

DTCO 1381 Universal Device Rel.2.2

Procedure for uploading OEM Parameter Sets (Release 8) to Universal DTCO® 1381 Rel. 2.2 Devices

Precondition: CTCII has been updated to software **version 2.13** (or later) and the Licence for the universal DTCO® has been uploaded. Also the latest list of OEM variant parameters has been uploaded **<PARA_ZIP_FILE_M15_for_2.2.zip>** using **<CONTRAM_01_03.exe>** on to your **CTCII Version 2.13** (see 'Uploading OEM parameters sets to CTC II 020216.pdf')



There are 6 universal devices based on Release 2.2 (All with IMS ON, Remote HMI ON, VDO Counter enabled on display and for diagnostics, GeoLoc [Mapping] and data recording (via CAN) functionality enabled and activated, RDL possible via released front K-Line):

1381-2214303001 (24V, ADR Zone 2)

Predecessor Rel.2.1: 1381/2210309003T

Features a second, open CAN, D1/D2, **A4/A8 with fixed 120 Ohm resistor**, v/n profile, white display, 4 dimming presets based on CAN, terminal 15, terminal 58 day/night or terminal 58D

1381-2214303002 (24V, ADR Zone 2)

Predecessor Rel.2.1: 1381/2210309004T

Features a second, open CAN, D1/D2, **A4/A8 without resistor**, v/n profile, white display, 4 dimming presets based on CAN, terminal 15, terminal 58 day/night or terminal 58D

1381-4214302001 (24V, ADR Zone 1)

Predecessor Rel.2.1: 1381/4210309003T

Features a second, open CAN, D1/D2, **A4/A8 with fixed 120 Ohm resistor**, v/n profile, white display, 4 dimming presets based on CAN, terminal 15, terminal 58 day/night or terminal 58D

IMPORTANT: ADR Input on B5 (On predecessor it was D3)

1381-4214302002 (24V, ADR Zone 1)

Predecessor Rel.2.1: 1381/4210309004T

Features a second, open CAN, D1/D2, **A4/A8 without resistor**, v/n profile, white display, 4 dimming presets based on CAN, terminal 15, terminal 58 day/night or terminal 58D

IMPORTANT: ADR Input on B5 (On predecessor it was D3)

1381-0214203001 (12V)

Predecessor Rel.2.1: 1381/0210209003T

Features a second, open CAN, D1/D2, **A4/A8 with fixed 120 Ohm resistor**, v/n profile, white display, 4 dimming presets based on CAN, terminal 15, terminal 58 day/night or terminal 58D

1381/0214203002T (12V)

Predecessor Rel.2.1: 1381/0210209004T

Features a second, open CAN, D1/D2, **A4/A8 without resistor**, v/n profile, white display, 4 dimming presets based on CAN, terminal 15, terminal 58 day/night or terminal 58D

Please circulate to all concerned

IMPORTANT – How to switch the IMS (Independent Motion Signal) OFF

From 1st October 2012, EU Regulation 1266/2009 requires that in order to detect manipulation of motion data, information from the KITAS 2+ sensor must be corroborated by an **I**ndependent **M**otion **S**ignal (IMS) - using a third generation digital tachograph (i.e. DTCO Rel.2.0 / 2.0a / 2.1). Therefore in a new vehicle, if a digital tachograph is activated on or after the 1st October 2012, it **MUST** be a third generation type of digital tachograph (i.e. DTCO Rel.2.0 / 2.0a / 2.1).

Please note that there is no requirement to retrospectively apply this regulation. Thus if a vehicle had originally been fitted with a 1st generation or 2nd generation digital tachograph, the same type of DTCO can be retrofitted or a third generation digital (i.e. DTCO Rel.2.0 / 2.0a / 2.1) can be installed with the **IMS OFF**.

The Universal device OEM variant parameters are supplied with the **IMS ON** and therefore it is important for most retrofit applications to switch the **IMS OFF**.

In order to switch the **IMS OFF**, please select 'SWITCH_IMS_OFF' after you have uploaded the required OEM parameter set, via Installation Data (see below)

CTC II – Switching the IMS OFF

The Universal device OEM variant parameters are supplied with the **IMS ON** and therefore it is important for most retrofit applications to switch the **IMS OFF**.

