McCULLOCH

SERVICE BULLETIN #1148

SUBJECT ADJUSTING SPEED GOVERNOR ON CHAIN SAW ENGINES

MODEL 1-72, 1-75, 1-82, 1-85

DATE 11/1/61

THE CORRECT GOVERNOR SETTING

Engines for Model 1-72, 1-75, 1-82, and 1-85 chain saws should operate within an engine speed range of 9,000 to 10,000 R.P.M. to provide the maximum power with minimum fuel use. These engines are equipped with a governor to limit engine speed to this range. This limit will also protect the engine from damage due to excessive speed under no-load conditions or in light cutting operations such as trimming and limbing. It is important therefore that the governor be properly adjusted.

HOW TO CHECK IT

Start and run the engine until it is thoroughly warmed up. Then check the carburetor to make sure that the adjustment needles are set in working position before any adjustment is made on the governor. Both the idle and main fuel adjustment needles must be open at least one full turn, but not more than one and one-half turns. When sure of the carburetor setting, shut off the engine and remove the air box cover. Now check the action of the throttle control rod. Make sure that neither the governor lever nor the throttle control rod prevents the throttle shaft from moving to its extreme open position when the throttle trigger is fully back (wide open). Pull the trigger back and then press on the throttle shaft to check for any additional travel. See Figure 1. Now restart the engine and check engine speed at full throttle with a speed indicator (Vibra-tak or equivalent) to see how the governor must be adjusted to increase or decrease engine speed. See Figure 2.

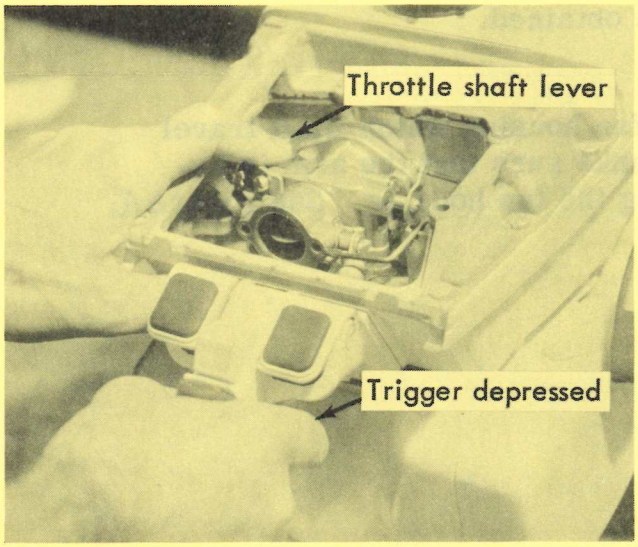


FIGURE 1

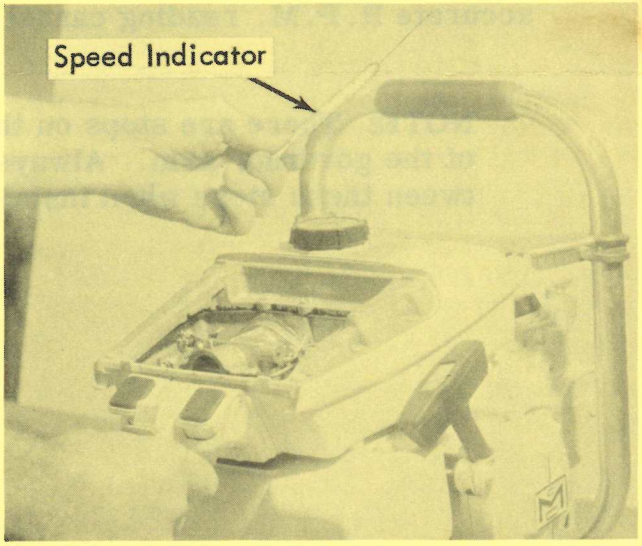


FIGURE 2

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HOW TO ADJUST IT

Remove the fan housing and check the condition of the sawdust guard and the fan. Both must be clean and free from any obstruction which might interfere with the flow of air from the fan to the vane on the governor arm. Note carefully the position of the governor arm before adjustment.

Loosen the 8/32 x 1/4-inch long set screw in the governor lever with a 5/64-inch Allen wrench. (Unless an Allen wrench with a long shank is available, the Allen wrench will have to be held by a pair of long nosed pliers to reach the set screw.) See Figure 3.

