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2004MY FORESTER HOOD DEFLECTOR/PROTECTOR

For the 2004MY Forester, there are two (2) hood deflectors available depending on the model on which they are to be installed.

P/N E231SSA000 is applicable to Forester non-turbo models. This is a **hood deflector** and has the 'flip up lip' at the front of the deflector to divert the air flow.

P/N SOA930P004 is applicable to the Forester Turbo models. This is a **hood protector** and is designed with no 'flip-up' in the front so the intake air will not be disturbed.

NOTE: Please refer to the **www.subarunet.com** web site for additional information before attempting to install **P/N E231SSA000**.

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DIAGNOSTIC TROUBLE CODE (DTC) DETECTING CRITERIA

Over the years, the Subaru Technical Support Line has received questions regarding issues about the Engine Control Module and what it is looking for in order to determine if it should set a Check Engine Light. This process is also known as the Diagnostic Trouble Code (DTC) Detecting Criteria.

Some of the specific questions put to the Support Line have been:

What is considered a good input and what is considered a bad input?

What is the 'Enable Condition'?

What is the 'Judgment Value'?

What is the time needed for diagnosis?

Until recently, these and other questions could not be answered.

In the 2004MY Impreza Service Manual, Section 5, you can now get this information.

You'll find the book divided into three (3) sections.

- GD(H4SO) is for the 4 cylinder 2.5L SOHC engine.
- GD(H4DOTC) is for the 4 cylinder 2.0L DOHC WRX engine.
- GD(STi) is for the 4 cylinder 2.5L DOHC WRX STi engine.

While it may or may not answer all the questions you might have, we hope you find this information useful for those of you that were looking for specifics.

The above information can also be found in the 2004MY service manuals for Legacy and Forester as well.

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CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.

Subaru Technical Support T.I.P.S. are intended for use by professional technicians ONLY. They 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 knowhow to do the job correctly and safely. If a condition is described, DO NOT assume that this Technical Support T.I.P.S. applies to your vehicle, or that your vehicle will have that condition. Impreza, Legacy, Justy, Loyale, Outback, Forester, Subaru SVX, WRX, L.L. Bean, Baja, "Quality Driven" and "Driven By What's Inside" are Registered Trademarks.

The publication number MSA5B0403A refers to the “Owner’s Reference Guide” for the 2004 Impreza WRX STi.

It’s a six (6) page booklet highlighting important areas of the referenced vehicle.

To make YOUR life easier, we STRONGLY recommend that you read and RE-READ this pamphlet to become familiar with certain aspects of this vehicle and recommend other people at the dealership do the same.

Items of interest we recommend are:

- Item 8, page 2, RPM Alarm System
- Item 3, page 3, Bremco Brake System
- Item 4, page 3, Recommended Fuel
- Item 5, page 3, Driving Performance
- Item 6, page 3, Tires
- Item 8, page 3, Front Hood & Scoop Vibration.
- Item 9, page 3, Driver Control Center Differential (DCCD)
- Item 10, page 3, Rear Limited Slip Differential

While all the information in this booklet is important, we think the above listed items will have a more direct effect on you, the Technician.

With the introduction of the WRX STi, Forester Turbo and BAJA Turbo models, you may get questions like “Can I swap this turbo/intercooler to this vehicle, and will it fit this vehicle?”

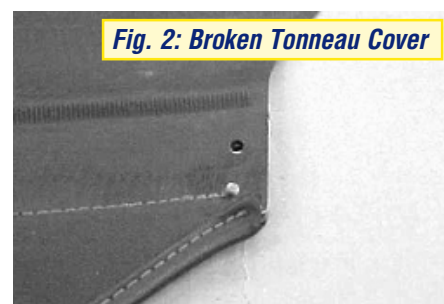
If you call the Technical Support Line to find out, you will get a simple answer... NO!

We do not, cannot, and will not recommend swapping one vehicle’s components to another vehicle.

Swapping any part from one model of vehicle to another model of vehicle is re-engineering of the vehicle and is something we do not do.

