

# **19. ELECTRIC STARTER**

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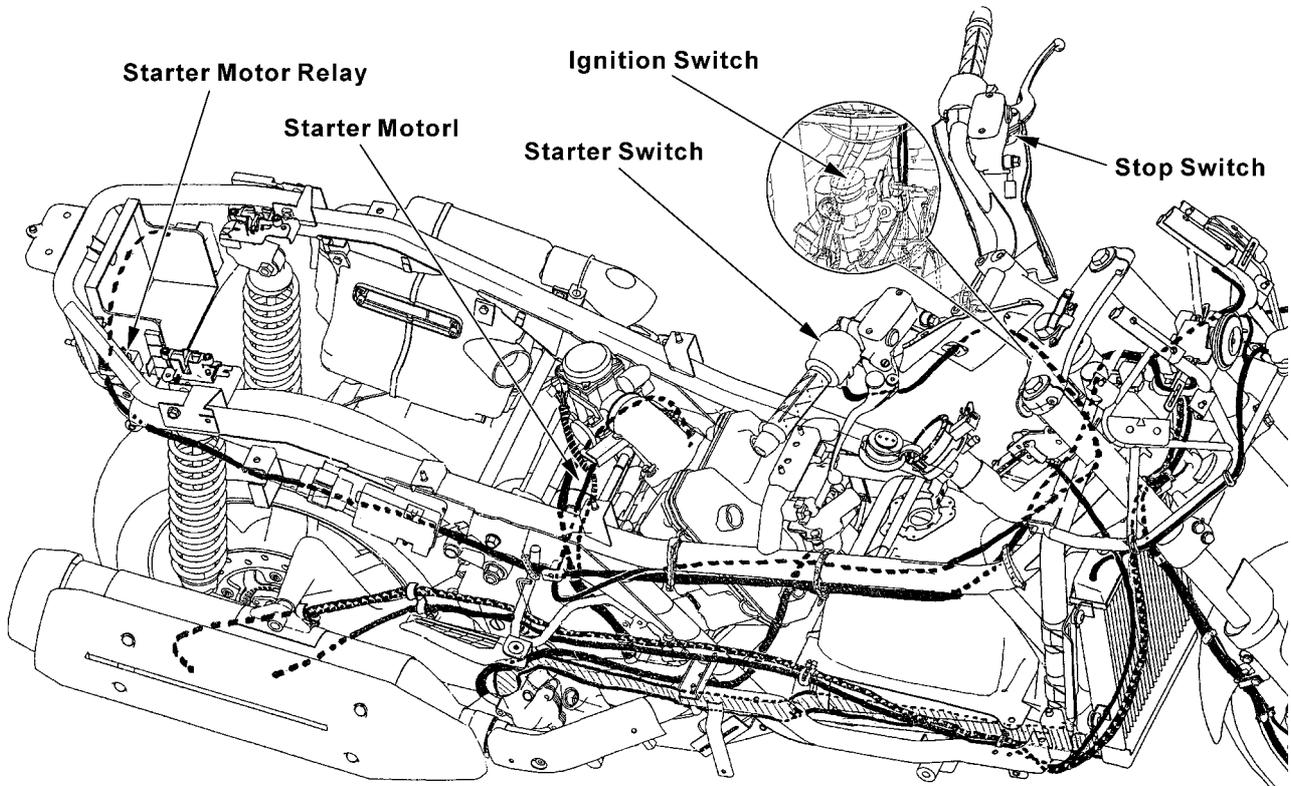
## **ELECTRIC STARTER**

