

2021.01.11
v1.1

MOUNTING
INSTRUCTION

EXTENDABLE UNDERRUN BAR

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Terberg Techniek B.V. is registered by:

- ▶ Lloyds Register – Quality Assurance; ISO9001 & ISO14001
- ▶ RDW registered manufacturer of vehicles, Terberg Techniek B.V.

REVISION HISTORY

Revision	Page(s)	Remark
1.1	15, 16, 18	the quantity of the bolts and nuts has been changed

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CONTACT

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E infobaarlo@terbergtechniek.nl

EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

CE-MARKING



Perform the installation only as intended and in accordance with the regulations and instructions contained in this manual. In case of any doubt in its usage, contact Terberg Techniek

This machine has been provided with a CE-marking. This means that the extendable underrun bar complies with the applicable European directives. The enclosed Declaration of Conformity indicates which guidelines these are. We assume that you, your employees and others who use or get in contact with the machine are aware of how the machine should be handled. This includes the correct use, maintenance and repair of the machine as described in this user manual. This includes that workers are familiar with the use of machines through training or experience.

Disclaimers:

Terberg Techniek B.V. excludes all liability for unsafe situations, accidents and damages as result of:

- ▶ Ignoring warnings or instructions as displayed on the extendable underrun bar or in this manual.
- ▶ Use for different applications or under different circumstances than those specified in this manual.
- ▶ Modifications to the extendable underrun bar. This also includes the using other than original spare parts.
- ▶ Inadequate maintenance.
- ▶ The unauthorized removal of safety or/and protective devices.
- ▶ The improper/incompetent use of the extendable underrun bar.

Terberg Techniek B.V. is not responsible for the consequential losses due to the malfunctions of the extendable underrun bar (for example to the products or production interruptions).

DECLARATION OF INCORPORATION RELATING TO INCOMPLETE MACHINES “according to appendix IIB of the Machine Guidelines”

Regarding to the machine regulations
We, Terberg Techniek B.V.
Terberg Techniek
Industrieweg 9–10.
3401MA IJsselstein
Nederland

We declare, under our own responsibility:

We are the manufacturers of the extendable underrun bar, available in the following instances:

- ▶ Hydraulic / mechanical / electrical
- ▶ Serialnumber: see typeplate

This statement relates to the:

- ▶ The extendable underrun bar is designed and constructed in accordance with the requirements of the UN Regulation 58.

The following harmonized standards have been applied:

- ▶ NEN-EN-ISO 12100
- ▶ NEN-EN 349
- ▶ NEN-EN-ISO 13857
- ▶ NEN-EN 953
- ▶ NEN-EN 4413

EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

HOW TO USE THIS MANUAL

Assembly must be mounted in accordance with the instructions of **Terberg Techniek B.V.**

All parts must be identified prior to assembly. Carry out the installation and service carefully and professionally. Follow the instructions.

Please note that the vehicle manufacturer's instructions and any frame reinforcements must be taken into account. Have the customer keep all directions and instructions in the vehicle so that they are available for future service and maintenance. Category "G" has different mounting positions than those listed in the table on page 7.

Terberg Techniek B.V. reserves the right to make construction changes. No rights, nor a claim can be derived in any way from printing and/or typing errors are made on the content.



Install the extendable underrun bar according to this document!

Prior to assembly all parts must be identified and inspected. Carry out installation and service carefully and professionally. Follow the instructions.

Please note that the vehicle manufacturer's instructions and any frame reinforcements must be taken into account.

Have the customer keep all directions and instructions in the vehicle so they are available for future service and maintenance.

For more information, visit our website www.terbergtechniek.nl.



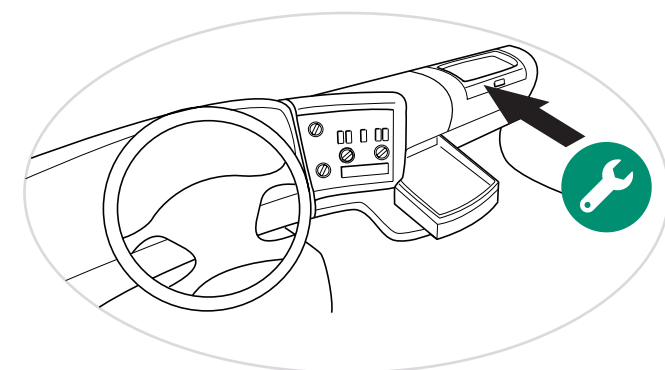
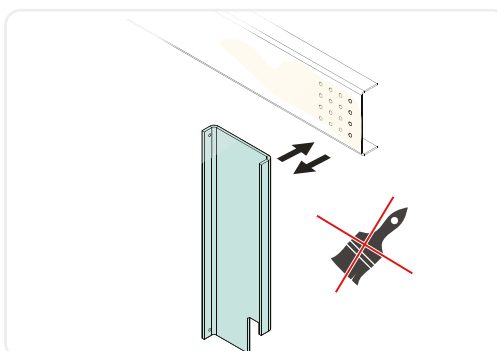
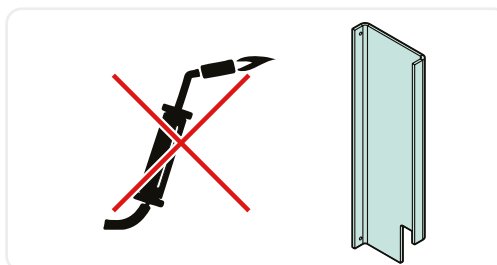
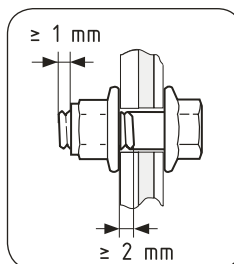
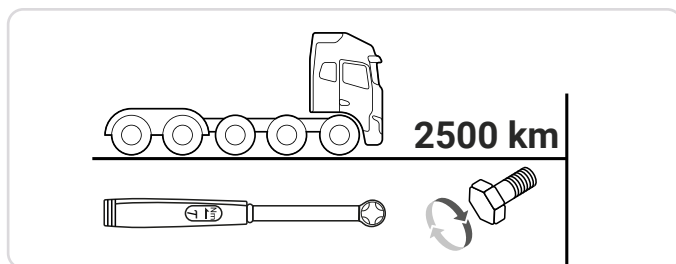
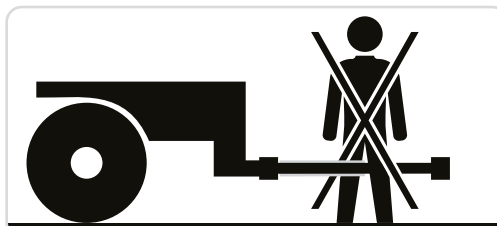
The extendable underrun bar is intended for use outdoor.

The extendable underrun bar is not suitable for explosion sensitive environments.

EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

SAFETY REGULATIONS



MECHANICAL:

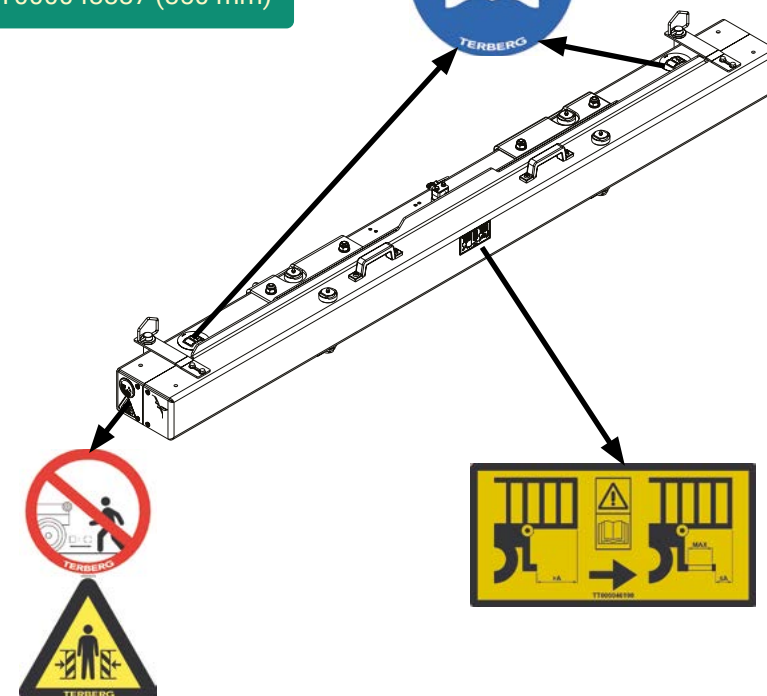
TT000048869 (400 mm)
TT000048892 (670 mm)
TT000048887 (850 mm)

ELECTRICAL:

TT000048869 (400 mm)
TT000048892 (670 mm)
TT000048887 (850 mm)

HYDRAULIC:

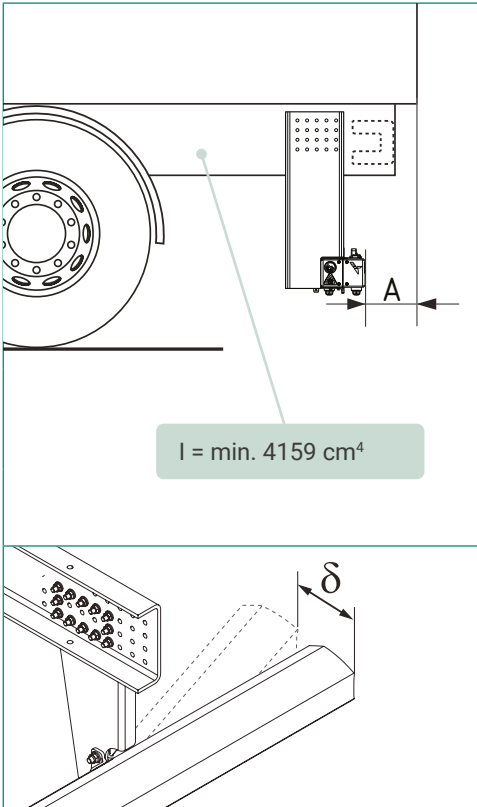
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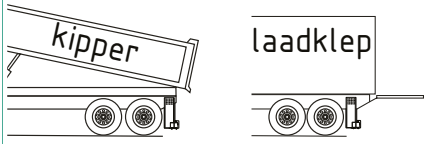


