

# Emergency Response Guide DAF XD, XF, XG, XG+



# EMERGENCY RESPONSE GUIDE



## **DISCLAIMER**

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<b>1</b>	<b>Introduction.....</b>	<b>8</b>
1.1	Introduction.....	8
<b>2</b>	<b>Vehicle identification.....</b>	<b>10</b>
2.1	Cabin types.....	10
<b>3</b>	<b>Securing the vehicle.....</b>	<b>14</b>
3.1	Securing the vehicle.....	14
3.1.1	Switching off the engine.....	14
3.1.2	Operating the Main switch.....	14
3.1.3	Charging batteries.....	15
3.1.4	Airbag.....	17
3.1.5	Fluids.....	19
3.1.6	Regeneration unit.....	21
<b>4</b>	<b>Stabilising the vehicle.....</b>	<b>24</b>
4.1	Stabilising the vehicle.....	24
4.1.1	Air suspension chassis.....	24
4.1.2	Cabin suspension.....	25
<b>5</b>	<b>Releasing a trapped driver.....</b>	<b>28</b>
5.1	Releasing a trapped driver.....	28
5.1.1	Cabin bracket collision ability.....	28
5.1.2	Cabin dimensions.....	28
5.1.3	Opening the front panel.....	32
5.1.4	DOORS.....	33
5.1.5	Kerb view door.....	33
5.1.6	Locking and unlocking the doors and night lock.....	34
5.1.7	Adjust the steering wheel.....	38
5.1.8	Suspended seat.....	39
5.1.9	Cinema and 3rd seat.....	41
5.1.10	Cabin structure.....	42
<b>6</b>	<b>Towing information.....</b>	<b>50</b>
6.1	Towing information.....	50
6.1.1	Removing the prop shaft.....	50
6.1.2	Releasing the parking brake.....	50
6.1.3	Tyre inflating connection.....	51
6.1.4	Towing.....	51
6.1.5	Jump-starting.....	54
<b>7</b>	<b>Lifting information.....</b>	<b>58</b>
7.1	Lifting information.....	58
7.1.1	Lifting at the front.....	58
7.1.2	Jack up at the front.....	58
7.1.3	Lifting at the back.....	58

7.1.4	Jack up at the back.....	58
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Introduction	1
Vehicle identification	2
Securing the vehicle	3
Stabilising the vehicle	4
Releasing a trapped driver	5
Towing information	6
Lifting information	7
	8





## 1

### 1.1 INTRODUCTION

This manual has been created to assist the first responders in identifying and responding to vehicles equipped with a DAF diesel engine drive line.



## 2.1 CABIN TYPES

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### DAF XD



1



2



3

i459430

- 1 Day Cab
- 2 Sleeper Cab
- 3 Sleeper High Cab

### DAF XF



1



2



3

i459431

- 1 Day Cab
- 2 Sleeper Cab
- 3 Sleeper High Cab

DAF XG and XG+



1



2

2

1

DAF XG

2

DAF XG+

i459432





## 3.1 SECURING THE VEHICLE

### 3.1.1 Switching off the engine

#### 3 Ignition switch

If the ignition switch can be reached, an attempt can be made to stop the engine by switching off the ignition.

#### CO<sub>2</sub>

Another method is to blow CO<sub>2</sub> into the air inlet. The engine no longer receives sufficient oxygen so it stops.

The air inlet can be accessed behind the grille. See section 'Opening the grille' in the chapter releasing a trapped driver. Blow CO<sub>2</sub> into the air inlet using a fire extinguisher.



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### 3.1.2 Operating the Main switch



#### **WARNING!**

**Operating the main switch while driving switches off all electrical systems and the engine. This can lead to very dangerous situations and damage to the electronics of the vehicle.**

- **Never operate the main switch while driving.**
- **Never operate the main switch when the ignition is on.**



#### **CAUTION:**

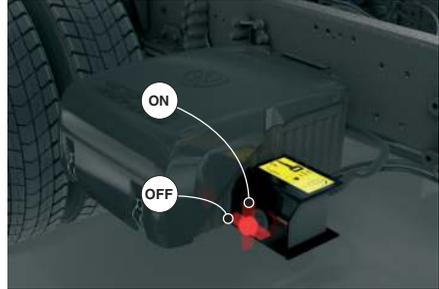
- **First switch off the ignition and wait 80 s before switching off the main switch. This is to allow the after-running of various electrical systems.**
- **Never use the main switch as ignition switch.**
- **Switch off the engine before operating the main switch.**
- **Switch off the auxiliary heater first. The after run phase of the auxiliary heater must have ended before operating the main switch.**
- **Use the main switch when the vehicle is parked and left unattended.**

The main switch is used to cut the power to the vehicle's systems. This to prevent draining the batteries when parked.

Switch off the main switch to cut power and switch on the main switch to provide power to the vehicle's systems.

## Mechanical main switch

Mechanically operated main switches only have a control switch outside the cabin on the chassis.



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## Electronic main switch

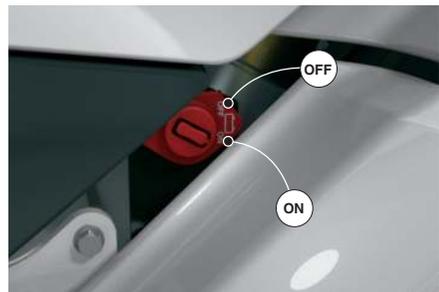
The electronic main switch also has a switch (1) on the centre console in the cabin.

The electronic main switch does not switch off at once when the control switch is operated. This happens with a 10-second delay.



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The control switch of the electronic main switch is usually (but not always) located close to the battery pack.



D005515-2

## 3.1.3 Charging batteries

### Battery system

The vehicle is equipped with a set of two 12 Volt batteries.



#### **WARNING!**

- *Always charge batteries in a properly ventilated area.*
- *Avoid sparks and open flames in the vicinity of batteries.*

3



*Sparks and open flames in the vicinity of a battery can lead to an explosion which can cause serious injury.*

**CAUTION:**

*Starting the vehicle using a starting aid with too high a voltage can damage the electrical components, and can cause the loss of warranty.*

- *Never jump-start the engine with a fast charger.*
- *Never jump-start the vehicle with a voltage higher than 29 V.*



**CAUTION:**

*Fast charging the batteries is not allowed.*

*The batteries are maintenance-free and the cell plugs cannot be removed, under penalty of loss of warranty.*



**CAUTION:**

*To avoid damage to the truck's electrical components, always give preference to the battery charge outside the truck or without being electrically connected to the truck.*

### Charging a regular battery system

The battery box can be placed in various positions: beside the chassis or on the chassis behind the cabin or between the side members at the rear of the chassis. On some of these positions extra terminals are fitted to facilitate connecting the starter cables.

#### Battery box without extra terminals

Remove the battery box cover.

Connect the positive pole (+) of the battery charger to the positive pole (+) of the battery first and then connect the negative pole (–) to the negative pole (–).

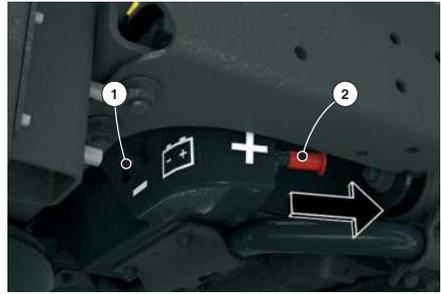
After charging, switch off the battery charger and then disconnect the negative pole (–) first and subsequently the positive pole (+).

#### Battery box with extra terminals

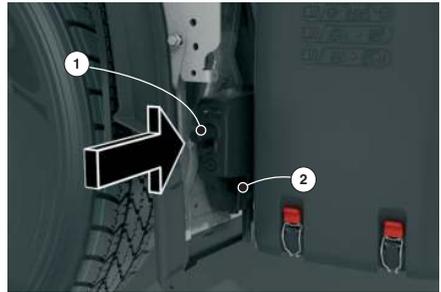
Terminals where the battery charger can be connected are found on the lower side of the battery box or on the left side behind a cover.