After you have uploaded the required OEM parameter set, select the following:

Programming → Installation Data → IMS Signal → Source →

Select [OFF] → ENTER

Representation of the loaded Parameter set

All DTCO 1381.xxxxxxxxxx Rel. 2.0, 2.0a, 2.0U1, 2.1 and 2.2

CTCII-Display	Original OEM-DTCO:	Usage
<i>PARA_ZIP_FILE_M15_for_2.2</i>	All DTCO 2.2	In first line of each parameter list (independent of which DTCO device you have already connected) you will always see the name representing the parameter set.

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OEM DTCO® 1381 Rel.2.1 (2.0, 2.0a, 2.1) devices that can be emulated by the Universal DTCO® 1381 Rel.2.2 are as follows:

1381-2214303001 Universal DTCO® 2.2 (24v ADR Zone 2 with R):

CTCII-Display	Original OEM-DTCO:	Usage
ALEXANDER DENNIS	1381.1051009008	UK Bus manufacturer
DAF XF/CF/LF	1381.2051109005	Series XF/CF/LF
DENNIS EAGLE	1381.1010109008	UK Truck manufacturer in
EVOBUS	1381.1070109009	SETRA and Mercedes buses
HINO	1381.1060109002	Japanese Light and CW Truck Manufacturer
IVECO EURO CARGO	1381.1072109005	Stralis, Eurocargo Trakker
IVECO STRALIS NEW	1381.1212109004	Phase lift STRALIS
KENWORTH	1381.2050309002	American Truck
MAN TG	1381.2051009004	TGX, TGM, TGL
MERCEDES AC/AX/AT	1381.2070009004	ACTROS, AXOR, ATEGO, UNIMOG
NISSAN ATLEON wR	1381.1101009001	Atleon
RENAULT D-TRUCK	1381.2052309010	New Truck Generation (heavy class)
RENAULT MAG EUR3 wR	1381.2052300028	Magnum, Kerax, Premium, Midlum EURO3
RENAULT T-TRUCK	1381.1212309007	New Truck Generation (medium class)
SCANIA	1381.1071409001	P-, G-, R-Series
SOLARIS	1381.1070209001	Polish Bus Manufacturer
SOR	1381.1070009006	Polish Bus Manufacturer
TEMSA	1381.1071009004	Turkish Bus Manufacturer
VAN HOOL	1381.1070009004	Belgian Bus Manufacturer
VDL BUS	1381.1070109008	Dutch Bus Manufacturer
VDO UNIVERSAL	1381.2214303001	Reset to factory setting
WISEON BUS	1381.1051009004	German Premium Bus Manufacturer
VOLVO FL06 mR	1381.2012000023	FE/FL EURO3
VOLVO NEW FE/FL	1381.2012309010	New Truck Generation (medium class)
VOLVO NEW FH	1381.1232309007	New Truck Generation (heavy class)
VOLVO FH/FM	1381.2012009005	Series FM/FH (TAE2)

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1381-2214303002 Universal DTCO® 2.2 (24v ADR Zone 2 without R):

CTCII-Display	Original OEM-DTCO:	Usage
ACTROS NEW GEN	1381.2010009005	New ACTROS, AROCS, ANTOS
CHINA Kinglong	1381.1070009005	Chinese Bus importer, e.g. Kinglong, Yutong, ...
EVOBUS B2E	1381.1010109009	New SETRA / Mercedes Bus platform
ISUZU	1381.1050209002	NQR, NPR
KENWORTH	1381.2050309002	American Truck
MITSUBISHI	1381.1070109011	Canter
NISSAN ATLEON woR	1381.1101009001	Atleon
RENAULT MAG EU3 woR	1381.2052300028	Magnum, Kerax, Premium, Midlum EURO3 (without CAN Resistor)
RENAULT MAGNUM	1381.2052309009	Magnum, Kerax, Premium, Midlum (TAE2)
SOLARIS	1381.1070209001	Polish Bus Manufacturer
VDO UNIVERSAL	1381.2214303002	Reset to factory setting
VOLVO FL06 oR	1381.2012000023	FE/FL EURO3 (without CAN Resistor)

