

White Industries Crank Installation Instructions

Follow these instructions to install both ENO and VBC crank arms and chain rings. When the ENO crank is installed on a 113x68mm bottom bracket, the Q factor is 160mm. When the VBC crank arms are installed on a 113x68mm bottom bracket it will yield a Q factor of 150mm.

Tools required: 3/8" drive Torque wrench, 8mm hex bit for 3/8" drive torque wrench, oil or grease, ENO/VBC crank lock ring tool or a hook spanner (Park tool HCW-5), Park Tool pin spanner (red handle).

Installation

1. Install your White Industries bottom bracket according to the instructions that can be found here: <http://www.whiteind.com/images/Instructionsbottombracket.pdf>. If you have a JIS square taper bottom bracket from another manufacturer, please follow their installation instructions
2. If the chain ring or rings are already installed on your crank arms, you can skip to step 4. Otherwise, remove the lock ring from your right crank arm (Fig.1). Take your chain ring and place it on the crank's spline with the logo facing away from your bike frame (Fig.2). You should be able to read both the logo on the crank arm and the logo on the chain ring from the same side if installed properly (Fig.3).



Fig.1 Remove crank lock ring.



Fig.2 Place chain ring on spline.



Fig.3 Both logos visible on drive side.

3. Next, take a look at the lock ring. On one side, the threading goes all the way to the edge of the lock ring's outer face. On the other side, the threads end about 2mm from the edge of the outside face (Fig.4). The side with the 2mm unthreaded area needs to rest against the chain ring when installed, in order to properly secure the chain ring.

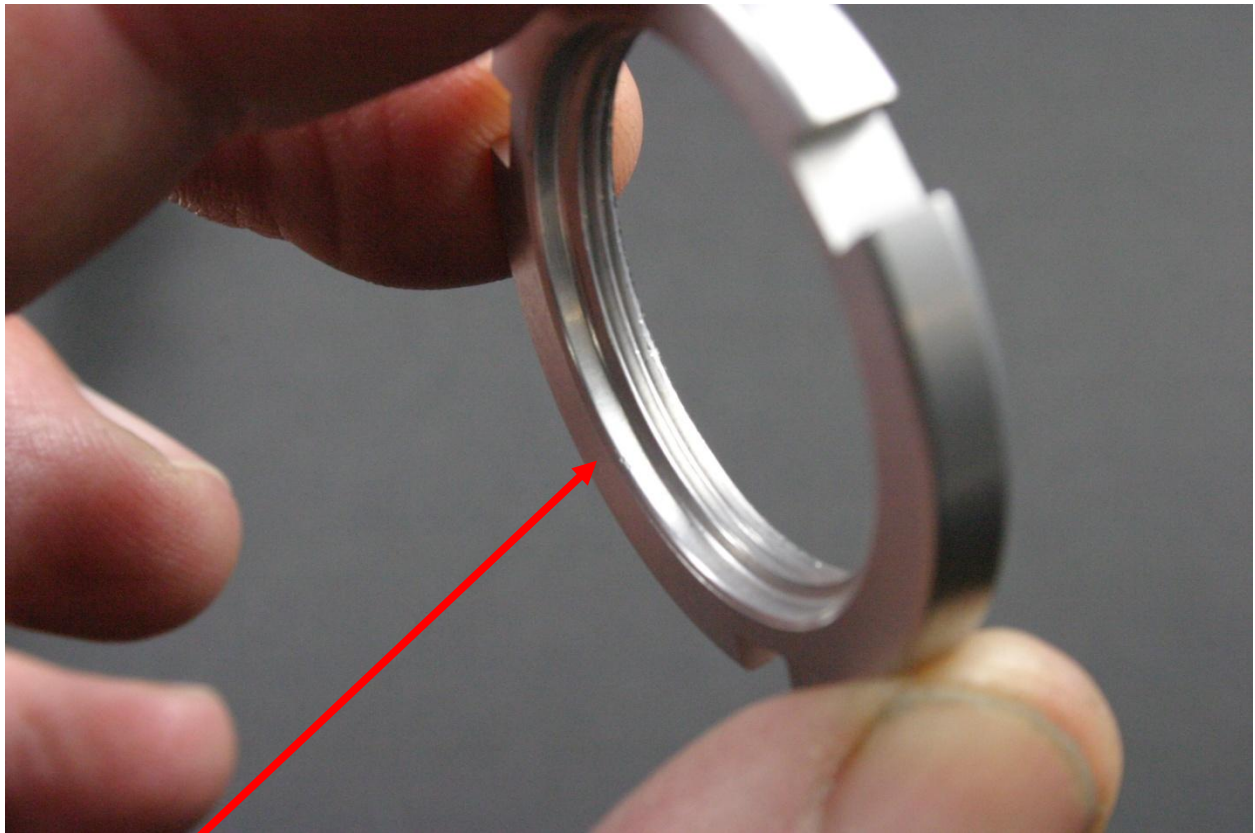


Fig.4 This face of the lock ring must rest against the chain ring when installed.

