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## SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

### Thanksgiving: (Closed)

Thursday, November 26, 2020

### Day After Thanksgiving (10:30AM - 3:30PM)

Friday, November 27, 2020

### Holiday Break: (Closed)

Thursday, December 24, 2020

Friday, December 25, 2020

Saturday, December 26, 2020

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

## 01 QMR of the Month

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

**Kevin Shiu** from  
**Premier Subaru of Fremont** in Fremont, CA

The winning QMR of the Month for September details diagnosis and repair of an oil leak concern on a 2020 Ascent. Kevin verified engine oil leaking from the rear of lower engine oil pan and passenger's side front corner of upper engine oil pan. He proceeded to remove the engine to closely inspect for any additional leaks which could have been coming from the CVT and / or rear main seal or separator cover due to the residual oil accumulated at the bottom of front differential, trailing down to the drain plug. Kevin's inspection narrowed the oil leak sources to only the upper and lower oil pan sealing areas. With the lower oil pan removed, Kevin found the oil pick up screen restricted with pieces of sealer. After a review of the vehicle Service History, he determined the engine had never been removed prior to the current repair. Kevin also identified an area of the lower oil pan sealing surface where there was less sealer used compared to the rest of the pan. Kevin proceeded to remove and reseal both the upper and lower engine oil pans. Once his repairs were completed, the engine was reinstalled and the repairs checked closely with no further leakage found.

Kevin's QMR included a concise outline of his diagnostic procedures along with a collection of high-quality photos documenting his findings before and confirmation after his repairs.

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

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

Continued on the next page

### 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 August 2020 were:

- **Christopher Vanaman** from **Rafferty Subaru** in Newtown Square, PA
- **Marco Yanes-Pena** from **Bill Kolb Jr. Subaru** in Orangeburg, NY
- **Chris Grad** from **Ganley Subaru of Wickliffe** in Wickliffe, OH
- **Nick Thomson** from **Clay Subaru** in Norwood, MA

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 include a photo (whenever available) of the recipient’s award presentation in TIPS. The winner selected from QMR of the Month submissions received during August 2020 was Kevin Shiu, a Technician from Premier Subaru of Fremont in Fremont, CA.



*Kevin is joined after receiving his \$500.00 Snap-On Gift Card from Service Manager Jacob Lozano (to Kevin’s right) and Premier Subaru’s General Manager, Sam Asefi.*

*Congratulations and **THANK YOU** to our August 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 March 2018.

## 16 TORQUE CONVERTER RELEARN

If you receive a customer concern of a shuddering at slight throttle, it could be related to the torque converter. The torque converter relearn should be performed on CVT vehicles anytime the TCM is unplugged or the battery is disconnected. The purpose is to stabilize the lock-up engagement quality.

Criteria for Torque Converter relearn:

### 4. Maintenance related information

Conditions for the lock-up learning.

Conditions	Value
① CVT fluid temperature	68~212° F
② E/G coolant temperature	140~248° F
③ A/C compressor	OFF
④ E/G speed	1,000~1,400rpm
⑤ Fuel cut	Active
⑥ Deceleration	0.5~-3m/s <sup>2</sup>

Once criteria are met, safely drive the vehicle from 0-20MPH. Be sure to keep the engine speed between 1,000 and 1400. After reaching 20 MPH decelerate the vehicle to a stop. Repeat 5 times.

### 4. Maintenance related information

#### 2. Lock up (engagement) learning

Purpose	To stabilize the lock up engagement quality (minimize the variation) due to the hardware or fluid temperature.
Learning logic	The lock-up torque value feed-back control. (The value when the clutch releases is considered to the next clutch engagement torque.)
Learning condition	Automatically performed when the condition is met*. * It is stated afterwards.
Learning value stability	5 times.
Learning value reset condition	<ul style="list-style-type: none"><li>• Removal of the vehicle battery.</li><li>• Removal of the TCU.</li></ul>

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### 03 Front Differential Failure After Transmission R&R

Techline has been made aware of an increased number of front differential failures due to improper fluid levels after transmission replacement.

It is **CRITICAL** to always remember to fill and confirm the proper level of front differential fluid when servicing all transmissions. Low differential fluid will lead to a failure of the ring and pinion gears, related roller bearings and eventually cause catastrophic damage to the transmission.

**REMINDER:** All remanufactured transmissions are drained of all fluids after a function test on a dynamometer.

Retailers **MUST** fill the front differential and the transmission with proper fluids. These fluids **DO NOT** intermix.

