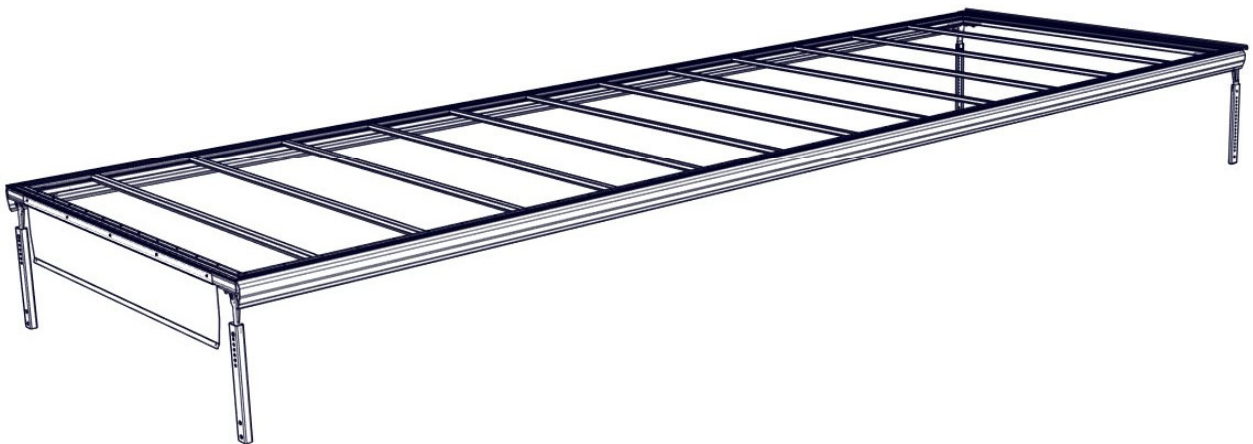


Mounting instruction FLAT top



Translation of the original mounting instruction



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GENERAL REMARKS

Introduction to Mounting Instruction

Alteration service: Yes

Staff: According to curriculum for apprenticeship as a body and vehicle mechanic and a body and vehicle construction mechanic.

This Mounting Instruction is part of the delivery and an important help for successful mounting. Therefore, it must be available to the mechanic during the mounting works.

Furthermore, the assembly guidelines of the applicable vehicle producers must be obeyed.

Copyright:

The copyright for this mounting instruction is reserved by TSE Trailer System Engineering GmbH & Co. KG

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Instruction and training support

As an employer, you are obliged to inform and instruct your personnel about existing legal and accident prevention regulations.

The personnel must have understood these instructions, and it must be safeguarded that the instructions are obeyed.

Only in this way you will reach safety and danger awareness of your personnel at work.

Example for training topics

1. About safety

- Accident prevention regulations
- General legislation
- General safety hints
- Measures in emergency cases
- Personal protective equipment

2. Maintenance and repair regulations

- Correct use of cleaning agents and lubricants
- Special experience of the mechanic in maintenance, repair, cleaning and upkeep of the product

Hints

Attention:

The surfaces of the TSE modules must not be contaminated with caustic cleaning fluids. Cleaning fluids with the appropriate labeling are aggressive and can cause damage to all component surfaces. These should expressly not be used for gentle cleaning.

Nummer	Symbol
GHS05	corrosivity


ATTENTION!

Texts with this symbol will warn you against possible mistakes in mounting and, therefore, against potential material damages.


HINT!

Texts with this symbol will give you tips or additional information.


TIGHTENING TORQUE!

Texts with this symbol will give you necessary tightening torques.


You need holes!

Texts with this symbol indicate the setting of holes.

Safety

General

Although our products are in accordance with the state of the art, they may pose a risk if:

- they are mounted by unskilled personnel
- they are maintained improperly.

Safety hints

This safety instruction informs you about the products of TSE Trailer System Engineering GmbH & Co. KG. It contains information about maintenance and repair of the parts and their components. The service instruction has only been written for skilled personnel of qualified and authorized specialized companies in motor vehicle crafts. The service instruction is not applicable for other target groups.

We want to support specialized companies with the present mounting instruction during the mounting works with our products.

TSE Trailer System Engineering GmbH & Co. KG accepts no liability for the installation of inapplicable or unreleased parts in their products.

Defects due to wrong handling, aggressive cleaning agents, use of force or subsequent changes of the delivered product or single components of it, as well as non-observance of the safety hints and consequential damages caused thereby, are not covered by our warranty.

Only use unchanged original parts and accessories supplied by the manufacturer.

We do not accept any warranty for the correctness, completeness or currency of the given information. The contents and information of this mounting instruction are neither a warranty or warranted characteristics within the meaning of German legislation, respectively the German Civil Code (Bürgerliches Gesetzbuch (BGB)), nor can they be interpreted as such.

No claims can be derived from provision of information, recommendation or consulting. Liability for damages is generally excluded as far as we are not responsible in the sense of intent or gross negligence, or as far as this does not contradict mandatory legal provisions.

Texts and graphics are subject to our rights of use; copy rights or right of distribution in any form require our agreement.

