

Steering Damper for FLH Harley-Davidson® Bikes/Trikes

I have spoken with several HD Touring model trikers, who are looking for increased 'feel' in the steering department. Some want to cure a slight 'wobble' and some feel that raked trees make the steering too easy at freeway (or better) speeds. I fall into the latter group, so I looked around for a damper to install and test. Once again, I went to the Tri-Glide manuals, and see that Mother Harley® has incorporated a rather unique setup on their steering damper, hiding it under the steering neck, out of the way. So, let's see if it will fit, once again, using Genuine HD parts. Note that this should bolt right up to '96 and up touring models.

Here's what you'll need to purchase from Harley-Davidson®. The damper mounts sideways under the steering head on the Tri-Glide, rather than front-to-back, as in most of the aftermarket products out there. You'll need **one each** of the following:

The numbers in bold parentheses after the part description refer to Figure 1.

<u>Harley® P/N</u>	<u>Description</u>	<u>Attaches to:</u>
83865-09	Bracket (#8)	Upper crash bar mount bolt
83863-09	Bracket (#6)	Left fork, under pass lamp/turn signal bar
83808-09	Damper (#5)	The above two brackets

Additionally, you will need one bolt, two washers, and one nut, all 5/6-18 common (Grade 5) hardware that any self-respecting shade tree mechanic will have in their 20-year box, or you can get them from the hardware store, or even Mother Harley® if so desired. You'll also need to obtain a nylon washer and buy or make one aluminum spacer. I got lucky, and was able to scrounge up the following items:

<u>Harley® P/N</u>	<u>Description</u>
2998	Bolt, 5/16-18 X 1-1/8 Grade 5 (#1)
7531	Locknut, 5/16-18, flanged (#2)
7992	Acorn Nut, w/captive washer 5/16-18 (#3)
8324	Washer, nylon 11/16" OD, 1/2" ID, 1/16" thick (#4)
83864-09	Spacer, Aluminum 1/2" OD, .324" ID, .195" thick (#7)

