

directset instructions

warranty

Crank Brothers Directsets are warranted against defects in workmanship for 5 years from the date of purchase. This warranty is limited to the repair or replacement of this product. Crank Brothers at its option will either repair or replace any defective parts. This warranty does not cover damage caused by rider errors. However, we are reasonable people and we believe in our product, so if you can give us a reasonable explanation, we might fix or replace even your rider error damaged Directsets. Your receipt is required for warranty claims. Contact Crank Brothers directly for warranties. See contact information at the bottom of this page.

Directset explanation

Traditional headset sets have aluminum cups that press fit into the head tube and then cartridge bearings that fit into the aluminum cups. A Directset eliminates the aluminum cups and instead has bearings that press directly into the head tube, eliminating unnecessary weight, reducing stack height, and minimizing the number of parts.

A. Headset and frame compatibility

Directsets can be used with frames and forks intended to be used with 1 1/8" Aheadsets (threadless headset). Directsets are incompatible with frames designed for traditional threaded headsets. Frame head tubes must be made with a specific bore diameter.

B. Preparing frame and fork for headset installation:

1. Use a head tube reaming and facing tool to prepare the top and bottom of the frame's head tube. Note that oftentimes even very expensive frames have head tubes that have not been properly reamed and faced. Be sure to use the correct reamer diameter corresponding to the Directset being installed. For a 1 1/8" inch Directset, the head tube bore size should be a diameter of 33.90mm to 33.95mm, and for 1.5" inch Directset, the head tube bore size should be 49.57 to 49.61
2. Use a crown race cutting tool to turn and face the crown race seat of the fork. Be sure to use the correct cutter diameter corresponding to the Directset being installed.

Note: it is imperative to complete these steps to ensure a smooth operating Directset. If these steps are not completed or done improperly, the Directset may be rough in turning or may tend to "stick" to one side or the other. This applies to ALL frames and forks, new or used, painted or unpainted.

C. Determining required fork steerer tube length:

There are 2 possible methods for determining the required fork steerer tube length (listed below).

i. calculation method:

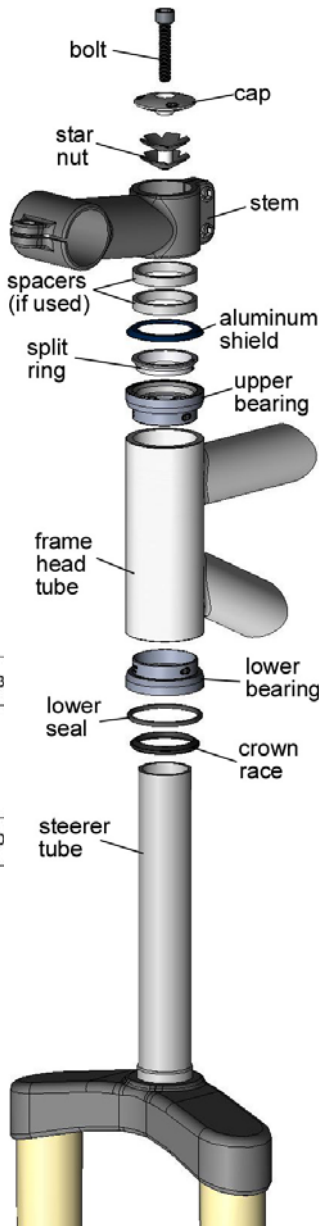
1. Determine the Directset stack height by adding the following measurements (illustration below):
 - a. 10.3mm (Bottom of the large diameter portion of the upper bearing and shield.)
 - b. 10.0mm (Crown race bottom to the top of the lower bearing.)



2. Measure the head tube length.
3. Measure the total height of any stem spacers used.
4. Measure the height of the clamp portion of the handlebar stem.
5. Add the above dimensions and subtract 3mm for adjustment clearance.

ii. assembly method (preferred):

1. Install the bearings as instructed in E below.
2. Install the crown race as instructed in F below.
3. Assemble the Directset as instructed H below.
4. Tighten 1 stem clamp bolt enough to hold the assembly in place.
5. Mark the steerer tube at the top of the stem.
6. Disassemble the stem, spacers, and shield.
7. The required fork steerer tube length will be 3mm below the marking from step 5.

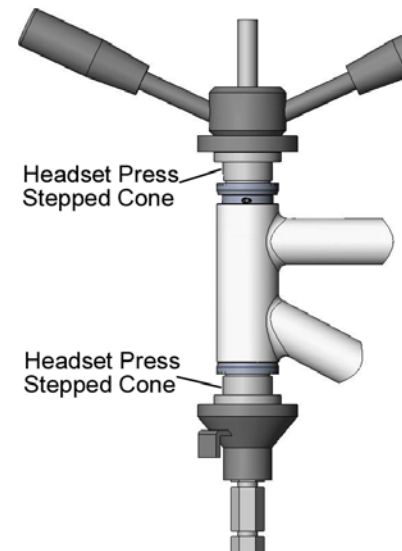


D. Cutting fork steerer tube:

1. Carefully cut the fork steerer tube in the correct location, as determined from step B, using a tubing cutter, hacksaw or other appropriate cutting tool. **Important:** see note below in step F about crown race thickness before cutting the steerer tube.
2. Use a file to remove any burrs from the area of the cut.

