SOFTWARE DOWNLOAD

THE SOFTWARE DOWNLOAD PROCESS FROM VIDA 2010B.

CONTENTS

1 INTRODUCTION

The software download process is changed from VIDA 2010B. The Software product purchase procedure is however almost unaltered. To be able to perform Software Download, the vehicle needs to be connected with a communication device to VIDA. The device will translate messages between the PC and the in-vehicle network.

The communication tool is configured on the VEHICLE PROFILE tab or on the SOFT-WARE tab. It is possible to use more then one DiCE, for software download, at the same time.

In order to download large software products to the MOST network, a USB memory has to be used.

NOTE

VIDA will only approve the USB that Volvo Car Corporation has developed as a special tool for this specific purpose.

NOTE

Use of VCT2000 has been discontinued. It is no longer possible to perform diagnostics or software downloads with this tool.

NOTE

Parallel software download and multiple VIDA sessions is only possible using DiCE. It is not possible to use parallel programming with generic J2534 devices.

NOTE

Software download via USB is only possible using DiCE. For generic J2534 devices refer to step 4.7 of this document.

2 SELECT A COMMUNICATION TOOL

Before vehicle communication can be established a communication tool has to be selected. This should be done in the Communication tool drop-down list on the VEHICLE PROFILE tab or on the SOFTWARE tab.

All communication tools that are installed on the VIDA client are listed in the Communication tool drop-down list.
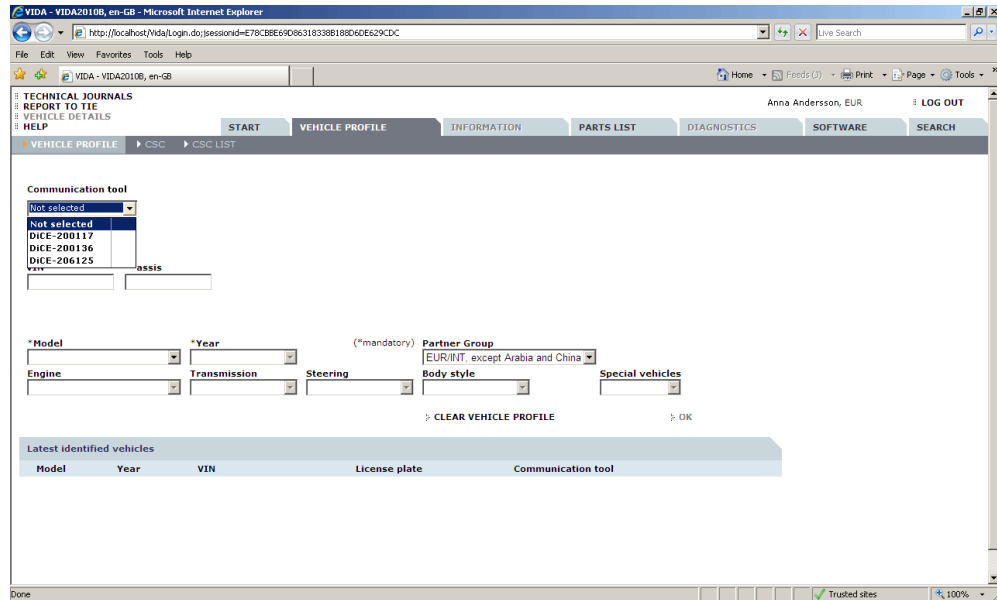
Fig. 1   Installed Communication tools

2.1 Communication tool drop-down list (VEHICLE PROFILE)

There are several ways to specify a vehicle profile in VIDA:

- vehicle profile can be set manually using the drop-down lists. (Do not select communication tool in the drop-down list.)

- entering a VIN (Vehicle Identification Number) manually

- select a row in the Latest identified vehicles list

- read VIN from the vehicle. (Select a Communication tool in the drop-down list.)

A communication tool has to be selected in the drop-down list prior to the vehicle profile being entered if a Diagnostic read out or Software download will be performed. To view a previous Diagnostic read out or diagnostic reference information, do not select Communication tool in the drop-down list.
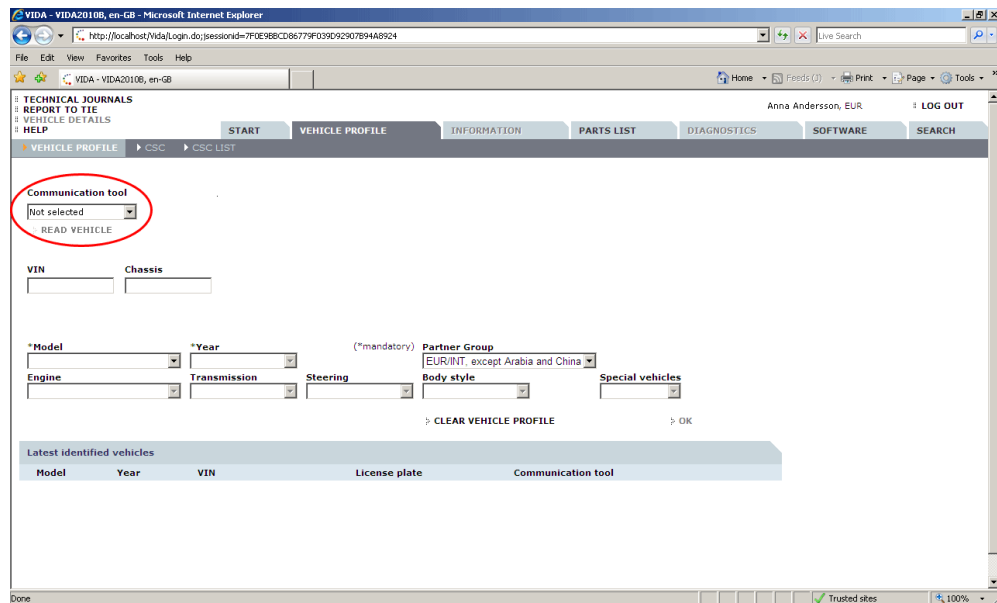

Fig. 2   The Communication tool drop-down list

Select a Communication tool in the drop-down list before performing the following activites:

- Read the VIN from a vehicle
- Diagnostic read out
- Software download

NOTE

Before vehicle communication can be established, a communication tool has to be selected in the Communication tool drop-down list.

In order to help the user to see to which vehicle a certain communication tool is connected, all LEDs on the selected Communication tool will flash.

NOTE

This function is only available on DiCE.

The default value in the Communication tool drop-down list is Not selected.

