

Bearing Overhaul Instructions for: Nickel (0.1) and Butcher (0.1) 2010

Tools Needed:

- 6902/7902/7900 Press Tool
- 6902 Removal Tool
- 7902 Bearing Removal Tool
- 7900 Removal Tool
- (2) 11/16" or adjustable wrenches
- pliers
- Loctite 242 or 243
- mallet
- seal pick
- metric Allen wrench set
- torque wrench
- and some grease
- A vice is helpful, but not required.

Step 1: Remove Shock

1. a) Using a 6mm Allen wrench, remove the two bolts attaching the shock.



2. b) Use caution not to lose the small shim washers on each bolt.

Step 2: Remove Links

1. a) Using a 5mm Allen wrench, remove the bolt from the lower pivot of the upper link.



2. b) Use the same Allen wrench to remove the tapered washer from the pivot axle. Wedge the Allen wrench into the bolt hole and side load it to pop the tapered washer out.
3. c) Using an 8mm Allen wrench, loosen and remove the pivot axle. Squeeze the APP links together as you loosen the axle.



4. d) Use a 6mm allen wrench to remove the APP link fixing bolts from the swingarm.



Step 3: Remove Upper Link

1. a) Using a 4mm Allen wrench, remove the bolt from the upper pivot of the upper link.



2. b) Use the same Allen wrench to remove the tapered washer from the pivot axle. Wedge the Allen wrench into the bolt hole and side load it to pop the tapered washer out.
3. c) Using a 5mm Allen wrench, loosen and remove the pivot axle. The link will come off- take care not to lose any of the pivot caps.



Step 4: Remove Main Pivot Axle and Swingarm

1. a) Using a 5mm Allen wrench, remove the bolt from the lower pivot of the upper link.
2. b) Use the same Allen wrench to remove the tapered washer from the pivot axle. Wedge the Allen wrench into the bolt hole and side load it to pop the tapered washer out.



3. c) Using an 8mm Allen wrench, loosen and remove the pivot axle. The swingarm will come off at this point– although it is not necessary to completely remove it. If convenient, feel free to leave it on the bike– just keep it clear of the main pivot.



4. d) Remove Pivot caps for safe keeping.



Step 5: Remove Main Pivot Bearings

1. a) Assemble "7902 Bearing Removal Tool" as shown on the main pivot bearings.



2. b) Once the tool is properly seated on the bearing, tap it out with a hammer.



3. c) Repeat for opposite side.
4. d) Clean bearing bores of dirt/grease etc.

Step 6: Change Upper Link Bearings

1. a) If you have a vise available, clamp the upper pivot of the upper link in as shown. Keep the bearing caps on this pivot so the vice does not damage the link. If you don't have a vise, hang the link off a table or work bench. Pad the link with a rag, and hold onto it firmly while tapping the bearings out.
2. b) Remove the two larger bearings using the same technique as the main pivot (step 5)



3. c) Get the bearing press tool out, and assemble as shown with one of the new 7902 bearings. **Make sure the black seal of the bearing faces out!!!!!!**



4. d) Tighten the tool with your 11/16" or adjustable wrenches until the bearing bottoms out.



5. e) Assemble another bearing onto the other side of the link- again, making sure the black seal faces out. Tighten this one and bottom it in the bore.
6. f) Place the bearing caps back on the link, and flip the link so the pivot you just finished working on is clamped in the vice.
7. g) Repeat the bearing removal process on the smaller bearings, using the 7900 bearing removal tool.



8. h) Press new 7900 bearings in (black seals out!) using the press tool as shown. For the first bearing– use one press adaptor on the side of the link opposite the bearing you are pressing first. This will keep the nut from sinking too deep into the link.



9. i) Press the first bearing in, with the nut sitting directly on the bearing.



10. j) Once the first bearing is seated– remove the press adaptor from the opposite side, and press the second bearing in as you did the first.

Step 7: Install new Main Pivot Bearings

1. a) Repeat Steps 6b through 6e to press in new main pivot bearings



Step 8: Remove APP link bearings

1. a) Assemble the 6902 Removal Tool as shown. Tighten using an 8mm allen wrench and 11/16" or adjustable wrench until the bearing pops out.



2. b) Repeat for the other APP link.



Step 9: Install new APP link bearings

1. a) Assemble the 6902 bearing and installation tool as shown- with the press adaptor on the backside of the link is backwards (with the flat side facing the link).



2. b) Tighten the nuts together until the bearing bottoms in the link.



3. c) Repeat for other APP link

Step 10: Install Swingarm

1. a) Put a dab of grease on each of the bearing caps for the main pivot, and place them onto the bearings (with the lip facing in).



2. b) Clean the pivot axle off, and then apply loctite 242 to the threads. Coat all of the non-threaded surfaces with grease.
3. c) Hold the swingarm in place, and use an 8mm allen wrench to thread the axle through the link and into the frame. The axle should be only snug- not tight. Think of it like adjusting a headset- you want it as loose as possible while still removing any lateral play. It will vary slightly, but tightening it to 35-40 in/lbs is a pretty safe bet. This is not very tight



4. d) Apply grease to the external surface of one of the tapered washers, and install one of the M6 bolts through it. Apply Loctite 242 to the threads, and tighten to 110 in/lbs.



Step 11: Install APP Links

1. a) Install bearing caps on the APP links– on the same side as the laser etching.



2. b) Apply loctite 242 to the bolt threads, and insert the bolt into the link through the backside.
3. c) Using a 6mm allen wrench, tighten the links onto the frame until you reach 190 in/lbs.

Step 12: Install Upper Link

1. a) Clean pivot axles, bolts, and tapered washers of grease and loctite. Apply loctite to the threads, and coat all external non-threaded surfaces of the axle with grease.
2. b) Use a 5mm allen wrench to thread the smaller axle through the link and into the frame. The axle should be only snug– not tight. Think of it like adjusting a headset– you want it as loose as possible while still removing any lateral play. It will vary slightly, but tightening it to 35–40 in/lbs is a pretty safe bet. This is not very tight



3. c) Apply grease to the external surface of the small tapered washer, and install the M5 bolt through it. Apply loctite 242 to the threads, and tighten to 100 in/lbs.
4. d) Repeat steps a–c for the lower pivot, and torque the M6 bolt to 110 in/lbs.
5. e) Apply Loctite 242 to both shock bolts and install the shock onto the upper link and frame.
6. f) Torque to 140 in/lbs.

Derailleur Hanger Change

1. Use a 4mm allen wrench to remove both bolts. Apply loctite 242 to bolts and install new dropout. Hold hanger straight while you torque the bolts to 80 in/lbs.

One of the bearings exploded when I tried to remove it– what do I do now?

1. Unfortunately angular contact bearings are not very strong when you side load them in the opposite direction they were designed to be loaded in. So, sometimes when removing them, they will come apart. On the lower link there is a small channel where a punch can be placed on the backside of the bearing. Just clamp the link in a vise and give the punch a good smack with a mallet. They will come out easily.

The upper link is a little more difficult, but the removal tools will work. Remove all of the seals and balls from the broken bearing, and clean out the grease so you can see what is going on. Use the removal tool as usual, but reverse the orientation of the removal jaws. The larger jaws will grab the bearing race. Make sure the large flat face in the center of the removal jaws is flush on the bearing race. Once you have the removal driver installed, and all seems flush and flat, give the driver a couple of taps with a hammer. The race will come right out.