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01 TechShare QMR of the Month

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

Luke Gerlach from
Vic Bailey Subaru in Spartanburg, SC

Luke created a high quality QMR using TechShare reporting on a check engine light along with a concern of unable to shift out of park. Luke's report included detailed diagnostic steps, SSM4 project file, high-quality photos, and videos.

Please refer to the following link to review the TechShare QMR in detail.

<https://subarutechshare.com/qmrs/TS-209246>

In appreciation for going the extra mile and sharing his experience with us, Luke will be receiving the following from his District Service Quality Manager:

\$500.00 Snap-On gift card

SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

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.



QUALITY DRIVEN® SERVICE



Education Foundation

01 QMR of the Month (CONTINUED)

The other Regional winners selected from QMRs submitted during August 2022 were:

- **Steven Putnam** from **Frank Fletcher Subaru**
- **Steven Lothrop** from **One Subaru of Hayward**
- **Leo Gilmore** from **Ruge's Subaru**
- **Francis Pelletier** from **Suburban Subaru**

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

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 2022 was Master Technician Luke Gerlach from Vic Bailey Subaru in Spartanburg, SC.



Luke is shown above (center) shaking hands with District Service Quality Manager Daniel Page after being presented with his \$500.00 Snap-On Gift Card. To Luke’s left is SOA District Parts and Service Manager Matt Seiler. Vic Bailey Subaru’s Service Manager Daniel Noble and the rest of their Service & Parts team are also pictured surrounding Luke to congratulate him.

*Congratulations and **THANK YOU** to our August 2022 QMR of the Month Award recipient!*

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15 STARLINK App Soft Key Grayed Out Revisited

Techline continues to receive reports regarding customer concerns with their Subaru Starlink App soft key being grayed out on their head unit 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 Subaru Starlink App logo will illuminate and be selectable. Below demonstrates both scenarios. For information about the Subaru Starlink app, refer to the correct Multimedia Owner's manual for the vehicle. **The Subaru Starlink soft key on the head unit display is unrelated to the Starlink Telematics features. The My Subaru app is needed to access the Telematics features of the vehicle.**



