

15. Charging System/Battery

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Battery	15-3	A.C generator Inspection	15-6

Service Information

General Safety

The maintenance-free (MF) battery does not require battery acid level inspection. Do not replenish distilled water.

To charge the battery, remove the battery from the frame, and charge it with its seal-cap closed.

Unless required in an emergency, do not carry out battery quick-charging.

Always charge battery based on the current and time specified on top of the battery.

Use a tester to check the charging status (open voltage).

Do not replace the battery with a general-type battery.

Check the charging system in sequence based on troubleshooting table.

Test-charging systems while they are mounted on the motorcycle.

For information on generator disassembly, refer to section 8.

Specifications

Item		Standard values
Battery	Capacity	12V 6AH(MF)
	Terminal-to-terminal voltage (When fully charged)	13.0 13.2V
	Charging current	0.9A
	Leakage current	Not to exceed 1mA
Generator	Charging coil resistance value (20 °C)	0.1~1.0 (20 °C)
	rpm at charging start	1,600rpm(night load)
Regulator/rectifier	Type	Thyristor system
	Regulator voltage	14.5 0.5V/5.000/rpm

Tools

Measuring instruments

Digital circuit tester

PVA Multi-tester.

Troubleshooting

No power - key turned on

- Dead battery
- Low fluid level
- Low specific gravity
- Charging system failure
- Disconnected battery cable
- Main fuse burned out
- Faulty ignition switch

Low voltage - key turned on

- Weak battery
- Low fluid level
- Low specific gravity
- Charging system failure
- Loose battery connection

Low power - engine running

- Battery undercharged
- Low fluid level
- One or more dead cells
- Charging system failure

Intermittent power

- Loose battery connection
- Loose charging system connection
- Loose starting system connection
- Loose connection or short circuit in ignition system

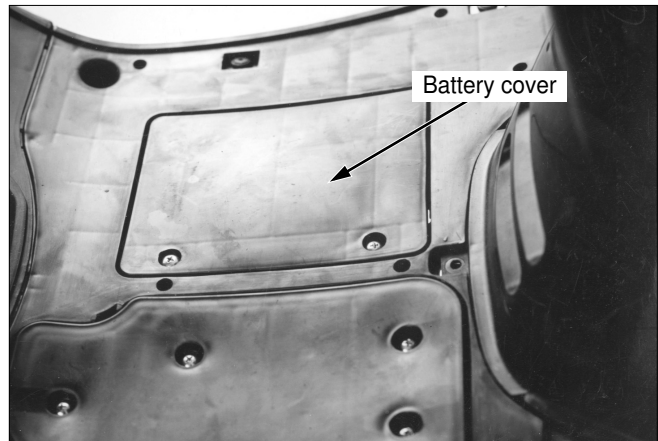
Charging System Failure

- Loose, broken or shorted wire or connection
- Faulty voltage regulator
- Faulty rectifier
- Faulty alternator

Battery

Removal

- Remove the floor panel mat.
- Loosen the 2 battery cover setting bolts.
- Remove the battery cover.



Charging Status (Open Voltage) Inspection

- Remove the battery terminal from the battery.
- Check the battery terminal voltage.

Fully charged: 13.0-13.2V

Under charged: Not to exceed 12.3V

NOTE

Use a PVA multi-tester to check the status of charging.



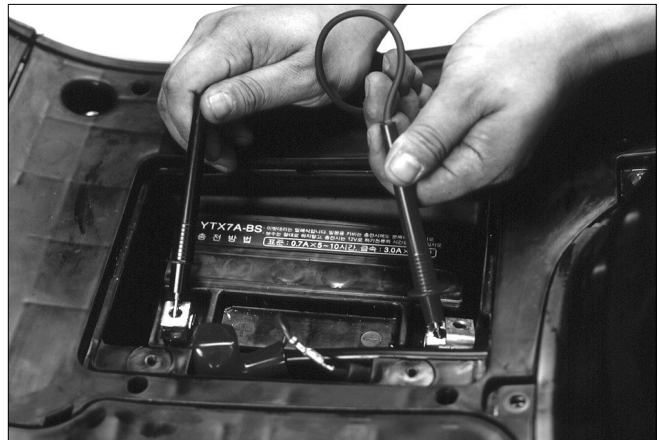
Charging System Inspection

Leakage Test

- Turn off the main switch, and remove the earth cable from the battery. Connect an ampere meter between the battery terminal and the earth cable, and check current when the main switch is turned off.

NOTE

Use an ampere meter while sequentially changing its measuring range from large to small. If the current level greater than the measuring limit is measured, the ampere meter fuse may be cut.
Do not turn on the main switch while current is being measured.



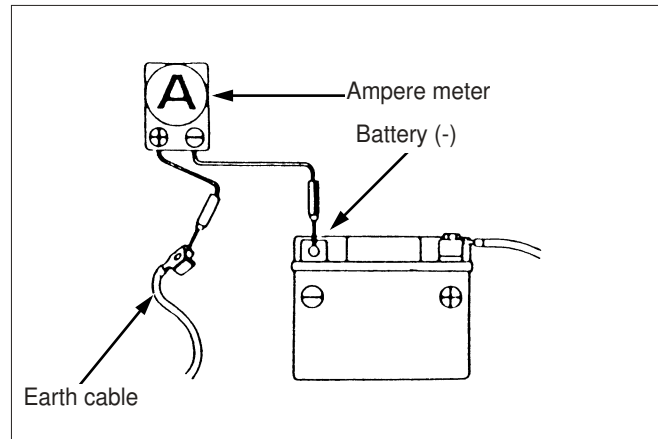
Leakage current: Not to exceed 1mA

Charging Status Inspection

NOTE

Current level changes according to the status of battery charging. Inspect the fully charged battery with its voltage running at 13.0~13.2V between battery terminal.

If the engine is started by a starter motor, large level of current may flow sometimes because the battery power is consumed during starting.



Warm up the engine, and install a fully charged battery.

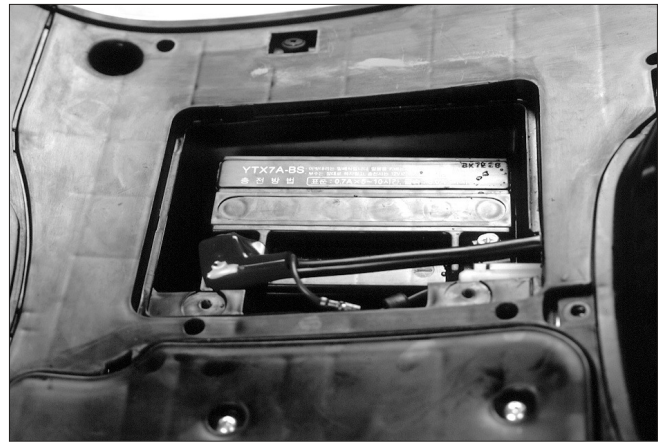
Connect a voltmeter between battery terminals.

Tester: PVA multi-tester

Connect an ampere meter between the main fuse terminals. Start engine increase the engine speed slowly, and check the charging voltage and current.

Charging current: 0-0.14 A/5,000rpm

Controlled voltage(Charger side): 13.0-15.0V / 5,000rpm
(Lamp side):12.0-14.0V / 5,000rpm



Lighting System Control voltage Check

Remove the front cover. (4-3)

Loosen the 4 headlight setting screws, and remove the headlight.

NOTE

Check voltage with the headlight coupler connected.

Start engine turn the light switch on set the dimmer switch to Hi, and check voltage between the blue (+) and green (-) (lamp side).



NOTE

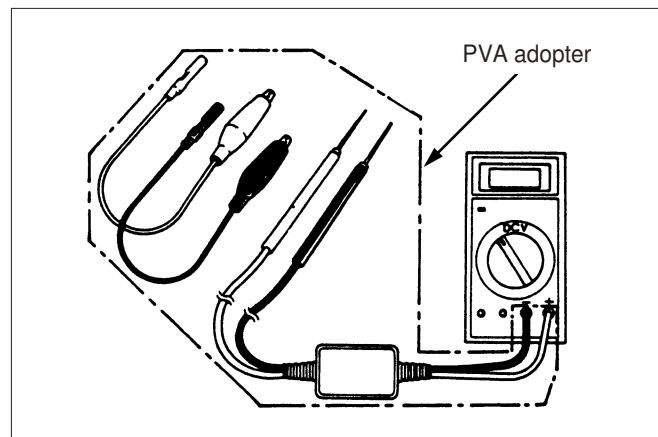
Use an AC range for checking.

If the digital tester used: 10.0~13.0V / 5,000rpm

NOTE

Contact with the tester handle bar during test may induce electric-shock.

Tester: PVA multi-tester



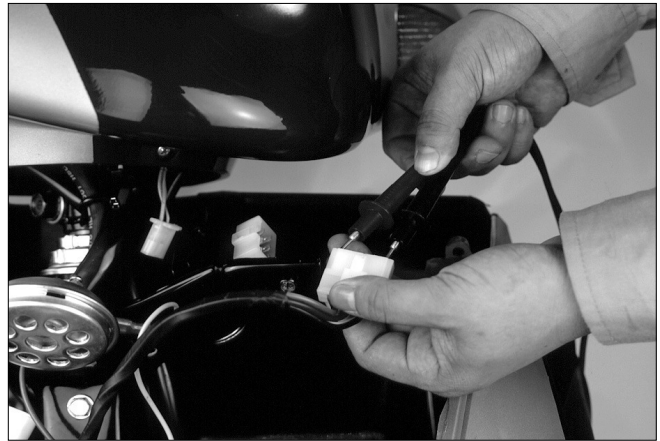
Regulator/Rectifier

Harness side circuit inspection

Remove the regulator / rectifier coupler, and check the wiring circuits at each terminal of the main harness coupler.

Inspection Items

Item	Judgment criteria
Battery (red)	Battery voltage must be between red(+) and earth(-)
Ground wire (green)	Power must be connected between the green and the earth.
Charging coil lead(yellow)	Yellow-to-yellow standard Resistance value. Power should not be connected between The yellow and the earth.
Voltage detection Lead(black)	The battery must carry voltage when the main switch is turned ON between the black (+) and green(-)



Regulator/Rectifier Inspection

If the inspection of the harness side proves to be satisfactory, check the regulator / rectifier coupler for faulty connection, and measure the resistance between the terminals of the regulator / rectifier.

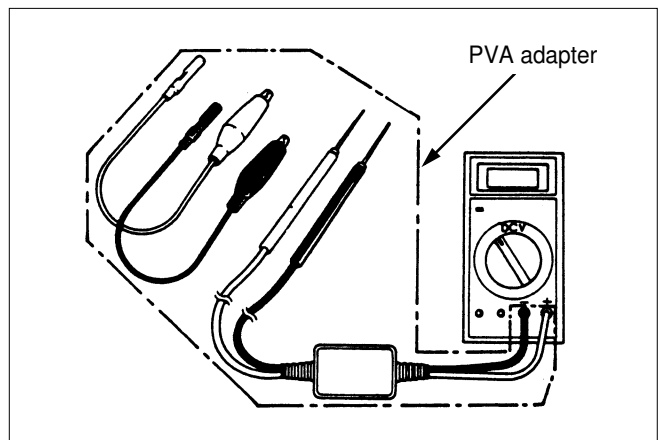
NOTE

If the metal part of the tester knob makes contact with fingers during test, body resistance will be displayed. Take due precautions.

