

YEAR/MODEL	Date Of Issue	Bulletin Number	Service Campaign
All Transit Connect Electric	28Feb12	TSB501359	<input type="checkbox"/> NO <input checked="" type="checkbox"/> YES

Title:

MY12 Software Update

Issue:

Updated vehicle software has been developed with several advancements: improved ESS & DMoC diagnostics, improved drivability, additional market configuration options, and additional performance configuration options.

In conjunction with the vehicle software upgrade, the latest version of the AZD Transit Connect Battery Electric Vehicle Diagnostic Tool (TDT v2.8.3 or newer) will need to be downloaded and installed.

Applies to:

All MY2011 & MY12 NA & EU Pre-Production & Production Transit Connect Electric (TCE) vehicles.

Safety:

Standard shop safety precautions must be observed when servicing any Transit Connect Electric vehicle.

Special Tools Required:

Manufacture	Equipment	Qty
Azure Dynamics	TCE Master Diagnostic Toolkit	1

Parts Required:

Part Number	Description	Qty
AZDDD1.2	AZD Diagnostic Drivers v1.2.0	1
106414-C	Transit Connect Battery Electric Vehicle Diagnostic Tool (TDT) v2.8.4	1
107471-C	Azure ECU Flash Tool v1.13.0	1
105866	HEATER ASSEMBLY, COOLANT, 3X200W	1 (if needed)

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>

Action:

Download and install the ECU Flash Tool & TCE Diagnostic Tool.

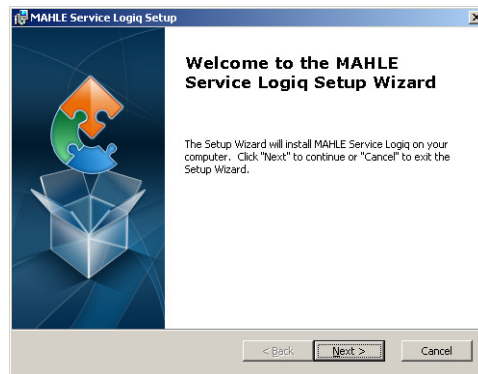
Perform the Coolant Fill & ESS Heater Test function with the TCE Diagnostic Tool. Affect any ESS Heater repairs as required.

Reprogram the VCU, DMoC & ESS. **All configurations (Market & Performance) will be retained, as will the VIN recorded in the VCU.**

Clear all DTCs & vehicle history and test drive to confirm normal operation.

Service Procedure:

1. Download and install from: <https://azdtec.com/store/>
 - a. AZD Diagnostic Drivers v1.2.0 (**only if no TDT previously installed**)
 - b. Transit Connect Battery Electric Vehicle Diagnostic Tool (TDT) v2.8.4
 - c. Azure ECU Flash Tool v1.13.0 (following the install, run the Azure ECU Flash Tool Setup).



2. Install a trickle-charger on the 12V battery and connect the laptop to a/c power.
3. Perform the Coolant Fill and ESS Heater Test function with the TDT (TCE Diagnostic Tool) according to the following procedure:
 - a. Ensure the vehicle is not charging (EVSE not plugged in).
 - b. Top-up the Powertrain coolant degas bottle if required.
 - c. Have additional coolant available to maintain the coolant level as the fill procedure is run.
 - d. Turn the key to the 'On' position (do not start the vehicle).
 - a. From the VCU tab, enable Diagnostic Mode.
 - b. From the Functions top-menu, select Coolant Fill and ESS Heater Test:

NOTE: This 28-step automated procedure will take approximately 35 minutes to complete.

- i. When ready, click on the 'Start' button and follow the on-screen prompting.
- ii. When prompted, open the Schrader air-bleed valve in tee near ESS coolant inlet.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>