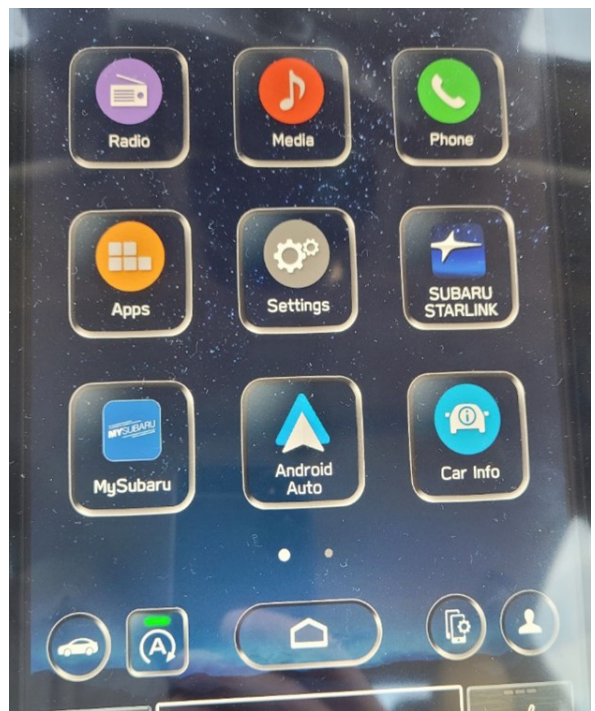
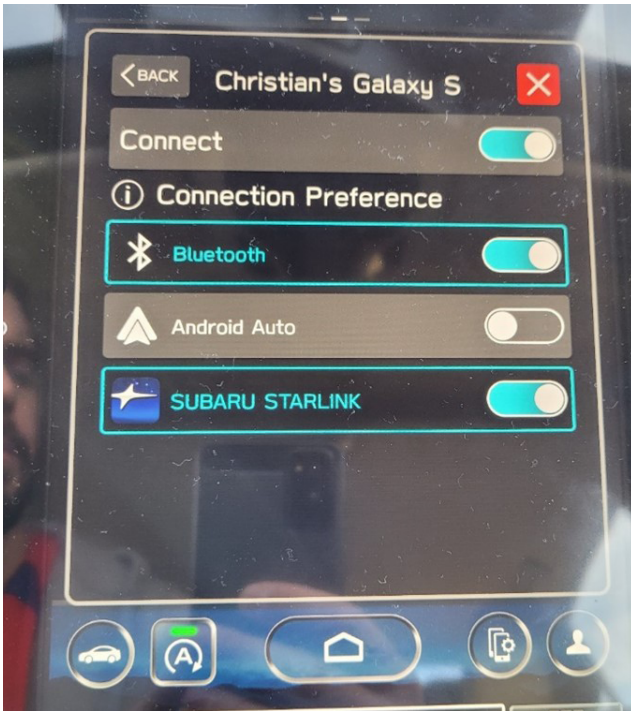
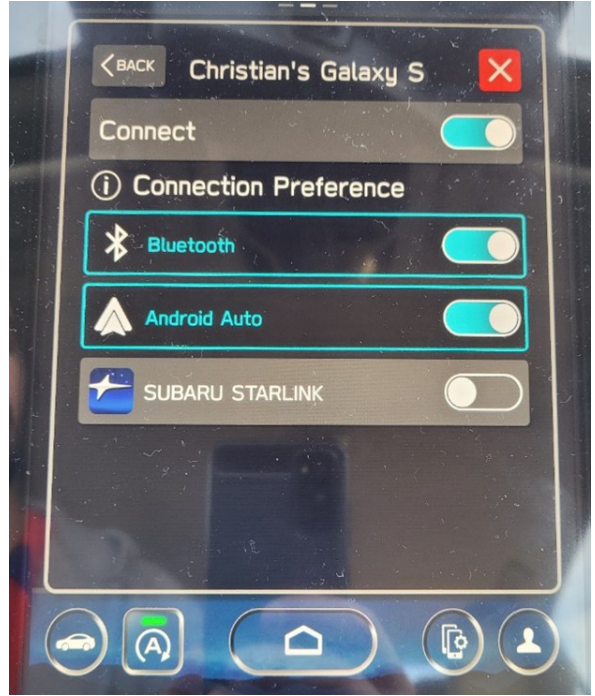
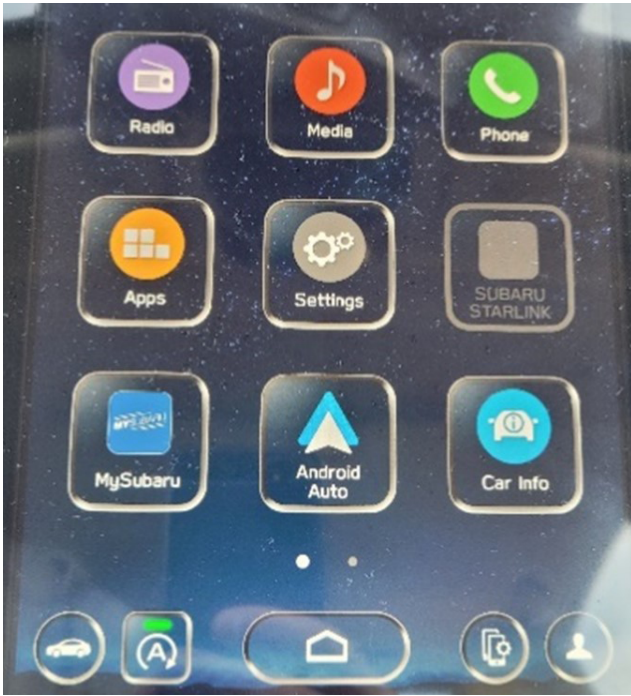
(Unpaired/ Grayed out)



(Paired/Illuminated)

On 23MY Outback, Legacy and Ascent vehicles equipped with CP1.5, this process is similar, however, if your phone is connected to Android Auto or Apple Carplay, you will need to toggle this off as the Subaru Starlink app cannot operate at the same time. A great video showing this process can be found in Techshare, [QMR TS-217963](#).

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- **When switching to SUBARU STARLINK while using Apple CarPlay**



- **When switching to SUBARU STARLINK while using Android Auto**



On occasion Techline will receive calls asking what is needed to convert a Canadian spec vehicle to meet U.S. standards. A vehicle produced for sale in a specific country cannot be changed to meet compliance with another country's standards. It is advised to contact the Department of Motor Vehicles (DMV) for further information. The information below is from the DMV website.

01 Canadian to US Spec & Vice Versa (CONTINUED)

Title

Registering a foreign registered vehicle, car or motorcycle in the United States with Department of Motor Vehicles

Summary

Date Published

11/15/2021 12:20 PM

Content

Before you can register a foreign registered vehicle, car or motorcycle, in the United States (U.S.), you must prove that you or someone else filed an entry with U.S. Customs and Border Protection (CBP).

The Department of Motor Vehicles (DMV) will not register a vehicle that has been imported into the U.S. without proof that an entry was filed with CBP and proof that the vehicle conforms to U.S. Emissions and Safety Standards. If the vehicle does not conform to U.S. emissions or safety standards, you will not be able to register it in the United States. You must bring it up to U.S. standards or export the car.

