To:	Technical managers / Service technicians	**SI-No.:**	1000005
Subject:	DTCO 4.0f – Upgrade Process	29.09.2023	Page: 1

The service information applies to the DTCO 4.0 / 4.0e / 4.0ed devices and describes the background, notes and implementation of the upgrade to version 4.0f.

ⓘ *A WorkshopTab with software version 4.8.5, 4.9.5 or higher is required for the upgrade.*

What is the background for the upgrade?

With the introduction of DTCO 4.0 in 2019 and its technical innovations, a new generation of tachograph cards has been launched. These second-generation cards replaced the first-generation cards, which necessitated an adaptation of the configuration process at the card issuing offices.

In 2021, there were increasing reports of issues with the remote download function of DTCO 4.0 devices. Subsequently, we carried out extensive analysis. We have found that the remote download function of the DTCO 4.0 devices no longer works when expired company cards are read into the DTCO via remote host.
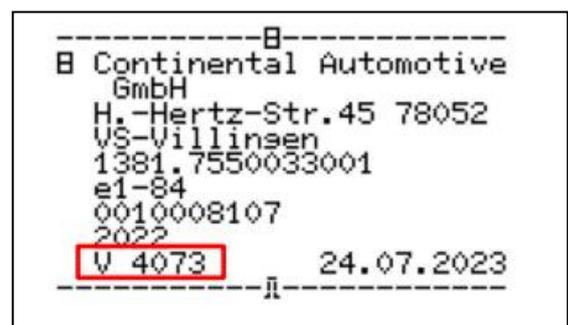
We have developed a software upgrade that does the following:

- Unaffected devices are protected from this issue.

- For affected devices, the remote download function will be restored.

On which devices can the upgrade be performed?

The upgrade can be installed on all DTCO 4.0 (4042), DTCO 4.0e (4072) and DTCO 4.0ed (4073) devices.

In order to determine the corresponding DTCO version, a technical data printout of the DTCO can be made. The versioning can be checked at the following point:


```
------------8------------
8 Continental Automotive
   GmbH
  H.-Hertz-Str.45 78052
  VS-Villingen
  1381.7550033001
  e1-84
  0010008107
  2022
  V 4073        24.07.2023
------------Ⅱ------------
```

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For which devices is it recommended to carry it out?

There is no obligation to upgrade to the DTCO. However, we recommend installing the upgrade in the following cases:

- In case of existing issues with the remote download function

- For potential authentication attempts with expired company cards

We recommend that fleet owners check their company cards and stop using expired cards.

WorkshopTab - Automatic update certificate allocation

With the WorkshopTab, the workshops have the possibility to require the update certificate for their workshops theirself through a website.

The Workshop/WorkshopTab **must** be registered on the VDO update server! If this prerequisite is fulfilled, the customer can requested their certificate under the following link:

https://tab.workshopreport.com/certificate

On this Website the customer can fill his seal number (1), the serial number of one of his WorkshopTabs (2) and the E-Mail address (3) on which they want have send the password for the update certificate.

When this is done, an email with the password is sent to the specified e-mail address and the certificate is created on the update server.

How is the upgrade performed?

The upgrade is performed as usual via the VDO WorkshopTab. The DTCO update cable (part number 2910000849500) is required. The exact process of the upgrade depends on the WorkshopTab software version used. In the following, the upgrade process with different WorkshopTab software versions on the market is shown.

For technical reasons, an upgrade to version 4073/4075 with WorkshopTab software versions other than those specified here is not possible.

WorkshopTab Software 4.8.5

Check which DTCO release is installed on your vehicle.

If, according to the technical data, the DTCO 4.0 (4042) printout is installed, first carry out all steps according to the 'Intermediate Steps' below to upgrade the device to version 4073 (please note that the upgrade voucher which was previously needed to complete the upgrade is not required, just cancel the screen message when it appears).

