

# WABCO

## Technical Bulletin

### Software and Parameter Update for 250 kBd DTNA Vehicles without OnGuardACTIVE™ built since January 2013

#### Hazard Alert Messages

Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

#### WARNING

**To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.**

**Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Serious personal injury or damage to components can result.**

#### How to Obtain Additional Maintenance, Service and Product Information

For more information about OnGuard™, refer to Maintenance Manual MM1306, OnGuard™ Collision Mitigation System. If you have any questions about the material covered in this publication, or for more information about the WABCO product line, please contact the WABCO North America Customer Care Center at 855-228-3203 or visit our website: [wabco-na.com](http://wabco-na.com).

#### Description and Function

OnGuard™ is an Adaptive Cruise Control (ACC), Collision Warning System (CWS) and Collision Mitigation System (CMS). ACC is a radar-based tracking system that works in conjunction with standard cruise control to maintain the set cruise speed when no vehicle is being tracked and maintains a safe following distance when a lead vehicle is being tracked. The safe following distance is maintained by controlling engine torque, engine retarder and the foundation brakes, as necessary. This automatic brake application is intended only to provide early braking until the driver recognizes and reacts to the situation. The driver must also apply the brakes in response to the Collision Warning.

#### Software and Parameter Update

This software and parameter enhancement applies to 250 kBd DTNA vehicles built January 2013 through current models, equipped with the OnGuard™ system. Do NOT use this update on a vehicle with OnGuardACTIVE. This update will provide:

- Reduced unintended CAN message errors including:
  - SPN 517659 FMI 07
  - SPN 516096 FMI 09
  - SPN 516097 FMI 09
  - SPN 527 FMI 09
- Improved ACC and drivability
- Internal software enhancements
- E8 ABS ECU parameter updates, if applicable
- Diagnostic communication update\*

**\*NOTE:** Completing this process will modify the radar and will no longer allow it to communicate with older versions of TOOLBOX™ Software. TOOLBOX™ Software 12.0 or higher will now be needed to communicate with the radar. To obtain TOOLBOX™ Software 12.0, please go to our website: [wabco-na.com](http://wabco-na.com).

#### Procedures

This update requires installation of the OnGuard™ DTNA ECR-1 250 KB Programming Tool software. The OnGuard™ DTNA ECR-1 250 KB Programming Tool software must be downloaded from our website, [wabco-na.com](http://wabco-na.com). After downloading the update tool, run the update. Once complete, email the VIN and parameter files to WABCO at [toolbox@wabco-na.com](mailto:toolbox@wabco-na.com).

## Installing the OnGuard™ Programming Tool Software onto a Laptop

An internet connection is required to obtain the OnGuard™ DTNA ECR-1 250KB update tool. The files must be downloaded from the wabco-na.com website to a laptop; once the files have been downloaded, they must be unzipped (“Extracted”) to a known location, such as your “Desktop”.

**NOTE:** It will not be necessary to download the update file from the website for each vehicle that is updated. Once you have the update tool, just click on the desktop folder and run the OnGuard™ Programming Tool for each vehicle you update.

1. Using a web browser, navigate to wabco-na.com to download the OnGuard™ FieldReflash DTNA ECR-1 250KB update tool.

**NOTE:** Before downloading and running the OnGuard™ Update Tool, please close all unnecessary programs or windows.

2. When the WABCO home page has loaded, cursor over the “Downloads” heading in the black bar near the top of the page. From the drop-down menu, select OnGuard Field Reflash – DTNA 250KB.

**NOTE:** Depending on your computer and operating system vintage, the process may vary, but the steps below should work for most users.

3. When prompted to open or save the file, select “Save as” and save the files to your desktop (recommended), or to a known location.
4. After the OnGuard FieldReflash DTNA 250KB.zip file is finished downloading to your desktop, double click on the new zip file or “right” click on the file and select “Open with WinZip”.
5. Click on “Extract”, then select “Desktop” as the “Extract to” location and click “Extract”. A new folder will appear on your desktop labeled “OnGuardFieldReflash DTNA 250kBd”.
6. Double click the new “OnGuardFieldReflash DTNA 250kBd” folder. The folder will contain seven files:
  - E4 file
  - E8 file
  - PAR file
  - Adapter\_Selection.exe
  - DPL1\_CMS\_Filter\_2460671602\_246067959.hex
  - J1939Diag\_UDS.dll
  - OnGuard Programming Tool 3.7.0.0 or higher

