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01 QMR OF THE MONTH – FIRST WINNER!

We are pleased to announce the first winner of the recently released QMR of the Month program.

**Francisco
Landeros**

**AV Subaru in
Lancaster, CA**

Francisco submitted a very detailed QMR on his diagnosis and repair of a keyless entry / TPMS module with an erratic operation concern. In appreciation for going the extra mile and sharing his experience with us in hopes of improving product quality, Francisco will be receiving the following from his FSE:

**A Subaru Confidence
In Motion Jacket**

&

**A \$100
Gift Card**

Congratulations Francisco!

Any Subaru Service Technician can participate in QMR of the Month. See the February 2013 Tech Tips for full details. If your QMR is selected, you may see your name here in a future issue of 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"**

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



On occasion, we receive calls and reports about customers who are having difficulty using their dial by number voice recognition feature. These concerns generally fall within several distinct conditions. These include: system does not seem to recognize any commands, system seems to only recognize the first few numbers of the request, system adds symbols in front of the requested number, and/or system adds additional numbers at the end of the requested number. There may be any number of physical factors that influence the voice recognition's ability to interpret the spoken commands. Let's look at some helpful hints that may allow the customer to make more use of the system.

First, we've all seen comedies where some English speaking person ends up surrounded by people who don't speak any English. They always respond in the same incorrect way, by trying to speak slower and louder in an attempt to get someone to understand them. It's a natural reaction and occurs quite frequently when attempting to use voice recognition and becoming frustrated. However, this approach is totally incorrect and ineffective. Speaking loudly and speaking slower than normal speech will in nearly all cases, result in a poor response by the system. The next approach tried is the opposite which is to speak quickly and without any pauses. This is also ineffective. Ideally, even when the car is in motion, the voice level used should be equivalent to a conversation with a person seated next to you in a quiet vehicle that is stopped without even the engine on. Keep in mind, the microphones are somewhat directional and very sensitive.

Since we are specifically referring to Dial by Number, let's look at how the system performs this task. We know this is an electronic system and not a physiological being so, how is "hearing" accomplished? The system looks for specific low, medium, and high tones as would correspond to spoken numbers and words. In the case of Dial by Number, the system also looks for a specific cadence or pattern of numbers spoken to identify the limit of the phone number spoken. The system identifies a phone number as one spoken in the following pattern XXX_XXX_XX_XX where the "_" indicates a brief pause.

Let's look at the some system interpretations and see how small adjustments in the way the numbers are spoken may lead to improved results:

- Spoken phone number XXX_XXX_XX_XX results in a display of XXX_XXX_X. The cause here may be too long of a pause in between numbers. Try shortening the pause between the sets of numbers spoken.
- Spoken phone number XXX_XXX_XX_XX results in a display of #*X_XXX. The cause here may be speaking too quickly following the beep or over top of the beep. Try pausing for a very brief moment just after the beep and before speaking the number.
- Spoken phone number XXX_XXX_XX_XX results in a display of XXX_XXX_XXXXXXXX. The cause here may be too long of a pause between the last few spoken numbers. Try shortening the final pause, but still include it. If you don't include the final pause, a similar result may occur.
- Spoken phone number XXX_XXX_XX_XX results in a display of "Pardon?" Number may have been spoken too slowly. Try speaking it at a slightly faster rate.
- Spoken phone number XXX_XXX_XX_XX results in a display of "Pardon?" Number may have been spoken too loudly. Try speaking at a softer volume.
- Always remember to wait for the "beep" before starting to speak. Similar to an answering machine, if you don't wait for the "beep" before leaving a message, anything said prior to the "beep" gets cut off.

Continued...

15 VOICE RECOGNITION (CONTINUED)

Speech volume has a significant impact on system interpretation of commands. A final area to confirm is, does the customer's concern occur all the time or only when the vehicle is in motion? If only when in motion, then speech volume may be the cause. It's a natural tendency to raise the volume of speech once the vehicle is in motion, but again, this is an ineffective approach. You may want to confirm if this is the case and then request the customer try using a softer tone which may be more effective. In conclusion, while there may be some physical factors with some customer's speech patterns that may reduce their ability to utilize voice recognition, there are many cases where taking an instructional approach may allow you to assist customers in improving their ability to more effectively utilize these systems.

01 2014 FORESTER NEW MODEL LAUNCH ACTIVITIES

A Special FHI Quality Monitoring Team is currently in the USA monitoring the launch of this much anticipated new model. The Team is very interested in EVERYTHING related to the 2014 Forester. They are looking for specific and detailed information on EVERY condition identified. Naturally, this includes any and all repairs performed. It also includes cases when a customer comments on a condition that is deemed to be a normal or operational characteristic, or any improvement opportunity where some feature or function could be made even better.

