



Volvo Chassis - Bendix ABS6 TO ABS8 Service Information



> **Internal Content**

The Volvo Chassis - Bendix ABS6 to ABS8 Service Information is found in the Trucks Dealer Portal (TDP) under the Service Tab - Tech Support - FG -5 - Brakes / Air Systems [here](#)



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Changes to the Bendix ABS System Affecting ESP Control Unit Configuration

Background

The Bendix ABS6 system with the Electronic Stability Program (ESP) has been available in Volvo Trucks and Mack Trucks for a number of years. This system is configured with data that is specific to the vehicle that it is installed in. A parameter (PAR) file, with vehicle-specific information, is therefore stored in VDA for each vehicle that is equipped with ESP. When the ABS ECU is replaced on a vehicle equipped with ESP, or if the PAR file has been changed due to a vehicle configuration alteration, PAR file programming is needed in order to load the ECU with the vehicle's configuration parameter information. This configuration is carried out by performing the ESP Control Unit Configuration operation in Tech Tool.

The ESP Control Unit Configuration operation uses a Bendix-supplied component to perform the PAR file programming. This component, Vendor Configuration Program (VCP), is installed independently from Tech Tool (it is not included in the Tech Tool installation) and therefore must be installed separately. This installation is made available to Tech Tool users on the Trucks Dealer Portal (TDP). Since the VCP can be updated at any time and without notice, it is advised that it be reloaded from TDP at each occasion that it is used. Historically, the update frequency has not been very high however.

Bendix has replaced ABS6 with ABS8. With ABS6, PAR file programming was performed over J1587. ABS8 does not support J1587. PAR file programming for ABS8 therefore must be performed over J1939. This revised wiring harness contained some ABS ECU pin changes and deleted the J1587 connection to the ABS ECU (since ABS8 would not need it). The result of this is normal ABS and ESP functionality, but no possibility to communicate with the ABS ECU over J1587.

Service Tool Effects

These changes affect the Bendix ACom software as well as Tech Tool.

Bendix ACom

With ABS8 and ABS6 installations without J1587, Bendix ACom must communicate with the ABS ECU over J1939. ACom has had the ability to do this for quite some time, so no updates were needed to ACom to enable it to communicate over J1939. ACom has experienced issues with communicating on J1939 when using certain communication interfaces.

This is due to the fact that two sets of CAN lines are present within the 16-pin diagnostic connector: J1939 and ISO. For other heavy-duty vehicles, J1939 is the primary CAN line (CAN 1). For Volvo and Mack vehicles however, ISO is primary and J1939 is secondary. ACom did not perform an auto-detection of which CAN line was the primary, but instead made the assumption that CAN 1 was always J1939. The result of this is no communication when using communication adapters with cables that connect the CAN 1 port of the communication adapter to the ISO pins of the diagnostic connector. Examples of such communication adapters are the Vocom and the Nexiq USB Link. When using these adapters, communication with ACom over J1939 was not possible. This is why it was not possible to work with the Wingman system using the Vocom adapter. Bendix was notified of this problem and they issued a revision to ACom which enables it to perform an “auto-detection” of which CAN channel J1939 is on and communicate with it accordingly. With this revision, ACom can communicate with the ABS ECU and the Wingman system over J1939 using any supported RP1210 communication interface (including the Vocom and the Nexiq USB Link). The version of ACom that this revision was made is version **6.7.2.5**, which was made available on Bendix.com on October 17th, 2014.

Tech Tool

Removal of J1587 from the ABS ECU has effects in three areas of Tech Tool:

- Information display in Product Information
- Fault Codes
- ESP Control Unit Configuration

Product Information: With no J1587 communication to the ABS ECU, this control unit will no longer appear within the list of control units within the Product Information test.

Fault Codes: When a vehicle is equipped with ABS8 or ABS6 without J1587, The source designation of ABS fault codes will be SA11 rather than MID 136.

ESP Control Unit Configuration: As outlined earlier, PAR file programming has previously been performed over J1587. This way of performing the configuration is not possible for ABS8 or ABS6 installations without J1587. Attempts to perform ESP Control Unit Configuration on these vehicles will fail with a communication error after the PAR file is downloaded, just after the VCP is launched.

