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General Information

Western Star 47X and 49X vehicles manufactured from September 12, 2018 through March 22, 2021 that are equipped with WABCO Anti-Lock Braking System (ABS) controllers log excessive 629-11 fault codes, which can lead to additional downstream fault codes. The ABS controller will receive a software update to eliminate erroneous fault codes and ensure proper function. After the software update, the vehicle will require a recalibration drive for the steering angle sensor.

Procedure

1. Check the base label (Form WAR259) for a campaign completion sticker for SF622 (Form WAR261). The base label is usually located on the passenger-side door, about 12 in (30 cm) below the door latch. If a sticker is present for campaign SF622, no work is needed. If there is no sticker, proceed with the steps below.
2. Confirm that the vehicle ABS ECU part number is listed in [Table 1](#). If the vehicle ABS ECU part number does not appear in [Table 1](#), check the WABCO *TP-19072 Technical Bulletin* included in the WABCO TOOLBOX software package.

| ABS ECU Part Numbers | | |
|----------------------|---------------|---------------|
| 400 864 815 0 | 400 867 128 0 | 400 867 101 0 |
| 400 864 816 0 | 400 867 129 0 | 400 867 102 0 |
| 400 864 817 0 | 400 867 125 0 | 400 867 103 0 |
| 400 864 818 0 | 400 867 126 0 | 400 867 104 0 |
| 400 867 119 0 | 400 864 825 0 | 400 867 801 0 |
| 400 867 120 0 | 400 864 826 0 | 400 867 802 0 |
| 400 867 121 0 | 400 864 827 0 | 400 867 803 0 |
| 400 867 122 0 | 400 864 828 0 | 400 867 804 0 |
| 400 864 821 0 | 400 867 130 0 | 400 867 113 0 |
| 400 864 822 0 | 400 867 131 0 | 400 867 114 0 |
| 400 864 823 0 | 400 867 132 0 | 400 867 115 0 |
| 400 864 824 0 | 400 867 133 0 | 400 867 116 0 |

Table 1, ABS ECU Part Numbers

3. Park the vehicle on a level surface, shut down the engine, and apply the parking brakes. Chock the tires. **IMPORTANT:** For ECUs recently installed in the vehicle, cycle the ignition and allow several minutes before proceeding with the update process.

4. Check for fault code SPN 520272 FMI 13, 'Steering Ratio Parameters-Out of Calibration.' This fault code **MUST** be inactive before downloading the flash tool.

If Active — Refer to Service Solution 1033682, New Cascadia ABS Fault code SPN for information.

If Not Active — Proceed to step 5.

NOTE: For issues regarding the flash tool download and installation process, call WABCO at 1-855-228-3203, or email at wnacustomer@wabco-auto.com.

5. An mBSP flash tool software installation is required to perform this ABS ECU software update procedure. Download the latest version of the mBSP flash tool package as follows.

- 5.1 Go to the WABCO website at https://www.wabco-auto.com/americas_en/Get-in-touch/Literature.
- 5.2 Scroll down to the 'Downloads' section, and select 'mBSP Flash Tool.' See [Fig. 1](#).

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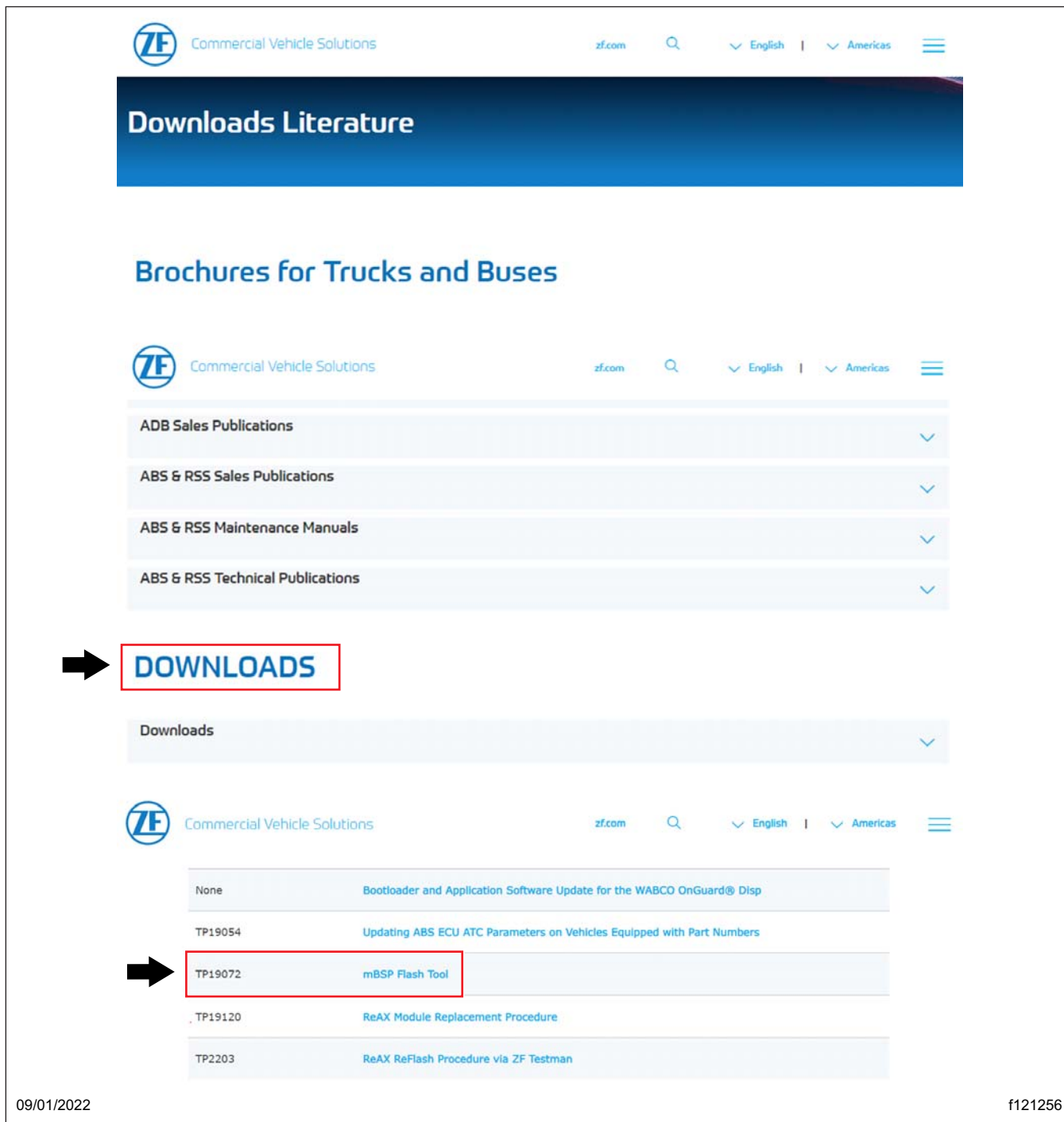


