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## 01 QMR of the Month

We are pleased to announce this month's QMR of the Month Winner:

**David Jodat** from  
from **Subaru City of Milwaukee** in Milwaukee, WI

The winning Quality Monitoring Report selected from October's submissions involves diagnosis and repair on a 2020 Legacy with an unusual concern of the trunk opening when either pressing any of the door lock / unlock buttons or shifting the CVT into reverse. The customer also reported receiving STARLINK notifications of the trunk being open after a Remote Engine Start request was made. After confirming the conditions as reported, David started his diagnosis by reviewing the wiring diagram and determining lock / unlock signals are sent by the BIU through a common wiring harness connector (i4). Wiring checks and scoping the related signal outputs identified an abnormally high amount of voltage on the trunk release circuit when operating the door locks or shifting into reverse. This led David to suspect an issue with the wiring for the unlock output and the trunk unlock circuits. After closely inspecting the related wiring, pins and harness connectors, all were found to be fine with no visible problems. He then removed the trunk unlock signal wire from connector i4 and rechecked voltages. The high voltage identified earlier was gone and the door locks operated normally. This test confirmed the vehicle-side wiring was fine which led David to be suspect of the BIU being internally shorted. His suspicion was confirmed as after replacing the BIU, normal door lock (and trunk release) operation was restored. David's winning QMR included highly detailed descriptions of his testing and results along with excellent photos and multiple short videos to document this unusual condition and related repair.

In appreciation for going the extra mile and sharing his experience with us, David will be receiving the following from his Field Service Engineer:

**\$500.00 Snap-On gift card**

### SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

#### Holiday Break: (Closed)

Thursday, December 24, 2020  
Friday, December 25, 2020  
Saturday, December 26, 2020

Thursday, December 31, 2020 8:30am-4:00pm

#### New Year's Holiday Break (Closed)

Friday, January 1, 2021  
Saturday, January 2, 2021

Mon. - Thurs.	8:30AM - 7:30PM EST
Friday	10:30AM - 5:00PM EST
Saturday	9:00AM - 3:00PM EST

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

The Subaru TechTIPS newsletter is intended for use by professional Technicians ONLY. Articles 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 your vehicle has or will have that condition. Impreza, Legacy, Justy, Loyale, Outback, Forester, Subaru SVX, WRX, WRX STI, Baja, Tribeca, BRZ, XV Crosstrek, Ascent, Crosstrek Hybrid and "Quality Driven" are Registered Trademarks.

#### SUBARU OF AMERICA, INC. IS ISO 14001 COMPLIANT

ISO 14001 is the international standard for excellence in Environmental Management Systems. Please recycle or dispose of automotive products in a manner that is friendly to our environment and in accordance with all local, state and federal laws and regulations.



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## 01 QMR of the Month (CONTINUED)

The other Regional winners selected from QMRs submitted during October 2020 were:

- **John Bryan** from **Parkway Subaru** in in Wilmington, NC
- **Marco Yanes-Pena** from **Bill Kolb Jr. Subaru** in Orangeburg, NY
- **Kevin Montiel** from **Ocean Subaru of Fullerton** in Fullerton, CA
- **Craig DeMeo** from **Granite Subaru** in Hudson, NH

Any Subaru Technician can participate in the QMR of the Month program. See the February 2013 and January 2016 issues of Tech TIPS for full details. You just might see your name and photo in a future issue of Tech TIPS!

## 01 QMR of the Month Award Presentations

As part of our “enhanced” QMR of the Month recognition program, we include a photo (whenever available) of the recipient’s award presentation in TIPS. The winner selected from QMR of the Month submissions received during October 2020 was David Jodat, a Technician from Subaru City of Milwaukee in Milwaukee, Wisconsin.



*David is shown being presented with his \$500.00 Snap-On Gift Card (left to right) are: Keith Cook (FSE), Mike Schlossmann (Retailer Principal), David Jodat (Winning Technician) and Jason O'Donnell (Service Manager). Congratulations and THANK YOU to our October 2020 QMR of the Month Award recipient!*

# TECH TIPS GREATEST TIPS

This series features TechTIPS articles frequently referred to by Techline. This month's feature is from December 2016.

## 11 DTC P0171 Diagnostics

### Unmetered Air

- Air entering the engine **after** the **MAF** will cause lean air/fuel mixtures.
  - Inspect all air intake connections for damage or looseness after the MAF.
  - In order to locate air leaks which cannot be visually inspected, use a method of fuel enrichment while monitoring your fuel trims. If the fuel trims drop toward 0% or A/F sensor returns to  $\leq 1.0$  during enrichment of a certain location, suspect an air leak.
  - Test the **CPC solenoid** and **brake booster** by blocking the hose connected to the component while monitoring the fuel trims to determine if there is a fault.

