

OnGuardACTIVE® ECR2.3 SOFTWARE UPDATE

TECHNICAL BULLETIN



TP18032

WABCO

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EN 1 General Information

Symbols used in this document

DANGER

Description of an immediate situation which will result in irreversible injury or death if the warning is ignored.

WARNING

Description of a possible situation which may result in irreversible injury or death if the warning is ignored.

CAUTION

Description of a possible situation which may result in irreversible injury if the warning is ignored.

NOTICE

Description of a possible situation which may result in material damage if the warning is ignored.



Important information, notes and/or tips



Reference to information on the internet

- Action step
- Action step
- ⇒ Consequence of an action

■ List

- List

Note on the use of a tool/WABCO tool

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 WABCO Customer Care Center at 855-228-3203, by email at wncustomercenter@wabco-auto.com, or visit our website: www.wabco-na.com.

General Information

WABCO Academy



<https://www.wabco-academy.com/home/>

EN

WABCO Online product catalog



<http://www.wabco-customercenter.com/>

Your direct contact to WABCO

WABCO North America LLC
WABCO USA LLC
1220 Pacific Drive
Auburn Hills, MI 48326
Customer Care Center: (855) 228-3203
www.wabco-na.com

EN 2 Safety Information

Provisions for a safe work environment

- Only trained and qualified automotive technicians and auto mechanics may carry out work on the vehicle.
- Read this publication carefully.
- Follow all warnings, notices and instructions to avoid personal injury and property damage.
- Always abide by the vehicle manufacturer's specifications and instructions.
- Observe all accident regulations of the respective company as well as regional and national regulations.
- The workplace should be dry, sufficiently lit and ventilated.
- Use personal protective equipment if required (safety shoes, protective goggles, respiratory protection and ear protectors).

Read and observe all Danger, 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.

WARNING

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip or fall over. Serious personal injury and damage to components can result.

WARNING

OnGuard® is designed to create high vehicle deceleration (without driver intervention) in certain situations. To reduce the risk of injuries caused during OnGuard®-activated vehicle deceleration, all vehicle occupants should be correctly seated and properly belted or restrained during vehicle operation. All loose items should be secured so that they will not fly forward and cause injury during a deceleration event. The use of OnGuard® in vehicles not equipped with seat belts may expose non-belted passengers to injuries due to system initiated sudden vehicle deceleration, despite vehicle compliance with applicable safety standards.

3 Description and Function

OnGuardACTIVE™ is a radar-based Collision Mitigation System (CMS) that offers Forward Collision Warning (FCW), Active Braking and Adaptive Cruise Control (ACC). OnGuardACTIVE™ detects objects ahead and assists the driver in recognizing and responding to potentially dangerous driving scenarios that could lead to a rear-end collision. OnGuardACTIVE™ is always monitoring the road and provides warnings and active braking when deemed necessary, even when cruise control is not set. When an impending collision is detected, OnGuardACTIVE™ has the ability to provide audible, visual and haptic warnings, automatically reduces engine torque and applies the foundation brakes to help avoid or mitigate a collision.

4 Software and Parameter Updates

4.1 Radar

The OnGuardACTIVE™ ECR2.3 software and parameter enhancement for vehicles built with or updated to OnGuardACTIVE™ will provide:

- Improved stationary object filtering
- Reduced unintended braking events
- Internal software enhancements
- May reduce the incidences or occurrences of these DTC's:
 - SPN 527 - FMI 09
 - SPN 516096 - FMI 09
 - SPN 516097 - FMI 09
 - SPN 516998 - FMI 12
 - SPN 517653 - FMI 07
 - SPN 517657 - FMI 07
 - SPN 517659 - FMI 07

Running the OnGuardACTIVE™ ECR2.3 update on a vehicle with OnGuard™ will provide:

- Stationary Object Braking (OnGuardACTIVE™)
- Internal software enhancements

Check the tables at the end of this publication to verify that your part number is eligible for the update.



Completing this process will modify the radar and will no longer allow it to communicate with older versions of TOOLBOX™ Software. TOOLBOX™ Software 12.5 or higher will now be needed to communicate with the radar. To obtain TOOLBOX™ Software 12.5, please go to our website: www.wabco-na.com.

