

# EATON ADVANTAGE AUTOMATED CLUTCH CALIBRATION TOOL

## User's Manual

Cojali S.L.

12/2/2020

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## I. Initial installation

Latest software versions will be also available at the following web site:

<https://www.jaltest.com/oemsolutions/eaton-advantage-automated-clutch-calibration-tool/>

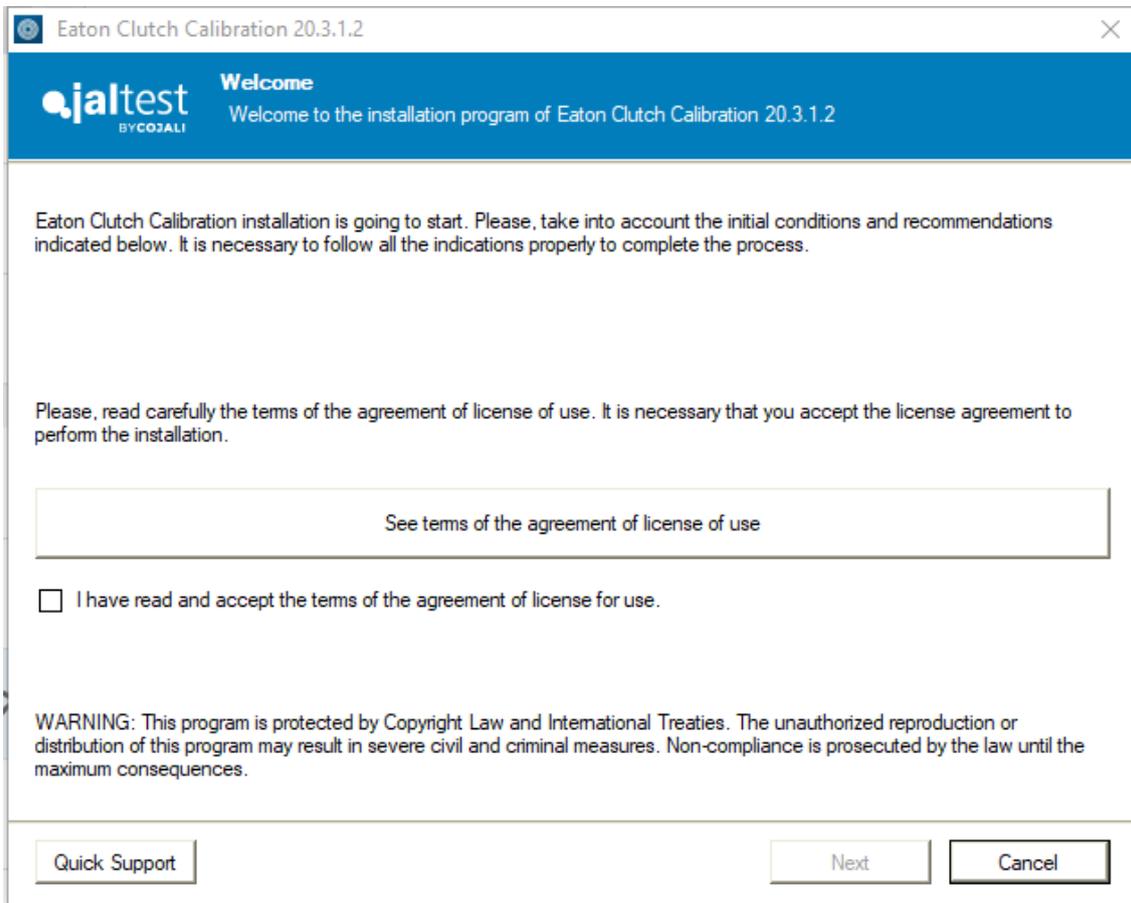
The package will be downloaded as a zip file. It will be necessary to extract the files and launch the executable. Note: Administrator rights are needed.

Name	Date modified	Type	Size
20_3_1_2_EatonClutchCalibration.zip	10/21/2020 11:10 AM	Compressed (zipp...	1,812,184 KB

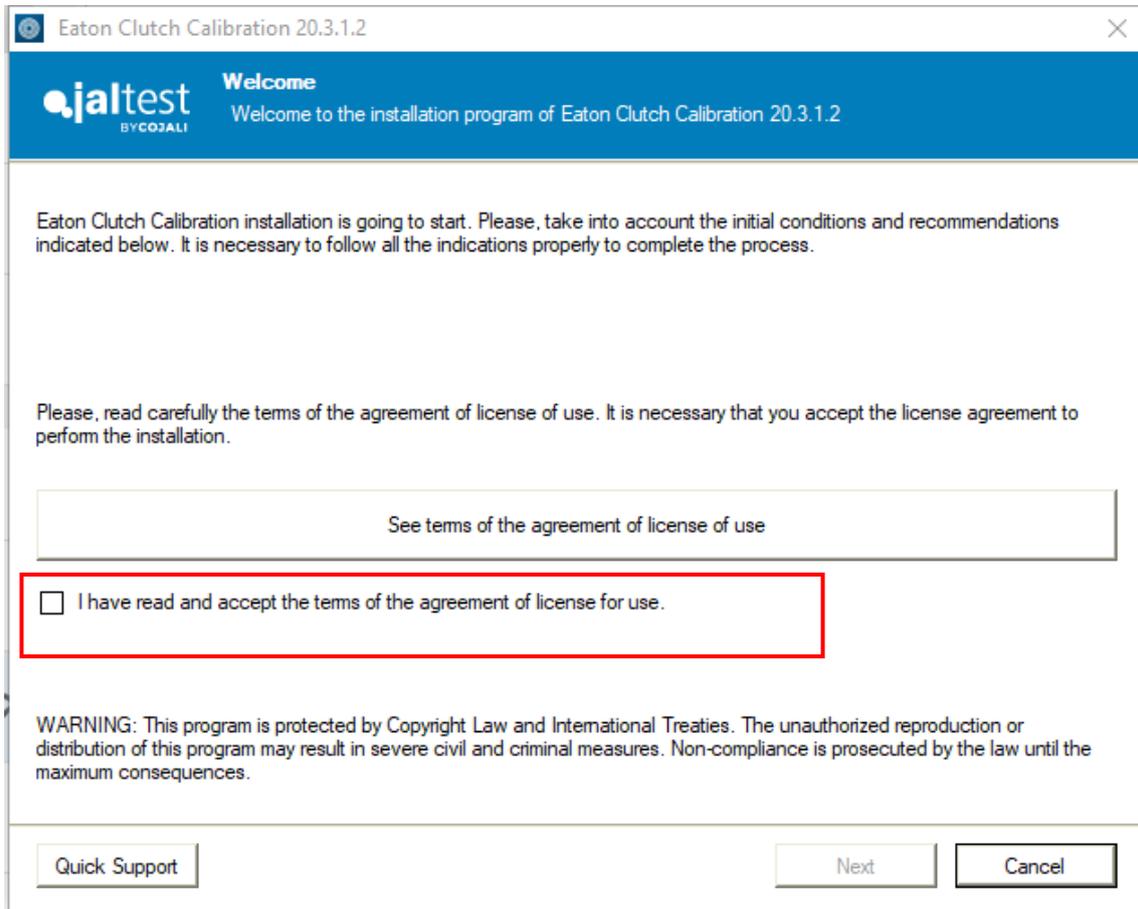
  

Name	Date modified	Type	Size
20_3_1_2_EatonClutchCalibration_F1F	10/6/2020 7:18 PM	File	111,063 KB
20_3_1_2_EatonClutchCalibration_F2F	10/6/2020 7:18 PM	File	111,448 KB
20_3_1_2_EatonClutchCalibration_Install.exe	10/19/2020 9:53 AM	Application	643,950 KB
20_3_1_2_EatonClutchCalibration_Ref	10/14/2020 7:53 PM	File	943,345 KB
20_3_1_2_EatonClutchCalibration_S1F	10/14/2020 5:22 PM	File	1,145 KB
20_3_1_2_EatonClutchCalibration_S2F	10/14/2020 5:22 PM	File	1,401 KB

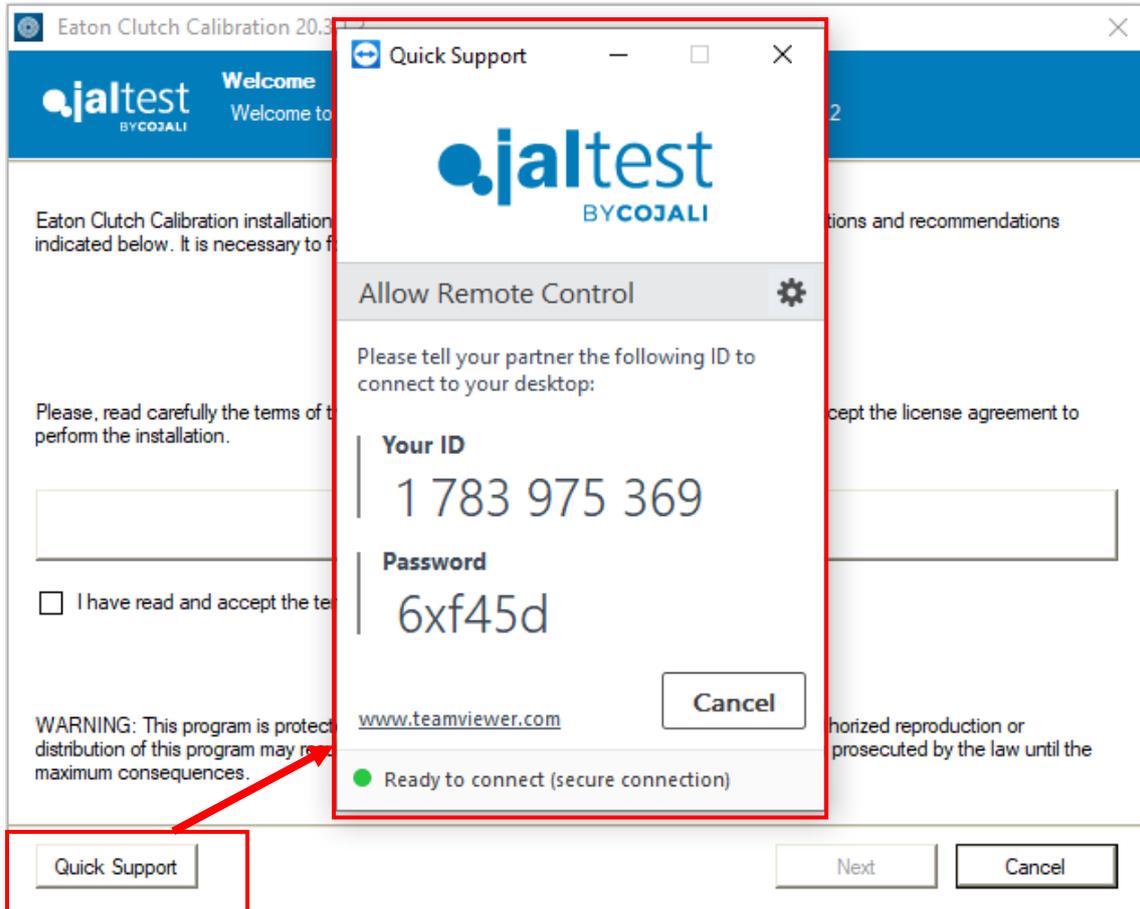
Open the executable (.exe) file.



Select the checkbox indicated below and click “Next”.

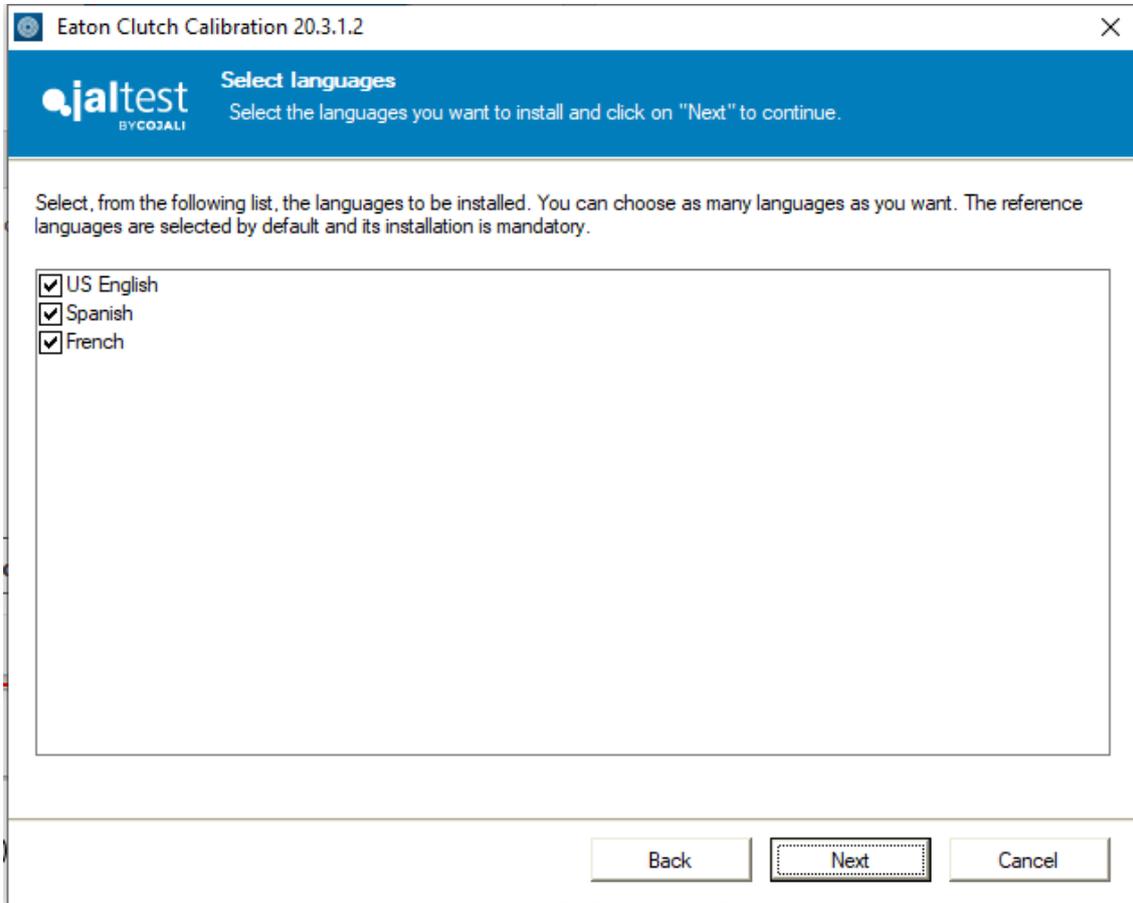


In case of need for assistance, click on “Quick Support” to request a Customer Support remote connection.



Select the languages you want to include. By default, US English, Spanish and French will be installed.

Click on "Next" to continue.

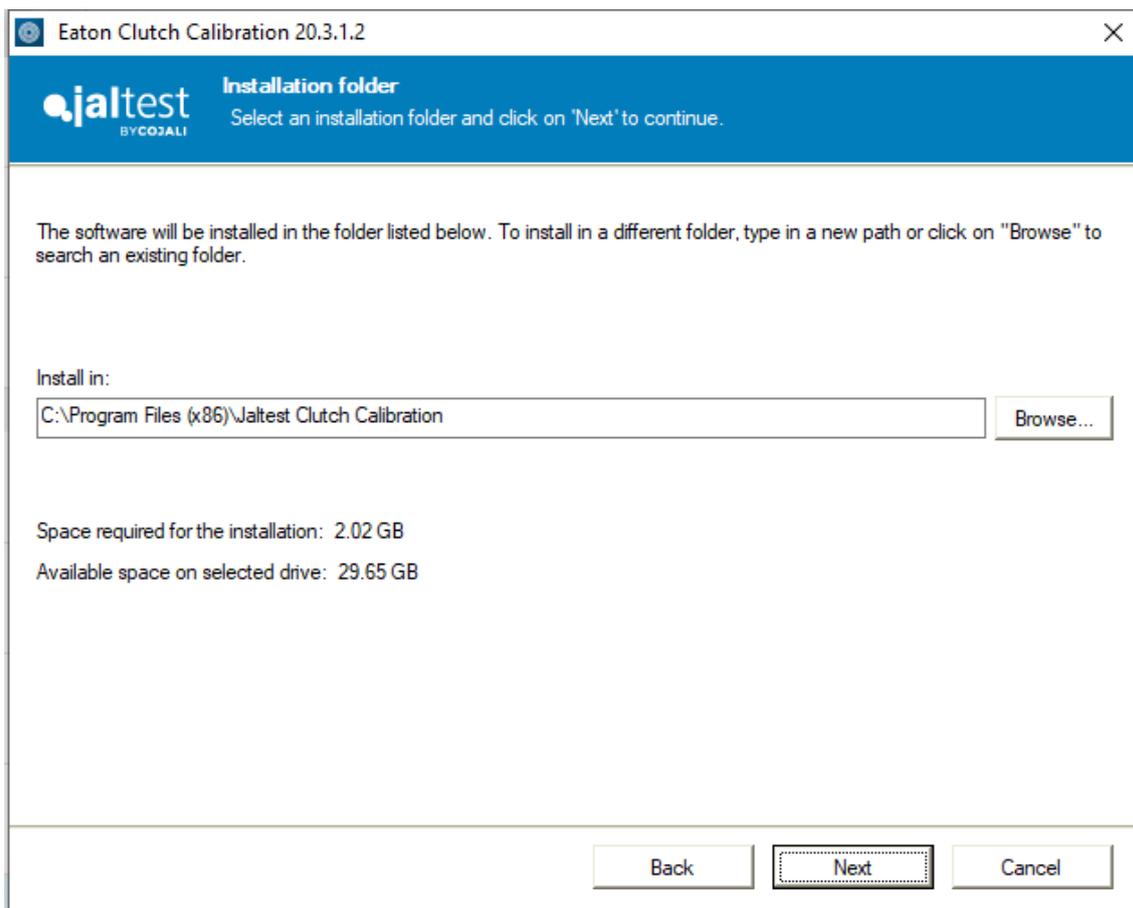


The setup indicates the disk space required for the installation. You will be notified in case there is not enough space.

By default, the software will be installed in the next folder. Just confirm by clicking "Next".

Keep this installation folder. APPCenter from Eaton Service Ranger will use that path by default.

Installation will not create shortcut icons on the desktop. The software will not appear in the start menu either.



For the next step, it is recommended to have an internet connection to complete the license activation and make sure the PC requirements are met.

In case a proxy is installed in the company organization, it can be configured at this point. That only happens in companies with very restrictive policies regarding internet (e.g., Army, Navy...). In those cases, the computer does not really have direct internet connection, it connects to a third computer to access the internet. That configuration must be managed by the IT Department of the company.

Do not confuse this with firewall restrictions.

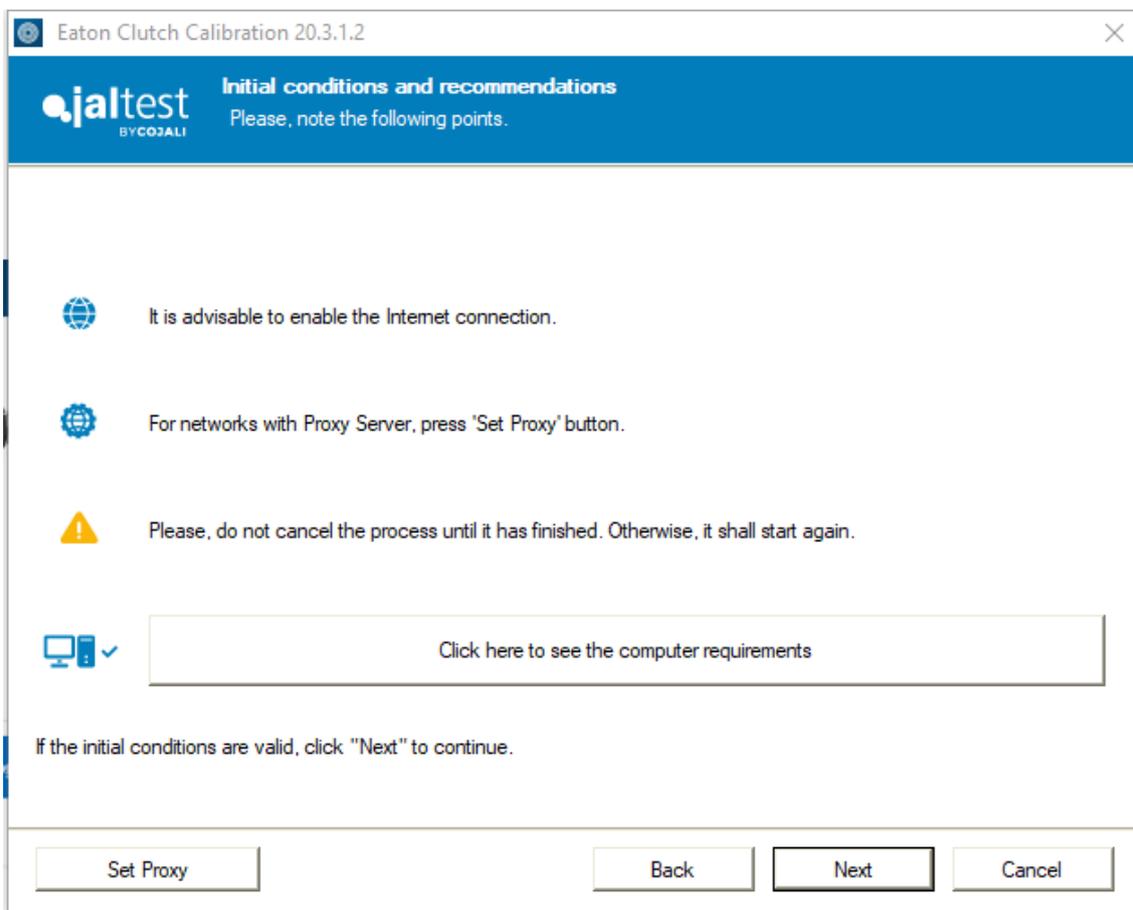
The IP address and port used by the software, for license requests and software downloads, are:

\*\*\*.jaltest.com: 443

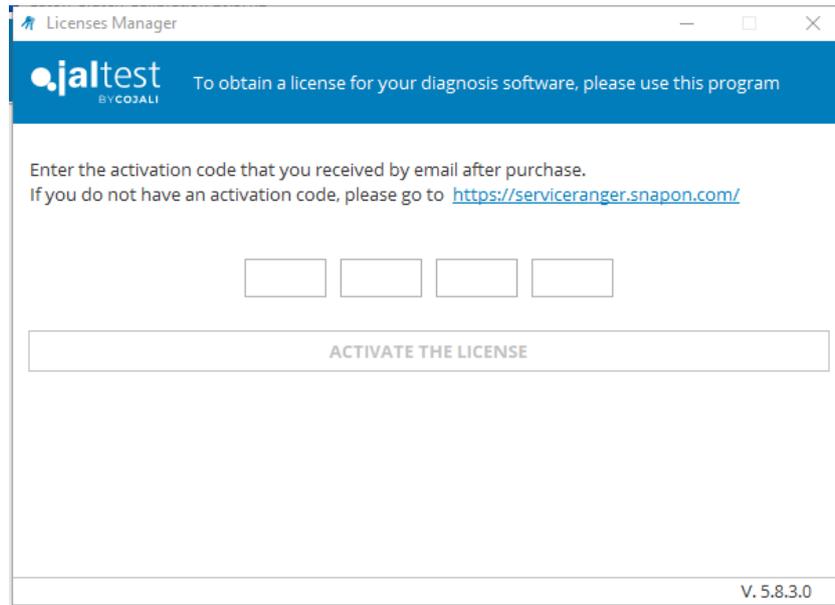
176.28.117.83:21

By default, most of the firewall configuration will admit these accesses without additional changes.

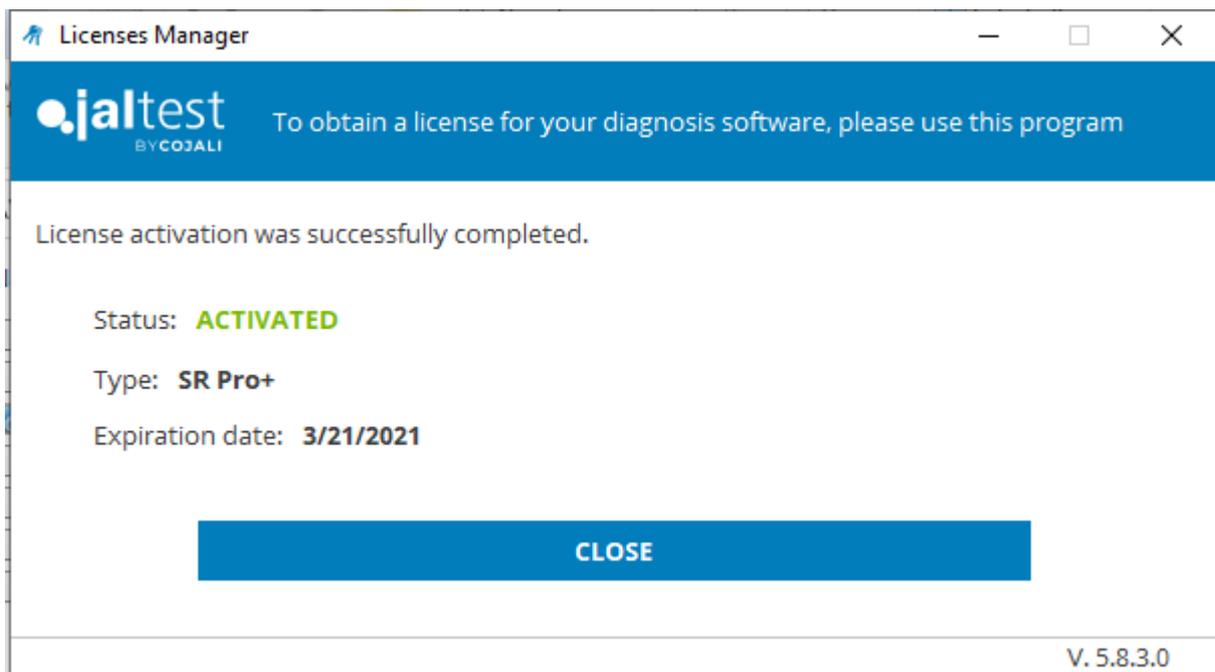
Click on "Next" to continue.



An Activation Code is required. Additionally, the setup will redirect you to Eaton's website to purchase a license in case the user has not previously purchased it.



The Activation Code is confirmed and license is activated. In case of the process is not completed, an error message will appear to troubleshoot the issue. See second and third image below.



Licenses Manager

**jaltest** BY COJALI To obtain a license for your diagnosis software, please use this program

Enter the activation code that you received by email after purchase.  
If you do not have an activation code, please go to <https://serviceranger.snapon.com/>

4CA8 559E 92F5 5261

**ACTIVATE THE LICENSE**

**✘ (L034)** (E02) Please, check the network connection of your computer and try again. If the problem persists, contact 1-800-826-HELP.