If you imported your vehicle by land, make sure you declare the vehicle for import and take care of the paperwork at the border. If you failed to do so, please contact a local CBP port and ask if they will process it for you.

For more information, please visit the [cbp.gov](https://www.cbp.gov) website for the [Ports of Entry](#)

If you bought or were given an imported vehicle from someone in the United States and they didn't clear it with CBP before selling or giving it to you, this could be a problem. It is illegal to sell an imported vehicle that has not been formally entered. It could be subject to seizure. When filing an entry with CBP for your vehicle, you must demonstrate to CBP that you own the vehicle, and that it conforms to U.S. Emissions and Safety Standards. You must submit proof of ownership such as a certificate of title, bill of sale, or manufacturer statement of origin to a CBP Officer at the port.

You also have to submit the Department of Transportation [Form HS-7](#) and Environmental Protection Agency [Form 3520-1](#). Keep a copy of these forms in case the DMV wants a copy of them.

Once you have officially filed your entry and paid duty on the vehicle, you will receive [CBP Form 7501 Entry Summary](#). This form is your proof that you filed your entry with CBP, so be sure to keep a copy to present to the DMV when registering your vehicle.

01 CPO Procedure for Turbocharged Subaru Vehicles

Techline has observed a surge in Certified Pre-Owned (CPO) submissions with the increased number of turbocharged engines across multiple platforms. As part of the CPO program, turbocharged vehicles require the Calibration Identification/ Calibration Verification Numbers (CID/CVN) be checked before enrollment. Due to this high number of inquiries to Techline, we felt it necessary to remind retailers of the correct CPO procedures. To help serve retailers in a timely manner, please review the CPO process and expectations using the provided instructions below. Incorrect submissions will delay the process for all parties. Responses to CPO requests will be returned within 24 business hours. Evenings, holidays & weekends may affect return times.

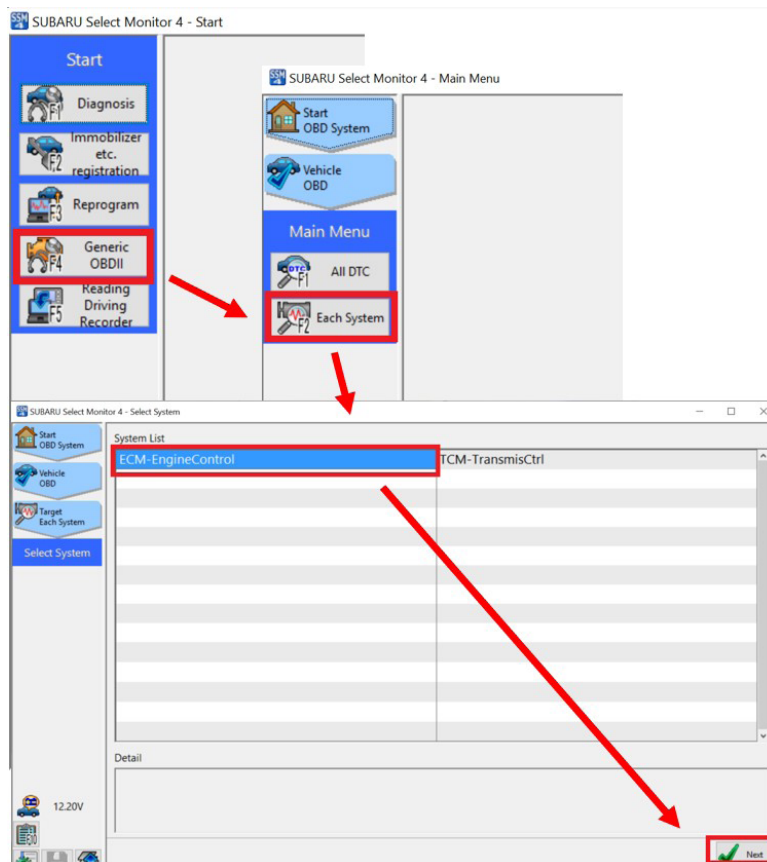
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- Vehicles that are more than six years old **ARE NOT** eligible for CPO.
- Checking the CID/CVN over the phone for CPO purposes is **NOT** the correct procedure.
- Vehicles that are customer pay or used car inspections should not be submitted. Example: A customer wants to buy a 2017 STI privately, from the local used car lot. The customer brings the vehicle to the retailer to make sure it has not been modified. In this situation, the retailer should call Techline and open a case to verify CID/CVN.
- Vehicles that are at the retailer for warranty work, such as short block failure or check engine light diagnosis, should call Techline.
- Vehicles that are modified should be called in with a Techline case opened and a Vehicle Modification Report filed. The Vehicle Modification Report can be found in [Forms & Downloads](#) on Subarunet, these get emailed to the Claims department, the email address is on the form.