We are asking you to be our eyes and ears with this new model.

E-QMRs are the best and preferred reporting method for reporting any new model feedback.

For high priority, unusual, or serious issues, we ask that you call SOA's Technical Helpline right away with all details. When you report something, include pictures and where practical videos of the condition prior to repair. Providing as much detail as possible on the customer complaint, the actual condition, and your findings are strongly requested and greatly appreciated. Be sure to save all code and freeze frame data before performing any clear memory functions. While there is no guarantee that a change will occur based upon any individual report, we can guarantee that nothing will happen if we don't know about it. Our request is that you report everything, even if it seems small or straightforward to repair.

E-QMRs, Techline or CDS Cases, and Warranty Claims are being reviewed daily. Team Members may contact you for additional details, photos, parts collections, or to arrange for an on-site inspection. We ask your cooperation in quickly responding to these requests for additional information. Please save any and all removed parts no matter how small including gaskets, clips, fasteners, any filtered sediments, or other small bits and pieces.

As a reminder, E-QMRs must never be used to request escalation of a repair, request information, or for any other purpose than to notify SOA of a new or trending condition.

Authorization or Repair Escalation Requests must always go through normal channels for the fastest, most efficient handling. Paint and Glass Authorization requests must go through the Techline Authorization System on SubaruNet.

We thank you all in advance for your continued support and assistance in making this launch successful.

When presented with a concern involving the Fujitsu Ten SD Card Navigation System, don't overlook the helpful information supplied in the Fujitsu Ten Troubleshooting Guide found on STIS under the Online Reference tab then searching Publication Type: Troubleshooting Guide. This detailed reference includes a system operation guide, system input references, and some failure-based diagnostic flow charts. One of the fastest checks you can perform, while the system is still fully installed is to check for any issues with the various system inputs by putting the system into Line Diagnostic Mode using the process shown below. Using this method is a quick way to determine if conditions like: the system not illuminating, satellite radio inoperative, rear camera won't display or GPS location indicator doesn't move. Concerns involving no sound from an i-Pod or USB are more likely a result of a poor connection or an external failure rather than an internal head unit failure requiring an exchange or replacement unit.

2. How to enter Line Diagnostic mode

2-1. Enter the Diagnostic mode

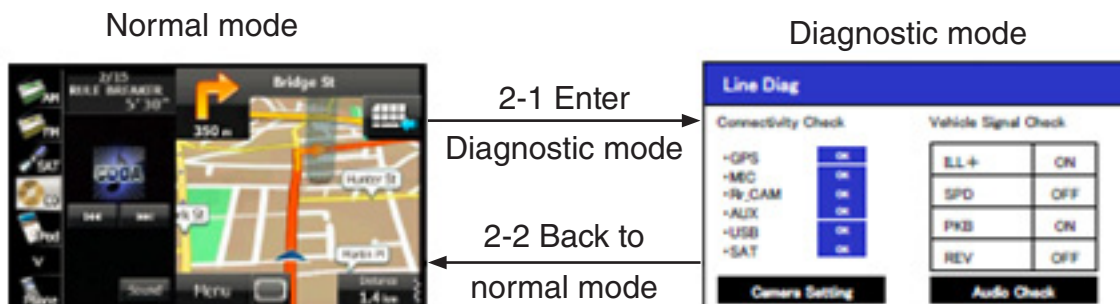
Procedure:

1. Turn off audio by pressing "PWR/VOL" button.
2. While pressing both buttons (a) and (b), press and hold the button (c) for more than 3 seconds.



2-2. Exit the Diagnostic mode

Press and hold the button (a) for more than 3 seconds, or turning the ignition switch from ACC OFF to ON position.



The Techline receives occasional inquiries from technicians about possible causes for voice clarity concerns reported by customers when using their audio/ navigation head unit as a Bluetooth Hands-Free Device.

The first question that must be answered is, which end of the call is experiencing the condition? Is it the receiving end of a call originated from the vehicle or is it on the sending end of the call in the vehicle, or are both ends of the call experiencing the condition?

