

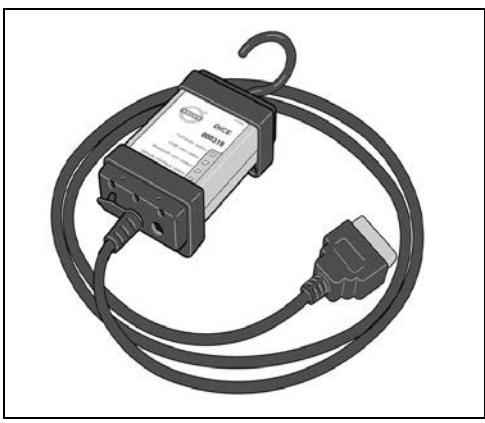
VOLVO CAR SERVICE AND PARTS BUSINESS				
<h1>Special Tools Bulletin</h1>				
TITLE: <b>DiCE Wireless Communication Tool</b>				
NO: <b>160</b>	ISSUE DATE: <b>2017-02-28</b>	CAR MARKET: <b>United States and Canada</b>		Page 1 of 7
	STATUS DATE: <b>2017-02-28</b>			

**“Right first time in Time”**

**Introduction**

DiCE (Diagnostic Communication Equipment) is used together with VIDA to communicate with D2 and GGD protocol based vehicles. Communication makes it possible to troubleshoot and diagnose the vehicle, as well as download software.

The technicians are given more flexibility as DiCE transfers information via Bluetooth between the vehicle and VIDA. A USB cable can be used as an alternative to the Bluetooth communication. USB communications can be faster and more stable.



**Support**

For support contact your local Helpdesk or submit a help request via [volvotechinfo.com](http://volvotechinfo.com).

<b>Service Personnel: Read and initial</b>	SERVICE MANAGER	PARTS MANAGER	WORKSHOP FOREMAN	SERVICE TECHNICIANS													

## Components

DiCE has an integrated OBD cable, which is connected to the vehicle's diagnostic socket. When connected to the vehicle, DiCE is powered as long as the battery is charged.

Use the DiCE unit's folding hook to hang it from e.g. one of the grab handles. The DiCE unit should be hung in such a way that the Bluetooth reception is optimized, i.e. a clear line of sight from the USB dongle on the computer client to the DiCE unit.

DiCE has four status LEDs that indicate:

- Firmware Status
- USB Communication Status
- Bluetooth Communication Status
- Vehicle Interface Status

Descriptions of these different statuses is available in VIDA > Help icon.

DiCE has a DC input where a battery cable or adapter (12V) can be connected. The adapter is used when upgrading and troubleshooting the DiCE unit. It may also be used when performing complex methods in VIDA, which requires the vehicle battery to be temporarily disconnected.



*Attach power supply here*

On the other side of the unit there is a removable cover. To remove the cover, turn the screw. See picture below:



*DiCE unit with detached cover*



The inputs for USB and memory card are located here. Memory SD Card (Secure Digital) is used with the Volvo CAN Recorder.

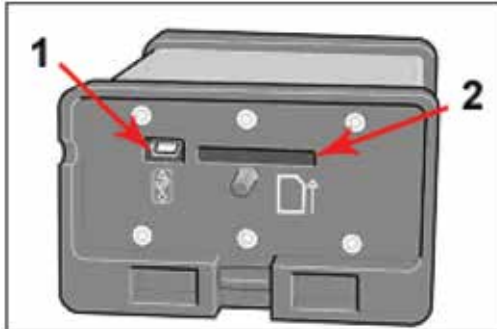


Fig. 4 DiCE unit without cover

In order to communicate wirelessly with DiCE, the VIDA client must also be configured with Bluetooth. The supported adapter for DiCE is Ezurios USB-to-Bluetooth-adapter, which is connected to the computer's USB port.

**\* Please note that no other third party Bluetooth dongles can be used with DiCE.**

When upgrading DiCE, a USB cable must be used. DiCE supports USB 2.0.

