



COMPOSITE GROUND ADJUSTABLE AIRBOAT PROPELLER INSTALLATION AND OPERATION INSTRUCTIONS

CAUTION: *Failure to follow these instructions will void all warranties, expressed and implied. Mounting difficulties and increased vibration will result with improper assembly of the propeller blades and hub parts.*

Packing List

Propeller Blades & Two Piece Hub
Mounting Bolts, for mounting hub on engine
Clamping Bolts, for clamping hub halves together
Lock Washers (for hubs with "A" or "B" serial #'s only)
Standard Nuts+Washers
(for hubs without "A" or "B" serial #'s)

NOTE: *Older hubs use nuts and washers with the clamping bolts, while newer hubs with "A" or "B" serial numbers use threaded drive bushings and special lock washers.*

Tools

A good quality torque wrench is required to properly torque clamping bolts and mounting bolts. Other tools needed: a large rubber mallet, anti-seize compound, and socket wrench. Older hubs will also require an allen hex wrench and open end wrench. See **Tables 1 & 2** for socket and wrench sizes.

Attach Mounting Bolt Half

1. Disable engine starter/magneto to prevent inadvertent engine startup. Clean dirt and oil residue from the engine flange. Refer to **Figures 1 - 3** for views of the hub halves and blade.

2. Place the hub mount half, as shown in **Figure 1**, on the engine or reduction unit mounting flange. Check for proper bushing and pilot stub fit into the hub half. The hub must sit flush on the mounting flange. Put anti-seize compound on the mounting bolt threads and insert bolts into the 6 mounting holes. (Use lock washers with "A" & "B" hubs only) Torque the 6 bolts using a star pattern. See **Table 1** or blade decals for mounting bolt torques.

Note: The hub must sit flush against the mounting flange. Some installations may require a hub spacer kit or trimming of the drive bushings for proper fit on the engine flange. Bolt breakage will occur if not flush.

Insert Blades in Hub Mounting Half

3. Each blade has a round side and a flat side. Insert one blade at a time into the hub mounting half with the round side of the blade facing towards the front of the boat.

4. Place hub cover half over blades. Put anti-seize compound on the clamp bolt threads and insert with washers through the cover half and mounting half holes. Properly seat the cover half by tapping with the rubber mallet. Once the hub halves are even on all sides, hand tighten the bolts (and nuts, for older hubs).

5. There are three methods for setting blade pitch: by Pitch Marks (good for narrow and medium blades), by Blade Track (preferred for wide blades and Superwide blades), and by Protractor Blade Angle (most accurate method but requires additional tools).

Pitch Mark: Align each blade pitch mark at 2 ½ or 3 with the face of the mounting hub half.

Blade Track: Align one blade pitch mark at 2 ½ or 3, then measure the distance aft from the blade tip trailing edge to a fixed point on the airboat, such as transom lip or radiator. Rotate the other blades into the same position and set at the same track distance.

Protractor Blade Angle: Align one blade pitch mark at 2 ½ or 3, then measure in 3" from the blade tip and mark a straight line across the flat side of the airfoil, from leading edge to trailing edge. NOTE: the blade airfoil must be flat at this location. Measure the blade angle with an angle protractor, then rotate the other blades into the same position and set at the same pitch angle.

6. Using a torque wrench and rotating from bolt to bolt, tighten the bolts evenly in a star pattern to the proper torque given in **Table 2**. This may take several passes around the bolts. (NOTE: For older compact two blade hubs only, a flat screwdriver is jammed between hub and nut to prevent nut rotation during torquing.) Check the blade pitch marks after full torque; a small gap may remain between hub halves. Check the propeller blades for track. The blades should

track within 1/8" of each other at the tip (track method), or within 1/16" to the same pitch mark (pitch mark method).

6. Refer to **Table 3** for ***maximum recommended prop RPM's***. Run up the propeller to check your pitch for desired maximum RPM. If your RPM's are too low, adjust the blades to a lower pitch setting. If the RPM's are too high, adjust the blades to a higher pitch setting. Re-torque clamp bolts to the proper torque. Remember, the propeller will run approximately 100 RPM higher once moving on the water.

Note: The clamping torque value should be checked every 25 hours or at least once a year, whichever comes first.

Permanent Installation

1. Once you have achieved the desired RPM's and are satisfied with the performance of your boat, re-torque the clamping bolts. If nuts are used, either double nut each bolt or apply medium strength thread locker to each nut one at a time. Torque each of these nuts to the proper torque.

Note: The clamping torque value should be checked every 25 hours or at least once a year, whichever comes first.

2. DO NOT DRILL DRAIN HOLES IN THE TIPS!

Repitching

If repitching is needed, first loosen the bolts. Using a rubber mallet or your hand, tap the leading or trailing edge of the blade to change pitch. Be careful to not drop the hub or blades. Re-torque according to **Table 2**.

Composite Propeller Operating Tips:

Sensenich composite propellers should be fairly maintenance free besides an occasional torque check and cleaning of the hub and blades. The following will help you to operate your propeller safely, keep it looking good and help it to last longer.

- ❑ **Do not spin your propeller above the maximum RPM given in Table 3.**
- ❑ *Before each airboating excursion, carefully examine the propeller blades and hub for looseness, any signs of damage, excessive wear or any other condition that would make the propeller unsafe to operate.*
- ❑ Never run up your propeller with someone standing in the plane of the propeller.
- ❑ For maximum leading edge life, maintain a *minimum* of 2-3" clearance from the blade to the cage and hull. This is especially important for deck-over hulls and the transom area for fiberglass hulls.
- ❑ Epoxy wear beside the metal leading edges is normal.
- ❑ **Check hub clamping bolts every 25 hours of operation or at least once a year, whichever comes first.** Always check in a tightening direction.

