



Countries: CANADA, UNITED STATES Document ID: IK1500097
Availability: ISIS, Bus ISIS, IsSIR Revision: 10
Major System: FUEL SYSTEMS Created: 8/1/2018
Current Language: English Last Modified: 11/9/2018
Other Languages: NONE Author: Gintarus Andriusis
Viewed: 1076

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Coding Information

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Title: Gasoline Engine Bus Fuel System Issues

Applies To: PSI Gasoline Bus

Change Log

Please refer to the change log text box below for recent changes to this article:

11/09/2018 - Revised diagnosis steps and added additional repair steps
10/19/2018 - Revised Evaporative System Test PDF file
10/17/2018 - Added Evaporative System Test step, added note for over stretching fuel fill line in Repair Steps, added note for clocking fuel receiver tie strap in the PDF document
10/11/2018 - Added clean dates for repairs, and note about orientation of flapper valve
09/24/2018 - Added new fill receiver bracket section

Description

This article identifies known fueling issues on the PSI 8.8 Gasoline Engine for Bus.

Symptoms

Diagnostic Trouble Codes & Dashboard Indicator Lights:

DTC/Light	Description
No Faults or Warning Lights	

Customer Observations or Concerns:

- Hard to fuel/Does not take fuel in
- Incorrect fuel level reading

Special Tools / Software

Tool Description	Tool Number	Comments	Instructions
Not Applicable			

Service Parts Information

Kit Description	Part Number	Quantity Required	Notes
Valve, Check, Fuel Fill Inlet (flapper/spit back valve)	4109247C1	1	

Diagnostic Steps

Fueling issues diagnostic steps

If a unit has a complaint of not taking fuel in, please take pictures of any issues found before repairs are made and submit it to technical support case file

Step	Action	Decision
1	DIAGNOSTIC: Difficulties fueling the Bus YES/NO QUESTION? Is the bus hard to fuel/not taking fuel in?	Yes: Go to Step 2
		No: End of Diagnostics

Step	Action	Decision
2	DIAGNOSTIC: Verify the fuel fill tube Mat/Diaper is installed properly YES/NO QUESTION? Is the rubber Mat/Diaper NOT installed properly or touching the filler tube?	Yes: Go to Repair Steps for Fuel Fill Tube Mat/Diaper Installation
		No: Go to step 3

Step	Action	Decision
3	DIAGNOSTIC: Verify fuel fill receiver is properly secured with the tie strap as per Figure 3 YES/NO QUESTION? Is the fuel fill receiver properly secured and NOT able to be moved by hand just holding on to the fuel cap?	Yes: Go to Step 4
		No: Go to Repair steps for Filler Neck Alignment

Step	Action	Decision
4	DIAGNOSTIC: Verify fuel fill receiver is installed properly with vent orientation at 10-11o'clock position as per Figure 1 YES/NO QUESTION? Is the filler receiver and vent line in the correct orientation?	Yes: Go to Step 5
		No: Verify the updated Part Number for Fuel Fill Receiver is installed as per Repair steps for Filler Neck Alignment

Step	Action	Decision
5	DIAGNOSTIC: Inspect the fuel fill hose for excessive droop. Acceptable droop Figure 4 Unacceptable droop Figure 5	Yes: Go to Step 6
		No: Go to Repair steps for Fuel Fill Hose Excessive Droop

YES/NO QUESTION? Is the fuel fill hose within acceptable droop range?	
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Step	Action	Decision
6	DIAGNOSTIC: Verify vent line routing through the frame (at 3o'clock position) and over the fill hose as per Figure 1 YES/NO QUESTION? Is the vent line routed and secured properly?	Yes: Go to Step 7
		No: Route the vent line as Figure 1

Step	Action	Decision
7	DIAGNOSTIC: Check the gap between the fuel fill receiver bracket and the sill Acceptable - Figure 6 Unacceptable - Figure 7 YES/NO QUESTION? Is there excessive gap noticed?	Yes: Go to Repair Steps for Fill Receiver Bracket Repair
		No: Go to Step 8

