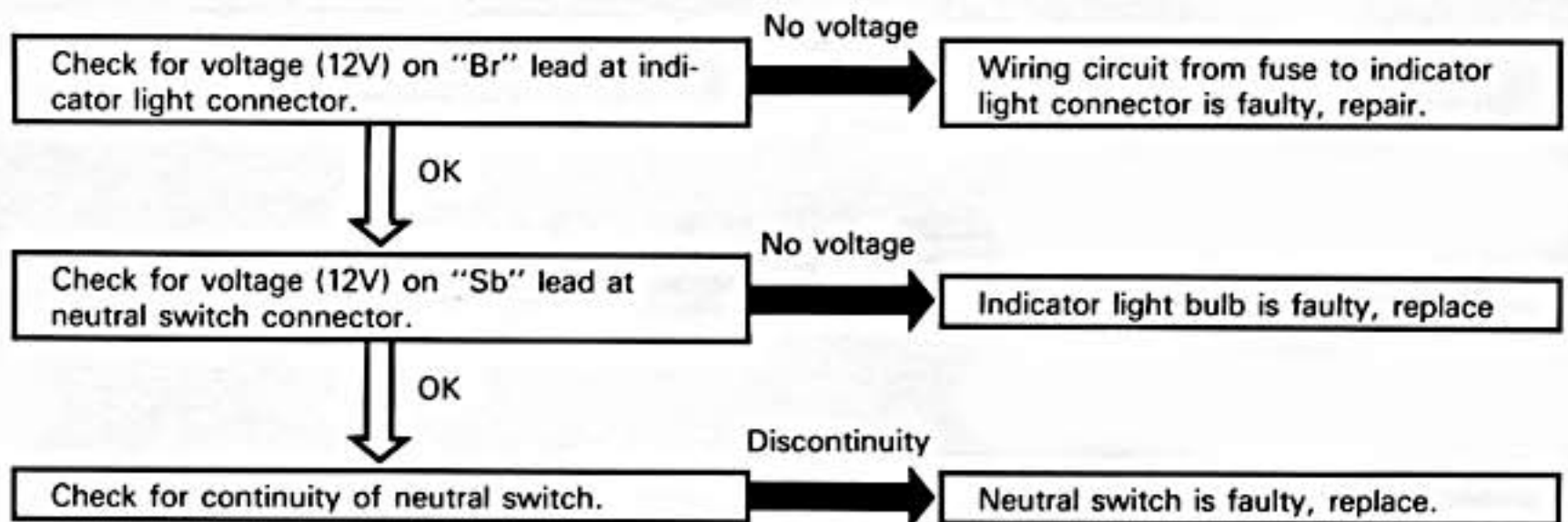
6



Brake light does not work.