**NOTE:** The files in the folder must appear in this exact format. Figure 1.

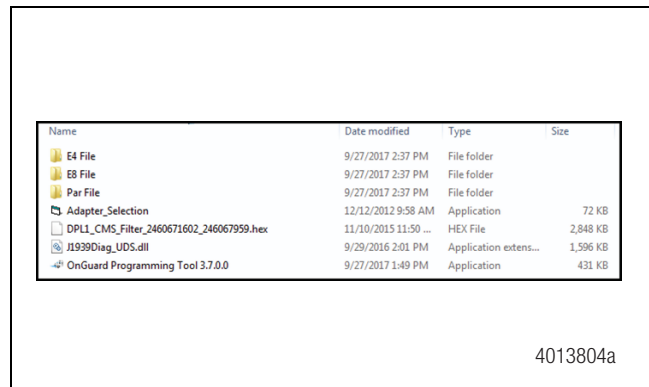


Figure 1

## Running the Software and Parameter Update

**NOTE:** To expedite the update, it is recommended that you update the device drivers of your interface device via the manufacturer's website before proceeding. The update process should take less than 10 minutes.

1. Connect the computer to the vehicle's SAE J1939-13 Off-Board Diagnostic Connector using a diagnostic interface with the ignition key on.
2. Navigate to the “OnGuardFieldReflash DTNA 250kBd” folder containing the unzipped update files. Run the program file by double clicking on “OnGuard Programming Tool”. Figure 1.

A window will open when the application is launched.

3. Select “UPDATE RADAR SOFTWARE”. Figure 2.



Figure 2

If the tool is unable to connect to the adapter, an error message will be displayed. Perform the following steps to connect to the adapter.

- A. Click "OK" in the following window. Figure 3.



Figure 3

- B. Select "OK" in the following window. Figure 4.

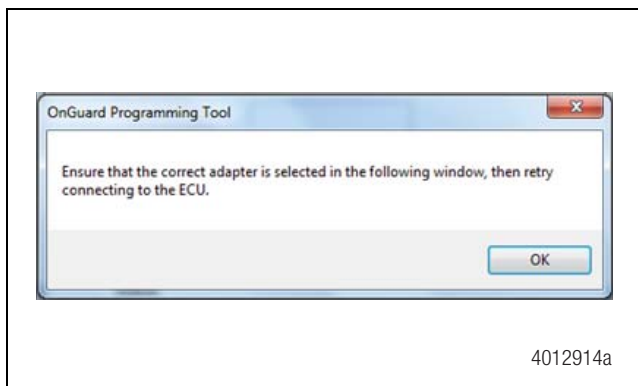


Figure 4

- C. Select the correct Vendor, Protocol and Adapter being used from the list and select "OK". Figure 5.



Figure 5

4. The programming tool will attempt to connect as follows.

- If the software connects to the radar, but this radar already has the latest application software, the following screen will be displayed. Figure 6. No further action is needed; select "No" to exit the program. If you wish to save the parameter file, selecting "Yes" will take you through the parameter saving process, then exit.