## Part Number List

Name	Part Number	Purpose
DiCE	9513000	With integrated OBD cable.
DiCE Test Unit	9513001	Used for troubleshooting DiCE.
USB cable, 5 meters (16 feet)	9513002	Used for vehicle communication
USB Bluetooth adapter	9513005	Used for wireless Vehicle communications
USB cable, 1 meter (3 feet)	9513003	Used when installing and updating DiCE software
Battery cable	9513004	Used for troubleshooting and updating software for DiCE.
USB extension cable 2 meters (7 feet)	9513006	Used as an extension for Bluetooth Adapter
USB extension cable 0.5 meter (2 feet)	9513007	Used as an extension for Bluetooth Adapter
Power adapter	9512992	12 V power adapter.
DiCE Plastic Hook (Replacement)	9989814	Used to hang DiCE Unit
DiCE Tool (Replacement Cable)	9989859	



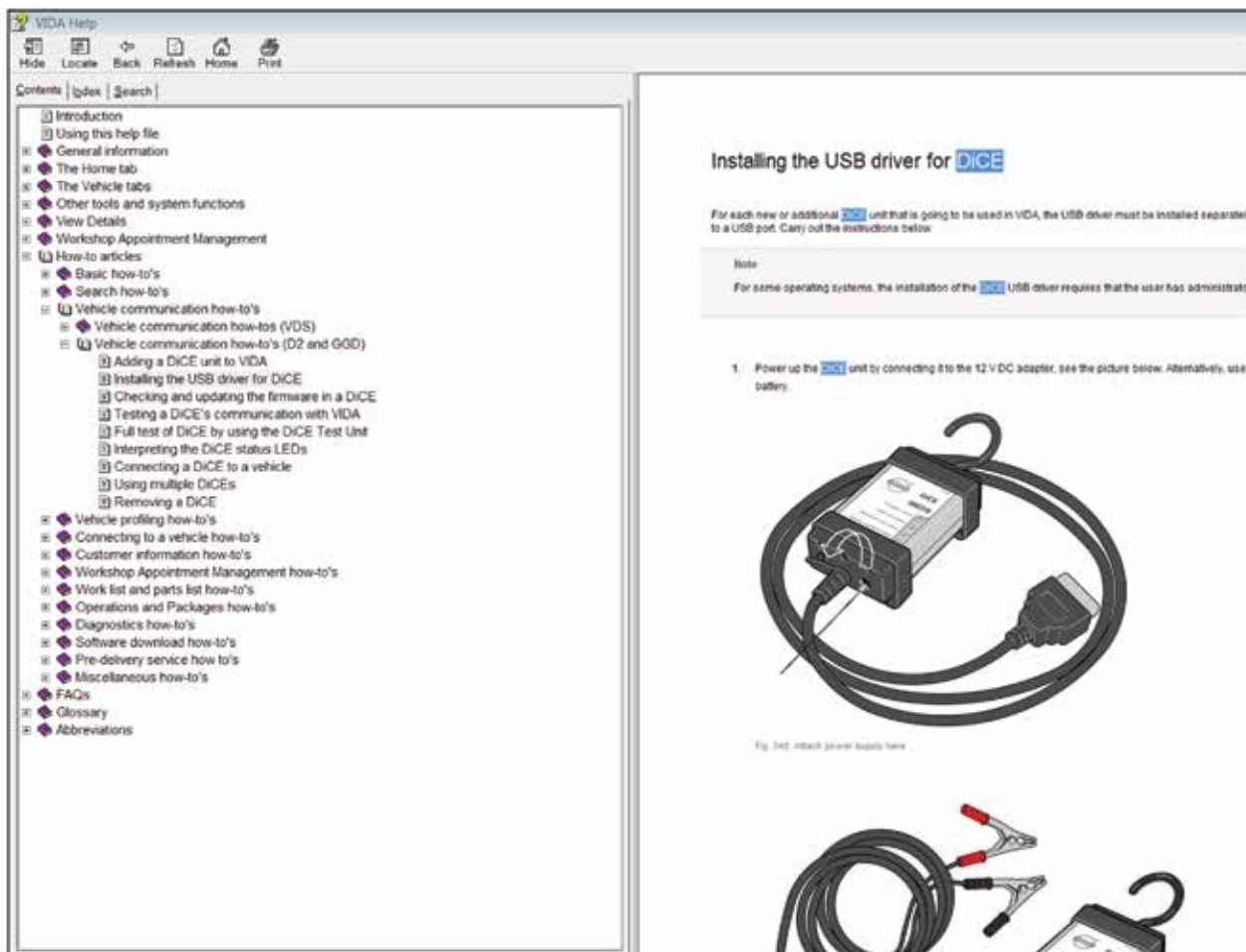
## Uninstall Bluetooth Stack

If your computer already has a bluetooth stack installed, it needs to be un-installed. For more information on how to perform this operation contact your Sales Company or other IT professional.

## Installation Instructions

Reference updated installation information in VIDA.

From any screen in VIDA, click  icon found in the lower right corner of the page.

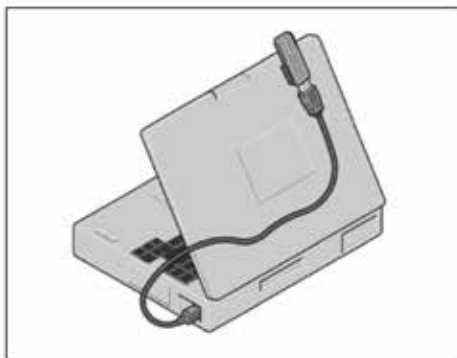




- [-] How-to articles
  - [+] Basic how-to's
  - [+] Search how-to's
  - [-] Vehicle communication how-to's
    - [+] Vehicle communication how-tos (VDS)
    - [-] Vehicle communication how-to's (D2 and GGD)
      - Adding a DiCE unit to VIDA
      - Installing the USB driver for DiCE
      - Checking and updating the firmware in a DiCE
      - Testing a DiCE's communication with VIDA
      - Full test of DiCE by using the DiCE Test Unit
      - Interpreting the DiCE status LEDs
      - Connecting a DiCE to a vehicle
      - Using multiple DiCEs
      - Removing a DiCE

## Bluetooth

Bluetooth is used for wireless communication between the vehicle and the VIDA client.



*Bluetooth adapter*



