Bottom Bracket Manual

CHRIS KING® PRECISION COMPONENTS

Congratulations! Since 1976, Chris King has been supplying cyclists with the best made, most reliable components you can buy. With proper installation and maintenance, you can expect to enjoy many years of the legendary quality and performance built into each and every component we make.

Installation

Bottom bracket (BB) installation requires specialized tools. We recommend the procedure be performed by a qualified professional bicycle mechanic. To ensure proper installation, the use of high quality facing and thread chasing tooling is strongly recommended.

Use BB marked MTN (A) on 68 or 73mm BB shells with mountain-style cranks. Use BB marked ROAD (B) on 68mm BB shells with road-style cranks.

Bottom Bracket Compatibility and Specifications	
BB shell width	68mm, 73mm
crankset design	Shimano™ external BB configurations
front derailleur	seat tube mounted, E-Type (BB mounted)
chainguide	ISCG tab mounted, BB mounted
BB thread type	English
BB weight, complete assembly	108g

Preparation of Bottom Bracket Shell

Proper preparation of the BB shell is required for best BB performance, durability, longevity and will reduce the risk of installation problems.

1. Chase the BB shell threads to ensure that threads are properly oriented.
2. Face the BB shell to ensure that the ends are square and parallel to each other. Be sure to remove all frame paint from BB shell/BB cup interface.
3. Using a small file, deburring tool or sand paper, carefully remove any sharp edges or burrs from the BB shell surfaces.
4. Clean BB shell threads and surfaces to remove any chips, shavings, and/or cutting oil.

Installation of Bearing Cups

1. Note BB cup orientation marking on BB threads before greasing threads, as marking may be obscured when grease is applied to threads. Apply a generous coating of waterproof grease to the threads on the BB cups, as well as on the BB shell threads on the bicycle frame.
2. Follow crank arm manufacturer's instructions to determine proper BB cup spacer orientation. Proper spacer configuration is essential for correct bearing preload, chain line and crank arm positioning.

   If using a 68mm BB shell with 0 or 1 2.5mm BB cup spacers, move center sleeve inner O-ring to inner groove on center sleeve. See exploded BB diagram for details.

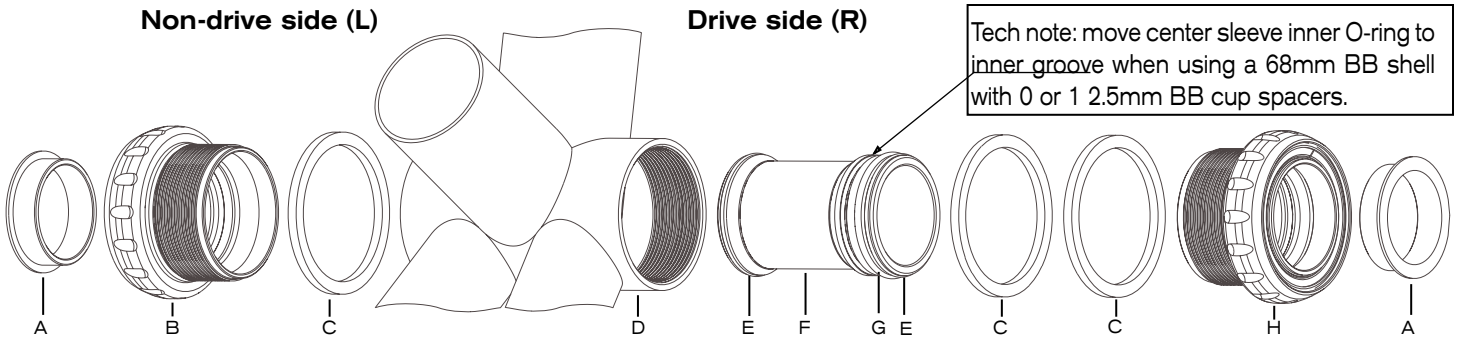
   Some crank set designs may require additional spindle spacers to be installed onto the crank arm spindle to achieve proper BB bearing preload. Three spindle spacers are included and are only required when dealing with undersized BB shells, oversized crank arm spindle lengths, and other BB spacing inconsistencies. Additional spacer kits are available through any authorized Chris King dealer, or directly from Chris King.
3. Make sure that the double O-ring side of the center sleeve is pressed into either BB cup, seating the inner O-ring on the inner edge of the BB cup.
4. With proper BB spacers installed on BB cups, thread BB cups into frame using a compatible BB cup spline tool (see below) and torque to 40Nm (30ft/lbs).

