TECH TIPS

Subaru Service and Technical Support Line Newsletter

August 2014

© 2014 Subaru of America, Inc. All rights reserved.

ARTICLES CONTAINED IN THIS ISSUE

2014 CALENDAR OF SUBARU HOLIDAYS

Labor Day
Monday, September 1, 2014

Thanksgiving
Thursday, November 27, 2014
Friday, November 28, 2014

Happy Holidays
Thursday, December 25, 2014
Friday, December 26, 2014

01 QMR OF THE MONTH

We are pleased to announce this month's winner of the QMR of the Month.

Brad Clayton

Alexander Subaru in Williamsport, PA

Brad submitted a very detailed QMR reviewing his diagnosis of a 2014 Legacy with multiple CAN codes. He provided his step by step approach to the diagnosis of the CAN system in general and how he was able to isolate the cause as a circuit failure in the combination meter. He then took the additional step of confirming his results by testing the failed component in another similar vehicle. His QMR provided helpful insights into this unusual repair.

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

A Subaru Confidence In Motion Jacket and a $100 Gift Card

Any Subaru Service Technician can participate in QMR of the Month. See the February 2013 Tech Tips for full details. You may see your name here in a future Tech Tips.

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, L.L. Bean, Baja, Tribeca, BRZ, XV Crosstrek 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.

