

ATTENTION:

- GENERAL MANAGER
- PARTS MANAGER
- CLAIMS PERSONNEL
- SERVICE MANAGER

IMPORTANT - All Service Personnel Should Read and Initial in the boxes provided, right.

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QUALITY DRIVEN® SERVICE

SERVICE INFORMATION BULLETIN

APPLICABILITY: All I.C.E. Models

NUMBER: 15-308-23R

SUBJECT: Diagnostic Information - Testing Telematics Systems for Dark/Standby Current

DATE: 11/15/22

REVISED: 10/28/25

INTRODUCTION

This Service Information Bulletin outlines a systematic procedure for diagnosing parasitic draw (dark/standby current) in vehicles experiencing battery drain when the ignition is off, leading to no-start conditions or frequent jump-starts. It addresses the tendency of technicians to prematurely attribute parasitic draw to the Data Communication Module (DCM), particularly Gen1 units known for excessive draw (120–140 mA, TSB 15-291-22, TSB 15-312-23R). Manufacturer evaluations confirm that Gen3/Gen4 DCMs have no consistent parasitic draw issues, necessitating a thorough diagnostic approach to identify the true cause without assuming DCM failure. Customer parking conditions (e.g., low-signal areas like underground garages) may cause temporary DCM draw, which must be verified.

Carline	MY 2016	MY 2017	MY 2018	MY 2019	MY 2020	MY 2021	MY 2022	MY 2023	MY 2024	MY 2025	MY 2026
Ascent	n/a	n/a	n/a	Gen 2	Gen 2	Gen 2	Gen 2	Gen 3	Gen 3	Gen 3+	Gen 3+
Crosstrek	Gen 1	Gen 1	Gen 1	Gen 2	Gen 2	Gen 2	Gen 2	Gen 2	Gen 3	Gen 3+	Gen 3+
Crosstrek Sport Hybrid	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Gen 3+v2
Crosstrek Hybrid	n/a	n/a	n/a	Gen 2	Gen 2	Gen 2	Gen 2	Gen 2	Gen 2	Gen 3	Gen 3
Forester	Gen 1	Gen 1	Gen 1	Gen 2	Gen 2	Gen 2	Gen 2+	Gen 2+	Gen 2+	Gen 3+	Gen 3+
Forester SHEV	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Gen 3+	n/a
Forester Wilderness	n/a	n/a	n/a	n/a	n/a	n/a	Gen 2+	Gen 2+	Gen 2+	Gen 2+	n/a
Impreza	Gen 1	Gen 1	Gen 1	Gen 2	Gen 2	Gen 2	Gen 2	Gen 2	Gen 3	Gen 3+	Gen 3+
Legacy	Gen 1	Gen 1	Gen 1	Gen 1	Gen 2	Gen 2	Gen 2	Gen 3	Gen 3	Gen 3+	n/a
Outback	Gen 1	Gen 1	Gen 1	Gen 1	Gen 2	Gen 2	Gen 2	Gen 3	Gen 3	Gen 3+	Gen 4
WRX	n/a	Gen 1	Gen 1	Gen 1	Gen 1	Gen 1	Gen 2+	Gen 2+	Gen 3	Gen 3+	Gen 3+
BRZ	n/a	n/a	n/a	n/a	n/a	n/a	Gen 2+	Gen 2+	Gen 2+	Gen 2+	Gen 2+

CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.

Subaru Service Bulletins are intended for use by professional technicians ONLY. They are written to inform those technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.

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APPLICABLE SPECIFICATIONS

1. **Acceptable Parasitic Draw:** ≤ 70 mA (Subaru specification; typical: 30-35 mA).
2. **Test Conditions:** Vehicle in sleep mode (all systems off, computers dormant).
3. **Tools Required:**
 - Digital Multimeter (DMM) with 10A/mA range, graphing function preferred (20A for safety).
 - DC Amp clamp (optional for non-invasive testing).
 - Vehicle-specific fuse diagrams and wiring schematics.
 - Midtronics DCA-8000 or equivalent battery tester.
 - Subaru Select Monitor 4 (SSM4) for DCM status verification.