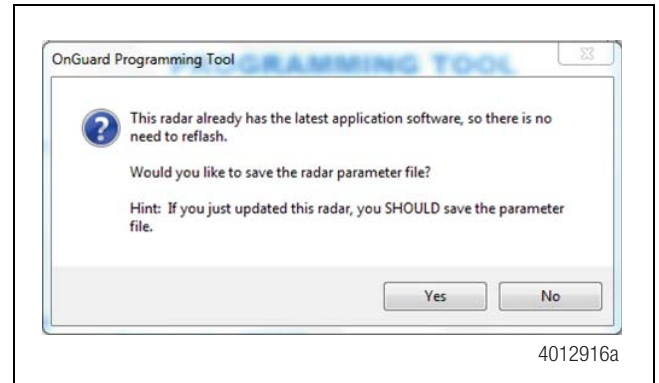


Figure 6

5. When continuing the procedure, the following screen will be displayed. Figure 7.

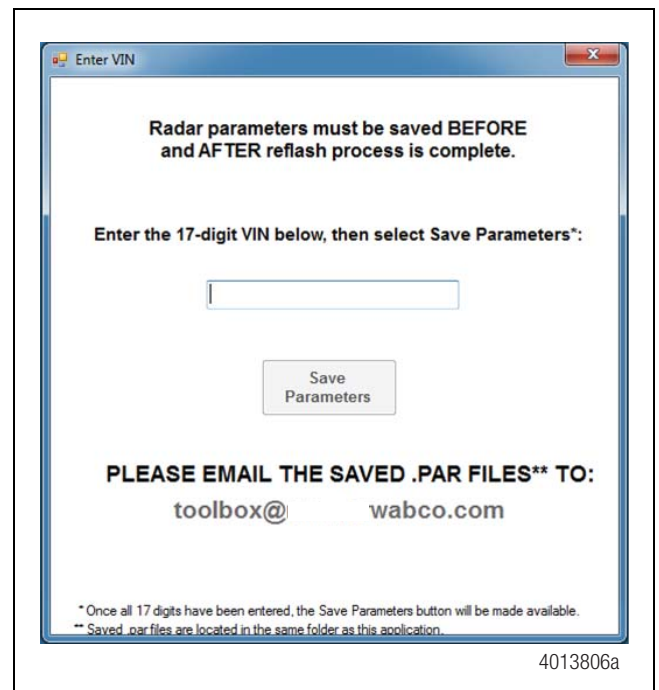
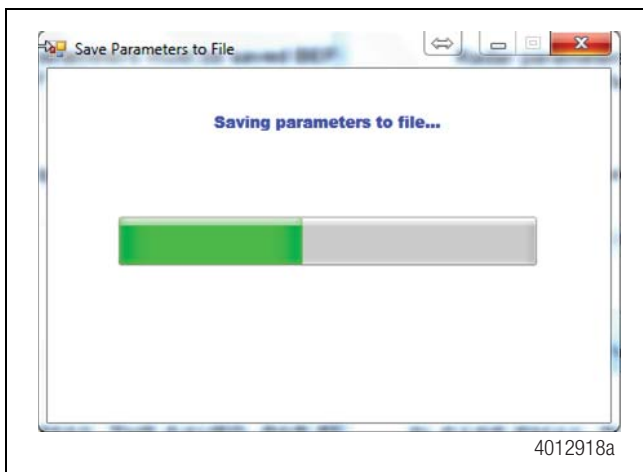


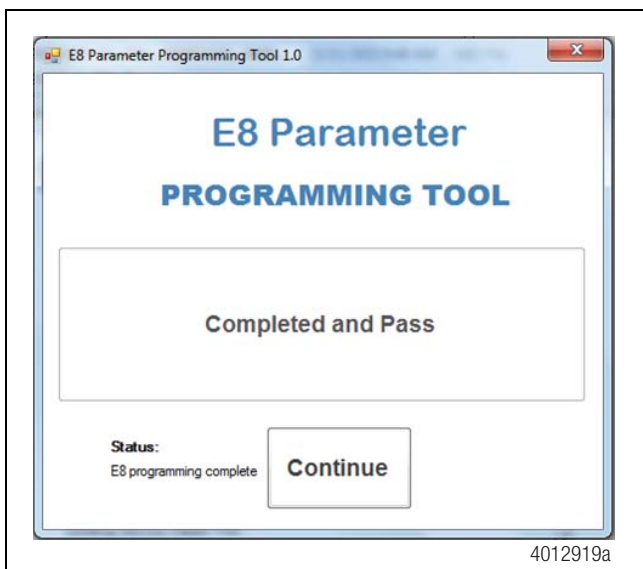
Figure 7

Enter the 17-digit VIN in the text box and select "Save Parameters". **NOTE:** You will not be able to select "Save Parameters" until the 17-digit VIN is entered. The progress bar in the following window shows that the parameters are being saved. Figure 8.



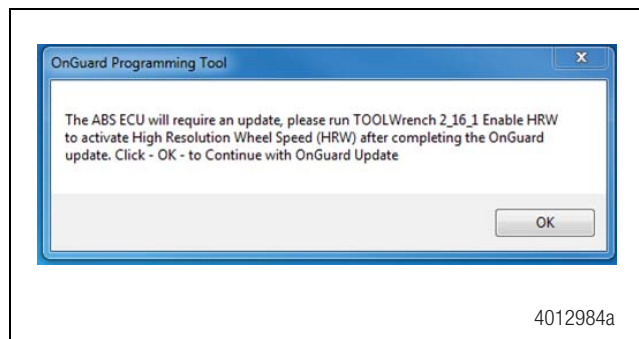
**Figure 8**

6. After the parameters have been saved, the ABS ECU will be checked as follows.
  - A. If the vehicle has an E8 ABS ECU, the E8 update will begin automatically. When the E8 update is finished, the following screen will be displayed. Select "Continue" to finish updating the radar. Figure 9.



