STAR ONLINE PUBLICATION

Case Number: S2223000073

Release Date: October 2022

Symptom/Vehicle Issue: Power Liftgate Inoperative Or Intermittent Operation

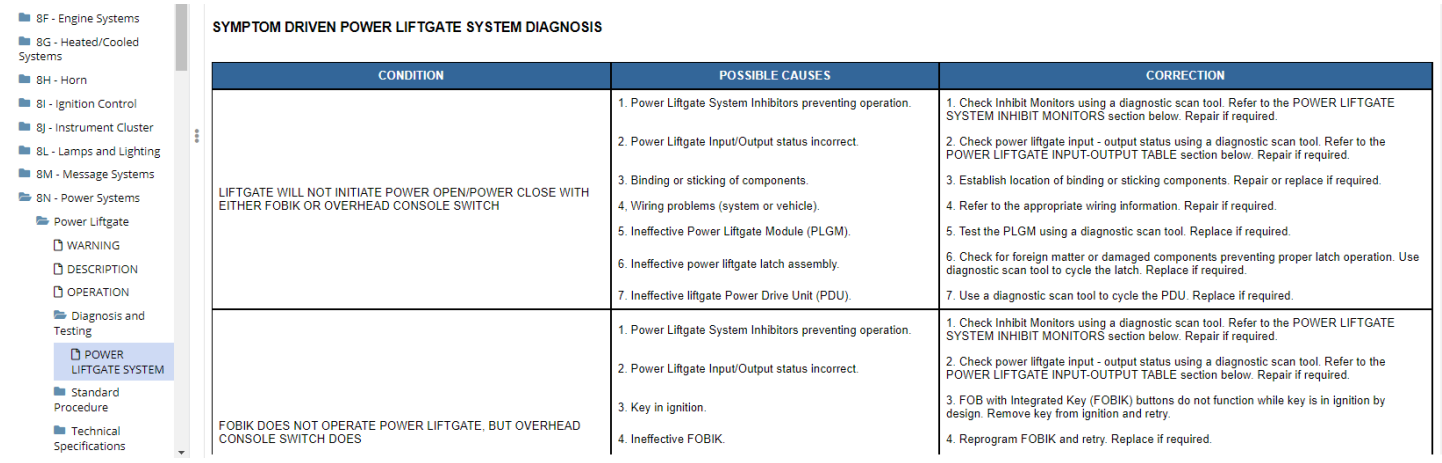
Customer Complaint/Technician Observation: Customer may complain of inoperative or intermittent liftgate condition. Technician may find Diagnostic Trouble Codes (DTCs) such as B1882-92 Liftgate position sensor.

Discussion:

1. Duplicate and verify the customer complaint. Look for items that may obstruct the liftgate latch such as floor mats or debris. Perform lift gate calibration with wiTECH if obstructions found.
2. Check for DTC's in the PLGM Power Lift Gate Module. Follow diagnostics for any active codes. Refer to 08 - Electrical / 8N - Power Systems / Power Liftgate / Diagnosis and Testing for additional information.
3. If no DTC's exist, or in addition to DTC testing inspect wire connections at the power drive unit.
4. Use Service Library diagnostic aids and resources. 08 - Electrical / 8N - Power Systems / Power Liftgate / Diagnosis and Testing section contains symptom based diagnostic charts. It also has a table of input/outputs and inhibit monitor explanations. See the below examples of additional information to assist in diagnosis. Reviewing these items may help in a difficult to duplicate condition with what to monitor

Contact STAR Center, or your Technical Assistance Center Via TechConnect, eCONTACT or Service Library entry if no solution is found.

