

# HPL-R Hub

## Assembly Instructions

Instructions 3 Blade Configuration

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Warp Drive inc.

### Component Inventory

Quantity	Component	Specs
2	Hub Halves	CNC Alum.
1	Warp Drive Protractor	-
3	Warp Drive Propeller	-
12	1/4" Clamping Bolts	AN4-20A
12	1/4" Nylock Nuts	-
24	1/4" Washers	-
6	8mm Mounting Bolts	Optional

### Bolt Torque Values

Component	Torque (ft-lb)	Torque (in-lb)
1/4" Clamping Bolts	10	120
8mm Mounting Bolts	15	180

Re-torque all bolts after the first hour of operation, then every 5-10 hours as part of routine maintenance.

Note: All versions of the Rotax 912 four stroke engines (912 UL, 912 UL-S, 912 S, 914) require the use of the 13mm drive lugs that are pressed into the engine flange on the 101.6 mm bolt pattern as shown in the figure below. The back side of the HP-L-R hub is counter-bored to fit over these drive lugs with either a 5/16" or a 8mm mounting bolt going through. These lugs should have been provided with your engine, if not, they are available from us.

#### Assembly:

1. Put one 1/4" washer on each of the 1/4" clamping bolts and insert them into one half of the hub.
2. Place this hub half upside down on a flat surface with the bolt threads facing up.
3. Set the blade collars in the hub making sure the leading edges are all facing in the same direction.
4. Place the remaining hub half on top of the blades.
5. Install the remaining 1/4" washers followed by the 1/4" nylock nuts. You may tighten the nylocks slightly. Be sure to leave them loose enough to allow the blade to turn inside for setting the pitch.

#### Mounting Your Propeller:

1. Mount the propeller to the engine flange using the six mounting bolts.  
IMPORTANT: 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 blade pitch following the protractor instructions on the other side of this page.
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 blade pitch. Torque the clamping bolts evenly in a criss-cross pattern.

