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## 01 QMR OF THE MONTH

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

### John Johnson

Placer Subaru in Helena, MT

John submitted a very detailed QMR reviewing the steps he took in diagnosing a ticking sound heard at highway speeds. The sound was best heard from the front passenger seat and seem to be coming from the floor board area. After extensive diagnosis including use of chassis ears, he determined the sound was coming from the right front drive axle. In appreciation for going the extra mile and sharing his experience with us, John 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.

**Congratulations John!**



**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"**

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



## 01 TROUBLESHOOTING GUIDES ON STIS - A REMINDER

Please be advised that there are 17 troubleshooting guides on STIS that cover various topics such as Remote Engine Start, Navigation Systems, Rear Seat Entertainment, Blue Connect, F-10 Systems and Media Hub to name a few. From the home page of STIS, click on the Online Reference tab; click the drop down menu under Publication Type and select Troubleshooting Guides, then click the first search button. Do not put any car model information in your search and it will return all of them. Once the complete list is displayed, click on the right side to view the guide applicable to your particular vehicle. A review of the applicable Troubleshooting Guide should always be done prior to calling the Techline.

## 05 TIRE PRESSURES "CHECK THAT SPARE"

In many parts of the country, the Summer's heat has been replaced by Fall's cooler air.

At this time of year, tire pressures can drop as much as 1-2 PSI for every ten(10) degrees of temperature change during the vehicle shipping process from the Port Facilities to your dealership. This is true for not only the tires on the vehicle, but for the spare tire as well. A spare tire underinflated by ten(10) PSI will not appear any different from a properly inflated spare tire.

Always ensure the spare tire pressures in the vehicles you are receiving from Subaru are within the specified range of 50-65 PSI.

This check ensures that the vehicle being delivered to our customer is safe and has a properly inflated spare tire, if the need arises to use it.

## 01 DON'T FORGET TO CHECK THE BASICS WHEN DIAGNOSING DRIVABILITY COMPLAINTS

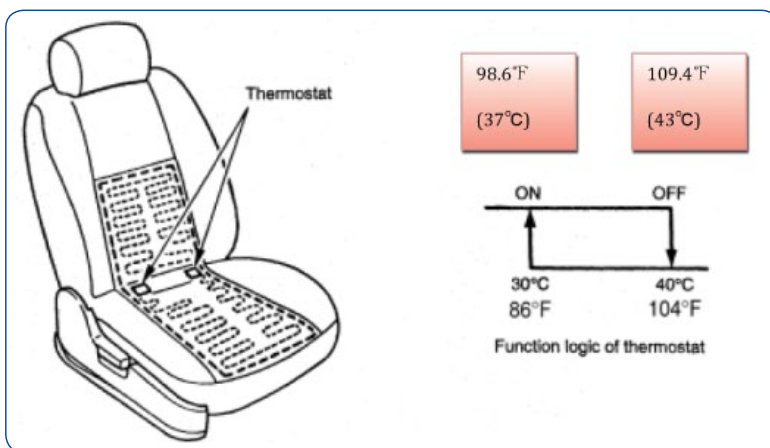


When performing diagnostics for engine-related problems, don't forget the simple items which can easily be overlooked. Recently, a vehicle with only 27,420 miles was brought in to a dealership for misfire codes P0301, 302, 303, 304. The air filter was almost completely clogged (see photo to the left). Even when a vehicle has not reached a point where maintenance items would be inspected or replaced (ex: air filter at 30K), they should still be checked as part of the diagnostic procedure.

Thanks to Bill Clark from Fred Beans Subaru for this helpful Tip!

Subaru vehicles 2013MY and prior equipped with seat heaters generally have an operating range of 86 degrees F to 104 degrees F. See the March, 2003 issue of TechTIPS for information on older style seat heaters. The 2014 Forester seat heaters have a different operating range. The 2014 Forester seat heaters come on at 98.6 degrees F. and shut down at 109.4 Degrees F. Depending upon conditions such as interior cabin temperature, seat fabric and thickness, these temperature ranges are target ranges and may feel or read slightly different when checked by a technician.

The system uses 7 contact points on the seat cushion and 4 contact points on the seat back to keep the system within this operating range by utilizing two thermostats located within the seat elements. They are positioned so the customer cannot feel them when seated. See the attached illustration below for thermostat locations. The switch functions are not a high and low type system like those used in previous models. When the seat heater switch is put in the high position, the elements heat up and into the operating range as fast as possible. When the switch is placed in the low position, the same amount of heat is generated but at a slower rate to reach maximum temperature. Once the maximum temperature is reached, the elements shut off until they cool below operating range then cycle back on again. The switch stays illuminated whenever the system is in use.