V. 5.8.3.0

Licenses Manager

**jaltest** BY COJALI To obtain a license for your diagnosis software, please use this program

Enter the activation code that you received by email after purchase.  
If you do not have an activation code, please go to <https://serviceranger.snapon.com/>

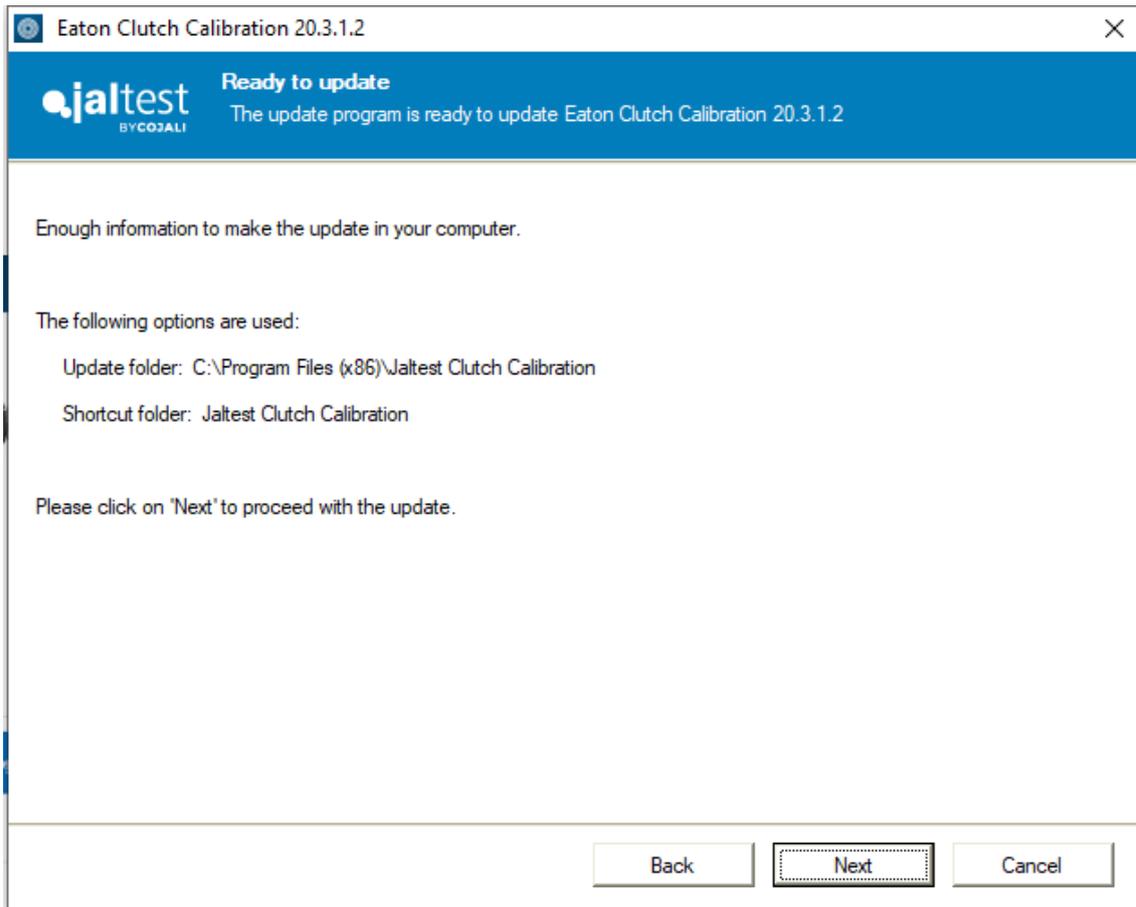
C9DD C265 7BFF EBAF

**ACTIVATE THE LICENSE**

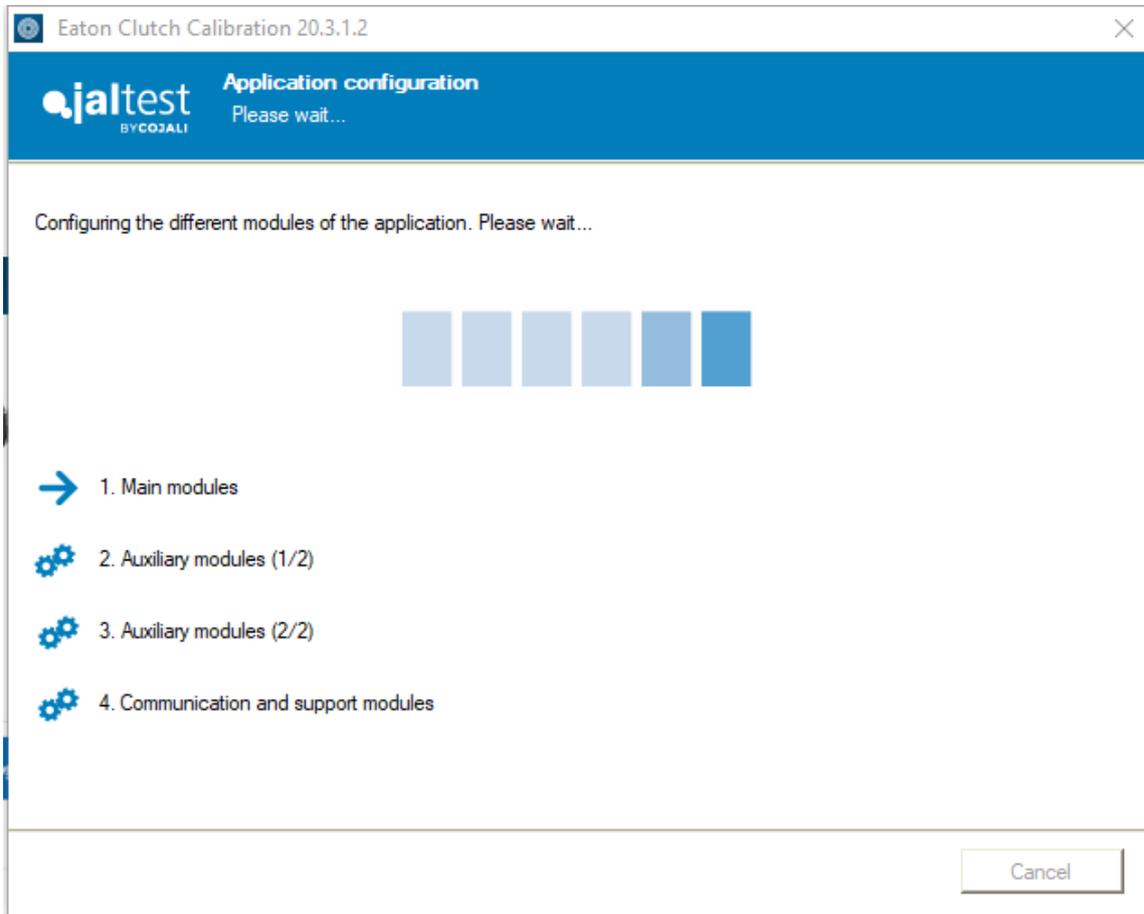
**✘ (L034)** (E128) An activation of your license has been detected on another computer. No more than one is allowed simultaneously. To use the program again in this computer, obtain a new activation code or transfer your license again through "https://serviceranger.snapon.com/". If the problem persists, contact 1-800-826-HELP.

V. 5.8.3.0

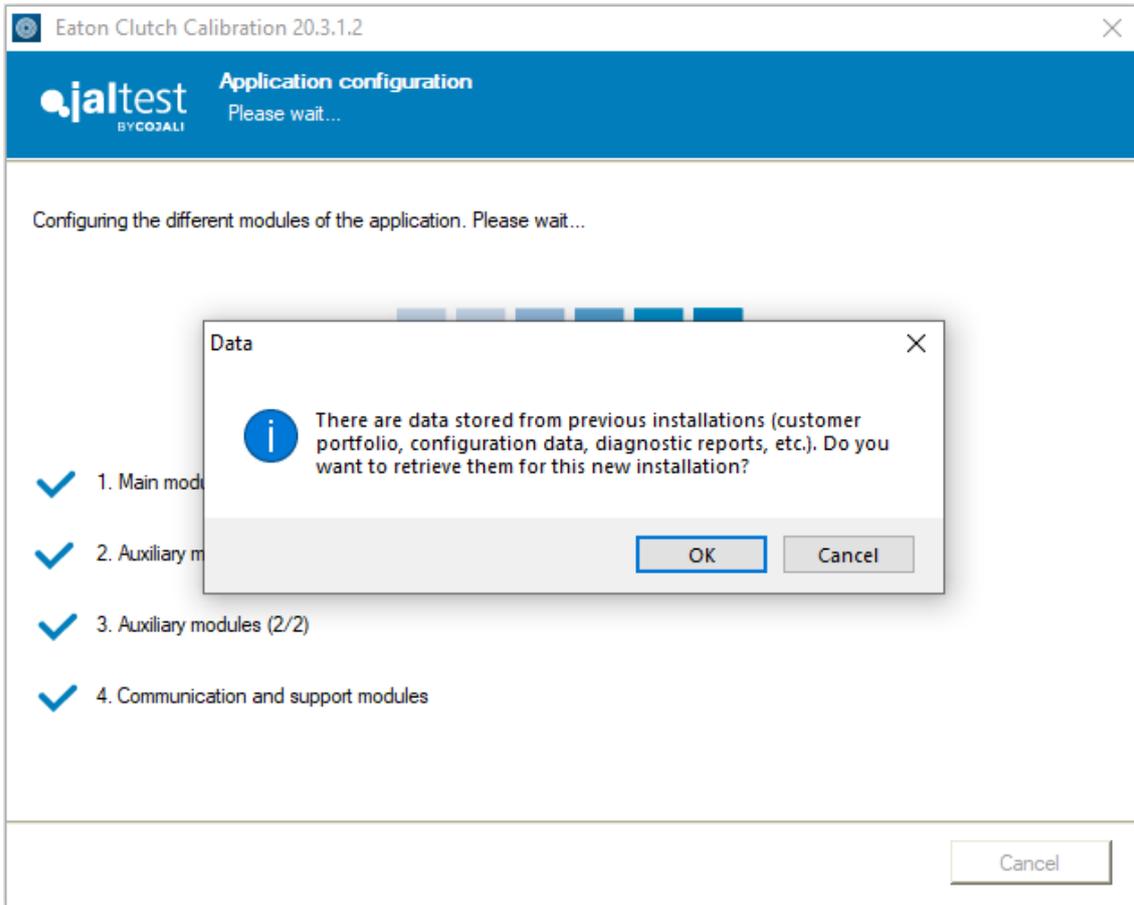
Click "Next" to start the deployment of the files.



Some automatic operations will be executed during the installation of the files. This should take less than five (5) minutes to complete.



In case a previous installation is detected, a popup message will appear offering to back-up the information.



“Product improvement” helps us to receive anonymous data which can be used to improve the product and user experience.

It is possible to uncheck the box, in case you do not wish to send the information. This can be modified at any point in time from the software, once installed. See the second picture below (option available in “Preferences” menu > “Configuration” section).

Eaton Clutch Calibration 20.3.1.2

**jaltest** BY COJALI **Product improvement**  
Help us to improve the product.

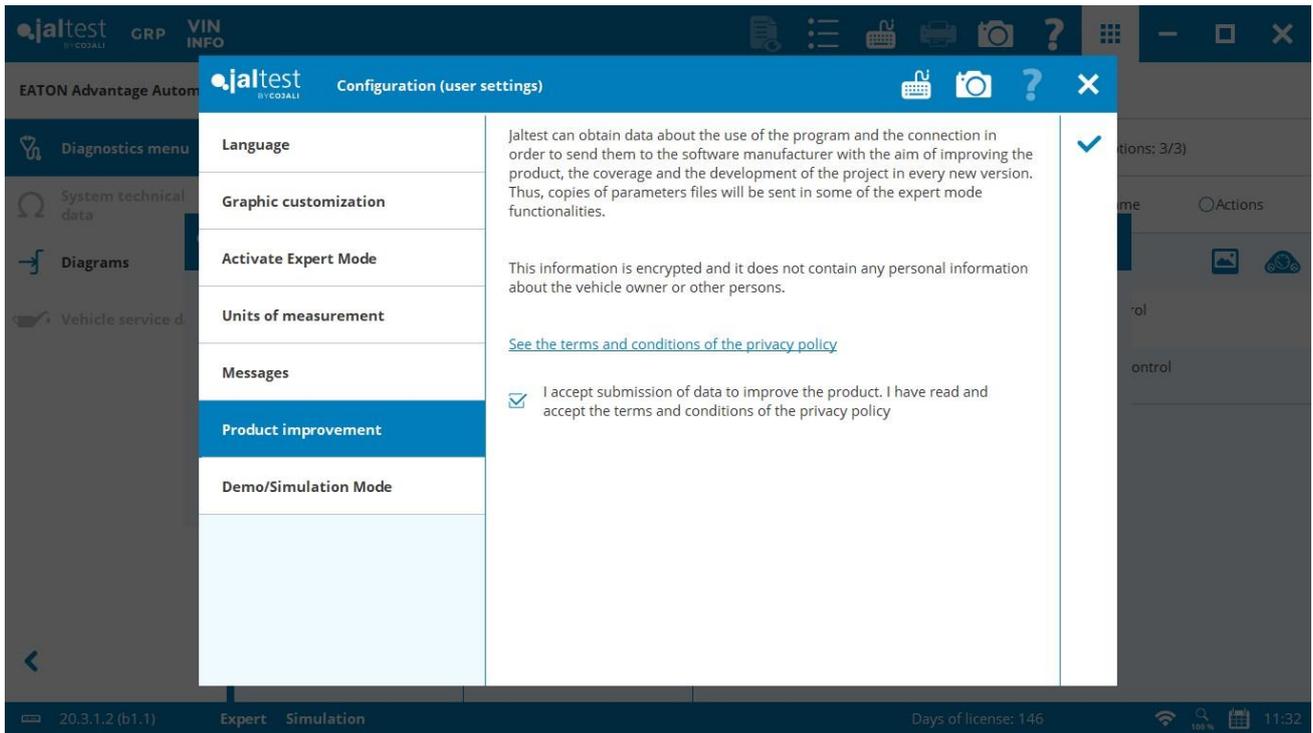
Jaltest can obtain data about the use of the program and the connection in order to send them to the software manufacturer with the aim of improving the product, the coverage and the development of the project in every new version. Thus, copies of parameters files will be sent in some of the expert mode functionalities.

This information is encrypted and it does not contain any personal information about the vehicle owner or other persons.

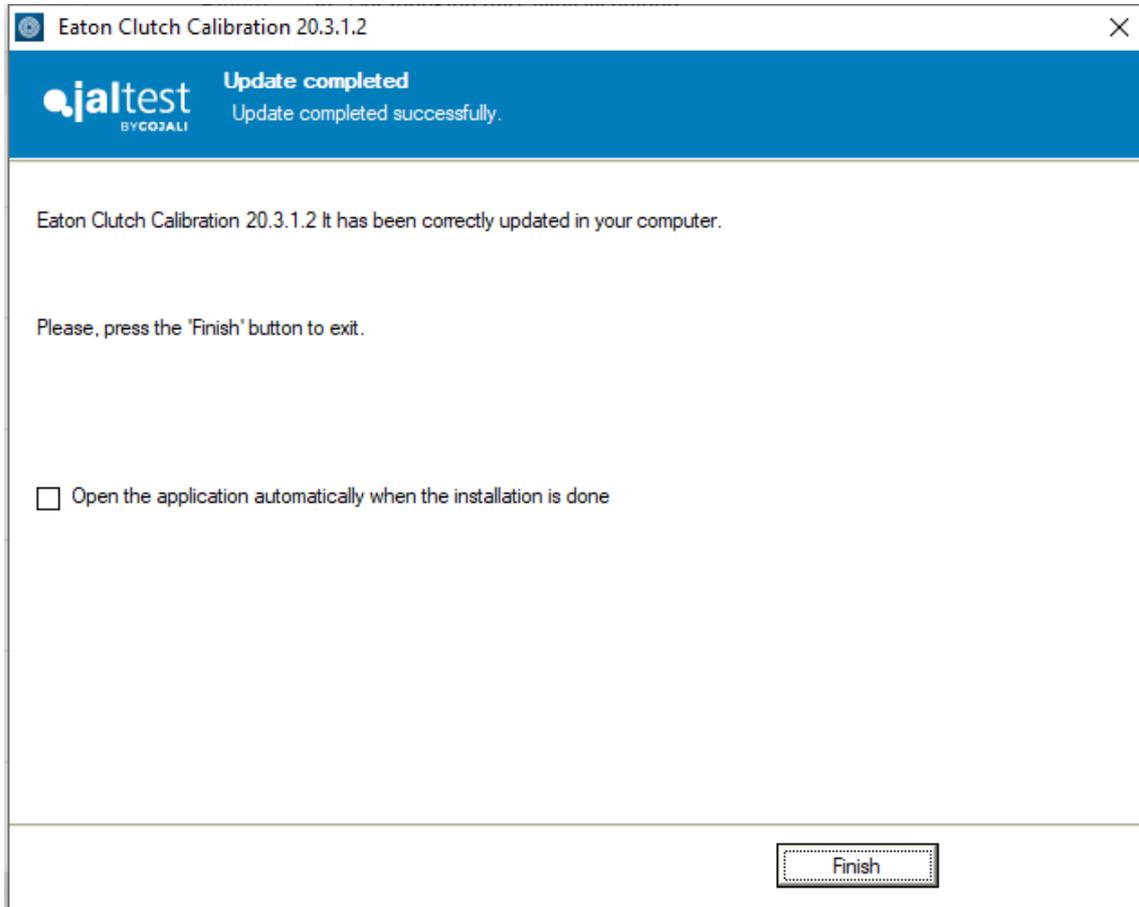
[See the terms and conditions of the privacy policy](#)

I accept submission of data to improve the product. I have read and accept the terms and conditions of the privacy policy

Next



When the installation process is completed, this window will appear. Check the box and the software will open.



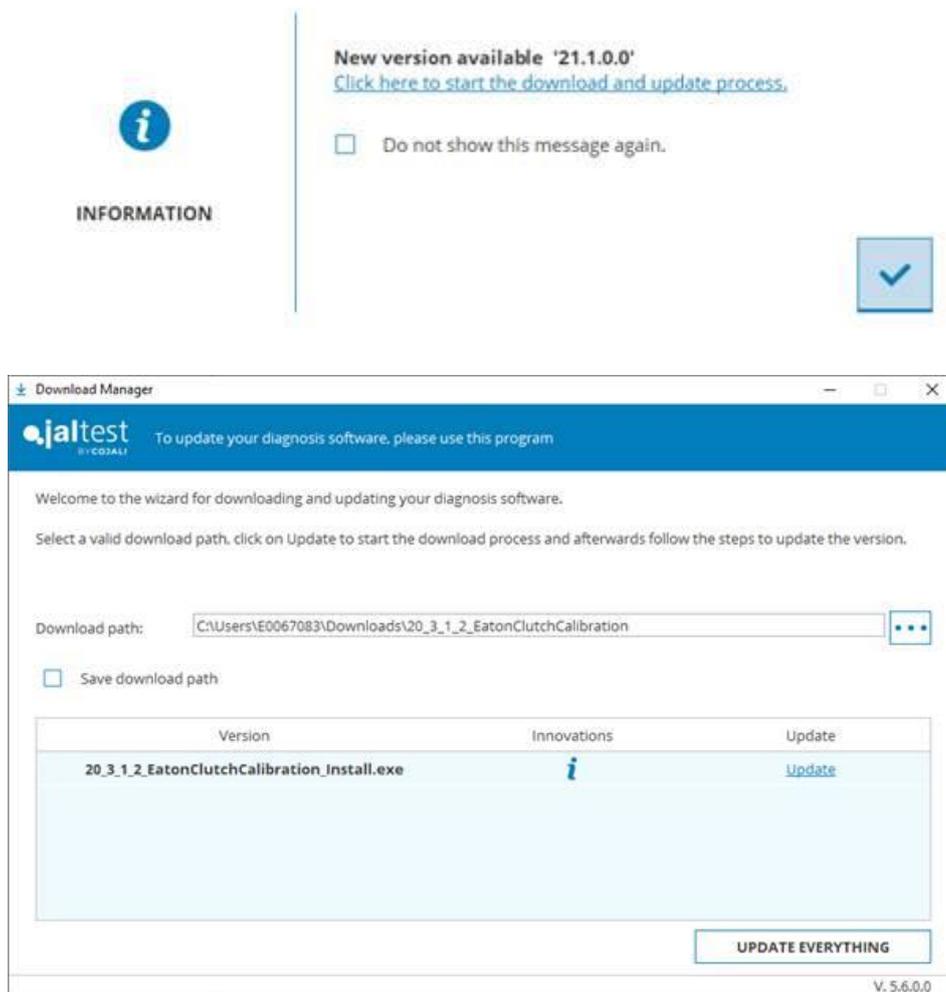
## 2. Updates

There will be a minimum of one (1) version per year, but probably the frequency of updates will be every four (4) months to update any of the software variants released by the manufacturers to the market. New functions and improvement may be added.

Latest version will be available at the next locations:

- 1) *Eaton Advantage Automated Clutch Calibration* will notify if a new version is available. By clicking on the hyperlink provided, a “Download Manager” (DM) will serve as a guide for the download process. Once downloaded, the DM will offer to install the new version.

This is the recommended option by Cojali.



- 2) Latest version will be also available at:

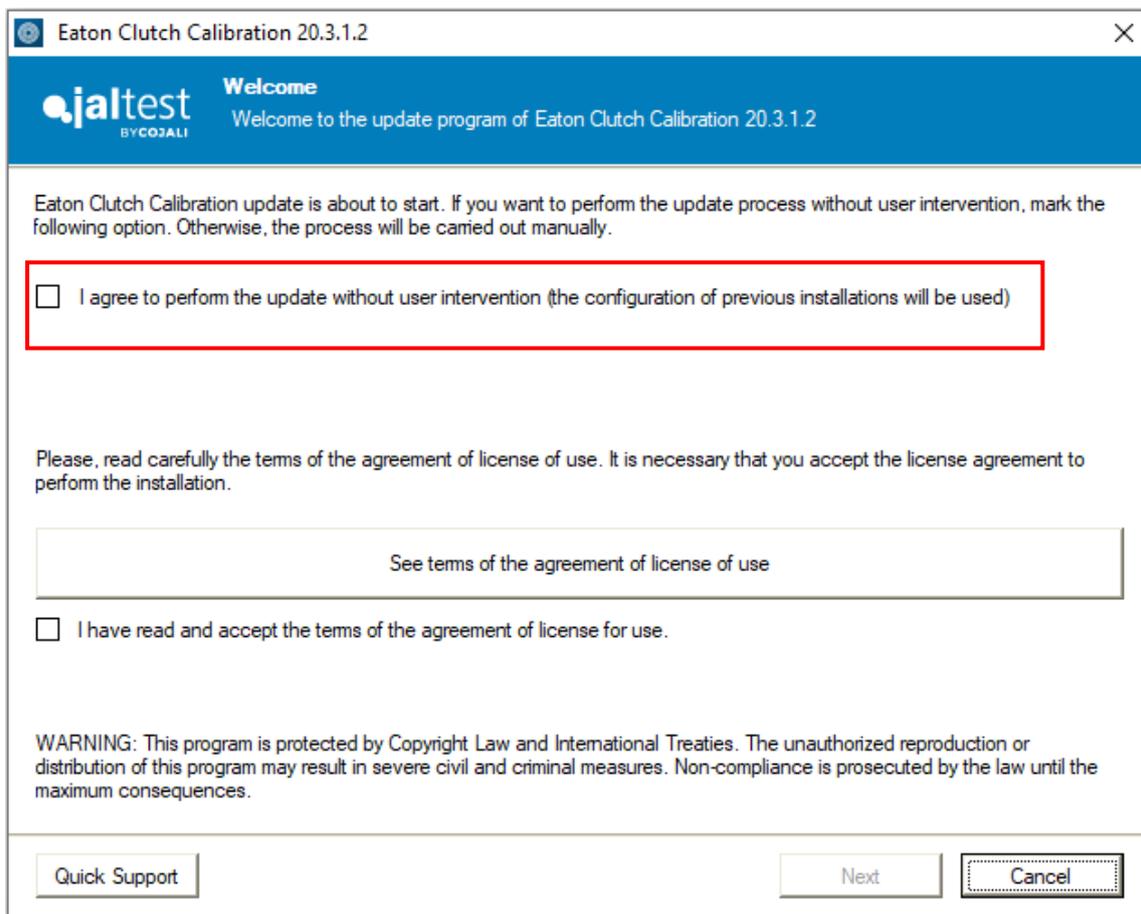
<https://www.jaltest.com/oemsolutions/eaton-advantage-automated-clutch-calibration-tool/>

The package will be downloaded as a zip file. It will be necessary to extract the files and launch the executable file.

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Name	Date modified	Type	Size
 20_3_1_2_EatonClutchCalibration_F1F	10/6/2020 7:18 PM	File	111,063 KB
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 20_3_1_2_EatonClutchCalibration_Install.exe	10/19/2020 9:53 AM	Application	643,950 KB
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 20_3_1_2_EatonClutchCalibration_S1F	10/14/2020 5:22 PM	File	1,145 KB
 20_3_1_2_EatonClutchCalibration_S2F	10/14/2020 5:22 PM	File	1,401 KB

Once the installation process has started, the following window will appear (for both options):



It is highly recommended to check the first option. After that, it is necessary to confirm that an active internet connection is available to check the status of the license during the process and accept the terms of the License Agreement. Click "Next" to continue.

Eaton Clutch Calibration 20.3.1.2

**jaltest** BY COJALI **Welcome**  
Welcome to the update program of Eaton Clutch Calibration 20.3.1.2

Eaton Clutch Calibration update is about to start. If you want to perform the update process without user intervention, mark the following option. Otherwise, the process will be carried out manually.

I agree to perform the update without user intervention (the configuration of previous installations will be used)

I confirm that the internet connection of the computer is working properly.

Please, read carefully the terms of the agreement of license of use. It is necessary that you accept the license agreement to perform the installation.

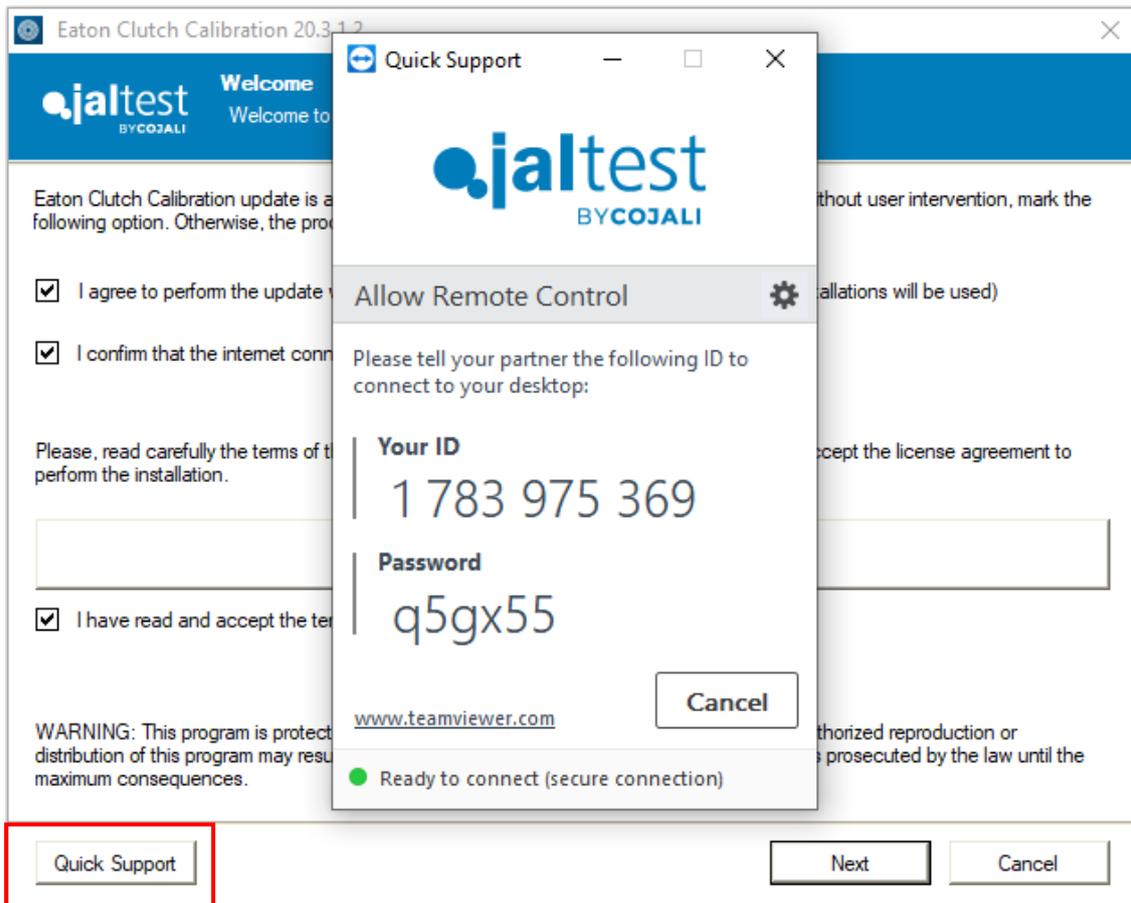
See terms of the agreement of license of use

I have read and accept the terms of the agreement of license for use.

**WARNING:** This program is protected by Copyright Law and International Treaties. The unauthorized reproduction or distribution of this program may result in severe civil and criminal measures. Non-compliance is prosecuted by the law until the maximum consequences.

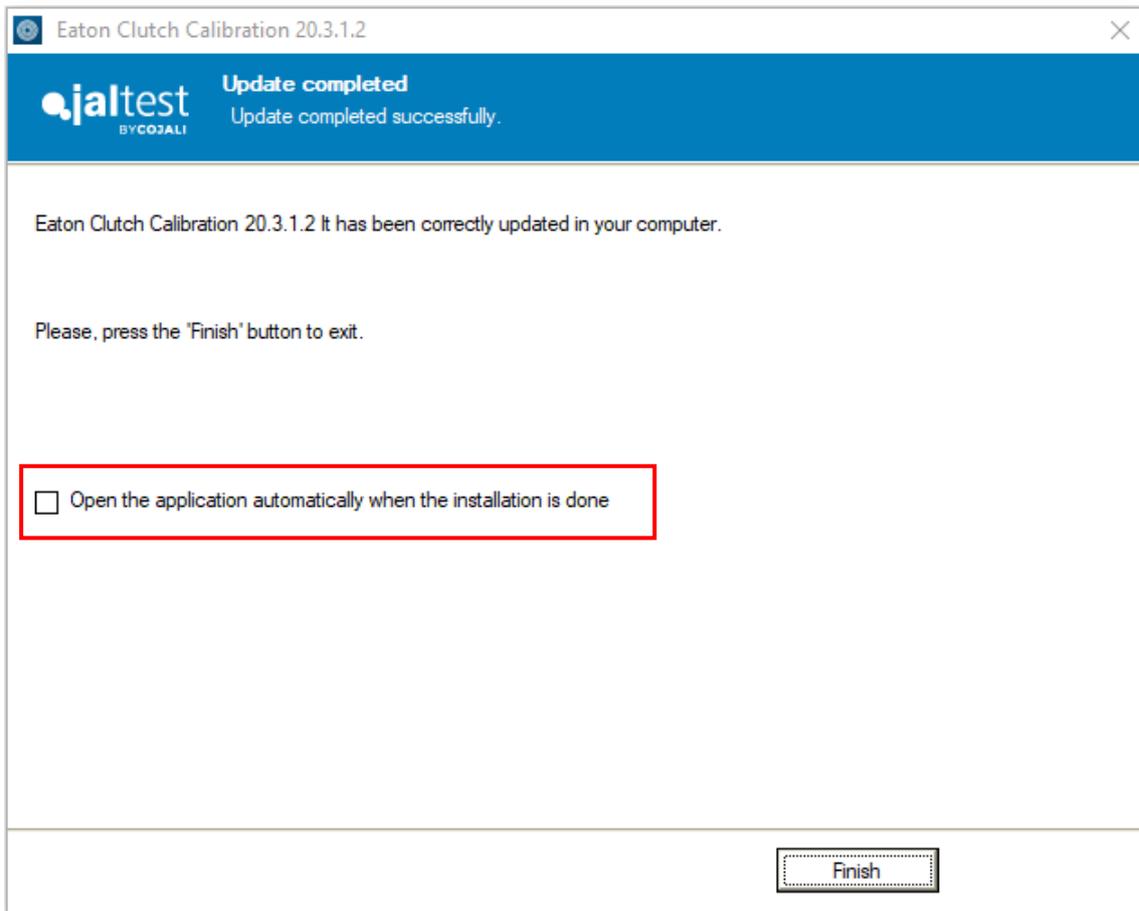
Quick Support      Next      Cancel

In case of need for assistance, click on “Quick Support” to request a Customer Support remote connection.