4.2 Display

Not all vehicles use the WABCO OnGuard™ in-cab display. For many vehicles, the OnGuard™ system is integrated directly into the vehicle instrument cluster. **If the vehicle uses the OEM integrated instrument cluster for the OnGuard™ display, no display update is needed; proceed directly to the radar update in Section 5.**

If the vehicle receiving the ECR2.3 update uses the WABCO OnGuard™ in-cab display, the display must have the latest software. The display may have already have the latest software. Refer to the following steps to determine if the display needs the latest software or if it has already been updated. Figure 1.

Fig. 1



In-Cab Display

4.2.1 How to Determine if the Display Update is Required

1. Verify the ignition is "OFF".
2. Press and hold the right DOWN-ARROW button on the display and turn the ignition "ON". The display should now be in bootloader mode and the button may be released*.



On some older vehicles the display screen may be dark and remain dark when in this state; proceed with the display update.

3. If the screen shows either of the "V 1.05" messages below, for only 10 seconds, **NO display** update is needed.
 - "BOOTLOADER 250K V1.05"
 - "BOOTLOADER 500K V1.05"
4. If the above messages do not appear, the display update is needed, proceed with the display update.

If the Display Update is Not Needed:

Proceed directly to the OnGuardACTIVE™ ECR2.3 Update in Section 5.

If the Display Update is Required:

Refer to TP1767. The Display Update tool and TP1767 can be obtained from our website: www.wabco-na.com. Once the display update has been completed, continue with the Radar Update in Section 5 of this publication.

5 Procedures



STOP!

This update does not apply to all OnGuard™-equipped vehicles. Please review the tables at the end of this publication to determine if this update applies to the radar on your vehicle.

This update requires installation of the OnGuard™ Programming Tool 4.0.0.6 software or higher. The OnGuardACTIVE™ 2.3 Software Update (TP18032) software must be downloaded from our website, www.wabco-na.com. After downloading the programming tool, run the update. Once complete, email the VIN parameter files to WABCO at WNAtoolbox@wabco-auto.com.

5.1 Installing the OnGuardACTIVE™ Programming Tool 4.0.0.6 Software onto a Laptop

An internet connection is required to obtain the OnGuardACTIVE™ 2.3 Software Update (TP18032). 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; we recommend your "Desktop".



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 4.0.0.6 software for each vehicle you update.

1. Using a web browser, navigate to wabco-na.com to download the OnGuardACTIVE™ 2.3 Software Update (TP18032).



Before downloading and running the OnGuard Programming Tool 4.0.0.6 software, please close all unnecessary programs or windows.

2. When the WABCO home page has loaded, cursor over the "Downloads" heading near the top of the page. From the drop-down menu, select OnGuardACTIVE™ 2.3 Software Update (TP18032).



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 your desired "Location".
4. After the WABCO_OnGuardACTIVE™_ECR2.3_Field_Flash_Tool-20180914_T071240Z-001 file is finished downloading to your Location, double click on the new zip file or "right" click on the file and select "Open with WinZip".
5. Click on "Extract", then select your Location as the "Extract to" location and click "Extract". A new folder will appear at your Location labeled "ECR 2 Field Flash Tool".

6. Double click the new "ECR 2 Field Flash Tool" folder.

The folder will contain seven files:

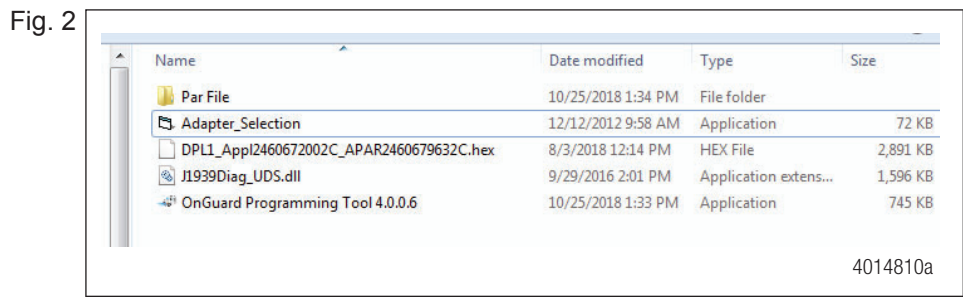
- E4 file
- E8 file
- PAR file
- Adapter_Selection.exe
- DPL1_Appl2460672002C_APAR2460679632C.hex
- J1939Diag_UDS.dll
- OnGuard Programming Tool 4.0.0.6
- TP18032

i The files in the folder must appear in this exact format.