Updates

In order to accommodate PAR file programming of ABS8 ECUs and ABS6 ECUs that lack a connection to J1587, the ESP Control Unit Configuration operation within Tech Tool must be modified to accommodate the next version of VCP, which Bendix has developed to support ABS8. This updated version of VCP (version 3.0.5) is backwards-compatible. This means that only one version of VCP is needed in order to support PAR file programming of all Bendix ESP systems that have been installed on Volvo and Mack Trucks. The modification made to Tech Tool, in **version 2.03.50**, requires the updated version of VCP to be used. The updated VCP is not compatible with versions of Tech Tool prior to 2.03.50, therefore the former version of VCP must continue to be used with Tech Tool installations that are not updated to 2.03.50 (this includes 1.12 installations that may still be in use for pre-Bridgeplan vehicles). Also, previous versions of VCP are not compatible with Tech Tool version 2.03.50 or later.

As before, the Bendix VCP installation is found on TDP. To find the installation, click on *Service* in the upper menu bar, select *software downloads* under *Related Links* on the right side. On the Software Downloads page, the Bendix VCP installation is found in the lower section, below the *PTT & VCADS Downloads* heading. Instructions for the installation and performing the configuration operation are available at this location as well (available in the appendix to this document). Notice that there are two

sets of Bendix VCP installations available at this location: the first one for Tech Tool 2.03.50 and later, and the other for Tech Tool versions older than 2.03.50.

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Software Downloads

Date	Document Name
4/30/2012	Dealer PC Settings Tips

Downloads & Links:

- [TeamViewer - Remote Connection](#) - allow your retail support agent to connect to your desktop in order to assist you
- [PC-Pitstop](#) - test your PC's performance
- [Adobe Reader](#) - document viewer
- [Adobe Shockwave](#) - for viewing tests in LMS (learning management system)
- [SVG Viewer](#) - to view Scalable Vector Graphics in browsers that do not provide SVG
- [FileZilla Freeware Unzipping program](#) - free utility to zip/unzip files
- [Microsoft JVM 5.0 3085 - Old Version and Microsoft JVM 5.0 3810 - Old Version](#)
- [Microsoft JVM Removal Tool](#) - used to remove previous installations of Microsoft JVM
- [Sun Java Runtime Environment](#) - used for Java applications
- [Volvo T](#) - an interface between ADP and Volvo
- [Whip31.exe](#) - whip image viewer

PTT & VCADS Downloads:

- [Bendix VCP \(Click here\)](#) for VCP Installation Instructions
- IMPORTANT NOTE:** If using a version of Tech Tool **older than 2.03.50**, install this version of [Bendix VCP \(Click here\)](#) for VCP Installation Instructions
- [Dearborn Adapter Drivers](#) - device drivers for Dearborn adapters
- [Nexiq Driver Support](#) - support for the Nexiq drivers.
- [Noregon RP1210A Drivers](#) - device drivers for Noregon adapters
- [Noregon PLC / J1708 Adapter RP1210A - Compliant Drivers \(v2.5.2.0\)](#)
- [Noregon Data Link Adapter \(USB or Serial / Parallel\)](#)
- [88890020 Adapter Driver Downloads](#)

The updated Bendix VCP installation and instructions, for Tech Tool 2.03.50 and later
The former Bendix VCP installation and instructions, for Tech Tool versions older than 2.03.50

The updated Bendix VCP installation is greatly simplified when compared with previous versions. In past versions, it was necessary to perform the installation by running multiple files within the installation package. With this version, only a single .exe file needs to be ran in order to perform the installation. Required .xml files that had to be loaded separately in the past are now installed automatically by the application installation.

To the end-user, other than the installation differences, the ESP Control Unit Configuration is basically the same as before. The operation is performed the same way it always has been, with the possible noticeable exception that the configuration performs a bit faster when being performed on a vehicle using J1939.