Use designated testers for the inspection. If nondesignated testers are used, accurate testing cannot be carried out because abnormal resistance values are displayed.

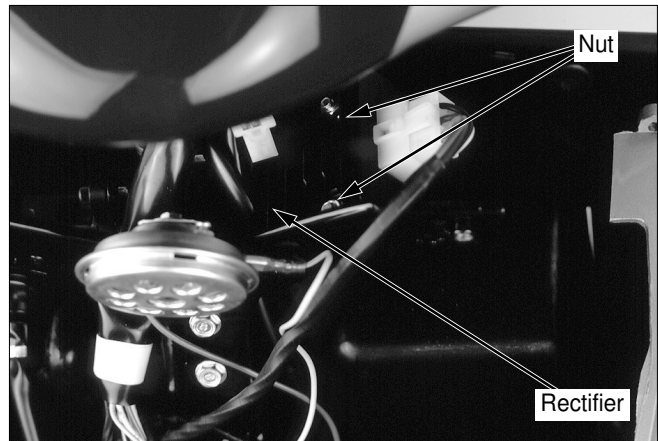
Tester: PVA multi-tester

If the terminal-to-terminal resistance values deviate from the specified values, replace the regulator / rectifier.



Replacement

Remove the front cover. (4-3)
Disconnect the regulator / rectifier wire coupler.
Remove the 2 regulator / rectifier setting bolts attached to the headlight stay.
Install in the reverse order of removal.

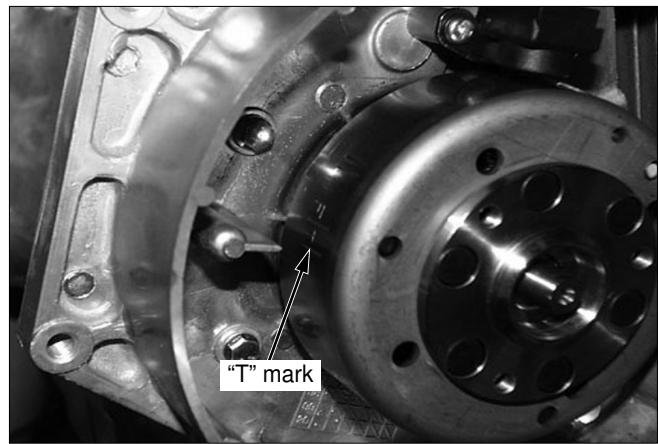


A.C Generator Inspection

NOTE

This test is carried out with the stator assembled to the engine.

Disconnect the 4P coupler of the generator cord.
Measure the resistance between the yellow leads.
Resistance value: 0.1-1.0 Ω (20°C/68 °F)
Measure the resistance between the yellow leads and the engine earth.
If the resistance value is great, or if power is connected between terminals and the earth terminals, replace the stator with a new one.



16. Ignition system

Service Information	16-1	Pulse Generator Inspection	16-5
Troubleshooting	16-2	A.C Generator Inspection	16-5
CDI Unit Inspection	16-3	Ignition Timing Check	16-6
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Service Information

General Safety

Carry out inspection in sequence based on the troubleshooting table.

If the CDI unit is dropped, or if strong shock is applied thereto, CDI unit malfunction may result. Take due precautions when handling it. Also, if the connector or coupler is connected or disconnected when there is current flowing, overvoltage may occur on the unit leading to circuit damage. Always turn off the main switch prior to servicing.

Ignition timing cannot be adjusted because the ignition system is of CDI type.

Spark plug check. (3 - 5)

Connect the same color cords. Pay particular attention to colors prior to removing wiring. Connect the same color couplers.

The resistance value may slightly differ from the standard values depending on each measuring situation.

Specifications

Item		Standard value	
Ignition coil Resistance value 20 (68)	Primary coil	0.1~0.2	
	Secondary coil	With plug cap	7.3~11k
		Without plug cap	3.6~4.6K
Pulse generator coil resistance value 20 (68)		50~170	
A.C. generator coil resistance value 20 (68)		50~350	

Tools

- Measuring instruments
- Digital circuit tester
- PVA multi-tester
- Inspection adapter
- Spark adapter

Troubleshooting

No spark at plug

Poorly connected, broken or shorted wires

- Between the A.C. generator and CDI unit
- Between the CDI unit and ignition coil
- Between the CDI unit and main switch
- Between the ignition coil and plug

Faulty main switch

Faulty ignition coil

Faulty CDI unit

Faulty A.C. generator

Faulty pulse generator

Poor Engine Running

Primary ignition circuit

- Faulty ignition coil
- Faulty wire connection
- Faulty CDI unit

Secondary ignition circuit

- Faulty plug
- Faulty high-tension cord
- Faulty pulse generator
- Faulty spark plug cord

Ignition timing

- Faulty A.C. generator
- Faulty CDI unit
- Faulty pulse generator

CDI Unit Inspection

CDI ignition circuit inspection

NOTE

Inspect the ignition system in proper sequence based on the troubleshooting table.

- Remove the luggage box. (4-5)
- Remove the body cover. (4-6)

Remove the coupler from the CDI unit, and check the ignition system circuits from the wiring coupler side.

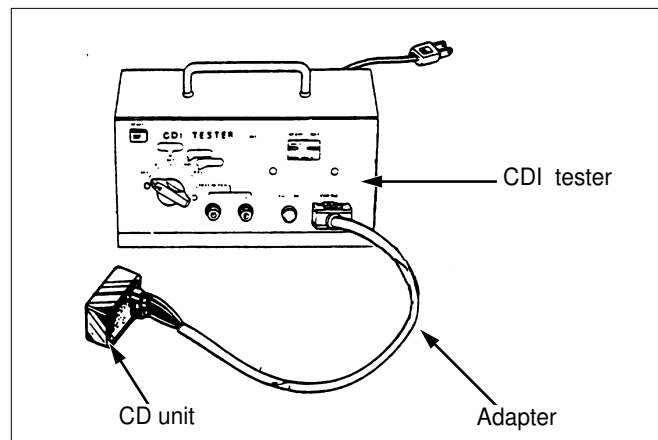


Inspection item	Terminal	Standard value
Pulse generator	Blue/yellow and green/white	50-170 20 (68)
Ignition coil (primary coil)	Black/yellow and earth	3.6-4.6 20 (68)
A.C. generator	Black/red and earth	50-350 20 (68)
Main switch	Black/white (+) and earth(-)	No power connection when the main switch is ON
Wire harness earth	Green and earth	Power connected

Testing by CDI Tester

Check the CDI unit spark performance by using a CDI tester.

Tool: Inspection adaptor



NOTE

Read tester manual carefully prior to using the tester.

Replace defective CDI unit.

Ignition Coil Inspection

Remove the luggage box. (4-5)

Remove the body cover. (4-6)

Remove the center cover. (4-4)

Remove the primary wire.

NOTE

This test is inaccurate. Conduct the ignition coil performance test with an ignition coil tester.

Measure the primary resistance between the ignition coil terminal and earth.

Standard value: 0.1-0.2 Ω

Remove the spark plug cap from the plug.

Measure the secondary resistance between the ignition coil spark plug cap and earth.

Standard value: 7.3-11K Ω

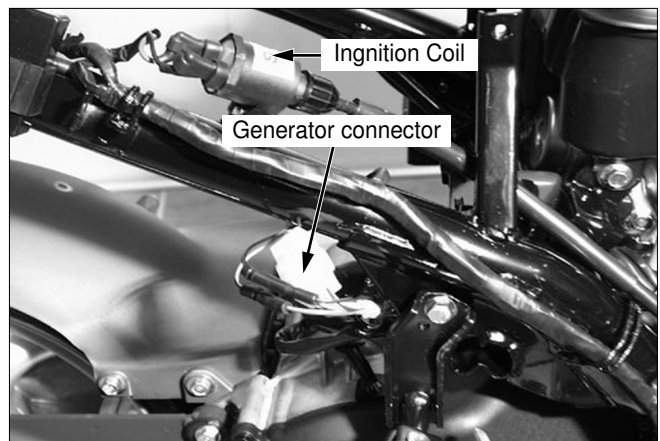
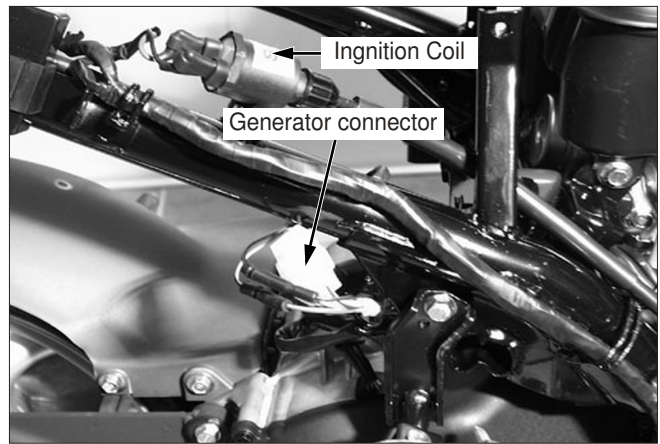
If the measured value deviates from the prescribed value, remove the plug cap from the high-tension cord, and measure the secondary resistance.

Standard value: 3.6-4.6K Ω

Replacement

Remove the high-tension cord from plugs and clamps. Remove the primary wire from the ignition coil. Loosen 2 bolts to disassemble the ignition coil.

Install in the reverse order of removal.



Performance Test

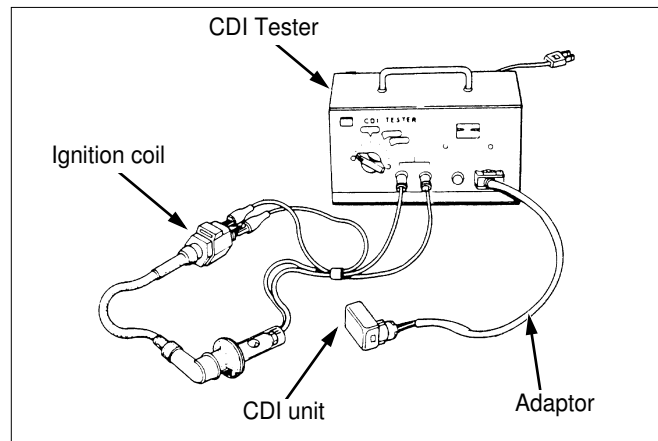
Remove the ignition coil.

Use a CDI unit to test spark performance of the ignition coil. If there is no spark from the spark cap of the spark adaptor, replace coil.

**Tools: Spark adaptor
Inspection adaptor**

NOTE

Read the tester manual carefully prior to using the tester.