1381-4214302001 Universal DTCO® 2.2 (24v ADR Zone 1 with R) (Battery Master Switch input MUST be on B5):

CTCII-Display	Original OEM-DTCO:	Usage
IVECO EUROCARGO	1381.4072109003	Stralis, Eurocargo Trakker (ADR) IMPORTANT: The original OEM DTCO, PIN D3 is used for the Battery Master Switch input. You MUST change the wire from D3 to B5
IVECO STRALIS NEW	1381.4212109004	Phase lift STRALIS (ADR) IMPORTANT: The original OEM DTCO, PIN D3 is used for the Battery Master Switch input. You MUST change the wire from D3 to B5
RENAULT T-Truck	1381.4212309007	New Truck Generation (heavy class, ADR) IMPORTANT: The original OEM DTCO, PIN D3 is used for the Battery Master Switch input. You MUST change the wire from D3 to B5
SCANIA ADR Z1-B5	1381.4071409004	SCANIA P-, G-, R-Series ADR
VDO UNIVERSAL	1381.4214302001	Reset to factory setting
VOLVO NEW FH/FM	1381.4232309007	New Truck Generation (heavy class, ADR) IMPORTANT: The original OEM DTCO, PIN D3 is used for the Battery Master Switch input. You MUST change the wire from D3 to B5

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**1381-4214302002 Universal DTCO® 2.2 (24v ADR Zone 1 without R)
(Battery Master Switch input on B5):**

CTCII-Display	Original OEM-DTCO:	Usage
VDO UNIVERSAL	1381.4214302002	Reset to factory setting

1381-0214203001 Universal DTCO® 2.2 (12v with R):



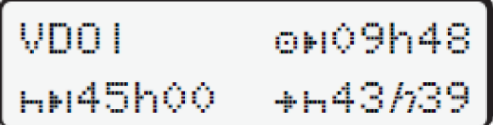


CTCII-Display	Original OEM-DTCO:	Usage
RENAULT MASTER III	1381.0111409010	REN Master III, NIS NV400 and OPEL Movano
VDO UNIVERSAL	1381.0214203001	Reset to factory settings

1381-0214203002 Universal DTCO® 2.2 (12v without R):

CTCII-Display	Original OEM-DTCO:	Usage
FENDT VARIO	1381.0010209002	Tractors (AGCO-Corporation)
FIAT DUCATO NEW	1381.0111009005	From model year 2012
FIAT DUCATO	1381.0111009001	Phase out model of Ducato
FORD RANGER	1381.0250309003	SUV and Pickup
FORD RANGER NEW	1381.0250309003	SUV and Pickup 2014 (Iceblue lighting)
FORD TRANSIT	1381.0070309004	Phase out model with day/night dimming
FORD TRANSIT NEW GEN	1381.0250309006	From model year 2013 (Icebule lighting)
FORD TRANSIT RHEO	1381.0070309003	Phase out model with Rheostat dimming
HMC HYUNDAI EU VAN	1381.0250009002	New: EU Van
IVECO DAILY M2009	1381.0111109008	Phase out model
IVECO DAILY M2012	1381.0111109010	From model year 2012 (Summer 2011)
IVECO DAILY M2014	1381.0111109009	From model year 2014 (Summer 2013)
MERCEDES SPRINTER	1381.0010009007	All Sprinter versions from 2007 (NCV3)
MERCEDES VITO	1381.0010009009	(NCV2, Series 639)
MITSUBISHI	1381.0070109003	Canter
NISSAN CABSTAR	1381.0101009004	Atlas, Cabstar, Maxity
RENAULT NISSAN OPEL	1381.0111409011	REN Trafic, NIS Primastar and OPEL Vivaro
TEMSA	1381.0071309004	Turkish Bus manufacturer
VDO UNIVERSAL	1381.0214203002	Reset to factory setting
VW CRAFTER	1381.0121009007	Exclusively only Crafter, not T5 !!