DIAGNOSTIC PRECAUTIONS

1. **Do not assume the DCM is the source of the draw.** Manufacturer analysis of Gen2-3 (2020–present) DCMs shows no consistent faults.
2. **Battery Health:** Weak batteries mimic parasitic draw. Test battery condition first (TSB 07-178-21R).
3. **Sleep Mode Timing:** Allow 25-55 minutes post-key-off for sleep mode. **DCM reboot (e.g., fuse pull) requires re-wait**
4. **Intermittent Draws:** If the draw fluctuates, verify that all accessories are turned off. A pulsing mA reading may indicate an active module.
5. **DCM DTCs:** Before testing, perform an all-system scan to ensure there are no current Telematics DTCs, as they can skew results by delaying the DCM's power-down. NOTE: Consider DTCs like B2255 or B2256, which indicate a problem between the DCM and the Infotainment unit.
6. **Zero Signal:** Verify signal strength $\geq 23\%$. If $\sim 0\%$, move the vehicle to a better coverage area and retest. NOTE: If the signal strength never rises above 0, there may be an antenna or internal DCM problem. Before proceeding, use STIS, TSBs, and TechTIPs to diagnose a zero signal.
7. **Customer Parking:** Low signal strength (e.g., underground garages) may cause DCM to stay awake, drawing up to 140 mA for 14 days until hibernation.
8. **One-Time Dead Battery:** A one-time dead battery does not indicate a parasitic draw and is more likely a customer error or transient anomaly. Once the battery is ruled out as the root cause, parasitic draw testing should be performed on batteries repeatedly going dead or having low voltage.

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DIAGNOSTIC PROCEDURE

Step 1: Pre-Diagnosis Checks

- 1. Verify Customer Complaint:** Confirm battery drain symptoms (e.g., repeated dead battery overnight, frequent jump-starts). NOTE: A one-time dead battery does not indicate a parasitic draw and is more likely a customer error or transient anomaly. Once the battery is ruled out as the root cause, parasitic draw testing should be performed on batteries repeatedly going dead or having low voltage.
- 2. Interview Customer:** Ask where the vehicle is parked (e.g., an underground garage with a low signal may cause the DCM to stay awake).
- 3. Verify DCM Status:**
 - Use SSM4 to perform an all-system scan for current Telematics DTCs (e.g., B2A0C, U1198).
 - Verify signal strength $\geq 23\%$. If $\sim 0\%$, move the vehicle to a better coverage area and retest. NOTE: If the signal strength never rises above 0, there may be an antenna or internal DCM problem. Before proceeding, use STIS, TSBs, and TechTIPs to diagnose a zero signal
- 4. Test Battery Health:**
 - Use Midtronics DCA-8000 to verify the state of charge (SOC) and condition.
 - Charge battery to $\geq 12.6V$. Replace if it fails to hold a charge (TSB 07-219-23R).
- 5. Check Charging System:**
 - Test alternator and voltage regulator (TSB 07-236-25).
 - Remove or depower aftermarket accessories (e.g., cameras, USB devices).
- 6. Prepare Vehicle for Sleep Mode:**
 - Follow Appendix B to set systems, switches and lamps in the correct state.
 - Close doors, hood, and trunk. Close the door and hood latches to prevent the CAN from staying awake.
 - Store key fob ≥ 15 feet away to avoid keyless access polling.
 - Ensure no movement is near the door handle, touch, rear gate wave, or kick sensors.
 - Wait 25-55 minutes.
 - Critical: Avoid testing during Evaporative Emission Control Module (ELCM) cycles (5 hours post-key-off). Complete measurements within 20 minutes or restart the engine and re-wait. NOTE: Avoid overnight draw capture tools, as they may capture other vehicle system wake cycles, falsely indicating a parasitic draw.

