

## If the engine won't start

### Ask this question:

### If the answer is yes:

(Fuel line)



*Is the fuel tank empty?*

Fill fuel tank; if engine is still hot, wait until it cools before filling tank.

*Is the shut-off valve closed?*

Open fuel shut-off valve.

*Is the fuel diluted with water?*

Empty tank, replace fuel and check for leaks in fuel tank cap.

*Is the fuel line or inlet screen blocked?*

Disconnect inlet screen from engine and clean using compressed air. Do not use compressed air near engine.\*

*Is the fuel tank cap clogged or unvented?*

Make sure cap is vented and air holes are not clogged.\*

(Carburetor)



*Is the carburetor blocked?*

Remove spark plug lead and spark plug; pour teaspoon of fuel directly into cylinder; reinsert spark plug and lead; start engine; if it runs shortly before quitting, overhaul carburetor.\*

*Is the engine flooded?*

Adjust float in fuel bowl, if adjustable; make sure choke isn't set too high.\*

(Ignition)



*Is the spark plug fouled?*

Remove spark plug; clean contacts or replace plug.

*Is the spark plug gap set incorrectly?*

Remove spark plug; reset gap.

*Is the spark plug lead faulty?*

Test lead with spark tester, then test engine.

*Is the kill switch shorted?*

Repair or replace kill switch.\*

*Is the flywheel key damaged?*

Replace flywheel key, then try to start engine; if it still won't start, check ignition armature, wire connections or points.\*

(Compression)



*Are the valves, piston, cylinder or connecting rod damaged?*

Perform compression test. If test indicates poor compression, inspect valves, piston and cylinder for damage and repair as needed.\*

## If the engine runs poorly

### Ask this question:

### If the answer is yes:

*Is the fuel mixture too rich?*

Adjust the carburetor.\*

*Is the air filter plugged?*

Replace the air cleaner.

*Is the engine dirty?*

Clean the engine.\*

*Is the oil level low?*

Add oil to the engine. NOTE: Never add oil to the gasoline for a four-stroke engine.\*

*Are any shrouds or cooling fins missing or broken?*

Install new parts as needed.\*

*Is the fuel mixture too lean?*

Adjust the carburetor.\*

*Is there a leaky gasket?*

Replace the gasket.\*

*Is the fuel tank vent or fuel tank screen plugged?*

Clean the fuel tank vent and fuel tank screen.\*

*Does the combustion chamber contain excess carbon?*

Clean carbon from the piston and head.\*

*Is the flywheel loose?*

Inspect the flywheel and key; replace as needed.\*

*Is the spark plug fouled?*

Clean the spark plug.

*Is the spark plug faulty or gap incorrect?*

Replace the spark plug or adjust the spark plug gap.

*Are the breaker points faulty?*

Install a solid-state ignition.\*

*Is the carburetor set incorrectly?*

Adjust the carburetor.

*Is the valve spring weak?*

Replace the valve spring.

*Is the valve clearance set incorrectly?*

Adjust the valve clearance to recommended settings.

(Engine smokes)



(Engine overheats)



(Engine knocks)



(Spark plug misses under load)