2.1.1 Latest identified vehicles list

When READ VEHICLE is selected that VIN will be associated with the selected communication tool. This association will appear in the Latest identified vehicles list. As long as a communication tool is associated with a VIN, the READ VEHICLE button in VIDA will be disabled, i.e. the communication tool can not be moved to and used with another vehicle.
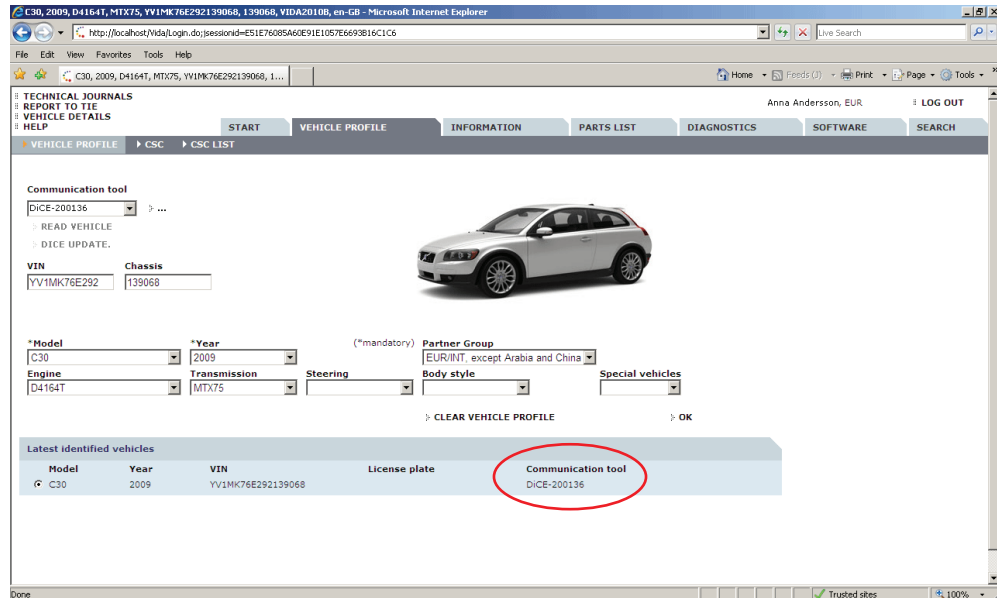

Fig. 3   Latest identified vehicles list

In order to disconnect the communication tools association to the current VIN, CLEAR VEHICLE PROFILE has to be performed. This will make the communication tool available in the drop-down list and it will be possible to move the communication tool to another vehicle.

2.2 Multiple communication tools (DiCE only)

It is possible to use more then one DiCE, for software download, at the same time. As soon as another DiCE should be used, a free DiCE in the Communication tool drop-down has to be selected before READ VEHICLE is enabled and could be selected. All active associations between vehicles and communication tools will be shown in the Latest identified vehicles list.

When selecting a communication tool in the Communication tool drop-down list the corresponding vehicle will be moved to the upper most row in the Latest identified vehicles list, see image below.
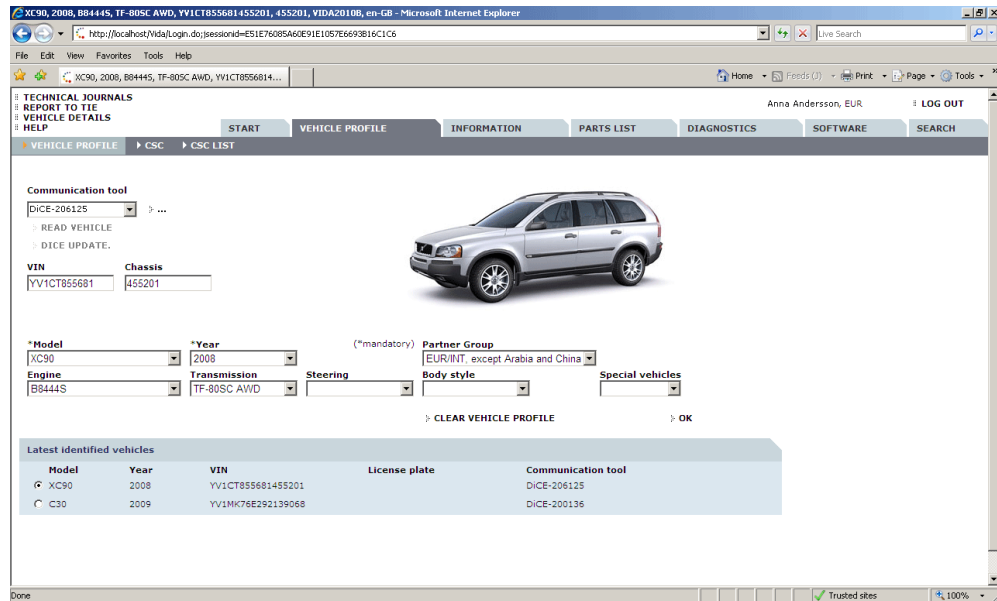

Fig. 4   Active associations between vehicles and communication tools

When selecting a vehicle in the Latest identified vehicles the associated communication tool will be shown in the Communication tool drop-down list.

2.3   Communication tool status

VIDA will only allow one diagnostic session at a time. When one vehicle has entered the DIAGNOSTIC tab, the diagnostic tab will be disabled for all other vehicles. VIDA will also prevent diagnostic scripts during software download for these other vehicles.

As an aid to the user, the communication tool status will be shown in the Latest identified vehicles list, when a DiCE unit is active in the DIAGNOSTICS tab or SOFTWARE tab respectively.
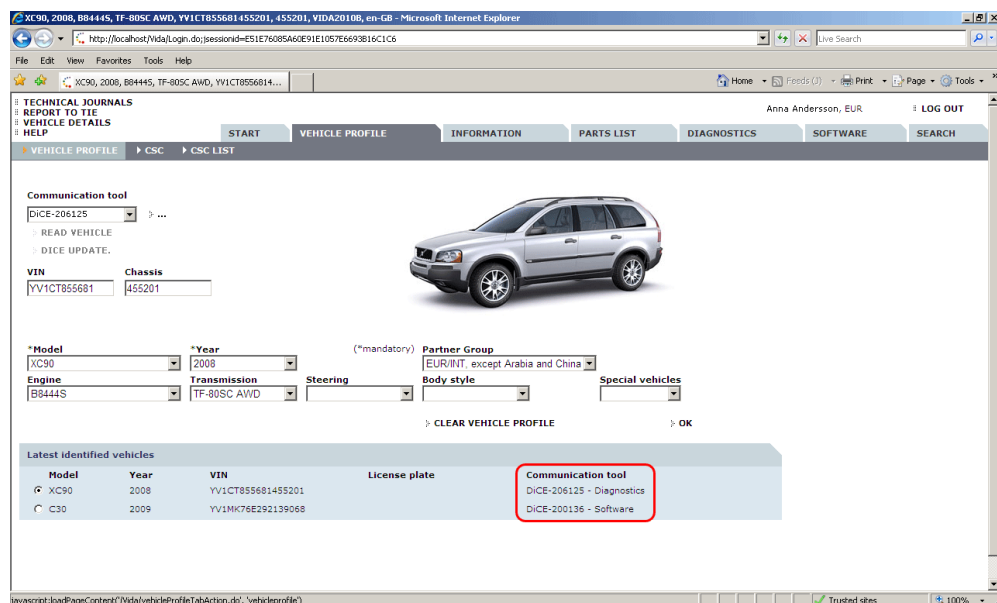

Fig. 5   Communication tool status

Example

In the screen shot above, if the C30 is choosen, either in the Latest identified vehicles list or its associated communication tool in the drop-down list, the DIAGNOSTICS tab will be disabled.