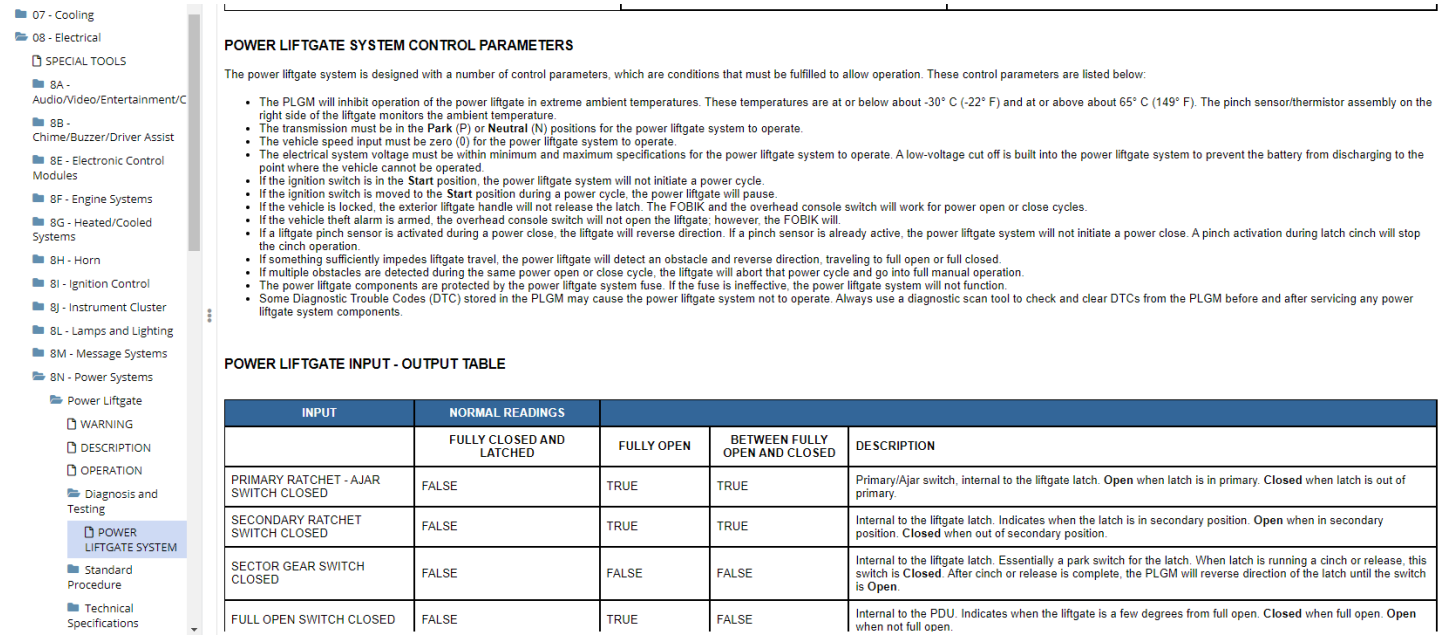
STAR ONLINE PUBLICATION



SYMPTOM DRIVEN POWER LIFTGATE SYSTEM DIAGNOSIS

CONDITION	POSSIBLE CAUSES	CORRECTION
LIFTGATE WILL NOT INITIATE POWER OPEN/POWER CLOSE WITH EITHER FOBIK OR OVERHEAD CONSOLE SWITCH	1. Power Liftgate System Inhibitors preventing operation.	1. Check Inhibit Monitors using a diagnostic scan tool. Refer to the POWER LIFTGATE SYSTEM INHIBIT MONITORS section below. Repair if required.
	2. Power Liftgate Input/Output status incorrect.	2. Check power liftgate input - output status using a diagnostic scan tool. Refer to the POWER LIFTGATE INPUT-OUTPUT TABLE section below. Repair if required.
	3. Binding or sticking of components.	3. Establish location of binding or sticking components. Repair or replace if required.
	4. Wiring problems (system or vehicle).	4. Refer to the appropriate wiring information. Repair if required.
	5. Ineffective Power Liftgate Module (PLGM).	5. Test the PLGM using a diagnostic scan tool. Replace if required.
	6. Ineffective power liftgate latch assembly.	6. Check for foreign matter or damaged components preventing proper latch operation. Use diagnostic scan tool to cycle the latch. Replace if required.
	7. Ineffective liftgate Power Drive Unit (PDU).	7. Use a diagnostic scan tool to cycle the PDU. Replace if required.
FOBIK DOES NOT OPERATE POWER LIFTGATE, BUT OVERHEAD CONSOLE SWITCH DOES	1. Power Liftgate System Inhibitors preventing operation.	1. Check Inhibit Monitors using a diagnostic scan tool. Refer to the POWER LIFTGATE SYSTEM INHIBIT MONITORS section below. Repair if required.
	2. Power Liftgate Input/Output status incorrect.	2. Check power liftgate input - output status using a diagnostic scan tool. Refer to the POWER LIFTGATE INPUT-OUTPUT TABLE section below. Repair if required.
	3. Key in ignition.	3. FOB with Integrated Key (FOBIK) buttons do not function while key is in ignition by design. Remove key from ignition and retry.
	4. Ineffective FOBIK.	4. Reprogram FOBIK and retry. Replace if required.

Symptom Based Diagnostics



POWER LIFTGATE SYSTEM CONTROL PARAMETERS

The power liftgate system is designed with a number of control parameters, which are conditions that must be fulfilled to allow operation. These control parameters are listed below:

- The PLGM will inhibit operation of the power liftgate in extreme ambient temperatures. These temperatures are at or below about -30° C (-22° F) and at or above about 65° C (149° F). The pinch sensor/thermistor assembly on the right side of the liftgate monitors the ambient temperature.
- The transmission must be in the **Park** (P) or **Neutral** (N) positions for the power liftgate system to operate.
- The vehicle speed input must be zero (0) for the power liftgate system to operate.