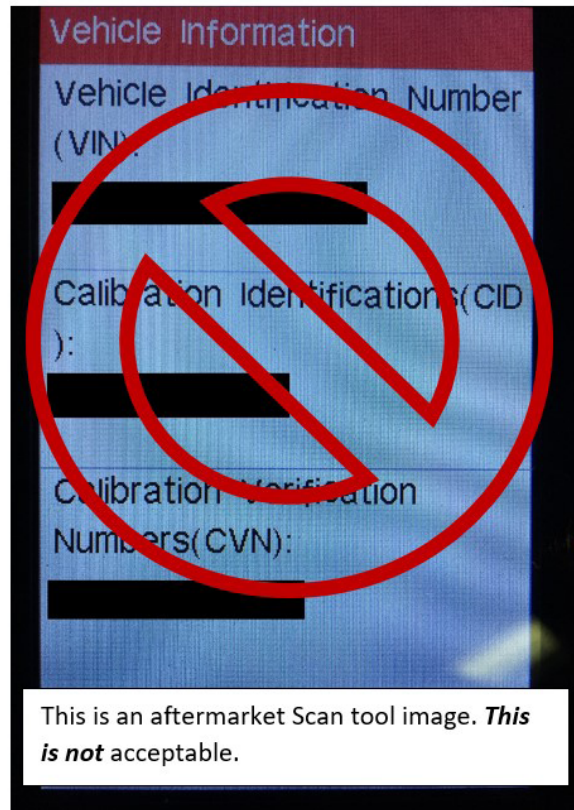
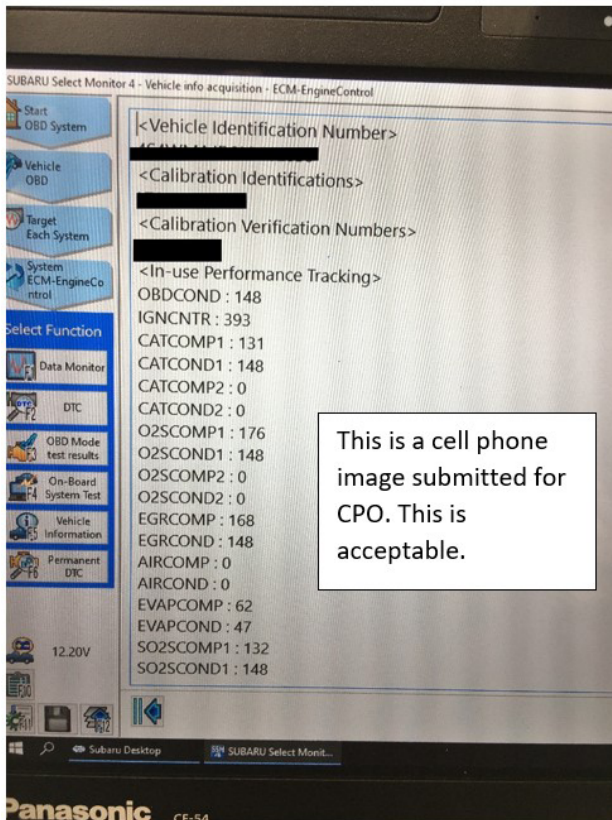
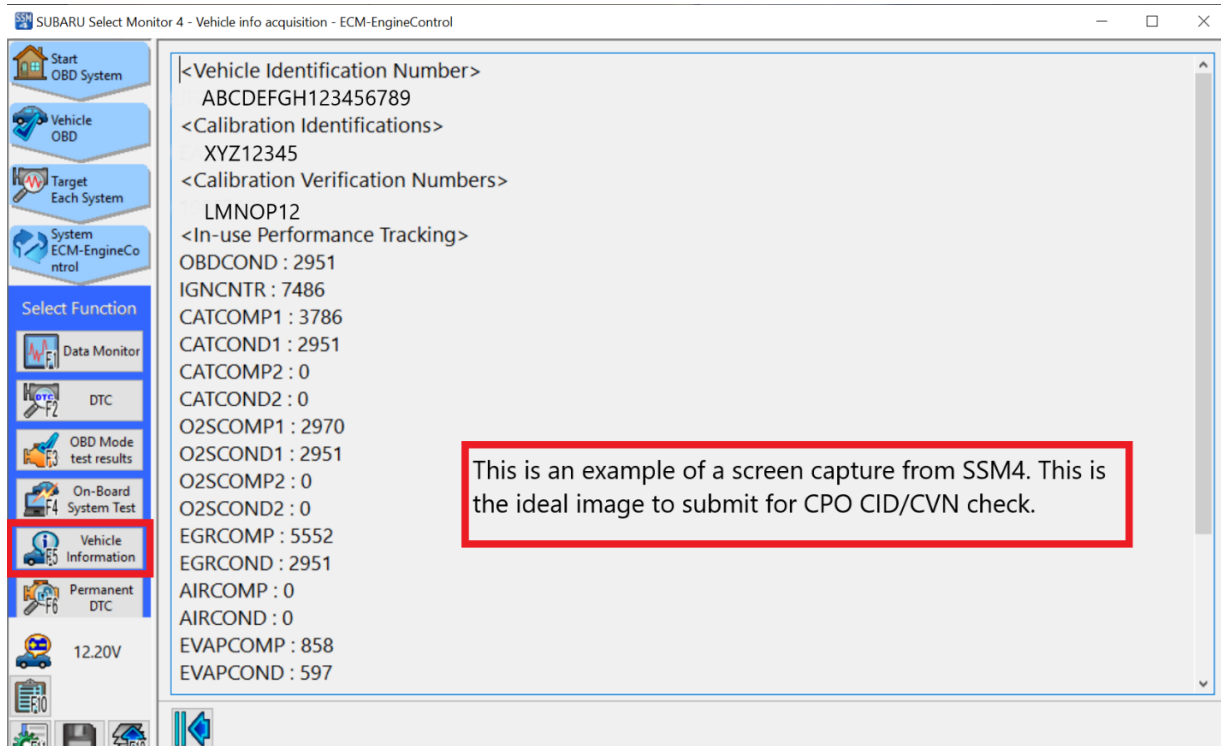
1. Vehicle Information Acquisition screen