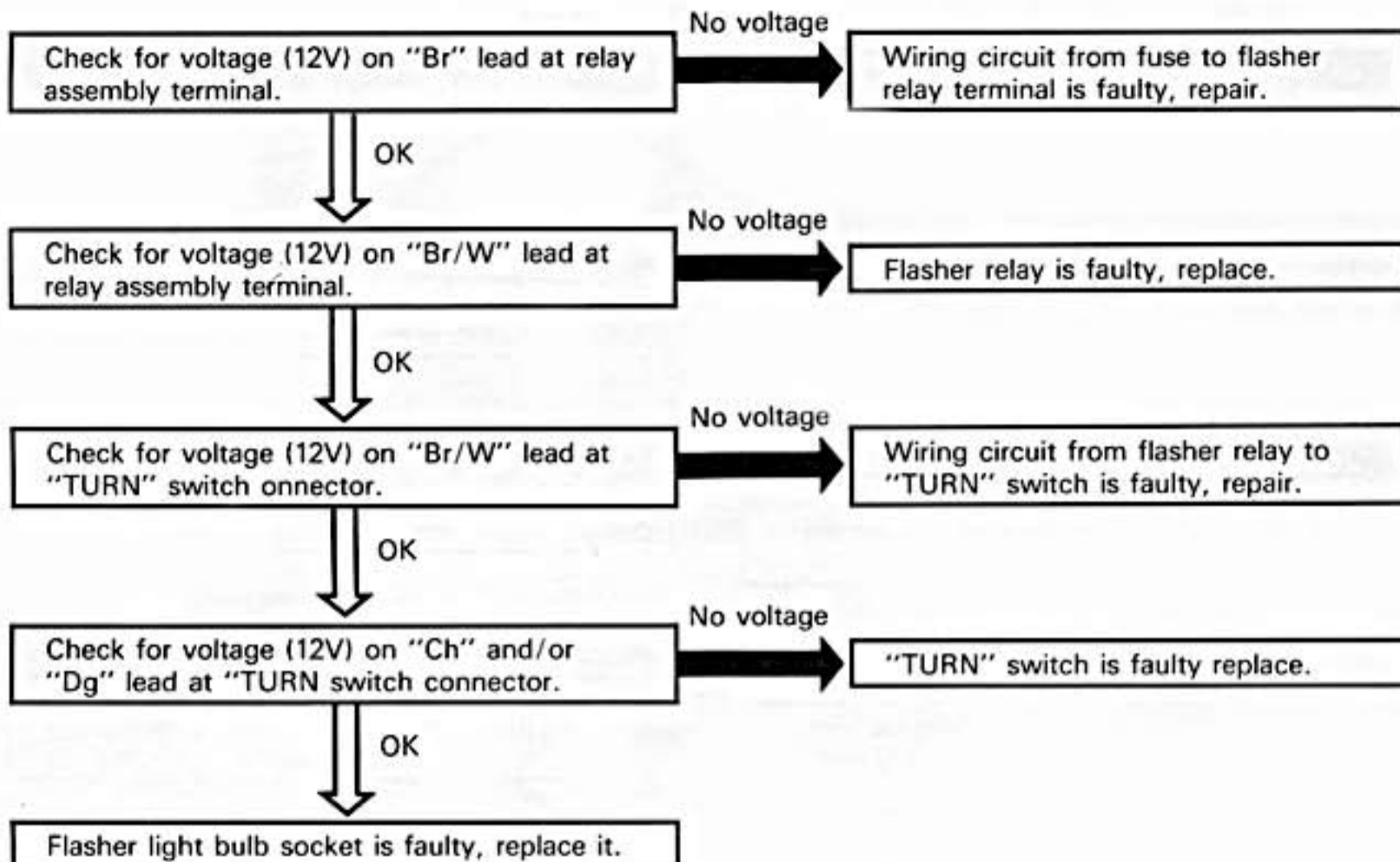


"NEUTRAL" indicator light does not come on

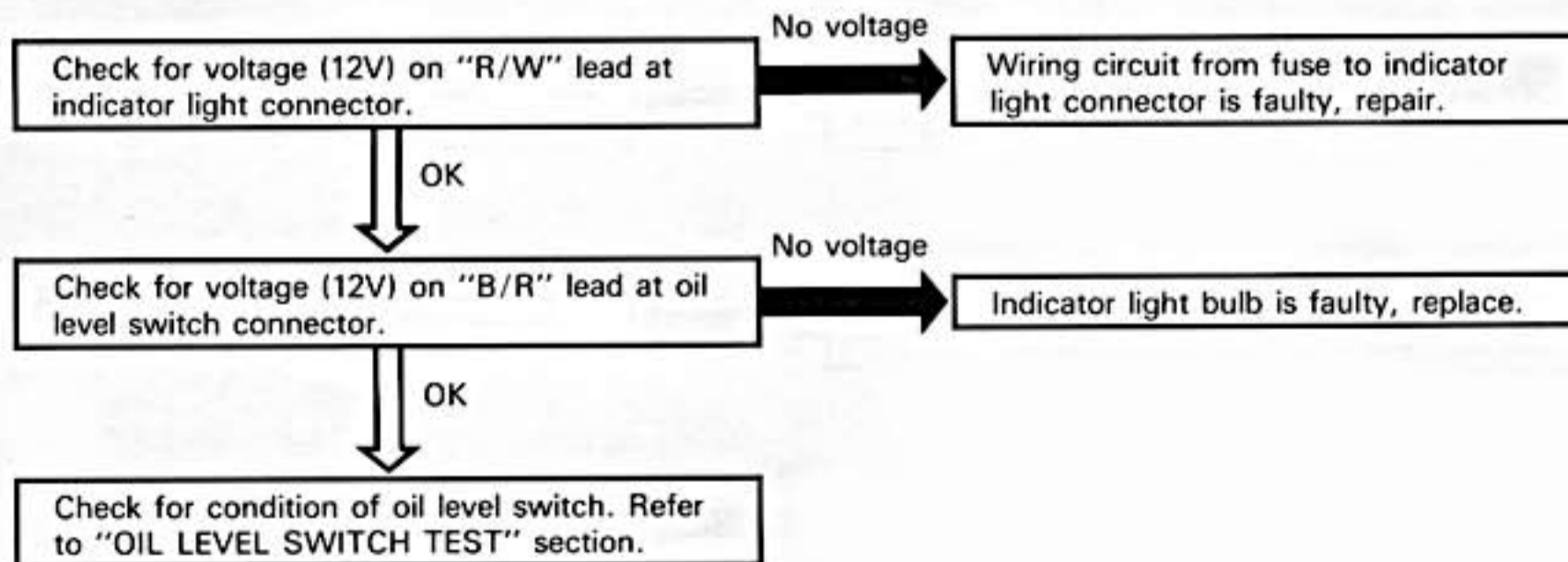




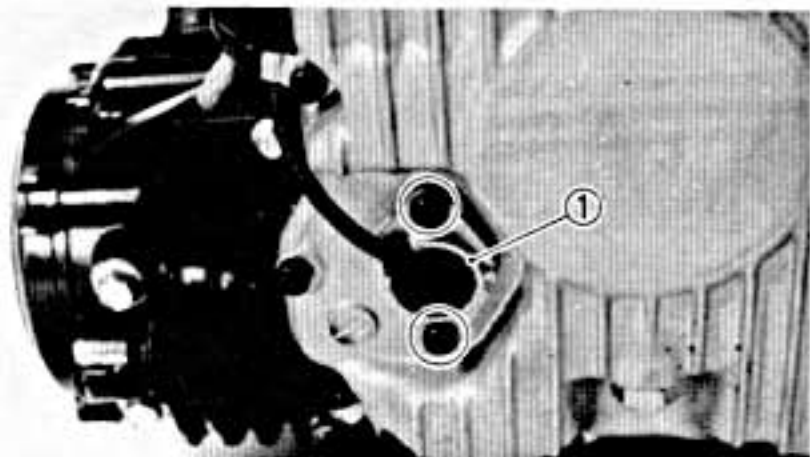
Flasher lights (left and/or right) do not come on.



"OIL" indicator light does not come on.