5.2 Running the Software and Parameter Update

i To expedite the update, WABCO recommends 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 "ECR 2 Field Flash Tool" folder containing the unzipped update files. Run the program file by double clicking on "OnGuard Programming Tool 4.0.0.6" file. Figure 2.



A window will be displayed when the application is launched.

3. Select "UPDATE RADAR SOFTWARE". Figure 3.

Fig. 3



If the tool is unable to connect to the vehicle, an adapter message will be displayed. There may be an issue with the adapter settings. Perform the following steps to connect to the vehicle.

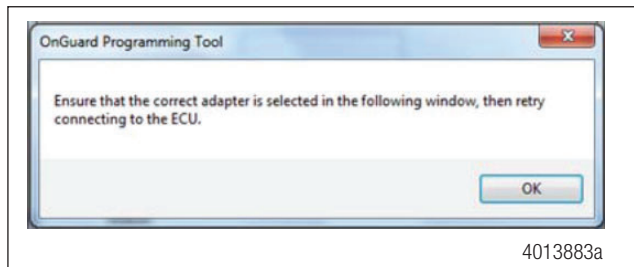
A. Click "OK" in the following window. Figure 4.

Fig. 4

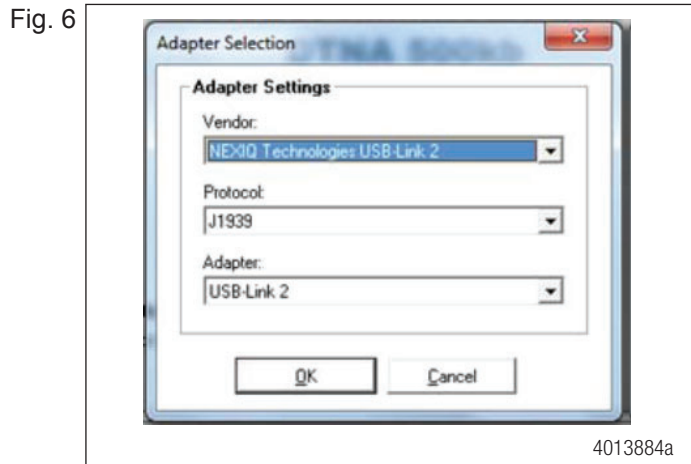


B. Select "OK" in the following window. Figure 5.

Fig. 5

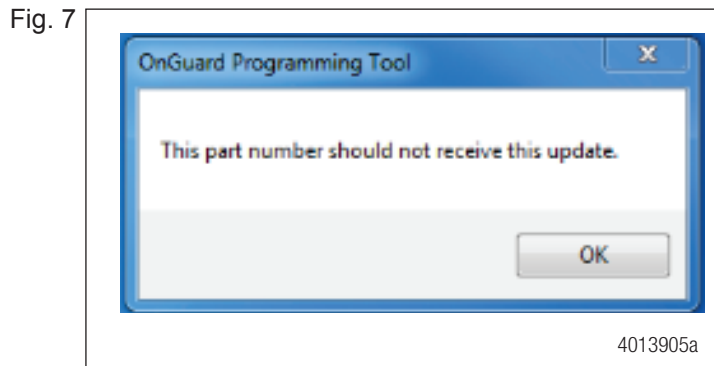


C. Select the correct Vendor, Protocol and Adapter being used from the list and select "OK".
Figure 6.

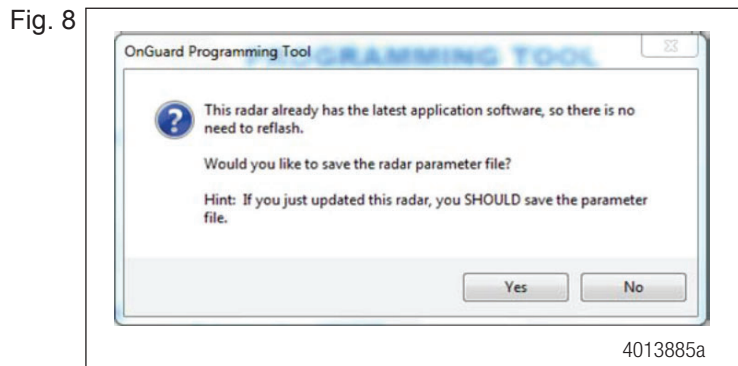


5. Once connected to the vehicle, the programming tool will attempt to connect as follows.

- If the software connects to the radar, but does not recognize the part number, the following message will appear. Figure 7. Click "OK" and exit the program. Obtain the radar part number with TOOLBOX™ Software and confirm the part number is on the list.



