TECH TIPS

Subaru Service and Technical Support Line Newsletter

June 2023

Articles Contained in this Issue

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SUBARU TECHLINE HOLIDAYS & HOURS OF OPERATION

Independence Day: (Closed)
Tuesday, July 4, 2023

Mon. - Thurs.	8:30AM - 7:30PM EST
Friday	10:30AM - 5:00PM EST
Saturday	9:00AM - 3:00PM EST

01 TechShare QMR of the Month

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

Robert Bedarbis from
Wayne Subaru in Pompton Plains, NJ

Robert created a high quality QMR using TechShare reporting on customer's concern of EyeSight, traction control, and hill descent lights being illuminated while driving. Robert's report included detailed diagnostic steps and high-quality photos.

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

TS-234932

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

$500.00 Snap-On gift card

Continued on the next page

01 QMR of the Month (CONTINUED)

The other regional winners selected from TechShare QMRs submitted during April 2023 were:

- **Collin Bonholzer** from **Rairdon's Subaru of Auburn**
- **Jacob Wolff** from **Gillman Subaru**
- **Joshua Beaudoin** from **Patriot Subaru**
- **Luis Hernandez** from **Farrish Subaru**

Any Subaru Technician can participate in the TechShare QMR of the Month program. See the November 2022 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 April 2023 was Rob Bedarbis, Technician at Wayne Subaru, Pompton Plains, NJ.

Rob is shown above (right/center) after being presented with his $500.00 Snap-On Gift Card and Neiko Flashlight. To his right Subaru of America's District Service and Quality Manager Jim Colamarino, and Wayne Subaru's Service Manager Jerry Ciriaco. To his left is Wayne Subaru's Parts and Service Director Rob Lesko.

*Congratulations and **THANK YOU** to our April 2023 QMR of the Month Award recipient!*

Continued on the next page

01 Towing a Subaru Revisited

There are multiple TechTIPS related to towing Subarus from 8/93, 10/93, 3/97, 2/01, 7/05, 9/13 and 10/13. There is also **TSB 01-162-05** which is specific to just the STi. Below is an overview of how to tow Subaru vehicles. Using a flat-bed tow truck is the recommended method to transport a Subaru.

Always refer to the specific Owner's Manual for the vehicle in question for recommended towing procedures.

- All 5 speed manual transmission vehicles can be towed with all 4 wheels on the ground. You must leave the shifter in neutral and the steering wheel unlocked (key in ACC position).

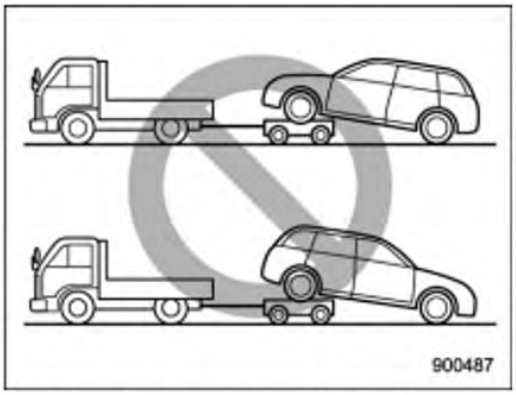
- For 6 speed manual transmissions found in the WRX STi, you must follow **TSB 01-162-05**.

- All BRZ models must be towed using a flatbed tow truck with all 4 wheels off the ground. Flat towing is not allowed for both 6AT and 6MT models.

- Legacy, Outback, Forester, Impreza, WRX and Crosstrek models equipped with a 6-speed split case manual transmission can be towed with all 4 wheels on the ground. Again, leave the steering wheel unlocked (key in ACC position) and the shifter in neutral.

⚠ WARNING

Never tow AWD vehicles with the front wheels raised off the ground while the rear wheels are on the ground, or with the rear wheels raised off the ground while the front wheels are on the ground. This will cause the vehicle to spin away due to the operation or deterioration of the center differential.



If towing is necessary, SUBARU recommends it be done by your SUBARU dealer or a commercial towing service.

- For CVT, 5 AT and 4 AT-equipped vehicles, you can tow the vehicle with all the wheels on the ground, but you cannot exceed 20 MPH and must not travel further than 31 miles or transmission damage will result. For further distances and higher speeds, the vehicle must be transported on a flatbed truck with all 4 wheels off the ground.

- Crosstrek Hybrid 19MY-Current - Must be towed using a flatbed tow truck with all 4 wheels off the ground.

- **If your vehicle needs to be towed, do so with all wheels raised. If the wheels connected to the electric motor (traction motor) are on the ground when towing, the electric motor may continue to generate electricity. This may cause a fire.**

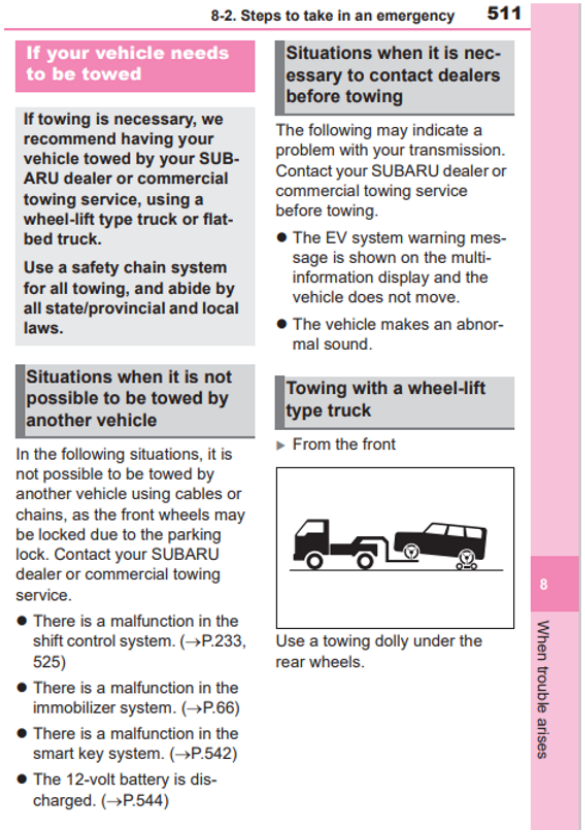
Continued on the next page

- Crosstrek Hybrid 14MY-16MY - Can tow the vehicle with all the wheels on the ground, but you cannot exceed 20 MPH and must not travel further than 31 miles or transmission damage will result. For further distances and higher speeds, the vehicle must be transported on a flatbed truck with all 4 wheels off the ground.

CAUTION

- **If transmission failure occurs, transport your vehicle on a flat-bed truck.**
- **Do not run the hybrid system while being towed using this method. Transmission damage could result if the vehicle is towed with the hybrid system running.**
- **The traveling speed must be limited to less than 20 mph (30 km/h) and the traveling distance to less than 31 miles (50 km). For greater speeds and distances, transport your vehicle on a flat-bed truck.**

- Solterra – The recommended procedure is a flatbed tow truck. If a tow truck is not available in an emergency, the vehicle may be temporarily towed using emergency towing eyelets. This should only be attempted on hard surfaced roads for short distances at under 18 mph (30 km/h). A driver must be in the vehicle to steer and operate the brakes. The vehicle's wheels, drive train, axles, steering and brakes must be in good condition. If the EV system is off, the power assist for the brakes and steering will not function, making steering and braking more difficult. For detialed procedures please refer to the Solterra Owner's Manual, starting on page 511 - **MSA5M2330A_STIS (A6718BE-A)-Opt.pdf (subarunet.com)**



8-2. Steps to take in an emergency 511

If your vehicle needs to be towed

If towing is necessary, we recommend having your vehicle towed by your SUBARU dealer or commercial towing service, using a wheel-lift type truck or flat-bed truck.