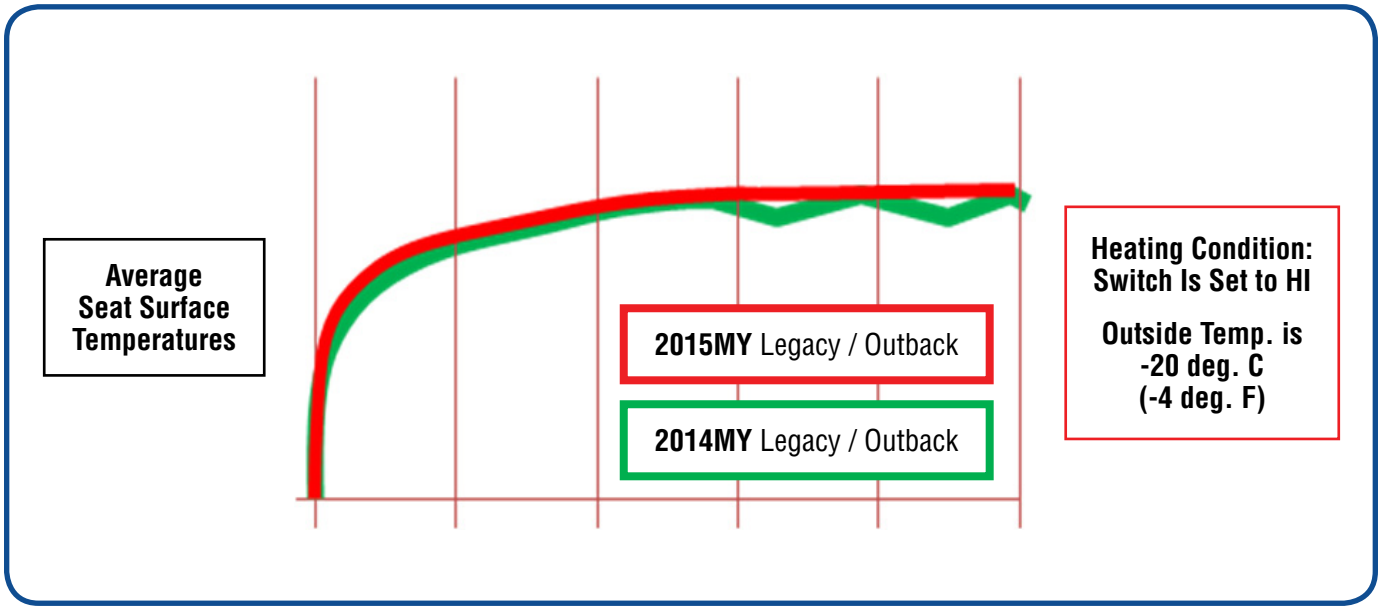
SUBARU
QUALITY DRIVEN® SERVICE

AUTOMOTIVE Youth Educational Systems PROUD PARTNER

12 2015MY LEGACY / OUTBACK SEAT HEATER OPERATION OVERVIEW

The front seat heater system used in the 2015MY Legacy / Outback is a new design compared to prior systems. It utilizes a thermistor sensor which allows the front seats to remain at warmer temperatures more consistently than the prior system. The new system is very different due to the change in sensors. The seat heater system on 2014MY and prior Legacy / Outback is a thermostat sensor-based system which makes the front seats heat up periodically and then cool down until the sensor indicates a need to turn the element on again. When this sensor-based system is operating, the temperature increases until the sensor reads the heating element has reached approximately 50 degrees C (roughly 122 degrees F). At that point, the element is turned off until the sensor reads approximately 40 degrees C (104 degrees F). At that temperature reading, the element is turned back on again to re-heat the seat resulting in an approximate 18-degree range. This cycle continues as long as the seat heater switch is on in either the low or high position.

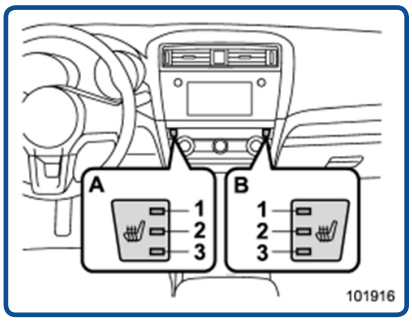
In comparison, the thermistor sensor used in the new system also has periodic on and off cycles, but the operating range (temperature difference) is much smaller with an upper limit temperature which is slightly lower. The new system turns on the element until the thermistor sensor reads approximately 38 degrees C (roughly 100 degrees F) then cycles the element off until the temperature (at the thermister) reaches approximately 37 degrees C (roughly 98 degrees F) before the element cycles on again, yielding only an approximate 2-degree range. As you can see, the upper and lower temperature range on the new system is significantly reduced. However, this is an apples and oranges comparison as the actual seat temperature felt is very similar. As you can see on the chart below, the average surface temperature of the front seat for each system ends up being very close. The RED line on the graph shows the temperature on front seat surface of the new 2015MY Legacy / Outback while the GREEN line represents the previous model year. You can see the fluctuations of the previous system have been virtually eliminated and the temperature stability enhancement the new system provides.



CONTINUED ON THE NEXT PAGE

12 2015MY LEGACY / OUTBACK SEAT HEATER OPERATION OVERVIEW (CONTINUED)

There are three levels of front seat heating available for 2015MY Legacy and Outback, HIGH (1), MID (2) and LOW (3). The difference among these modes is an upper limit temperature change of about 2 to 4 degrees C. Similar to the older system the speed at which the seat actually heats up varies with the level settings. The high setting will heat the seat the quickest, mid will increase the temperature more gradually and low will increase it at the slowest rate.



In contrast, the rear seat heater system used on 2015MY Legacy / Outback is a similar design as the previous model year but, the cycle and surface temperatures for those seats are lower than the front seats on previous model by a few degrees C.

Another operational difference between the old and new seat heater systems is how each functions in higher ambient temperatures conditions. Naturally, ambient temperatures which are at or above the upper limit of either system's sensor function may keep the seat heater from operating. Simply stated, if the ambient temperature inside the car is higher than the upper cycle limit for that sensor, the system will not allow the element to heat. This is not a malfunction; the seat heater system is operating as designed.

Should you receive a customer concern stating their seat heaters do not work, start your diagnosis by first confirming the conditions under which the system was reported to be inoperative. If the ambient temperatures were close to or higher than the seat heater sensor's upper limit (remember, inside vehicle temperatures will be higher than outside ambient temperature in most cases), the concern may be due to characteristic system operation. If this is not the case, diagnose the system using the applicable Service Manual. On the new 2015 Legacy and Outback, you can view the temperature of the thermistor sensor using the SSMIII as shown in the screen shot below. This data may be used to check if the sensor is functioning correctly or not. **NOTE:** Temperatures shown on SSMIII are not the actual temperatures felt on the seat surface. Actual seat surface temperatures will be higher than those shown for the thermistor sensor on the SSMIII data.