- If the software connects to the radar, but this radar already has the latest application software, the following screen will be displayed. Figure 8. 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.



- If the vehicle needs the update, the process will continue and the following screen will be displayed. Figure 9.

Fig. 9



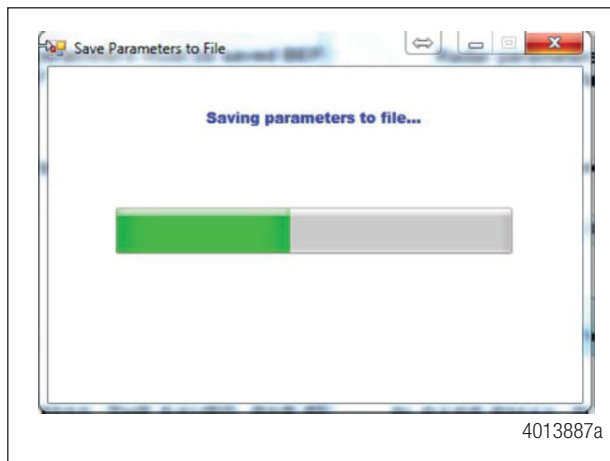
6. Enter the 17-digit VIN in the text box and select "Save Parameters".



You will not be able to select "Save Parameters" until the 17-digit VIN is entered.

The progress bar in the following window indicates that the parameters are being saved. Figure 10.

Fig. 10



Once the parameters have been saved, the following window will be displayed (Figure 11) and programming will automatically begin. This may take a few minutes.

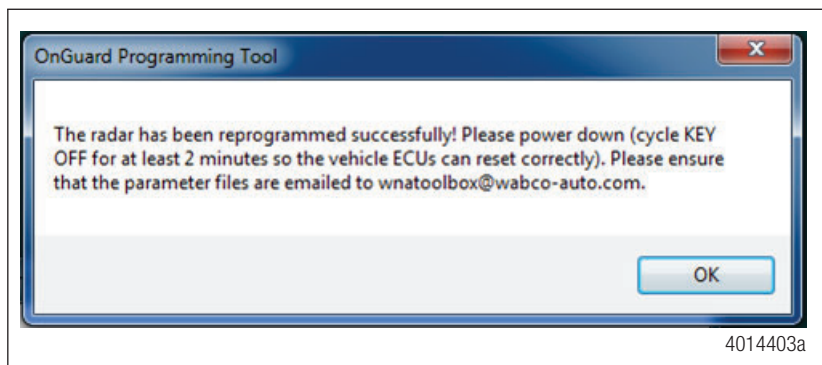
Fig. 11



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

7. Once the process is finished, the following messages will be displayed. Figure 12 and Figure 13. These indicate that the "OnGuardACTIVE™ Programming Tool" successfully completed the programming and the parameters were automatically saved using the VIN that you entered earlier.

Fig. 12



Select "OK". Figure 13.