Fig. 1, mBSP Flash Tool Link in Downloads Section

5.3 Save the 'mBSP-Flash-Tool.zip' file to a location on the local hard drive. See Fig. 2.

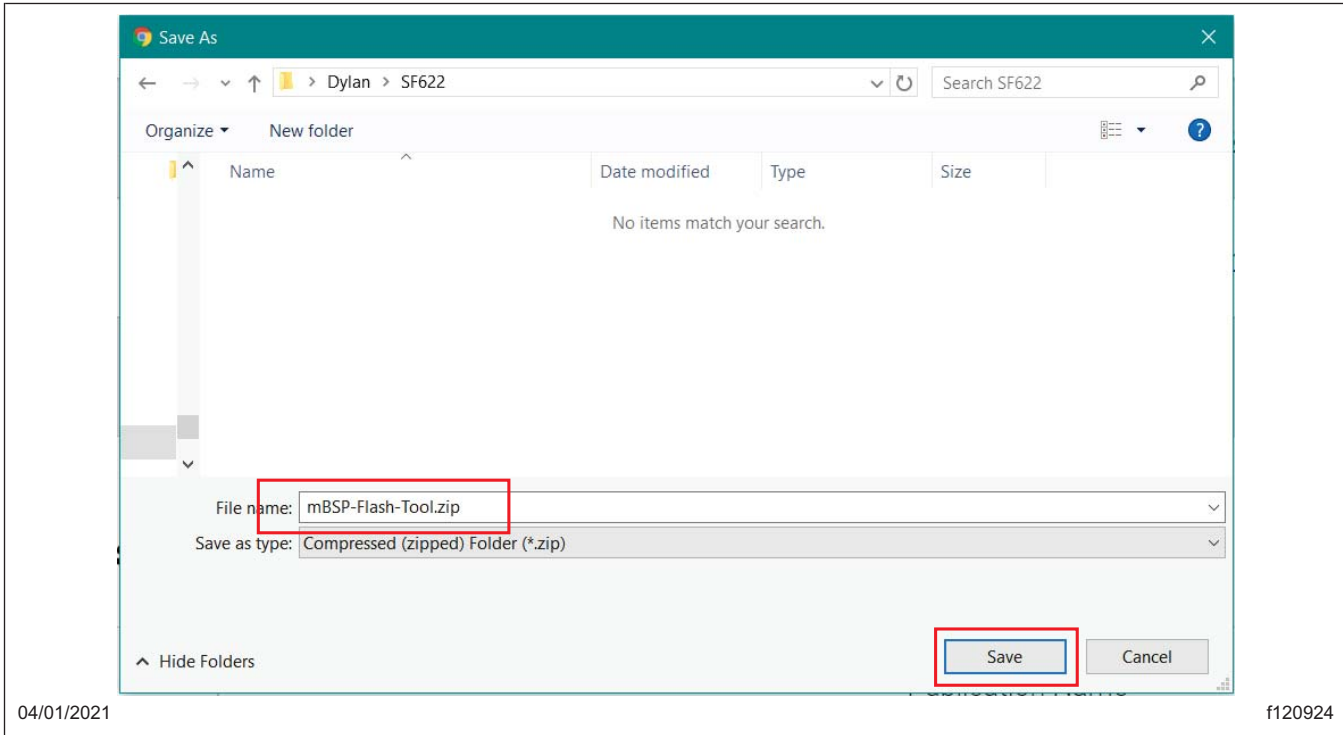


Fig. 2, Saving mBSP Flash Tool Package

6. Right click on the 'mBSP-Flash-Tool.zip' zip file and select 'Extract all.' See [Fig. 3](#).

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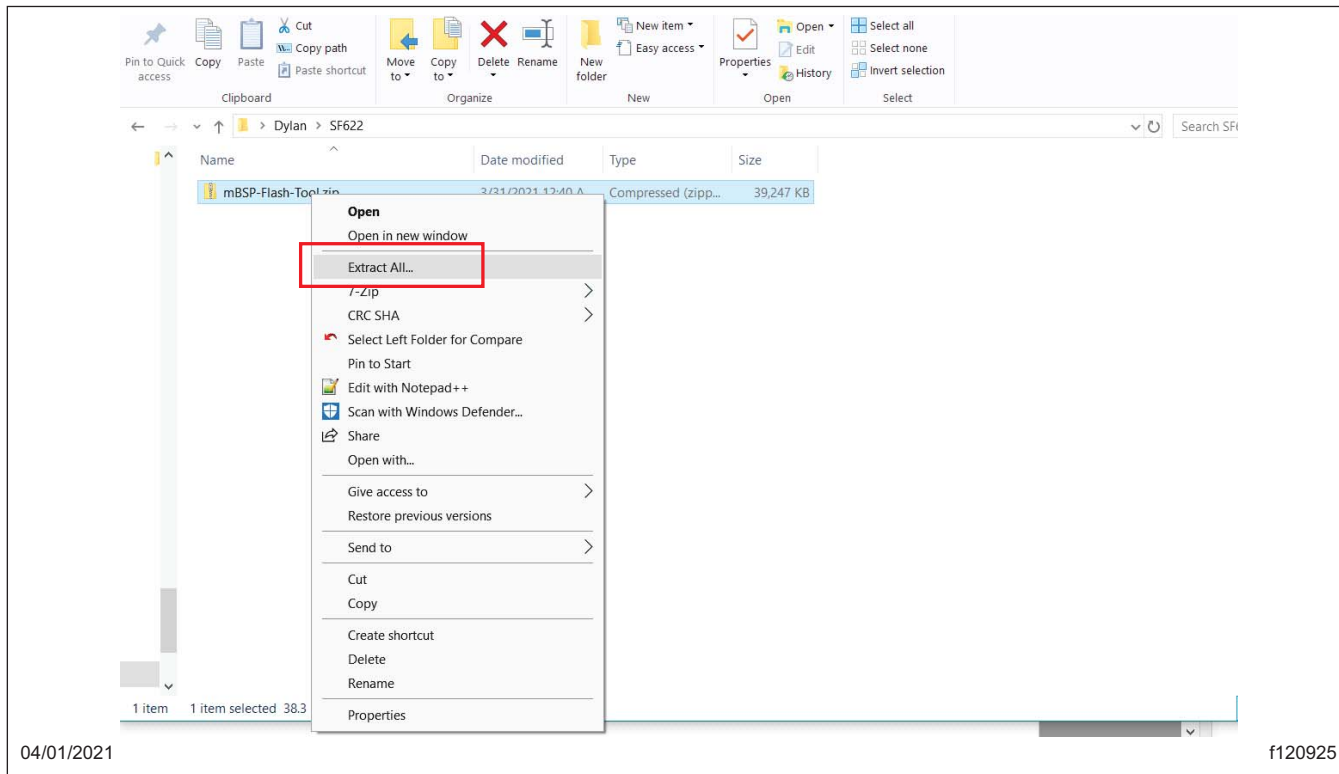


Fig. 3, Extracting the mBSP-Flash-Tool.zip File

IMPORTANT: If an older version of the mBSP Flash Tool is installed on the laptop, uninstall it. Delete setup files of any other version such as 'mbspflashtool300en130a.EXE' from the laptop.

NOTE: For additional information regarding the mBSP flash tool installation, minimizing laptop disruption during the installation process, and for links related to adaptor driver software, visit the DTNA website, <https://dtnaecomponents.com/Downloads/mBSPFlashTool/mBSPFlashTool.htm>.

7. Install the mBSP Flash Tool using the instructions in the mBSPFlashToolProcedure vXX.pdf.

NOTICE

Before connecting the laptop to the vehicle, disconnect the laptop from the internet and close all other software, if running. Make sure the laptop DOES NOT enter sleep mode during the software update by verifying the sleep mode settings. If the laptop enters sleep mode, the download will fail and the ABS ECU software may not be recovered. If this happens, the ABS ECU will need to be replaced and/or sent to WABCO for repair.

8. Turn the ignition switch to the ON position.

NOTICE

Ensure the cable is in good condition prior to connecting the laptop to the vehicle. A cable in poor condition may lead to a failure of the repair, which could result in replacement of the ABS ECU.

IMPORTANT:

- The vehicle battery voltage must remain at 12.4 volts or above during programming. To ensure good battery voltage during programming, it is recommended to connect an appropriate battery charger to the vehicle batteries.
 - Verify that the selected RP1210 adaptor is updated to the latest driver software. Using an adaptor equipped with an outdated software version may result in update failure.
9. Connect an RP1210 adaptor to the vehicle's Deutsch 9-pin connector. The mBSP flash tool software should be closed. If opened, close it before connecting the adaptor. No other diagnostic program should be running on the laptop (WABCO TOOLBOX, DiagnosticLink, etc.).
 10. Double-click the mBSP flash tool shortcut to open the software.
 11. The program will open with a warning note. See **Fig. 4**. Read the warning note. If the vehicle is secure, select 'Yes.'

