

GL1500 Fuel Pump



GL1500 GoldWing Fuel Pump replacement

Warning - legal liability notice!

This article describes replacing a stock fuel pump with an unapproved aftermarket replacement. If you attempt this procedure, you do so at your own risk. You will be dealing with electricity and flammable liquids. Explosion, burns and death are possible outcomes of attempting this procedure. You are fully responsible for all results.

OK, now that we have that out of the way . . . Has your GL1500 died under conditions of hot ambient temperatures and high load and then mysteriously restarted and ran fine after it cooled down? You may be experiencing a weak fuel pump.

On one trip, I had my 1500 repeatedly stumble, lose power and die under such circumstances. I was pulling a mountain pass, 2-up at 70MPH on a 95 degree day. 3 times I had to pull over, checked what I could and after about 10 minutes of poking around it restarted and ran fine for several miles only to die again. The last time it didn't completely die and I stumbled into a gas station at the top of the pass. I refilled the tank, let it sit for a few minutes and it started and ran fine the rest of the way home.

After MUCH Internet searching and forum message exchanges, I narrowed the most likely culprit down to "weak fuel pump". There are other issues which could cause similar symptoms and should be examined first, like a clogged fuel filter, gas cap not properly venting or even flakey fuses. I checked and eliminated these and all other causes I could think of and was left with the **weak pump syndrome**. The information I gathered from several sources on the Internet indicate that GL1500s built in 1994, 1995 & 1996 are most susceptible to this problem. It seems that some pumps, when they get good and hot, either totally quit or just can't generate enough pressure and flow to get any fuel to the carbs. My Wing is '95 model so it is not surprising that I have the problem.

This pump issue has been around for many years and I found several articles and messages on replacing the stock Honda fuel pump with an OEM Honda Accord pump. The stock Honda GoldWing fuel pump is rather expensive. The best Internet price I found was \$210. The OEM Honda Accord pump was slightly cheaper but an aftermarket replacement can be found for MUCH less money. The aftermarket pump requires some minor modifications but the changeover is only slightly more complex than changing your oil and filter.

Do your shopping for a **1986-1989 Honda Accord LX** (not LXi) fuel pump. This is the pump for the carbureted Accord. If you mistakenly buy the pump for the Accord with fuel injection, you will not be happy. The carbureted pump develops 2-4 psi of pressure. The fuel injected pump develops 60-90 psi of pressure and will quickly blow fuel past the needle seat of the carburetor, probably pop loose the fuel lines and begin pumping raw fuel all over the place. Please extinguish all open flames!

UPDATE! It was brought to my attention by a fellow Goldwing rider that this particular pump puts out 3 to 4 times the flow of the original equipment fuel pump (30 - 40 GPH vs. 10 PSI). The pressure is the same but flow capacity is much greater. His Honda Accord replacement fuel pump died after about 10,000 miles and he had to replace it yet again. The reasoning is that the higher flow causes the pump to overheat and die before its time. I did some more research and found that the **Delphi FE00090** fuel pump is rated at 15 PSI (see pics below) so I ordered one and installed and tested it. Much to my disappointment it flowed just over 20GPH, still twice as much as the original Goldwing pump BUT much better than the Accord pump. For now, it would appear that this is the best replacement that fits with the modifications described. After seeing that advertised flow rates are not to be trusted I would flow test ANY pump purchased just to verify that it is suitable.

Below are the aftermarket pumps I found that work as described. You must cut off the old wires, and will need a new length of 5/16" fuel hose. The pump requires a sock/screen on the inlet so you'll need to pick up one of those as well. A couple of new hose clamps are optional but not necessary - I just reused to old factory spring clamps. The new 5/16' fuel hose fits VERY tight. This would also be a very good time to replace your fuel filter if you have not done so recently. With the Delphi pump you must remove the extra terminal connection as shown.

Shopping List:

Delphi FE0009 (recommended as of now - Aug. 09)

2nd choice - Airtex Fuel Pump # E8371 (or equivalent if you can't find the Delphi pump)

Carter Fuel Screen # STS-8 (or NAPA STS-2))

1 foot of 5/16" fuel hose

2 ea. hose clamps (opt.)

New fuel filter (opt.)





