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### 330 Series Propeller Owner's Manual

(Version 10: September 2024)

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**WARNING!** Operation of this propeller over maximum RPM is strictly prohibited and may result in a catastrophic structural failure of the propeller system. Any type of structural failure may result in death or severe bodily injury. Refer to your propeller data sheet for Maximum RPM.

**WARNING!** Governor MAXIMUM pressure relief is 330 psi!

## **CAUTION: EXPERIMENTAL PROPELLER**

***WhirlWind Propellers are experimental and as such carry additional risk of serious injury, death, and/or significant property damage. The operator acknowledges that these are experimental propellers, that the operator is conducting an experiment by operating the propeller, and agrees to assume all risk in operating the propeller on an experimental aircraft or any other machine. Any and all information in the owner's manual, service letters, and other documentation may not mitigate the aforementioned risks, and may not apply to an operator's specific application.***

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## 1. Introduction

### Congratulations on your propeller purchase from WhirlWind Propellers!

To ensure many hours of trouble-free operation of your new WhirlWind propeller, please read and follow the operation and maintenance recommendations in this manual.

The WhirlWind 330 Series propeller is a composite constant speed hydraulically controlled propeller. This constant speed propeller will automatically adjust blade pitch angle to maintain the selected engine RPM setting. A single acting piston (inside the hub) powered by engine oil changes the blade pitch. Oil pressure is adjusted and regulated by the engine driven governor. The 330 Series propellers come in a standard configuration (pressure to increase pitch) or a counter-weighted configuration (pressure to decrease pitch).

#### 1.1 *Propeller Identification vs Naming*

##### Constant Speed Propeller ID Convention:

Example Propeller ID: 330-3B(1)-A/72H-73-S-R

330 -	3B(1) -	A/	72H -	73 -	S -	R
1 -	2 -	3/	4 -	5 -	6 -	7
Hub			Blades			

##### Hub:

1. Hub Series
2. Number of Blades (Hub Rev Number)
3. Flange: A = SAE-2 1/2", B = SAE-2 7/16"

##### /Blade:

4. Blade Style:
5. Diameter (inches) in the Intended Hub
6. C = Counter-Weight, S = Standard, Non Counter-Weighted
7. Rotation R = Right-Hand\*\*, L = Left-Hand

\*\* Right-hand rotation is clockwise when viewed from behind the aircraft

#### 1.2 *Applicable Propellers*

This Owner's Manual is applicable to the following hub models:

**330-2B (2-bladed hub) and 330-3B (3-bladed hub).**

This Owner's Manual is applicable to the following blade models:

The "72H" blade is a 72" (2 blade hub) or 73" (3 blade hub) diameter propeller with a scimitar-like tip.

The "78G" blade is a 77" (2 blade hub) or 78" (3 blade hub) diameter propeller with a scimitar-like tip.

## 1.3 Propeller Specs and Applicable Engines

**Table 1. Propeller Specs**

<b>Propeller System:</b>	<b>330-2B/72H-72</b>	<b>330-2B/72H-72-C</b>
<b>Configuration</b>	Standard	Counter-Weighted (Aerobatic)
<b>Lycoming Engines: [Max Compression]</b>	(I)O-360 Parallel Valve [8.5:1] (I)O-360 Angle Valve with CW Crank [9.6:1] (I)O-375 with CW Crank [9.6:1] (I)O-390 [9.6:1]	(I)O-360 Parallel Valve [8.5:1] (I)O-360 Angle Valve with CW Crank [9.6:1] (I)O-375 with CW Crank [9.6:1] (I)O-390 [9.6:1]
<b>Max RPM</b>	2700 rpm	2700 rpm
<b>Blades</b>	2	2
<b>Diameter</b>	72"	72"
<b>Spinner Diameter</b>	13", 14", or 15" Spinner	14" or 15" Spinner
<b>Weight:</b>	40 lb	45 lb
<b>Governor:</b>	Pressure to increase pitch (Max 330 psi)	Pressure to decrease pitch (Max 330 psi)