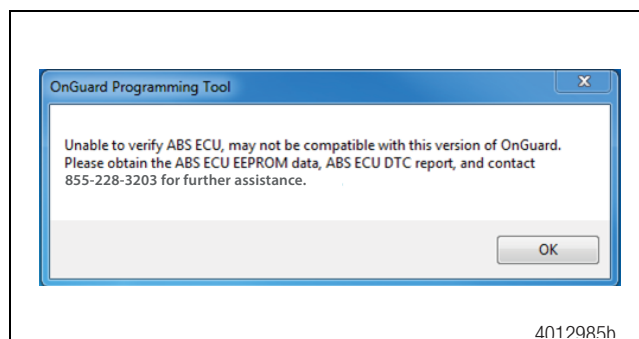
**Figure 9**

- B. If the vehicle has an E4 ABS ECU, the program will check the High Resolution Wheel speed (HRW) parameter.
    - **If the HRW parameter is turned on:** The program will continue updating the radar.
    - **If the HRW parameter is not turned on:** A message will be displayed as shown in Figure 10. The ABS ECU will require an update after the OnGuard update is complete. Refer to the "E4 ABS ECU HRW UPDATE" section later in this technical publication. Select "OK" to continue updating the radar.



**Figure 10**

- C. If the OnGuard™ update tool is unable to recognize the ABS ECU, it may not be compatible with this version of OnGuard™ and the following message will appear. Please contact OnTrac at 1-866-668-7221 with the ABS ECU EEPROM data and ABS ECU DTC report. Select "OK" to exit the OnGuard™ Update. Figure 11.



**Figure 11**

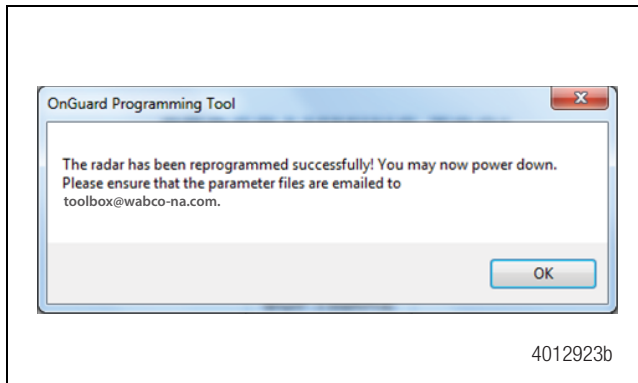
7. If the radar requires this update, the following message will be displayed and programming will automatically begin. Figure 12.



**Figure 12**

**NOTE:** The “Status:” message will display the various files that are being updated and will also show the update progress as “Percent complete”.

8. Once the process is finished, the following messages will be displayed. Figure 13 and Figure 14. This indicates that the “OnGuard™ Programming Tool” successfully completed the programming and the parameters were automatically saved using the VIN that you entered earlier. Select “OK” (Figure 13), close the “Complete” screen (Figure 14), and power down the vehicle by cycling the ignition.



**Figure 13**



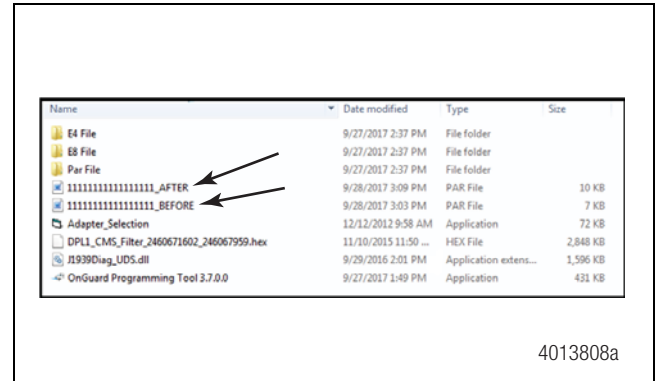
**Figure 14**

**NOTE:** Completing this process will modify the radar and will no longer allow it to communicate with older versions of TOOLBOX™ Software. TOOLBOX™ Software 12.0 or higher will now be needed to communicate with the radar. To obtain TOOLBOX™ Software 12.0, please go to our website: wabco-na.com.