### Exhaust

- **Air** entering the exhaust system between the cylinder head and A/F sensor will also cause a false lean condition.

### Metering devices

- Metering devices for the air/fuel mixture can send incorrect information to the ECM causing incorrect fuel corrections.
  - Inspect the connections at all air/fuel metering devices for poor connection and contamination.
  - Swap the **MAF** and **A/F** sensor into a like vehicle to see if the condition follows the sensor.

### Combustion chamber

- Poor combustion in a cylinder can result in unburned oxygen. The A/F sensor will read the unburned oxygen as a lean condition.
  - Verify **valve clearances** and **compression** readings are within specifications according to the applicable Service Manual.
  - Information regarding cylinder **leak-down** testing can be found on STIS in Technician's Reference Booklet: Engine Theory and Diagnosis MSA5P2106C.

## 11 EVAP System Smoke testing

In the past several months there has been an increase in reports relating to Technicians finding, a “leaking” Evaporative Leak Check Module (ELCM). In these reports, technicians are completing EVAP system smoke testing with the ELCM electrical connector disconnected discovering that some leakage occurs. This condition is normal and does not indicate a failure of the ELCM. The drain side of the ELCM is normally only exposed to atmospheric pressures. Any pressure greater than atmospheric pressure can induce leakage from this connector. For more on EVAP system diagnosis, pressure and smoke testing refer to the Intermediate Fuel Injection Systems TRB document MSA5P24211C.

## 15 STARLINK Update- Retirement of the 3G Cellular Network

Providers of wireless data networks will be phasing out their 3G cellular networks beginning in February of 2022 to make room for newer technologies. As a result, devices requiring 3G networks such as the hardware in 2016-18MY Subaru models with an active STARLINK Safety & Security package will no longer operate unless they are updated. This means features like Automatic Collision Notification (ACN), SOS Emergency Assistance, Stolen Vehicle Recovery and remote features will be cancelled after the transition date. A specific day / date has yet to be determined. Owners of affected vehicles with active subscriptions will be notified via e-mail on March 10, 2021 encouraging them to schedule a service appointment to have the applicable upgrade performed if they wish to continue utilizing their STARLINK services. Additional information regarding this change is forthcoming. In the meantime, FAQs about the 3G Network Retirement can be accessed on Subarunet: Parts/Service-Prgms/Accessories > STARLINK/MySubaru-Fixed Ops.

## 15 Wireless Phone Charging Accessory

Techline has received requests for more information and operation characteristics of the new Wireless Charger Accessory. Many of the inquires are regarding operation temperatures and customer concerns of their device being warm to the touch. The wireless charger and the mobile device will become warm during charging, this is normal and is not the sign of a malfunction. For more on the Wireless charger Accessory and Operation Manual search STIS > Accessory Installation Guides > Document code: H671SAN200.

### STANDARD OPERATION:

- 1) Place the vehicle in ACC or ON mode.

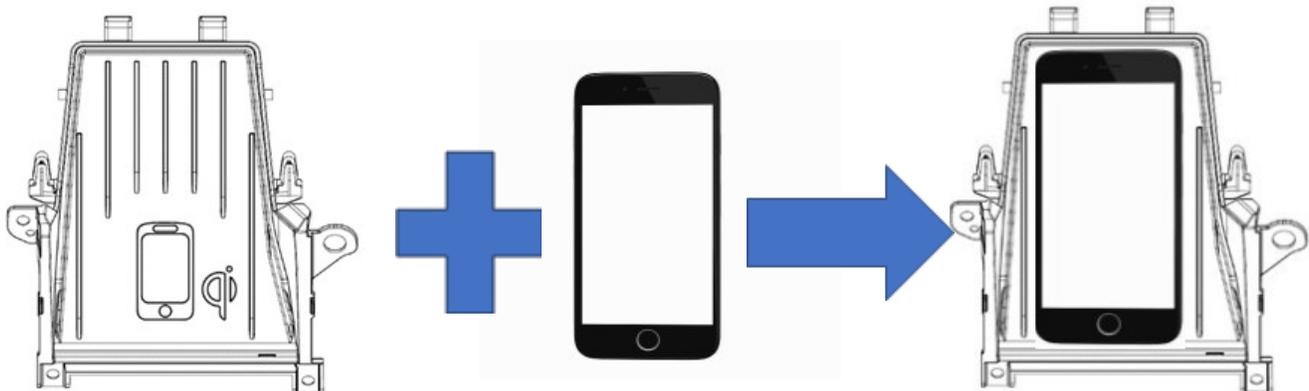
*The LED indicator will illuminate white indicating the wireless charger is in standby mode and ready to charge.*

- 2) Place the **Qi (pronounced “chee”)** enabled mobile device into the charging pocket with the screen facing up.