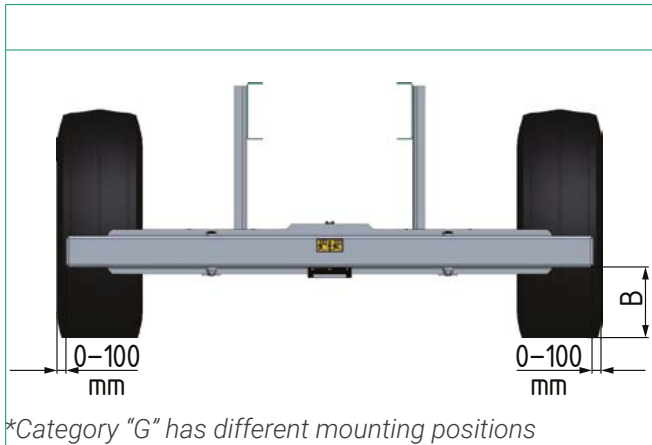
EXTENDABLE UNDERRUN BAR

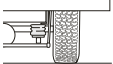

MOUNTING INSTRUCTION

MOUNTING DIMENSIONS

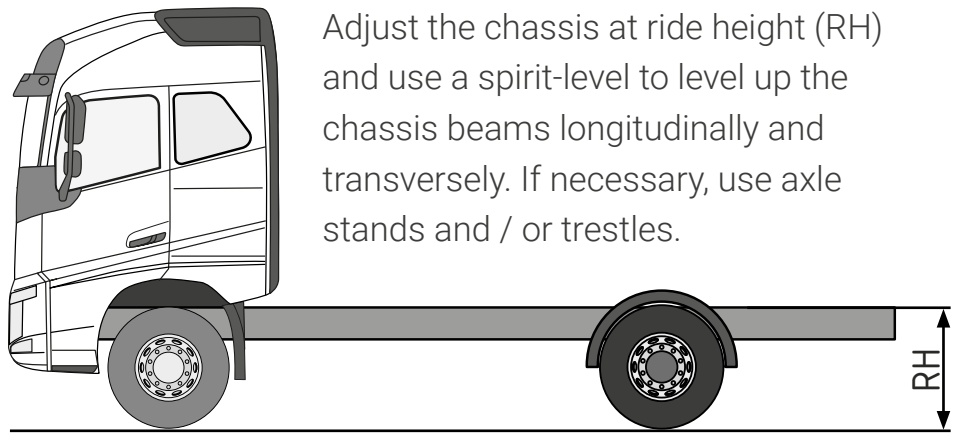


A=MAX	
300	<div>  </div> <div>*G, N2 (>8T), N3, O3, O4</div>
200	O3, O4
400- δ	M, N1, N2 (<8T), O1, O2



B=MAX	
450	<div>  </div> <div>*G, N2 (>8T), N3, O3, O4</div>
500	<div>  </div> <div>*G, N2 (>8T), N3, O3, O4</div>
550	M, N1, N2 (<8T), O1, O2

*Category "G" has different mounting positions



Adjust the chassis at ride height (RH) and use a spirit-level to level up the chassis beams longitudinally and transversely. If necessary, use axle stands and / or trestles.

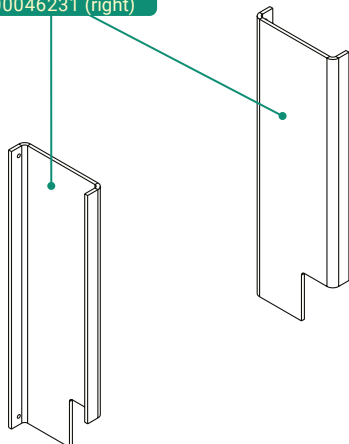
EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

SIDEPLATES

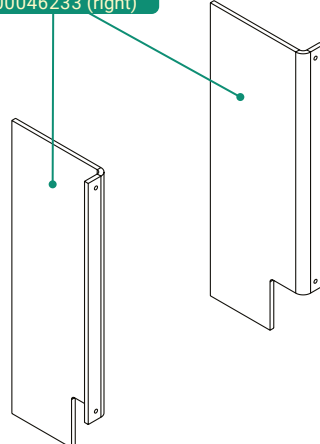
TT000048901 weldable

TT000046230 (left)
TT000046231 (right)



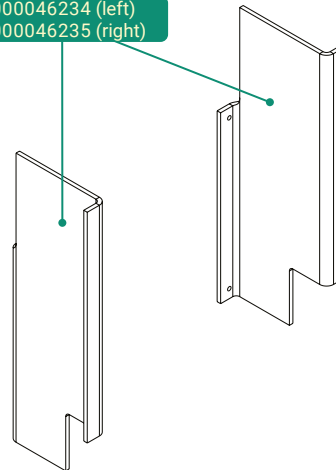
TT000048902 weldable

TT000046232 (left)
TT000046233 (right)



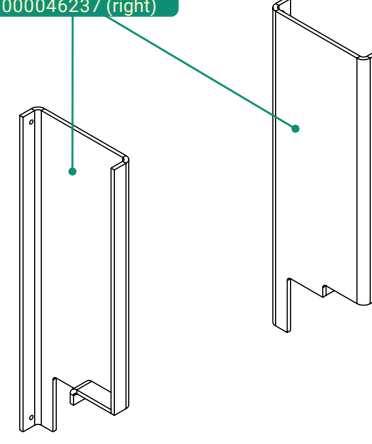
TT000048903 weldable

TT000046234 (left)
TT000046235 (right)



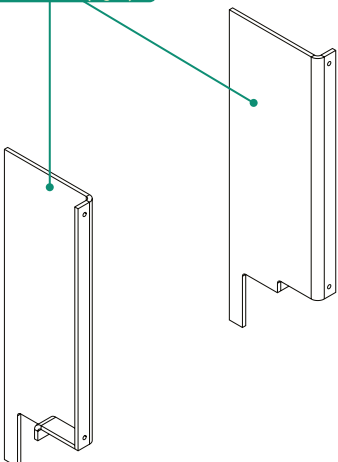
TT000048904 weldable

TT000046236 (left)
TT000046237 (right)

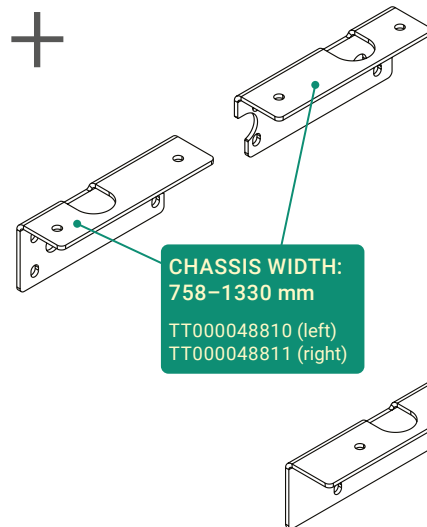


TT000048910 weldable

TT000046240 (left)
TT000046241 (right)



+



CHASSIS WIDTH:
758–1330 mm

TT000048810 (left)
TT000048811 (right)

CHASSIS WIDTH:
758–1400 mm

TT000048820 (left)
TT000048821 (right)

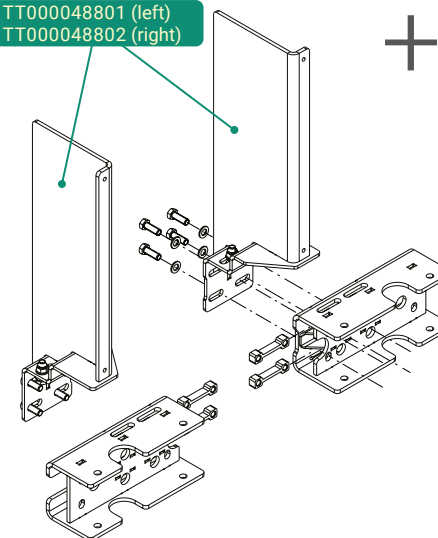
+

M16

12x40
12x
24x

TT000048806 boltable

TT000048801 (left)
TT000048802 (right)



+

M16

12x40

12x

24x

+

12x45

6x

12x

EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

SIDEPLATES – DRILLING PATTERNS

Plate set: **TT000048901**
Left plate: **TT000046230**
Right plate: **TT000046231**

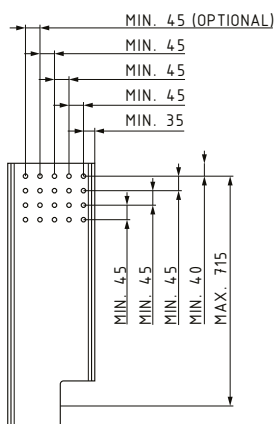


Plate set: **TT000048902**
Left plate: **TT000046232**
Right plate: **TT000046233**

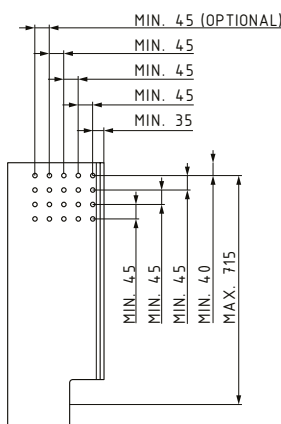


Plate set: **TT000048903**
Left plate: **TT000046234**
Right plate: **TT000046235**

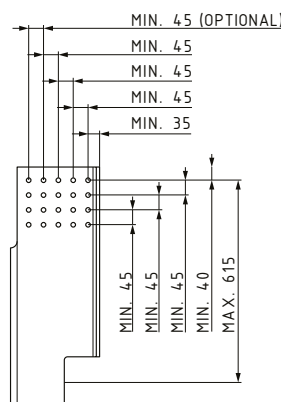


Plate set: **TT000048904**
Left plate: **TT000046236**
Right plate: **TT000046237**

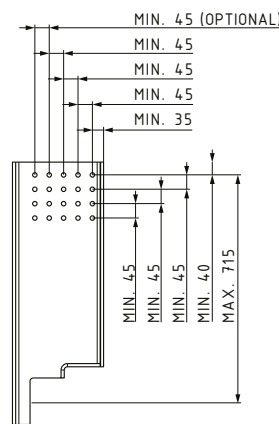


Plate set: **TT000048910**
Left plate: **TT000046240**
Right plate: **TT000046241**

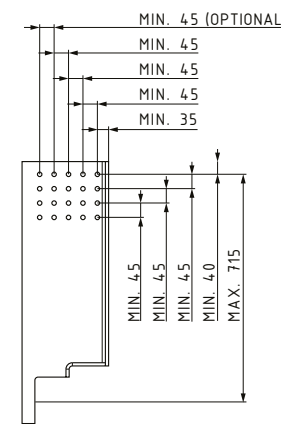
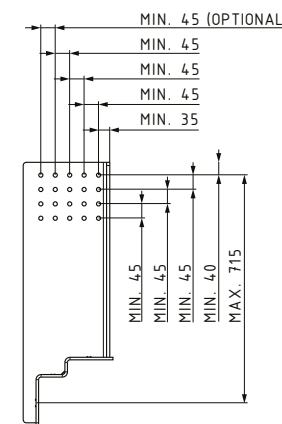


Plate set: **TT000048806**
Left plate: **TT000048801**
Right plate: **TT000048802**



Drill $\varnothing 14\text{mm}$ holes for **M14** bolts, or $\varnothing 16\text{ mm}$ holes for **M16** bolts.