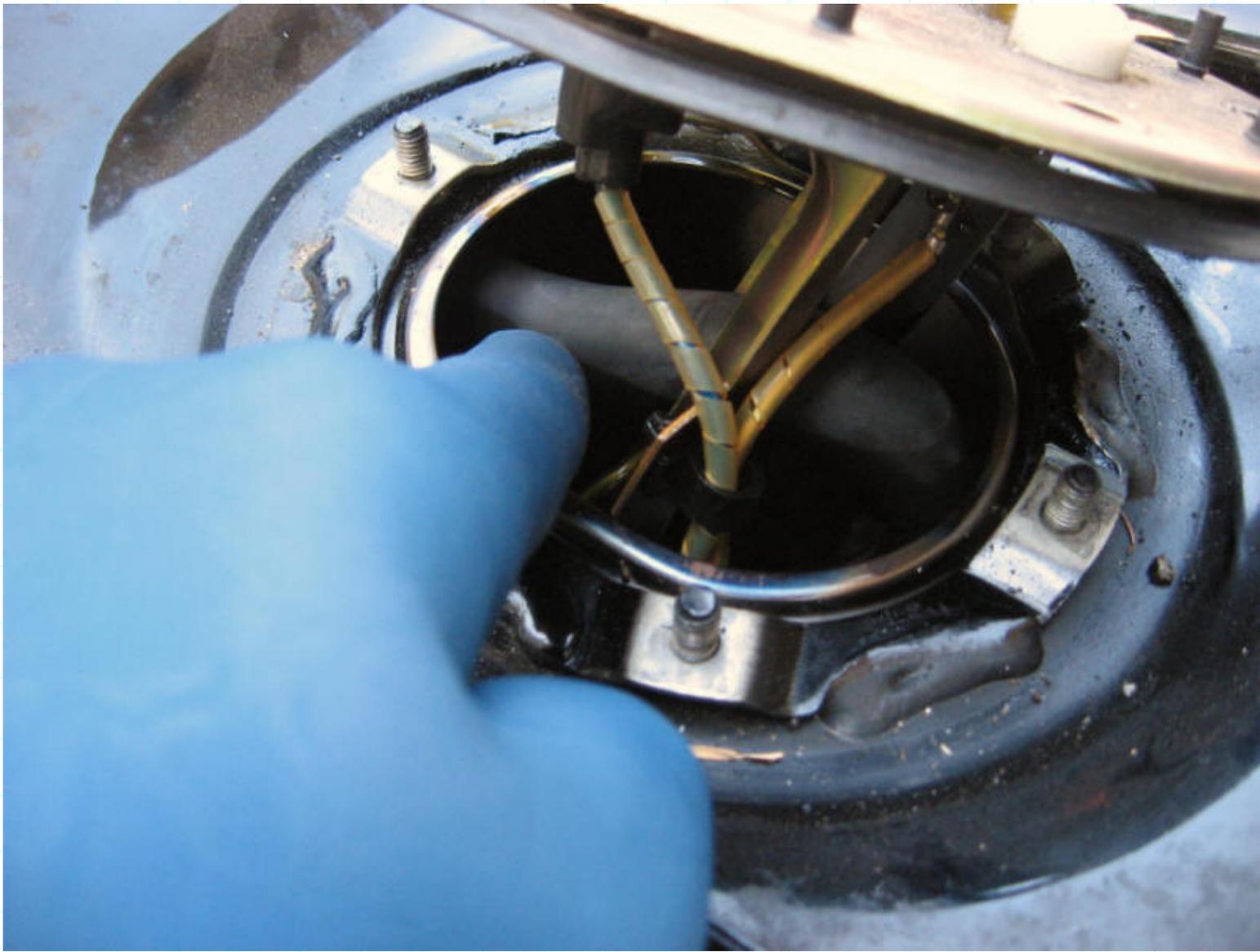
Prerequisite to starting this job! Since the tank cover is below the top of the gas tank, you must have **less than 1/2 tank of fuel** or as soon as you begin loosening the tank cover you will have fuel pouring out all over. Again, please extinguish all open flames.

First remove the seat. If you are going to replace the fuel filter, you'll also need to pull off the shelter top - unless you have VERY skinny hands wherein you can change the filter through the gas filler door. I'd like to see that done! I had already replaced my fuel filter so this whole changeover only took about 1/2 hr.

Undo the 3 electrical connections on the tank cover. The 2 larger ones have a release tab you must push down on while pulling the connection off. The 1 small one just pulls off. Remove the fuel line (watch it, it'll drain some fuel) and plug the end of it.