Step	Action	Decision
8	DIAGNOSTIC: Check for sticking flapper valve/spit back valve. Check for any residue on the valve as per Figure 2 YES/NO QUESTION? Is the valve sticking, or any residue seen on the valve? or Is valve orientated incorrectly with hinge (flat edge) side on the bottom?	Yes: Go to Repair Steps for Valve replacement
		No: Go to Step 9

Step	Action	Decision
9	DIAGNOSTIC: In Repair Steps , follow the procedure under Evaporative System Test to check for restrictions within Evap lines and canisters YES/NO QUESTION? Are the Evap lines and canisters free of any blockage and restrictions?	Yes: End of Diagnostics
		No: Repair as Needed. Verify the Repair Resolved the Complaint

Figure 1

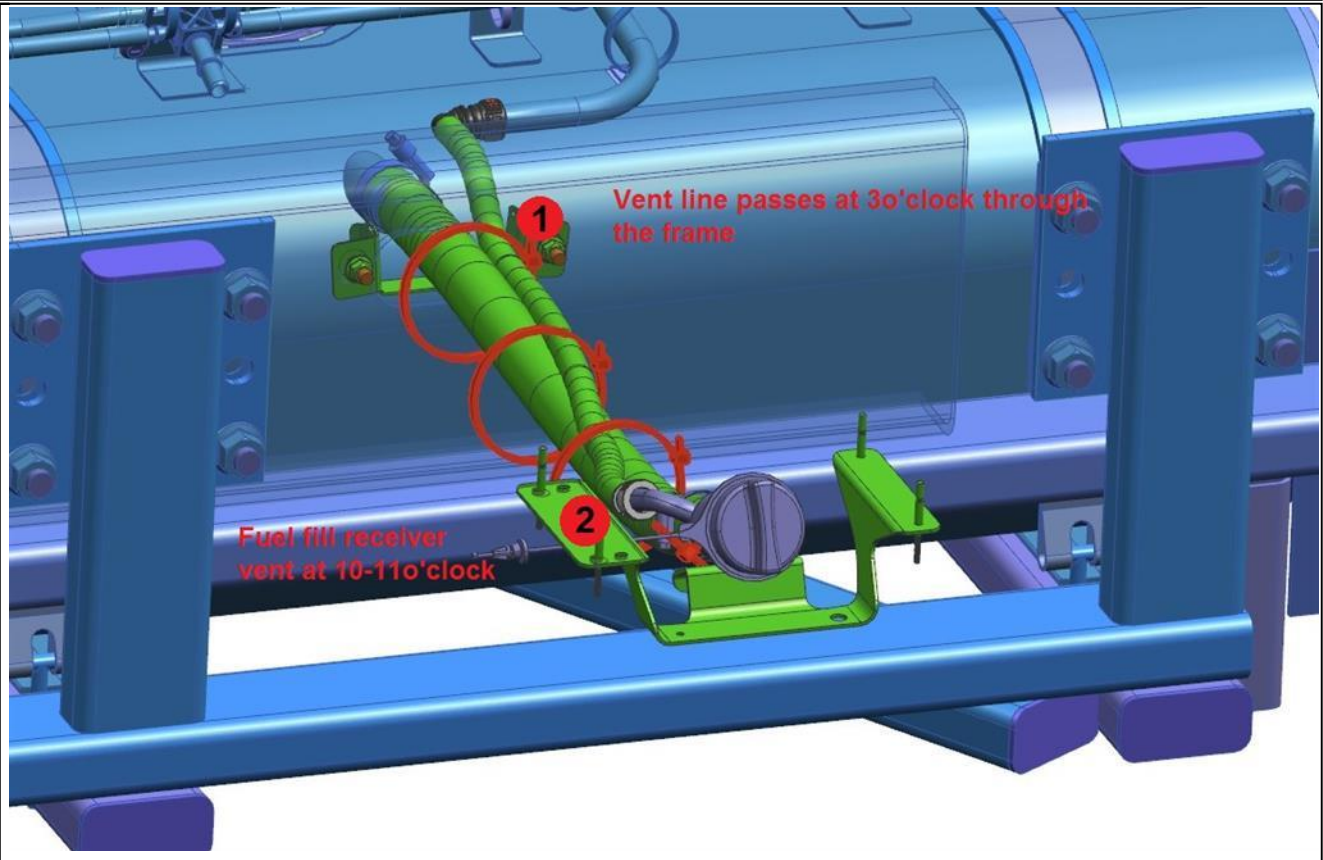


Figure 2

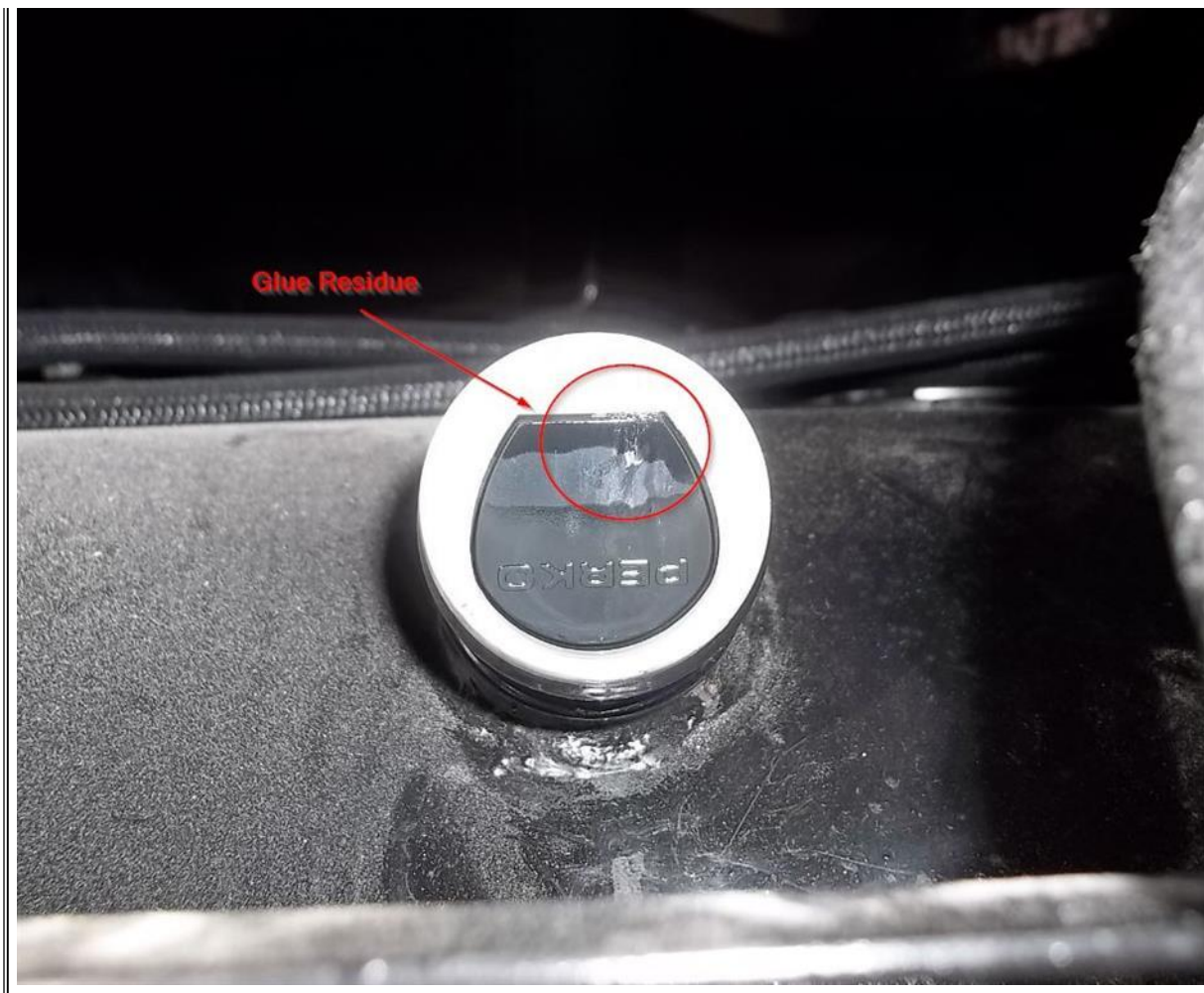


Figure 3



Figure 4 - Acceptable Fuel Fill Hose Droop



Figure 5 - Unacceptable Fuel Fill Hose Droop

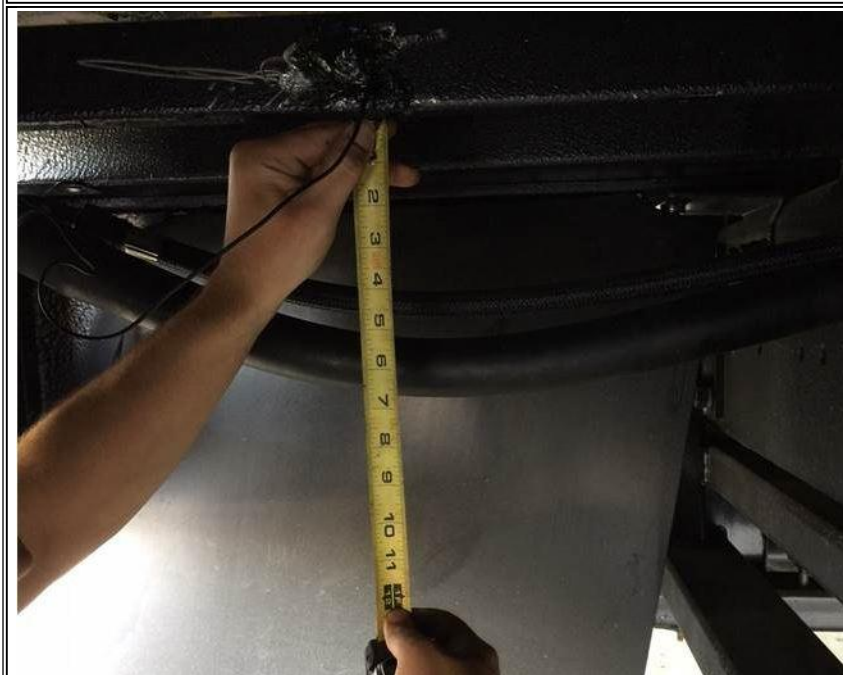
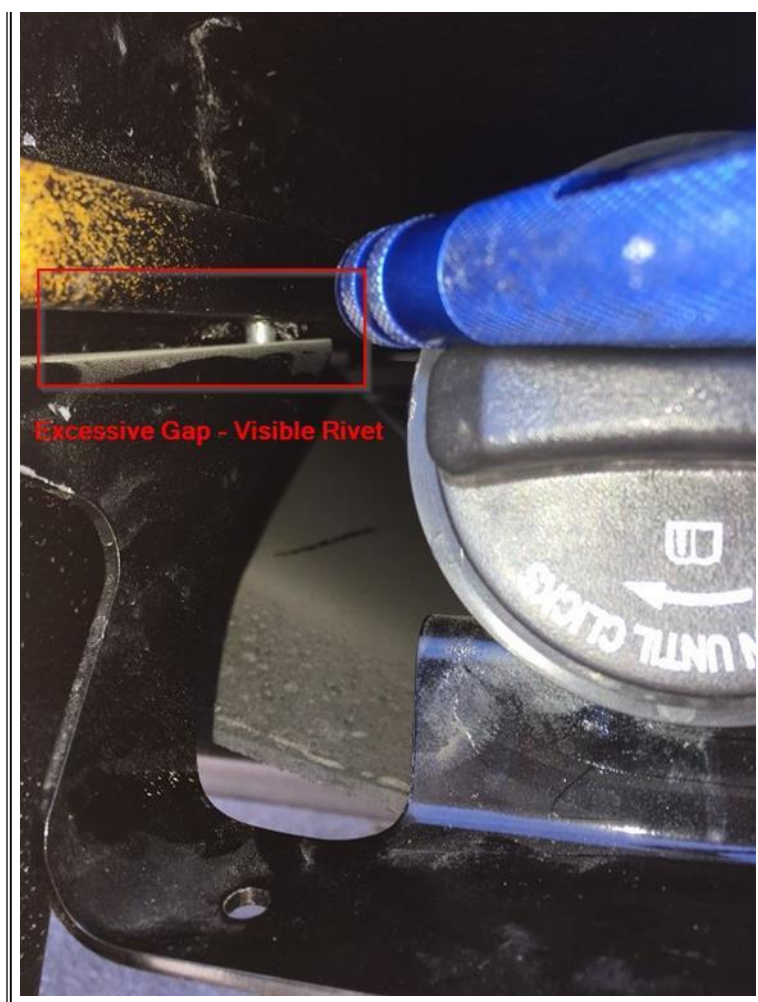