3 SOFTWARE DOWNLOAD ON MULTIPLE VEHICLES

It is possible to use more then one DiCE for software download at the same time.

3.1 Communication tool drop-down list (SOFTWARE)

When the SOFTWARE tab is choosen the vehicle profile information will be shown (VIN, Model etc.). If there is a Software download status for the communication tool, it will be shown in the Communication tool drop-down list.
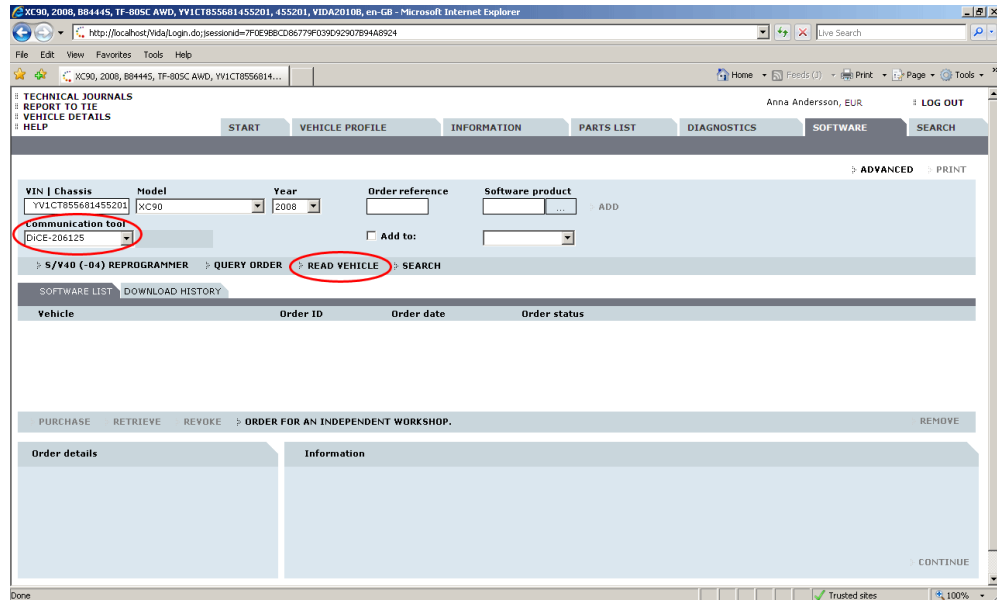

Fig. 6   Software tab

To switch between vehicles in the software tab, select the corresponding communication tool in the drop-down list.

If no active VIN/communication tool association exist, one will have to select a free communication tool in the Communication tool drop-down list and click READ VEHICLE.

3.2 Purchase a Software product

The Software product purchase procedure is almost unaltered. If needed, it is possible to Purchase Software products for different vehicles and download them in parallel.
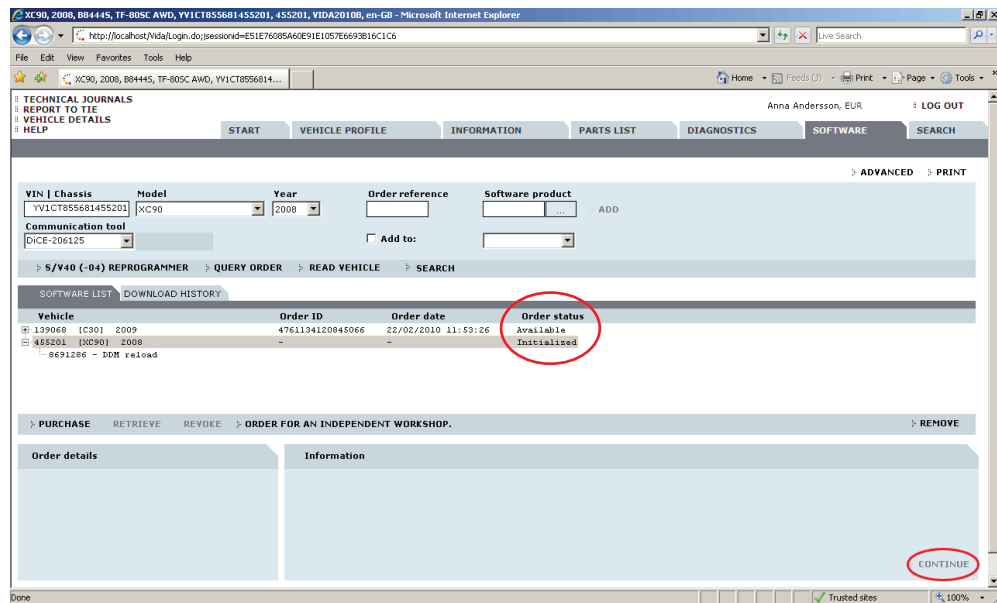

Fig. 7   Purchase software

The button CONTINUE is disabled until a row with Order status Available is selected.

3.3 Order details

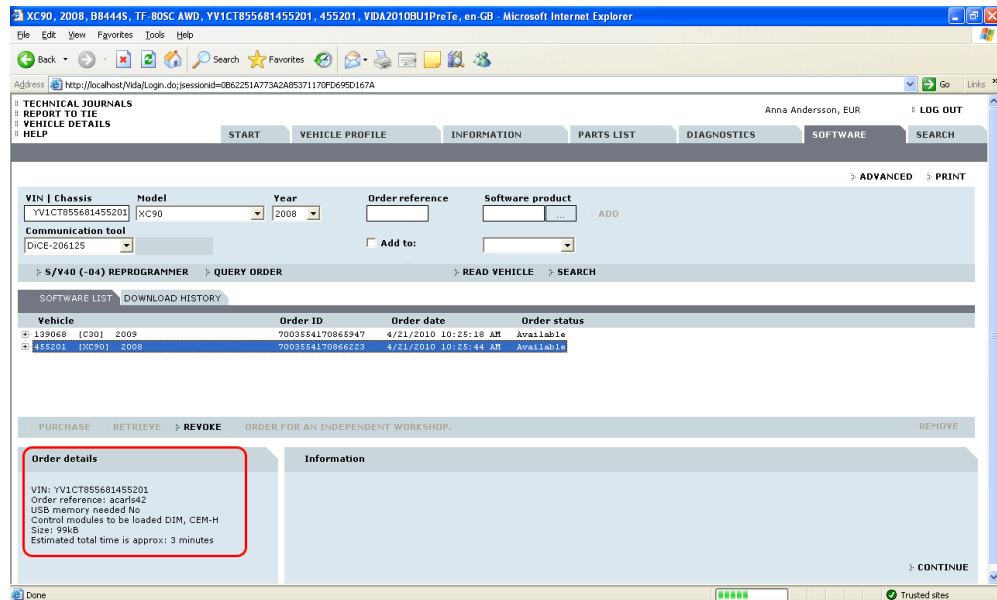Order details will be shown when a row with an Available software is selected.