Details and Limitations

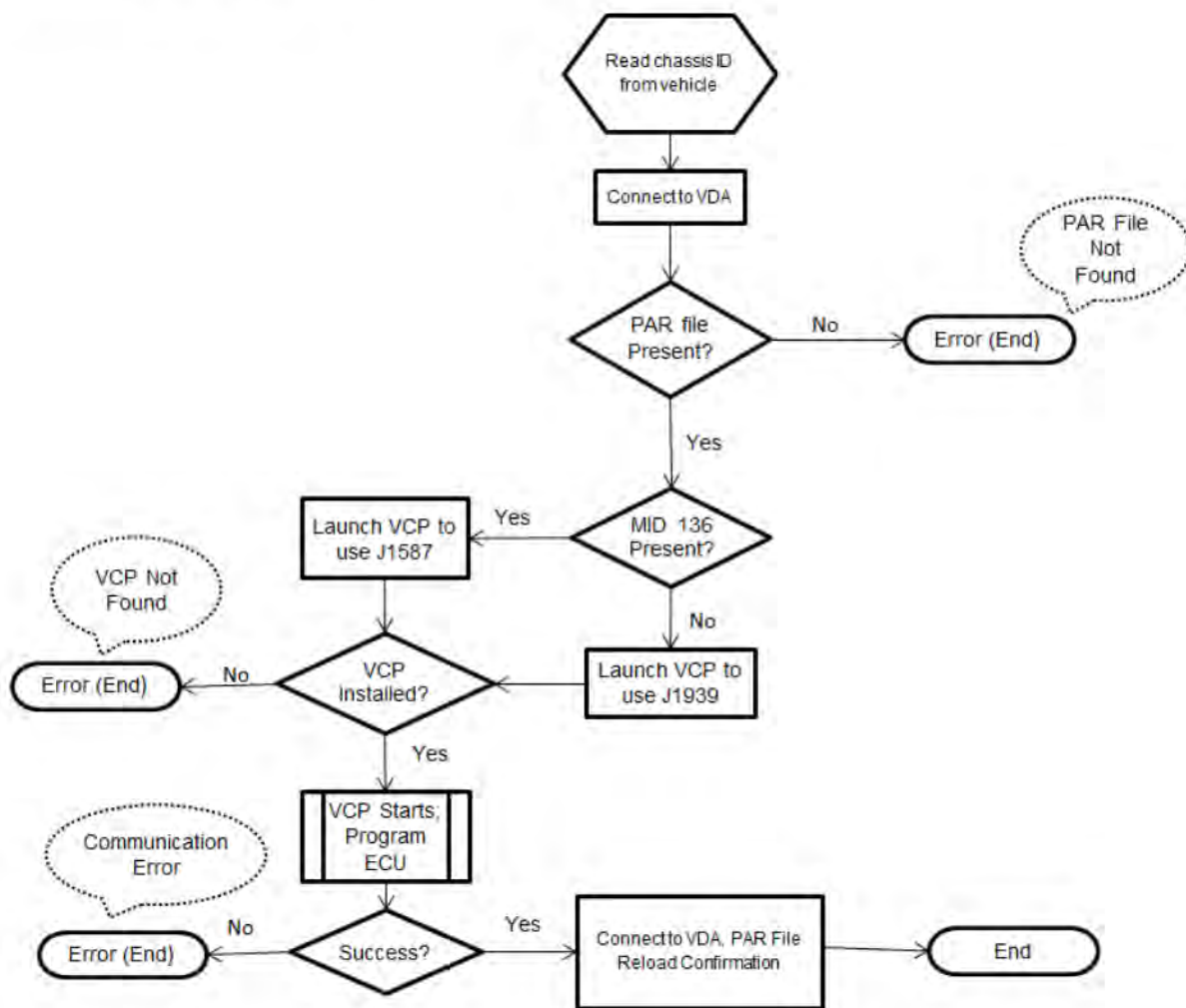
The updated VCP (v. 3.0.5) installs into a different directory than the previous versions and therefore cannot be used with Tech Tool versions prior to 2.03.50 (because it will not be found in the location expected).

The verification file that is generated will now be found in a different directory than before (in case this is needed for some reason- normally it isn't). Rather than being placed in the VCP installation directory as before, it will be placed in **Program Data > Tech Tool > Toolbox > Bendix**.