Remove the cover (1) and connect the positive pole (+) of the battery charger to the positive pole (+) first. Then connect the starter cable to the negative pole (-).

After charging, switch off the battery charger and then disconnect the negative pole (-) and subsequently the positive pole (+) and reinstall the covers.



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D005551-2

## 3.1.4 Airbag



D005553



### **WARNING!**

*Airbag modules and safety belt tensioners are pyrotechnic systems and contain an explosive charge.*

## Securing the vehicle

A sticker with the airbag symbol on the windscreen identifies vehicles equipped with an airbag and safety belt tensioner system.

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In addition, there is an identification 'AIRBAG' visible (A) on the steering wheel. A vehicle equipped with an airbag also has an automatic safety belt tensioner.



A Safety belt tensioner



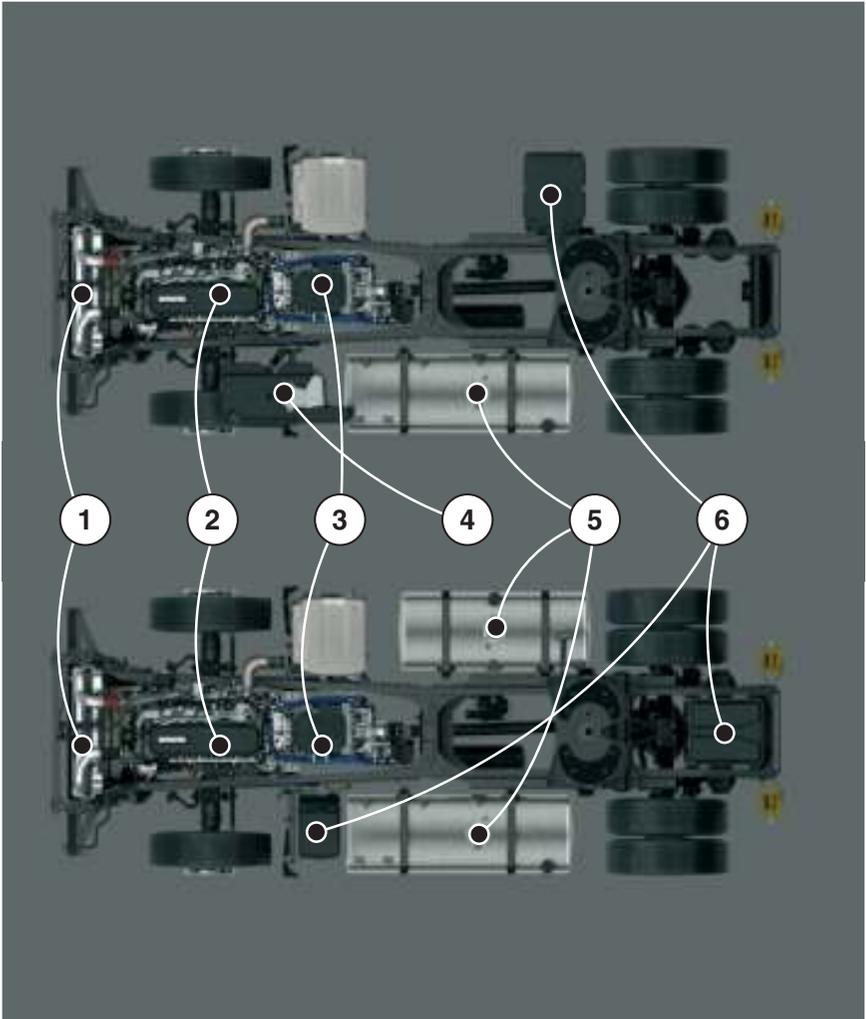
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The automatic safety belt tensioner is fitted on the rear side of the driver's and co-driver's seat behind the seat covers.

### Safety instructions

- Do not place any objects near undeployed airbags.
- Before any work is carried out on an airbag system:
  1. the ignition must be switched off.
  2. the main switch must be turned off.
  3. the battery clamp must be removed from the negative pole.
  4. wait at least 30 seconds.
- Never disconnect an electrical connector in the airbag or safety belt tensioner circuits if the electronic control unit is energised.

### 3.1.5 Fluids



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D005555

- 1 Coolant: 49 litres
- 2 Engine oil MX-11 36,5 litres, MX-13 46,0 litres. If retarder fitted 12 litres extra
- 3 Gearbox oil: between 12 and 20,5 litres
- 4 AdBlue®: up to 40 or 130 litres
- 5 Fuel: up to 1500 litres
- 6 Battery acid

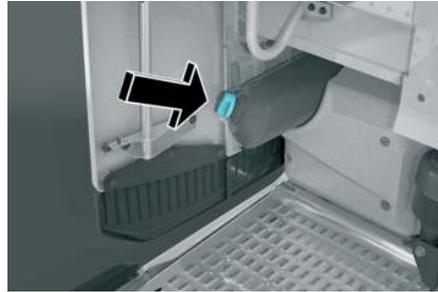
The capacities and position of the tanks depend on the vehicle type.

## AdBlue®

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AdBlue® is a non-flammable, non-toxic, colourless, odourless and water-soluble liquid.

AdBlue® is a liquid consisting of 32.5% urea and 67.5% water.



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AdBlue® must meet the specifications according to DIN 70070.

## High temperatures

If AdBlue® is heated in the tank to 50°C over a long period of time, the decomposing AdBlue® can produce ammonia vapours. Ammonia vapours have a pungent odour. For this reason, avoid inhaling possible ammonia vapours escaping when unscrewing the AdBlue® filler cap. These concentrations of ammonia vapours are neither toxic nor hazardous to health.

## Low temperatures

AdBlue® freezes at temperatures of approximately -11°C.



### **WARNING!**

#### **AdBlue® safety instructions**

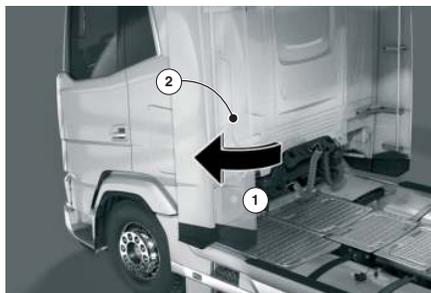
- **Avoid direct contact.**
- **In the event of contact with the skin, rinse with plenty of water.**
- **In the event of contact with the eyes, rinse for at least 15 minutes with plenty of water and seek medical assistance.**
- **If swallowed, rinse mouth with plenty of water; do not induce vomiting.**
- **Use in a ventilated area.**

#### **Procedure after spillage**

- **Rinse with plenty of water.**

### 3.1.6 Regeneration unit

- 1 To open: Pull out the fender (metal bracket). See the section 'Opening the grille' in the chapter releasing a trapped driver.
- 2 Exhaust high temperature warnings.
- 3 To get on and off the catwalk use the grab handle.



D005367-3

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During regeneration, the exhaust gases, surroundings of the regeneration unit and the catwalk can reach high temperatures that can potentially harm bystanders or the surrounding area.



#### **WARNING!**

***During regeneration, there is a risk of fire or another hazardous situation due to the high temperatures that are reached in the following areas:***

- ***Exhaust gases.***
- ***Surroundings of the regeneration unit.***
- ***Catwalk.***

#### **Inhibit the regeneration**



Press the Diesel Particulate Filter (DPF) switch to stop or inhibit the regeneration.

A red indicator light in the switch indicates that the regeneration is stopped or inhibited.





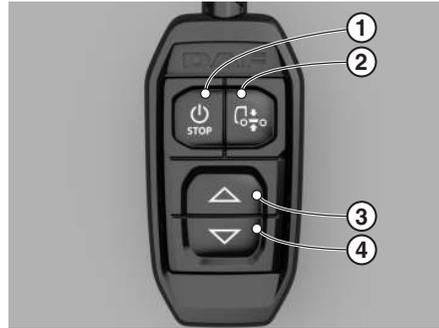
## 4.1 STABILISING THE VEHICLE

### 4.1.1 Air suspension chassis

#### Basic remote control

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- 1 'ON/OFF' and 'STOP' key.
- 2 Automatic setting of normal driving height.
- 3 Lifting of chassis while the key is pressed.
- 4 Lowering of chassis while the key is pressed.