   BB cups are compatible with the following external BB cup spline tools: Chris King External BB Tool, Park™ BBT-9/BBT-19 and Shimano™ TL-FC32/TL-FC33. The Chris King External BB Tool features an optimized spline interface that minimizes the chance of marring BB cup anodization and is compatible with 3/8" socket wrenches and torque wrenches.
5. Clean crank spindle and apply a thin layer of grease to spindle surface.

   Spindle should be insertable into BB using hand pressure. Use of a mallet or other excessive force may cause bearing to separate. If fitting issues are encountered, contact Chris King Customer Service for assistance at info@chrisking.com or call 800-523-6008.
6. Before passing spindle through second BB bearing, be sure spindle is properly aligned with BB bearing spindle sleeve. Follow crank arm manufacturer's installation instructions to properly install crank assembly and achieve optimal BB bearing preload.
7. Readjustment of bearing preload may be necessary as bearing breaks in. Check for play in BB/crank set assembly periodically and adjust as needed.

Maintenance

Chris King bearings are designed to provide the maximum life of any BB with a minimum of maintenance. Besides an occasional bearing preload adjustment, the only service necessary is an occasional cleaning and regreasing of the bearings. Riding conditions will dictate how often to service your BB. In wet conditions, service may be necessary as often as every 3 months; in dry conditions, up to every 6 months.



A. BB bearing spindle sleeve
B. non-drive side BB cup assy
C. BB cup spacer, 2.5mm
D. bicycle frame bottom bracket shell
E. center sleeve outer O-ring
F. center sleeve
G. center sleeve inner O-ring
H. drive side BB cup assy

Service of Bearings

The BB bearings can be serviced by two different methods. When rotating the inner bearing race, if resistance or drag is detected but the bearing is feels smooth, a relubrication is due. Proceed to **BB Bearing Relubrication with Chris King Grease Injection Tool** section, below. If a Chris King Grease Injection Tool is not available, proceed to **BB Bearing Cleaning and Relubrication** section. If the bearing feels gritty, contaminated, or if significant resistance is detected, then it is necessary to fully clean and relubricate the bearing. Proceed to **BB Bearing Cleaning and Relubrication** section. All BB bearing service can be performed with the BB mounted to the bicycle frame.

BB Bearing Relubrication with Chris King Grease Injection Tool

The BB bearing can be easily flushed with new grease using the Chris King Grease Injection Tool. This service should be performed periodically.

1. Remove crank set assembly and spindle from BB according to crank set manufacturer's instruction.
2. Pull out BB bearing spindle sleeve from bearing inner race using a Chris King Bearing Spindle Sleeve Removal Tool. Simply insert the Removal Tool into the BB bearing. Pull the tool back out, and the BB bearing spindle sleeve will be attached to the tool. If Removal Tool is not available, first try removing BB bearing spindle sleeve by hand. If this does not work, carefully insert the tip of a small screwdriver or penknife under outer flange of BB bearing spindle sleeve and gently pry it out of the bearing using alternating prying locations.
3. Insert Grease Injection Tool into bearing
4. Attach grease gun tip to grease fitting on Grease Injection Tool
5. While continuously pressing Grease Injection Tool into bearing to form seal, inject fitting with waterproof synthetic grease until all contaminated grease is purged from bearing
6. Wipe purged grease from bearing surface
7. Reinstall bearing spindle sleeve by pressing the sleeve back into bearing's inner race by hand