Pulse Generator Inspection

Remove the luggage box. (4-5)

Disconnect the A.C. generator 4P coupler and the green/white wire connector.

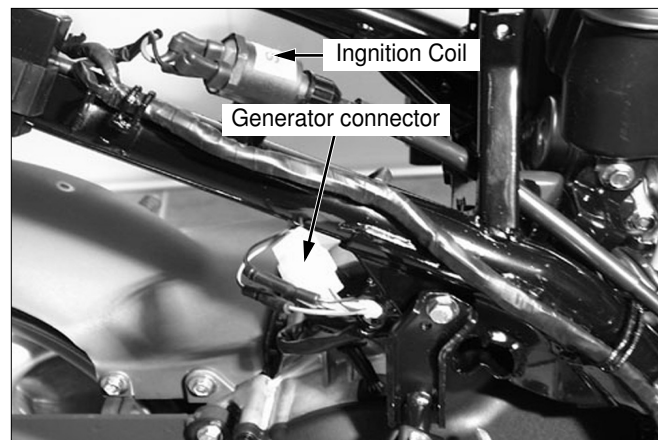
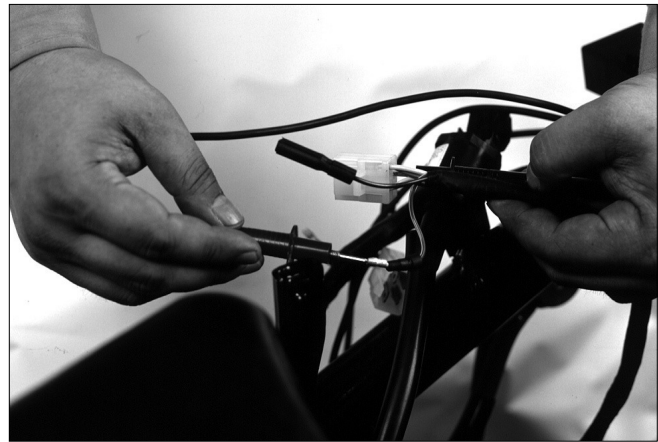
Measure the resistance between the green/white and blue/yellow wire.

Standard value: 50-170 Ω (20°C/68°F)

NOTE

Even if the resistance value slightly deviates from the standard value, sometimes performance is not affected. In such case, check all related parts to determine if the cause of trouble exists in other areas.

For information on pulse generator change, refer to section 8.



A.C. Generator Inspection

Disconnect the A.C. generator coil wire (black/red).

Measure the resistance between the black/red wire and the earth.

Standard value: 50-350 Ω (20°C/68°F)

NOTE

Even if the resistance value slightly deviates from the standard value, sometimes function is not affected. In such case, check all related parts to determine if the cause of trouble exists in other areas.

Carry out this test with the stator mounted on the engine.

The tester measuring range is 1

Ignition Timing Check

NOTE

As the system uses the CDI unit, the ignition timing need not be adjusted. Check the ignition system if the ignition timing is incorrect.

Start and warm up the engine.
Connect the timing light to the high-tension cord.

NOTE

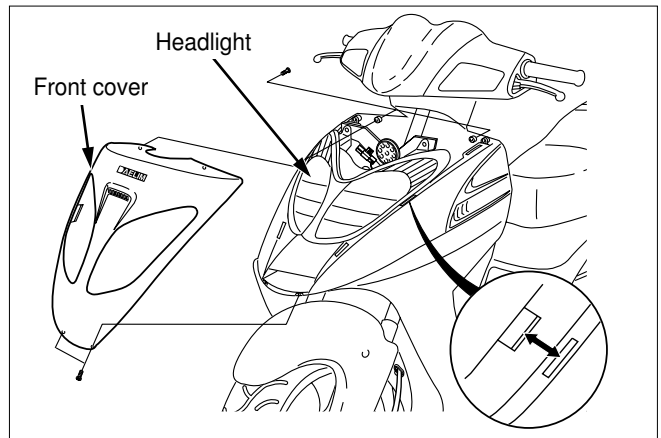
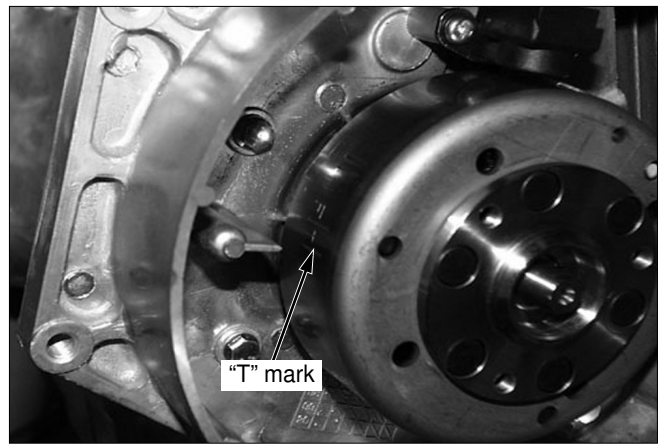
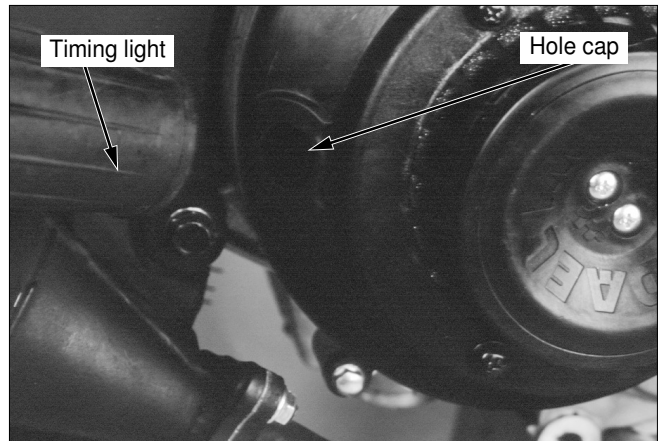
Read the timing light manual prior to using it.

Remove the timing hole cap from the shroud, and start the engine.

Align the "F" mark on the rotor with the index mark on the case when the engine is idling to specified rpm.

Idle speed: 8° BTDC 1,600 rpm.

Gradually increase the engine speed. If the index mark is set within the advanced "F" mark at the engine speed greater than 3,900(rpm), it indicates the advance system is correct.



Side Stand Ignition Cut-off Switch

Inspection

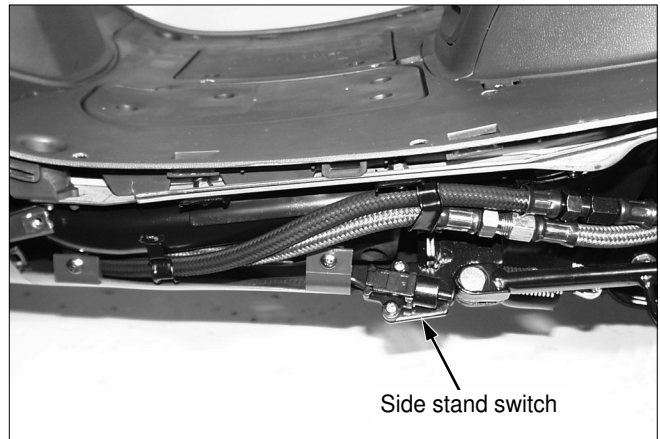
Remove the front cover.(4-3)
Remove the headlight.(18-2)
Remove the coupler of the side stand switch.
Check for continuity between the terminal as shown below ;

ITEM	TERMINAL	SPECIFICATION
ON (side stand is lowered)	BLACK/WHITE AND GREEN	NO CONTINUITY
OFF (side stand is retracted)	BLACK/WHITE AND GREEN	CONTINUITY



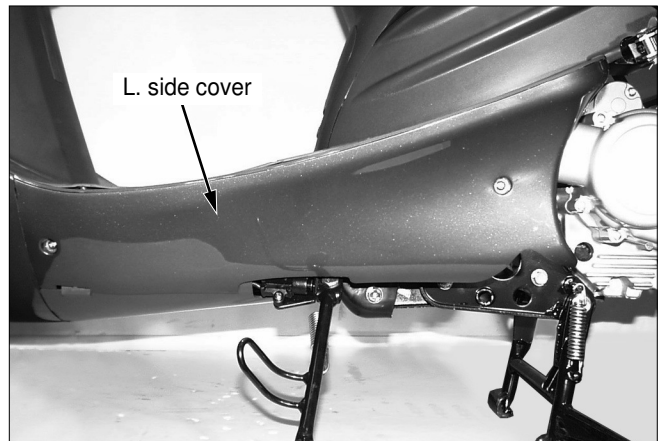
Removal

- Remove the front cover.(4-3)
- Remove the headlight.(18-2)
- Remove the coupler of the side stand switch.
- Remove the L. side cover.(4-5)
- Loosen the side stand switch mounting 2 bolts.
- Release the wire clamps and remove the side stand switch.

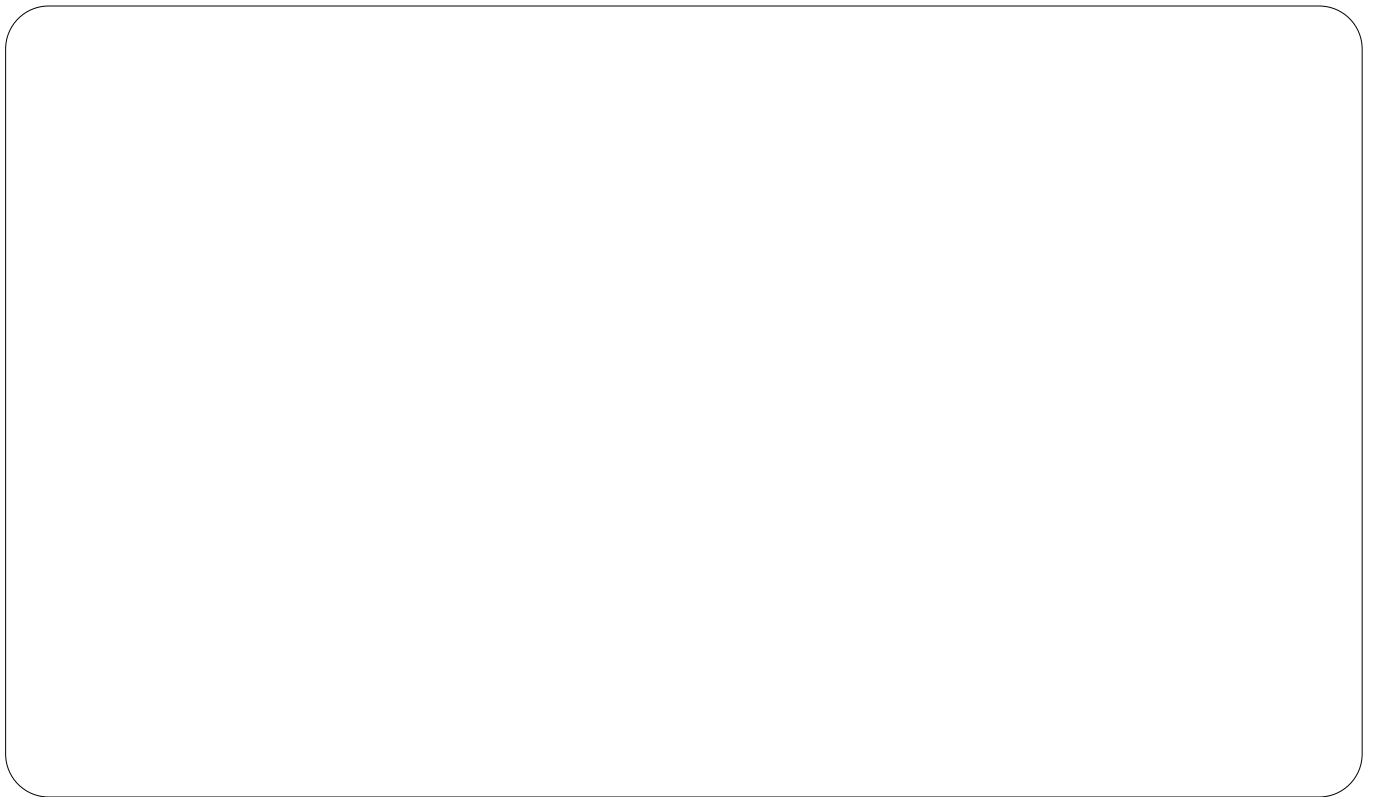


Installation

- Install in the reverse order of removal.