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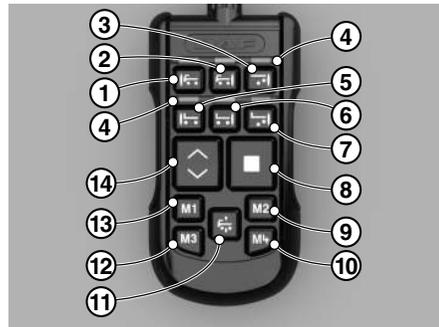
**NOTE:**

The remote control is (de-) activated by a long press on the 'STOP' key. After the ignition is switched off, the remote control is always deactivated.

The stop function is always active regardless of the remote control being activated or not.

#### Extended remote control

- 1 Front axle of truck selected.
- 2 Rear axle of truck selected.
- 3 Truck trailing axle selected.
- 4 LED's indicating that the corresponding function is activated.
- 5 Front axle of trailer selected
- 6 Rear axle of trailer selected.
- 7 Trailer trailing axle selected.
- 8 'STOP' key.
- 9, 10, 12 and 13 Lifting the chassis to a pre-set height.
- 11 Automatic setting of normal driving height.



D005113-2

- 14 Lifting (top part) or lowering (bottom part) the selected axles when the key is pressed.

**NOTE:**

*If one of the keys 1 till 6 is operated, a green indicator light comes on above the key operated.*

**NOTE:**

*If both front and rear axle are equipped with air suspension, it is not possible to select for example maximum height on the front axle together with minimum height on the rear axle.*

4

### 4.1.2 Cabin suspension

The cabin can be equipped with full air suspension (depending on vehicle configuration).

#### Lowering the air suspension

The cabin is lowered by cutting the air hoses.

**WARNING!**

*When air hoses are cut, the hose ends can fly around and can therefore cause injuries.*

**WARNING!**

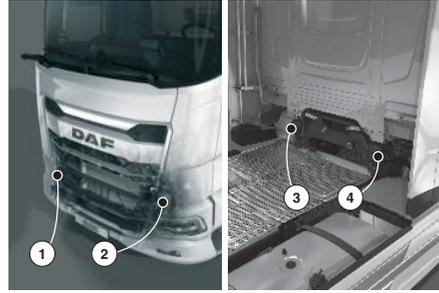
*When the air hoses for the cabin suspension are cut, the air supply for steering wheel adjustment is also taken away.*

**WARNING!**

*When the cabin is lowered, the movement may be uncontrolled.*

#### Front and rear cabin air suspension

## 4



D005556-2

Cut the air hose to the rear cabin air suspension bellows. See the arrows at positions 1 and 2 (front), 3 and 4 (rear).

### **Front cabin air suspension**

Cut the air hose to the front air suspension bellows at the reservoir. The air reservoir can be found under the cabin at the co-driver side.



## 5.1 RELEASING A TRAPPED DRIVER

### 5.1.1 Cabin bracket collision ability

The cabin bracket has a built-in safety feature that enables the cabin to move back 400 mm in case of a collision. Depending on the severity of the collision there are two situations.

5

- The safety feature is used. This means that the cabin has moved compared to the chassis with a maximum distance of 400 mm. The cabin is still attached to the chassis.
- The safety feature is used fully before the collision stopped. As a result the bolt of the cabin bracket breaks. If this has happened the cabin is loose from the chassis.

### 5.1.2 Cabin dimensions

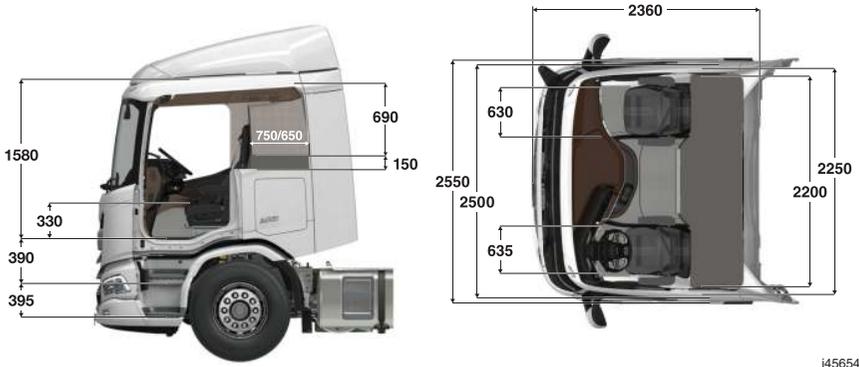
The external dimensions (in millimetres) from the ground vary depending on the tyre size, choice of suspension, load and settings.

#### XD Day Cabin



i456546

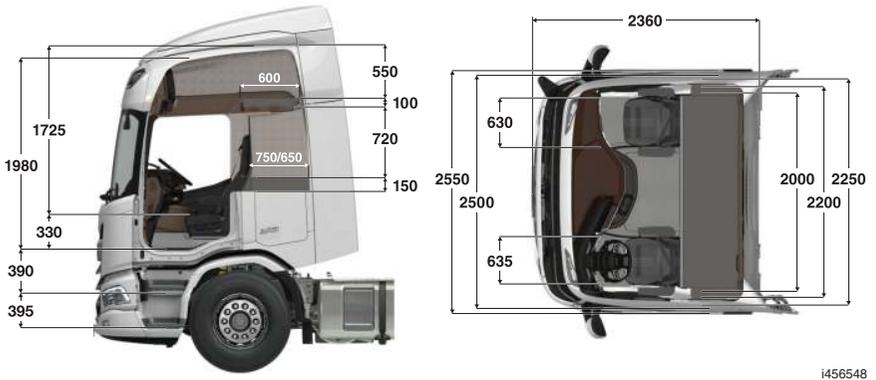
**XD Sleeper Cabin**



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i456547

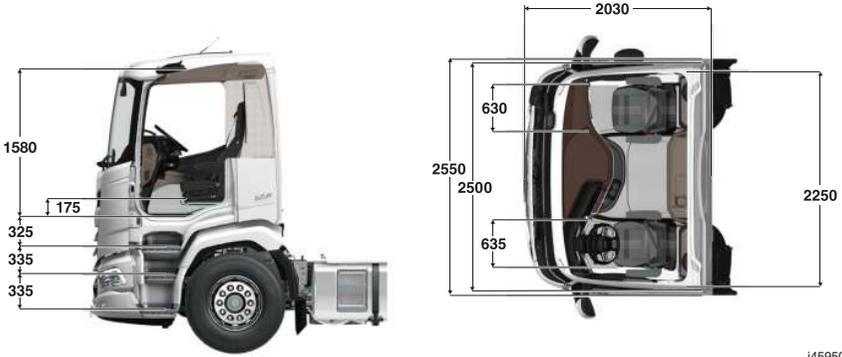
**XD Sleeper High Cabin**



i456548

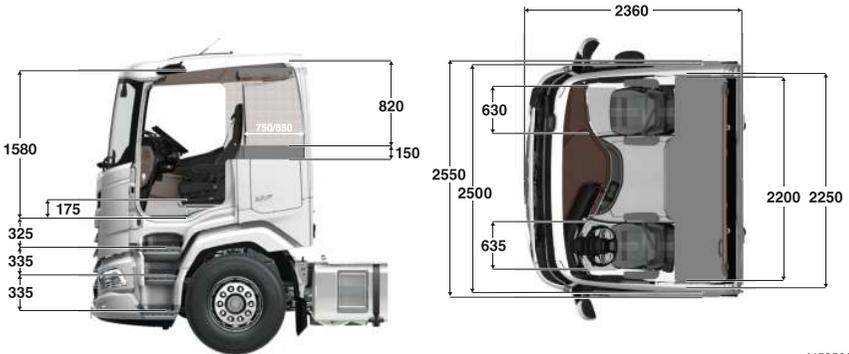
## XF Day Cabin

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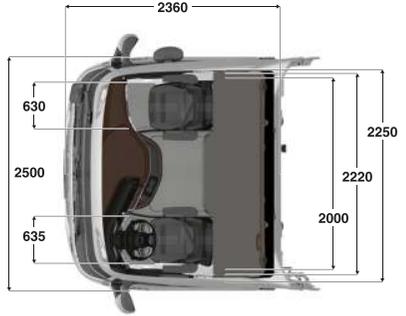
i459502