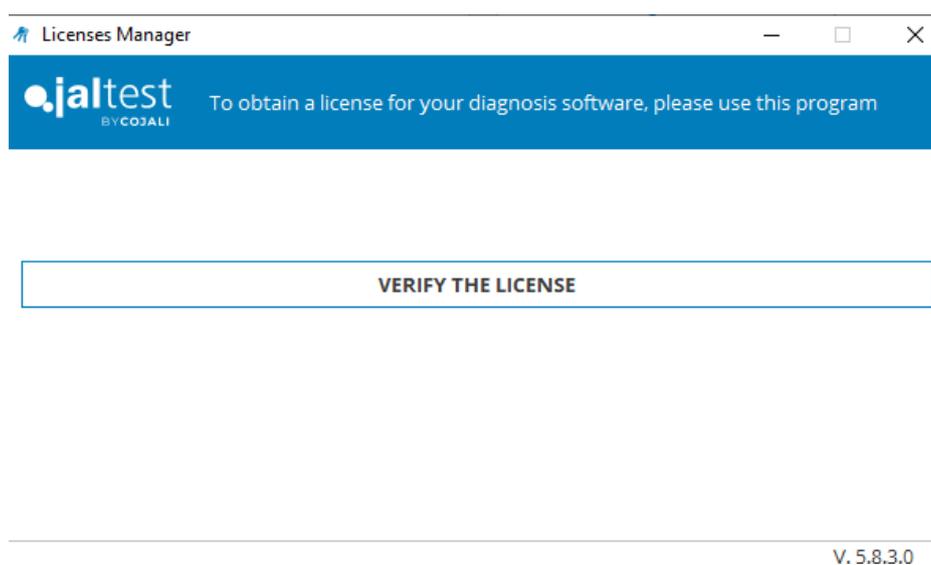


The process will take less than five (5) minutes. Time will vary depending on the PC configuration and performance.

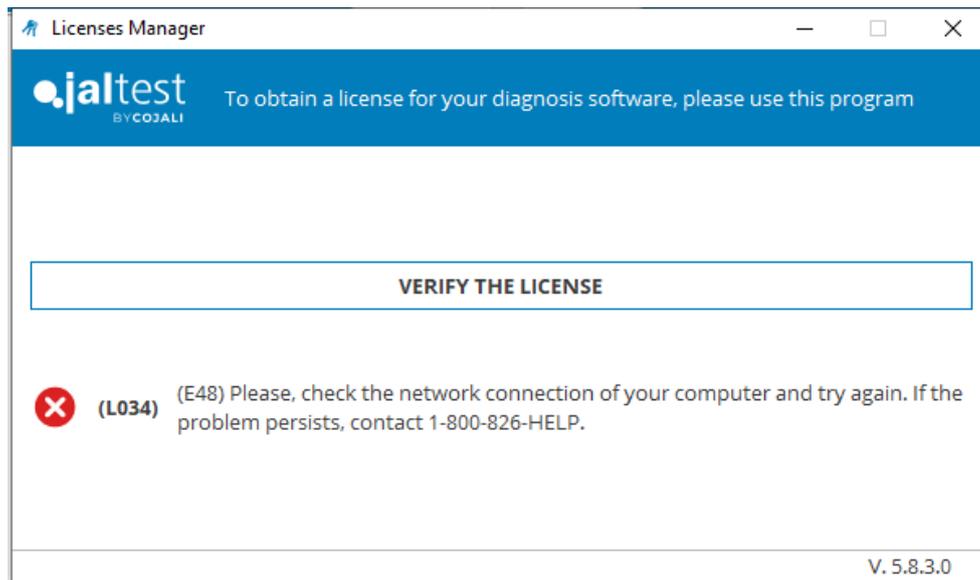
If desired, it is possible to select to launch the application automatically after the installation is done.



In case the license cannot be validated during the unattended installation, the following window message will appear to verify the license status.



Internet connection is required (this will be indicated by the software in case there is an issue).



### 3. Instructions of use

Eaton Advantage Automated Clutch Calibration will welcome you with the following launcher screen. The software launch will take approximately less than one (1) minute.



The next window you will see is the “System selection” menu. You will need to manually identify the transmission system you wish to connect to:

Detroit Diesel DT12

Volvo I-Shift V2 / Mack mDrive (Up to 2012)

Volvo I-Shift V3 / Mack mDrive HD (From 2013)

Note: All three (3) systems use different communication protocols so there is no chance to establish a communication with a different transmission control unit.

EATON Advantage Automated Clutch Calibration Tool

Types	Manual diagnosis
ALL <input checked="" type="checkbox"/>	
Transmission <input checked="" type="checkbox"/>	
	Detroit Diesel DT12, Transmission management system
	Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit
	Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit

20.3.1.2 (0.3) Expert Simulation Days of license: 151 11:44

The next step requires selecting the system. Once selected, all system-related information will be displayed, including the “Connect” button.

EATON Advantage Automated Clutch Calibration Tool > Detroit Diesel DT12, Transmission management system

System selection		Types	Select a system from the list and click on Connect button (Options: 3/3)
Manual diagnosis	ALL	<input checked="" type="checkbox"/>	Search by system name <input type="text"/> <input type="button" value="Q"/> <input checked="" type="radio"/> Name <input type="radio"/> Actions
	Transmission	<input checked="" type="checkbox"/>	<div style="border: 2px solid red; padding: 2px;"> <b>Detroit Diesel DT12, Transmission management system</b>   </div> Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit

20.3.1.2 (0.3) Expert Simulation Days of license: 151 11:49

Additional icons may appear in the system line:

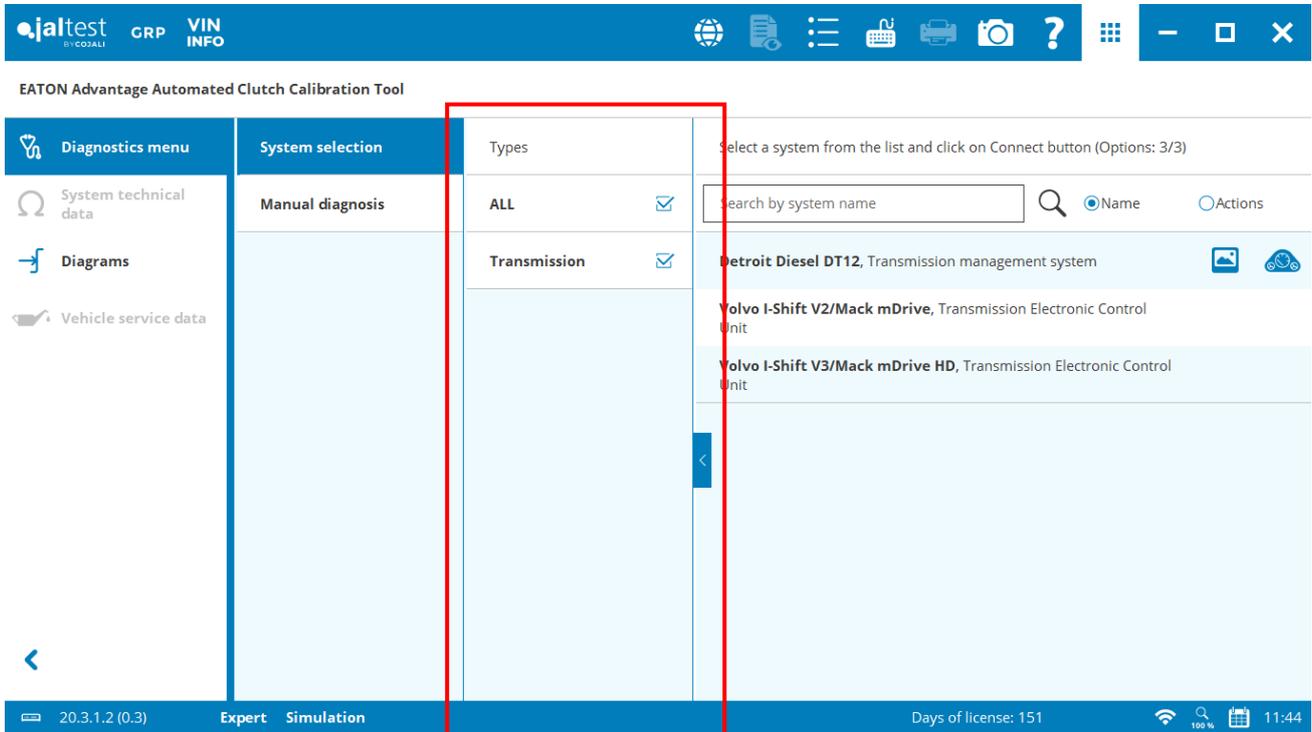
- An identification picture.
- Virtual instrument icon to open the System Display option.

EATON Advantage Automated Clutch Calibration Tool

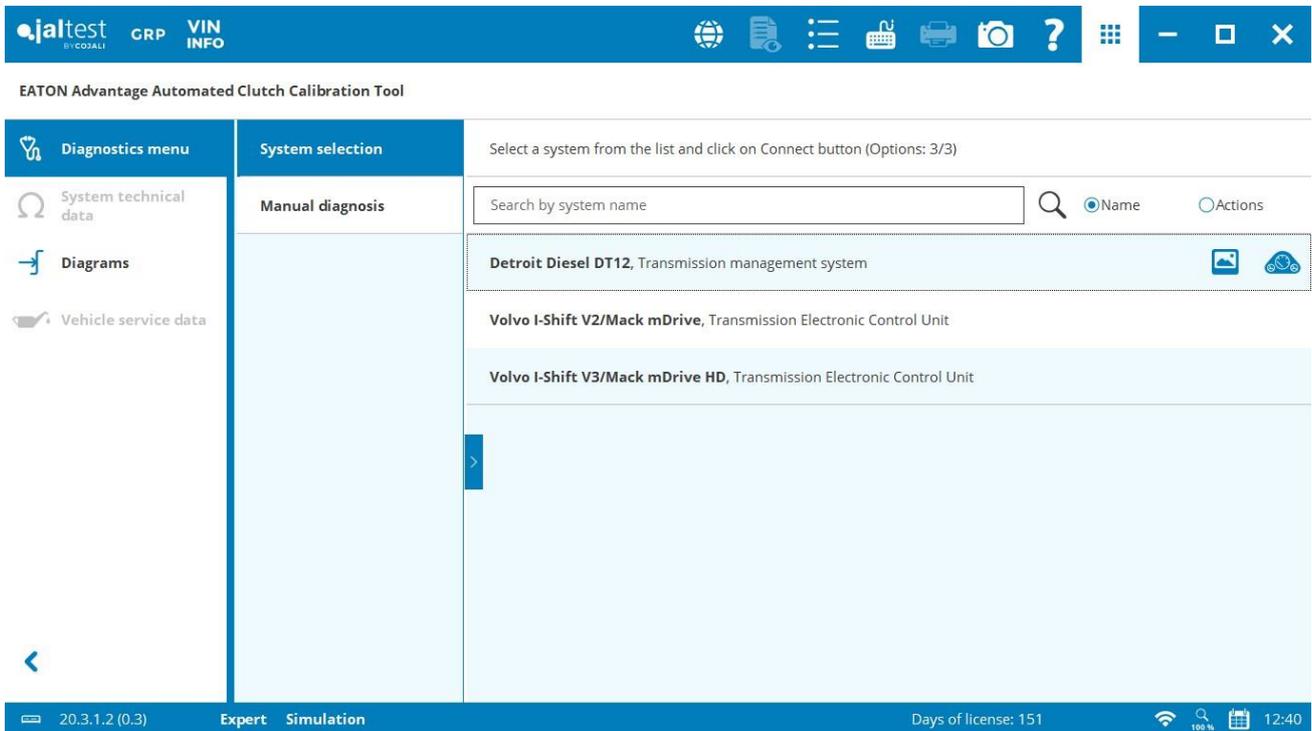
System selection		Types	Select a system from the list and click on Connect button (Options: 3/3)
Manual diagnosis	ALL	<input checked="" type="checkbox"/>	Search by system name <input type="text"/> <input type="button" value="Q"/> <input checked="" type="radio"/> Name <input type="radio"/> Actions
	Transmission	<input checked="" type="checkbox"/>	<div style="border: 2px solid red; padding: 2px;">   </div> <b>Detroit Diesel DT12, Transmission management system</b> Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit

20.3.1.2 (0.3) Expert Simulation Days of license: 151 11:44

If desired, this panel window can be hidden by clicking on the arrow icon.

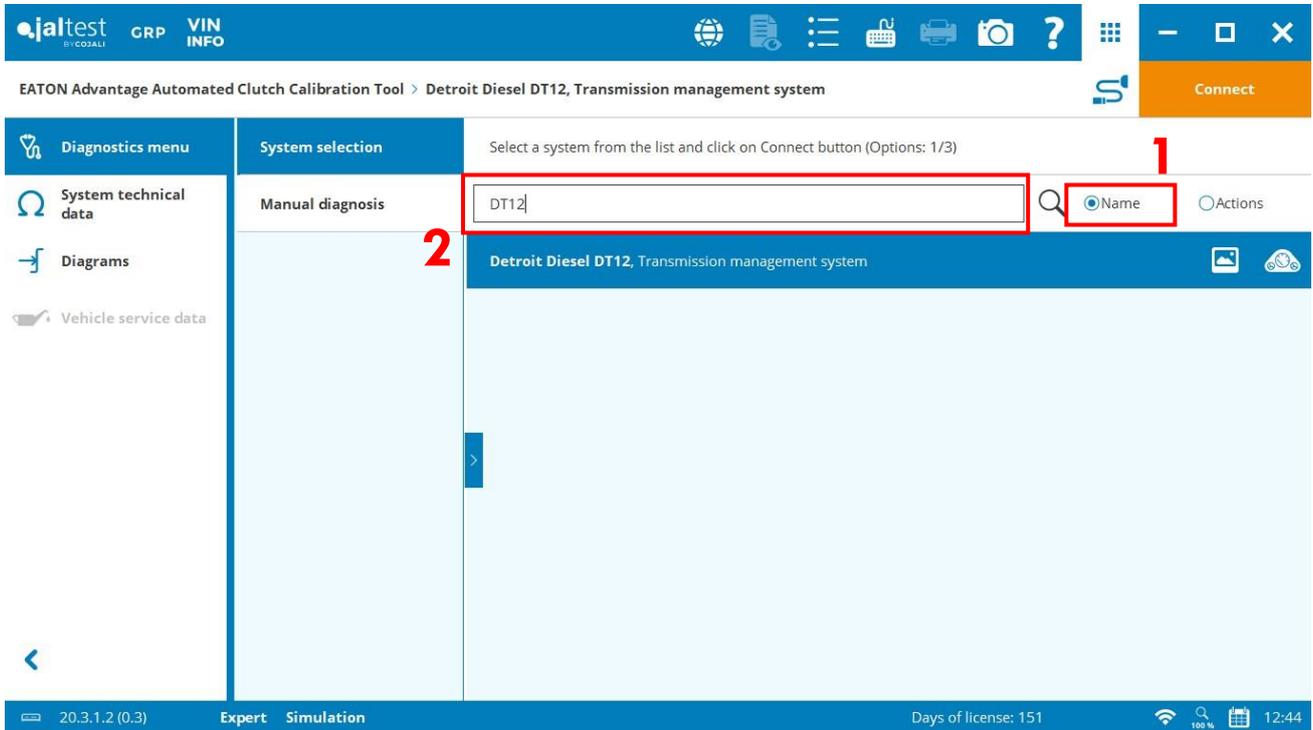


Same icon will restore its previous visualization.

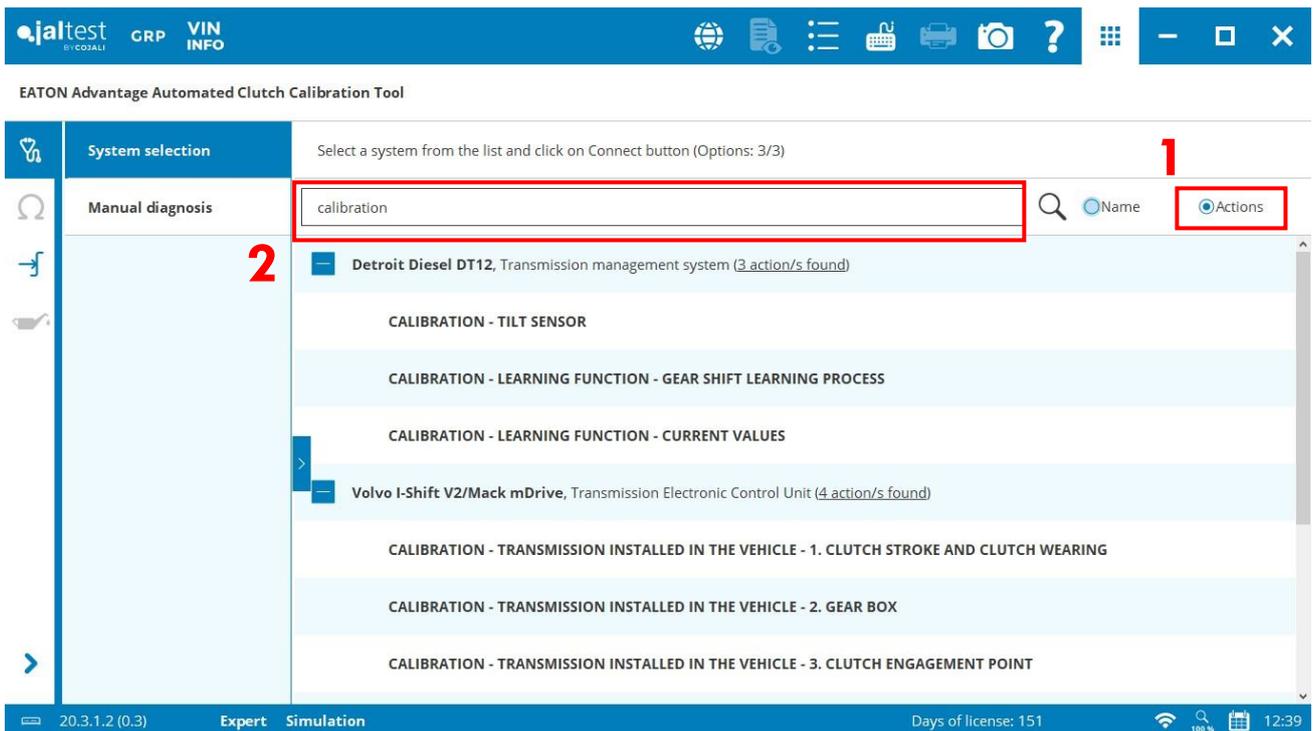


A Search function is available in the “System selection” menu:

- Search by Name



- Search by Actions



Technical information: System Technical Data, Diagrams and Vehicle Service Data.

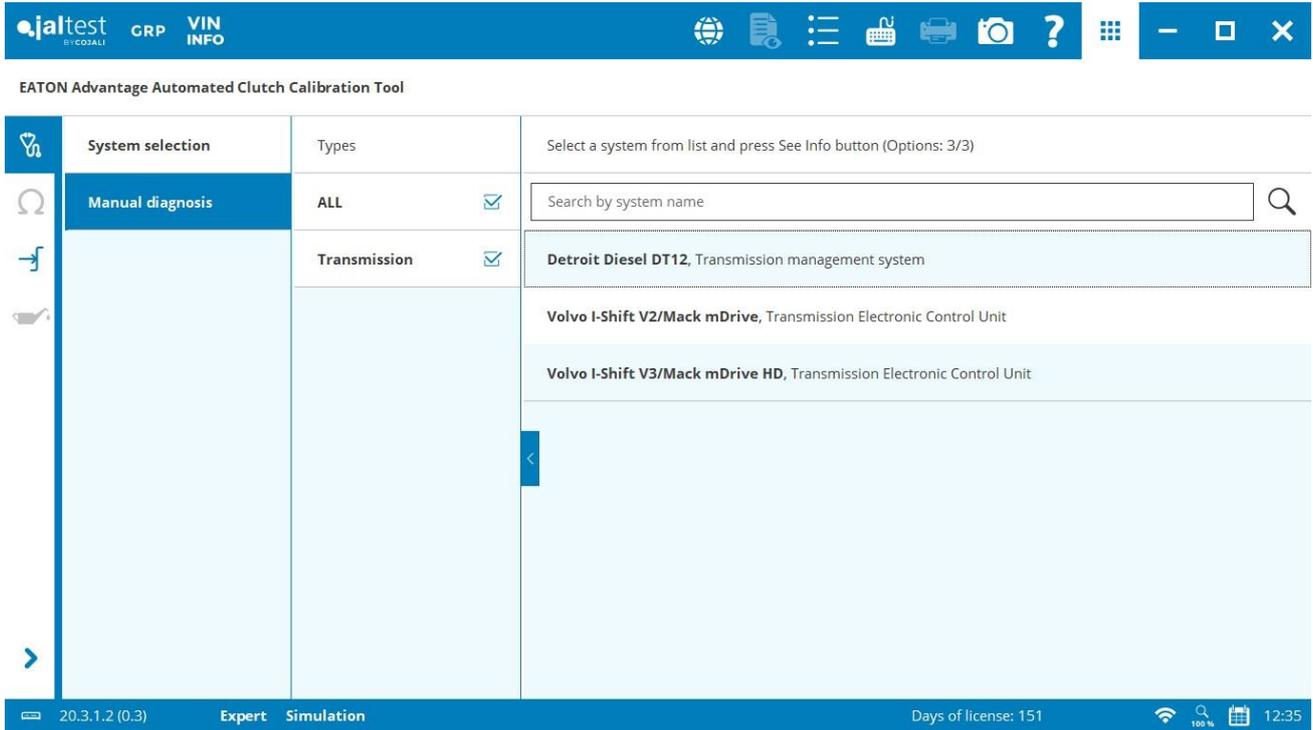
Icons in grey mean that information is not available, on the current version, or that it does not apply.

This information helps technicians to access components' specifications, their locations and how they are connected to the electronic control units. Please, click on the different buttons to consult further details.

The screenshot shows the software interface for 'EATON Advantage Automated Clutch Calibration Tool'. The top navigation bar includes 'jaltest by COJALI', 'GRP', and 'VIN INFO'. The main content area is titled 'Detroit Diesel DT12, Transmission management system'. On the left, a 'Diagnostics menu' is visible with four items: 'System technical data' (highlighted in grey), 'Diagrams', and 'Vehicle service data'. The main panel is divided into 'System selection' and 'Types'. Under 'System selection', 'Manual diagnosis' is selected. Under 'Types', 'ALL' and 'Transmission' are listed with checkboxes. The right side of the panel shows a search bar and a list of systems, including 'Detroit Diesel DT12, Transmission management system', 'Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit', and 'Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit'. A 'Connect' button is visible in the top right corner.

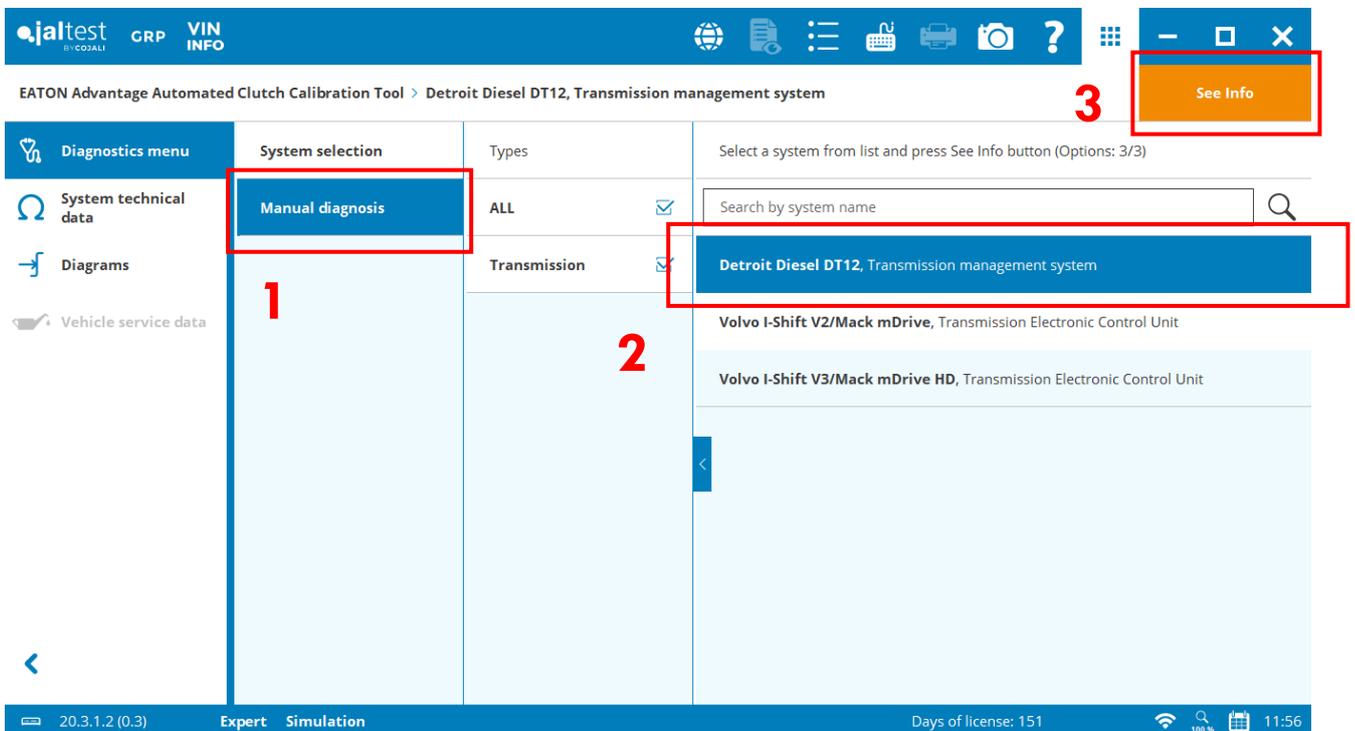
The technical information column can reduce its size:

This screenshot is similar to the previous one but shows the 'Diagnostics menu' with a 'Reduce size' button highlighted in a red box. The 'System technical data' item is no longer highlighted in grey. The 'See Info' button is visible in the top right corner of the main panel. The rest of the interface, including the search bar and system list, remains the same.



“Manual diagnosis” menu: This feature allows the search by a fault code in case there is a need to remote assist someone on the road.

Click on “Manual diagnosis”, select your system and then click on “See info”.



Follow the instruction given in the technical procedure and enter the fault code number. A magnifying glass tool is available.

520486-13

### Freightliner. Manual diagnosis

The visualization of the blinking sequence is only possible after the ignition is on and the vehicle stopped.

- **Option 1**  
Only active faults will be displayed, that is, faults that are active.
  1. Turn on the ignition key. Make sure the parking brake is applied.
  2. Press the button "MODE/RESET" repeatedly until the message "DIAG" is displayed.

20.3.1.2 (b1.1) Expert Simulation Days of license: 146

Fault code description and related technical information will be displayed.

520486-13

MANUAL DIAGNOSIS CODE 520486-13. ( FAULT CODE: SPN: 520486 FMI: 13 ). Fault in the tilt sensor measurement. Learning process fault.

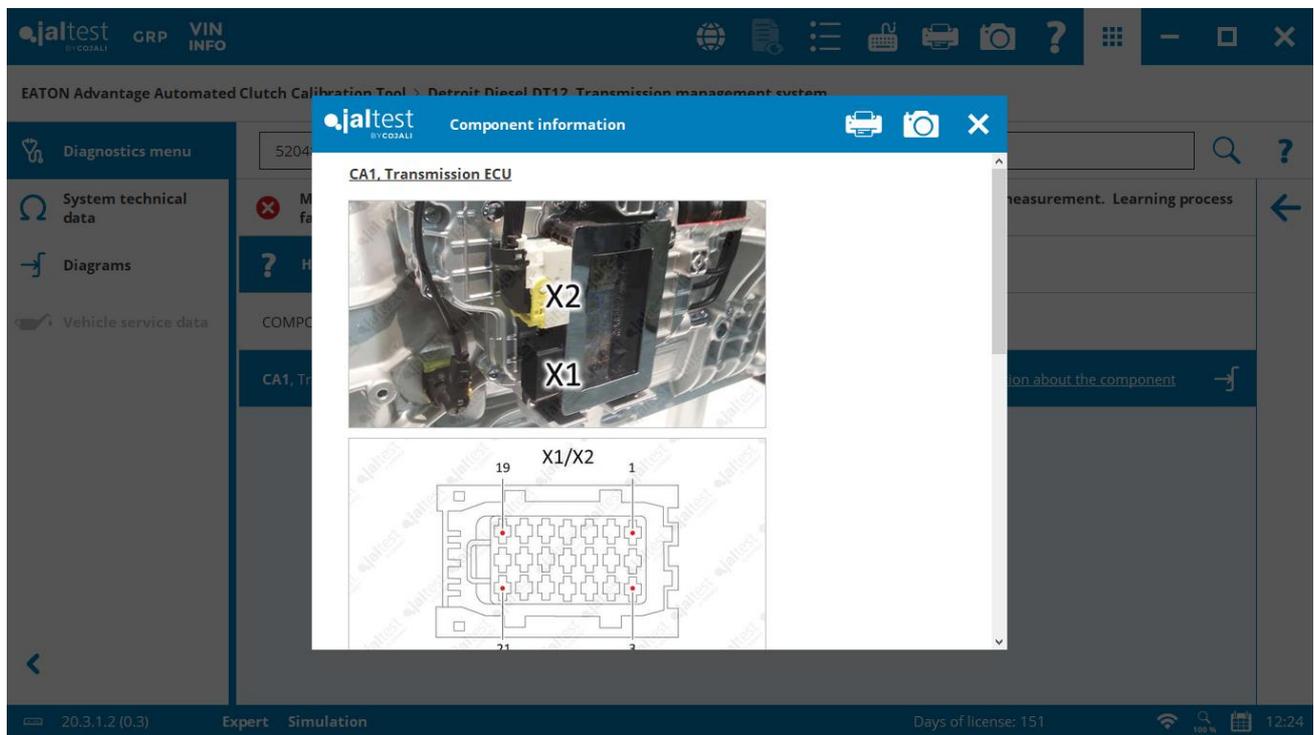
Help and components of the fault | Fault Code Troubleshooting

COMPONENTS RELATED TO THE FAULT

CA1, Transmission ECU [See information about the component](#)

20.3.1.2 (0.3) Expert Simulation Days of license: 151

The next picture provides an example when clicking on “See information about the component”.