Always review the appropriate Service Manual for specific procedures, proper fluid types and levels. STIS>Service Diagnostics (select model and year) > Transmission/Transaxle > Continuously Variable Transmission > Differential Gear Oil > Adjustment. All returned transmissions with clear findings of improper fluid levels will be debited for the full claim amount.

Damaged ring gear

DAMAGED PINION GEAR BEARING ROLLER CAGE



### 03 Binding/Sound While Turning

Techline continues to receive calls asking if CVT Transmission Transfer Clutches are serviceable. Yes, many of them are so, always refer to the appropriate Service Manual for specific information about the vehicle being repaired. ([Reference Claims Policies and Procedures Manual, Section 8.4.33 Replacement Parts](#))

Transfer Clutches should be inspected for wear and discoloration after eliminating other items that can cause a bind/sound (e.g.: tires, transfer pressure, speed sensors, FWD mode). Transfer Clutch friction plates should be inspected for “heat markings” and discoloration. The Transfer Clutch Drum should be inspected for grooving “witness marks” as shown in Figure 2 below indicated with the red arrows.

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### 03 Binding/Sound While Turning (CONTINUED)

As a reminder the, transfer clutches and friction Plates can visually look good as shown in Figure 1 but, grooving or notches in the drum can still be seen. In this case, the marking in the drum is visible and is an indication that torque bind has occurred. The inside and outside of the drum should be inspected for marking. Running a fingernail across the marks replacement of all three during inspection should be completed (clutches, friction plates and drum). The marks provide a place where the clutches and plates will stick resulting in binding and in some cases, a sound.



Figure 1: Visually "ok" clutches and plates

When receiving a Customer concern of "binding while turning," "sound while turning," or "lack of power while turning" it is also VERY important to keep in mind and measure tire circumference. With all Subaru AWD vehicles, having a difference as little as approximately 1/4" in tire circumferences could cause premature transfer clutch wear, drum wear and / or failure. A quick keyword search on STIS of "Binding on Turns" will return a list of other Technical Service Bulletins and TechTIPS articles relating to this subject.

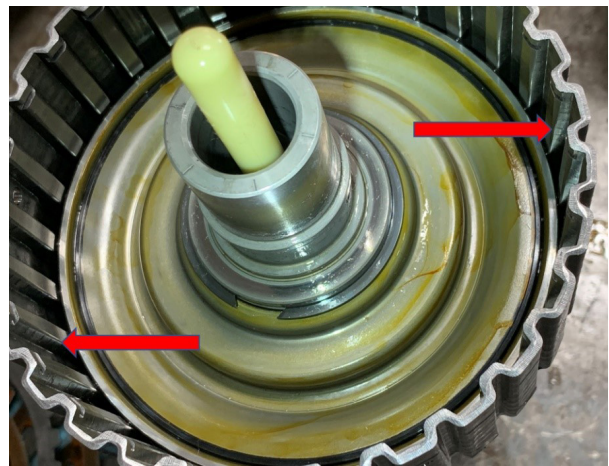


Figure 2: "Witness marks" on inside of Clutch Drum

### 07 Electrical Connector and Pin Discrepancies

Often the Techline receives inquiries on electrical connector shape, and terminal pin outs. It is important to always refer to the pin numbers as shown in the Service Manual and not rely upon the numbers molded into the connector. As seen below the connector is mold with the numbers 12 and 13 in the top right-hand corner, these number should be disregarded as they are incorrect. The correct pins as shown in (Fig. 1.) are 67 and 68. For more information on Electrical Connectors refer to the Service Manual "HELP" tab, section 4.2.3.

As displayed below, the order of the terminals is described as "top left to bottom right," but this may not be the case.(Fig. 1)

In some cases, vehicle connectors are numbered, but refer to the connector numbers on the wiring diagrams.(Fig. 2)

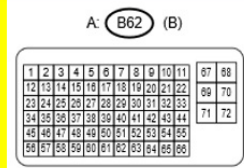
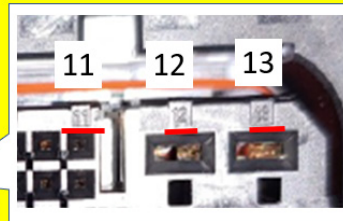