Step 2: Initial Parasitic Draw Test (Ammeter Clamp Method)

- 1. Set Up Multimeter:**
 - Configure the DMM to the 10A/20A range, then switch to mA for precision. Use the graphing DMM to capture pulsation.
 - Verify DMM fuse integrity for high current.

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Step 3: Fuse-Pulling Method

1. Locate Fuse Panels:

- Refer to vehicle-specific fuse diagrams (engine/passenger compartments).
- Identify the DCM Battery Fuse.

2. Pull DCM Battery Supply Fuses: Start by removing the DCM battery supply fuse. Wait 1–2 minutes for the draw reading to stabilize in between on each fuse removed. Record the current draw after each fuse is removed.

- If the draw drops below 70 mA, inspect the corresponding circuit for the cause.
- If the draw decreases but remains above 70 mA, another source of draw may be present. Do not condemn the DCM until the other source is isolated.
- If the draw does not drop below 70 mA after all fuses are removed, refer to TSB 07-236-25 for additional information on parasitic draw sources.

Model	Year	ACC Fuse	IG Fuse	Batt Fuse
Ascent	19 - 25	FB-54 Fuse #4	FB-44 Fuse #8	MB-40 Fuse #5
Forester	19 - 24	FB-54 Fuse #4	FB-44 Fuse #8	MB-41 Fuse #5
Forester	25	FB-51 Fuse #4	FB-41 Fuse #8	MB-8 Fuse #10
Forester	25	X	X	MB Fuse#22
Imprezza	17-23	FB-54 Fuse #4	FB-44 Fuse #8	MB-41 Fuse #18
Imprezza	24-25	FB-51 Fuse #4	FB-44 Fuse #8	MB-8 Fuse#10
Imprezza	24-25	X	X	MB Fuse#22
Legacy / Outback	20 - 22	FB-51 Fuse #4	FB-41 Fuse #8	MB-1 SBF-3
Legacy / Outback	23-25	FB-51 Fuse #4	FB-41 Fuse #8	MB-8 Fuse#1
Crosstrek ICE / Hybrid	18 - 23	FB-54 Fuse #4	FB-44 Fuse #8	MB-41 Fuse #18
Crosstrek ICE / Hybrid	24-25	FB-51 Fuse #4	FB-41 Fuse #8	MB-8 Fuse #10
Crosstrek ICE / Hybrid	24-25	X	X	MB Fuse#22
WRX	22-24	FB-51 Fuse #4	FB-41 Fuse #8	MB-1 SBF-3
BRZ	22-24	FB-28 Fuse #13	FB-70 Fuse #29	MB-23 Fuse #9
Crosstrek ICE / Hybrid	16-17	FB-25 Fuse #24	FB-37 Fuse #12	MB-34
Imprezza	16	FB-25 Fuse #24	FB-37 Fuse #12	MB-34
Legacy / Outback	16-19	FB-48 Fuse #4	FB-58 Fuse #5	MB-52 Fuse #9
Forester	16-18	FB-25 Fuse #24	FB-37 Fuse #12	MB-34
WRX	17-21	FB-25 Fuse #24	FB-37 Fuse #12	MB-34
WRX	17-21	X	X	MB-33

3. Investigate Suspect Circuit:

- Use wiring diagrams to identify components.
- Inspect for faults (e.g., relays, modules, wiring shorts).
- If the DCM fuse reduces draw, proceed to Step 5 before condemning DCM.

Reinstall Fuses:

- Replace all fuses to original positions.

NOTE: Reinstalling the DCM fuse will reboot the DCM, and the draw will be excessive as the DCM completes the reboot. For voltage readings to be accurate, it is necessary to wait 25-55 minutes again.

