

1-1/8" – 1.5" Headset Installation Instructions (ZS44/28.6 UPPER and EC44/40 LOWER)

To ensure maximum life and performance from your Phil Wood headset, proper installation and periodic maintenance is required. If you are not comfortable with performing any of the following instructions, contact our sales or service department and we will do our best to find a bicycle shop in your area that will be able to assist you. (See Service Information at the end of these instructions)

On the backside of this page you will find a diagram showing the assembly order and part names we will be using in these instructions.

In general, you should perform these basic maintenance tasks a minimum of every three months. Actual frequency may vary depending on riding conditions and the amount of use. Failure to maintain your headset could result in premature failure and will void the headset warranty. Please visit www.philwood.com for up to date product care instructions, warranty, service and return policy information. Thank you for your support.

TOOLS NEEDED:

Head Tube Reaming and Facing Tool (such as Park Tool HTR-1, with appropriate cutting tools: 690-XL, 788)

Headset Bearing Cup Press (such as Park Tool HHP-2)

Phil Wood Bearing Cup Press Adapters

Crown Race Setting Tool (such as Park Tool CRS-15.2)

Star Nut Installation Tool (such as Park Tool TNS-1)

Hard Plastic Hammer

5 mm Hex Wrench

Mild Degreaser (cleaning/rubbing alcohol)

Phil Wood Waterproof Grease

Step 1: Frame Head Tube Preparation

1. Ensure that the head tube of your frame has been properly reamed and faced.

PLEASE NOTE: You must properly ream and face your frame regardless of whether or not your frame is new or has already had a headset installed.

2. After reaming and facing your head tube, make sure to remove any paint and/or burrs that could interfere with the headset cup installation. Upper Head Tube Inner Diameter should be a minimum of 33.90 mm to a maximum of 33.95 mm. Lower Head Tube Inner Diameter should be a minimum of 43.95 mm to a maximum of 44 mm. The head tube should be reamed to a minimum depth of 10 mm.

3. Chamfer the inside edge of your head tube on the top and bottom, this will help prevent damaging the cups during the installation process.

4. Use a cloth and mild degreaser to carefully clean paint, metal shavings, oil and any other debris in or around the head tube. (Be careful when wiping away metal shavings as they can scratch your paint) If needed, wipe down the area again with a clean, dry towel and mild degreaser.

Step 2: Upper and Lower Bearing Cup Installation

1. Before installing bearing cups with bearing cup press adaptors, be sure to inspect upper (G) and lower (H) bearing cups for damage. If the cups are dirty use a cloth and mild degreaser to carefully clean any debris in or around the cups. Also inspect the bearing cup press adaptors.

2. Before pressing in both bearing cups make sure to put a layer of Phil Wood Waterproof Grease around the area of the head tube that will contact the bearing cups.

3. Using a headset cup installation press tool along with Phil Wood Bearing Cup Press Adaptors, carefully press in both bearing cups. Make sure both upper (G) and lower (H) bearing cups have fully seated against the top and bottom of the head tube.

Step 3: Crown Race and Star Nut Installation

1. Ensure that the crown race seat of your fork has been properly reamed and faced. This is important to ensure that your crown race is properly aligned with your steer tube. Fork outer diameter at the crown seat should be a minimum of 39.80 mm to a maximum of 39.85 mm.

2. Before installing the crown race (I) make sure to remove any paint, burrs, shavings and/or cutting oil that could interfere with the crown race installation.

3. Slide the crown race (I) onto the steer tube. Use a crown race setting tool and rubber hammer to install the crown race properly onto the fork.

4. After properly determining your steer tube length and properly cutting it be sure to remove any burrs from the outside and inside of the steer tube. This is important to do before installing your star nut into the steer tube.

5. Thread our provided star nut onto your installation tool. If your fork requires a special star nut that the fork manufacturer provides please use the fork manufacturer's recommended star nut. Not doing this could damage your fork or void your fork's warranty. (DO NOT use supplied star nut with carbon steerer)

6. Using a hard-plastic hammer and star nut installation tool, carefully drive the star nut into your steer tube about 15 mm from the top of your steer tube. Please check with your fork manufacturer if they have a specified depth for the star nut.