- ❑ Keep your propeller clean. Soapy water will remove most residue, but 409 or similar cleaner can be used to remove stubborn residue.
- ❑ Apply a good quality automotive paste wax to the blades at least once a year. Avoid liquid waxes.
- ❑ Be mindful of airboat noise around people and homes. Operate at the lowest RPM's possible.

LIMITED WARRANTY

We hope you enjoy your new 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 on any defect in materials and workmanship.

In the event a unit does not conform to this express warranty, Sensenich Wood Propeller Company will repair or replace the defective material at its place of business at Plant City, FL USA. Sensenich Wood Propeller Company will decide 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 Sensenich Wood Propeller Company 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 Sensenich Wood Propeller Company), 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 or use on or with engines or equipment not approved by Sensenich Wood Propeller Company automatically voids this warranty.

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 Sensenich Wood Propeller Company to a customer or user, whether based on contract, negligence or otherwise. **IN NO EVENT SHALL SENENICH WOOD PROPELLER COMPANY 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.

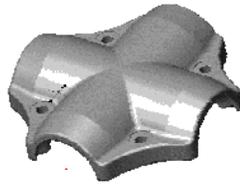
This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Figure 1:



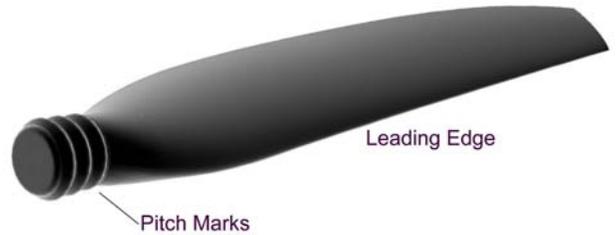
Hub Mount Half

Figure 2:



Hub Cover Half

Figure 3:



Blade

**TABLE 1:
HUB MOUNTING BOLT TORQUE**

Mounting Bolt Diameter (inches)	Hex Head Bolts		Flat Head Allen Screws	
	Socket wrench size (inches)	Recommended Wrench Torque***	Allen Hex Wrench Size	Recommended Wrench Torque
3/8	9/16	45 +/- 2	7/32	35 +/- 2
7/16	5/8	45 +/- 2	1/4	45 +/- 2
1/2	3/4	60 +/- 2	5/16	45 +/- 2

Notes: Apply anti-seize compound to bolt threads. This will aid removal after long service in harsh environments.
Check mounting bolt torque at least once a year or if vibration occurs.

*** Newer hubs with “A” or “B” serial numbers use hex head mounting bolts with special lock washers. Each lock washer works in pairs with the “ramped” sides facing each other.

**TABLE 2:
HUB CLAMPING BOLT TORQUE**

Clamping Bolt Diameter (inches)	Recommended Wrench Torque (ft-lbs)***	Hex Bolt Socket Wrench Size (inches)	Nut Open End Wrench Size (inches)
1/2	60 +/- 2	3/4	3/4
9/16	65 +/- 2	13/16	7/8

Note: Check clamping bolt torque every 25 hours thereafter or at least once a year, whichever comes first.
Apply anti-seize compound to bolt threads. This will aid removal after long service in harsh environments.

*** Newer hubs with “A” or “B” serial numbers incorporate threaded drive bushings and special lock washers. Each lock washer works in pairs with the “ramped” sides facing each other.

Table 3: Pitch Setting Guide

Set all blades at Pitch Mark 2 ½ or 3 to start. **DO NOT EXCEED MAXIMUM PROPELLER RPM'S.** Adjust pitch as needed. The pitch marks indicate general pitch; ex) "3" is a higher pitch than a "2". While only three marks are indicated, higher pitches than "3" can be used, up to a maximum of "4". Your final setup may vary due to configuration of your particular boat and desired top RPM.

Maximum Propeller RPM's:

Blade Model	Blade Style	Blade Width	Engines	Max prop RPM
L72H / L78H / R78H	"narrow" blade	8 ½" wide	Direct drive or reduction drive	3000
L72Q	"swept medium" blade	10 ½" wide	Direct drive or reduction drive	3000
L79K / R79K	"wide" blade	12" wide	Reduction drives only!	2800
L79R / R79R	"swept wide" blade	13" wide	Reduction drives only!	2800
L79S / R79S	"swept superwide" blade	15" wide	Reduction drives only!	2300

WARNING: Propeller blade failure may occur if maximum propeller RPM is exceeded – resulting in severe bodily injury or death!

Typical engine/propeller combinations are shown below. "Ride Boat" propellers have great all around performance at a reasonable price. "Hot Rod Boat" propellers have better top end performance and/or throttle response but at a higher price. For particular installations, please contact a Sensenich Dealer or Sensenich Technical Support.

Engine/HP	RIDE BOAT			HOT ROD BOAT		
	Blade style	Number of blades	Propeller diameter	Blade style	Number of blades	Propeller diameter
150 – 200 HP Direct Drive	"H" narrow blade	2	68 – 72"	"H" narrow blade	2	66 – 70"
220 – 300 HP Direct Drive	"Q" medium blade	2	68 – 72"	"H" narrow blade	3	68 – 78"
Cadillac Direct Drive	"Q" medium blade	2	70 – 74"	"H" narrow blade	3	72 – 78"
Chevy small block 350 HP, 2:1 reduction	"K" or "R" wide blade	2 3	76 – 80" 78 – 80"	"H" narrow blade	4	78 - 80"
Chevy big block 400+HP, 2.3:1+ reduction	"K" or "R" wide "S" superwide "S" superwide (600+HP)	3 2 3	78 – 82" 78 – 80" 80 – 86"	"H" narrow blade	5	80 – 84"