- The electrical system voltage must be within minimum and maximum specifications for the power liftgate system to operate. A low-voltage cut off is built into the power liftgate system to prevent the battery from discharging to the point where the vehicle cannot be operated.
- If the ignition switch is in the **Start** position, the power liftgate system will not initiate a power cycle.
- If the ignition switch is moved to the **Start** position during a power cycle, the power liftgate will pause.
- If the vehicle is locked, the exterior liftgate handle will not release the latch. The FOBIK and the overhead console switch will work for power open or close cycles.
- If the vehicle theft alarm is armed, the overhead console switch will not open the liftgate; however, the FOBIK will.
- If a liftgate pinch sensor is activated during a power close, the liftgate will reverse direction. If a pinch sensor is already active, the power liftgate system will not initiate a power close. A pinch activation during latch cinch will stop the cinch operation.
- If something sufficiently impedes liftgate travel, the power liftgate will detect an obstacle and reverse direction, traveling to full open or full closed.
- If multiple obstacles are detected during the same power open or close cycle, the liftgate will abort that power cycle and go into full manual operation.
- The power liftgate components are protected by the power liftgate system fuse. If the fuse is ineffective, the power liftgate system will not function.
- Some Diagnostic Trouble Codes (DTC) stored in the PLGM may cause the power liftgate system not to operate. Always use a diagnostic scan tool to check and clear DTCs from the PLGM before and after servicing any power liftgate system components.

POWER LIFTGATE INPUT - OUTPUT TABLE

INPUT	NORMAL READINGS			
	FULLY CLOSED AND LATCHED	FULLY OPEN	BETWEEN FULLY OPEN AND CLOSED	DESCRIPTION
PRIMARY RATCHET - AJAR SWITCH CLOSED	FALSE	TRUE	TRUE	Primary/Ajar switch, internal to the liftgate latch. **Open** when latch is in primary. **Closed** when latch is out of primary.
SECONDARY RATCHET SWITCH CLOSED	FALSE	TRUE	TRUE	Internal to the liftgate latch. Indicates when the latch is in secondary position. **Open** when in secondary position. **Closed** when out of secondary position.
SECTOR GEAR SWITCH CLOSED	FALSE	FALSE	FALSE	Internal to the liftgate latch. Essentially a park switch for the latch. When latch is running a cinch or release, this switch is **Closed**. After cinch or release is complete, the PLGM will reverse direction of the latch until the switch is **Open**.
FULL OPEN SWITCH CLOSED	FALSE	TRUE	FALSE	Internal to the PDU. Indicates when the liftgate is a few degrees from full open. **Closed** when full open. **Open** when not full open.