Intermediate Steps:

The following instructions shows how to do the SW-Upgrade from the 4.0 (V 4042) to the DTCO version 4.0e (V 4073). The following are required to perform the upgrade:

- WorkshopTab with at least Rel. 4.8.5
- WorkshopTab DTCO Update cable, part number 2910000849500
- The workshop (means the WorkshopTab with the S/N XY) must be registered on the VDO update server
- The corresponding certificate for the DTCO upgrade has already been installed via the link https://www.workshopreport.com/tab/web/certificate and was installed on the WorkshopTab by an update (information on how to do this is shown on page 2 of this service information notice under the heading 'WorkshopTab - Automatic update certificate allocation').
- **During the upgrade process, the WorkshopTab must have an internet connection**

1. Connect the DTCO plug A to a reliable power supply with 12/24 volt or higher and put a workshop card in one of the card slots. Make sure you pay attention, that no KITAS sensor (B-plug) is connected, if the DTCO is not activated. (e.g.: Upgrade of storage devices)
2. After inserting the workshop card, switch to the service menu of the DTCO and select the item "SW upgrade". After the request if a data download was done (only at activated devices), you will be prompted to eject the workshop card. Than the SW-upgrade mode will be started. Must answer 'yes' when prompted or the upgrade will be aborted. Workshops should download the DTCO before starting if the Company have not already downloaded.
3. Deliberately wait until the DTCO shows you the upgrade error 40B5 (timeout)

4. Switch to the WorkshopTab and select the Software Upgrade item under TCO Info. Connect the the WorkshopTab with the DTCO via the DTCO update cable.