## XF Sleeper Cabin



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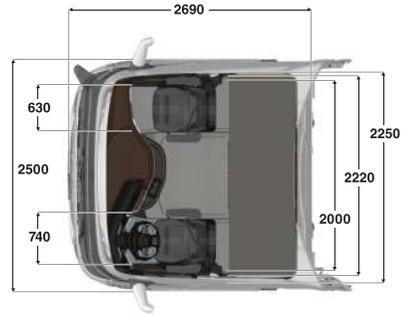
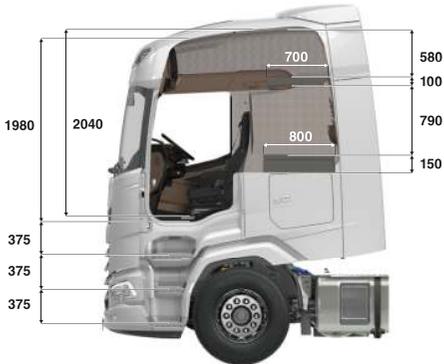
### XF Sleeper High Cabin



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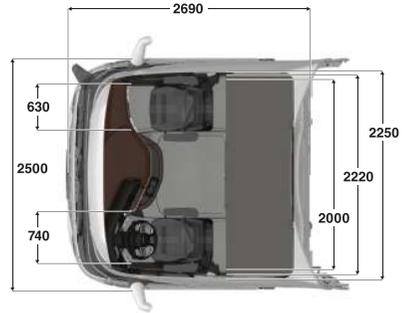
### XG



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**XG+**

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## 5.1.3 Opening the front panel

The top section of the front panel can be folded up.

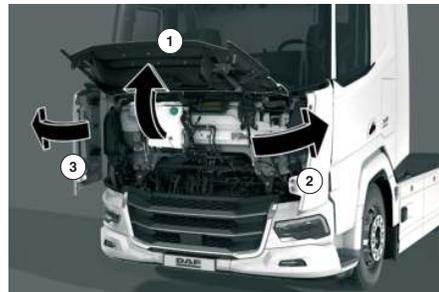
Open the door.

Unlock the front panel by pulling the lever in the step well.



D005374-2

When the front panel (1) is open, it is held in the raised position by two gas struts. Also the corner pieces (2) and (3) can be folded side ways.



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### 5.1.4 DOORS

- 1 Hinge
- 2 Wiring harness
- 3 Door check



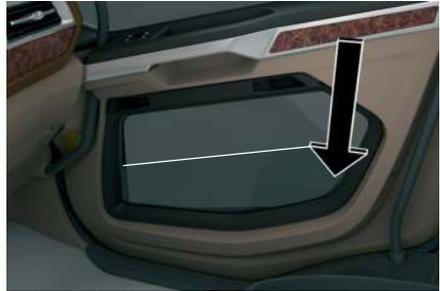
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### 5.1.5 Kerb view door

#### Introduction

– Kerb view door is an option and is applicable on the kerb side of the vehicle.

- 1 Maximum opening of the side window



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#### Removing the inner window of the kerb view door



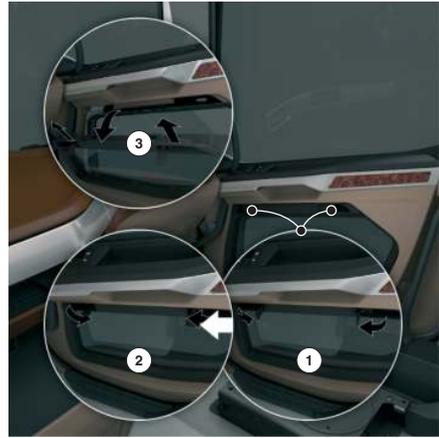
**WARNING!**

*To prevent injury when the inner window is removed:*

- *Make sure that the window cannot be operated when the inner window is not mounted.*
- *Express up functionality is applicable.*
- *Express down functionality is not applicable.*
- *Do not touch or remove any inner parts of the kerb view door.*

To be able to clean the windows on the inside, the inner window can be removed.

- 1 Lock and unlock handle
- 2 release unlock handle
- 3 Remove the window



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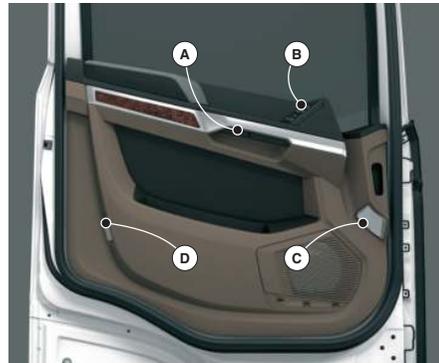


**NOTE:**

At the 'bottom' window frame is hooked in, at the 'top' there are 2 levers for (un-) locking.

## 5.1.6 Locking and unlocking the doors and night lock

- A Door handle
- B Door control panel for windows, locking, mirrors/camera's and mirror/camera heating
- C Door light
- D Red door marker light



D005355-2



**NOTE:**

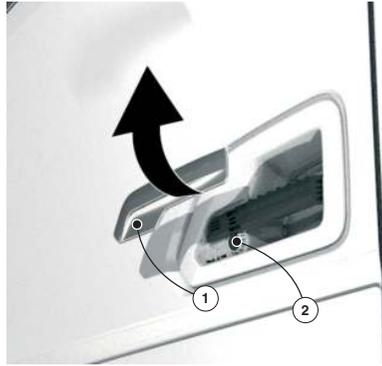
Unlock and opening the door; use handle (A).

### Locking and unlocking the doors

#### Locking and unlocking driver's door using the ignition key

When necessary: use the ignition key for locking and unlocking (remove the cover). Using the key to unlock the driver's door, only unlocks the driver's door.

- 1 Cover
- 2 Lock and unlock by ignition key

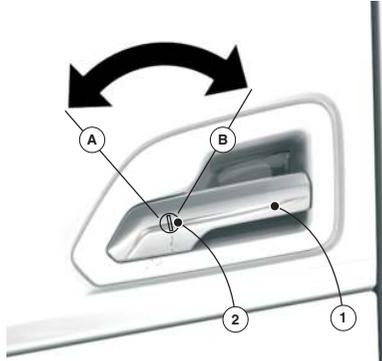


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## ADR or SLP: locking and unlocking using the ignition key

- 1 Door handle to open
- 2 Lock and unlock by ignition key
- A Position locked
- B Position unlocked



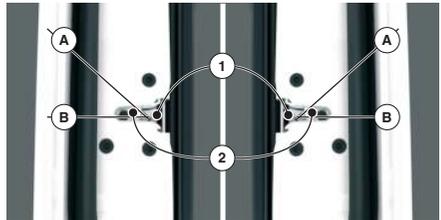
D005394-2

## Locking the co-driver door using the ignition key

Both doors are equipped with a redundant locking mechanism. Using the ignition key to lock the doors.

### Lock and unlock (right side)

- 1 Locking key insert (two positions)
- 2 Door locking mechanism
- A Position unlocked
- B Position locked



D005399-2

### How to lock the door(s) manually:

- Open the door.

# Releasing a trapped driver

- Locate the key insert (1).
- Lock the door by turning in direction (B) with the ignition key.
- Close the door.



**NOTE:**

*The door(s) will be unlocked by using the central door locking system or by the ignition key (No ADR: behind the cover).*

5



**NOTE:**

*Using the ignition key and remote control for the same procedure to lock and unlock the driver's door from the outside.*

- 1 Door locking
- 2 Door unlocking



D001668

## Unlocking the doors using the buttons on the remote control

Pressing button (2) unlocks the driver's door and switches the delayed interior lights on.

If the unlock button is pressed a second time within three seconds after unlocking the driver's door, the co-driver's door will be unlocked.