Use DIN 933 bolt with quality **10.9** or equivalent.

Use DIN 985 nut with quality **10** or equivalent.

► Torque M14 class 10,9: **185 Nm**.

► Torque M16 10,9: **280 Nm**.

These values are valid *without* greased thread.

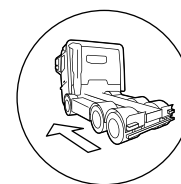
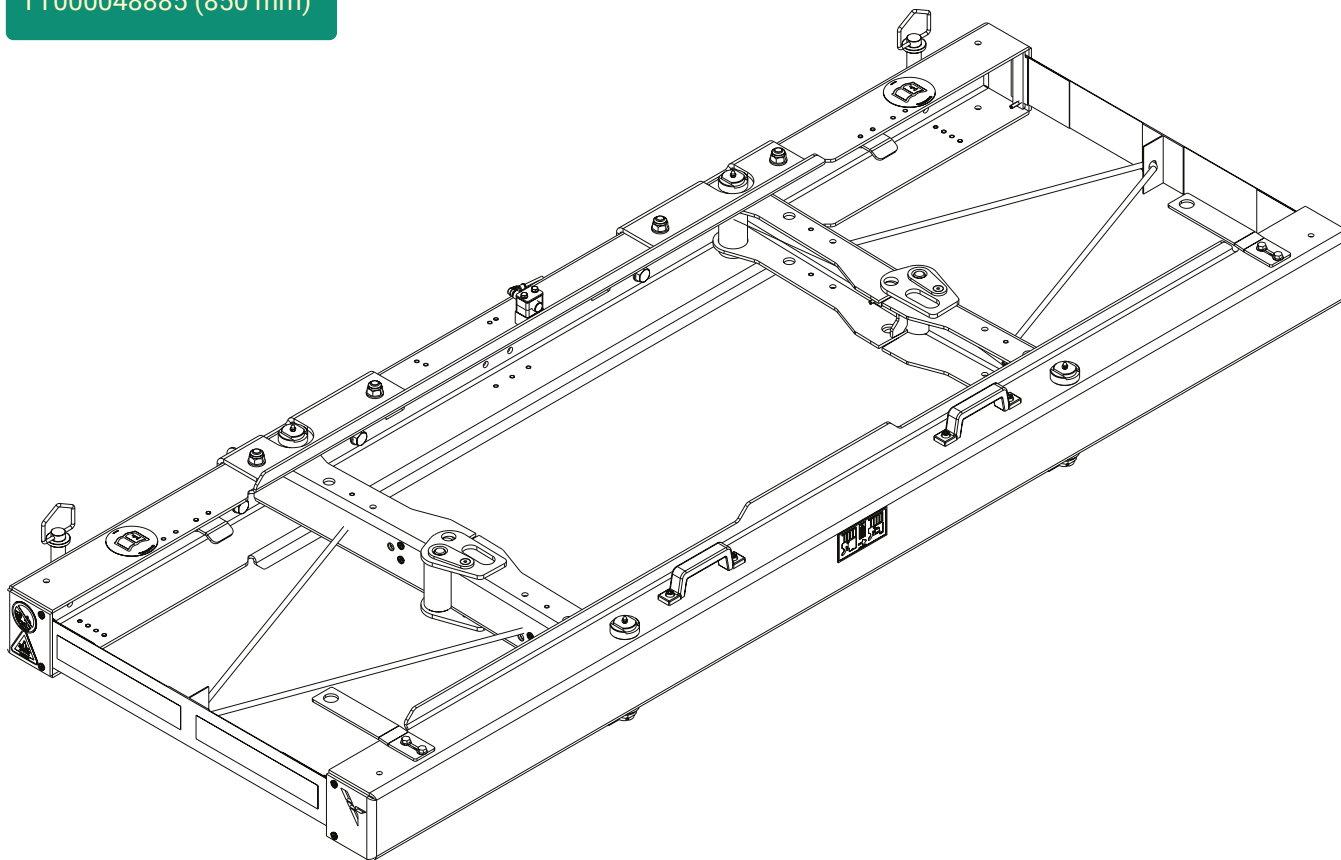


EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

EXTENDABLE UNDERRUN BAR – TECHNICAL SPECIFICATIONS

TT000048867 (400 mm)
TT000048890 (670 mm)
TT000048885 (850 mm)



MECHANICAL

Extension (mm)	400	670	850
Dimensions (closed) LxWxH (mm)	2408x222x144/204		
Dimensions (open) LxWxH (mm)	2408x622x144/204	2408x1072x144/204	2408x892x144/204
Chassis width (mm) <i>minimum-maximum</i>	758–1400		
Chassis width (mm) in combination with different side plates:			
TT000048806	758–930		
TT000048901	758–1400		
TT000048902	758–1400		
TT000048903	758–1400		
TT000048904	758–1400		
TT000048910	758–1400		
Weight (kg) <i>bumper only</i>	132	137	141
Weight (kg) of the bumper, equipped with different side plates:			
TT000048806	204	178	213
TT000048901	173	178	182
TT000048902	182	187	191
TT000048903	166	171	175
TT000048904	173	178	182
TT000048910	166	171	175
Side-band	yes		
Certification (<i>bumper+side plates</i>)	E4 R58.03-0899		

Weight can deviate +/- 5% incl. the CC (Cathaphoresic coating) treatment, but excl. the bolt connections required to mount the bumper to the chassis.

No rights can be derived from the information in the table.

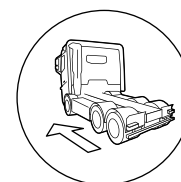
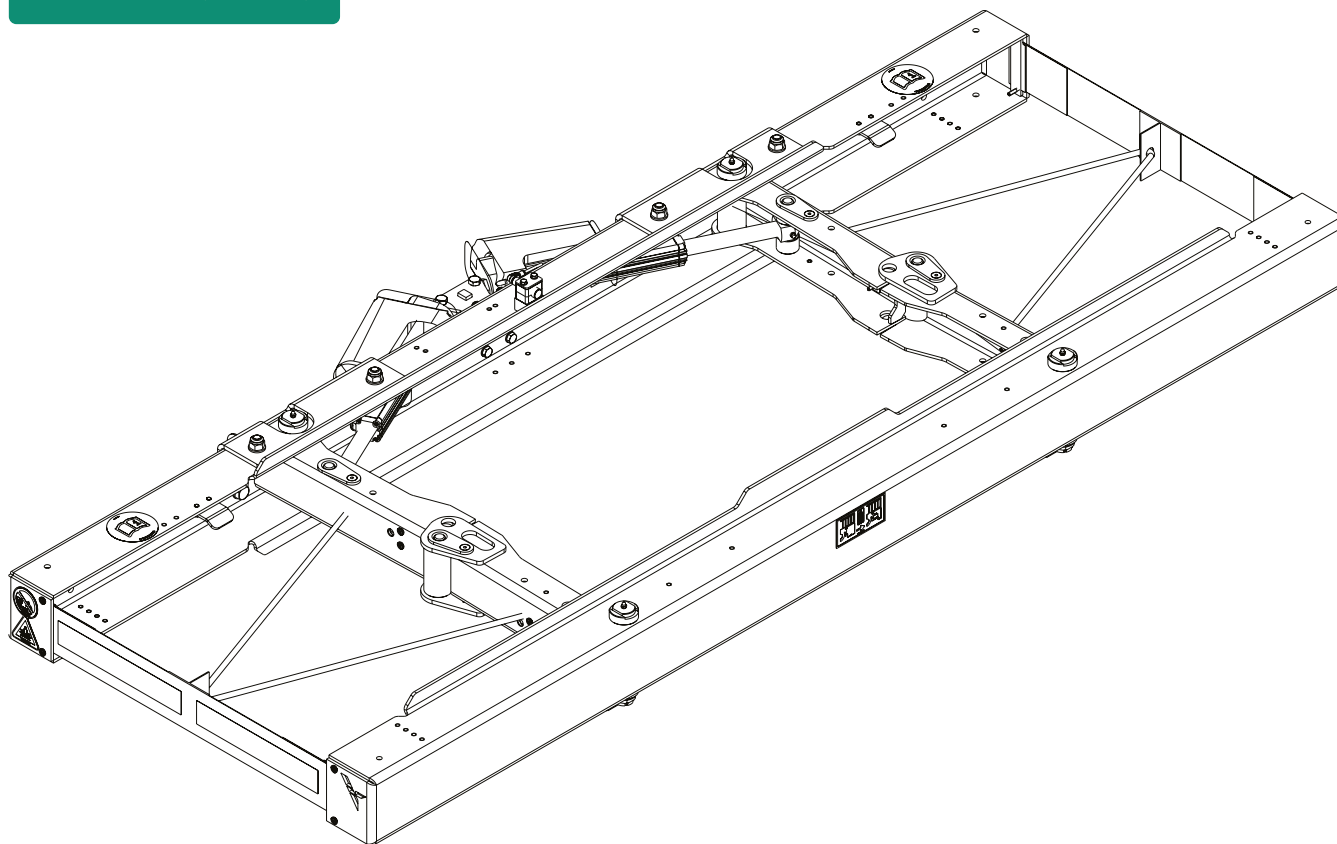
Modificatons and typing errors reserved.

EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

EXTENDABLE UNDERRUN BAR – TECHNICAL SPECIFICATIONS

TT000048869 (400 mm)
TT000048892 (670 mm)
TT000048887 (850 mm)



ELECTRICAL

Extension (mm)	400	670	850
Dimensions (closed) LxWxH (mm)	2408x222x144/204		
Dimensions (open) LxWxH (mm)	2408x622x144/204	2408x1072x144/204	2408x892x144/204
Chassis width (mm) <i>minimum-maximum</i>	758–1400		
Chassis width (mm) in combination with different side plates:			
TT000048806	758–930		
TT000048901	758–1400		
TT000048902	758–1400		
TT000048903	758–1400		
TT000048904	758–1400		
TT000048910	758–1400		
Weight (kg) <i>bumper only</i>	143	148	152
Weight (kg) of the bumper, equipped with different side plates:			
TT000048806	215	189	224
TT000048901	184	189	193
TT000048902	193	198	202
TT000048903	177	182	186
TT000048904	184	189	193
TT000048910	177	182	186
Side-band	yes		
Certification (<i>bumper+side plates</i>)	E4 R58.03-0899		

Weight can deviate +/- 5% incl. the CC (Cathaphoresic coating) treatment, but excl. the bolt connections required to mount the bumper to the chassis.

No rights can be derived from the information in the table.

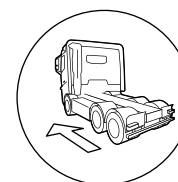
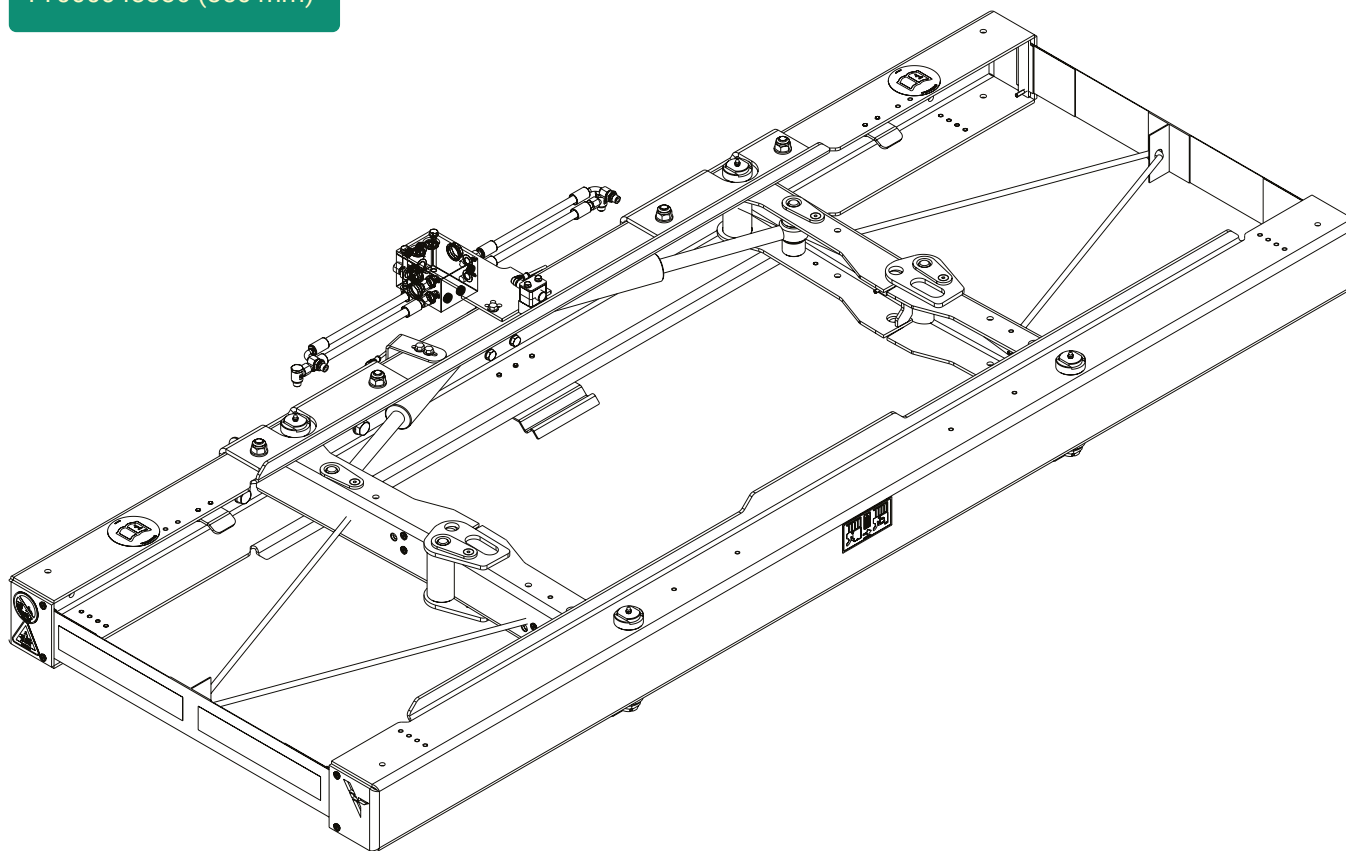
Modificatons and typing errors reserved.

EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

EXTENDABLE UNDERRUN BAR – TECHNICAL SPECIFICATIONS

TT000048868 (400 mm)
TT000048891 (670 mm)
TT000048886 (850 mm)



HYDRAULIC

Extension (mm)	400	670	850
Dimensions (closed) LxWxH (mm)	2408x222x144/204		
Dimensions (open) LxWxH (mm)	2408x622x144/204	2408x1072x144/204	2408x892x144/204
Chassis width (mm) <i>minimum-maximum</i>	758–1400		
Chassis width (mm) in combination with different side plates:			
TT000048806	758–930		
TT000048901	758–1400		
TT000048902	758–1400		
TT000048903	758–1400		
TT000048904	758–1400		
TT000048910	758–1400		
Weight (kg) <i>bumper only</i>	143	148	152
Weight (kg) of the bumper, equipped with different side plates:			
TT000048806	215	189	224
TT000048901	184	189	193
TT000048902	193	198	202
TT000048903	177	182	186
TT000048904	184	189	193
TT000048910	177	182	186
Side-band	yes		
Certification (<i>bumper+side plates</i>)	E4 R58.03-0899		

Weight can deviate +/- 5% incl. the CC (Cathaphoresic coating) treatment, but excl. the bolt connections required to mount the bumper to the chassis.

No rights can be derived from the information in the table.

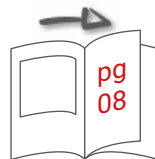
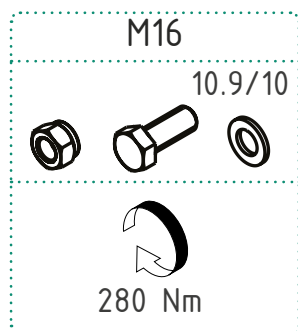
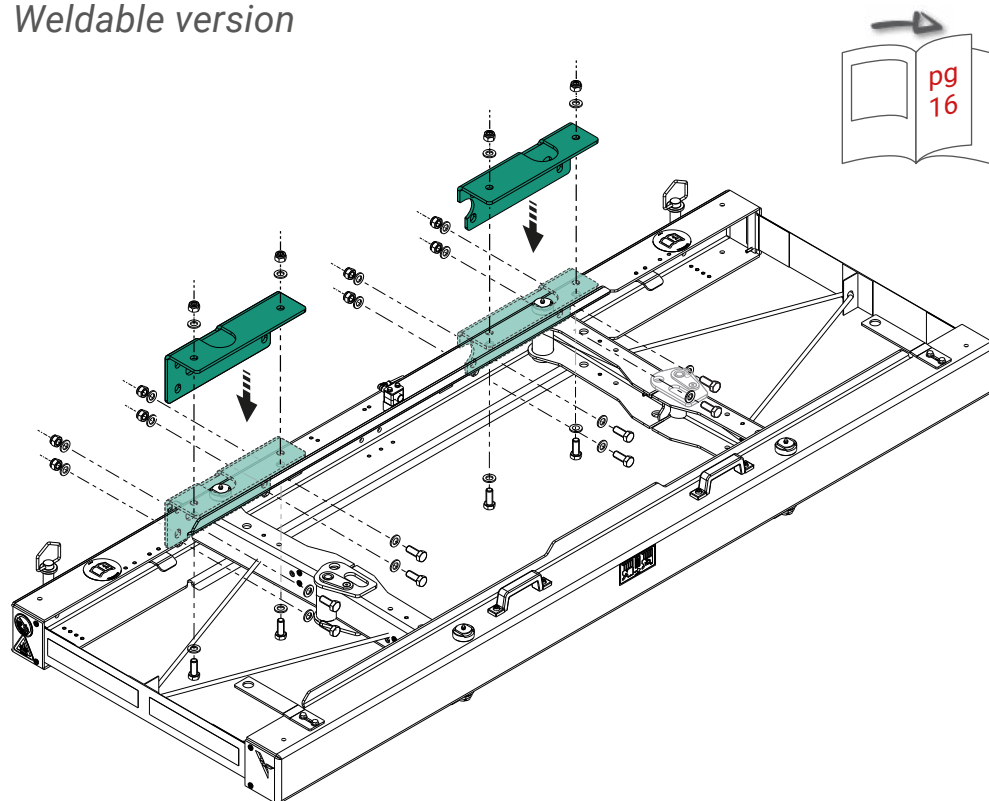
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EXTENDABLE UNDERRUN BAR