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5. Select the appropriate upgrade file ('SN_10000062-11374059_4.0(4042)_TO_4.0ed(4.0ed.UPF') and the certificate and click on start. You will be asked to enter the old password (contained in the email sent to you) and to enter and confirm a new personal password for the certificate.
    Note: For the upgrade of a DTCO 4.0, the same certificate is used as for the DTCO 3.0. Pay attention to the **designation R3** when selecting the certificate.
6. The WorkshopTab then tries to establish a connection with the Tachograph.
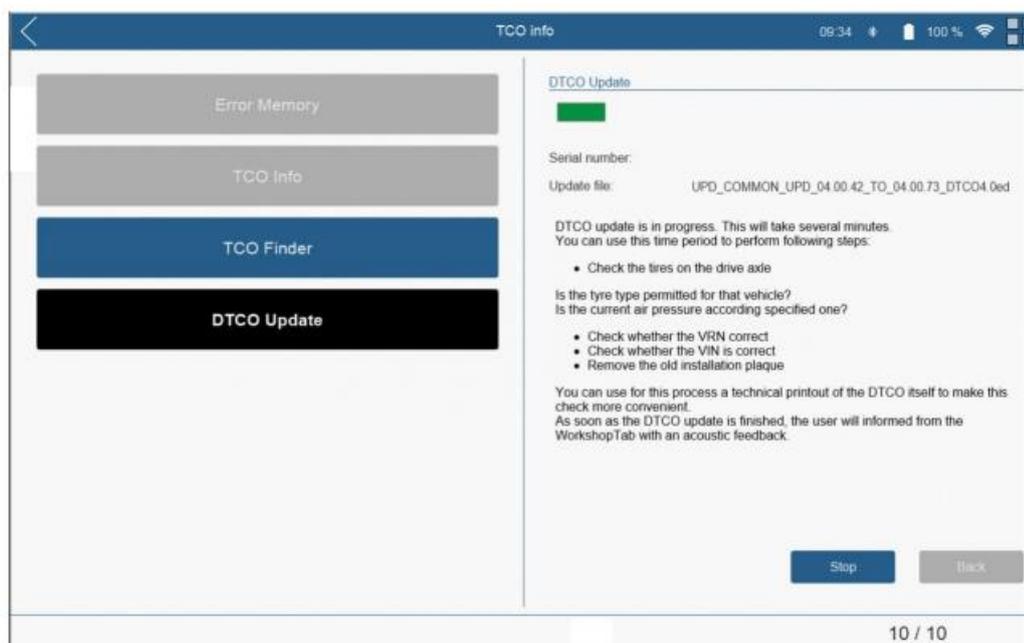
7. The message **Connection established**! Wait for upgrade! appears on the screen of the WorkshopTab. Now press the "OK" button on the DTCO to transmit the serial number.
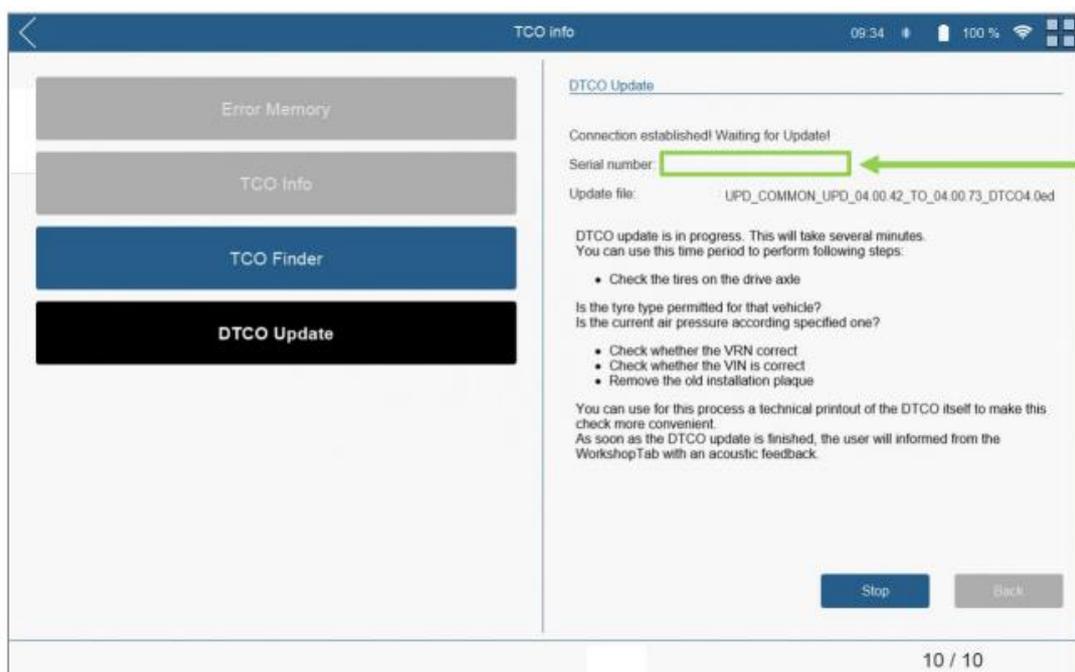
After the "OK" button was pressed, the serial number of the DTCO
will appear in the field

8. Please then enter the personal password defined at the beginning on the WorkshopTab and then confirm
    this with **OK** or **Enter**.

