

ETHANOL PROBLEMS?

How to change out the pump, filter, and fuel lines inside the gas tank

The fuel tank on our 1999 Road King has been drained and opened up. All the original internal fuel lines have been removed, as well as the fuel filter and fuel pump.

THERE'S NOTHING POSITIVE ABOUT THE WORD *LEAK*. NO matter what the context, I bet you can't associate it with something positive, especially if it involves motorcycles. If you've been reading *Motorcycle Bagger's* Hey Ed column, you know wear and ethanol have been causing some problems inside fuel-injected motorcycle gas tanks or, to be more specific, the fuel lines.

The 1999 Road King we're going to upgrade in this article has rubber fuel lines, which are more prone to disintegration than the ribbed plastic lines found in later models. But even if you have a newer bike, you're still at risk. Even though ethanol does eat away at them, the problem with the ribbed plastic lines is that they usually rub against the inner walls of the gas tank. After several years of rubbing, the wall of the fuel line wears through, and the resulting pinhole allows fuel pressure to bleed off once the fuel level drops below the pinhole. At first, there's not enough of a pressure drop to cause a problem. But once the pinhole gets bigger, the drop in fuel pressure will make your engine run rough. It could even make the engine stall when at idle — that is, until the fuel tank is filled

back up. When filled, the fuel covers the pinhole, which slows the leakage and reduces the pressure drop. Aren't intermittent problems fun to figure out?

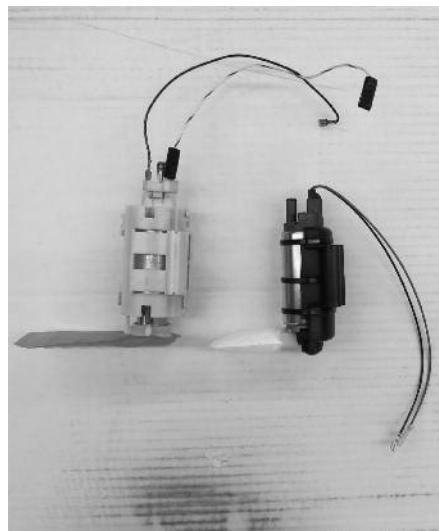
However, sometimes a fuel pressure drop is due to a clogged fuel filter or even a defective fuel pump and not the lines at all. That's why our buddy Dan at Rob's Dyno Service is going to show you how to replace the fuel lines in your tank, as well as how to change the fuel filter (#61343-95/\$95.88), which is a needed maintenance item, and the fuel pump (61342-95A/\$267.96) using all Harley-Davidson parts. You're going to need a total of five hose clamps (#10038A/\$1.27 each) if you want to change all the lines, which is recommended even if the problem is the pump or filter. You'll also need a new top plate

TOOLS NEEDED

- T20 Torx
- Hose clamp crimper
- Phillips screwdriver
- 1/2" socket
- Torque wrench (in-lbs.) ■



PHOTOS BY CHRIS MAIDA



2 Note the change in wiring harness between the original pump (left) that has two separate wires with connectors and the new pump with a single connector with two wires. Also note the different fuel screens.



3 Dan starts by connecting the Pump Out end of the #62357-95 (longer) fuel pump hose to the fuel pump and securing it using a new (#10038A) clamp and clamp crimper. Note the hose orientation.



4 Note the two standing rods (arrows) inside the tank, on the left side, which go into the back of the pump, and the circular tray where the pump's base goes with its screen positioned at a 45-degree angle to the side and rear of the tank.



5 The two rods inside the tank go into these two openings on the back of the pump (arrows).

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6 Dan installs the pump into the tank, over the rods, and into the tray. He then pulls the wires out of the opening in the tank and routes the hose over to the right side of the tank.



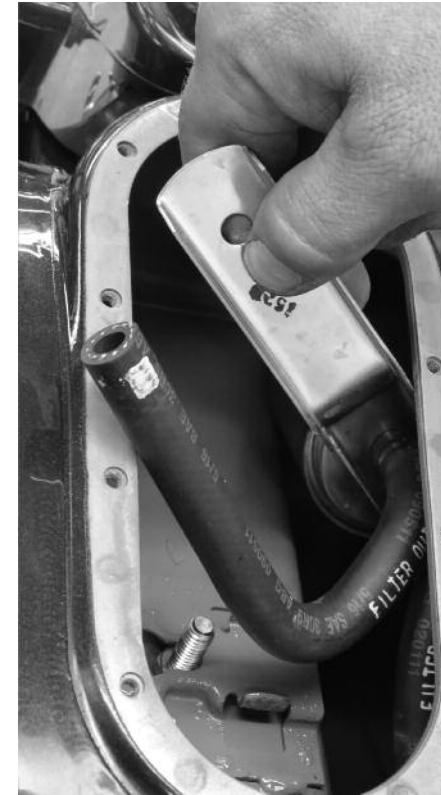
7 The pump's ground (black) wire gets connected to the blade connector (arrow) on the bottom of the fuel sender. It will slip on easily once you have it angled correctly.



8 To set up the fuel filter (#61343-95), Dan slips the Filter Out end of the hose (#62358-95) onto the fitting closest to the filter support. He then crimps on a new clamp.



9 After slipping a new clamp onto the Filter In end of the hose from the fuel pump, Dan secures this hose to the other fitting on the fuel filter using another clamp and the crimping tool.



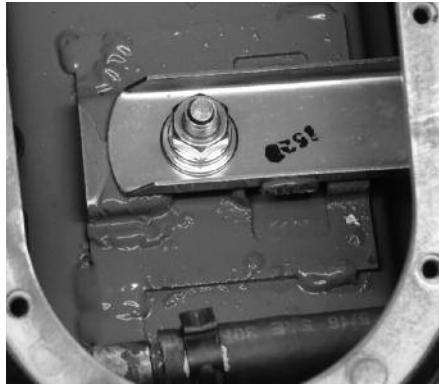
10 This is how Dan has to orientate the fuel filter assembly to get it into (or out of) the fuel tank.



