

# 24. TROUBLESHOOTING

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# ENGINE DOES NOT START OR IS HARD TO START

### 1. Spark Plug Inspection

Remove and inspect spark plugs.

***Are the spark plugs in good condition?***

- NO** – • Incorrect spark plug heat range  
• Incorrect spark plug gap  
• Dirty air cleaner

**YES** – GO TO STEP 2.

### 2. Spark Test

Perform spark test.

***Are there good sparks?***

- NO** – • Loose or disconnected ignition system wires  
• Faulty ignition coil  
• Broken or shorted spark plug wires  
• Faulty CKP sensor  
• Faulty engine stop switch  
• Faulty ignition switch  
• Faulty ECM

**YES** – GO TO STEP 3.

### 3. Fuel Pump Inspection

Check for operation of the fuel pump and inspect the fuel flow.

***Is the fuel pump unit normal?***

- NO** – Faulty fuel pump unit (page 6-55).

**YES** – GO TO STEP 4.

### 4. PGM-FI System Inspection

Check the PGM-FI system.

***Is the PGM-FI system normal?***

- NO** – Faulty PGM-FI system (page 6-11).

**YES** – GO TO STEP 5.

### 5. Cylinder compression Inspection

Test the cylinder compression (page 9-6).

***Is the compression specified?***

- NO** – • Improper valve clearance  
• Valve stuck open  
• Worn cylinder and piston rings  
• Damaged cylinder head gasket  
• Seized valves  
• Improper valve timing

**YES** – GO TO STEP 6.

### 6. Engine Start Condition

Start by following normal procedure.

***Did the engine start but stops?***

- YES** – • Leaking insulators or air cleaner housing  
• Faulty starter valves  
• Improper ignition timing (Faulty ECM or CKP sensor)  
• Contaminated fuel

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## ENGINE LACKS POWER

### 1. Drive Train Inspection

Raise wheel off the ground and spin by hand.

**Does the wheel spin freely?**

- NO** – • Brake dragging  
• Worn or damaged wheel bearings

**YES** – GO TO STEP 2.

### 2. Tire Pressure Inspection

Check the tire pressure.

**Is the tire pressure correct?**

- NO** – • Faulty tire valve  
• Punctured tire

**YES** – GO TO STEP 3.

### 3. Clutch Inspection

Accelerate rapidly, shift from first to second.

**Does the engine speed change accordingly when clutch is released?**

- NO** – • Clutch slipping  
• Worn clutch discs/plates  
• Warped clutch discs/plates  
• Weak clutch spring  
• Additive in engine oil

**YES** – GO TO STEP 4.

### 4. Engine Performance Inspection

Accelerate lightly.

**Does the Engine speed increase?**

- NO** – • Dirty air cleaner  
• Restricted fuel flow  
• Clogged muffler

**YES** – GO TO STEP 5.

### 5. Spark Plug Inspection

Remove and inspect spark plugs.

**Are the spark plugs in good condition?**

- NO** – • Plugs not serviced frequently enough  
• Incorrect spark plug heat range  
• Incorrect spark plug gap

**YES** – GO TO STEP 6.

### 6. Engine Oil Inspection

Check the oil level and condition.

**Is the engine oil in good condition?**

- NO** – • Oil level too high  
• Oil level too low  
• Contaminated oil

**YES** – GO TO STEP 7.

### 7. Ignition Timing Inspection

Check the ignition timing.

**Is the ignition timing as specified?**

- NO** – • Faulty ECM  
• Faulty CKP sensor  
• Improper valve timing

**YES** – GO TO STEP 8.

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### 8. Cylinder compression Inspection

Test the cylinder compression.

***Is the compression as specified?***

- NO** – • Improper valve clearance  
• Valve stuck open  
• Seized valve  
• Worn cylinder and piston rings  
• Damaged cylinder head gasket  
• Improper valve timing

**YES** – GO TO STEP 9.

### 9. Fuel Pump Inspection

Inspect the fuel flow.

***Is the fuel pump unit normal?***

**NO** – Faulty fuel pump unit (page 6-55).

**YES** – GO TO STEP 10.

### 10. PGM-FI System Inspection

Check the PGM-FI system.