Next, when does the condition occur? Does it occur all the time on every call? Does it occur only when calling certain numbers? Does it occur only in certain locations? Does it occur only when driving in certain directions? Is it only present when driving certain directions on specific roads? For example, it doesn't occur when I drive to work on X highway, but always when I drive home on the same highway. Has it always been a concern? If not, when did it start occurring? Have there been any changes in the phone or wireless carrier? Any new wireless accessories being used (chargers or other adapters), even if not for the customer's phone? Does the condition occur with multiple phones? Does the condition occur only when other phones (paired or not paired) are in the car? Any aftermarket accessories installed? Is the customer a realtor? Do they carry any electronic lock box keys in the car? Any other electronic devices in use in the vehicle at any time such as laptops, i-Pad, i-Pod, aftermarket GPS, radar detector, wireless camera, or other?

As you can see there is a great deal of background information that needs to be collected even before attempting diagnosis as any of the above will impact how or if you should proceed with diagnosis.

Based upon our research and that of our audio vendors, here are a few items that can affect voice clarity on the receiver's end of a call originated in the customer's vehicle using a Bluetooth Hands Free connection with the vehicle audio unit. Many of these can be confirmed statically with the customer's or a similar phone.

- The following situations may create a feedback loop resulting in garbled audio on the receivers end
 - Receiving party is using a cellphone or smartphone on speaker- take receiving phone off speaker
 - Receiving party is using a house or office phone on speaker- take receiving phone off speaker
 - Receiving party is in another vehicle using an audio unit based Bluetooth connection- some feedback is unavoidable
- Cellphone or Smartphone used is not listed as compatible or, if not listed at all, may be too old to be fully compatible with the audio head unit- change to newer or more compatible phone
- Wireless carrier network- this can generally be confirmed by using a same/ similar phone from another wireless provider- change wireless provider

Continued...

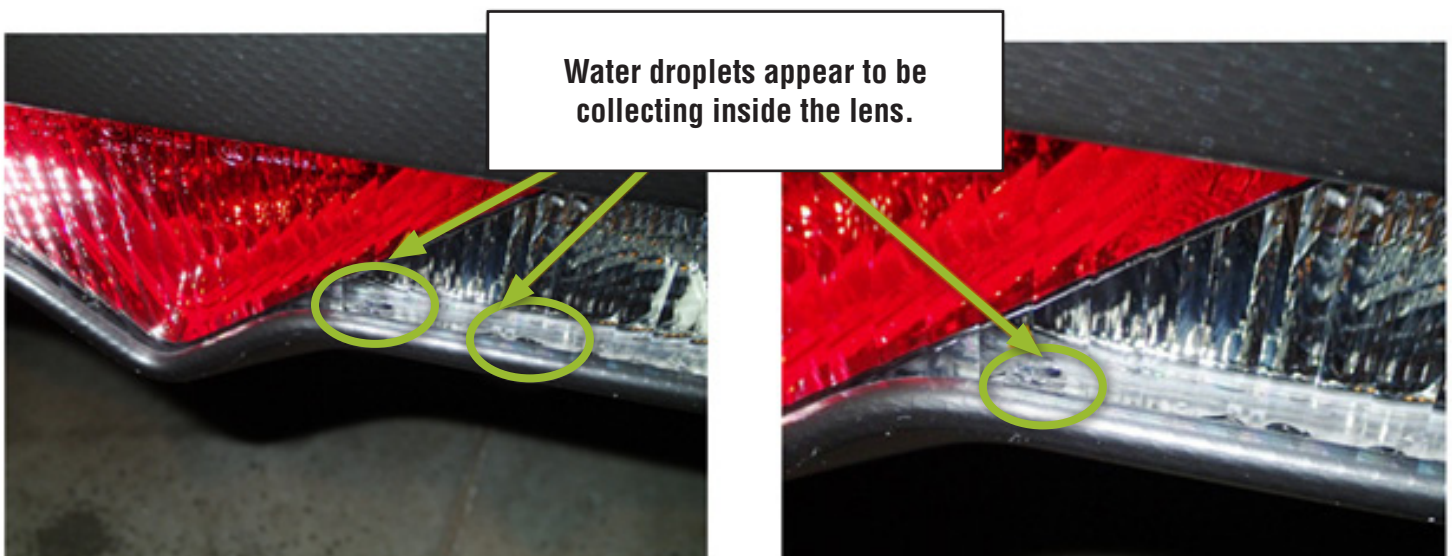
01 VOICE CLARITY (CONTINUED)

- Other possible causes
 - Microphone volume too high or too low for customer's voice level- adjust microphone volume (if applicable). Lower is generally better.
 - Phone location- In some cases the location of the phone within the vehicle can create interference with the microphone. An example may be placing the phone in the tray area at the base of the audio/HVAC center stack, on the passenger seat, or in the door pocket. Try putting the phone in a different location in the vehicle such as in the center console box or cup holder.