Currently, the range of communication adapters that can be used for PAR file programming over J1939 is limited. Since the VCP application does not perform an auto-detection of which CAN line J1939 is on, Tech Tool must specify this when it launches the program. In this first implementation, Tech Tool is only instructing VCP to communicate on J1939 on CAN 2. This works for the Vocom adapter and may work for others as well, such as the Nexiq USB Link, but maybe not for others such as the Noregon DLA+. For this reason, communication failures of any kind may result in a message informing the user to try again using a Vocom adapter. This message may appear even if a Vocom adapter is being used, if the cause of the communication issue cannot be identified by Tech Tool.

All dealers should have a Vocom adapter- this is the one they need to use to perform ESP Control Unit Configuration. An update to this is being planned that will expand the range of possible communication adapters that can be used so that any of them that can be used with Tech Tool will be possible to use for this function also.

Basic Operation Flow



Appendix

Configuration of Replacement Electronic Control Unit for Bendix® Antilock Brake System with Electronic Stability Program (ESP)

Background

When equipped with the **Electronic Stability Program (ESP)** option, the **Bendix® Antilock Brake System (ABS)** control unit is configured with settings based on certain characteristics of the vehicle that it is installed in. Vehicle configuration data, generated during the vehicle production process, is used to configure the ABS / ESP control unit when the vehicle is built and is stored in the Central Systems. In the event that the ABS / ESP control unit must be replaced during the lifetime of the vehicle, the replacement control unit must be configured with the ESP data that was generated and stored for the vehicle when it was built.

Function

Replacement Bendix ESP control units can be configured for Mack and Volvo Trucks with the “**ESP Control Unit Configuration**” operation found in Tech Tool. The operation will download a configuration file for the connected vehicle and initiate configuration of the ESP feature via the **Bendix® Vendor Configuration Program (VCP)**.

A specific **Bendix® VCP** package for Tech Tool must be installed on the PC prior to performing an ESP configuration. This software is not installed as part of Tech Tool and therefore must be downloaded and installed separately.

Download

The **Bendix® VCP** installation can be found on the **Trucks Dealer Portal** (www.trucksdealerportal.com) website.

*This installation file may be updated at any time and should be downloaded only from the Trucks Dealer Portal website.

Download Instructions:

1. Login to **Trucks Dealer Portal (TDP)**
2. Go to (1) **Service** area -> (2) **software download** section -> scroll down to (3) **PTT&VCADS Downloads** [see figure 1]



[Figure 1]

3. Click the [Bendix VCP](#) link to download the latest installation file for Tech Tool
4. Save the .zip file in a location on the PC that is easy to find – for example, “C:\Temp” or the Desktop.

Software Installation

CAUTION: If the **Bendix® Vendor Configuration Program** or **ABS6 Vendor Configuration Program** is already installed on the PC - it must be removed prior to installing a new version.

Removal Instructions:

1. Go to the 'Control Panel' in Windows – double click on 'Add or Remove Programs'.
2. In the list of currently-installed programs find **Bendix® ABS6 Vendor Configuration Program** or **Bendix® Vendor Configuration Program** – right click and select 'Remove/Uninstall'.
3. Follow the prompts guiding you through the uninstall process.

- Once the old version has been removed – the new version can be installed.

Bendix (VCP) Installation:

1. Go to the location where the .zip file was saved.
2. Open the zip file and double-click the **Bendix Vendor Configuration Program VM.exe** file.

Note: It may be necessary to extract the file to a temporary location before running the .exe file.

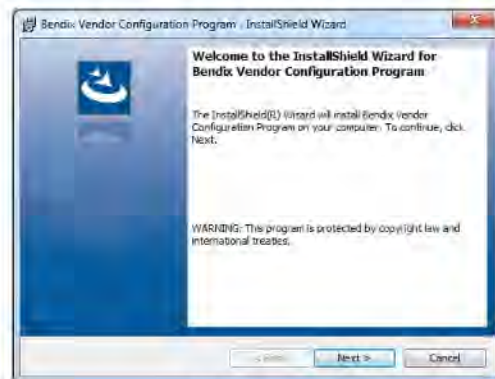
1. Right click on the .zip file and "extract" it to a temporary location.
 2. Go to the temp location, find the **Bendix Vendor Configuration Program VM.exe** file and double-click it.
3. Follow the installation instructions using the default settings. (Additional components used by **Bendix® VCP** will be installed if they are not on the pc)

