

## 20. Troubleshooting

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### 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

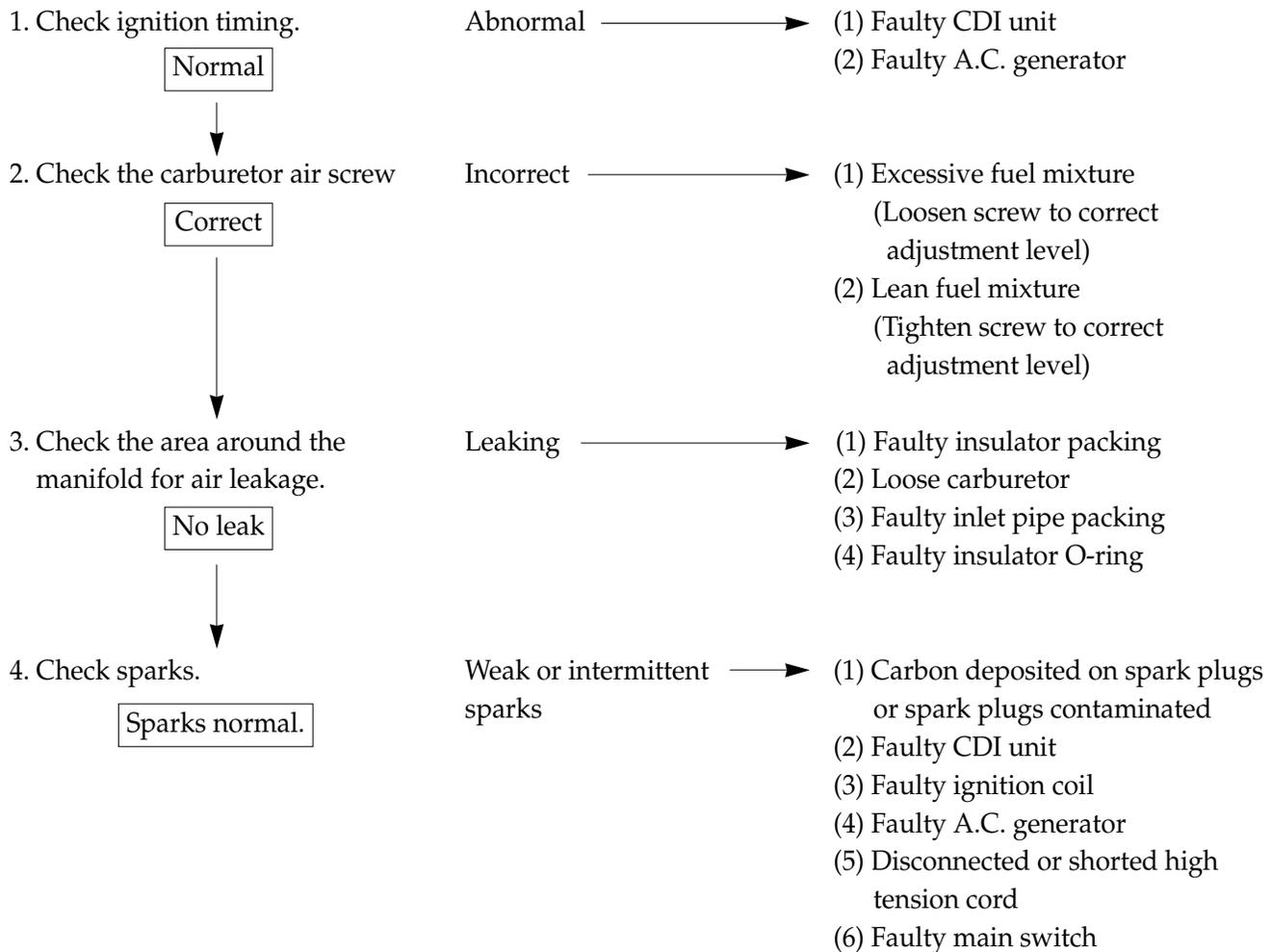
Engine does not knock.