MEMO



A large, empty rounded rectangular box with a thin black border, intended for writing or drawing.

17. Starter System

Service Information	17-1	Starter Motor	17-2
Troubleshooting	17-1	Starter Magnetic Switch	17-3

Service Information

General Safety

The starter motor can be maintained without removing the engine from the vehicle.

Specifications

Unit: mm(in)

Item	Standard value	Service limit
Starter motor brush length	-	6.5mm (0.255)
Starter motor brush spring tension	-	680g

Troubleshooting

Starter motor will not turn

- Battery discharged
- Faulty ignition switch
- Faulty starter switch
- Faulty starter magnetic switch
- Loosen or disconnected wire or cable

Starter motor turns engine slowly

- Low specific gravity
- Excessive resistance in circuit
- Binding in starter motor

Starter motor turns, but engine does not turn

- Faulty starter clutch
- Faulty starter motor gears
- Faulty starter motor or idle gear

Starter motor and engine turns, but engine does not start

- Faulty ignition system
- Engine problems

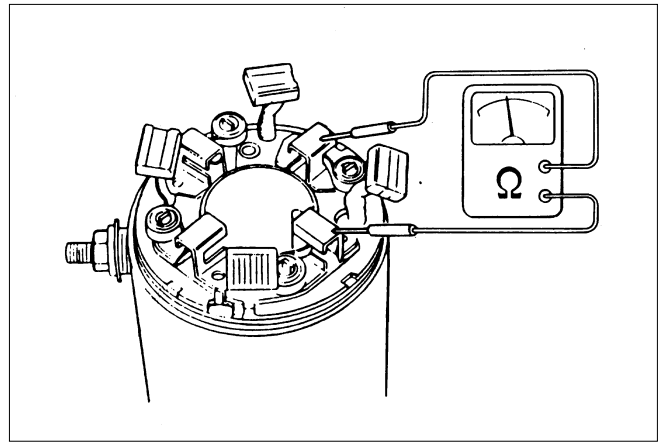
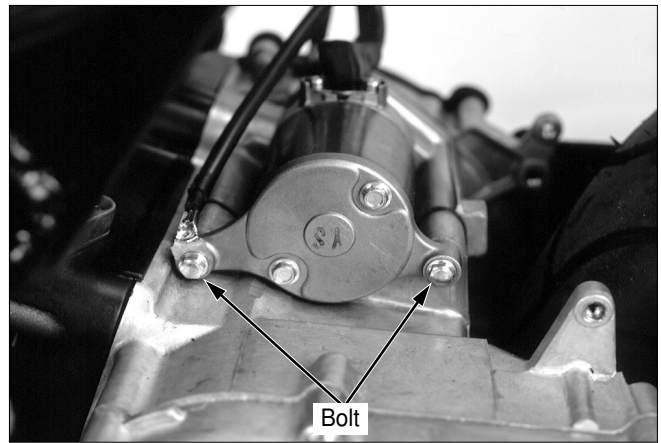
Starter Motor

Removal

- Remove the luggage box. (4-5)
 - Remove the body cover (4-6)
- Remove the starter motor cable from the motor.
Unfasten the 2 starter motor mounting bolts, and remove the starter motor.

NOTE

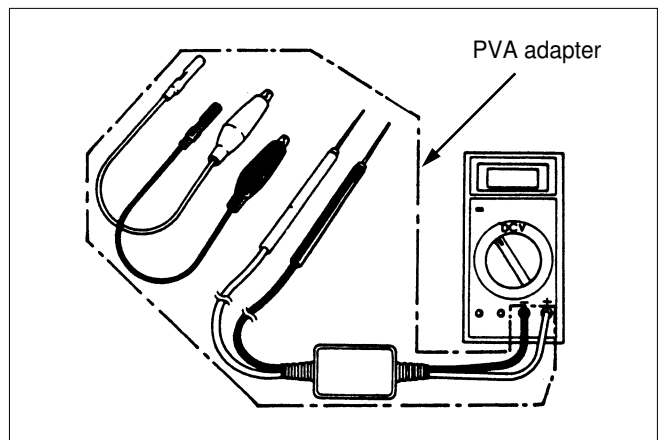
Turn off the main switch prior to servicing the starter motor. If power is connected, the starter motor may be activated and damaged.



Inspection

Check the starter motor terminal with a tester to determine if power is connected.

Tester: PVA multi-tester



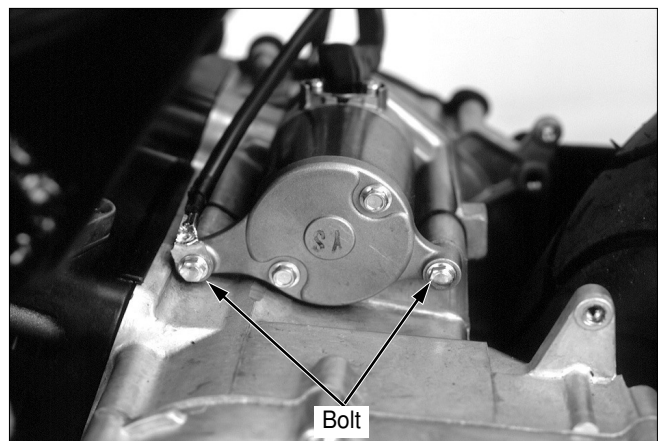
Installation

Install a new O-ring and apply oil. Insert the starter motor, and tighten the 2 bolts completely.

NOTE

Accurately connect the earth terminal to the starter motor mounting bolts.

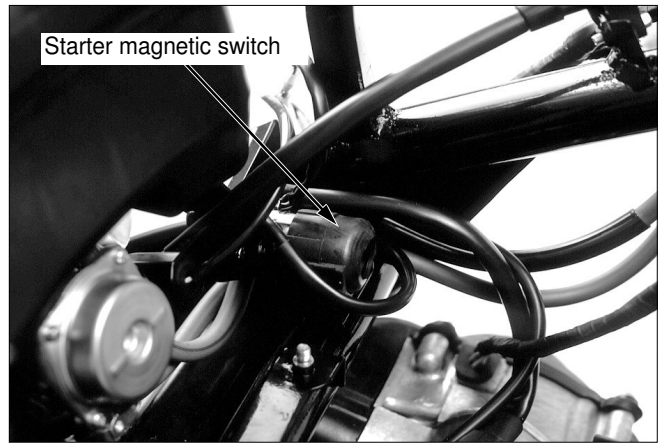
Assemble the luggage box and body cover.



Starter Magnetic Switch

Inspection

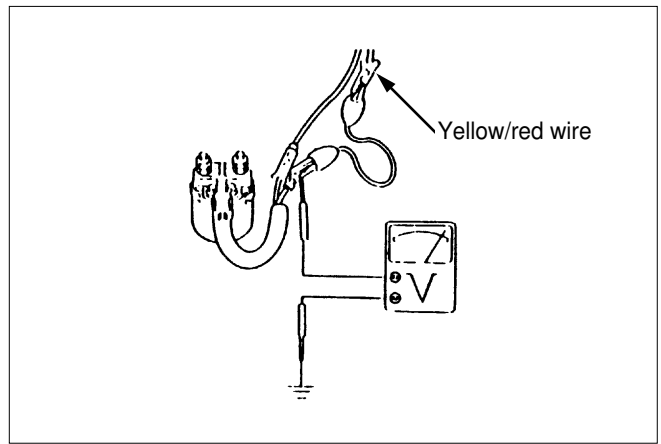
Turn on the main switch, and press the starter button. If the starter magnet switch generates operation signal tone at this time, it indicates satisfactory condition.



Voltage Check

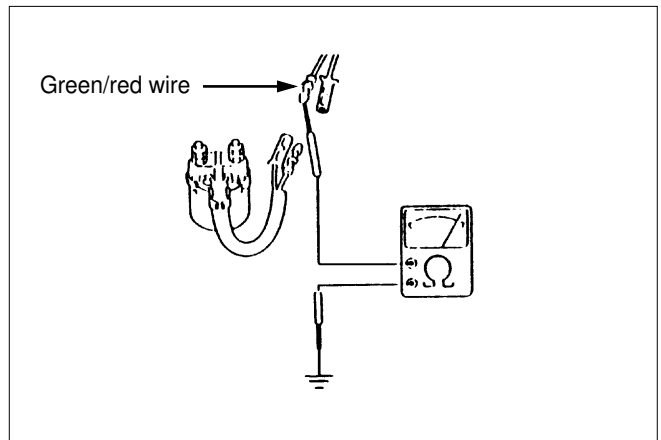
Measure the voltage between the yellow/red wire (+) of the starter magnetic switch and the vehicle earth.

Turn main switch on and press the starter switch. If there is battery voltage displayed, it indicates operation condition is satisfactory.



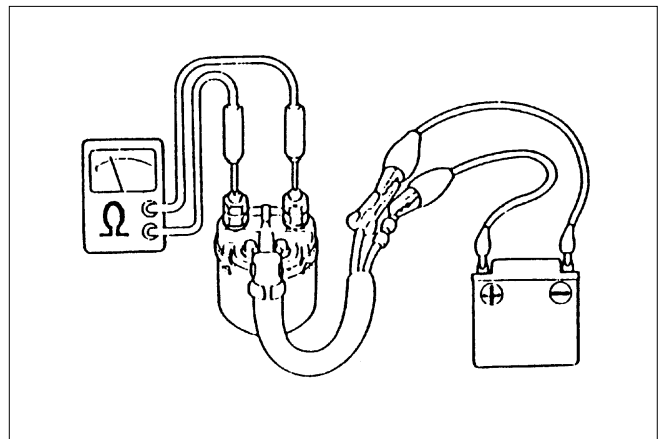
Earth Circuit Inspection

Disconnect the green/yellow wire connector of the starter magnetic switch. If power is connected between the harness terminal and the vehicle earth, it indicates satisfactory condition.