9. Then the software upgrade begins. After authentication, the actual download to the DTCO begins. The
   progress can be seen on both the DTCO and the WorkshopTab.
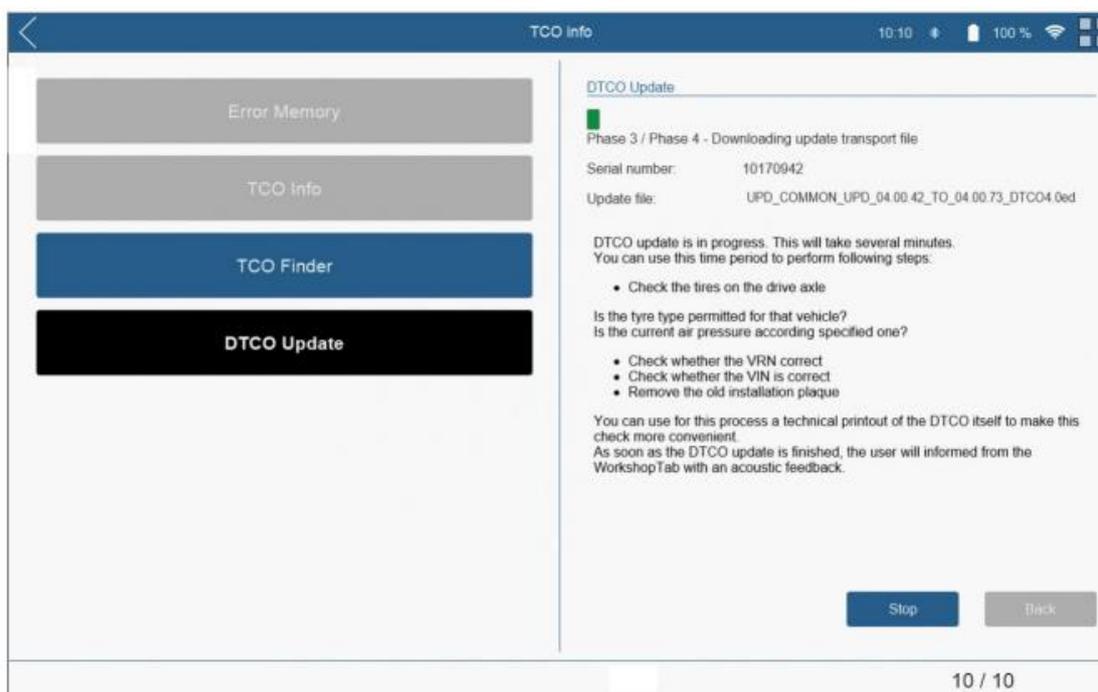
The upgrade is completed after a few minutes (from the time the password is entered). At the end of the upgrade, the message "upgrade done" appears on the DTCO.

Attention: When the software upgrade has started, it must be carried out completely! The upgrade can be canceled and restarted later. However, the DTCO cannot be used if it is canceled, because parts of the software have already been updated! Please do not use the board voltage adapter (A2C59506336) during the upgrade process of the WorkshopTab, as this can damage the DTCO and WorkshopTab.

Info: After you have switched the DTCO to the software upgrade mode by using a workshop card, it remains in this mode until you exit it with the back button on the DTCO after the upgrade is complete. This can be useful if you are upgrading inventory equipment, for example.

