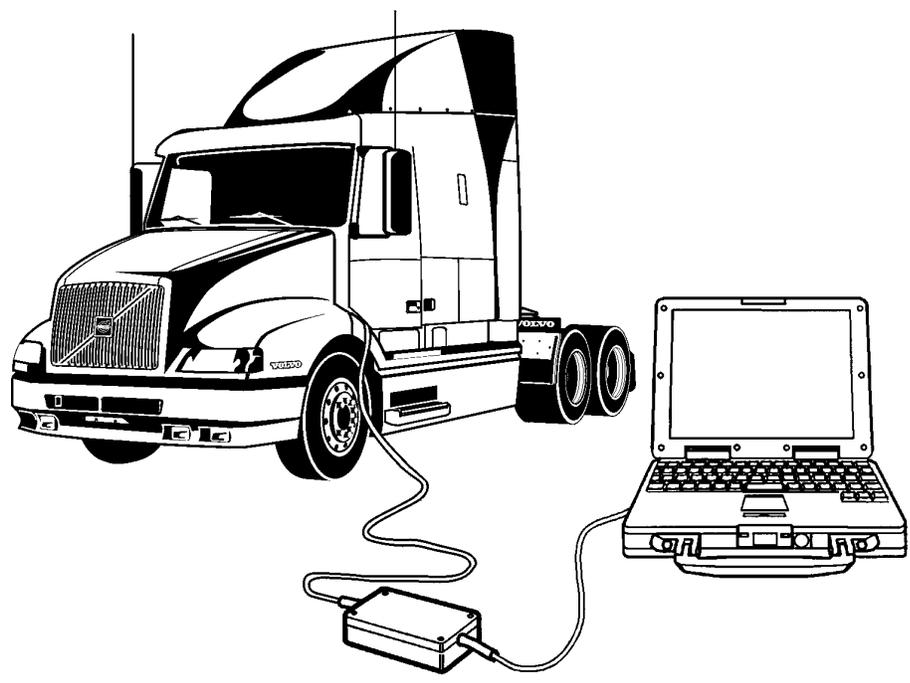


OPERATOR'S MANUAL VCADS Elite User's Manual



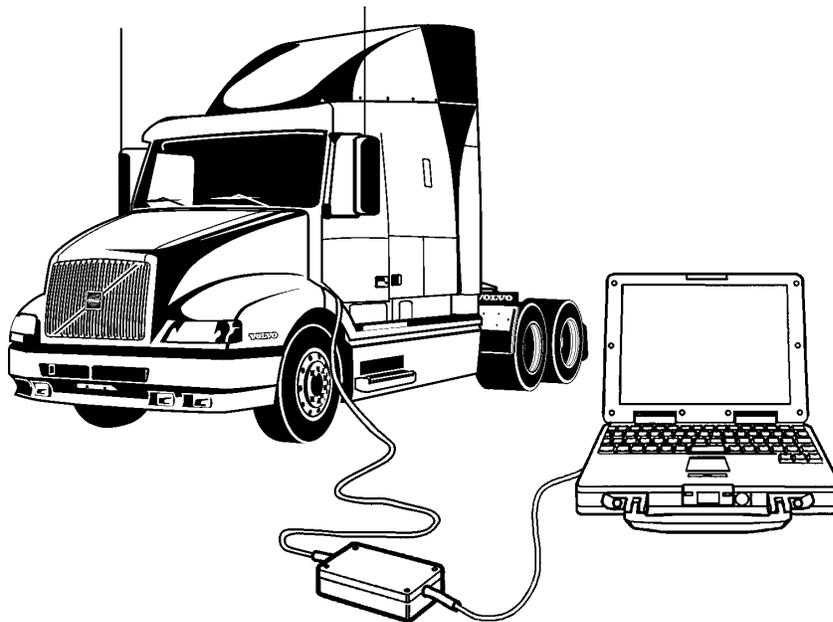
W0001632

VOLVO

Contents

General	1	Operations- General Information	32
Welcome to VCADS Elite	1	ECU Designations	33
Specifications	4	Updates	44
PC/System Requirements	4	General	44
Tools	6	CD Updates	44
Special Tools	6	Network Updates	45
Design and Function	7	Troubleshooting	48
PC Setup	7	VCADS Elite Troubleshooting	48
VCADS Elite Installation	12	Windows, Basics	50
Initial Start-Up of VCADS Elite	14	Windows, Basics	50
User ID and Password	17		

Welcome to VCADS Elite



W0001632

Many functions in today's modern vehicles are controlled by electronic control units (ECUs). ECUs control components such as the engine, instrumentation and certain vehicle functions.

VCADS Elite is a Windows[™] - based software tool developed to test, calibrate and program parameters on Volvo ECUs.

VCADS Elite software is installed on a PC. The PC is connected to the communication connector in the vehicle via the communication interface (Volvo part number 9998555).

VCADS Elite provides tests and calibrations for Volvo vehicles that are equipped with the Vehicle Electronics '98 (VECTRO II) or VERSION2 electronic control systems. The application consists of a number of standard graphical interfaces, such as graphs and continuous displays of parameter values. The operations are organized in the menu according to function groups. Some ECUs have changeable parameters that can be used to adjust or customize certain functions. Volvo ECUs often have two types of parameters: **Customer** parameters and **Vehicle** parameters.

Customer parameters can be programmed locally using VCADS Elite. Vehicle parameters generally are used to configure the vehicle when it is built and alteration of these parameters requires a connection to VDA (Vehicle Data Administration) at Volvo. These parameters **cannot** be read or programmed with VCADS Elite. These changes must be performed by a Volvo Truck dealer.

VCADS Elite is based on an application called VCADS Pro. This is why the name “VCADS Pro” is seen in many places throughout the application. VCADS Pro is used globally by Volvo dealers to support a wide range of Volvo products. This manual is intended to guide the user through the set up and installation of VCADS Elite. Some operations are explained in this manual, however, for more information refer to the user’s manual that is provided in the application. The manual within the application contains information that may or may not apply to VCADS Elite. To access the manual, see “Help Text” page 43.

Keyboard Conventions

This section describes a number of keyboard conventions that are used in this Service Information.

- Keys are shown in bold uppercase letters: “**ALT**”.
- Combinations of keys appear with a + sign between the corresponding keys. **ALT+F4** means press **ALT** first, then **F4** and then release both keys.
- Text to be entered by the user is shown in bold type.
- Buttons on the screen appear in bold type: “**OK**”.
- Window names, menus and menu functions appear in bold type: “**Open...**”.
- Numbers in parentheses “(1)” refer to call-outs in an adjacent illustration.

Helpdesk

NOTE! Read the User's guide for the PC and this introductory manual before using the VCADS Elite tool.

In the event of problems with the VCADS Elite software, please contact the **Volvo Helpdesk** at 800-888-2039. Choose the option for Service Functions, then Technical Service Support. When asked to choose a function group, press 3. Choose the option for VCADS Pro Questions.

User ID

Each VCADS Elite user has a personal user ID and password.

The user ID is assigned by Volvo and is included with the VCADS Elite CD. This user ID cannot be changed.

Workshop ID

A workshop ID is installed in the PC when the application is set-up (each PC will have a unique ID). This workshop ID is stored in each ECU that is programmed. This makes it possible to check at a later date which workshop carried out the most recent reprogramming for certain parameters.

Connection Information

The telephone line that is used must be a direct external analog line. The telephone line may be routed through a switchboard, but this is not recommended. This is to ensure communication between Volvo and VCADS Elite.

If Internet access is already available on the PC that VCADS Elite is installed on, it is recommended that this be used for connection to Volvo instead of the telephone numbers supplied by VCADS Elite. Use of an existing internet service provider will generally result in better connections and will reduce the potential for long distance telephone charges. Volvo is NOT responsible for these charges.

PC/System Requirements

Recommended PCs

- Panasonic CF-27
- Panasonic CF-28
- Dell Latitude CPX
- Dell Desktop Precision 410
- Hewlett Packard OMNIBOOK.
- Field-Works 5000 Series II

Hardware Requirements

- Pentium 133 MHz or higher. 800 MHz or higher is recommended.
- 32 MB of RAM. 256 MB is recommended.
- 400 MB available hard disk space.
- VGA or higher resolution monitor, at least 800x600 resolution is needed.
- CD-ROM drive.
- Available COM port (COM1 or COM2), at least 16550 UART.
- 9600 baud modem. 14400 baud modem or higher is recommended.

Operating System Requirements

- Microsoft Windows[®] 95, Microsoft Windows[®] 98 or Microsoft Windows[®] Me (Pan American or European language editions).
 - **Windows 95 Version:** Win95B, OSR 2.0 or higher
 - **Windows 98 Version:** Win98 second edition
 - **Windows Me Millennium Edition**

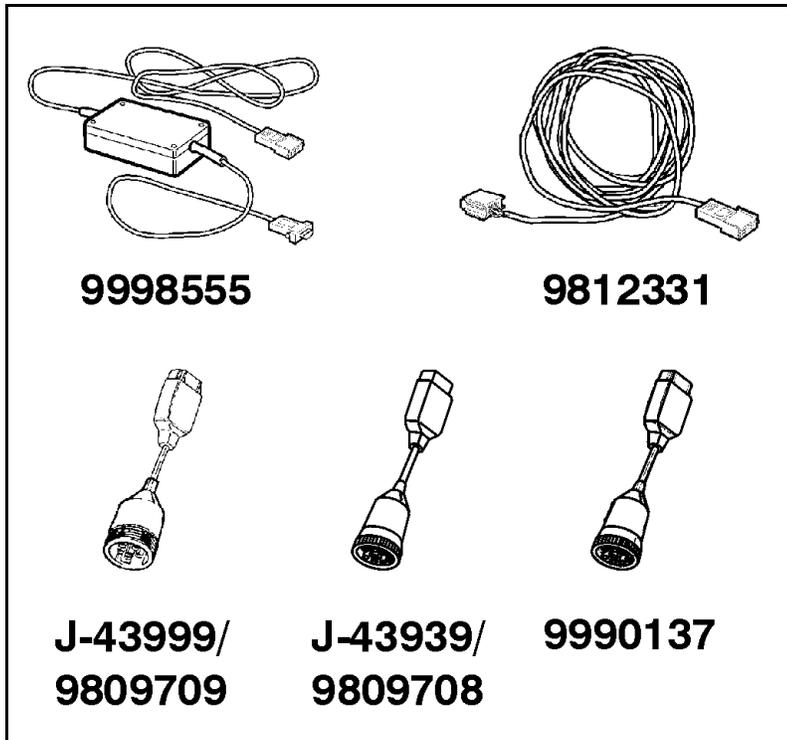
- Display properties:
 - **Colors:** 256 colors
 - **Screen area:** 800 by 600 pixels
 - **Font Size:** Small Fonts

Power Management

Any type of “Power Save” functionality should be turned OFF, including any “Hibernation” or “Sleep” function.