Operation Inspection

Disconnect the magnetic switch wire connector. If power is connected between terminals, as shown in the figure, when the yellow/red wire is connected to the positive (+) battery terminal and the green/yellow wire to the negative (-) battery terminal, it indicates the switch is functioning satisfactorily.



MEMO

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18. Light/Switch/Horn

Service Information	18-1	Handle Bar Switch	18-4
Troubleshooting	18-1	Front Stop Light Switch	18-5
Headlight	18-2	Fuel Gauge/Fuel Sensor	18-5
Front Winker	18-2	Horn/Clock	18-6
Tail-Stop Light/Rear Winker	18-2	Clock	18-6
Meters(Measuring instruments)	18-3	Trunk Lamp	18-7
Main Switch	18-4		

Service Information

General Safety

Connect the same color wires together. Connect couplers carrying the same color and the same number of pins together.

All couplers are equipped with tabs which can be locked. Remove these locks prior to disassembling; and insert these tabs all the way until locked when assembling.

Carry out continuity test on circuits or parts to diagnose electric systems. The continuity test on normal parts can be carried out without removing the parts from the vehicle. Simply disconnect the wires and connect a continuity tester or an ohmmeter to the coupler terminals or connectors.

The continuity test is conducted to check if electric power is connected between 2 terminals. If there is coil resistance within circuits, or to check the large resistance resulting from the connector corrosion, an ohmmeter is required to check the circuit resistance value.

Troubleshooting

Lights not turned on when the main switch is ON

- Faulty light bulb
- Faulty switch
- Faulty or disconnected wiring
- Fuse cut
- Battery discharged

Dim headlight

- Battery discharged
- Wiring and switch resistance high

Headlight Hi-Low bean cannot be changed

- Faulty light bulb
- Faulty dimmer switch

Headlight

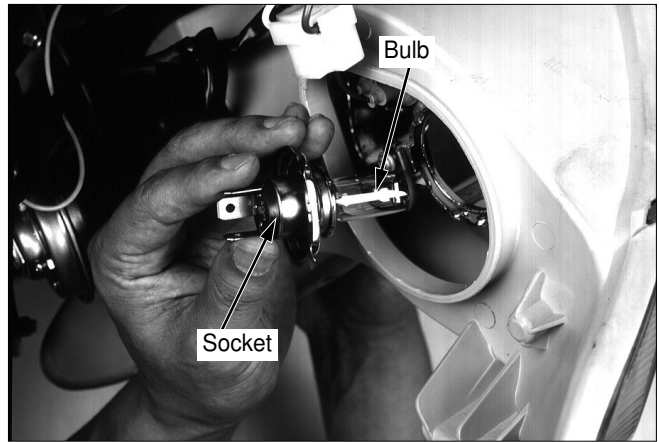
Removal

- Remove the front cover. (4-3)
- Loosen the 4 headlight setting bolts.
- Remove the headlight wiring
- Check the headlight wiring for disconnection. (15-3)



Bulb Replacement

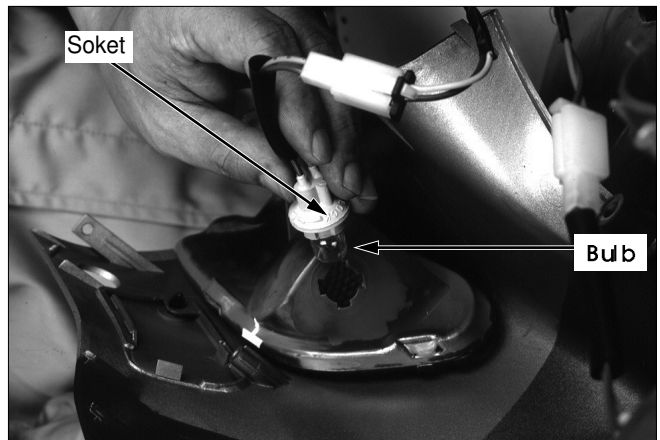
- Remove the headlight socket and position light socket, and replace the light bulb.
- Install in the reverse order of removal.



Front Winker

Bulb Replacement

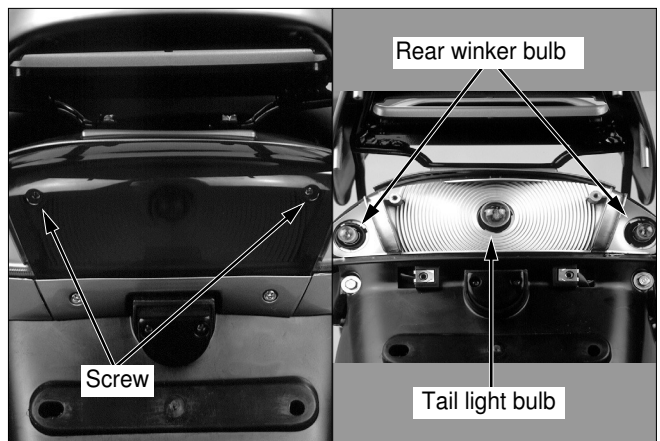
- Remove the front handle cover. (4-8)
- Remove the R/L winker light bulb socket from the handle cover, and replace bulbs.



Tail-Stop Light/Rear Winker

Bulb Replacement

- Remove the rear undercover.
- Loosen the 2 screws from the tail stop light lens, and replace the tail stop light and rear winker light bulbs.

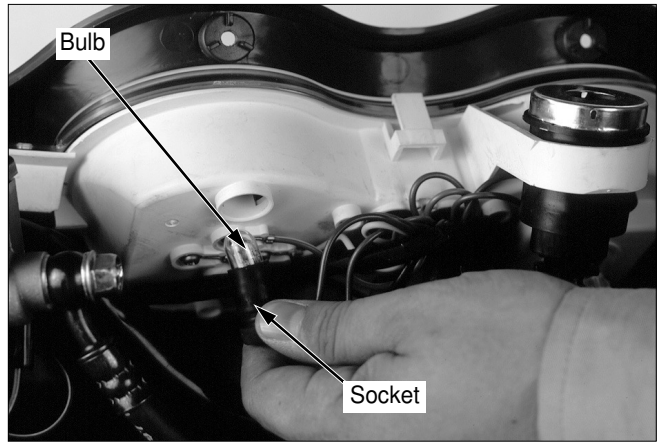


Meters (Measuring Instruments)

Bulb Replacement

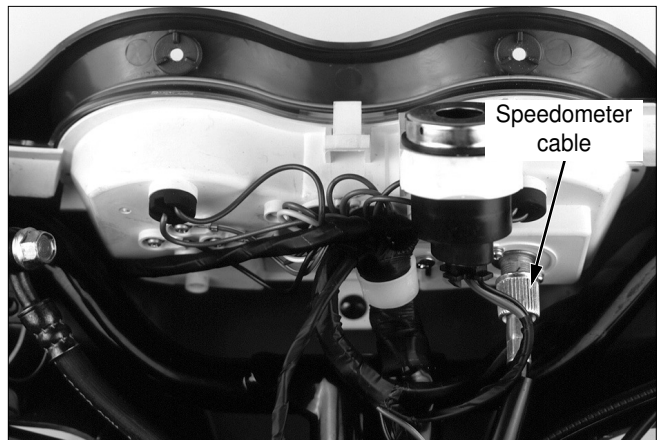
- Remove the front handle cover. (4-8)
- Disconnect the winker and headlight wiring.

Remove the bulb socket, and replace bulbs.



Meter Replacement

- Loosen the speedometer setting screws, and remove the front wheel side speedometer.
- Remove the speedometer cable from the meter, and remove the speedometer.



To disassemble the meter, release the hook from the meter upper case, and loosen the speedometer and fuel meter assembly screws. Install in the reverse order of removal.

NOTE

The fuel meter and wire must be connected accurately.



Main Switch

Inspection

Remove the front cover. (4-3)

Remove the headlight case.

Remove the main switch terminal.

Carry out continuity test between the following the same-color wires, as shown on the following table.

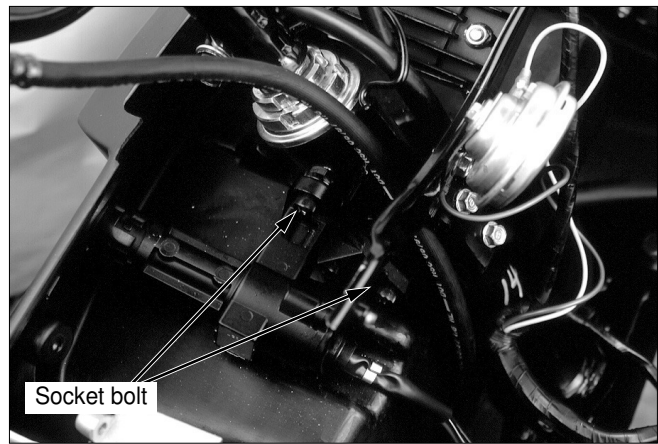
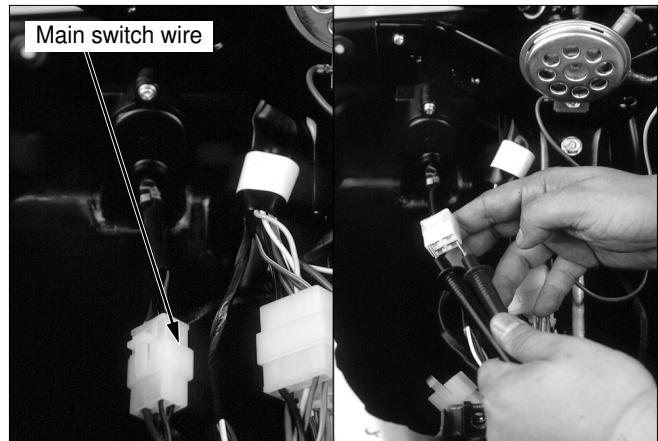
Color	Black/White	Green	Red	Black
Terminal	IG	E	BAT1	BAT2
OFF	—	—		
ON			—	—

Removal

- Remove inner box. (4-4)

Loosen the 3 main switch socket bolts, and remove the main switch.

Install in the reverse order of removal.



Handle Bar Switch

Remove the front handle cover. (4-8)

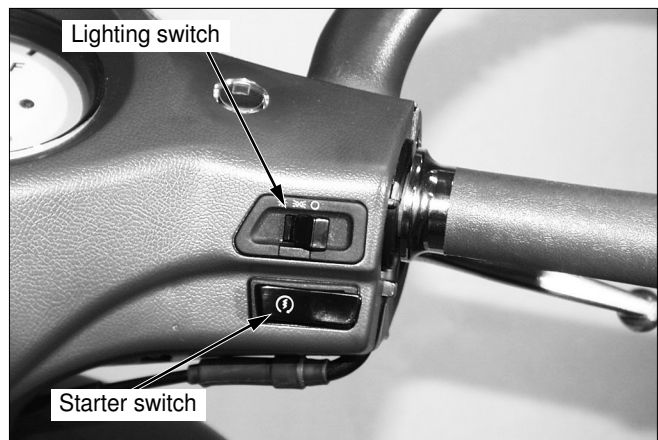
Loosen the headlight, and remove the handle bar switch terminals. Carry out inspection based on the following table.