## Explanation of the icons displayed at the bottom:

### Device icon

A light will flash when communication is established between the RP1210 device and the ECU. This icon is also used to know what an RP1210 vendor and the communication channel (USB or Wireless) is configured. Additionally, a hyperlink appears in case of changing to a different RP1210 vendor.

The screenshot shows the 'EATON Advantage Automated Clutch Calibration Tool' interface. The top navigation bar includes 'jaltest by COJALI', 'GRP', and 'VIN INFO'. The main content area is divided into a 'Diagnostics menu' on the left and a 'System selection' panel on the right. The 'System selection' panel has a sub-section for 'Manual diagnosis' with a search bar and a list of systems: 'Detroit Diesel DT12, Transmission management system', 'Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit', and 'Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit'. At the bottom left, a red box highlights a device icon labeled 'Jaltest V9 RP1210 Adapter, USB' with a link 'Go to RP1210 device'. The bottom status bar shows version '20.3.1.2 (0.3)', 'Expert Simulation' mode, 'Days of license: 151', and system icons for Wi-Fi, search, and battery.

### Version installed

Typical structure: 20.3.1.2 (Year. Third version, of that year. Internal coding. Internal coding). Additional numbers will appear in case the version is a beta.

**jaltest** GRP VIN INFO

EATON Advantage Automated Clutch Calibration Tool

**Diagnostics menu**

- System technical data
- Diagrams
- Vehicle service data

**System selection**

Select a system from the list and click on Connect button (Options: 3/3)

Manual diagnosis

Search by actions

Name  Actions

- Detroit Diesel DT12, Transmission management system
- Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit
- Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit

20.3.1.2 (0.3) Expert Simulation Days of license: 151 100% 12:55

### Expert/Simulation modes

**jaltest** GRP VIN INFO

EATON Advantage Automated Clutch Calibration Tool

**Diagnostics menu**

- System technical data
- Diagrams
- Vehicle service data

**System selection**

Select a system from the list and click on Connect button (Options: 3/3)

Manual diagnosis

Types

ALL

Transmission

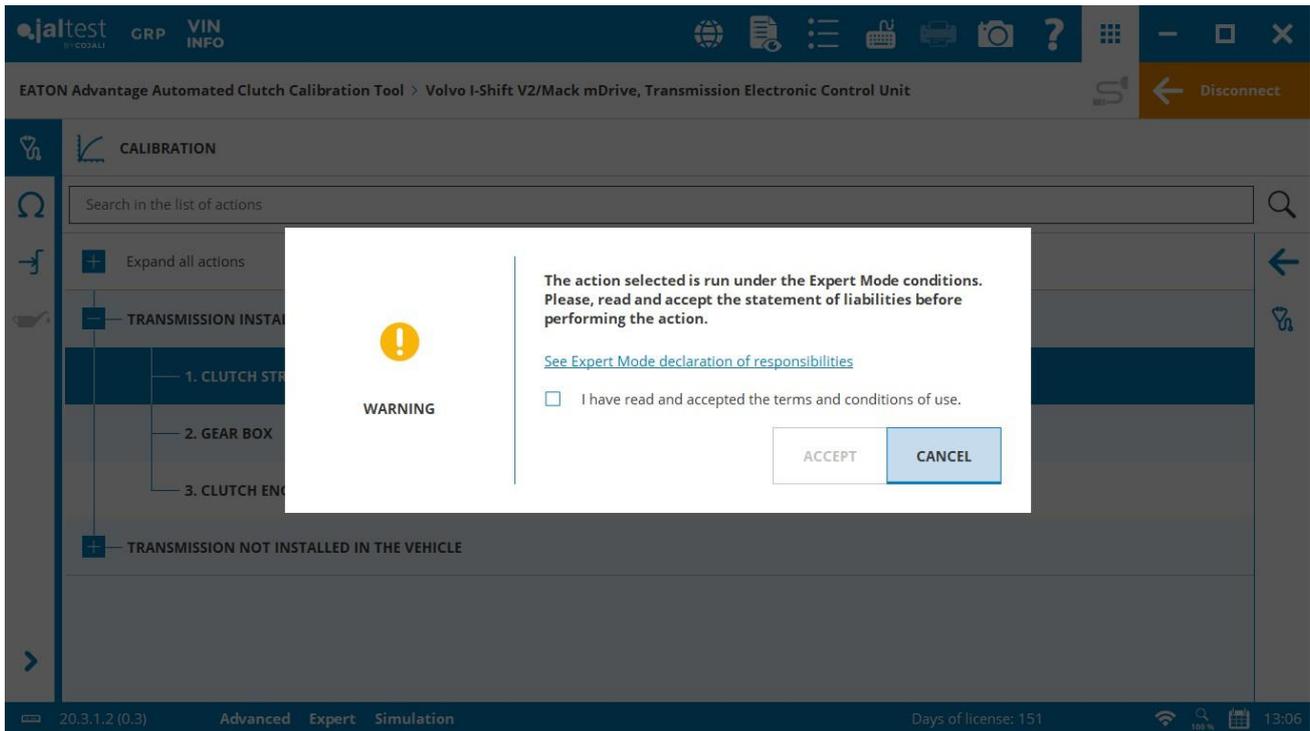
Search by system name

Name  Actions

- Detroit Diesel DT12, Transmission management system
- Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit
- Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit

20.3.1.2 Expert Simulation Days of license: 109 100% 09:33

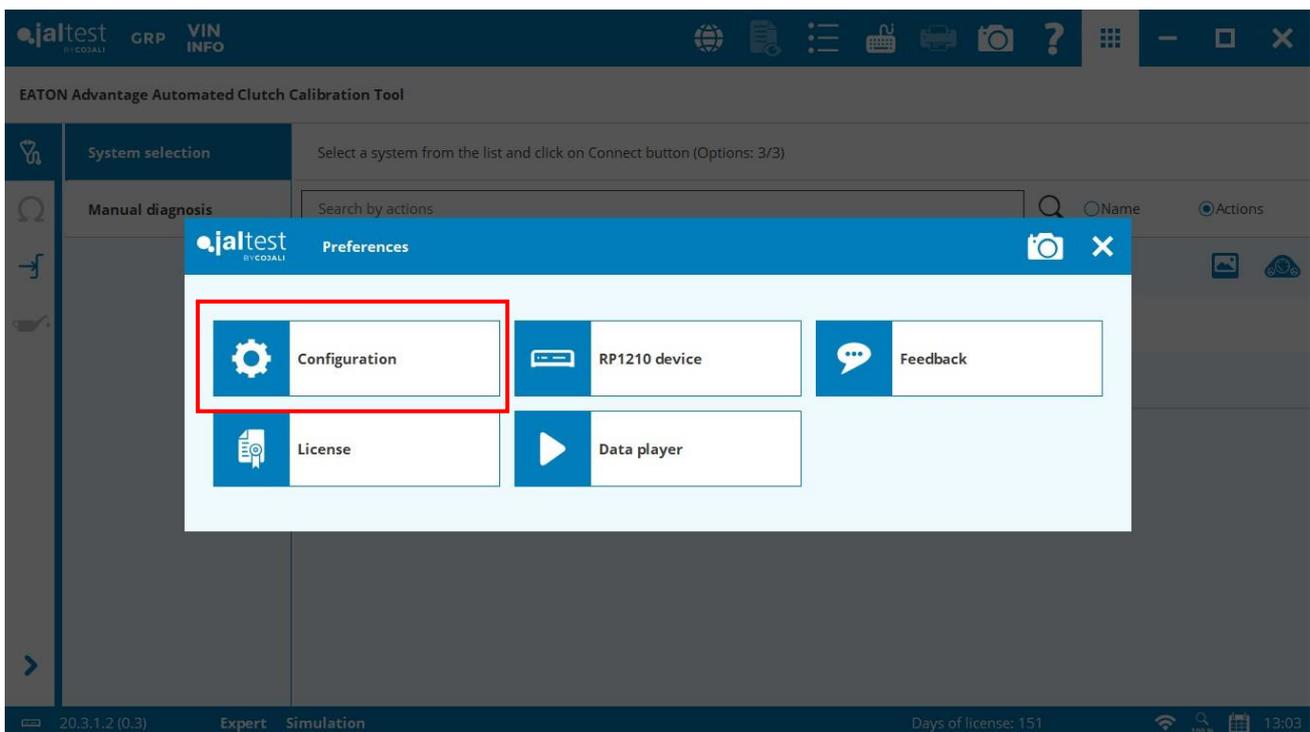
“Expert Mode” will always be displayed by default, meaning that the “Expert Mode” is always enabled. Actions which modify the ECU memory or require advanced knowledge will warn that the action is under “Expert Mode”.



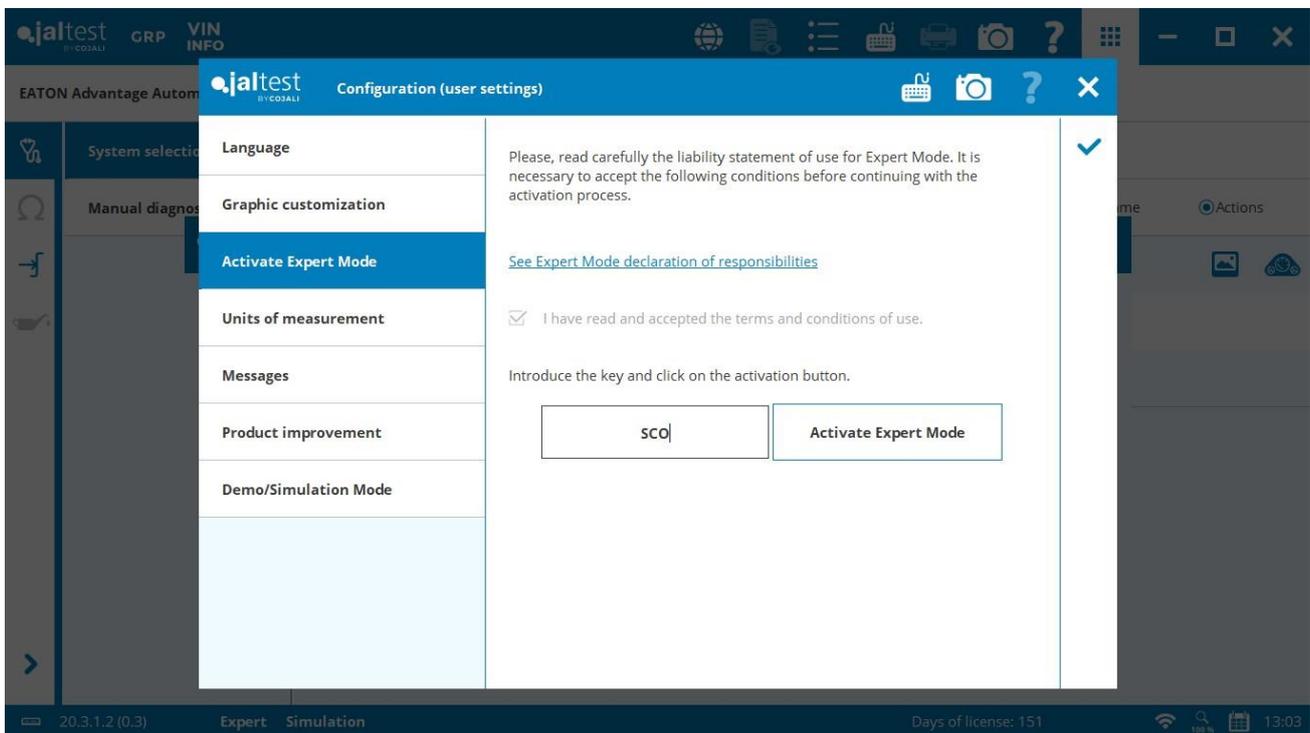
“Simulation Mode” is only available for Cojali, Eaton employees and its distributors. This mode allows you to connect to the systems without having a physical connection to any truck and device. Note: Do not perform diagnostics on a system if “Simulation Mode” is active.

The sequence to enable this mode is to enter SCO and the code given for your equipment.

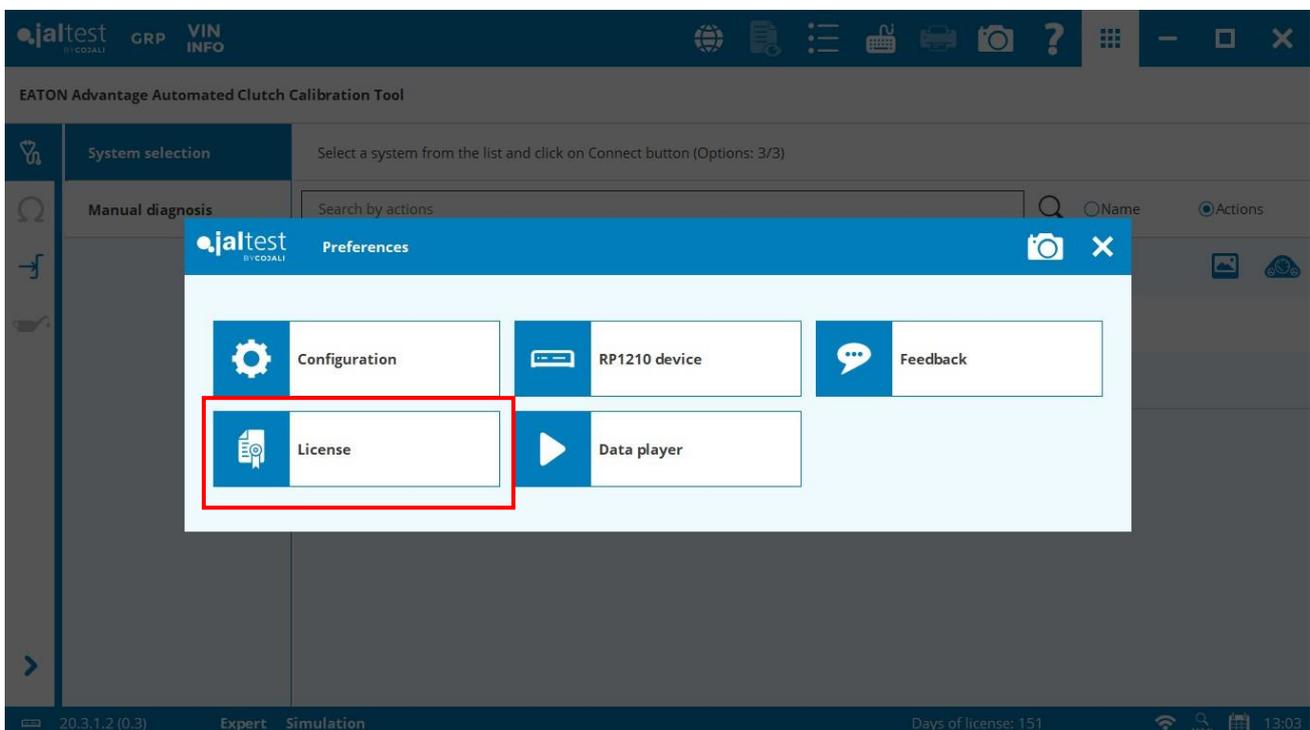
To enable it, go to “Preferences” menu and select “Configuration” section.

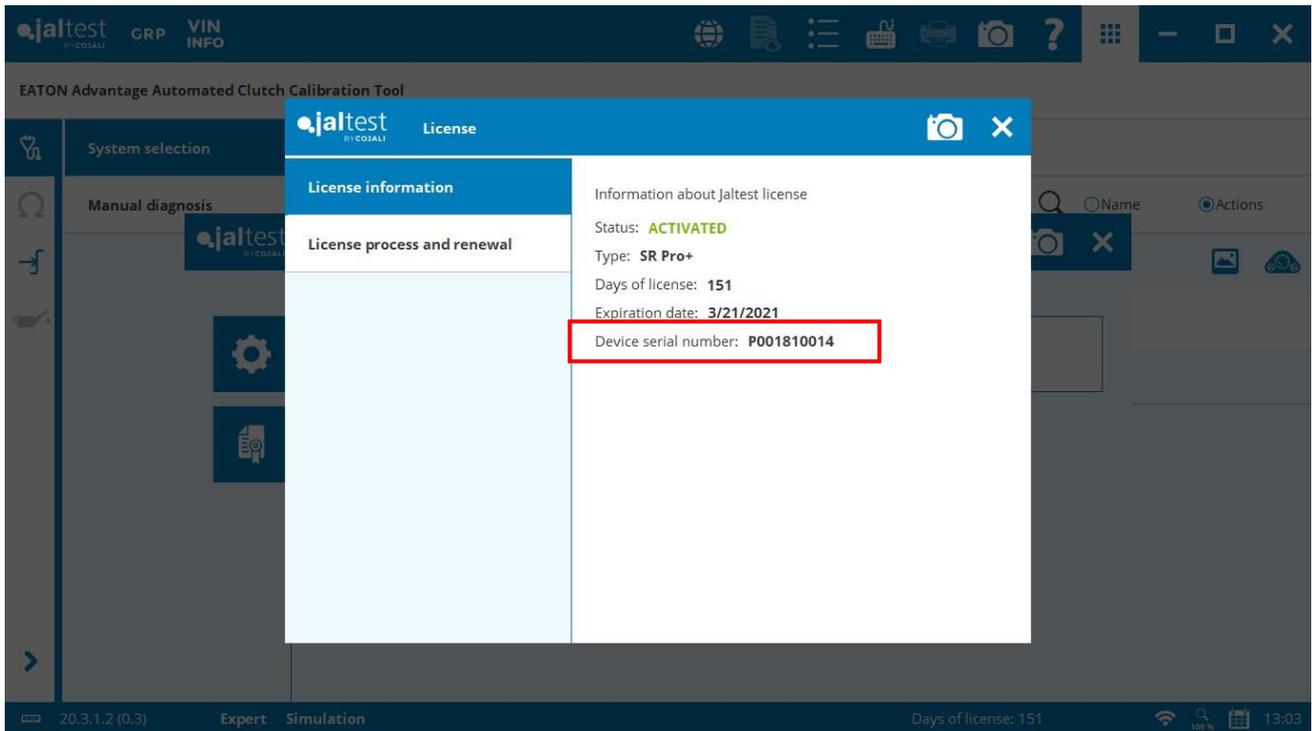


In the “Activate Expert Mode” tab, enter SCO and then your simulation code.

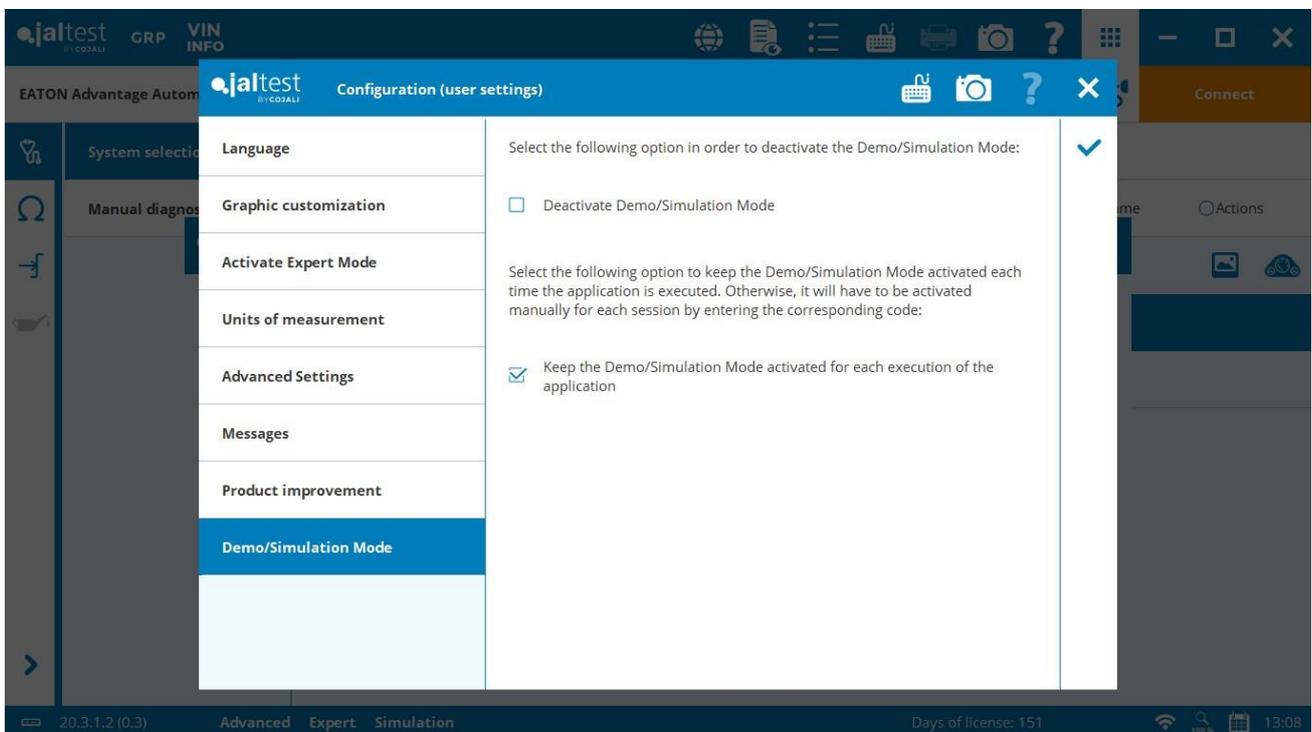


The simulation code varies for each installation. Serial number must be supplied to generate this code. This information can be obtained in the “License” section from the “Preferences” menu.





“Simulation Mode” can be kept active for following diagnostics sessions. Also, there is an option to disable this mode.



## Days of license remaining

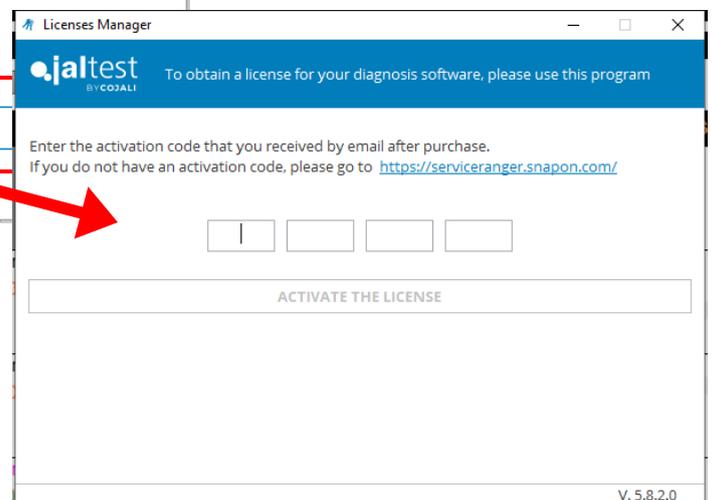
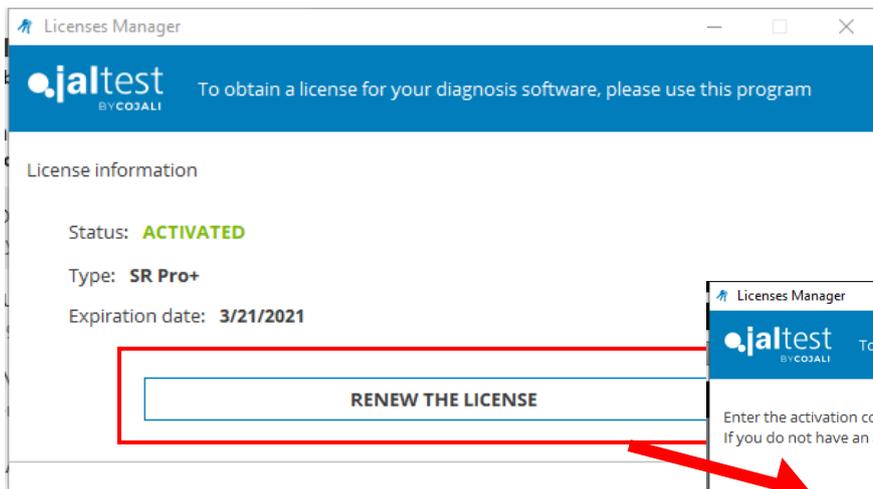
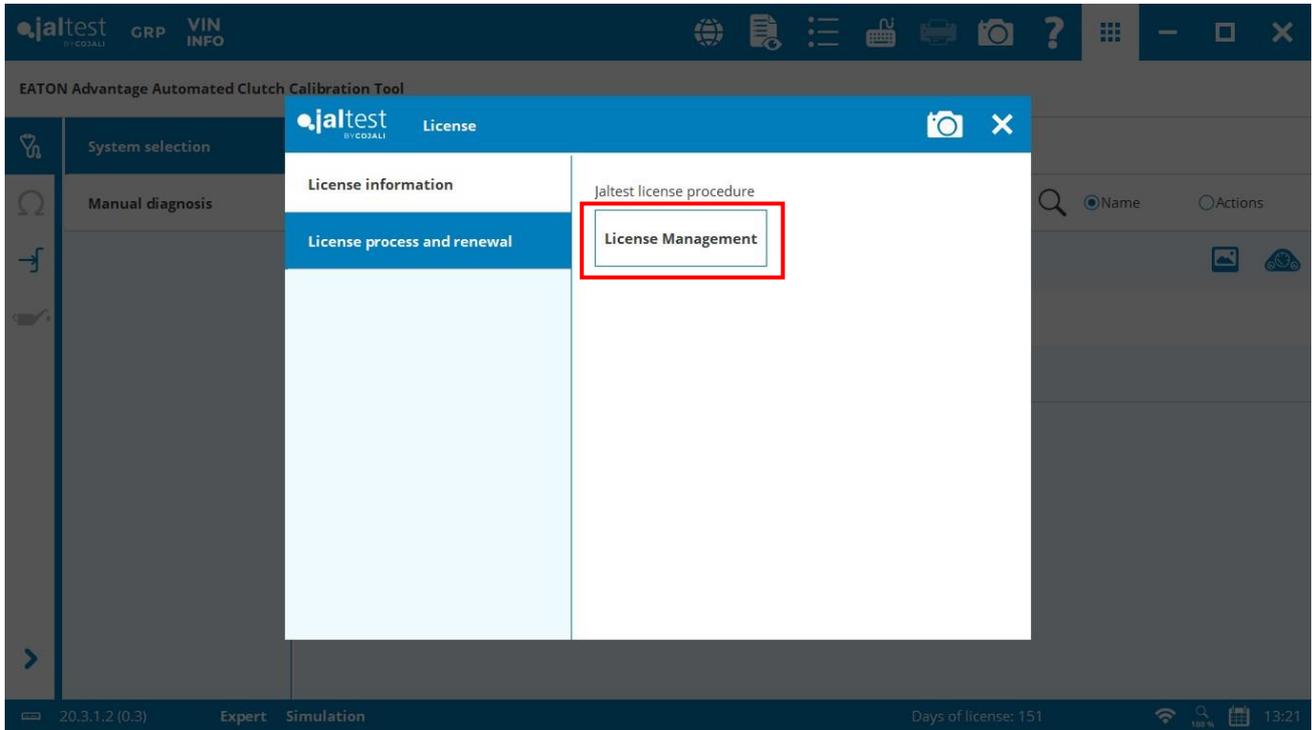
In addition to this number, a grace period of thirty (30) days is available.

The screenshot shows the 'EATON Advantage Automated Clutch Calibration Tool' interface. At the top, there is a blue header with the 'jaltest' logo, 'GRP', and 'VIN INFO'. Below the header, there is a navigation bar with icons for home, help, and other functions. The main content area is divided into two sections: 'System selection' and 'Manual diagnosis'. The 'Manual diagnosis' section contains a search bar and a list of systems: 'Detroit Diesel DT12, Transmission management system', 'Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit', and 'Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit'. At the bottom of the interface, there is a status bar with the text '20.3.1.2 (0.3) Expert Simulation' and a 'Days of license: 151' indicator, which is highlighted with a red box.

For further details, it is possible to click on the link to access a window with additional information about the license serial number, expiration date and the status of the license.

The screenshot shows the same 'EATON Advantage Automated Clutch Calibration Tool' interface as above, but with a 'License' window open. The window has a blue header with the 'jaltest' logo and 'License'. It is divided into two sections: 'License information' and 'License process and renewal'. The 'License information' section contains the following details: 'Information about Jaltest license', 'Status: **ACTIVATED**', 'Type: **SR Pro+**', 'Days of license: **151**', 'Expiration date: **3/21/2021**', and 'Device serial number: **P001810014**'. The background interface is dimmed, and the 'Days of license: 151' indicator is still visible at the bottom.