Special Tools

The following tools are used when working with VCADS Elite. The tools can be ordered from Volvo by quoting the specified part number.



W3005338

9998555	Communication interface for connection between the PC and the vehicle's communication connector.	J-43939 / 9809708	9-pin diagnostic adapter, for Vehicle Electronics '98 vehicles built since January 1999.
9812331	Extension cable. Length: 20 m (65.6 ft.).	9990137	9-pin diagnostic adapter, for VERSION2 vehicles (built since November 2002).
J-43999 / 9809709	6-pin diagnostic adapter, for Vehicle Electronics '98 vehicles built before 1999.		

PC Setup

The PC must have the correct settings before VCADS Elite can be installed.

COM Port

- Select **Start**.
- Select **Settings**.
- Click on **Control Panel**.
- Double-click on the **System** icon.



W0001938

- Click on **“Device Manager”**.
- Double-click on **Ports (COM & LTP)**.
- Double-click on **Communications Port (COM1)**.

Make sure that the **Device usage / Disable in this hardware profile** box is not checked.

- Click **OK**.

NOTE! If PC is equipped with an infrared port, disable infrared port in the BIOS settings, and remove or disable the infrared port in Windows.



W0001939

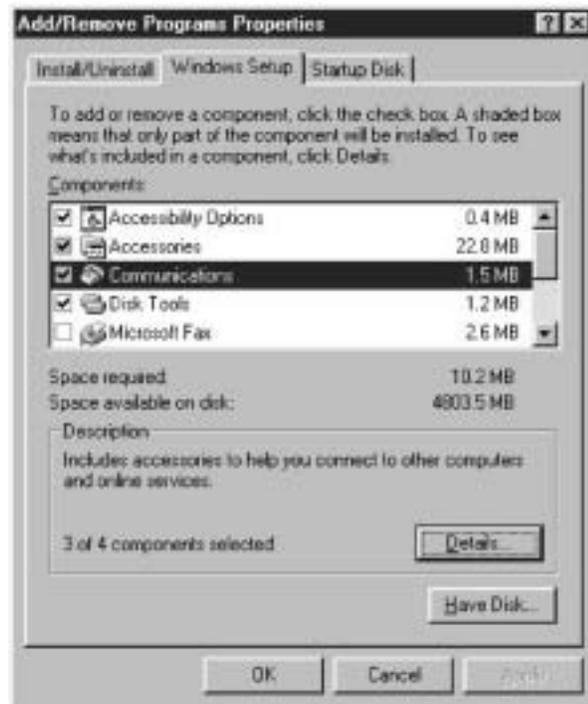
Dial-Up Networking

- In the **Control Panel** window double-click on the **Add/Remove Programs** icon.



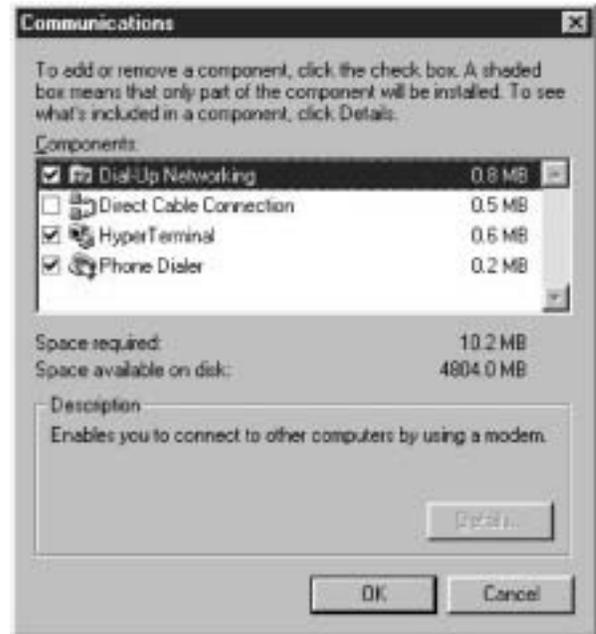
W0001940

- Click on **Windows Setup**.
- Select **Communications** and then click on **Details**.



W0001941

Make sure **Dial-Up Networking** is checked. If it is not, click on the check box to enable it. Click **OK** and follow the instructions on the screen.



W0001942

TCP/IP

In the **Control Panel** window, double-click on the **Network** icon.



W0001943

If TCP/IP is installed, there should be an entry:

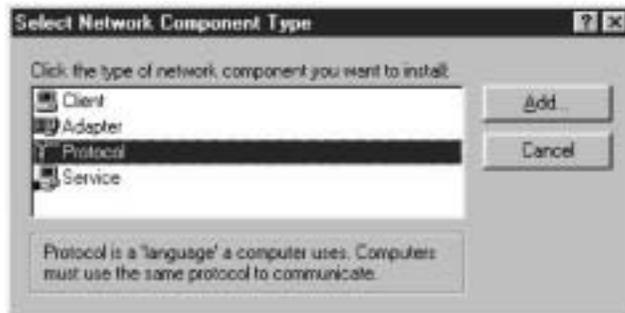
TCP/IP → **Dial-Up Adapter**,
and/or an entry to the network card:

TCP/IP → *<installed network card>*.
If neither of these entries are present, click **Add**.



W0001944

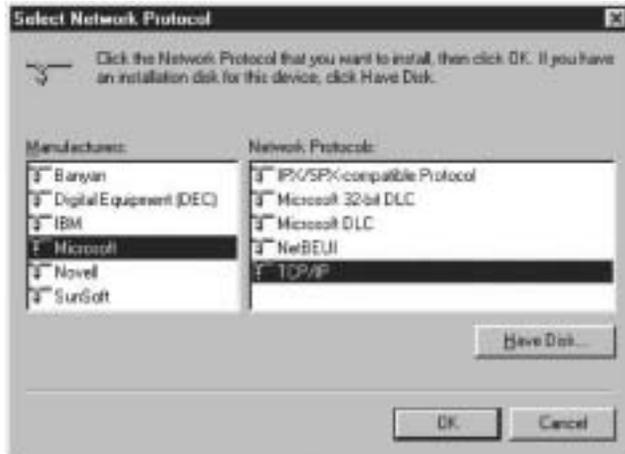
- Click **Protocol**.
- Click **Add**.



W0001945

- Click **Microsoft**.
- Click **TCP/IP**.
- Click **OK**.

TCP/IP will now be installed. You may be asked to reboot the PC before the installation can be completed.



W0001946

VCADS Elite Installation

Before installing VCADS Elite be sure that your PC is setup correctly, see “PC Setup” page 7.

Insert the VCADS Elite installation CD in the CD-ROM drive. The VCADS Elite installation CD has a self-extracting program that will automatically start the installation.

If the CD does not start automatically:

- Click **Start**.
- Click **Run**.
- Click **Browse**.
- Click on your CD-ROM drive and select the **Setup.EXE** file.
- Click **Open**.
- Click **OK**.

Read the contents in the “Welcome” dialog box and click **Next** to continue the VCADS Elite installation.

Enter your “Client ID”. Click **Next**.

NOTE! The “Client ID” is supplied with the VCADS Elite installation CD and can be installed on one PC only.



W0001973



W0001962

Select the destination for VCADS Elite to be installed. The default folder is recommended. To select a new folder click **Browse** .
Click **Next** to continue.



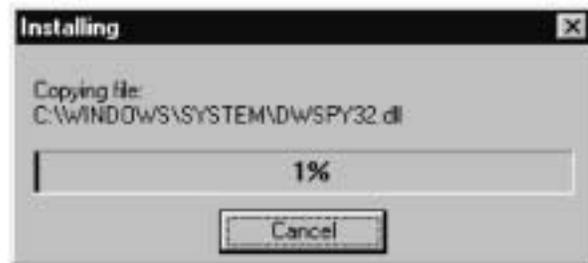
W0001963

Review the information in the dialog box. Make sure the client ID has been entered correctly. Click **Install** to continue the installation.



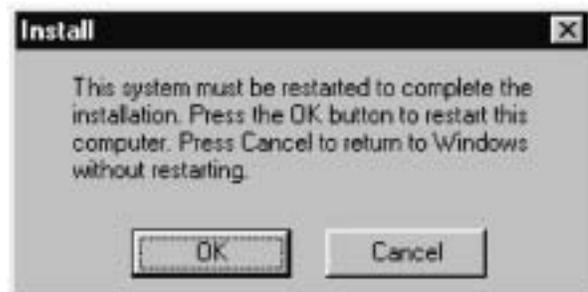
W0001964

The program will now install VCADS Elite on your PC.



W0001965

To complete the installation, restart the PC by clicking **OK**.



W0001966

Initial Start-Up of VCADS Elite

This section describes how to setup VCADS Elite. When VCADS Elite is started for the first time, the VCADS Elite Setup installation program starts up. This program adapts the application to your location. Once the installation is complete, the setup program will not start again.

Configure VCADS Elite for your Workshop

The PC uses the installation program for configuration to communicate with Volvo. Before starting the program for the first time, connect the PC to a telephone line or initiate a connection to the internet if you already have an internet connection configured on the PC.

NOTE! If the PC is moved from one location to another, contact the Helpdesk to start VCADS Elite again.

See “Helpdesk” page 3.

The first time that the VCADS Elite icon is double-clicked, the VCADS Elite Setup installation program starts up automatically.

- Double-click the VCADS Elite icon.



T0008689

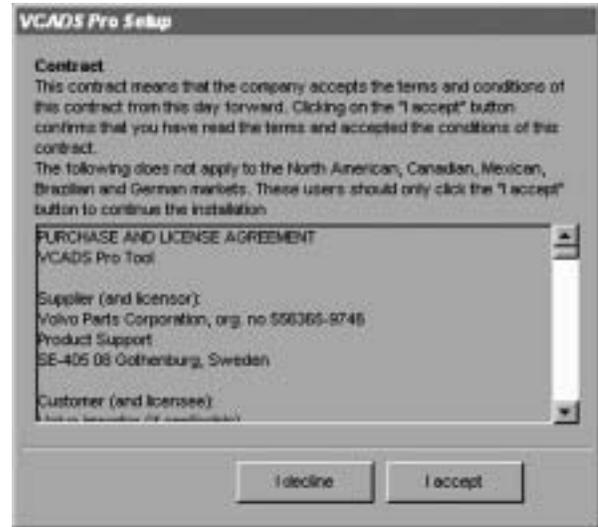
Select the language the program will use during installation.

