

5. Now turn idle needle valve (item B) clockwise to a point midway between lean and rich mixture positions found in steps 3 and 4.
6. Adjust idle speed adjustment (item A) for an idle speed of 1300 rpm.

Load Adjustment. If engine runs unevenly under load, adjust carburetor as follows:

1. Complete idle adjustment given above.
2. Push in governor as shown in figure 34 to slow engine to 400 to 500 rpm. Then release governor. Engine should accelerate smoothly. If not, open main needle valve (item C, figure 33) about 1/4 turn. Repeat check and adjustment until engine speed increases smoothly and without hesitation.
3. If engine hunts (alternate increase and decrease in speed), open main needle valve slightly more than previous step. Do not open needle valve more than 1/4 turn past the adjustment made in step 2.

Governor Adjustment

A tachometer is required to adjust the governor (figure 34). Connect and use the tachometer as directed in the manufacturer's instructions. Adjust as follows:

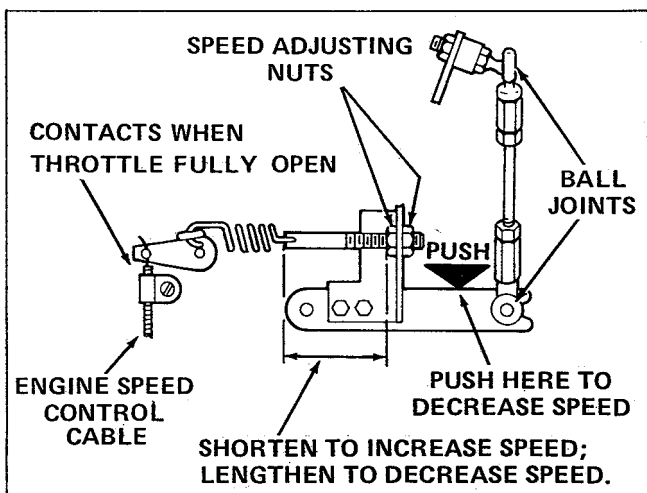


Figure 34. Governor Adjustment

WARNING

Engine must be run to complete this adjustment. Exercise care to keep hands and clothing out of moving parts. Be sure transmission gear shift is in neutral and parking brake is locked.

NOTE

Do not set governor for engine speeds greater than 3850 rpm.

1. Start and warm up engine. Complete any carburetor adjustments.
2. Connect tachometer.
3. Set ENGINE speed control to FAST. Tachometer should show engine speed of 3800 to 3850 rpm. If not, adjust governor speed adjusting nuts as shown in figure 34.
4. Disconnect tachometer.
5. When the throttle control is in the fully open position, throttle arm should be in contact with the bracket for the engine speed control cable as shown in figure 34.

NOTE

If engine alternately speeds up and slows down, stop engine. Then remove and clean and oil the governor ball joints.

Engine Timing Adjustment

The engine timing is adjusted at the factory. Normally, it will need to be retimed only when replacing the points. To perform the timing adjustment, proceed as follows:

1. Set tractor parking brakes. Shift into neutral.
2. Remove both spark plugs from the engine.
3. Raise oil cooler and rotate engine until points (item B, figure 35) are fully open. Then adjust screw (item A) so gap between points is .020 inch (.508 mm).
4. Rotate engine until timing marks on frame and front PTO clutch are aligned as shown in figure 35.
5. Connect a 12 vdc continuity test lamp across the breaker points. One test lamp lead should be connected to the coil lead shown in figure 35 and the other should be connected to a good ground on the engine.

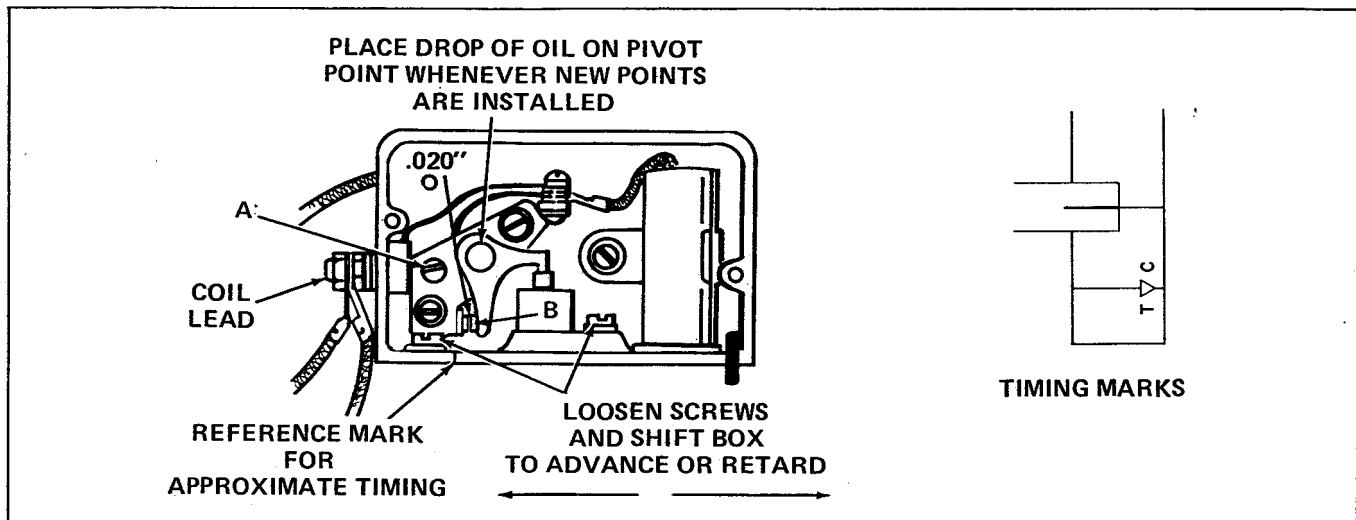


Figure 35. Engine Timing

6. Loosen box mounting screws. Slide box to the right (retard direction) until test lamp is not lighted. Then slide box to left (advance direction) until test lamp just lights. Tighten mounting screws to hold box at this position.
7. To check, rotate engine crankshaft counter-clockwise until test lamp goes out. Then rotate engine crankshaft slowly clockwise, stop-

ping when test lamp lights. At this point, check timing marks again. They should be aligned. If not, shift box and repeat check until timing is correct. Recheck point gap to be certain gap is .020" after completing timing.

8. Install oil cooler and spark plugs. After insuring that points are secure, complete remainder of point installation (figure 16).