Please be sure to obtain a clear, crisp image of the vehicle information acquisition screen. An example is shown below. Please **DO NOT** submit any information that is handwritten. Vehicle Information Sheets (VIS) or a copy of the Repair Order (RO) are also unacceptable. This information should **ONLY** be obtained using the Subaru Select Monitor. Pictures taken with a cell phone are acceptable as long as the information can be clearly read.

SSM4 instruction on obtaining the acquisition screen.



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2. Email submission instructions

Submitting a CPO CID/CVN request is just like calling Techline. A case needs to be opened with credible information. This information includes: your full name, dealer code, and a contact number. ***You will always receive the confirmation email from the account you submitted it by. Always submit a CPO request from an email account that you have access to and check regularly.*** The email address to submit the CPO request is Tech@subaru.com. When following the Send-SSM4 document instructions on Subarunet it is displayed as "Tech Support". Here is an example of properly submitted email.

The screenshot shows an email client interface with the following elements:

- Toolbar:** File, Message, Insert, Draw, Options, Format Text, Review, Help, Tell me what you want to do.
- Clipboard:** Paste, Cut, Copy, Format Painter.
- Basic Text:** Font face (Calibri), size (11), bold, italic, underline, text color, background color, bullet points, numbered list, link, unlink, indent, outdent.
- Names:** Address Book, Check Names.
- Include:** Attach File, Attach Item, Signature.
- Send:** Send button.
- To:** Tech Services (radio button selected).
- Subject:** CPO CID CVN Certification request.
- Attachments:** 2017 STI CPO.SEPF (47 KB), screen grab from a phone.jpg (4 MB).
- Body:**

John Smith
DLR code 550101
18667822782

Could you please Verify for CPO ?

[Screenshot of a diagnostic tool interface showing various identification numbers and performance tracking data.]

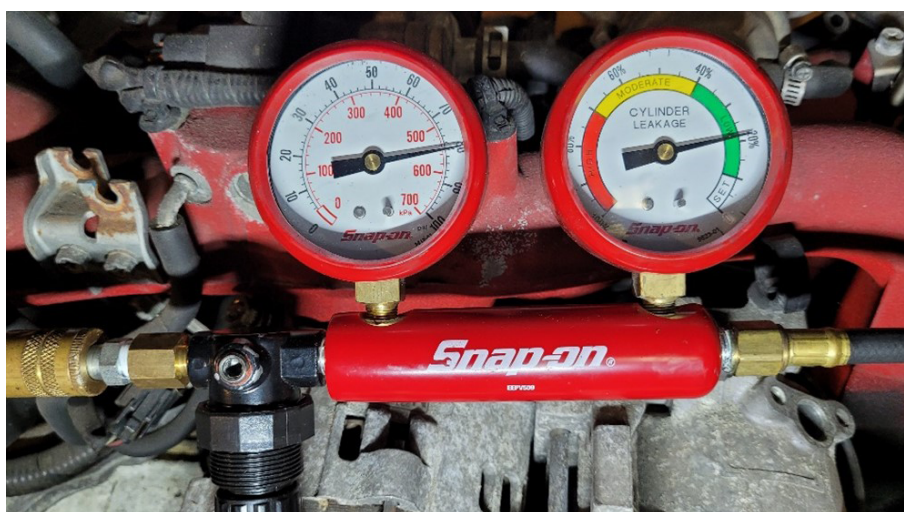
Annotations:

- Green box:** Proper email title, this ensures your email is not deleted via spam filter. (Points to the subject line)
- Blue box:** Select one of the three ways to submit the Vehicle information; SSM file, an image, or pasted file. (Points to the attachments)
- Orange box:** Your name, dealer code, contact information, and request go here. (Points to the body text)

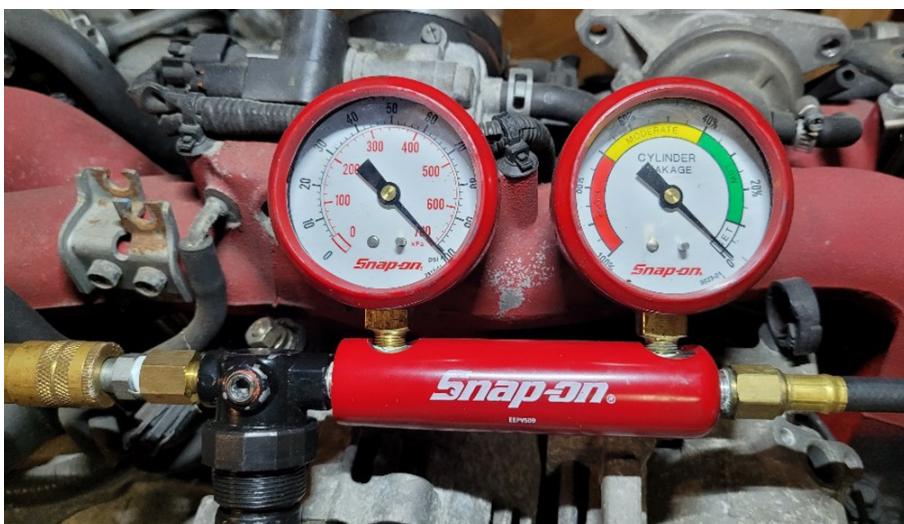
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02 Leak - Down Testing

When working with Techline on a case or diagnosing a vehicle on your own, you may come to a point where a leak-down test is needed to determine combustion chamber integrity, or to find the source of leakage. Typically, a leak-down is performed after a compression test. When a compression test is lower than specification, that can indicate a cylinder leakage, or insufficient air volume to compress. When doing a leak-down test, it is important to set the gauge up properly. On a typical leak-down gauge you have a measurement of input air pressure and a measurement of the percentage of that air that is escaping. It is important to understand that the percentage of air “leaking” is based on the input air being at 100psi. If the input pressure is at 80psi, then even with a “perfectly” sealed cylinder, the gauge will display a 20% leak, as 80psi indicates an 80% seal. If 100 psi shop air cannot be maintained, it is important to calculate the correct percentage.



The same cylinder:

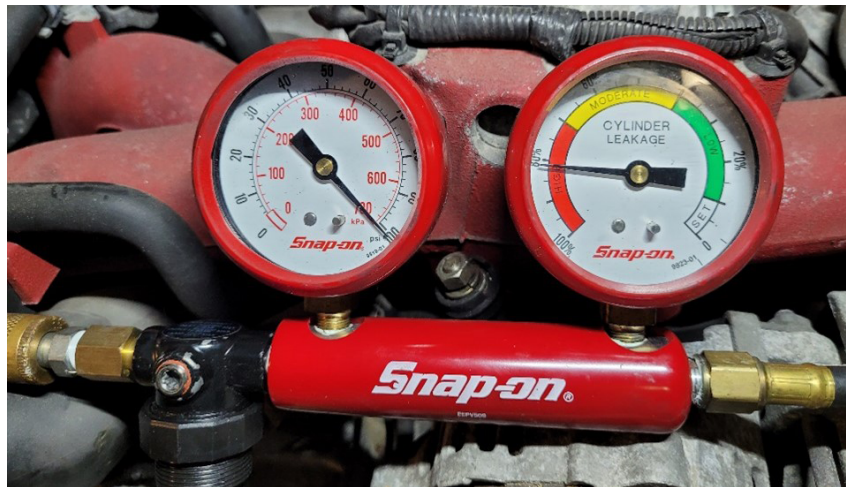


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02 Leak - Down Testing (CONTINUED)

The next important step to remember when performing a leak down test, is that the cylinder should be at TDC of the compression stroke to ensure the cylinder is being tested in the state in which combustion occurs. It is important to not set the pressure and then rotate the engine, but to set the engine to TDC then input the air pressure slowly, watch that the engine does not rotate off TDC and continue until 100psi is applied to the cylinder in TDC. Then record your measurement or find your leak.

