



261 Rope Mill Parkway, #3, Woodstock, GA 30188 • (770) 592-3823 • (770) 517-9332 Facsimile

AK-20 Axxion Cartridge Kit

Installation Instructions

NOTE: The AK-20 kit is meant to be installed by professional suspension technician. These are general instructions - they are not model specific. You should be comfortable working on forks before attempting the AK-20 cartridge kit installation.

1. Loosen upper triple clamp bolt.
2. Loosen fork cap, but do not unscrew completely.
3. Support bike from the steering head or in a fashion that lifts the front wheel off the ground.
4. Remove forks.
5. Remove fork cap. For inverted forks, this requires a spring compressor, and a second set of hands.
6. Pour out stock spring, spacers, and oil into a clean, leak-free container.
7. Remove the stock cartridge. This will be very simple on Showa forks, but for most KYB forks you will need a special cartridge holding tool. KYB generously uses loctite on the fork cartridge securing bolt and it can be nearly impossible to remove without using the correct tools. A hand-held impact driver can be an effective tool to "shear" the loctite on the threads of the bolt. If necessary, you may need to stop by a local motorcycle dealer and either borrow the tools for a moment, or ask them to remove the two bolts for you. You will not need an impact driver or the KYB cartridge holding tool for reassembly.
8. On a standard fork (not upside down) you will have to separate the fork tubes and remove the bottom out cup made out of aluminum and or plastic material. This does not apply to FZ-1 1st gen, FJR, GL 1800 and 49mm H-D forks where the bottom out cup must be reused with the AK-20.
9. Extend the fork and clean out the old oil using contact cleaner. It is strongly suggested that you replace seals at this point if you have more than 5K miles on your bike. Also, inspect the tubes for rock nicks, and polish them down with a strip of 400grit emery cloth. Polish the tubes in the same fashion you would shine a shoe. Check for replacement compression adjuster needles supplied with the kit. If included replace those at this time.
10. Install the AK-20 using the stock bolt unless a different bolt is supplied with the kit. You can reuse the crush washer. In thousands and thousands of forks we have seen only one or two ever weep. Make sure you thoroughly clean the threads of the bolt on a wire wheel to remove loctite and scale. If you don't, that junk will be dislodged when you screw the bolt in and will find its way into the compression valve shim stack during the first few seconds of your next ride. **DO NOT USE ANY LOCTITE ON THE BOLT. DO NOT USE ANY AIRTOOLS TO ASSEMBLE EVER!!!!**. Use the supplied cartridge holding tool and tighten the bolt by hand. The bolt is "tight" when it will not spin any more when firm force is

applied. We have found the "properly torqued" bolts can weep on occasion, and without fail, it is because the crush washer didn't grab. For the most part you will not even need the cartridge holding tool to accomplish this.

11. Fill the fork with oil, right to the top. Pump the fork tube up and down to bleed air out from in between the two halves of the fork. Then bleed the cartridge. Pull up on the cartridge rod slowly until it's fully extended and wait 10 seconds. Push the rod all the way down and do quick 2" strokes up and down until you feel resistance pulling up at which point you can move the cartridge rod all the way up and down. Make sure there are no skips in the stroke before you set the oil level.
12. Set the oil level to the prescribed height. Fork collapsed, spring and spacers out.
13. Drop in the Omni Springs, with the side with the rate etched on it up. If there is a mixed rate like ".925 kg/mm" we use the lighter rating of the two springs in the left fork. To help remember which fork leg the light spring is installed in, we use the statement "LIGHT RATE ON THE LEFT". This is good to know should you wish to go up or down 1/2 spring rate. Next pull up the cartridge rod, and then slide the Omni Buffer with washers installed over it. Install the jam nut. Slide the preload spacer on. Reuse any stock washer that was above the stock spacer unless a different washer is provided with the kit. Reuse the stock jam nut unless different nuts are provided with the kit.
14. If you have a Showa or similar style fork with the long rebound needle attached to the cap, remove the adjuster from the cap and install our replacement adjuster.
15. Thread the jam nut down on the cartridge rod as far as it will go. Back the rebound adjuster on the fork cap all the way out, and turn it in 3 full turns. This "presets" the cap. Thread the cap onto the rod until you feel it bottom out. Pinch the rod and spin the jam nut up to touch the cap. Tighten the nut firmly, but DO NOT OVERTIGHTEN IT, and DO NOT USE ANY LOCTITE. At this point, test the range of the adjuster. Make sure it will back out three turns and screw in three turns. If it isn't "exact", don't worry, it's not absolutely necessary to have exactly 3 full turns of adjustment for the rebound adjuster screw. Tighten the fork cap. Make sure the fork is fully extended when you screw the cap back in.
16. Baseline settings: Turn the rebound damping adjuster screw completely in, and back it out 1 1/2 turns. Set your spring preload adjuster to just less than the middle of its adjustment range. If there are 7 spaces total, set it showing 5 spaces. Turn the compression damping adjuster screw in completely and back it out 1 1/2 turns.
17. Reassemble bike.
18. Go enjoy your new suspension!!!

