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## 01 QMR OF THE MONTH

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

**Tau Jeppesen** from  
**Young Subaru** in Ogden, UT.

This month's winning QMR involved a 2019 Outback 3.6R which presented with a crank / no-start condition. After Tau confirmed the reported condition, a failed fuel pressure test aimed him at the fuel pump and related wiring as his first points of inspection. Tau supplied an auxiliary power source to the fuel pump and the engine started normally. He then proceeded with power supply checks while working his way forward from the fuel pump to the fuel pump relay. Further inspection revealed there was no ground signal coming from the ECM to activate and close the fuel pump relay. Because his SSM data for the ECM showed the pump was being commanded ON, Tau felt there was a problem within the ECM which unfortunately, was not the case. After replacement, the no-start condition persisted although, the fuel pump relay was now operating normally. Next, Tau removed the trunk trim panel to access the fuel pump controller and proceeded with more voltage checks at the harness connection. His checks revealed less than 1 volt was present on the controller's power supply wire. Using his DVOM and the split-half technique, Tau isolated the root cause of the low voltage issue as a poor contact at Pin 12 of harness connector B60. Repairing the poor connection restored proper voltage to the fuel pump controller and normal engine starting. Tau's excellent QMR was accompanied by a selection of detailed photos and test results to supplement his report.

In appreciation for going the extra mile and sharing his experience with us, Tau will be receiving the following:

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

### SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

**Independence Day: (Closed)**

Thursday, July 4, 2019

**Labor Day: (Closed)**

Monday, September, 2019

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.

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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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**Education Foundation**

## 01 QMR OF THE MONTH (CONTINUED)

The other Regional winners selected from QMRs submitted during April 2019 were:

- **Alan Garza** from **Gillman Subaru Southwest** in Houston, TX
- **Craig DeMeo** from **Granite Subaru** in Hudson, NH
- **Daniel Loszko** from **Subaru South Boulevard** in Charlotte, NC
- **Alejandro Guerrero** from **Subaru of Englewood** in Englewood, NJ

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 will be including a photo (whenever available) of the recipient’s award presentation in TIPS. The winner selected from QMR of the Month submissions received during April 2019, was Tau Jeppesen, a Technician from Young Subaru in Ogden, UT.

Tau is shown to the right being presented with his \$500.00 Snap-On Gift Card by SOA Field Service Engineer, Alan Barton. Congratulations and **THANK YOU** to our April 2019 QMR of the Month Award recipient!



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# TECH TIPS GREATEST TIPS

*This series features TechTIPS articles frequently referred to by Techline. This month's feature from September 2015 helps Technicians understand which DTC to diagnose when multiple are present.*

## 01 UNDERSTANDING DTCs AND HOW TO PROCEED PROPERLY WITH REPAIRS

The Techline has been receiving calls from Technicians who in some cases are following the wrong trouble tree when diagnosing DTCs. When a vehicle comes in with multiple codes stored, you should always look at the Freeze-Frame (FF) data and the Time Count PID first. This will be the best place to get a direction as to what the first DTC to set in the affected system was. Never clear any DTCs until all have been recorded and the corresponding FF data saved electronically.

In the example below, a customer could come in with a traction (VDC) light, Check Engine light and A/T Temp light on. If the root cause issue is not current, they could come in with no warning lights on at all. The Technician connects the SSM and the following DTCs are stored:

- VDC code C1424 (ECM failure): DTC indicates there is a code in the ECM.
- ECM code P0700 (AT request MIL on): DTC indicates there is a code in the TCM.
- TCM code P0841 (Secondary Pressure Sensor malfunction): This DTC is the root-cause issue and should be the code the Technician diagnoses first.

In this case, the other codes (C1424 and P0700) are secondary codes. The TCM informed the other control modules of its failure by setting the P0841. Whenever a control module has an issue and stores a DTC, there is a strong possibility of DTCs in other modules due to the interdependence of one system on another through operation of the high-speed CAN system.

You may also see CAN communication codes stored. These DTCs should be interpreted as secondary or by-product codes unless no other codes are stored. Always check each system for DTCs as once the issue has subsided, the only place you will see the DTC is in the affected system. An All-System scan will only provide current codes which in the example above, would be the C1424.

## 01 CPO PROCEDURE FOR TURBOCHARGED SUBARU VEHICLES

Due to the high number of phone calls presented to the Techline, we felt it necessary to remind retailers of the correct CPO procedures for Turbocharged Subaru vehicles. Checking the CID/CVN over the phone for CPO purposes is NOT the correct procedure. The information below was published in the September 2015 TechTIPS Newsletter:

Please ensure all criteria are met before sending in a CPO CID/CVN Certification request to avoid delays.

Once the vehicle has passed this part of the inspection process, you should proceed with the rest of the decision-making process on certifying the vehicle.