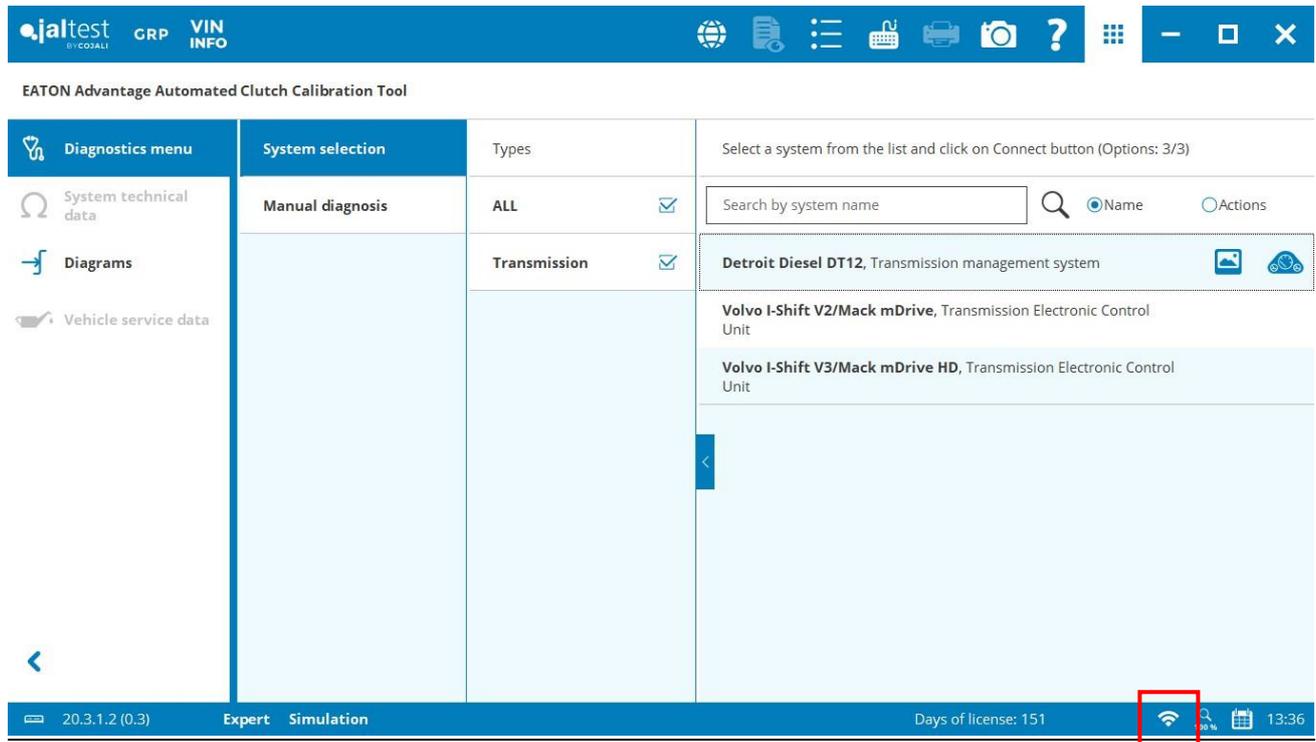
From this window, a second tab is displayed from which it is possible to manage and enter a new activation code. This is an alternative way in case of purchasing a renewal before the current license expires and the expiration date would not have been updated, normal case because the license status is checked regularly through automatic processes such as registration (every 6 months as maximum) process and every time an update is done as well.



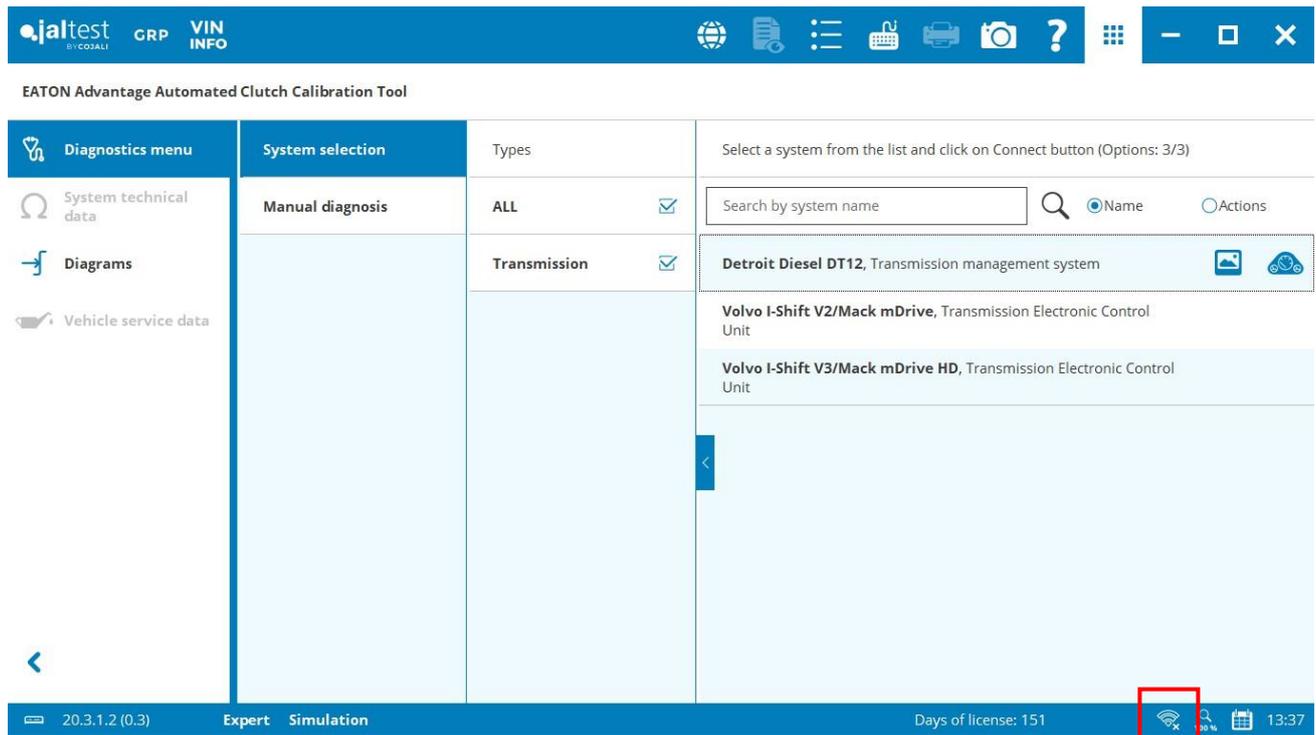
Furthermore, if the license is expired, this previous window will be the first window shown.

Internet connection icon

Internet connection is detected.



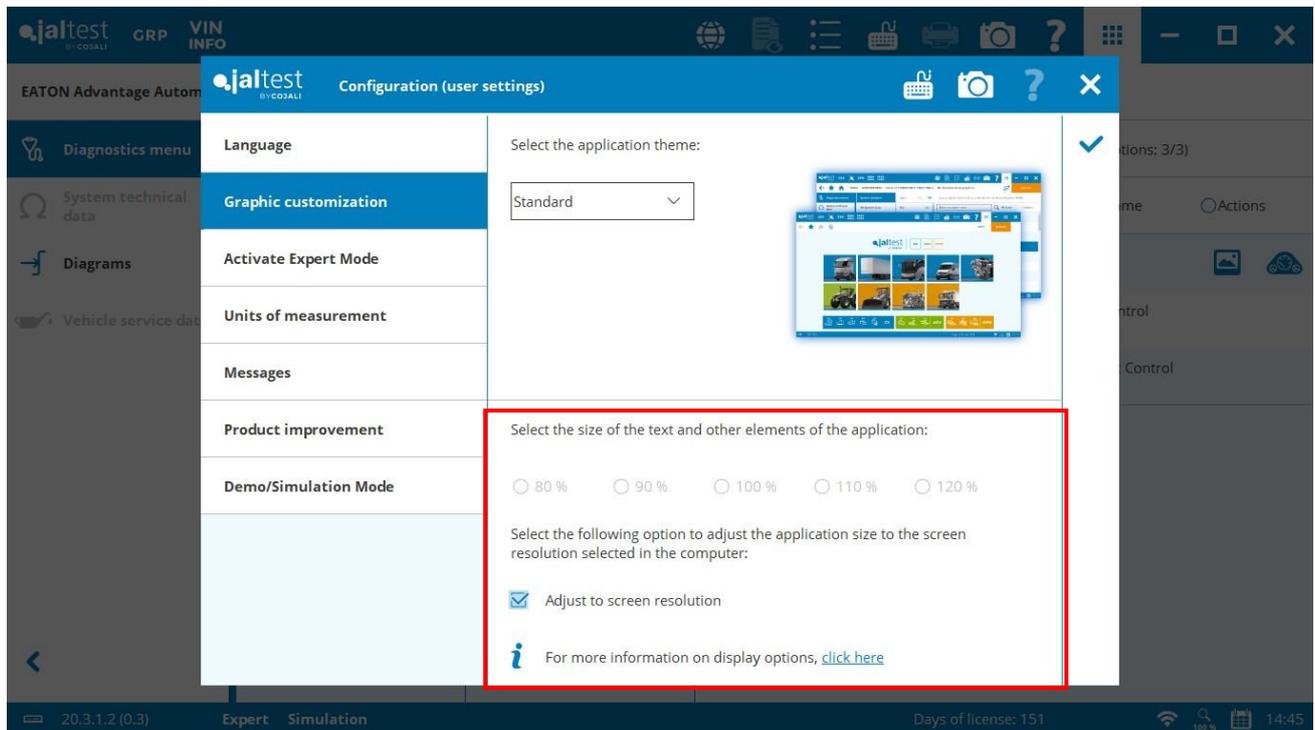
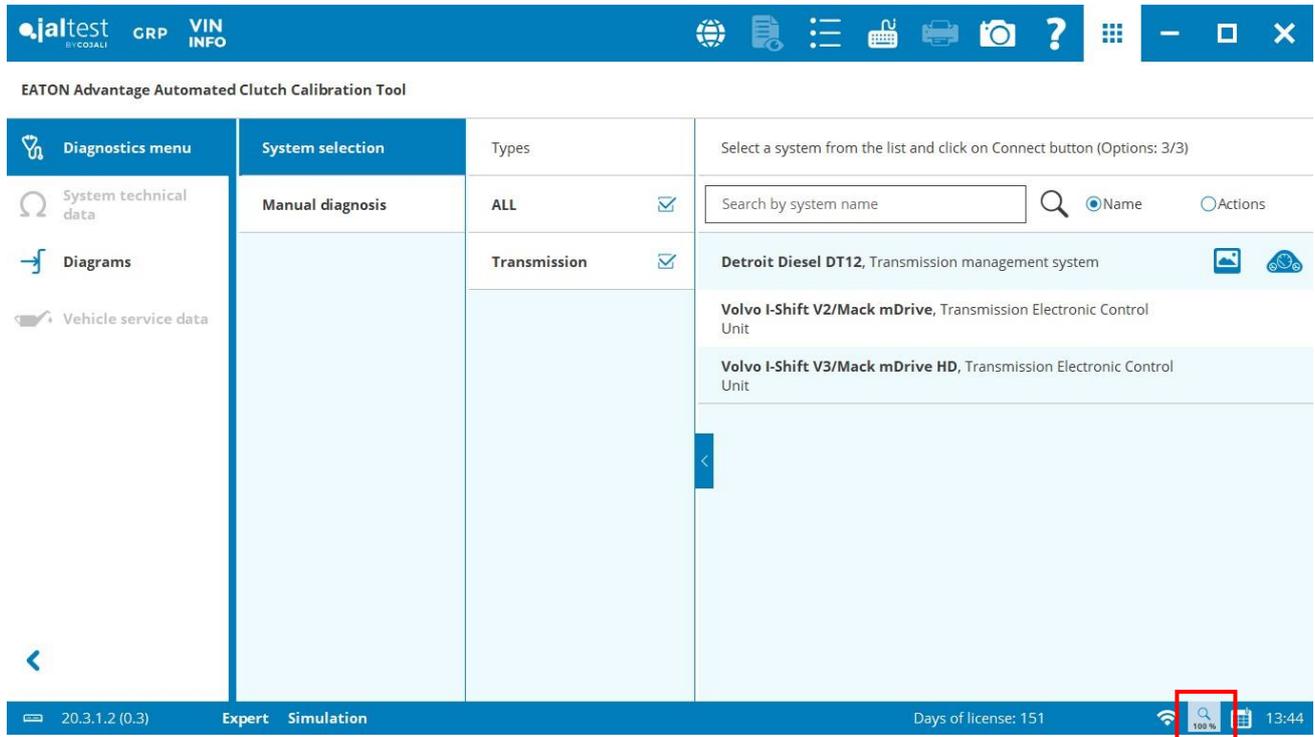
Internet connection is not detected. Internet connection is required to the diagnostics functions.

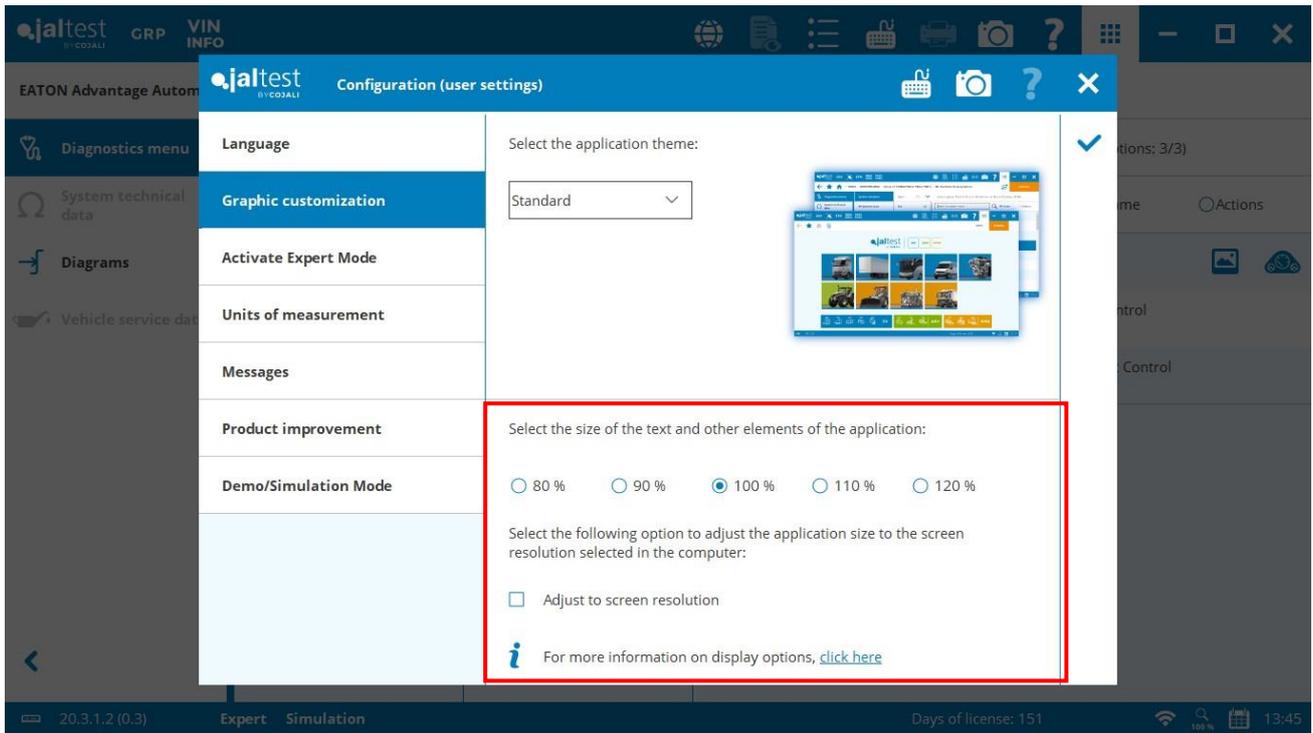


## Graphic customization

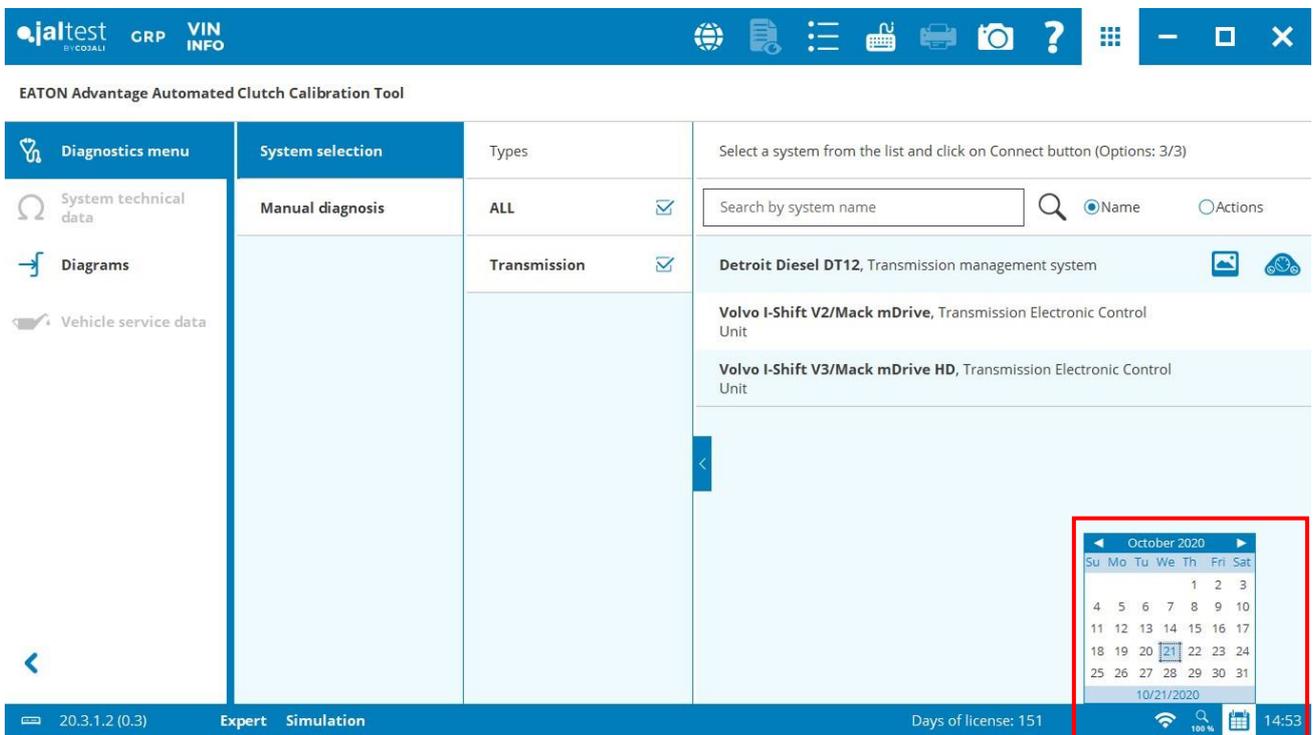
Size of the text and other elements of the application can be modified. By default, it is recommended to use “Adjust to screen resolution”.

Special attention to the note in case external screen or projector is connected.





## Calendar and Clock



## Explanation of the icons displayed at the top:

### GRP

**EATON Advantage Automated Clutch Calibration Tool**

Diagnostics menu	System selection	Types	Select a system from the list and click on Connect button (Options: 3/3)
System technical data	Manual diagnosis	ALL <input checked="" type="checkbox"/>	<input type="text" value="Search by system name"/> <input type="button" value="Name"/> <input type="button" value="Actions"/>
Diagrams		Transmission <input checked="" type="checkbox"/>	<b>Detroit Diesel DT12, Transmission management system</b>
Vehicle service data			<b>Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit</b>
			<b>Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit</b>

20.3.1.2 (b1.0) Expert Simulation Days of license: 150 09:51

**GRP**

- Customer list
- Vehicle list
- Reports
- Start window

**jaltest GRP**

Welcome to GRP (Garage Resource Planning)

GRP (Garage Resource Planning) is the workshop management program that allows you to organize and manage its activity. The management of customers and vehicles, as well as the management of all the reports generated by Jaltest or its modules, are functionalities included in the GRP.

*i* Those functions disabled are only available in GRP Enterprise mode. For further information, please contact your distributor.

20.3.1.2 (b1.0) Days of license: 150 13:52

## Left side

Customer list

Vehicle list

Reports

Start window

## Top side

Preferences

[Previously explained.](#)

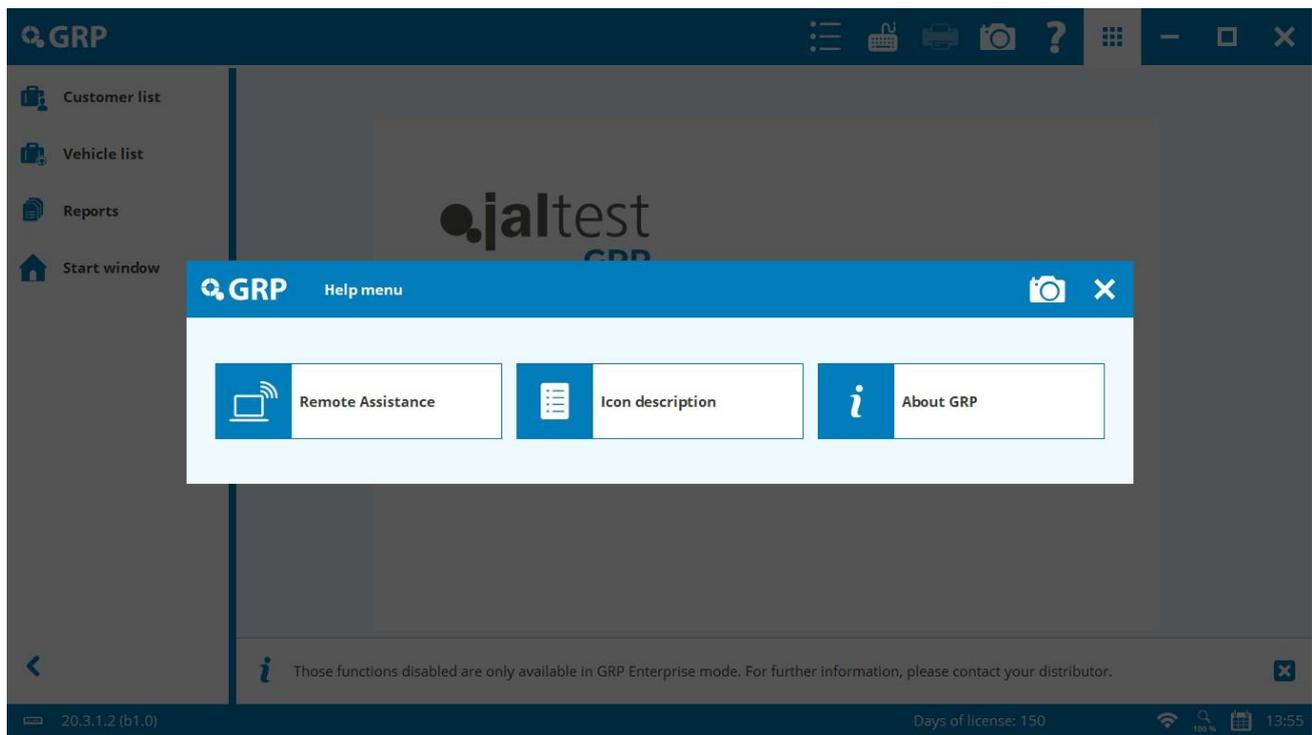
Virtual keyboard

[It will be explained in the next pages.](#)

Screenshot

[It will be explained in the next pages.](#)

## Help



Remote Assistance

[It will be explained in the next pages.](#)

Icon description

[It will be explained in the next pages.](#)

## About GRP

Show/Hide icon

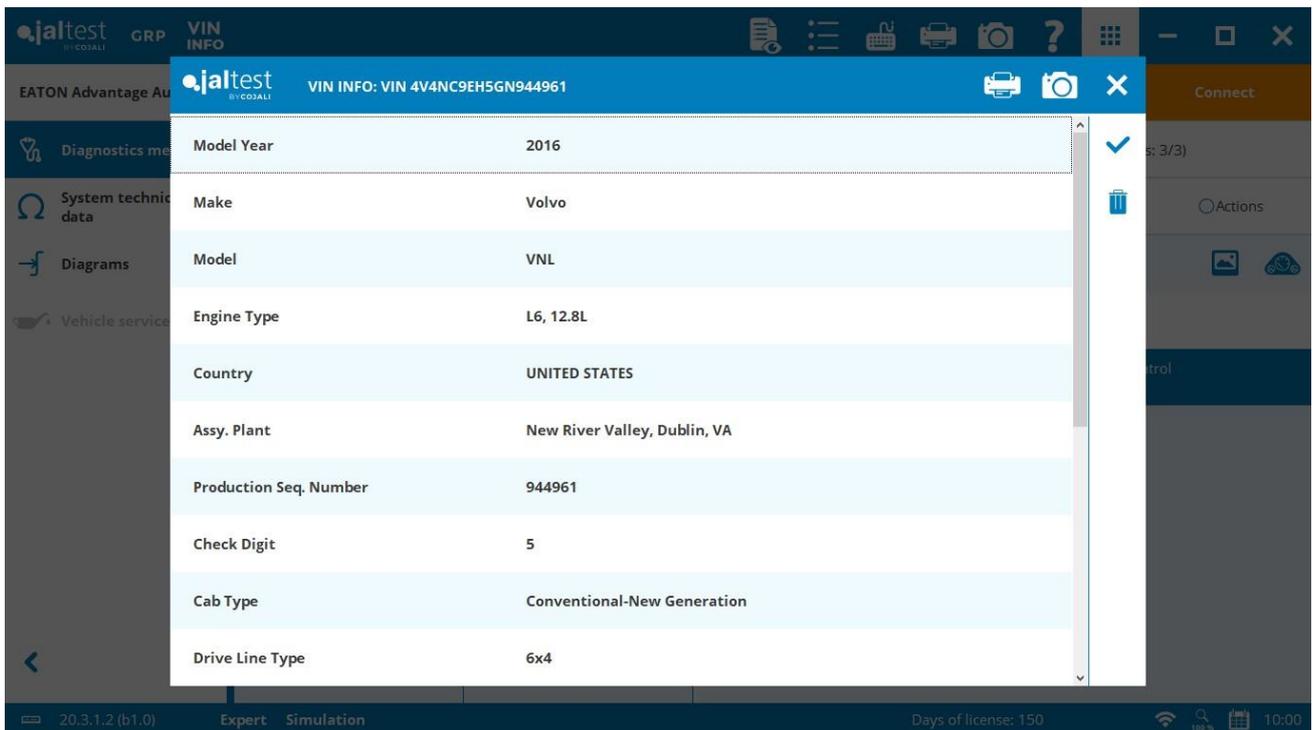
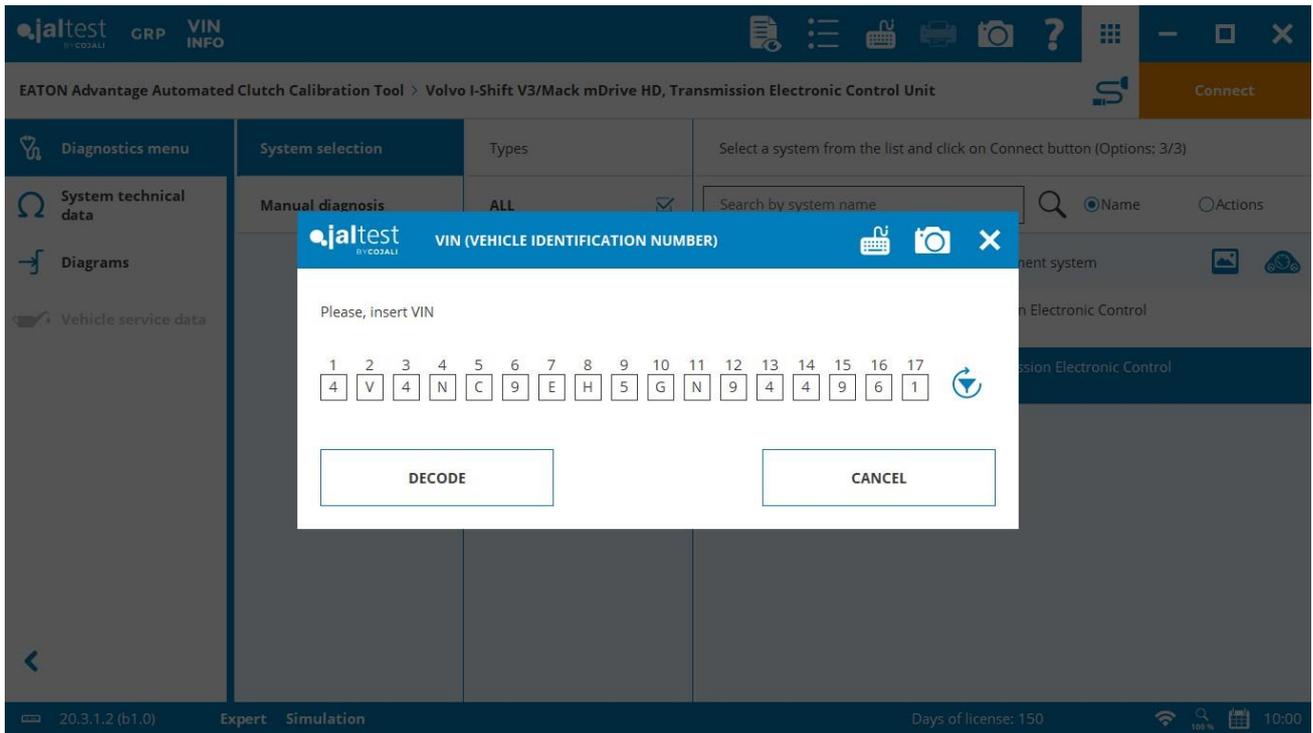
### VIN INFO

EATON Advantage Automated Clutch Calibration Tool

Diagnostics menu		System selection	Types	Select a system from the list and click on Connect button (Options: 3/3)
	System technical data	Manual diagnosis	ALL <input checked="" type="checkbox"/>	<input type="text" value="Search by system name"/> <input type="button" value="Q"/> <input checked="" type="radio"/> Name <input type="radio"/> Actions
	Diagrams		Transmission <input checked="" type="checkbox"/>	Detroit Diesel DT12, Transmission management system
	Vehicle service data			Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit
				Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit

20.3.1.2 (b1.0) Expert Simulation Days of license: 150 100% 09:51

Enter all seventeen (17) digits of the VIN number. In case the ECU offers this information in its memory, the VIN number will be automatically pulled-out and decoded.