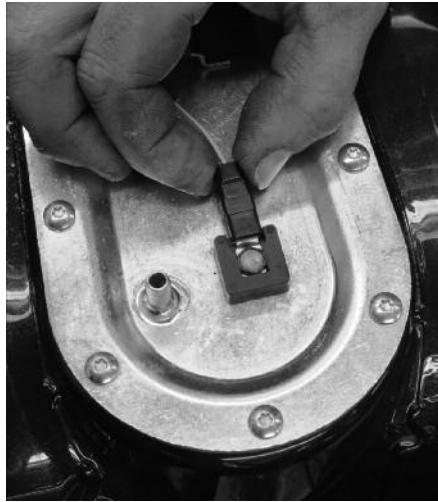
11 After slipping a new clamp onto the last hose to connect, which is the Filter Out hose from the filter, Dan pushes it onto the fitting until it touches the ring on the fitting.

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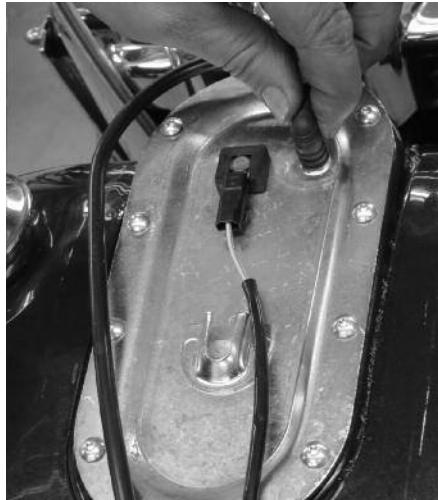
12 Dan can now secure the filter assembly to the inside of the tank using the stock nut, lock washer, flat washer, and a 1/2" socket. He torques the nut to 65-100 in-lbs.



15 Dan then connects the power wire from the bike's main harness to this connector on the top plate. He also puts the wire under its support at the middle of the tank.



13 After making sure the tank opening is clean, Dan connects the fuel pump's red wire to the connector on the inner face of the top plate.



16 Dan now reconnects the tank's vent line to its fitting.



14 With a new cork gasket on the tank, Dan reinstalls the stock top plate using 10 new bolts and a T20 Torx. He torques the bolts to 36-60 in-lbs.



17 The dash mounting stud can now go back into its groove in the top plate.

gasket (#61326-95/\$10.91), 10 new self-sealing bolts (#1311D/\$1.02 each), and a single O-ring (#11246/\$0.46). The two hoses we needed for this 1999 Road King are #62358-95 (\$29.28) and #62357-95 (\$32.48).

Before you go to the accompanying photos and captions, here's a word of caution. Don't cheap out and use a standard rubber fuel hose. The fuel lines from Harley-Davidson are pre-formed to stay away from the inner walls of the gas tank, removing the chance of getting another pinhole due to wear. Unless, of course, you'd rather change the fuel lines instead of riding with your buds.



18 After making sure the rubber strip is properly positioned around the base of the dash, Dan loosely reinstalls it onto the tank using the stock nut and a 1/2" socket.

SOURCES

**HARLEY-DAVIDSON
MOTOR COMPANY**
Harley-Davidson.com

ROB'S DYNO SERVICE
978/895-0441
RobsDyno.com

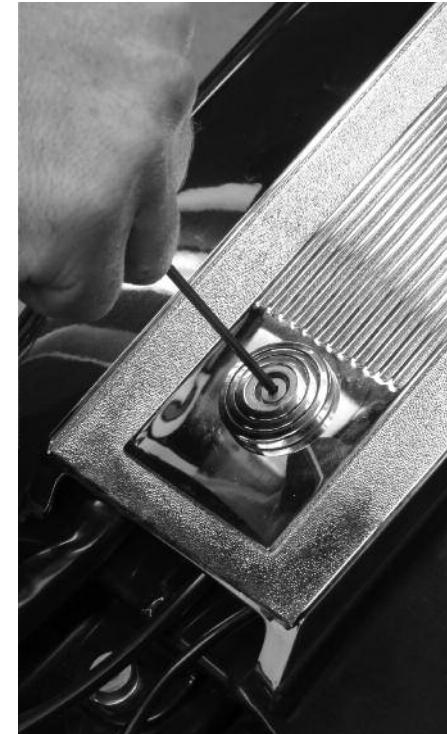
TIPS & TRICKS

DO WE HAVE TO SAY NOT TO have a cigar hanging out of your mouth while working on the fuel tank or lighting a match to see inside the tank? We didn't think so.

When connecting the pump's ground wire to the blade connector on the bottom of the fuel sender, it will slip on easily once you have it angled correctly, which was slightly towards the side of the tank on ours. I got it on by putting my hand into the tank so my wrist could bend back towards my forearm. This allowed my hand to go easily under the fuel sender.

Now that the tank is empty, does the fuel gauge read Empty? Then pour in half the capacity of the tank and see if the tank gauge reads half. If not, you can gently bend the arm to make it read correctly. Do not try to do the full tank reading since the fuel level will be too high, and it will flow out of the opening.

When reinstalling the top plate onto the tank, first get all 10 bolts started into their holes before you tighten them down. ■



19 After securing the dash's bottom using the stock bolt and a Phillips screwdriver (ours has a decorative washer and special bolt), Dan tightens the nut, refills the tank and verifies that everything works. MB

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