6

**OIL LEVEL SWITCH TEST**

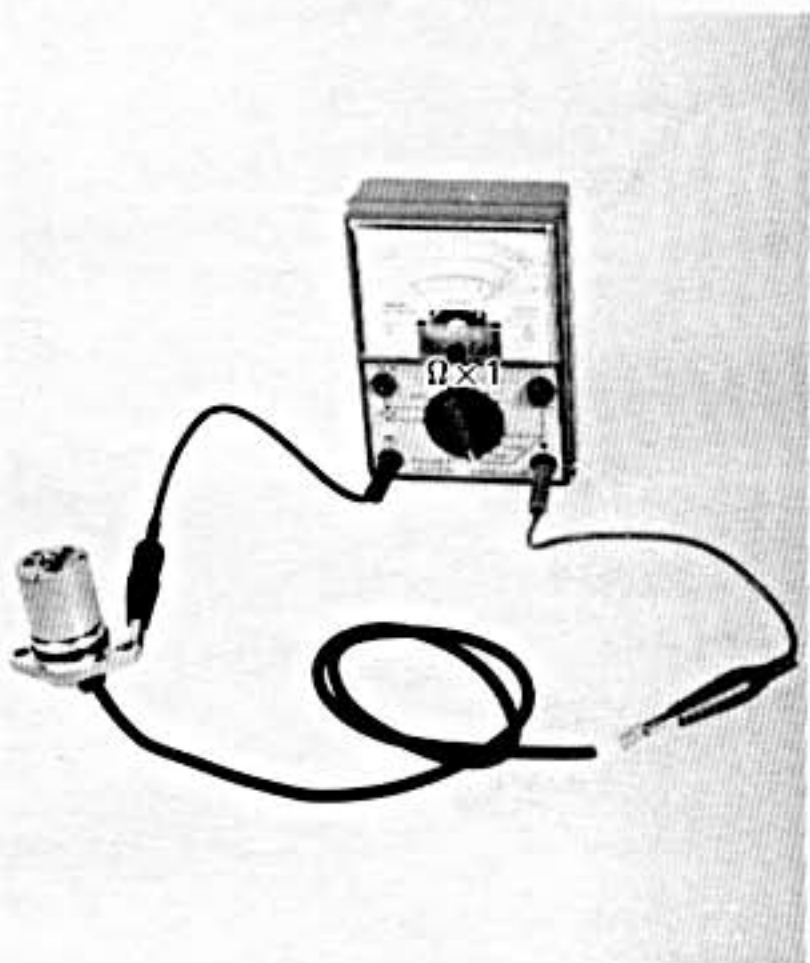
1. Remove:
 - Mufflers
 - Oil level switch ①

2. Connect the Pocket Tester (YU-03112).

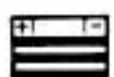
Tester (+) lead → Oil level switch lead
Tester (-) lead → Oil level switch base

NOTE: _____

Set the tester selector to " $\Omega \times 1$ " position.



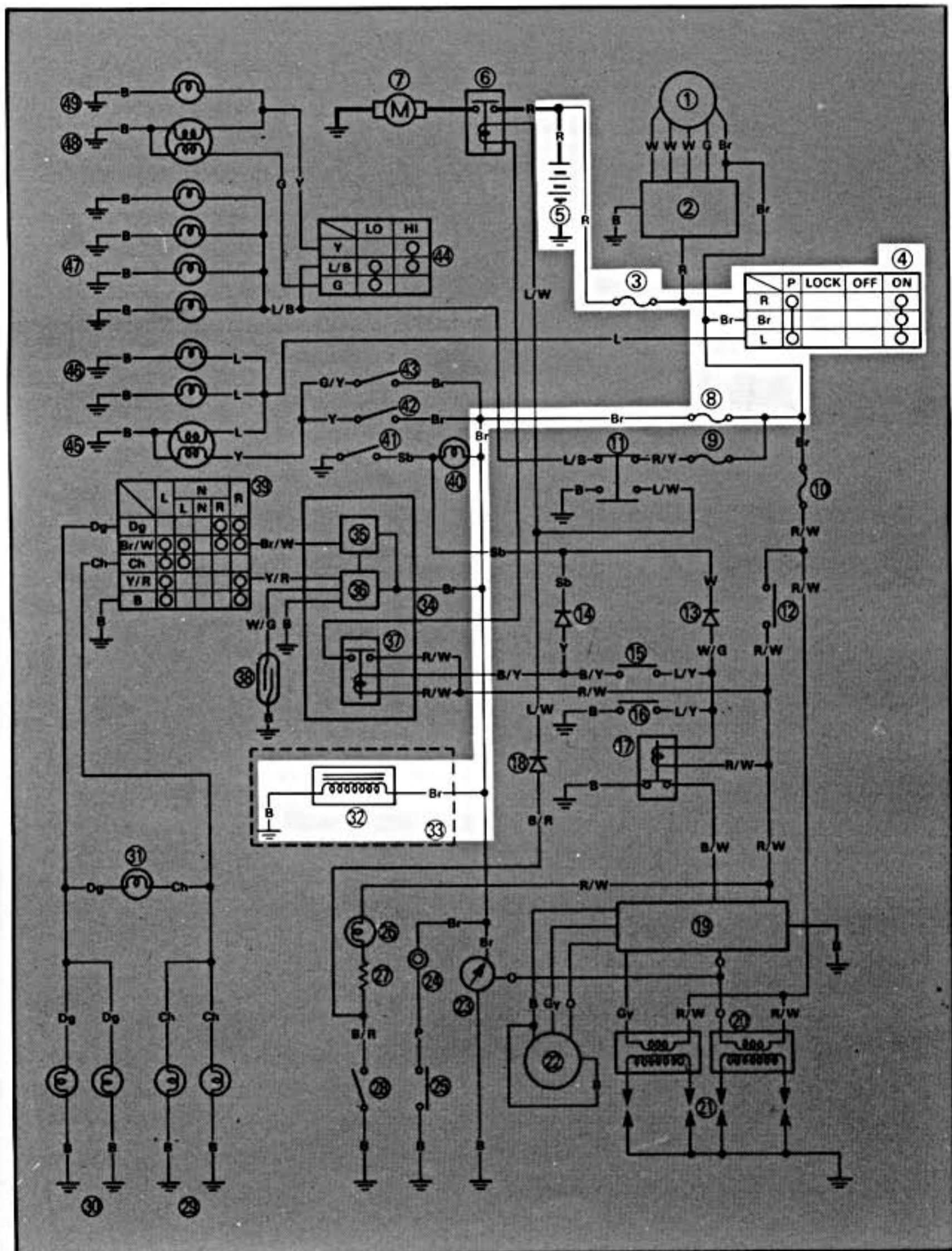
3. Check
 - Oil level switch
 - Upside-down position.
 - Continuity → Replace.
 - Upright position.
 - Discontinuity → Replace.