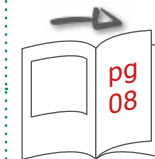
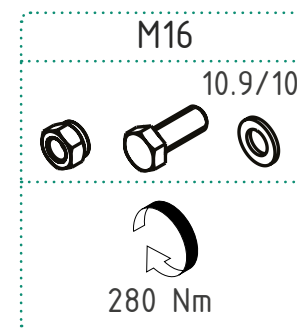
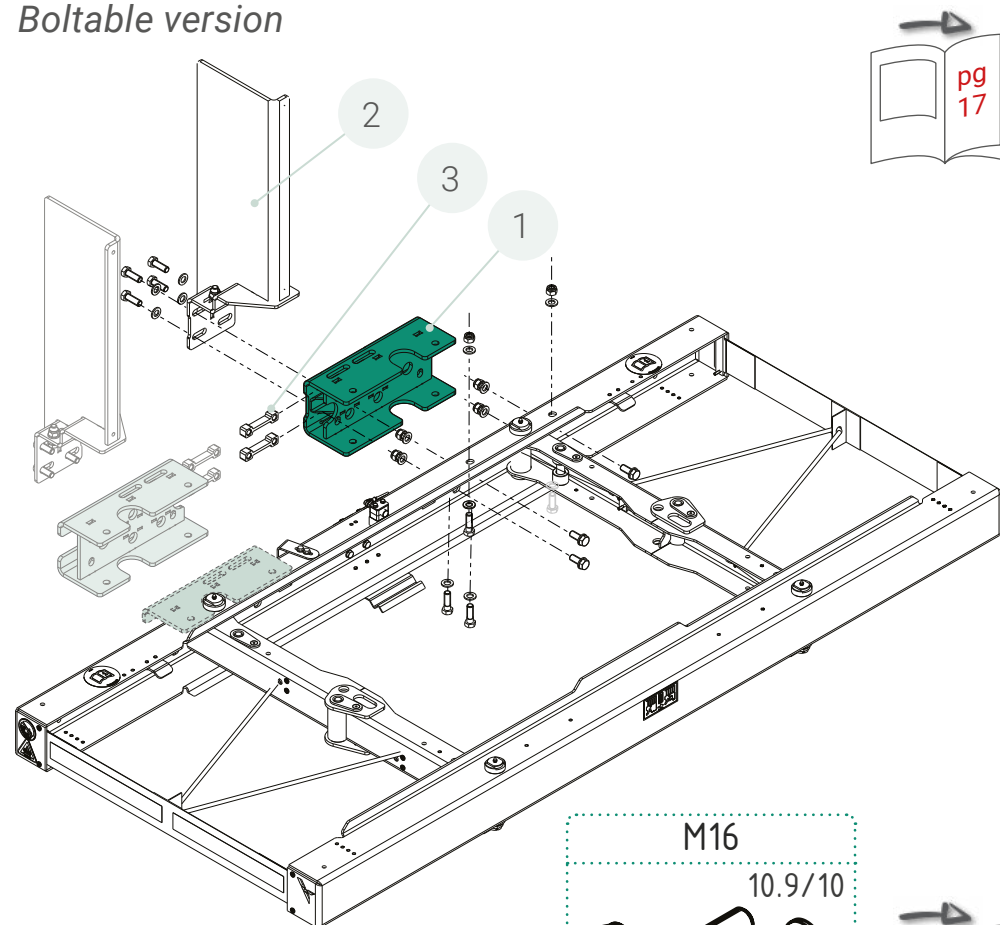
MOUNTING INSTRUCTION

ASSEMBLY OF THE IRON ANGLE PROFILE AND MOUNTING BRACKET

Weldable version



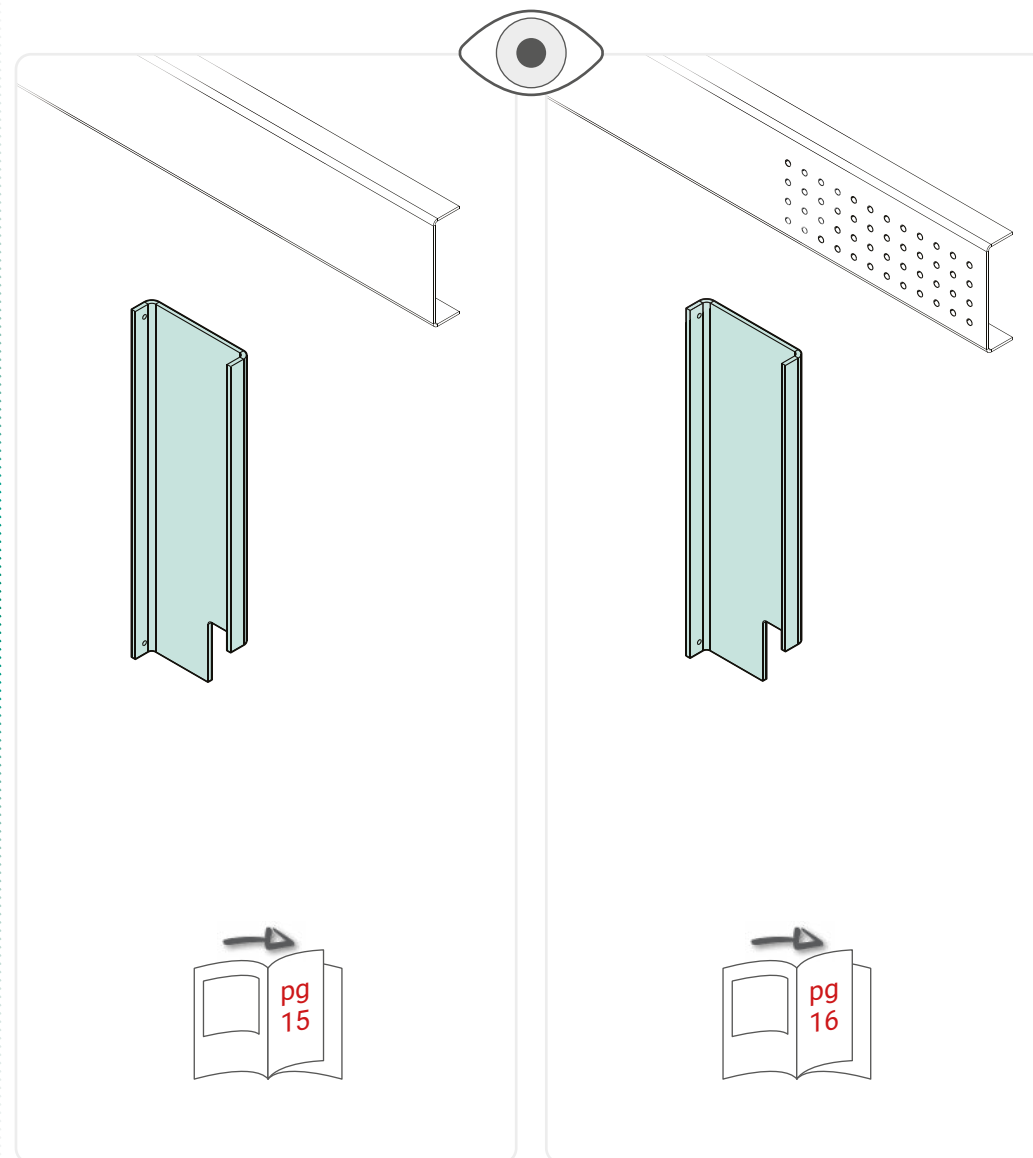
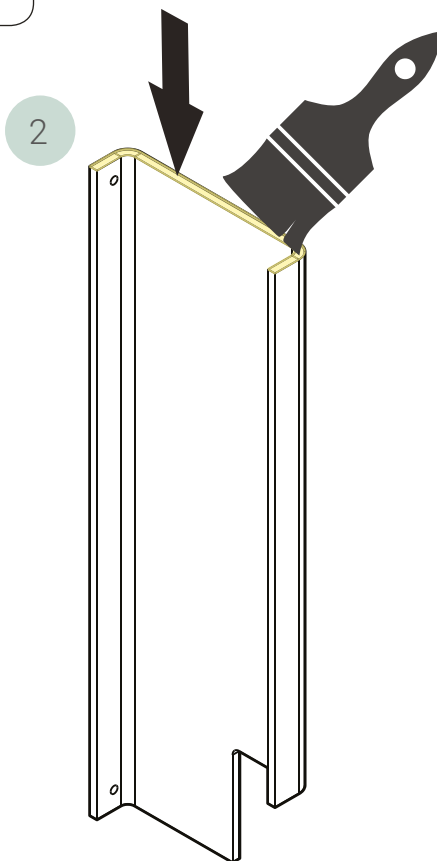
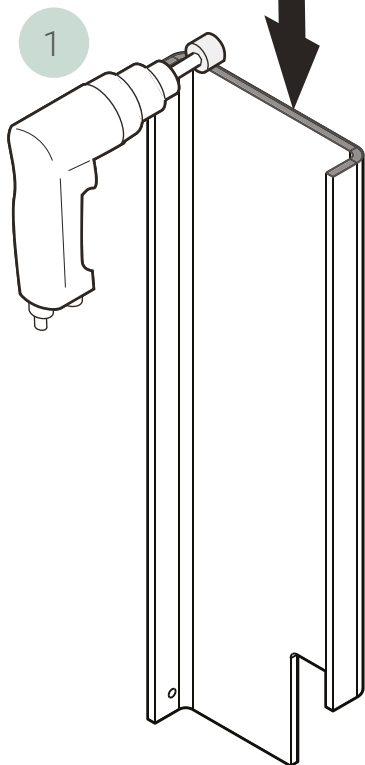
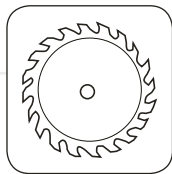
Boltable version



EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

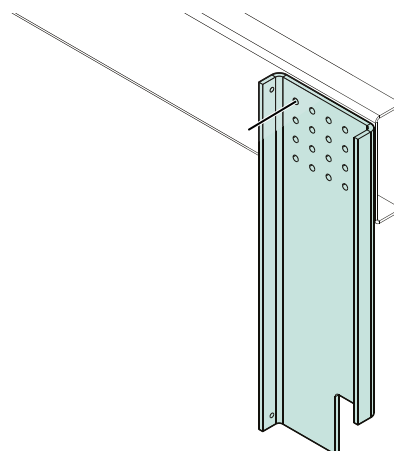
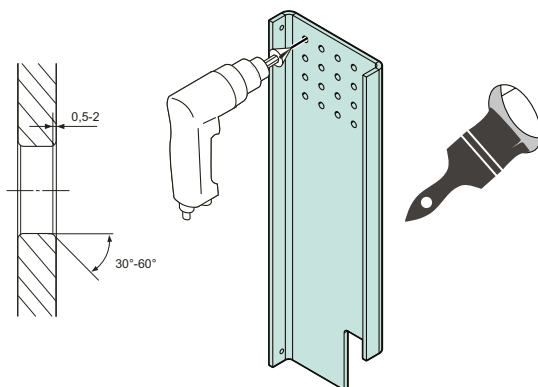
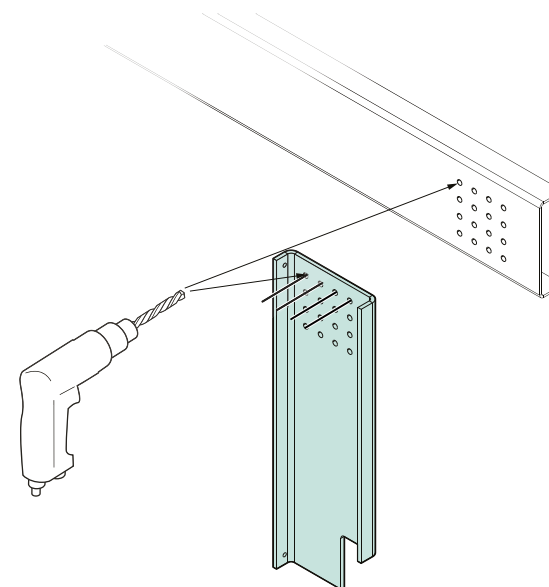
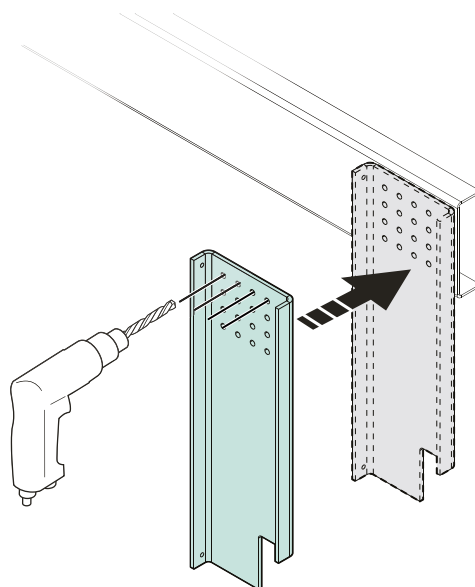
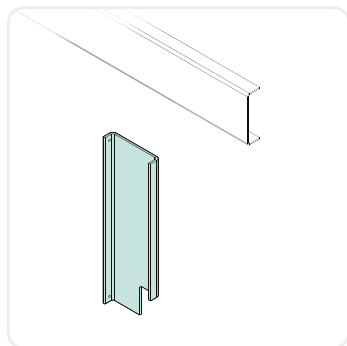
SIDEPLATES



EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

UNDRILLED CHASSIS

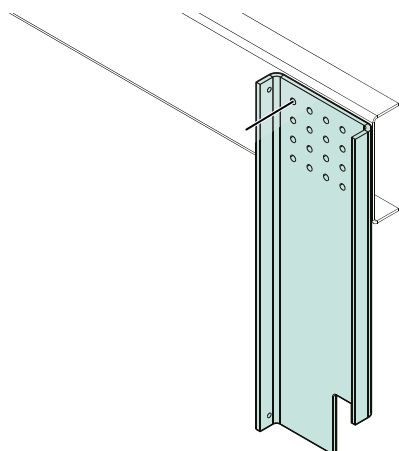
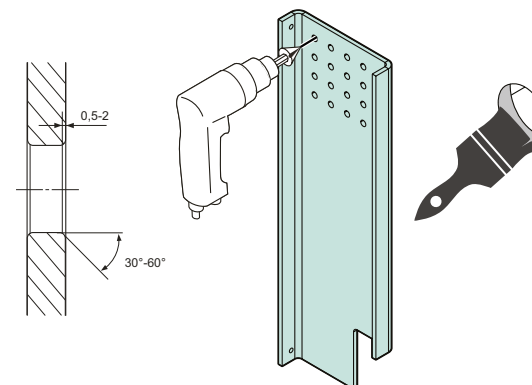
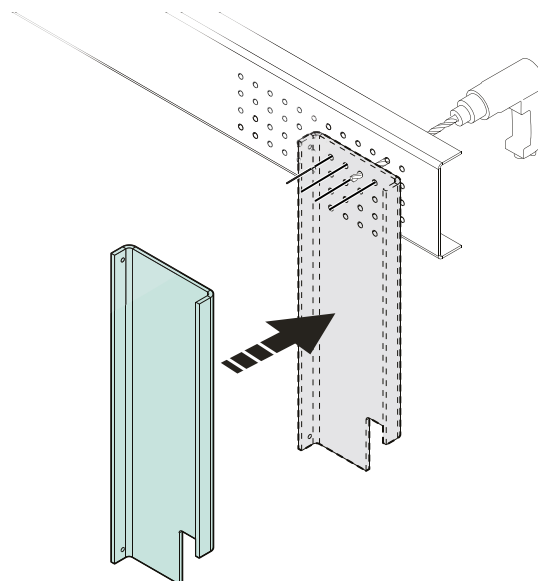
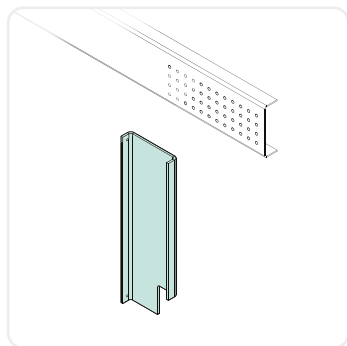


$\varnothing 5-8$ mm 	
$\varnothing 14$ mm 	$\varnothing 16$ mm
≥ 16 M14 (per side)	≥ 16 M16 (per side)
10.9 	10
 185 Nm	 280 Nm

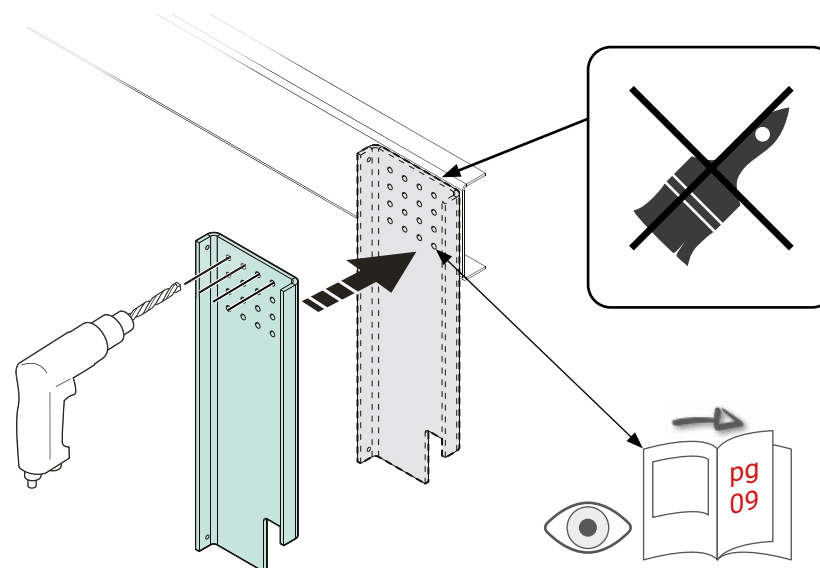
EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

PREDRILLED CHASSIS



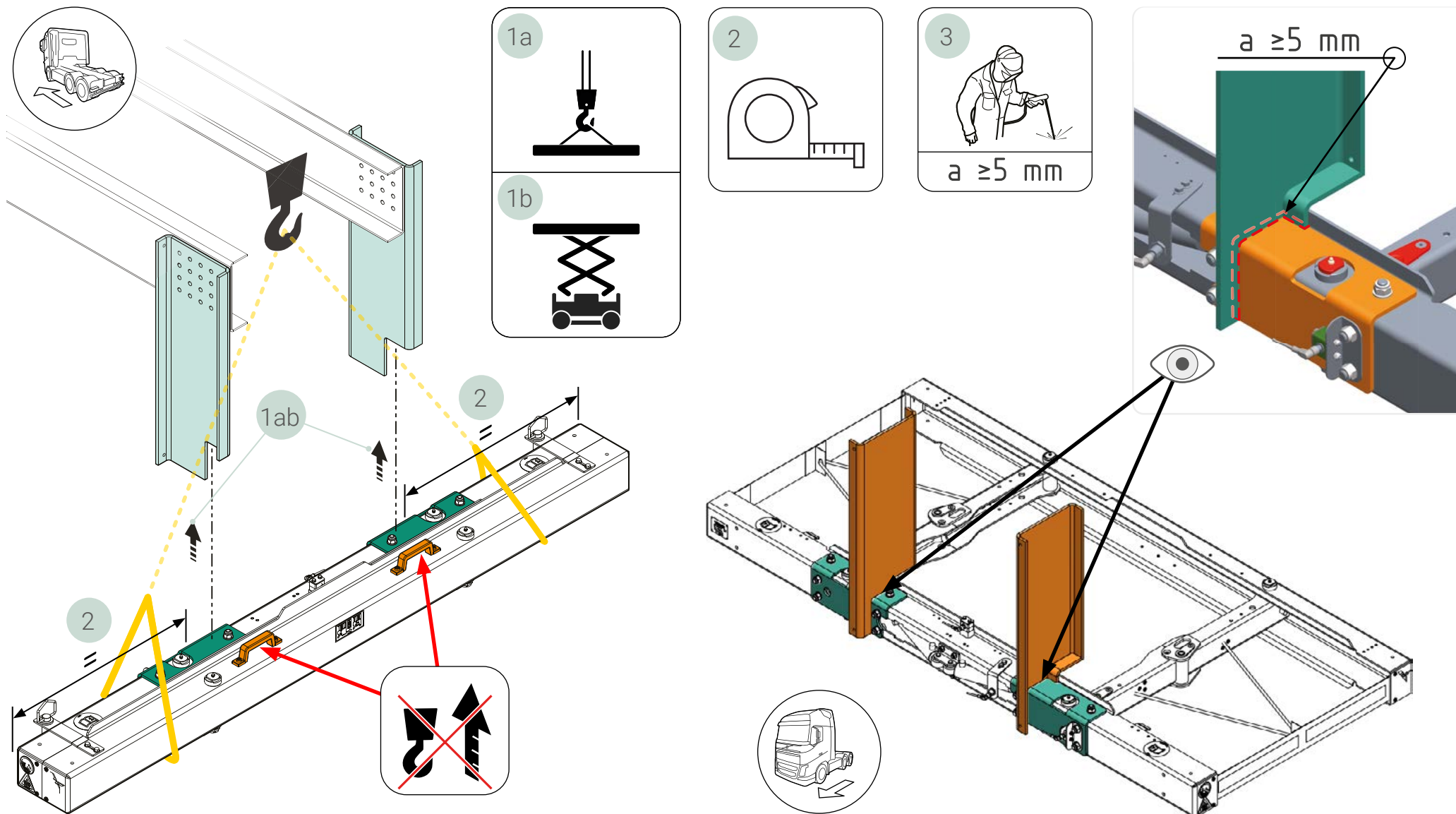
$\varnothing 5-8$ mm 	
$\varnothing 14$ mm 	$\varnothing 16$ mm
≥ 16 M14 (per side)	≥ 16 M16 (per side)
10.9 	10
185 Nm	280 Nm



EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

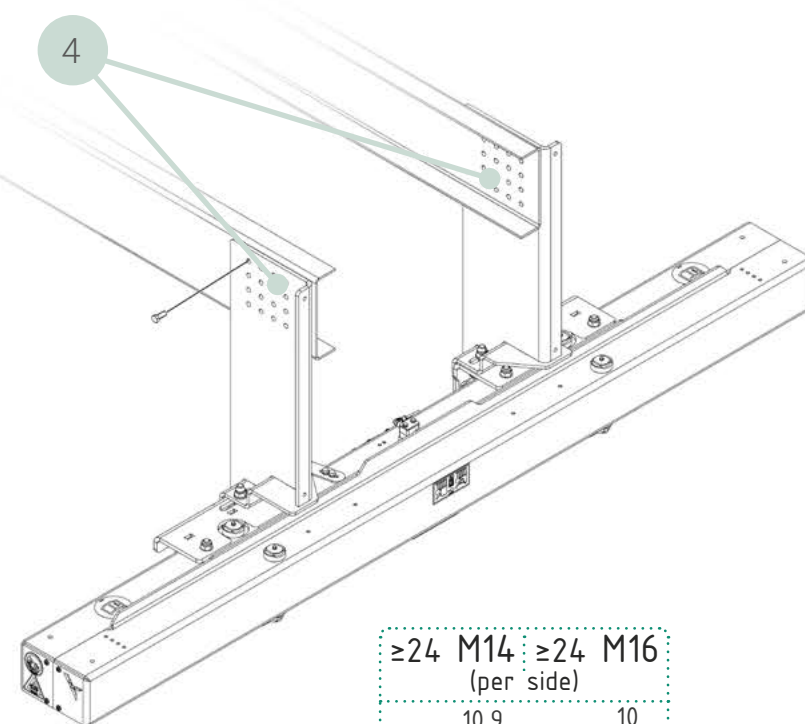
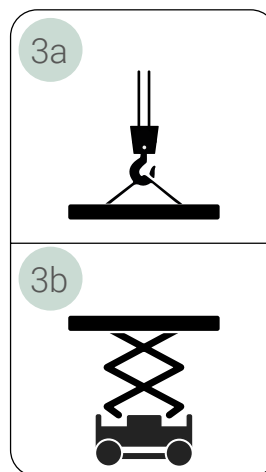
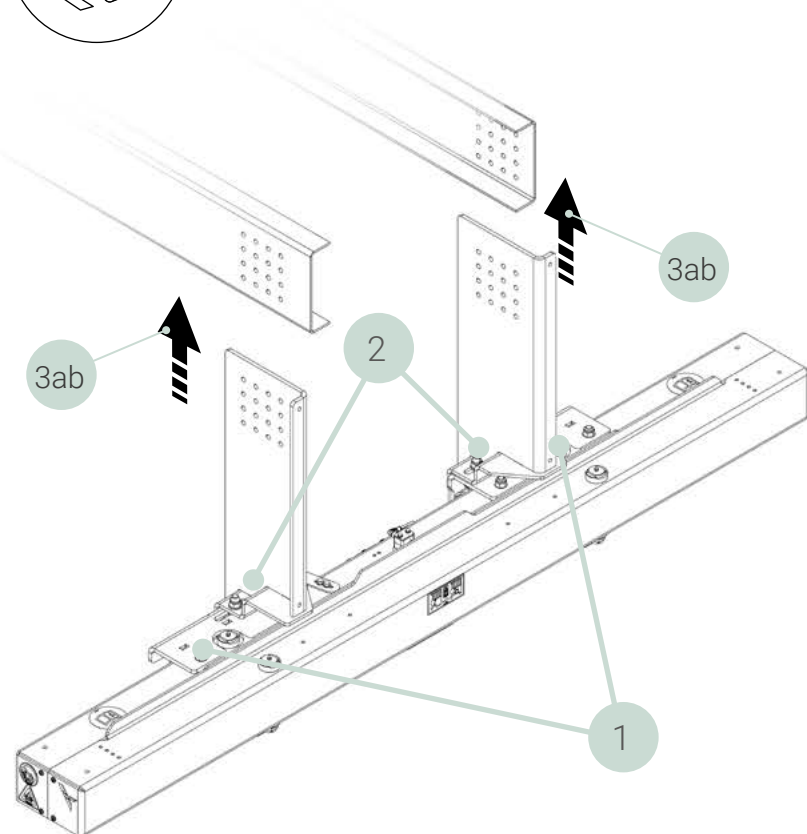
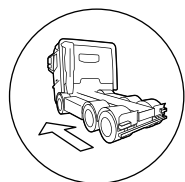
MOUNTING THE SIDE PLATES – WELDED VERSION



EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

MOUNTING THE SIDE PLATES – BOLTED VERSION



≥ 24 M14 (per side)	≥ 24 M16 (per side)
10.9	10
185 Nm	280 Nm

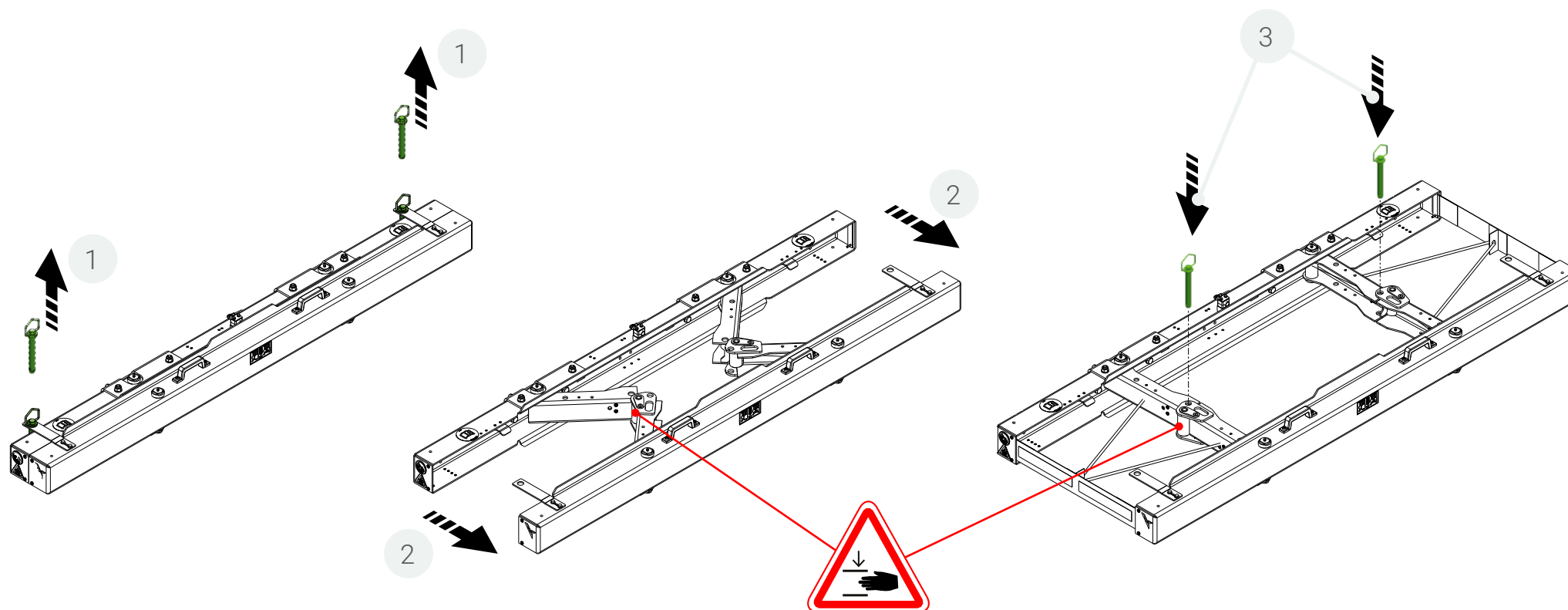
EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

MECHANICAL VARIANT OF THE EXTENDABLE UNDERRUN BAR

There are two handles are screwed to the top of the bumper moving part at the factory to ensure pulling-out.

