

## Basic Engine Diagnostics

Use the following steps in sequence to isolate potential sources of poor engine performance. Correct any issues and confirm engine performance and proceed to the next step if necessary.

### 1. FUEL

- a. Turn the fuel valve on.
- b. Open the drain screw located on the float bowl of the carburetor (3 or 4 rotations).
- c. Confirm that sufficient **gas is flowing**.
- d. Close the fuel valve and reinstall the drain screw.

If fuel is present and flowing freely, proceed to step 2.

### 2. AIR

- a. Remove the cover from the air filter assembly.
- b. Confirm that the filter element is **clean and not saturated with oil**.
- c. Confirm that the air intake is **free from blockage**.
- d. Re-install the air filter element and cover.

If the air flow is not impaired, proceed to step 3.

### 3. COMPRESSION

- a. Remove the spark plug wire from the spark plug. Remove the spark plug from the cylinder using the spark plug tool (provided with the engine) or a 14mm spark plug socket.
- b. Seal the spark plug hole with a finger and slowly pull the recoil starter.
- c. Confirm that **noticeable pressure** builds in the combustion chamber.
- d. Re-install the spark plug and attach the spark plug wire.

If engine compression is strong, proceed to step 4.

### 4. SPARK

- a. Remove the spark plug wire from the spark plug.
- b. Remove the cap from the spark plug wire.
- c. Hold the exposed wire approximately 3/16" from the metal OHV cover and slowly pull the recoil starter.
- d. Confirm that the resulting spark is **blue or white**. A yellow or orange spark is too weak to start the engine.
- e. Reassemble the spark plug wire and cap.
- f. Remove the spark plug from the cylinder.
- g. Confirm that the plug is **clean and not fouled with carbon deposits**.
- h. Place the spark plug into the wire holder.
- i. Touch the metal ring of the spark plug to the metal OHV cover and slowly pull the recoil starter.
- j. Confirm that the resulting spark is **blue or white**. A yellow or orange spark is too weak to start the engine.
- k. Re-install the spark plug and attach the spark plug wire.

If you have any questions, please contact Champion Power Equipment:

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