10. After the upgrade has been completed, the corresponding message appears in the WorkshopTab and the wizard guides you to the next step.
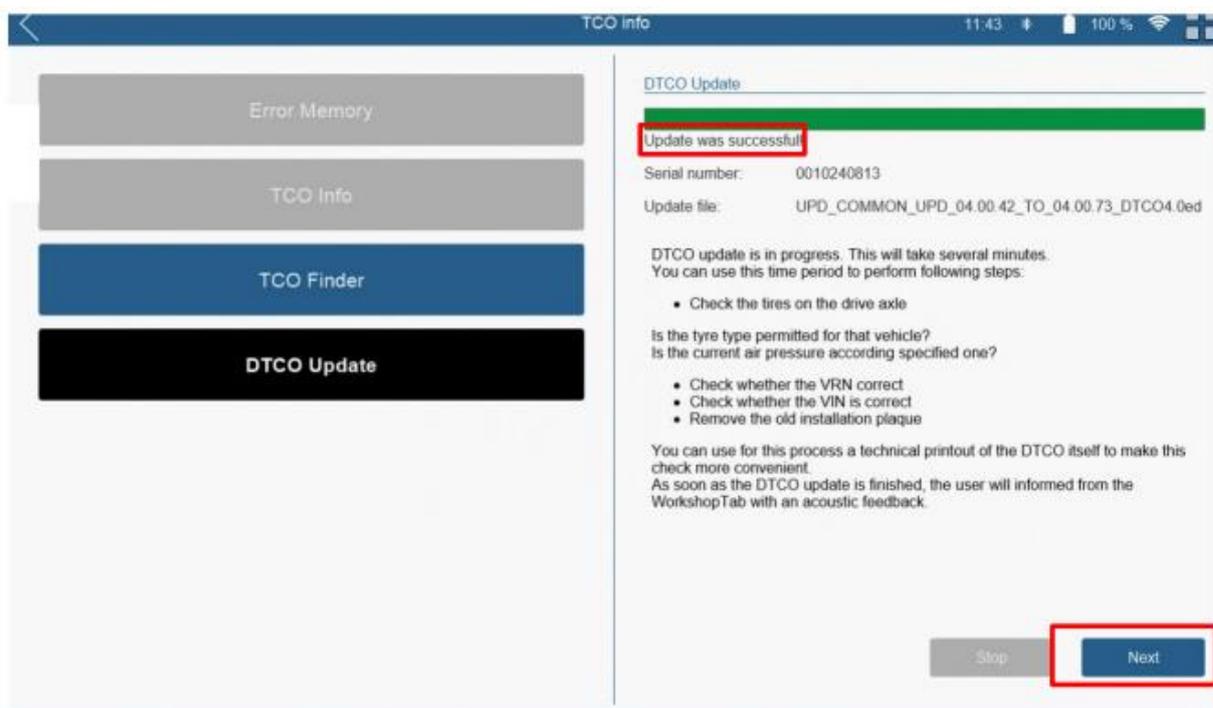
11. You will then be asked to insert the workshop link and the workshop card into the DTCO. Then the license code is written on the DTCO.
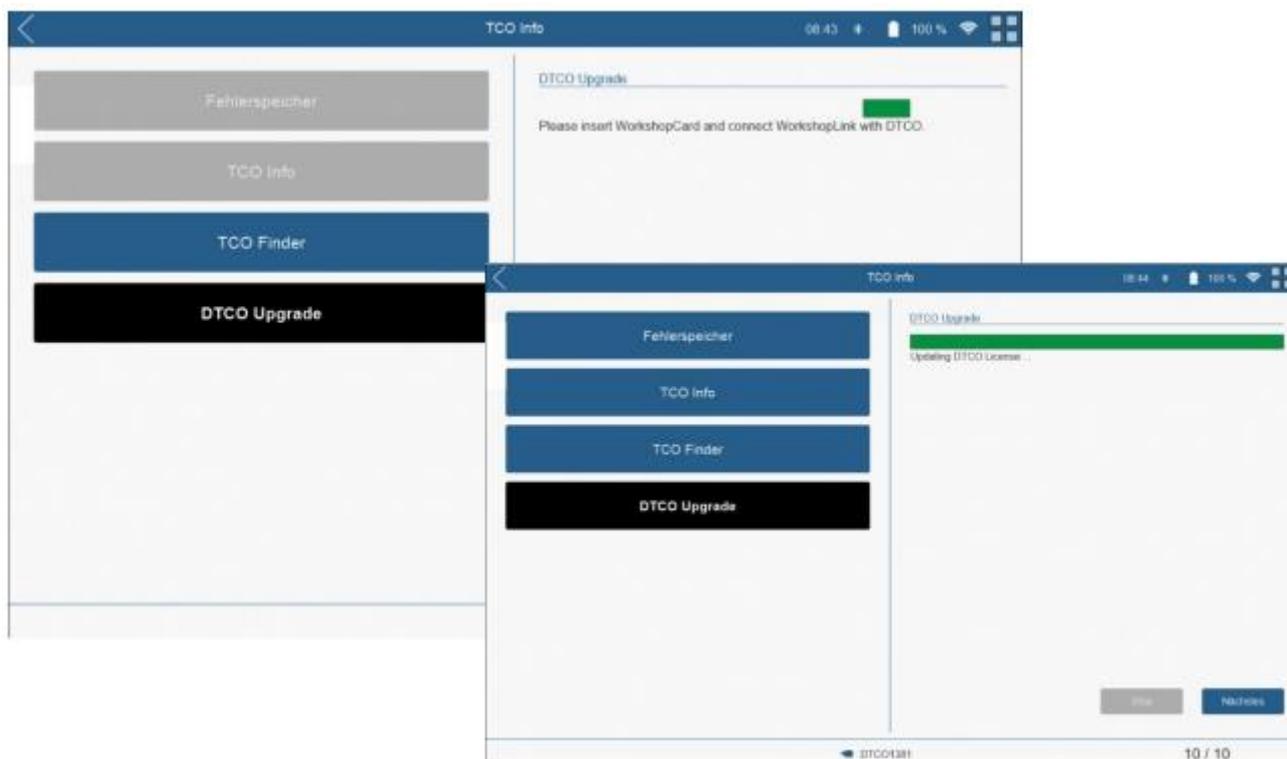