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Other Programming Possibilities

CTCII-Display	Target DTCO	Usage
WeeklyDriveTime OFF	Rel.2.1 and higher	<p>Calculation of Weekly Driving Time is deactivated. Recommended for all drivers on buses and coaches who drive according to 12-day-exception-EC 1073/2009 regulation VDO Counter Mask during driving keeps unchanged</p> <p>If vehicle is stationary:</p>  <p>Display: Weekly Driving Time</p>  <p>Display: Status</p>
WeeklyDriveTime ON	Rel.2.1 and higher	<p>VDO Counter</p> <p>If vehicle is stationary:</p>  <p>Display: Weekly Driving Time</p>  <p>Display: Status</p>
DCDL Reminder 7	Rel.2.1 and higher	Drivercard Download reminder functionality Will be set to 7 days (7 days (and less) before a Driver card is required to be downloaded at the latest, the driver gets reminded every card ejection)
DCDL Reminder OFF	Rel.2.1 and higher	Drivercard Download reminder functionality completely switched off! (This is recommended if the customer uses drivercard download tools which do not fulfil the exact requirements given in Annex 1b chapter 2.65 according Parameter: 'LastCardDownload').
GEOLOC Adapt	All Rel.2.0 and higher	Increase of time tolerance regarding IMS Fault
VDO LOGO	All Rel.1.3a and higher	Standard VDO Logo will be uploaded to DTCO 

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Other Programming Possibilities – Vehicle data logging (Geologging + 4 CAN messages)

CTCII-Display	Target DTCO	Usage
GEOLOG BASIC CAN1	All Rel. 2.2	For all 1381.* with Rel. 2.2 SW (V 2223)
GEOLOG BASIC CAN2	All Rel. 2.2	For all 1381.* with Rel. 2.2 SW (V 2223)
GEOLOG GENERIC CAN1	All Rel. 2.2	For all 1381.* with Rel. 2.2 SW (V 2223)
GEOLOG GENERIC CAN2	All Rel. 2.2	For all 1381.* with Rel. 2.2 SW (V 2223)
GEOLOG INTENSE CAN1	All Rel. 2.2	For all 1381.* with Rel. 2.2 SW (V 2223)
GEOLOG INTENSE CAN2	All Rel. 2.2	For all 1381.* with Rel. 2.2 SW (V 2223)

Other Programming Possibilities – (Calibration behaviour)

	Target DTCO	Usage
ACTIVATION ONLY	All Rel.2.2	For all 1381 with Rel. 2.2 SW (V 2223) If set, only activation purpose (1) will be generated - Mandatory in countries where such a national regulation exists: i.e France (case 1)
ACTIV.& FIRST CALIB.	All Rel.2.2	For all 1381 with Rel. 2.2 SW (V 2223) If set, activation purpose (1), first calibration (2) and installation (3) will be generated. If a UNIVERSAL device is used, not necessary because set per default All others (case 2)

Which cases exist in workshops?

Case 1) National exceptions, example: France

Universal device will be parameterised first time with any OEM-Parameter set. The last step and action is to perform : ACTIVATION ONLY !

It means:

With next workshop session you can only generate or perform an activation (1) First calibration (2) and (3) cannot be generated during this session.

To make calibration purposes (2) and (3), you have to eject workshop card and re-insert it again. Then you have to measure the 'w' and 'l' and program it.

Case 2) No national restrictions apply:

In 'production' state you can upload any OEM- parameter set.

So you have the possibility to perform and measure in one workshop session all necessary calibration records (1), (2) and (3) in one session. So you have more or less the same situation as the truck manufacturer will have in their production to generate 'activation & first calibration', in one process!

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Other Programming Possibilities – (Pre-overspeed alert behaviour)

	Target DTCO	Usage
PreOverspd Standard	All Rel.2.x	All 1381 with Rel.2.x SW (V 2230-V 2223)
PreOverspd Alternat	All Rel.2.x	All 1381 with Rel.2.x SW (V 2230-V 2223)

Special Programming for OE Dedicated Devices

FIAT Ducato with initially equipped DTCO from factory

There are FIAT Ducato models in the field, which have two different types of CAN architectures. These are differentiated by the IMS Settings (Second independent motion signal). In case of device exchange the 'FIAT DUCATO NEW IMS' may be required to be executed.

CTCII-Display	Original OEM-DTCO:	Usage
FIAT DUCATO IMS	1381.0111009005	Standard IMS (approx. 75% of vehicles)
FIAT DUCATO NEW IMS	1381.0111009005	'Adapted' IMS (approx. 25% of vehicles)

FORD Transit with original equipped DTCO from stock

Currently FORD has approved DTCO Rel. 2.1: 1381.0250309006 and this will be installed uniformly in the current FORD Transit.