So, save yourself the trouble of a phone call and when asked this question, just say no.

Please be advised of specific part ordering, pertaining to the Legacy’s tonneau cover (00MY-03MY). If a customer complains about the hook ends loose or missing, it is not necessary to order a complete tonneau



If you are questioned by the owner of a STi who says his engine has a spark knock when accelerating, you may want to refer him to page 7-14 of the 2004 Impreza RS/TS/Outback Sport Owner’s Manual.

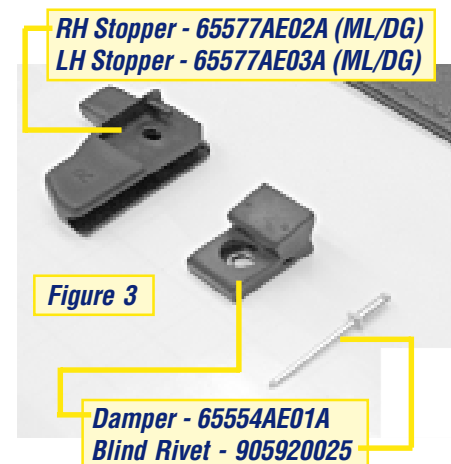
In the manual it states: “The engine may, on rare occasions, knock when the vehicle rapidly accelerates or rapidly pulls away from a standstill. This phenomenon is not an indication of a problem with your vehicle.”

This is, of course, assuming that the owner is using the proper grade of gasoline in the vehicle.

This information can also be found in the above referenced Owner’s Manual on page 7-2.

cover assembly. Simply order the hook ends, damper and rivet (see figure 3 for part number applicability).

NOTE: 2000 model Legacy’s only have the screw. 2001 may be either a blind rivet or screw. 2002 and up Legacy’s uses a blind rivet.



**** ELECTRICAL DIAGNOSIS PRE-CALL WORKSHEET ****

The purpose of this form is for you, the technician, to gather basic information on electrical repairs prior to calling the Technical Support Line. Many times, the form itself will help you in diagnosing the problem. If not, it will provide the minimum information necessary for the Tech Line to assist you.

Do not fax this form to the Technical Support Line.

VIN:(Last 8) _____

Problem/Concern:_____

Is the vehicle there now? We will probably be asking you to perform tests on the vehicle when you call. If the vehicle is not there, then you will not be able to perform these tests. We ask that you get the vehicle in, provide the below information, and then call us.

Can you duplicate the customer's concern? Yes____ No____

If you cannot duplicate the customer's concern, this gives us very little to work with. It would be better to try and duplicate the condition before you call us.

Has the vehicle been in for this concern before? Yes____ No____

If yes, when was the vehicle in and what service was performed? Use the back of this form if necessary or make a copy of any previous R.O.'s.

RO#	DATE	CONDITION

Has the vehicle been in an accident? Yes____ No____

If an electrical circuit does not function properly, have you removed and VISUALLY inspected all fuses to make certain they are NOT blown? If not, please do so before you call us.

If a fuse is blown, what is the number of the position of that fuse in the fuse box?_____

What electrical items are powered by this fuse?_____

Are there any aftermarket accessories installed (hard wired) into the vehicle's wiring harness? If there are, these may be the cause of the problem. Advise the customer that it will be necessary to disconnect/remove them to make this determination. If after receiving their approval and disconnecting the item(s), the vehicle functions according to factory specifications, then you have probably found the source of the problem. Inform the customer of your findings and see how they want to proceed.

If it's a concern regarding the vehicle's external lighting, have you inspected the bulbs to be certain they are the correct type for that position, i.e. brake, tail, turn signal, marker light, etc.? Yes____ No____

Have you tried the split half technique to try and isolate the problem to a specific area of the vehicle/harness?