## Diagnostic report preview

The screenshot shows the 'jaltest' diagnostic tool interface. The top bar includes the logo, 'GRP VIN INFO', and various utility icons. The main title is 'EATON Advantage Automated Clutch Calibration Tool > Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit'. A 'Connect' button is visible in the top right.

The interface is divided into a left sidebar with 'Diagnostics menu' (containing System technical data, Diagrams, and Vehicle service data) and a main area. The main area has a 'System selection' panel with 'Manual diagnosis' selected. It lists system types: 'ALL' (checked) and 'Transmission' (checked). A search box is present with the text 'Search by system name'. Below the search box, three system options are listed:
 

- Detroit Diesel DT12, Transmission management system
- Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit
- Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit** (highlighted)

The bottom status bar shows version '20.3.1.2 (b1.0)', mode 'Expert Simulation', and 'Days of license: 150'.

The screenshot shows a diagnostic report preview in the 'jaltest' interface. The report title is 'Diagnostic report: 3AKJHHDR6KSKB4330\_Diagnostic report\_21102020130822.iddx'. The report header includes the EATON logo and contact information: 'EATON Corporation, Tax ID / GST: IE00B8KQN827, 1000 Eaton Blvd, Phone number: 1-800-826-HELP'. The jaltest logo and S/N: P001810016 are also present.

The report date and time are 'Date: 10/21/2020 Start 13:07:47 / Close 13:08:22'. The report content is organized into several tables:

Customer's Name	Tax ID / GST	Invoice No.	Date:	Hour
White Constructions	44687G		10/21/2020	13:08:22

License plate	VIN	Number or name
4478-FWF	3AKJHHDR6KSKB4330	New Cascadia

Total covered distance (mi)	Service hours
365441	2344

Below the tables, the system name is 'Detroit Diesel DT12, Transmission management system'. The report includes the following identification numbers:

- VIN CODE (VEHICLE IDENTIFICATION NUMBER): 3AKJGBDV2HDHU0133
- ECU SERIAL NUMBER: 0000000001270031965
- HARDWARE NUMBER - PART NUMBER: A050 446 34 09 ZGS 0

The 'READ FAULT CODES' section shows one active fault:

Code	Description	Status
1	Fault in the tilt sensor measurement. Learning process fault. (CODE:SPN: 520486 FMI: 13)	ACTIVE FAULT

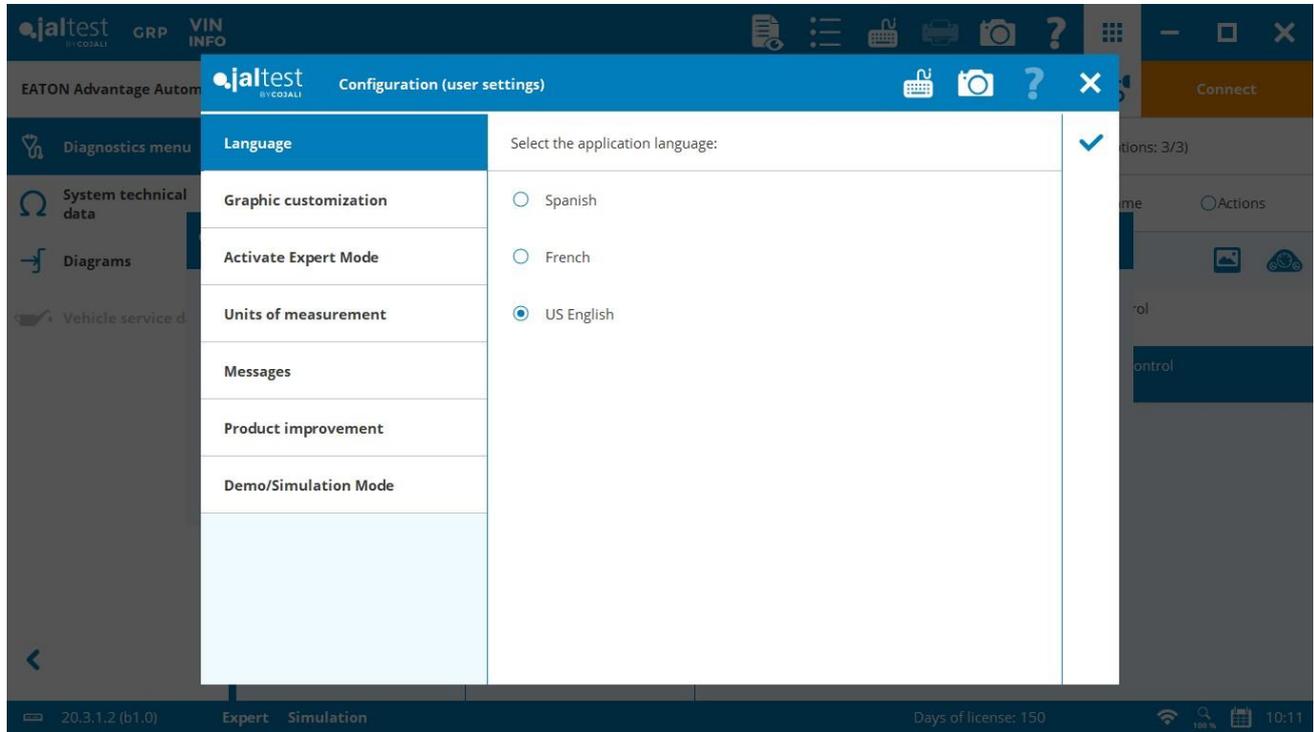
## Preferences

The screenshot shows the 'System selection' screen within the 'EATON Advantage Automated Clutch Calibration Tool'. The interface includes a top navigation bar with 'jaltest', 'GRP', and 'VIN INFO' logos, along with various utility icons. A left sidebar contains 'Diagnostics menu', 'System technical data', 'Diagrams', and 'Vehicle service data'. The main area is divided into 'Types' and 'Manual diagnosis' sections. The 'Types' section lists 'ALL' and 'Transmission', both with checked checkboxes. The 'Manual diagnosis' section features a search bar and a list of systems: 'Detroit Diesel DT12, Transmission management system', 'Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit', and 'Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit'. A bottom status bar displays '20.3.1.2 (b1.0)', 'Expert Simulation', and 'Days of license: 150'.

This screenshot shows the same 'System selection' screen as above, but with a 'Preferences' dialog box overlaid in the foreground. The dialog box has a title bar with the 'jaltest' logo and 'Preferences' text. It contains five buttons arranged in a grid: 'Configuration' (gear icon), 'RP1210 device' (device icon), 'Feedback' (speech bubble icon), 'License' (document icon), and 'Data player' (play button icon). The background interface is dimmed. The bottom status bar shows the time as '09:51'.

## Configuration

### Language



### Graphic customization

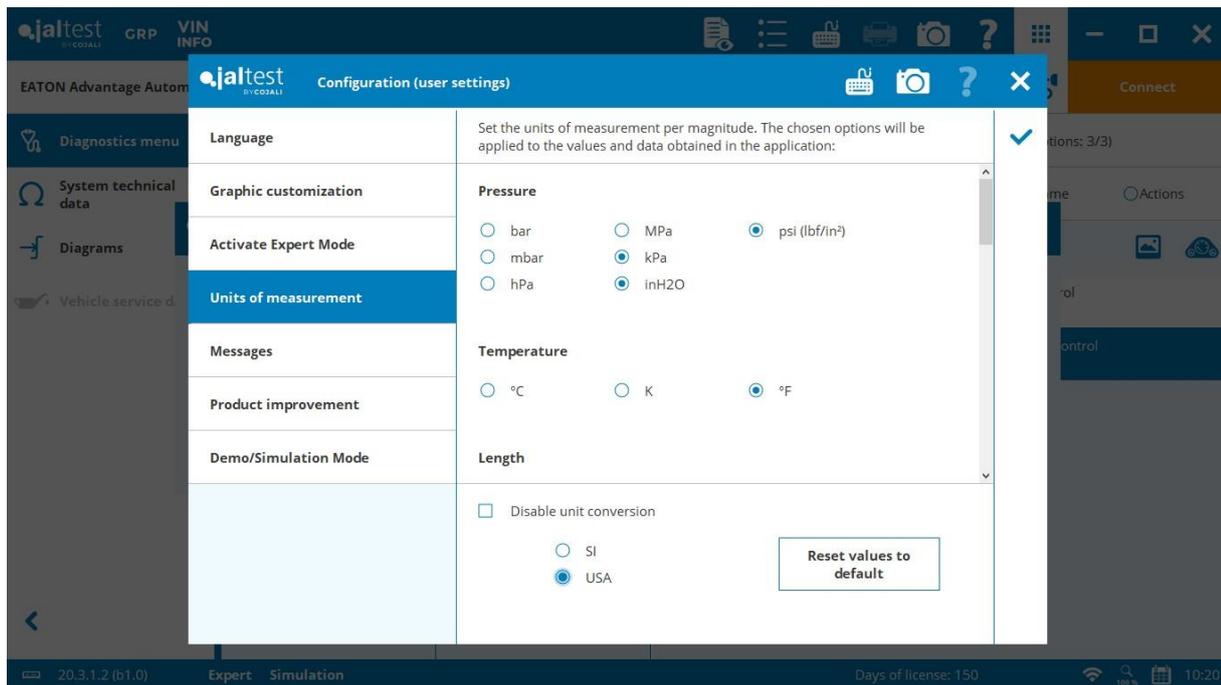
[Explained previously.](#)

### Activate Expert Mode

[Explained previously.](#)

### Units of measurement

By default, the measurements used are US units, but this can be customized. Especially useful for Canadian market.



### Messages

Some messages with the option of “do not show or ask again...” will be displayed during the use of the software. This can be restored with this option.

### Product improvement

[Explained previously.](#)

### Simulation Mode

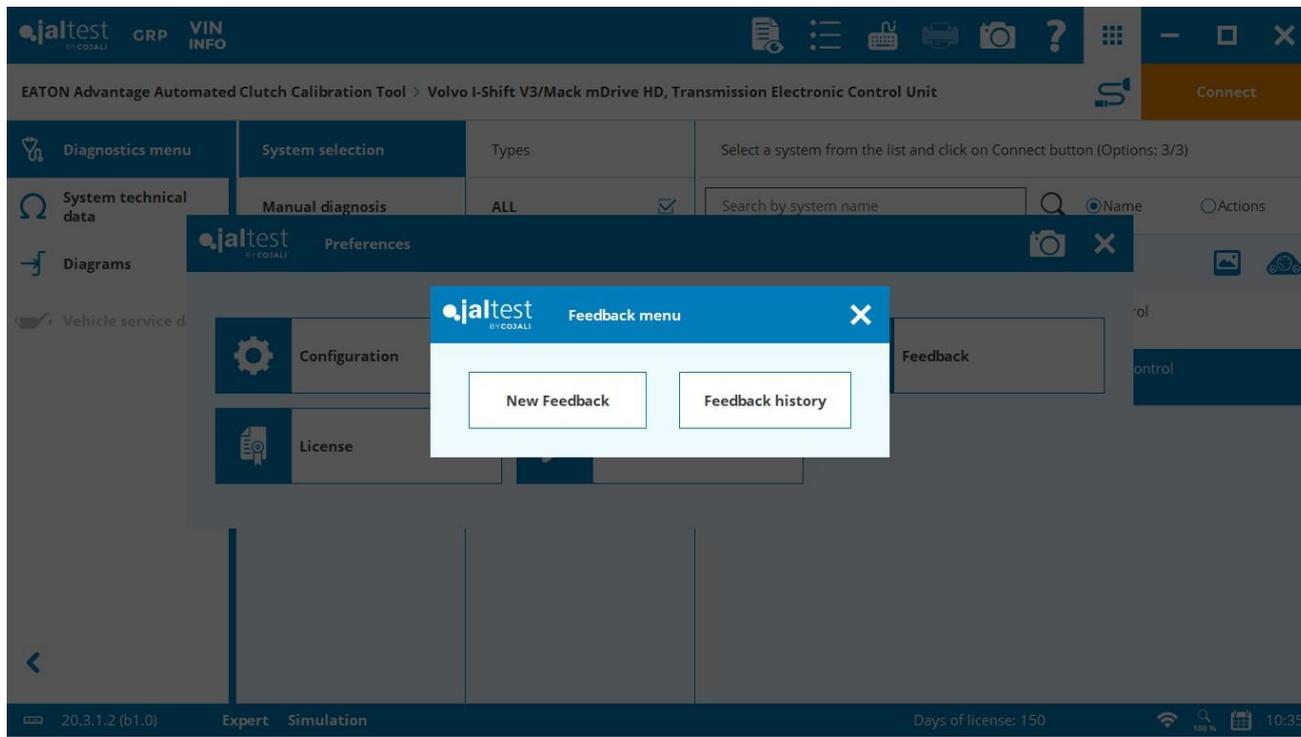
[Explained previously.](#)

### RP1210 device

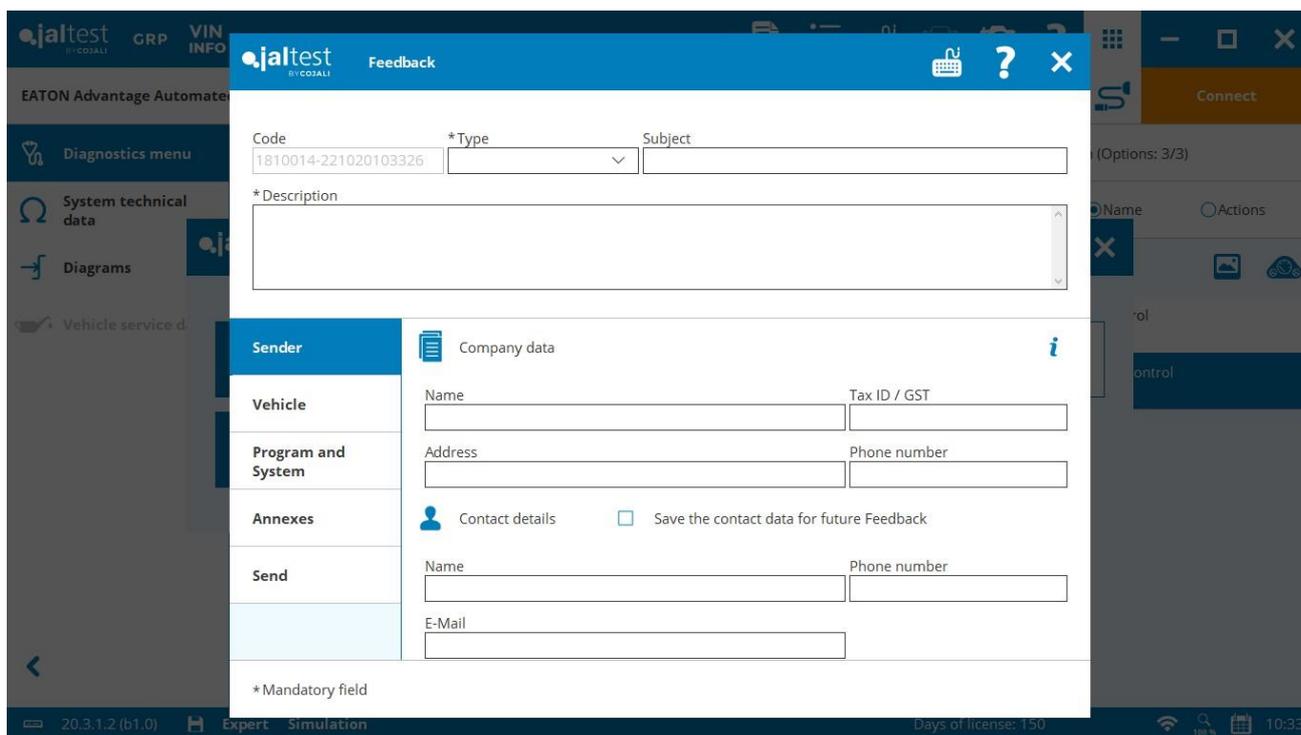
[Explained previously.](#)

## Feedback

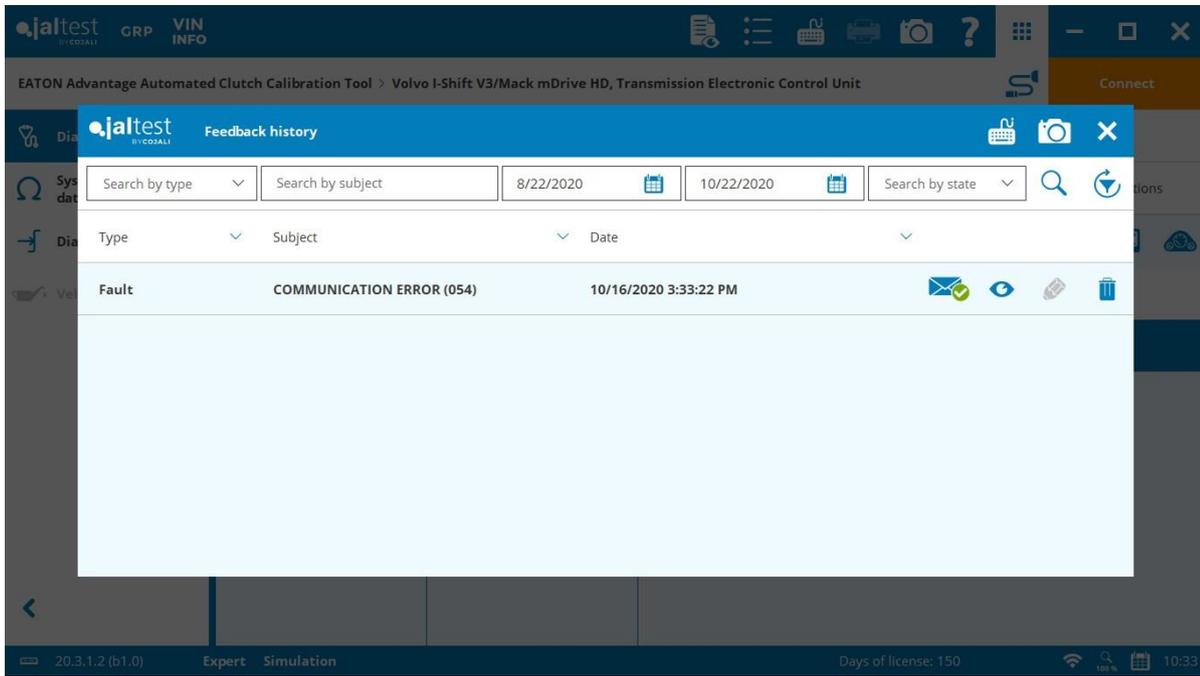
The software allows for sending suggestions, errors or questions directly to Cojali Engineering. This is very useful when an issue occurs because the software attaches a Log from the vehicle's data bus.



## New Feedback



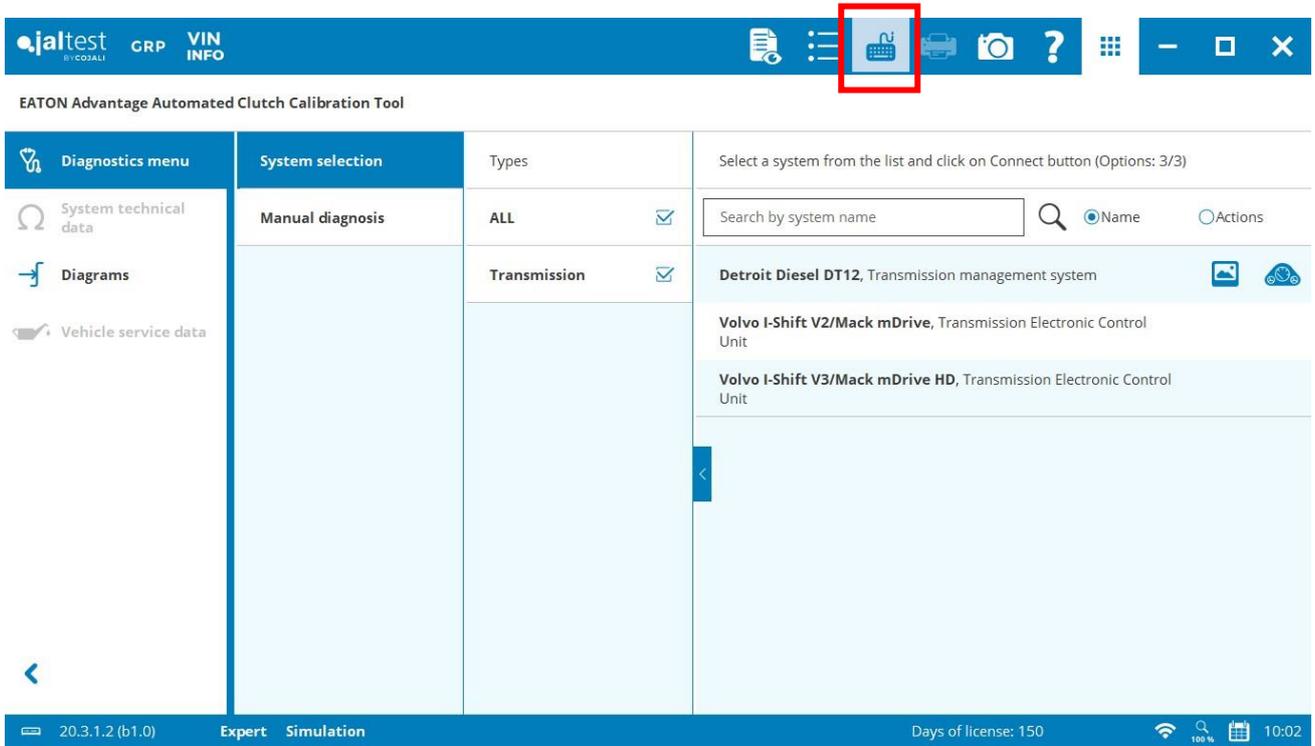
### Feedback history



### License

[Explained previously.](#)

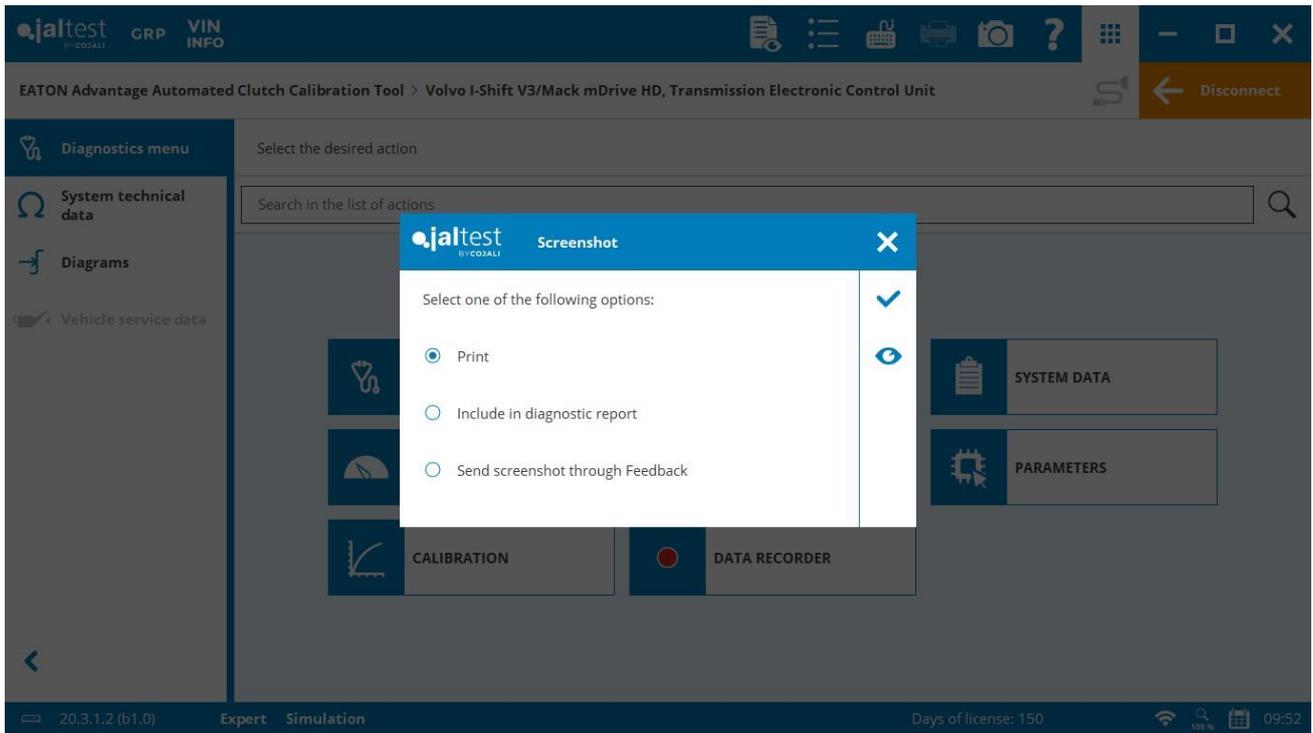
### Virtual keyboard



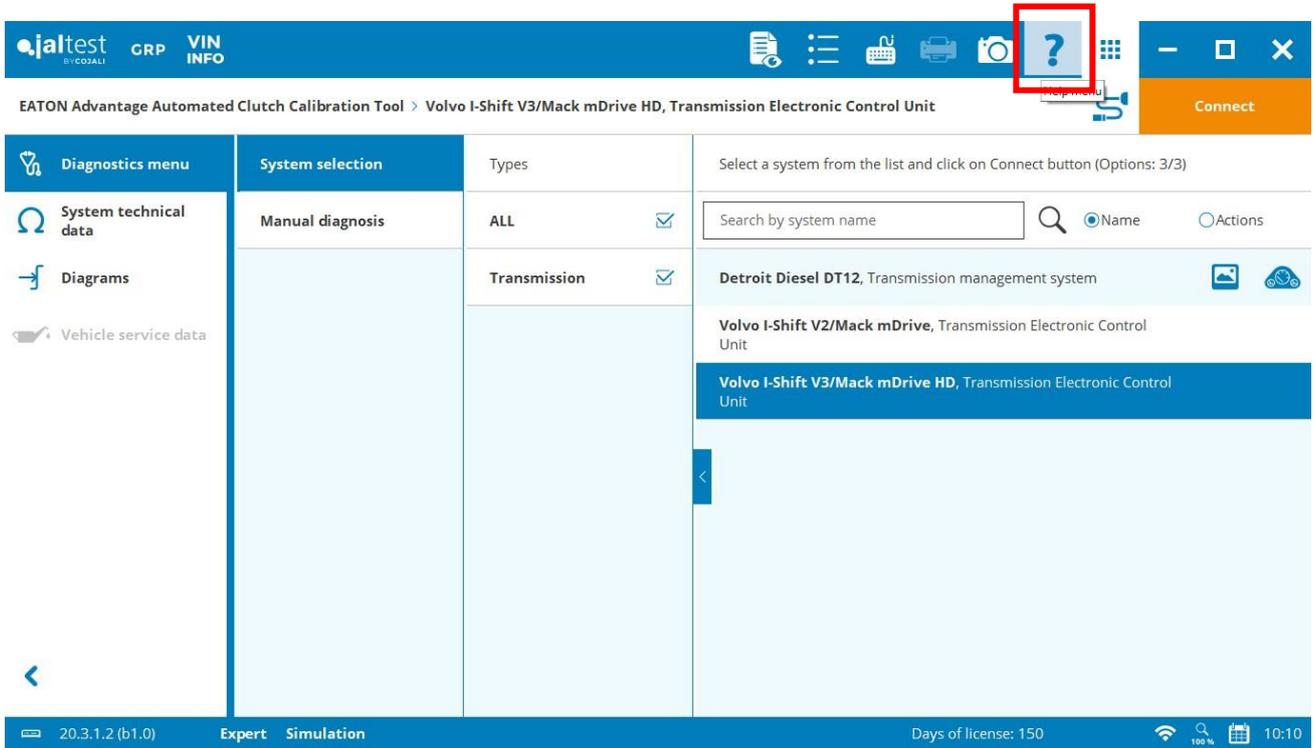
The screenshot shows the 'EATON Advantage Automated Clutch Calibration Tool' interface. The top bar includes 'jaltest by COJALI', 'GRP', and 'VIN INFO'. The main area is divided into a left sidebar with 'Diagnostics menu', 'System technical data', 'Diagrams', and 'Vehicle service data'. The central panel is titled 'System selection' and contains a table with columns for 'Types', 'Manual diagnosis', and a search field. The table lists 'ALL' and 'Transmission' as available types. Below the table, two system options are listed: 'Detroit Diesel DT12, Transmission management system' and 'Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit'. An 'On-Screen Keyboard' window is overlaid on the interface, showing a full QWERTY keyboard layout with Spanish characters. The bottom status bar displays '20.3.1.2 (b1.0)', 'Expert Simulation', 'Days of license: 150', and the time '09:52'.