Finally, do not discount the effect that other wireless network connections may have on this specific area. There is a significant difference between available signal strength and actual network bandwidth availability. How many times have you had all signal bars illuminated on your phone, only to place a call and have the call drop and your display show only a single bar showing when you haven't moved. The same applies to calling from in the car using a Bluetooth connection

07 APPEARANCE OF WATER IN BRZ BACK-UP LIGHT

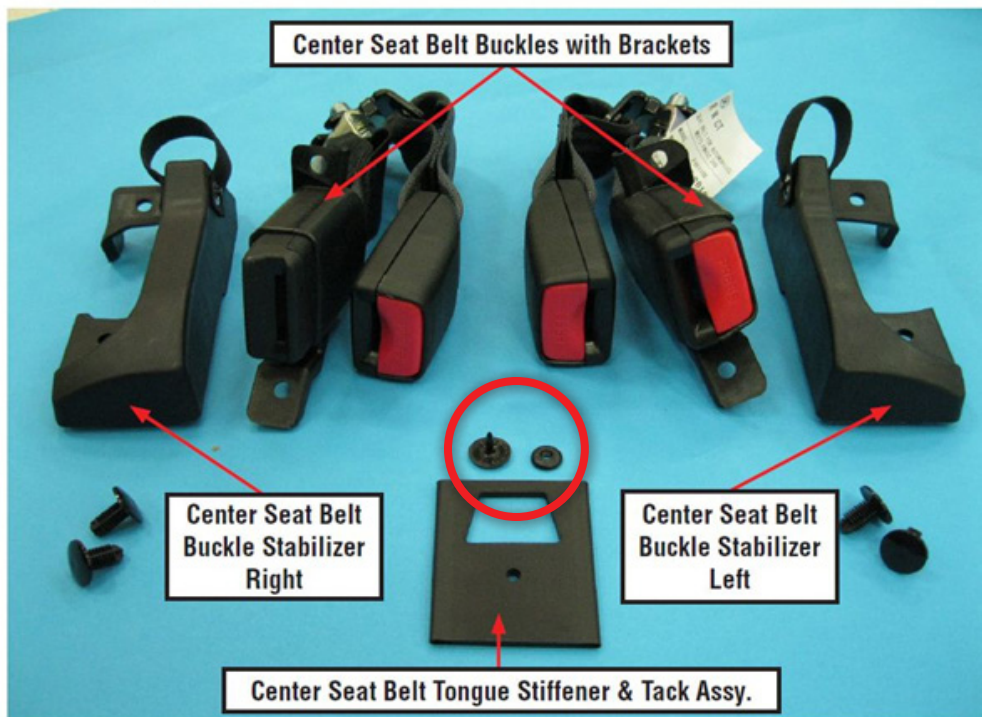
If you receive a customer concern of what appears to be water collecting inside the back-up light assembly, be sure to inspect the bottom of the lens area closely as shown in the photos below. Water droplets may collect along the bottom edge of the lens giving the indication they are inside the assembly when in fact, they are on the outside. To avoid unnecessary replacement of the back-up light assembly, simply remove the accumulated water droplets with compressed air. There is no need to replace the light as this is not a defect.



When performing campaign WQA-37, part of the procedure is to snap the seatbelt retaining button or Tack Assembly into the fabric material of the seatbelt. Snap-On tools and many other tool manufacturers carry a plier set that has very smooth jaws that leave no marks on the button upon snapping them together. The photos below show the pliers and a lay-out of the necessary parts for the campaign. The Red circle indicates the button that needs to be snapped together. Several technicians have reported to field personnel that this tool works very well for this procedure.



Part number is: 86 23 850, brand is Knipex.



During the winter months, especially following extremely cold conditions and severe winter storms, reports from customers of extended engine cranking and/or hard starting conditions are invariably reported. These reports may be a result of varying conditions and are influenced by elements including but not limited to fuel quality, battery condition and charge level, electrical connections (especially at the battery and starter), ambient temperature, motor oil viscosity, and many other factors. The fact is, for the most part, engines turn over slower when the temperature drops. That being said, some customers might be unfamiliar with and become concerned by any extended cranking condition, especially if it is their first winter with a car which is brand new to them or has a major powertrain change.