Mentioned brand names, even if they are not marked as such in every case, are still subject to the regulations of the trade mark law. If any disputes of legal nature occur from applying information found in this mounting instruction, they shall solely be subject to the regulations of German law.

The Amtsgericht Stuttgart (Local Court in Stuttgart) is deemed to be agreed on as place of jurisdiction. If some clauses of this declaration about limitation of liability do not or no longer comply with the applicable legal provisions, the validity of the other clauses shall remain unaffected thereof. Read the information in this mounting instruction carefully. Especially, obey the hints for your own safety.

All technical information, descriptions and pictures shall be valid from the day of their printing - respectively the day of any supplements hereto - on.

We reserve the right to make changes due to steady further development.

No claims can be derived from applications and explanations of this publication.

Safety hints for the technician:

Unauthorized people are not allowed to enter the vehicle and the area around it.

Your working area should be in good order.

Only works which you are commissioned and acquainted with have to be executed.

Increased caution is advisable in dangerous areas.

Obey the producer's information and safety hints for the applicable product when you deal with operation materials (oils, grease etc.).

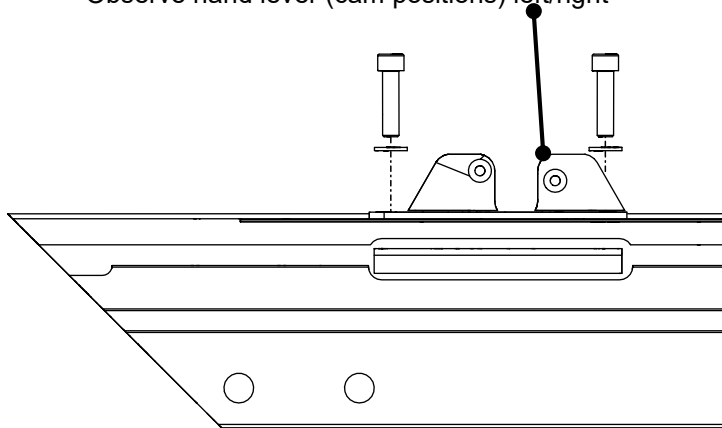
Only applicable lifting devices may be used.

Mounting counter bearing of locking upside

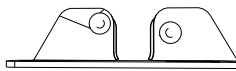
1

Attention:

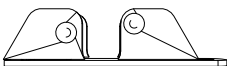
Observe hand lever (cam positions) left/right



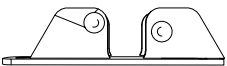
Mounted left side



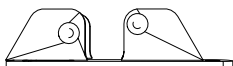
Mounted in the middle left side



Mounted in the middle right side



Mounted right side



Cylinder screw with
internal hex M10x50



Washer without chamfer
A10.5



Counter bearing of
locking upside
left/right



Counter holder for locking



Torque 48 Nm

Cylinder screws, counter bearings, washers and counter holders for locking have to be taken from the **accessories of the applicable portal**.

Tighten the counter bearing of locking upside only after the final mounting of the portal.



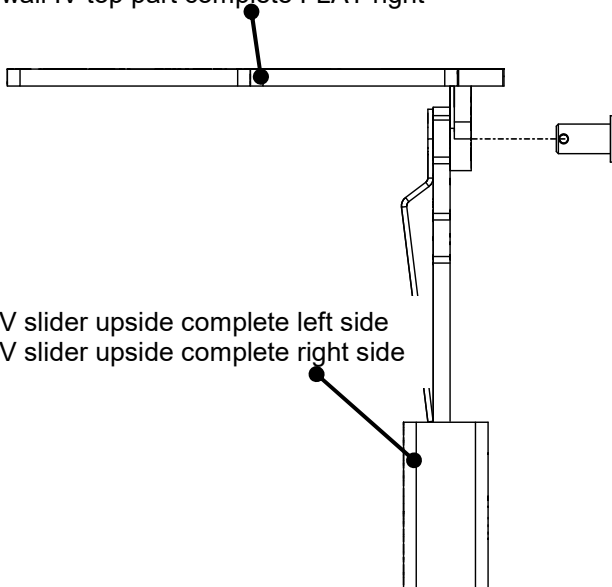
After the complete mounting of the top you can – provided that an upper flap is mounted – the flap can be mounted instead of the counter bearing of locking. The exact mounting has to be taken from the mounting instruction **“Upper flap FLAT”**

Pre-mounting sliders front wall IV


1

Connect the top part and slider with a bolt.