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Step 4: Voltage Drop Method (Alternative)

- 1. Purpose:** Diagnose draw non-invasively, preserving system state and capturing intermittent draws.
- 2. Set Up DMM:**
 - Configure DMM to millivolts (mV).
 - Ensure the vehicle is in sleep mode (25-55 minutes post-key-off).
- 3. Test Voltage Drop Across Fuses:**
 - Touch DMM probes to fuse test points (without removing fuses).
 - Record the mV drop for each fuse.
 - Compare to expected values: See Chart in Appendix A
- 4. Interpret Results:**
 - Abnormal drops are indicated by the current flow in the chart in Appendix A.
 - Trace components on affected circuit using wiring diagrams.
 - If the DCM circuit shows a drop, proceed to Step 5 before condemning DCM.
- 5. Advantages: Non-invasive, effective for intermittent draws.**

Step 5: DCM-Specific Diagnosis

- 1. Test DCM Draw:**
 - If fuse-pulling or voltage drop indicates DCM circuit, measure draw with DCM fuse installed vs. removed.
 - If draw >70 mA, disconnect DCM to isolate contribution. Use graphing DMM to confirm steady draw, not pulsation.
- 2. Evaluate Gen3 DCM:**
 - Gen3 DCMs have no consistent parasitic draw issues per manufacturer data.
 - Do not replace Gen3 DCM without conclusive evidence (e.g., steady draw >70 mA, active DTCs) and QMR submission.
 - Inspect the Infotainment system and ensure there are no current DTCs that may be related to the telematics system.

Step 6: Final Verification

- 1. Recheck Parasitic Draw:**
 - Retest the total draw using Step 2.
 - Ensure the draw is ≤ 70 mA and stable over 10-15 minutes.
- 2. Test Battery and Charging System:**
 - Reverify battery health and alternator output.
 - Rule out underlying issues masking repairs.

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3. Document Findings:

- Record measurements and repairs for QMR and future reference, and support DCM parts analysis after part collection.

4. Customer Communication:

- If applicable to the retailer's service area, inform customers about the impact of low signal on DCM wake cycles and parasitic draw, especially on vehicles not driven frequently.

GENERATION INFORMATION

1. **Gen3 DCMs:** No documented history of parasitic draw issues. Replacement requires QMR submission with fail code PZZ-42 (parasitic draw) or ZQQ (other issues). Effective 07/15/2024, Gen3 DCMs are on hold until QMR approval.

QMR REQUIREMENTS FOR GEN3/GEN4 DCM REPLACEMENT FOR PARASITIC DRAW

Submit QMR with the following for parasitic draw-related replacements (fail code PZZ-42):

1. SSM4 project file: All system DTC scans, DCM Telematics PIDs, CCU/Central Gateway PIDs.
2. CCU log per TSB 15-304-22.
3. Midtronics battery test results. (If the battery fails, we must get a good test before parasitic draw testing. Charge or replace the battery before testing).
4. DVOM photo showing parasitic draw while after 25-55 minute measurement window(Step 2.3).
5. DVOM photo confirming below 70mA draw with DCM power fuse removed (Step 3.2).
6. Part order number (VOR, not DCM part number).
7. Use fail code PZZ-42 for parasitic draw and ZQQ for other DCM issues. Incomplete submissions delay part release. SOA may request DSQM verification.
8. For DCM replacement not related to parasitic draw please see QMR requirements below:

QMR Requirement Checklist for DCM Part Release (Except Parasitic Draw)

NOTE: There is no QMR requirement for Gen1 or Gen2 DCMs diagnosed with parasitic draw. There is ongoing quality improvement programs for Gen3/Gen4 DCM which necessitates a QMR for DCM release.

SERVICE PROCEDURE / INFORMATION

1. Follow the service manual: STARTING/CHARGING SYSTEMS > Battery.
2. Measurement of Dark Current: Refer to TSB 07-85-14
3. Parasitic Draw Testing, A Different Approach: Refer to TechTIPs Oct. 2021 pg. 8.
4. Parasitic Draw Testing and Telematics: Refer to TechTIPs May 2020 pg. 4.
5. MY19-21 Forester/Ascent, MY20-21 Legacy/Outback: Refer to TSB 07-236-25.
6. Midtronics TIPs and Tricks: Refer to TechTIPs Dec. 2019 pg. 4.

