

maximum rpm operation of the engine. If 1/16 inch clearance is indicated, then adjust low pitch stop bolt so that it touches the stop. Recheck maximum static rpm and clearance.

4. If the jack plate to hub clearance is found to be less than the required 1/16 inch, a spacer washer may be used behind the rear cone to position hub out farther on shaft and so increase the clearance. Inasmuch as moving the hub forward on the shaft increases blade pitch by approximately 1° per 1/32 inch movement of the hub, it may be necessary to reduce the pitch in order to obtain the prescribed 2025 static rpm. (See Part B2 for details describing pitch change.)

PART B.            -7, -7A and -7B Propellers

1. When the counterweight modification is accomplished, inspect hydraulic element prior to reinstalling propeller. Propellers which have been in service with a full length cone and 1/8 inch additional spacer should have the hydraulic element disassembled and the diaphragm inspected for possible rupture or signs of weakness in area near clamping rings. If signs of rupture or weakness are found, diaphragm must be replaced before propeller can be returned to service.
2. Install propeller on engine in accordance with instructions contained in Supplement Section I of the Hartzell Propeller Manual, third printing dated August, 1948. Check position of element piston to ascertain that clearance is available to allow a 3/16 inch deflection of the diaphragm to either side of neutral as follows. By pushing or pulling the propeller counterweights, move the piston flush with the face of the outer diaphragm clamping ring. With the piston in this position, there should be a minimum clearance of 1/4 inch between the jack plate collar and the propeller hub. If there is less than 1/4 inch clearance at this point, the rear propeller cone must be shimmed up, as necessary, to attain this clearance. This will require an additional 1/16 inch spacer on all -7 Hartzell propeller assemblies previously installed, as the original 1/16 inch minimum jack plate collar to propeller hub clearance MUST NOW BE INCREASED TO 1/8 INCH. See sketch.

NOTE: In some cases it will be necessary to install a 3/16" lock pin in lieu of present 1/4" pin. In no case shall there be less than five (5) full threads of the hub nut in contact with the propeller shaft threads.

This positions the propeller hub forward by 1/16 inch. To compensate for this repositioning and change of blade angle, it will require reducing the pitch angle of each blade by approximately 2°. To accomplish this change, mark a line on the propeller blade 1/16 inch (this equals 2° change) to the low pitch side of the index mark on the blade clamp. Remove cotter pins and loosen the outboard clamp bolts.