Front wall IV top part complete FLAT left
 Front wall IV top part complete FLAT right



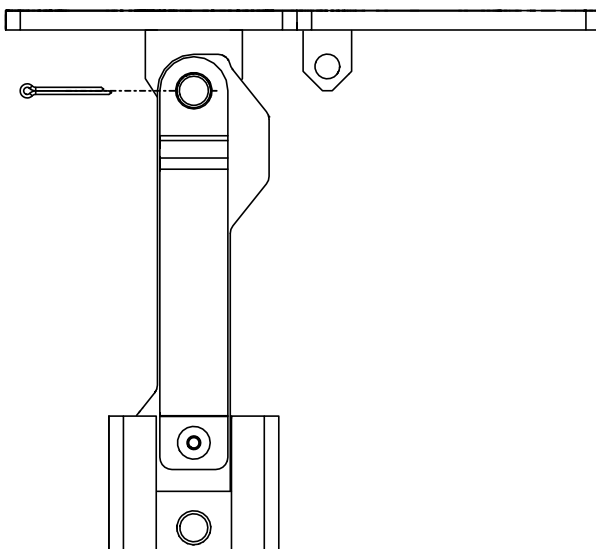
Front wall IV slider upside complete left side
 Front wall IV slider upside complete right side

 Bolt with head and cotter pin hole

The bolt has to be taken from the **applicable assembly kit**.

2

Fix the bolt with the splint



Splint

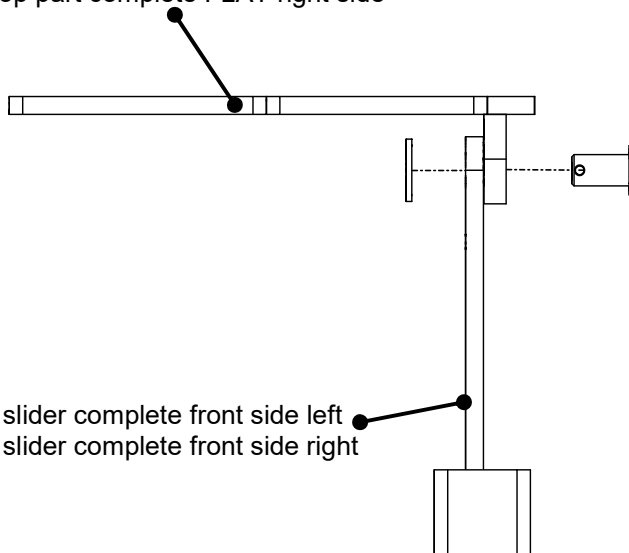
The splint has to be taken from the **applicable assembly kit**.

Pre-mounting of sliders front wall II


1


Connect the top part and slider with bolt and

Front wall II top part complete FLAT left side
 Front wall II top part complete FLAT right side



Front wall II slider complete front side left
 Front wall II slider complete front side right

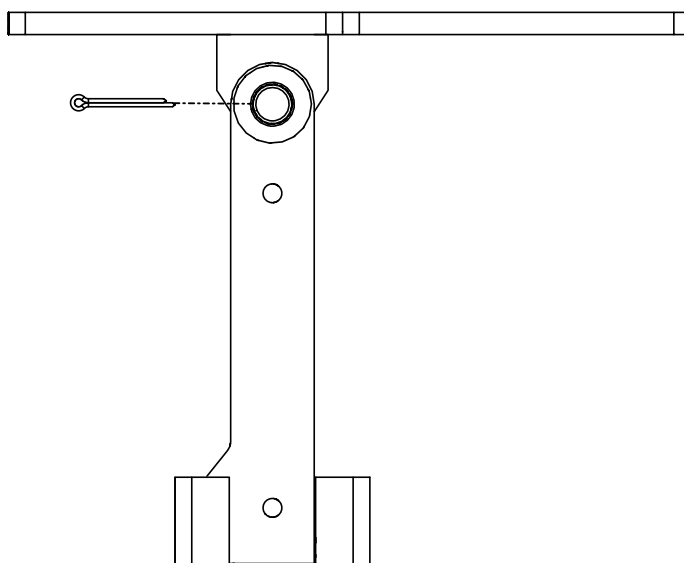
 Bolt with head and cotter pin hole

 Washer without chamfer A15

Bolt and washers have to be taken from the **assembly kit**.

2

Fix the bolt with the splint.

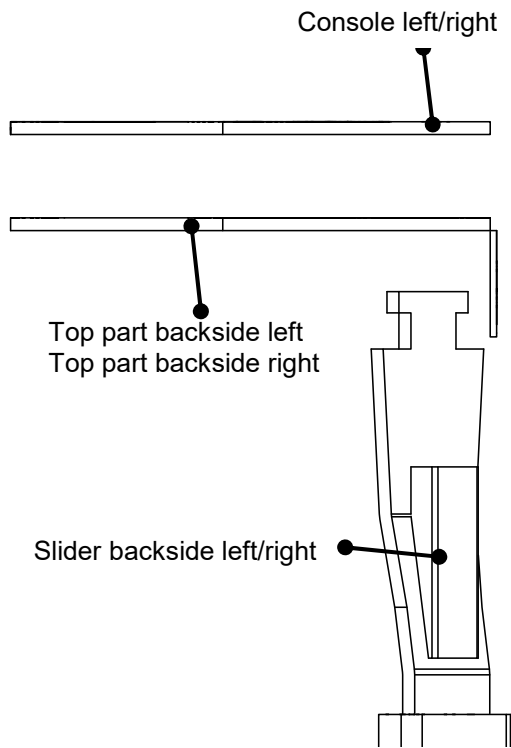


Splint

The splint has to be taken from the **applicable assembly kit**.