- Click the relevant flag to indicate the desired language.
- Click **Next**.



T0009546

The purchase and license agreement doesn't apply to North American users. Press **I accept** to continue.

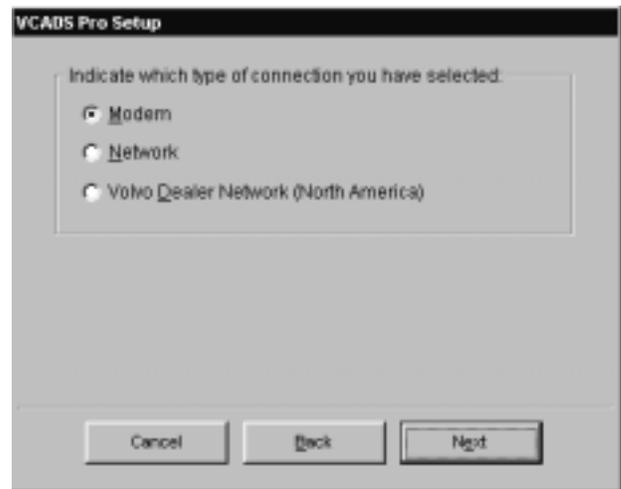


W0001971

- Select **Modem**.

NOTE! Volvo Dealer Network is for internal purposes only.

NOTE! If using a high speed connection (Road Runner™ or DSL Service) select **Network**. If selecting Network, please make sure a connection to the internet is possible before proceeding. Skip to the "Configuration" step if using Network.



T0009547

The telephone number selected will only be used for this connection. Select a telephone number closest to your location.

- Select the telephone number.
- Click **Next**.



T0009548

Certain information must be entered for Volvo to call the correct number. Enter the country you are calling from and the area code. Indicate whether a number has to be dialed for an outside line. Indicate whether the telephone system uses tone or pulse dialing.

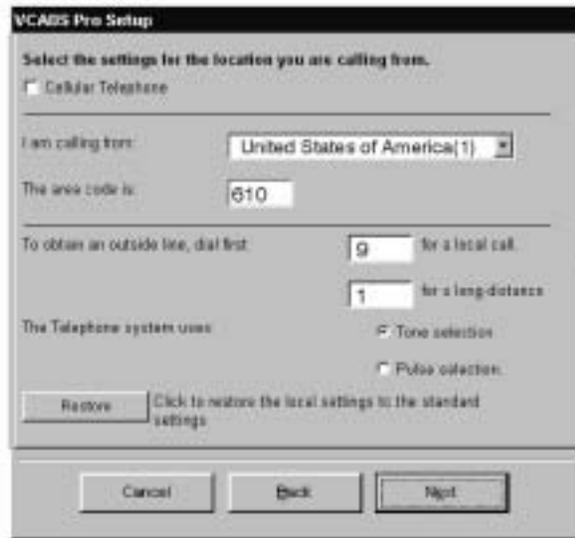
- Select the country.
- Enter the area code.
- If a number(s) must be dialed for an outside line, this must be indicated for local and national (long-distance) calls.
- Click **Next**.

NOTE! If your PC has internet access, the connection to Volvo can be made using your existing internet service provider. Initiate a connection to the internet at this point.

Configuration.

The PC will be configured for the workshop where your user ID is registered.

- Enter your user ID (supplied with the VCADS Elite CD).
- Call the Helpdesk at 800-888-2039, preferably on a separate telephone line than the one connected to the PC. See “Helpdesk”, page 3 for helpdesk contact information. Inform the Helpdesk that you are setting up your VCADS Elite application and that you need a generated password for your initial connection. You will be asked for your user ID. When the generated password is given, immediately enter it into the generated password space.
- Click **OK**.



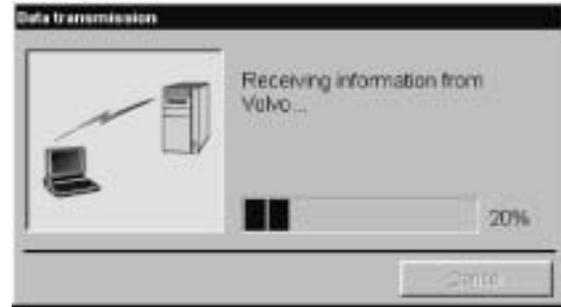
W0002118



T0009578

NOTE! The generated password from the Helpdesk is valid for one use only and must be used immediately at the time that it is given.

The installation program will configure the PC for the workshop where your user ID is registered. The PC will then connect to Volvo's central system.



T0009054

The installation is complete. The tool is ready for use.

- Click **OK**.

Contact the helpdesk if problems are experienced with the installation, see "Helpdesk" page 3.



T0009552

Starting VCADS Elite

To start VCADS Elite:

- Double click the "VCADS Pro" icon.



T0008689

User ID and Password

Each VCADS Elite user has an individual user ID and password. The user ID is determined by Volvo and supplied with the VCADS Elite CD. The user ID cannot be changed.

VCADS Elite is initially installed with "Volvo" as the default password. (See the user instruction supplied with the CD for the correct password.)

Entering User ID and Password

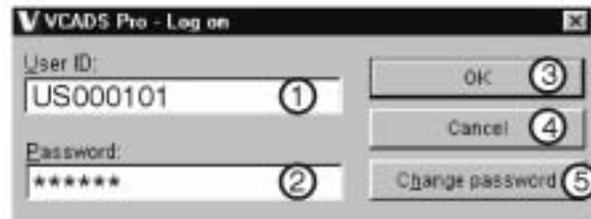
- Enter the user ID (1).
- Enter the password (2).

NOTE! For the first log on, the password **VOLVO** must be entered in the password dialog box. A prompt window will then appear informing you that the password has expired and must be changed. Choose a password and enter it into the New password dialog box. Enter your password again into the verify new password dialog box. See “Changing Password” page 19. Choose a password that will be easy to remember since the password must be entered correctly in order to access the application.

- Click **OK** (3).

VCADS Elite will start if the correct password has been entered.

- The dialog box can be terminated by clicking **Cancel** (4).

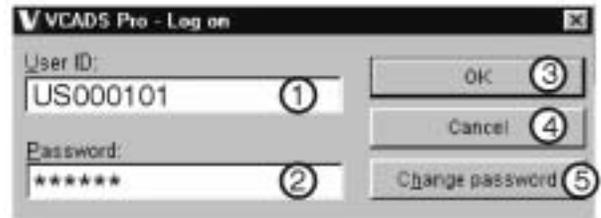


W0002117

Changing Password

The user ID and current password must be entered before the password can be changed.

- Click **Change password** (5). A new dialog box will appear with additional fields.
- Enter the new password (6).
- Re-enter the new password (7).
- Click **OK** (3).
- Cancel by clicking **Cancel** (4), and the password will not be changed.



W0002117

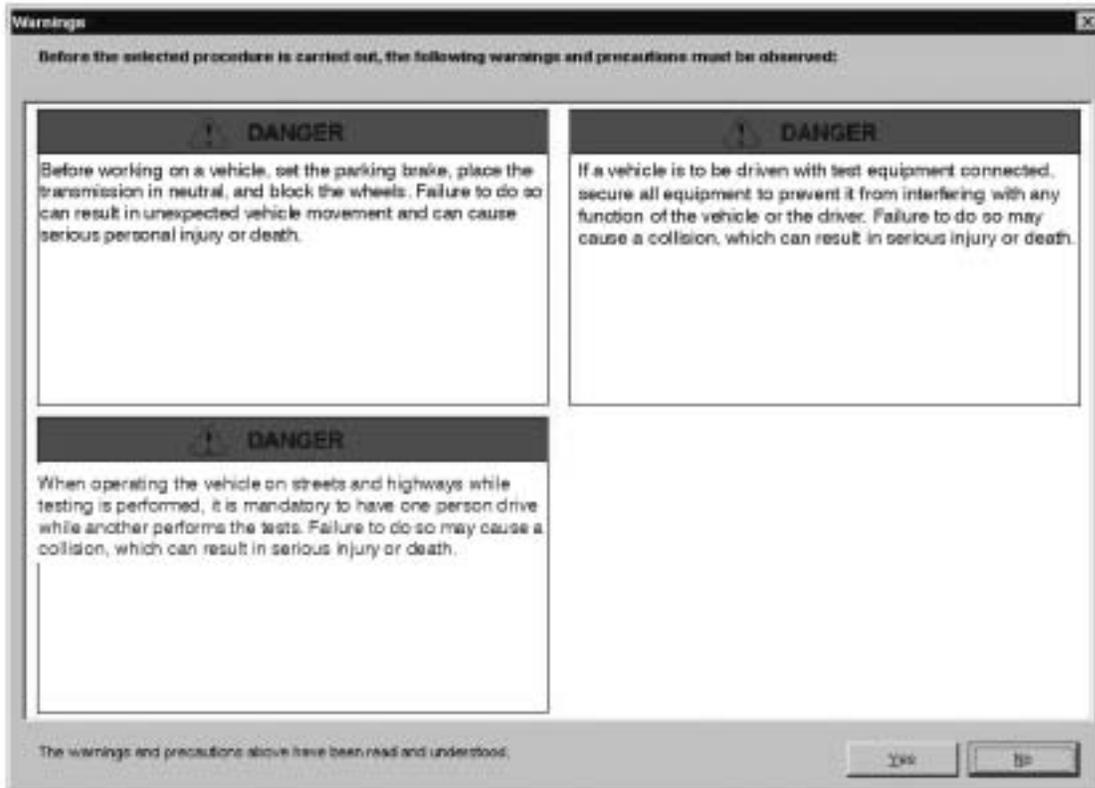


W0002115

Safety Precautions

When the application is started, a window will appear to inform about precautions that

must be observed when working with VCADS Elite:



W0002119

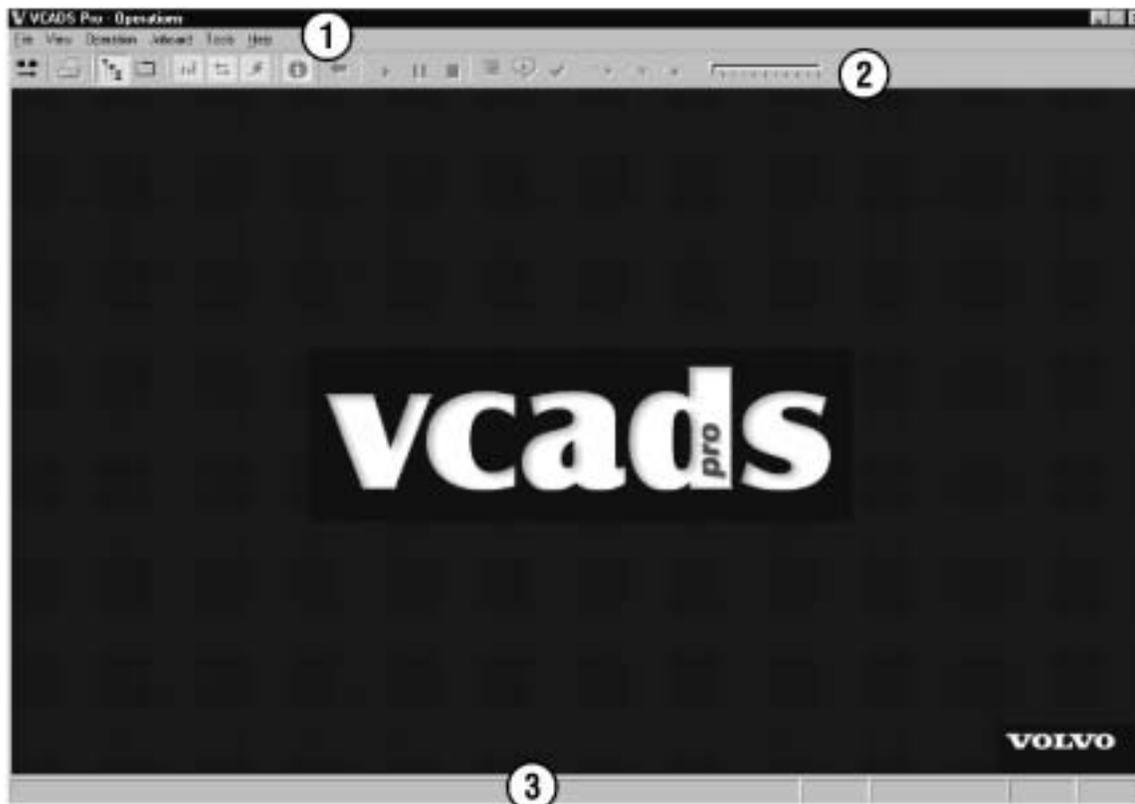
Read the information and click the Yes button to indicate that you have read and understand the information. Click the No button to exit the application. The Yes button must be clicked in order to proceed. Various operations within the application

will also display relevant safety precautions when they are opened from the menu. These prompts operate in the same manner as the prompt shown at start-up of the application.

VCADS Elite Menu

All operations and administrative functions are opened from the menu screen that appears when the application is started. Note: The vehicle identification/connection dialog

window may appear over the menu screen when the application is started. Press the cancel button on this window to access menu items on the menu screen.



T0010331

Pos	Name	Description
1	Menu Bar	Contains the following menus:
	File	The following options are available from the File menu: Identify- Identify and connect to a vehicle. Print- Prints the current screen. Printer set up- Selects the printer to be used. Lock/Log on- Locks the application. User ID and password must be entered to continue use, or another user may log on. Exit- Exits VCADS Elite.
	View	The following options are available from the View menu: Operation view- Displays the available operations. Job card view- Displays job cards for the vehicles that operations have been performed with. Tests¹- Displays or hides test operations on the menu. Calibrations¹- Displays or hides calibration operations on the menu. Programming¹- Displays or hides programming operations on the menu. Information text¹- Displays or hides the information text and image fields within the operations.

¹ These items are active only after vehicle identification has been carried out.

Pos	Name	Description
1	Menu Bar	Contains the following menus:
	Operation	<p>The following options are available from the Operation menu:</p> <p>Open¹- Opens the selected operation in simulator mode.</p> <p>Open as simulated¹- Opens the selected operation.</p> <p>Start¹- Starts the operation (the SPACEBAR can also be used for this).</p> <p>Pause¹- Pauses the operation. Restart the operation by clicking the Start button.</p> <p>Stop¹- Stops the operation (the SPACEBAR or ESC key can also be used for this).</p> <p>Start replay¹- Starts the replay of a completed operation.</p> <p>Pause replay¹- Pauses the replay of a completed operation.</p> <p>Stop replay¹- Stops the replay of a completed operation.</p> <p>Notes¹- Adds a note to the operation as it is saved to the job card. The note can later be read from the job card or the saved operation during replay.</p> <p>Default information¹- Displays the general information for an open operation.</p> <p>Prerequisites¹- Displays the prerequisites, or conditions, that must be met before the open operation can be started (if applicable).</p> <p>Close¹- Closes the open operation to return to the menu. (The ESC key can also be used for this.)</p>
	Job card	<p>The following options are available from the Job card menu:</p> <p>Open- Opens a selected job card.</p> <p>Delete- Deletes a selected job card.</p> <p>Import- Imports job cards.</p> <p>Export- Exports selected job cards to a disk for storage or to import to another VCADS Elite PC.</p> <p>Close- Closes the open job card.</p>

Pos	Name	Description
1	Menu Bar	Contains the following menus:
	Tools	<p>The following options are available from the Tools menu:</p> <p>Simulator- Activates or deactivates the simulator mode. See “Simulator” page 42 for more information about the simulator mode.</p> <p>Update VCADS Pro- initiates a network/dial-up update of the VCADS Elite application. See “Network Updates” page 45 for details.</p> <p>Options- Various aspects of the application can be customized such as language, measurement units and background images.</p>
	Help	<p>The following options are available from the Help menu:</p> <p>Help text- Opens a user’s manual for the application. See “Help Text” page 43 for details.</p> <p>Update information- Opens a list of VCADS Elite versions and some of their main features.</p> <p>Parameter information- Opens a list of the parameters that may be found in the ECUs of the selected vehicle.</p> <p>Last logged error- Displays the latest error message to appear during use of the application.</p> <p>About VCADS Pro- Opens a window to display the current application version.</p>

Pos	Name	Description
2	Toolbar	Contains the following function buttons:
		Identify/connect to vehicle- Opens the dialog window to identify and connect to a vehicle.
	T0010341	
		Print¹- Prints the current screen.
	T0007775	
		Operation view- Displays the operation view, used for working with test, calibration and programming operations.
	T0010342	
		Job card view- Displays the job card view, used for accessing job card records and saved operations.
	T0009477	
		Tests¹- Displays or hides the test operations in the menu.
	T0009475	

Pos	Name	Description
2	Toolbar	Contains the following function buttons:
		Calibrations¹ - Displays or hides the calibration operations in the menu.
	T0009476	
		Programming¹ - Displays or hides the programming operations in the menu.
	T0009478	
		Information text¹ - Displays or hides the information text and image fields within the operations.
	T0007924	
		Close¹ - Closes the open operation to return to the menu (the ESC key can also be used for this).
	T0009045	
		Start¹ - Starts the operation (the SPACEBAR can also be used for this).
	T0008343	
		Pause¹ - Pauses the currently running operation. Restart the operation by clicking the Start button.
	T0007922	
		Stop¹ - Stops the currently running operation (the SPACEBAR or ESC key can also be used for this).
	T0008344	
		Notes¹ - Inserts a note to be saved in the job card for the current operation.
	T0010338	
		Default information¹ - Displays the general information for an open operation.
	T0010340	
		Prerequisites¹ - Displays the prerequisites, or conditions, that must be met before the open operation can be started (if applicable). Also displays the status of prerequisites that are automatically read from the vehicle.
	T0010339	
		Start replay¹ - Starts the replay of a completed operation.
	T0008758	
		Pause replay¹ - Pauses the replay of a completed operation.
	T0008760	

Pos	Name	Description
2	Toolbar	Contains the following function buttons: Stop replay¹ - Stops the replay of a completed operation.  T0008759  T0008761 Replay slider bar¹ - Use to manually control the replay of a completed operation. Drag the slider or click on the slider bar and use the arrow keys to control the replay of the operation.

Pos	Name	Description
3	Status Bar	Displays status Left-hand side: Displays the model and chassis ID of the connected vehicle. Right-hand side: Displays the status of communication between the PC and the connected vehicle, and between the PC and Volvo when performing updates. When communication has been established with Volvo, a connection icon is displayed. When in simulator mode, the word Simulator will be displayed in a yellow block.

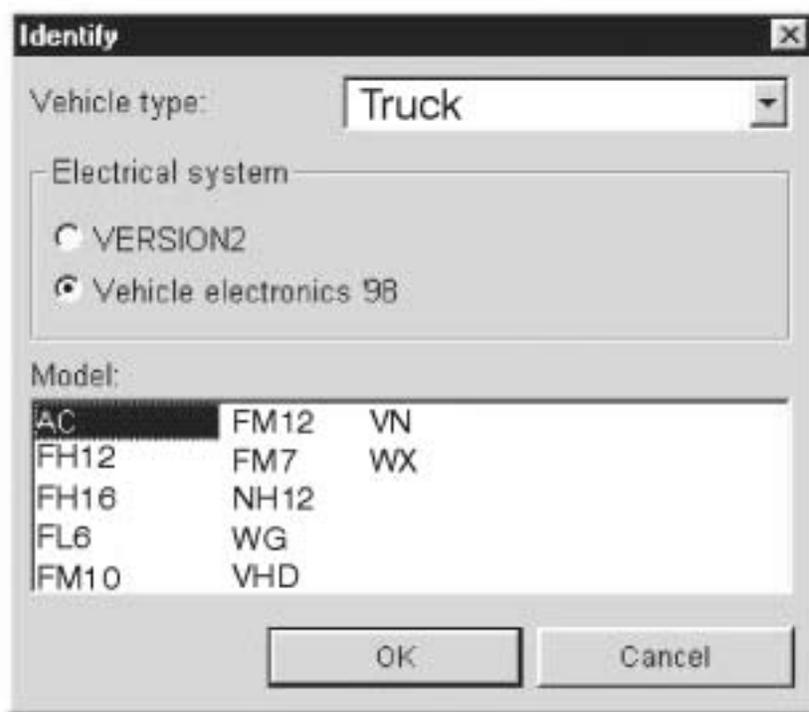
Connecting to a Vehicle

Connect the Volvo communication interface 9998555 to the PC's serial port and to the vehicle's diagnostic connector using the ap-

propriate diagnostic adapter (refer to Special Tools, page 6). Place the vehicle's ignition switch in the ON position.