Caution: If the piston is not correctly set at top dead center compression the crankshaft may rotate. Always ensure any tools used to rotate the crankshaft have been removed.



When a loss is observed, find where the air is escaping from the cylinder to determine where the failure point is. If no loss is observed after a low compression test, this could be due to valves not opening or a bent connecting rod.

Source of Air Escaping	Likely Cause
Throttle Body	Intake valve
Exhaust	Exhaust valve
Crank Case (Oil dipstick tube)	Piston/Cylinder sealing (Ring, ring lands, etc.)
Coolant Overflow	Head Gaskets, Cylinder liner

Specification:

Due to differences in leak-down test equipment, an actual cylinder leakage specification cannot be provided. However, your results should be consistent from cylinder to cylinder. Large variations in cylinder leakage readings will direct you toward a problem cylinder. Experience with the test equipment being used and past engine failure diagnosis should be your guides for how much variation between cylinders is acceptable when damage has occurred to one or more cylinders. Contact your DSQM or Techline to review if you are uncertain about your test results.

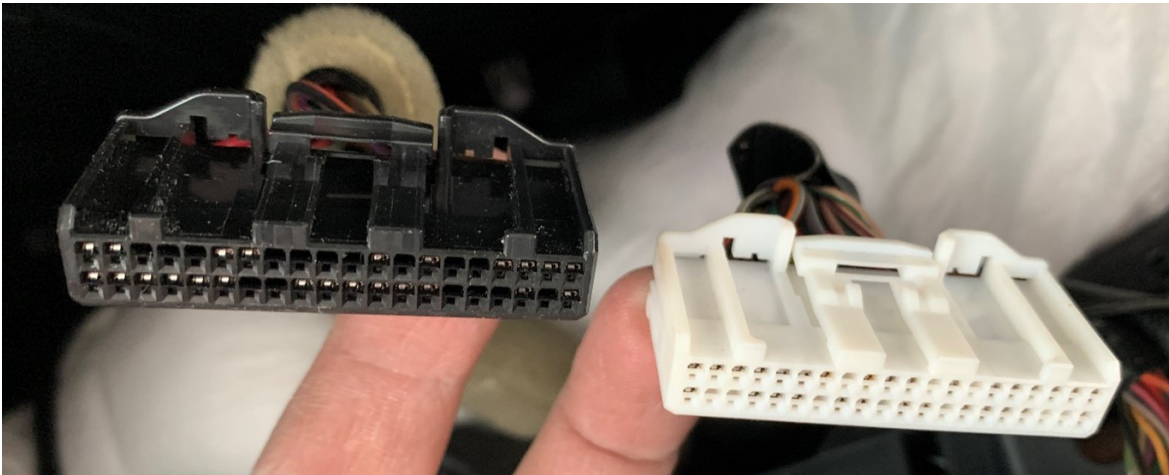
NOTE: More information regarding cylinder leak-down testing can be found on STIS in Technician's Reference Booklet: [Engine Theory and Diagnosis \(MSA5P2106C\)](#).

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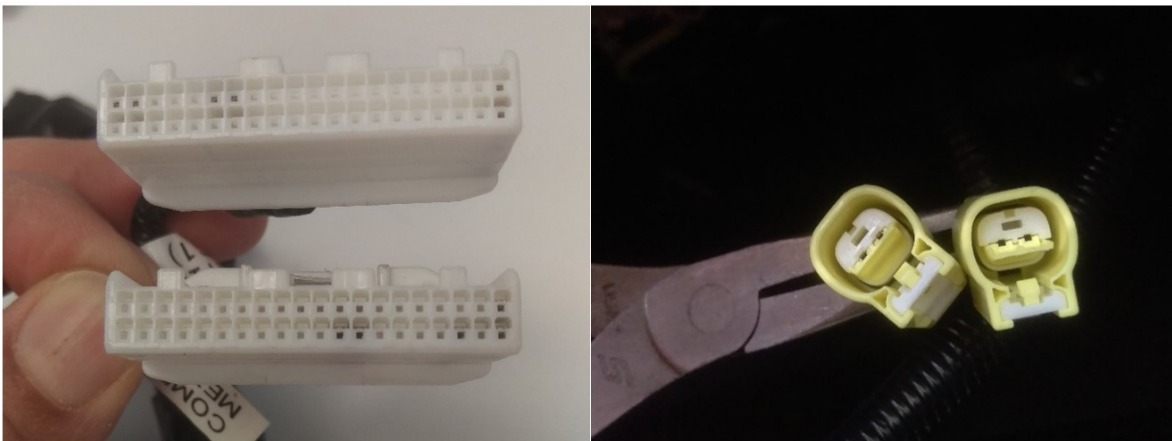
07 Identical Connectors Revisited, Again!