Have you consulted the applicable service manual for the vehicle you are working on and examined the vehicle's wiring diagram for the circuit(s) involved? Yes____ No____

Have you checked all the ground points? Yes____ No____

Have you checked the sliding resistance of all connectors/pins involved in the circuit? Yes____ No____

Has any work been performed on the vehicle prior to the problem happening? Yes____ No____

If yes, could this previous repair be causing the problem? Yes____ No____

PURPOSE

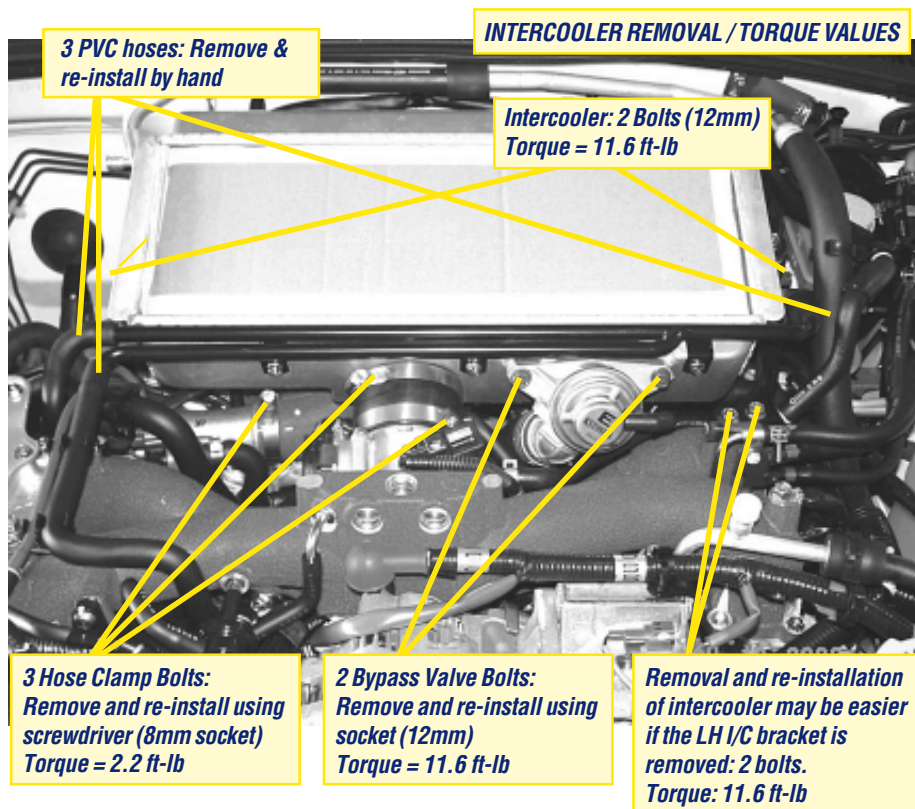
The purpose of this TechTIPS article is to alert the installer of changes and precautions to the single turbo gauge installation. If you would like a step by step guideline, please refer to the installation instructions included with P/N H5010FE050 or you can download it from www.subarunet.com > **business** > **fixed operations** > **accessories** > **installation guides** > **performance gauge pack** > **2004MY STi**.

CHANGES

- 1) Because the STi has a larger intercooler than its WRX counterpart, the intercooler has to be removed to access the bulkhead grommet. The tools recommended to R&R the intercooler are listed in figure 1.
- 2) The turbo gauge pod has been relocated to the left side of the steering column. This will allow the driver to have an unobstructed view of the speedometer.

PRECAUTIONS

- 1) Use care when handling the intercooler. Failure to do so may result in damage to the top surface (e.g. fins). See figure 2 for one method of handling the intercooler when removing from the vehicle.
- 2) Be sure to cover all open holes (e.g. hoses, inlet and outlet pipes of intercooler and turbocharger) to prevent objects from falling inside.
- 3) After the vacuum hose is routed properly and the intercooler is ready to go back in the vehicle, ensure that the rubber intake air duct to the intercooler is secured all the way around the metal inlet pipe (see figure 2).