Identification

Click the **Identify** button in the toolbar. A vehicle identification dialog window will appear:



W0002116

Check that the selected vehicle type is **Truck**.

Choose the electrical system of the vehicle that is being connected. Select **Vehicle electronics '98** for vehicles built from 1998 through November 2002. Select **VERSION2** for vehicles built after November 2002. Select the model of the vehicle.

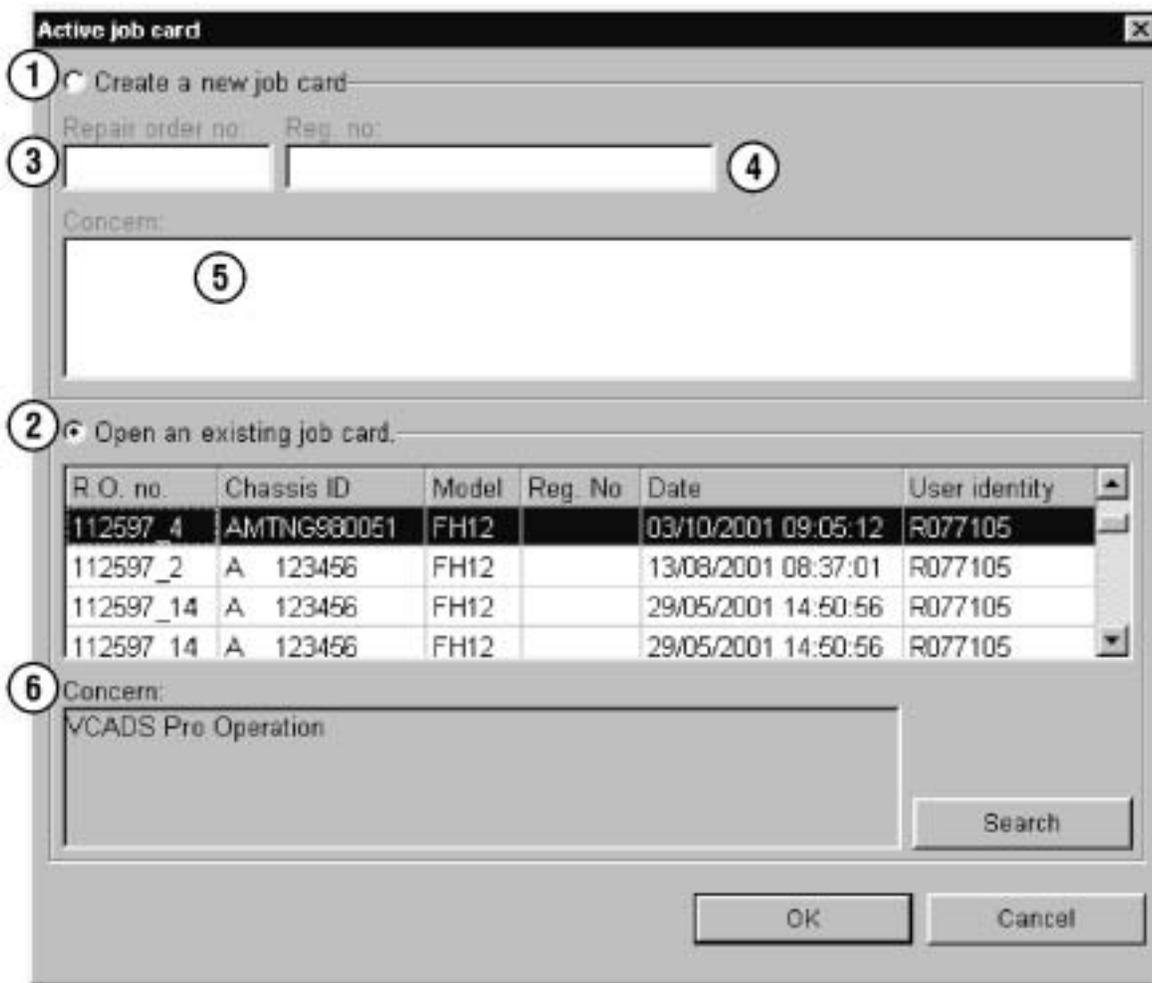
Note: It is important that the correct model

is chosen because the menu will be configured with operations that are applicable for the chosen model. If the incorrect model is chosen, some relevant operations may be missing from the menu or existing operations may not be configured properly. Press the **OK** button to continue or the **Cancel** button to return to the main menu screen.

Configure Job Card

Before carrying out operations on a vehicle, the job card must be configured for saving information about the activity. A new job card must be created, or an existing unfin-

ished job card can be opened if one already exists for the vehicle. For more information about the job card function, see “Job Card” page 42.



T0010703

Create a new job card (1)

- Enter the repair order number (3). If there is no repair order number for the job, enter some other type of identifier, or a random number.

- Optional: Enter the vehicle’s license number (4).
- Optional: Enter the reason for the work with the vehicle, or any other notes about the job or vehicle (5).

- Click **OK**.

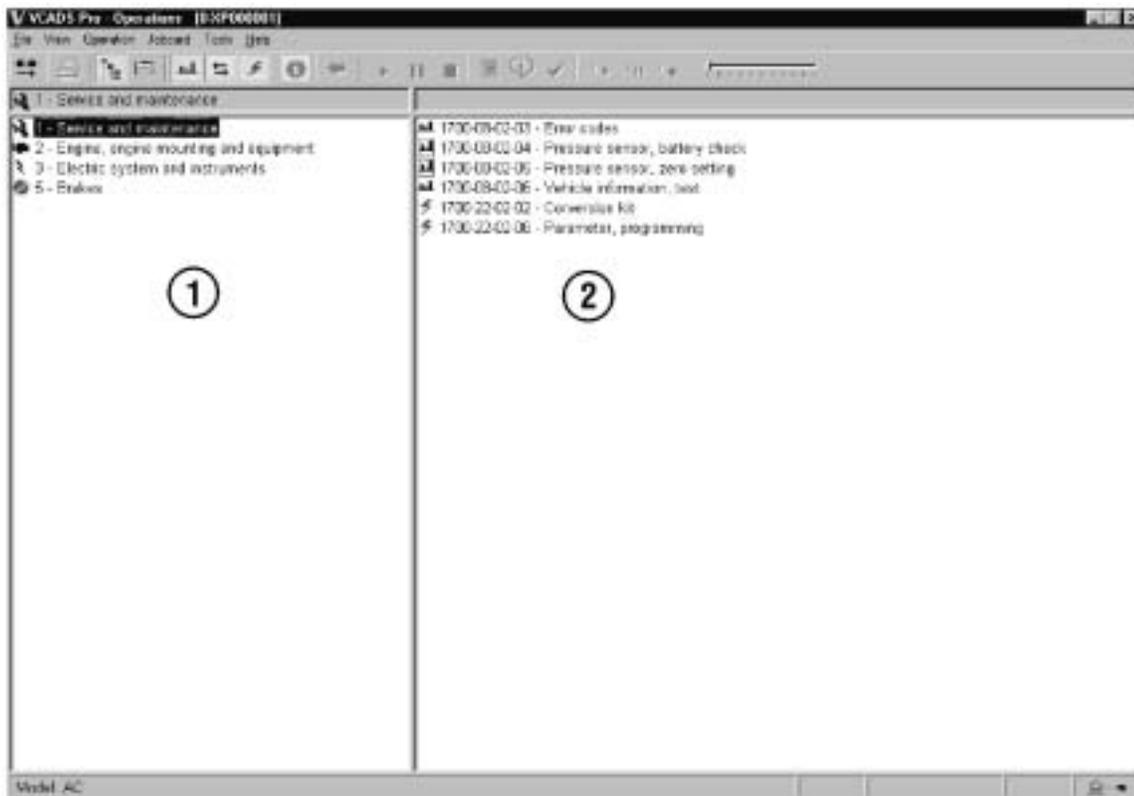
Open an existing job card (2)

- 1 Click the option to open an existing job card.
- 2 Select an existing, unfinished job card from the list. Only job cards created for the selected vehicle model that have not been finalized are included in

the list. If there are no suitable job cards, the list will be blank and this option will not be selectable. It is also possible to search for job cards using the **Search** button.

- 3 Click **OK**.

Select an Operation



T0010420

Check that the communication interface is connected to the vehicle and the PC and that the vehicle's ignition switch is in the ON position.

- 1 Highlight the appropriate function group in the left section of the screen (1). The operations grouped within that function group will be displayed in the right section of the screen (2). Symbols in front of each operation title indicate the type of operation it is.

These symbols match the buttons for Tests, Calibrations and Programming in the tool bar.

- 2 Select the desired operation from the right section of the screen by double-clicking it or by highlighting it and pressing the Enter key. **Note:** It is possible to open an operation in simulator mode by right clicking on it and selecting **Open as simulated**.

Select the Vehicle Variant

In many cases, there is more than one version of a particular operation suited to a certain vehicle model. This is due to the fact that vehicles with the same model designation may be configured differently. Therefore, when certain operations are

opened, a variant selection dialog box will appear with selections such as engine version, transmission type or axle configuration. Select the variant from the list that matches the configuration of the connected vehicle and press **OK**.