9. After the radar has been successfully programmed, you must email the saved “Before” and “After” parameter files to toolbox@wabco-na.com. Figure 14.

The parameter files will be located in the “OnGuard FieldReflash DTNA 250kb” folder, the same folder as the OnGuard™ Programming Tool 3.7.0.0.

The .par files will have the VIN as the filename. The two .par files generated by this application will be named VIN\_BEFORE.par and VIN\_AFTER.par. Figure 15.



**Figure 15**

Email these two parameter files to toolbox@wabco-na.com. Please enter D250CF followed by the VIN in the subject line of the email message.

## Installation Verification

You may verify that the procedure was completed correctly by checking the software level and APAR file with TOOLBOX™ Software.

With the ignition on, connect the TOOLBOX™ Software to the vehicle, click on the OnGuard icon to open the OnGuard™ TOOLBOX™ Software program. This will bring up the “Radar Product Information” screen. Note the “Software Version Name” and “APAR Version Name” fields. Figure 16. If the process was completed correctly, the fields will display:

- Software Version Name: **OnGuardPLUS 1.126.3.11.4.2**
- APAR Version Name: **OGP APAR 1.96.3.12.1.4.1.2**

**Radar Production Information**

Part Number: 4008710210

Serial Number: 121127000006

Software Version Name: OnGuardPLUS 1.126.3.11.4.2

APAR Version Number: OGP APAR 1.96.3.12.1.4.1.2

Date of Production: 07/14/2014

4013809a

**Figure 16**

## E4 ABS ECU HRW Update

If the message “Please run TOOLWrench 2\_16\_1 Enable HRW” came up while updating the OnGuard™ software (Figure 10), the E4 ABS ECU will now need to be updated. The E4 ABS update TOOLWrench is located in the folder that was downloaded from the WABCO website.

1. Open the “E4 File” folder. Figure 17.

Name	Date modified	Type	Size
E4 File	9/27/2017 2:37 PM	File folder	
E8 File	9/27/2017 2:37 PM	File folder	
Par File	9/27/2017 2:37 PM	File folder	
222222222222222222_AFTER	10/4/2017 4:02 PM	PAR File	10 KB
222222222222222222_BEFORE	10/4/2017 3:58 PM	PAR File	7 KB
Adapter_Selection	12/12/2012 9:58 AM	Application	72 KB
DPLL_CM5_Filter_2460671602_246067959.hex	11/10/2015 11:50 ...	HEX File	2,848 KB
J1939Diag_UDS.dll	9/29/2016 2:01 PM	Application extens...	1,596 KB
OnGuard Programming Tool 3.7.0.0	9/27/2017 1:49 PM	Application	431 KB

4013810a

**Figure 17**

2. Double click the “TOOLWrench 2\_16\_1 Enable HRW” file to open the TOOLWrench. Figure 18.

Name	Type
J1939Diag_UDS.dll	Application extension
TOOLWrench 2_16_1 Enable HRW	Application

4012928a

**Figure 18**

3. To run the TOOLWrench, select “Start ECU Configuration”. Figure 19.

**J1939 TOOLWrench**

Adapter Selection Bus Monitor Save EEPROM

**WABCO TOOLWrench**

**Version: 2.16.1**

This version of TOOLWrench will enable HRW.  
There is no Part Number restriction.

**ECU Information**

Configuration  
Part Number  
Serial Number  
Software Rev.

Start ECU Configuration Close

4012929b

**Figure 19**

4. Once the ABS ECU has been updated, the following message will be displayed. Select “OK” and “Close” to exit the program. Figure 20.

**J1939 TOOLWrench**

Adapter Selection Bus Monitor Save EEPROM

**WABCO TOOLWrench**

**Version: 2.16.1**

This version of TOOLWrench will enable HRW.  
There is no Part Number restriction.

**ECU Information**

Configuration  
Part Number  
Serial Number  
Software Rev.

Start ECU Configuration Close

**Parameters Updated**

ECU has been updated.

OK

4012930b

**Figure 20**



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