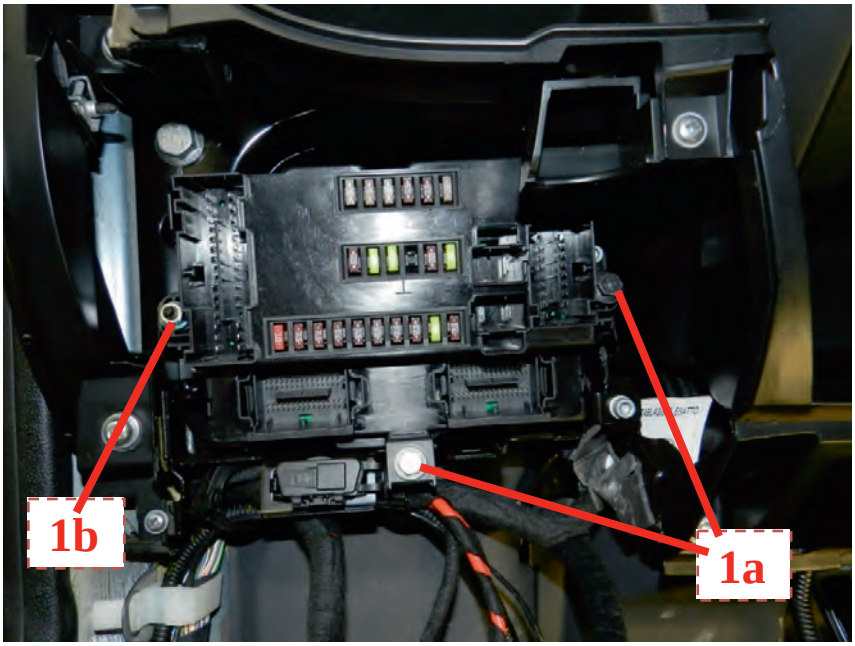
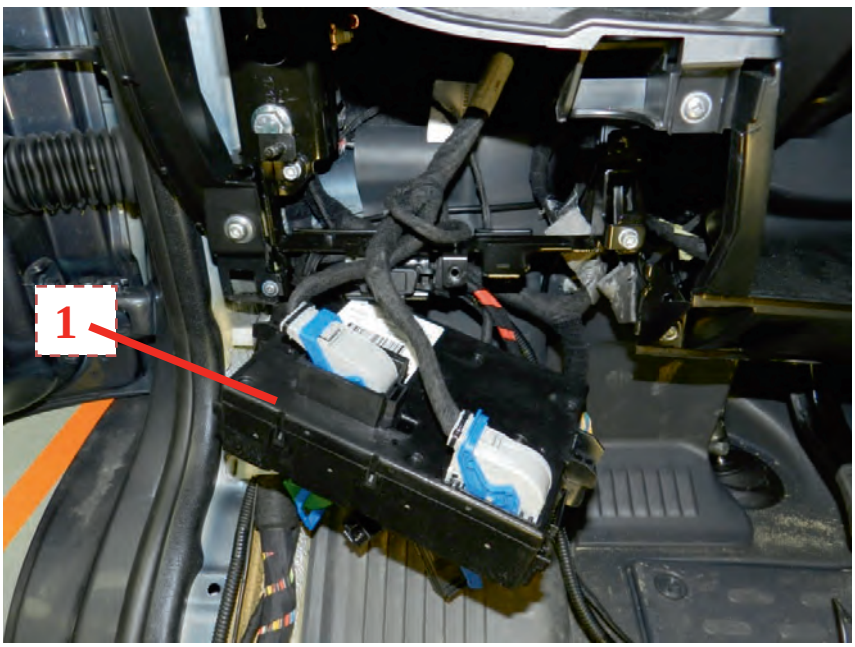
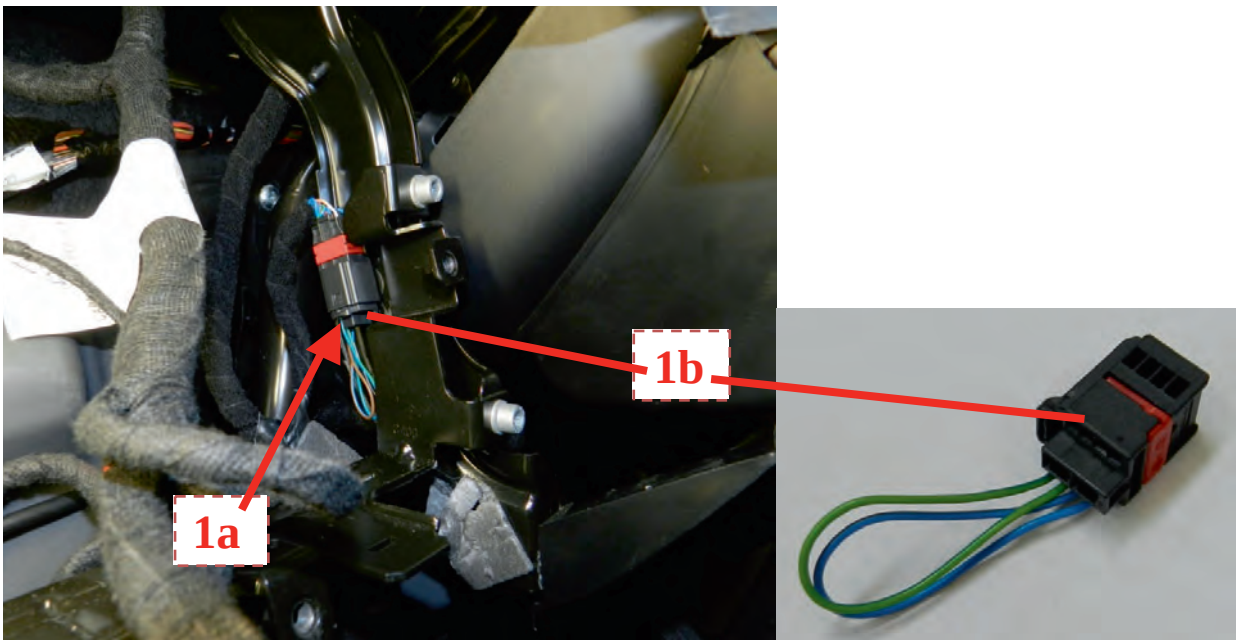
18. Undo the screws (1a) and the nut (1b) securing the Body Computer.



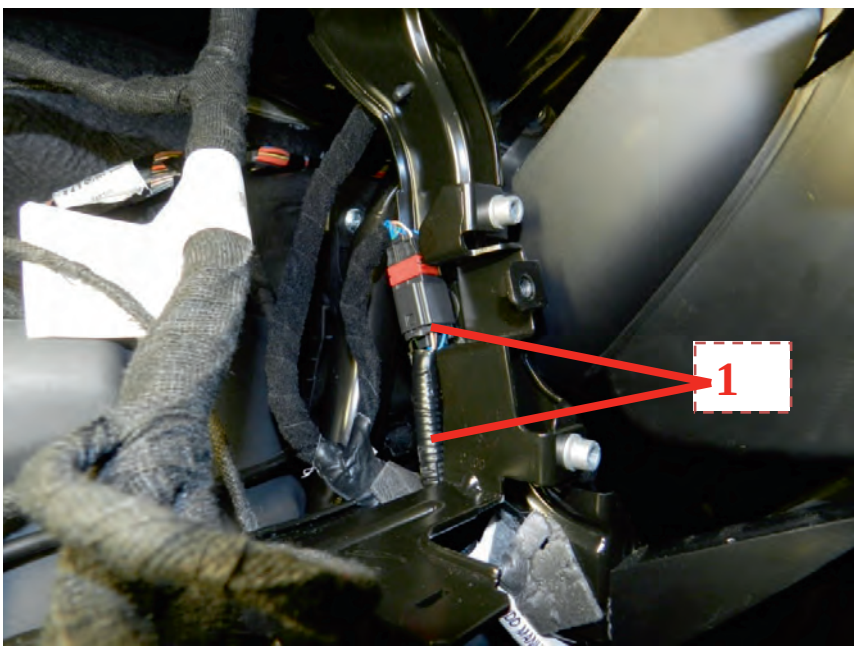
19. Remove the Body Computer being careful not to damage the wiring-harness.



20. Press the retaining clip (1a), then disconnect and remove the short circuit connector (1b).

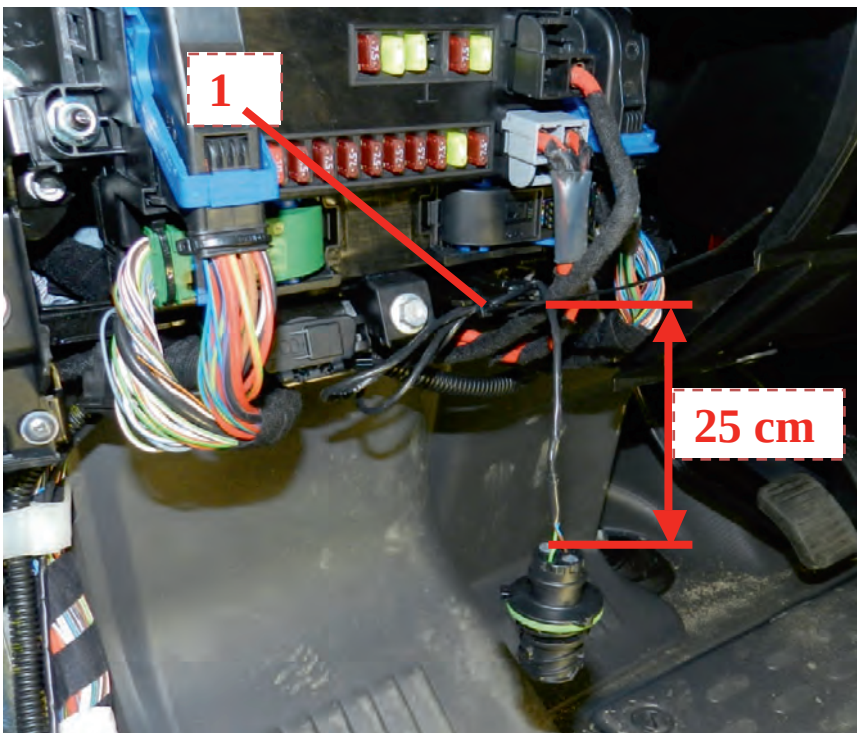


21. Connect the electrical connection of the control unit wiring, and position the wiring in the lower part of the Body Computer mounting bracket.

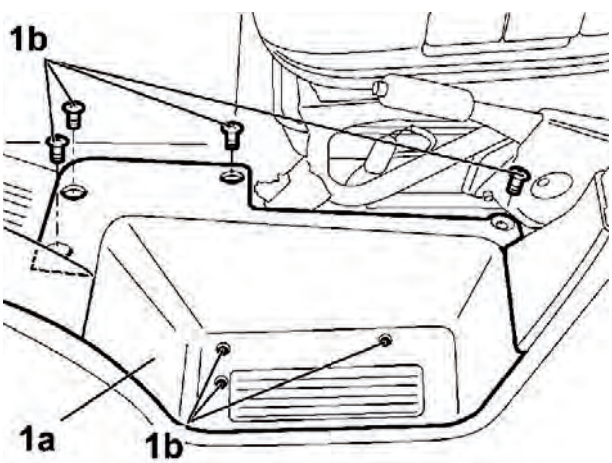


- Put back in place the Body Computer screw it.
- Connect all the electric connections.

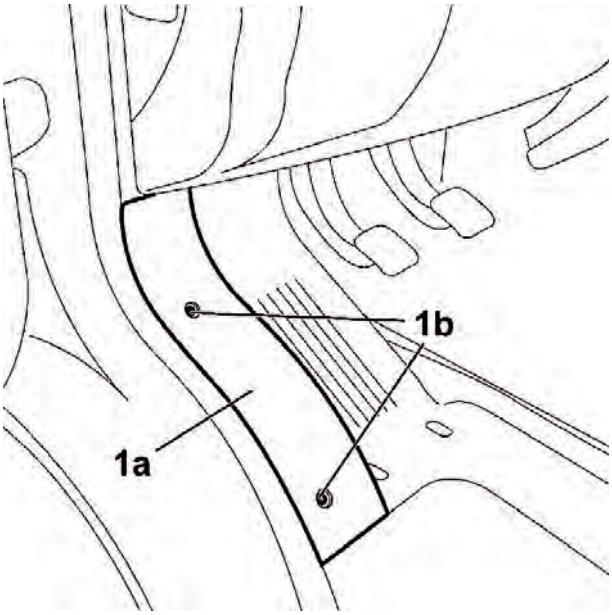
22. Roll up the exceeding length of wiring and fix it on the Body Computer bracket with a strip, keeping about 25 cm of free wiring, so that it can be easily removed if needed.



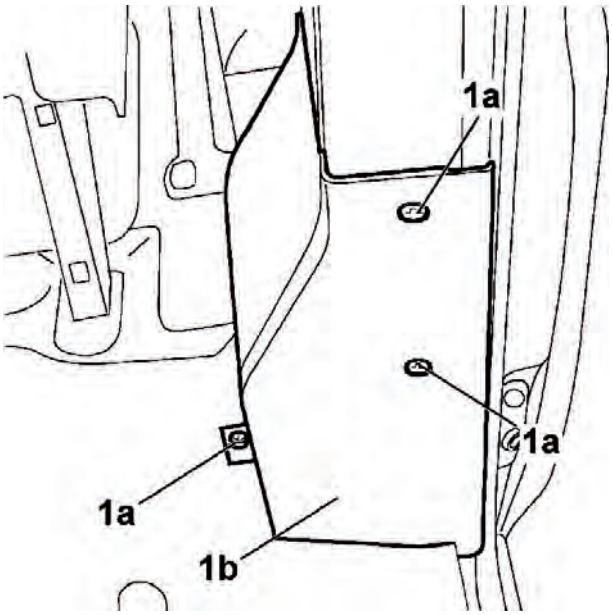
23. Put back in place the sill mould (1a) and fix it with screws (1b).



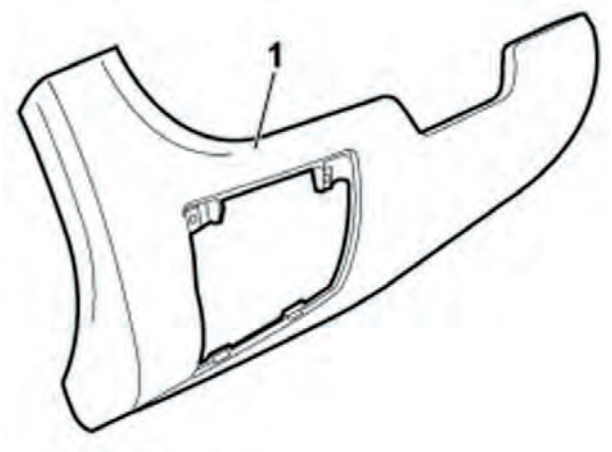
24. Put back in place the sill mould corner part (1a) and fix it with screws (1b).



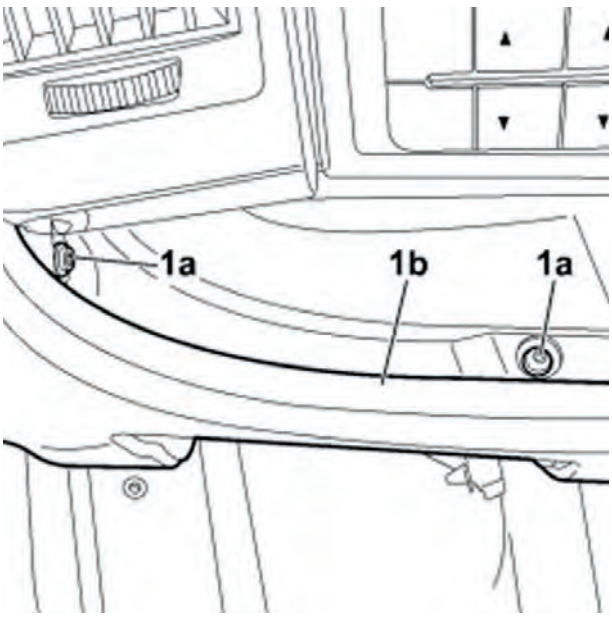
25. Put back in place the B-pillar lower cover (1a) and fix it with screws (1b).



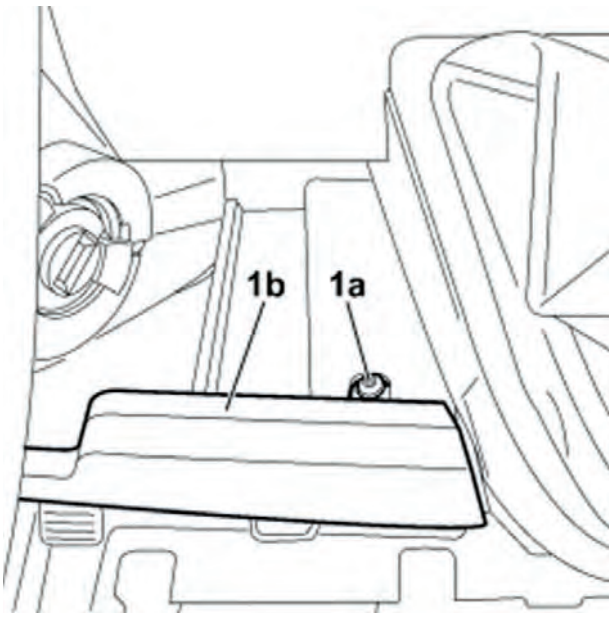
26. Put back in place the lower dashboard cover.



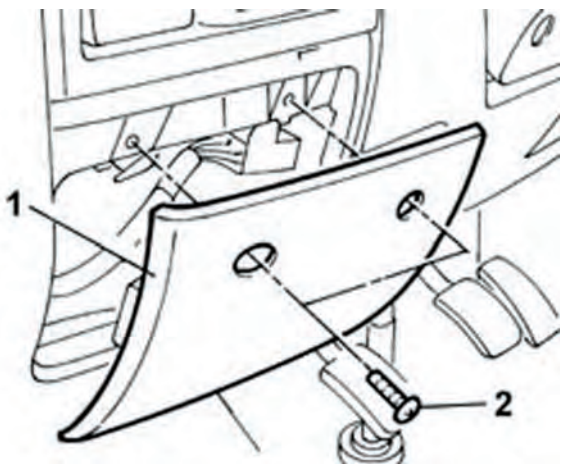
27. Put back in place the screws (1a) to fix the lower dashboard cover (1b) on the left side of the steering-wheel.



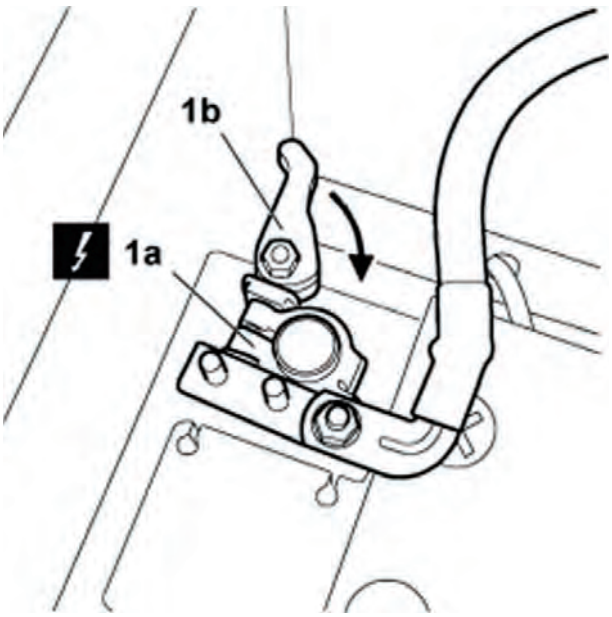
28. Put back in place the screws (1a) to fix the lower dashboard cover (1b) on the right side of the steering-wheel.



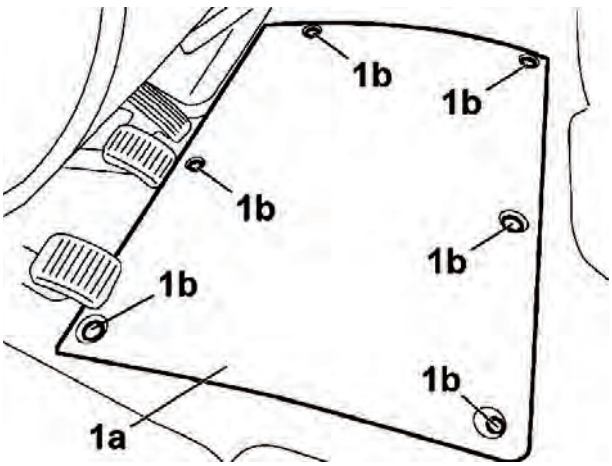
29. Put back in place the fuse-box cover (1) and fix it with the screws (2).



