

I APPENDIX TROUBLESHOOTING GUIDE

Engine Doesn't Start; Starting Difficulty

Starter motor not rotating

- Starter motor defective
- Battery voltage low
- Relay not contacting or operating
- Starter button not contacting
- Wiring open or shorted
- Ignition switch defective
- Engine stop switch defective
- Fuse blown

Starter motor rotating but engine doesn't start

- Starter motor clutch defective
- Dynamo rotor bolt loosened
- Starter motor internal gear slipping

Engine won't turn over

- Valve seizure
- Cylinder, piston seizure
- Crankshaft seizure
- Connecting rod small end seizure
- Connecting rod big end seizure
- Transmission gear or bearing seizure
- Camshaft seizure

- Kickstarter return spring broken

- Kick ratchet gear not engaging

- Primary chain broken

No fuel flow

- No fuel in tank
- Fuel tap turned off
- Tank cap air vent obstructed
- Fuel tap clogged
- Fuel line clogged
- Float valve clogged

Engine flooded

- Fuel level too high
- Float valve worn or stuck open
- Starting technique faulty
- (When flooded, kick with the throttle fully open to allow more air to reach the engine.)

No spark; spark weak

- Ignition switch not on
- Engine stop switch turned off
- Battery voltage low
- Spark plug dirty, defective, or maladjusted
- Spark plug cap or high tension wiring defective
- Spark plug cap shorted or not in good contact
- Contact breaker points dirty or damaged
- Contact breaker point gap maladjusted
- Capacitor defective
- Ignition coil defective
- Ignition or engine stop switch shorted
- Wiring shorted or open

Compression low

- Spark plug loose
- Cylinder head not sufficiently tightened down
- No valve clearance
- Cylinder, piston worn
- Piston rings bad (worn, weak, broken, or sticking)
- Piston ring/land clearance excessive
- Cylinder head gasket damaged
- Cylinder head warped
- Valve lifter seizure

- Valve sticking
- Valve not closing
- Valve spring broken or weak
- Valve not seating properly (valve bent, warped, or worn)

Poor Running at Low Speed

Spark weak

- Battery voltage low
- Spark plug dirty, defective, or maladjusted
- Spark plug cap or high tension wiring defective
- Spark plug cap shorted or not in good contact
- Contact breaker points dirty or damaged
- Contact breaker point gap maladjusted
- Capacitor defective
- Ignition coil defective

Fuel/air Mixture incorrect

- Pilot screw(s) maladjusted
- Pilot jet, or air passage clogged
- Air cleaner clogged, poorly sealed, or missing
- Starter plunger stuck open
- Fuel level too high or too low
- Fuel tank air vent obstructed
- Carburetor holders loose

Compression low

- Spark plug loose
- Cylinder head not sufficiently tightened down
- No valve clearance
- Cylinder, piston worn
- Piston rings bad (worn, weak, broken or sticking)
- Piston ring/land clearance excessive
- Cylinder head gasket damaged
- Cylinder head warped
- Valve lifter seizure
- Valve sticking
- Valve not closing
- Valve spring broken or weak
- Valve not seating properly (valve bent, warped, or worn)

Other

- Ignition timing maladjusted
- Timing not advancing (spring broken or stretched)
- Carburetors not synchronizing
- Engine oil viscosity too high
- Brakes dragging

Poor Running or No Power at High Speed

Firing incorrect

- Battery voltage low
- Spark plug dirty, defective, or maladjusted
- Spark plug cap or high tension wiring defective
- Spark plug cap shorted or not in good contact
- Contact breaker points dirty or damaged
- Contact breaker point gap maladjusted
- Capacitor defective
- Ignition coil defective
- Ignition timing maladjusted and/or timing not advancing
- Contact breaker spring weak

Fuel/air mixture incorrect

- Main jet clogged or wrong size
- Jet needle or needle jet worn
- Jet needle clip in wrong position