Bearing Cleaning and Relubrication

1. Remove crank set assembly and spindle from BB according to crank set manufacturer's instruction.
2. Pull out BB bearing spindle sleeve from bearing inner race using a Chris King Bearing Spindle Sleeve Removal Tool. Simply insert the Removal Tool into the BB bearing. Pull the tool back out, and the BB bearing spindle sleeve will be attached to the tool. If Removal Tool is not available, first try removing BB bearing spindle sleeve by hand. If this does not work, carefully insert the tip of a small screwdriver or penknife under outer flange of BB bearing spindle sleeve and gently pry it out of the bearing using alternating prying locations.
3. Carefully, using a small screwdriver, pick, or penknife, remove the snap ring by inserting tool into split of snap ring. Gently work one end of the snap ring toward bearing center until it is out of its groove. Follow the ring around with the tool until the snap ring is completely dislodged.
4. Lift and remove exposed rubber seal to access the interior of the bearing.
5. Thoroughly flush the bearing with a light spray lubricant (e.g., WD-40™) and blow dry with compressed air.

Some solvents, synthetic lubricants, and greases with high-pressure additives may attack and damage seals and other nonmetallic materials. Minimize exposure to these substances and thoroughly dry bearing assembly after cleaning.

If a Chris King Grease Injection Tool is available, proceed to **BB Bearing Relubrication with Chris King Grease Injection Tool** section and follow steps 3 through 6, then proceed to step 7, below. If an injection tool is not available, proceed to step 6, below.

5. Lay a bead of waterproof synthetic grease around the top of the bearing. Rotate the inner race to work grease throughout the ball area.
6. Wipe dirt and other contaminants from the seals and snap rings. Used snap rings and seals can be reinstalled unless warped, punctured, or otherwise damaged.

Replacement seals, snap rings and other small parts are available through any authorized Chris King dealer or directly from Chris King.

8. Replace rubber seal between inner and outer bearing race.
9. Insert one edge of snap ring into groove of outer bearing race. Press along entire groove until snap ring is fully seated; a small gap should be visible between both ends of the snap ring.
10. Turn inner race of bearing by hand to test for binding. If bearings do not run smooth, repeat steps 3-9. Binding is often a result of improperly seated seals and/or snap rings.
11. Reinstall bearing spindle sleeve by pressing the sleeve back into the bearing's inner race by hand.
12. Reinstall crank set according to crank set manufacturer's instructions.

Questions? Please e-mail us at info@chrisking.com or call the Customer Service hotline at 800-523-6008.

Warranty

Chris King Precision Components warrants its bicycle bottom brackets to be free from defects in materials or workmanship for a period of 5 years from the original date of purchase. Any Chris King product that is found by Chris King Precision Components to be defective in materials or workmanship will be repaired or replaced at the sole discretion of Chris King Precision Components providing it is returned to the factory freight prepaid. This warranty does not cover damage or failure resulting from misuse, abuse, alteration, neglect, normal and reasonable wear and tear, crash or impact, failure to perform routine maintenance as instructed, or use other than that for which the product was intended. If a defect is found, our entire liability and your sole remedy shall be, at our option, free repair or replacement of the Chris King product. Chris King Precision Components shall not be held liable for any indirect, special, or consequential damages. The warranty does not cover any Chris King Precision Components product where the serial number has been altered or removed. This written express warranty is in lieu of all other warranties, implied or expressed, and does not cover any representation or warranty made by dealers beyond the provisions of this warranty. This warranty gives you specific legal rights, and you may also have other rights which vary state to state.

Thank you for your purchase!

Made in the USA

All Chris King Precision Components products are manufactured in the USA using industry leading environmental and quality control standards.

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