Lighting switch

Color	Black	Brown/White	Brown
Terminal	BAT	HL	TL
(N)	—	—	—
P	—	—	—
H	—	—	—

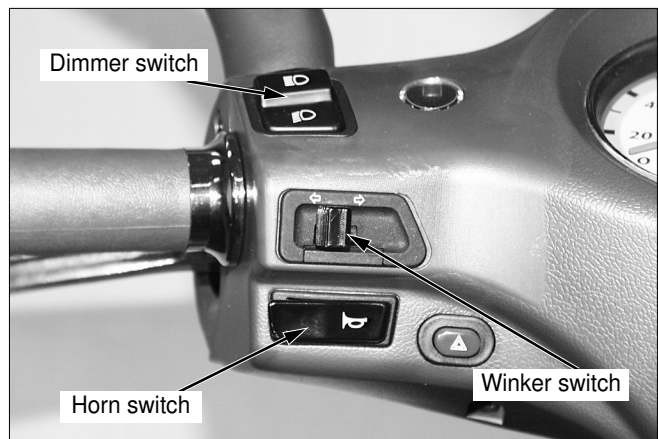
Starter switch

Color	Yellow/red	Black
Terminal	St	E
Before operation		
Push	—	—



Dimmer switch

Color	Green/black	W	Blue
Terminal	HL	Lo	Hi
Lo	—	—	
(N)	—	—	—
Hi	—	—	—



Winker switch

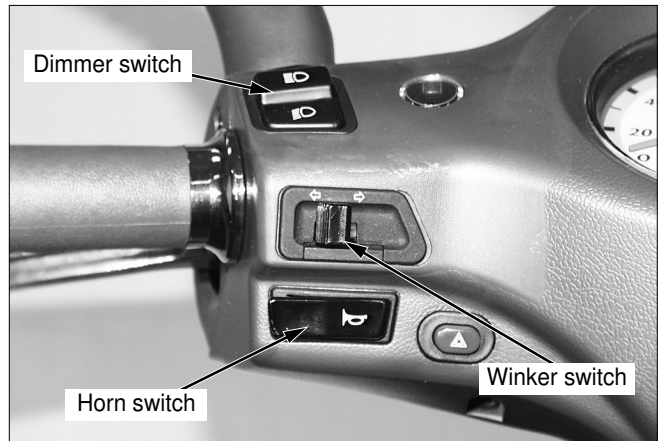
Color	Sky blue	Grey	Orange
Terminal	R	WR	L
R	—	—	—
N			
L		—	—

Horn switch

Color	Light green	Black
Terminal	HO	BAT
Before operation		
Push	—	—

Hazard switch

Color	Sky blue	Grey	Orange
Terminal	R	WR	L
Before operation			
Push	—	—	—

**Front Stop Light Switch**

Remove the front handle cover. (4-8)

Remove the black wire and green/yellow wire terminals inside the headlight case, and check the following.

When the brake lever is pulled-power connected

When the brake lever is released-power is not connected

Fuel Gauge/Fuel Sensor**Removal**

Open the seat, and remove the retainer and fuel sensor from the fuel tank.

Fuel gauge

Turn the ignition switch on.

Remove the fuel tank. (5-3)

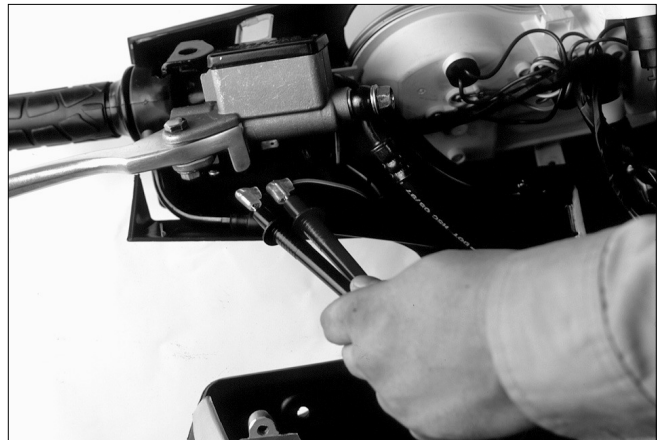
NOTE

Check the winker operation condition to check if the battery is in satisfactory condition.

Check the fuel gauge while moving the fuel sensor float up and down.

Up: No fuel

Down: Fuel amount sufficient

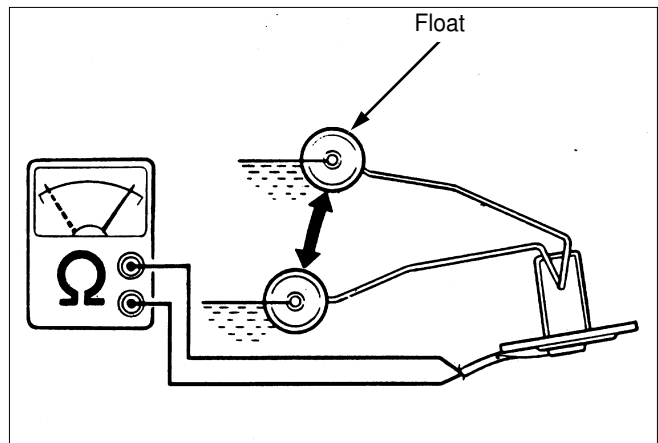


Fuel Sensor

Remove the fuel sensor terminal, and connect the resistance tester to each terminal. Check the resistance while moving the float up and down.

Resistance Ratio Calculation

Float position	Resistance ratio
Fuel amount sufficient	0.02-0.1
Reserve	2.5-4.5
No fuel	13-25.5



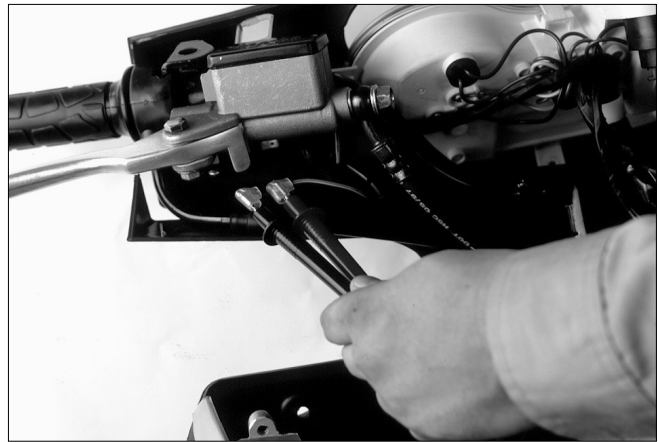
Horn

Inspection

Remove the front cover. (4-3)

Remove the headlight.

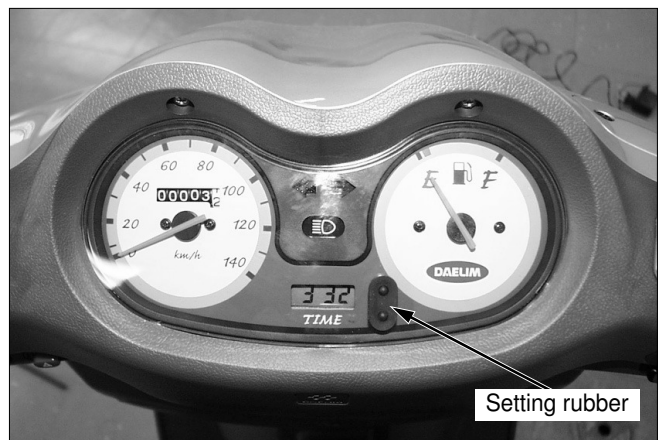
Remove the horn wiring, and connect a fully charged 12V battery. Check the sound quality for any abnormalities.



Clock

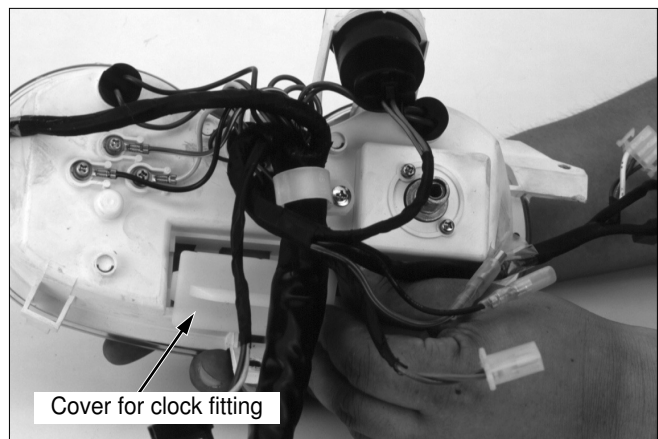
The current time is displayed at the bottom of the combination-meter.

If the time is incorrect, make adjustments with the setting rubber.



Replacement

- Remove the front handle cover. (4-8)
- Open the battery (for clock) cover inside the meter-case, and replace the battery.



Trunk Lamp

Replace bulb.

Remove the luggage box. (4-5)

Replace the trunk lamp bulb socket from the trunk lamp of out side.