Use a safety chain system for all towing, and abide by all state/provincial and local laws.

Situations when it is not possible to be towed by another vehicle

In the following situations, it is not possible to be towed by another vehicle using cables or chains, as the front wheels may be locked due to the parking lock. Contact your SUBARU dealer or commercial towing service.

- There is a malfunction in the shift control system. (→P.233, 525)
- There is a malfunction in the immobilizer system. (→P.66)
- There is a malfunction in the smart key system. (→P.542)
- The 12-volt battery is discharged. (→P.544)

Situations when it is necessary to contact dealers before towing

The following may indicate a problem with your transmission. Contact your SUBARU dealer or commercial towing service before towing.

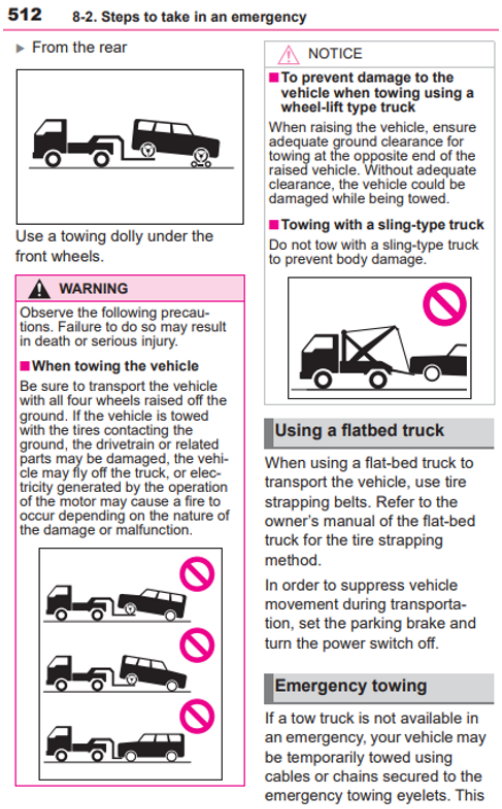
- The EV system warning message is shown on the multi-information display and the vehicle does not move.
- The vehicle makes an abnormal sound.

Towing with a wheel-lift type truck

▸ From the front

Use a towing dolly under the rear wheels.

8 When trouble arises



512 8-2. Steps to take in an emergency

▸ From the rear

Use a towing dolly under the front wheels.

WARNING

Observe the following precautions. Failure to do so may result in death or serious injury.

■When towing the vehicle

Be sure to transport the vehicle with all four wheels raised off the ground. If the vehicle is towed with the tires contacting the ground, the drivetrain or related parts may be damaged, the vehicle may fly off the truck, or electricity generated by the operation of the motor may cause a fire to occur depending on the nature of the damage or malfunction.

NOTICE

■To prevent damage to the vehicle when towing using a wheel-lift type truck

When raising the vehicle, ensure adequate ground clearance for towing at the opposite end of the raised vehicle. Without adequate clearance, the vehicle could be damaged while being towed.

■Towing with a sling-type truck

Do not tow with a sling-type truck to prevent body damage.

Using a flatbed truck

When using a flat-bed truck to transport the vehicle, use tire strapping belts. Refer to the owner's manual of the flat-bed truck for the tire strapping method.

In order to suppress vehicle movement during transportation, set the parking brake and turn the power switch off.

Emergency towing

If a tow truck is not available in an emergency, your vehicle may be temporarily towed using cables or chains secured to the emergency towing eyelets. This

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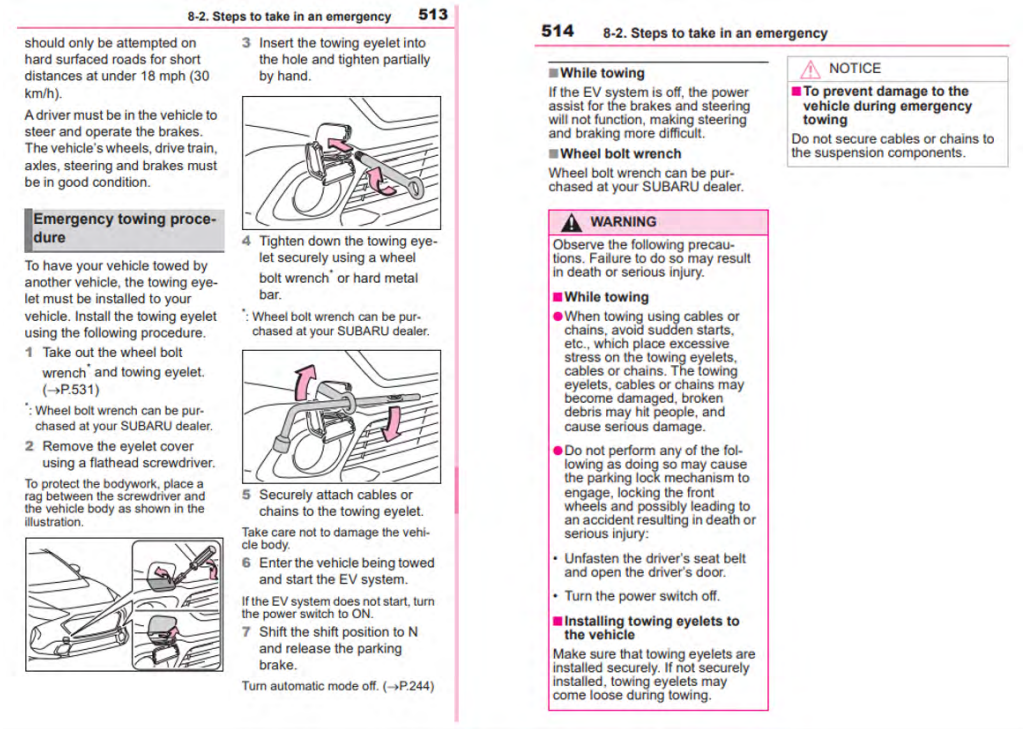
01 Towing a Subaru Revisited (CONTINUED)



8-2. Steps to take in an emergency 513

should only be attempted on hard surfaced roads for short distances at under 18 mph (30 km/h).

A driver must be in the vehicle to steer and operate the brakes. The vehicle's wheels, drive train, axles, steering and brakes must be in good condition.

Emergency towing procedure

To have your vehicle towed by another vehicle, the towing eyelet must be installed to your vehicle. Install the towing eyelet using the following procedure.

1 Take out the wheel bolt wrench* and towing eyelet. (→P.531)

*: Wheel bolt wrench can be purchased at your SUBARU dealer.

2 Remove the eyelet cover using a flathead screwdriver.

To protect the bodywork, place a rag between the screwdriver and the vehicle body as shown in the illustration.

3 Insert the towing eyelet into the hole and tighten partially by hand.

4 Tighten down the towing eyelet securely using a wheel bolt wrench* or hard metal bar.

*: Wheel bolt wrench can be purchased at your SUBARU dealer.

5 Securely attach cables or chains to the towing eyelet.

Take care not to damage the vehicle body.

6 Enter the vehicle being towed and start the EV system.

If the EV system does not start, turn the power switch to ON.

7 Shift the shift position to N and release the parking brake.

Turn automatic mode off. (→P.244)

514 8-2. Steps to take in an emergency

While towing

If the EV system is off, the power assist for the brakes and steering will not function, making steering and braking more difficult.