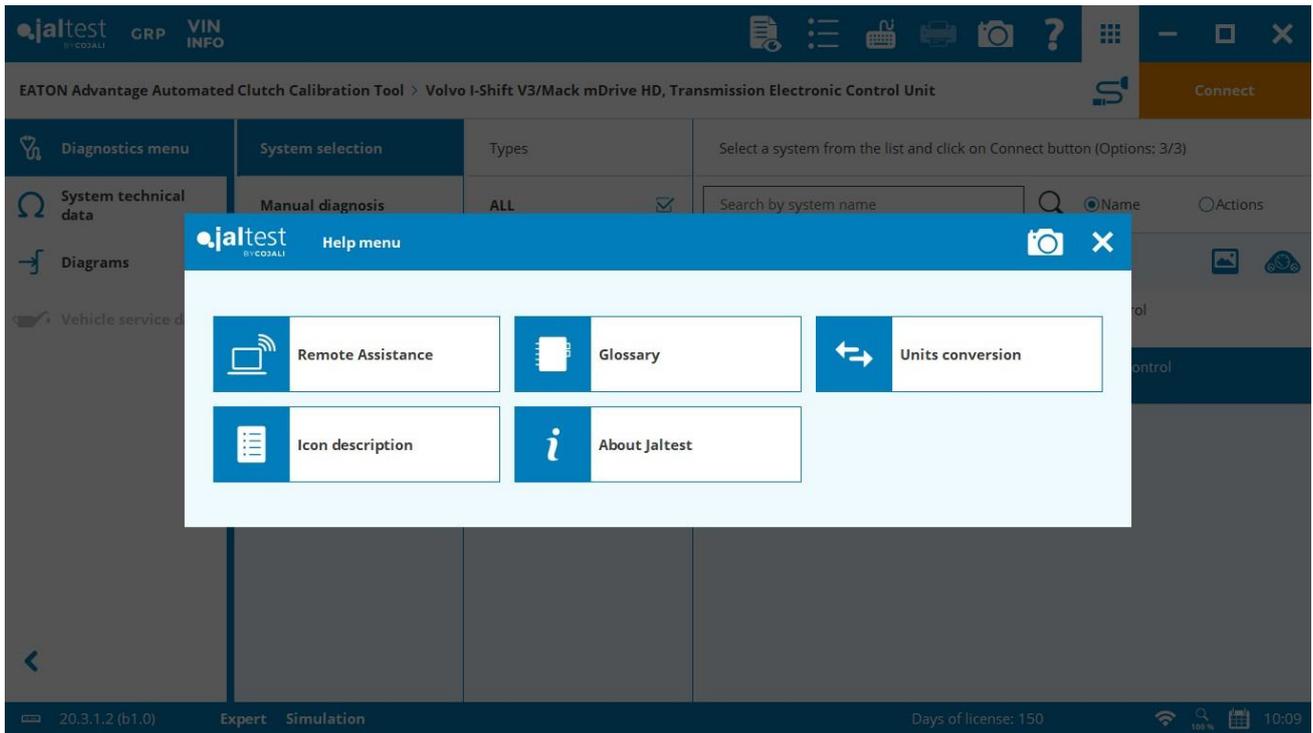
### Screenshot

This screenshot shows the 'EATON Advantage Automated Clutch Calibration Tool' interface for the 'Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit'. The top bar includes 'jaltest by COJALI', 'GRP', and 'VIN INFO'. The main area is titled 'Select the desired action' and features a search field 'Search in the list of actions'. Below the search field, there is a grid of seven diagnostic action buttons: 'READ FAULT CODES', 'CLEAR FAULT CODES', 'SYSTEM DATA', 'MONITORING', 'SYSTEM CHECKS', 'PARAMETERS', and 'CALIBRATION'. A 'DATA RECORDER' button is also visible. The bottom status bar displays '20.3.1.2 (b1.0)', 'Expert Simulation', 'Days of license: 150', and the time '10:03'. A red box highlights the camera icon in the top right corner of the interface.

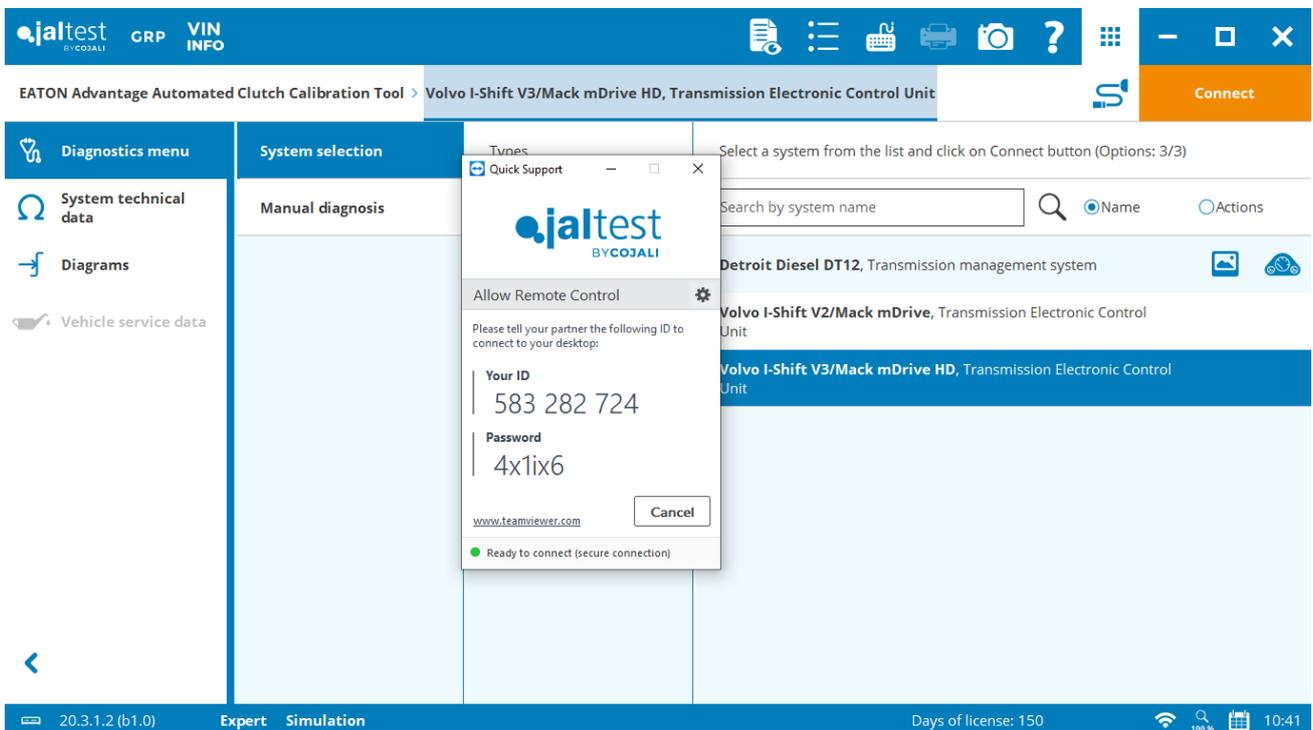


## Help





### Remote Assistance



## Glossary

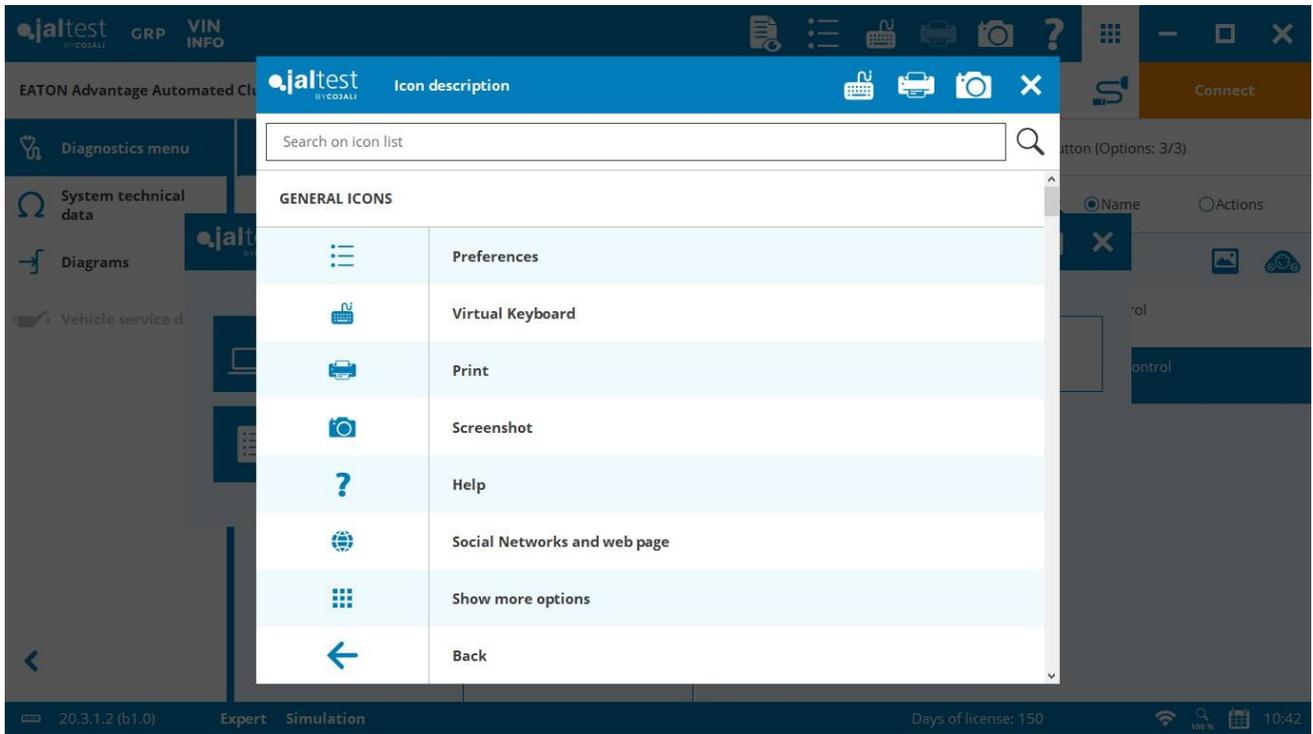
The screenshot shows the 'Glossary' window in the jalttest application. It features a search bar at the top with the placeholder text 'Search in terms glossary'. Below the search bar is a table with columns for 'Acronyms', 'Description', and 'Info'. The table lists various automotive terms and their descriptions.

Acronyms	Description	Info
24N (-)	24N TRAILER CONNECTOR	<a href="#">i</a>
24S (-)	24S TRAILER CONNECTOR	<a href="#">i</a>
2WD / TWD (Two Wheel Drive)	2WD (2 WHEEL DRIVE)	
2WS (Two Wheel Steering)	2WD (2 WHEEL DRIVE)	
4EAT (4-speed Electronic Automatic Transmission)	AUTOMATIC TRANSMISSION (4-SPEED)	
4W ETC (4 Wheel Electronic Transmission Control)	4WD ELECTRONICS - TRANSMISSION ELECTRONIC CONTROL UNIT	
4WD (Four Wheel Drive)	4WD ELECTRONICS	
4WS (Four-Wheel Steering)	FOUR-WHEEL STEERING	

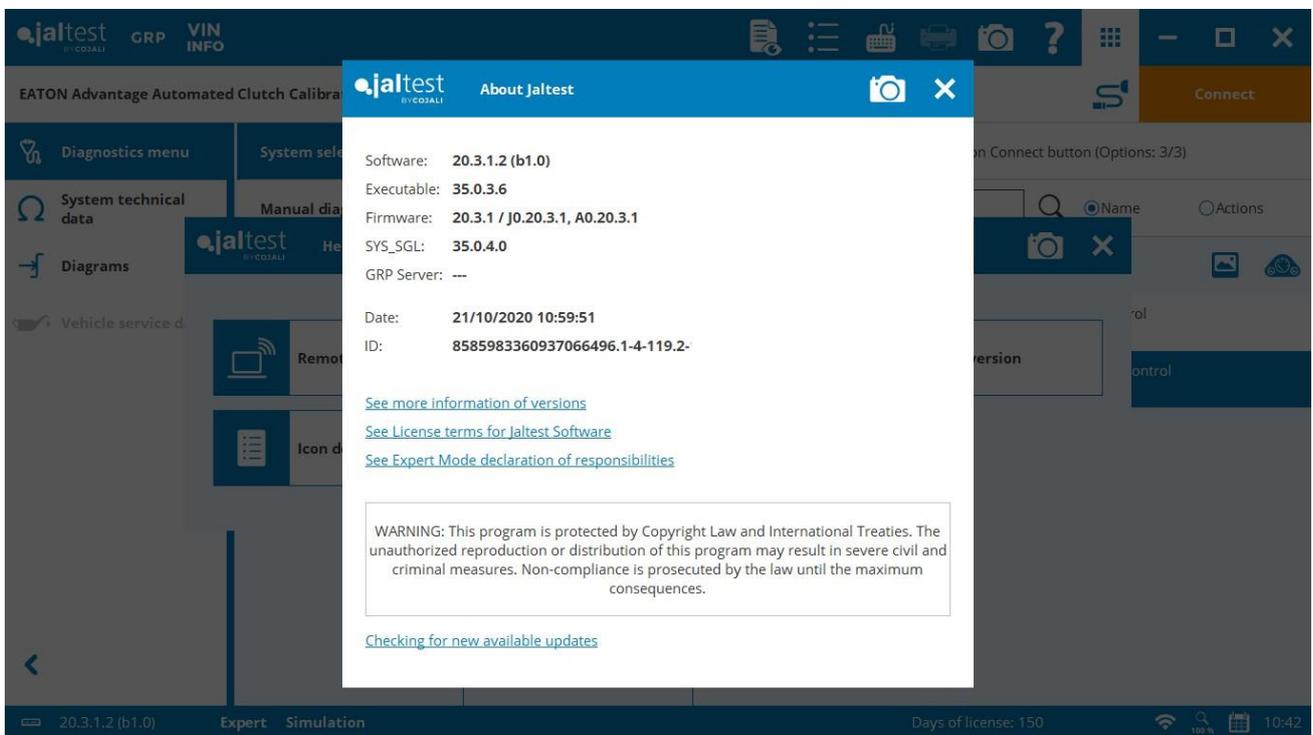
## Units conversion

The screenshot shows the 'Units conversion' dialog box in the jalttest application. The dialog box prompts the user to 'Select the magnitude and convert the values between different measurements units.' It contains three input fields: 'Magnitude', 'Value', and 'Result'. The 'Magnitude' field is set to 'Length'. The 'Value' field contains '1' and the unit 'mi'. The 'Result' field shows '1.6093440' and the unit 'km'.

## Icon description



## About Jaltest



### Hide/Show options button

The screenshot shows the jalttest application interface. At the top, there is a blue header with the jalttest logo, 'GRP', and 'VIN INFO'. Below this, a navigation bar displays 'EATON Advantage Automated Clutch Calibration Tool > Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit'. A red box highlights a 3x3 grid icon in the top right corner of the application window, which is used to toggle the visibility of the options menu. The main area is divided into a left sidebar with 'Diagnostics menu', 'System technical data', 'Diagrams', and 'Vehicle service data'. The central part shows 'System selection' with a table of system types and a search bar. The right side lists selected systems, including 'Detroit Diesel DT12, Transmission management system' and 'Volvo I-Shift V2/Mack mDrive, Transmission Electronic Control Unit'. The bottom status bar shows version '20.3.1.2 (b1.0)', 'Expert Simulation', and 'Days of license: 150'.

### Printer

The screenshot shows the jalttest application interface displaying a wiring diagram. At the top, there is a blue header with the jalttest logo, 'GRP', and 'VIN INFO'. Below this, a navigation bar displays 'EATON Advantage Automated Clutch Calibration Tool > Detroit Diesel DT12, Transmission management system'. A red box highlights a printer icon in the top right corner of the application window. The main area is divided into a left sidebar with 'Diagnostics menu', 'System technical data', 'Diagrams', and 'Vehicle service data'. The central part shows 'Wiring diagram' with a search bar and a 'Show component list' button. The right side has a 'Select another configuration' button. The main display area shows a wiring diagram titled 'TCM DT12\_V 15.1' with a page indicator '1/2'. The diagram includes components like 'CX1', '7.5A', '15A', '15A', 'X1', 'CA1', 'X2', 'CB1', 'CB2', and 'CB3'. The bottom status bar shows version '20.3.1.2 (b1.1)', 'Expert Simulation', and 'Days of license: 146'.

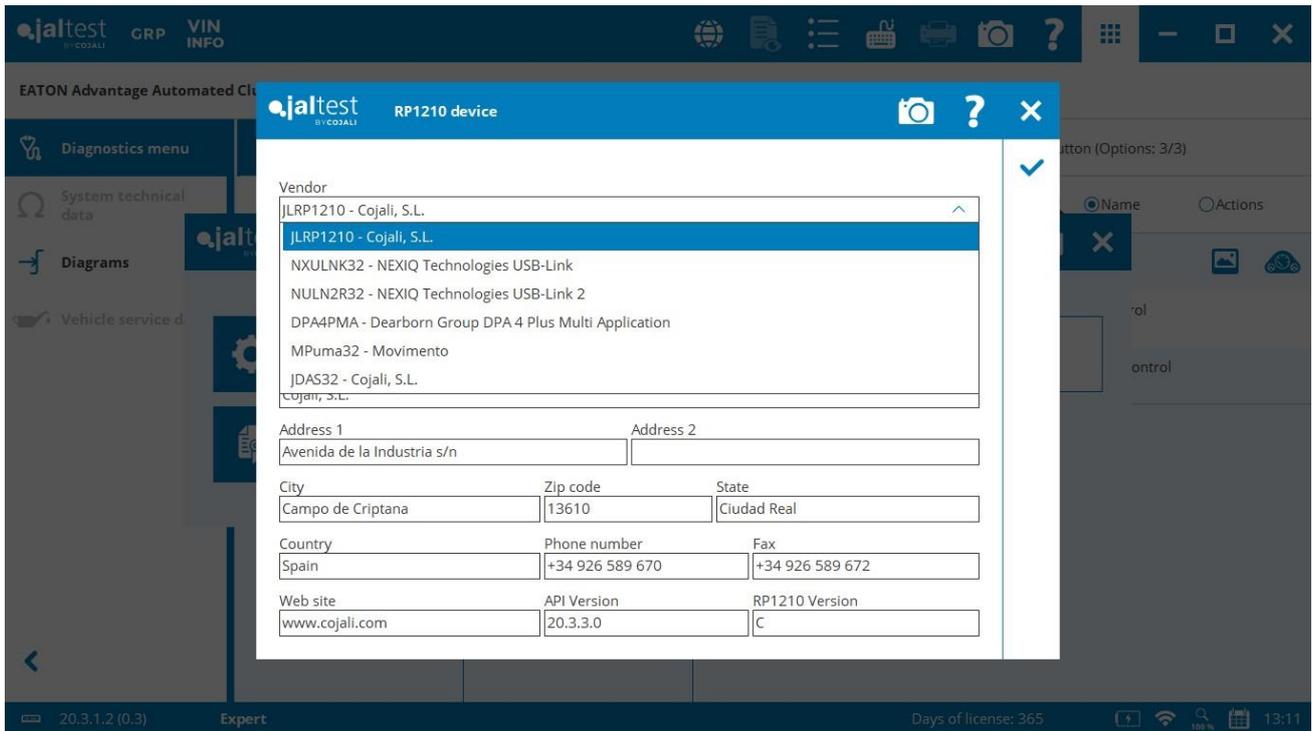
## Connecting to the transmission control unit

Select the system and a “Connect” button will appear. Click on the “Connect” button.

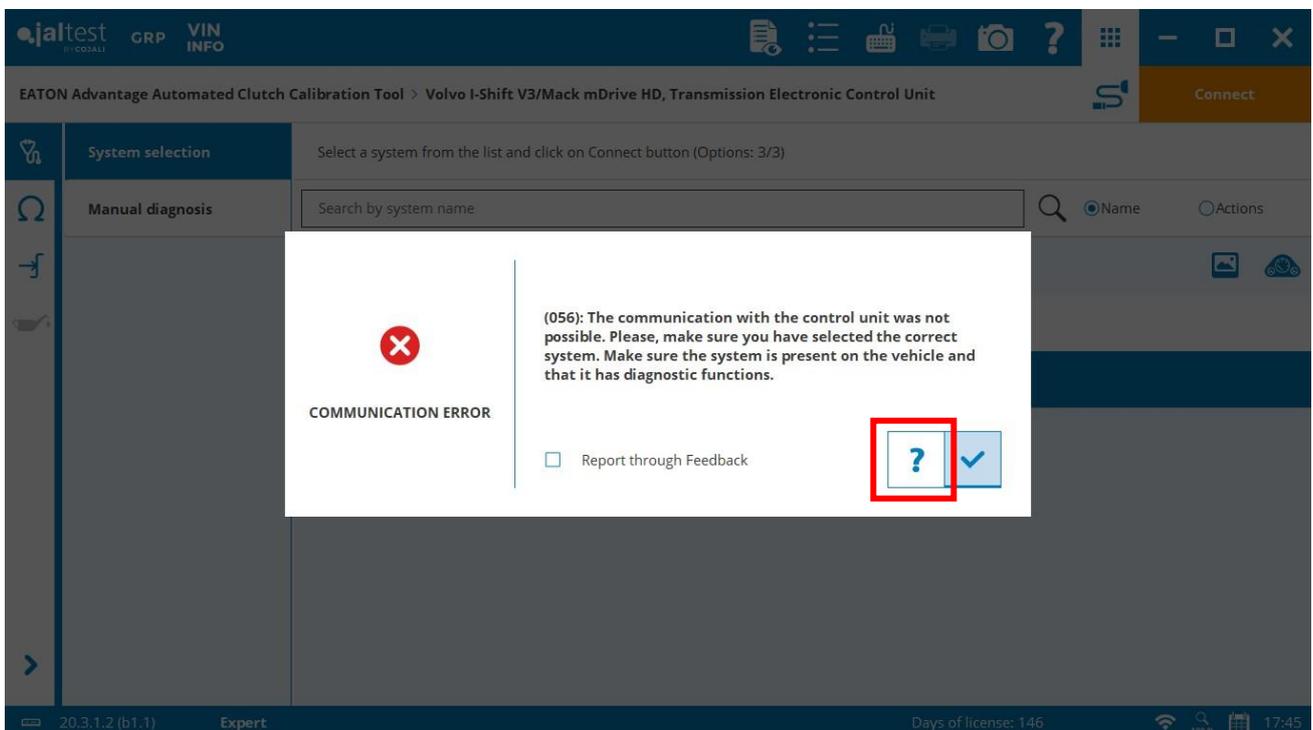
The screenshot shows the software interface for the EATON Advantage Automated Clutch Calibration Tool. The breadcrumb trail indicates the path: EATON Advantage Automated Clutch Calibration Tool > Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit. On the left, there is a 'Diagnostics menu' with options for System technical data, Diagrams, and Vehicle service data. The main area is titled 'System selection' and contains a table with columns for 'Types' and a search bar. The table lists three systems: Detroit Diesel DT12, Volvo I-Shift V2/Mack mDrive, and Volvo I-Shift V3/Mack mDrive HD. The third system is selected. An orange 'Connect' button is visible in the top right corner, highlighted with a red box.

The screenshot shows the software interface for the EATON Advantage Automated Clutch Calibration Tool. The breadcrumb trail indicates the path: EATON Advantage Automated Clutch Calibration Tool > Volvo I-Shift V3/Mack mDrive HD, Transmission Electronic Control Unit. On the left, there is a 'Diagnostics menu' with options for System technical data, Diagrams, and Vehicle service data. The main area is titled 'Select the appropriate connection in order to connect to the system. Connections if using the Jaltest Data-Link RP1210 device'. It shows three available connections: CONNECTION 1 (selected), CONNECTION 2, and CONNECTION 3. Below the connections, there are instructions for using the JDC 213.9 device, including a pin-out diagram for the RP1210 device. The pin-out diagram shows a 16-pin connector with pins 1, 8, 9, and 16 highlighted. The instructions include: 'Make sure to use the appropriate cable, whose reference must match the one displayed. When the cable is not available, contact your distributor or use the multipins option.', 'Verify the cables and the pins of the diagnosis connector are not damaged.', 'Guarantee the electrical supply of the vehicle, of the system and of the diagnosis device. Check whether the vehicle battery is in perfect conditions.', 'Avoid connecting the diagnosis device with a moving vehicle.', and 'The remaining conditions of use may be found in the program.'

During the first connection, the software will request to identify the RP1210 device used. This can be modified, as explained before, from the “Preferences” menu > “RP1210 device” section.



If the connection fails, or potential issues occur, troubleshooting guides will be provided.



The screenshot displays the jalttest software interface with a 'Software errors repair guide' window open. The window title is 'Software errors repair guide' and it contains the following information:

- Instructions:** Instructions if using Jalttest Link device. Apply similar considerations if using another RP1210 device.
- 056: System communication fault.**
- Description:** It is not possible to communicate with the selected system.
- Possible causes:**
  - A communication error has occurred during the connection to the system or while executing an action.
  - The selected system is not the correct one.
  - The system does not have diagnosis with electronic communication.
- Guide for solving it:**
  - Step 1:** If the error occurred while connecting to the system:
  - Step 2:** If the error occurred while executing an action:

The version number 'V. 5.3.0.0' is visible in the bottom right corner of the repair guide window. The background software interface shows 'EATON Advantage' and 'jalttest BY COJALI' branding, along with various system icons and a status bar at the bottom indicating '20.3.1.2 (b1.1) Expert' and 'Days of license: 146'.

## Main menu

Read fault codes

Clear fault codes

System data (e.g., ECU data, SW and HW references)

Operation data (e.g., Total and trip data)

Monitoring (Live data and System display)

Actuate components

System checks

Maintenance (components reset)

**Calibration (e.g., clutch calibration)**

Parameters (reprogram transmission ECU memory)

Data recorder (perform a road test)

The screenshot displays the main menu of the diagnostic software. The interface is organized into several sections:

- Header:** Includes the 'jaltest' logo, 'GRP VIN INFO', and various utility icons (globe, printer, camera, etc.). A 'Disconnect' button is visible in the top right.
- Navigation Bar:** Lists menu categories: 'Diagnostics menu' (selected), 'System technical data', 'Diagrams', and 'Vehicle service data'.
- Main Content Area:** A grid of action buttons:
  - READ FAULT CODES
  - CLEAR FAULT CODES
  - SYSTEM DATA
  - OPERATION DATA
  - MONITORING
  - ACTUATE COMPONENTS
  - SYSTEM CHECKS
  - MAINTENANCE
  - CALIBRATION (highlighted in blue)
  - DATA RECORDER
- Footer:** Shows version '20.3.1.2 (0.3)', 'Expert' mode, 'Days of license: 365', and system status icons (battery, Wi-Fi, 100% signal, calendar) with the time '12:37'.

## Read fault codes

- 1) Fault code status
- 2) Fault code number
- 3) Number of occurrences
- 4) Description
- 5) Freeze frame data
- 6) Help and components related

The screenshot shows the 'jaltest' diagnostic software interface. The main display area is titled 'READ FAULT CODES' and shows a table of fault codes stored in memory. The table has two columns for fault code number and description, and two columns for status and help. The fault codes listed are P1058 and P1066. Red numbers 1-6 are overlaid on the interface to correspond to the list above.

1	2	3	4	5	6
×	P1058 x1	Rpm sensor of the intermediate shaft of the transmission.	i	?	✓
×	P1066 x1	Fast disengagement solenoid valve.	i	?	✗

At the bottom of the main display area, there are three fault status options: ACTIVE FAULT (with a red 'x' icon), NON-ACTIVE FAULT (with a grey 'x' icon), and OTHER FAULT STATES (with a yellow 'x' icon). A 'Disconnect' button is visible in the top right corner of the software interface.

## Freeze frame data detail

The screenshot shows the 'Freeze Frame Data' section of the diagnostic tool. The top navigation bar includes 'jaltest BY COJALI', 'GRP', 'VIN INFO', and various utility icons. The breadcrumb trail reads 'EATON Advantage Automated Clutch Calibration Tool > Detroit Diesel DT12, Transmission management system'. A 'Disconnect' button is visible in the top right.

The left sidebar contains navigation options: 'Diagnostics menu', 'System technical data', 'Diagrams', and 'Vehicle service data'. The main content area is titled 'READ FAULT CODES' and displays a fault code: 'SPN: 521222 FMI: 19 -- CPC (Common Powertrain Controller). Communication error with TCM.' Below this, three tabs are available: 'Freeze Frame Data' (selected), 'Help and components of the fault', and 'Fault Code Troubleshooting'.

A search bar is present above a table of freeze frame data. The table contains the following information:

PRIORITY	1
DATE - LAST OCCURRENCE	06/12/2017
HOUR - LAST OCCURRENCE	16:03:47
WARNING LAMP	ON
SYSTEM STATE	ACTIVE

The bottom status bar shows '20.3.1.2 (b1.1)', 'Expert Simulation', 'Days of license: 146', and the time '12:13'.

## Help and components related detail

This screenshot shows the 'Help and components related detail' section. The interface is similar to the previous one, but the 'Help and components of the fault' tab is selected. It provides 'Possible fault causes' and a list of 'COMPONENTS RELATED TO THE FAULT'.

**Possible fault causes:**

- Communication failure or fault.
- Incorrect programming data.