Fig. 8   Order details

In Order details two rows have been added:

- USB memory needed
- Estimated total time is approx.

If the software package is large it will be downloaded to a USB memory to increase download speed to the vehicle. The estimated download time is given to increase workshop efficiency.

3.4 Verify Software Package

Software download can take place to more than one vehicle at a time. Each vehicle will get its own tab. When the button CONTINUE is selected from the SOFTWARE LIST tab, a unique vehicle download tab for the corresponding vehicle will be created.
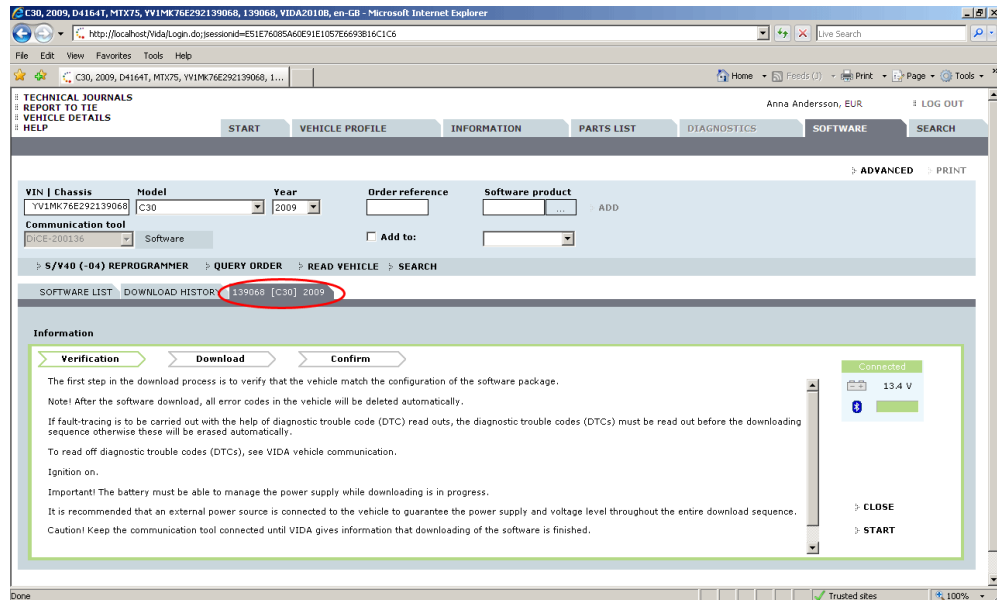

Fig. 9   Unique vehicle download tab for corresponding vehicle

During verification VIDA will check that the available Software product matches the content in the vehicle.

The following must be fulfilled before the START button is enabled:

- DiCE connected to the vehicle.

- The voltage in the vehicle is above 11 V.

- Bluetooth strength is sufficient (DiCE only).

NOTE

In order to prevent VIDA from closing down during a software download, the LOG OUT button will become disabled until the download has been completed.

3.5 Download Software Package(s)

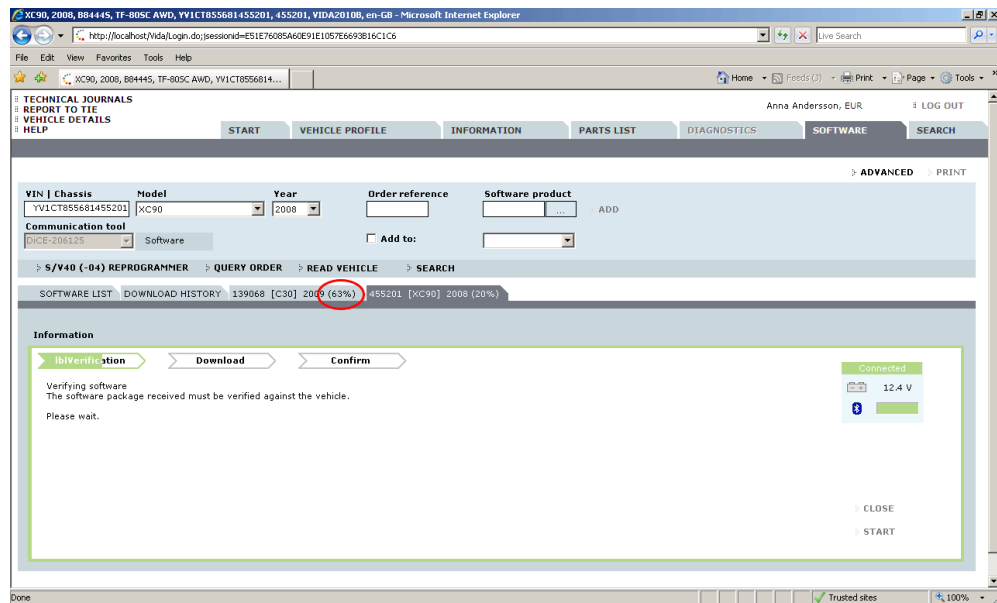The progress of each step that will be performed will be shown on the tab for each vehicle.

Fig. 10 The vehicle download tabs show the total progress as a percentage for each vehicle

As soon as a software download has been initiated for a vehicle, another software download can be started from the tab Software list, if there is a software package available.

The vehicle download tabs will show the total progress as a percentage for each vehicle.

NOTE

Up to three parallel software download sessions can be initiated.

3.5.1 Diagnostic script attention

If, as part of the software download, a diagnostic script needs to be executed (e.g. calibration of the Climate Control Module), VIDA will highlight, in yellow, the vehicle download tab in question.
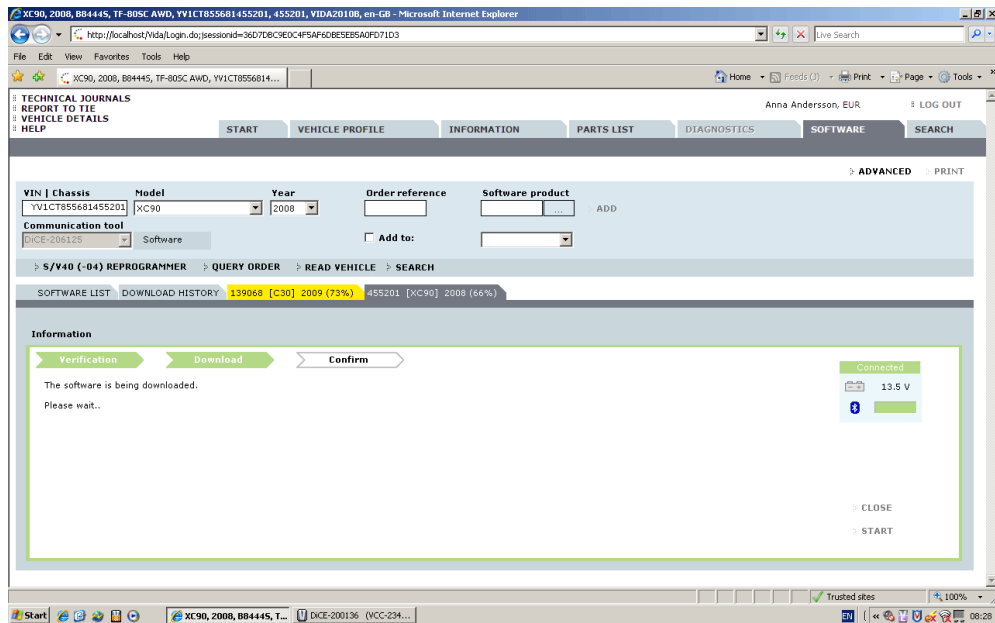

Fig. 11 Highlighted vehicle download tab

NOTE

The Task bar at the bottom of the screen will show what communication tool that is involved.