CARBURETOR AIR VENT SYSTEM (CALIFORNIA ONLY)

CIRCUIT DIAGRAM

Below circuit diagram shows carburetor air vent circuit.



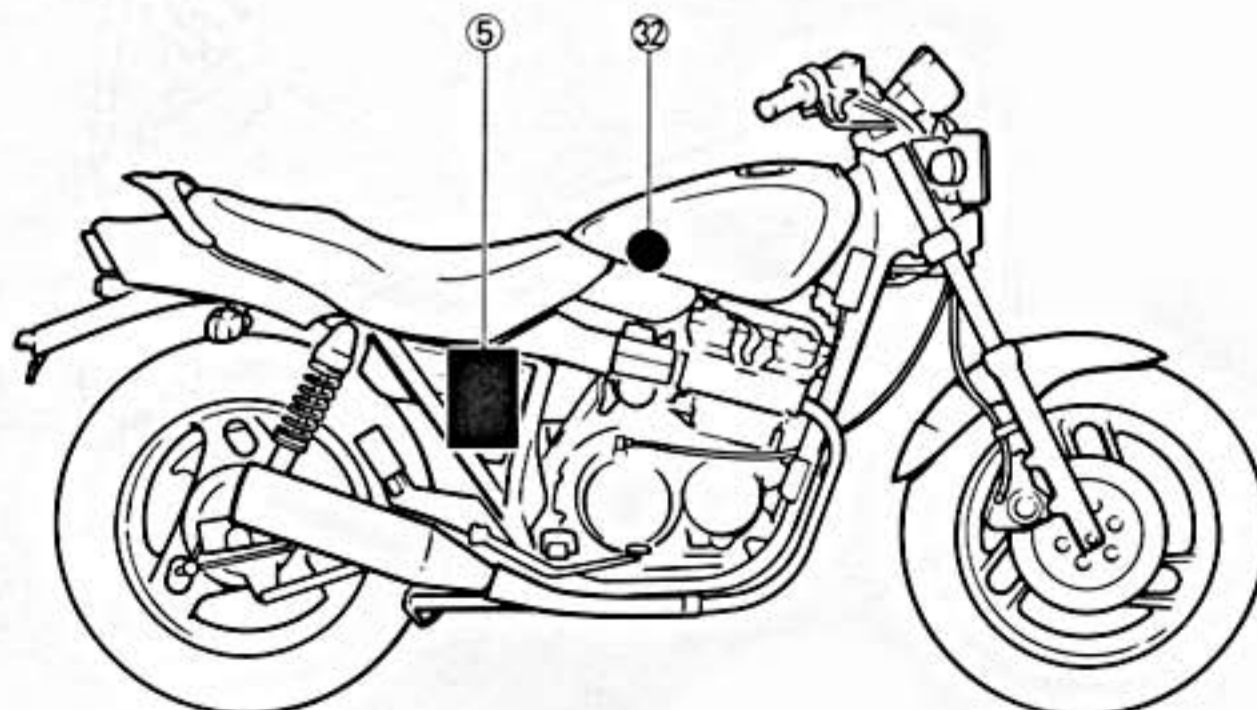
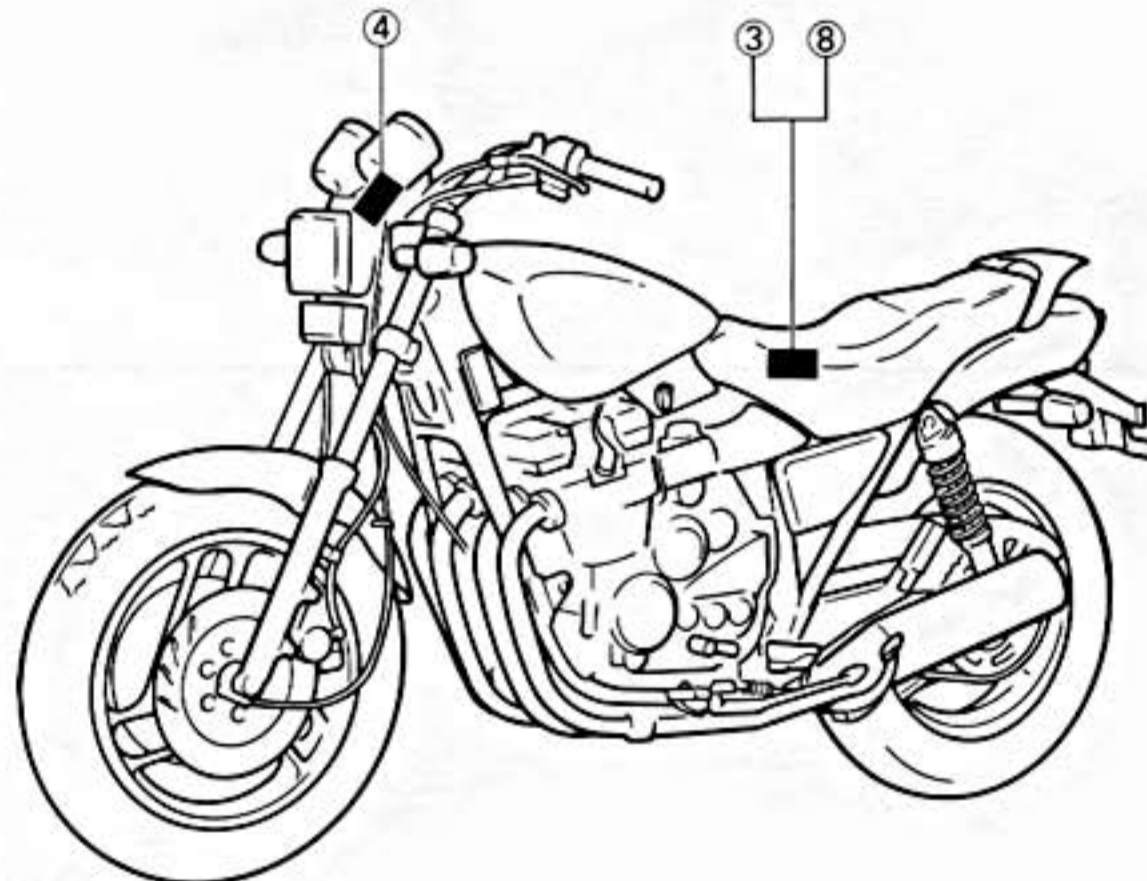
6