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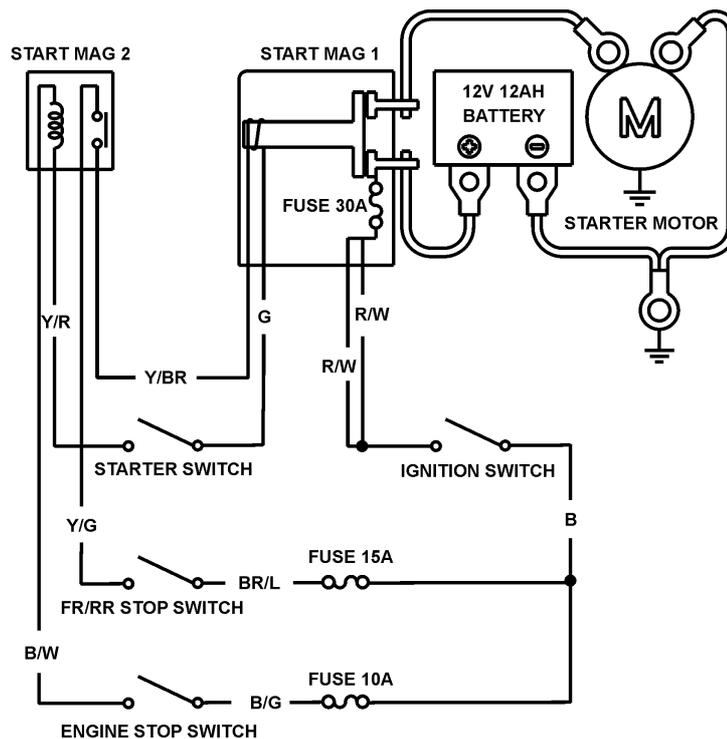
STARTING SYSTEM LAYOUT -----	19-1
SERVICE INFORMATION-----	19-2
TROUBLESHOOTING-----	19-2
STARTER MOTOR -----	19-5
STARTER RELAY SWITCH-----	19-7

# 19. ELECTRIC STARTER

## STARTING SYSTEM LAYOUT



## STARTING CIRCUIT



# 19. ELECTRIC STARTER

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## SERVICE INFORMATION

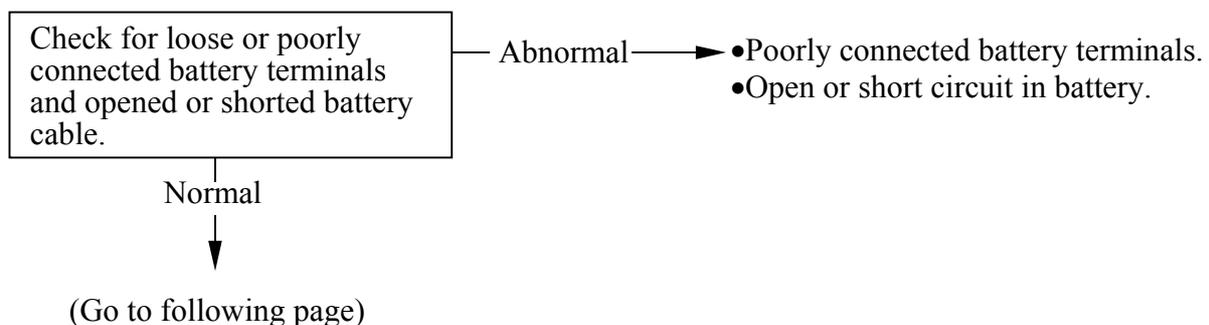
### GENERAL

- Always turn the ignition switch to “OFF” before servicing the starter motor. The motor could suddenly start, causing serious injury.
- The starter motor can be serviced with the engine in the frame.
- When checking the starter system, always follow the steps in the troubleshooting flow chart (page 19-2).
- A weak battery may be unable to turn the starter motor quickly enough, or supply adequate ignition current.
- If the current is kept flowing through the starter motor to turn it while the engine is not cranking over, the starter motor may be damaged.
- See section 12 for starter clutch servicing.
- See section 20 for following components:
  - Ignition switch
  - Starter switch
  - Brake light switch