**Propeller Specs (continued)**

<b>Propeller System:</b>	<b>330-3B/72H-73</b>	<b>330-3B/72H-73-C</b>
<b>Configuration</b>	Standard	Counter-Weighted (Aerobatic)
<b>Lycoming Engines: [Max Compression]</b>	(I)O-360 Parallel Valve [10:1] (I)O-360 Angle Valve with CW Crank [10:1] (I)O-360 Angle Valve No CW Crank [9.6:1] (I)O-370/375 with CW Crank [10:1] (I)O-370/375 No CW Crank [9.6:1] (I)O-390 [10:1] (I)O-540 Parallel Valve [10:1] (I)O-540 Angle Valve [10:1]	(I)O-360 Parallel Valve [10:1] (I)O-360 Angle Valve with CW Crank [10:1] (I)O-360 Angle Valve No CW Crank [9.6:1] (I)O-370/375 with CW Crank [10:1] (I)O-370/375 No CW Crank [9.6:1] (I)O-390 [10:1] (I)O-540 Parallel Valve [10:1] (I)O-540 Angle Valve [10:1]
<b>Max RPM</b>	2700 rpm	2700 rpm
<b>Blades</b>	3	3
<b>Diameter</b>	73"	73"
<b>Spinner Diameter</b>	13", 14", or 15" Spinner	14" or 15" Spinner
<b>Weight:</b>	53 lb	61 lb
<b>Governor:</b>	Pressure to increase pitch (Max 330 psi)	Pressure to decrease pitch (Max 330 psi)

**Propeller Specs (continued)**

<b>Propeller System:</b>	<b>330-3B/78G-78</b>	<b>330-3B/78G-78-C</b>
<b>Configuration</b>	Standard	Counter-Weighted (Aerobatic)
<b>Lycoming Engines: [Max Compression]</b>	(I)O-540 Parallel Valve [10:1] (I)O-540 Angle Valve [10:1]	(I)O-540 Parallel Valve [10:1] (I)O-540 Angle Valve [10:1]
<b>Max RPM</b>	2700 rpm	2700 rpm
<b>Blades</b>	3	3
<b>Diameter</b>	78"	78"
<b>Spinner Diameter</b>	13", 14" or 15" Spinner	14" or 15" Spinner
<b>Weight:</b>	55 lb	62 lb
<b>Governor:</b>	Pressure to increase pitch (Max 330 psi)	Pressure to decrease pitch (Max 330 psi)

## 2. Overview

### 2.1 Description

Performance & Quality. This 330 Series propeller has been designed to maximize the performance of your airplane. This propeller delivers exceptional performance for the modern-day sport aircraft. The exceptional performance is derived from advanced engineering developments, including the use of our latest airfoils.

WhirlWind has made significant developments in the construction of the carbon composite propeller blades ensuring a strong, light and durable propeller system. The blade twist has been optimized for maximum performance and the wide chord allows for more low-speed thrust and braking on long down lines. The 330 Series propeller is a hydraulically controlled constant speed propeller, pressure to increase pitch. The propeller will go to fine pitch in case of oil pressure loss which could create an engine over-speed condition.

## **2.2 Construction**

The 330 Series propeller blades are constructed from advanced thermoset composite materials. Each blade is equipped with a nickel leading edge erosion shield to protect the blade leading edge from debris damage. The 330 Series System includes: propeller, spinner, and all hardware needed for installation. The 330 Series hub is CNC machined from aerospace grade aluminum-6061, which is then shot peened and anodized. The hub blade sockets are equipped with ball bearings to ensure smooth pitch change of the blades throughout the life of the propeller system. This propeller can be flown in rain and off unimproved airstrips.

## **2.3 Standard Configuration**

The standard 330 Series propeller is a non-aerobatic, hydraulically controlled propeller system. The hub was designed to be mounted on a Lycoming engine flange with two flush drive lugs (see figures 1 and 2 on page 2-3) Oil pressure is required for high blade pitch (low RPM). In the event of engine oil pressure loss or governor failure, the propeller will return to flat pitch and may over-speed which can cause CATASTROPHIC FAILURE. If propeller over-speed occurs, the throttle must be retarded immediately to avoid structural propeller failure and damage.

## **2.4 Counter-Weighted Configuration**

The counter-weighted 330 Series propeller is an aerobatic, hydraulically controlled propeller system. The hub was designed to be mounted on a Lycoming engine flange with two flush drive lugs (see figures 1 and 2 on page 2-3) Oil pressure is required for low blade pitch (high RPM). In the event of engine oil pressure loss or governor failure, the centrifugal force on the counter weights will send the propeller to coarse pitch to help avoid over-speed. If propeller over-speed occurs, the throttle must be retarded immediately to avoid structural propeller failure and damage.