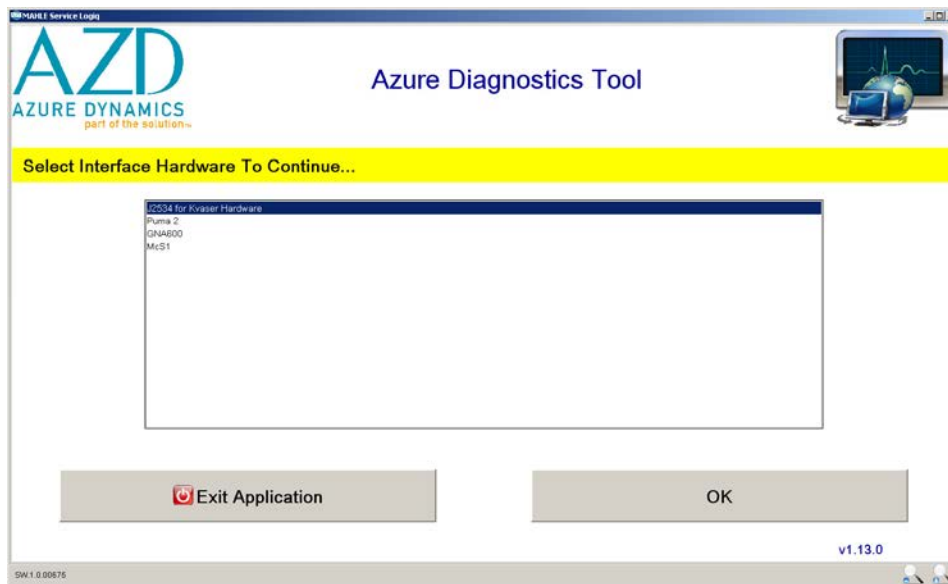
- iii. Maintain Powertrain Coolant level in degas bottle as fill procedure is run.
 - c. Affect any required ESS Heater repairs as required if the test fails (see step 4).
4. Perform ESS heater troubleshooting as required:
 - a. Confirm heater pump operation and coolant flow.
 - i. Visually inspect the entire battery heating circuit. Ensure that there are no kinks in the hoses and confirm that both one-way check valves are oriented in the proper direction. Repair as necessary.
 - ii. Open Schrader air bleed valve in tee near ESS coolant inlet port for 5 seconds or until coolant flows out.
 - iii. Turn on the heater pump and confirm operation via touch & audible check.
 1. Confirm operation by touching the pump housing to feel a light vibration. If operation is not detected, confirm that power is being supplied to the pump and that the voltage is greater than 12.5V DC. Check all pump connections, perform continuity check, and inspect electrical circuit. Repair as necessary. If power supply to the pump is confirmed and the pump is still not operating, replace the pump and continue to step b.
 2. If pump operation is a quiet & smooth "hum" then the pump is operating and the heating system is filled with coolant & bled of air. Proceed to step b.
 3. If the pump is significantly louder and the noise is variable, then there is air in the system. Complete the automated coolant fill procedure via AZD diagnostic tool and repeat step 1 from the beginning. Once step 1 is repeated, if the pump is still producing a loud & harsh noise (use battery cooling pump operation for noise comparison if uncertain), replace the pump, re-run the coolant fill procedure, and then proceed to step b.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>

- b. Check resistance of each ESS heating element. If resistance is less than 1.1 Ω , continue to step c. If resistance is greater than 1.1 Ω on any element, replace all three heating elements and continue to step d.
 - c. Ensure that the vehicle high voltage system is enabled, and then turn on heater pump & heating elements and measure the current draw of each heating element. Note that supply voltage to the heating elements must be at least 12.5V DC. If the current draw of each heating element is greater than 13 A, heating element check is complete, continue to step d. If the current draw of any heating element is less than 13 A, replace all three heating elements and continue to step d.
 - d. Repeat the Coolant Fill and ESS Heater Test. At the final step of the coolant fill procedure, visually confirm that there are no coolant leaks in the battery thermal system and once again perform an audible check of heater pump operation. The pump should now be producing a quiet & smooth "hum".
5. Close the TDT and turn the key off for 1-minute.
 6. Reprogram the VCU:

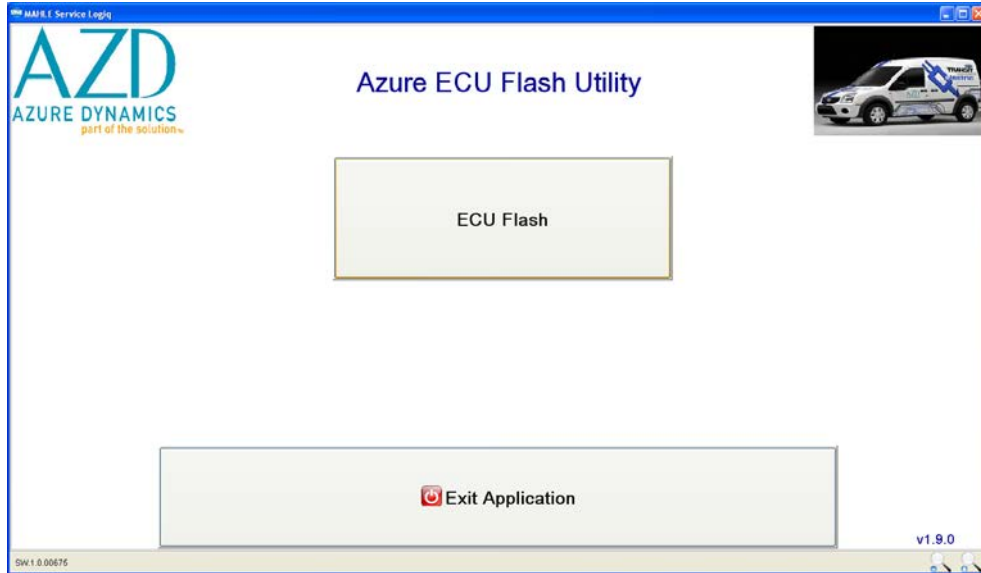
NOTE: Do not 'double-click' on selections in the ECU Flash Tool.

- a. Turn the key to the 'On' position (do not start the vehicle).
- b. Run the Azure ECU Flash Tool v1.13.0 program by navigating to:
Start→Programs→MAHLE Test Systems>MAHLE ServiceLogiq>Launch ServiceLogiq
- e. Select Interface Hardware "J2534 for Kvaser Hardware":

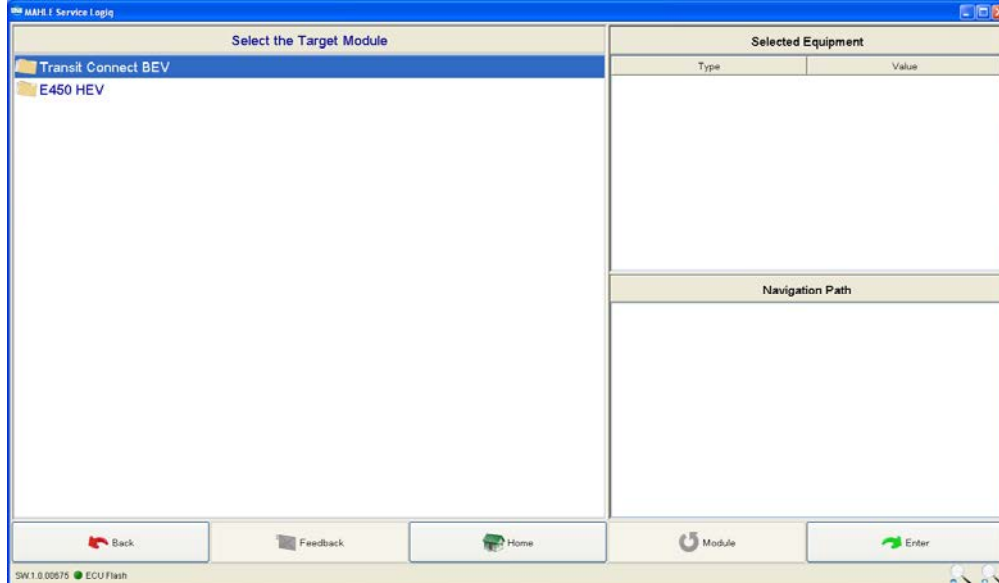


NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>

f. Select ECU Flash:

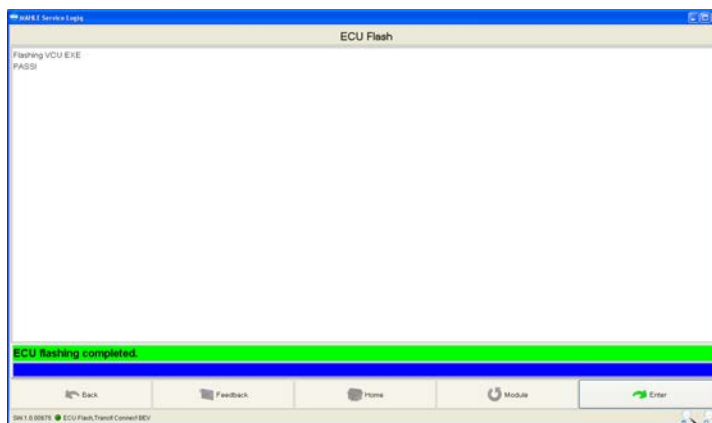
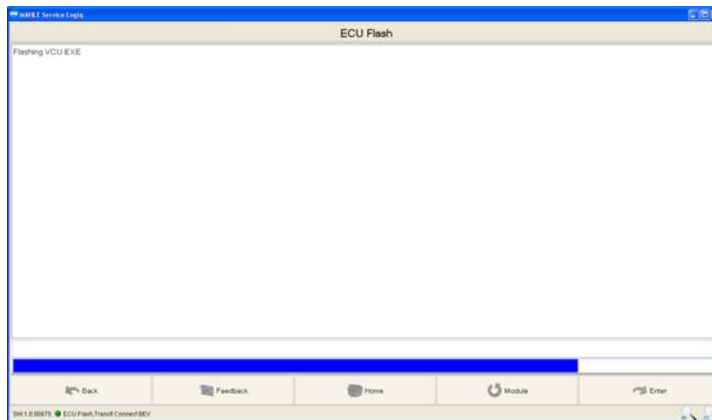
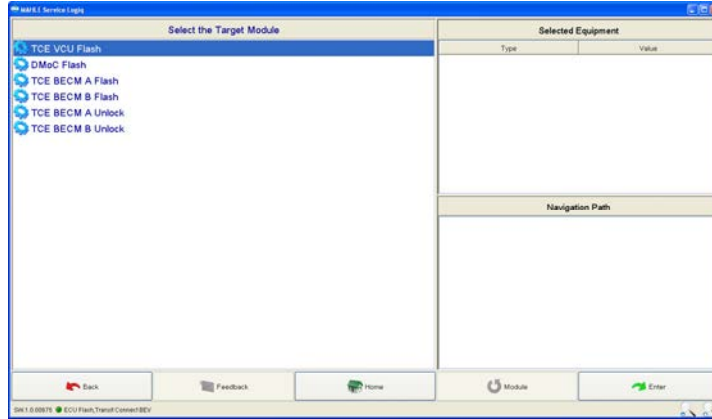


g. Select "Transit Connect BEV":



NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>

- h. Select “TCE VCU Flash”. VCU will be programmed automatically, **press “Enter” when programming is complete:**



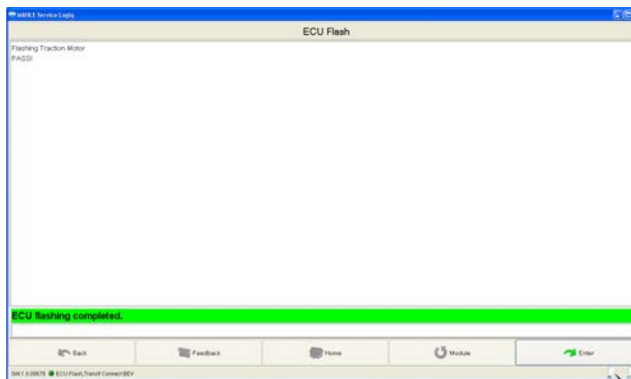
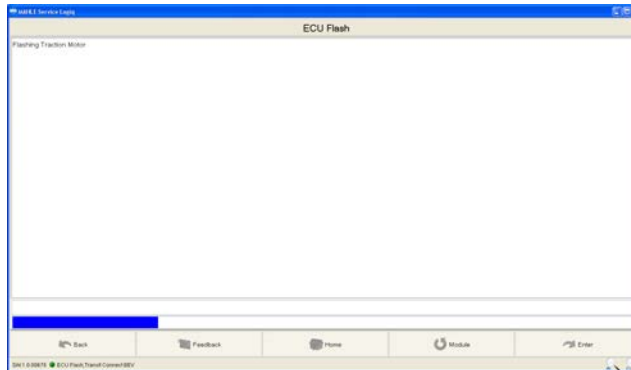
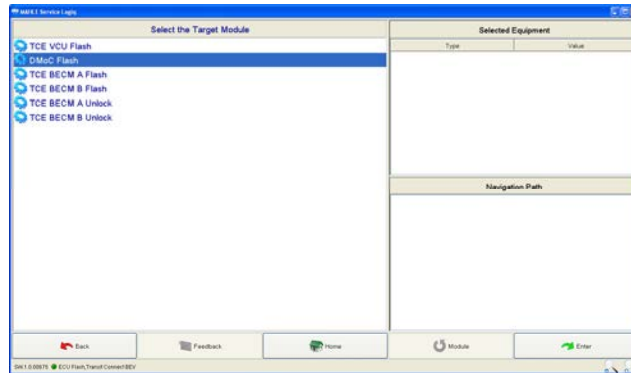
- i. Turn the key off for 1-minute.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>