Wheel bolt wrench

Wheel bolt wrench can be purchased at your SUBARU dealer.

WARNING

Observe the following precautions. Failure to do so may result in death or serious injury.

While towing

- When towing using cables or chains, avoid sudden starts, etc., which place excessive stress on the towing eyelets, cables or chains. The towing eyelets, cables or chains may become damaged, broken debris may hit people, and cause serious damage.
- Do not perform any of the following as doing so may cause the parking lock mechanism to engage, locking the front wheels and possibly leading to an accident resulting in death or serious injury:
  - Unfasten the driver's seat belt and open the driver's door.
  - Turn the power switch off.

Installing towing eyelets to the vehicle

Make sure that towing eyelets are installed securely. If not securely installed, towing eyelets may come loose during towing.

NOTICE

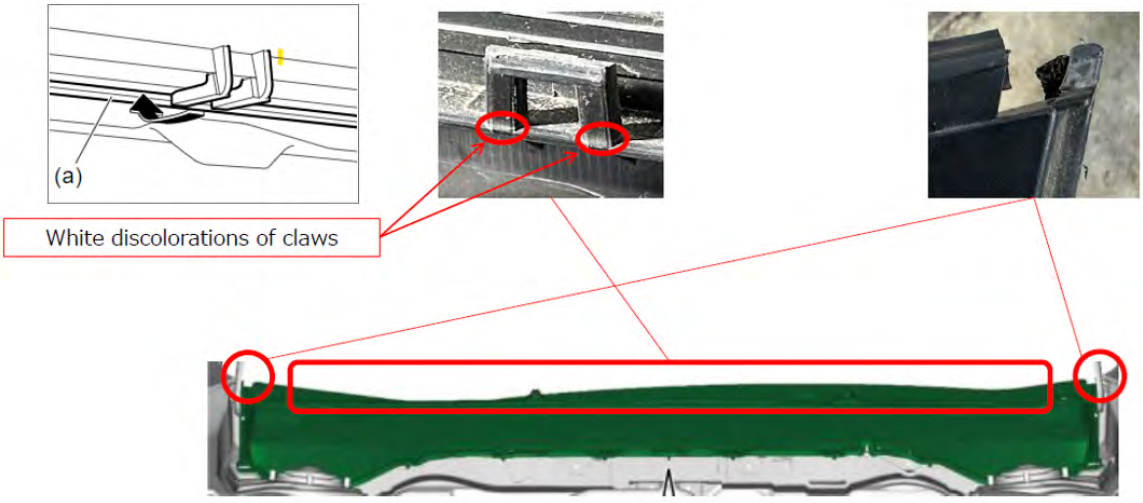
To prevent damage to the vehicle during emergency towing

Do not secure cables or chains to the suspension components.

12 Windshield Wiper Cowl Fitment and Deformation

When servicing a wiper cowl or inspecting a vehicle with a concern of the wiper cowl warping, there are a few important things to consider. Has the windshield previously been replaced? Has the wiper cowl previously been replaced or removed for service? This will help to determine if the issue is due to a damaged part or if it may be due to poor fitment resulting from improper windshield installation. There are a few inspections that can be made to determine the issue, even if this information cannot be obtained.

When inspecting a wiper cowl for deformation and improper fitment, inspect the tabs of the cowl for indications of improper installation. White discoloration can be seen on the black tabs as an indication of improper installation.



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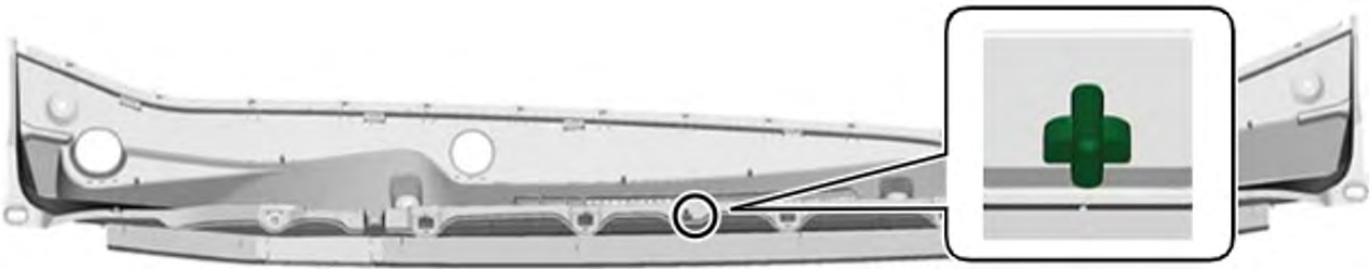
12 Windshield Wiper Cowl Fitment and Deformation (CONTINUED)

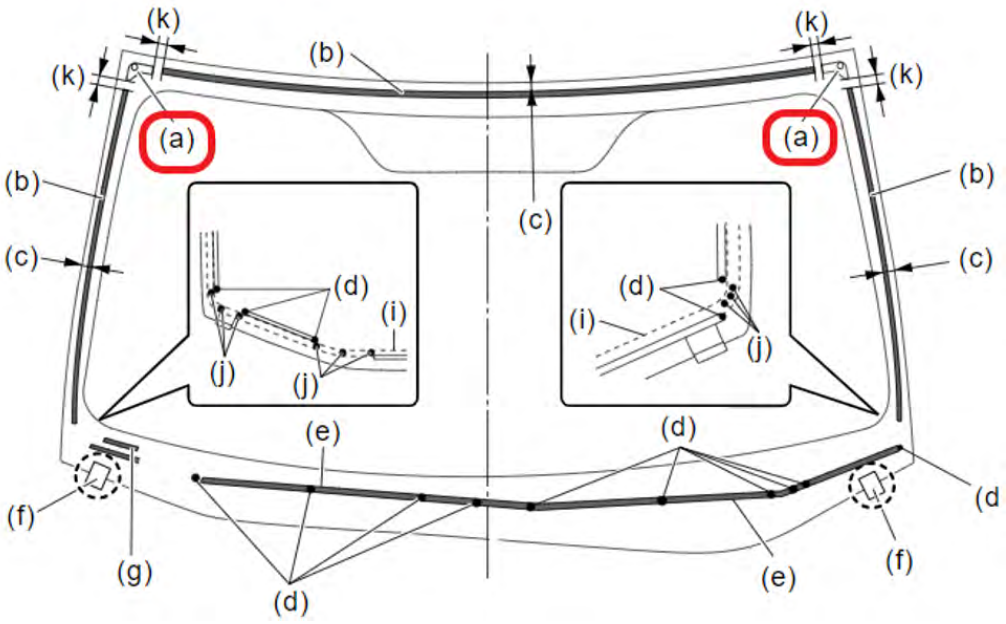
When removing or installing the wiper cowl, it is important to always follow the directions in the Service Manual as to not damage any components. Refer to the **October 2011 TechTIPS** for suggestions on removal. When installing, be mindful of the cowl tabs so they do not bend (see above). If the wiper cowl is deformed, replace with a new part. When installing the cowl, it is important to follow the recommended steps in order.

1. Verify the cowl is centered by lining up the indicator shown below.
2. Make sure when pressing the protector of the cowl panel against the glass, insert the cowl's retaining claws under the glass.
3. Start with the center clip first, then the work towards the outer clips.



If these components appear normal, inspect the windshield for proper installation. Check the condition of the locating pins on both corners of the top. Removal of interior components will be necessary to make these inspections. There have been cases where removal of these locating pins has been made during windshield installation. If the windshield is not properly installed onto the locating pins, the windshield may not be able to correctly line up with the wiper cowl.