Note: A message will be shown if an additional required component is not installed on the PC. [see figure 2]



[Figure 2]

1. Click 'Install' to install the component; selecting 'Cancel' will abort the installation.
2. When the component installation finishes, the installation will continue: Click 'Next' to proceed. [see figure 3]



[Figure 3]

ESP Control Unit Configuration

Preparation

Install Replacement ABS / ESP Control Unit into Vehicle

If the ABS / ESP control unit is being replaced install replacement unit, following procedures outlined in applicable service information.

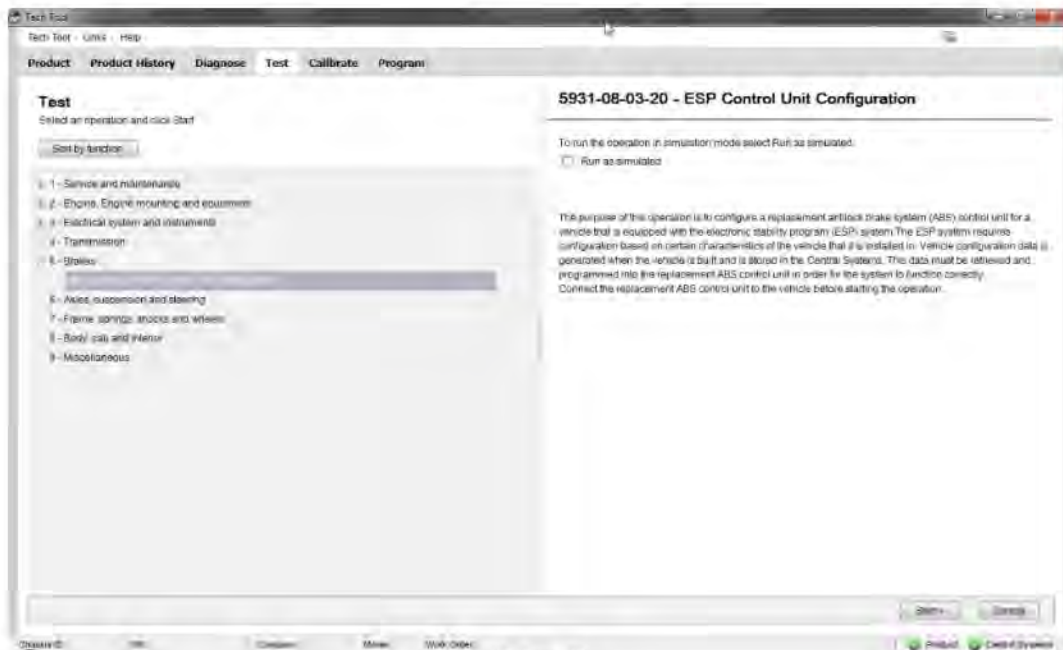
Network Connection at the Vehicle

In order to perform the ESP Control Unit Configuration operation, it must be possible to connect to the vehicle and the Central Systems at the same time. Therefore, it must be possible for the PC to have a network (LAN or Wi-Fi) connection while also connected to the vehicle's diagnostic connector.