When a customer presents with a concern of an extended crank or hard starting, the first questions asked need to determine the following

- When did the condition last occur? What were the ambient conditions at that time?
- How long did the engine crank before it started? Were multiple attempts required?
- What actions did the customer take to finally get the engine started?
- If it only occurred in the past, with what frequency has the condition occurred? How many times daily, weekly, monthly, within how many miles?
- Did the customer experience multiple concerns on the same tank of fuel?
- How was the vehicle used or stored prior to the condition presenting? Was it stored (cold soaked outside? Was it garaged? (attached/ detached)
- Did the condition occur following a short time parked when warm? (short hot soak)

Answers to these types of questions will give you the best opportunity to duplicate and accurately diagnose the condition correctly the first time, or determine if it may be characteristic of cold weather operation. Never overlook any basic checks during your diagnosis. Fuel, air, and spark have to be present for combustion to occur. The loss or reduction of any will result in starting concerns.

When diagnosing vehicles equipped with FB engines that have confirmed extended cranking conditions (taking 6 or more seconds in some cases to start), some existing Technical Service Bulletins (TSBs) may apply. These include TSBs 11-122-12 for 2013 Legacy / Outback 2.5 NA, 11-124-12R for 2012-13 Impreza and 13 XV Crosstrek, and 11-100-11R for 2011-13 Forester. Look for some additional helpful revisions to these TSBs in the near future. In general, if the condition can be duplicated on the vehicle you are working on following 3 to 4 cold soak cycles, there is a good possibility one of these TSBs applies. However, if the condition cannot be duplicated or only occurs randomly for the customer, these TSBs will (in most cases) not be applicable and other possible causes should be considered. An example of a different cause for a complaint of an intermittent extended crank condition may be one addressed with reprogramming found in TSB 11-117-12 for 2012 Impreza 2.0 NA.

Continued...

Here are some final thoughts: In some cases, there may be no applicable TSB for your particular condition or vehicle. Always review any new case thoroughly and gather all the details before committing to a particular diagnostic path or repair. Keep in mind, the best way to duplicate a customer's concern is nearly always under the same or similar conditions as those the customer has experienced. Use care when testing for an extended crank as repetitive cranking of the engine may induce an extended crank due through the creation of an over-rich condition. This could lead you to an incorrect conclusion or wasted repair attempt. Always allow the engine to run and clear out after any start attempt before trying it again. Armed with a detailed customer interview and taking a reasonable approach to duplication and diagnosis will, in most cases, lead you to a satisfactory result.

How much is too much? What can happen if you put too much oil in an engine? If you've ever seen an engine that had way too much oil added, you'd say a lot can happen and all of it is very bad and expensive. What if it's just a little over full, say by half a quart? Shouldn't hurt anything...right? Excess will just burn off...right? Wrong. What if we told you an engine just half a quart over full could result in a drivability concern? It can.

If you encounter a concern of sluggish operation, hesitation, or surging on a vehicle, you may want to check the engine oil level when the engine is cold. If the engine oil is over-full, drain the excess oil and see if the condition is corrected. Conditions like this will generally be most noticeable when accelerating up a grade. If you are monitoring the ECM using the SSMIII, you may notice knocking correction occurring at the same time you experience the surging sensation. We are aware of concerns like this occurring in the field following both dealer and aftermarket oil changes. Always confirm the engine oil level is correct following any service. What if the car is new? What if the mileage isn't near the service interval? Don't discount the possibility of someone adding oil to an engine between services. After all, if it's down half a quart why not just add the whole quart. It's only a little over full. What could it hurt? Now you know. It could hurt drivability.

E361SSG000; Accessory Installation Guide, 2014 Forester Crossbar Set - Adjustable

15-158-12; Technical Service Bulletin, Navigation/GPS Antenna Changes SD Card Exchange Program Information (F10)

15-154-12; Technical Service Bulletin, 22013 Exchange Component Identification and Procedures for the 2013 Subaru BRZ (F10)

H501SSG100; Accessory Installation Guide, 2014 Forester Auto dimming mirror with compass and homelink

10-79-13; Technical Service Bulletin, Revised Automatic HVAC Control Panel Assembly

WQF-42; Subaru Product / Campaign Bulletin, Inspection & Repair Procedure for Subaru Recall Campaign Stop Sale WQF-42

2013 Calendar of Subaru Holidays

Memorial Day

Monday, May 27, 2013

Independence Day

Thursday, July 4, 2013

Labor Day

Monday, September 3, 2013

Thanksgiving Day

Thursday, November 28, 2013

Christmas Eve

Tuesday, December 24, 2013

Christmas Day

Wednesday, December 25, 2013

*** NOW YOU CAN E-MAIL YOUR TECHTIPS INPUT AND SUGGESTIONS TO: SERVICEINFO@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 8:30am to 6:30pm
Friday 10:30am to 5pm