Lightly grease the threads on the crank arm and install the lock ring by hand. It is a right hand thread, so tighten the lock ring by turning it clockwise (Fig.5). Set your torque wrench to 30ft./lbs. and use the ENO/VBC crank lock ring tool to do the final tightening (Fig.7).



Fig.5 Turn lock ring clockwise to tighten.



Fig.6 ENO/VBC crank lock ring tool.



Fig.7 Tighten clockwise, 30 ft./lbs.



Fig.8 Use of hook spanner to tighten ring.

In lieu of a torque wrench, you can use a 3/8" ratchet with the crank lock ring tool. As a last resort, you can carefully use a hook spanner wrench to tighten the lock ring (Fig.8). Just remember, if you use the 3/8" ratchet or the hook spanner, you cannot accurately measure the torque applied to the lock ring. You also run a higher risk of rounding off the lock ring notches when you use the hook spanner.

4. Lightly oil or spread a thin film of grease onto the tapers of your bottom bracket spindle. Take the drive side crank arm and chain ring assembly and slide it onto the drive side of the bottom bracket spindle (Fig.9). Apply some grease to the internal threads of the crank arm just beyond the end of the bottom bracket spindle (Fig.10).



Fig.9 Crank arm placed on spindle.

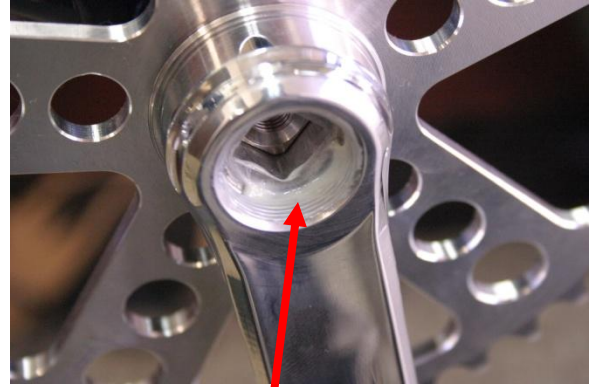


Fig.10 Threads greased in crank arm.

Grease the threads of crank arm bolt, since October 2010 we have included crank arm bolts with our cranks arms, and thread into the bottom bracket spindle (Fig.11). Using a torque wrench and an 8mm hex bit, tighten the crank arm bolt to 30 ft./lbs. (Fig.12).

IMPORTANT NOTE: Do not over-tighten the crank arm bolts. The tapered style bottom bracket will allow you to squeeze the tapered bottom bracket spindle farther and farther into the crank arm until the spindle bottoms out, thus deforming the crank arm taper. Once the spindle bottoms out, the crank arm is rendered useless.



Fig.11 Grease bolt threads before inserting.



Fig.12 Tighten clockwise to 30 ft./lbs.

5. Walk over to the non-drive side of your bike and install the non-drive side crank arm in the same manner as described in Step 4. The non-drive side crank arm should be positioned 180° from the position of the drive side crank arm (Fig.13). Tighten the crank arm bolt to 30 ft./lbs. (Fig.14).



Fig.13 Left side 180° from right side arm.



Fig.14. Tighten clockwise to 30 ft./lbs.

6. Now take the two bronze self-extracting rings and thread them into each of the crank arms. You can start these by hand and finish tightening them with a pin spanner wrench. These are right hand threads, so the rings will tighten clockwise (Fig.15). Don't over tighten them, snug is fine.



Fig.15 Tighten bronze rings clockwise.



Fig.16 Bronze self-extracting ring installed.

7. Time for your pedals to go on. Install them according to the manufacturer's recommendations. The drive side crank has a right hand thread for the pedal and the non-drive side has a left hand thread. Take your bike on a short ride in your neighborhood. Tighten the crank bolts again to 30 ft./lbs. when you get back. Now the cranks are properly installed. Enjoy!

Removal

1. If your cranks have the bronze ring self-extracting bolts, removal is simple. Take an 8mm hex wrench and loosen the cranks bolts counter-clockwise. As the crank bolts are turned counter-clockwise, they will push against the bronze ring and pull the crank arm free of the bottom bracket spindle.
2. If your cranks do not have self-extracting bolts, you'll need a crank arm puller. First, you'll use an 8mm hex wrench to remove the crank arm bolt by turning it counter-clockwise. Once the crank arm bolt has been removed, make sure to check for and remove any washers that

were between the crank arm bolt and the crank arm. They are not always used, but you must make certain that there is no washer in the crank arm when you use the crank arm puller.

WARRANTY: This warranty applies to all products sold by an authorized White Industries Dealer to the original owner. It covers any and all material and workmanship defects for one year from the date of purchase. Bearings are the exception and are warranted for 60 days from the date of purchase. With proper maintenance bearings should last much longer. White Industries limited warranty does not cover 1) normal wear and tear 2) damage, failure or loss caused by misuse, accident, improper assembly or installation 3) parts subjected to use not consistent with the use originally intended for the product.