Baseline Fork Settings

Year: 2007 Make: H-D Model: Softail

Compression: n/a (turns out or clicks) Oil Height (mm): 100

Rebound: 1 1/2 (turns out or clicks) Preload: n/a (spaces showing or turns in)

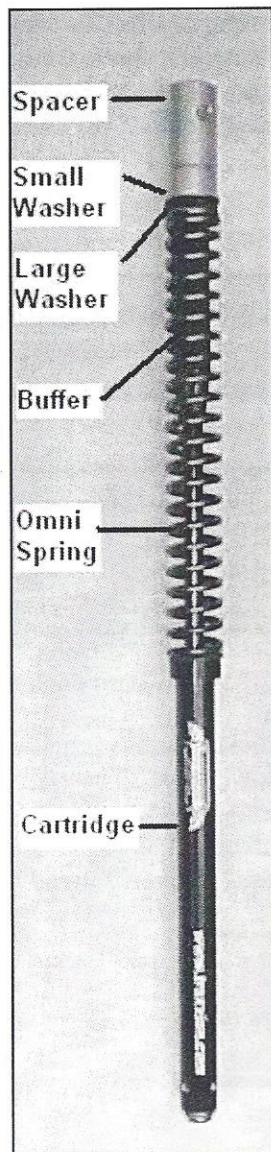
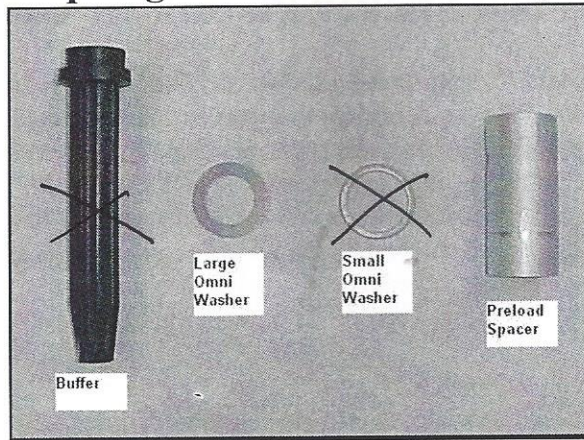
Notes or special instructions: Fork tubes must be gutted - see add. instr.

This kit does not use buffers.

Your AK-20 was assembled by: MDL QIL Date: 11-10-2017

AK-20 Serial Number: 170346, 170347

Fork Spring and Buffer Assembly



Order of installation:

1. Omni Springs
2. Large Omni Washer
3. Buffer
4. Small Omni Washer
5. Preload Spacer

Once fully assembled your fork should resemble the diagram to the left.

Qty:

- 2 – Large Omni Washer
- 2 – Small Omni Washer
- 2 – Buffer
- 2 – Preload Spacers

Traxxion Dynamics, Inc
261 Rope Mill Parkway, #3
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Fork Sticker Placement Guide

We would like to thank you for your business. We are glad you have chosen Traxxion Dynamics for your suspension needs. We are confident that you will find your new AK-20 Axxion Cartridge Kit to be of the absolute highest quality and craftsmanship. Countless hours of R&D have gone into the AK-20 to make it the world's best performing fork cartridge kit.