NOTE: _____

For the color codes, see page 6-2.

- ③ Fuse (MAIN)
- ④ Main switch
- ⑤ Battery
- ⑧ Fuse (SIGNAL)
- ⑳ Air vent control valve
- ㉓ California only



**DESCRIPTION**

This model is equipped with a canister to prevent the discharging of fuel vapor and carburetor air vent into the atmosphere.

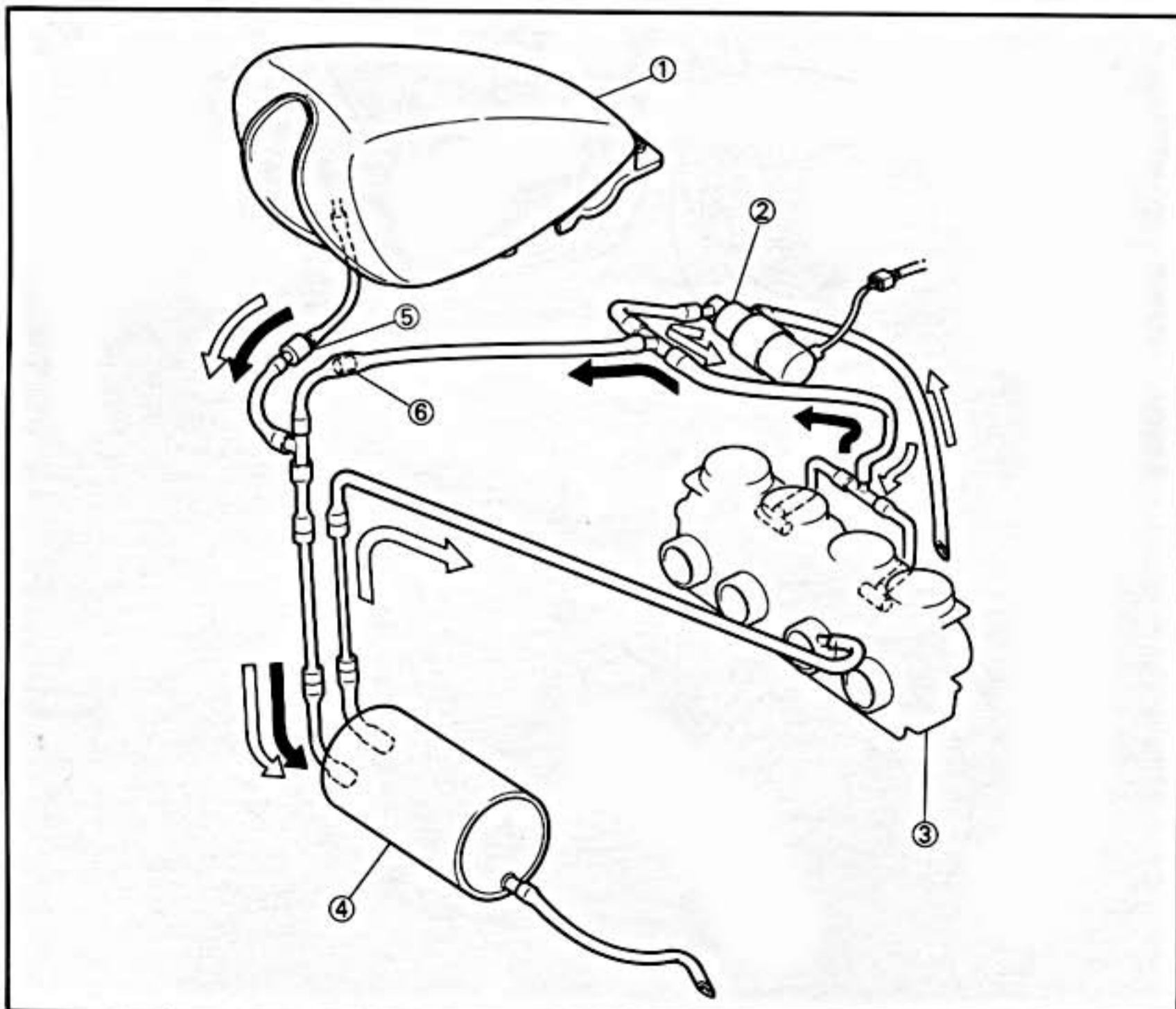
OPERATION

The carburetor air vent is controlled by the air vent control valve when the main switch is turned to "ON" position.