12. Now enter your personal password for the respective inserted workshop card and confirm with "Send".
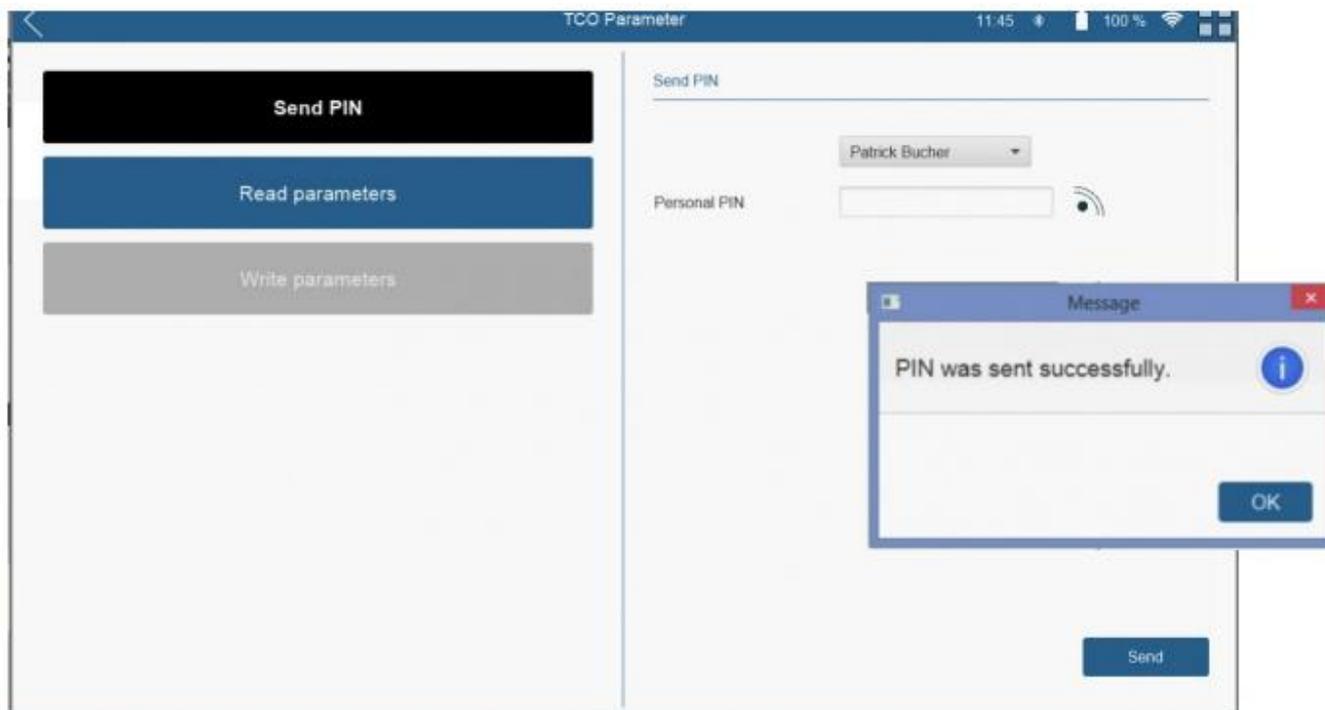
The software upgrade to DTCO Version 4.0e has now been successfully completed. Check the correctness with a technical data printout. Software version 4073 should now be listed here.