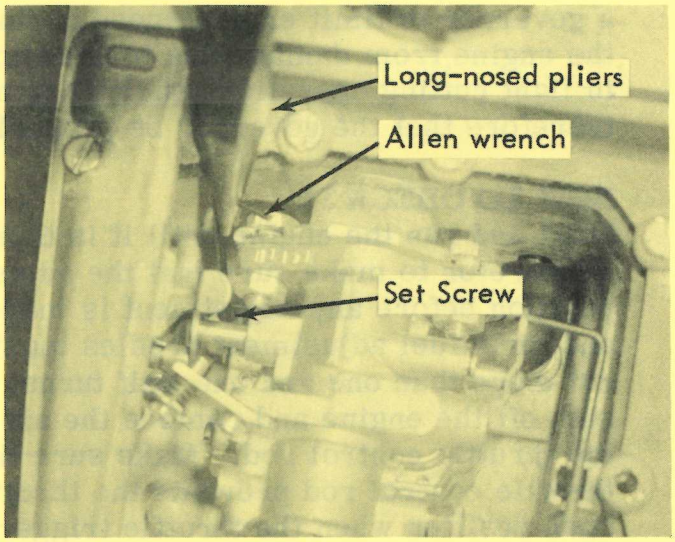


FIGURE 3

Adjust the position of the governor arm. Moving the governor arm and vane toward the flywheel from its original position lowers the maximum engine speed. Moving the arm away from the flywheel raises the maximum engine speed. See Figure 4.

When the governor arm has been moved to the correct position, tighten the set screw to lock it in that position. Replace the fan housing and again check the R.P.M. with the speed indicator. If it is necessary to make further adjustments, the fan housing must be removed and replaced for each adjustment and check. Unless this is done, an accurate R.P.M. reading cannot be obtained.

NOTE: There are stops on the fan housing which limit travel of the governor arm. Always make sure that the arm is between these stops when installing the fan housing. See Figure 4.

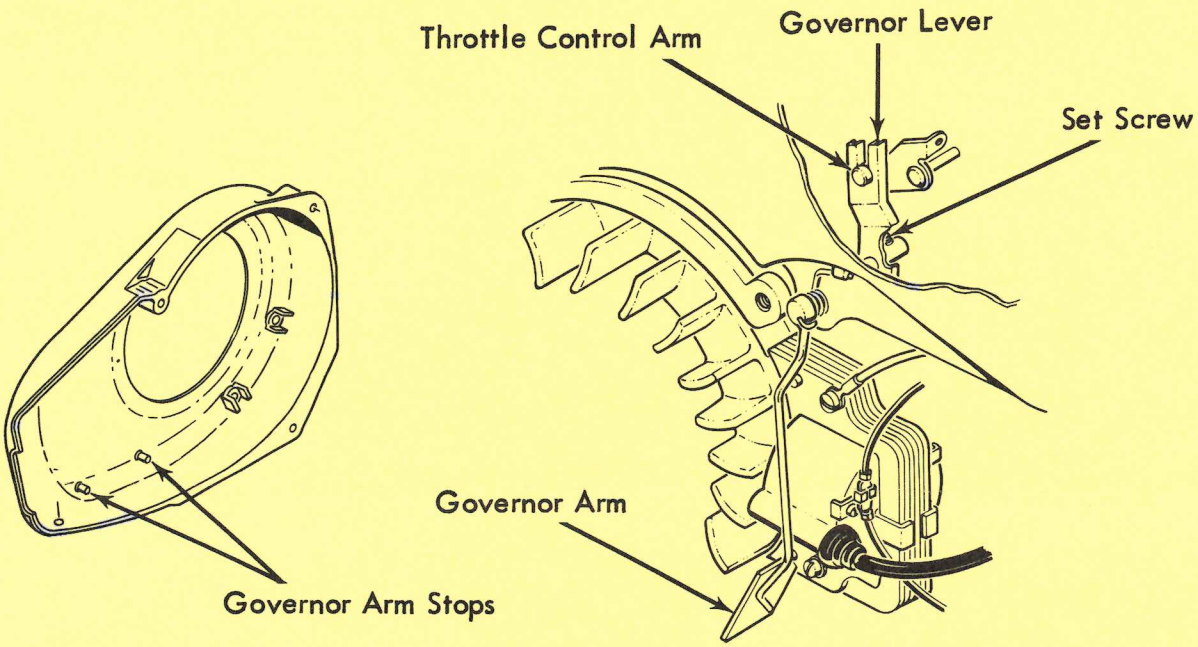


FIGURE 4

ADJUST THE CARBURETOR AGAIN

Since governor adjustments are made under no-load conditions, it will be necessary to make allowances for such conditions by readjusting the carburetor after final governor adjustment is made. The main fuel adjustment needle will have to be opened (turned counter-clockwise) to provide a slightly rich fuel mixture at full throttle. To do this, open the main needle adjustment screw slowly until the engine at full throttle just begins to four-cycle. The slightly rich fuel mixture with this carburetor setting should then provide the correct mixture and full power when the saw is operating under load.