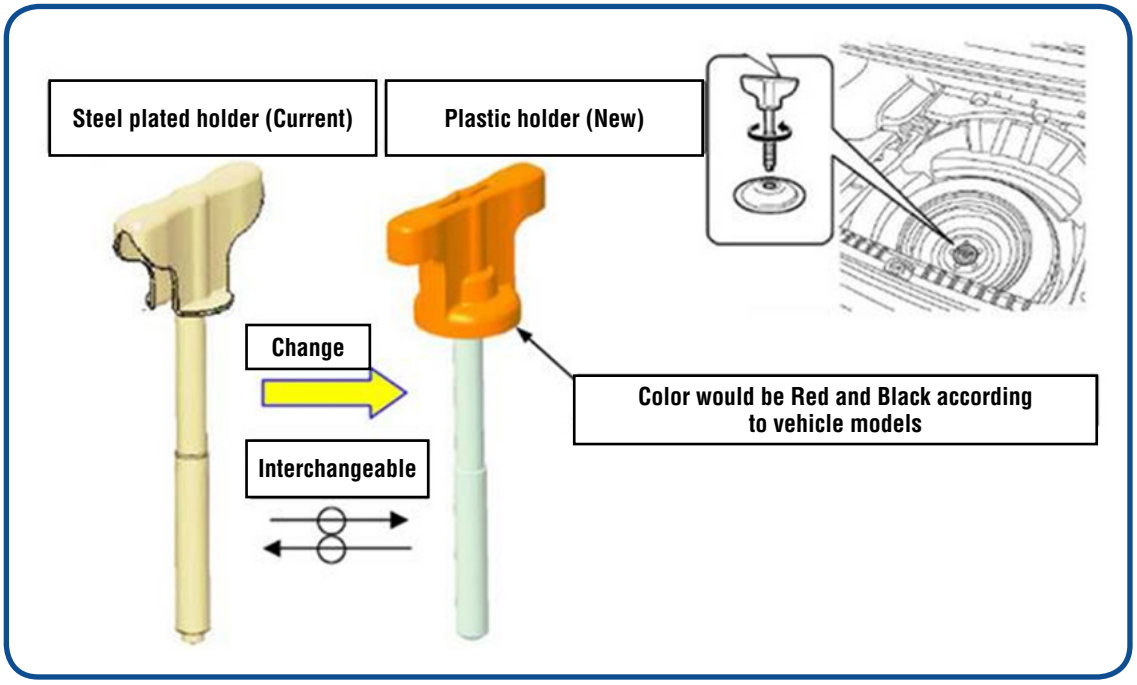
Item	Value	Unit	Maximum	Minimum	Average
☑ In-vehicle Sensor Temperature	89.47	°F	89.64	89.04	89.44
☑ A/C Pressure Sensor	0.98	MPa	1.02	0.95	0.98
☑ Seat Heater operation steps(Driver's)	3		3	3	3
☑ Seat Heater operation steps(Passenger's)	3		3	3	3
☑ Seat Heater Temp.(Driver's)	102.24	°F	103.24	98.56	101.03
☑ Seat Heater Temp.(Passenger's)	103.05	°F	103.05	98.56	101.26

15 2015MY LEGACY AND OUTBACK, KEYLESS ENTRY AUDIBLE SIGNAL FEATURE

Be advised, for 2015 MY Legacy and Outback models, the audible signal or "chirp" heard when locking and unlocking the doors feature is only available on models equipped with the Keyless Access with Push-Button Start system. The feature can also be turned on or off by the operator. Models with keyed ignitions no longer have the audible signal feature.

01 CHANGE TO SPARE TIRE RETAINING BOLT

Be advised that during the upcoming fall months, there will be a running change in production to the spare tire hold-down bolt on all FHI-built models. SIA built vehicles already incorporated a similar change starting with 2015 MY production. The “handle” portion of the bolt will change from metal to plastic as shown in the photo below. The current “metal” and new “plastic” version are interchangeable.



07 PASSENGER SIDE POWER WINDOW AUTO UP/DOWN FUNCTION

Have you had a customer complaint of the auto-up/down window function not working on a 2015 Legacy / Outback? On the 2015 Legacy and Outback, if the vehicle’s battery is disconnected or becomes discharged, the auto-up/down feature must be re-initialized. If the front passenger’s window is equipped with the auto-up/down function, it is necessary to repeat the same initialization procedure on that window switch. All Premium and Limited models have front passenger windows equipped with this feature. Additionally, if the power rear gate is open when the negative battery cable is disconnected, it too will need to be manually reset (closed) to be reinitialized. If you need information detailing the steps of the procedure please refer to STIS.

06 2015 LEGACY AND OUTBACK ELECTRONIC PARKING BRAKE CODES C1956 OR C1957

If you receive a customer complaint of a flashing Brake system warning light on their instrument cluster immediately following engine start, this may be resulting from a characteristic of the new electronic parking brake (EPB) system. Several notes on brake system warning light operation are outlined in the instruments and controls section of the appropriate owner's manual.