**NOTE:**

- *If no door is opened within 30 seconds after unlocking, the doors automatically re-lock.*
- *The alarm system is now switching to the alarm mode: not detecting.*

## Locking the doors using the buttons on the remote control

Pressing button (1) locks the driver's door and switches the delayed interior lights off.

## Locking and unlocking the doors from the inside using the door control panel driver's door

Use switch (9) to lock both doors and use switch (8) to unlock the co-driver's door.

## Locking and unlocking the doors from the inside using the door control panel co-driver's door

Use switch (2) to lock both doors.



**NOTE:**

*If the cabin main switch is used, there is a possibility that the vehicle power supply is switched off during the process of locking the doors. The door mechanism is then stuck in the middle position which prevents the door to be opened using the key.*



**NOTE:**

*In addition the ignition key can be used to perform a manual exterior lighting check. See section 'Exterior lights' in chapter 'Maintenance and service'.*

### DAF night lock

The DAF night lock is available as a Parts option and can be obtained and installed via your DAF Service dealer. The DAF night lock will make the truck better secured during over night stay.



**CAUTION:**

- *Apply the DAF night lock only when the doors are at closed position and fully locked.*
- *Never drive the vehicle with the DAF night lock in locked position.*

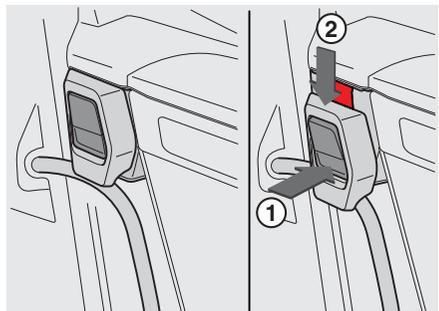
A safety hammer next to the driver's seat is included with the DAF night lock.



**WARNING!**

- *The Life hammer does only proper function in combination with toughened (safety) glass, the type of glass can be recognised by the trademark on the window.*
- *The Life hammer does NOT function in combination with laminated (layered) glass, the type of glass can be recognised by the trademark on the window.*

- 1 Unlock button
- 2 Handle



D005522

## Locking the DAF night lock

By one hand sliding the handle (2) downwards. A red indicator at the top of the DAF night lock will indicate the door is securely locked.

## Unlocking the DAF night lock

By pressing the unlock button (1) while the handle (2) is moved upwards.

## 5.1.7 Adjust the steering wheel

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Unlock and adjust the steering column

- 1 Release pedal



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**Press the pedal (1)** to unlock the steering column. The height and angle of the steering wheel can now be adjusted.

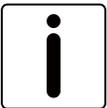
**Release the pedal (1)** to lock the steering column.



### **WARNING!**

*Only adjust the steering column while the vehicle is stationary.*

*Adjusting the adjustable steering column during driving can cause unintentional steering movements and can cause injuries.*



### **NOTE:**

*The locking system operates pneumatically. When the pedal is operated, a light hissing noise is audible.*

Stow-away the steering wheel

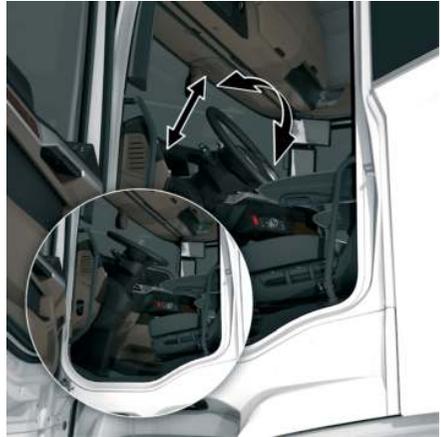
Adjust the steering wheel to the most forward position.



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The purpose is to create more space when leaving or entering the cabin.



D005348-2



**WARNING!**

*It is not allowed to drive the vehicle with the steering wheel in the stow-away position.*

## 5.1.8 Suspended seat



**NOTE:**

*Before removing the seat, be aware of the safety instructions if the vehicle is equipped with an airbag and therefore an automatic safety belt tensioner.*



**NOTE:**

*The seat can be adjusted if the vehicle air pressure is at least 7 bar.*

## Seat settings

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D005442

- 1 Backrest angle adjustment
- 2 Seat height adjustment
- 3 Seat tilt adjustment
- 4 Quick down
- 5 Vertical seat damper
- 6 Seat length adjustment
- 7 Seat cushion length adjustment
- 8 Armrest

- 9 Safety belt height adjustment
- 10 Seat heater
- 11 Lumbar support adjustment
- 12 Lateral support adjustment
- 13 Seat ventilation
- 14 Shoulder support adjustment



#### 4. Quick down

Knob down (seat in driving position): the seat drops to its lowest position.

Knob up (with lowered seat): the seat rises to the last height adjustment.



#### 3. Seat tilt adjustment



#### 2. Seat height adjustment

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## 5.1.9 Cinema and 3rd seat

### Controls and adjustments

- 1 Headrest adjustment
- 2 Foldable seat cushion
- 3 Backrest adjustment
- 4 Safety belt buckle
- 5 Safety belt buckle
- 6 Foldable armrests

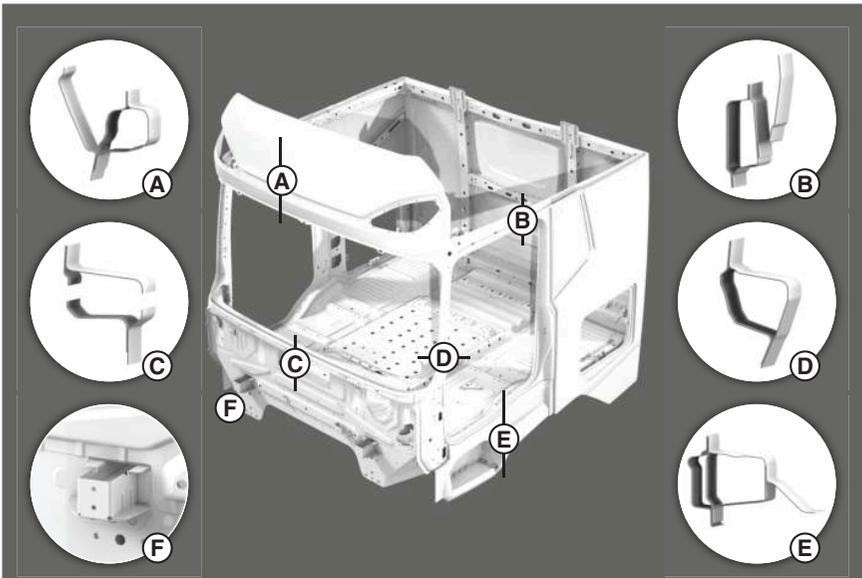
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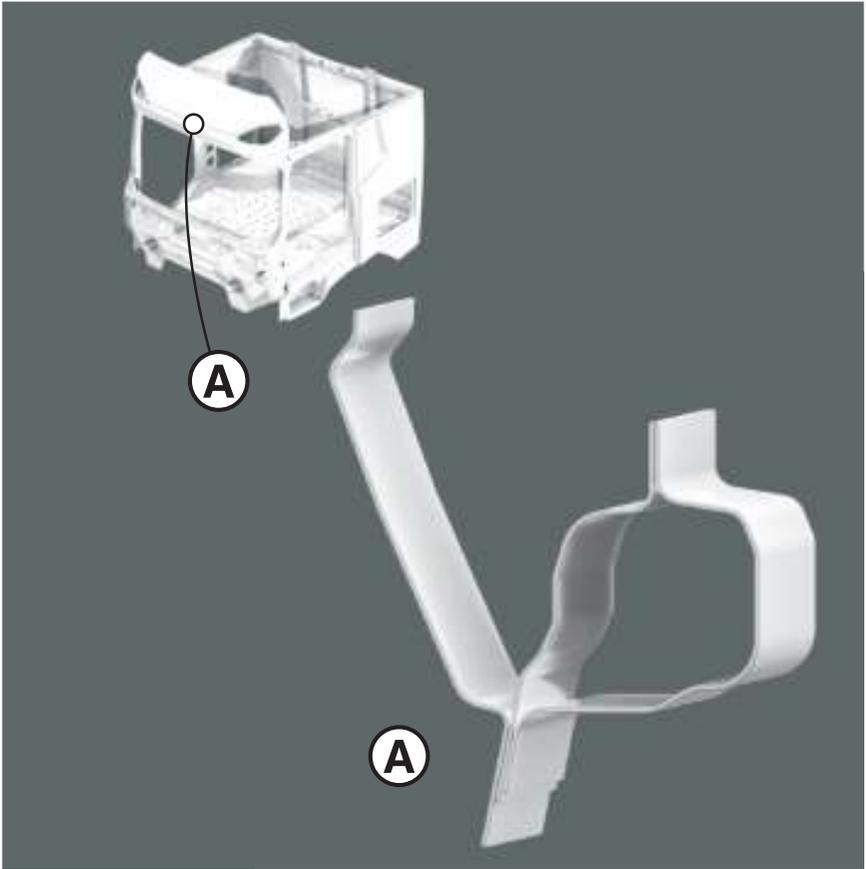
## 5.1.10 Cabin structure