*The LED indicator will illuminate **blue** and mobile device charging will begin.*

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**Proper Placement**



**Wireless Charger Details:**

- 5W charging capability (Samsung Fast Charge enabled, boosting certain Samsung phones to 7.5W charging)
- Operating Temperature Range: -40°C - 60°C, -40°F - 140°F (Over temperature shutdown at 45°C, 113°F.)
- Maximum Phone/Case Combination Size: 180mm x 80mm x 13mm (7.1" x 3.1" x 0.47")
- The Subaru wireless charger is integrated into the internal Keyless Access antenna system. In situations where the key fob is unable to be detected by the vehicle (Key Not Found on MFI screen), the wireless charger will shut down. After the key fob is found by the vehicle, the wireless charger may take up to 3 minutes to reinitialize.

**LED Indicator Operation:**

Operation	LED indicator
Off	Not illuminated
Standby (charging is possible)	White 
Charging	Blue 
Charging complete*	Green 
Foreign object detected or phone overheating	Orange 
Charger not active - Internal error	Red 

\*For some mobile devices, the indicator may remain blue even when charging is complete.

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**Wireless Charging Best Practices:**

- Do not subject the unit to strong forces or impacts
- Do not disassemble, remove, or modify the unit
- Do not use the unit to charge anything other than the specified mobile devices
- Do not bring objects affected by magnetic fields close to the unit
- Keep the charging area free of dirt and dust while charging
- Do not allow any liquids (such as drinking water or chemicals) to get onto the unit
- Do not attach metallic stickers containing aluminum or any other metallic objects to the unit
- If you are using electronic medical devices such as implantable cardiac pacemaker, an implantable biventricular pacing pulse generator or an implantable defibrillator, seek medical advice before using this wireless charger. Operation of the wireless charger may influence the operation of such electronic medical devices.
- Do not place the vehicle's key on or near the wireless charging unit. Otherwise the key may no longer be recognized.
- The wireless charger and the mobile device will become warm during charging, this is normal and is not the sign of a malfunction.

**Wireless Charging Troubleshooting:**

Issue	Resolution
<b>Startup Issues</b>	
LED indicator is <b>RED</b> at startup	Internal fault in wireless charging module
LED indicator is <b>ORANGE</b> at startup	Vehicle internal temperature is too hot. Remove phone from wireless charger and try again after car cools off
LED indicator is shuts off just after startup	Ensure the key fob is visible to the vehicle
<b>During Charging Issues</b>	
Mobile device does not charge when placed in the charging area	<ol style="list-style-type: none"> <li>1. Check that the vehicle's ignition is at ACC or that the engine is running.</li> <li>2. Check that mobile device is placed face up.</li> <li>3. Check that the mobile device complies with the Qi wireless charging standard.</li> <li>4. Place the mobile device near the middle of the charging area.</li> <li>5. Check that the mobile device is not too hot.</li> <li>6. Check that key is visible to vehicle.</li> <li>7. Is the wireless charging area clear of any metallic debris?</li> <li>8. Does the phone have a case? If so, remove</li> <li>9. Does the phone have any metallic attachments (keyring holder, metal plate, etc.) on the back?</li> </ol>
LED indicator changes to ORANGE during charging	<ol style="list-style-type: none"> <li>1. Check that there are no foreign objects in between the mobile device and the wireless charger.</li> <li>2. Check that there are no foreign objects under removable rubber insert.</li> <li>3. If the mobile device has become hot during charging, wait until the mobile device cools down sufficiently, and then start charging it again.</li> <li>4. Phone internal temperature has exceeded 45°C/113°F. Remove phone from charger and reinsert once cooled.</li> </ol>