- ① Fuel tank
- ② Air vent control valve
- ③ Carburetor
- ④ Canister
- ⑤ Roll over valve
- ⑥ Nozzle

← Main switch is turned to "OFF"

← Main switch is turned to "ON"





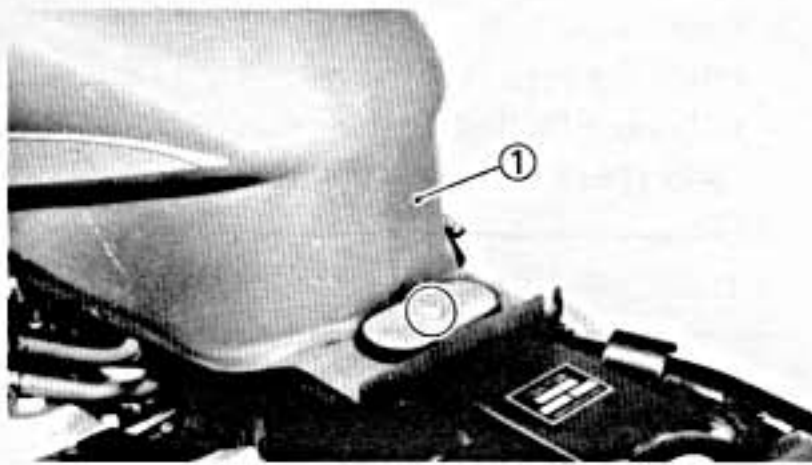
TROUBLESHOOTING

The battery provides power for operation of the air vent control valve. If none of the above fail to operate proceed further. Low battery voltage indicates either a faulty battery, low battery fluid level, or a defective charging system.

Also check fuse condition. Replace any "open" fuses.

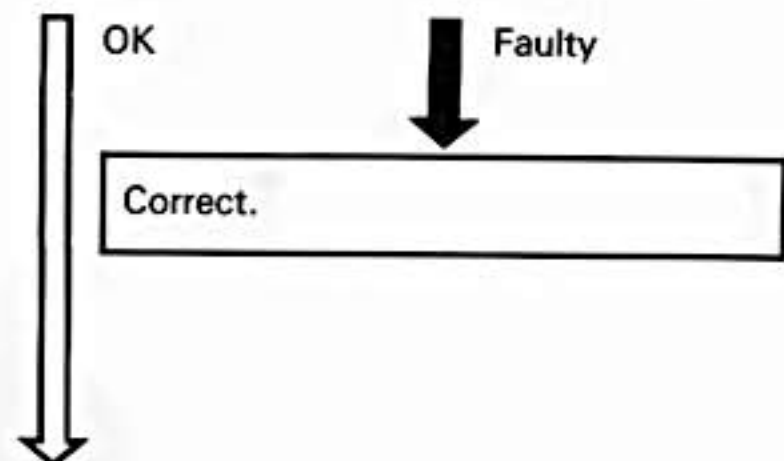
Before this troubleshooting, remove the following parts.

- Seat
- Fuel tank ①

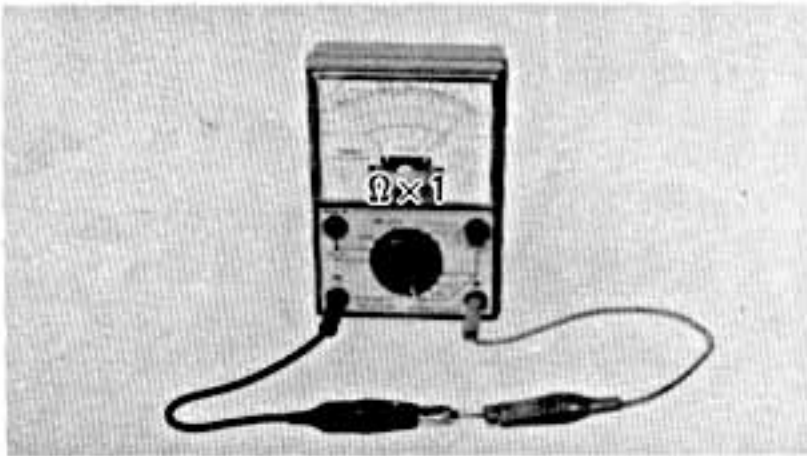
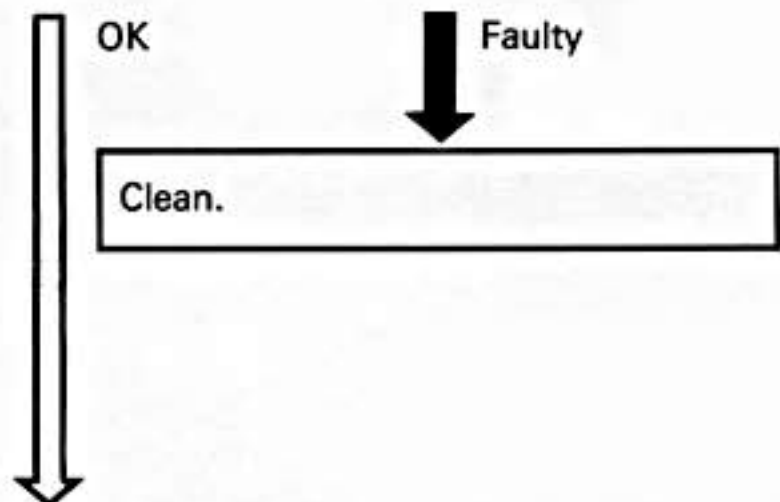


THE AIR VENT CONTROL VALVE DOES NOT OPERATE (THE ENGINE LOSES POWER).

1. Check hose connection.



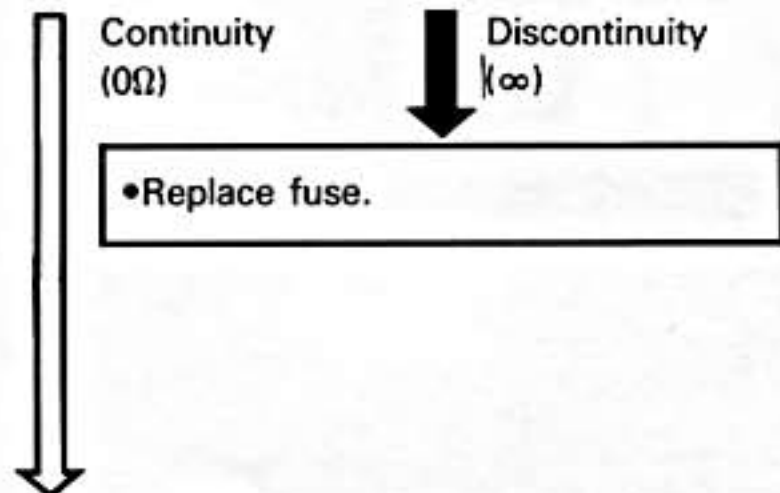
2. Check hose for clogging.