## 2.5 Required Lycoming SAE-2 Flange & Drive Lug Dimensions

Engines:	All Applicable Engines
Drive Lug OD:	0.75"
Drive Lug Threads:	1/2-20

4-Drive Lugs Extend 0.180" – 0.200"  
From Surface of Flywheel

2-Flush Drive Lugs

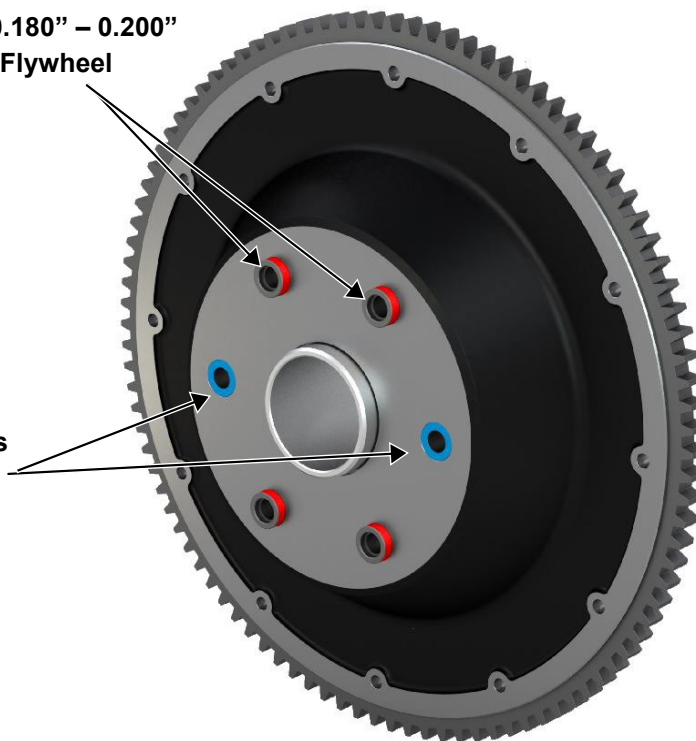


Figure 1

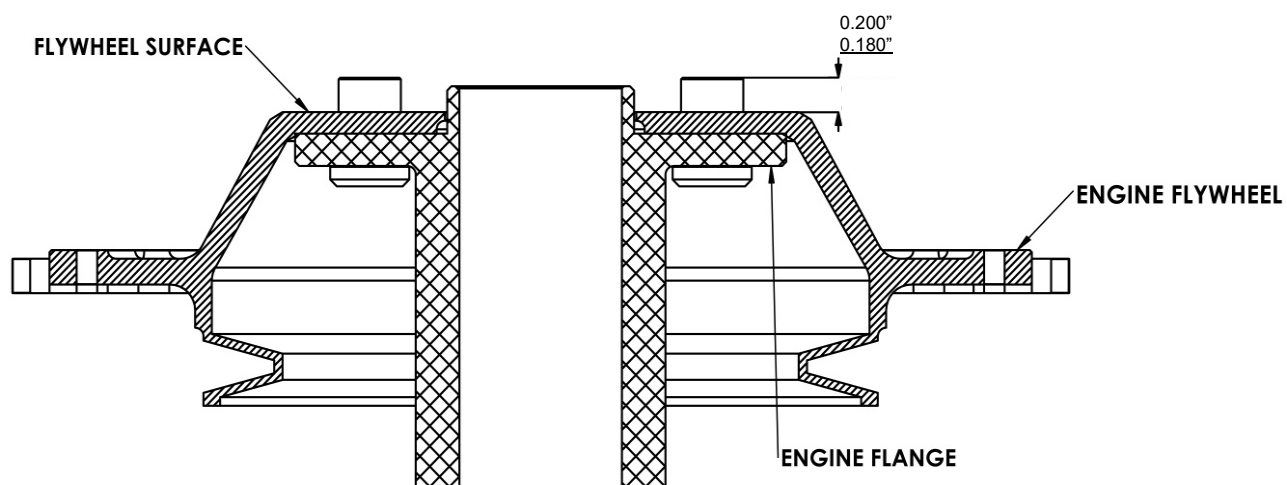


Figure 2

**NOTE: MINIMUM BOLT THREAD ENGAGEMENT OF 0.600"**  
**THE BOLT MAY NOT EXTEND COMPLETELY THROUGH THE DRIVE LUG**

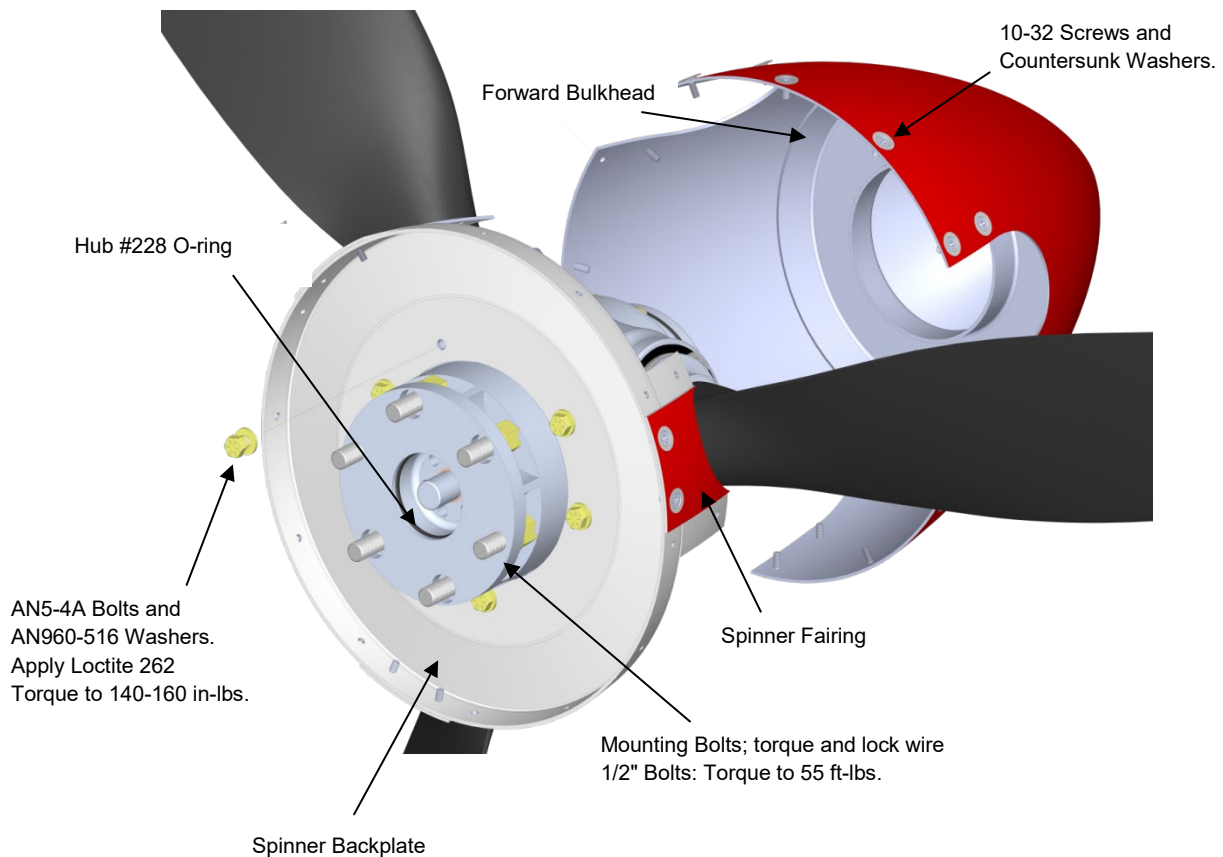
### 3. Installation Instructions

#### 3.1 *Propeller and Spinner Installation*

The WhirlWind 330 Series propeller comes with a composite spinner, forward bulkhead, and back-plate.

**WARNING! DO NOT OPERATE THE ENGINE / PROPELLER WITH ONLY THE SPINNER FAIRINGS INSTALLED!**

IF THE ENGINE AND PROPELLER ARE TO BE RUN WITHOUT THE SPINNER DOME INSTALLED, IT IS IMPARATIVE THAT THE FAIRINGS ALSO BE REMOVED. The centrifugal force will damage or destroy the fairings without the support of the spinner dome.



**Figure 3. Spinner Assembly**

1. **Spinner Back-Plate:** The spinner back-plate must be positioned on the hub such that the spinner dome blade cutouts can line up with the blades (see Figure 3). The spinner and back-plate have been number or letter coordinated to match the blade cutout openings. Place a washer on each of the 5/16" AN5-4A bolts and install the back-plate on the hub so the back plate flange cups away from the blades. Torque the bolts to 140-160 in-lbs.
2. **Spinner Dome:** Install the spinner dome onto the propeller hub and rear bulkhead. The spinner and spinner rear bulkhead have been number or letter coordinated to match the blade cutout openings. Fasten the spinner dome and blade Fairings to the rear bulkhead using the supplied 10-32 screws and Countersunk washers.



**NOTE:** Before beginning installation of the 330 Series propeller system inspect the O-Ring located in the propeller hub flange and make sure the O-Ring is in good condition. **Cleaning with WD-40** is recommended.

3. **Propeller System:** After lightly lubricating the O-Ring with clean engine oil or O-Ring lube, carefully install the propeller on the engine crankshaft by tightening the (6) propeller bolts.