Overview detail A - E



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Cabin structure; detail A

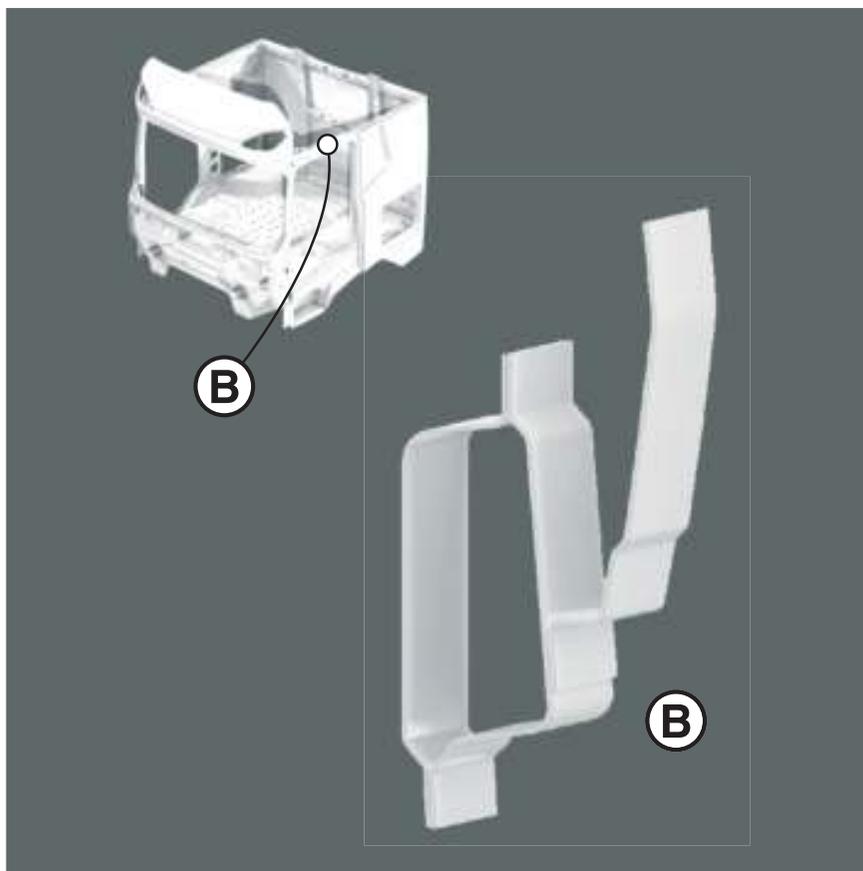


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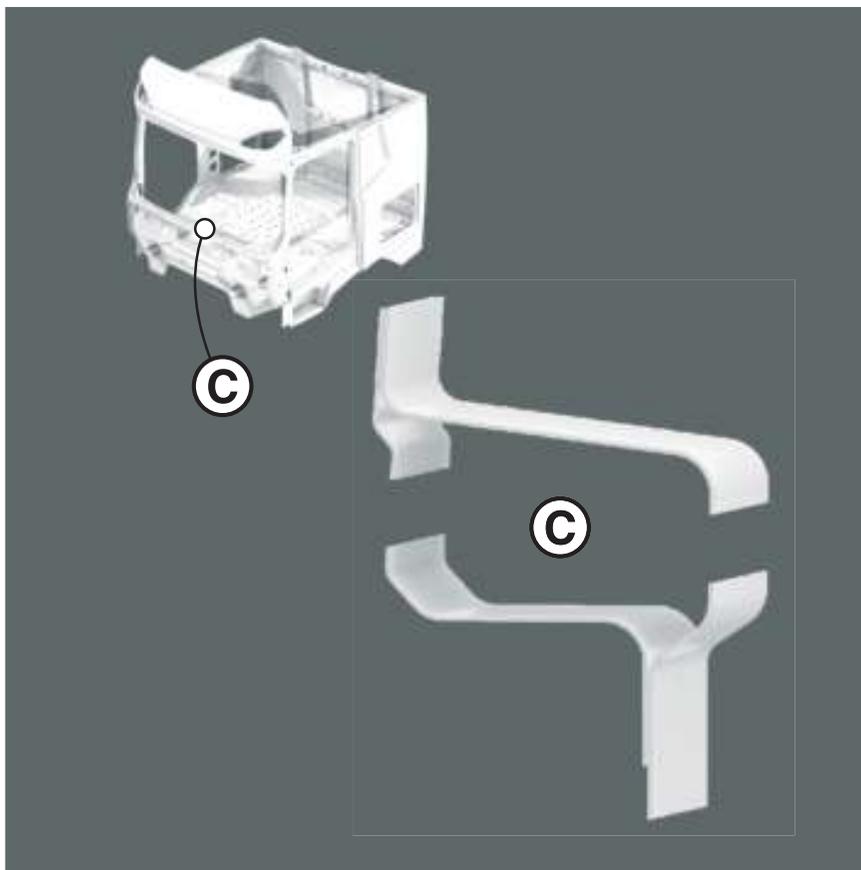
## Cabin structure; detail B