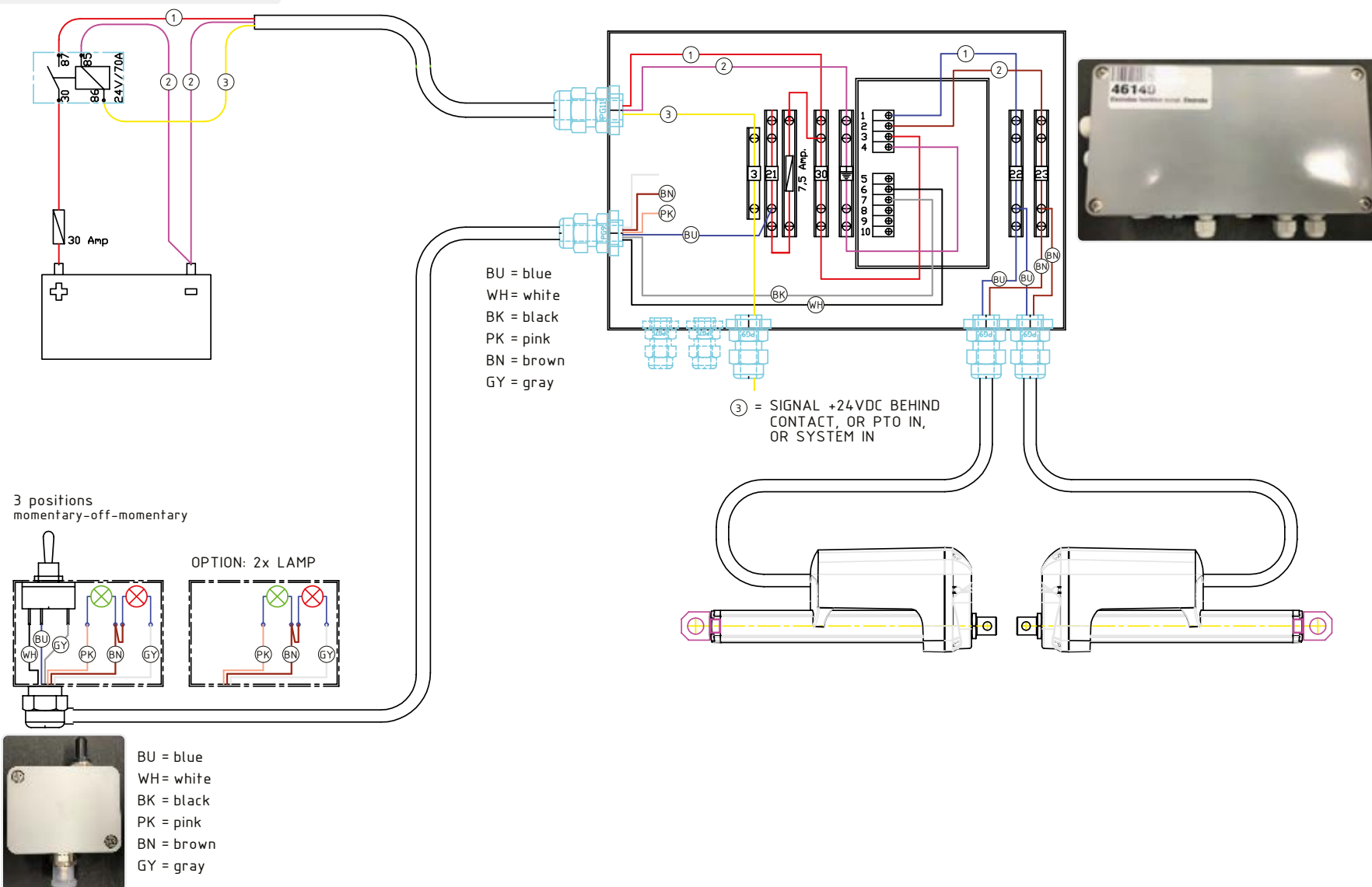
- ▶ The same locking pins are used both to keep the bumper closed position, or to secure the bumper in its open position to avoid undesirable folding during use
- ▶ Check whether the pins fit properly in the holes of both folding arms in the open position and are secured.



EXTENDABLE UNDERRUN BAR

MOUNTING INSTRUCTION

ELECTRIC SCHEMATIC



SPECIFIC MAINTENANCE ON HYDRAULIC COMPONENTS

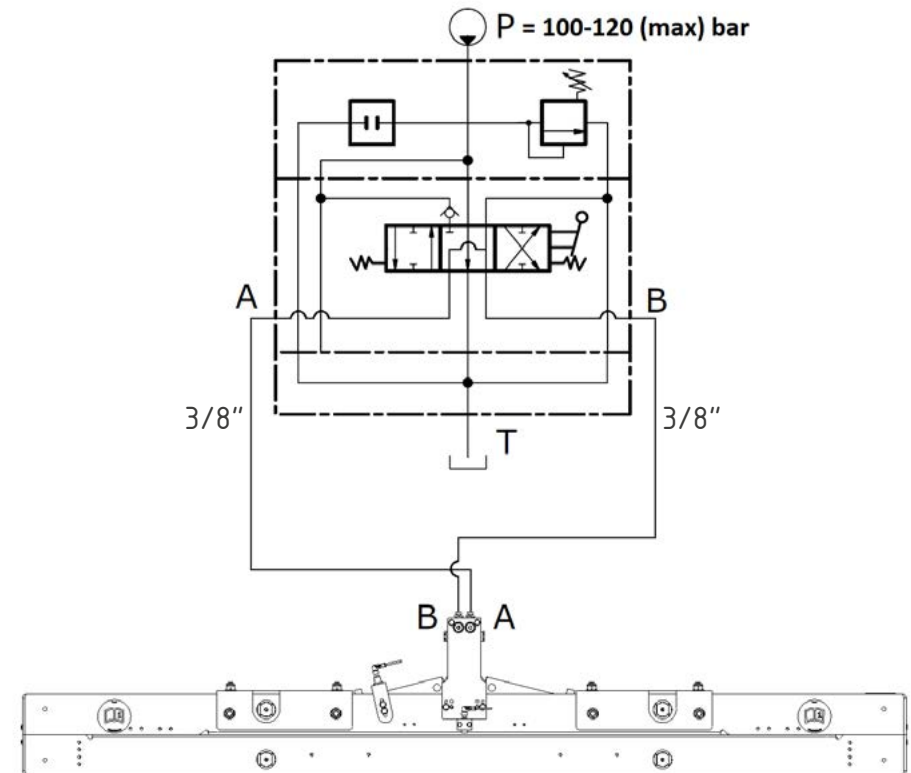


The maintenance below applies to the **hydraulic** extendable underrun bar only.

Hydraulic components

- Daily: leakage from pipes, cutting ring couplings, hoses and control valves.
- Weekly: oil level.
oil temperature (max. ca 65°C).
- Annually: oil change (if necessary, have oil sample checked at the oil supplier).
replace filters or check for contamination
check hydraulic hoses for damage or deformation:

- ▶ Fill with hydraulic oil according to the instructions.
- ▶ Check the oil tank and pipes for cleanliness beforehand.
- ▶ Make sure that the hydraulic oil does not affect the paint when using on painted tanks.
- ▶ Maintain the components carefully.
- ▶ Keep oil and filters clean for trouble-free operation.
- ▶ Consider the environment when replacing oil and filter elements.
- ▶ Treat discarded filter elements and oil as chemical waste.
- ▶ Use the correct and suitable tools for maintenance work, etc.



SPECIFIC MAINTENANCE ON HYDRAULIC COMPONENTS

PIPEWORK AND HOSES

- ▶ Hoses may only be connected by qualified personnel.
- ▶ Ensure proper protection of the hoses (consider sharp edges of the chassis and any attachments).
- ▶ Check the hoses daily for damage, deformation and leaks. Replace the hose in case of damage or deformation. In case of leakage, fix the leak.
- ▶ Secure the hoses with pipe brackets, etc., to prevent them from flying off when the connection breaks.
- ▶ The pipework must be checked weekly for leakage.
- ▶ The hydraulic hoses must be checked by an expert every year. This expert must have sufficient knowledge and experience in the field of hydraulic hoses, safety regulations and general standards (e.g. DIN standards).
- ▶ Regardless of the condition of the hoses, replace rubber and plastic hoses after a service life of 6 years. Take in account of a maximum storage of 2 years at the supplier.
- ▶ When replacing the hoses, make sure that the installation is pressureless and whether it cannot be started up. Collect leaking oil in drip trays.

DISASSEMBLING / RECYCLING

The waste management regulations are compulsory on site and at the time of the disassemble for the waste treatment process must be followed during dismantling. Only generally known materials are used in the machine.

At the time of construction, the waste processing options were existing, and that time no special risks were known for the persons responsible for the dismantling work. .

EXTENDABLE UNDERRUN BAR

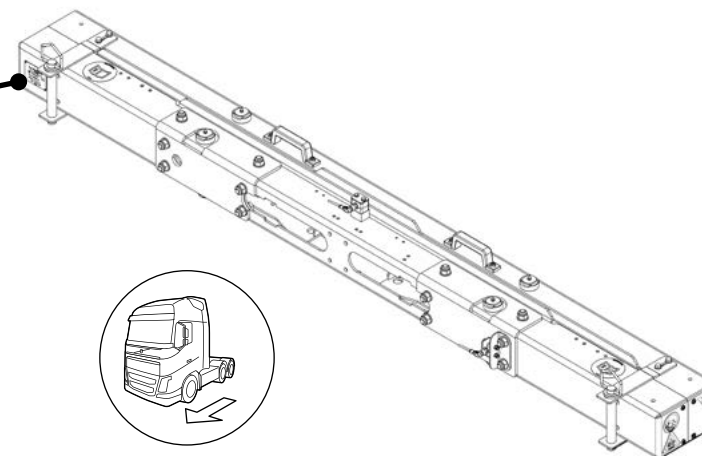
MOUNTING INSTRUCTION

INDICATION MARKINGS ON THE MACHINE

TYPE PLATE

The following information is given on the type plate for the extendable underrun bar; see the example below:

EU brand mark	CE
Name	Terberg Techniek B.V.
Address	Industrieweg 9-10, 3401MA IJsselstein
Type-approval number	See type plate
Type	MHE856740
Serialnumber	1111
Construction year	2019



PHYSICAL CIRCUMSTANCES OF USE

The following physical conditions are necessary:

During transport/storage:	0 to 55 degrees Celsius
Environmental temperature, working:	-15 to 40 degrees Celsius
Relative humidity (RH):	30% to 100% non condensing
Lighting	normal environmental lighting
Height	airpressure to 1000m above the sea-level

MAINTENANCE AND REPAIRMENT

Replacement must be done efficiently and with original spare parts. Terberg Techniek B.V. has a construction file for all machines in which all information is stored. Follow the rules below to complete your order quickly and correctly. Order in writing or by email. Enter the following information:

- ▶ Serialnumber
- ▶ Which part
- ▶ Location of the part
- ▶ If necessary, which malfunction
- ▶ Contact person at the company

Send your order to:

Terberg Techniek B.V.
Napoleonsbaan Noord 30
5991 NW BAARLO (Limburg)
T +31 (0) 77 477 20 39
E infobaarlo@terbergtechniek.nl

FEEDBACK



Our goal is to constantly improve our products and its documentation. Therefore the opinion and experiences of the users of our products and documentation is always more than welcome and will be greatly appreciated.

Please notify us if you have any suggestions and/or comments on this document. Please send your comments by mail, telefax, or hard-copy to the address listed to the right.

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Dept. Engineering
P.O. Box 23
3400AA IJsselstein
The Netherlands

F +31 30 688 55 23
E documentation@terbergtechniek.nl

COMMENTS



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