**Warning!:** To avoid severe damage to the hub, when tightening the propeller bolts insure that the face of the prop hub is kept parallel with the face of the flywheel. In most cases this will require tightening the propeller bolts a little at a time in an alternating pattern. This may be easiest to do by tightening the bolts by hand until the hub contacts the flywheel. Bolt breakage WILL occur if there is a gap between the propeller hub, and the engine flange

- Using a calibrated torque wrench:

- Torque the **propeller hub mounting bolts**

**Engine with 1/2" bolts to 55 ft-lbs.** in the Following Increments 50%, 75% and Full Torque. Tighten each bolt 1/8 to 1/4 turn at a time.

- Torque the **AN5-4A rear bulkhead mounting bolts to 15 ft-lbs.** in the Following Increments 50%, 75% and Full Torque. Tighten each bolt 1/8 to 1/4 turn at a time.

**Important!:** these values are for dry / non-lubricated bolts.

- Safety wire the prop bolts in pairs with 0.032" stainless safety wire after installation.

**IMPORTANT!:** After first installation run the propeller for 5 min at 50% RPM. Then verify that the spinner screws are tight during the first few hours of operation.

### **3.2 Governor Installation**

- Clean governor and engine-governor mating surfaces.
- Place gasket on governor side.
- Align governor spline to engine drive and push governor up to seat against engine drive pad.
- Install governor mounting hardware and torque to 15 ft-lbs.
- Attach control cable to the governor control arm with the appropriate hardware.

**Note:** The control arm is spring loaded to high RPM. Make sure control arm moves freely through 45 degrees of travel.

**WARNING!:** Governor MAXIMUM pressure relief is 330 psi!

## 4. Inspections and Operation

**WARNING!** Operation of this propeller over maximum RPM is strictly prohibited and may result in a catastrophic structural failure of the propeller system. Any type of structural failure may result in death or severe bodily injury. Refer to your propeller data sheet for Maximum RPM.

**NOTE:** For safety reasons always turn the propeller opposite of the usual direction of rotation.

Be sure to limit engine power settings when performing ground run-up. Engine and propeller manufacturers do NOT recommend high engine power settings on the ground because it can result in excessive engine temperatures and propeller blade foreign object damage.

It is recommended that the operator apply a high-quality paste wax on glossy finish blades at least once a month to aide in protection from the elements. It is important that the blades are always sealed from outside moisture. Automotive materials such as Acrylithane paint and Epoxy resin can be used to fix small scratches and chips.

### 4.1 ***First Run-Up***

To ensure proper first run-up of your new WhirlWind 300 Series propeller system, refer to your engine's operation manual for the proper run-up power setting. At the proper run-up power setting pull the propeller control lever back until the RPM drops by 300 - 400 RPM. Push the propeller control lever forward and observe RPM increase. Cycle the pitch three times to purge air out of the system. After first run-up refer to "Section 5.2" for inspection.

**NOTE:** Static full throttle RPM should be approximately 2550. If it is not, you may need to adjust the low angle stop shown in Figure 4 on the following page.

**NON-COUNTERWEIGHTED:**

**CW:** Increases Pitch and  
Decreases RPM

**CCW:** Decreases Pitch and  
Increases RPM

**COUNTERWEIGHTED:**

**CW:** Decrease Pitch and  
Increase RPM

**CCW:** Increase Pitch and  
Decrease RPM



**Low Blade Angle Static RPM**  
**Target: 2550 – 2600 rpm**

**Figure 4. Low Angle Stop Adjustment**

**Inspection After First Run-Up**

1. Inspect the propeller system blades and spinner for any nicks, cracks, or chips.
2. Inspect each aluminum blade ferrule and blade intersection (located at the root end of blade where the silicone sealant is visible) for movement and/or signs of chafing. There should be no movement between aluminum ferrule and blade. Notify WhirlWind Propellers immediately if movement is detected.
3. Gently shake each propeller blade to feel for blade movement in the hub. Blade shake movement is allowed up to 1/8 inch, measured from the tip. Radial play of up to 2 degrees is acceptable. If the check shows values above these tolerances, contact WhirlWind Propellers immediately. Movement is only allowed between the aluminum blade ferrule and the propeller hub, not as described in item #2 above.
4. Inspect the nickel leading edge erosion shield. The nickel erosion shield should not be loose or have any cracks. Small paint cracks parallel to and along the edge of the shield where the nickel and paint meet are acceptable.