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D005570-2

Cabin structure; detail C

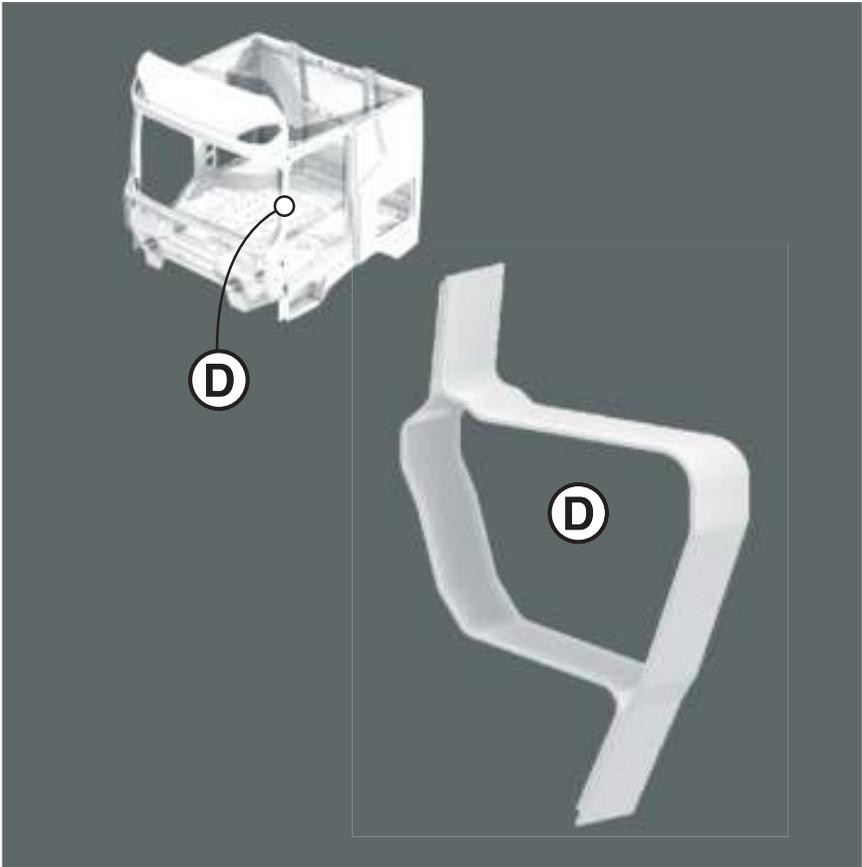


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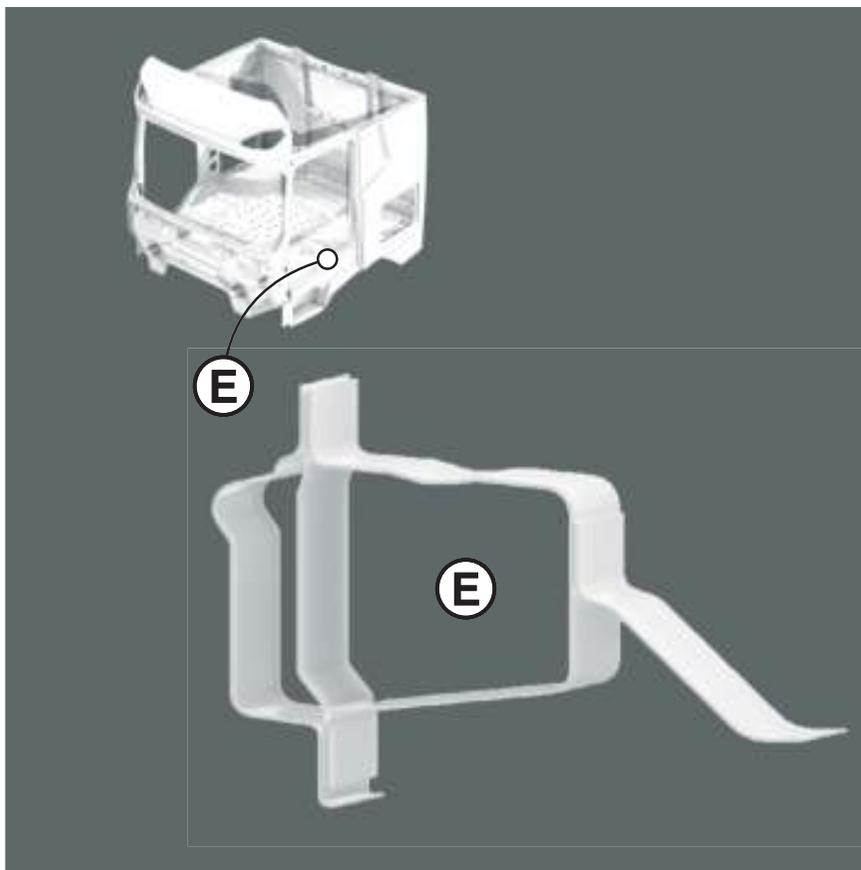
## Cabin structure; detail D

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Cabin structure; detail E

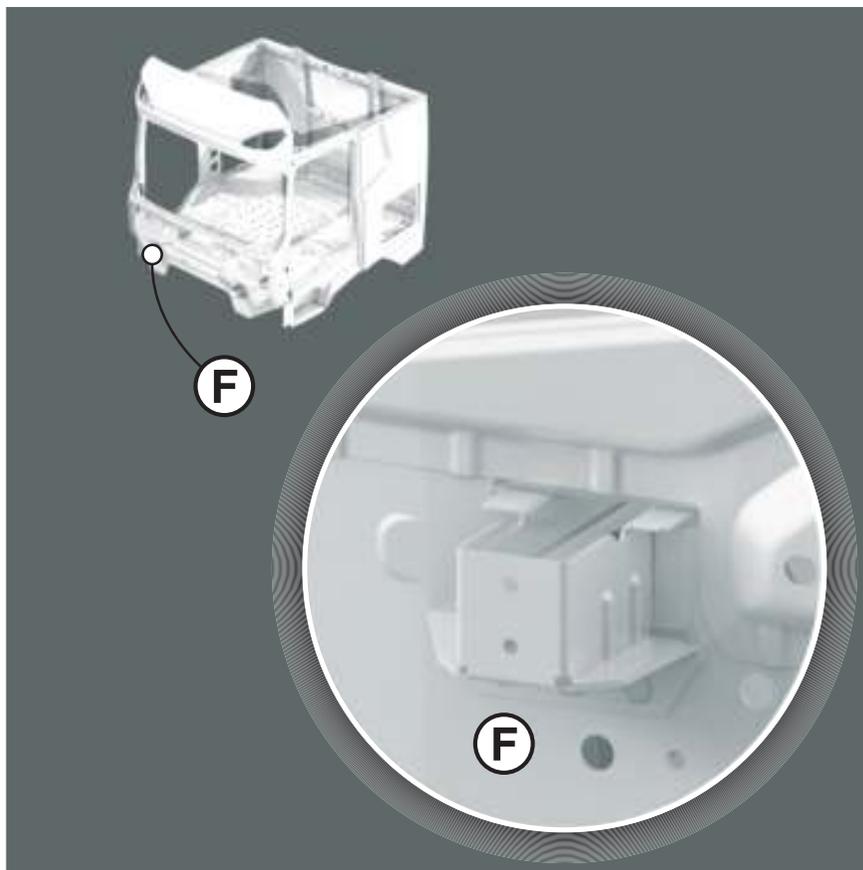


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## Cabin structure; detail F

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## 6.1 TOWING INFORMATION

### 6.1.1 Removing the prop shaft

- Make sure that the park brake is engaged.
- Loosen the prop shaft bolts at the rear axle side, do not remove them.



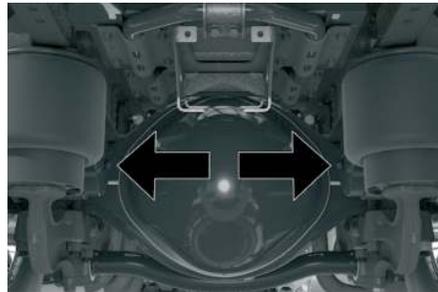
**NOTE:**

*If by accident the prop shaft drops to the floor during towing it is dragged a long. In the other situation dropping of the prop shaft seriously damages both vehicle, road and possibly surroundings.*

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- If the prop shaft has a bearing then:
  - Loosen the bearing from chassis.
  - Hold the shaft while removing the bolts.
  - Fix the bearings to the shaft.
  - Fasten the bearing to the chassis.
  - Cover the prop shaft joint with a plastic bag.

### 6.1.2 Releasing the parking brake



D005561-3



**WARNING!**

- **Never release the park brake on an incline without precautionary measures.**

**Releasing the park brake on an incline causes the vehicle to move unintentionally. This can lead to serious injury and damage to the vehicle.**

1. Place wheel chocks in front of and behind the wheels.



**NOTE:**

*It is **not** permitted to use an impact wrench to loosen the releasing bolt.*

2. Turn the releasing bolt anti-clockwise as far as the stop using a ring spanner.

3. Carry out this operation for each spring brake cylinder.
4. Bring the park brake back in operating order by turning the releasing bolts clockwise as far as possible and tightening them to a torque of 70 Nm.

**CAUTION:**

*It is advised to provide the vehicle with external air supply via the Tyre inflating connection. See section 'Tyre inflating connection' in the chapter Emergency repairs.*

**CAUTION:**

*EPB: Use the emergency release with or without external air supply via the Tyre inflating connection. See section 'Tyre inflating connection' in the chapter Emergency repairs.*

*Do not use the workshop mode during towing.*

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### 6.1.3 Tyre inflating connection

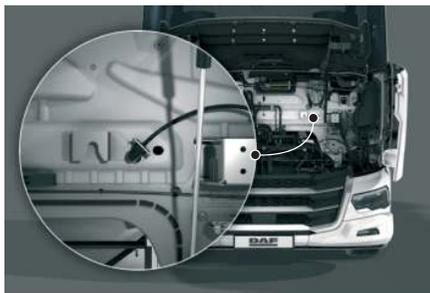
#### Location

Make sure that the supply pressure on the pressure gauges is not at maximum, but at about 8 to 9 bar.