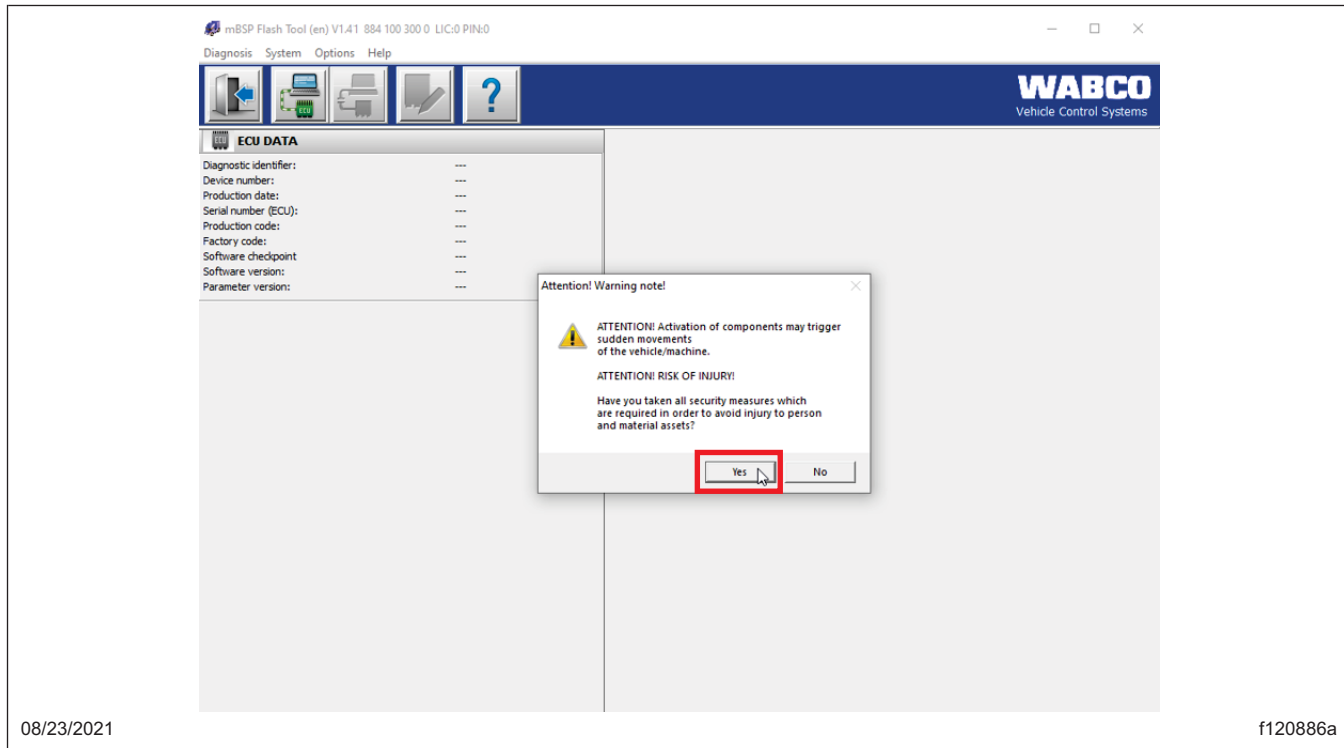


Fig. 4, Accepting the Warning

IMPORTANT: The ECU may not connect automatically due to wrong adaptor settings. To make sure correct adaptor settings are selected, go to 'Options,' 'Settings,' 'Change port.'

NOTE: An error message 'The detected application version is not supported' will appear if the ABS ECU is not listed in **Table 2** or if this mBSP flash tool update has already been installed on the connected ABS ECU.

12. If the ECU does not automatically connect, select the button in **Fig. 5**, 'Initialize ECU and switch to diagnostic mode.'

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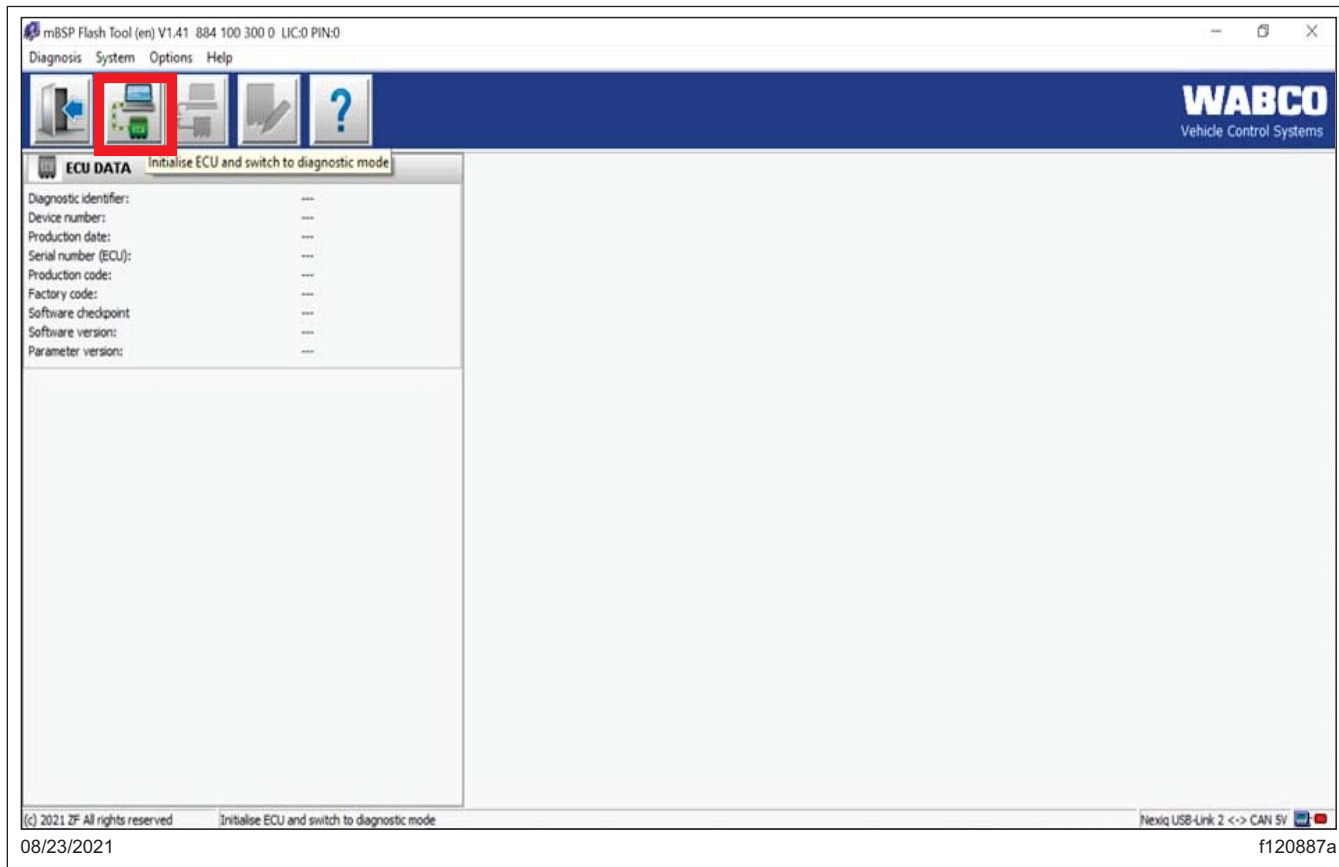