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WARRANTY / CLAIM INFORMATION

REQUIRED CLAIM DATA COLLECTION: In our ongoing commitment to quality and continuous improvement, Subaru closely monitors repairs related to parasitic draw in the telematics system. Retailer-supplied data is crucial. To ensure the effectiveness of these efforts, we request valuable retailer assistance in capturing critical diagnostic information.

All Warranty claims submitted for a Diagnostic Control Module (DCM) replacement in cases when the DCM is identified as the root cause of failure **MUST** be diagnosed using the procedures outlined within this Service Information Bulletin. Include the following data within the miscellaneous information section of the claim submission:

- Recorded parasitic draw amperage **BEFORE** DCM replacement.
- Recorded parasitic draw amperage **AFTER** DCM replacement.

This information **MUST** be included to avoid claim rejection. Consistent and accurate data collection will continue to improve the quality and reliability of our vehicles. For vehicles within the Basic New Car Limited Warranty period or covered by an active SAS Gold Plan, this repair may be submitted using the following claim information:

Labor Description	Labor Operation #	Labor Time	Fail Code
15-308-23 DARK CURRENT TESTING AND DCM R&R	A067-986*	1.2H	PZZ-42

*Dark current measurements recorded before and after repair will be required for claim entry.

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APPENDIX A: ALTERNATE DARK CURRENT/STANDBY CURRENT DRAW TEST PROCEDURE

