NOTE: Adjustment of the maximum speed stop, to allow increased tension to be placed on the governor spring by the operator's engine speed control lever, will result in increased engine speed. Adjustment to reduce tension which can be placed on the governor spring, will result in reduced engine speed.

3. Low idle speed adjustment.

Smooth low speed engine operation depends upon careful adjustment of carburetor idle air-fuel mixture at the specified engine low idle speed. Good governor performance also is dependent on this smooth engine operation and free throttle shaft movement near closed throttle positions. Any tendency of the carburetor throttle to stick or bind in its low idle (closed) position will cause the governor to surge excessively. The governor is equipped with an adjustable bumper spring to counteract the effect of manifold vacuum on the closed position of the throttle.

Causes for binding or sticking of the throttle shaft are misalignment due to wear or interference due to improper assembly. Excessive tension adjustment of bumper spring, in an attempt to overcome these ills, will prevent the throttle from closing against its stop, resulting in greater than specified low idle speed. See carburetor "Inspection and Repair" portion of this manual section.

Low idle speed adjustment:

a. Start engine and allow it to reach operating temperature.

b. Place operator's speed change lever in the extreme low speed position. See that operator's speed change lever linkage will allow the throttle to close against its stop screw. Adjust speed change linkage if necessary. See also that governor bumper spring adjustment is not interfering with closing of throttle.

c. Adjust carburetor throttle stop screw to secure the specified low idle speed and set idle fuel mixture screw for smoothest engine operation.

d. Advance operators speed change lever for a few seconds and again idle the engine, rechecking adjustments for specified low idle speed and smoothest operation.

e. Place operators speed change lever in maximum speed position. Notice the fast idle speed on service tachometer. With thumb and finger pull the carburetor throttle lever toward open position sufficient to gain 50 rpm fast idle speed. Release throttle lever instantly; the governer will react by closing the throttle and opening again seeking its balance. If the governor surges move more than twice, bumper spring adjustment is necessary. Excessive surging would indicate binding in the carburetor throttle assembly or the governor rockshaft and linkage assembly as outlined previously under carburetor and governor headings.

f. Bumper Spring Adjustment: Screw in the bumper spring just enough to stop excessive surging. Test as in operation (e) above after each slight adjustment. If screwed in too far, the bumper spring will prevent the throttle from closing to low idle stop. After the bumper spring has been adjusted properly, lock in place with a jam nut. Where such extreme setting of the bumper spring is found necessary, it would indicate excessive friction or sticking is occurring in the throttle assembly or the governor rockshaft assembly. This should be corrected and the bumper spring readjusted. Where the use of the bumper spring is not required to control surging, it should be screwed in until it just touches at low idle speed, and then backed out 1/4 turn and locked.