Communication with the Vehicle

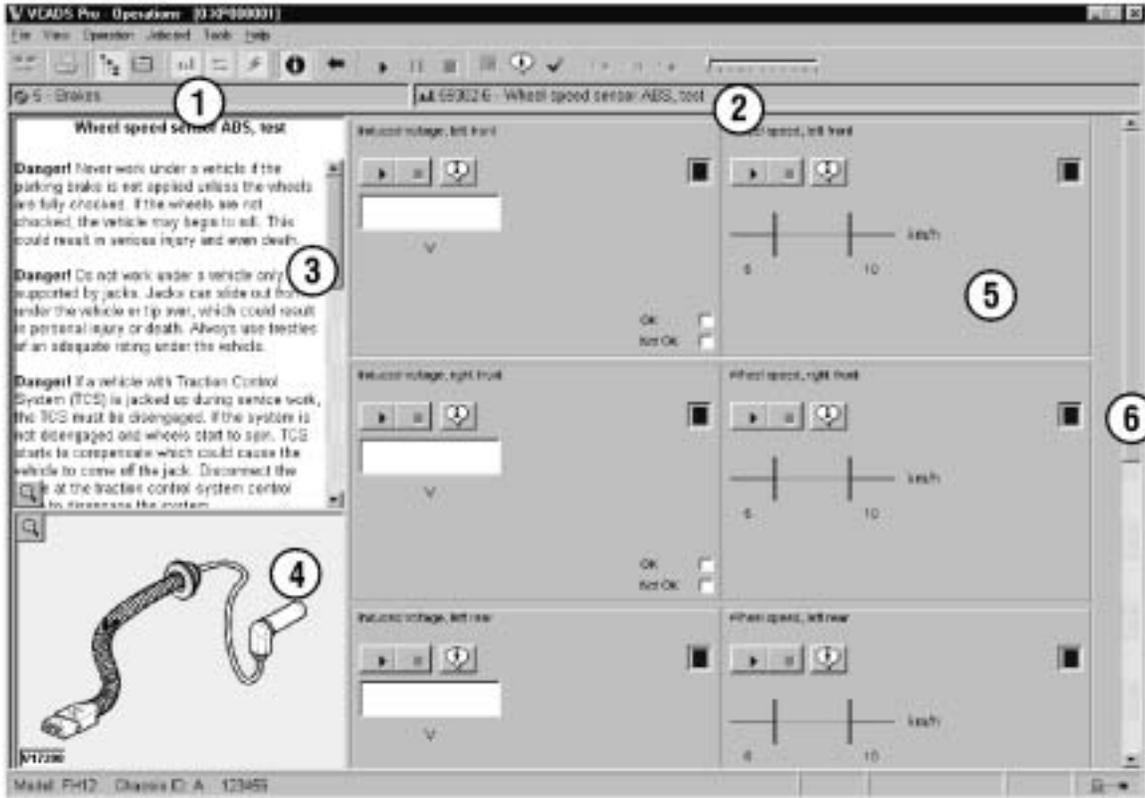
The program will communicate with ECUs on the vehicle before the first selected oper-

ation is opened. This may take a few minutes.

Operations- General Information

In general, the operations in VCADS Elite share a similar configuration. The following

example shows elements of a typical operation:



T0010343

Pos	Name	Description
1	Function group field	Shows the function group that the operation belongs to.
2	Title field	Shows the operation title
3	Information text	Displays text information about the operation or a selected sub-operation. The text field can be enlarged by clicking on the magnifying glass icon in the lower left corner of the text window.

Pos	Name	Description
4	Image field	Displays an image corresponding to the information text that is displayed. The image can be enlarged by clicking on the magnifying glass icon in the lower left corner of the image window.
5	Sub-operation	Operations consist of one or more standardized sub-operations. In some cases, these sub-operations can be controlled individually.
6	Scroll bar	Available when the size of the operation is larger than the space available on the screen. Use the scroll bar up or down to view the entire operation. Note: In many cases, it is possible to fit the entire operation within the screen area by hiding the information text. After viewing the information in the text and image fields, press the Information text button in the tool bar to hide or show the text and image fields.

ECU Designations

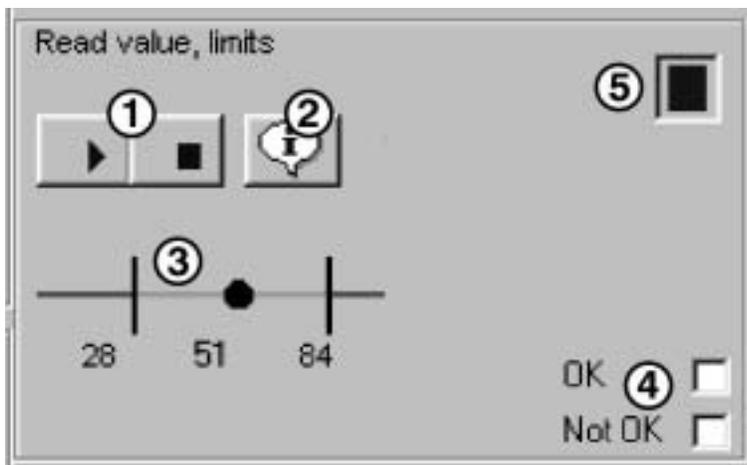
In many places throughout the application, ECUs are referred to by a Message Identification Description (MID) designation. This designation is based on a Society of Automotive Engineers (SAE) standard (J1587/1708 information data link). The following is a list of ECUs that may be installed on Volvo vehicles, and their corresponding MID designation.

MID 128	Engine control unit	MID 146	Climate unit
MID 136	Brake control unit	MID 150	Air suspension
MID 140	Instrument cluster (VERSION2)	MID 206	Radio
MID 142	Volvo Link	MID 216	External lighting control unit
MID 144	Vehicle ECU	MID 231	Mobile communication unit
		MID 232	Airbag, control unit
		MID 234	Instrument cluster left module (Vehicle Electronics '98)
		MID 249	Body builder module
		MID 250	Steering Wheel Module

Tests/Calibrations

Test and calibration operations can be made up of a combination of sub-operations with different information display types. These display types include status indicators, digi-

tal values, charts and graphs. This example shows some of the common elements shared by many sub-operations:



T0008336

- 1 Start/stop buttons (1): Some sub-operations can be started and stopped individually.
- 2 Information button (2): When clicked, information related to the sub-operation is displayed in the information and image fields.
- 3 Graphic element (3): Presents the test or calibration data.
- 4 Evaluation (4): When the operation is complete, the results of the sub-operation can be evaluated. The user can indicate whether or not the results were OK by checking the corresponding check box. The evaluation is stored in the job card.
- 5 Status box (5): Indicates if the sub-operation is running, paused or stopped. The symbols representing each condition are the same as those on the toolbar buttons. Also, if the sub-operation does not get a reading from the ECU that it is attempting to communicate with, a red 'X' will be displayed.

Programming Operations

Programming operations in VCADS Elite consist of Parameter Programming and MID 140 Odometer Programming.

Parameter Programming

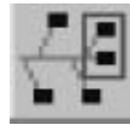
Customer parameters can be read and modified for the Volvo ECUs that are installed on the connected vehicle. When the parameters are read from the vehicle, there will be a delay while the parameter information is read from each ECU. The delay time will depend on factors such as the number of ECUs installed on the connected vehicle and the speed of the PC being used.

Group View: Organizes parameters into groups according to their general function, such as Cruise Control, PTO, Speed, etc. When this view is active, select a parameter group from the list to view the parameters in that particular group. This view is used unless MID view is selected.

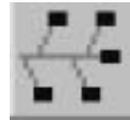
MID View: Organizes parameters according to the ECU they are actually programmed into. When this view is active, the Volvo ECUs on the connected vehicle will be listed. Select an ECU from the list to view its parameter settings.

Views

When the parameter information has been read, it will be displayed in a chart. The information can be organized in two ways: **Group view** or **MID view**. Group view is the default, but the view can be changed by pressing the appropriate button:



T000777



T000778

ID	Name	Min	Value	Max	Unit
IL	Engine shutdown input, enable		Yes		
GU	Engine speed limit enable		Yes		
GQ	Engine speed limit value	500	2500	2500	r/min
GW	Engine torque limit 1 enable		Yes		
GX	Engine torque limit 2 enable		Yes		
GR	Engine torque limit value 1	0	67	100	%
GS	Engine torque limit value 2	0	69	100	%
DM	Radiator fan, off time minimum	0	100	300	s
DL	Radiator fan, on time minimum	0	30	300	s
AU	Stationary max engine speed	600	2300	2600	r/min

T0009561

Fig. 1: Parameter List

NOTE! The parameter list can be sorted by clicking the column headings.

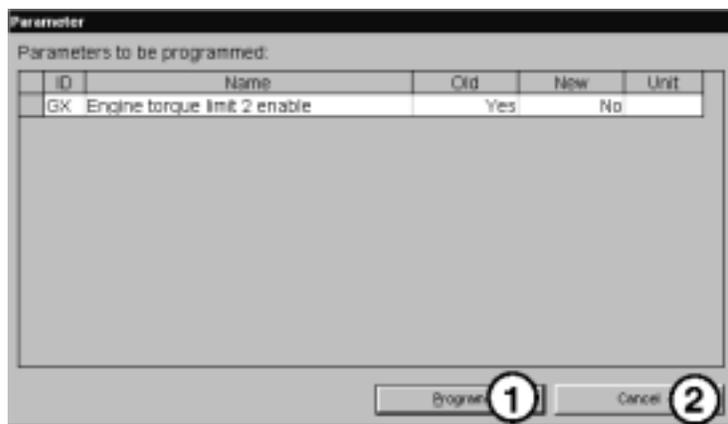
Column Heading	Description
ID	The ID of the parameter. Each parameter has an individual parameter ID that is the same regardless of the language setting.
Name	A brief description of the parameter. Additional information for an individual parameter is displayed in the information field when that parameter is highlighted in the list.
Min	The minimum value that can be programmed for the parameter.
Value	The current value of the parameter.
Max	The maximum value that can be programmed for the parameter.
Unit	The unit used for expression of the parameter value.

Changing a Parameter Value

- After reading the parameter information from the vehicle, find the desired parameter in the list and double-click it or highlight it and press the Enter key.
- Change the parameter value.
- Press the Enter key.
- Repeat the steps above for each parameter to be changed.
- When all desired parameter changes have been made, click **Continue** to proceed.

Numerical parameter: Enter the new value.

Multiple choice parameter: Select the desired choice from the list.



T0009568

When a parameter value has been modified, the programming dialog appears to review and confirm the parameter changes that are to be carried out.

- 1 Click **Program** (1) to make the indicated parameter change(s).
- 2 Click **Cancel** (2) to cancel the parameter change and return to the pa-

parameter list. It will then be possible to make further modifications to parameter values, set the previously changed parameters back to their original values, or close the parameter programming operation without making any parameter changes.

Printing Parameter Information

Print parameter information by pressing the Print button in the toolbar or by selecting Print from the File menu. The information printed depends on which program view is active.



T0007775

- 1 Group view: The parameter list for the selected parameter group will be printed.
- 2 MID view: The parameter list for the selected ECU will be printed.

When printing parameters, select whether to print the selected group/ECU or all groups/ECUs.



T0009061

Odometer Programming

The Odometer Programming operation in VCADS Elite makes it possible to restore the correct mileage in the odometer of an instrument cluster that has been replaced. There are three options for programming the odometer reading into an instrument cluster:

- 1 *Read the mileage from the instrument cluster that is being replaced.* This option can be used if the instrument cluster that is being replaced can still be powered up in the vehicle and will still communicate with the VCADS Elite application.
- 2 *Read the mileage from the engine ECU.* The engine ECU also stores the vehicle mileage information and this reading can be used to restore the odometer reading in a replacement instrument cluster.
- 3 *Enter the correct odometer reading manually.* If it is not possible to read the correct mileage from the old instrument cluster or the engine ECU, the odometer reading can be entered by the user.