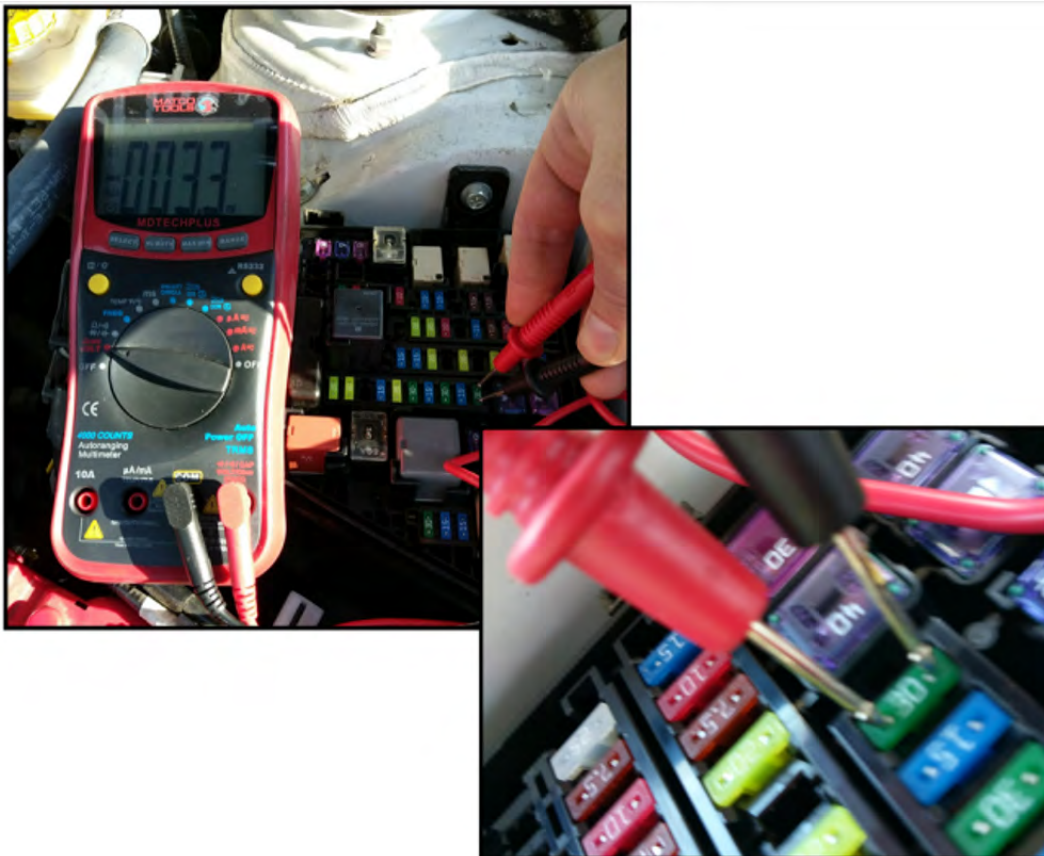
Old Technique vs New Technique

The traditional method detailed in the body of this TSB – disconnecting the battery, putting the multimeter in series, and pulling fuses until the draw source is found – is the method detailed in STIS but may not always be the most efficient method of finding dark/standby draw. This inefficiency is because the very disconnection of the battery may temporarily fix the issue by sending the system to sleep along with the error or having to wait an excessive time for the module to go back to sleep. This behavior can complicate isolation testing and make recorded results confusing.

An alternative diagnostic method of dark/standby current draw testing can be performed by measuring the voltage drop across the fuses. This can be done by using the test points on the fuses without breaking the battery connection, pulling fuses, disturbing the circuit, or awakening any modules. What you are looking for is a voltage drop in the millivolts range. This is caused by an increase in resistance brought about by heating the fuse through the movement of current.

Different sized fuses will show different voltage drops. For example, a 10A fuse with 175 mA flowing through it will show a voltage drop of 1.5mV. When measuring the same fuse with no current flow, it would be more like 0.1mV or 0.2mV.

While using this dark/standby draw isolation method, excessive mV readings indicate the need for further root cause isolation. Disconnecting components fed by the fuse until mV readings come within expected tolerances.



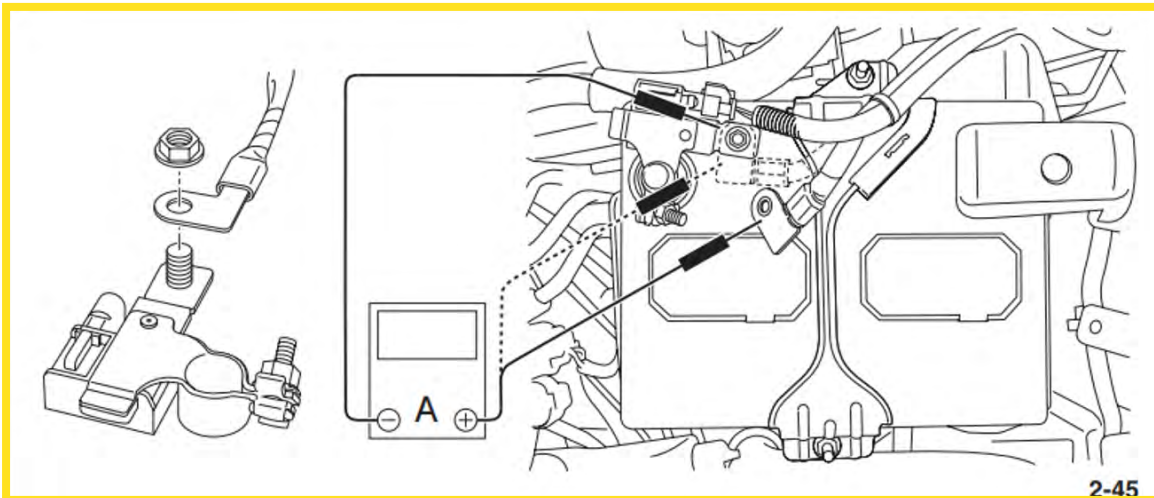
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APPENDIX B: VEHICLE PREPARATION

NOTE: Recent analysis of collected Gen3 DCMs has consistently shown no issues with the collected modules. This strongly indicates that many reported parasitic draw issues are likely the result of inaccurate testing procedures. Failure to follow the prescribed parasitic draw testing procedure can lead to false positive results. This can incorrectly identify the DCM as the root cause of a parasitic draw issue when, in fact, the DCM is not the source of the problem. It is absolutely critical that technicians strictly adhere to the parasitic draw testing procedures outlined in this TSB.