Figure 1. Exploded View

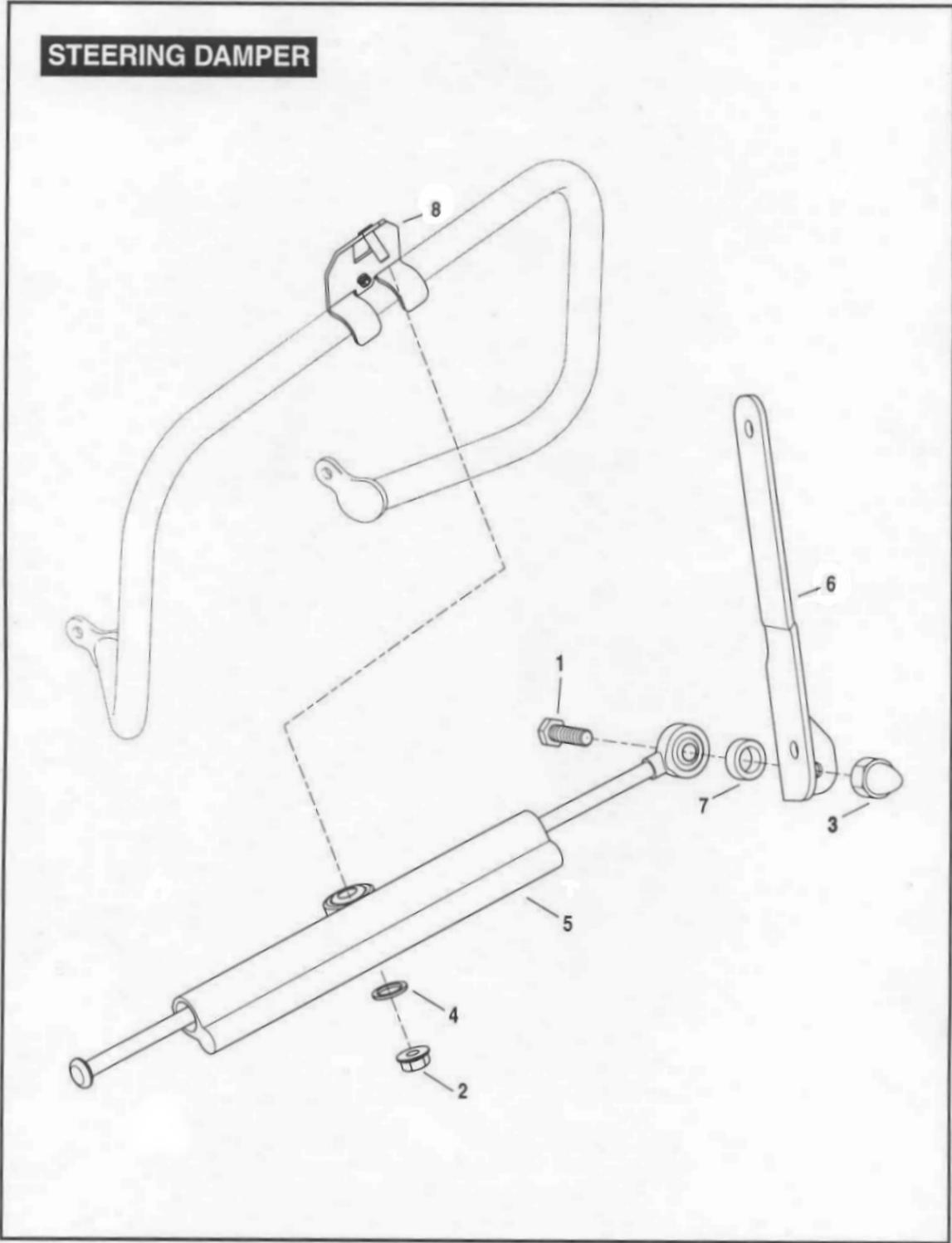
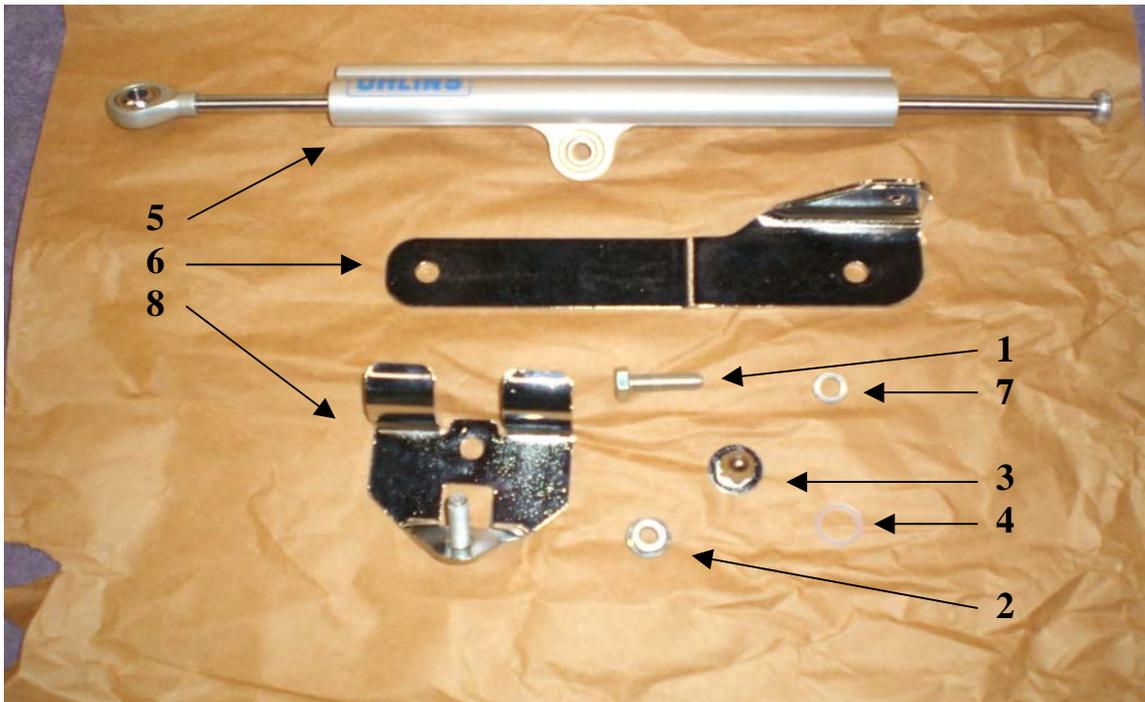


Figure 2. The parts.



