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## CHAPTER 10. TROUBLESHOOTING

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**TROUBLESHOOTING**

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**NOTE:**

The following troubleshooting does not cover all the possible causes of trouble. It should be helpful, however, as a guide to troubleshooting. Refer to the relative procedure in this manual for inspection, adjustment and replacement of parts.

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**STARTING FAILURE/HARD STARTING****FUEL SYSTEM****Fuel tank**

- Empty
- Clogged fuel filter
- Clogged fuel strainer
- Clogged fuel breather hose
- Deteriorated or contaminated fuel

**Fuel cock**

- Clogged fuel hose

**Carburetor**

- Deteriorated or contaminated fuel
- Clogged pilot jet
- Clogged pilot air passage
- Sucked-in air
- Deformed float
- Worn needle valve
- Improperly sealed valve seat
- Improperly adjusted fuel level
- Improperly set pilot jet
- Clogged starter jet
- Starter plunger malfunction

**Air filter**

- Clogged air filter element

**ELECTRICAL SYSTEM****Spark plug**

- Improper plug gap
- Worn electrodes
- Wire between terminals broken
- Improper heat range
- Faulty spark plug cap

**Ignition coil**

- Broken or shorted primary/secondary
- Faulty spark plug lead
- Broken body

**CDI system**

- Faulty CDI unit
- Faulty pickup coil
- Broken woodruff key

**Switches and wiring**

- Faulty main switch
- Faulty engine stop switch
- Broken or shorted wiring
- Faulty neutral switch
- Faulty start switch
- Faulty rear brake switch

**Starter motor**

- Faulty starter motor
- Faulty starter relay
- Faulty starter circuit cut-off relay
- Faulty starter clutch

## **COMPRESSION SYSTEM**

### **Cylinder and cylinder head**

- Loose spark plug
- Loose cylinder head or cylinder
- Broken cylinder head gasket
- Worn, damaged or seized cylinder

### **Piston and piston rings**

- Improperly installed piston ring
- Worn, fatigued or broken piston ring
- Seized piston ring
- Seized or damaged piston

### **Valve, camshaft and crankshaft**

- Improperly sealed valve
- Improperly contacted valve and valve seat
- Improper valve timing
- Broken valve spring
- Seized camshaft
- Seized crankshaft

## **POOR IDLE SPEED PERFORMANCE**

### **POOR IDLE SPEED PERFORMANCE**

#### **Carburetor**

- Improperly returned starter plunger
- Loose pilot jet
- Clogged pilot jet
- Clogged pilot air jet
- Improperly adjusted idle speed (Throttle stop screw)
- Improper throttle cable play
- Flooded carburetor

#### **Electrical system**

- Faulty spark plug
- Faulty CDI unit
- Faulty pickup coil
- Faulty ignition coil

#### **Valve train**

- Improperly adjusted valve clearance

#### **Air filter**

- Clogged air filter element

## **POOR MEDIUM AND HIGH-SPEED PERFORMANCE**

### **POOR MEDIUM AND HIGH-SPEED PERFORMANCE**

Refer to "STARTING FAILURE/HARD STARTING" and "POOR IDLE SPEED PERFORMANCE-VALVE TRAIN".

#### **Carburetor**

- Improper jet needle clip position
- Improperly adjusted fuel level
- Clogged or loose main jet
- Deteriorated or contaminated fuel

#### **Air filter**

- Clogged air filter element

**FAULTY DRIVE TRAIN**

The following conditions may indicate damaged shaft drive components:

Symptoms	Possible Causes
1.A pronounced hesitation or “jerky” movement during acceleration, deceleration, or sustained speed. (This must not be confused with engine surging or transmission characteristics.) 2.A “rolling rumble” noticeable at low speed; a high-pitched whine; a “clunk” from a shaft drive component or area. 3.A locked-up condition of the shaft drive mechanism, no power transmitted from the engine to the front and/or rear wheels.	A.Bearing damage. B.Improper gear lash. C.Gear tooth damage. D.Broken drive shaft. E.Broken gear teeth. F.Seizure due to lack of lubrication. G.Small foreign objects lodged between the moving parts.

**NOTE:**

Areas A, B, and C above may be extremely difficult to diagnose. The symptoms are quite subtle and difficult to distinguish from normal machine operating noise. If there is reason to believe these components are damaged, remove the components and inspect them.

## **FAULTY GEAR SHIFTING**

### **HARD SHIFTING**

Refer to "CLUTCH SLIPPING/Dragging-CLUTCH DRAGGING".