3.5.2 Diagnostic script activation

When a highlighted (yellow) vehicle download tab is selected, the diagnostic script will be shown in a "pop-up" so the user can follow the instructions.
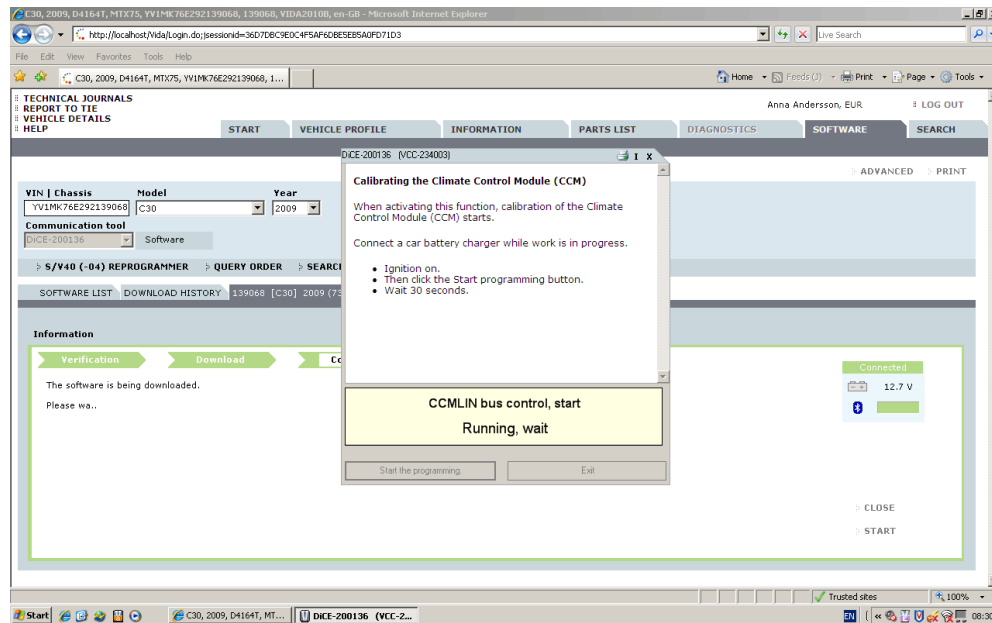

Fig. 12 Diagnostic script

3.6 Completed Software download sequence

When the software download sequence has been completed the vehicle download tab will indicate 100%. Vehicle download tabs which are inactive will be highlighted in green.
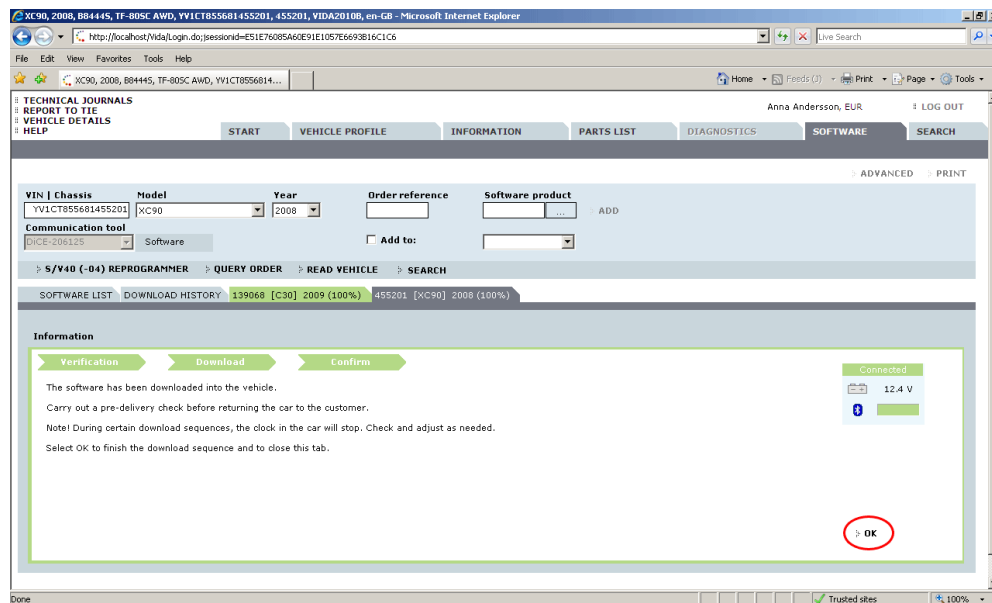

Fig. 13 Completed Software download sequence

The **OK** button will close the vehicle download tab. The association between the vehicle and the DiCE will be released so that the DiCE can be used on another vehicle.

4 SOFTWARE DOWNLOAD TO VEHICLE THROUGH USB MEMORY

The latest generation of Infotainment, that will be found in S60 (11-), contains considerably larger software files than previous generations. In order to download these large software products to the MOST network, a USB memory is needed.

4.1 When is a USB memory needed?

As a general rule, if the software products that should be downloaded to the MOST network are estimated to exceed 6 minutes in download time a USB memory will be used.

> **NOTE**
>
> VIDA will only approve the USB that Volvo Car Corporation has developed as a special tool for this specific purpose.

Fig. 14 Large software product

Once a software product is available the Order details will show if a USB memory is needed and the estimated total download time.

If a USB memory is needed or not depends on:

- the generation of Infotainment
- if the control module is located on the MOST network
- the estimated download time (size of the software product).

> **NOTE**
>
> Some Control Modules on CAN will also require large software products. However, these are not downloaded via USB memory because this is not technically possible.

4.2   What Control Modules could be downloaded by means of a USB memory?

Depending on the level of the vehicle's Infotainment system it is either the ICM or the IAM that will act as a sub-tester. This means that the USB memory stick will not always be input in the same place. VIDA will give instructions on where the USB memory stick should be connected.

4.2.1   Infotainment level Performance

On the lowest level of Infotainment the ICM will act as sub-tester.