Fig. 1



Fig. 2

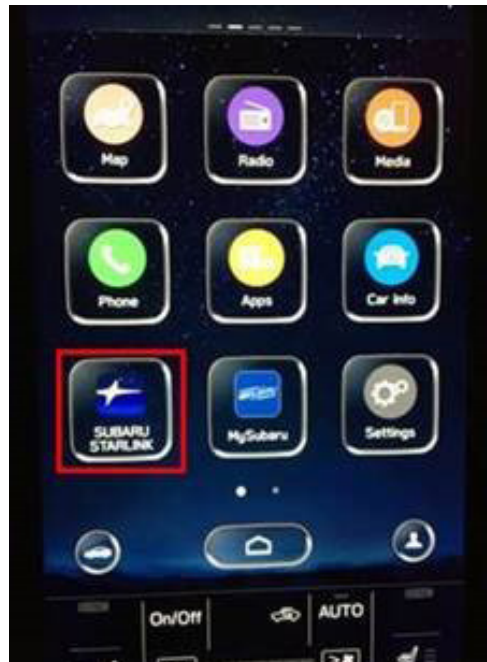


## 15 STARLINK App Soft Key Grayed Out

Techline continues to receive reports regarding customer concerns with their STARLINK App soft key being grayed out on their CID display. If this is found to be the case, please note this is a normal operating characteristic. The STARLINK App soft key will be grayed out until a phone equipped with the Subaru STARLINK App is paired. Once a phone is successfully paired, the STARLINK App logo will illuminate and be selectable. The images below show both scenarios.



**(Unpaired/ Grayed out)**



**(Paired/Illuminated)**

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
15-255-19R	Technical Service Bulletin	Map Data Update Procedure for ...	Nov 23, 2020
15-254-19R	Technical Service Bulletin	Map Data Update Procedure for ...	Nov 23, 2020
15-211-17R	Technical Service Bulletin	Reprogramming File Availabilit...	Nov 23, 2020
E7210FL110	Accessory Installation Guide	STI Rear Roof Spoiler	Nov 23, 2020
15-261-20R	Technical Service Bulletin	Reprogramming File Availabilit...	Nov 20, 2020
18-203-20	Service Manual Correction	Service Manual Corrections	Nov 20, 2020
WRG-20	Subaru Product/Campaign Bulletin	Continental Tire Safety Recall	Nov 18, 2020
03-85-20R	Technical Service Bulletin	Propeller Shaft- High-Pitched ...	16-Nov-20
SOA733P100	Accessory Installation Guide	Pet Ramp	12-Nov-20
15-275-20	Technical Service Bulletin	Microphone Testing Procedure f...	10-Nov-20
WUV-07R	Subaru Product/Campaign Bulletin	CVT Chain Slip	10-Nov-20
MSA5B2108A	Owner Manual	2021 Crosstrek Hybrid Getting ...	10-Nov-20
05-81-20	Technical Service Bulletin	Rear BILSTEIN® Shock Absorbers...	10-Nov-20
TIPS1219	TechTIPS NewsLetter	2019 December TechTIPS Newslet...	9-Nov-20
16-131-20	Technical Service Bulletin	Updated CVT Diagnostics for DT...	9-Nov-20
12-300-20R	Technical Service Bulletin	Power Rear Gate (PRG) Switch T...	9-Nov-20
15-208-17R	Technical Service Bulletin	Availability of "Gracenote® Me...	9-Nov-20
07-185-20	Technical Service Bulletin	Seat Memory Control Module Dia...	6-Nov-20
12-296-20R	Technical Service Bulletin	Rear Frame and Stabilizer Bar ...	4-Nov-20
03-86-20	Technical Service Bulletin	Clutch Master Cylinder- Additi...	4-Nov-20
U1430BE	Service Manual	2021MY Impreza / Crosstrek / C...	4-Nov-20
H630SFL002	Accessory Installation Guide	2021MY Impreza Audio Upgrade	3-Nov-20
15-130-08R	Technical Service Bulletin	Load Carrying Capacity Reduced...	2-Nov-20
15-274-20	Technical Service Bulletin	Android Device Compatibility w...	30-Oct-20
15-240-19R	Technical Service Bulletin	New Harman Audio Amplifiers	30-Oct-20
06-81-20	Technical Service Bulletin	Vehicle Dynamic Control (VDC) ...	29-Oct-20
10/19/2020	Service Manual Correction	Service Manual Corrections	29-Oct-20
09-73-20	Technical Service Bulletin	Radiator Coolant Seepage	27-Oct-20
07-184-20	Technical Service Bulletin	Power Window Main Switch- Desi...	27-Oct-20
WRE-20	Subaru Product/Campaign Bulletin	Ignition Coil Campaign	27-Oct-20
07-183-20	Technical Service Bulletin	Combination Meter Replacement-...	26-Oct-20

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

Continued on the next page

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