(Upper bracket installation)

First, we're going to install the upper Bracket. (#8 in Fig. 1) Start by placing a clean towel or other protective material over your front fender to protect it from falling objects. Remove the 5/16-18 Allen head bolt and washer holding the top of the crash bar to the frame. Use a 1/4" Allen wrench. Access is easier if you crank the forks over to one side. Line up the hole in the new bracket with the crash bar, orienting the bracket to the crash bar as shown in Fig. 1, and re-install the bolt with a drop of blue loc-tite. Torque the bolt to 15-20 ft. lb. If you don't have a torque wrench, well, you should have one, but if not, 15-20 ft. lb. is a bit tighter than a spark plug torque, which is 12-18 ft. lb. If you are not sure, snug it down tight, but don't try to break it. Note than on a couple of these, I had to slightly elongate the hole in the bracket to re-install the upper crash bar bolt.

(Side mount bracket installation)

Next, the side bracket install. (#6 in Fig. 1) You'll need a #35 Torx driver to remove the two screws holding the LEFT passing lamp/turn signal bar to the bike/trike. Carefully remove the upper and lower screws, holding the bar to prevent it from falling, possibly jerking the attached wiring. Once you have removed the screws, you can let the bar hang, while you orient the side bracket as per Fig. 1. Re-install the two screws you just removed, capturing the damper side bracket under the light bar. Use a drop of blue loc-tite here as well. Hand tighten the two screws, aligning the lamp bar and damper side bracket. Using your torque wrench, (you did find one didn't you?) Tighten the two screws to 15-20 ft. lb. Ok the easy part is out of the way.

(Modify the Inner fairing)

To allow the cross-ways damper to operate in an unobstructed manner, you'll need to cut away part of the plastic inner fairing. (See photo) This is the same thing Harley did to the Tri-Glide, and in no way hurts the structural integrity of the part. Mark a gentle curve on the plastic, and cut with a die grinder, or other tool of your choice, smoothing the rough edge with a file and sandpaper. Do both sides as shown.