### Switch testing can be performed as follows:

Inspect for continuity between the seat heater switch terminals.

### Connector & Terminal

HI	LOW
No 4- No 5	No 4 – No 5
No 4 – No 3	No 4 – No 6
No 4 – No 6	

If no continuity exists, replace the seat heater switch with a new part.

For other models equipped with seat heaters, use the appropriate Service Manual for diagnostics as there are differences between systems and testing procedures differ between model years.

Should you be replacing a Body Integrated Unit and not know if the vehicle needs to have the keys replaced, you can find this information on STIS. Go to the home page of STIS, click on the Online Reference column and select Other / Miscellaneous. Under Keywords type in “Immobilizer”, but do not put any vehicle information into the other fields. Click on the first search button and four (4) PDF documents will be returned. There are three (3) immobilizer manuals contained on this page covering all types of Subaru Immobilizer systems; A, B, C and D. Each manual contains a chart outlining what needs to be done or replaced whenever repairing the immobilizer system.

Should you encounter a hesitation-type complaint on a 2013MY, BRZ, Legacy, Outback, XV Crosstrek, Impreza or Tribeca, don't overlook the possibility it may be customer-induced due to the operation of the Brake Override System (BOS). This feature was incorporated to avoid accidental acceleration.

Simply stated, if the brake pedal and accelerator pedal are applied at the same time, under specific conditions, engine operation and acceleration will be reduced. This reduced acceleration could be interpreted by a customer as a hesitation. During the time the BOS is activated, any further accelerator pedal application will not increase the vehicle's acceleration. Once the vehicle speed is at 0 MPH, the accelerator pedal must be fully released to return the system to normal operation.

There are some parameters that can be monitored with the SSM III to determine if this might be the cause of the customer's complaint. One of the indications this may be the issue would be the customer's actual driveability complaint, But with no related DTCs in memory when the OBD system is checked. If a DTC is found, normal diagnosis should be performed using the appropriate Service Manual procedure.

Information about the operation of the BOS can be reviewed in Training Module 501 pages 87-90. It might be a good time to review this and become familiar with it.

The customer can also Google "Subaru Brake Override System" for an explanation of this system.

When working on areas of the vehicle near the headlights, it can be easy to inadvertently knock them out of adjustment. Here are some reminders to help you avoid customer concerns or even a possible comeback:

- When reinstalling the front bumper cover, take an extra minute to make sure it is properly positioned with the alignment slots / tabs before locking it into place. This way, there shouldn't be any need to hit the cover any more than necessary to fully engage the locking claws / tabs.
- When pushing the vehicle backward, don't push on the headlights.
- Don't drop or slam the hood. Dropping it can knock the latch out of adjustment and having to slam the hood can mean the latch is already out of adjustment. Either way, this can also change the headlight adjustment and may also be an indicator of a body alignment issue elsewhere.
- Don't push on the fender side of the headlight any more than necessary as this can change the side to side adjustment.

**MSA5P1475C**; Technician Reference Booklet, G1 Lineartronic (TM) Continuously Variable Transmission (CVT) (Module 306) (Aug 2013)

**12-156-13**; Technical Service Bulletin, Rattling Sound from Seat Belt Buckle (BRZ)

**TIPS1013**; TechTIPS Newsletter, 2013 October TechTIPS Newsletter

**F551SAJ401**; Accessory Installation Guide, 2010MY - 2014MY Compartment Separator (Outback)

**02-147-13**; Technical Service Bulletin, Revised Valve Train Parts to Reduce a Warm Engine Tapping or Sewing Machine type Sound from the Left Cylinder Head

**07-79-13** ; Technical Service Bulletin, Countermeasures for Frozen Power Windows

## 2013 Calendar of Subaru Holidays

### Thanksgiving

Thursday, November 28, 2013  
Friday, November 29, 2013\*

\*Techline Hours of operation will be from 8:30 am until 3:00 pm EST.

### Happy Holidays

Tuesday, December 24, 2013 and  
Wednesday, December 25, 2013

### New Year's Day

Wednesday, January 1, 2014

\*\*\* NOW YOU CAN E-MAIL YOUR TECHTIPS INPUT AND SUGGESTIONS TO: [TECH@SUBARU.COM](mailto: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 6:30 pm  
Friday 10:30 am to 5 pm