Philcentric Outboard Bottom Bracket Installation Instructions

To ensure maximum life and performance from your Phil Wood Philcentric Outboard Bottom Bracket (OBB), 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 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.

Please visit www.philwood.com/support 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)
Philcentric Cup Installation/Removal Tool (Phil Wood Part# UG-PCT)
Philcentric Cup Alignment Gauge (Phil Wood Part# UG-PCG)
Chain Whip
Mild Degreaser (cleaning/rubbing alcohol)
Small, soft brush (toothbrush)
Red Thread Retaining Compound (included, Phil Wood Part# MRCM00)
Phil Tenacious Oil (Phil Wood Part# LTO000)

PLEASE NOTE: If you are replacing a current OBB, it is still important to follow proper bottom bracket shell preparation to help prevent damage to the frame or OBB.

TYPE OF CRANK THAT CAN BE USED: Outboard 24 mm spindle, single chainring type with a 0-millimeter offset or a zero-degree offset on crankarm or direct mount spider. Designed for half link.

Step 1: Frame Bottom Bracket Shell Preparation

1. Ensure the bottom bracket shell (E) of the frame is properly faced, threads are chased and cleaned before continuing with the Philcentric OBB installation.

> **PLEASE NOTE:** If you are replacing a current OBB, it is still important to follow proper bottom bracket shell preparation to help prevent damage to the frame or OBB.

2. Make sure to remove any paint, burrs and/or old thread retaining compound that could interfere with the Philcentric OBB installation.
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 OBB.
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 is completely dry before continuing.

Step 2: Installing and Adjusting Philcentric

1. One of the Philcentric cups may have red or yellow paint on the threaded side (this is the drive-side cup (C)). This cup is to be installed on the drive side of the frame's bottom bracket shell. The unpainted Philcentric cup (F) is to be installed on the non-drive side of the frame's bottom bracket shell.
2. To ensure a clean installation, install both Philcentric cups into the frame dry. This allows you to check that the cups thread freely into your frame before you install them with our red thread retaining compound. Remove cups from frame after dry fit is complete.

> **PLEASE NOTE:** While dry fitting the Philcentric cups into the frame, if for any reason the cup 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. If required, slide the correct number of OBB spacers (D) onto each Philcentric cup.

> **PLEASE NOTE:** If additional spacers are needed, they can be purchased separately from our web store.

4. Apply two drops of red thread retaining compound to the threads of the drive side OBB cup (C), then thread the drive-side OBB cup into the frame by hand. For British threaded Philcentric cups, the drive-side OBB cup must be turned in a counterclockwise direction to tighten. Using the Philcentric cup installation tool (H) and chain whip, tighten the cup down until it bottoms out against the frame bottom bracket shell (E).
5. Apply two drops of red thread retaining compound to the threads of the non-drive side OBB cup (F). Tighten the cup down by hand until it bottoms out against the frame. Then loosen the cup a ¼ turn.
6. Insert the Philcentric alignment gauge (G) into the drive side cup. Ensure that the alignment gauge is centered and fully seated into the drive side cup.
7. Then insert the installation tool into the non-drive Philcentric cup (see diagram 2). Rotate the installation tool (H) so that the alignment markers (J) on the alignment gauge and installation tool are as close as possible.
8. Turn the installation tool with a chain whip (if needed) until the alignment marks on both the installation tool and alignment gauge are lined up (see diagram 3). It may be necessary to repeat ***Part 7*** in order to get the marks lined up. Once the marks are aligned, the cup should not be moved. Remove the Philcentric cup installation/removal tool (H) from the cup.

> **PLEASE NOTE:** Once the Philcentric OBB cups have been installed, the red thread retaining compound should be left to cure for at least 12 hours before being used.

9. Install the drive-side Philcentric cup cover (B) by lining up the dowel pin inside the cup cover with the notches inside the Philcentric cup. Slide the two together by hand. Then install the Philcentric cup retention screws (A) to lock the two pieces together. Make sure to add a drop of Phil Tenacious Oil onto the threads of each cup retention screw. Don't torque screws more than 2 N-m.
10. Install the drive side crank arm (I). Next, place the chain over the chain ring and check the chain tension. If the chain tension is not adequate, the cup cover (B) must be rotated to achieve optimum chain tension.