(a) Locating pin - front window (e) Dam rubber - front lower



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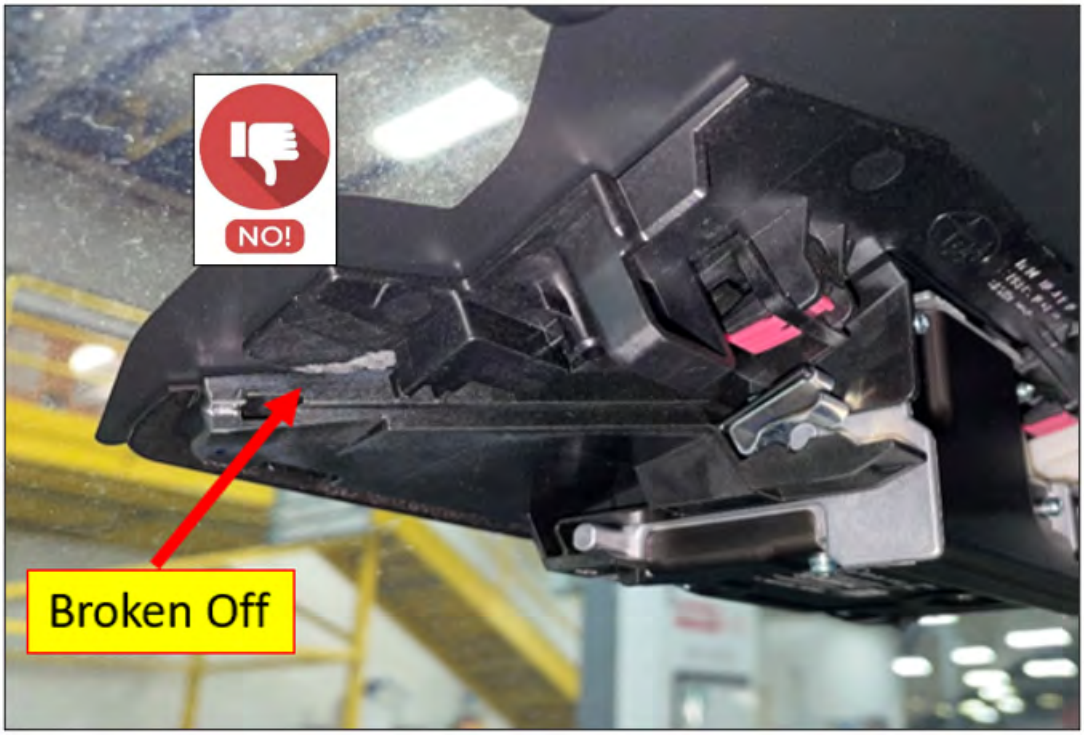
15 24MY Crosstrek / Impreza Wide Angle Mono Camera Cover Removal

The Gen 4 EyeSight system on the 2024 Crosstrek and Impreza now incorporates a unique Mono Camera cover assembly that requires a certain amount of finesse during the removal process to prevent potential damage to the windshield attaching clips. If damage does occur to the windshield clips the windshield will require replacement. The EyeSight and Mono camera calibrations will both need to be performed after any windshield replacement. Use extreme caution when removing this cover to avoid damage during removal.



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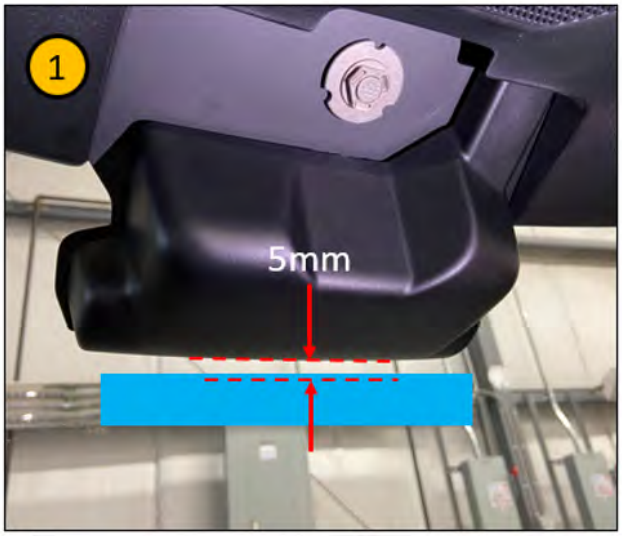
15 24MY Crosstrek / Impreza Wide Angle Mono Camera Cover Removal (CONTINUED)

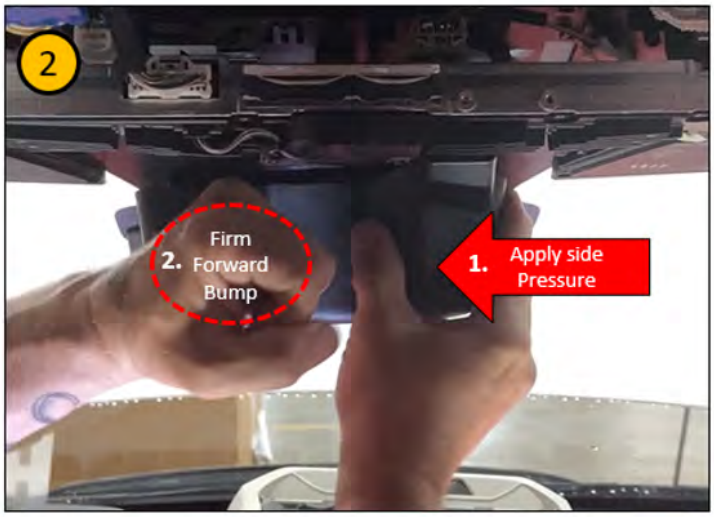
The following camera cover removal technique has been found to provide the least amount of risk for clip breakage:

1) Apply a strip of masking tape to the windshield 5mm from the front edge of the Mono Camera cover as a reference point.

2) Using your right hand, apply pressure in a leftward direction on the right side of the Mono Camera cover while maintaining leftward pressure, use your left hand to apply a firm, straight forward, single “bump” on the left side of the camera cover as shown. Once the left side has disengaged, complete the removal, if needed, carefully shift the cover to the right to release the right-side clip on the windshield. (**NOTE:** Do not “Bump” aggressively or allow the camera cover to travel more than 5mm during the left-side cover release.)

3) Remove the masking tape.





Warning!