Step 4: Headset and Fork Installation

1. Apply a thin layer of Phil Wood Waterproof Grease to the upper surface of the crown race (I), the inside of the Lower Bearing Cup (H) and the inside of the Upper Bearing Cup (G).

2. Apply a thin layer of Phil Wood Waterproof Grease to both Headset bearings (Fa and Fb).

3. Slide the lower headset bearing (Fb) down your steer tube until it rests on top of the Crown Race (I). Then slide your steer tube up into the head tube until the bearing is fully seated into the Lower Bearing Cup (H).

4. Slide the upper headset bearing (Fa) down your steer tube until it seats into the Upper Bearing Cup (G).

5. Carefully slide the Top Cover (E) over the steer tube, be sure to not force the Top Cover O-Ring onto the steer tube. Doing this might damage the O-Ring. If needed you can put a thin layer of Phil Waterproof Grease onto the Top Cover O-Ring to make the installation easier.

6. If you have deemed that headset spacers are needed, install them now (do not forget you can use the included 5 mm tapered spacer) along with your stem.

7. Install your Stem Cap Cover (B) and thread your Cap Bolt (A) into the Star Nut (C) with a 5mm hex wrench and tighten to 1.5-1.7 Nm.

8. Align your stem and tighten to your stem manufacturer's specifications.

PLEASE NOTE: Additional adjustments maybe necessary as your headset settles in, please adjust as needed.

9. Be sure to properly adjust your headset if needed. Your headset should rotate smoothly and should not have any binding or play.

Step 5: Additional Maintenance

1. Every few rides make sure to check that your cap bolt (A) is properly torqued and there is no play in your headset. Over time your headset may loosen.
2. Annual cleaning and re-greasing of your headset components is strongly recommended. Do not remove seals of bearings, use a mild degreaser and towel to clean the outside of the bearings and apply a fresh coat of grease to the outside of both bearings before reinstalling.

1-1/8" – 1.5" Semi-Integrated Headset Overview

- A. Cap Bolt
- B. Stem Cap Cover
- C. Star Nut
- D. Top Cover O-Ring
- E. Top Cover
- Fa. Upper Headset Bearing
- Fb. Lower Headset Bearing
- G. Upper Bearing Cup
- H. Lower Bearing Cup
- I. Crown Race
- J. 5 mm Tapered Spacer

Torque Specifications

- A. Cap Bolt (torque to 1.5-1.7 N-m)

Limited Warranty

Phil Wood & Co. provides a limited lifetime warranty against manufacturing defects. This means that we offer a guarantee on material and production thereof for the life of the product to the original owner. In order to be considered for warranty, original proof of purchase from an Authorized Phil Wood & Co. Retailer/Dealer showing date of purchase must be provided. We also offer a one-year guarantee on all our bearings from the date of purchase. Bearings that fail due to contamination, misuse, improper tampering, or improper maintenance are not covered under warranty even if failure occurs within one year from date of purchase. **Please Note:** Our *Classic*, stainless steel cassette bodies have a one-year guarantee and our *Pro*, aluminum cassette bodies and all other *Pro*, aluminum parts have a one-year guarantee.

All Phil Wood & Co. products have an intended purpose. Products used outside of that purpose will not be warranted and Phil Wood cannot be held responsible for any damage that may occur due to misuse. It is the end user's responsibility to examine the product on a regular basis to determine if it requires service and or replacement. (See included maintenance instructions for further information.)

NOT COVERED UNDER THIS LIMITED WARRANTY ARE THE FOLLOWING:

1. Normal wear of parts that are subject to wear (e.g. bearings and ratchet mechanisms)
2. Incorrect re-assembly
3. Use in combination with other products that are not compatible (e.g. threading a FW onto the fixed side of a track hub)
4. Insufficient maintenance, tampering, misuse, and neglect.

*Phil Wood & Co. does not cover the cost of shipping on repair or warranty items back to us beyond 90 days from the original purchase date.