While inflating the tyres, keep the pressure on this value by having the air compressor running.

See chapter 'Technical data and identification' for the correct tyre pressures.

Refit the rubber cap of the tyre inflating connection after the tyre has been inflated.



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**NOTE:**

*The tyre inflating connections can also be used as an external inflating connection to fill the air pressure system with air from outside. When doing this, check that the system pressure is correct using the air pressure gauge.*

### 6.1.4 Towing

It is possible to install a towing eye behind the grille.

Always use a towing bar when towing. Deviation from this rule is only allowed in emergencies.

When towing, error messages may be shown on the master display when the ignition is switched on.



### **NOTE:**

*The maximum permissible vehicle speed, weight and distance vary by country.*



### **WARNING!**

*Switch off ACC and AEBS while towing or while being towed.*

*Engaging of these systems during towing actions can result in unwanted and unexpected vehicle behaviour.*

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### **WARNING!**

- *Do not tow the vehicle when fully loaded or with a trailer attached.*

*Towing a fully loaded vehicle or a vehicle with trailer attached can result in unstable vehicle behaviour during critical driving situations applying to the towing and/or towed vehicle. This can lead to very dangerous situations. High forces and tensions in the chassis and drive line of the vehicles can also lead to damage to the vehicles.*

## Towing another vehicle

The maximum permitted technical weight of a vehicle towed with the towing provision (including load) is 40 tons.

## Being towed by another vehicle



### **WARNING!**

- *Towing may not take place at an angle of more than 20° relative to the vehicle centre line.*

*The towed vehicle may be located asymmetrically (left or right) behind the tractor. Towing at an angle of more than 20° relative to the vehicle centre line can result in unstable vehicle behaviour. This can lead to very dangerous situations. High forces and tensions in the chassis and drive line of the vehicles can also lead to damage to the vehicles.*



### **WARNING!**

- *Short-distance towing: Release the park brake, see section 'Releasing the park brake', and adapt the driving style of the towing combination.*
- *Long-distance towing: Use a recovery vehicle.*

*If the engine is not running during towing, there is no power steering and no air is supplied to the brake system. This results in difficult steering and increased brake pedal force, and ultimately leads*

**to automatic engagement of the park brake. This can lead to dangerous situations.**

- Turn the ignition key so that the steering wheel is released (unless the vehicle is in a hoist).
- If there is insufficient pressure in the air reservoirs, release the park brake. See section 'Releasing the park brake'.
- To prevent damage to the gearbox, always **disconnect the prop shaft** from the differential.



**CAUTION:**

- **Always disconnect the prop shaft when towing.**

**If the prop shaft remains connected during towing, the gearbox may be seriously damaged.**

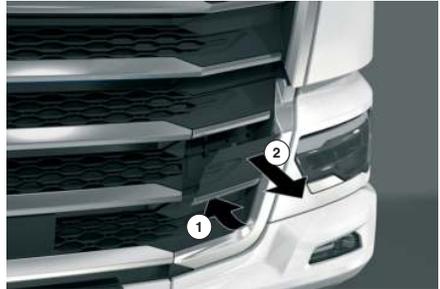
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If the differential is damaged:

- Hoist the vehicle at the rear and **lock the steering wheel in the straight-ahead position.**
- In vehicles **without oil-lubricated rear hubs**, the axle shaft can be removed on both sides.

### Installing the towing eye

- 1 Release the locking button.
- 2 Take away the cover.



D005396-2

Remove the front plate cover plate at the left-hand or right-hand side by pulling it forward (A).

- 1 Remove the rubber cover.
- 2 Screw in the towing eye fully so the entire thread is used.
- 3 Then turn the towing eye anti-clockwise (maximum 90 degrees) so the towing bar can be attached to the towing eye.



D005395-2

The maximum **load** the towing eye may pull is **40 tons**.



**NOTE:**

*To lift the vehicle two towing eyes must be used and both pins must be perpendicular to the lifting cable or chain. Turn the towing eyes anti-clockwise (maximum 180 degrees) to achieve this position.*

## Long-distance towing

If the vehicle must be towed over a longer distance, use a recovery vehicle that lifts the vehicle to be towed over its front axle. Do not run the engine because of the risk of engine lubrication failure.

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## Tow starting



**NOTE:**

*Vehicles **cannot** be towed to start the engine.*

### 6.1.5 Jump-starting



**CAUTION:**

*Starting the vehicle using a starting aid with too high a voltage can damage the electrical components, and can cause the loss of warranty.*

- *Never jump-start the engine with a fast charger.*
- *Never jump-start the vehicle with a voltage higher than 29 V.*



**CAUTION:**

- *Do not disconnect the battery cables while the engine is running.*

*Disconnecting the battery cables while the engine is running can damage the electrical components.*

## Battery systems

The vehicle is equipped with a regular battery system with a set of two 12-Volt batteries.

The engine may be started with the starting aid of starter cables that use power from:

- separate auxiliary batteries (approximately 24 V), or
- another vehicle with a running engine (approximately 29 V).

**When this starting procedure is followed, the battery cables must not be disconnected.**

The battery box can be placed in various positions: beside the chassis or on the chassis behind the cabin or between the side members at the rear of the chassis.

On some of these positions extra terminals are fitted to make it easier to connect the starter cables.

### Battery box without extra terminals

Remove the battery box cover and connect the starter cable to the positive pole (+) first. Then connect the starter cable to the negative pole (-).

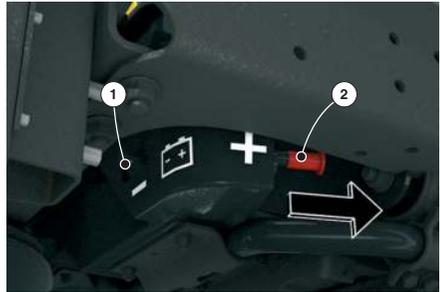
### Battery box with extra terminals

Terminals where the starter cables can be connected are found on the lower side of the battery box or on the left side behind a cover.

Remove the cover (2) and connect the starter cable to the positive pole (+) first. Then connect the starter cable to the negative pole (-).

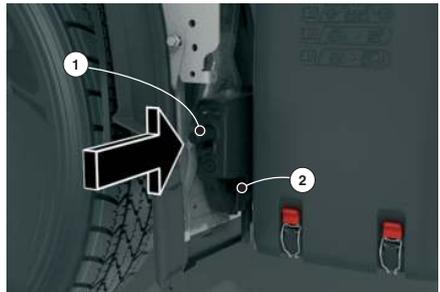
When the batteries are **fully** discharged and the engine is running, it is important that the starter cables are **not immediately** disconnected. The engine must run for at least 2 to 3 minutes before the starter cables are disconnected to prevent damage to the electrical system (peak voltage!).

To disconnect, remove the negative pole (-) first, then the positive pole (+) and install the cover.



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Proceed as follows when the engine starts running:

- Switch on as many power consumers as possible (for example: headlights, fog lamps, heater fan, and so on).
- Remove the starter cables after the engine has run for 2 to 3 minutes.
- Switch off the consumers.





## 7.1 LIFTING INFORMATION

### 7.1.1 Lifting at the front

The front of the truck can be lifted with two towing eyes. To lift the front of the truck:

1. Install two towing eyes with the axle in horizontal position.
2. Attach the lifting equipment to the towing eyes.
3. Carefully lift the truck.



**CAUTION:**

*The maximum lifting weight for the towing eyes is 3000 kg per towing eye.*

7



**NOTE:**

*The two towing eyes can also be used to fix the front of the truck to a platform.*

### 7.1.2 Jack up at the front

#### Jacking up the air sprung front axle

Place the jack under the special jack up brackets that are attached to the air sprung front axle.

#### Jacking up mechanically sprung front axles

Place the jack under the axle.



**CAUTION:**

*Do not jack up under the protection bar at the front of the vehicle. This is a protection bar made of sheet metal. If you jack up the vehicle under the protection bar it collapses.*

### 7.1.3 Lifting at the back

There are no special facilities to lift the truck at the back.

### 7.1.4 Jack up at the back

There are no special facilities to jack up the truck at the back. Place the jack under the rear axle.