It will also serve as a substitute for all installed DTCO's in existing FORD Models. Therefore to be able to guarantee 100% backwards compatibility, adaptations must be done.

Therefore for older Transit and Ford Ranger-Models, the DTCO: 1381.0250309006 must be 'recalibrated' as a substitute.

CTCII-Display	Original OEM-DTCO:	Usage
FORD RANGER IMS	1381.0250309006	IMS for Ford Ranger (Year 2012/2013)
FORD RANGER NEW IMS	1381.0250309006	IMS for Ford Ranger (Year 2013/2014)
FORD TRANSIT NEW	1381.0250309006	Reset to FORD Transit NEW
FORD TRANSIT OLD	1381.0250309006	Standard IMS and A2-Dimming for Transit
FORD TRANSIT RHEO	1381.0250309006	Standard IMS for Dimming Rheostat for Transit
FORD CAN GeoLoc	1381.0250309006	Standard setting for CAN1 (Connection possibility GeoLoc)

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Examples:

a) In an older Ford Transit a DTCO 1.4 1381.0070300018 has failed. As a substitute only the DTCO 2.1:1381.0250309006 is available. To ensure 100% compatibility, using the CTCII 'FORD TRANSIT OLD' must be parameterised.

b) In a FORD Ranger 2014 a DTCO is required to be retrofitted. The DTCO 2.1:1381.0250309006 must be parameterised as 'FORD RANGER NEW IMS'

Procedure for Uploading an OEM Parameter Set:

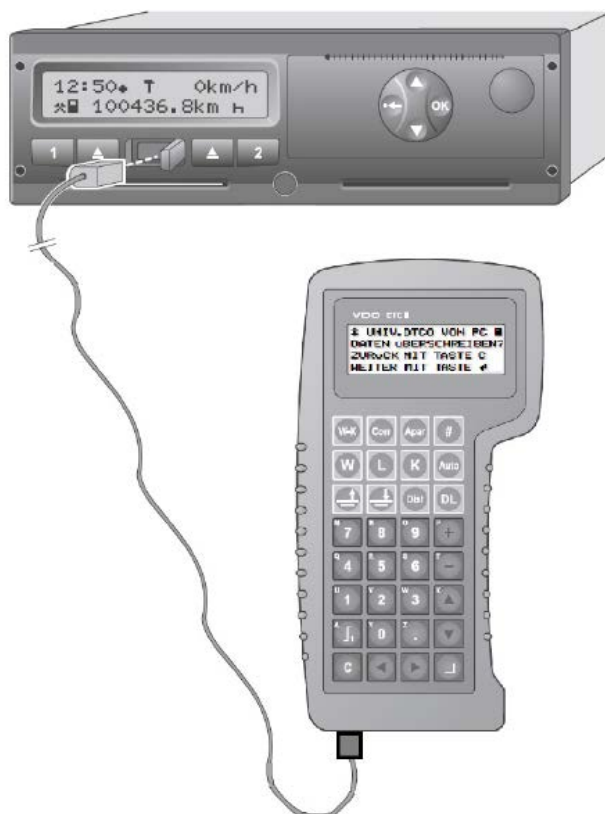
You can parameterise all known UNIVERSAL-DTCO® 2.2 by uploading ZIP file: **<PARA_ZIP_FILE_M15_for_2.2.zip>** using **<CONTRAM_01_03.exe>** on your **CTCII with Version 2.13 or later**

Step 1 – Workshop Card Insertion

Insert Workshop Card into DTCO unit so that it is in Calibration Mode.