30. Connect the battery negative pole (1a) and turn the lever (1b) as shown in the picture.

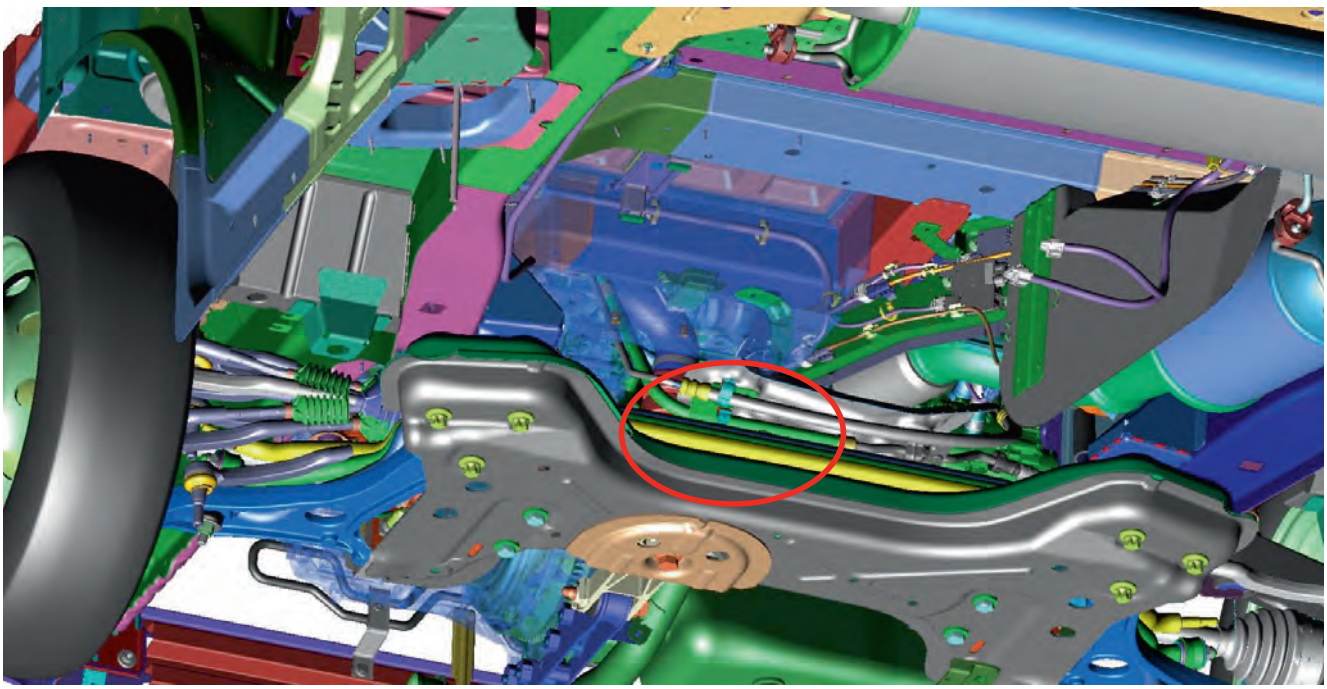


31. Put back in place the cover (1a) and fix with the plugs (1b).

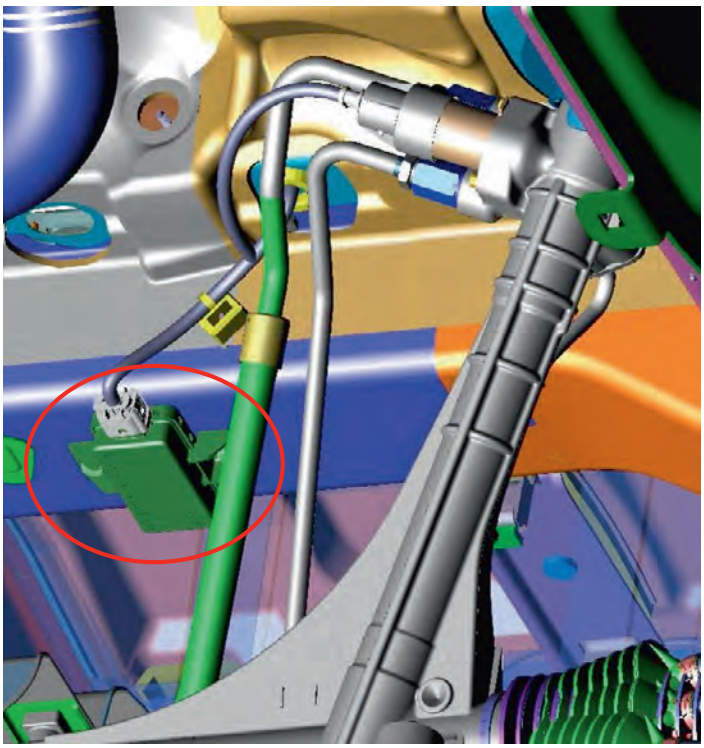


TPMS – installation prescriptions
When a TPMS system is present, additional prescriptions have to be considered.

TMPS system allows to monitor tires status by a radio transmission of the inflation pressure values, read by sensors integrated in the inflation valve.
Not to interfere with the data transmission, positioning any power cable near (150 mm) the receiver module is forbidden (see picture XXX). Also devices causing its overheating are not allowed, therefore exhaust pipes of vehicle cabin heating systems have to be positioned far enough.

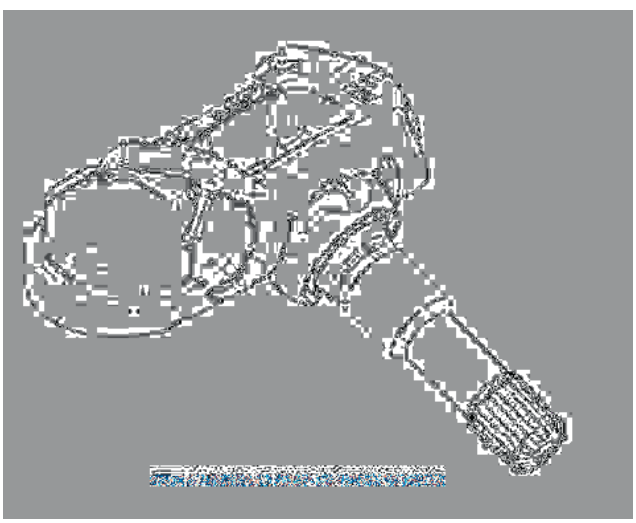


Position of TPMS module seen from the back



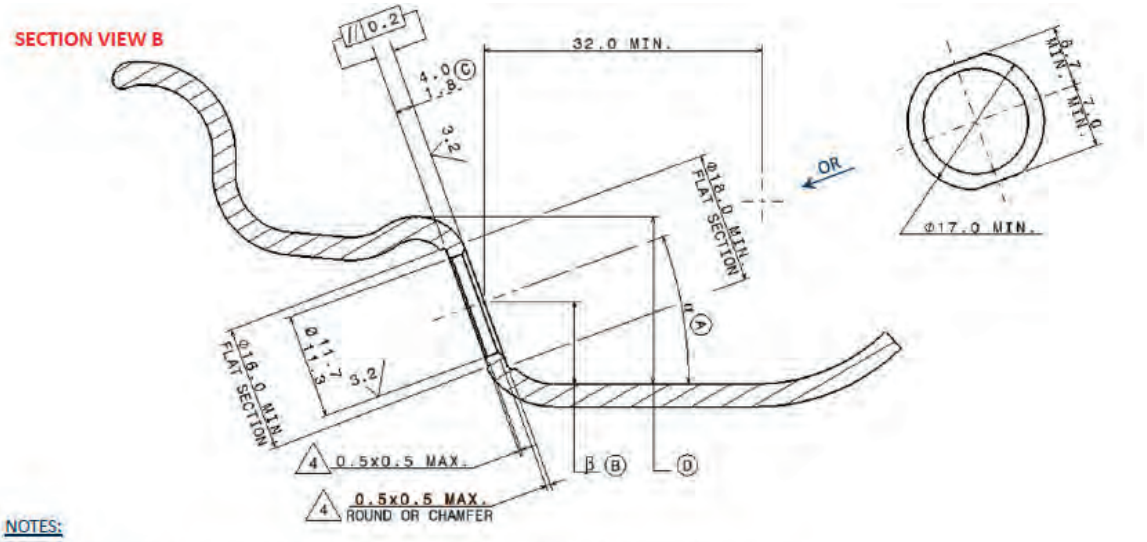
Position of TPMS module seen from under the engine

Installation requirements for pressure sensors integrated in tire inflation valve



Sensors integrated into the inflation valve, to correctly transmit the read data to the receiver module must be installed respecting the system supplier prescriptions.
Assembly specifications on the rims follow:

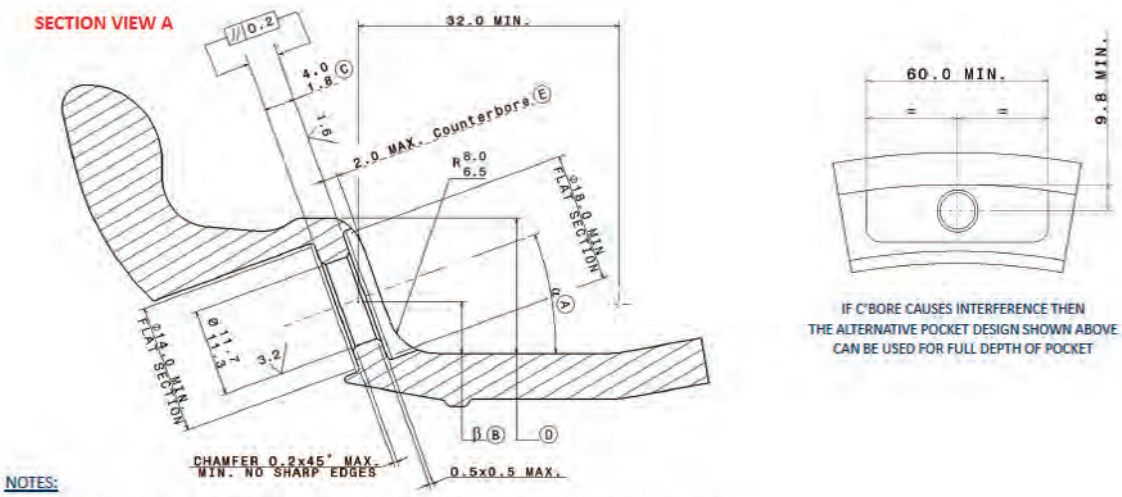
Steel rims



NOTES:

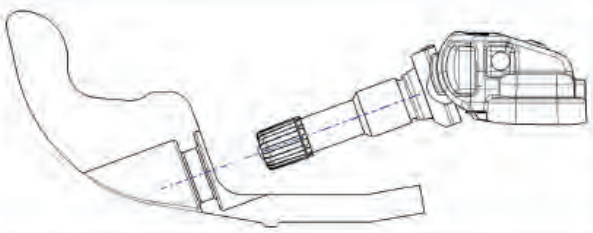
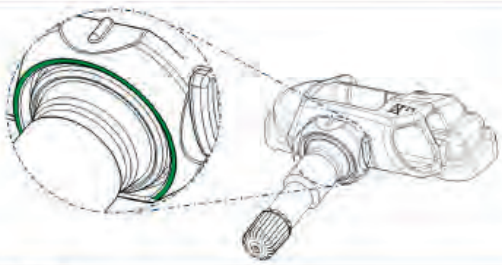
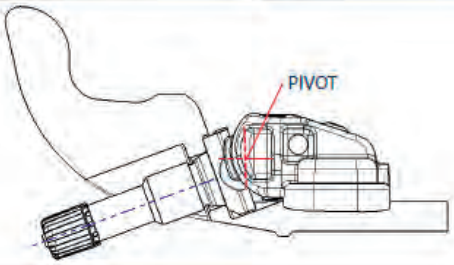
1. SECTION VIEW B SHOWS THE BASIC VALVE HOLE DIMENSIONAL REQUIREMENTS FOR STEEL RIMS
2. VALVE HOLE REQUIREMENTS FROM ETRTO 11.3J
3. *see* SHEET 5 FOR RELATIONSHIP BETWEEN DIMENSIONS α (A) AND β (B)
4. *see* SHEET 6 FOR DETAIL VIEW OF ROUNDED OR CHAMFERED "SOFT SHAPE" FORMED BY HOLE PUNCHING OPERATION
5. A WORSE CASE CAD FITMENT STUDY IS RECOMMENDED FOR ALL RIM SECTIONS
6. INFLATION TOOL CLEARANCE MUST BE CONSIDERED ON THE OUTSIDE FACE OF THE RIM

Light-alloy rims



NOTES:

1. SECTION VIEW A SHOWS THE BASIC VALVE HOLE DIMENSIONAL REQUIREMENTS FOR ALLOY RIMS
2. VALVE HOLE REQUIREMENTS FROM ETRTO 11.3F
3. *see* SHEET 5 FOR RELATIONSHIP BETWEEN DIMENSIONS α (A) AND β (B)
4. *see* SHEET 6 FOR DETAIL VIEW OF ROUNDED OR CHAMFERED "SOFT SHAPE" FORMED BY HOLE PUNCHING OPERATION
5. A WORSE CASE CAD FITMENT STUDY IS RECOMMENDED FOR ALL RIM SECTIONS
6. INFLATION TOOL CLEARANCE MUST BE CONSIDERED ON THE OUTSIDE FACE OF THE RIM

	**ALIGN VALVE AXIS TO BE ON RIM VALVE HOLE AXIS** THE TMPS VALVE AND RIM HOLE ARE TO BE CONCENTRICALLY MATED WITH EACH OTHER
	**MATE FRONT COLLAR FACE TO RIM** THE COLLAR FACE (HIGHTLIGHTED) SHOULD TOUCH THE VALVE HOLE FLAT AREA NO OTHER PART OF THE SENSOR SHOULD INTERFERE WITH THE RIM
	**ANGLE ENCLOSURE TO RIM DROPWELL** THE TPMS BODY IS ROTATED UNTIL THE BOTTOM OF THE ENCLOSURE IS IN CONTACT WITH THE RIM

LDWS – installation prescriptions
LDWS system - overview

- **LDW (Lane Departing Warning):**
  - Is activated by a button on the central control panel, with an ON / OFF telltale light
  - Once active, the system works over 60 Km/h. Between 0 and 60 Km/h it's inhibited and shows it's not functioning keeping on two yellow light in the instrument cluster; once reached 60 Km/h the lights switch off and only work switching on left or right one to warn a deviation from road stripes.

- **HBC (automatic main light dipping) with light sensor:**
  - Is activated by the column stalk ring, setting it on AUTO; it switches on both HBC and light sensor.

- **HBC without light sensor:**
  - Is activated when parking, by the vehicle menu setting.

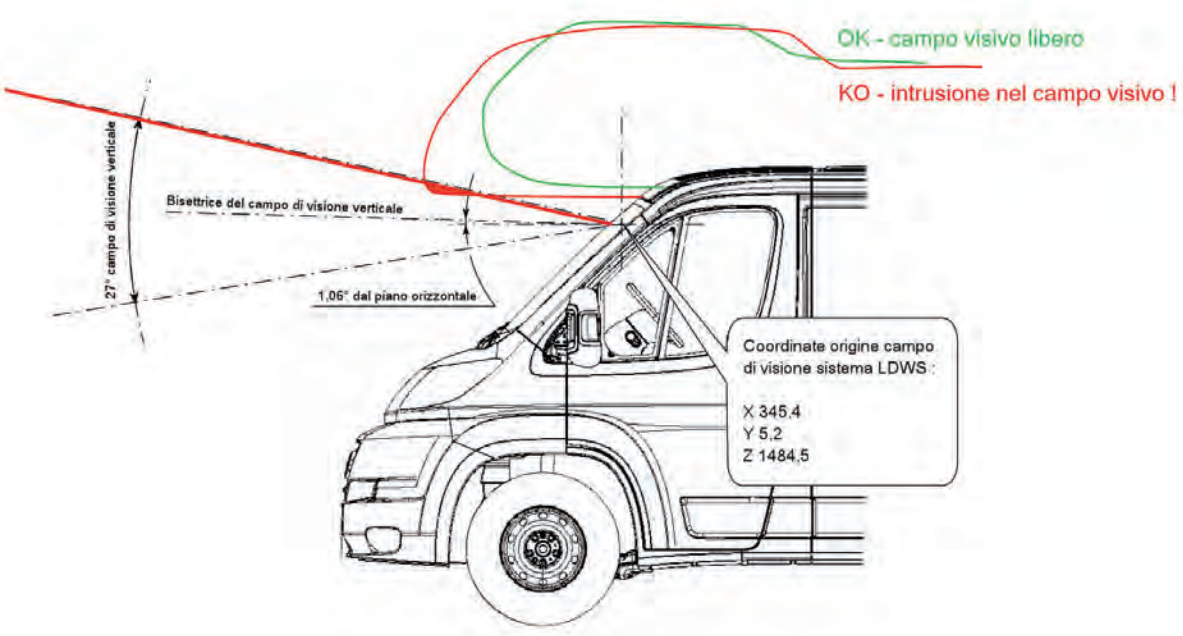
- **TSR (Traffic Signal Recognition)**
  - Is activated when parking, by the vehicle menu setting.

Prescriptions for vehicles with LDWS system – camera calibration

Due to the wide angle that the suspension geometry can have on the Ducato (different weight distribution according to upfitting needs), the standard calibration done in the production factory can be not enough, therefore the system has a self-calibration function that allows it to memorize the correct calibration while running. This function is activated when a change in the geometry moves the camera outside its working angle (e.g. when a chassis-cab is converted in a camping-car).
Re-calibration phase last about 2 min, if the system finds the required conditions (almost straight road, with only wide bends, and good weather and visibility), going on for up to one hour if the process fails. During calibration phase the system is inhibited and the driver is warned by the two yellow lights in the instrument cluster.

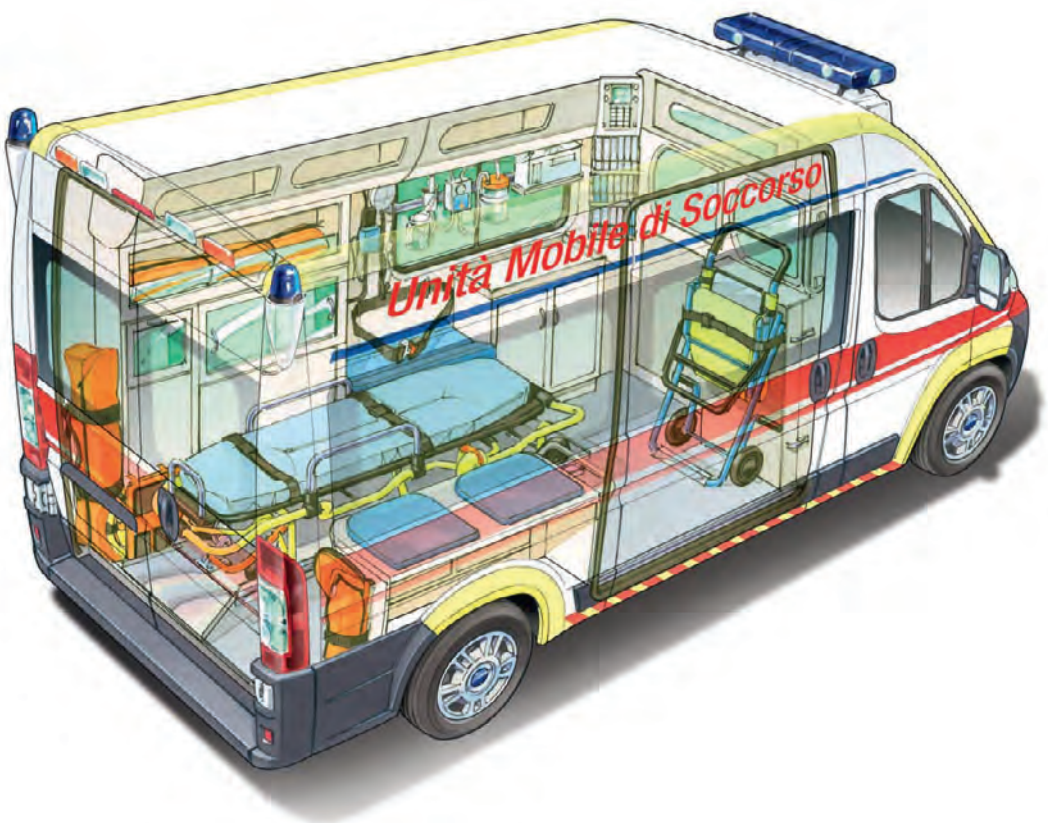
Not to void the system functionality, obstructions must not be present in the camera view angle.

In the following picture, the vertical view angle of the camera is highlighted. It's 27° wide, with the centerline positioned at 1,06° over the horizon.
For a proper functioning of the system, additional body parts must never interfere with the camera view-angle. This prescription is both for fixed (e.g. a camper cabover) or temporary (e.g. a roof-rack) items.



LDWS view-angle

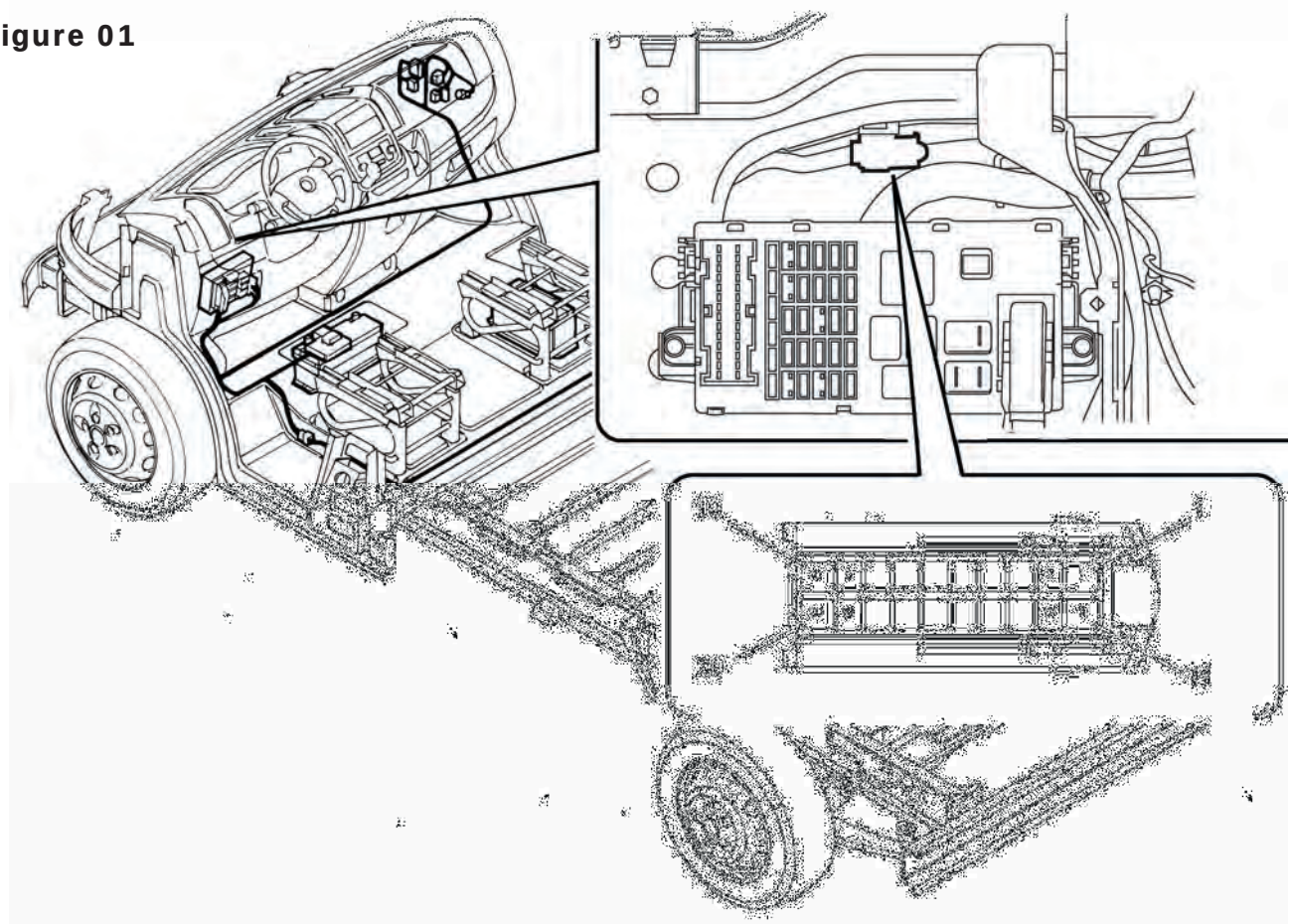
AMBULANCE CONVERSION
ELECTRICAL SYSTEM COMPONENTS



1 AMBULANCE CIRCUITRY **3.108**
1.1 20-pin connector C036 AD **3.108**
1.1.1 View and position of connector **3.108**
1.1.2 Functions of the connector **3.109**
1.1.3 Engine starting inhibition circuit **3.110**
1.1.4 Flasher power supply **3.110**
1.1.5 Siren power supply **3.111**
1.1.6 High beam lights On signal **3.112**
1.1.7 Horn control **3.112**
1.1.8 Reverse gear engaged signal **3.113**
1.2 Fiat Chrysler Automobiles S.p.A. Ambulance Control Panel **3.114**