## Remarks on Bluetooth

### Performance

To optimize the performance for wireless transfer, it is important to remember that some electronic appliances compete for the same frequency band. WLAN, DECT telephones, mobile telephones and other Bluetooth units are a few examples of equipment that limit the performance if they are used at the same time as DiCE in a workshop environment.

The signals can be weakened by walls, furniture, panels, people etc.

DiCE has a maximum wireless range of 100 meters (300 feet) with clear visibility and perfect conditions. To achieve stable communication with the vehicle, the distance should be limited to approximately 50 meters (150 feet).

Hang the DiCE in the vehicle by using the hook and point the Bluetooth adapter towards the DiCE. Make sure that no obstacles are between the DiCE and the Bluetooth adapter on the computer.

### Safety and Reliability

Bluetooth technology guarantees interference protection and increases data security in many ways. The technology uses 128 bit encryption to prevent data being read by another party in the event of the signal being hijacked, which is rare.

To guarantee a high level of reliability, the signal could be transmitted over 70 different frequencies (on the 2.4 GHz frequency band). DiCE shifts between different intervals up to 1600 times per second to find the most reliable frequency.

### USB

A USB cable can be used as an alternative to Bluetooth. The USB cable is connected between the DiCE and the computer client.

**\*USB will have communication priority over Bluetooth.**



*Remove the cover by turning the screw*



## For Out of Warranty use only:

DiCE Bluetooth stops working:

- Verify first that the bluetooth dongle is working and correct as needed.
- Verify USB cable communications still works
- It is possible that jarring of the DiCE tool could dislodge or loosen the connector on one of the internal circuit boards that controls Bluetooth communications.
- The repair is simple to perform using a T-10 screwdriver.
- **Reminder – Electrostatic discharge (ESD) precautions should be taken**

Remove cover. Open case and remove circuit board.



Turn the circuit board over and inspect the Euziro board alignment. Reattach as needed.