Pre-mounting sliders rear door III

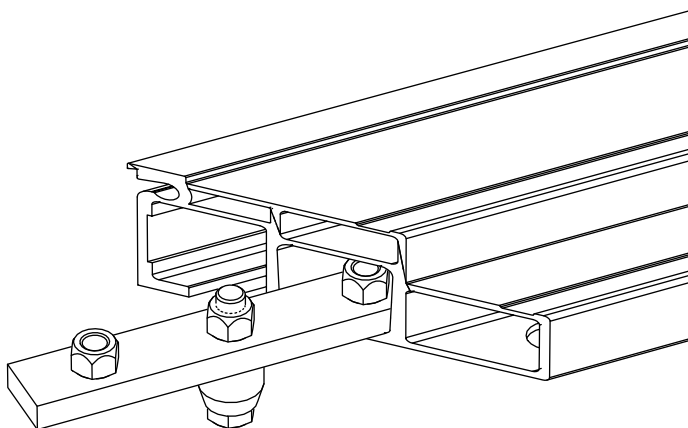
1



Top parts and sliders have to be taken from the **applicable assembly kit**.

Mounting of the clamping strip and the dealing profiles

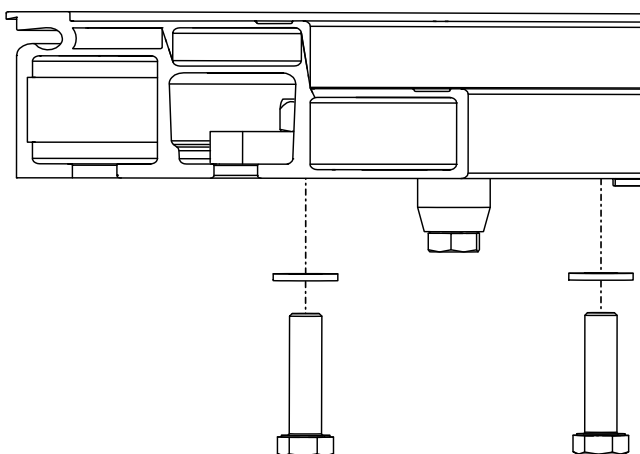
1





The clamping strips are mounted in the duct in the middle!

The clamping strips are part of the accessories
TSE no.: 1285111

2



 Hexagon screw M12x45

 Washer A12.5

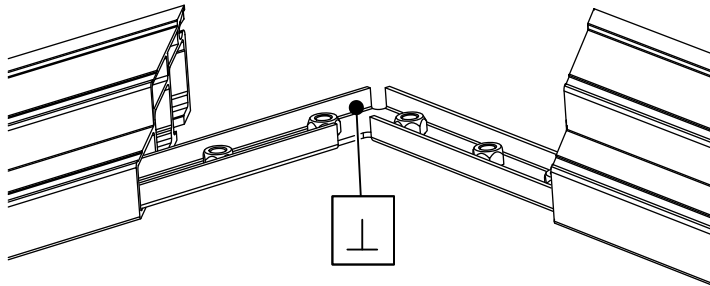
 **Torque 84 Nm**



Do not fix the screws tightly because they have to be removed again for mounting of the top part.

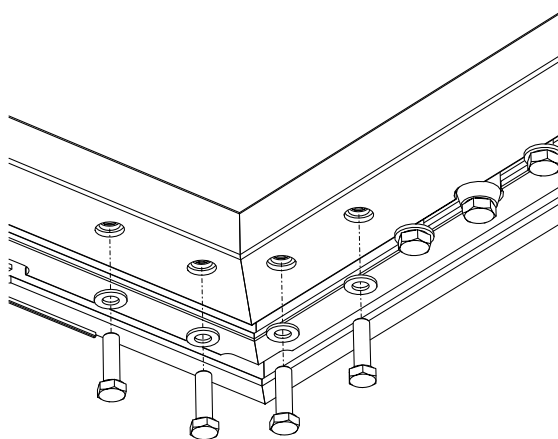
Mounting of insertions


1





The connection between the longitudinal and the cross rail is 90°.

2




 Hexagon screw M12x35

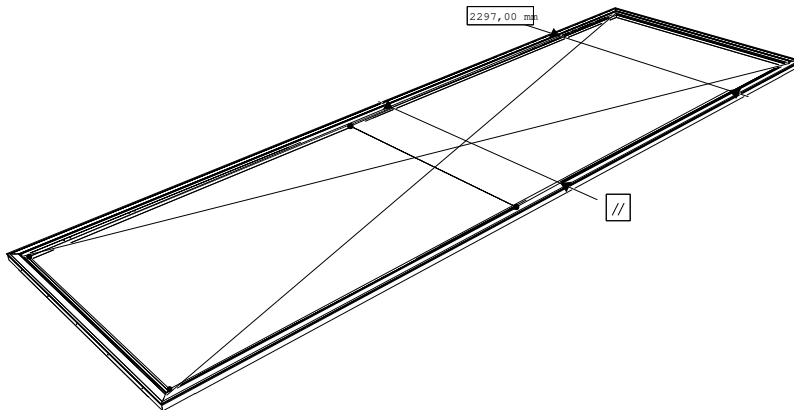
 Washer A12.5

 **Torque 84 Nm**

Hexagon screws and washers have to be taken from the **applicable accessories**.