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
15-205-16R	Technical Service Bulletin	Reprogramming File Availabilit...	21-Dec-20
MSA5M2110A	Owner Manual	2021 WRX/STI SUBARU STARLINK® ...	21-Dec-20
15-236-18R	Technical Service Bulletin	Reprogramming File Availabilit...	21-Dec-20
MSA5M2115A	Owner Manual	2021MY WRX/STI Eyesight Owner'...	21-Dec-20
MSA5M2105A	Owner Manual	2021MY WRX/STI Owner's Manual	21-Dec-20
16-132-20	Technical Service Bulletin	Diagnostic Information for All...	18-Dec-20
WRH-20R	Subaru Product/Campaign Bulletin	Rear Visibility FMVSS 111 Non-...	18-Dec-20
WRI-20R	Subaru Product/Campaign Bulletin	Reprogramming of Denso CP1 Inf...	18-Dec-20
15-211-17R	Technical Service Bulletin	Reprogramming File Availabilit...	18-Dec-20
MSA5B2105A	Owner Manual	2021MY WRX/STI Getting Started...	18-Dec-20
15-261-20R	Technical Service Bulletin	Reprogramming File Availabilit...	18-Dec-20
J121SCA000	Accessory Installation Guide	20MY BRZ Exterior Graphics (Si...	16-Dec-20
12-203-16R	Technical Service Bulletin	Squeaking Sound from Front Sea...	16-Dec-20
05-79-20	Technical Service Bulletin	Wheel Lug Nuts- Design Change	15-Dec-20
15-246-19R	Technical Service Bulletin	New Immobilizer Registration P...	15-Dec-20
15-219-18R	Technical Service Bulletin	Error Code 202 and / or 204 Ge...	14-Dec-20
J201SFL600	Accessory Installation Guide	2017-21MY Impreza / 2018-21MY ...	10-Dec-20
J201SAN600	Accessory Installation Guide	2020-21MY Legacy/ Outback - Co...	10-Dec-20
J201SXC000	Accessory Installation Guide	2019-21MY Ascent - Console Lid...	10-Dec-20
J201SSJ000	Accessory Installation Guide	2019-21MY Forester - Console L...	10-Dec-20
J501SXC170	Accessory Installation Guide	2019-21MY Ascent - Pet-friendl...	10-Dec-20
J501SSJ350	Accessory Installation Guide	2019-21MY Forester - Pet-frie...	10-Dec-20
J501SAN270	Accessory Installation Guide	2020-21MY Outback - Pet-friend...	10-Dec-20
10-99-20	Technical Service Bulletin	HVAC Control Panel- Design Cha...	9-Dec-20
07-186-20	Technical Service Bulletin	Battery Leaks- Visual Guidelin...	8-Dec-20
12-305-20	Technical Service Bulletin	Front Hood Intake Duct- Design...	7-Dec-20
12-306-20	Technical Service Bulletin	Front Seat Squeaking Sound	7-Dec-20
4-26-2020	Technical Service Bulletin	Steering Rack Assembly- Design...	3-Dec-20
05-70-19R	Technical Service Bulletin	Rear Wheel Backing Plate- Desi...	2-Dec-20
15-259-20R	Technical Service Bulletin	Denso Gen 4 Cockpit One (CP1) ...	1-Dec-20
16-103-16R	Technical Service Bulletin	Transmission Fluid Seepage	1-Dec-20
15-276-20	Technical Service Bulletin	Apple® / IOS Device Compatibil...	30-Nov-20
15-273-20R	Technical Service Bulletin	Denso CP1 BASE (Dual 7" Displa...	24-Nov-20
15-255-19R	Technical Service Bulletin	Map Data Update Procedure for ...	23-Nov-20
15-254-19R	Technical Service Bulletin	Map Data Update Procedure for ...	23-Nov-20
TIPS1120	TechTIPS NewsLetter	2020 NovemberTechTIPS Newslett...	23-Nov-20

**All revised publications are highlighted in yellow.**

This is your chance to offer suggestions for use in future issues of TechTIPS! Make sure that if you e-mail us, you place in the **subject line** of your e-mail **“For TechTIPS Newsletter”**. Thank you!

**Model:** \_\_\_\_\_

**Year:** \_\_\_\_\_

**VIN:** \_\_\_\_\_

**Description of situation encountered:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Your suggestion for repair procedure, product improvements, etc.:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please attach separate sheets, if necessary. You may also want to include Service Manual diagrams or references, or your own drawings to assist in describing your suggestion. All information submitted becomes the property of Subaru of America, Inc. Permission is granted to Subaru of America, Inc. to print your name and suggestions in TechTIPS and other Subaru of America, Inc. publications. Mail items to: PO Box 9103; Camden, NJ 08101-9877.

**Your Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Dealer's Name:** \_\_\_\_\_

**City:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Dealer Code:** \_\_\_\_\_