3. Fuse inspection

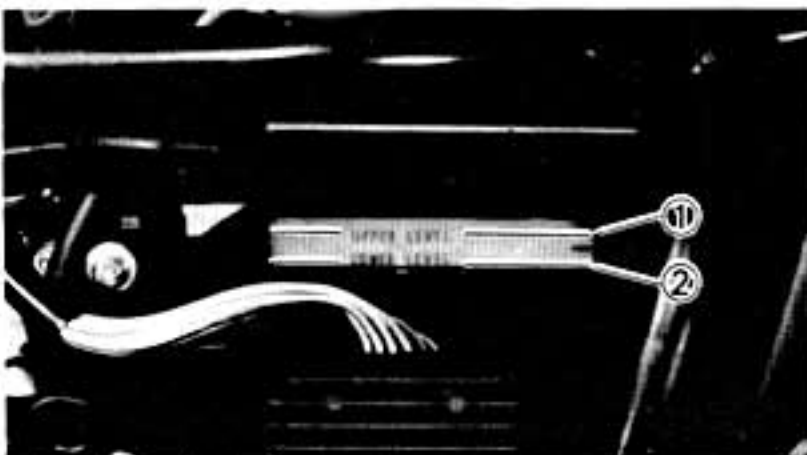
- Remove fuse (MAIN) and fuse (SIGNAL).
- Connect Pocket Tester (YU-03112) to fuse and check it for continuity.

NOTE: _____
Set tester selector to " $\Omega \times 1$ " position.



4. Battery fluid level inspection

- Fluid level should be between upper ① and lower ② level mark.





Correct

Incorrect

- Refill battery fluid.

CAUTION:

Refill with distilled water only; tap water contains minerals harmful to a battery.



5. Battery terminal inspection

- Inspect battery terminal and connections.

OK

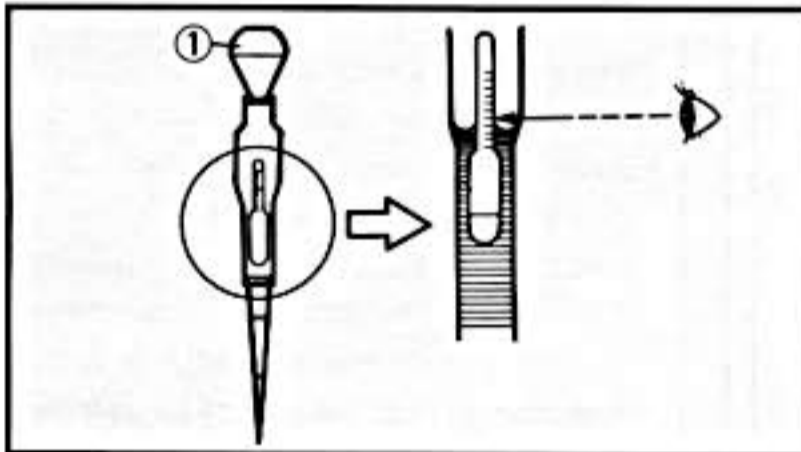
Dirty or poor connection

- Clean battery terminals using wire brush.

NOTE:

After cleaning terminals, apply grease lightly to both terminals.

- Connect battery leads correctly.



6. Battery fluid specific gravity inspection

- Remove caps.
- Inspect specific gravity of all cell using Battery Hydrometer ①.

Specific Gravity:

1.280 ± 0.01 at 20°C (68°F)



WARNING:

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: EXTERNAL-Flush with water. INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.



Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes etc., away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

OK

Low specific gravity
↓

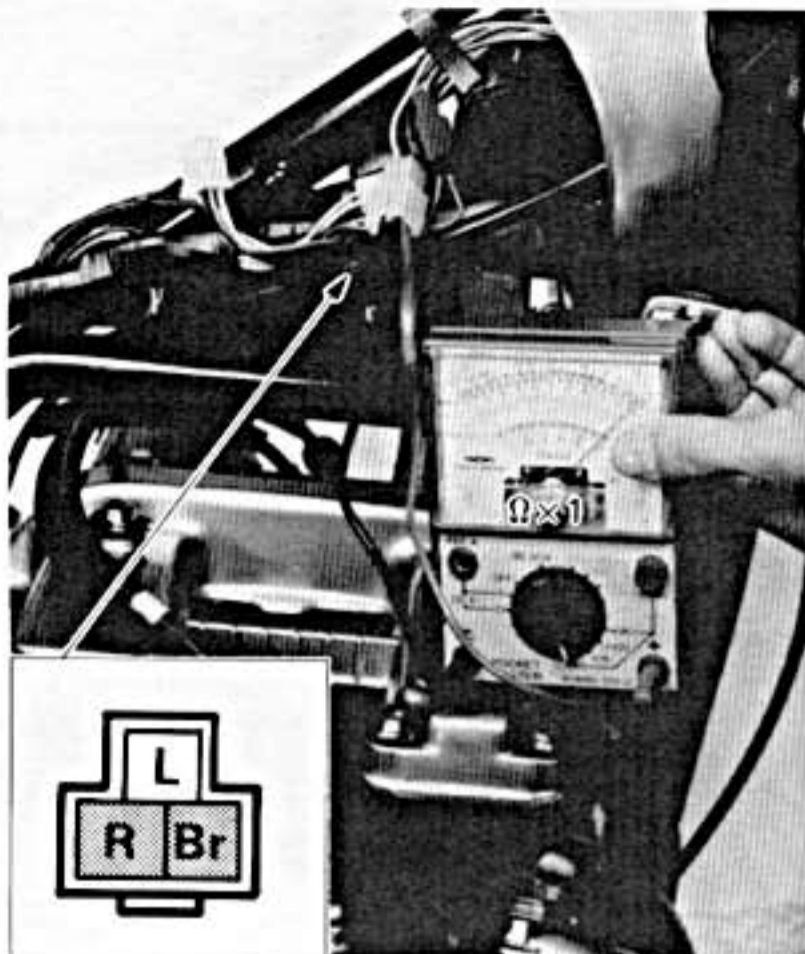
- Recharge battery.