 Do not fix the screws tightly because they have to be removed again for the mounting of the top part.

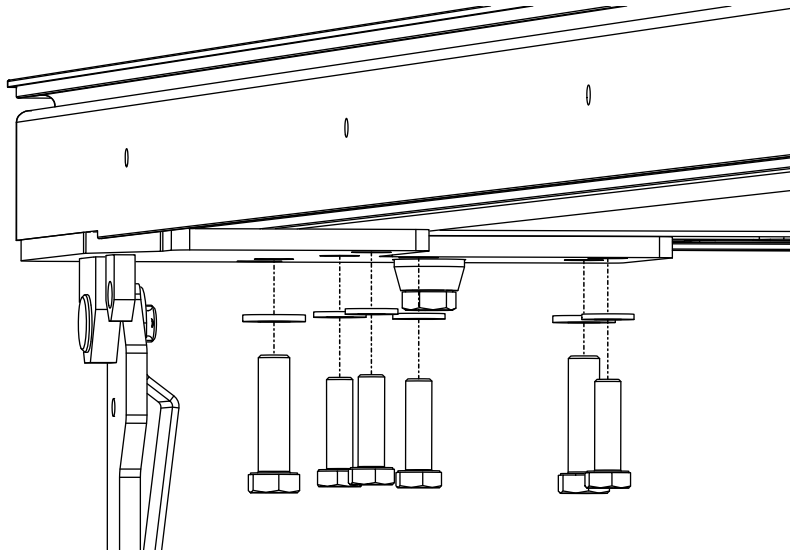
Reviewing the parallelism, diagonal and rail distances


1


The parallelism and the diagonal and the rail distance must be given.


Mounting of the sliders front side and backside


1



 Hexagon screw, fully threaded
M12x45


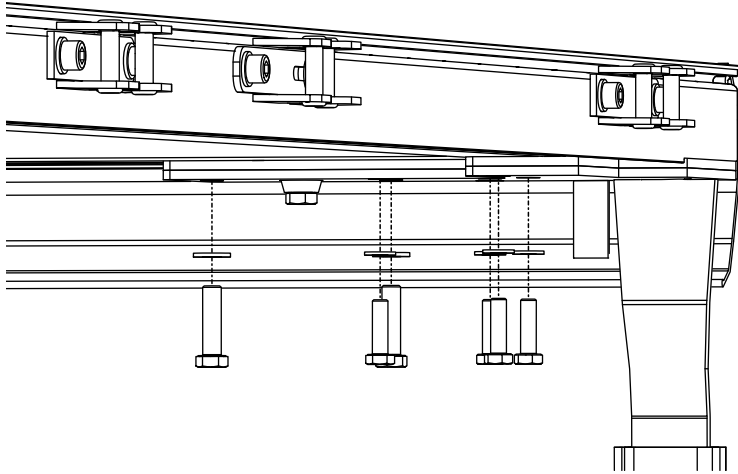



 Hexagon screw, fully threaded
M10x35

 Washer without chamfer A12.5

 Washer without chamfer A10.5

Hexagon screw and washers
are part of the **applicable
accessories.**

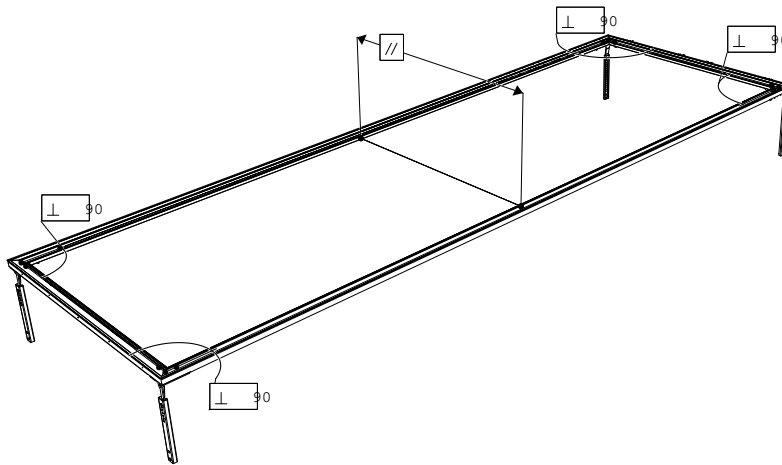
2

 Hexagon screw, fully threaded
M12x45 Hexagon screw, fully threaded
M10x35 Washer without chamfer A12.5 Washer without chamfer A10.5

Hexagon screw and washers
are part of the **applicable
accessories**.