Our main form of advertising is achieved by placing stickers on forks that have been upgraded in our shop. Since you have installed the AK-20 yourself, we would greatly appreciate it if you would take the time to show the world that you are riding with the best, Traxxion Dynamics. Please follow the sticker placement guide below. Once again, we thank you!

1. Start by cleaning the lower fork leg, ideally with a good quality parts cleaner. This will remove any grease or dirt and help the sticker adhere to the fork properly.
2. On inverted ("upside down") forks place the "AK-20" sticker on the lower fork leg towards the top of the lower casting as shown below in figure (A). The "Traxxion Dynamics" sticker should be placed on the outer slider tube just above the raised ridge as shown in figure (B). When finished your fork should look similar to figure (C).

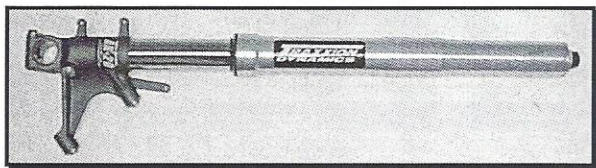
***Note the orientation of the letters on the "Traxxion Dynamics" sticker, for the left and right forks, respectively.**



(A)



(B)



(C)

Left Fork Leg

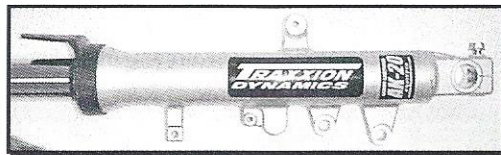


(C)

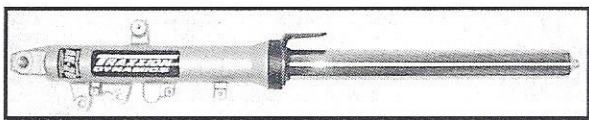
Right Fork Leg

3. On conventional ("upright") forks place the "AK-20" sticker as shown below figure (A). The sticker should be about 1" from the bottom of the lower tube. The "Traxxion Dynamics" sticker should be placed about 1" above the "AK-20" sticker as shown in figure (A). When completed your fork should look similar to figure (B).

***Note the orientation of the letters on the "Traxxion Dynamics" sticker, for the left and right forks, respectively.**

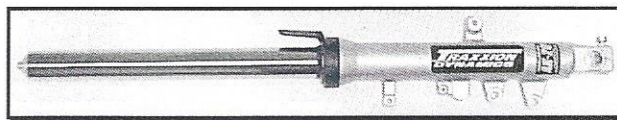


(A)



(B)

Left Fork Leg



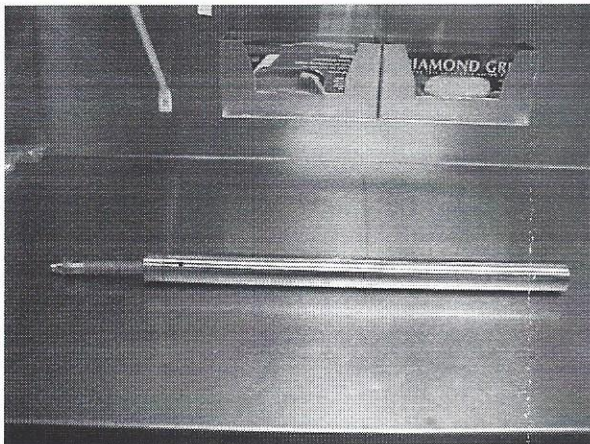
(B)

