

FUEL SYSTEM AND GOVERNOR

FUEL SYSTEM

The fuel tank should be filled with a high quality, well-known brand of regular leaded or unleaded gasoline. The capacity of the standard tank is 1.45 gallons. Some of the poorer grades of gasoline contain gum which will deposit on valve stems, piston rings, and in the various small passages in the carburetor. This can cause serious trouble in operating and might prevent the engine from operating at all.

The gasoline used should have an octane rating of at least 86. Fuel with a low octane rating will cause detonation, and if operation is continued under this condition, severe damage will result to the engine. The cylinder and piston will be scored, head gasket blown out, bearings will be damaged, etc.

The fuel strainer filters the gasoline before it enters the carburetor. The filter bowl and screen should be inspected frequently and any dirt or water should be removed. When replacing, be sure to secure the bowl and screen firmly to prevent any fuel leakage.

CAUTION

Be sure to close fuel strainer valve before performing any work on engine.

GOVERNOR

A centrifugal flyweight governor controls the engine speed by varying the throttle opening to suit the load imposed upon the engine. The standard control assembly is adaptable to operate the engine at a predetermined fixed speed, or variable speed operation, by simply moving the control lever.

GOVERNOR OPERATION

The governor rotates on a stationary pin in the gear cover, and is driven by the camshaft gear. As the engine speed increases, the centrifugal force in the flyweights acts against the governor spring. This causes the carburetor throttle to close to a point where the engine speed will stay practically constant under varying load conditions.

GOVERNOR ADJUSTMENT, Fig. 8, Fig. 9

To maintain correct carburetor throttle opening and obtain proper governor regulation, the governor lever must be properly positioned on the governor shaft. This procedure is only necessary if governor lever was loosened or removed.