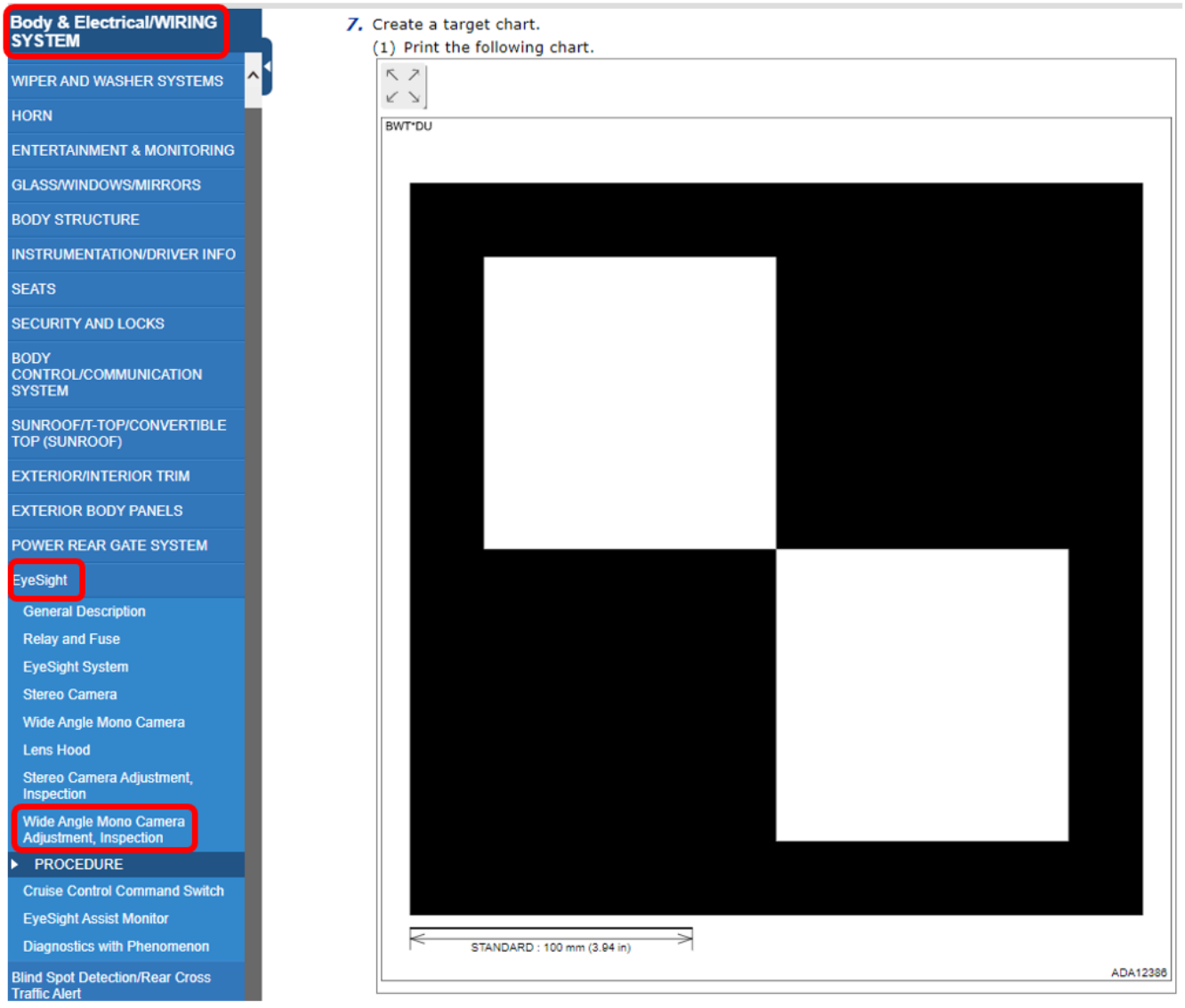
- If a different removal technique is used other than that specified in step #2,
- Or the Mono Camera Cover travels more than 5mm while applying the “Bump” to release,
- Or the “Bump” applied is overly aggressive,

Damage to a windshield retaining clip may result requiring windshield replacement.

Continued on the next page

15 Gen 4 EyeSight - Wide Angle Mono Camera Calibration

The EyeSight Stereo Camera and Wide Angle Mono Camera require separate calibration procedures. Both calibrations are required whenever the windshield is replaced or if the camera is removed. When performing the Wide Angle Mono Camera calibration on Gen 4 Eyesight equipped vehicles, the chart used for calibration needs to be printed. It does not have a tool number and cannot be ordered. Techline has received reports stating that printing these charts to the correct size and scale is difficult with the average printer at the retailer. It is recommended to have the chart printed by a commercial printer such as Office Depot, Fed Ex, or a local printing business. They have the equipment to print large images to the correct scale. The measurments provided for the finished chart is the size of the entire black box, not just the white squares. It is recommended to put the 3 printed charts onto foam board so they can be used repeatedly without needing to have them reprinted. Once the panels are printed, they can be mounted on a white board as has been recommended for the EyeSight Stereo Camera chart. The vehicle and chart setup procedure are similar to the EyeSight Stereo camera calibration. The click path for the Wide Angle Mono Camera calibration is shown below. Please review TSB 07-211-23 for more information on the Wide Angle Mono camera calibration.



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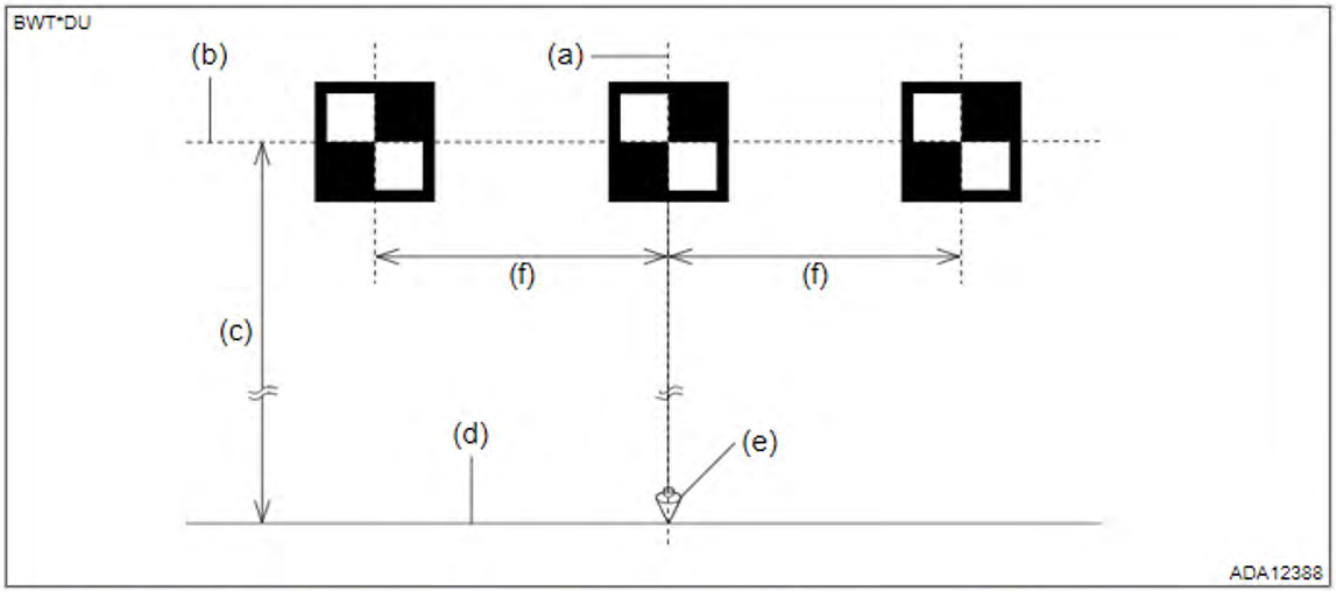
Once the 3 charts are printed make sure to verify all measurements shown in STIS.



(a)	Setting reference (vertical line) and vehicle body center line (A-B line)	(c)	1,350 mm (4 ft, 5 1/6 in)	(e)	Plumb bob
(b)	Setting reference (horizontal line)	(d)	E-F line	(f)	770 mm (2 ft, 6 2/5 in)

It should look similar to the image below once completed.