Performing ESP Control Unit Configuration

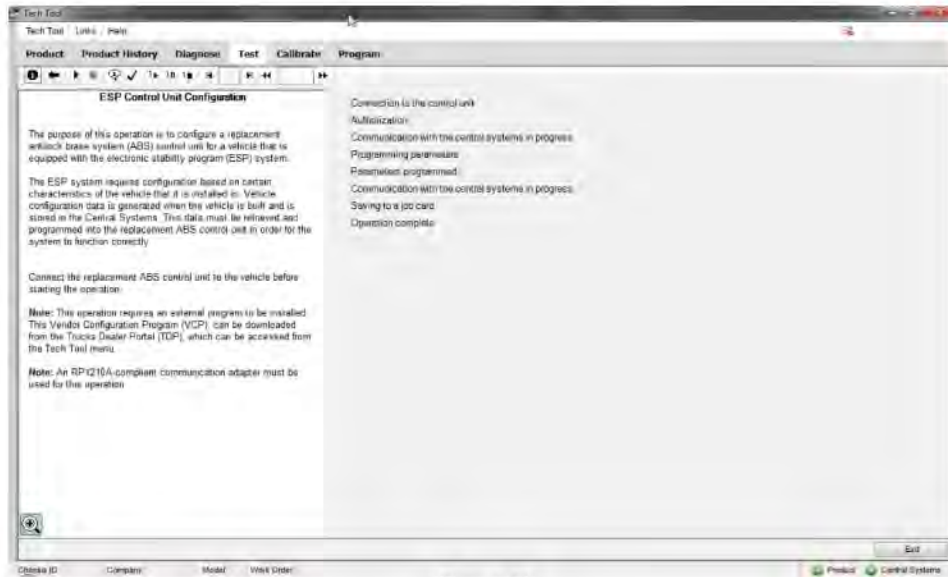
After performing the actions outlined in the Preparation section above, connect the PC to the vehicle's diagnostic connector and complete the vehicle identification process displayed in Tech Tool's '**PRODUCT**' tab. (Make sure that the PC has the possibility to connect to Central Systems via a network/internet connection).

Select the "**TEST**" tab and expand group '**5 – Brakes**' and open the '**ESP Control Unit Configuration**' operation. [see figure 4]



[Figure 4]

The ESP Control Unit Configuration operation is structured as a checklist of actions, similar to control unit software programming operations. [see figure 5]

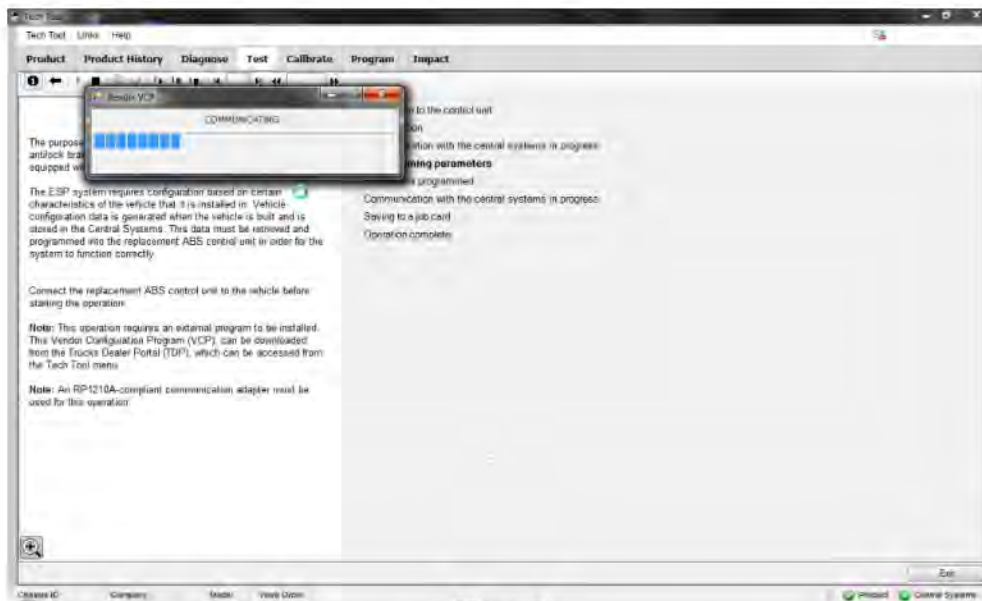


[Figure 5]

Start the operation by clicking the start button in the toolbar. After the conditions are confirmed, the operation will read data from the vehicle. A connection to Central Systems will be made in order to download the ESP system configuration file for the connected vehicle.

After the ESP system configuration file is downloaded, a configuration window containing a status bar will appear while the ESP control unit is configured. [see figure 6]

Note: On some occasions, the status bar window may appear blank. Although it appears that no action is occurring, the process is proceeding. In this case, allow the process to continue. The ABS ECU will be restarted and the configuration window will disappear when its task is complete and the process will continue in the main operation window.



[Figure 6]

After the configuration is complete, the configuration window will be closed and another connection to Central Systems will be made in order to send a confirmation that the configuration has been completed successfully.