1 AMBULANCE CIRCUITRY
1.1 20-pin connector C036 AD
1.1.1 View and position of connector

Figure 01



NOTE: In the detailed view, the connector is seen from the cable entry side

1.1.2 Functions of the connector

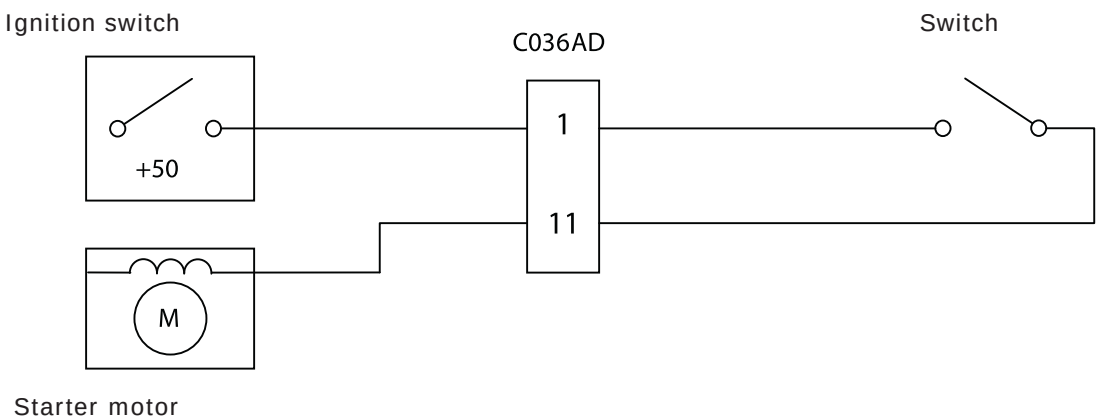
Pin	Connector function/Part number	Minimum cable size [mm²]	Notes
	Tyco 20-pin connector on vehicle side, p/n 284879-3 Counterpart on conversion side: Tyco p/n 284875-2 (supplied by Fiat Chrysler Automobiles S.p.A.)		See diagram C036-AD
1	Power supply: +50 from ignition switch	2,50	Starter relay coil command (to be short- circuited with pin 11)
2	+ key cut out during starting (Ign/SW)	0,5	Positive command for 1 standard relay (max 300mA)
3	High beam lights on signal	0,5	Positive command for 1 standard relay (max 300mA)
4	Horn control	0,35	INPUT: manages the horn relay by means of a negative signal from switch OUTPUT: negative command for 1 standard relay (max 300mA)
5	GND for ambulance control panel by Fiat Chrysler Automobiles S.p.A.	0,5	Suitable for use on other control panels (max 4A)
6	Power supply + key for backlighting of Fiat Chrysler Automobiles S.p.A. ambulance control panel	0,5	Suitable for use on other control panels (max 300mA)
7	Power supply for ambulance control panel: +30	0,5	Suitable for use on other control panels (max 2A)
8	Reverse gear engaged signal	0,5	Positive command for 1 standard relay (max 300mA)
9	Siren relay positive command (INPUT)	0,5	If the Fiat Chrysler Automobiles S.p.A. ambulance control panel is not used, provide for protection of cable sized 0.5mm² (max 7.5A fuse)
10	Siren power supply (OUTPUT)	2,50	Max 20A
11	Starter coil power supply	2,50	To be short-circuited with pin 1
12	Not connected		
13	Not connected		
14	Not connected		
15	Not connected		
16	Not connected		
17	Not connected		
18	Not connected		
19	Flasher relay positive command (INPUT)	0,5	If the Fiat Chrysler Automobiles S.p.A. ambulance control panel is not used, provide for protection of cable sized 0.5mm² (max 7.5A fuse)
20	Flasher power supply (OUTPUT)	2,50	Max 20A

1.1.3 Engine starting inhibition circuit

The ambulance connector contains a short-circuit jumper, between pin 1 and pin 11, which can be removed to cut out the starting command and produce an inhibition circuit as the need arises.

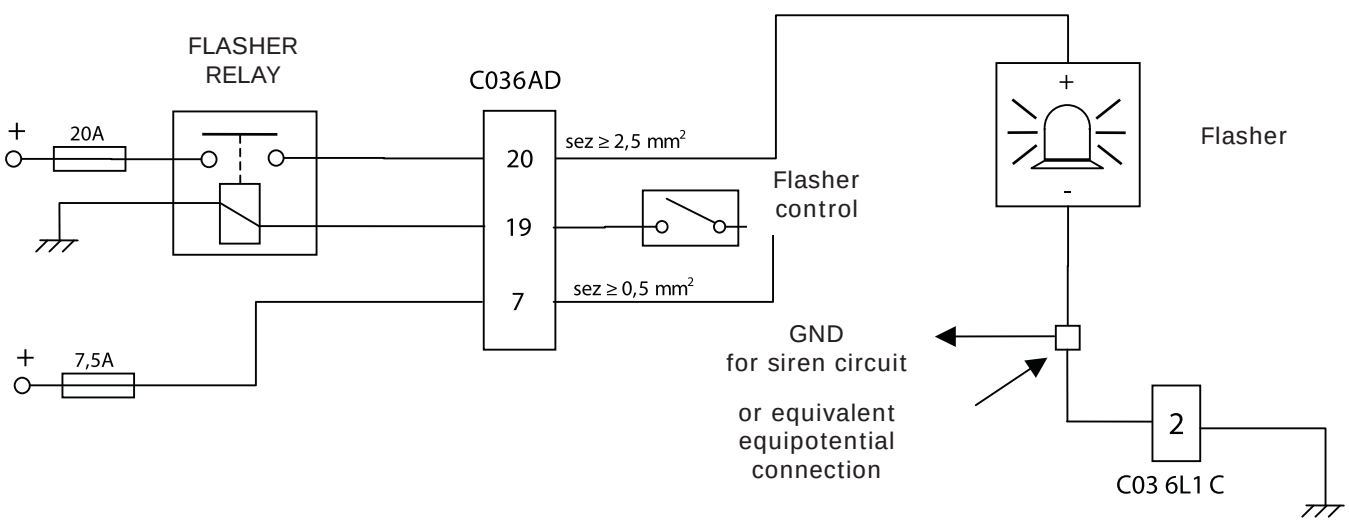
IMPORTANT: this being a circuit of primary importance, it must be installed with the greatest possible care, paying special attention to cable crimping on the cable lug.

Figure 02



1.1.4 Flasher power supply

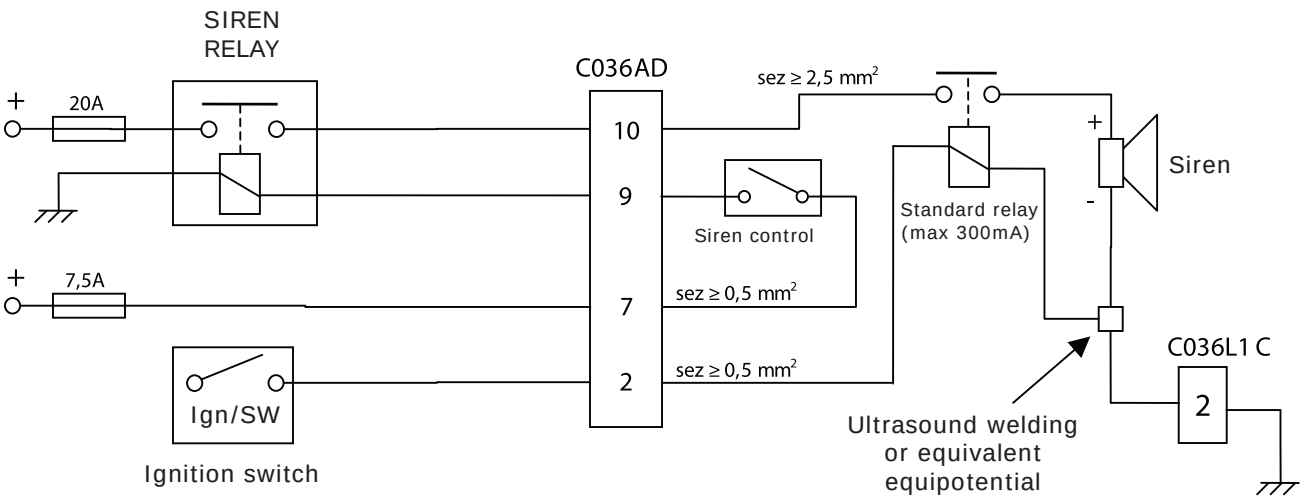
Figure 03



1.1.5 Siren power supply

If the current absorbed by the siren exceeds 5A, it is advisable to set up the power supply circuit described below so as to ensure trouble-free i.c. engine starting in critical conditions.

Figure 04



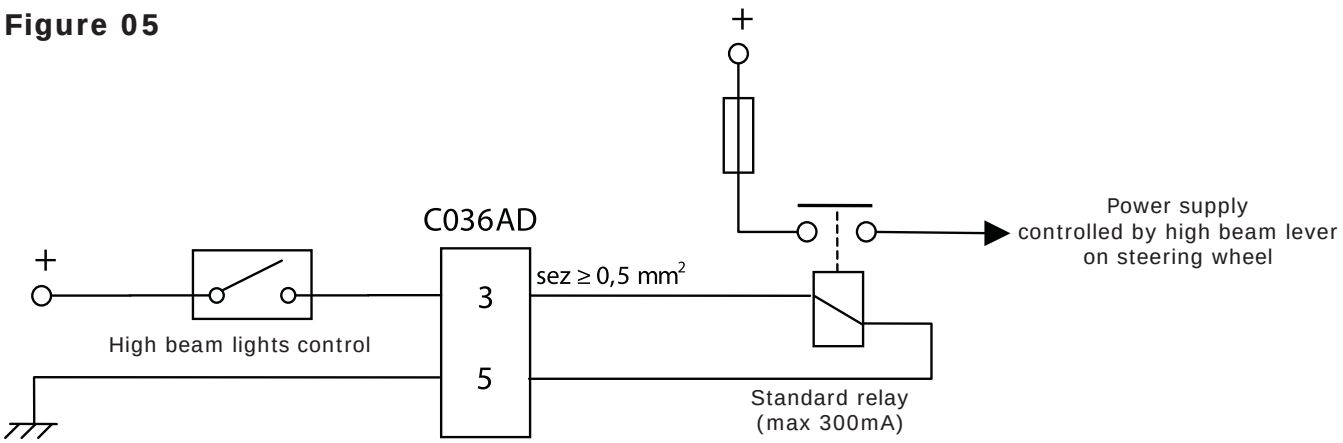
NOTES:

1. **If the Fiat Chrysler Automobiles S.p.A. ambulance control panel is used, pins 7, 9 and 19 are already connected.**
2. **Pin 7 must be used to power both (flasher and siren) controls; if these controls consist of two separate buttons, it is necessary to link them by means of ultrasound welding or make an equivalent equipotential connection on the wiring. We recommend that you do NOT use multiple crimping on the cable lugs.**
3. **If a power source other than pin 7 is used (e.g., pin 1 of connector C036L1C), the power supply circuits of the relay coils (pin 9 and pin 19) should be protected with fuses with capacity ≤ 7.5A.**

1.1.6 High beam lights On signal

This is a positive command activated when the high beam lights are turned on (including flashing mode).
A wiring diagram for this circuit is exemplified below.

Figure 05

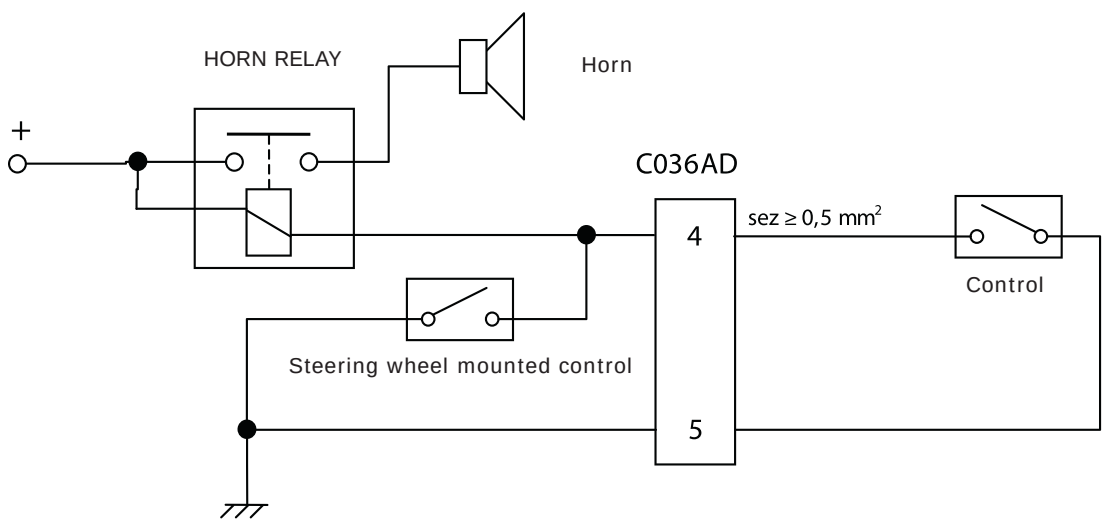


1.1.7 Horn control

Pin 4 of connector C036AD is bidirectional. This notion is illustrated in the two examples given below regarding two different operating modalities.

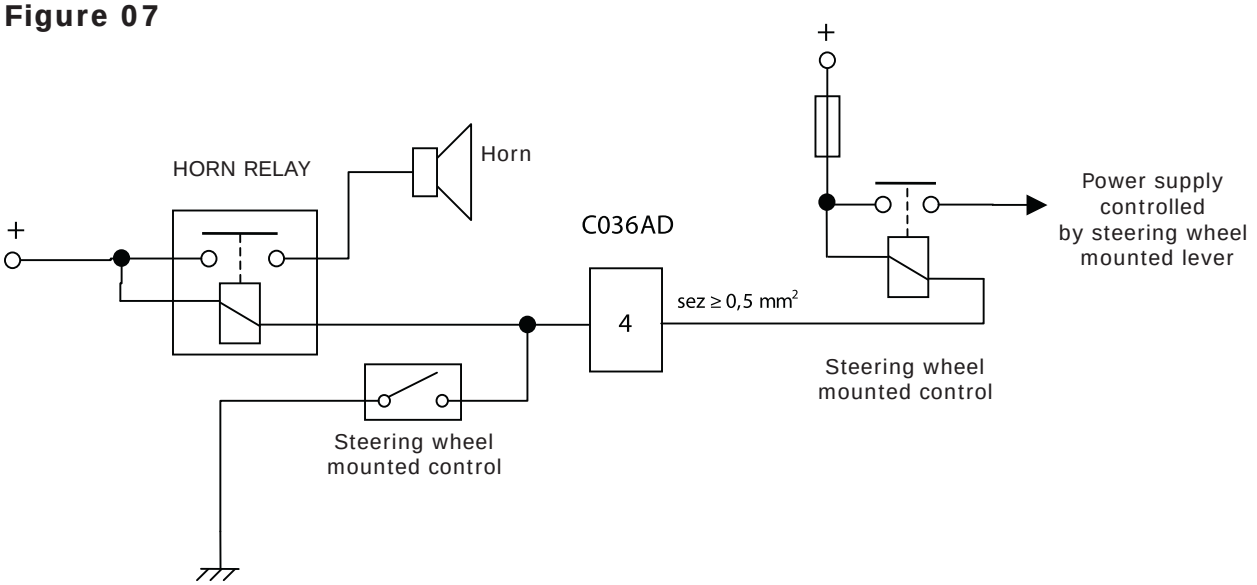
INPUT mode operation

Figure 06



OUTPUT mode operation

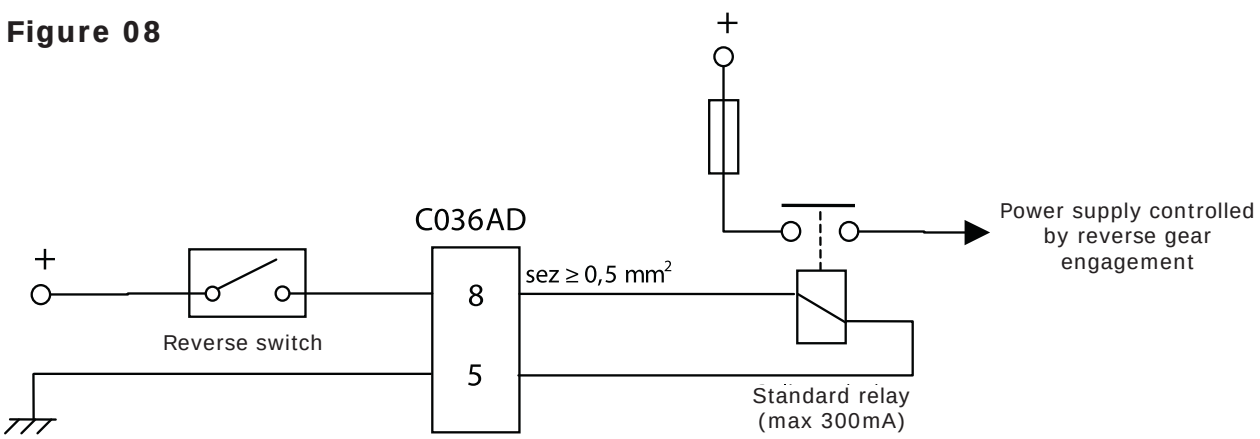
Figure 07



1.1.8 Reverse gear engaged signal

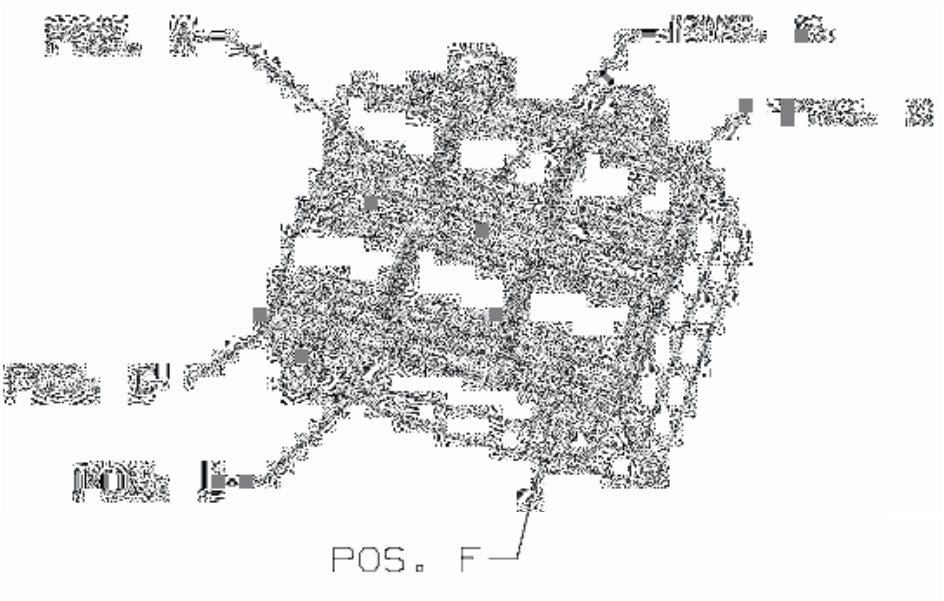
If it proves necessary to activate loads that can be powered only with the reverse gear is engaged, this can be done by installing the following circuit.

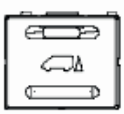
Figure 08



NOTE: When using pin 5 of connector C036AD (frame GND) for several devices (ΣI ≤ 4A), we recommend resorting to ultrasound welding or an equivalent equipotential connection. We strongly recommend that you do NOT use multiple crimping on the cable lugs.