If the driver starts the engine at the exact same time as the electronic parking brake is still in process of applying or releasing, there is a possibility that a code C1956 and/or C1957 may set in the VDCCM. As a result the Brake warning lamp in the instrument cluster will be illuminated and flashing. This condition will clear itself with the next application (apply/ release) of the EPB and the brake lamp will extinguish normally, however the code(s) will remain in the VDCCM memory. However, if the EPB is not cycled the flashing Brake warning lamp will remain on even if the ignition is cycled on or off including if the key is removed from the ignition.

If presented with this type of customer concern, first interview the customer to determine if the engine may have been started during application/ release of the EPB. Once confirmed, check the VDCCM for one or both of the listed codes. If the customer confirms this may have occurred, the code(s) listed are present in the VDCCM memory only and the brake system warning lamp is functioning normally; the next step would be clear the VDCCM memory. Then explain to the customer how this condition occurred and how to avoid it in the future by either waiting until the EPB has fully applied / released before starting the engine or starting the engine and then applying/ releasing the EPB. The owner's manual is a good reference for this discussion.

If you cannot confirm if the engine was started at the same time the EPB was applying/ releasing or it remains unclear if this occured, then proceed with the troubleshooting for any code found in the VDCCM to ensure there is not a different cause for the reported condition using the appropriate service manual diagnostics.

00 JULY STIS NEW RELEASES

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
	HTML Diagnostics	2015MY BRZ Service Manual	31-Jul-14
MSA5M1516A	Owner Manual	2015MY BRZ Owner's Manual	31-Jul-14
G4420BE	Service Manual Full	2015MY BRZ Service Manual	30-Jul-14
WQK-47R	Subaru Product / Campaign Bulletin	Brake Line Corrosion	29-Jul-14
WQG-43R	Subaru Product / Campaign Bulletin	Brake Line Corrosion	23-Jul-14
L101SAL011	Accessory Installation Guide	2015MY Outback Trailer Hitch	22-Jul-14
MSA5M1504A	Owner Manual	2015MY Legacy and Outback Owner's Manual	18-Jul-14
E361SAJ301	Accessory Installation Guide	Fork Mount Bike Carrier	17-Jul-14
01-168-09R	Technical Service Bulletin	Replacement Key and Immobilizer Information for Authorized Subaru Dealers	17-Jul-14
E551SAL000	Accessory Installation Guide	2015MY Outback Front Bumper Under Guard	16-Jul-14
12-172-14R	Technical Service Bulletin	Paint Chipping Due To Trunk Lid Movement	15-Jul-14
14-20-14	Technical Service Bulletin	Subaru Leak Detection System	15-Jul-14
H7110AL100	Accessory Installation Guide	2015MY Legacy and Outback AC Power Outlet Kit	10-Jul-14
H451SAL100	Accessory Installation Guide	2015MY Outback Fog Light Kit	10-Jul-14
H451SAL000	Accessory Installation Guide	2015MY Legacy Fog Light Kit	10-Jul-14
12-169-14	Technical Service Bulletin	"Click", "Pop" or "Creek" Sound from Left or Right Outer Cowl Corner / Base of "A" Pillar Area	10-Jul-14
12-147-13R	Technical Service Bulletin	Pop Sound from Right Rear Wheel Apron Area	8-Jul-14
TIPS0714	TechTIPS NewsLetter	2014 July TechTIPS Newsletter	7-Jul-14
07-86-14	Technical Service Bulletin	Vibration Sound from High-Mount Stop Lamp Assembly	7-Jul-14
11-142-14	Technical Service Bulletin	Reprogramming Files for DTC U0110	1-Jul-14

Be sure to always check the "What's New" section on STIS for any updated or recently released information that may not be listed here.

***** NOW YOU CAN E-MAIL YOUR TECHTIPS INPUT AND SUGGESTIONS TO: TECH@SUBARU.COM *****

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 6000, Cherry Hill, NJ 08034-6000.

Your Name: _____

Signature: _____

Dealer's Name: _____

City: _____

Date: _____

Dealer Code: _____

SUBARU TECHLINE
Hours of Operation

Monday – Thursday 8:30 am to 7:30 pm
Friday 10:30 am to 5 pm and Saturday 9 am to 3 pm