Through dark/standby draw testing, determine the source of the draw following the procedure below. If it is determined the root cause of the dark/standby draw is the DCM, it must be replaced to repair the draw in the Telematics system.

1. Prepare the DVOM with capability to measure down to 1mA.
 - To ensure circuit integrity, connect the digital voltmeter (DVOM) in series with the negative battery cable prior to disconnecting the cable from the battery negative terminal.



NOTE: The battery health state can influence the dark/standby current test results. Determining the battery condition prior to testing can be vital. Additional battery testing and charging information can be found in TSB 07-178-21R.

2. Remove or disconnect any aftermarket electrical accessories. This includes cameras, non- Subaru remote start equipment, insurance trackers, etc. Always check all USB ports for connected devices.
3. Start the engine and set the switch positions for each system as shown in the table below.

Note:
Some systems are not equipped depending on the vehicle. Therefore, perform work only on the systems equipped on the vehicle.

System	Position
Headlight	ON or AUTO
Fog light	ON
Wiper (front and rear)	ON or Low speed
Audio and navigation system	ON
Rear defogger	ON
Room light	ON
Luggage light	DOOR
Map light	ON
Auto A/C	ON (AUTO)
Manual A/C	ON (Speed 1)
Electronic parking brake	OFF
Electrical parts other than those listed in the previous item (electrical parts that users can confirm the operation with the key removed)	OFF

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4. Turn the ignition switch to OFF.
5. Operate the front hood lock release lever to unlock the front hood.
6. Close all the doors (including the rear gate and trunk lid) then lock the doors. (Security alarm is in set condition)
7. Wait at least 25 to 55 minutes before continuing for the most accurate test results. Performing this step is CRITICAL.

NOTE: To ensure accurate parasitic draw measurements, it is crucial to allow sufficient time for all vehicle systems to enter a stable sleep mode.

Critical: Pulling any DCM fuse and reinstalling it will cause the DCM to reboot and wake up requiring that the 25-55 min wait time be allowed before continuing to look for excessive dark current.

- Vehicles equipped with Electronic Power Steering (EPS): Allow a minimum of 55 minutes after disconnecting the battery before recording measurements. This time allows the EPS system to fully power down, preventing erroneous readings.
 - Vehicles without EPS: Allow a minimum of 20 minutes after disconnecting the battery before recording measurements.
 - Do not monitor voltage overnight using a voltage recording meter. The Evaporative Emission Control Module (ELCM) activates and runs for several cycles approximately 5 hours after the engine has been turned off, which can interfere with accurate parasitic draw readings.
8. The vehicle is now ready to be tested. Proceed with Step 3 or Step 4 above to isolate potential parasitic draw

NOTES:

- **ALWAYS** store the access key fob at least **15 feet** away from the vehicle after the doors are locked. The access key fob **MUST NOT** be stored adjacent to the vehicle during dark/ standby current testing.
- The Electronic Power Steering System (EPS) may still be active 55 minutes after turning the ignition switch to the OFF position.
- For a model with a keyless access function, the dark/standby current can change periodically because the keyless access system is continuously searching for the access key (polling).
- When measuring the standby current with a graphing DVOM, the reading may oscillate. Read the average value (median value).
- The standby current may become significant when the vehicle system (ELCM) is activated five times at 30-minute intervals or 5 hours after turning the ignition switch to OFF. The measurement should be completed in 20 minutes. If it takes more than 20 minutes, start the engine once, stop the engine, then perform the inspection.

STIS Dark Current Video: If you need more information on parasitic draw testing please refer to the Dark Current Video.