1.2 Fiat Chrysler Automobiles S.p.A. Ambulance Control Panel

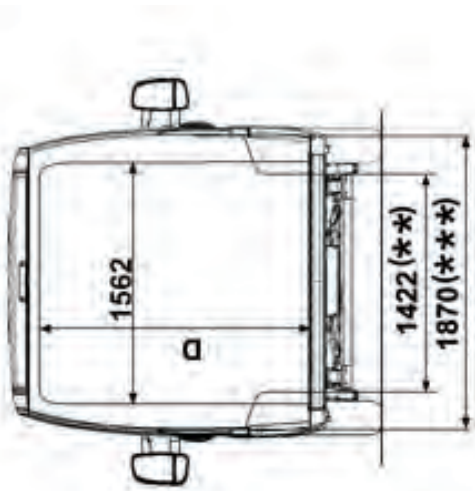


LIST OF BUTTONS				
T1	T2	T3	T5	T6
				
Susp. UP	Susp. DOWN	Plug	Beacon	Siren

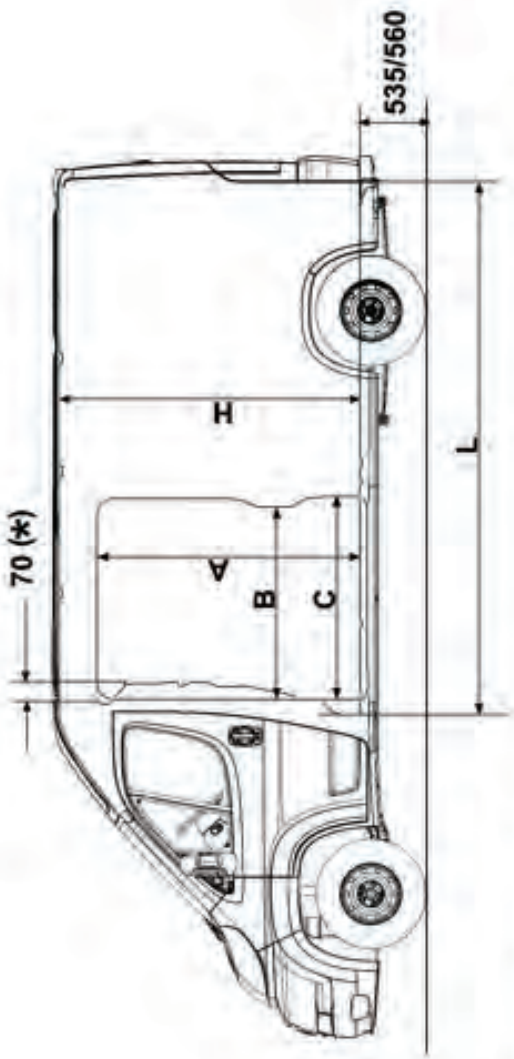
STACK COMPOSITION LIST							
CONVERSION	WIRING DIAGRAM	POSITION					
		A	B	C	D	E	F
AMBULANCE	TYPE 1	T3	T5	T6	T3	T3	T3
AMBULANCE + SELF-LEVELLING SUSP.	TYPE 1	T1	T5	T6	T2	T3	T3

MAIN DIMENSIONS

Sheet metal van – Cargo bay internal dimensions



D	
H1	1520
H2	1790
H3	2030



L	
L1	2670
L2	3120
L3	3705
L4	4070

	A	B
L1 H1	1485	1075
L2 H1	1485	1250
L2 H2	1755	1250

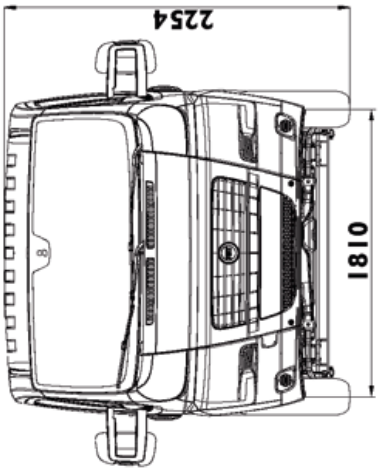
H	
H1	1662
H2	1932
H3	2172

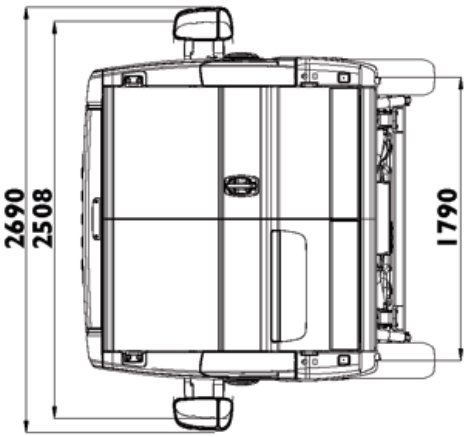
(*) Bulkhead intrusion

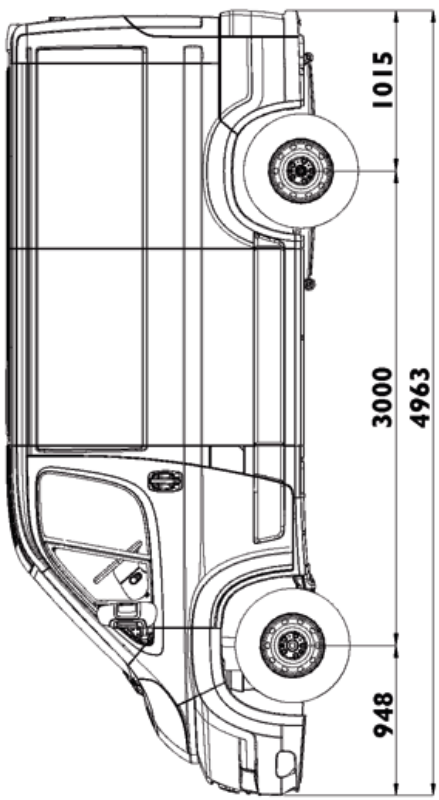
(**) Width between wheelarches

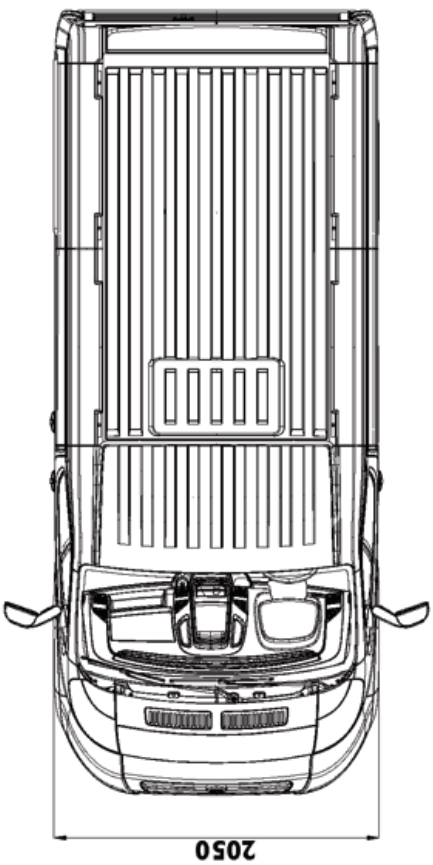
(***) Width between internal sides (against panelling)

Sheet metal van – Short wheelbase H1

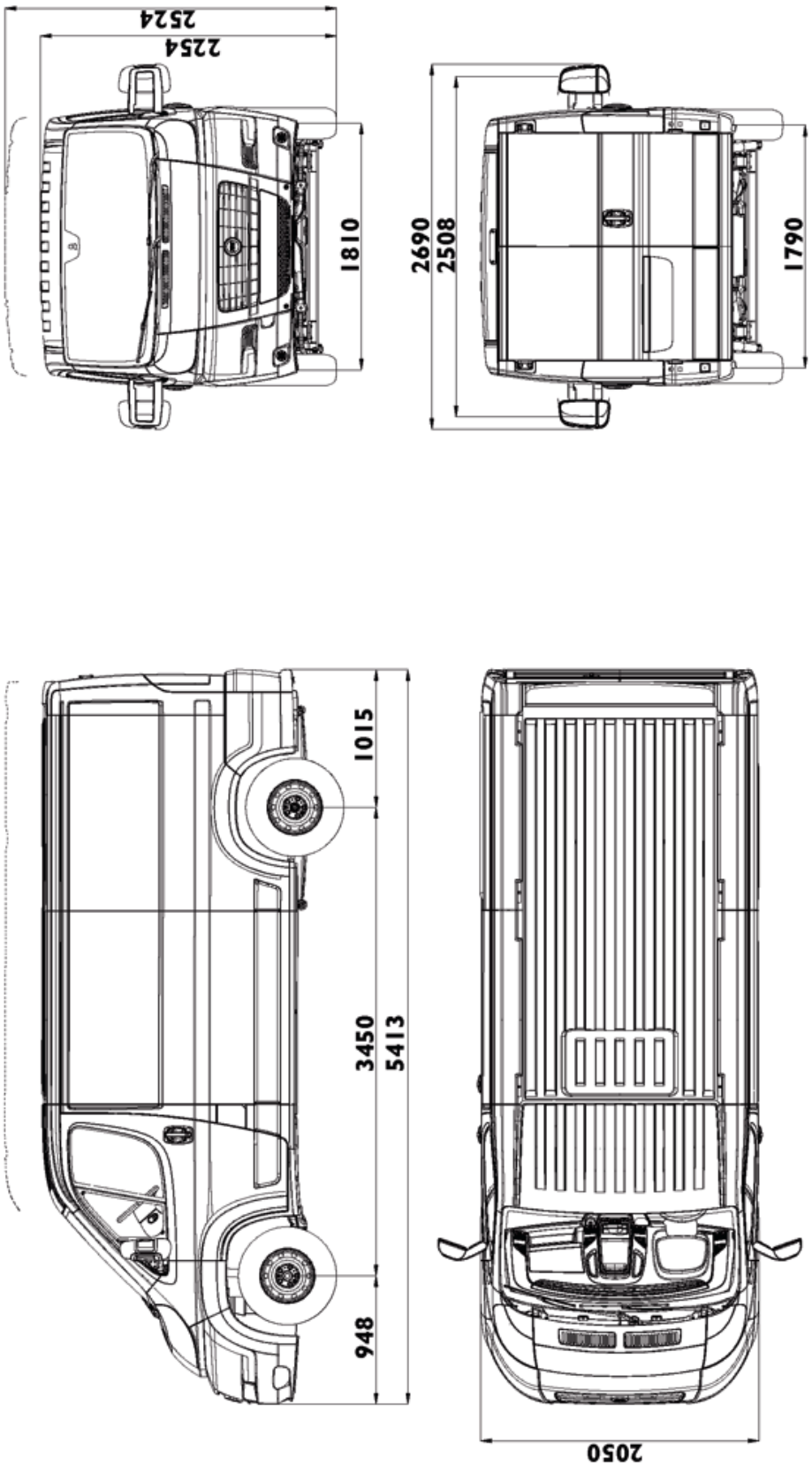




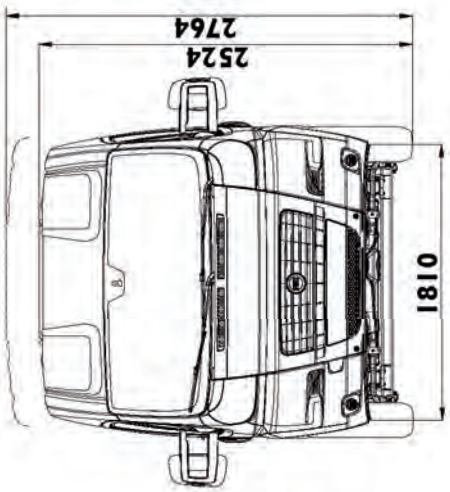


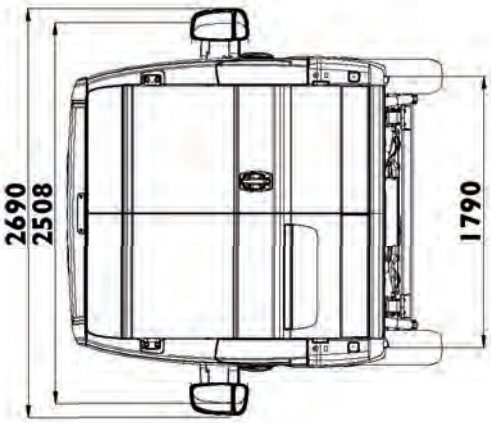


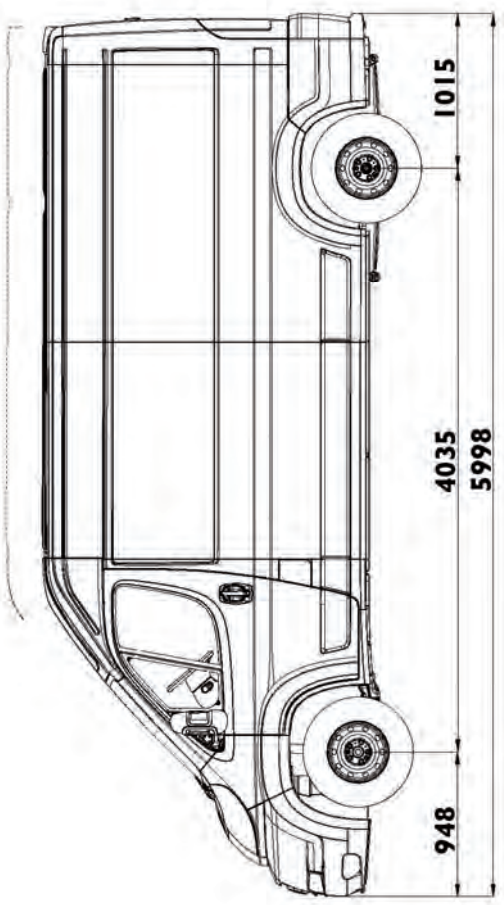
Sheet metal van – Medium wheelbase H1 / H2

