



## ENGINE DOES NOT START OR IS HARD TO START

1. Check fuel flow to carburetor

REACHING CARBURETOR



2. Perform spark test

GOOD SPARK



3. TEST CYLINDER COMPRESSION

COMPRESSION NORMAL



4. Start by following normal procedure

ENGINE DOES NOT FIRE



5. Remove and inspect spark plug

NOT REACHING CARBURETOR



### POSSIBLE CAUSE

- (1) Fuel tank empty
- (2) Clogged fuel tube or fuel filter
- (3) Sticking float valve
- (4) Clogged fuel tank cap breather hole

WEAK OR NO SPARK



- (1) Faulty spark plugs
- (2) Fouled spark plugs
- (3) Faulty spark unit
- (4) Broken or shorted high tension wires
- (5) Faulty A.C. generator
- (6) Broken or shorted ignition coil
- (7) Faulty ignition switch
- (8) Faulty pulser generator

LOW COMPRESSION



- (1) Low battery charge
- (2) Improper valve clearance
- (3) Valve stuck open
- (4) Worn cylinder and piston rings
- (5) Damaged cylinder head gasket
- (6) Seized valve
- (7) Improper valve timing

ENGINE FIRES BUT STOPS



- (1) Improper choke operation
- (2) Carburetor incorrectly adjusted
- (3) Manifold leaking
- (4) Improper ignition timing (Spark unit or pulser generator)
- (5) Incorrect fast idle
- (6) Fuel contaminated

WET PLUG



- (1) Carburetor flooded
- (2) Choke closed
- (3) Throttle valve open
- (4) Air cleaner dirty


**ENGINE LACKS POWER**

1. Raise wheels off ground and spin by hand  
 WHEEL SPINS FREELY  
 ↓
2. Check tire pressure  
 PRESSURE NORMAL  
 ↓
3. Accelerate rapidly from low to second  
 ENGINE SPEED LOWERED WHEN CLUTCH IS RELEASED  
 ↓
4. Accelerate lightly  
 ENGINE SPEED INCREASES  
 ↓
5. Check ignition timing  
 CORRECT  
 ↓
6. Check valve clearance  
 CORRECT  
 ↓
7. Test cylinder compression  
 NORMAL  
 ↓
8. Check carburetor for clogging  
 NOT CLOGGED  
 ↓
9. Remove spark plug  
 NOT FOULED OR DISCOLORED  
 ↓
10. Check oil level and condition  
 CORRECT  
 ↓
11. Remove cylinder head cover and inspect lubrication  
 VALVE TRAIN LUBRICATED PROPERLY  
 ↓
12. Check for engine overheating  
 NOT OVERHEATING  
 ↓
13. Accelerate or run at high speed  
 ENGINE DOES NOT KNOCK

**POSSIBLE CAUSE**

- WHEELS DO NOT SPIN FREELY → (1) Brake dragging  
 (2) Worn or damaged wheel bearing  
 (3) Wheel bearing needs lubrication  
 (4) Drive chain too tight
- PRESSURE LOW → (1) Punctured tire  
 (2) Faulty tire valve
- ENGINE SPEED CHANGED WHEN CLUTCH IS RELEASED → (1) Clutch slipping  
 (2) Worn clutch disc/plate  
 (3) Warped clutch disc/plate
- ENGINE SPEED NOT INCREASED → (1) Carburetor choke closed  
 (2) Clogged air cleaner  
 (3) Restricted fuel flow  
 (4) Clogged fuel tank breather tube  
 (5) Clogged muffler
- INCORRECT → (1) Faulty spark unit  
 (2) Faulty pulser generator  
 (3) Faulty ignition advancer
- INCORRECT → (1) Improper valve adjustment  
 (2) Worn valve seat
- TOO LOW → (1) Valve stuck open  
 (2) Worn cylinder and piston rings  
 (3) Leaking head gasket  
 (4) Improper valve timing
- CLOGGED → (1) Carburetor not serviced frequently enough
- FOULED OR DISCOLORED → (1) Plugs not serviced frequently enough  
 (2) Spark plug with incorrect heat range
- INCORRECT → (1) Oil level too high  
 (2) Oil level too low  
 (3) Contaminated oil
- VALVE TRAIN NOT LUBRICATED PROPERLY → (1) Clogged oil passage  
 (2) Clogged oil control orifice
- OVERHEATING → (1) Excessive carbon build-up in combustion chamber  
 (2) Use of poor quality fuel  
 (3) Clutch slipping
- ENGINE KNOCKS → (1) Worn piston and cylinder  
 (2) Wrong type of fuel  
 (3) Excessive carbon build-up in combustion chamber  
 (4) Ignition timing too advanced (Faulty spark unit or advancer)



### POOR PERFORMANCE AT LOW AND IDLE SPEEDS

1. Check ignition timing and valve clearance	INCORRECT	POSSIBLE CAUSE (1) Improper valve clearance (2) Improper ignition timing (Faulty spark unit or spark advancer)
CORRECT		
2. Check carburetor pilot screw adjustment	INCORRECT	See Fuel System Section
CORRECT		
3. Check for leaking manifold	LEAKING	(1) Deteriorated insulator O-ring (2) Loose carburetor
NO LEAK		
4. Perform spark test	WEAK OR INTERMITTENT SPARK	(1) Faulty, carbon or wet fouled spark plug (2) Faulty spark unit (3) A.C. generator faulty (4) Faulty ignition coil (5) Faulty spark advancer
GOOD SPARK		

### POOR PERFORMANCE AT HIGH SPEED

1. Check ignition timing and valve clearance	INCORRECT	(1) Improper valve clearance (2) Faulty spark unit (3) Faulty pulser generator (4) Faulty spark advancer
CORRECT		
2. Disconnect fuel tube at carburetor	FUEL FLOW RESTRICTED	(1) Lack of fuel in tank (2) Clogged fuel line (3) Clogged fuel tank breather hole (4) Clogged fuel cock
FUEL FLOWS FREELY		
3. Remove carburetor and check for clogged jet	CLOGGED	(1) Clean
NO CLOG		
4. Check valve timing	INCORRECT	(1) Cam sprocket not installed properly
CORRECT		
5. Check valve spring tension	WEAK	(1) Faulty spring
NOT WEAKENED		

### POOR HANDLING ————— Check tire pressure

1. If steering is heavy	(1) Steering top thread nut too tight (2) Damaged steering head bearings
2. If either wheel is wobbling	(2) Excessive wheel bearing play (2) Distorted rim (3) Improperly installed wheel hub (4) Swing arm pivot bushing excessively worn (5) Distorted frame (6) Improper drive chain tension or adjustment
3. If the motorcycle pulls to one side	(1) Improperly adjusted shock absorber (2) Front and rear wheels not aligned (3) Bent front fork (4) Bent swing arm



## MEMO