

GOVERNOR ADJUSTMENT AND SERVICE

The most reliable methods of determining whether the governor is functioning properly are: an actual check of the maximum engine speed at full throttle with a tachometer, or by a road test in low gear, level road, with no load (empty truck). If the governor is functioning properly and is correctly adjusted, it should limit the maximum engine speed to 3000-3200 R.P.M., or a road speed of $6\frac{1}{2}$ - $7\frac{1}{2}$ M.P.H. in low gear with no load, without fluctuation. If governor is inoperative or cannot be adjusted (as described in "Adjustment of Governor on Engine") carburetor and governor assembly should be removed from manifold and repaired as follows:

Disassembly

(1) Remove seal wire and cover plate attaching screws. Remove cover plate assembly and gasket. Check parts for breakage or abnormal friction.

(2) Bend the lock washer ears away from cam retaining nut and remove nut and cam. If cam is tight on shaft, pry gently and evenly. Remove adjustment passage plug and turn adjusting screw clockwise until it is free of the adjusting nut. Hold spring and turn screw counter-clockwise to remove screw from spring. Do not remove the countersunk screws securing housing to body flange unless governor housing is damaged.

Cleaning, Inspection and Repair

(1) Wash all parts in dry cleaning solvent or any approved carburetor cleaning solution and dry with compressed air. If plunger rod does not slide freely in the cylinder, or if the threads in the cover attaching screw holes have been stripped, replace the governor housing assembly. Do not oil plunger shaft. If threaded portion or slots of adjusting nut in governor housing have been damaged, install new adjusting nut. Adjusting nut must be removed from governor housing by using a drift punch from within the housing and driving the nut toward the outer opening. A rawhide or fiber drift is preferable to prevent damage to inner surface of adjusting nut channel. Adjusting nuts are of two sizes and are not interchangeable. The smaller adjusting nut is brass while the larger nut is die cast and grey in color. The die cast adjusting nut is used in the housing on which letters "DC" are embossed. However, late production adjusting nuts are both of diecast material but of different diameters. Be sure to use the one of correct diameter when rebuilding governor assembly. Both adjusting nuts are in the repair parts package to provide the correct part for either the large or small bore housing. When making a replacement, be certain the new nut is a duplicate of the one removed.

(2) Install the new adjusting nut by sliding it into place, with the threaded end down and the wide slot upward. Insert the adjusting wrench (T109-185) and tap lightly on tool until nut bottoms in the housing.

(3) Inspect governor spring and replace if it is distorted or damaged. If chain links show wear, or cam shows wear or damage, these parts should be replaced. Be sure that adjusting screw is straight and threads have not been damaged. The repair parts package consists of the following: Governor adjusting screw cap, both early and late production adjusting nuts, spring, adjusting screw, cam, chain, throttle shaft nut, and all necessary attaching screws, lock washers and gaskets, and sealing wire.

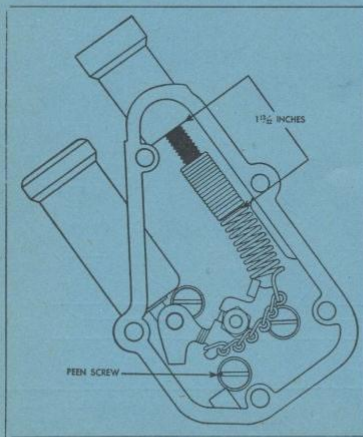


FIGURE A

NOTE: Early production used an adjusting screw threaded through-out its length, and a spring, the coiled portion of which measured $1\frac{1}{8}$ inches and contained 26 coils. Later production uses a screw where-in the thread starts $\frac{7}{8}$ inch from the fluted head and a spring which contains only 16 coils. Both parts used must be either early or late production, do not use one early production part in combination with a later production part.

Assembly

CAUTION: If governor housing has been removed from flange assembly, governor housing screws must be peened in place to prevent loosening of screws due to vibration (use blunt chisel or punch). (See Fig. A.)

(1) Screw the adjusting screw into the spring until head of screw is flush with the chain end of the spring. Hook chain to spring and engage extended end of spring in the slot in housing. Insert screw driver through the adjusting nut and turn screw counter-clockwise through the nut until 9 coils of the spring are free from the head of the adjusting screw (see Fig. B).

(2) Hook free end of chain to the cam and while holding throttle open, install cam on throttle shaft, making sure that cam roller is in slot of stabilizer shaft. CAUTION: Cam must be pressed on shaft with fingers and drawn down with lock nut. Tapping the cam or end of shaft will ruin shaft bearings, as grooves in the throttle shaft form the ball races for the bearings. Install lock washer and nut on end of shaft. After tightening, bend washer ears to lock the nut in place.

(3) Hold throttle valve closed and measure the distance from the end of the screw in the spring to the cylindrical boss in housing (see Fig. A). This measurement should be $1\frac{1}{32}$ inch. Turn adjusting nut with special wrench (T109-185) to correct the measurement while holding adjusting screw in place with screw driver.

(4) Install governor housing cover plate and gasket while holding throttle lever in wide open position. One cover plate attaching screw is drilled and should be located near the adjusting screw passage plug to accommodate the sealing wire.

Adjustment of Governor on Engine

(1) Run engine until normal operating temperature is reached. Manifold vacuum should be at least 16 inches with engine operating at full throttle (governor operating) and at least 17 inches at idling speed (with an allowable reduction for altitude). The adjusting screw controls the maximum engine speed. Remove the adjusting screw passage plug and turn screw clockwise to decrease, or counter-clockwise to increase the maximum engine speed. Adjust the governor to maximum engine speed of 3000-3200 R.P.M. or a road speed of $6\frac{1}{2}$ to $7\frac{1}{2}$ M.P.H. in low gear with no load.

NOTE: The screw, when it is turned, adds to or subtracts from the number of active coils in the spring. This automatically calibrates the tension and stability of the spring so that it is generally possible to regulate the maximum engine speed over a considerable range by means of the adjusting screw only. If surge (continued rapid rise and fall of engine speed at full throttle) is present or occurs through change of the screw adjustment, eliminate as follows:

(a) Move the adjusting nut clockwise $\frac{1}{4}$ turn at a time with special wrench (T109-185), correcting the engine speed with the adjusting screw, until the surge is eliminated.

(b) If governor is slow acting (Governor too "flat") move the adjusting nut counter-clockwise $\frac{1}{4}$ turn at a time, correcting the engine speed with the adjusting screw until slight surge is apparent. Then remove surge as outlined above.

(2) Engines operate most efficiently when the governor is adjusted to the point which just eliminates surge at full throttle. Do not forget to install adjustment passage plug and sealing wire after making adjustment.

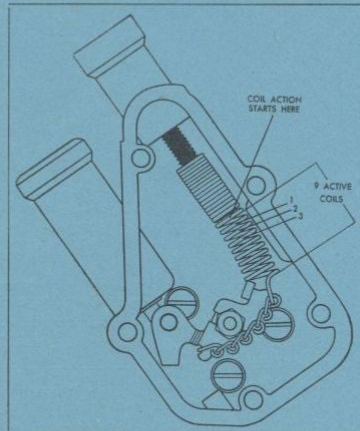


FIGURE B