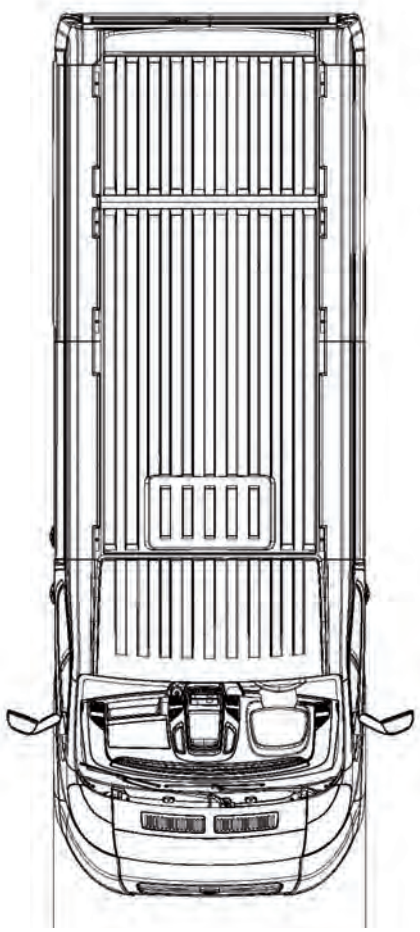


Sheet metal van – Long wheelbase H2 / H3

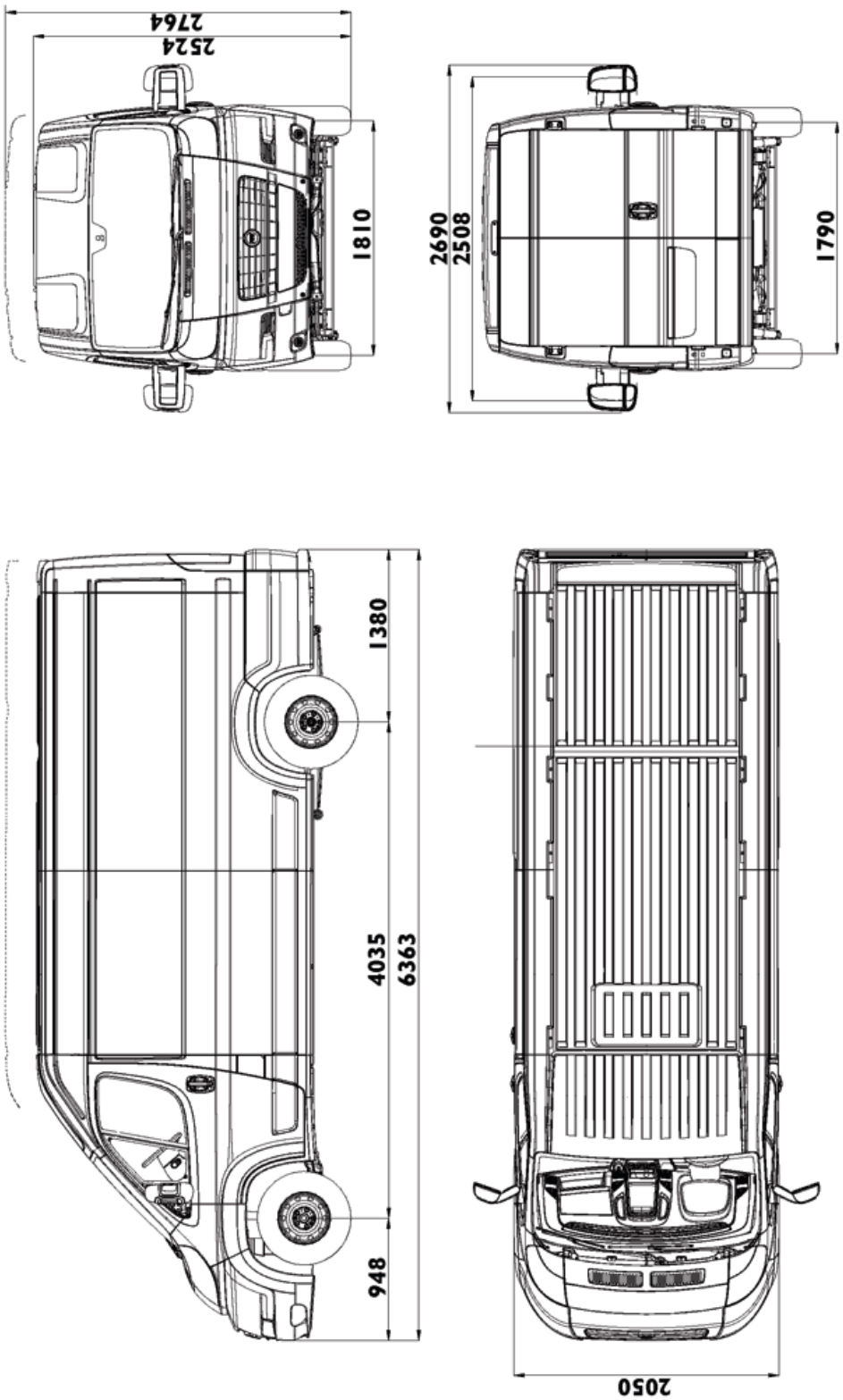




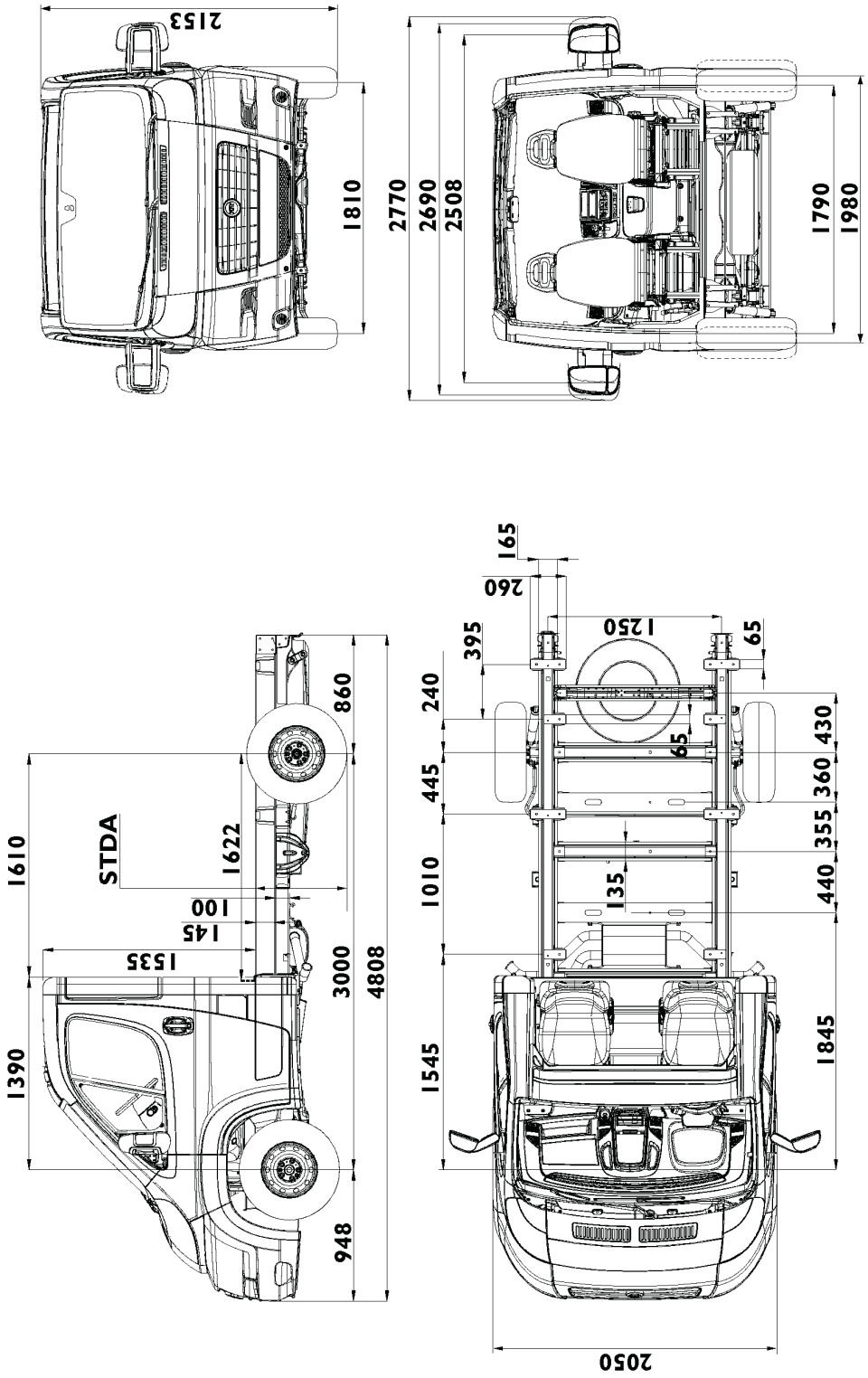




Sheet metal van – Extra-long overhang H2 / H3

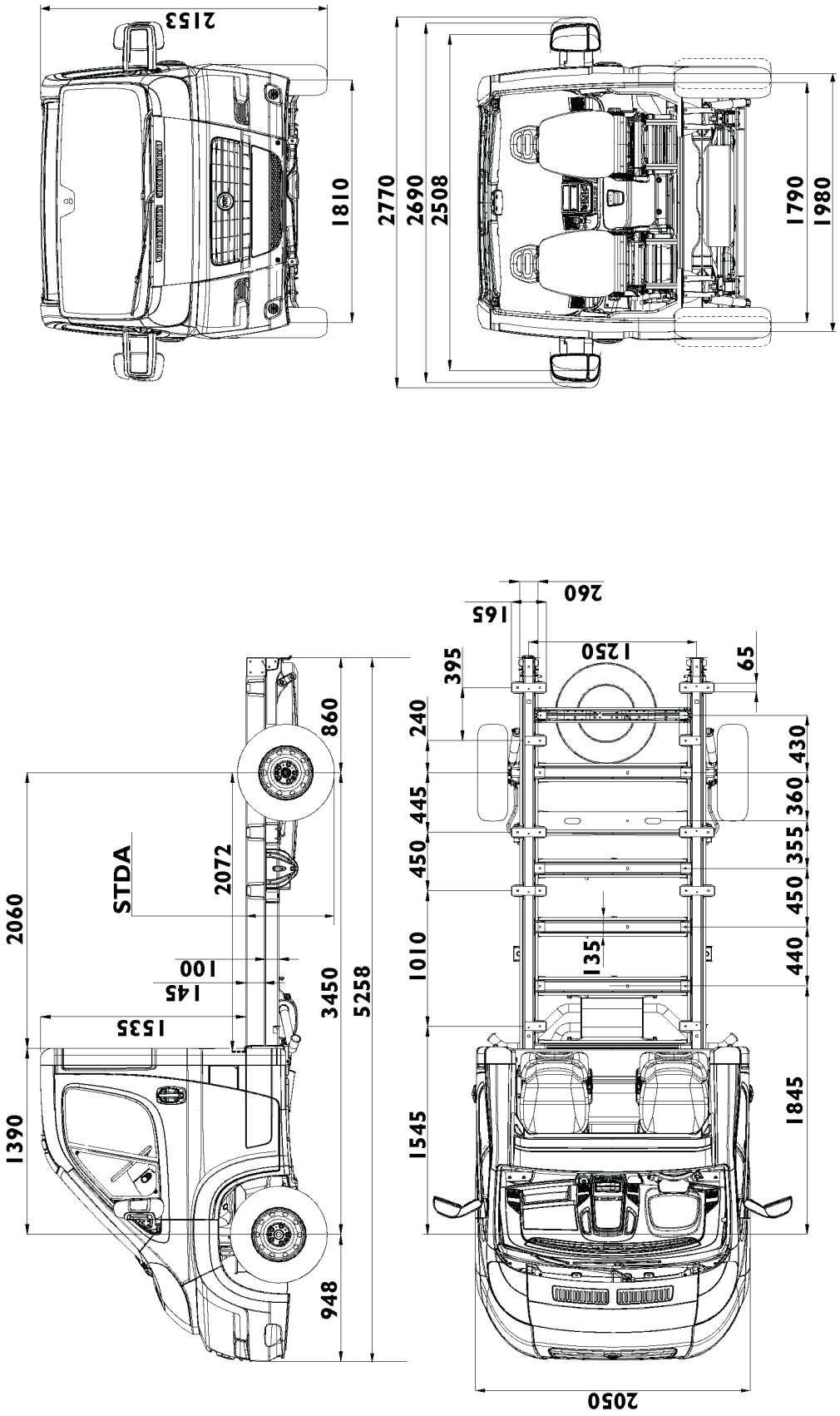


Short wheelbase chassis cab



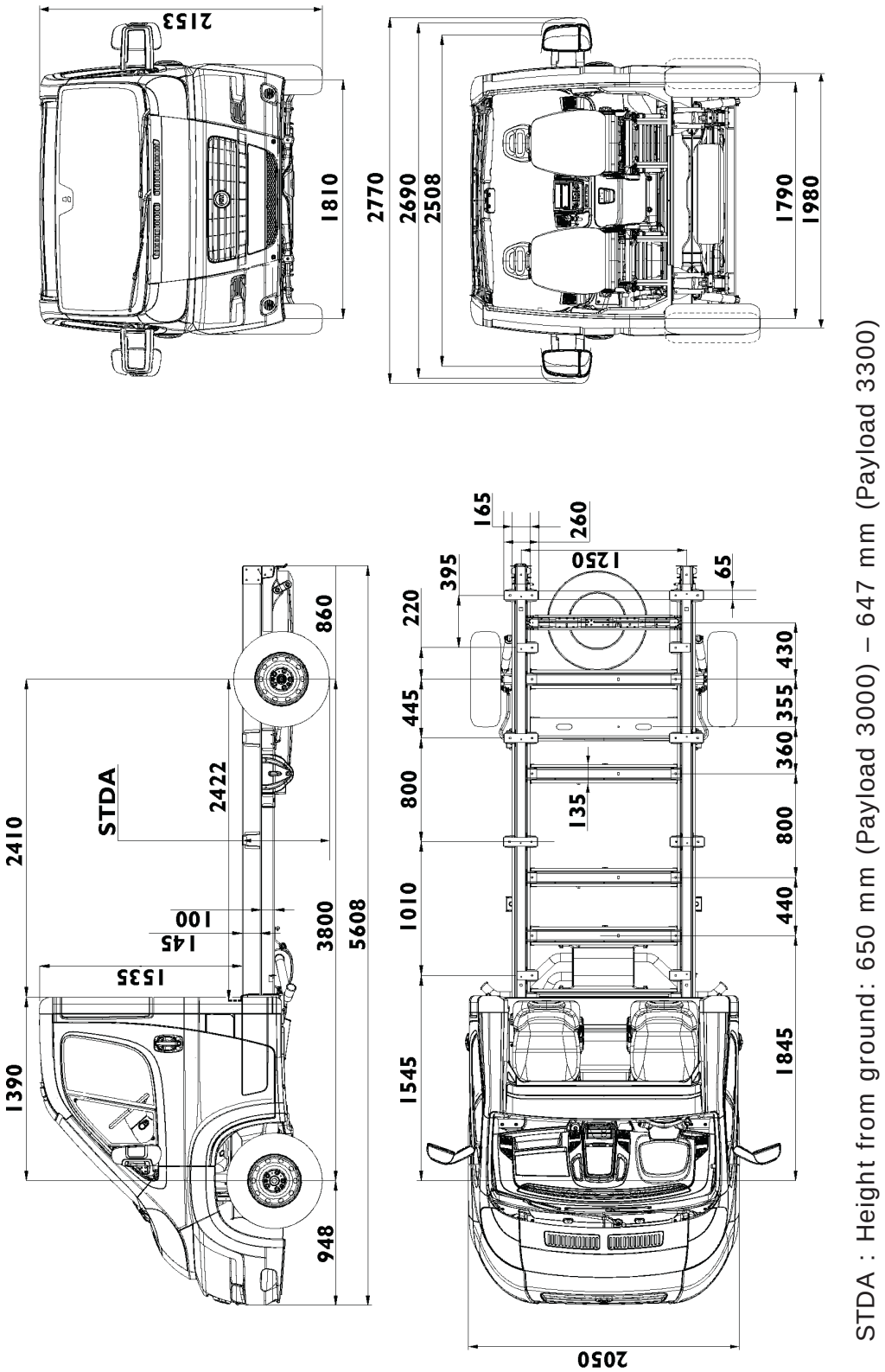
STDA: Height from ground: 650 ± 3 mm

Medium wheelbase chassis cab



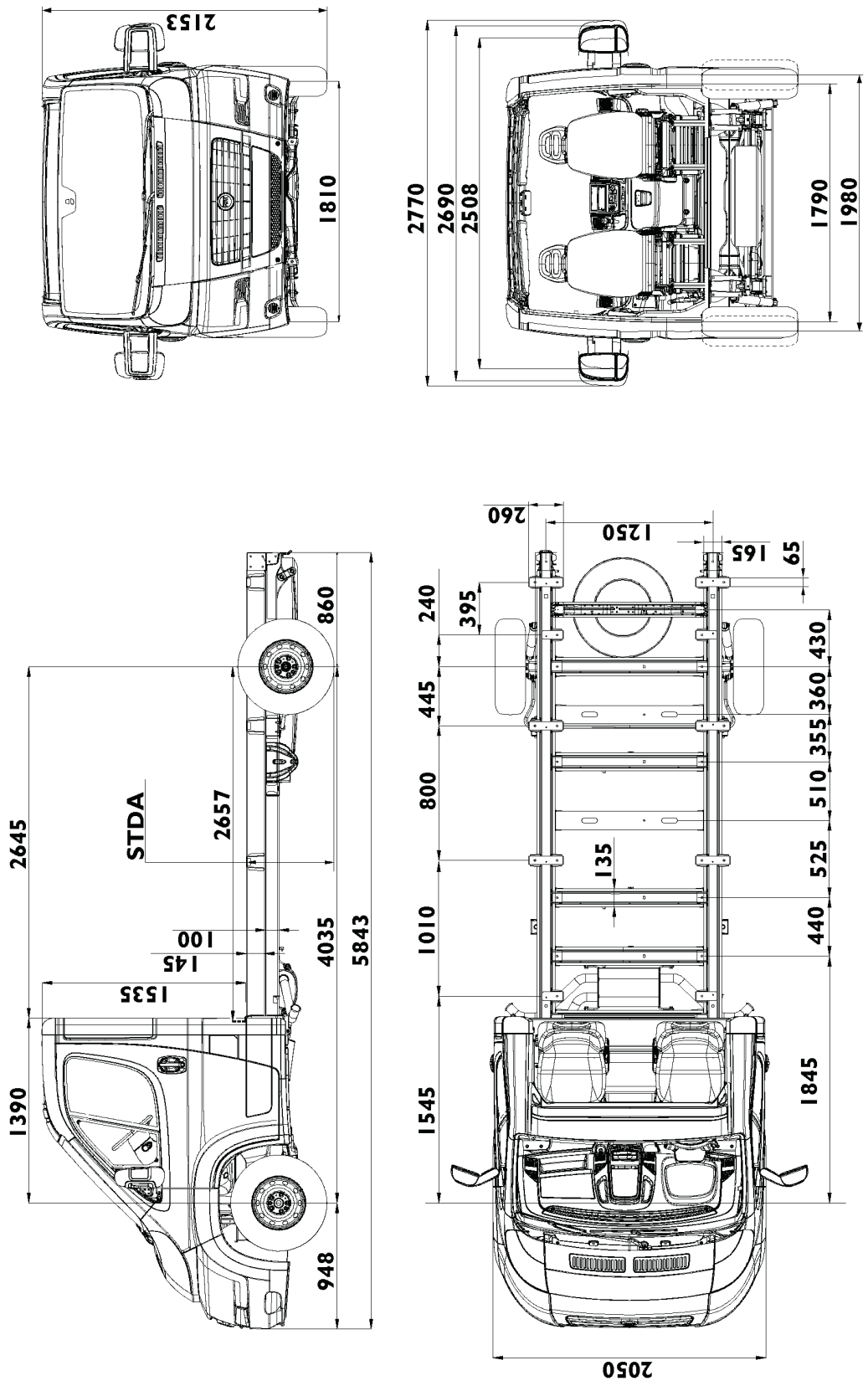
STDA: Height from ground: 646 ± 3 mm

Medium-long wheelbase chassis cab



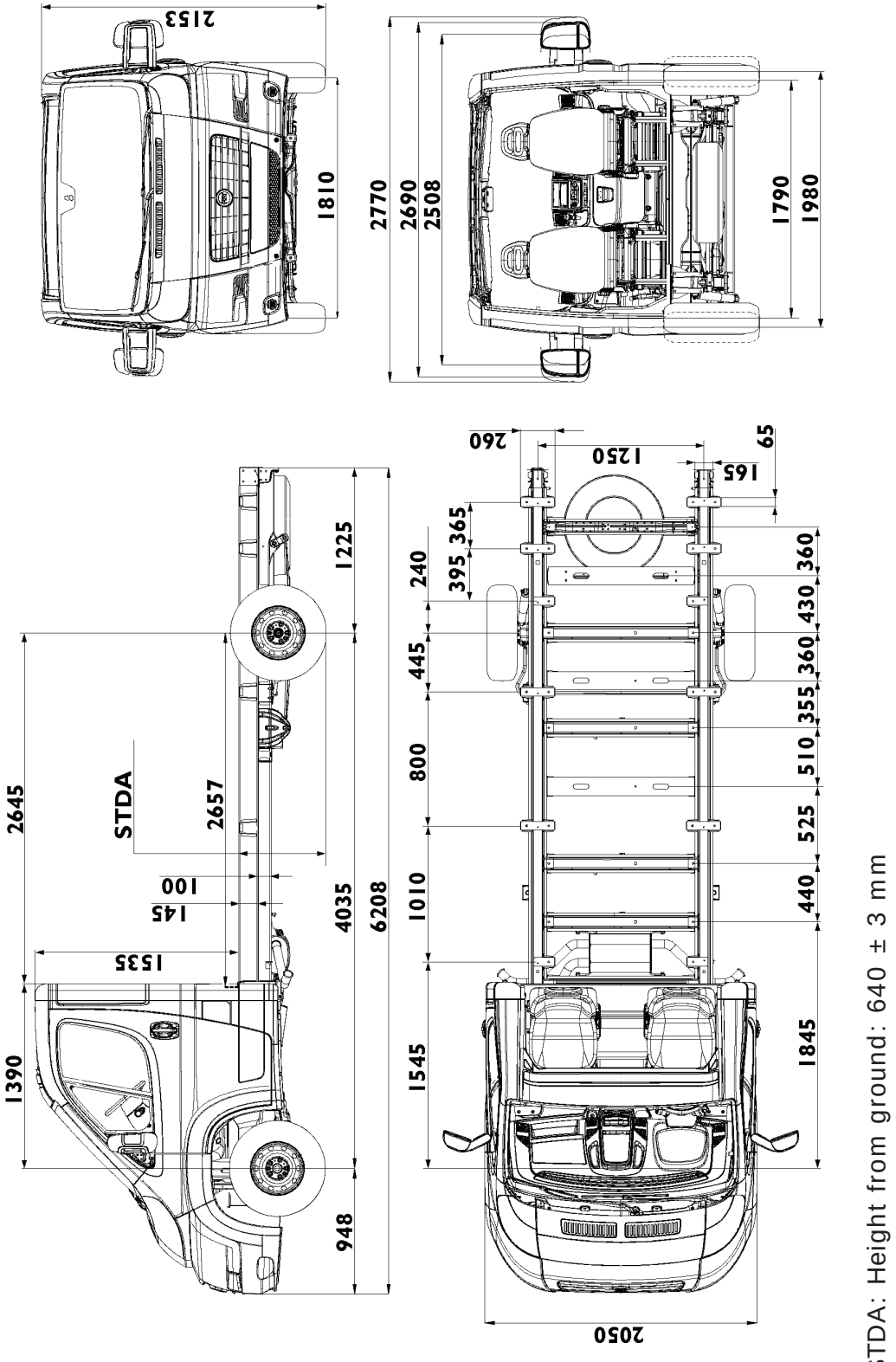
STDA : Height from ground: 650 mm (Payload 3000) – 647 mm (Payload 3300)
645 mm (Payload 3500)