Engine knocks →

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

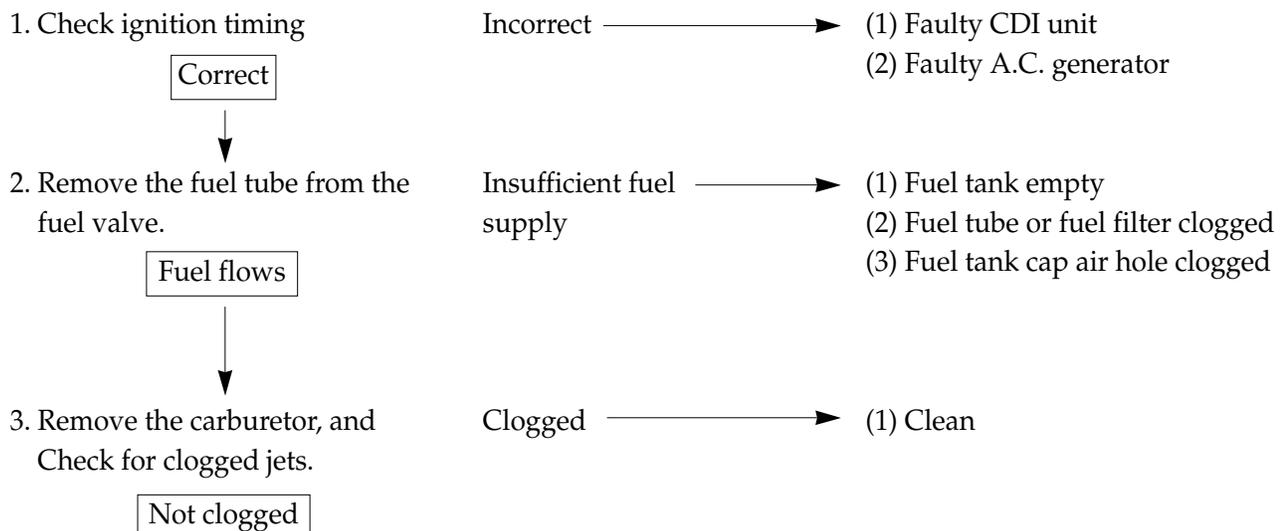
## Poor Performance at Low Speed and Idling

### 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 →



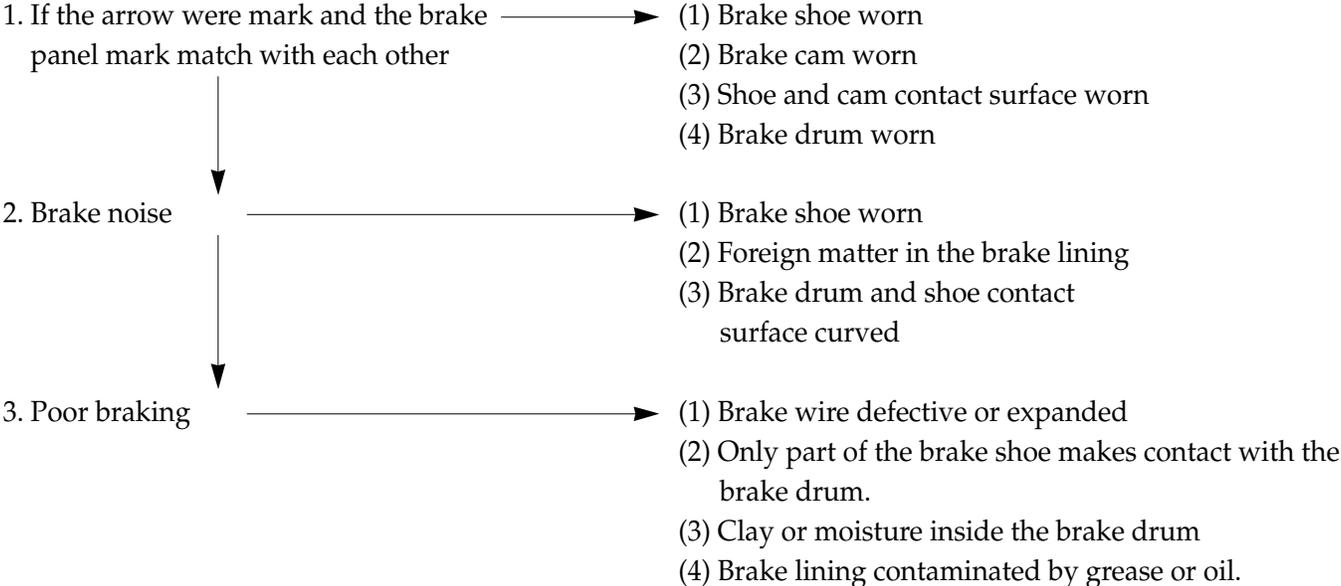
3. Noise from the suspension →

### 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	→	<b>Cause of Trouble</b> (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	→	<b>Cause of Trouble</b> (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



	→	<b>Cause of Trouble</b> (1) Pinion seized Starter magnet disconnected or seized
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