As the CPO 152-point inspection form indicates, if a vehicle has ANY performance modifications, it cannot be enrolled as a Subaru Certified Pre-Owned vehicle. If there are any other non-performance related modifications, the vehicle must be returned to stock, with all stock/OEM parts installed before it can be enrolled as Certified. Non-compliance to these requirements may result in chargeback to the retailer for replacements after it is sold as a Subaru CPO unit.

### ECM CHECK PROCESS:

It is required that any turbo model being considered for certification have this inspection completed first.

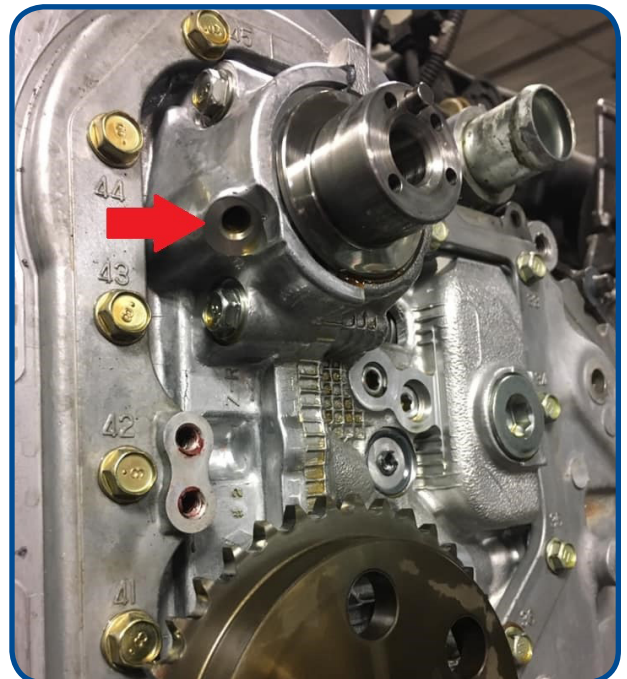
All correspondences should be directed to TECH@Subaru.com. Techline will not process phone requests for CPO.

- In the subject line of the e-mail, please NOTE: "CPO CID/CVN Certification request".
- Attach the screen shot of the vehicle information screen.
- The e-mail should contain the retailer code, retailer name and contact person's name and phone number.
- The Techline representatives will respond back to retailers within 24 hours.



## 02 H6 CYLINDER HEAD REPLACEMENT PRECAUTION

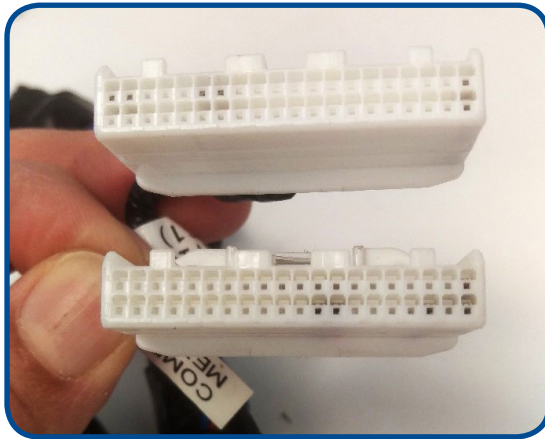
Techline has received reports from the field concerning AVCS related DTCs after H6 cylinder head replacement. When replacing H6 cylinder heads, thoroughly inspect both the new and old cylinder heads to ensure all parts not included with the new cylinder head have been transferred. The image to the right shows one of the oil galley plugs that must be transferred from the old cylinder head.



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## 07 IDENTICAL ELECTRICAL CONNECTORS

Most electrical connectors in Subaru vehicles have unique designs that allow them to be plugged in to only one component. However, this does not apply to all connectors. Some connectors have the same physical shape and will connect to multiple components. These connectors don't always have the same power, ground, or signal pins. If the component receives the incorrect circuit path, the component could be damaged. This is very common when installing Keyless Access Control Modules. Below are some examples of identical connectors for different components.



## 07 2019 FORESTER DOOR MIRROR REVERSE TILT-DOWN FEATURE

When backing up the vehicle, the front passenger's side outside mirror will turn downward automatically to provide better rear visibility. The outside mirror glass will return to its original position approximately 9 seconds after shifting out of reverse or when the ignition is turned off. This feature is turned on and off via the combination meter setting screen. By default, only the passenger mirror will tilt down. If requested by a customer, the driver mirror can also be enabled to tilt down in reverse. This setting can be accessed by using SSM and changing the appropriate power seat memory setting. Instructions to enable this are found in the Service Manual under: **POWER SEAT MEMORY(DIAGNOSTICS) > Customize**.