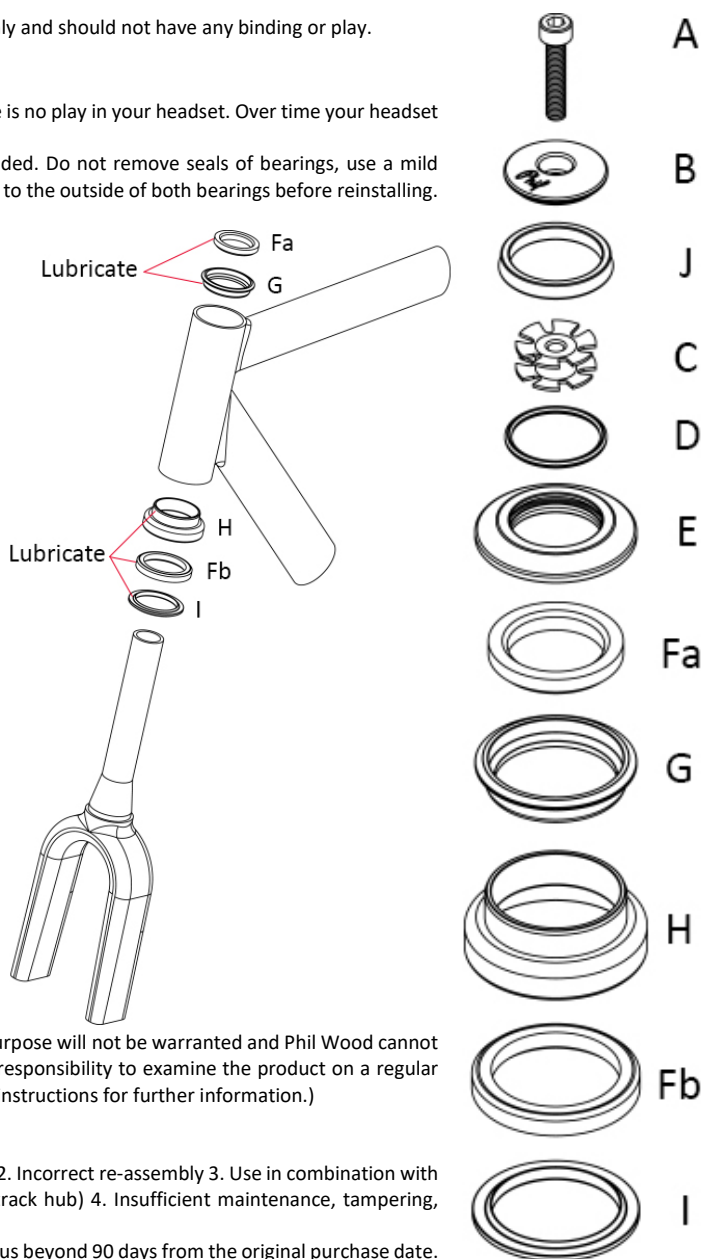
Return Policy

All returns, regardless of reason or cause, must have a return authorization number (RA#). We will not accept or process any item(s) without an RA#. Please contact us for RA# information via email at sales@philwood.com or call us at (408) 298-1540.

- RA#s are good for up to 60 days from the day they are issued.
- Items returned for credit are subject to a 15% restocking fee unless the item is returned due to our mis-shipment.
- Product and parts can be returned for credit (less restocking fee) if the product was never installed, used, altered, or damaged in any way. The return must be within 90 days of the original date of purchase.
- Items returned for exchange due to an ordering error are subject to a 15% restocking fee and all shipping fees for up to 30 days from the date of purchase.
- Product and parts returned more than 30 days after date of purchase can be returned for credit (less a 30% restocking fee) for up to 90 days from the day of purchase.
- After 90 days, item(s) may not be returned for credit or exchange.
- Customer is responsible for properly packaging the returning item(s).
- Customer is responsible for any damages incurred due to improper packaging. Customer is also responsible for shipping fees.
- Partial credit may be given for returned item(s) that suffered cosmetic damages resulting from installation or shipping. Eligibility for credit will be determined by Phil Wood & Co.'s warranty and technical personnel. Any damage to a product that may compromise the integrity of the part will void any applicable credit.

Service Information

All services must have a return authorization number (RA#). We will not accept or process any item(s) without an RA#. Your issued RA# should be clearly written on the outside of your package so our service department can match your item(s) to the service information on file. Items sent to Phil Wood & Co. for service without a valid and legible RA# on the outside of the package will be REFUSED and returned to sender at their cost. (Depending on how busy our service department is, standard services can take 1-2 days to complete. Standard services can take longer to complete depending on service department workload and part availability.) Once issued, an RA# is valid for 60 days.



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