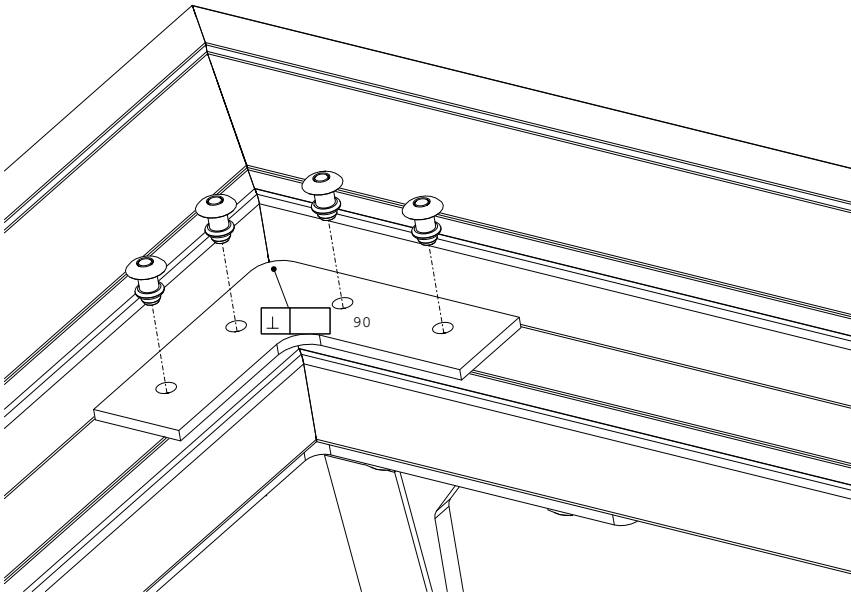
Mounting of the reinforcing bracket

1



The parallelism and the perpendicularity have to be reviewed again.

2

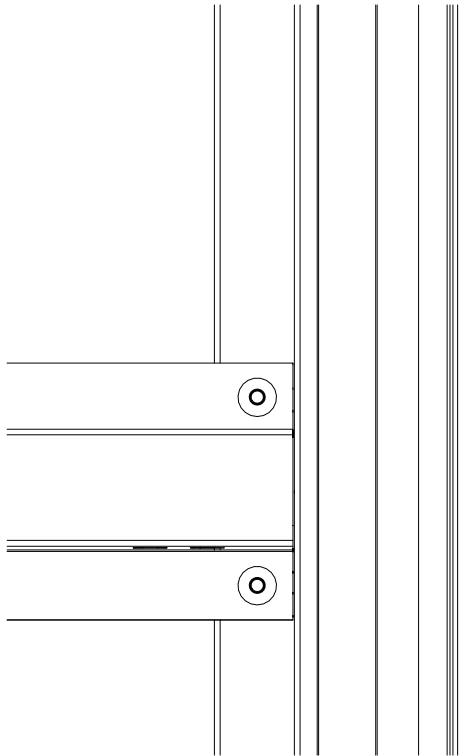


Hemlock rivet 6.5F,
KL-BER6.8-8.8mm

The rivet is part of the
applicable accessories.

When the parallelism and the
perpendicularity have been
reviewed again, the drillings
Ø6.8mm can be made and the
reinforcing bracket can be
mounted.

Mounting of the crossbeams

1**Rivet the crossbeams**

The crossbeam distance results from the given drillholes.

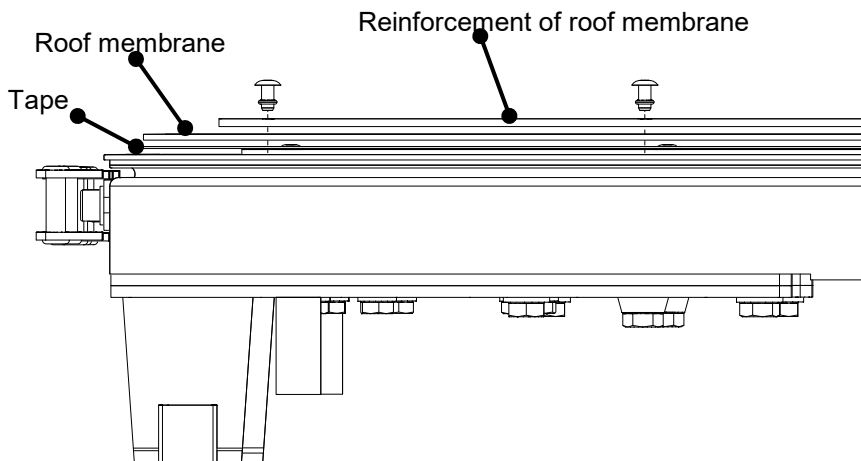
The mean of the crossbeams must be taken according to the width of the top because of the tolerance.



The mounting of crossbeams shall generally be started at the backside.