Charging Current:
1.2 amps/10 hrs

NOTE: _____

Replace the battery if:

- Battery voltage will not rise to a specific value or bubbles fail to rise even after many hours of charging.
- Sulfation of one or more cells occurs, as indicated by the plates turning white, or an accumulation of material exists in the bottom of the cell.
- Specific gravity readings after a long, slow charge indicate on cell to be lower than the rest.
- Warpage or buckling of plates or insulators is evident.



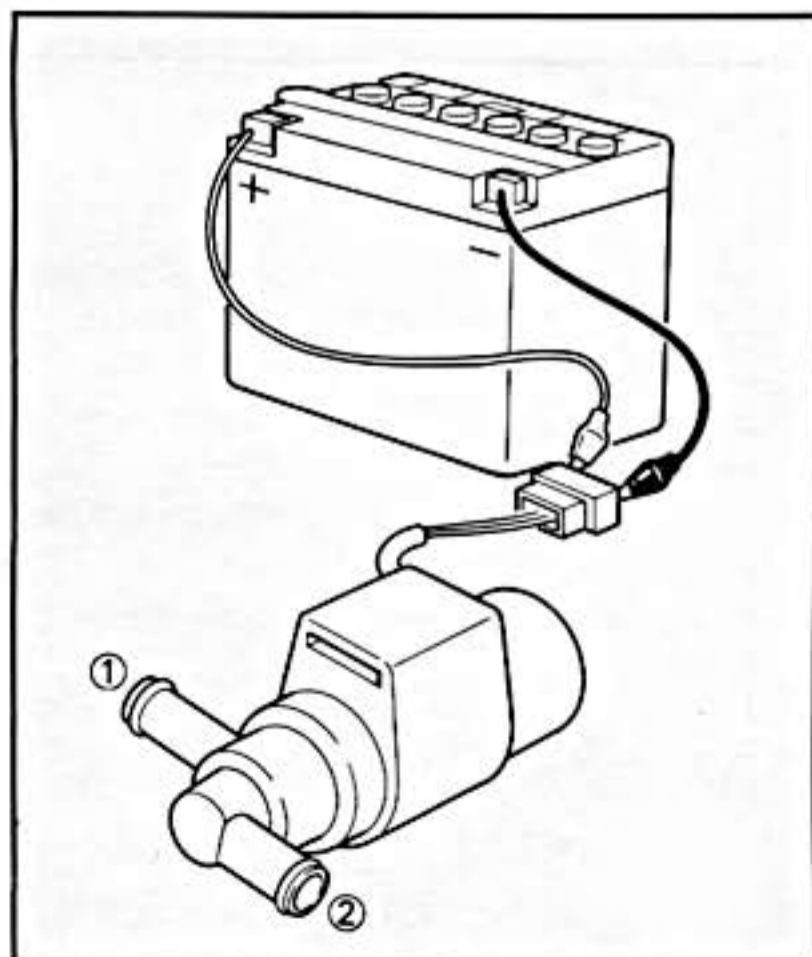
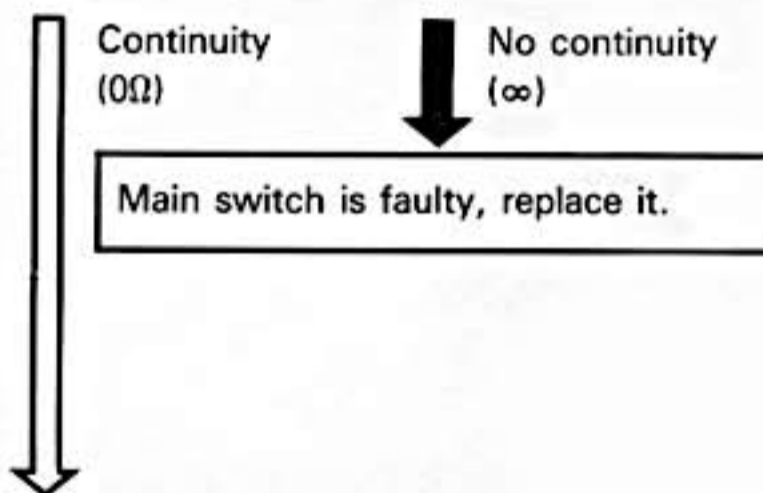
9. Main switch conduct check

- Disconnect main switch coupler (Brown, Red, Blue lead).
- Connect Pocket Tester (YU-03112) to main switch leads (Brown, Red).

Tester (+) lead → Red lead
 Tester (-) lead → Brown lead

NOTE: _____
 Set tester selector to " $\Omega \times 1$ " position.

- Turn main switch to "ON" position and check it for continuity.



10. Air vent control valve test

- Remove air vent control valve.
- Connect 12V battery to air vent control valve as shown.
- Blow air inside at nozzle ① which is open to atmosphere.
- Check for air escape at nozzle ② on canister side.
 No air escape → Valve is faulty.
 Air escape → Valve is good.
- Disconnect battery and blow air inside at nozzle ① which is open to atmosphere.
- Check for air escape at nozzle ② on canister side.
 Air escape → Valve is faulty.
 No air escape → Valve is good.