NOTE! Your state may have regulations concerning the disclosure of changes made to the odometer reading. It is important that you are familiar with those requirements

and do not use this tool to circumvent any applicable rules and regulations.

The odometer programming operation is applicable to **VERSION2** vehicles and VN and VHD vehicles with the **Vehicle Electronics '98** electrical system and the instrument cluster referred to as the **'99 instrument cluster**. See *'99 Instrument Cluster - Identification*.

- If the instrument cluster is being replaced and the old one is still capable of being powered up, leave it installed in the vehicle. If the old instrument cluster is completely dead, install the replacement unit.
- Select MID 140 Odometer Programming from the menu.
- If working with a vehicle with the Vehicle Electronics '98 electrical system, confirm that the vehicle has a '99 instrument cluster.
- Start the operation. The application will read information from the vehicle. This may take a few minutes.
- A window will appear for the mileage information to be selected or entered as described above.

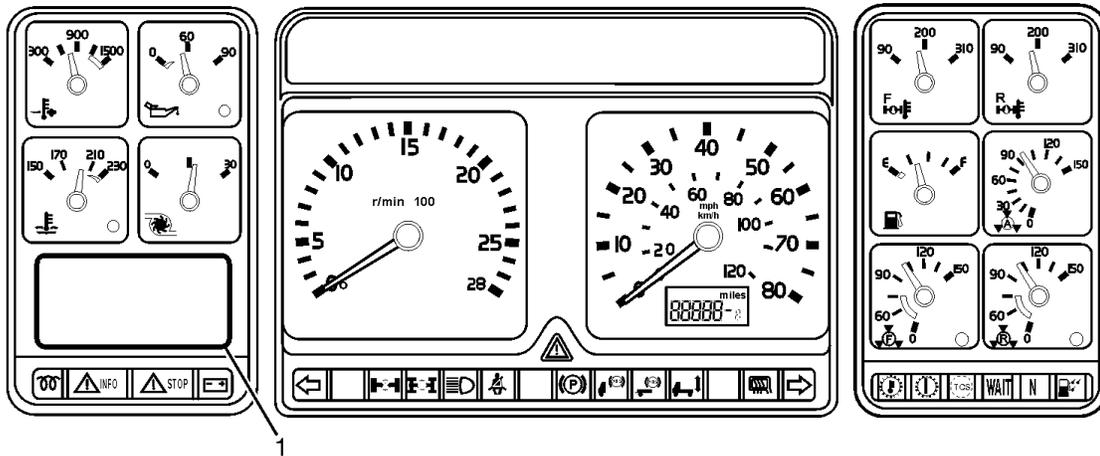


W0001850

- If the old instrument cluster (the one being replaced) is still installed in the vehicle, select to use the mileage from the existing instrument. If the replacement instrument cluster is already installed, this reading will be 0 and the reading from the engine should be selected or Manual input should be selected. If selecting Manual input, click on the space for the mileage and enter the mileage that is to be programmed into the instrument cluster.
- Click OK.
- A prompt will appear asking the power to be switched OFF. If the old instrument cluster is installed, turn the vehicle's ignition switch OFF and remove the old instrument cluster. Connect the new, replacement instrument cluster, turn the vehicle's ignition switch ON and click OK. If the replacement instrument cluster is already installed, click OK.
- The odometer programming will be performed. Check the odometer to confirm that the correct odometer reading is displayed.

'99 Instrument Cluster- Identification

The '99 instrument cluster is found in VN and VHD vehicles built between March 1999 and November 2002 (see below).



W3005014

The '99 instrument cluster is similar in appearance to the earlier '96 and '96B instrument clusters with the following exceptions:

- The graphic display (1) and odometer windows have **orange** illumination instead of green.
- The left section has PREHEAT, INFO and STOP telltales instead of ENGINE FLUIDS, CAUTION and STOP.

Job Card

Job cards are used to save information about work carried out with VCADS Elite. Results from completed operations and information about parameter changes are stored in the job card on the PC.

NOTE! Job cards are normally linked to a specific repair order number when specified during connection to the vehicle (see “Configure Job Card” page 28). When the job card is associated with a specific repair order, that job card should be finalized when the work on that repair order is complete. When exiting the connection to a

vehicle, a prompt will ask if the job card for that vehicle should be finalized. If it should be possible to save information about additional operations to that job card in the future, the checkbox for finalizing the job card should be unchecked. It is not possible to save information to a job card that has been finalized.

For more details on job card functions, refer to the user’s manual accessed from the Help menu of the application (see “Help Text” page 43).

Simulator

VCADS Elite has a simulator function to allow operations to be opened and performed in simulator mode without the need to connect the PC to a vehicle. This can be useful for training or getting acquainted with the application.

The simulator mode can be activated and deactivated from the menu screen by selecting **Tools** in the menu bar and clicking Simulator. When the application is in simulator mode, the **Simulator** menu selection will have a checkmark beside of it and the word "**Simulator**" will appear in the lower right of the screen (in the status bar) in a yellow block. The simulator mode can also

be activated and deactivated by pressing **CTRL+S**.

Each operation can be opened individually in simulator mode even if the application is not in simulator mode. To open an operation in simulator mode, right click the operation title in the menu and select **Open as Simulated**. When in simulator mode, operations will run with simulated data that is random and illogical. The simulated data is used to show how the operation performs in general terms and is not intended to show how the results should look when the operation is performed on an actual vehicle.

Help Text

A user's manual is included in the Help menu. This manual contains more information about the functions and operations in

VCADS Elite. To view the manual, click **Help** in the menu bar and select **Help text**. The manual will open in Acrobat® Reader.

Exiting VCADS Elite

There are several ways to exit the VCADS Elite application:

- Click **File** and select **Exit**.
- Double-click the Window icon, see “Window” page 52.
- Press **ALT+F4**.
- Press **Esc**.
- Click the Close button at the top right corner of the window, see “Close” page 54.

General

There will be periodic updates to the VCADS Elite application. These updates must be made in order to upgrade functionality and to ensure communication with newer vehicles. Updates will be made with a VCADS Elite update CD or through a connection to Volvo (network updates).

CD Updates

When an update CD is received from Volvo, update VCADS Elite by inserting the CD into the CD-ROM drive. The update CD has a self-extracting program that will automatically start the installation of the update.

If the CD does not start automatically:

Click **Start**.

Click **Run**.

Click on your CD-ROM drive and select the **Setup.EXE** file.

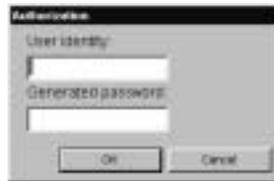
Click **Open**.

Click **OK**.

The update files will be transferred to the PC with a status bar showing the progress of the update. When the file transfer is complete, the application will be restarted or you will be asked to restart the PC. In either case, when the application is started again for the first time, a delay may occur while a checklist of file updates takes place. The application will then start with a window showing information about the update.

Network Updates

Network updates are performed from the **Tools** menu in the menu bar of VCADS Elite. Click on **Tools** in the menu bar and then **Update VCADS Pro**. When the update function is selected, a dialog box will ask for a generated password.



T0009578

At this time, connect the PC to an appropriate telephone line, or if the PC has another Internet connection, initiate a connection to the Internet.

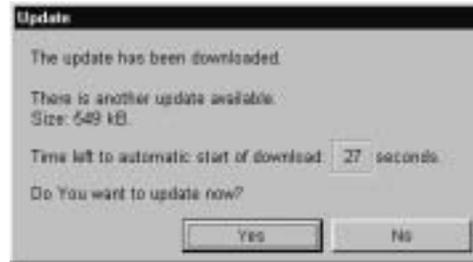
NOTE! If the PC has Internet access, the connection to Volvo should be made using your existing Internet service provider. This option is recommended in most cases since performance is generally better and the potential for a long-distance telephone call is reduced.

Call the Helpdesk at 800-888-2039, preferably on a separate telephone line than the one connected to the PC (see "Helpdesk", page 3 for Helpdesk contact information). Inform the Helpdesk that you are performing an update to your VCADS Elite application and that you need a generated password for your connection to Volvo. You will be asked for your user ID. When the generated password is given, immediately enter it into the generated password space and click **OK**.

NOTE! The generated password from the Helpdesk is valid for one use only and must be used **immediately** at the time that it is given.

After the generated password has been entered, a connection to Volvo will be established and the software is checked to see if an update is necessary. If an update is not required, a prompt will appear to inform that the application is updated. In an update is available, a window will appear with information about the size of the update and a countdown timer will begin. Choose to proceed with the update by pressing **Yes** or cancel by pressing **No**. If no action is taken before the countdown timer gets to zero, the update will proceed.

The update files will be downloaded, with a status bar showing the progress of the download. When the update file has been downloaded, the system will check to see if other updates are available. If so, a window will appear with information and a countdown timer similar to the one that appeared earlier.



T0010722

Press **Yes** to continue with the update or press **No** stop the download of the next update and load only the previously downloaded update file.

When all available updates have been downloaded, a window will appear to inform that no more updates are available.

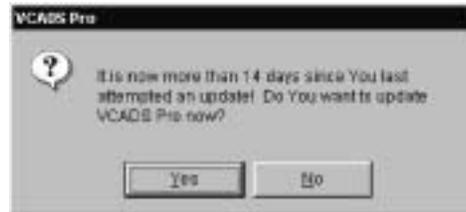


T0010723

Click **OK** to install the update(s). The downloaded files will be installed to the application and a status bar will show the progress of the update. When the update is complete, the application will be restarted or you will be asked to restart the PC. In either case, when the application is started again for the first time, a delay may occur while a checklist of file updates takes place. The application will then start with a window showing information about the update.

Update Reminder

If more than 14 days pass without a VCADS Elite update being performed, a prompt will appear when the application is started. The prompt asks whether or not the application is to be updated at that time.



T0009076

If the **Yes** button is selected, the update will be carried out as described above. If the **No** button is selected, the application will start normally without an update being carried out. In this case, the prompt will appear each time the application is started until an update is performed.