Figure 6 - Acceptable Fill Receiver Bracket Gap



Figure 7 - Unacceptable Fill Receiver Bracket Gap



Repair Step(s)

Fuel Neck Alignment (Plant clean date 6/15/2018)

1. Step 1: Follow the procedure in the link on Step 2
2. Step 2: [Fuel Neck Alignment Repair](#)
3. Step 3: Verify that the fuel receiver tie strap is clocked in the correct position as per drawing in the procedure above

Flapper/Spit Back Valve Replacement (Clean date 7/2018)

1. Step 1: Remove the filler hose/line
2. Step 2: Pry off the old valve, clean surface of any debris on the fill neck
3. Step 3: On a new valve apply **one drop** of Loctite on the **bottom of the valve** to secure the valve to the fill neck
4. Step 4: Install the valve in the same orientation as it was removed, flapper part facing down and hinge (flat edge) on top (or as shown in Figure 2)
5. Step 5: Reinstall the filler hose/line, torque fill neck clamp to 38-42 in-lb

Fuel Tank Replacement (Clean date 6/11/2018)

1. Step 1: Follow the procedure in the link on Step 2
2. Step 2: [Fuel Tank Removal and Installation Procedure](#)

Fuel Fill Hose Excessive Droop (Clean date 9/10/2018)

1. Step 1: Disconnect the fuel fill hose from the filler neck
2. Step 2: Trim the fuel fill hose as needed
3. Step 3: Reattach the hose as per "Fuel Neck Alignment" steps above
4. Step 4: Make sure to torque fill neck clamp to 38-42 in-lb

5. Step 5: Verify the fuel fill hose is within an acceptable droop range
6. ***Note*** Do not over stretch the fuel fill line to the point it is effecting the angle of the fuel fill receiver

Fill Receiver Bracket Repair (Clean date 9/25/2018)

1. Step 1: Remove the fill hose protecting diaper
2. Step 2: Remove the fill receiver from the support bracket by cutting the zip ties
3. Step 3: Drill out the improperly installed rivets
4. Step 4: Mount the bracket flush to the sill with new rivets
5. Step 5: Reinstall the fuel fill receiver as per "Fuel Neck Alignment Repair" above
6. Step 6: Verify the gap is no longer visible

Evaporative System Test

1. Step 1: Follow the procedure in the link on Step 2
2. Step 2: [Evaporative System Test](#)

Fuel Fill Tube Mat/Diaper Installation

1. Step 1: Refer to installation diagrams in Step 2
2. Step 2: [Fuel Fill Tube Mat/Diaper Diagrams](#)

Warranty Information

Warranty Claim Coding:

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

Standard Repair Time(s):

Refer to the [SRT Manual](#) for Repair Times

Other Resources

[Master Service Information Site](#)

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