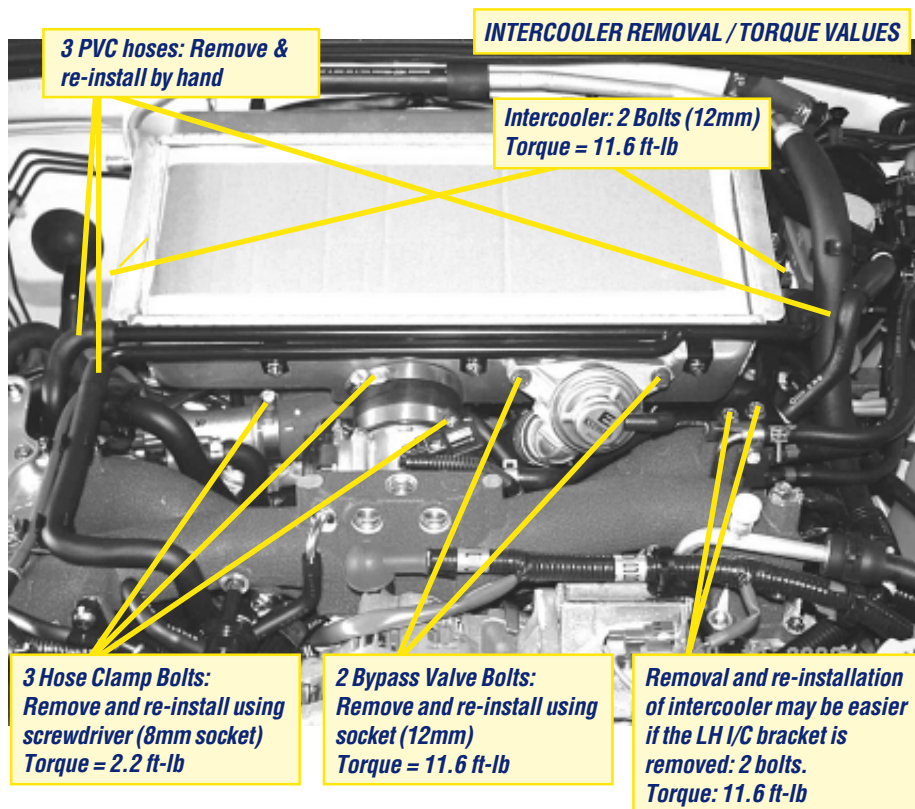
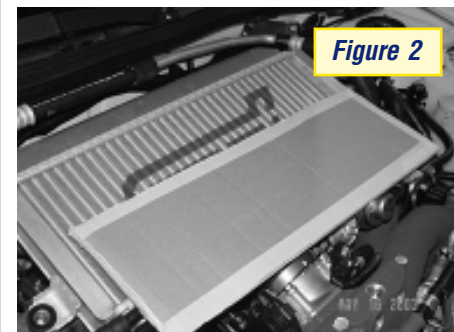


4) Due to the small area you will be working in, take caution when removing the upper column cover. The upper column cover is plastic and can be easily damaged if forced off the steering column.



The following is a list of tools needed to remove and reinstall the intercooler:

- 1) Slotted tip screwdriver (clamp removal).
- 2) Torque wrench.
- 3) 3/8" drive ratchet.
- 4) 3/8" drive extension 6" long.
- 5) 8mm deep socket (clamp bolts).
- 6) 10 mm deep socket (battery).
- 7) 12mm deep socket (Intercooler, Bypass valve).



3 PVC hoses: Remove & re-install by hand

INTERCOOLER REMOVAL / TORQUE VALUES

**Intercooler: 2 Bolts (12mm)
Torque = 11.6 ft-lb**

**3 Hose Clamp Bolts:
Remove and re-install using
screwdriver (8mm socket)
Torque = 2.2 ft-lb**

**2 Bypass Valve Bolts:
Remove and re-install using
socket (12mm)
Torque = 11.6 ft-lb**

**Removal and re-installation
of intercooler may be easier
if the LH I/C bracket is
removed: 2 bolts.
Torque: 11.6 ft-lb**

PURPOSE

The purpose of this TechTIPS article is to alert the installer of precautions when installing the single turbo gauge. If you would like a step by step guideline, please refer to the installation instructions included with P/N H5010SA010 or you can download it from www.subarunet.com > **business** > **fixed operations** > **accessories** > **installation guides** > **single turbo gauge** > **2004MY Forester**.