VCADS Elite Troubleshooting

Symptom	Cause	Correction
The PC stops working	The PC's battery is discharged.	Charge the battery or connect the PC to a power supply.
	Hardware fault or operating system (W95,W98 or Me)	Refer to your PC and /or operating system manual.
VCADS Elite will not start	Corruption of software files	Reinstall the last CD version of VCADS Elite you received.
	Conflict between different programs installed on the PC.	Exit the programs and restart the PC. If the error persists, contact the Helpdesk.
	Hardware error in the PC or the peripheral equipment.	Refer to PC manual.
VCADS Elite locks up or stops (while in use)	Computer is still processing information.	Wait for a short time period.
	VCADS Elite has stopped working.	Exit other programs. Restart the PC and repeat the procedure. Contact the Helpdesk if the fault persists.
	Windows has stopped working.	Restart the PC.
Connection to vehicle failed <i>NOTE! Always make several attempts to communicate with the vehicle before a more comprehensive fault tracing is started.</i> Please: check the connection to the PC (Serial Port). Slightly move the connection, then attempt to make a connection.	Infrared Port enabled	Disable infrared port in BIOS, and then remove hardware profile in Windows. If you cannot remove profile for the port then disable it.
	The ECUs on the vehicle have low or no voltage.	Check the battery voltage and check that the vehicle's ignition switch is in the ON position.
	Break in the cable between the PC and the vehicle.	Check the cable and the connection.
	Hardware fault in the PC.	Refer to your PC manual.
	Hardware fault in the communication interface unit.	Replace the communication interface unit.
	Datalink problem in vehicle.	Try to connect to another vehicle. If successful, fault trace the datalink problem.
	No Volvo ECUs installed.	The application will not establish communication with non-Volvo vehicles.
Vehicle does not have the proper electrical system.	VCADS Elite communicates with Volvo vehicles with Vehicle Electronics '98 or VERSION2 electrical systems only.	

Symptom	Cause	Correction
The identification window displays "No Models" during the vehicle connection dialog.	The wrong vehicle type is selected.	Make sure "Truck" is selected as the vehicle type in the upper section of the identification window.
The PC will not initiate a dial-up connection when attempting to connect to Volvo (no connection sounds are heard).	The wrong connection type is selected.	Click Tools in the menu bar and select Options . Click the Connection tab and check that the connection type selected is Modem if using a dial-up connection.
The PC seems to try and dial out when using a LAN connection Cable Modem, DSL or T1-T3 high-speed connection.	The wrong connection type is selected.	Click Tools in the menu bar and select Options . Click the Connection tab and check that the connection type selected is Network if using an Ethernet connection.
Unable to view all buttons in VCADS Elite Window	Incorrect screen area selected. Optimize viewing area by changing the screen size to 800 x 600 or larger .	Right click on the Desktop and select " Properties ". Select the " Settings " tab. At the bottom of the window, select the appropriate size in the " Screen Area " section.

Windows, Basics

Desktop



W0001974

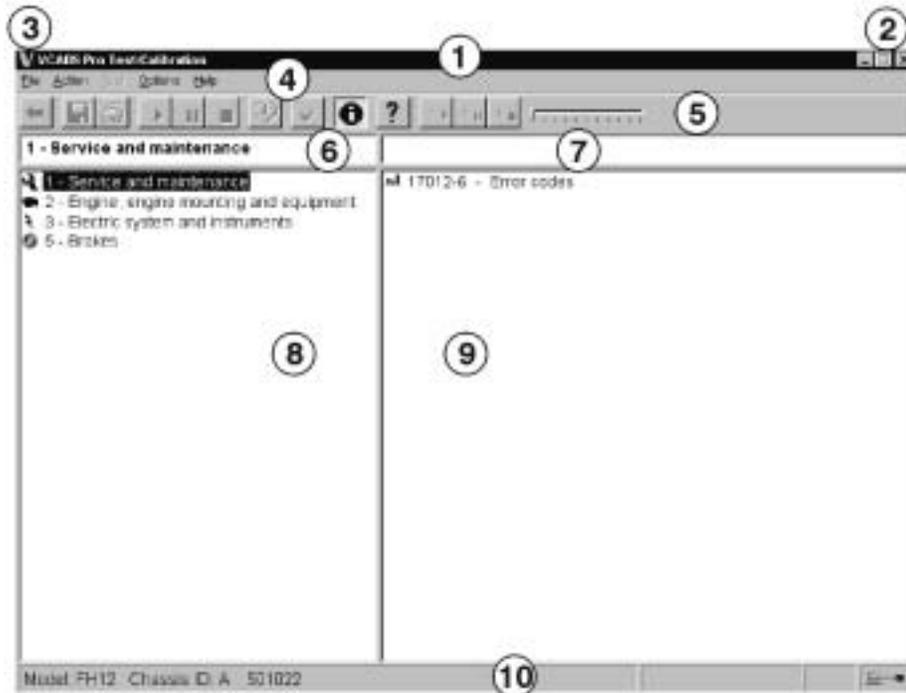
VCADS Elite works in the Windows operating environment. This section describes some of the basic functions and components in the operating system.

Pos	Name	Description
1	Desktop	The Desktop is the work area that is displayed when the computer and the operating system are started. The various applications installed in the computer are started from here.
2	Shortcuts	Shortcuts are used to start an application or a file quickly. Shortcuts are shown as icons on the desktop.
3	Taskbar	The taskbar is normally at the bottom of the screen. To the left in the Task bar is the Start button and on the right is a field for presentation of various parameters, such as current time. All windows currently open are also shown in the taskbar. Switch between the different windows by clicking the relevant button in the taskbar.
4	Start	The Start button is used to start applications and shut down the computer.

Definitions

Point	Place the mouse pointer on the desired object.
Click	Press the left mouse button and then release it.
Double-click	Rapidly press and release the left mouse button twice.
Drag	Point to the desired object. Press the left mouse button and move the mouse pointer and the marked object to the desired position. Release the left mouse button.
Select	Click the intended object. The background of the object will change color.

Window



W0001968

Pos	Name	Description
1	Title bar	The title of the window is displayed here.
2	Window buttons	The window buttons can be used to simply change the size of the window or close the window.
3	Window icon	Click the window icon in order to open a menu. The size of the window can be changed and the window can be closed from the menu. Double click the window icon to close the window.
4	Menu bar	In the menu bar, there are a number of menus that contain a number of functions. Drop down a menu by clicking it, or alternatively press ALT+ the letter that is underlined in the menu that is to be selected. Activate the menu function by clicking it. Alternatively, select the function with the UP/DOWN arrows and press ENTER .
5	Toolbar	In the toolbar, there are a number of function buttons. Activate the button by clicking it. When the function button has been activated, the function linked to the button is carried out. If you point to a function button a small text box is shown. The text box contains a button description and is located adjacent to the relevant function button.

Pos	Name	Description
6	Function group	This shows which function group is selected.
7	Selected function	This displays the selected function within a function group.
8	Function group box	The relevant function groups are shown in this field. When a function group is marked, the associated tests are shown in the right-hand box.
9	Functions box	The functions available in the function group selected in the function group box are listed here.
10	Status bar	The model, Chassis ID and vehicle description for the selected vehicle are displayed here. The status of the communication between the PC and the vehicle is displayed on the far right. A red cross is displayed in the icon if communication has not been established.

Window Control Buttons

Minimize

Click this button to minimize the window. A minimized window appears as a button on the Taskbar.



T0007764

Restore

A minimized window appears as a button on the Taskbar.

Click this button on the Taskbar to restore the window.



T0007908

Maximize

Click the maximize button to restore the window or double-click the title bar.



T0007765

Restore

Click this button to restore the window to its original size or double-click the title bar.



T0007766

Close

Click this button to close the window.



T0007767

Move

Drag the title bar to the desired position.



W0001934

Size

The size of most windows can be changed.

- 1 Move the mouse pointer to a side or corner of the window. The mouse pointer will then change appearance.
- 2 Drag the edge or corner to the desired position.



W0001933

Dialog Box Help

This function provides an easy way of obtaining information about an object in a dialog box.

- 1 Click the **Help** button. The mouse pointer changes appearance.
- 2 Click the desired object. Information about the selected object is displayed.
- 3 Click anywhere on the screen to exit the function.



T0007768

Buttons

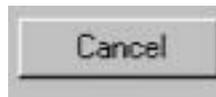
A button can take three different states.

Highlighted: The button text is black and there is a black frame around the button. Alternatively there is a dashed frame around the button text.



T0007904

Selectable: The button text is black.



T0007905

Not selectable: The button text is gray.



T0007906

Check Boxes

Check boxes (1) are used to activate/deactivate the available options or preferences. In some cases several check boxes may be filled in at the same time.



T0008390

Option Buttons

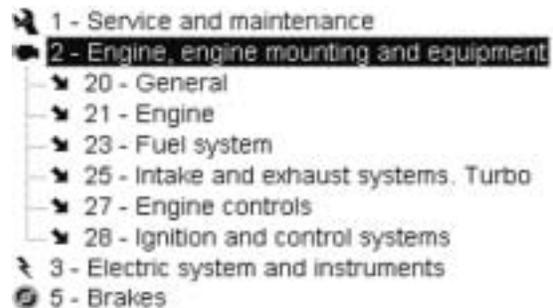
The option buttons are used to activate one of several possible alternatives. Only one alternative can be active at a time.



T0009061

Function Groups in the Tree Structure

The tree structure provides an easy and logical method of finding the desired application or function. Groups of functions and applications can be adapted so that only the group name is visible. The group can also be opened so that its contents are visible.



W0001959

Starting an Application

There are a number of ways to start an application. Two ways are described here:

- Click the **Start** button. A menu will be displayed. By pointing at **Programs** a sub menu will be revealed, which contains all the programs which are installed on the PC. Click on the program you wish to start.
- Alternatively use the application icon on the desk top. Double-click the desired application icon.

Mouse and Keyboard Commands

In most situations commands can be carried out using either the mouse or the keyboard. Below is a description of how to use the mouse and keyboard for some typical operations.

Function	Keyboard	Mouse
Switching between objects in a dialog box.	Press TAB , shift back using SHIFT+TAB .	-
Activate a button.	Press ENTER when the relevant button is highlighted.	Click the relevant button.
Drop down a menu.	Press ALT+ the underlined letter in the menu to be selected.	Click the desired menu.
Select a menu function.	Select the function using the UP/DOWN arrows and press ENTER .	Click the desired function.
Open a directory.	Highlight the desired directory using the UP/DOWN arrows. Open the directory using the RIGHT arrow.	Double-click the desired directory.
Close a directory.	Highlight the desired directory using the UP/DOWN arrows. Close the directory using the LEFT arrow.	Double-click the desired directory.
Change the active option button.	Use the arrow keys to activate the desired option button.	Click the desired option button.
Check or uncheck a check box.	Press the SPACEBAR .	Click the check box to be checked or unchecked.