Fig. 5, Initialize ECU and Switch to Diagnostic Mode

13. A window will open, requesting the chassis number to be entered. Enter the vehicle chassis number. See Fig. 6.



Fig. 6, Entering the Chassis Number

NOTE: The chassis number is the last six-characters of the VIN, which consists of two letters followed by four numbers (also known as the serial number).

14. Select the 'ECU software update' button to begin the ECU update. See [Fig. 7](#).

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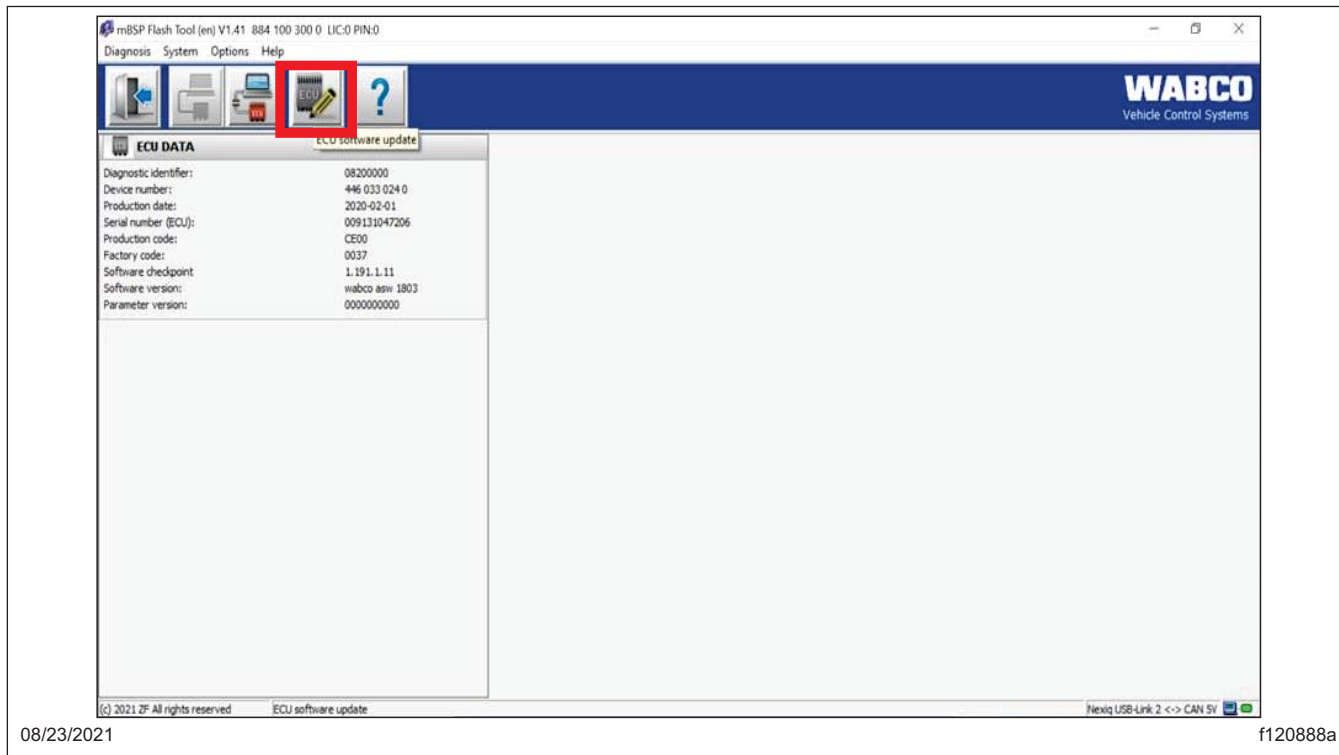


Fig. 7, ECU Software Update

- When the 'ECU update' window appears, select the 'Write to ECU' button to begin the ECU update. See Fig. 8.

The update may take several minutes. Do not disconnect the vehicle, turn the key to the OFF position, or allow the laptop to go to sleep during this process.