Note: as stated earlier in the service information note, the upgrade voucher which was previously needed to complete the upgrade is not required.

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For possible error messages during the DTCO upgrade, please see the end of this document.

(i) *If the DTCO has already been delivered on version 4072 or 4073, the intermediate step is not necessary.*

The background to this is that the 4.0f upgrade cannot be applied directly to the original 4.0 version. You must first upgrade to DTCO 4.0e (4073).

Repeat the update steps up to the selection of the upgrade file. In the "Upgrade File" area, select the file with the following designation:

SN_10000062-11374059_4.0e(4072_73)_TO_4.0f(4075). UPF

Create a printout of the technical data. Check the version on the printout. The abbreviation "4075" and the upgrade date must now appear in the printout.

WorkshopTab Software 4.9.5 and higher – with upgrade wizard

If you have a WorkshopTab with software version 4.9.5 and newer, you can use the tab's upgrade wizard.

Plug the WorkshopLink into the DTCO.

In the WorkshopTab, navigate to the menu item "TCO Info" → "DTCO Upgrade". The correct upgrade files are automatically selected based on the version of the connected DTCO.
Follow the steps in the WorkshopTab.

(i) *For DTCO 4.0 devices with version 4042, the upgrade wizard must be started twice. The first time you run it, it will upgrade to version 4073. The second time you run it, the final upgrade to version 4075 is performed.*

Create a printout of the technical data. Check the version on the printout. The abbreviation "4075" and the upgrade date must now appear in the printout.

WorkshopTab Software 4.9.5 and higher – without upgrade wizard

If you do not want to use the DTCO Upgrade Wizard:

Navigate to the "TCO Info" → "DTCO Upgrade" menu without the WorkshopLink plugged in.

Click "Start". The connection to the update cable is established.

In the window after that, select the upgrade files as usual.

Create a printout of the technical data. Check the version on the printout. The abbreviation "4075" and the upgrade date must now appear in the printout.

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Possible error messages during the DTCO upgrade from 4.0 to 4.0e:

Source	On DTCO Display	Description
SWUM_TK_ERROR	0414	**Error in PKCS1 padding in encrypted transport key** The local in a workshopTab directory stored *"DTCOUpdateKey.key"* (Maybe currently downloaded from server) is not suitable for this DTCO (*LittleEndian/BigEndian* issue) Please feel free to ask VDO Partner It seems that there is an issue on the Upgrade server
SWUM_UPGRADE_ERROR	0820	**VCB version is wrong** On WorkshopTab the local *"DTCOUpdateKey.key"* does not suit to the local DTCO Upgrade-file (*.UPF) Check if all SW-Updates of WorkshopTab are installed Delete local *"DTCOUpdateKey.key"* and do a restart. For further Info, please feel free to ask VDO Partner
SWUM_UPGRADE_ERROR	0821	**Version may not be updated by current update file** DTCO was maybe updated before or the SW-Update file is not foreseen for the current connected DTCO Typical fault: Unforeseen mix and selection of DTCO 3.0a instead of DTCO 4.0e and vice versa. For further Info, please feel free to ask VDO Partner
SWUM_MD_COMM_ERROR	40B5	**A timeout has occurred in the WorkshopTab communication** At the WorkshopTab the communication was aborted or SW-Update cable was disconnected or any DTCO confirmation was not done in time For further Info, please feel free to ask VDO Partner
SWUM_MD_COMM_ERROR	40C8	**Error during transport key transmission** The local stored *"DTCOUpdateKey.key"* is not designed for connected DTCO or we have a mix between Test- and life keys or the certificate does not match. Typical fault: Unforeseen mix and selection of DTCO 3.0a instead of DTCO 4.0e and vice versa. For further Info, please feel free to ask VDO Partner
SWUM_MD_COMM_ERROR	40D0	**WorkshopTab interrupted the communication (USER abort)** SW-Update cable was disconnected or Front-Connector in DTCO was disconnected or in WorkshopTab the communication was stopped by the user.

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