Input/Output Switch Charts

This document does not authorize warranty repairs. This communication documents a record of past experiences. STAR Online does not provide any conclusions about what is wrong with the vehicle. Rather, it captures all previous cases known that appear to be similar or related to the vehicle symptom / condition. You are the expert, and you are responsible for deciding on the appropriate course of action.

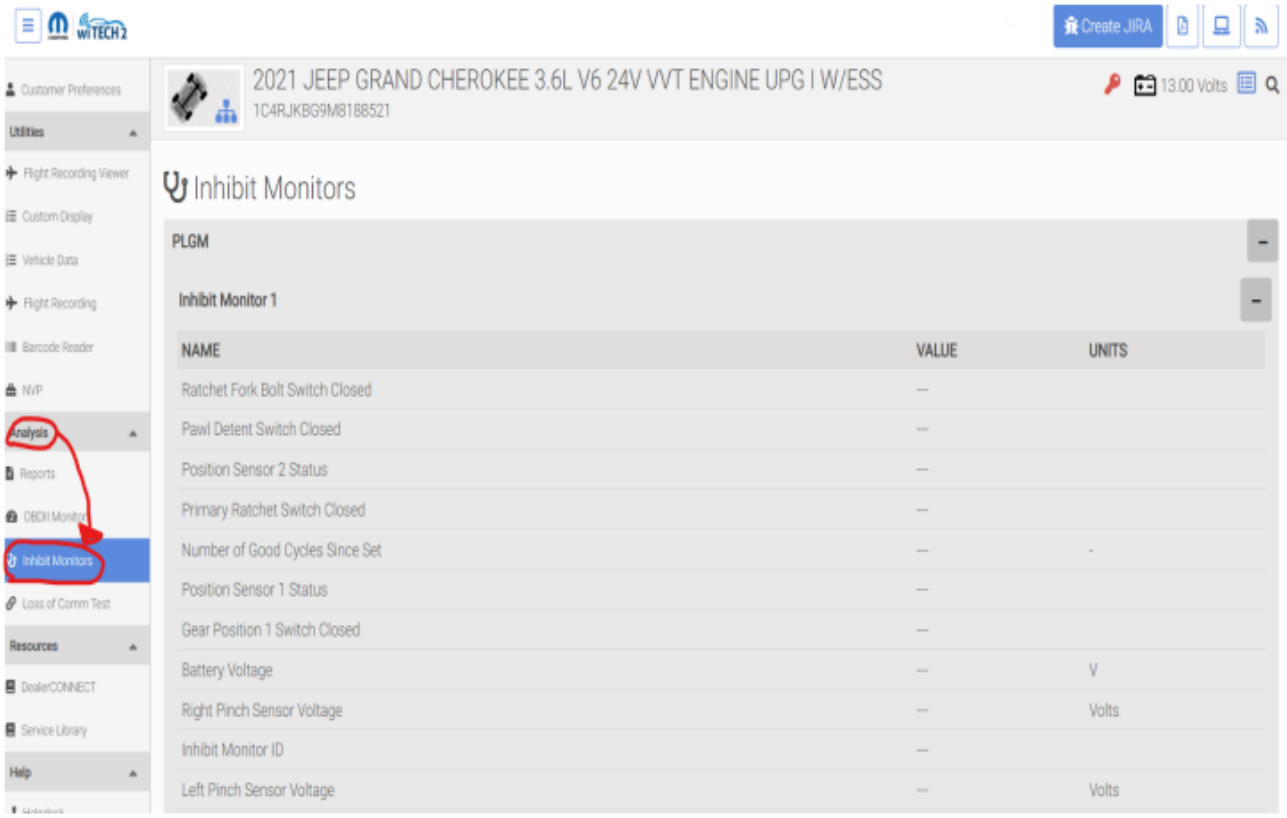
Contact STAR Center, or your Technical Assistance Center Via TechConnect, eCONTACT or Service Library entry if no solution is found.