Fig. 13



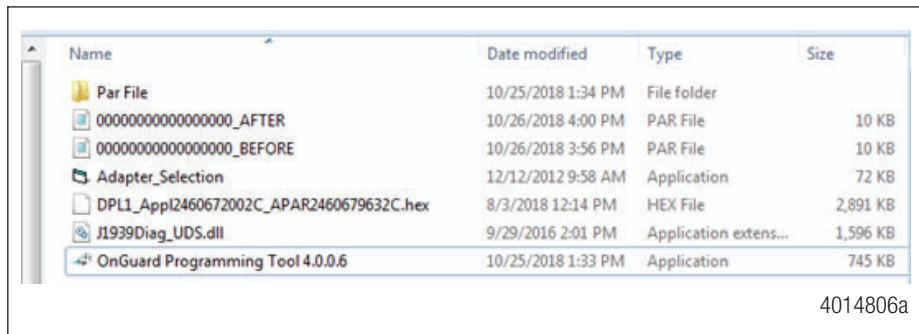
Close the "Complete" screen (Figure 13), and power down the vehicle by cycling the ignition off for at least 2 minutes.



Completing this process will modify the radar and will no longer allow it to communicate with older versions of TOOLBOX™ Software. TOOLBOX™ Software 12.5 or higher will now be needed to communicate with the radar. To obtain TOOLBOX™ Software 12.5, please go to our website: wabco-na.com.

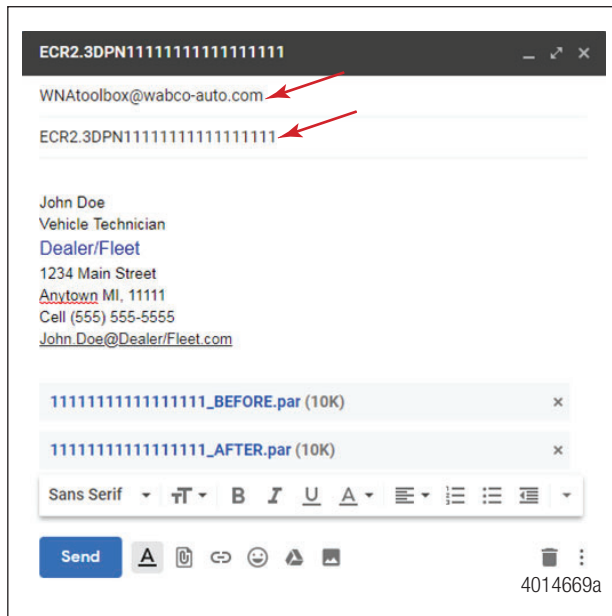
- After the radar has been successfully programmed, email the saved "Before" and "After" parameter files to WNAtoolbox@wabco-auto.com. The parameter files will be located in the ECR 2 Field Flash Tool folder, the same folder as the OnGuard Programming Tool 4.0.0.6 software. The .par files will have the VIN as the filename. The two .par files generated by this application will be named VIN_BEFORE.par and VIN_AFTER.par. Figure 14.

Fig. 14



Email these two parameter files to WNAtoolbox@wabco-auto.com. Please enter "ECR2.3DPN" followed by the VIN in the subject line of the email message. Figure 15.

Fig. 15



5.3 Installation Verification

Verify that the procedure was completed correctly by checking the part number, 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. Figure 16.

Using the tables provided at the end of this publication, confirm that the new radar part number now matches a part number in the "Radar Part Number After Update" column, and that it corresponds to the original part number in the "Radar Part Number" column. If the process was completed correctly, the "Software Version Name" and "APAR Version Name" fields should now also display:

- Software Version Name: OnGuardPLUS 1.137.1.7
- APAR Version Name: OGP APAR 1.102.2.10.1.9.1.2

Fig. 16



5.4 OnGuardACTIVE™ ECR2.3 Update Eligible Part Numbers

The part numbers in the following tables are currently eligible for the OnGuardACTIVE™ ECR2.3 update. Performing this update will change the part number of the radar.

Before running the update, use TOOLBOX™ Software to confirm the radar part number matches one of the part numbers in the “Radar Part Number” column.

- If the part number does match a part number in the "Radar Part Number" column, the radar is eligible and the update may be performed.
- If the part number matches one of the part numbers in the “Radar Part Number After Update” column, the radar has already been updated and no further update is needed.
- If the radar part number is not in the "Radar Part Number" column, the ECR 2 Field Flash Tool will not run.