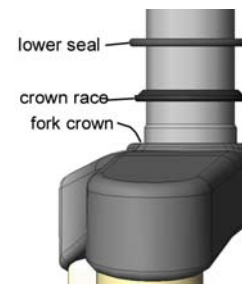
E. installing upper and lower bearings:

1. For most Directset models, the upper and lower bearings are identical. For Iodine Directsets, use the bearing marked "34" for the lower bearing, and the bearing marked "28" for the upper bearing. For Ti Directsets, the bearing that weighs less is the upper bearing.
2. Reminder: ream the head tube before installing the bearings. **Lower bearing:** Press the lower bearing in using a good quality headset press. **It is important that the bearing be installed straight, or the bearing could break during installation.** If the bearing is not going in straight, remove it and start again. We recommend installing the bearings using the stepped cones of the headset press, even though this applies pressure to the inner race and ball bearings during installation, because this makes it easiest to install the bearings straight and does not damage the bearing. **Remove the stepped cone before any final hard pushes (for making sure the bearing is fully seated).** Regardless of installation method, pay close attention that the bearing is installing straight, rather than at an angle.
3. **Important!** Remove the aluminum shield and the aluminum split ring from the upper bearing before installing upper bearing into head tube.
4. **Upper bearing:** See 3 above. Press the upper bearing in similarly to the lower bearing, being careful to press the bearing in straight.



F. installing crown race:

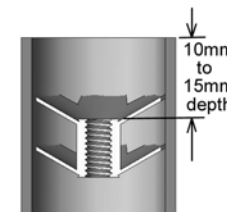
1. Press the fork crown race onto the fork with an appropriate crown race installation tool until the flat back face is flush against the fork crown. Note: the crown race should fit with a press fit. **Important:** In some frame/fork combinations, the fork shock adjustment knobs could hit the bottom of the bike frame during extreme turning. **If this happens, and if desired, a thicker crown race is available from crankbrothers.**



G. installing star nut into fork steerer tube:

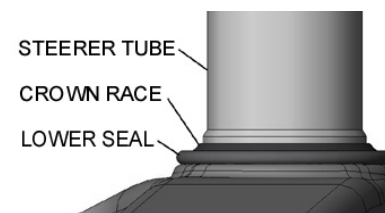
1. Position the star nut with the concave end facing upward over the top of the steerer tube.
2. Press the star nut into the steerer tube to a point 10 to 15mm below the top. This should preferably be done using a star nut installation tool. If this tool is unavailable, thread the compression bolt into the star nut and light tap the assembly into position with a deadweight mallet or similar tool. Ensure that the threads of the star nut are aligned with the steerer tube.

Note: when replacing a fork, it is necessary to use a new star nut.



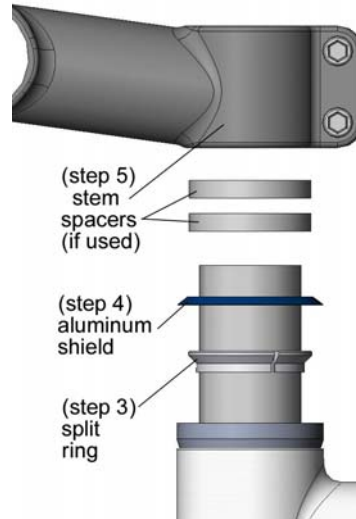
H. Assembling Directset.

1. Place the lower seal over the fork steerer tube and onto the crown race, ensuring that it is seated properly on the crown race.
2. Insert the fork steerer tube into the head tube, holding it while completing the steps below.



(H. Assembling continued)

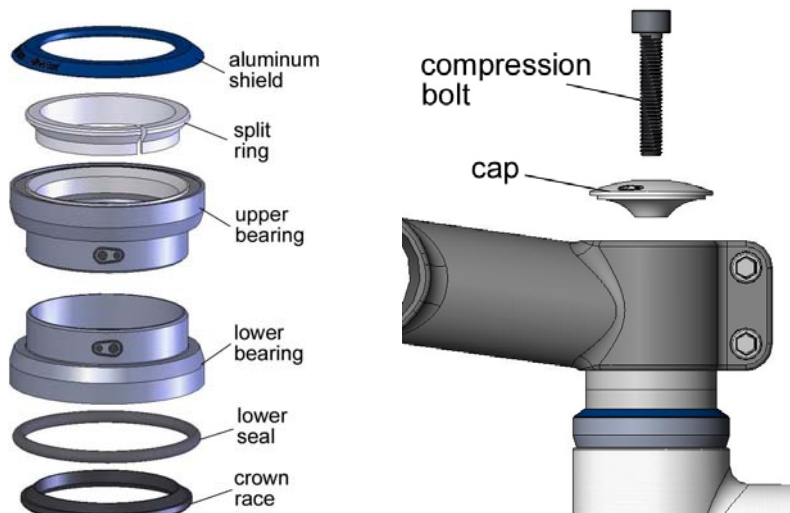
- Slide the split ring over the steerer tube and into the upper bearing.
- Slide the aluminum shield over the steerer tube until it touches the split ring.
- Install the stem height adjustment spacers (if used) and then the stem onto the steerer tube. Using spacers is a personal choice.
- Seat the steerer tube firmly upward in the head tube and the stem firmly downward against the spacer (or aluminum shield if spacers are not used), leaving the stem clamp bolts loose.