### **SHIFT LEVER DOES NOT MOVE**

#### **Shift cam, shift fork**

- Groove jammed with impurities
- Seized shift fork
- Bent shift fork guide bar

#### **Transmission**

- Seized transmission gear
- Jammed impurities
- Incorrectly assembled transmission

#### **Shift guide**

- Broken shift guide

### **JUMPS OUT OF GEAR**

#### **Shift fork**

- Worn shift fork

#### **Shift cam**

- Improper thrust play
- Worn shift cam groove

#### **Transmission**

- Worn gear dog

## **FAULTY CLUTCH PERFORMANCE**

### **ENGINE OPERATES BUT MACHINE WILL NOT MOVE**

#### **V-belt**

- Bent, damaged or worn V-belt
- V-belt slips

#### **Primary pulley cam and primary pulley slider**

- Damaged or worn primary pulley cam
- Damaged or worn primary pulley slider

#### **Transmission**

- Damaged transmission gears

### **CLUTCH SLIPPING**

#### **Clutch spring**

- Damaged, loose or worn clutch shoe spring

#### **Clutch shoe**

- Damaged or worn clutch shoe

#### **Primary sliding sheave**

- Seized primary sliding sheave

### **POOR STARTING PERFORMANCE**

#### **V-belt**

- V-belt slips
- Oil or grease on the V-belt

#### **Primary sliding sheave**

- Faulty operation
- Worn pin groove
- Worn pin

#### **Clutch shoe**

- Bent, damaged or worn clutch shoe

**POOR SPEED PERFORMANCE**

**V-belt**

- Oil or grease on the V-belt

**Primary pulley weight**

- Faulty operation
- Worn primary pulley weight

**Primary fixed sheave**

- Worn primary fixed sheave

**Primary sliding sheave**

- Worn primary sliding sheave

**Secondary fixed sheave**

- Worn secondary fixed sheave

**Secondary sliding sheave**

- Worn secondary sliding sheave

**OVERHEATING**

**OVERHEATING**

**Ignition system**

- Improper spark plug gap
- Improper spark plug heat range
- Faulty CDI unit

**Fuel system**

- Improper carburetor main jet (improper setting)
- Improper fuel level
- Clogged air filter element

**Compression system**

- Heavy carbon build-up

**Engine oil**

- Improper oil level
- Improper oil viscosity
- Inferior oil quality

**Brake**

- Brake drag

**Cooling system**

- Low coolant level
- Clogged or damaged radiator
- Damaged or faulty water pump
- Thermostat stays closed

**OVER COOLING**

**COOLING SYSTEM**

**Thermostat**

- Thermostat stays open

**FAULTY BRAKE**

**POOR BRAKING EFFECT**

**Disc brake**

- Worn brake pads
- Worn disc
- Air in brake fluid
- Leaking brake fluid
- Faulty master cylinder kit cup
- Faulty caliper kit seal
- Loose union bolt
- Broken brake hose and pipe
- Oily or greasy disc/brake pads
- Improper brake fluid level

## **SHOCK ABSORBER MALFUNCTION**

### **MALFUNCTION**

- Bent or damaged damper rod
- Damaged oil seal lip
- Fatigued shock absorber spring

## **UNSTABLE HANDLING**

### **UNSTABLE HANDLING**

#### **Handlebar**

- Improperly installed or bent

#### **Steering**

- Incorrect toe-in
- Bent steering stem
- Improperly installed steering stem
- Damaged bearing or bearing race
- Bent tie rods
- Deformed steering knuckles

#### **Tires**

- Uneven tire pressures on both sides
- Incorrect tire pressure
- Uneven tire wear

#### **Wheels**

- Deformed wheel
- Loose bearing
- Bent or loose wheel axle
- Excessive wheel runout

#### **Frame**

- Bent
- Damaged frame

#### **Swingarm**

- Worn bearing or bushing
- Bent or damaged

## **LIGHTING SYSTEM**

### **HEADLIGHT DARK**

- Improper bulb
- Too many electric accessories
- Hard charging (broken charging coil and/or faulty rectifier/regulator)
- Incorrect connection
- Improperly grounded
- Poor contacts (main or lights switch)
- Bulb life expired

### **BULB BURNT OUT**

- Improper bulb
- Faulty battery
- Faulty rectifier/regulator
- Improperly grounded
- Faulty main and/or lights switch
- Bulb life expired