5. Check spinner dome and the aft and forward bulkheads for cracks of any kind or looseness.
6. No grease or oil leaks should be detected. NOTE: Grease streaking on blade may accrue in new propellers and at high RPM in hot climates.
7. Before every flight the prop-control should be cycled at least twice to circulate the engine oil. In cruise flight any number of RPM settings are possible within engine and propeller limitations. The RPM restrictions from the engine and propeller manufacturers must be strictly observed.

**NOTE:** Your WhirlWind propeller system has been statically balanced at the factory. However, it is recommended to have the engine/propeller dynamically balanced before the first flight.

Repeat the same inspection after balancing as for first run-up. All engine RPM and power settings limitations must be followed when operating the WhirlWind 330 Series propeller. Refer to your WhirlWind propeller data sheet for propeller operation limitations.

## 4.2 Over-speed Warning

Propeller RPM Limit: 2700 rpm

It is possible to over-speed the propeller by rapid throttle advancement. Therefore, always adjust the power and RPM lever slowly and smoothly to avoid the possibility of over-speed.

**If an over-speed occurs:**

<b>Over-speed Occurrence</b>	<b>Required Action</b>
up to 110 % of the max RPM	A 50 hours inspection must be performed immediately by a certified A&P mechanic
111% to 120% of the max RPM	A mandatory teardown inspection at the factory is required
above 121% of the max RPM	<u>No further use of the propeller is permitted!</u> The propeller must be returned to the factory for inspection.

**WARNING!:** Failure to adhere to these guidelines may lead to a catastrophic propeller structural failure. Any type of structural failure may result in death or severe bodily injury.

### 4.3 Dynamic Balancing

Your WhirlWind propeller system has been statically balanced at the factory. Dynamic balancing is recommended after installing or performing maintenance on a propeller. While this is normally an optional task, it may be required by the engine or airframe manufacturer to make certain the propeller/engine combination is balanced properly before operation. Some engine companies consider vibration levels above 1.5 in/s to be dangerous, but this is not a structural concern for the propeller. Vibrations may be uncomfortable anywhere above about 0.25 in/s. Repeat the same inspection after balancing as for first run-up.

### 4.4 Blade Tracking

For continued airworthiness, blades should track within 1/4". Rotating the blade opposite to the direction of engine rotation, point one blade straight down. Tape a piece of paper on a flat surface directly under the blade (may need to raise the paper by stacking wood underneath until it almost touches the tip and you can trace a line along the tip). Trace a line on the paper following one side of the blade tip and repeat for each other blade. The lines should be within 1/4" of each other.

### 4.5 Preflight Check

1. Inspect the propeller system blades and spinner for any nicks, cracks, or visible delaminations.
2. Inspect each blade's aluminum ferrule and blade intersection (located at the root end of blade where the silicone sealant is visible) for movement and/or signs of chafing. There should be no movement between aluminum ferrule and blade. Notify WhirlWind Propellers immediately if movement is detected.
3. Gently shake each propeller blade to feel for blade movement in the hub. Blade shake movement is allowed up to 1/8 inch, measured from the tip. Radial play of up to 2 degrees is acceptable. If the check shows values above these tolerances, contact WhirlWind Propellers immediately. Movement is only allowed between the aluminum blade ferrule and the propeller hub, not between the composite blade and the ferrule.
4. Inspect the nickel leading edge erosion shield. The nickel erosion shield should not be loose or have any cracks. Small paint cracks parallel to and along the edge of the shield where the nickel and paint meet are acceptable.
5. Check spinner dome and the aft and forward bulkheads for cracks of any kind or looseness.
6. No grease or oil leaks should be detected. **NOTE:** A small amount of grease leakage may occur in new propellers (first 2 to 5 hours) or in hot climates with high RPM conditions.
7. Before every flight, the prop-control should be cycled at least twice to circulate the engine oil. In cruise flight, any number of RPM settings are possible within engine and propeller limitations. The RPM restrictions from the engine and propeller manufacturers must be strictly observed.

### 4.6 First Flight

1. Installation (pg. 8) and Preflight (pg.13) procedures should be reviewed for missed/improper steps (verify all torque specs, Loctite, and safety wire are utilized where applicable on propeller and spinner).
2. Perform first flight approximately 20 min over the airport. Take notice of vibration & propeller RPM control.
3. Set first take off RPM to 2500, this will give a buffer for an unexpected RPM increase.
4. Slowly increase operation envelope to check RPM control. Ex: full throttle at Vy yields 2700 RPM, same with full throttle straight and level. Set cruise MAP and check RPM range from 2700 to 2200. **NEVER operate the propeller over 2700 RPM!**
5. After first flight, remove the spinner and inspect the propeller as per the 50 hr. inspection in Section 4.7.