Mouting oft he roof membrane (normally done by tarp maker)

1



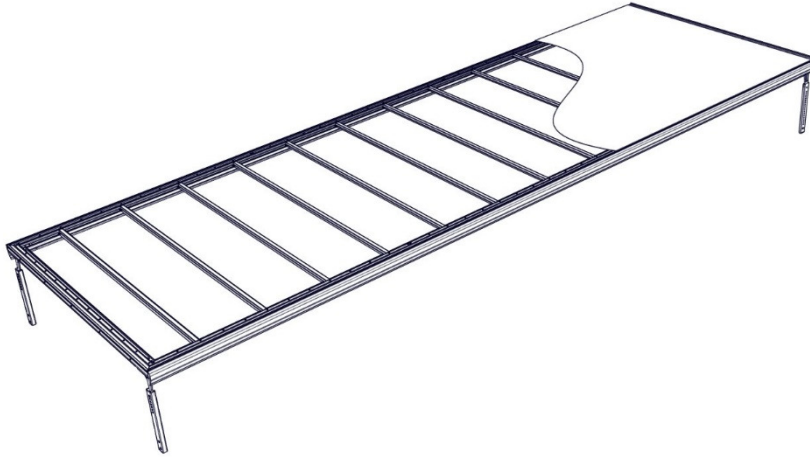
Hemlok rivet 6.5F,
 KL-BER8.8-10.8mm

Reinforcement of roof
 membrane
TSE no.: 1141848 and
TSE no.: 1141849

Recommendation for
 strength of reinforcement of
 roof membrane:
Aluminium: 1mm
GFK: 3mm

Tape
TSE no.: 000-06.270

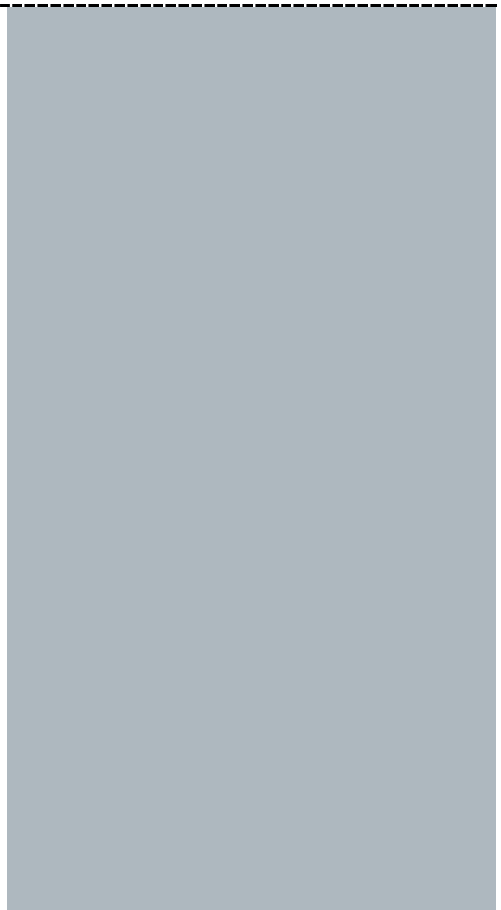
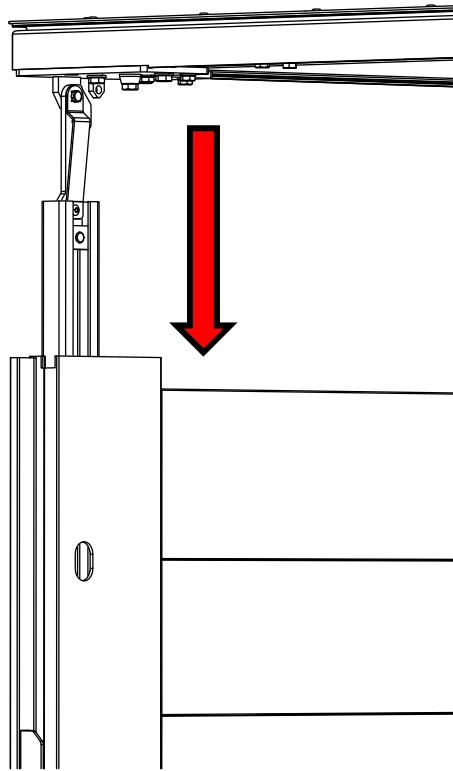
2



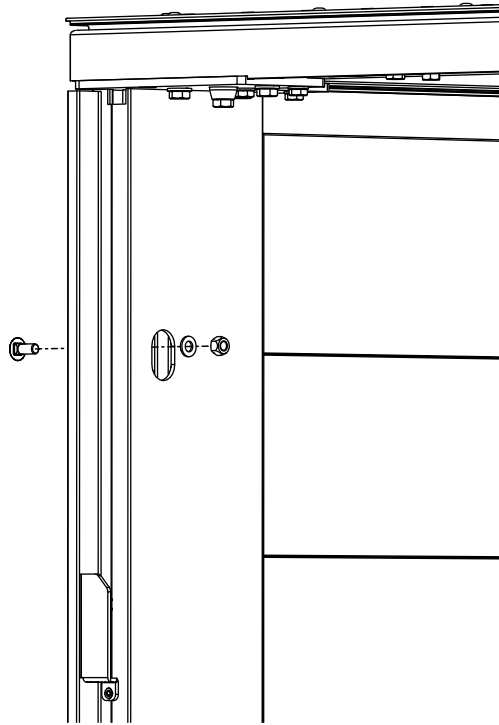

The mounting of the roof membrane has only been mentioned briefly here.