Most electrical connectors in Subaru vehicles have unique designs which 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.



Shown above is connector i10 (black) for the combination meter and i241 (white) for the Keyless Access Control Module. These connectors may be found on 2015-2017 Legacy/Outback



We have had reports that the coolant temperature sensor and knock sensor connectors are identical and the wiring is long enough to be able to plug into the wrong sensor.

It is always a good idea to mark the connectors with tape to avoid confusion or damaged components later. If that option is not available, it is recommended to see the service manual for wire colors specific to each connector to identify the connector.

Here are links to previous Tech Tips [07/08](#), [06/19](#), [10/20](#) for this concern.

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ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
07-213-22R	Technical Service Bulletin	Genuine Battery Replacement	29-Nov-22
07-207-22R	Technical Service Bulletin	Subaru Battery Drain Product L...	29-Nov-22
07-184-20R	Technical Service Bulletin	Power Window Main Switch- Desi...	29-Nov-22
H630SAN010	Accessory Installation Guide	Rockford Fosgate Speaker Upgra...	22-Nov-22
03-89-22R	Technical Service Bulletin	DTC B280B VDC Brake Fluid Pres...	22-Nov-22
16-132-20R	Technical Service Bulletin	Diagnostic Information for All...	17-Nov-22
15-236-18R	Technical Service Bulletin	Reprogramming File Availabilit...	17-Nov-22
H001SXC300	Accessory Installation Guide	2023MY Ascent Remote Engine St...	17-Nov-22
07-212-22	Technical Service Bulletin	DTC B28DE: EyeSight® Security ...	17-Nov-22
15-240-19R	Technical Service Bulletin	New Harman Audio Amplifiers	17-Nov-22
06-87-22R	Technical Service Bulletin	Electric Parking Brake Connect...	16-Nov-22
10-100-21R	Technical Service Bulletin	A/C Compressor- Manufacturing ...	14-Nov-22
02-191-22R	Technical Service Bulletin	Genuine Subaru Alternative Eng...	14-Nov-22
WRJ-22	Subaru Product/Campaign Bulletin	Defective Left Front Seat Belt...	11-Nov-22
J201SFL002	Accessory Installation Guide	PORT INSTALLATION: 2023MY Asce...	10-Nov-22
L101SAN000	Accessory Installation Guide	PORT INSTALLATION: 2023MY Outb...	10-Nov-22
H451SXC010	Accessory Installation Guide	PORT INSTALLATION: 2022MY Asce...	10-Nov-22
H501SAN000	Accessory Installation Guide	PORT INSTALLATION: 2023MY Lega...	10-Nov-22
H671SXC200	Accessory Installation Guide	PORT INSTALLTION: 2022MY Ascen...	10-Nov-22
15-282-21R	Technical Service Bulletin	STARLINK Remote Engine Start (...)	9-Nov-22
MSA5B2304A	Owner Manual	2023MY Outback Getting Started...	9-Nov-22
07-199-21R	Technical Service Bulletin	Measurement of Dark Current (S...	2-Nov-22
B321SFL000	Accessory Installation Guide	PORT INSTALLATION: 2023MY Lega...	1-Nov-22
15-130-08R	Technical Service Bulletin	Load Carrying Capacity Reduced...	1-Nov-22
H501SAN000	Accessory Installation Guide	PORT INSTALLATION: 2023MY Asce...	1-Nov-22
H630SAN010	Accessory Installation Guide	PORT INSTALLATION: 2023MY Asce...	1-Nov-22
B321SFG000	Accessory Installation Guide	PORT INSTALLATION: 2023MY Asce...	1-Nov-22
H461SXC130	Accessory Installation Guide	PORT INSTALLATION: 2023MY Asce...	1-Nov-22
09-84-22R	Technical Service Bulletin	Exhaust Pipe Front (EPF) Repla...	1-Nov-22
15-261-20R	Technical Service Bulletin	Reprogramming File Availabilit...	31-Oct-22
WRK-21/22R	Subaru Product/Campaign Bulletin	CVT Chain Guide Breakage	31-Oct-22

All revised publications are highlighted in yellow.

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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: _____