NOTE: *The Solterra front camera uses a similar chart for calibration. The size of the printed charts is NOT the same. The charts needed for Solterra front camera calibration and Gen 4 Wide Angle Mono camera calibration cannot be interchanged.*

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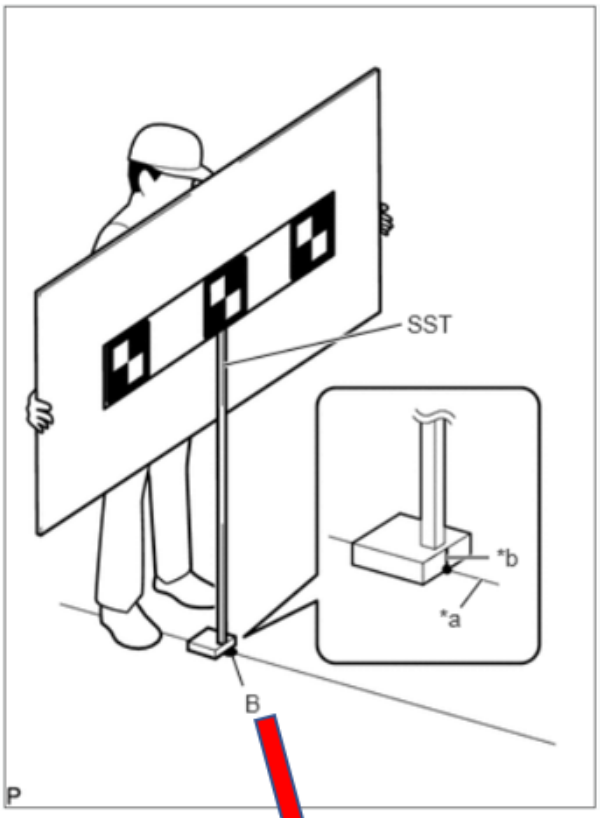

When performing the Front Camera Target Adjustment, there has been some confusion on where the chart needs to be placed as the Service Manual does not indicate a distance from the front of the vehicle. This is because the chart is to be placed against the front bumper as indicated by **point B**. The same will be done with the rear target panel for **point A**.

iii. Align the center of the target panel with point A, and set the target panel so that it faces forward.

vii. Check that the target is placed at point B (placement position) and then press "Next".

Refer to the Solterra TRB or the Service Manual for the full calibration procedure.

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P15B071: Hybrid/EV Electronics Coolant Distribution Valve Actuator “A” Actuator Stuck

B14FC71: Three-way Flow Adjustment Valve (HT Coolant Circuit) Actuator Stuck

The Service Manual diagnostic procedure for these two DTCs listed will be revised. Until STIS is updated, please follow the procedure listed in this TIP if either DTC is found.

If the auxiliary battery (12V Battery) and/or the valve* connectors were disconnected within approximately 95 seconds after “Ready_OFF” (Ignition off), the location recognition of the valves will be incorrect at the next “IG_ON” (Igntion on), and the DTCs will be detected.

*P15B071 = 5-way valve (water control valve) *B14FC71 = 3-way valve (Heater control valve)

Until the service manual is revised, perform the following steps BEFORE performing the active test described in the service manual.

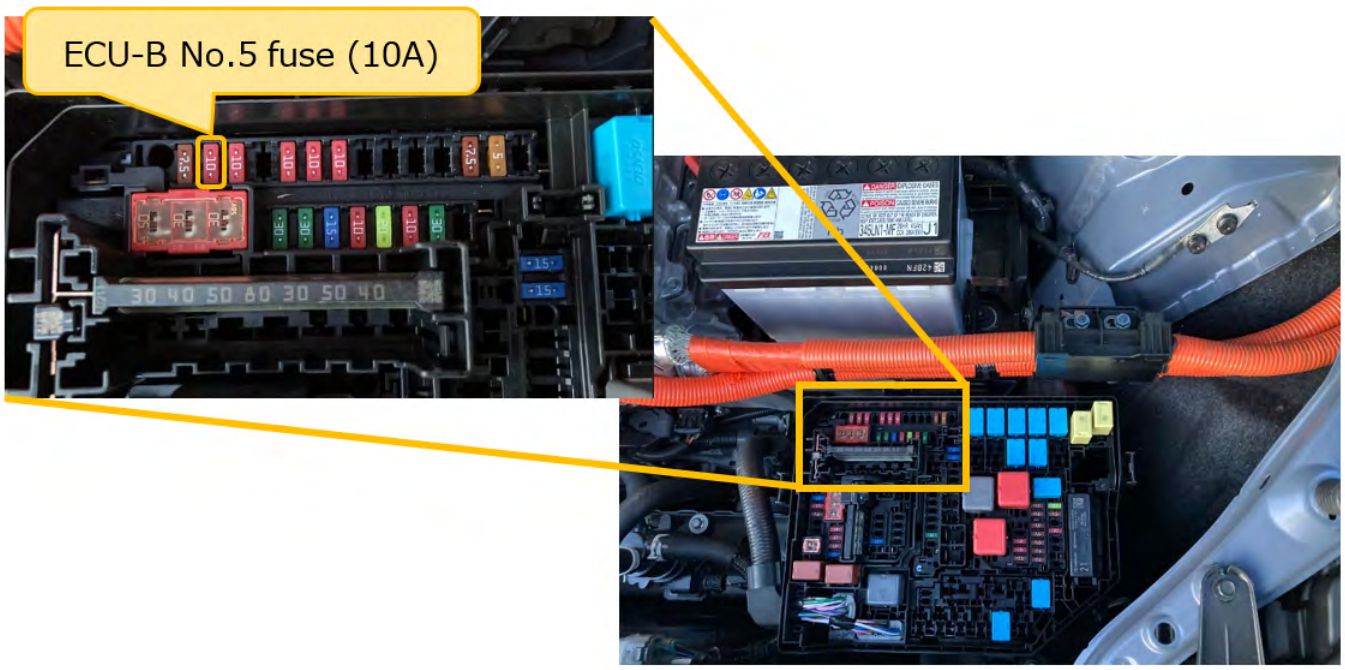
1. Remove the ECU-B No.5 fuse within 60 seconds after ignition switch is turned off.

2. Wait at least 30 seconds, then install the ECU-B No.5 fuse.

3. Turn the ignition switch to ON.

4. Follow the GTS screen descriptions below and Clear the DTCs.

Perform the active test. If the results are all within specification,, the repair is complete.



This procedure will remain in effect until the Service Manual is revised.

