

Fuel Level Unchanged After Refueling

Topic number	LI47.00-N-069565
Version	4
Function group	47.00 - General
Date	4/29/26
Validity	MODEL 907 with OM654, OM651, or OM642
Reason for change	Remedy Update


Complaint

The customer reports that the fuel gauge shows inaccurate readings or remains unchanged after refueling.

WIS-References		
Document number	Title	Note
AD00.00-S-2000-04E	Connect STAR DIAGNOSIS and read out fault memory	

Cause

- A. The Fuel Supply Control Unit (FSCU) fails to detect a refueling event.
- B. The Fuel Level Sensor provides incorrect readings.

Attachments	
File	Description
Stuck Level Sensor.jpg	Level Sensor Stuck on Pickup Tube
	
FSCU Calculation Error.png	FSCU Calculation Error

	XENTRY	
<p>Level Sensor Stuck 1.png</p>	XENTRY	<p>Level Sensor Stuck 1</p>
<p>Level Sensor Stuck 2.png</p>	XENTRY	<p>Level Sensor Stuck 2</p>
<p>Correct Install.MOV</p>		<p>Video 1 (Correct Install)</p>
<p>Wrong Install.MOV</p>		<p>Video 2 (Wrong Install)</p>

Remedy

NOTE: Do not replace the low-pressure fuel pump or fuel level sensor unless instructed by an approved TIPS case. A TIPS case must be opened before any pump or fuel level sensor replacement is performed.

Remedy A. The FSCU fails to detect a refueling event

NOTE: This issue arises when the CAN network does not enter sleep mode during refueling events. Contributing factors may include leaving the vehicle running, keeping the ignition switch on or turning it on during fueling, aftermarket modifications that prevent the CAN network from entering sleep mode, or a calculation error within the FSCU. The vehicle registers a new refueling event only when the FSCU detects a change in fuel level after the CAN network has entered sleep mode. This discrepancy can be seen in FSCU actual values where the CAN level significantly differs from the Level Sensor readings. Refer to attachments for examples.

First visit (Cause A)

1. Inspect FSCU actual values in XENTRY for fuel level.

- If “Fill Level of Fuel Tank (CAN Signal)” and “Fill Level of Fuel Tank (Fuel Level Sensor)” do not match, continue with Remedy A.

XENTRY Tips

- If they match but the fuel level reading is still incorrect, proceed to Remedy B.
2. Ask the client whether they refuel with the vehicle running or if they turn on the ignition switch during fueling.
 - Document customer fueling behavior. If vehicle is routinely fueled with ignition on or engine running, correct operating behavior and recheck after the next refuel.
 3. Check the vehicle for aftermarket, modified, or upfitted components (including diesel-burning generators) that could be preventing CAN sleep.
 4. Disconnect the battery ground located near the accelerator pedal and verify if the vehicle still has power.
 - If the vehicle remains powered, an upfit or modification is incorrectly wired and is keeping the CAN network active.
 5. If no issues are found during the previous steps, perform the FSCU reset procedure in XENTRY:
 - FSCU, Special Procedures, Reset Fuel Gauge (Password: TankReset).
 6. Release the vehicle.

Second visit (Cause A)

If the vehicle returns for the same concern after the first-visit steps above were completed, open a TIPS case routed to the Powertrain Inbox and include the required documentation listed in the "Repeat Visit / Escalation Requirements" section of this LI. Do not replace the low-pressure fuel pump or fuel level sensor unless instructed by the TIPS case.

Remedy B. The Fuel Level Sensor provides incorrect readings

NOTE: This issue may be present when the CAN and Level Sensor values are similar, but the displayed fuel level is incorrect or does not update correctly after refueling. Refer to attachments for examples.

First visit (Cause B)

1. Remove the fuel tank.
2. Carefully remove the low-pressure fuel pump lock ring for inspection.
3. Examine the fuel level sensor for signs of sticking, interference, a bent pickup tube, misrouted wiring, or hoses. Refer to attachments for examples.
4. Adjustment only. No parts replacement on the first visit.
 - Only if the fuel level sensor is found to be stuck on fuel lines, wiring, or the pickup tube, correct routing as needed, adjust the sensor position, and reinstall.
 - Do not replace the low-pressure fuel pump or the level sensor during the first visit for Cause B unless instructed by a TIPS case.
5. Installation caution (prevent repeat sticking):
 - When installing the low-pressure fuel pump module, ensure the pickup tube does not become stuck on the bottom of the fuel tank. If the pickup tube is forced against the bottom of the tank, the level sensor arm or float can bind and cause an incorrect fuel level reading.
 - Please review Video 1 (Correct Install) and Video 2 (Wrong Install) before installation.
6. Reassemble per WIS and verify fuel level reading and FSCU actual values after installation.

XENTRY Tips

IFQ note (updated clean point)

NOTE: If the vehicle has less than 2500 miles, the issue was found during PDI, or the vehicle was produced at the Charleston Plant after 01/14/2025, open an IFQ case with photos of your findings, but continue with your repairs.

Second visit (Cause B)

If the vehicle returns for the same concern after completing the first-visit checks and adjustment, open a TIPS case routed to the Powertrain Inbox and include the required documentation listed below. Do not replace the low-pressure fuel pump or fuel level sensor unless instructed by the TIPS case.

Repeat Visit / Escalation Requirements (Applies to Cause A and Cause B)

If the vehicle returns after completing the applicable first-visit remedy steps, open a TIPS case routed to the Powertrain Inbox and include:

- Reference this LI
- Current Quick Test results
- CDI and FSCU control unit logs
- FSCU actual values of fill level (CAN and Level Sensor values)
- Details of the previous repair actions and results

Parts control: A TIPS case must be opened if a low-pressure fuel pump or fuel level sensor replacement is being considered. No pump replacement is permitted unless instructed by the TIPS case.

WIS-References		
Document number	Title	Note
AR47.20-D-7000TSF	Remove/install fuel pump and fill level sensor	

Disclaimer

NOTE: The information contained in this document is intended for use by trained, professional technicians with the knowledge to properly and safely perform diagnosis and repairs on Mercedes-Benz vehicles, using Mercedes-Benz approved tools and equipment. It informs service technicians about conditions that could occur in certain vehicles and provides information that could assist in proper vehicle diagnosis, service, or repair. It does not indicate that a defect is present in any vehicle referenced in this document nor does it imply warranty coverage. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or groups of vehicles, or that a described repair applies to any particular vehicle or groups of vehicles. There can be multiple causes resulting in the same or similar symptoms or conditions described in this document, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis. The information contained in this document does not guarantee warranty coverage nor does it extend the vehicle's warranty in any way.

Symptoms
Communication/information > Information display > Displays > Fuel level gauge > Shows too high a value
Communication/information > Information display > Displays > Fuel level gauge > Shows too little
Communication/information > Information display > Displays > Fuel level gauge > Malfunction
Communication/information > Information display > Displays > Fuel level gauge > inexact

XENTRY Tips

Communication/information > Information display > Displays > Fuel level gauge > Shows empty

Operation numbers/damage codes

Op. no.	Operation text	Time	Damage code	Note
474001	Fuel tank (1) Drain/fill Observe accident prevention regulations	H		Time to drain fuel tank if needed during inspection.
477000	Fill level Sensor, Fuel Tank	H	4700650	Shows incorrect readings
540650	On-board power supply voltage Maintain (when checking/testing and troubleshooting)	H		
541011	Perform quick test	H		