Installation and use of the software described in this Technical Bulletin is solely at your risk. Without limiting the foregoing, WABCO expressly disclaims all express and implied warranties related to the software, and shall not be liable to you or any third parties for any direct, indirect, consequential, or other damages, including loss of data, lost profits, personal injury or property damage, or other damages associated with your installation or use of the software, your failure to follow the procedures and instructions set forth in this Technical Bulletin or any subsequent instructions provided by WABCO, your failure to obtain the software from an authorized WABCO-designated website, your failure to install any recommended updates to the software, or any other damages attributable to your acts or omissions.

Table A: Freightliner (DTNA) Eligible Part Numbers

Radar Part Number	Engine	Transmission	CAN Baud Rate	Radar Part Number After Update
400 871 010 0	Detroit	Manual	250 kBd	400 871 014 0
400 871 011 0	Cummins	Manual	250 kBd	400 871 015 0
400 871 020 0	Detroit	AMT	250 kBd	400 871 024 0
400 871 021 0	Cummins	AMT	250 kBd	400 871 025 0
400 871 031 0	Cummins	Allison	250 kBd	400 871 035 0
400 871 040 0	Detroit (2010)	Manual	250 kBd	400 871 045 0
400 871 041 0	Detroit (2010)	AMT	250 kBd	400 871 046 0
400 871 051 0	Detroit	Manual	250 kBd	400 871 055 0
400 871 052 0	Detroit	AMT	250 kBd	400 871 056 0
400 871 061 0	Cummins	Allison	250 kBd	400 871 065 0
400 871 062 0	Cummins	Allison	250 kBd	400 871 066 0
400 871 510 0	Detroit	Manual	500 kBd	400 871 516 0
400 871 512 0	Detroit	Manual	500 kBd	400 871 516 0
400 871 511 0	Cummins	Manual	500 kBd	400 871 517 0
400 871 513 0	Cummins	Manual	500 kBd	400 871 517 0
400 871 520 0	Detroit	AMT	500 kBd	400 871 526 0
400 871 522 0	Detroit	AMT	500 kBd	400 871 526 0
400 871 521 0	Cummins	AMT	500 kBd	400 871 527 0
400 871 523 0	Cummins	AMT	500 kBd	400 871 527 0
400 871 530 0	Detroit	Allison	500 kBd	400 871 536 0

Radar Part Number	Engine	Transmission	CAN Baud Rate	Radar Part Number After Update
400 871 532 0	Detroit	Allison	500 kBd	400 871 536 0
400 871 533 0	Cummins	Allison	500 kBd	400 871 537 0
400 871 541 0	Cummins	Manual	500 kBd	400 871 543 0
400 871 542 0	Cummins	AMT	500 kBd	400 871 544 0
400 871 551 0	Detroit	Manual	500 kBd	400 871 557 0
400 871 553 0	Detroit	Manual	500 kBd	400 871 557 0
400 871 552 0	Detroit	AMT	500 kBd	400 871 558 0
400 871 554 0	Detroit	AMT	500 kBd	400 871 558 0
400 871 561 0	Cummins	Allison	500 kBd	400 871 573 0
400 871 563 0	Cummins	Allison	500 kBd	400 871 573 0
400 871 562 0	Cummins	Allison	500 kBd	400 871 574 0
400 871 564 0	Cummins	Allison	500 kBd	400 871 574 0
400 871 568 0	Detroit	Allison	500 kBd	400 871 578 0
400 871 569 0	Detroit	Manual	500 kBd	400 871 579 0

Table B: Freightliner Custom Chassis Corporation (FCCC) Eligible Part Numbers

Radar Part Number	Engine	Transmission	CAN Baud Rate	Radar Part Number After Update
400 871 452 0	Cummins	Allison	500 kBd	400 871 472 0
400 871 462 0	Cummins	Allison	500 kBd	400 871 470 0
400 871 458 0	Cummins	Allison	500 kBd	400 871 470 0
400 871 461 0	Cummins	Allison	500 kBd	400 871 471 0
400 871 459 0	Cummins	Allison	500 kBd	400 871 471 0