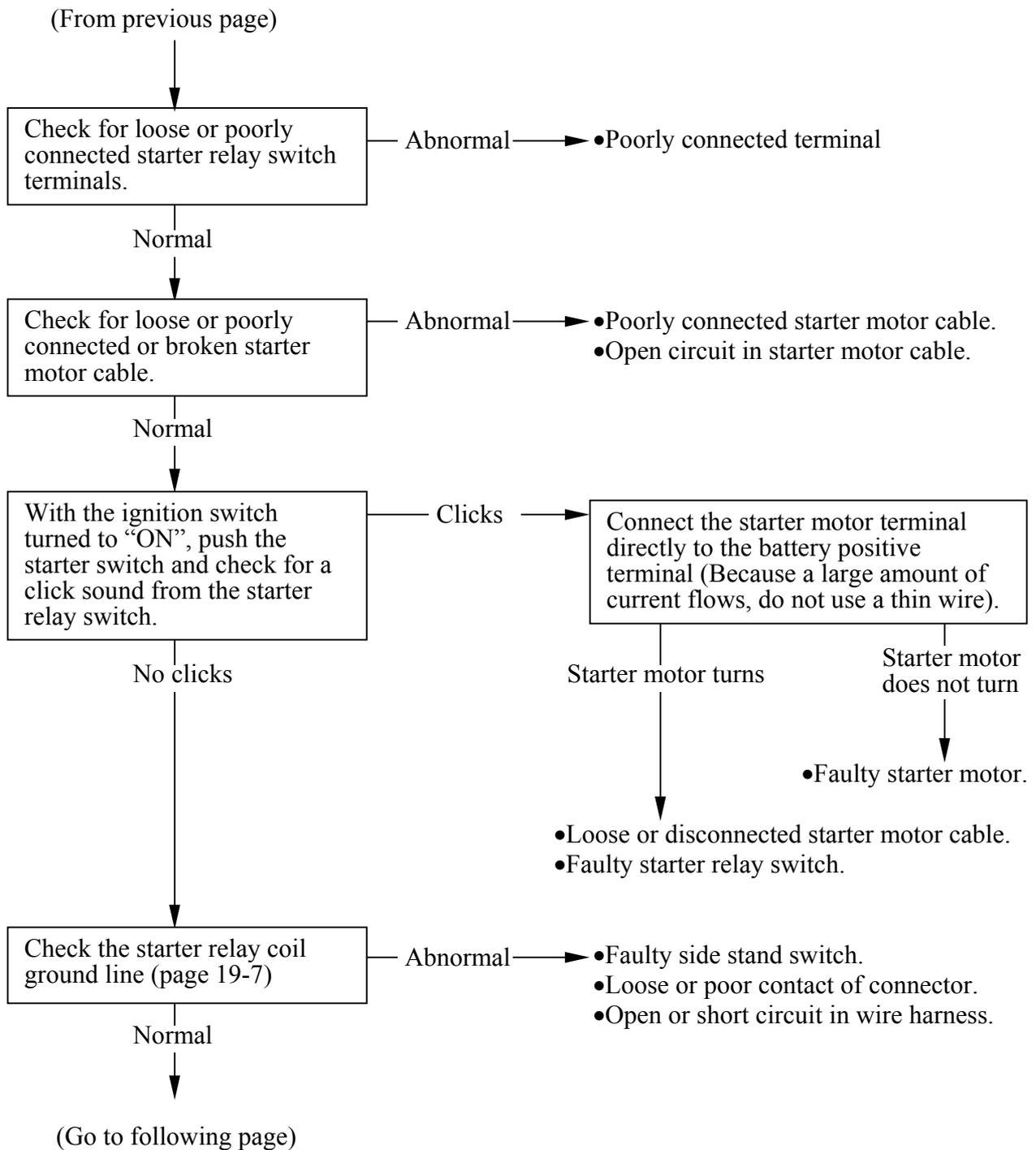
## TROUBLESHOOTING

- Check for the following before troubleshooting:
  - Blown main fuse (30A) and sub fuse (10 A)
  - Loose battery and starter motor cable
  - Discharged battery
- The starter motor can turn with the following conditions:
  - Ignition switch ON
  - Engine stop switch in RUN
  - Rear brake lever fully squeezed
  - Side stand retracted
  - Starter switch pushed

