

Square Taper Bottom Bracket Cup Installation Instructions

To ensure maximum life and performance from your Phil Wood Square Taper Bottom Bracket (BB), proper frame preparation and installation is required. If you are not comfortable with performing any of the following instructions, contact our sales or service department and we can 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.

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:

- Bottom Bracket Facing Set (recommended, not required)
- Bottom Bracket Tapping Set (recommended, not required)
- Phil Wood Pro Shop or Portable cup installation tool (Phil Wood Part# BMRTSO/BMRTC0)
- Torque Wrench (recommended, not required)
- 22mm Socket (recommended, not required for use with Pro Shop tool, or use a open end wrench)
- Mild Degreaser (cleaning/rubbing alcohol)
- Small, soft brush
- Blue Thread Retaining Compound (Phil Wood Part# MRCB00)

Step 1: Frame Bottom Bracket Shell Preparation

1. Ensure the bottom bracket shell (J) of the frame is properly faced, threads are chased and cleaned before continuing with the square taper bottom bracket installation.
2. Make sure to remove any paint, burrs and/or old thread retaining compound that could interfere with the bottom bracket installation.

PLEASE NOTE: If you are replacing a current square taper BB it is still important to follow proper BB shell preparation to help prevent damage to the frame or BB. Because no stop is on our cups and lock rings are not normally required, facing the frame's bottom bracket shell is not necessary.

3. Inspect the bottom bracket shell threading of the frame for any damage and ensure the threading in your frame is compatible with the threading on your BB cups.
4. Use your brush and a mild degreaser to clean grease, oil and any other debris in the threads and surrounding areas of the bottom bracket shell. If needed, wipe down the area again with a clean, dry towel and mild degreaser.
5. After cleaning, ensure the bottom bracket shell threads are completely dry before continuing.

Step 2: Spindle Alignment Procedure

PLEASE NOTE: This is performed to determine the proper positioning of the bottom bracket cartridge (G) in the frame's bottom bracket shell (J). This is performed prior to fixing its position via our blue thread retaining compound on the bottom bracket cups (E, F). Our bottom bracket cups enable the bottom bracket to be positioned within a five millimeter band of a "normal" centered position. If it is known that the spindle (I) will be aligned properly in its centered position, the alignment procedure may not be necessary, you can skip to **Step 3: Installing Square Taper Bottom Bracket and Cups**.

1. Place the bottom bracket cartridge in the shell with the "I" of the "Phil" logo toward the drive side of the frame.
2. To ensure a clean installation, install both bottom bracket cups into the frame dry. This allows you to check that the cups thread freely into your frame before you install them with blue thread retaining compound. The counter-bored side must face inward to nest the bottom bracket bearing. On British, Swiss, older Raleigh and Chater Lea threaded bottom bracket shells, the drive side of the frame has left-hand thread. The left-hand threaded cup is indicated by a painted surface on its counter-bored side.
3. With the Phil Wood Pro Shop or Portable cup installation tool, tighten the cups against the bottom bracket using approximately 40 N-m of torque. The cups should feel snug against the bottom bracket and should protrude about the same amount from each end of the bottom bracket shell. A properly installed bottom bracket will be held securely in the frame and its spindle will turn smoothly.

PLEASE NOTE: While dry fitting the bottom bracket cups into the frame, if for any reason the cups starts to bind or become difficult to thread in by hand: **STOP**. Carefully remove the cup and check the threads again for burrs or damage. Forcing the cup into the frame can cause damage to the frame, cups or both.

4. Clean and lightly grease the ends of the spindle, the spindle threads and the crank arm mounting bolts (A). Install the crank arms securely on the spindle (B, C).
5. Check the chain-ring to frame clearance, and the chain line and both crank-arm to frame clearances.
6. If the spindle needs to be shifted left or right, remove the crank arms, loosen the mounting ring on the side that must be shifted out and tighten the ring on the other side. Re-install the crank arms and again, check the clearances and alignment.
7. Once the proper alignment is determined, remove the crank arms and measure the distance from the frame to the outside face of the cup (E, F). Record the measurement and repeat the process for the opposite side of the frame. If the measurement is greater than 5mm, this bottom bracket width or specified offset may be inappropriate for the frame and crank arm configuration. For technical support, refer to your Phil Wood dealer or to our technical support department.
8. Remove the crank arms and bottom bracket cups from the frame.

Step 3: Installing Square Taper Bottom Bracket and Cups

1. One of the square taper bottom bracket cups will have paint on the end (E) except French and Italian. The cup that has been painted is to be installed on the drive side of the frame's bottom bracket shell. The unpainted cup (F) is to be installed on the non-drive side of the frame's bottom bracket shell.
2. To insure a clean installation, install both cups into the frame dry. This allows you to ensure that the cups freely install into your frame before you install them with blue thread retaining compound. Remove the cups before proceeding to step 3.

PLEASE NOTE: While dry fitting the bottom bracket cups into the frame, if for any reason the cups starts to bind or become difficult to thread in by hand: **STOP**. Carefully remove the cup and check the threads again for burrs or damage. Forcing the cup into the frame can cause damage to the frame, cups or both.