Table C: NAVISTAR Eligible Part Numbers

Radar Part Number	Engine	Transmission	CAN Baud Rate	Radar Part Number After Update
400 871 110 0	Maxx Force	Manual	250 kBd	400 871 112 0
400 871 140 0	Cummins/Maxx Force	Manual	250 kBd	400 871 142 0
400 871 150 0	Cummins/Maxx Force	AMT	250 kBd	400 871 152 0
400 871 611 0	Cummins/N13	Manual	500 kBd	400 871 612 0
400 871 621 0	Cummins/N13	AMT	500 kBd	400 871 622 0
400 871 631 0	Cummins/N13	Allison	500 kBd	400 871 632 0
400 871 640 0	Cummins/Maxx Force/2015	Manual	500 kBd	400 871 642 0

Table D: PACCAR Eligible Part Numbers

Radars Part Number	Engine	Transmission	CAN Baud Rate	Radars Part Number After Update
400 871 254 0	MX	AMT	250 kBd	400 871 337 0
400 871 262 0	MX	AMT	250 kBd	400 871 337 0
400 871 272 0	MX	AMT	250 kBd	400 871 337 0
400 871 282 0	MX	AMT	250 kBd	400 871 337 0
400 871 286 0	MX	AMT	250 kBd	400 871 337 0
400 871 255 0	MX	Manual	250 kBd	400 871 336 0
400 871 261 0	MX	Manual	250 kBd	400 871 336 0
400 871 271 0	MX	Manual	250 kBd	400 871 336 0
400 871 281 0	MX	Manual	250 kBd	400 871 336 0
400 871 285 0	MX	Manual	250 kBd	400 871 336 0
400 871 283 0	Cummins	Manual	250 kBd	400 871 334 0
400 871 284 0	Cummins	AMT	250 kBd	400 871 335 0
400 871 256 0	Cummins	AMT	250 kBd	400 871 335 0
400 871 264 0	Cummins	AMT	250 kBd	401 871 335 0
400 871 274 0	Cummins	AMT	250 kBd	402 871 335 0
400 871 257 0	Cummins	Manual	250 kBd	400 871 334 0
400 871 263 0	Cummins	Manual	250 kBd	401 871 334 0
400 871 273 0	Cummins	Manual	250 kBd	402 871 334 0
400 871 291 0	Cummins	Auto	250 kBd	400 871 353 0
400 871 293 0	Cummins	Auto	250 kBd	401 871 353 0
400 871 292 0	Cummins	Auto	250 kBd	400 871 354 0

Table E: Spartan Motors Eligible Part Numbers

Radars Part Number	Engine	Transmission	CAN Baud Rate	Radars Part Number After Update
400 871 465 0	Cummins	Allison	500 kBd	400 871 473 0
400 871 466 0	Cummins	Allison	500 kBd	400 871 474 0

WABCO

Mobilizing Vehicle Intelligence



ACE AUTONOMOUS
CONNECTED
ELECTRIC

About WABCO

WABCO (NYSE: WBC) is the leading global supplier of braking control systems and other advanced technologies that improve the safety, efficiency and connectivity of commercial vehicles. Originating from the Westinghouse Air Brake Company founded 150 years ago, WABCO is powerfully “Mobilizing Vehicle Intelligence” to support the increasingly autonomous, connected and electric future of the commercial vehicle industry. WABCO continues to pioneer innovations to address key technology milestones in autonomous mobility and apply its extensive expertise to integrate the complex control and fail-safe systems required to efficiently and safely govern vehicle dynamics at every stage of a vehicle’s journey – on the highway, in the city and at the depot. Today, leading truck, bus and trailer brands worldwide rely on WABCO’s differentiating technologies. Powered by its vision for accident-free driving and greener transportation solutions, WABCO is also at the forefront of advanced fleet management systems and digital services that contribute to commercial fleet efficiency. In 2019, WABCO reported sales of over \$3.4 billion and has nearly 14,000 employees in 40 countries. For more information, visit www.wabco-na.com.



WABCO