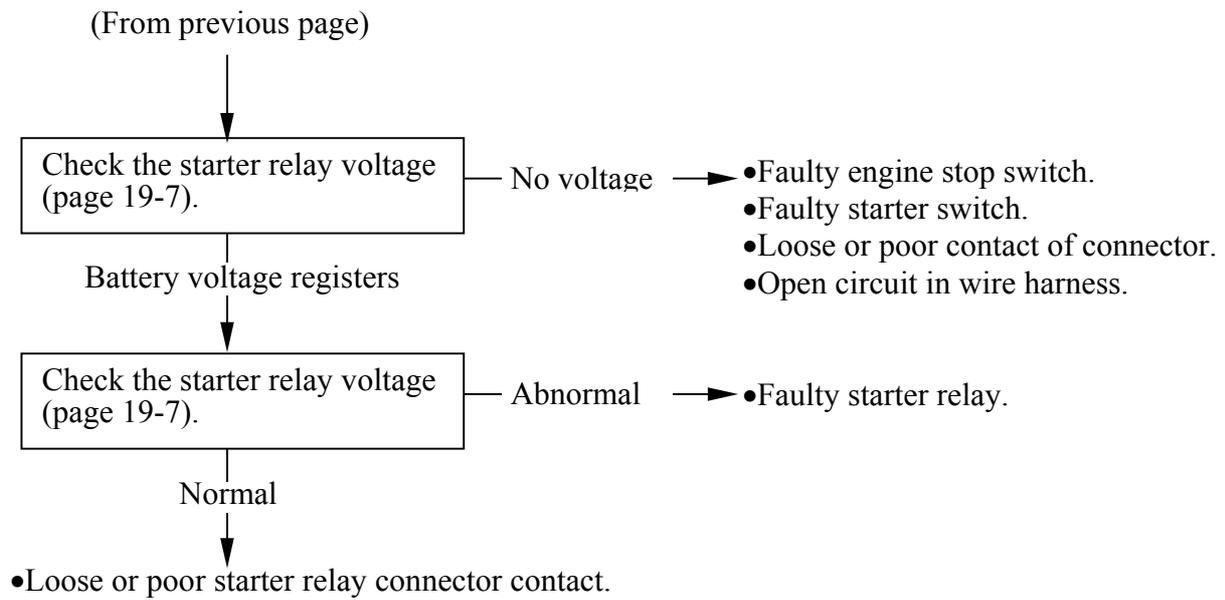
### Starter motor will not turn



# 19. ELECTRIC STARTER



# 19. ELECTRIC STARTER



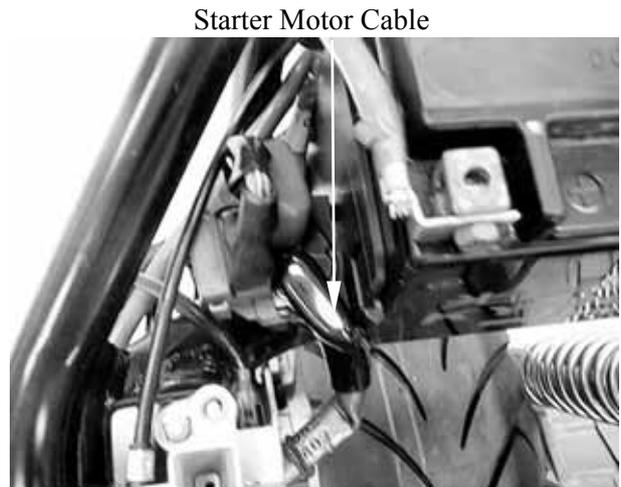
## 19. ELECTRIC STARTER

### STARTER MOTOR

#### INSPECTION

Remove the luggage box (page 2-3).

Disconnect the starter motor cable from the starter relay switch.  
Turn the ignition switch to “ON”.  
Connect the starter motor cable directly to the battery positive terminal.  
If the starter motor does not turn, the starter motor is faulty.

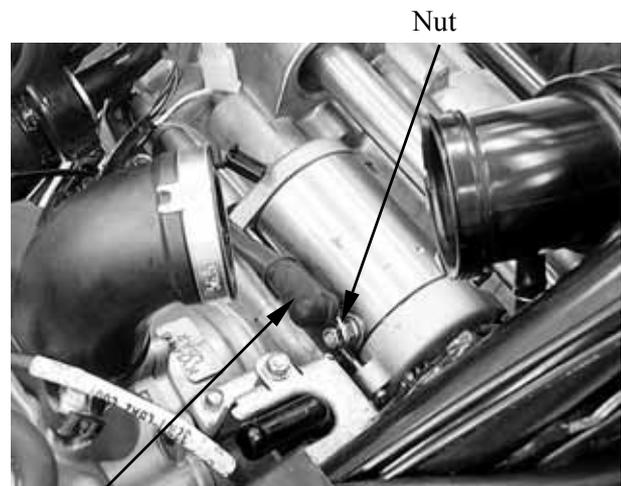


#### REMOVAL

Remove the carburetor (page 5-5).

Turn the ignition switch turned to “OFF”

Release the rubber cap and remove the terminal nut to disconnect the starter motor cable from the starter motor.



Rubber Cap

Remove the two bolts and starter motor.