Step 2 – Connect CTC II to DTCO

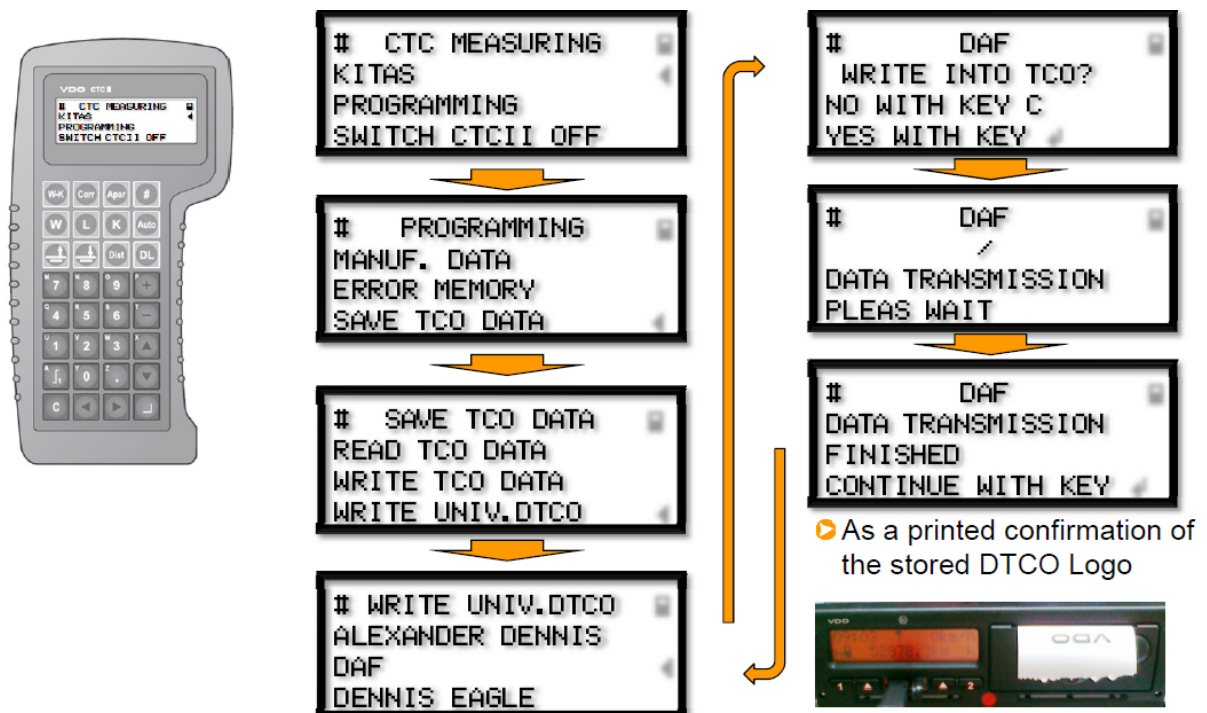
Switch on and connect the CTC II to the DTCO unit using the programming cable



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Step 3 - Programming a DTCO® Rel.2.2 universal device to run like an OEM-variant

- Scroll and Select 'PROGRAMMING'
- Then Scroll and Select 'SAVE TCO DATA'
- Then Scroll and Select 'WRITE UNIV.DTCO'
- Select the applicable OEM variant parameter set (See below an example for selecting DAF)
- When the OEM variant parameter set has been stored in the DTCO, a 'VDO' logo printout confirmation will be shown.







Please Note that if you load more than one OEM variant parameter set, the display may indicate 'ERROR, TCO – NEG. RESPONSE'. To start the process of re-programming a further OEM parameter, program the DTCO back to 'VDO UNIVERSAL' (i.e. factory re-set)

Step 4 – If applicable switch IMS OFF (see page 2)

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ADR Zone 1 Vehicles and DTCO Rel.2.2

IMPORTANT: All OEM devices shown below, provide their ADR Input at Pin D3. If you are replacing the existing DTCO with a UNIVERSAL DTCO Rel. 2.2 (ADR Input normally at B5) please ensure that the DTCO® Pin B5 is connected to the battery master switch safely. This can be done by unpinning D3 and moving the wire to B5 input.

CTCII Display	Original OEM DTCO	Vehicle Type	
IVECO EUROCARGO	1381.4072109003	Stralis, Eurocargo Trakker (ADR) Since 2008	
IVECO STRALIS NEW	1381.4212109004	Phaselift STRALIS (ADR) Since 2014	
RENAULT T-Truck	1381.4212309007	New Truck Generation (Heavy class, ADR) Since 2014	
VOLVO NEW FH/FM	1381.4232309007	New Truck Generation (Heavy class, ADR) Since 2013	

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