The Control Modules in MOST network that can be programmed by means of a USB memory are the:

- ICM
- IAM

Download software to the ICM (Performance)

The USB memory will be connected to the ICM that, when initiated as the sub-tester, will copy the software from the USB memory and flash itself.

Download software to the IAM (Performance)

The USB memory will be connected to the ICM that, when initiated as the sub-tester, will copy the software from the USB memory and flash the IAM.

4.2.2   Infotainment level High Performance, High Performance Multimedia or Premium Sound Multimedia

On all other Infotainment levels (Performance level excluded) the IAM will act as sub-tester.

The Control Modules in the MOST network that can be programmed by means of a USB memory are the:

- IAM
- ICM
- RDAR
- DABM
- AUD

Download software to the IAM (High Performance, High Performance Multimedia or Premium Sound Multimedia)

The USB memory will be connected to the IAM that, when initiated as the sub-tester, will copy the software from the USB memory and flash itself.

Download software to the ICM, RDAR, DABM or AUD (High Performance, High Performance Multimedia or Premium Sound Multimedia)

The USB memory will be connected to the IAM that, when initiated as the sub-tester, will copy the software from the USB memory and flash the Control Module in question.

4.3   Verification

Before the USB memory can be prepared, the software products have to be verified. During verification VIDA checks that the available software product matches the content in the vehicle.

The following criteria must be fulfilled before the verification can begin:

- DiCE connected to the vehicle.
- The voltage in the vehicle is above 11 V.
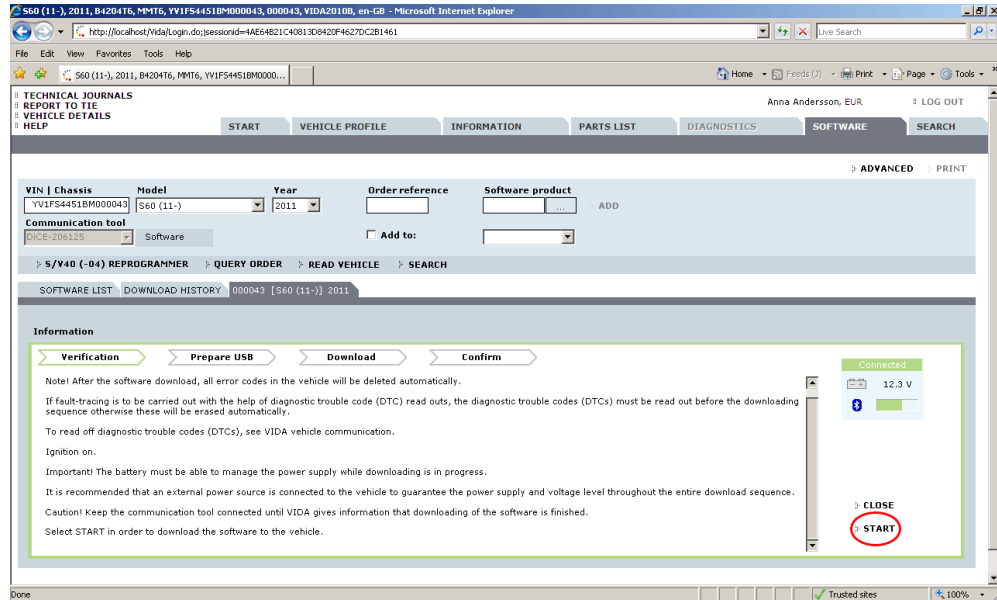- Bluetooth strength is sufficient (DiCE only).

Fig. 15 Verification

Click START to proceed with the verification.

4.4 Prepare USB

When the verification is done, connect the USB memory to the VIDA client.

NOTE

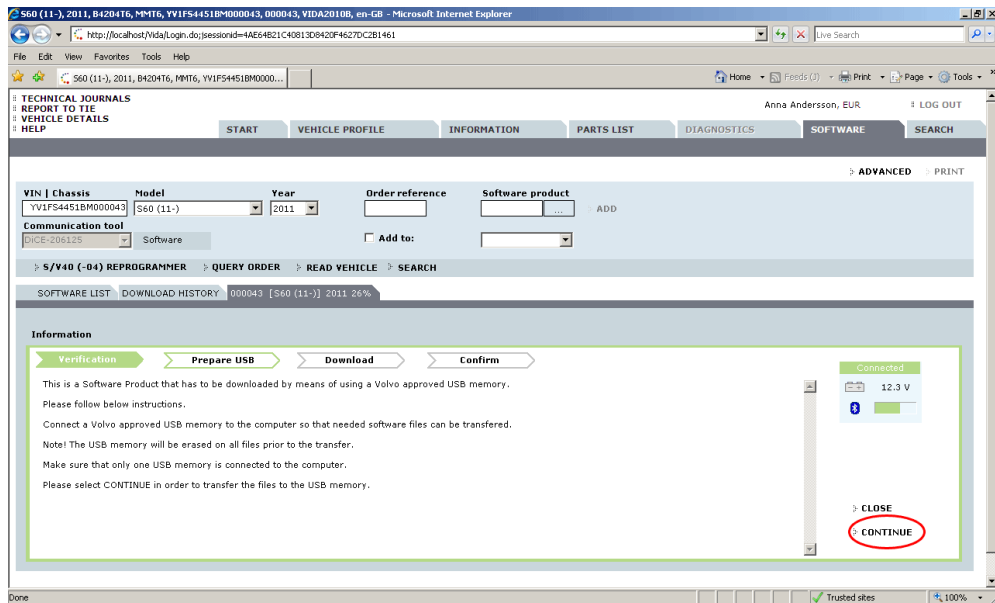VIDA will only approve the USB that Volvo Car Corporation has developed as a special tool for this specific purpose.

Fig. 16 Prepare USB

4.4.1 Connection of the USB memory to the vehicle (Performance)

When all software files have been transferred to the USB memory, it has to be connected to the vehicle before the download sequence can continue. If the vehicle has Infotainment level "Performance" (ICM is the sub-tester), the USB connector will be found behind the end cover of the dashboard on the driver's side.

If the vehicle is going to be moved to another location, for the software download, it should be moved before the software download is started, i.e. before the Continue button is selected.

The following must be fulfilled before the CONTINUE button will be enabled:

- DiCE connected to the vehicle.
- The voltage in the vehicle is above 11 V.
- Bluetooth strength is sufficient (DiCE only).