Long wheelbase chassis cab



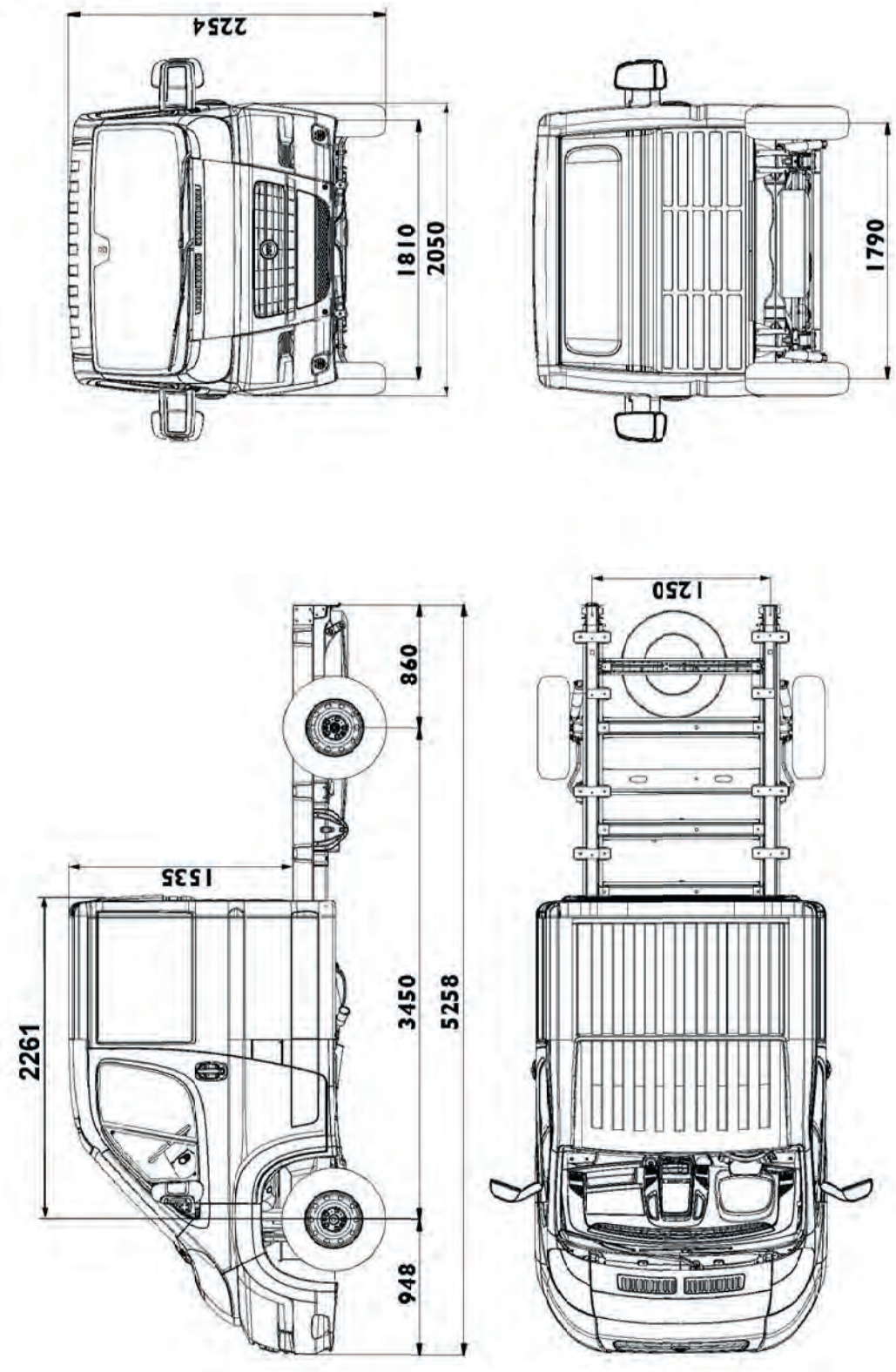
STDA: Height from ground: 642 ± 3 mm

Extra-long overhang chassis cab

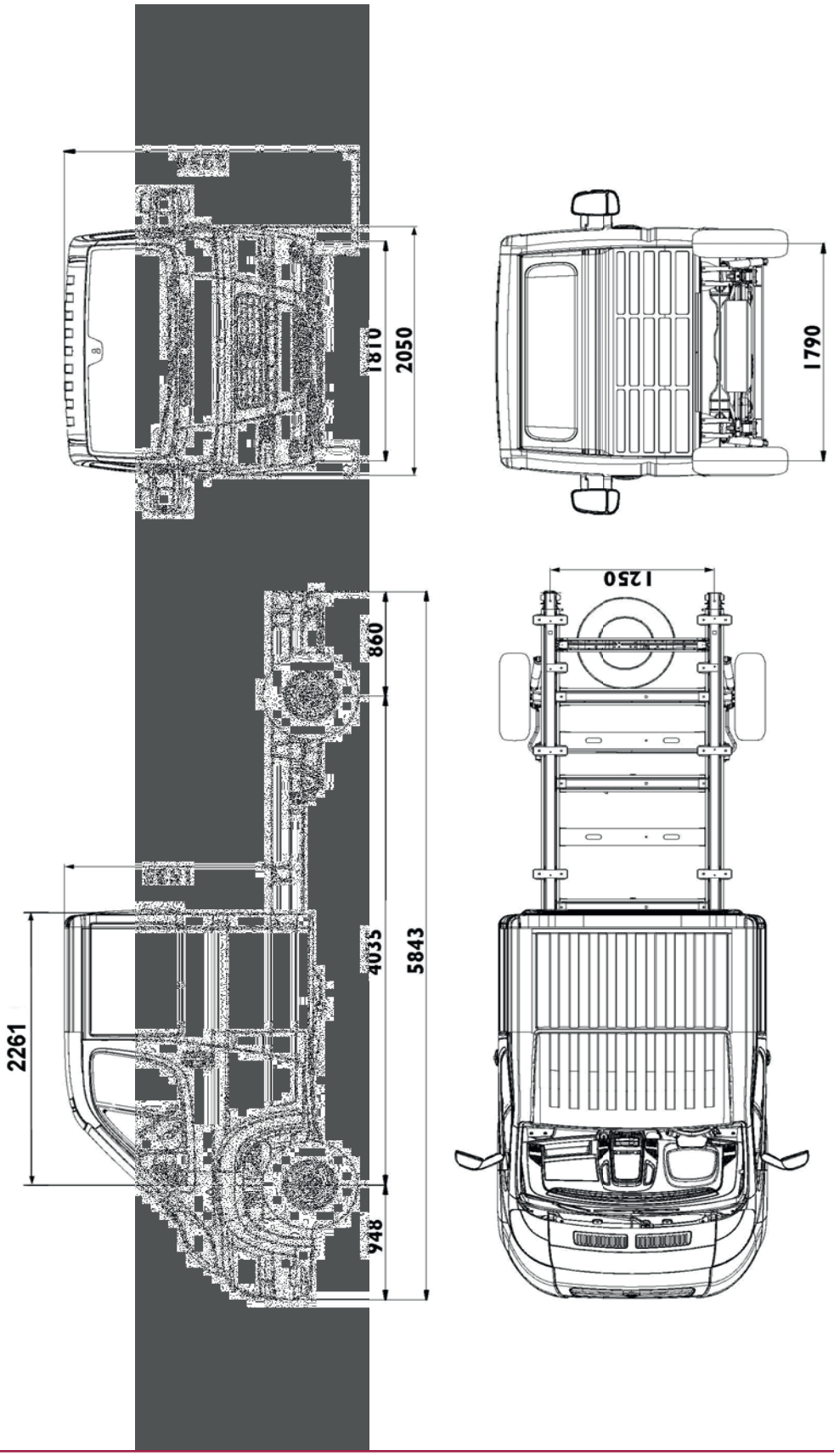


STDA: Height from ground: 640 ± 3 mm

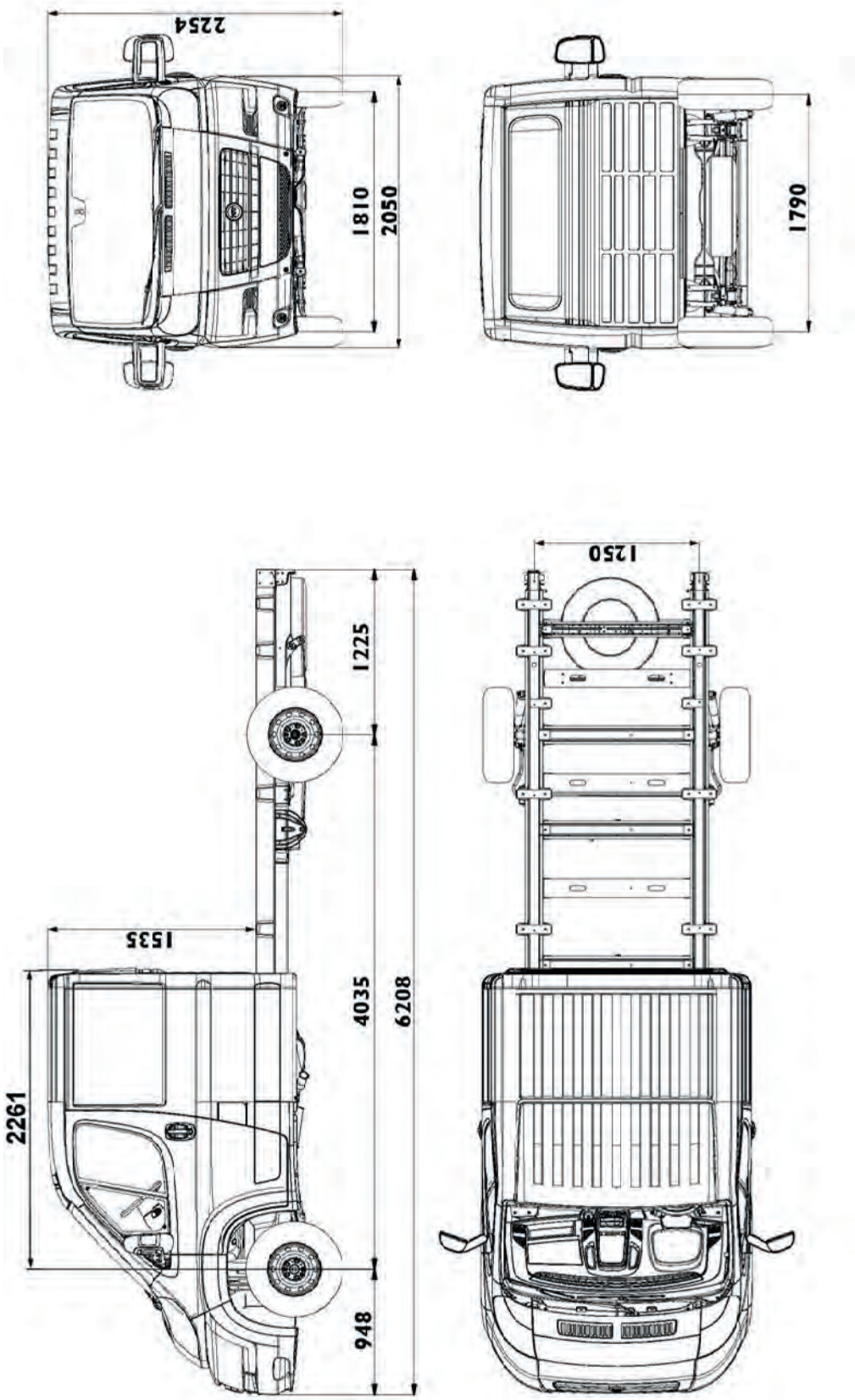
Double cab medium wheelbase chassis cab



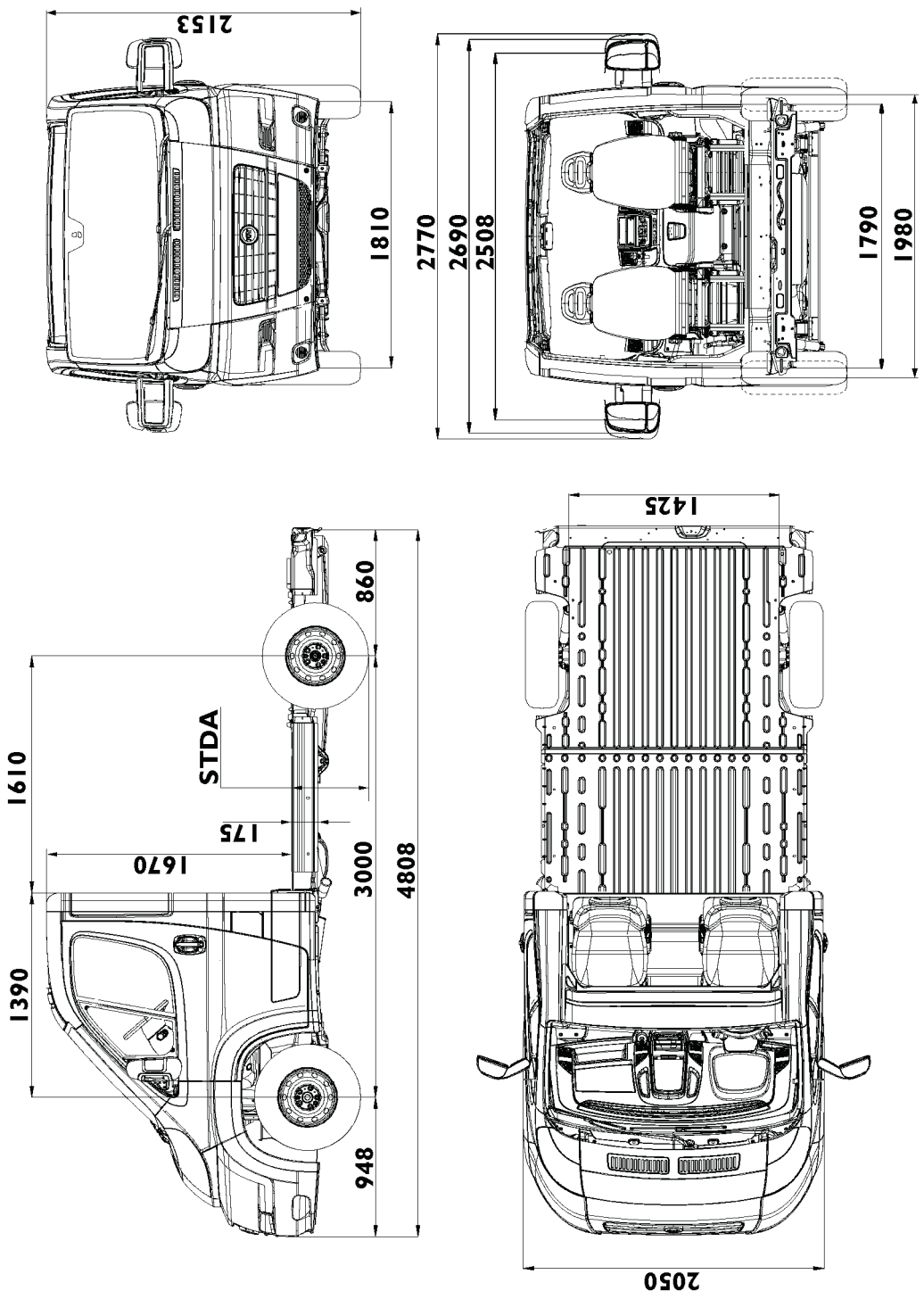
Double cab long wheelbase chassis cab



Double cab extra long overhang chassis cab

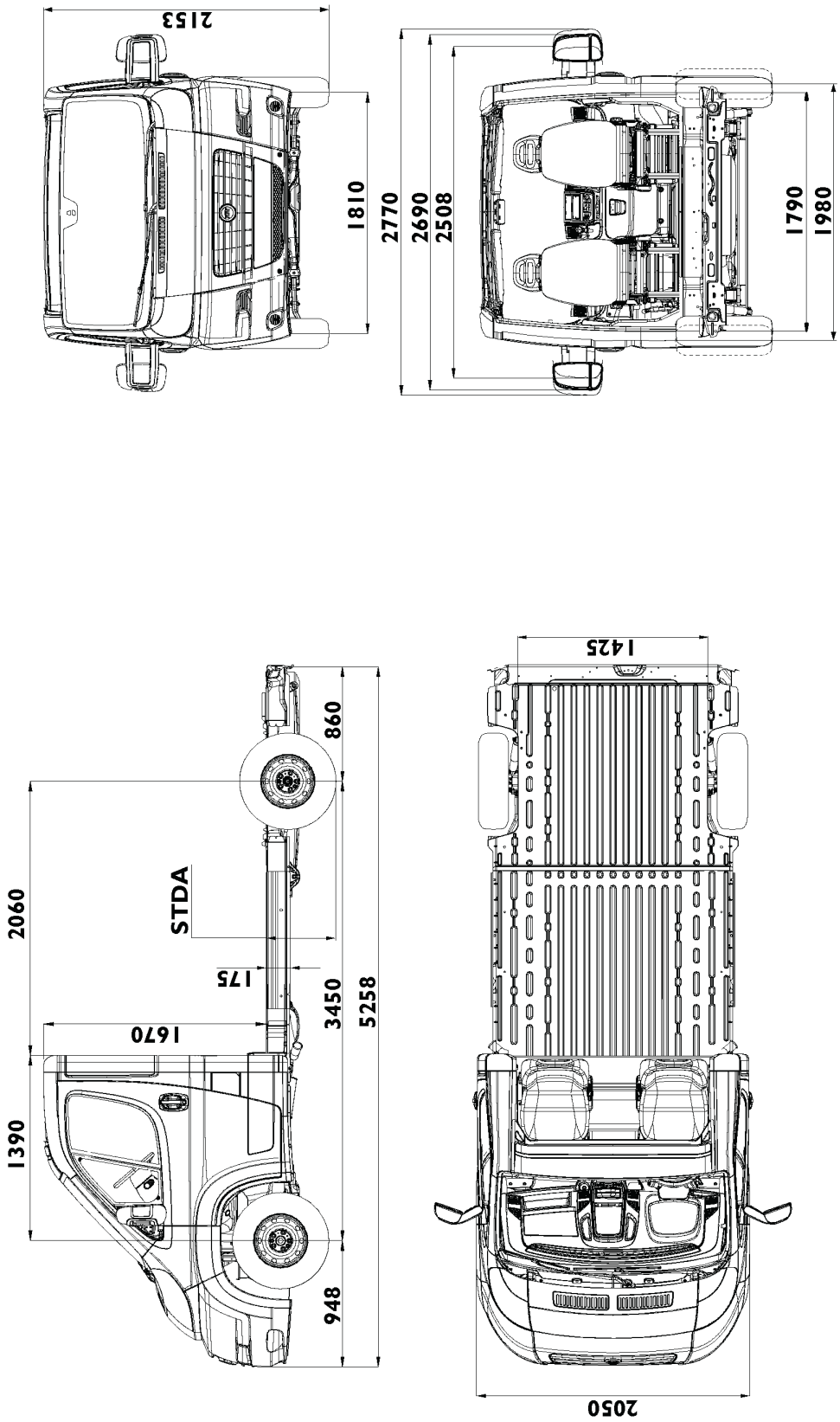


Short wheelbase chassis cab with platform



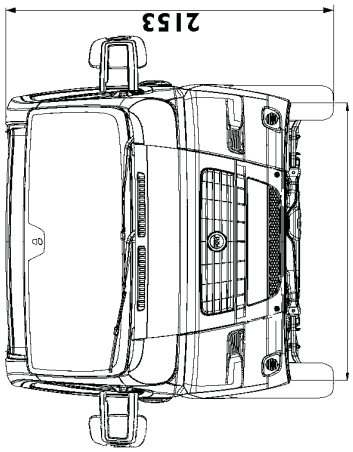
STDA: Height from ground: 536 ± 1 mm

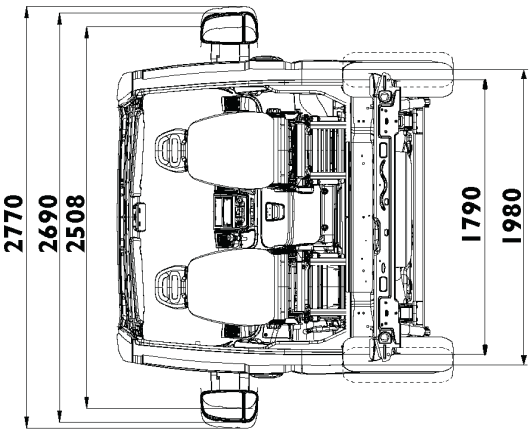
Medium wheelbase chassis cab with platform

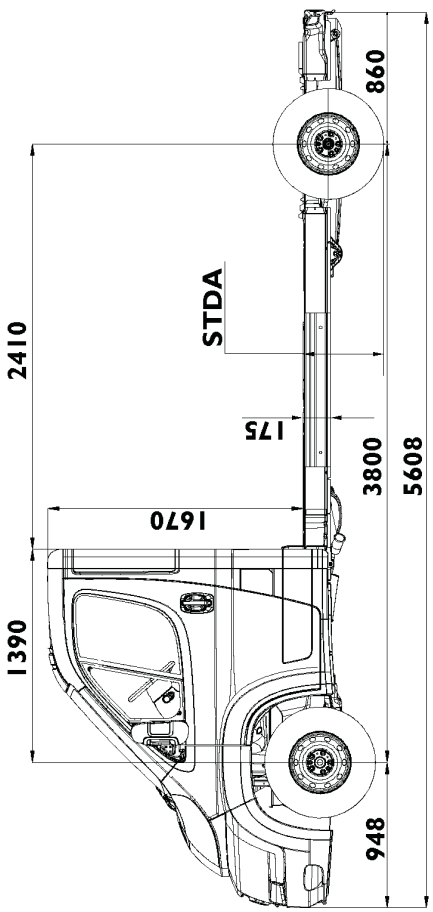


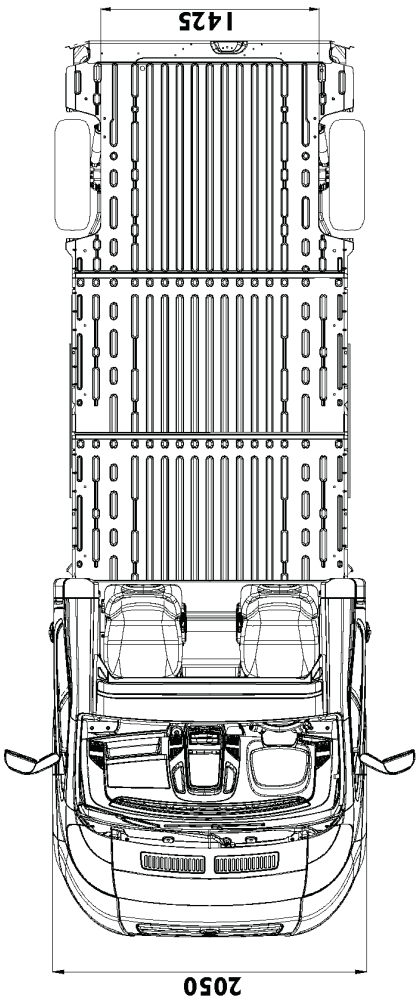
STDA: Height from ground: 545 mm (Payload 3000)

Medium-long wheelbase chassis cab with platform



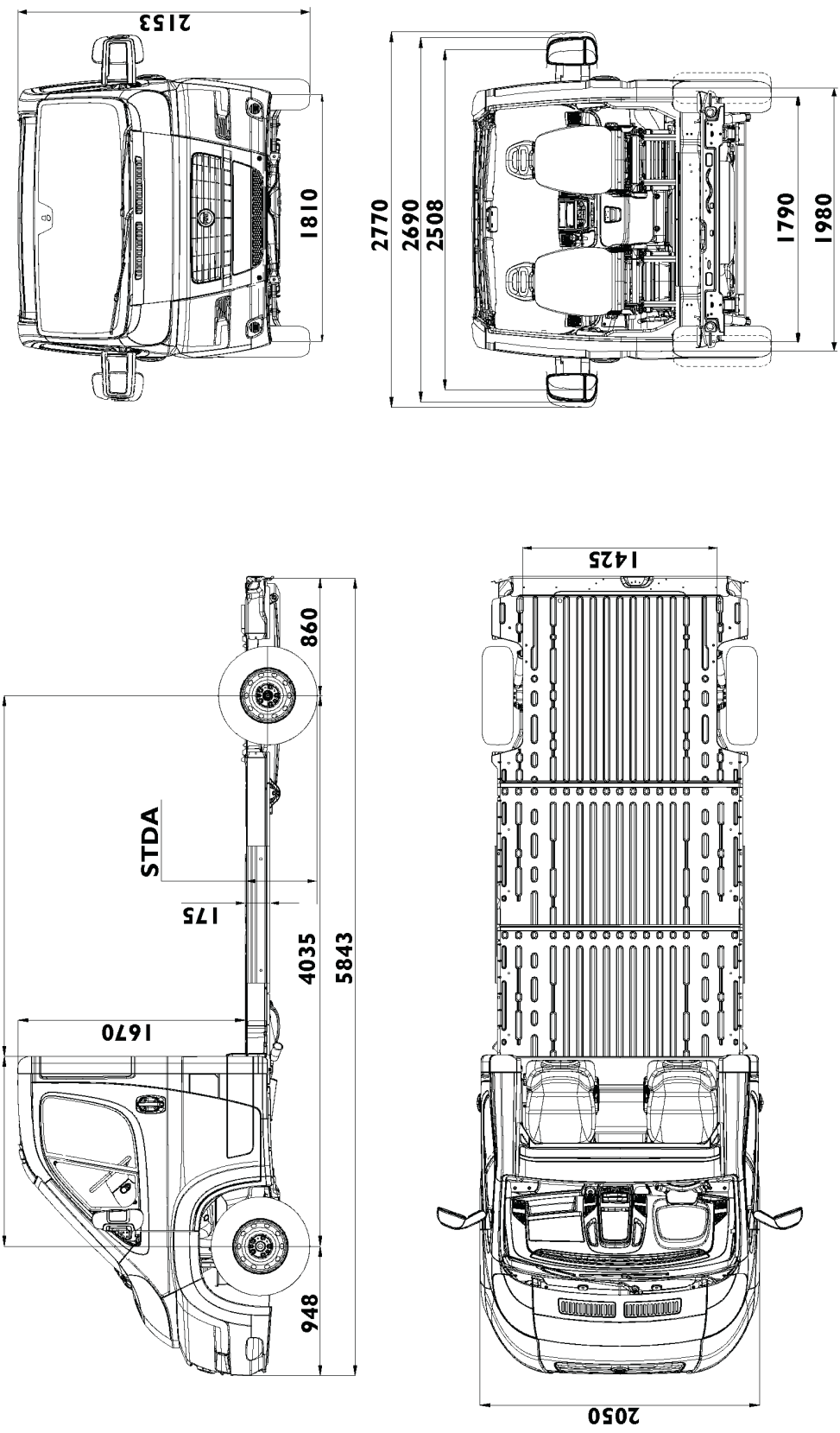






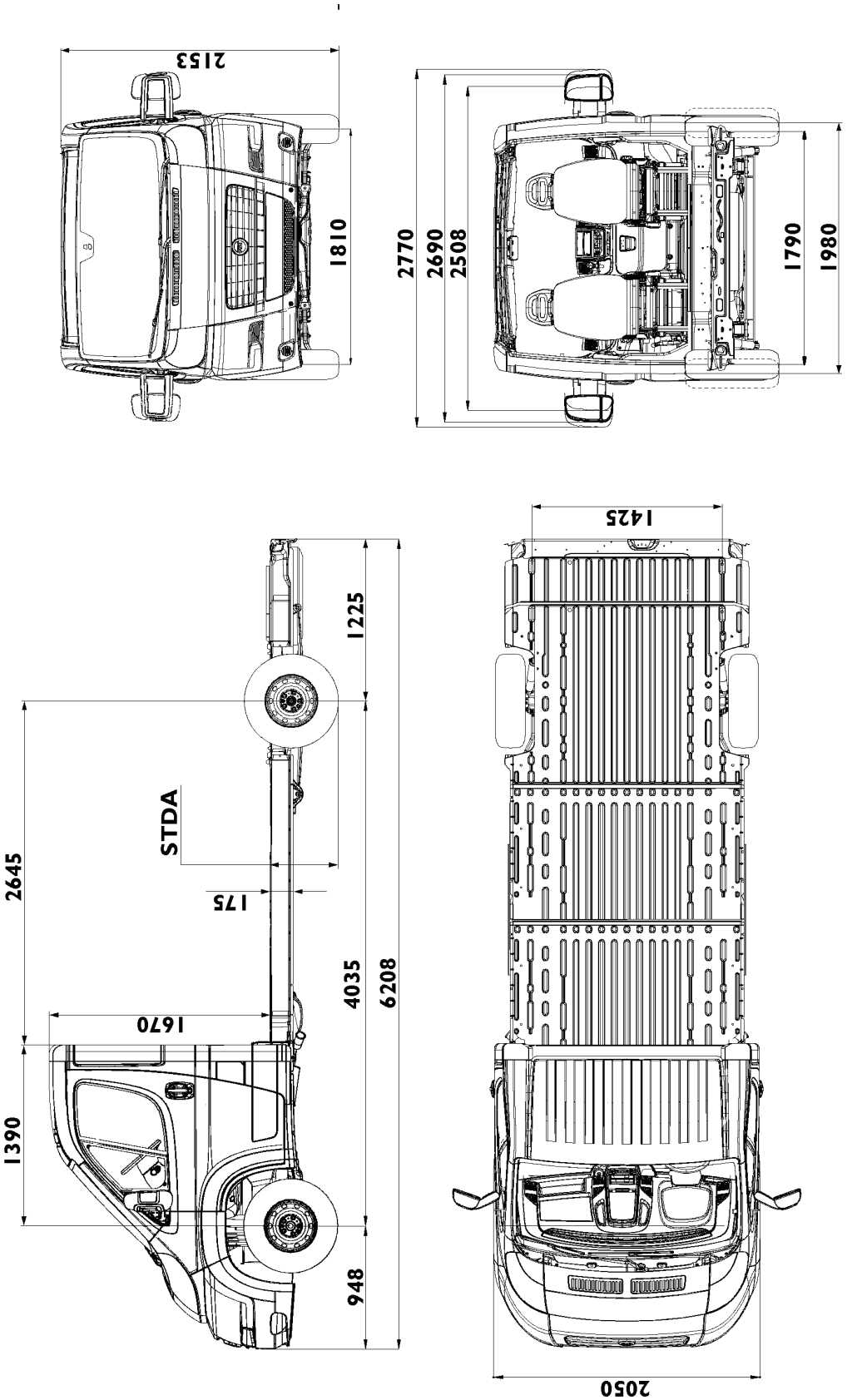
STDA: Height from ground: 550 mm (Payload 3000)
521 ± 1 mm (Payload 3300 and 3500)

Long wheelbase chassis cab with platform



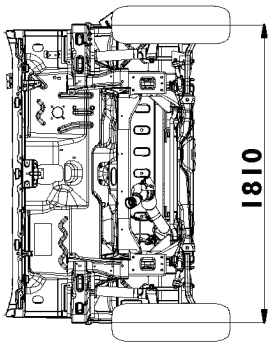
STDA: Height from ground: 518 ± 2 mm

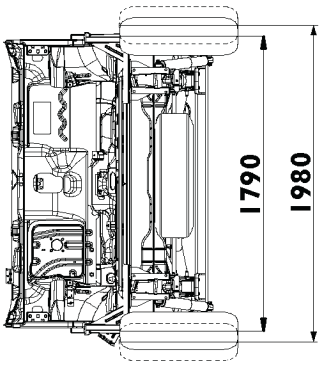
Extra-long overhang chassis cab with platform