Caution: the top of the steerer tube must be 3mm below the top of the stem before the compression bolt is tightened. If the steerer tube is too long, sufficient compression may not be possible and the Directset will remain loose, risking rapid headset wear and possible damage to the frame. If the steerer tube is too short, the stem may not have sufficient clamping surface against the steerer tube to be used safely.

I. Tightening/preloading Directset assembly.

- Lubricate the compression bolt.
- Insert the compression bolt through the recess in the top cap and begin threading the bolt into the star nut, while seating the top cap into the top of the stem.
- Tighten the compression bolt with a 5mm hex wrench to preload the bearings. Apply only enough torque to remove all play from the Directset while ensuring it still rotates freely. **CAUTION:** insufficient preload will result in a loose headset. Excessive preload will result in the headset binding. Either condition will cause rapid Directset wear and could adversely affect the steering characteristics of the bicycle.
- With the stem aligned with the fork, secure the stem to the steerer tube and lock in the bearing preload by tightening the stem clamp bolt/s. These should be tightened to the torque recommended by the stem manufacturer. **WARNING:** make sure the stem clamp bolts are sufficiently tight to prevent the stem and handlebars from turning relative to the steerer tube. A loose stem can result in damage to the bike, loss of control, and severe injury or death to the rider.
- If the Directset needs readjusting after the initial break-in period: loosen the stem clamp bolt/s, reset the preload with the compression bolt (step 3 above) and retighten the stem clamp bolts (step 4 above).



caution: please read this before you install Directset or ride

- The instructions should be read thoroughly before installation. Failure to follow these instructions and warning statements before installing and using this headset may result in severe injury. Improper installation and/or use of this product can result in severe injury. Riding bicycles is inherently dangerous.
- Directset threadless headsets are designed to use with unthreaded, full-thickness bicycle fork steerer tubes. Use of this headset with a threaded steerer tube or a steerer tube with a reduced wall thickness can result in cracking or breaking of the steerer tube, causing damage to the bicycle and possible injury or death to the rider.
- Never ride with a direct headset that is improperly installed, modified, or excessively worn. Remember to check the headset periodically for wear or damage. When parts exhibit damage or are visibly worn, replace or repair them immediately. A loose, over-tightened, damaged, or worn part may cause a malfunction unexpectedly and cause a fall that could result in severe injury.
- If you have any doubts about your ability to correctly install this Directset headset, or if you are unsure about the extent of wear to this Directset, please return it to your dealer for proper installation or inspection, or contact Crank Brothers. If you have any questions or concerns about issues such as the intended use of the Directset, or the maintenance of this product, contact Crank Brothers.
- Keep all Directset parts relatively clean of debris. To prevent serious injury while riding, be sure your entire bicycle is adequately maintained and that all components are correctly installed and adjusted.
- Crank Brothers Directsets have a low stack height and could slightly affect the geometry of your bike. A thicker crown race is available from crankbrothers, if needed.
- For more information regarding the mounting of the Directset, its use, or maintenance, please go to your authorized dealer or contact Crank Brothers. Always use a helmet and follow the rules of the road when cycling. Always use proper headlights and taillights when riding at times of reduced visibility.

maintenance

Periodically, in order to check for Directset play, stand over the bicycle and activate the front brake while pushing the handlebars forwards and backwards. Feel for play in the system. Try to confirm that any play in the system is actually related to the Directset. If there is Directset play, then readjust the preload following instructions for "tightening/preloading Directset assembly", being careful to not over-tighten the preload. If play cannot be adjusted out, then the Directset may need a more extensive rebuild or replacement. To flush out the bearings, it is possible



directset
instructions

to service your Directset while in the frame by using a spray solvent/lubricant such as WD-40. Pry out the seal with a sharp object, spray out the bearings with WD-40, blow out the bearings with dry air, re-pack the bearings with waterproof grease, and push the seal back into place. Or, remove the Directset bearings with proper removal tools, remove the seal, and use a solvent tank and small brush to clean out the bearings. Then blow out the bearings with dry air, then re-pack the bearings with a waterproof grease, push the seal back into place, and re-install the Directset bearings into your frame. Consult the crankbrothers website or contact Crankbrothers with any questions.

Directset designed by Crank Brothers, patent pending. The Aheadset functions are under license from Cane Creek Cycling Components, US patent no. 5,095,770.



Questions or comments?

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