NOTE

To get sufficient Bluetooth strength it might be necessary to move the VIDA client or the Bluetooth dongle closer to the vehicle.
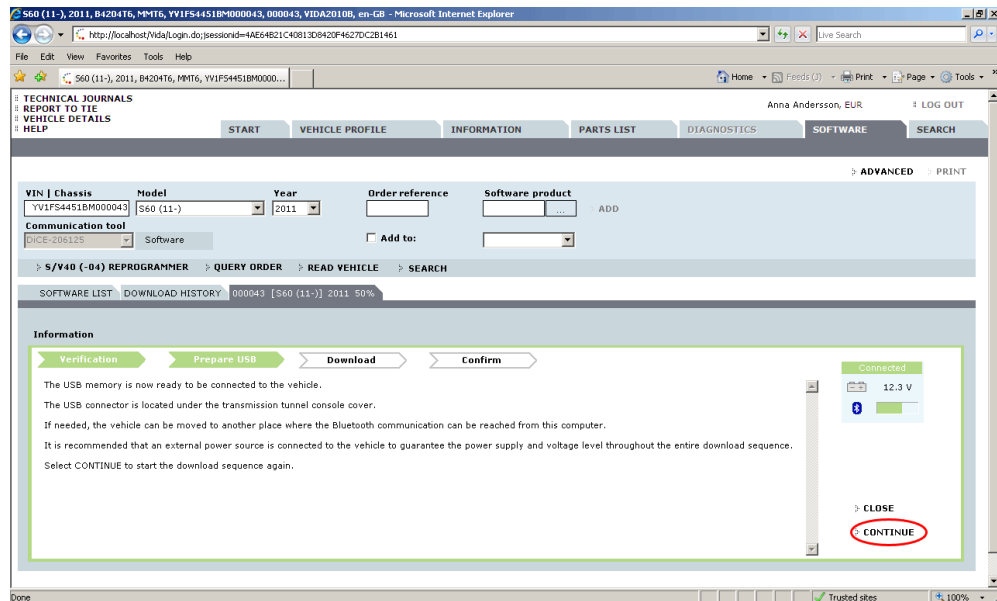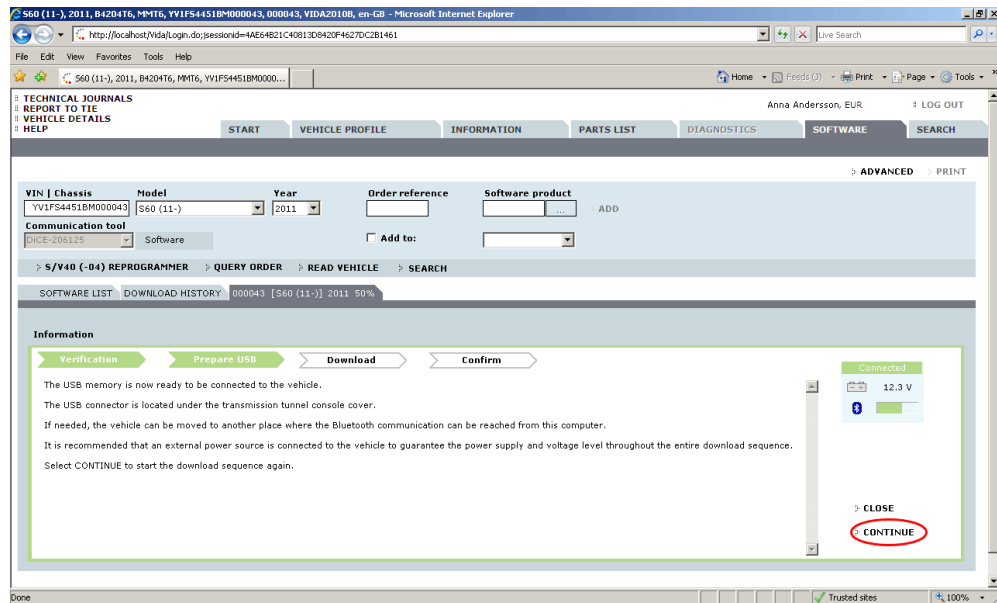

Fig. 17 Start the software download

VIDA will perform the following tests before the sub-tester is initialized for software download:

- That the USB memory is correctly connected to the vehicle.

- That the correct software files are available on the USB memory.

4.4.2   Connection of the USB memory to the vehicle (High Performance, High Performance Multimedia or Premium Sound Multimedia)

When all software files have been transferred to the USB memory, it has to be connected to the vehicle before the download sequence can continue. Depending on the level of the vehicle's Infotainment system it is either the ICM or the IAM that will act as sub-tester. Information regarding where the USB memory should be connected will be given in VIDA.

If the vehicle has Infotainment level "High Performance", "High Performance Multimedia" or "Premium Sound Multimedia" (IAM is the sub-tester), the USB connector will be found in the center console compartment.

If the vehicle is going to be moved to another location, for the software download, it should be moved before the software download is started, i.e. before the Continue button is selected.

The following must be fulfilled before the CONTINUE button is enabled:

- DiCE connected to the vehicle.

- The voltage in the vehicle is above 11 V.

- Bluetooth strength is sufficient (DiCE only).

NOTE

To get sufficient Bluetooth strength it might be necessary to move the VIDA client or the Bluetooth dongle closer to the vehicle.

Fig. 18 Start the software download

VIDA will perform the following tests before the sub-tester is initialized for software download:

- That the USB memory is correctly connected to the vehicle.

- That the correct software files are available on the USB memory.

4.5 Download

When VIDA has initialized the sub-tester it will copy the files from the USB memory. It is the sub-tester that handles the software download. VIDA will only monitor the process via the communication tool.
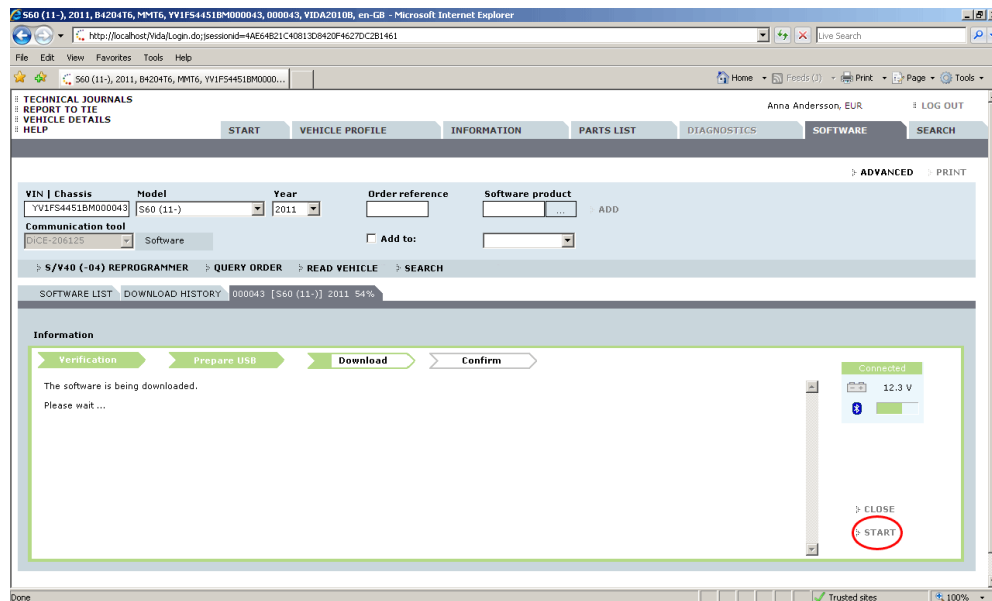
Fig. 19 Download

VIDA will monitor the DiCE voltage and will show a warning if it drops below 11 V.