1. Mount **governor lever** but **do not** tighten clamp screw.

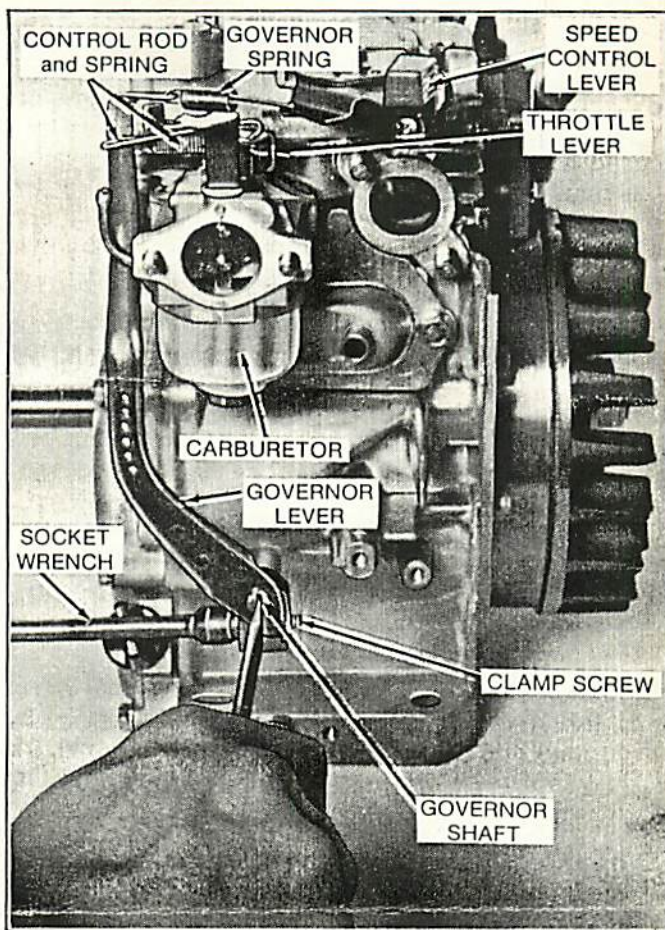


Fig. 8

2. Assemble **control rod** and **spring** from carburetor **throttle lever** to governor lever.
3. Mount **control lever assembly** to cylinder head but **do not** tighten flange screw. Connect **governor spring** from control lever to governor lever. See 'Governor Chart', Fig. 9A, for appropriate holes.
4. Turn **control lever** in a counterclockwise direction until **throttle valve** in carburetor is opened fully.
5. Be sure that **clamp screw** is loose so that governor shaft can be turned independently of governor lever. Insert a screwdriver in slot at end of governor shaft and **turn clockwise** until you feel the vane end of the shaft stop against the flyweight thrust sleeve, or as far as shaft can be turned. Then, tighten governor lever **clamp screw**.
6. Tighten speed control lever mounting screw just enough so that lever can be moved and held in various speed positions.

SPEED REGULATION, Fig. 9, Fig. 9A

The governed operating speed is obtained by hooking the governor spring into the correct holes of the governor lever and control lever, and then regulating the spring tension by means of the adjusting screw.

NOTE: Two different governor springs are used, depending on the operating speed range of the engine. With reference to **Fig. 9A**, on engines operating at a **load speed below 3400 r.p.m.** the governor spring used is identified by a **long hook** at speed control end. On engines operating at **load speed of 3400 r.p.m. and above**, the governor spring used has less coils and is identified by a **short hook** on speed control end.

To acquire a particular **load R.P.M.**, as specified in the above chart, adjust the governor to the **NO load R.P.M.** (over-run), in the following manner.

1. Hook spring from the numbered hole in **control lever** to hole at top of governor lever, relative to the desired load speed.
2. Loosen **lock nut** on adjusting screw.
3. Operate the engine without load and push control lever in a counterclockwise direction so that **adjusting screw** is against cylinder head **stop lug**. Then, place a tachometer or revolution counter against the end of the crankshaft and regulate the spring tension by turning the **adjusting screw** in or out until the required **no load speed** is obtained. Tighten adjusting screw lock nut.

The speed control lever can be used for either fixed speed or variable speed operation.

Load R.P.M.	No Load R.P.M.	Spring Hole
2600	2850	1
2800	3000	1
3000	3200	1
3200	3350	1
3400	3650	1
3600	3800	1

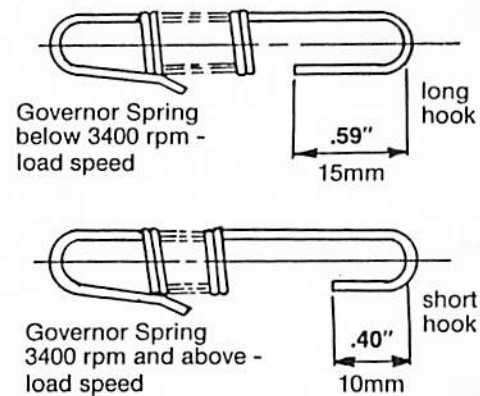


Fig. 9A

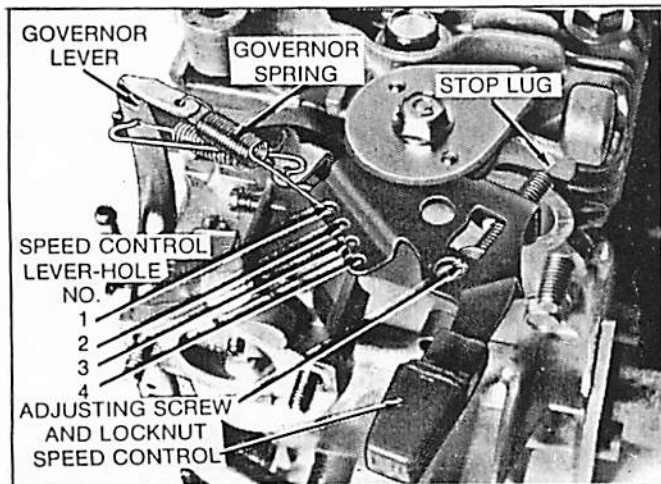


Fig. 9