Right Fork Leg

Gold Wing Left Fork Tube Modification For Installation of AK-20 Kit

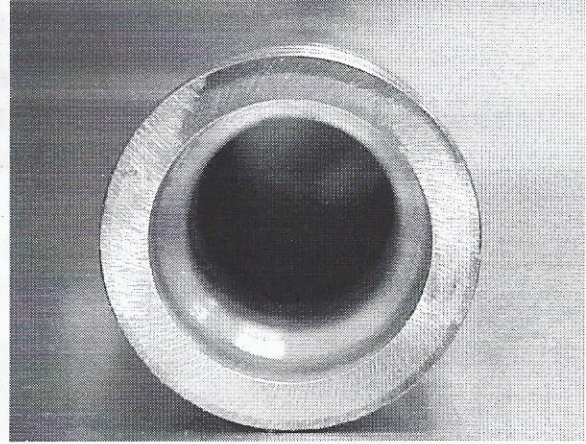
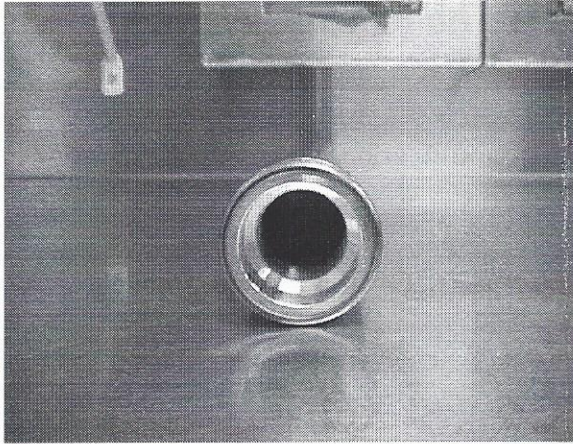
(Also applies to other models like some HD forks, SV 650, Triumph Thruxton, FZ-07 etc. requiring this modification)

1. Disassemble and clean fork and internals. Remove the damper rod from inside the inner tube, by taking off the retaining clips, washers, and springs.

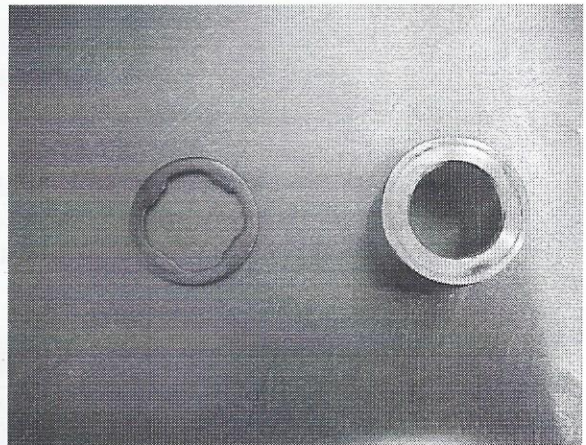
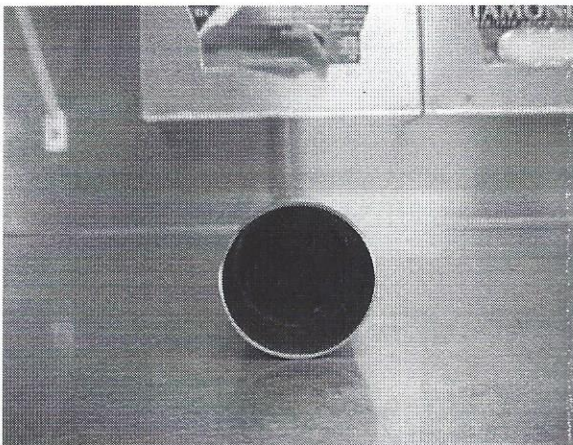


2. The fork tube must have outer lip ground off as seen below, until there is a flat even surface all the way around. Grind off only about 1.5mm to 2mm off the end of the fork tube. **Preferred method is to use the lathe to accomplish this.**





3. Knock out the parts inside the bottom of the tube by dropping a 24 mm socket down into the tube. Deburr and thoroughly clean the tube. Reassemble tube with leg as it was disassembled. Replace oil seal, and bushings as needed.



The bottom of the fork tube should look like above picture when completed.

These are the parts removed after grinding the outer lip off. These parts are not re-used.