Figure 3. Inner Fairing Modification

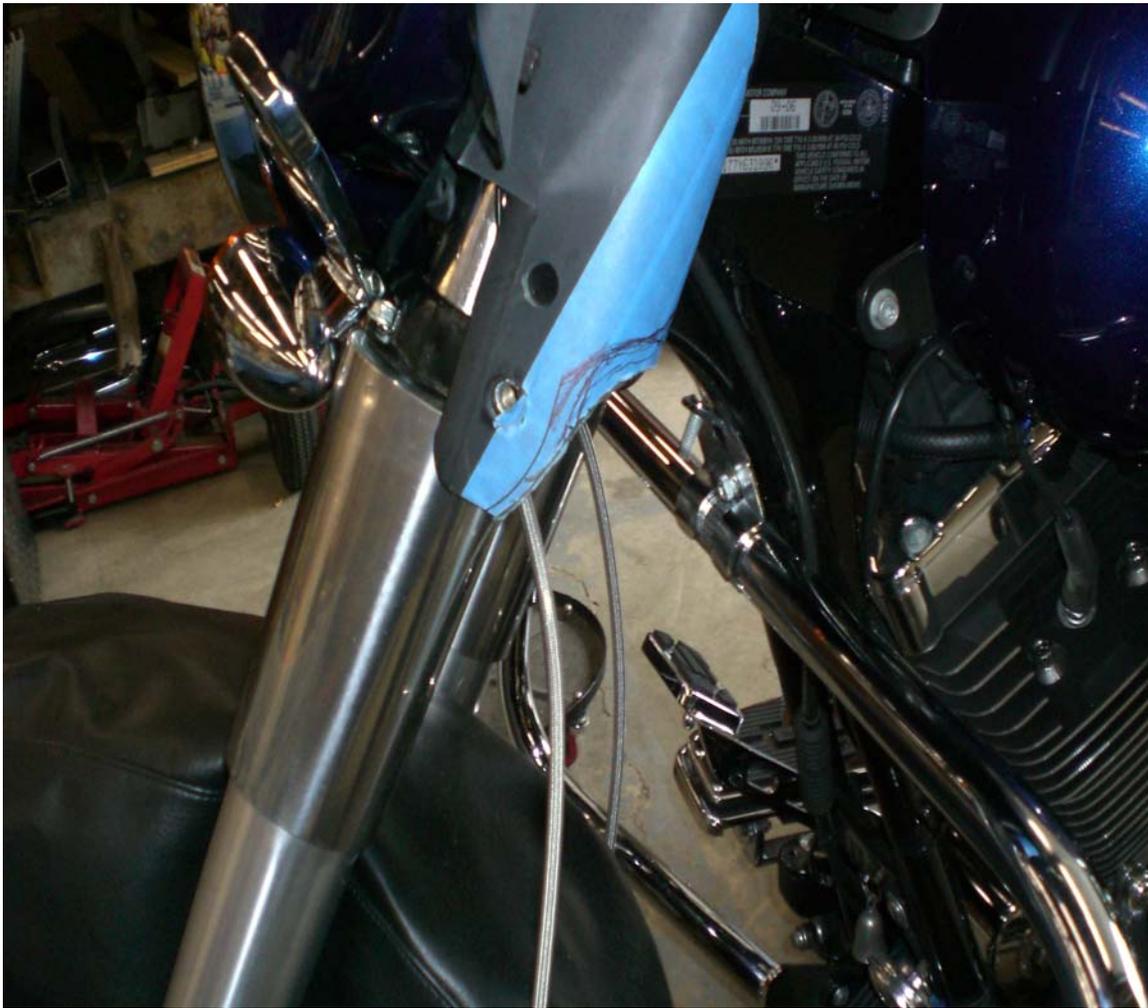


Figure 4. Inner Fairing Modification



Figure 5. Inner Fairing Modification



(Steering Damper installation)

Last step. (almost) As shown in Fig. 1, the damper installs with the ball joint in the center of the damper body to the stud on the upper crash bar bracket you installed first. Slide the damper onto the stud first, then the nylon washer, (#4 in Fig. 1) then the locknut (#2 in Fig. 1) Tighten the locknut to 16-20 ft. lb. I won't say anything about the torque wrench. Next, pull or push on the outer end of the damper so the hole in the damper rod end aligns closely to the hole in the side bracket you installed on the left fork leg. Insert the bolt (#1 in Fig. 1) thru the damper rod end from the rear to front, and then slide the spacer (#7 in Fig. 1) onto the bolt, and push through the side mounting bracket. Install the acorn nut, and tighten to 16-20 ft.lb. It's a good idea to place a drop of light oil on both damper eyelets.

Installation complete! A couple things to check, and we're ready to ride. Jack up the front of the trike, raising the front wheel off the ground. Turn the handlebars through the full range of motion at least two cycles. Observe the action of the damper for even force throughout the range of motion, and check that the damper does not come into contact with any part of the trike. Check that the fork lock engages properly.

As an aside, the damper is made by Ohlins USA, in Hendersonville, NC, and they are the re-build center. Note also that this damper is non-adjustable.

All finished! Sit back, admire your handiwork, have a beverage of your choice, take pictures....

Anyone interested in this is going to want to know how much dinero we're looking at here, and I sure won't hold back. If you go to your favorite HD dealer/boutique store, you are going to part with several hundred bucks, plus tax, and you'll probably get roped into buying yet another t-shirt or other trinkets, at least I always do! However, if you shop at one of the many on-line discount Harley Dealers out there, and can round up all the hardware items on your own, you'll spend less than 370 of your hard-earned dollars. I have been told by another HD® trike owner, that he was quoted \$1100.00 for parts and installation labor at his Dealer, so this may be something you might want to try on your own. Note also that there are other steering dampers out there that are priced considerably less.

How does it work? For me, this experiment was a complete success, as the damper took away the 'over sensitivity' I was feeling at speeds in the 3 digit area, without detracting from the power steering feeling the Tri-Glide raked Trees gave.

Stay tuned; there is more to come!

All the best,

Dave – 'ultraboy'