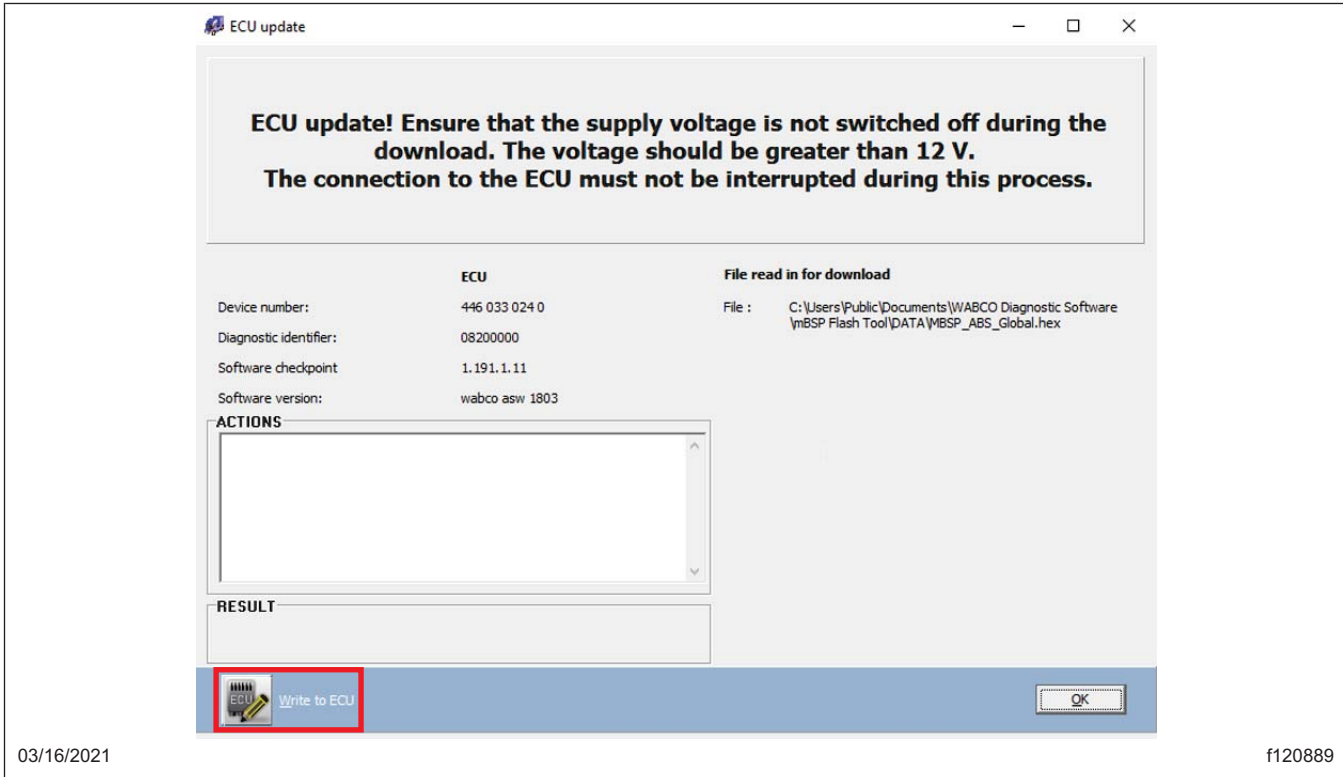


Fig. 8, Starting the ECU Update

IMPORTANT: If the update process fails at any point, close the mBSP Flash Tool, then cycle the vehicle ignition. Go to step 10.

The update may be attempted multiple times. Ensure the correct chassis number is entered for the vehicle, and the same laptop is used on which the failure occurred. If the failure occurs repeatedly, swap the adaptors and try again.

If programming is still unsuccessful, note the ECU part number, if displayed. Call the WABCO customer care center at 1-855-228-3203, then select option 1 for technical assistance. As WABCO may ship a replacement ECU, have the dealership address available before calling.

NOTE: ESC calibration will be required after the flashing process is complete.

16. Once the ECU update is complete, some ECU errors may be present. Select 'OK' and close the flash tool and start calibration mode. See [Fig. 9](#).

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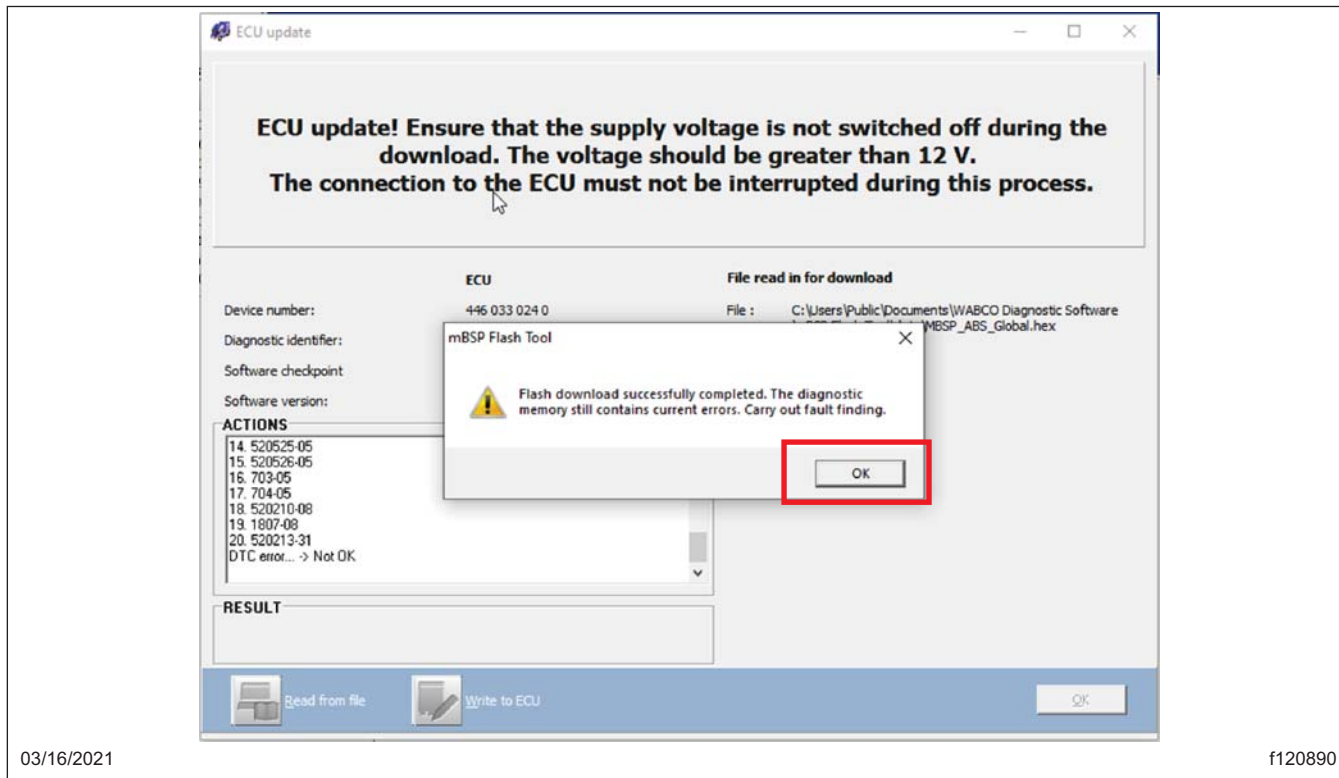