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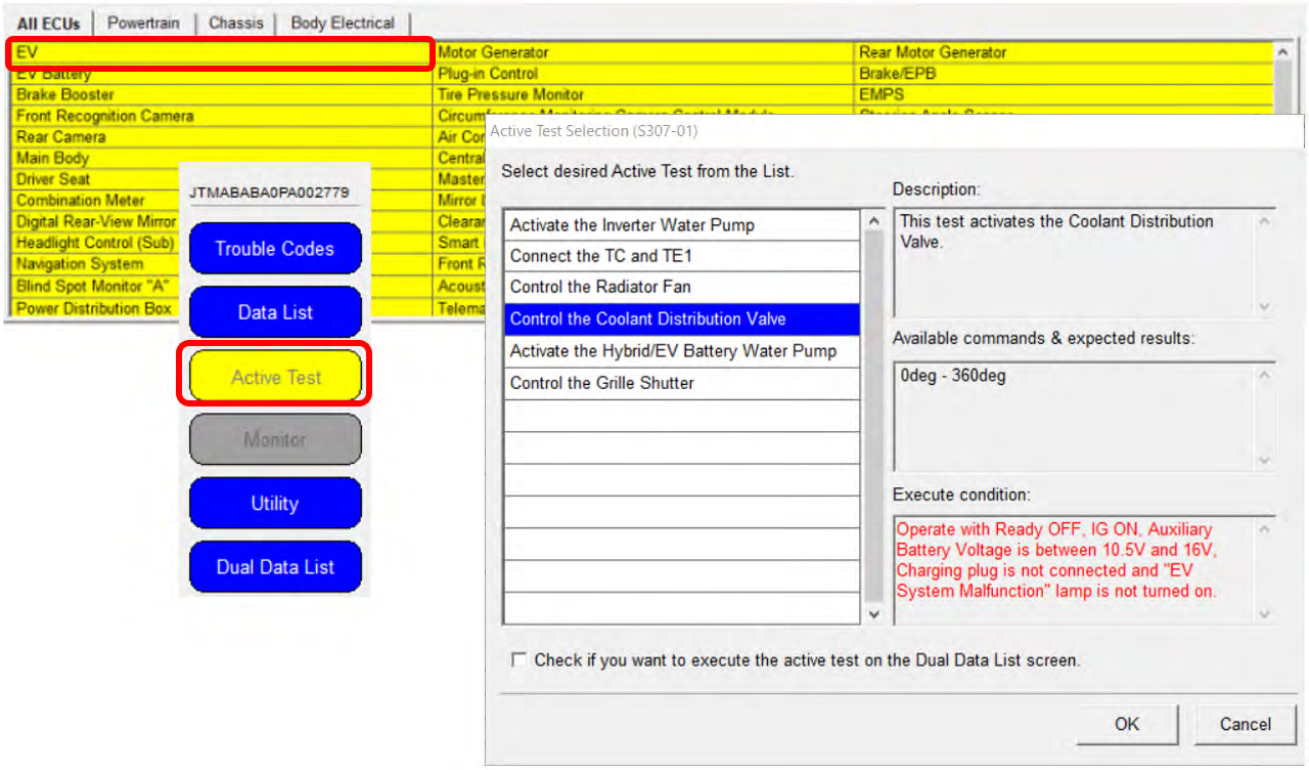
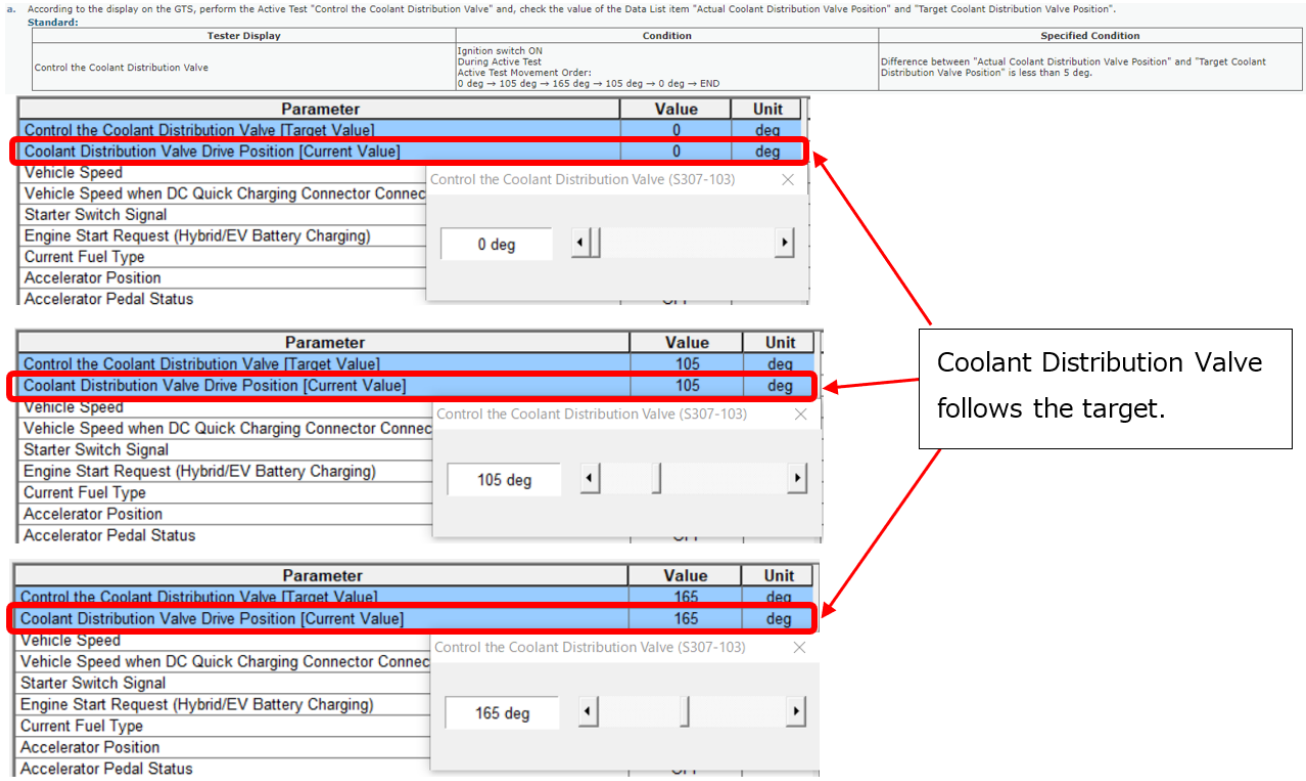
P15B071 Active Test