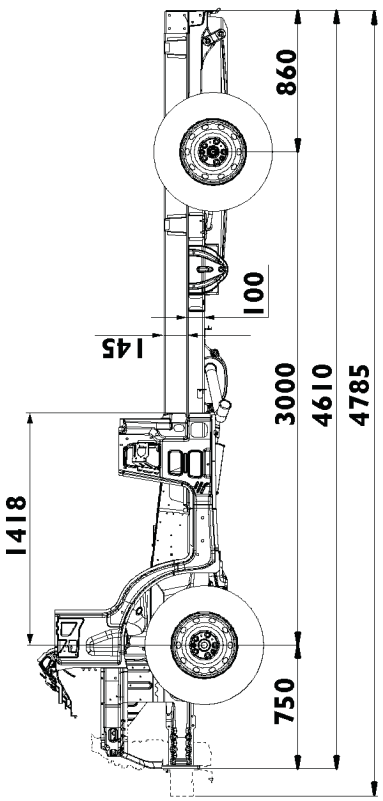


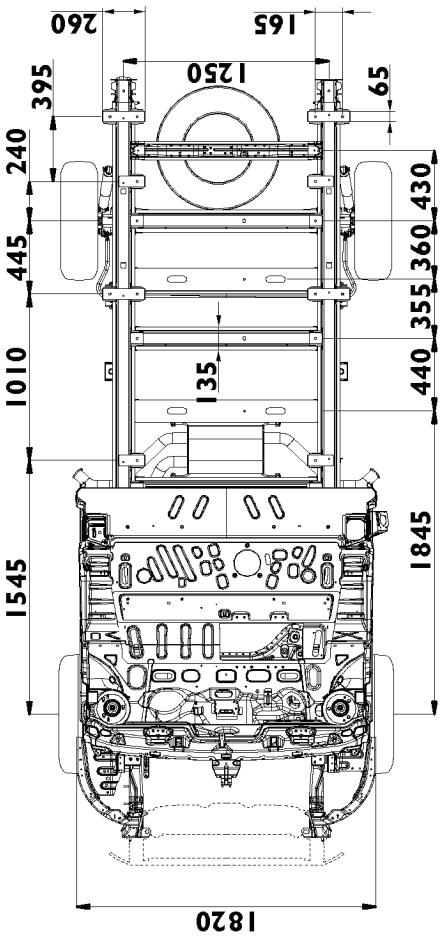
STDA: Height from ground: 521 ± 1 mm

Short wheelbase basic chassis

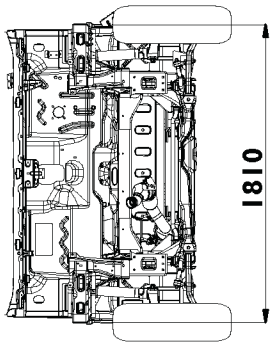


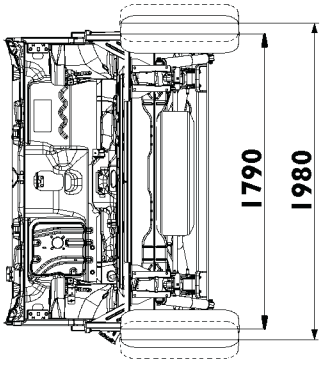


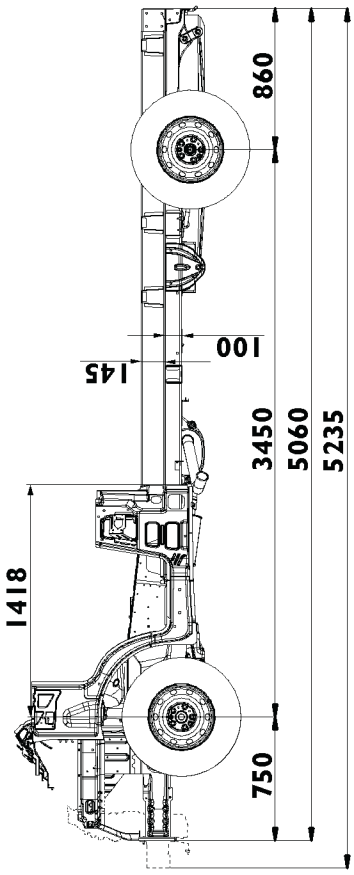


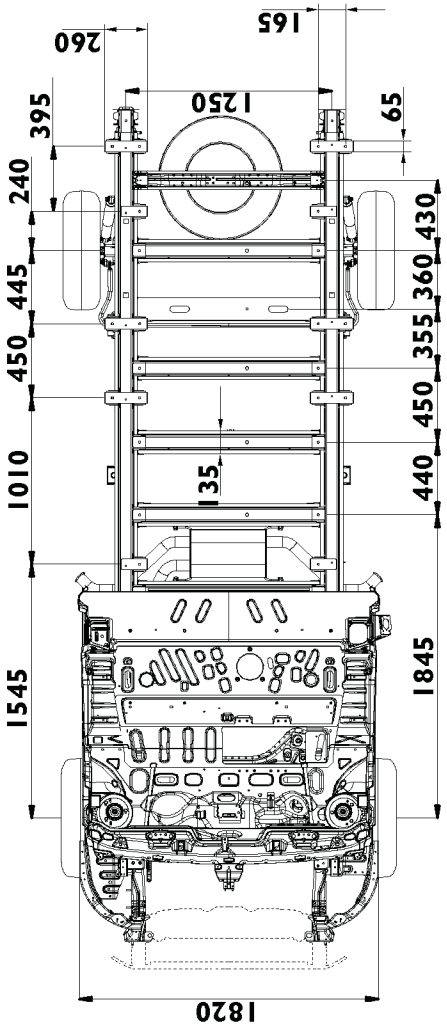


Medium wheelbase basic chassis

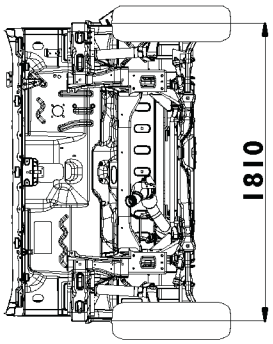


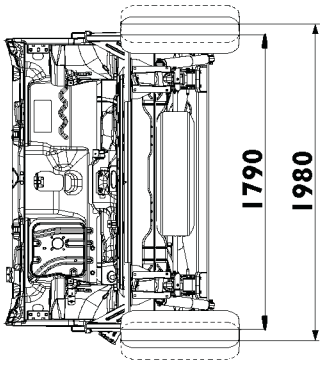


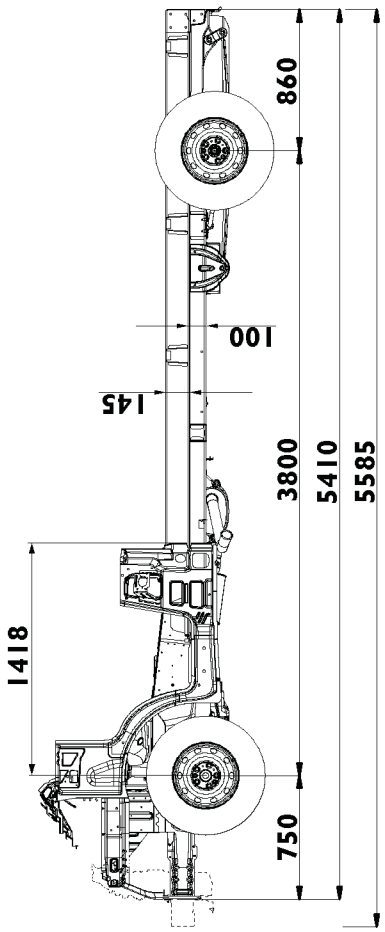


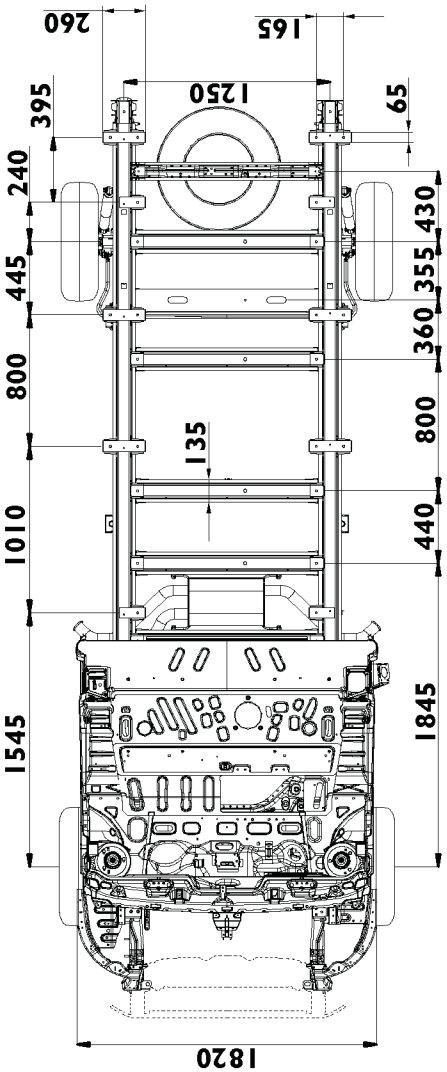


Medium-long wheelbase basic chassis

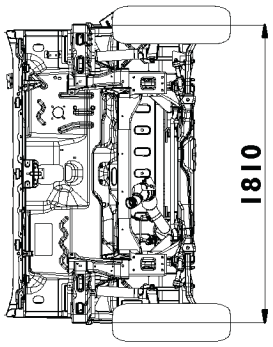


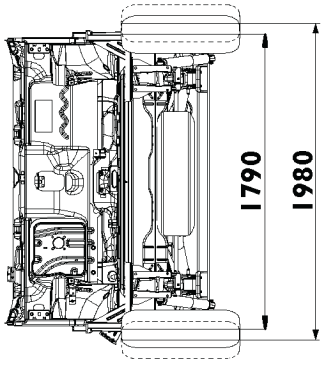


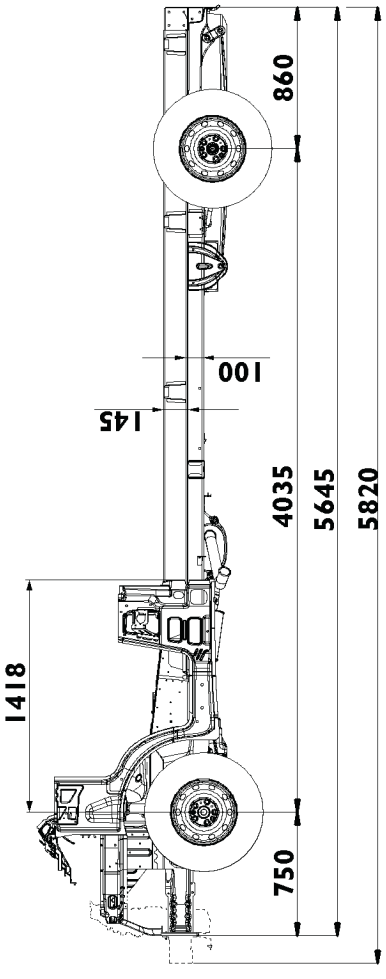


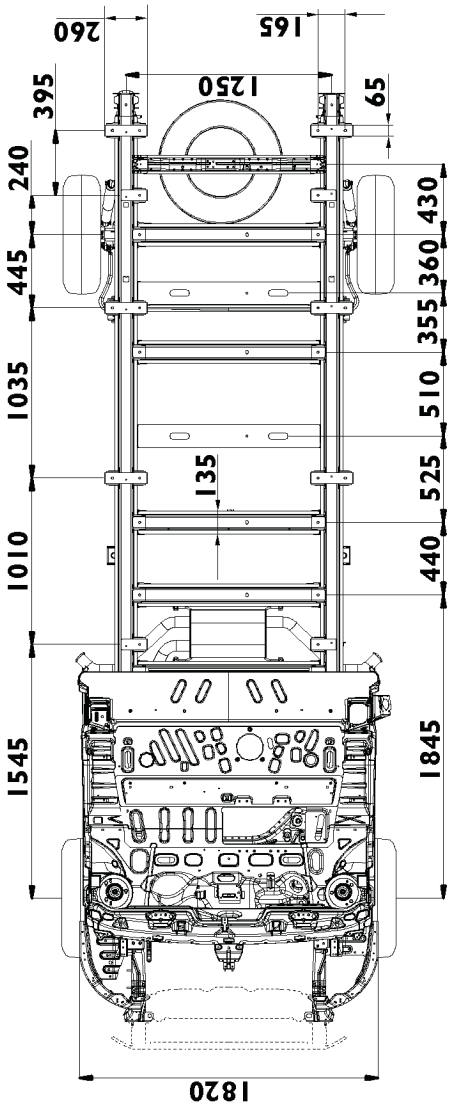


Long wheelbase basic chassis

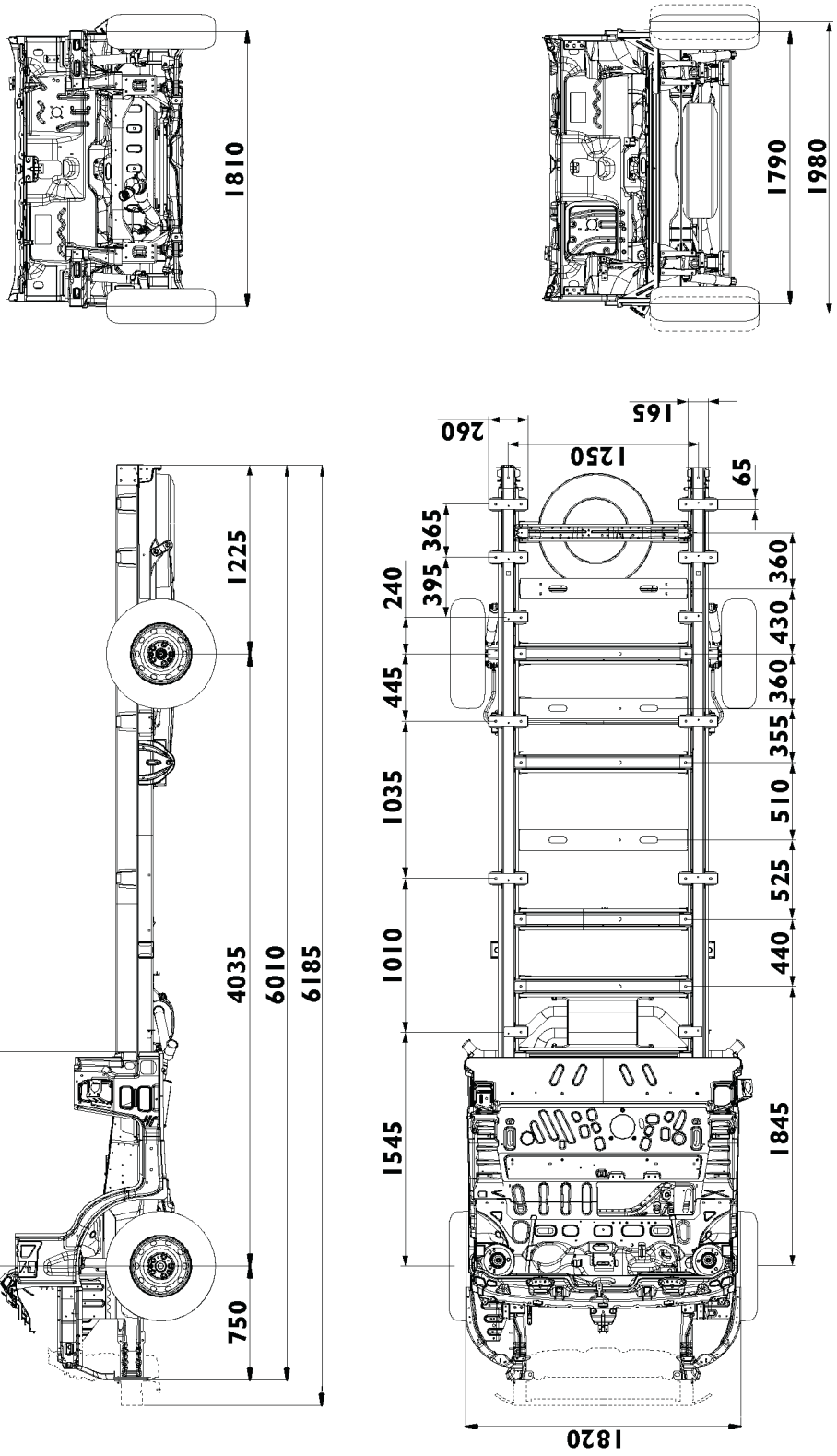




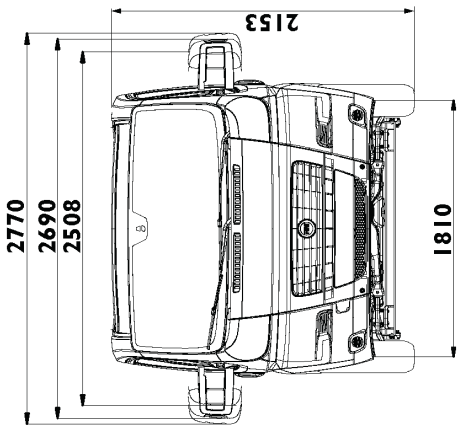


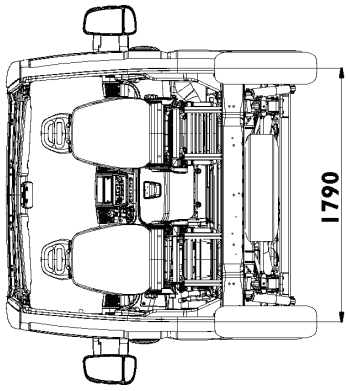


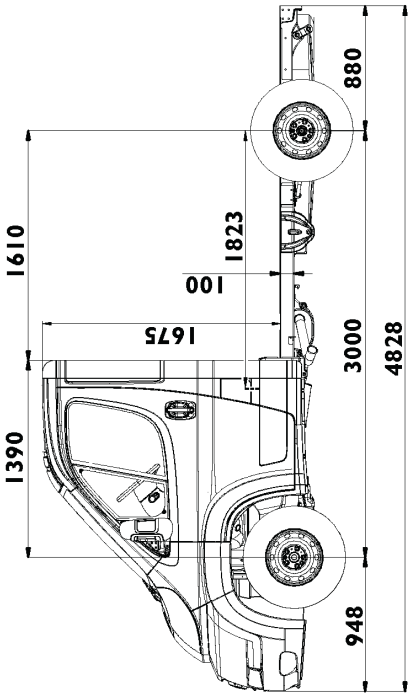
Extra-long overhang basic chassis

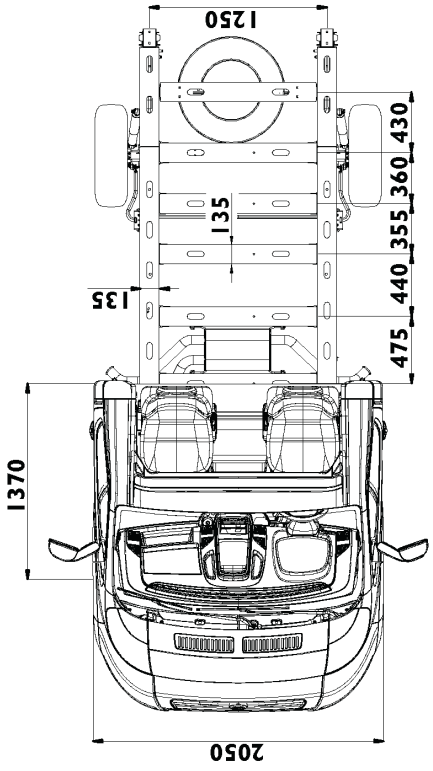


Short wheelbase special chassis cab

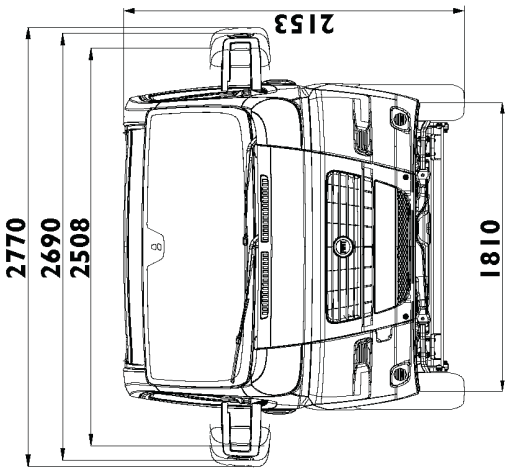


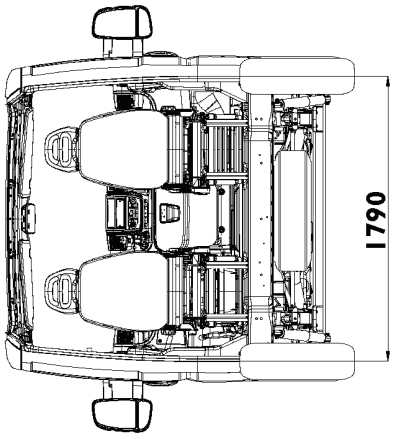


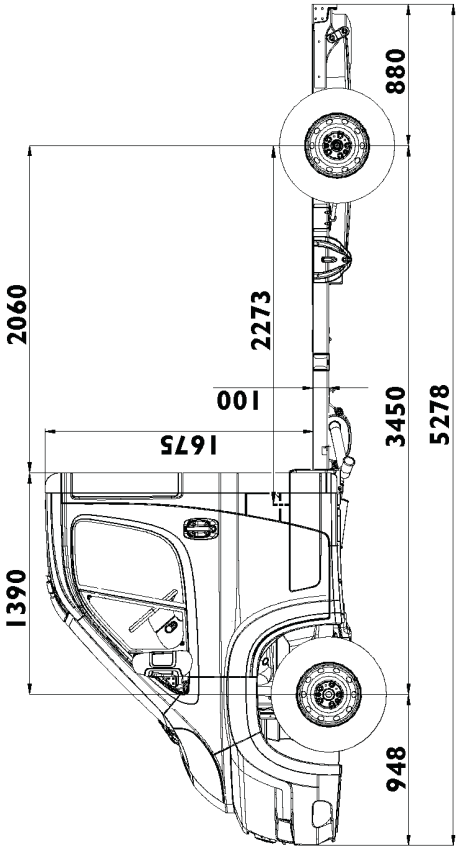


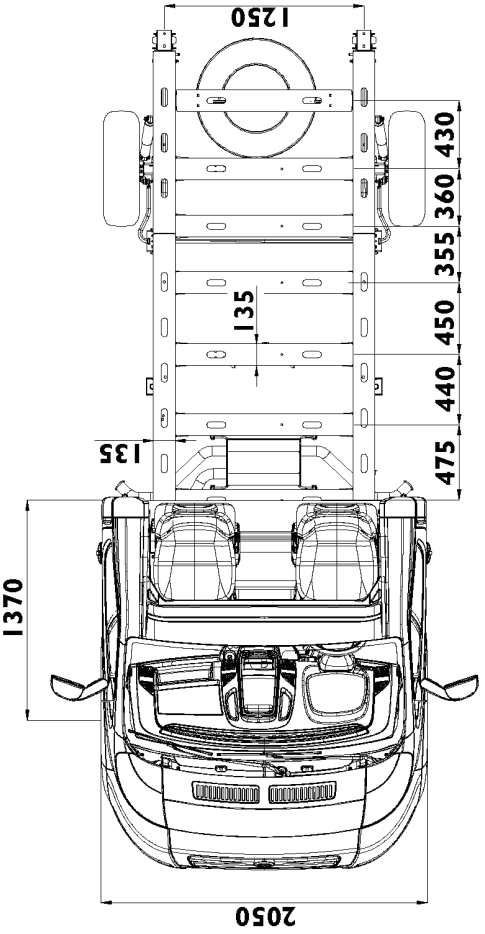


Medium wheelbase special chassis cab

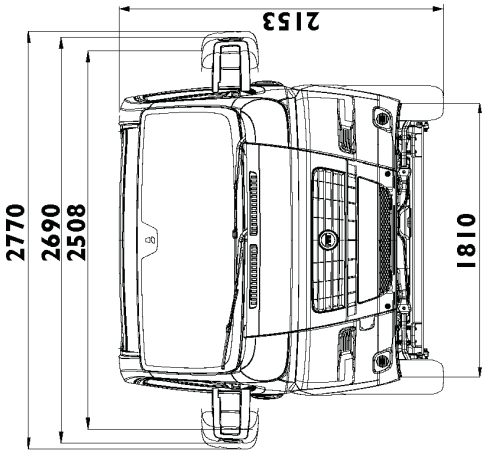


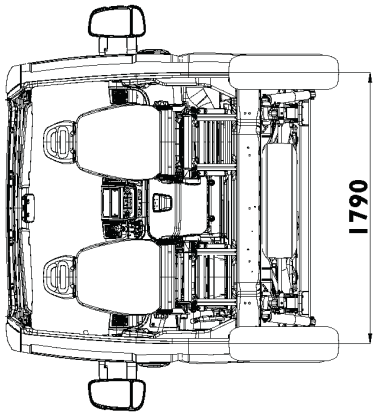


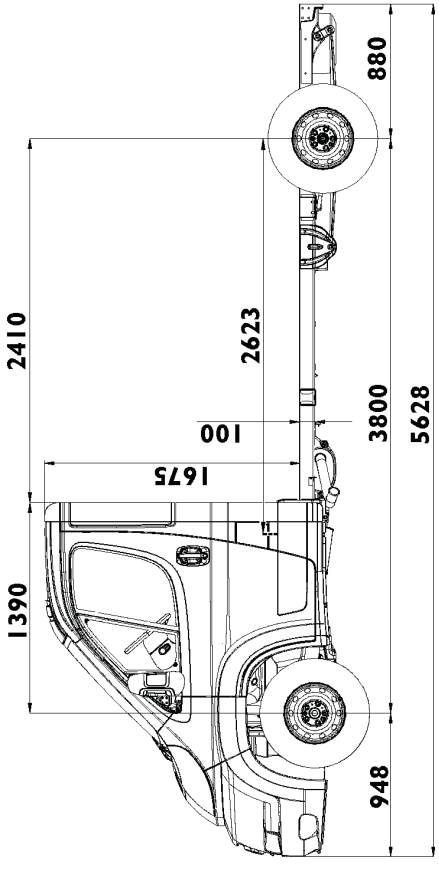