3. Apply two drops of blue thread retaining compound evenly spaced to the threads on each bottom bracket cup (E, F). Thread the drive side cup (E) into the frame. Next, insert the bottom bracket cartridge (G) into the frame so that the "I" of the "Phil" logo is on the drive side. Then, thread the non-drive cup (F) into the frame. Position the

cups so they match the measurements taken during **Step 2: Spindle Alignment Procedure**. With the Phil Wood Pro Shop or Portable cup installation tool(s), apply approximately 40 N-m of torque to secure the cups against the bottom bracket cartridge.

4. Be sure to clean off any excess blue thread retaining compound that may have touched the frame paint as it may discolor some types of paint.

PLEASE NOTE: Once cups have been installed, the blue thread retaining compound should be left to cure for 12 hours before being used.

5. To install your crank set, consult your original crank set's installation instructions. A thin layer of Phil Waterproof Grease should be applied to the spindle's tapered surface before the crank arms are bolted on.

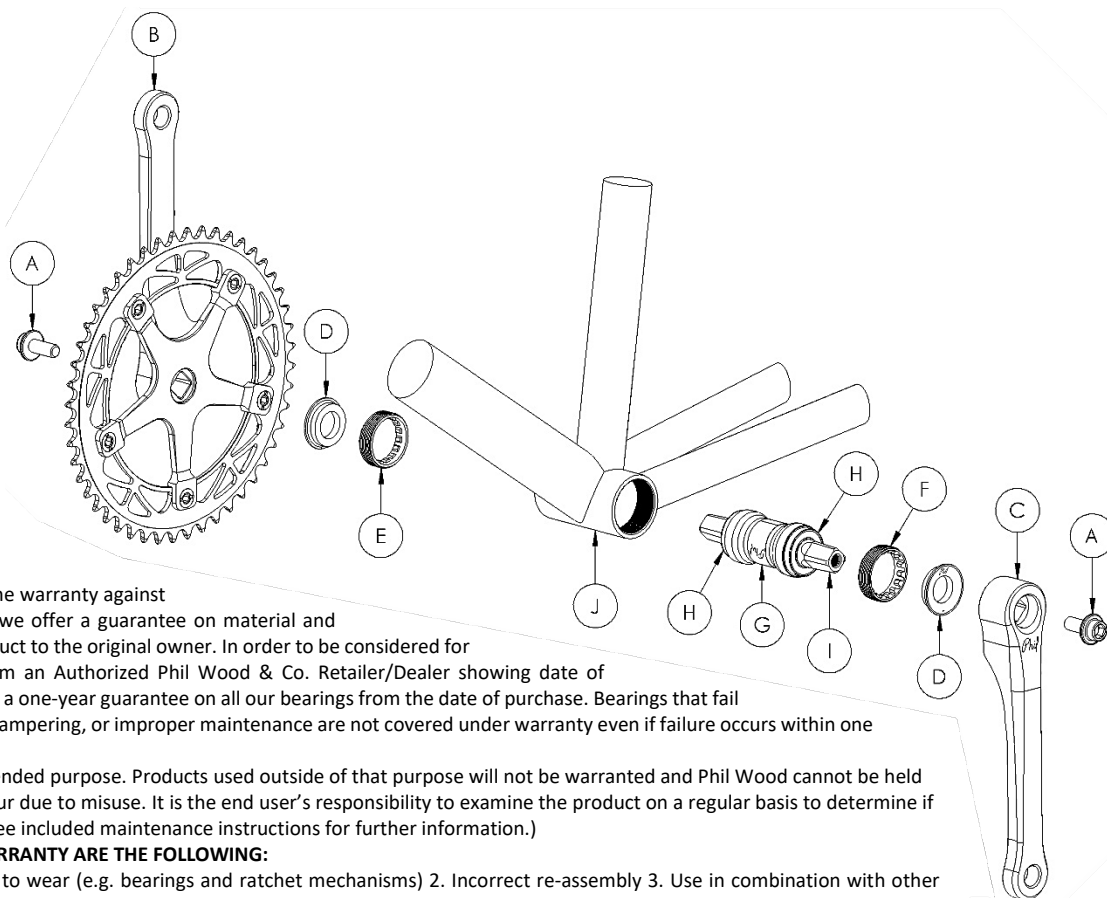
Step 4: Maintenance

1. Once installed, our square taper bottom brackets do not need any routine maintenance. If the bearings become rough or damaged they should be replaced. Replacement bearings can be purchased from our web store.

PLEASE NOTE: Repacking bearings will not repair damage or wear that might have occurred to the bearing seals or other internal components of the bearing.

Square Taper Bottom Bracket Overview

- A. Crank bolts
- B. Drive side crank arm
- C. Non-drive side crank arm
- D. Mud guards
- E. Drive side cup
- F. Non-drive side cup
- G. Bottom bracket cartridge
- H. 6903 bearing (Phil Wood Part# PWX93)
- I. Spindle
- J. Frame bottom bracket shell



Torque Specifications

- E. Non-drive side cup (torque to 40 N-m)
- F. Drive side cup (torque to 40 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.

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.

PLEASE NOTE: Items sent to Phil Wood & Co. for service without a valid and legible RA# placed on the outside of the package will be REFUSED and returned to sender at their cost. Phil Wood & Co. does not cover the cost of shipping on repair or warranty items sent back to us beyond 90 days from the original purchase date.