PRECAUTIONS

- 1) Due to the small area you will be working in, take caution when removing the upper column cover. Pay special attention to the plastic case bosses (see arrows in pictures below). They are permanently attached to upper cover and will break if pried too far from their original form.
- 2) The installer should use masking tape to cover the outside of the instrument panel. This will avoid scratching the interior trim when reinstalling the meter visor.
- 3) When reinstalling the meter visor (combination meter cover), you will need to carefully depress the rubber gauge pod down to clear the meter visor over the upper steering column cover. Therefore, do not install the turbo gauge into the rubber pod until the meter visor is properly installed. Damage to the gauge or the interior panels could occur if the meter visor is installed with the gauge inside the rubber pod.
- 4) After routing the wiring and vacuum hose for the turbo gauge, check to make sure the adjustable steering column has full range of movement without pinching or rubbing any lines.



Turbo Gauge Pod



Plastic Case Bosses

When performing a PDI, if you encounter a light film of residue on the painted surface, especially at the edges of the plastic wrap, it may be caused by leftover adhesive from the protective plastic wrap.

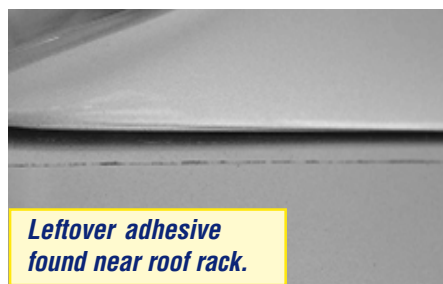
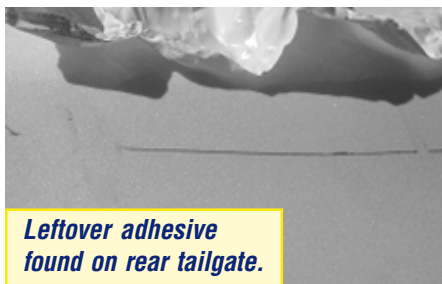
The concern could appear anywhere plastic wrap covers the vehicle, but the symptom may appear more prevalent on vehicles equipped with a hood scoop on turbo-charged vehicles. To ensure that the adhesive does not remain on the vehicle, the plastic wrap should be removed with slow and steady pressure. Removing the plastic wrap too quickly could result in adhesive remaining on the vehicle.

Special care must be taken when removing the adhesive from all painted surfaces. As a rule for leftover adhesive, use R-M Pre Kleano or equivalent product for adhesive removal. It is paint safe and it must be applied with a clean cloth. Use light pressure and let the remover do the work. Be sure to change cloth sections frequently so that any adhesive and dirt built up on the cloth won't scratch the paint. It was used on the vehicle in the photos and it removed the residue easily. You may want to follow it up with 99% isopropyl alcohol on a clean rag to remove any hazing left by residual adhesive. Isopropyl alcohol is available through any body shop supply store or local pharmacy.

Regardless of the removal technique and the chemicals used, it is critical to wash the vehicle following wrap removal to reduce the chances of paint damage from either the adhesive or chemicals being left on the painted surfaces.

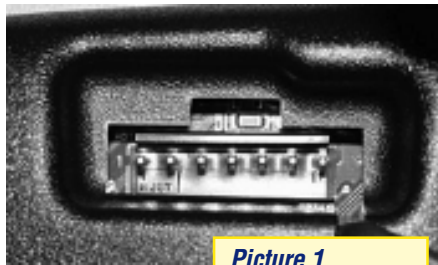
CAUTIONS

- 1) Extended exposure of paint to alcohol may cause the painted surface to lose its gloss. This can be restored by the use of a clear coat safe polish or wax.
- 2) In addition, please be sure to remove any and all traces of adhesive before performing any buffing process. Any residue remaining may get ground or burnt into the finish causing clear coat or paint damage.