***Is the PGM-FI system normal?***

**NO** – Faulty PGM-FI system (page 6-11).

**YES** – GO TO STEP 11.

### 11. Lubrication Inspection

Remove cylinder head cover and inspect lubrication.

***Is the valve train lubricated properly?***

- NO** – • Faulty oil pump  
• Faulty pressure relief valve  
• Clogged oil strainer  
• Clogged oil passage

**YES** – GO TO STEP 12.

### 12. Over Heating Inspection

Check for engine over heating.

***Is the engine over heating?***

- YES** – • Coolant level too low  
• Fan motor not working  
• Thermostat stuck closed  
• Excessive carbon build-up in combustion chamber  
• Use of poor quality fuel  
• Wrong type of fuel  
• Clutch slipping

**NO** – GO TO STEP 13.

### 13. Engine Knocking Inspection

Accelerate or run at high speed.

***Is the engine knocking?***

- YES** – • Worn piston and cylinder  
• Wrong type of fuel  
• Excessive carbon build-up in combustion chamber  
• Ignition timing too advance (Faulty ECM)  
• Faulty CKP sensor

**NO** – • Engine does not knock

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## POOR PERFORMANCE AT LOW AND IDLE SPEED

### 1. Spark Plug Inspection

Remove and inspect spark plugs.

***Are the spark plugs in good condition?***

- NO** – • Plugs not serviced frequently enough  
• Incorrect spark plug heat range  
• Incorrect spark plug gap

**YES** – GO TO STEP 2.

### 2. Ignition Timing Inspection

Check the ignition timing.

***Is the ignition timing as specified?***

- NO** – • Faulty ECM  
• Faulty CKP sensor  
• Faulty VS sensor  
• Improper valve timing

**YES** – GO TO STEP 3.

### 3. Fuel Pump Inspection

Inspect the fuel flow.

***Is the fuel pump unit normal?***

- NO** – Faulty fuel pump unit (page 6-55).

**YES** – GO TO STEP 4.

### 4. PGM-FI System Inspection

Check the PGM-FI system.

***Is the PGM-FI system normal?***

- NO** – Faulty PGM-FI system (page 6-11).

**YES** – GO TO STEP 5.

### 5. IACV Inspection

Check the IACV operation (page 6-76).

***Does the IACV operate normally?***

- NO** – Faulty IACV.

**YES** – GO TO STEP 6.

### 6. Intake Pipes Leaking Inspection

Check for leaks at the insulators or air cleaner housing.

***Are there leaks?***

- YES** – • Loose insulator  
• Damaged insulator  
• Damaged air cleaner housing

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### POOR PERFORMANCE AT HIGH SPEED

#### 1. Ignition Timing Inspection

Check the ignition timing.

***Is the ignition timing as specified?***

- NO** – • Faulty ECM  
• Faulty CKP sensor  
• Faulty VS sensor  
• Improper valve timing

**YES** – GO TO STEP 2.

#### 2. Fuel Pump Inspection

Inspect the fuel flow.

***Is the fuel pump unit operation normal?***

**NO** – Faulty fuel pump unit (page 6-55).

**YES** – GO TO STEP 3.

#### 3. PGM-FI System Inspection

Check the PGM-FI system.

***Is the PGM-FI system normally?***

**NO** – Faulty PGM-FI system (page 6-11).

**YES** – GO TO STEP 4.

#### 4. Valve Timing Inspection

Check the valve timing (page 9-27).

***Is the valve timing correct?***

**NO** – Camshafts not installed properly

**YES** – GO TO STEP 5.

#### 5. Valve Spring Inspection

Check the valve springs.

***Are the valve spring free length as specified?***

**NO** – Faulty valve springs

### POOR HANDLING

#### **Steering is heavy**

- Steering stem adjusting nut too tight
- Damaged steering head bearings
- Insufficient tire pressure

#### **Either wheel is wobbling**

- Excessive wheel bearing play
- Bent rim
- Swingarm pivot bearing excessively worn
- Bent frame

#### **The motorcycle pulls to one side**

- Front and rear wheel not aligned
- Faulty shock absorber
- Bent fork
- Bent swingarm
- Bent axle
- Bent frame