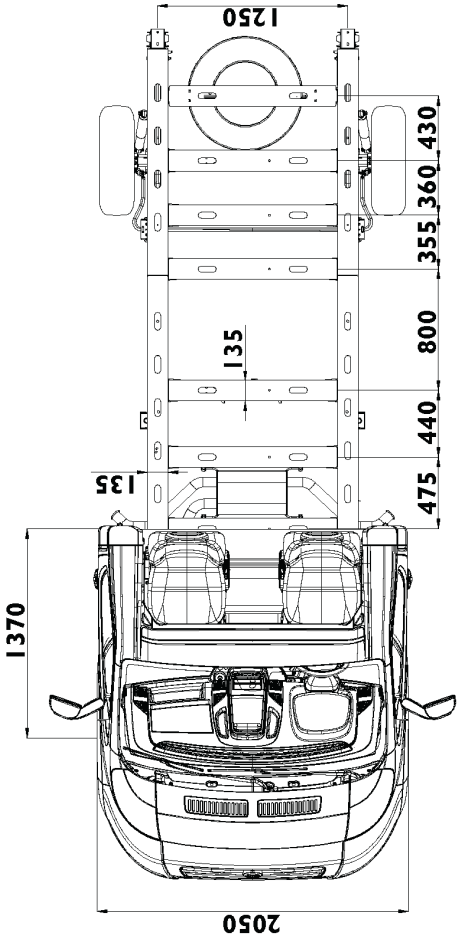


Medium-long wheelbase special chassis cab

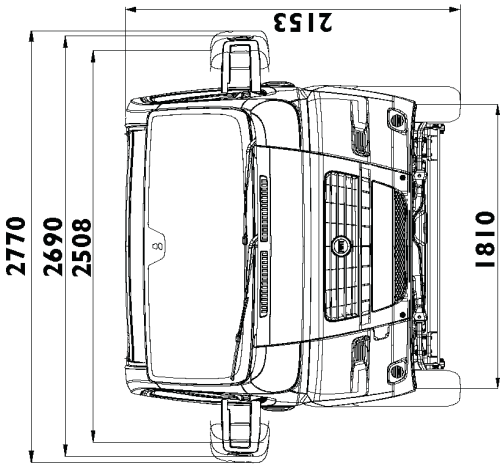


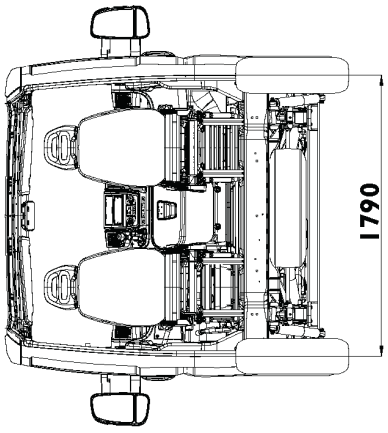


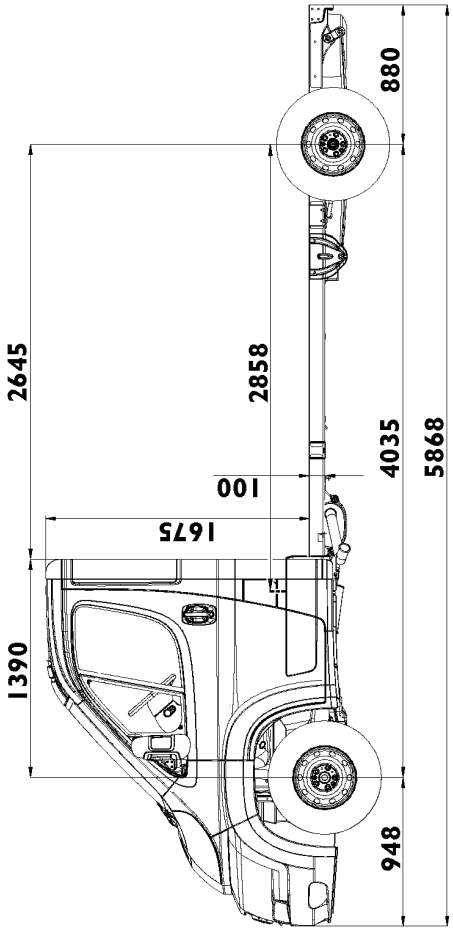


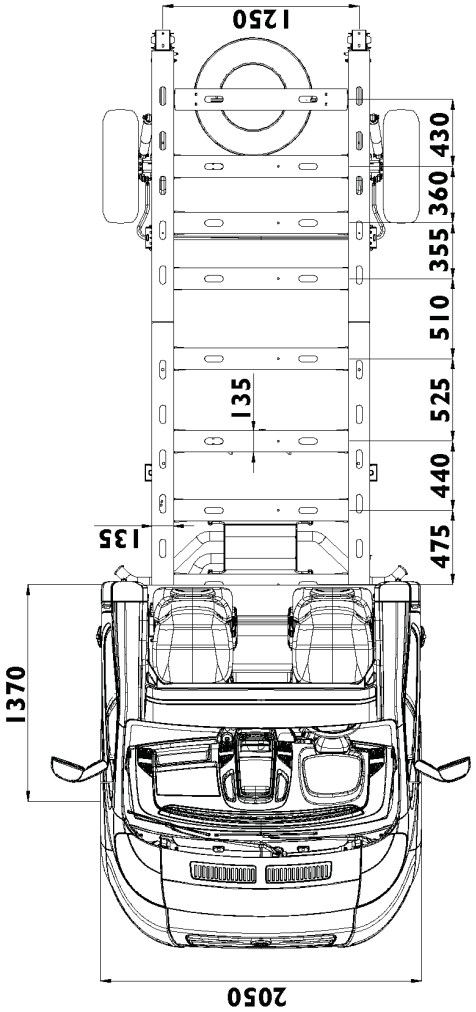


Long wheelbase special chassis cab

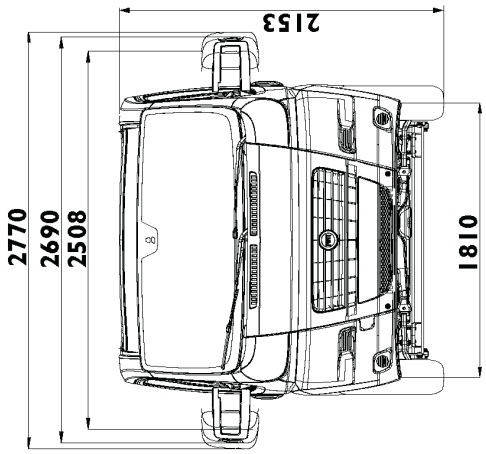


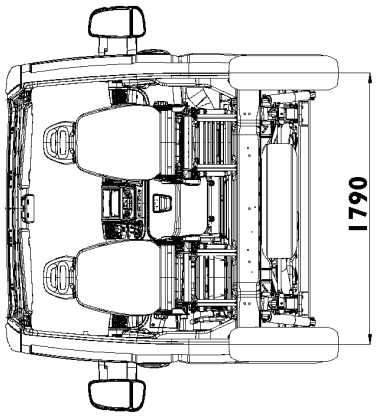


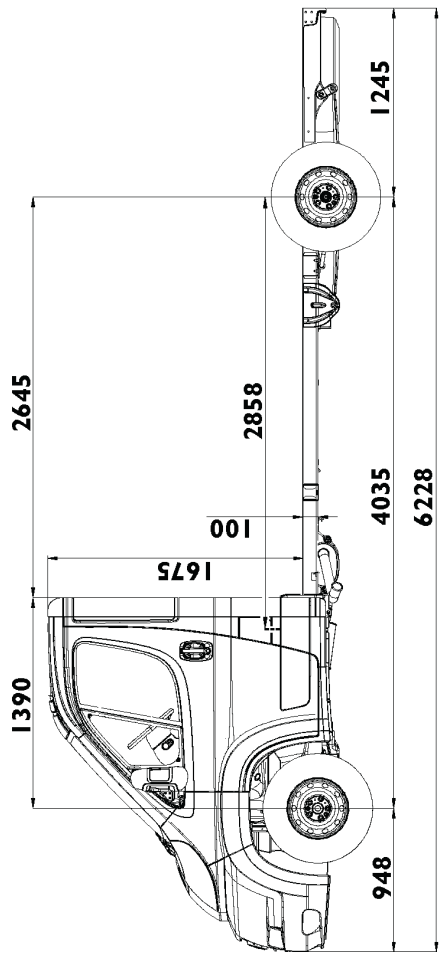


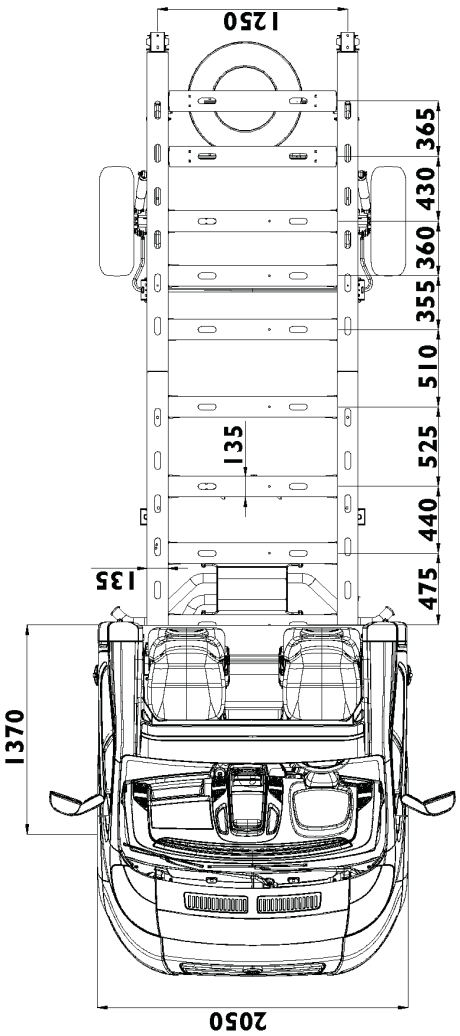


Extra-long overhang special chassis cab

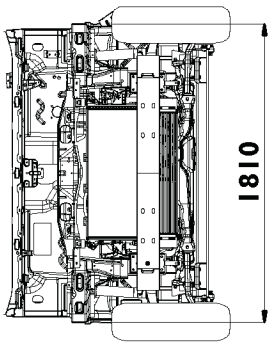


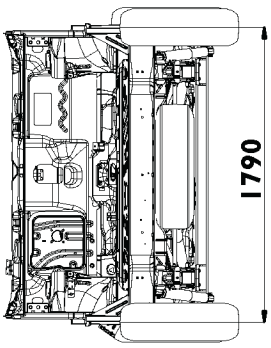


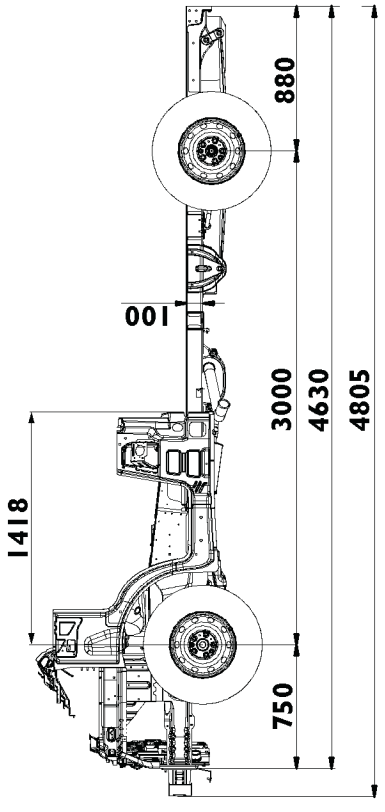


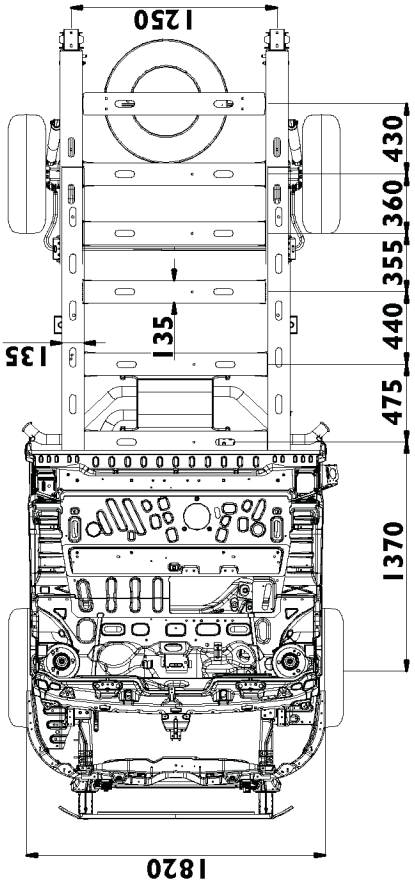


Short wheelbase special basic chassis

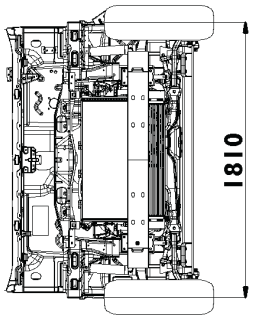


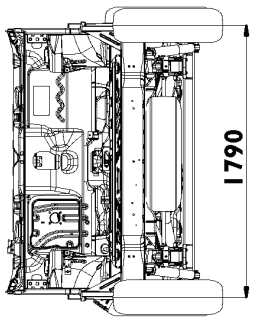


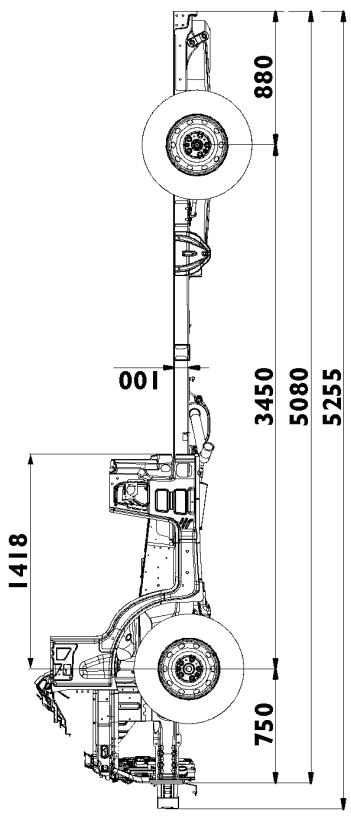


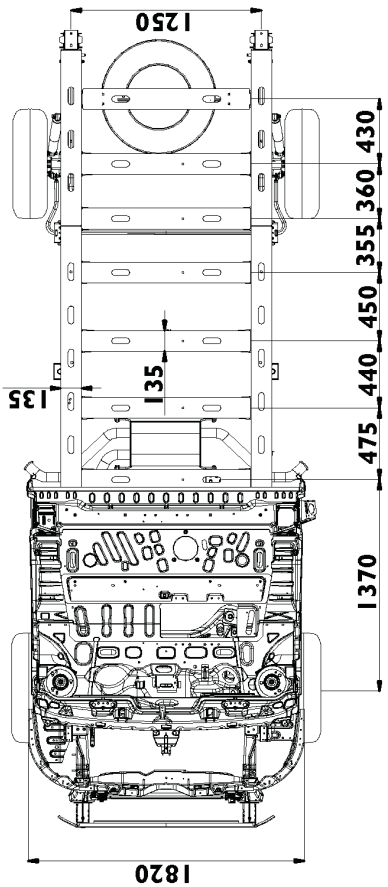


Medium wheelbase special basic chassis

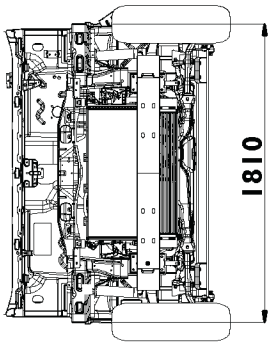


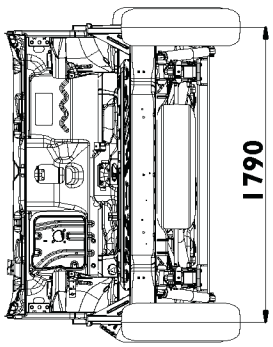


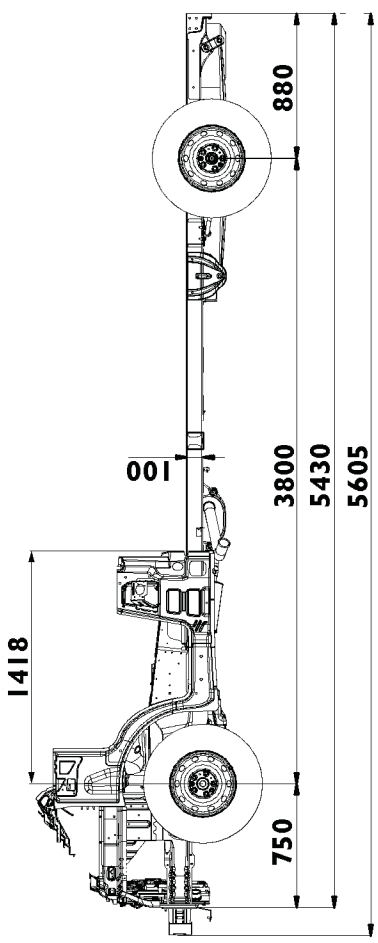


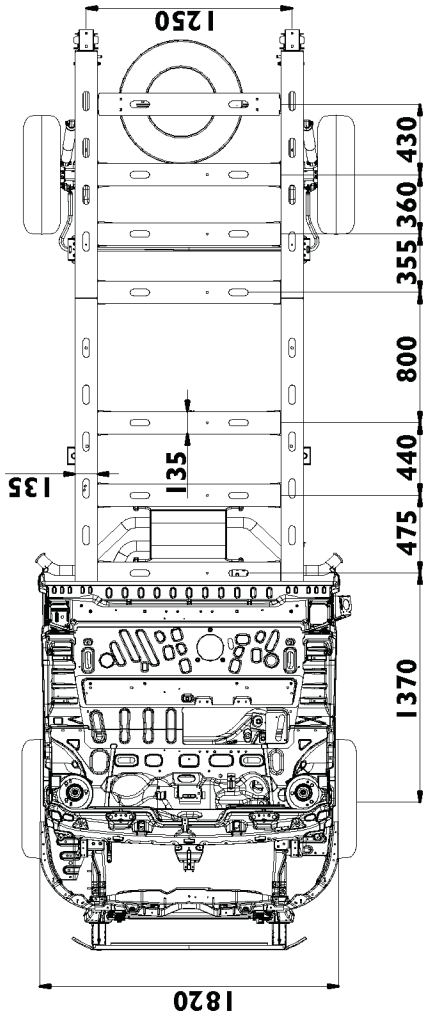


Medium-long wheelbase special basic chassis

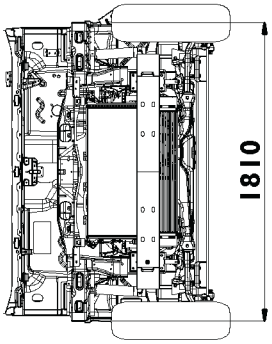


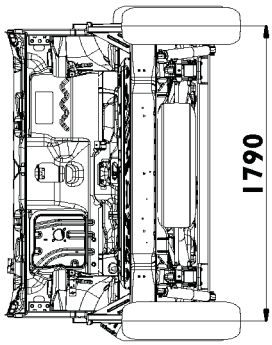


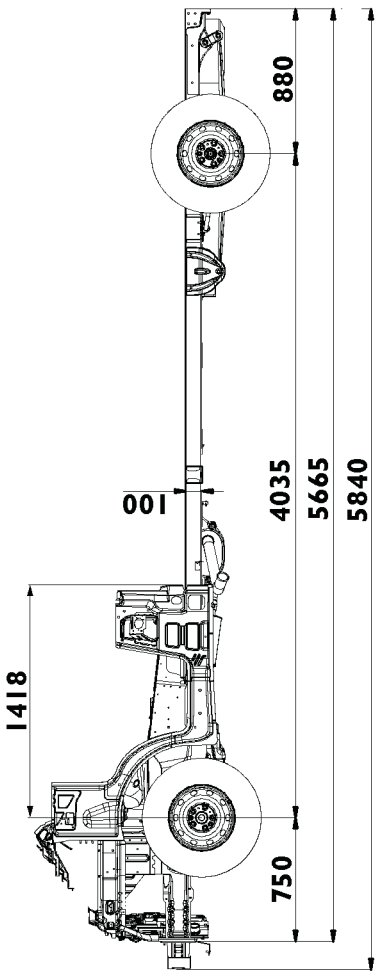


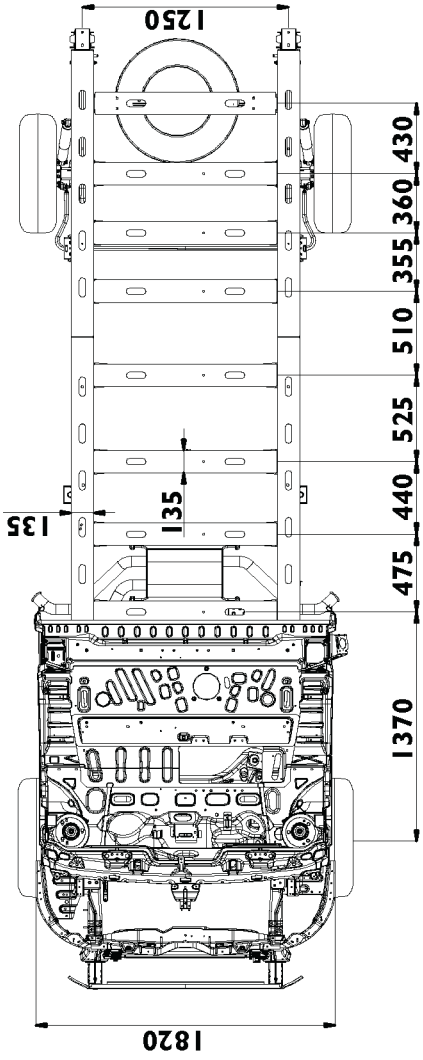


Long wheelbase special basic chassis









Extra-long overhang special basic chassis