



261 Rope Mill Parkway, #3  
Woodstock, Georgia 30188

Telephone: (770) 592-3823

Fax: (770) 517-9332

## GL1800 AK-20 AXION CARTDRIDGE KIT FORK SERVICE

**READ THESE INSTRUCTIONS ENTIRELY BEFORE YOU GO ATTEMPT TO SERVICE YOUR AK-20 EQUIPPED GL1800!!!**

These instructions assume you are willing to purchase proper tools, and do a professional quality job. These instructions will only show you how to correctly do this job, without “shortcuts”, and without home-rigged devices and improper tools.

**YOU WILL NEED A HONDA GL1800 SERVICE MANUAL TO PROCEED!!!**

**WARNING:** Any Honda GL1800 with 20,000 miles or more since the forks were rebuilt should have the forks completely disassembled, cleaned and inspected following the instructions in the Honda Service Manual. We find over 80% of Honda GL1800s will have worn lower bushings, which are a contributing factor to the “Gold Wing Wobble”.

**WARNING:** Always work in a well-lit area, use the proper tools, and wear safety glasses. In general, springs can be dangerous, and you should work with great caution and care.

**NOTE:** Before you remove the forks from the bike, loosen the upper triple clamp bolts, and then loosen the fork caps. Do not remove the caps, just loosen them. If one is stuck, place a socket on top of the fork, and whack it several times with a ball peen hammer. This should loosen the threads. Then remove the forks from the bike, per the Honda Service Manual.

It is helpful to have a 5” bench vise mounted near the edge of a workbench, but not absolutely necessary. If you have a vise clamp the fork in a bench vise, using a pair of aluminum jaws (**See Figure 1A**). Many hardware stores have aluminum vise jaws with a variety of clamping grooves that make this job easier (available from Traxxion Dynamics for \$15). Do not grab the fork near the top ( you will pinch the cap and make it difficult to remove), nor in the area where the seal slides (**See Figure 1B**).



Figure 1A

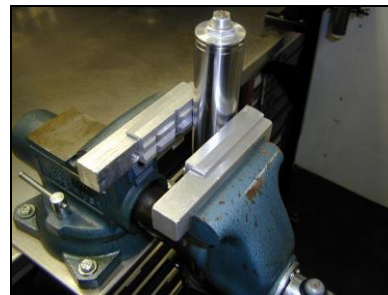


Figure 1B

Unscrew the fork cap.

Using a Traxxion Dynamics Fork Spring Compressor Kit (\$39.95. See **Figure 2A**), push down the preload spacer.

Have a helper slide in the Fork Spring Hold Down Tool between the jam nut and the Top Washer (See **Figure 2B**).

Loosen the jam nut under the cap, and spin the cap off.

Pull the Metering Rod out of the center of the cartridge rod.

Push down on the spring compressor; the next steps will take a minute so be ready.

Have your helper pull the hold down tool out, spin the jam nut off, and lift the Top Washer off.

Gently release the pressure on the spring compressor.

Invert the fork and dump out the washers, buffer, and spring.



**Figure 2A**



**Figure 2B**

Pump out the old oil by working the two halves of the fork together. Using a Fork Bleed Tool (available from Traxxion Dynamics \$10-20, See **Figure 3A and 3B**), pump the cartridge rod to get as much oil out of the cartridge as possible.



**Figure 3A**



**Figure 3B**

Remove the bottom bolt holding the cartridge in each fork, and slide each cartridge out. Normally, this requires no special tool, but may require the AK-20 Cartridge Holding Tool, which you can get for free from Traxxion Dynamics.

Remove the dust seals and seal retaining clips.

“Slide Hammer” the tubes and legs apart.

Thoroughly clean and inspect all parts. Pay close attention to the Teflon on each fork bushing. The lower (or inner) fork bushings are almost always worn out. Especially if your GL1800 has 20,000 miles or more on the forks since the last rebuild. If you can see brass through the Teflon, you must replace the bushings to avoid damage to the lower fork leg.

Clean all parts using Next Dimension Brake Cleaner or Contact Cleaner. We recommend this brand only as it is like contact cleaner, not brake cleaner. It is also very inexpensive (\$3 a can). Expect to use two cans in this process.

Polish the fork tubes using a 400# emory cloth. Use the cloth as if you were shining a shoe. Roll the tube in 1/3 rotations to make sure tube is evenly polished.

Reassemble legs and tubes per the Honda Service Manual, making sure to use a high quality seal grease to reduce stiction. Fill the inner lip of the oil and dust seals with this grease. Traxxion Dynamics has a good product for this.