POWER LIFTGATE SYSTEM INHIBIT MONITORS

The following is a list of inhibit monitors that may be observed using an appropriate diagnostic scan tool.

INHIBIT MONITOR	POSSIBLE CAUSES	CORRECTION
$80 OPEN INHIBIT - VOLTAGE TOO LOW	1. Low or dead battery.	1. Test and charge battery. Replace if required.
$82 CLOSE INHIBIT - VOLTAGE TOO LOW	2. Ineffective power or ground circuits to the Power LiftGate Module (PLGM).	2. Check the power and ground circuits for the PLGM. Repair if required.
	3. Inaccurate voltage reading from the PLGM.	3. Compare the PLGM battery reading using a diagnostic scan tool with a voltmeter reading at the PLGM wiring connections. If a voltage difference of 0.5 Volt or greater is obtained, replace the PLGM.
$81 OPEN INHIBIT - VOLTAGE TOO HIGH	1. Charging system over voltage.	1. Test the charging system. Repair if required.
$83 CLOSE INHIBIT - VOLTAGE TOO HIGH	2. Inaccurate voltage reading from the PLGM.	2. Compare the PLGM battery reading using a diagnostic scan tool with a voltmeter reading at the PLGM wiring connections. If a voltage difference of 0.5 Volt or greater is obtained, replace the PLGM.
$84 OPEN INHIBIT - TEMPERATURE TOO LOW	1. Temperature was below -30° C (-22° F) when the operation was attempted.	1. Inform customer of power liftgate system temperature operating range.
	2. Open or high resistance to right pinch sensor thermistor through signal or ground circuit.	2. Check the signal and ground circuits between the pinch sensor and the PLGM including the in-line connectors. Repair if required.
$86 CLOSE INHIBIT - TEMPERATURE TOO LOW	3. Ineffective right pinch sensor or thermistor.	3. Allow vehicle to sit in a constant temperature environment for one hour with the liftgate open. Test the resistance of the right pinch sensor and thermistor compared to specification. Replace if required.
	4. Inaccurate temperature reading from the PLGM.	4. Allow vehicle to sit in a constant temperature environment for one hour with the liftgate open. Compare the PLGM temperature reading using a diagnostic scan tool with the temperature indicated by the resistance specification of the right pinch sensor and thermistor. If the right pinch sensor and thermistor are within range of specification and the temperature difference at the PLGM is greater than 4.5° C (8° F), replace the PLGM.
$85 OPEN INHIBIT - TEMPERATURE TOO HIGH	1. Temperature was above 65° C (149° F) when the operation was attempted.	1. Inform customer of power liftgate system temperature operating range.
	2. Shorted or partially shorted right pinch sensor thermistor through signal or ground circuit.	2. Check the signal and ground circuits between the pinch sensor and the PLGM including the in-line connectors. Repair if required.

Inhibit Chart



Inhibit monitors are found in WiTECH under the Analysis tab.

This document does not authorize warranty repairs. This communication documents a record of past experiences. STAR Online does not provide any conclusions about what is wrong with the vehicle. Rather, it captures all previous cases known that appear to be similar or related to the vehicle symptom / condition. You are the expert, and you are responsible for deciding on the appropriate course of action.

Contact STAR Center, or your Technical Assistance Center Via TechConnect, eCONTACT or Service Library entry if no solution is found.