Fig. 9, Carrying Out Fault Finding

17. The ABS ECU is now in ESC calibration mode. Complete the driving portion of the End of Line (EOL) procedure. After approximately 100 yards of straight-line driving, and the ABS ECU records a 90 to 180 degree turn, the stability lamp on the dash will turn off.
18. Perform a key cycle to complete a vehicle sleep cycle. This will save the calibration data.
19. Save a parameter file from the ECU as proof that the parameter update was successfully completed, and add it to the vehicle repair order. This can be done in the WABCO TOOLBOX. Launch the WABCO TOOLBOX software and select 'Pneumatic ABS/EBS.' See Fig. 10.

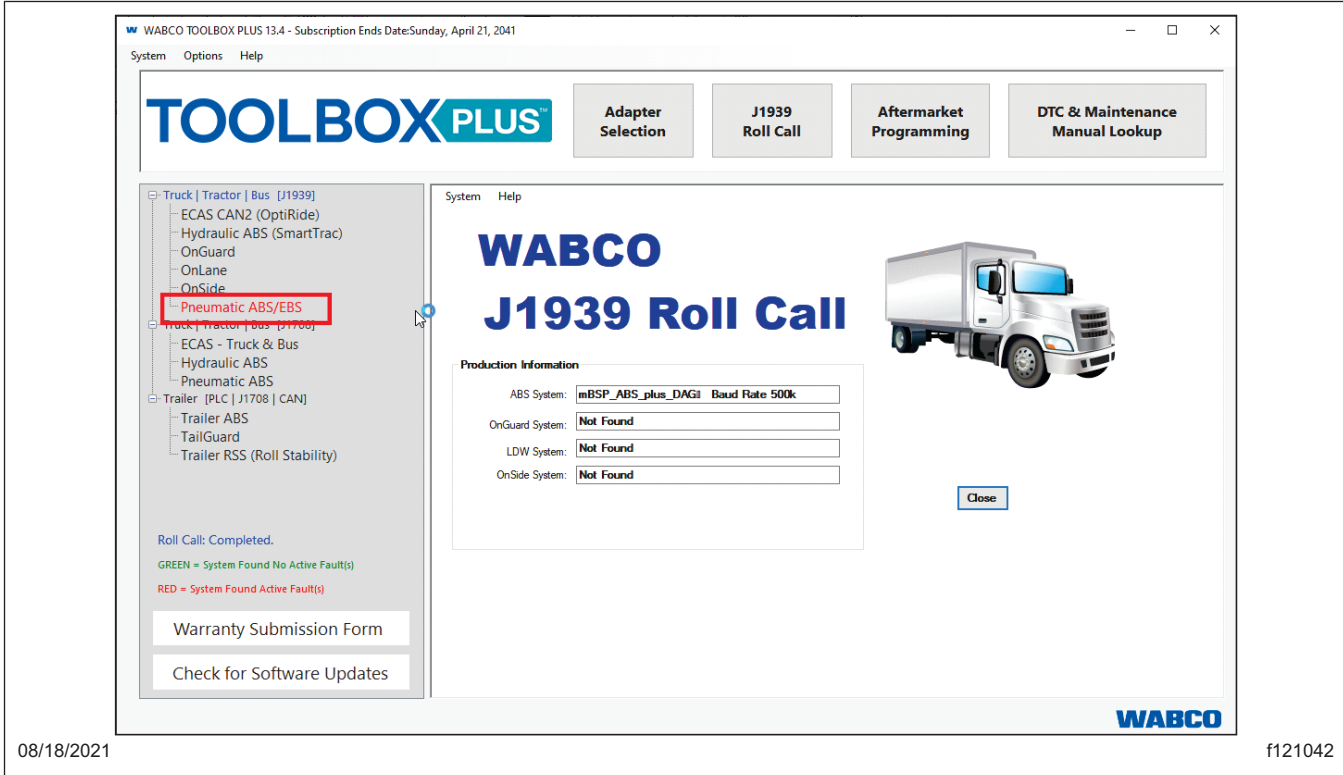


Fig. 10, WABCO TOOLBOX Options

20. Go to the 'Option' menu and select 'Save Parameters to File.' See Fig. 11.

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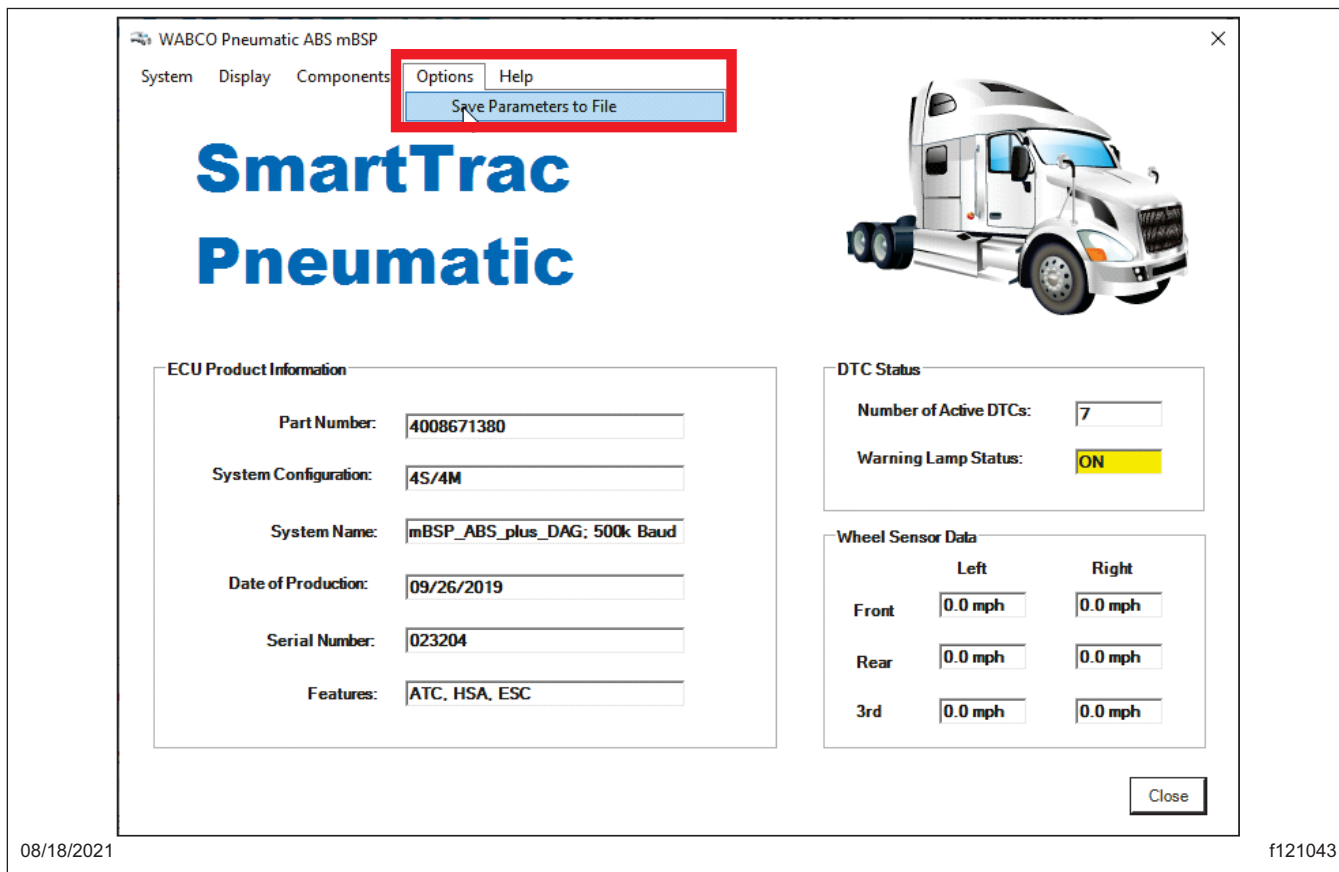


Fig. 11, Choosing the Install Location

NOTE: Certain vehicles with 8x4 configuration equipped with a pusher axle may not register a fourth axle within the 'Wheel Sensor Data' screen due to vehicle wheel sensor locations, and WABCO TOOLBOX Plus screen layout. This will not affect the programming, and the parameter update will be completed successfully.

21. The ABS ECU update is now complete. Verify that no faults are present and that the ABS ECU part numbers have been updated as shown in [Table 2](#).

| ABS ECU Part Number Changes | | | | | | | | |
|-----------------------------|----|-----------------|----------------------|----|-----------------|----------------------|----|-----------------|
| Original Part Number | To | New Part Number | Original Part Number | To | New Part Number | Original Part Number | To | New Part Number |