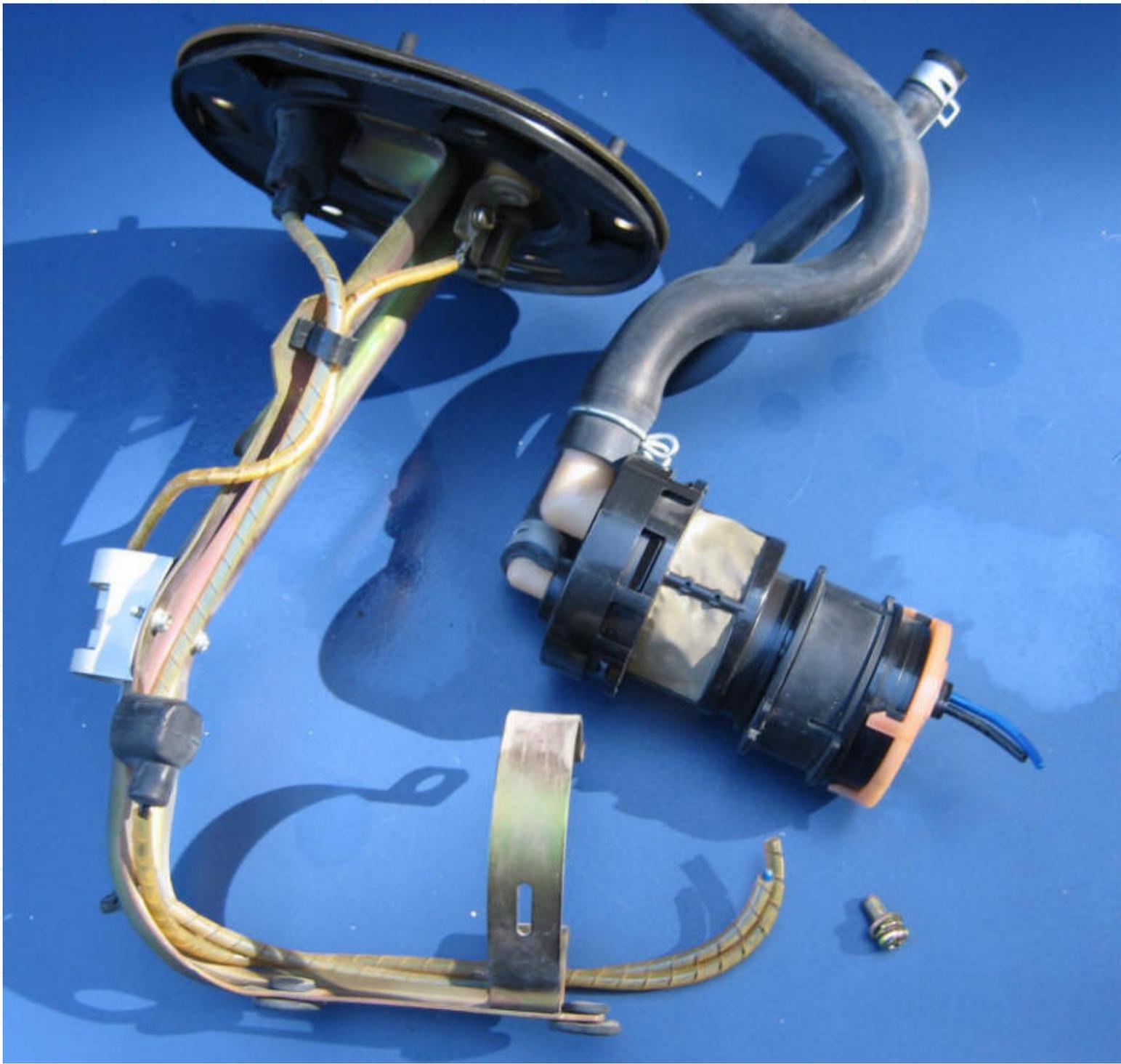
Remove all 6 of the 10mm nuts holding the cover on (don't drop any into the bowels of the bike!) and slowly lift the cover up about 2-3 inches then stop. You'll see a hose leading to the front of the tank (see pic). There is a metal connection right there that you cannot see. Simply pull the hose loose from the connection. There should not be a clamp.



Now you can slowly lift the pump/cover assembly up and out, rotating the top end towards the back of the bike as you lift (see pic).