Items	Initial setting value	Setting value	Note
Seat retraction setting*1	OFF	OFF	DMS seat retraction setting is turned to OFF.
		ON	DMS seat retraction setting is turned to ON.
Reverse-linked mirror ON/OFF setting*1	ON	OFF	Reverse-linked mirror is set to OFF.
		ON	Reverse-linked mirror is set to ON.
Reverse-linked mirror target setting	Passenger's seat	Both seats	Mirrors on both sides are set as a reverse-linked mirror.
		Passenger's seat	Only passenger's side mirror is set as a reverse-linked mirror.
Reverse-linked mirror position last memory setting	OFF	OFF	Reverse-linked mirror last memory is set to OFF.
		ON	Reverse-linked mirror last memory is set to ON.

\*1: For this item, customization through MFD or combination meter is possible. If a customization conflict occurs, the latest customization request is accepted.

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## 16 VIBRATION AFTER TRANSMISSION OR ENGINE REMOVAL

Techline has received increasing concerns of vibration after transmission or engine removal. Multiple cases have been identified where the vibration has been traced back to the snout of the torque converter being broken. This can happen if the torque converter holder tool is not used. When removing an engine or transmission the component needs to be released as straight as possible without any rocking or pitching.



The photo above shows the nose of the torque converter is broken off and remaining in the crankshaft. Also note, there is no torque converter holder tool installed to the transmission.



Torque converter with broken nose.

During component removal it is imperative to follow all steps of the procedure as outlined in the Service Manual. In addition, always confirm both dowel pins are installed in the engine block before engine re-installation to insure proper engine to transmission alignment.

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ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
16-122-19	Technical Service Bulletin	DTC P0842- Revised Diagnostics...	19-Jun-19
18-196-19	Service Manual Correction	Service Manual Corrections	17-Jun-19
WTV-81R	Subaru Product/Campaign Bulletin	Electronic Parking Brake (EPB)...	14-Jun-19
12-267-19	Technical Service Bulletin	Front Bumper Cover Gap / Loose...	13-Jun-19
A091SFL000	Accessory Installation Guide	2020MY Impreza Engine Block He...	13-Jun-19
07-155-19	Technical Service Bulletin	Power Rear Gate (PRG) Control ...	12-Jun-19
TIPS_SE_June19	TechTIPS NewsLetter	2019 June TechTIPS Air Conditi...	12-Jun-19
12-265-19	Technical Service Bulletin	EyeSight Camera Cover (Sunglas...	11-Jun-19
12-266-19	Technical Service Bulletin	Door Trim Panels- Small Dents...	11-Jun-19
	Service Diagnostics	2020 Ascent Service Manual V0	11-Jun-19
15-235-18R	Technical Service Bulletin	Harman Kardon Gen 3 Audio Ampl...	10-Jun-19
07-84-14R	Technical Service Bulletin	Revised B1650 Diagnostics and...	7-Jun-19
12-261-19R	Technical Service Bulletin	EyeSight Camera Cover Removal...	4-Jun-19
15-205-16R	Technical Service Bulletin	Reprogramming File Availabilit...	3-Jun-19
E771SAN100	Accessory Installation Guide	2020 Outback Rear Bumper Cover	3-Jun-19
06-58-17R	Technical Service Bulletin	Electronic Parking Brake (EPB)...	3-Jun-19
WUG-92	Subaru Product/Campaign Bulletin	Left Rear Door Glass Replaceme...	3-Jun-19
12-256-19R	Technical Service Bulletin	Sunshine Orange (Code AK) Pain...	30-May-19
S0A367010	Accessory Installation Guide	2019 Forester Crossbar	29-May-19
S0A367021	Accessory Installation Guide	2019 Forester Crossbar	29-May-19
WUB-87	Subaru Product/Campaign Bulletin	Exhaust Pipe Front (EPF) Repla...	28-May-19
02-182-19	Technical Service Bulletin	Tumble Generator Valve (TGV) -...	28-May-19
07-154-19	Technical Service Bulletin	DTC B2513, Revised Power Rear ...	28-May-19
WTZ-85R	Subaru Product/Campaign Bulletin	Harman Kardon Head Unit FMVS...	23-May-19
F501SAN000	Accessory Installation Guide	2020MY Outback 2nd Row Sunsh...	23-May-19
WUF-91R	Subaru Product/Campaign Bulletin	Replacement Ignition Switch Re...	22-May-19
F411SAN010	Accessory Installation Guide	2020MY Legacy Rear Seat Covers	22-May-19
F411SAN000	Accessory Installation Guide	2020MY Outback Rear Seat Cover...	22-May-19
07-143-18R	Technical Service Bulletin	Power Rear Gate (PRG) Control...	22-May-19
15-242-19	Technical Service Bulletin	Telematics System Diagnostic Q...	21-May-19
H461SXC000	Accessory Installation Guide	PORT INSTALLATION: 2019MY...	21-May-19

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: \_\_\_\_\_