Bolts

## 19. ELECTRIC STARTER

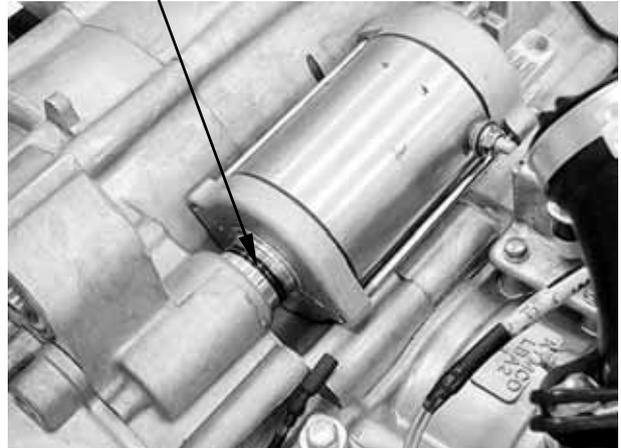
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### INSTALLATION

Coat a new O-ring with engine oil and install it into the starter motor groove.

Install the starter motor into the crankcase.

O-ring



Install the two bolts and tighten them securely.

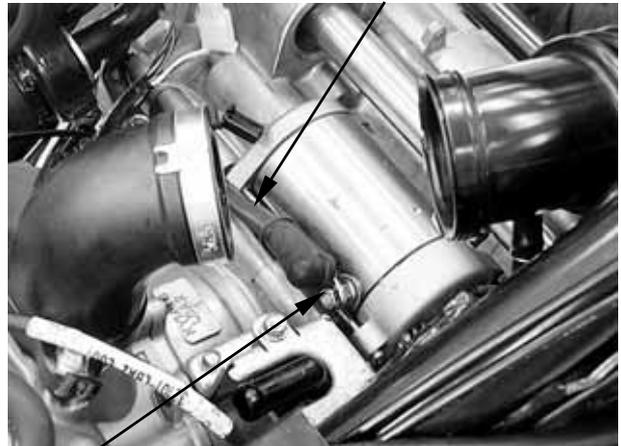
Starter Motor



Bolts

Connect the starter motor cable to motor terminal with the terminal nut and tighten it.

Starter Motor Cable



Nut

# 19. ELECTRIC STARTER

## STARTER RELAY SWITCH

### INSPECTION

Remove the luggage box (page 2-3).

Retracted the side stand.

Turn the ignition switch to “ON” and engine stop switch on.

Squeeze the rear brake lever fully and push the starter switch.

The coil is normal if the starter relay switch clicks.

If you do not hear the switch click. Inspect the relay switch using the procedure below.

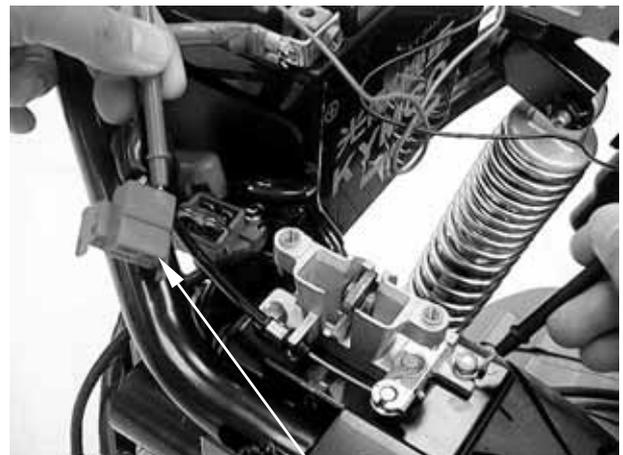
Starter Relay Switch



### GROUND LINE INSPECTION

Disconnect the starter relay switch connector. Check for continuity between the Green wire terminal and ground.

There should be continuity.



Starter Relay Connector

### VOLTAGE INSPECTION

Connect the starter relay switch connector. Turn the ignition switch ON and engine stop switch to RUN.

Measure the starter relay switch Yellow/Red wire terminal and ground.

If the battery voltage appears only when the rear brake lever is squeezed fully and starter switch is pushed, the circuit is normal.



Starter Relay Switch

## **19. ELECTRIC STARTER**

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### **CONTINUITY INSPECTION**

Disconnect the starter relay switch connector and cables.

Connect a fully charged 12 V battery positive wire to the relay switch Yellow/Red wire terminal and negative wire to the Green wire terminal.

There should be continuity between the cable terminals while the battery is connected, and no continuity when the battery is disconnected.

Starter Relay Switch