### 4.7 50-Hour Inspection

1. **BLADES:** Inspect the propeller system blades for any nicks, cracks, or delaminations. Inspect blades for cracks in the composite skins and nickel leading edges. No cracks are allowed in either. If cracks are present return propeller for repair to a WhirlWind Propellers service center.
  - a. Inspect the cambered side of each blade for chord-wise cracks and the entire blade for any delamination of the composite skin or obvious discoloration.

- b. Small cracks parallel along the nickel edge are allowed as long as the leading edge is not loose. Scratches or chips should be sealed up as soon as practicable.
  - c. Tap Test: using a quarter, tap along the length of the blade and leading edge, listening for any sudden hollow sound (delamination). Note that the pitch is expected to change abruptly chord-wise, but not length-wise.
- 2. **BLADE FERRULES:** Inspect each aluminum blade ferrule and blade intersection (located at the root end of blade where the silicone sealant is visible) for movement and/or signs of chafing. Gently flex the blade at the tip to check for any movement between the aluminum ferrule and blade root. No movement is allowed. There should be no movement between aluminum ferrule and blade. Notify WhirlWind Propellers immediately if movement is detected.
- 3. **BLADE MOVEMENT:** Gently shake each propeller blade to feel for blade movement in the hub. Blade shake movement is allowed up to 1/4 inch, measured from the tip. Radial (change in blade angle) play of up to 0.5 degrees is acceptable. Movement is only allowed between the aluminum ferrule and the propeller hub, not between the composite blade and the ferrule.
- 4. **LEADING EDGE:** Inspect the nickel leading edge erosion shield. The nickel erosion shield should not be loose or have any cracks. Small paint cracks parallel to and along the edge of the shield where the nickel and paint meet are acceptable.
- 5. **SPINNER:** Remove spinner and check for nicks, cracks or chips. Check spinner dome and the aft and forward bulkheads for cracks of any kind or looseness. Also inspect for any signs of chafing.
  - a. Ensure secure attachment to the hub.
  - b. Check 5/16" bolts on aft bulkhead for tightness
- 6. **GREASE:** No grease or oil leaks should be detected. NOTE: A small amount of grease leakage may occur in new propellers (first 2 to 5 hours) or in hot climates with high RPM conditions.
- 7. **FLANGE BOLTS:** Check mounting bolts for torque (see Figure 3 on page 8).
- 8. Before every flight the prop-control should be cycled at least twice to circulate the engine oil.

#### **4.8 Teardown Inspection**

Send your propeller system to an approved WhirlWind Propellers shop to perform the inspection according to TDI on your propeller's data sheet. You may also request a WhirlWind assembly manual be sent to you or another propeller shop to do the inspection. See your propeller's data sheet for TDI interval or call in for updates.

## 5. Vibrations and Troubleshooting

Experimental aircraft may operate with unapproved engines or propellers or engine modifications to increase horsepower, such as unapproved crankshaft damper configurations or high compression pistons. These issues affect the vibration output of the engine and the stress levels on the propeller. Significant propeller life reduction and failure are real possibilities. Frequent inspections are strongly recommended if operating with a non-certificated installation; however, these inspections may not guarantee propeller reliability, as a failing device may be hidden from the view of the inspector. Propeller overhaul is strongly recommended to accomplish periodic internal inspection.

Your WhirlWind propeller system has been statically balanced at the factory. Dynamic balancing is recommended after installing or performing maintenance on a propeller. While this is normally an optional task, it may be required by the engine or airframe manufacturer to make certain the propeller/engine combination is balanced properly before operation. Some engine companies consider vibration levels above 1.25 in/s to be dangerous, but this is not a structural concern for the propeller. Vibrations may be uncomfortable anywhere above about 0.25 in/s. Repeat the same inspection after balancing as for first run-up.

Vibration problems because of propeller system imbalance are normally felt throughout the rpm range, with the intensity of vibration increasing with rpm. Vibration problems that occur in a narrow rpm range are a symptom of resonance. If a resonance related vibration is rough and is not remedied by dynamic balancing, you may need to send in your propeller for inspection; first follow these checks:

- (a) Control surfaces, cowl flaps, exhaust system, landing gear doors, etc. for excessive play that may be causing vibration unrelated to the propeller
- (b) Engine mount wear
- (c) Proper engine/propeller flange mating
- (d) Blade track: within 0.25"
- (e) Blade angles: within 0.5° of each other

## 6. Transfer of Ownership

Please complete this form upon transfer of ownership and return to:

WhirlWind Propellers  
One Propeller Place  
Piqua, OH 45356

Or by email to:

