

Oversize Hub Assembly Instructions



Oversize Hub Assembly Instructions for 3, 4, 5, 6, 8, 10 and 12 Blade Configurations

Component Inventory:

- 3/8" Engine-Side Plate, 1 each
- 1/4" Outer Plate, 1 each
- Warp Driver Propeller Blade, # ordered
- 5/16" Clamping Bolts, 4 per blade
- 5/16" Nylon Nuts, 4 per blade
- 3/8" or 1/2" Mounting Bolts, 2 per blade

- 5/16" Nylon Nuts, 4 per blade
- 5/16" Washers, 8 per blade
- Hub Plate Spacers, 6
- Clamping Blocks, 2 per blade
- Warp Drive Protractor

Bolt Torque Values:

- 5/16" Clamping Bolts - 192 in-lbs
- 3/8" Mounting Bolts - 360 in-lbs
- 1/2" Mounting Bolts - 780 in-lbs

Mandatory Drive Lug Check: You must determine if the drive lugs coming off of the engine flange are too long.

Place the engine-side plate against the engine flange and then place a hub spacer over one of the drive lugs. The hub spacer must sit flush against the engine-side plate. If it does not, the drive lugs are too long and must either be cut-down or replaced with shorter drive lugs. Hub spacers have a "lug end." The "lug end" is the end which is counter-bored to accept a drive lug.

Assembly:

1. Place a mounting bolt washer on each of the six mounting bolts and insert the bolts through the six holes in the faceplate.
2. Place a washer on each of the clamping bolts and insert four of the bolts through the outer plate at each blade location. Place the result of step one and two face-down on a flat surface with the bolt threads facing up.
3. Place a clamping block (beveled edge toward the hub center) over the four clamping bolts at each blade location.
4. Set a propeller blade into each of the clamping blocks.
5. Place a hub spacer, "lug end" up, over each of the mounting bolts.
6. Place the remaining clamping blocks over each blade.
7. Install the engine-side plate.
8. Install the remaining washers and nylock nuts over the clamping bolts.

Note: Do not tighten the nylocks all the way. Tighten them as much as possible, while stilling allowing for the blades to rotate in the clamping blocks.

Mounting:

1. Mount the propeller to the engine flange using the six mounting bolts. NOTE: ALL WARP DRIVE PROPELLERS MUST HAVE A FACEPLATE MOUNTED ON THE OUTSIDE OF THE HUB. (These plates are normally 1/4" or 3/8" thick aluminum and are supplied with the engine.)
2. Adjust the pitch following the protractor instructions.
3. Tighten the clamping bolts in 20 in-lb increments. DO NOT tighten the bolts in one step. Tightening too much on one side can change the pitch. Torque in a crisscross pattern.
4. Re-torque the bolts after 1 hour, then every 10 hours.

