

# 17mm Rear Hub Overhaul Page 1

RD205 Rear Road 17mm Axle Hub Bearing Change, Cassette Body Swap, Overhaul Instructions, and Campagnolo 11 or Shimano 10/11 Upgrade.

- There are two versions of the American Classic rear road hub. Each version requires different size bearings. If you are unsure, visit [amclassic.com/manuals.php](http://amclassic.com/manuals.php) page for a document titled: Rear Cassette Hub - Which Hub Do I Have?
- **Tools Needed:** Two 19mm cone wrenches, needle nose pliers, hammer and small punch (at least 1/4" thick). You will also need degreaser such as Finish Line Citrus BioSolvent and a synthetic waterproof grease such as Pedro's SynGrease.
- If you are switching your cassette body from Shimano 9/10 to Campagnolo or Shimano 10/11 -OR- Campagnolo or Shimano 10/11 to Shimano 9/10 you will need to redish the wheel after overhauling the hub. Redishing provides optimal wheel strength. See Step 11 for proper Campagnolo 11 or Shimano 10/11 speed assembly.
- **While disassembling the hub, keep all loose parts organized on a clean rag or paper towel. Do NOT modify or bend the cassette body loop spring in any way. Proper re-assembly is important to rider safety.**



1. Using two 19mm cone wrenches, loosen the lock and adjusting nut.



2. Remove lock nut.



A. Some, not all, hubs have a 1.5mm axle spacer.



B. Remove adjuster nut with attached dust seal.



3. Separate cassette body and axle from the hub shell by grabbing the body and pulling out from the drive side.

### Very Important!

Locate the 0.5mm axle spacer, which is either stuck to the drive side hub shell bearing or the inner bearing on the cassette body.

This spacer is critical to maintaining the correct engagement, do not lose.

**Note:** Some hubs have an additional 0.5mm spacer between the cassette body and the outer axle cap.



4. Remove large black pawl seal.



5. Remove pawls.



6. Remove cam plate.

### Cleaning and Inspection:

While the hub is apart is a good time to degrease and clean. Be careful and **do not get degreaser in the bearings.**

### Bearing Replacement:

Make sure you have the correct bearings. 17mm axle New Style hubs use four - 6803 C3 bearings. Use American Classic bearings for proper functioning.

Continue to Page 2.

Proper re-assembly is important to rider safety.

**All repairs should be performed by a professional bicycle mechanic.**

[sales@amclassic.com](mailto:sales@amclassic.com) • [www.amclassic.com](http://www.amclassic.com)

# 17mm Rear Hub Overhaul

RD205 Rear Road 17mm Axle Hub Bearing Change, Cassette Body Swap, Overhaul Instructions, and Campagnolo 11 or Shimano 10/11 Upgrade.



7. Clean hub shell for inspection and new grease.

**Bearing Removal:**

You will need a hammer and small punch. Move internal hub shell sleeve to the side and place the punch through the hub shell resting it on the opposite bearing's inner race.

Tap lightly with a hammer to remove each bearing, working around the bearing keeping the bearing as straight as possible.

**Note:** If the hub was produced before 2006 you will not have an internal hub sleeve.



8. **Bearing Installation:** Position a new bearing onto the hub shell. Place old bearing on top of new bearing.

Tap lightly with a hammer, working around the bearing keeping the bearing as straight as possible.

Do not force the bearing. Make sure when tapping the bearing it is going into the bore straight and evenly.

Install hub sleeve (if needed) and second bearing and re-grease the hub shell before further installation.

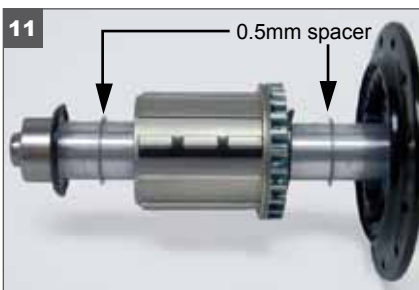
**Note:** Using bearings other than American Classic 6803-C3 will void the warranty and they may not function properly.