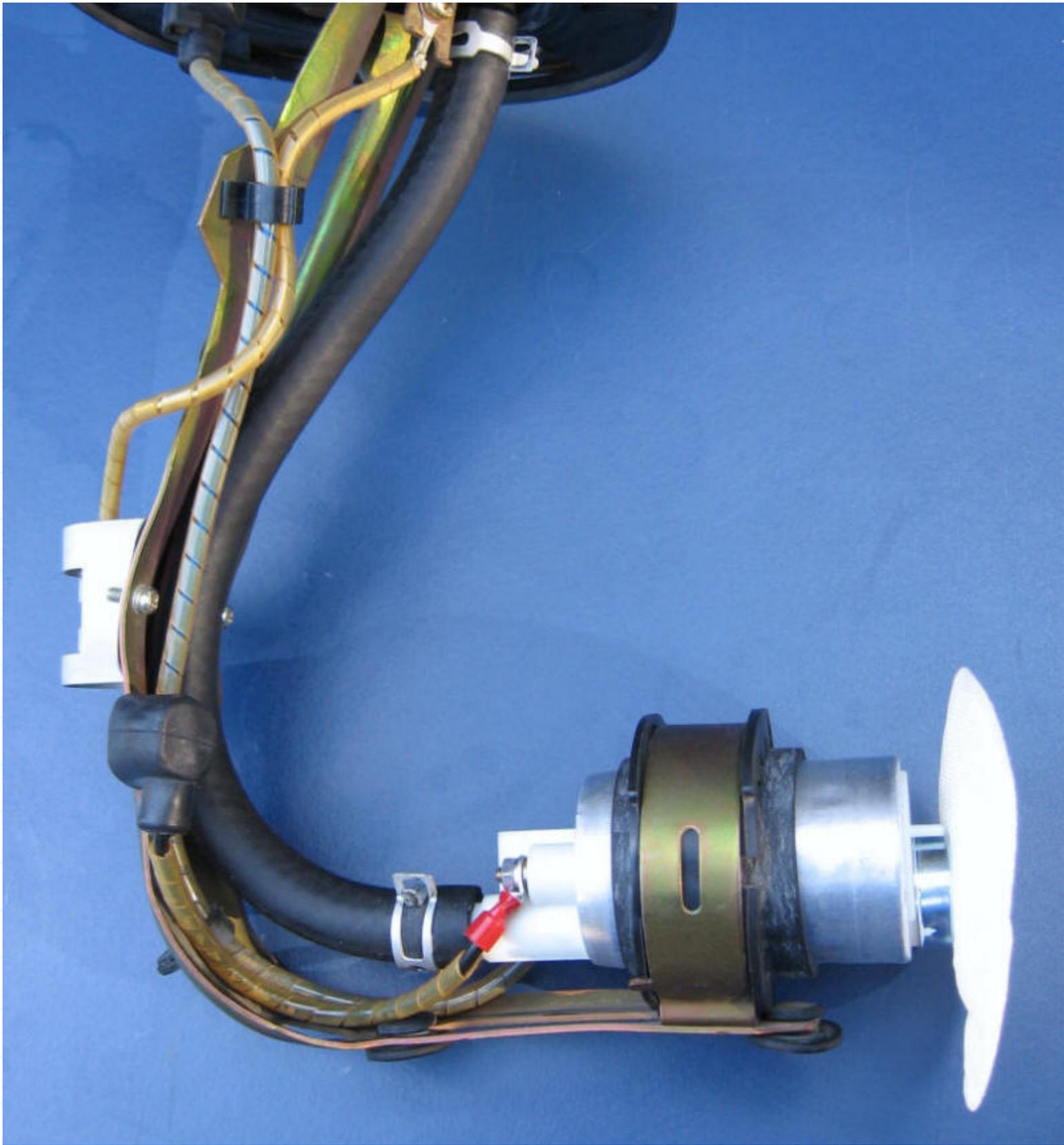


Now cut the 2 wires close to the pump and remove the hose from the fitting on the tank cover. Finally, remove the screw from the band clamp that holds the pump/strainer assembly and remove the assembly as shown (see pic).



You only need to keep one part from the assembly you just removed. The rubber "donut" bushing that the band clamp goes around. Just roll it off the old plastic pump housing.





I think this picture pretty much tells the rest of the story.

First, slide the rubber sleeve that came with pump onto the pump body, then the rubber "donut" bushing you removed from the old pump housing over the sleeve. Now mount the new pump in the band clamp with the inlet at the bottom and tighten the screw down. Fit the new 5/16" hose, cut to length and clamp in place. Position and cut the wires and crimp on the ends with a real wire crimper. Pliers would work but the connection would have a greater chance of working loose. I suppose you could solder the connections just to be anal about it. Make sure you keep the positive

and negative connections straight. Finally, press the strainer onto the inlet of the pump and you are ready to drop it back in.

So what about the other hose that connects to the fitting just inside the tank opening??? Well, it is just a breather tube and is not needed with the new pump. This is not just from me but from others who have gone down this path before and the second hose is simply not an issue. The only thing that might be an issue is slightly reduced fuel capacity before you run dry. If you are someone who regularly takes it down to "fumes", then those "fumes" might come a few miles sooner but it is not going to be much different. I suppose if you just HAVE to know, then run the pump dry and see how much fuel is left.

OK, so how do I know if it made any difference? When will I encounter exactly the same conditions that triggered the first embarrassing moment of sitting on the side of the road while all the Harleys rode on by? How about a fuel flow comparison?

When I first suspected the fuel pump, I did a flow test as described in the service manual. An acceptable pump should flow 640cc per minute. Actually, you run it for 5 seconds and then multiply by 12. My old pump was marginal and I noticed that the fuel flow did not produce a full stream of fuel out of the fuel line. The new pump immediately produced a full stream of fuel through the hose. I didn't even bother running the full 5 seconds or measuring. I suppose I should have just for this report but the difference was obvious and substantial.

So there you have it. If you think your GL1500 GoldWing suffers from "weak pump syndrome" and you've ruled out the other possible causes then this inexpensive pump changeover may just spare you from further roadside humiliation.



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