Install black washer on top of the cartridges (use a bit of grease to help it stay in place during assembly) and insert metering rods into the cartridge rods.

Install cartridge in right leg and tighten bolt BY HAND, USING NO LOCTITE, until it stops, and will not rotate any further using a hand ratchet. This will be obvious. DO NOT use an air tool, and DO NOT trust a torque spec. If the bolt will spin, the crush washer will leak. DO NOT OVERTIGHTEN. If the cartridge wants to spin, use the AK-20 Cartridge holding tool supplied with your kit (straight black box section tube).

Drop stainless steel “hat” into left fork, and look inside the fork (**update** – newer cartridges ’07 and up don’t use this part, instead the cartridge for the left fork has longer bottom piece on it that replaces the steel hat). Jiggle the fork up and down, until the flat side of the hat lands UP, and then install the cartridge, following the instructions for the preceding paragraph.

Fill each fork with ½ quart of **Maxima 125/150 7W Suspension Fluid**.

Pump the chrome tube up and down to bleed air from in between the tube and leg. DO NOT pull up on the leg more than six inches (6”).

Bleed both cartridges thoroughly using a Fork Bleed Tool (available from Traxxion Dynamics \$10-20, **See Figure 3B**). Start by making short one inch strokes until you feel resistance when pulling up, and then make each stroke thereafter progressively longer, until you are using full strokes. A well bled fork will have no “skips” in the stroke as you move the cartridge rod up and down.

Set the oil level with a fork oil level gauge, available from Traxxion Dynamics. You **MUST** set the oil by level, not by pouring in a pre-measured volume, or your bike will not work properly, and you will be wasting your time and money, and creating a DANGEROUS and UNSAFE motorcycle.

Oil level is measured from the top of the fork tube with the spring out, and all parts of the fork collapsed as far as possible (**See Figure 3D**).



Figure 3C

**Traxxion Recommended Oil Level for the GL1800 is 125mm.**

Insert Traxxion Springs into each tube.

Pull cartridge rod up using fork bleed tool, and place Lower Omni Washer on spring, and slide Omni Buffer onto rod. Place Upper Omni Washer onto Omni Buffer, and put aluminum spring spacer onto buffer.

Using Traxxion Fork Spring Compressor Kit, push down on spring. This will take a minute, so be ready.

Have a helper pull up on the bleed tool, remove the bleed tool, slip Traxxion Top Washer over cartridge rod, and then install new jam nut onto the rod, threading it all the way down.

Then have the helper slide the Fork Spring Hold Down Tool between the spacer and the Top Washer.

**Installation with adjustable fork caps:**

You must first pre-set the cap. Back the Rebound Damping Adjuster all the way out (counter clockwise) until it stops and then turn the adjuster in three full turns. Now the cap is preset and ready to install.

Thread the fork cap all the way on the rod until you feel it GENTLY bottom out, and then DO NOT FORCE IT FURTHER. Have your helper push down on the spring to take the tension off the nut. Thread the jam nut up to the cap, taking care to move ONLY the nut and NEVER the rod.

Tighten the jam nut to the fork cap. DO NOT OVERTIGHTEN THIS NUT!!! Firm pressure on the wrenches is all that is required. Do NOT use Loctite!

**Installation with the non-adjustable (stock style) fork cap:**

Thread the fork cap all the way on the rod until you feel it GENTLY bottom out, and then DO NOT FORCE IT FURTHER.

Back the cap off of the rod 1 1/2 turns.

Have your helper push down on the spring to take the tension off the nut. Thread the jam nut up to the cap, taking care to move ONLY the nut and NEVER the rod.

**WARNING!!!! Failure to take great care to perform the preceding steps correctly can mean the motorcycle will have the incorrect amount of damping in the system, and the motorcycle will be UNSAFE, and can INJURE or KILL the operator!!!!**

Tighten the jam nut to the fork cap. DO NOT OVERTIGHTEN THIS NUT!!! Firm pressure on the wrenches is all that is required. Do NOT use Loctite!

**SEE DIAGRAM IF YOU DON'T UNDERSTAND THE LOCATION OF ALL PARTS!!!**

Thread the fork cap down into the tube. Be careful not to cross-thread the cap. Do not use any threadlocking agent. DO NOT OVERTIGHTEN THE FORK CAP!!! 6 ft/lbs of torque is all that is required (like a little tiny screw!!!).

Reassemble the bike per the Honda Service Manual.

Now, go have fun! We hope you enjoy your refreshed suspension!