9. With a thin layer of clean grease coating the hub shell, install the cam plate. Refer to the picture for the correct orientation. Do not put the cam plate in upside down.



10. With a thin layer of clean grease coating the top of the cam plate, install all 6 pawls. Once completed the pawls should freely engage in unison with the cam plate.

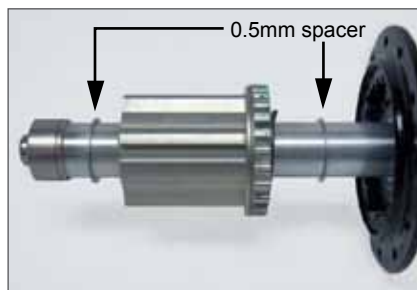


**Shimano/SRAM 9/10 and Shimano 10/11 Axle Assembly.**

With a thin layer of clean grease coating the pawls, join the axle, cassette body and spacers with the hub shell.

Order: Dust seal > 0.5mm spacer > Shimano cassette body > 0.5mm spacer > Hub shell.

Wheel will require redishing if coming from Campagnolo. Wheel will require redishing if switching from Shimano/SRAM 9/10 to Shimano 10/11.



**Campagnolo 9/10/11 Axle Assembly.**

With a thin layer of clean grease coating the pawls, join the axle, cassette body and spacers with the hub shell.

Order: 0.5mm spacer > Campagnolo cassette body > 0.5mm spacer > Hub shell.

Do Not use Dust Seal. Wheel will require redishing if coming from Shimano 9/10.



**Very Important:**

12. The large black Pawl Seal **MUST** be installed after the cassette body and axle have been joined with the hub shell.

With the axle pushed completely into the hub shell and pawls engaged with the cassette body, install the large black pawl seal.

Continue to Page 3.

Proper re-assembly is important to rider safety.

**All repairs should be performed by a professional bicycle mechanic.**

sales@amclassic.com • www.amclassic.com

# 17mm Rear Hub Overhaul Page 3

RD205 Rear Road 17mm Axle Hub Bearing Change, Cassette Body Swap, Overhaul Instructions, and Campagnolo 11 or Shimano 10/11 Upgrade.

**NOTE:** After completing Step 12, be sure the seal is securely in the groove on the cassette body and you can rotate the body freely without the seal moving. A bit of Tri-Flow® or similar lubricant will help with friction between the groove in the body and this seal.

### Final Hub Assembly:



13. Grease the threads and install the adjusting nut with dust seal until finger tight.



(A) Install the 1.5mm spacer.  
**NOTE:** If you are switching from Shimano to Campagnolo or Shimano 10/11, do not use spacer.



(B) Install the lock nut and finger tighten. Shimano 9/10 uses 5mm lock nut and 1.5mm spacer OR 6.5mm lock nut. Campagnolo and Shimano 10/11 use the 5mm lock nut, no spacer.



(C) Using two 19mm cone wrenches, remove all play on adjusting nut, then back off one half rotation, 180 degrees.

### Final Bearing Adjustment:

The final bearing adjustment is similar to adjusting a cup and cone hub. The purpose of adjustability is to extend the life of your bearings while reducing friction and rolling resistance to boost performance. The desired adjustment for American Classic hubs is described as "slightly more than no play" as to not overload the bearings. Some play will be removed with the clamping action of your quick release. This adjustment is the same for road and mountain wheelsets.



14. Holding the wheel by the hub flanges, use your palms to check if the axle moves side-to-side. If the axle moves side-to-side, tighten the lock and adjusting nuts slightly until it does not move side-to-side. When finished, the axle and cassette body should spin freely.

### Very Important!

Make sure the Lock and Adjusting Nuts are securely tightened against each other once the hub has been adjusted correctly.