4.6 Confirm

When the software download is finished, VIDA will send a confirmation file to the central systems in the same way as before VIDA 2010B.

The clock in the vehicle should be set before delivery to the Customer.

VIDA will remind the user to remove the USB memory from the vehicle before the vehicle is delivered to the customer.
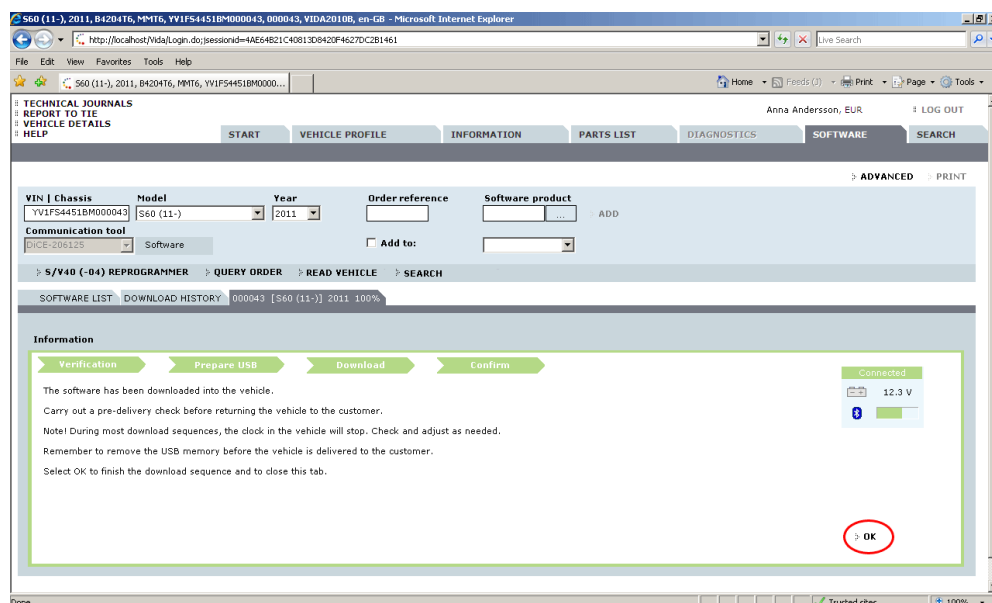
Fig. 20 Confirm

The OK button will close the vehicle tab for this vehicle. This will disconnect the relationship between the vehicle and the DiCE.The DiCE can now be used on another vehicle.

4.7   USB override

It is possible to download large vehicle software files without the use of a USB memory. Go to ADVANCED on the Software tab and mark the USB handling checkbox, see image below.
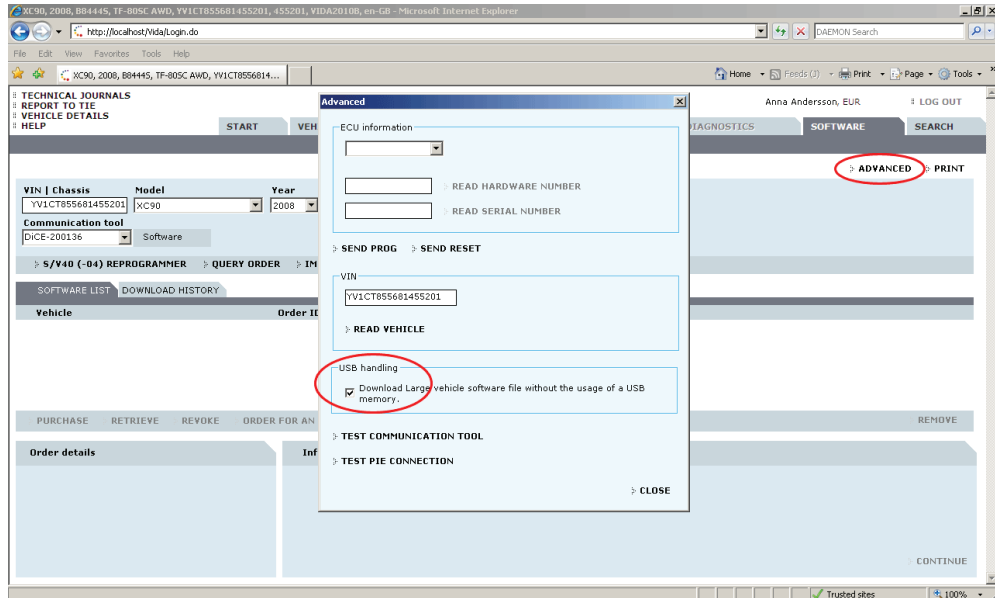

Fig. 21 USB override

Deselect the checkbox or restart VIDA to use a USB memory again.

NOTE

The USB override function will be used when J2534 devices are in use. As a result, the software download will take longer.

5   SEARCH FUNCTION

It is possible to search in the SOFTWARE LIST and DOWNLOAD HISTORY list.

1.   Select the SOFTWARE tab.

2.   Enter a VIN or Chassis number.

3.   Choose the SOFTWARE LIST tab or the DOWNLOAD HISTORY tab.

4.   Click SEARCH.

→
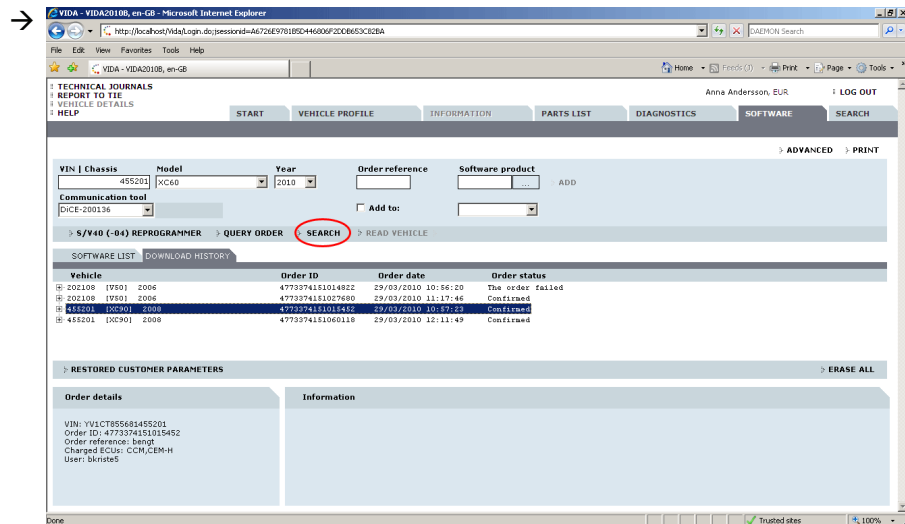
Fig. 22 Search function

The first result is selected.

5.   Click SEARCH again to see next result.

6   INDEX