[sales@whirlwindpropellers.com](mailto:sales@whirlwindpropellers.com)  
[techsupport@whirlwindpropellers.com](mailto:techsupport@whirlwindpropellers.com)

Propeller Model: \_\_\_\_\_

Hub SN: \_\_\_\_\_

Blade SN's: \_\_\_\_\_

Manufacture Date: \_\_\_\_\_

Date Transferred: \_\_\_\_\_

### **Original Owner**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Last TDI: \_\_\_\_\_

### **New Owner**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Last TDI: \_\_\_\_\_



## 7. Limited Warranty

We hope you enjoy your new WhirlWind composite propeller. We have worked hard to ensure that your propeller will meet or exceed your expectations for years to come.

We offer a one year limited warranty (the "Warranty Period") on any defect in materials and workmanship.

In the event a unit does not conform to this express warranty during the Warranty Period, WhirlWind Propellers Corporation (WWPC) will repair or replace the defective material at its place of business at Piqua Ohio, USA. WhirlWind Propellers will decide at its sole discretion which remedy, repair or replacement, it will provide. Any replacement of a unit or a part of a unit during the Warranty Period will not extend the Warranty beyond the original duration. The remedy of repair or replacement is exclusive and does not include the cost of shipping, removal, or installation, all of which are the customer's responsibility.

### **Procedure for Obtaining Warranty Service**

Units or parts that are defective must be shipped prepaid to WhirlWind Propellers at the address listed on page 1. The unit must be accompanied by a copy of the original (Distributor or Dealer) invoice, a Return Authorization Number (which can be obtained by phoning or emailing WhirlWind Propellers), and a brief description of the defect.

### **Conditions, Exclusions, and Disclaimers**

This limited warranty applies only to units that have been installed, used, and maintained properly in strict accordance with our specifications, instructions, and recommendations. It does not cover units that show abuse, alterations, improper installation, improper maintenance or repair, or improper packaging for shipment; and it does not pertain to damage due to object strike, or excessive blade wear due to operation. Racing use of any kind automatically voids this Warranty. The use of units on or with engines or equipment not approved by WWPC automatically voids this warranty. For purposes of this limited warranty, "engines or equipment not approved by WWPC shall mean engines or equipment that are not explicitly consistent with all specifications and instructions applicable to that engine or equipment, including, without limitation, those established by the Federal Aviation Administration, those established by the manufacturers of any component parts used in connection with the units, and/or those established by WWPC. The purchaser has sole responsibility for ensuring that the use of the units is in compliance with all applicable specifications and instructions, and no conduct by WWPC shall prevent this Warranty from being voided for failure to comply with the instructions or specifications provided by any third-party.

This Limited Warranty is the only warranty provided with respect to covered units, and *there are no other warranties, representations, conditions or guarantees, express or implied, with respect to the covered units or the manufacture thereof, including, without limitation, any implied warranties of merchantability or fitness for a particular purpose.*

Repair or replacement of a nonconforming unit or part is the exclusive remedy for breach of this limited warranty, and shall constitute fulfillment of all liabilities of WWPC to a customer or user, whether based on contract, negligence or otherwise. IN NO EVENT SHALL WHIRLWIND PROPELLERS CORPORATION BE LIABLE FOR ANY OTHER EXPENSES, CLAIMS OR DAMAGES OF ANY KIND HOWSOEVER CAUSED, INCLUDING (WITHOUT LIMITATION) ANY OTHER PRODUCT REPLACEMENT OR INSTALLATION COSTS AND/OR ANY DIRECT, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES.

The purchaser of the covered units has read, understood and, by purchasing the units, agrees to be bound by the above terms and conditions. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you.

This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

## 8. Propeller Log Book

1. Proper maintenance of this logbook is the owner's responsibility. It is an important record designed for the owner's information and protection.
2. If the propeller is sold or installed on another aircraft the logbook should be transferred with the propeller. New owner information should be registered with WhirlWind Propellers by calling 619-569-3725.
3. It is recommended that maintenance release tags and work orders be attached inside the back cover of this book. If a copy of the work order is not available the repair station and work order numbers should be referenced in the logbook entry.

<b>Model:</b>	330- B- / - - -R
<b>Hub SN:</b>	
<b>Blade SN's:</b>	
<b>Manufacture Date:</b>	

Date:	Total Propeller Time:	Time Since Last Overhaul:	Repairman Certificate Number:
Description of Work:  <hr/>			
Date:	Total Propeller Time:	Time Since Last Overhaul:	Repairman Certificate Number:
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Description of Work:			
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