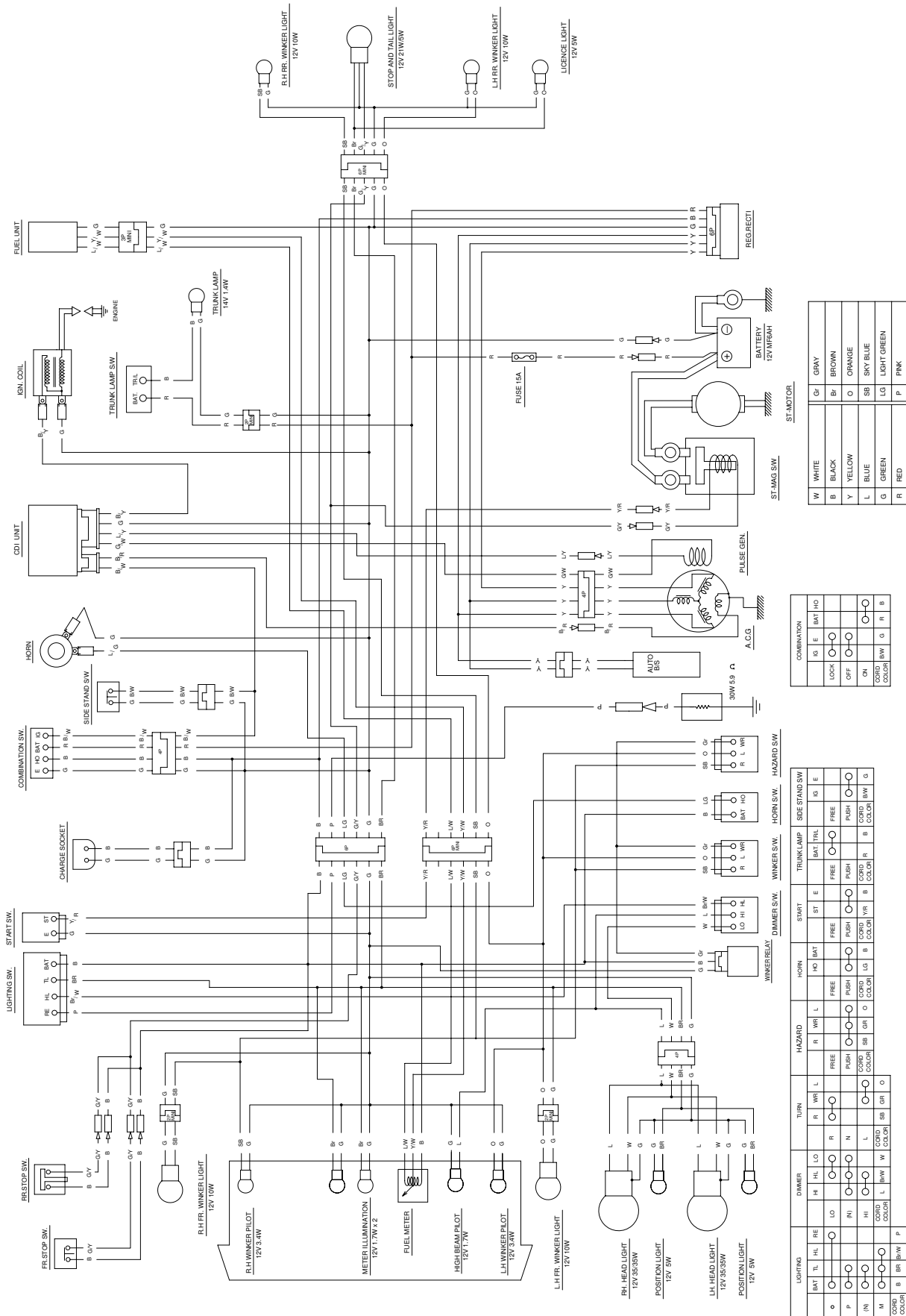
Color	Green	Red
Terminal	G	R
Push		
Projection	—	—



MEMO

A large, empty rounded rectangular box with a thin black border, intended for writing or drawing. It occupies the lower half of the page.

19. Wiring Diagram



COMBINATION	W	B	Y	L	G	R	P
GRAY	W	B	Y	L	G	R	P
BROWN	W	B	Y	L	G	R	P
ORANGE	W	B	Y	L	G	R	P
SKY BLUE	W	B	Y	L	G	R	P
BLUE	W	B	Y	L	G	R	P
LIGHT GREEN	W	B	Y	L	G	R	P
RED	W	B	Y	L	G	R	P

COMBINATION	HO	E	BAT	HD
LOCK	HO	E	BAT	HD
OFF	HO	E	BAT	HD
ON	HO	E	BAT	HD
COLOR	HO	E	BAT	HD

COMBINATION	HO	LN	HD	HT	HT	HT	HT
FREE	HO	LN	HD	HT	HT	HT	HT
PUSH	HO	LN	HD	HT	HT	HT	HT
COLOR	HO	LN	HD	HT	HT	HT	HT

COMBINATION	HO	LN	HD	HT	HT	HT	HT
FREE	HO	LN	HD	HT	HT	HT	HT
PUSH	HO	LN	HD	HT	HT	HT	HT
COLOR	HO	LN	HD	HT	HT	HT	HT

COMBINATION	HO	LN	HD	HT	HT	HT	HT
FREE	HO	LN	HD	HT	HT	HT	HT
PUSH	HO	LN	HD	HT	HT	HT	HT
COLOR	HO	LN	HD	HT	HT	HT	HT

COMBINATION	HO	LN	HD	HT	HT	HT	HT
FREE	HO	LN	HD	HT	HT	HT	HT
PUSH	HO	LN	HD	HT	HT	HT	HT
COLOR	HO	LN	HD	HT	HT	HT	HT

MEMO

A large, empty rounded rectangular box with a thin black border, intended for writing or drawing. It occupies the lower half of the page.

20. Troubleshooting

Engine Does Not Start or Is Hard to Start	20-1
Engine Output Insufficient	20-2
Poor Performance at Low Speed and Idling	20-3
Poor Performance at High Speed	20-3
Unsatisfactory Operation	20-4
Fuel Gauge	20-6
Starter Motor	20-7

Engine Does Not Start or Is Hard to Start

1. Open the drain screw, and check fuel flow to the carburetor.

Fuel is supplied.



2. Check spark plugs

Good spark



3. Test cylinder pressure.

Pressure normal



4. Start engine in the following procedure

Engine will not start.



5. Remove spark plugs.

Dry plugs

Fuel not supplied to the carburetor



Cause of Trouble

- (1) Fuel tank empty
- (2) Fuel tube up to the fuel tank clogged, or the vacuum tube or fuel tube up to the inlet pipe clogged
- (3) Float valve clogged
- (4) Fuel tank cap air hole clogged
- (5) Fuel supply pipe frozen
- (6) Fuel strainer clogged.

weak or no spark



- (1) Faulty spark plug
- (2) Contaminated spark plug
- (3) Faulty CDI unit
- (4) Faulty A.C. generator
- (5) Disconnected or shorted high tension cord
- (6) Disconnected or shorted ignition coil
- (7) Faulty main switch

Low cylinder pressure



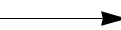
- (1) Piston ring seized
- (2) Cylinder and piston ring worn
- (3) Cylinder and cylinder head cracked
- (4) Crank case air leaks
- (5) Cylinder head gasket damaged

Engine start but stops immediately



- (1) Manifold air leaks
- (2) Inadequate ignition timing

Plugs wet



- (1) Carburetor flooded
- (2) Faulty control box
- (3) Throttle valve excessively opened

Engine output Insufficient

Cause of Trouble

1. Gently accelerate engine.

Engine speed increases.

Engine speed does not increase sufficiently →

- (1) Air cleaner clogged
- (2) Insufficient fuel supply
- (3) Fuel tank cap air hole clogged
- (4) Muffler clogged



2. Check ignition timing.

Normal

Abnormal →

- (1) Faulty CDI unit
- (2) Faulty A.C. generator



3. Press the kick starter pedal to check the cylinder pressure.

Normal

Low →

- (1) Cylinder and piston ring worn
- (2) Cylinder head gasket damaged
- (3) Cylinder and cylinder head cracked



4. Check the carburetor for clogging

Not clogged.

Clogged →

- (1) Unsatisfactory Carburetor maintenance



5. Remove spark plugs

Not contaminated or discolored.

Contaminated or discolored →

- (1) Unsatisfactory plug maintenance
- (2) Plugs with incorrect heat value used



6. Check for engine overheating

Not overheated.

Overheated →

- (1) Cylinder or piston worn
- (2) Lean fuel mixture
- (3) Poor quality fuel used
- (4) Carbon deposit inside the combustion chamber excessive
- (5) Ignition timing incorrect.



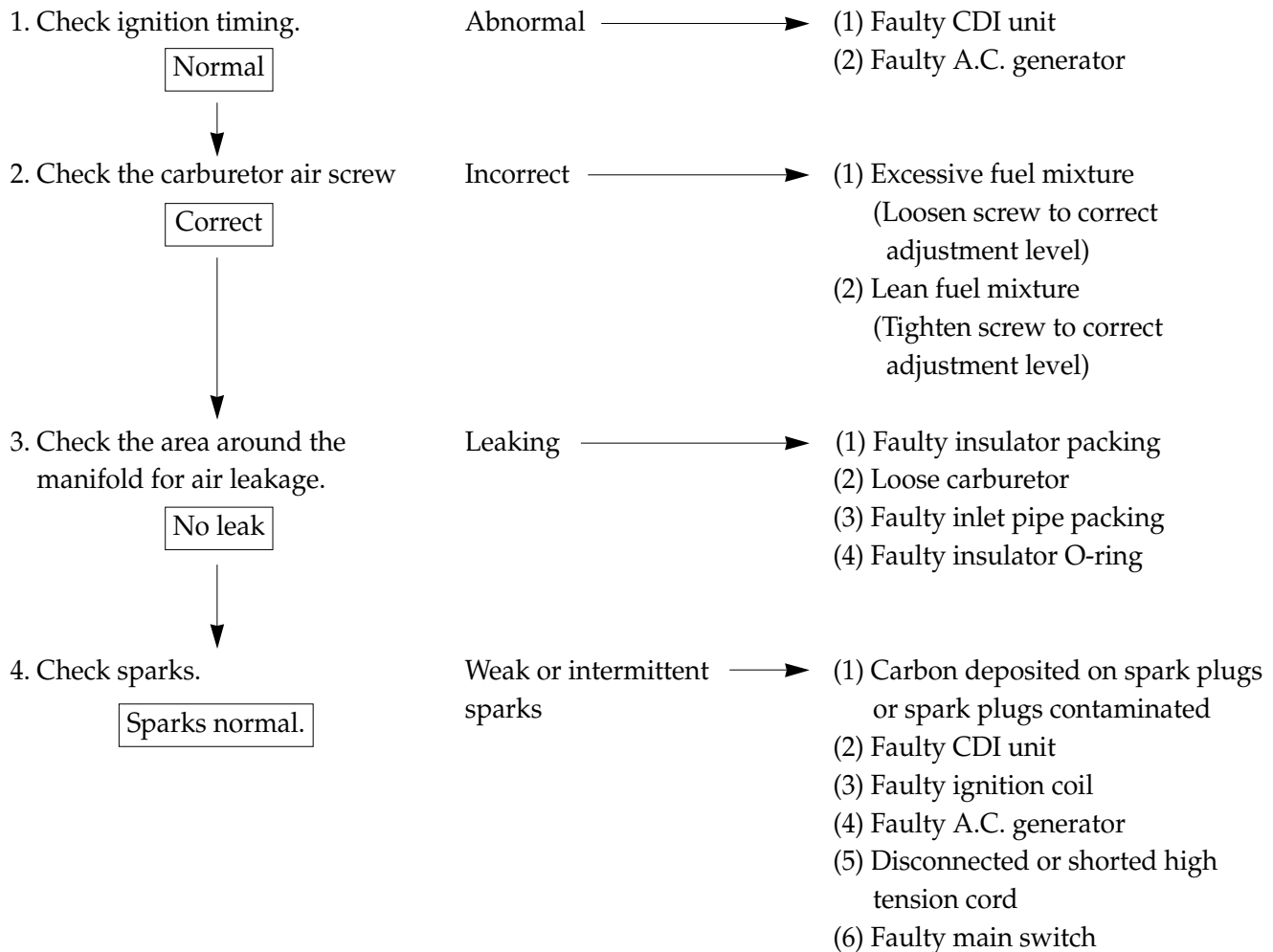
7. Accelerate suddenly or run at

Engine does not knock.