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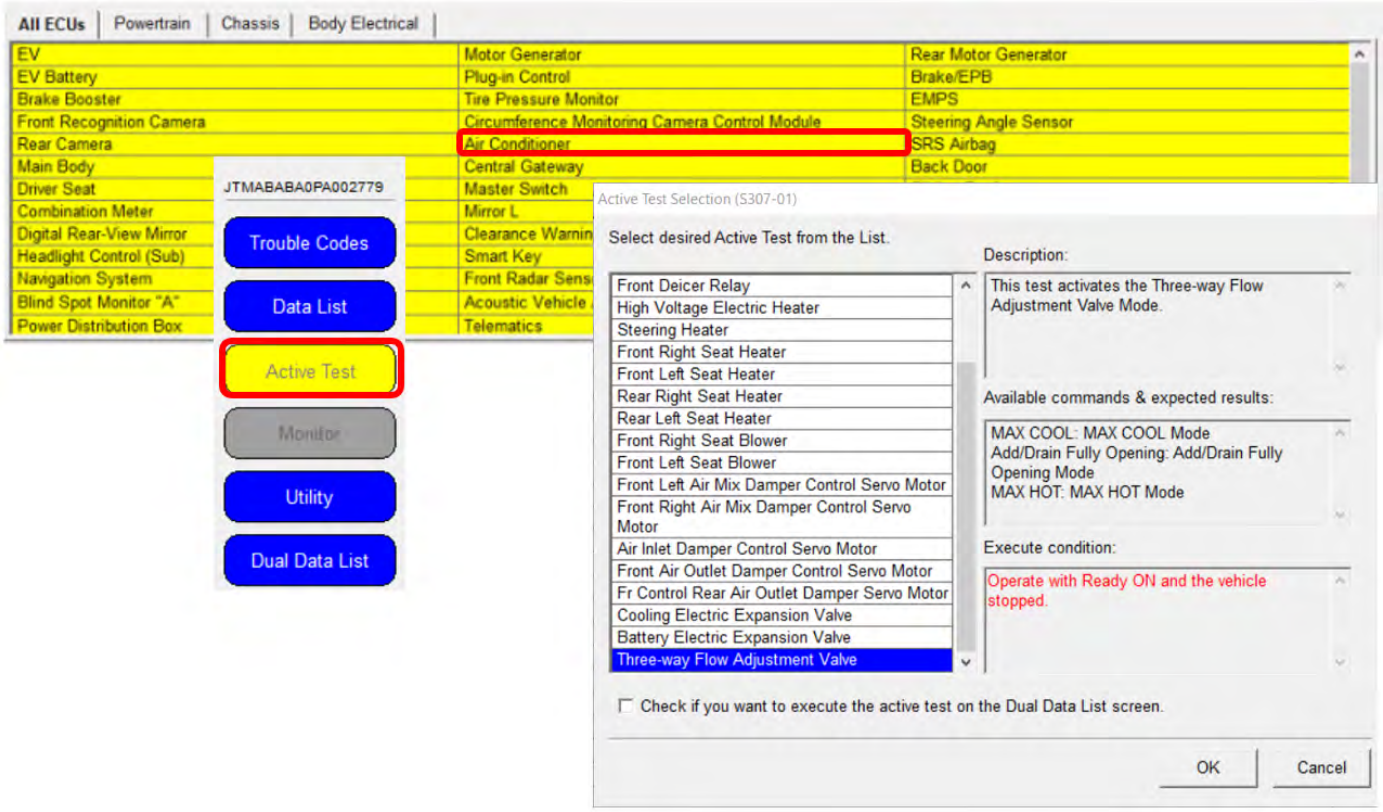
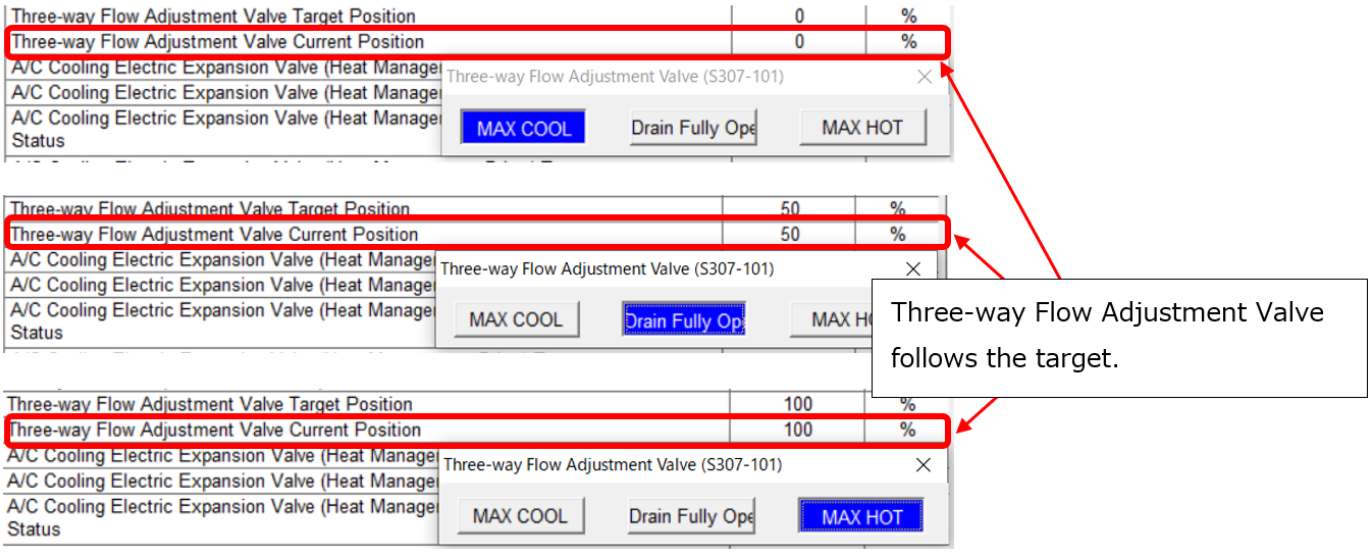
B14FC71 Active Test



a. Perform the Active Test according to the display on the GTS.
Body Electrical > Air Conditioner > Active Test

Tester Display	Measurement Item	Control Range	Diagnostic Note
Three-way Flow Adjustment Valve	This test activates three-way flow valve to a target position. (Heater water valve assembly)	MAX COOL: 0 % Add/Drain Fully Opening: 50 % MAX HOT: 100 %	Operate with the ignition switch ON (READY) and the vehicle stopped.



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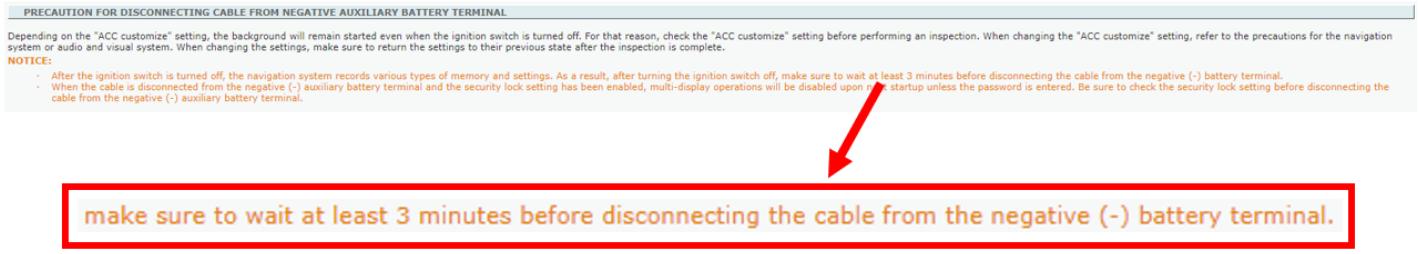
To help prevent these DTCs from setting, always follow the recommendation in the Service Manual to wait at least 3 minutes after shutting the igntion off before disconnecting the negative battery terminal of the auxiliary battery (12V battery).



PRECAUTION FOR DISCONNECTING CABLE FROM NEGATIVE AUXILIARY BATTERY TERMINAL

Depending on the "ACC customize" setting, the background will remain started even when the ignition switch is turned off. For that reason, check the "ACC customize" setting before performing an inspection. When changing the "ACC customize" setting, refer to the precautions for the navigation system or audio and visual system. When changing the settings, make sure to return the settings to their previous state after the inspection is complete.

NOTICE:

- After the ignition switch is turned off, the navigation system records various types of memory and settings. As a result, after turning the ignition switch off, make sure to wait at least 3 minutes before disconnecting the cable from the negative (-) battery terminal.
- When the cable is disconnected from the negative (-) auxiliary battery terminal and the security lock setting has been enabled, multi-display operations will be disabled upon next startup unless the password is entered. Be sure to check the security lock setting before disconnecting the cable from the negative (-) auxiliary battery terminal.

make sure to wait at least 3 minutes before disconnecting the cable from the negative (-) battery terminal.

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00 STIS New Releases

ITEM CODE	ITEM TYPE	TITLE	CREATED DATE
SOA567C100	Accessory Installation Guide	Thule Rooftop Tent - (all vehi...	15-Jun-23
SOA567C200	Accessory Installation Guide	Thule Awning – Roof Mounted - ...	15-Jun-23
16-132-20R	Technical Service Bulletin	Diagnostic Information for All...	13-Jun-23
16-136-22R	Technical Service Bulletin	Vibration & Possible Judder Co...	13-Jun-23
WRG-22	Subaru Product/Campaign Bulletin	Halogen Headlamp Low Beam & Si...	13-Jun-23
04-29-23R	Technical Service Bulletin	Electronic Power Steering Repr...	12-Jun-23
07-222-23	Technical Service Bulletin	Climate Control Settings / Und...	9-Jun-23

All revised publications are highlighted in yellow.

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*** 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 9103; Camden, NJ 08101-9877.

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