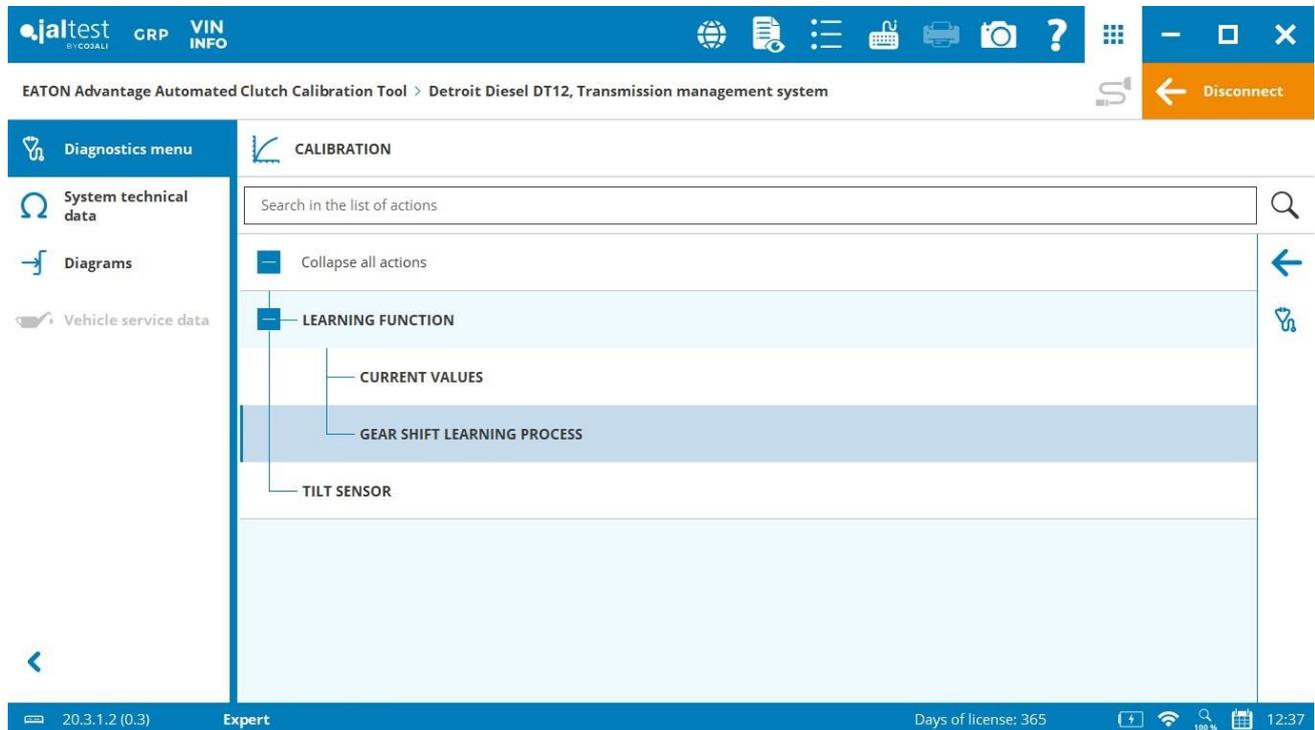
**COMPONENTS RELATED TO THE FAULT**

CA1, Transmission ECU	<a href="#">See information about the component</a>	↗
CAN H Diag Line, CAN High diagnostic line		↗
CAN L Diag Line, CAN Low diagnostic line		↗

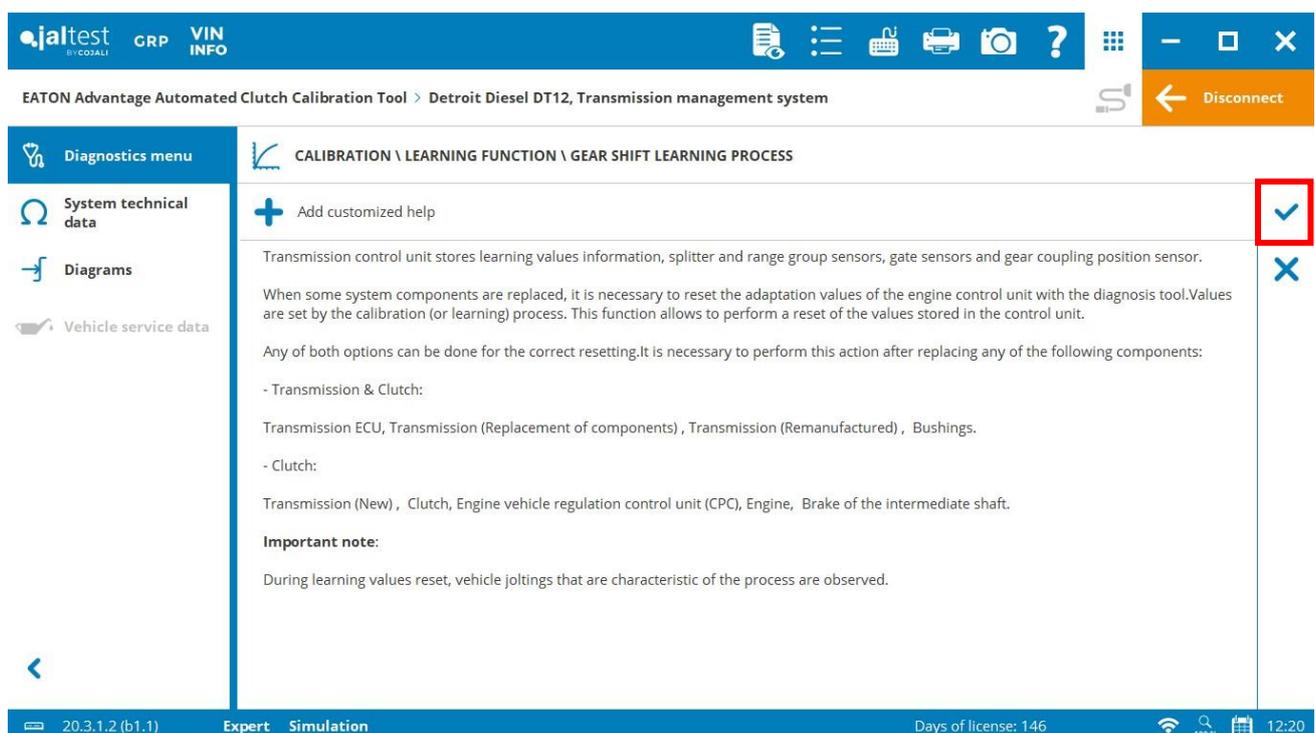
The bottom status bar remains the same, showing '20.3.1.2 (b1.1)', 'Expert Simulation', 'Days of license: 146', and '12:13'.

## Calibration

### Select the functionality



Action Help will be displayed. Read carefully and click on the checkmark icon. During the rest of the steps of the functionality, it will be possible to go back to this information through the question mark. See third picture below.



It is possible to customize the action help using the next highlighted icon.

The screenshot shows the software interface for the 'EATON Advantage Automated Clutch Calibration Tool'. The top navigation bar includes 'jaltest', 'GRP', and 'VIN INFO'. The main title is 'CALIBRATION \ LEARNING FUNCTION \ GEAR SHIFT LEARNING PROCESS'. On the left, there is a 'Diagnostics menu' with options for 'System technical data', 'Diagrams', and 'Vehicle service data'. The main content area contains a red box around a '+' icon labeled 'Add customized help'. Below this, there is text explaining that the transmission control unit stores learning values and that a reset is necessary when components are replaced. An 'Important note' states that during the reset process, vehicle joltings are observed. The bottom status bar shows '20.3.1.2 (b1.1)', 'Expert Simulation', and 'Days of license: 146'.

The screenshot shows the same software interface, but now displaying a table of initial conditions. The table has four rows: 'ENGINE SPEED' (2430 rpm), 'SUPPLY PRESSURE' (127 psi), 'CLUTCH CALIBRATION, STATE' (STORED DATA), and 'TRANSMISSION CALIBRATION, STATE' (STORED DATA). Above the table, there is an information icon and the text: 'BEFORE CONTINUING, PLEASE READ CAREFULLY THE INITIAL CONDITIONS AND THE HELP PROVIDED.' Below this, it lists '- ENGINE OFF, KEY ON' and '- THE AIR SUPPLY PRESSURE OF THE SYSTEM MUST BE OPTIMAL > 120 psi (8.3 bar)'. The 'ENGINE SPEED' row has a red box around a question mark icon. The bottom status bar shows '20.3.1.2 (b1.1)', 'Expert Simulation', and 'Days of license: 146'.

<p><b>BEFORE CONTINUING, PLEASE READ CAREFULLY THE INITIAL CONDITIONS AND THE HELP PROVIDED.</b></p> <ul style="list-style-type: none"> <li>- ENGINE OFF, KEY ON</li> <li>- THE AIR SUPPLY PRESSURE OF THE SYSTEM MUST BE OPTIMAL &gt; 120 psi (8.3 bar)</li> </ul>			
ENGINE SPEED	2430 rpm		
SUPPLY PRESSURE	127 psi (lbf/in²)		
CLUTCH CALIBRATION, STATE	STORED DATA		
TRANSMISSION CALIBRATION, STATE	STORED DATA		

During the functionality, some initial conditions will need to be met in order to successfully carry out the procedure. Pay attention to the next icons to make sure those conditions are met. Click on the checkmark once these initial conditions are met.

EATON Advantage Automated Clutch Calibration Tool > Detroit Diesel DT12, Transmission management system

20.3.1.2 (b1.1) Expert Simulation Days of license: 146 100% 12:22

**Diagnosis menu** CALIBRATION \ LEARNING FUNCTION \ GEAR SHIFT LEARNING PROCESS

System technical data

Diagrams

Vehicle service data

BEFORE CONTINUING, PLEASE READ CAREFULLY THE INITIAL CONDITIONS AND THE HELP PROVIDED.

- ENGINE OFF, KEY ON
- THE AIR SUPPLY PRESSURE OF THE SYSTEM MUST BE OPTIMAL > 120 psi (8.3 bar)

ENGINE SPEED	2430 rpm	
SUPPLY PRESSURE	127 psi (lbf/in <sup>2</sup> )	
CLUTCH CALIBRATION, STATE	STORED DATA	
TRANSMISSION CALIBRATION, STATE	STORED DATA	

The calibration process will start. Checkmark is disabled as this is an automatic step. It will finish automatically.

EATON Advantage Automated Clutch Calibration Tool > Detroit Diesel DT12, Transmission management system

20.3.1.2 (0.3) Expert Days of license: 365 100% 12:55

**Diagnosis menu** CALIBRATION \ LEARNING FUNCTION \ GEAR SHIFT LEARNING PROCESS

System technical data

Diagrams

Vehicle service data

THIS CALIBRATION WILL BE AUTOMATICALLY PERFORMED: CALIBRATING  
PLEASE WAIT...

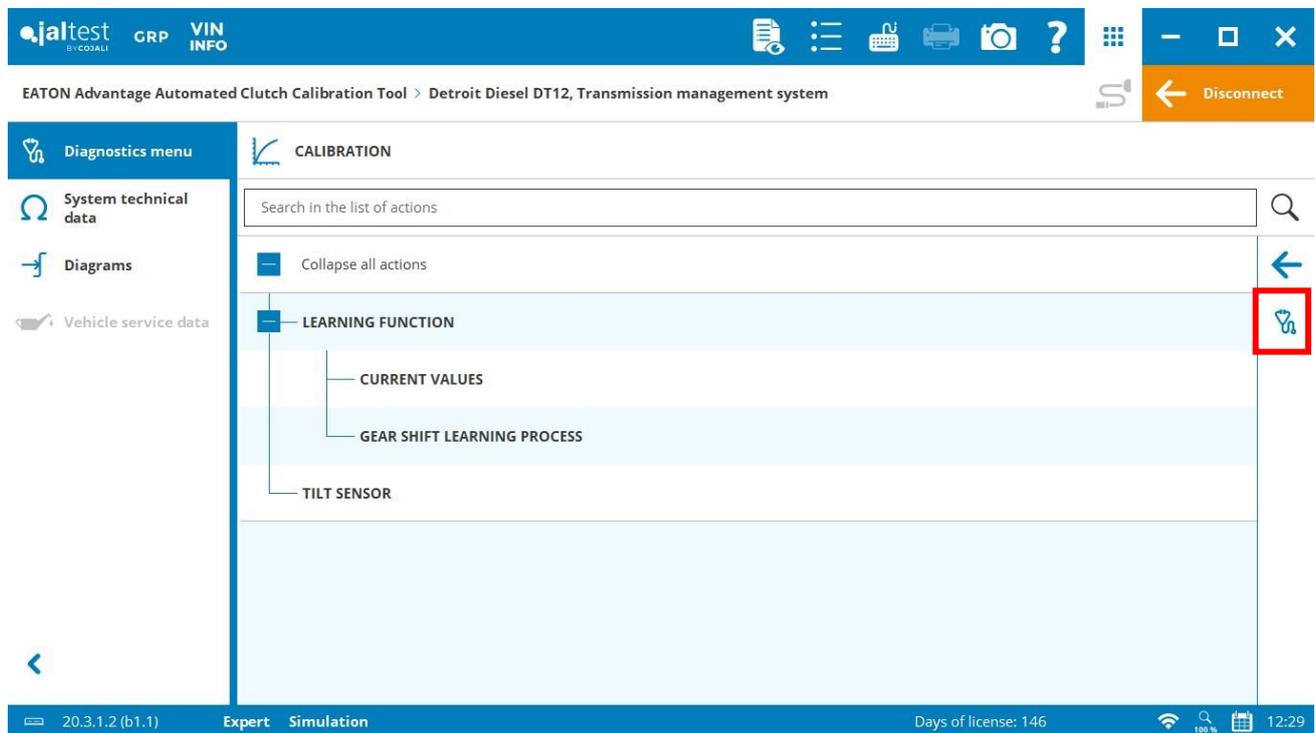
ENGINE SPEED	600 rpm	
SUPPLY PRESSURE	120,6 psi (lbf/in <sup>2</sup> )	
CLUTCH CALIBRATION, STATE	STORED DATA	
TRANSMISSION CALIBRATION, STATE	PROCESSING	

The calibration has finished. After this step, the new values stored on the ECU will be shown.

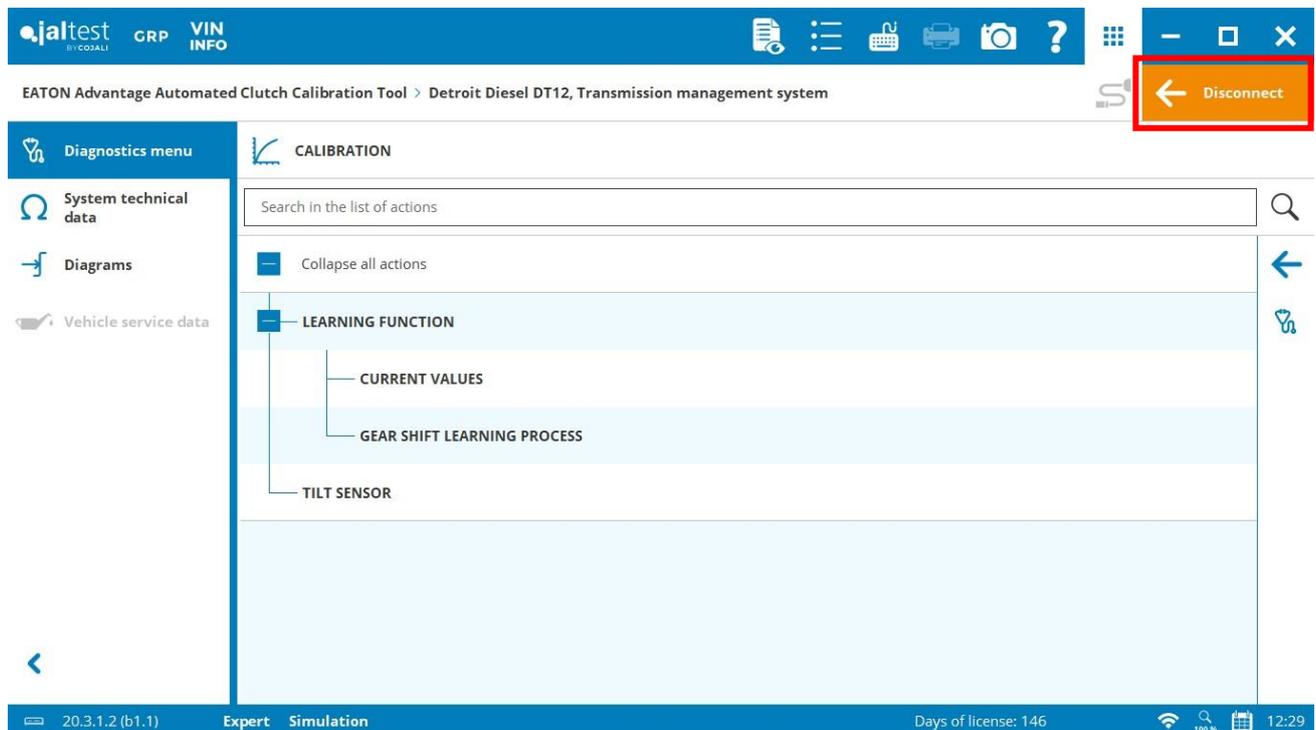
See new values stored in the next picture. It is possible to add comments in the diagnostics report.

Search in the live data list	
SPLITTER GROUP SENSOR, LEARNED VALUE (MINIMUM VALUE)	3,267 in
SPLITTER GROUP SENSOR, LEARNED VALUE (MAXIMUM VALUE)	2,440 in
RANGE GROUP SENSOR, LEARNED VALUE (MINIMUM VALUE)	1,535 in
RANGE GROUP SENSOR, LEARNED VALUE (MAXIMUM VALUE)	3,622 in
GEAR SENSOR, LEARNED VALUE (MINIMUM VALUE)	3,661 in
GEAR SENSOR, LEARNED VALUE (MAXIMUM VALUE)	1,692 in

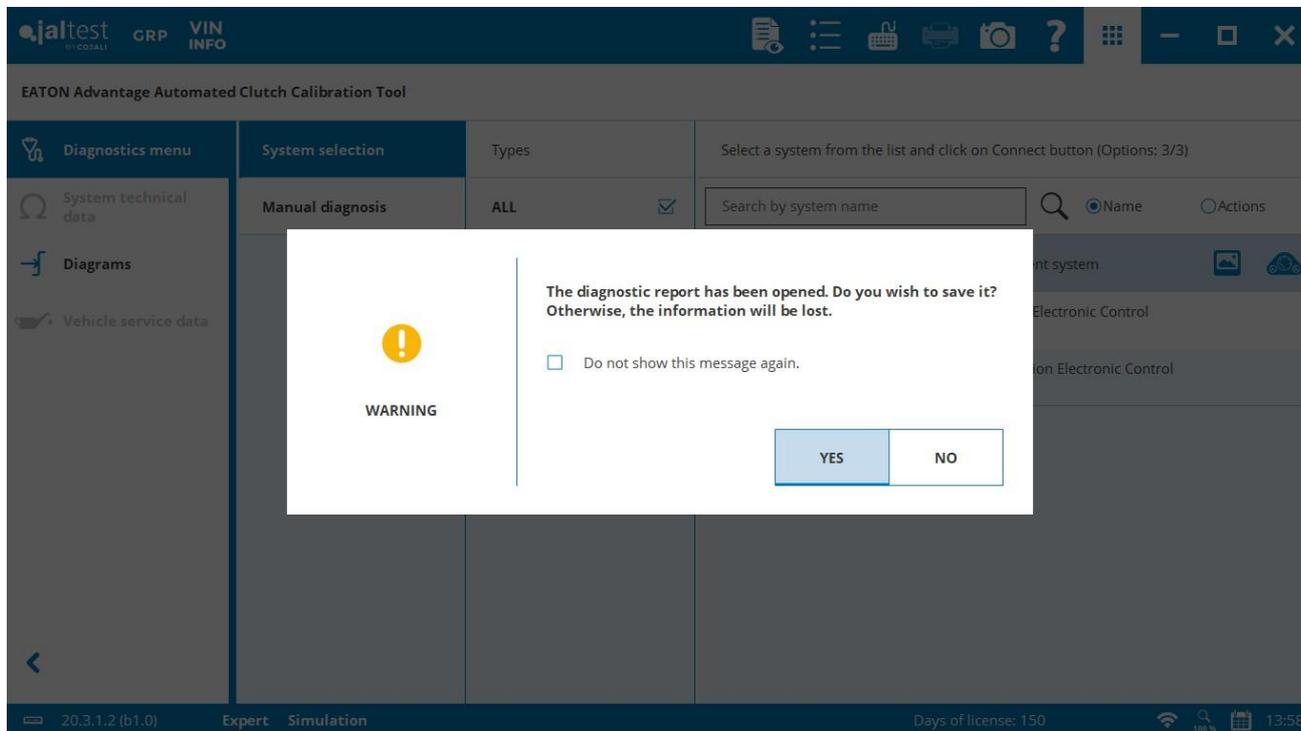
Every time a functionality is completed, there is a shortcut to read fault codes.



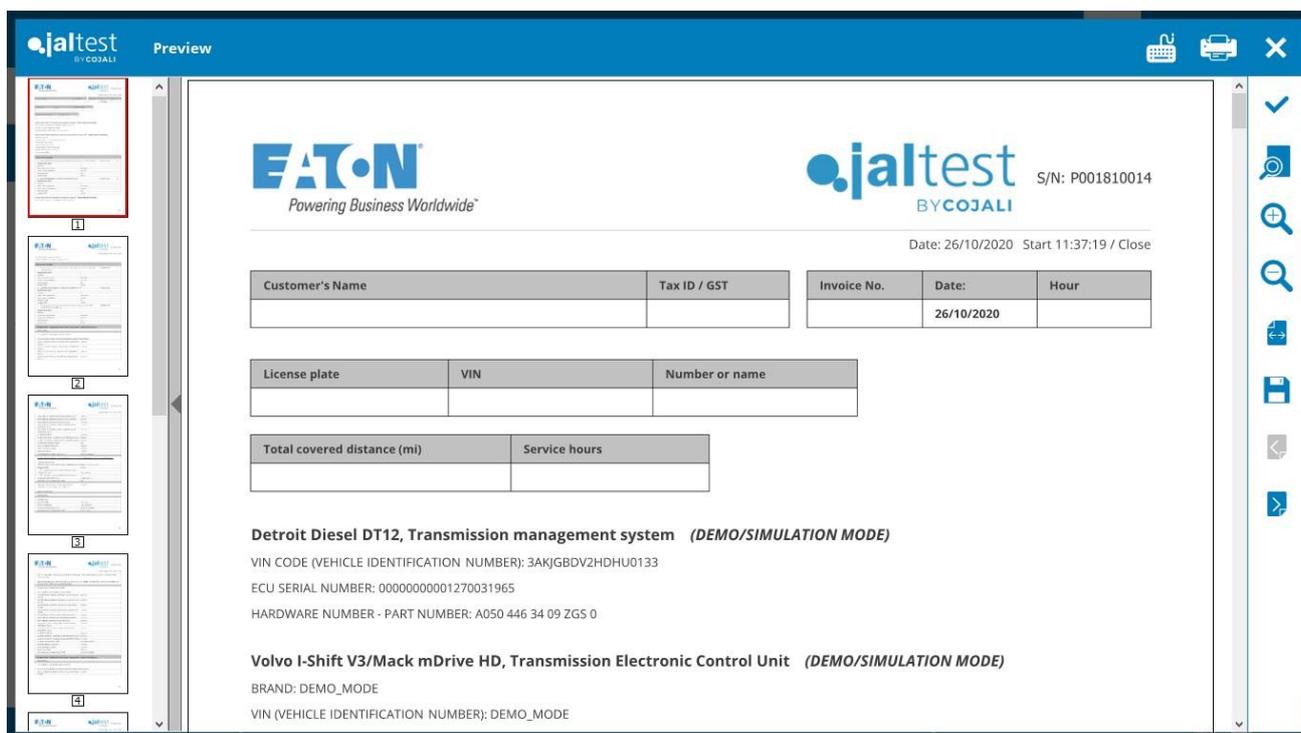
Once the diagnostics session is completed, it is possible to select “Disconnect”, to disconnect from the system.



When closing the software or when selecting to preview the diagnostics report (at the top, icon beside the “Preferences” button), it is possible to generate a diagnostic report which can be stored in the GRP module. Also, the checkbox shown below can be enabled to save these preferences for future times.



Select “YES” and a diagnostics report preview will appear. The report can be saved and printed (in PDF format as well).

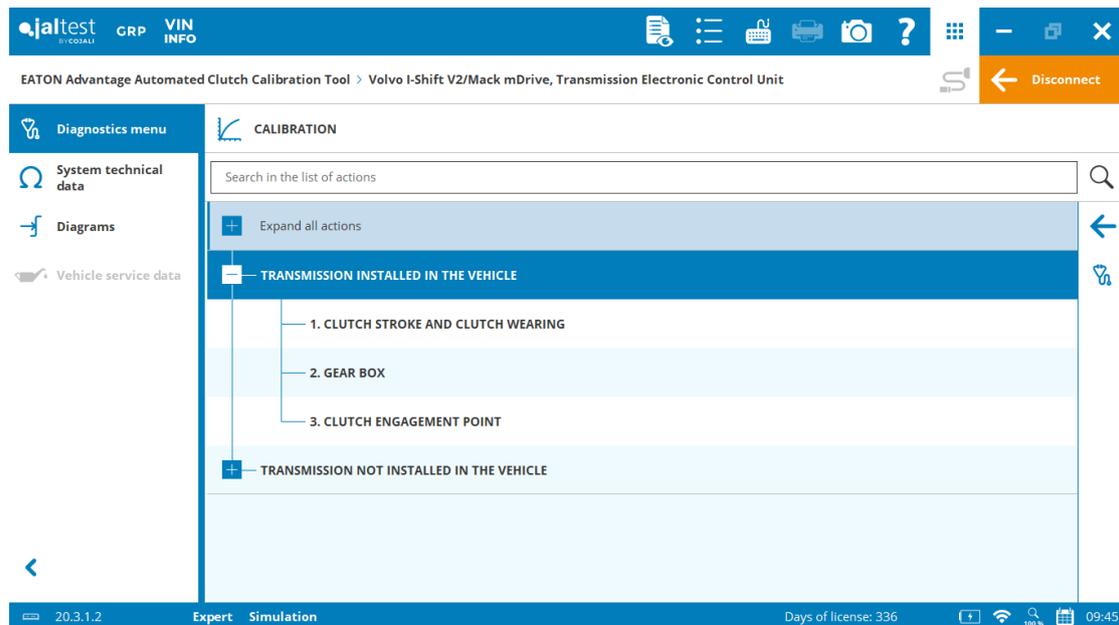


## 4. Clutch calibration

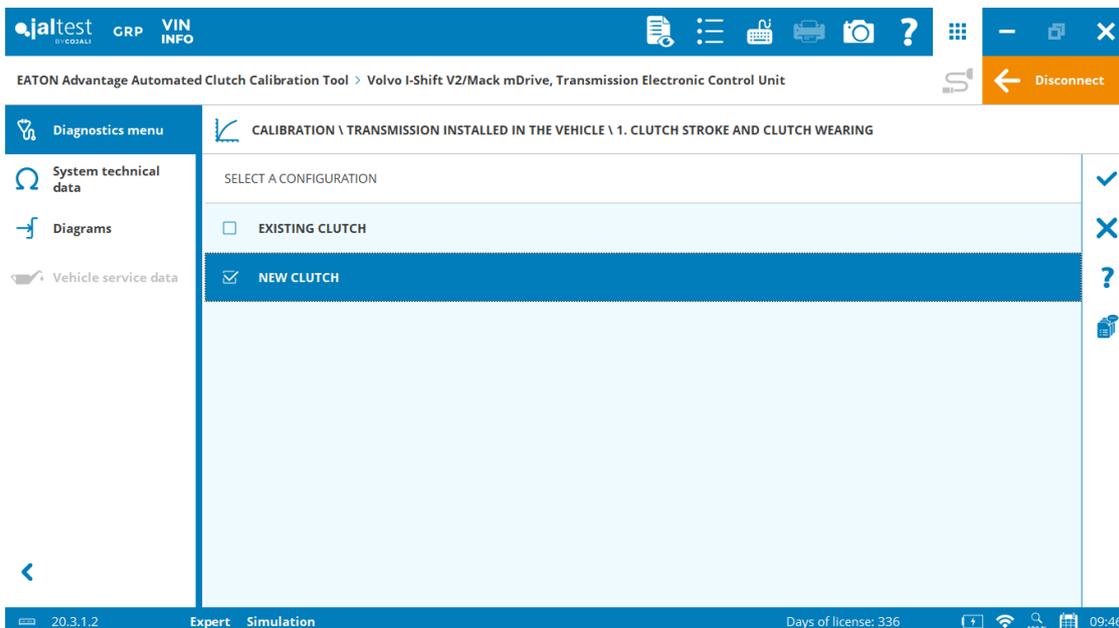
This is the necessary selection when a new Eaton Advantage Automated Clutch tool is installed.

### Volvo I-Shift V2 / Mack mDRIVE

Note: Clutch calibration with the transmission not installed in the vehicle is also supported.



Select "New clutch" option.



## Detroit DT12

The screenshot shows the jaltest software interface. The top bar includes the jaltest logo, GRP and VIN INFO fields, and various utility icons. Below the top bar, the breadcrumb path reads "EATON Advantage Automated Clutch Calibration Tool > Detroit Diesel DT12, Transmission management system". The left sidebar contains navigation options: "Diagnostics menu", "System technical data", "Diagrams", and "Vehicle service data". The main content area is titled "CALIBRATION" and features a search bar and a "Collapse all actions" button. A tree view under "LEARNING FUNCTION" is expanded, showing sub-items: "CURRENT VALUES", "GEAR SHIFT LEARNING PROCESS" (which is highlighted in blue), and "TILT SENSOR". The bottom status bar displays "20.3.1.2", "Expert Simulation", "Days of license: 336", and the time "09:51".

Important. Select “Clutch” option. The other option is used in case TECU and/or other components would have been replaced.

This screenshot shows the jaltest software interface at a later stage. The breadcrumb path is now "CALIBRATION \ LEARNING FUNCTION \ GEAR SHIFT LEARNING PROCESS". The main content area displays a message: "LEARNING FUNCTION, IF YOU DO NOT WISH TO CONTINUE, PLEASE, CANCEL THE PROCESS" followed by "SELECT AN OPTION:". Below this, there are two options: "TRANSMISSION & CLUTCH" (with an unchecked checkbox) and "CLUTCH" (with a checked checkbox and highlighted in blue). The bottom status bar shows the time as "09:52".

## Volvo I-Shift V3 / Mack mDRIVE HD

Select the option highlighted. The first one would be in case you want to perform the adjustment without clutch disc replacement.