7. Reprogram the DMOc:

NOTE: Do not 'double-click' on selections in the ECU Flash Tool.

- a. Turn the key to the 'On' position (do not start the vehicle).
- b. Select "DMoC Flash". DMOc will be programmed automatically, **press "Enter" when programming is complete:**



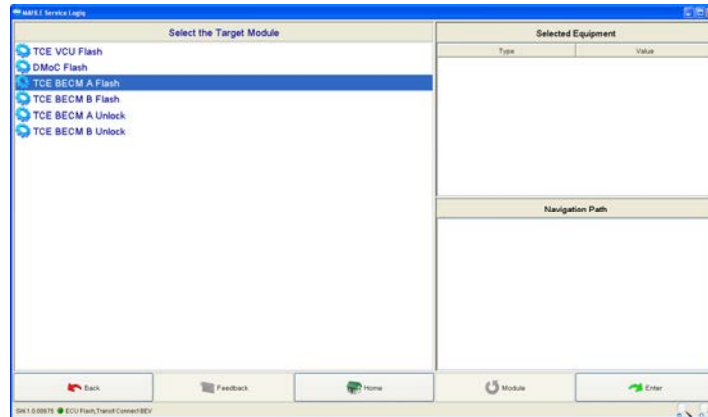
- c. Turn the key off for 1-minute.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>

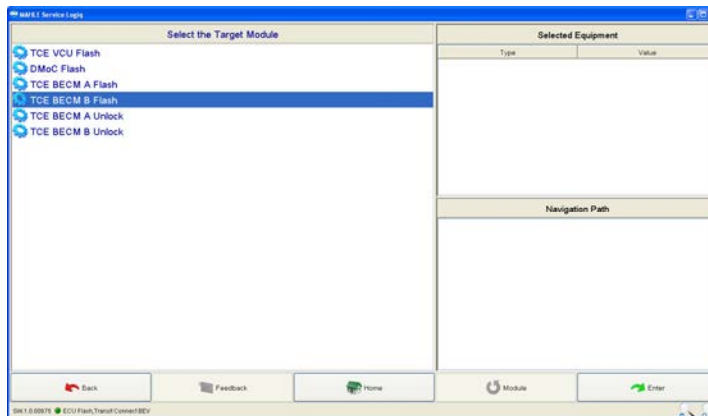
8. Reprogram the ESS:

NOTE: Do not 'double-click' on selections in the ECU Flash Tool.

- a. Turn the key to the 'On' position (do not start the vehicle).
- b. Select "TCE BECM A Flash". BECM A will be programmed automatically – follow any on-screen prompts and **press "Enter" when programming is complete:**



- c. Select "TCE BECM B Flash". BECM B will be programmed automatically – follow any on-screen prompts and press "Enter" when programming is complete.



- d. Close the ECU Flash Tool.
- e. Turn the key off for 5-minutes.

9. Turn the key to the 'On' position (do not start the vehicle) and launch the TDT.

10. Save & Clear DTCs and reset Vehicle History from any Tab.

11. Test Drive to confirm normal operation.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>

Warranty Information:

Contact AZD Product Support through a DSS Service Request to confirm that this Field Service Action has not previously been performed against the VIN in question: <https://azdtec.com/dss/>

Anticipated labor time for TSB501359: 1.0 hours.

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. Warranty Policy documentation determines Warranty coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Azure Dynamics Inc. (AZD) reserves the right to supersede this information with updates. The most recent information is available through AZD on-line technical resources <https://www.azdtec.com>