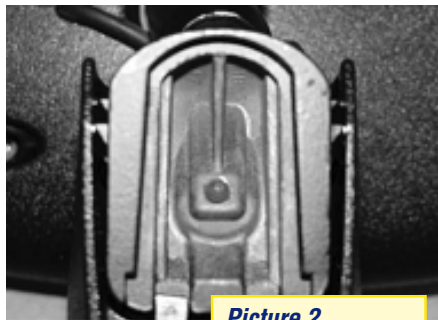
The purpose of this TechTIPS article is to alert field personnel of revisions to the EC Compass Mirror. Some key changes are as follows:

- 1) The internal components and circuitry have been revised on all models. The updated mirror is less susceptible to outside influences.
- 2) The 7-pin connector to the mirror is now recessed on all models (see picture 1 below).

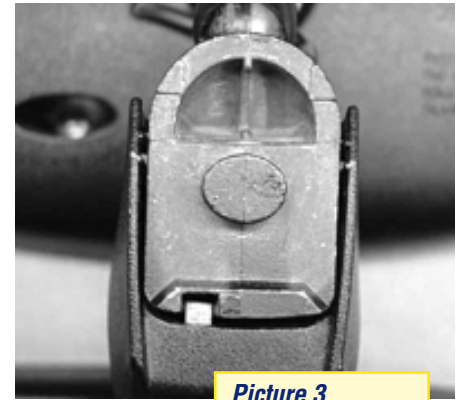


Picture 1

- 3) The mounting for the 2004 Legacy, Outback, and Baja has changed. It now uses a mounting plate and setscrew (see picture 2 below) instead of a camlock (see picture 3).



Picture 2



Picture 3

- 4) The compass display of the mirror has changed from green to blue.
- 5) The part numbers for the revised Electronic Compass Mirror are Legacy/Outback/Baja: **H5010LS003** and Impreza/Forester: **H501SSA000**

NOTES

- The new EC Compass Mirror is calibrated the same way as previous model. Please refer to the appropriate owner's manual for calibrating instructions.
- The EC Compass Mirror is not available for 04 Impreza RS sedan and TS wagon.
- The mounting for the 2004 Impreza and Forester remains the same-camlock.



Old Connector

15 WRX STi AUDIO SYSTEM

As you know, the Subaru WRX STi does not come with an audio system as standard equipment. If you went to the 2004 New Model Update (NMUD) class, you should know that the necessary vehicle harnesses are there to install one. If you didn't go to the NMUD class, now you know.

02 ALL TURBO MODEL OIL FILTERS

Be advised that the correct oil filter to use on 2003MY/2004MY turbo model vehicles is **P/N 15208AA080**. This includes the 2004 WRX STi. Naturally aspirated vehicles should use **P/N 15208AA024/15208AC060**. Using the wrong oil filter on a turbo model may put the filter too close to the turbo down pipe and possibly cause an unnecessary heating of the oil filter.

2003 CALENDAR OF SUBARU HOLIDAYS

- New Year's Day**
Wednesday, January 1, 2003
- Presidents' Day**
Monday, February 17, 2003
- Memorial Day**
Monday, May 26, 2003
- Independence Day**
Friday, July 4, 2003
- Labor Day**
Monday, September 1, 2003
- Thanksgiving**
Thursday, November 27, 2003
Friday, November 28, 2003
- Christmas**
Thursday, December 25, 2003
Friday, December 26, 2003
- New Year's Day**
Thursday, January 1, 2004

"TechTIPS" INPUT & SUGGESTIONS

This is **your** chance to offer suggestions for use in future issues of *TechTIPS!*

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 T.I.P.S. 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:** _____