| 400 864 815 0 | >> | 400 864 831 0 | 400 864 821 0 | >> | 400 864 831 0 | 400 864 825 0 | >> | 400 864 831 0 |
| 400 864 816 0 | >> | 400 864 832 0 | 400 864 822 0 | >> | 400 864 832 0 | 400 864 826 0 | >> | 400 864 832 0 |
| 400 864 817 0 | >> | 400 864 833 0 | 400 864 823 0 | >> | 400 864 833 0 | 400 864 827 0 | >> | 400 864 833 0 |
| 400 864 818 0 | >> | 400 864 834 0 | 400 864 824 0 | >> | 400 864 834 0 | 400 864 828 0 | >> | 400 864 834 0 |
| 400 867 119 0 | >> | 400 867 135 0 | 400 867 128 0 | >> | 400 867 135 0 | 400 867 130 0 | >> | 400 867 135 0 |
| 400 867 120 0 | >> | 400 867 136 0 | 400 867 129 0 | >> | 400 867 136 0 | 400 867 131 0 | >> | 400 867 136 0 |
| 400 867 121 0 | >> | 400 867 137 0 | 400 867 125 0 | >> | 400 867 137 0 | 400 867 132 0 | >> | 400 867 137 0 |

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ABS mBSP ECU Software Update Fault Code 629-11

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| ABS ECU Part Number Changes | | | | | | | | |
|-----------------------------|----|-----------------|----------------------|----|-----------------|----------------------|----|-----------------|
| Original Part Number | To | New Part Number | Original Part Number | To | New Part Number | Original Part Number | To | New Part Number |
| 400 867 122 0 | >> | 400 867 138 0 | 400 867 126 0 | >> | 400 867 138 0 | 400 867 133 0 | >> | 400 867 138 0 |

Table 2, ABS ECU Part Number Changes

22. Disconnect the RP1210 adaptor from the Deutsch 9-pin connector.
23. Clean a spot on the base label (Form WAR259).

Warranty

This is an informational bulletin only. Warranty does not apply.