11. The drive side crank (I) and retaining screws (A) must be removed, followed by the Philcentric cup cover (B) in order to make any adjustments to the chain tension. Note the cup cover orientation. Pull the cup cover off and rotate to desired position. Repeat ***Part 9-10*** until optimum chain tension has been achieved, then remove the drive side crank arm and torque cup retention screws to a maximum of 2.5 N-m, then reinstall the drive-side crank.
12. Slide non-drive side cup cover (B) over crank spindle. When the cup cover makes contact with the non-drive side cup, begin pushing the cup cover towards the frame while rotating cup cover at the same time. The cup cover should seat itself when it has been rotated to the proper location. Apply a drop of Phil Tenacious Oil onto the thread of each cup retention screw and torque to a maximum of 2.5 N-m (see diagram 4).
13. To install your crank set, consult your original crank set installation instructions. A thin layer of Phil Waterproof Grease may be applied to the spindle surface before sliding it into the Philcentric OBB (grease will not adversely affect the plastic dust covers).

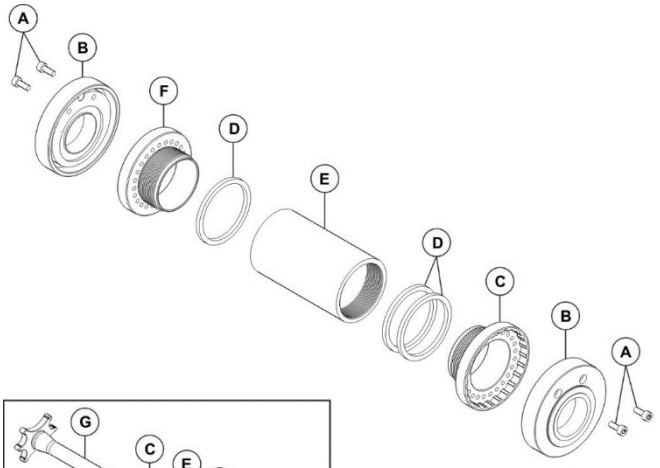
Step 3: Maintenance

1. Every few rides make sure to check that your Philcentric cup retention screws are still torqued to 2.5 N-m. They may loosen over time.
2. Other than checking the cup retention screws, no additional maintenance is required. If the bearings become rough or damaged they should be replaced. The replacement of bearings or dust covers in your Philcentric OBB should only be performed by an Authorized Phil Wood Dealer or sent back to Phil Wood & Co.

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.

Philcentric Cup Overview

A. Philcentric cup retention screws (Phil Wood Part# UG-PCS)
B. Philcentric cup cover
C. Drive side cup
D. 2.5 mm thick spacer
E. Frame bottom bracket shell
F. Non-drive side cup
G. Philcentric cup alignment gauge
H. Philcentric cup installation/removal tool
I. Drive side crank



Torque Specifications

A. Philcentric cup retention screws (torque to 2.5 N-m)

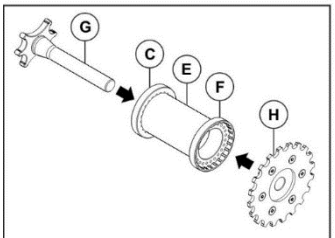


Diagram 2

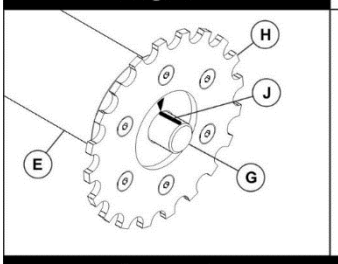


Diagram 3

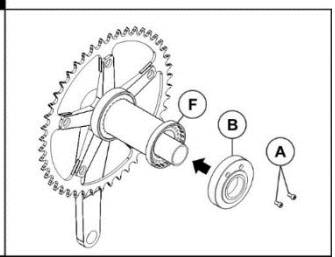


Diagram 4

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 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.