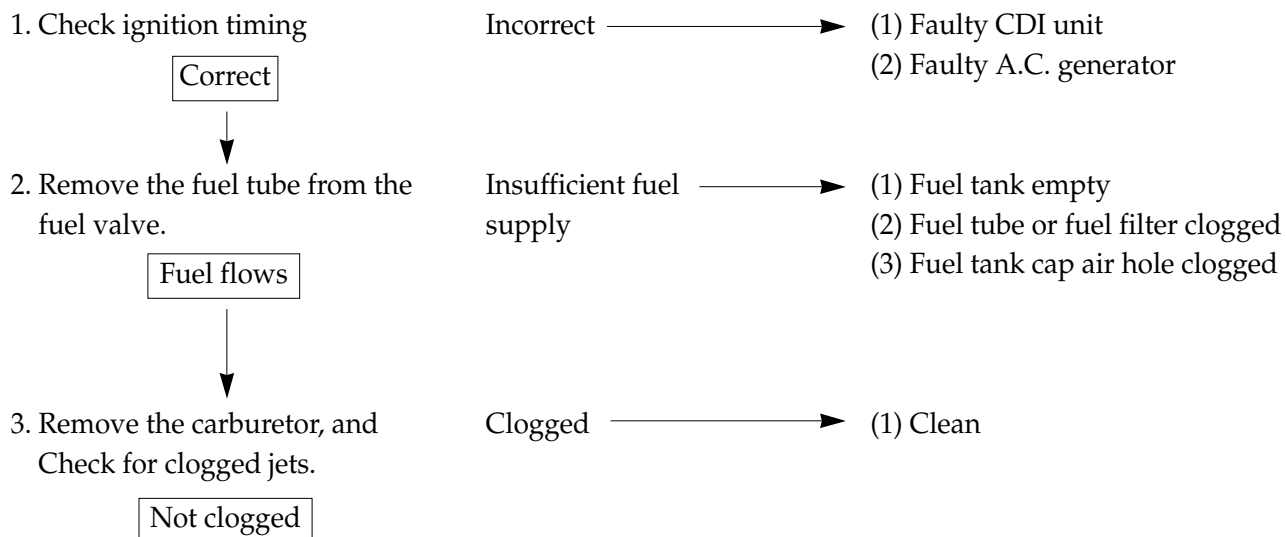
Engine knocks →

- (1) Carbon deposit inside the combustion chamber excessive
- (2) Poor quality fuel used
- (3) Lean fuel mixture

Poor Performance at Low Speed and Idling Cause of Trouble



Poor Performance at High Speed Cause of Trouble



Unsatisfactory Operation

Clutch Drive/Driven Pulley

1. Engine starts but motorcycle does not move. →



2. Vehicle moves slow, engine starts but stops immediately →



3. Engine weak at start. →



4. Engine weak at high speed. →



5. Abnormal noise or odor. →

Cause of Trouble

- (1) Drive belt worn or slips
 - (2) Ramp plate damaged
 - (3) Drive face spring damaged
 - (4) Clutch lining came off
 - (5) Driven pulley shaft spline damaged
 - (6) Faulty transmission
 - (7) Transmission seized
-
- (1) Shoe spring damaged
 - (2) Clutch outer and weight seized
 - (3) Pivot seized
-
- (1) Drive belt worn or slips
 - (2) Weight roller worn
 - (3) Drive pulley bearing seized
 - (4) Weak drive face spring
 - (5) Drive pulley bearing worn or seized
-
- (1) Drive belt worn or slips
 - (2) Weight roller worn
 - (3) Drive pulley bearing worn
-
- (1) Oil or grease spilled on the drive belt and inside pulley
 - (2) Drive belt worn
 - (3) Weak drive face spring
 - (4) Driven pulley bearing worn or seized

Poor Mechanical Performance

..... Check tire pressure

1. Steering is heavy →



2. Wheels wobbling →



3. Motorcycle pulls to one side →

Cause of Trouble

- (1) Steering head adjuster excessively tightened
 - (2) Steering cone race or steel ball damaged
-
- (1) Excessive wheel bearing play
 - (2) Rim bent
 - (3) Axle nut loose
-
- (1) Front wheel and rear wheel not aligned
 - (2) Front fork bent

Poor Front/Rear Suspension Performance

..... Check tire pressure

1. Suspension excessively soft →



2. Suspension excessively Hard →



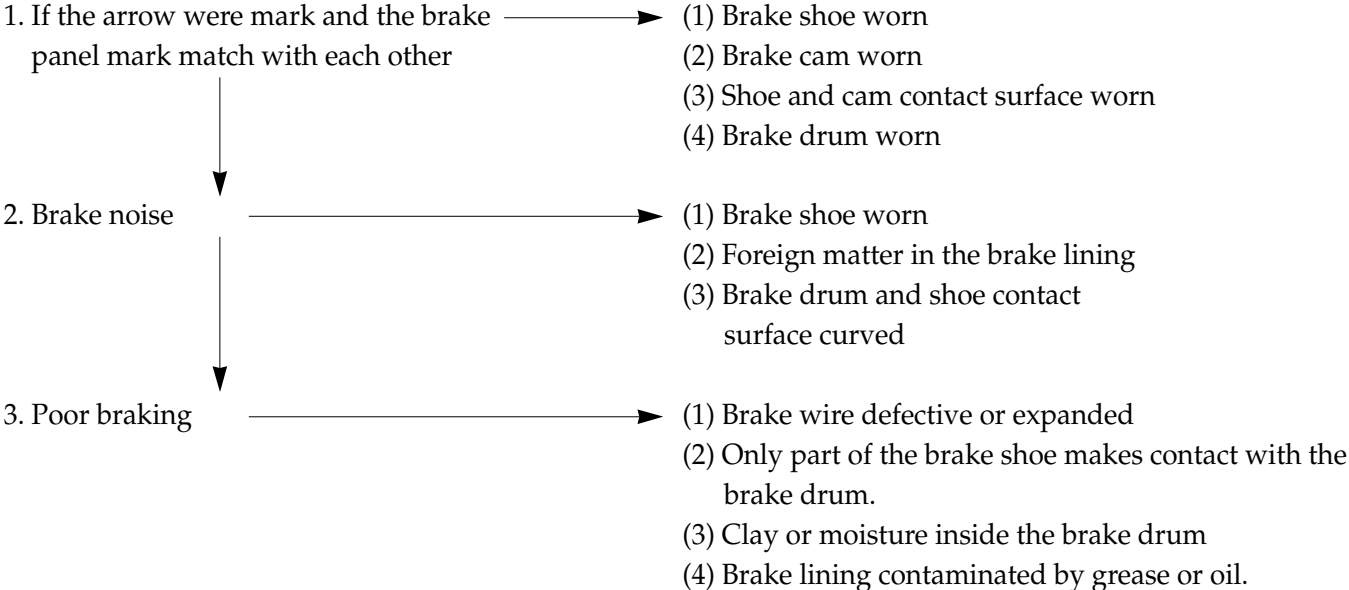
3. Noise from the suspension →

Cause of Trouble

- (1) Cushion spring weak
 - (2) Overloaded
 - (3) Damper oil leaks
-
- (1) Fork pipe or cushion rod bent
-
- (1) Sliders stuck
 - (2) Cushion stopper rubber damaged

Poor Brake Performance Check brake adjustment

Cause of Trouble



Fuel Gauge

Gauge Reading Inaccurate (Ignition switch ON)

1. Operate the turn signal to check the battery circuit.

Signal operates satisfactorily



2. Remove the fuel level sensor, and move float to check the status of operation

Float up : Full position

Float down : Empty position

Needle not moving



3. Short-circuit the tank unit terminal on the wire harness side.

Needle not moving

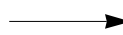


4. Terminal joints loose or faulty connection



Check

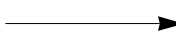
Signal continuously operates dim or does not operate at all



Cause of Trouble

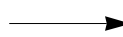
- (1) Fuse cut
- (2) Battery weak or totally discharged
- (3) Faulty ignition switch
- (4) Faulty terminal connection
- (5) Wire harness damaged

Needle moves.



- (1) Faulty float

Needle not moving



- (1) Balance coil damaged or shorted

Unsatisfactory



- (1) Terminal loose
- (2) Faulty terminal connection

- (1) Balance coil/lead shorted or damaged

Gauge needle shakes or vertically wobbles. (Ignition switch ON)

1. Operate the turn signal to check the battery circuit

Signal operates satisfactorily



2. Remove the tank and operate the float

Needle moving



3. Move the float rapidly. One Up/down motion per second.

Needle moving



4. Start the engine, and measure the fuel level sensor resistance.

Resistance not changed



5. Check each joint



Satisfactory

Signal continuously operates dim or does not operate at all



Cause of Trouble

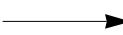
- (1) Fuse cut
- (2) Battery weak or totally discharged
- (3) Ignition switch damaged or shorted
- (4) Terminal loose or faulty connection
- (5) Wire harness damaged

Needle not moving



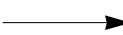
- (1) Faulty fuel level sensor connection

Needle not moving



- (1) Damper oil inside the meter insufficient.

Resistance changed significantly



- (1) Faulty connection between the sliding arm and the resistance

Unsatisfactory



- (1) Terminal connection loose or faulty connection

- (1) Balance coil/lead shorted or damaged

Starter Motor

Starting motor will not turn

1. Apply the brake and check the brake stop light for operation

Light is activated



2. Operate the turn signal to check the battery circuit.

Signal operates satisfactorily.
(60~120 signaling/second)



3. Press the starter switch to check the starter magnetic.

Satisfactory



4. Connect the starter to battery and check operation. Light not activated

Starter turns



Light not activated

Cause of Trouble

- (1) Fuse cut
- (2) Battery weak or totally discharged
- (3) Faulty stop right switch
- (4) Faulty terminal connection
- (5) Ignition switch damaged or shorted

Signal continuously operates dim or does not operate at all

- (1) Battery totally discharged.

Unsatisfactory

- (1) Faulty starter switch connection
- (2) Starter magnetic damaged or shorted
- (3) Connector and terminals loose

Starter does not turn

- (1) Worn Brush worn.
- (2) Rotor winding damaged or shorted
- (3) Starter motor subwire damaged
- (4) Terminal loose

- (1) Wire harness damaged

Starter Motor turns slow or fails to crank motor

- 1 Operate the turn signal to check the battery circuit

Signal operates satisfactorily.



2. Connect the starter subwire to the battery.

Turns slowly
(with speed not changing)



3. Operate the kick starter.

Operates light



Signal continuously operates dim or does not operate at all

Cause of Trouble

- (1) Battery totally discharged.

Operates satisfactory

- (1) Connector/terminal loose
- (2) Faulty starter magnetic connector.

Operates heavy

- (1) Engine seized
- (1) Starter motor winding damaged or shorted

Starter turns without stopping

1. Turn off the ignition switch

Will not stop



Cause of Trouble

- (1) Pinion seized

- Starter magnet disconnected or seized