Inserting sliders into front wall


1



2


 Carriage bolt 10x25

 Washer A10.5

 Hexagon nut M10

Torque 48 Nm

The fixing hole has to be drilled.

Insert the carriage bolt through the stanchion and slider from the outside of the vehicle, and then fix it with washer and nut.

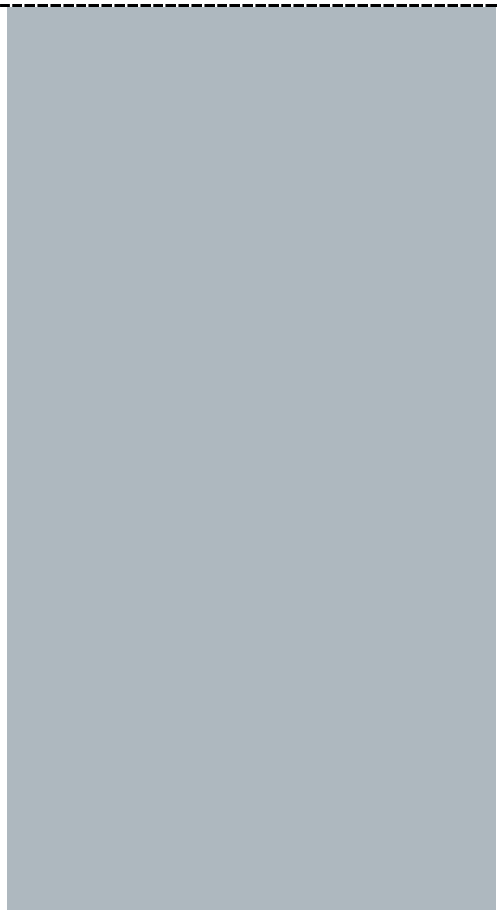
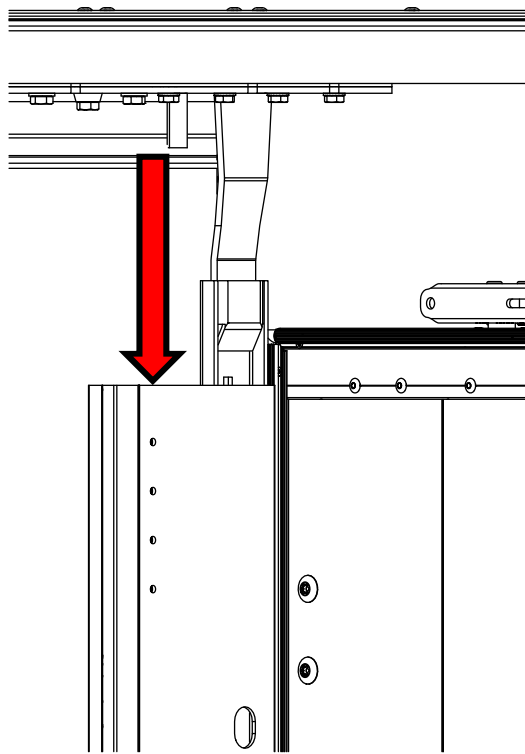


This drilling is only necessary a roof **without** hydraulics.

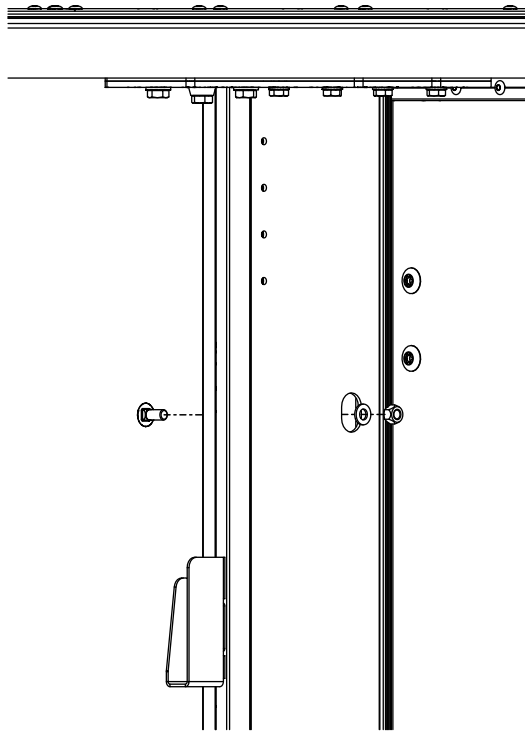
Carriage bolt, washer and nut are part of the **applicable mounting kit**.

Insert sliders into rear door

1



2



Carriage bolt 10x25



Washer A10.5



Hexagon nut M10

**Torque 48 Nm**

The fixing hole has to be drilled.

Insert the carriage bolt through the stanchion and the slider from the outside of the vehicle, and then fix it with washer and nut.

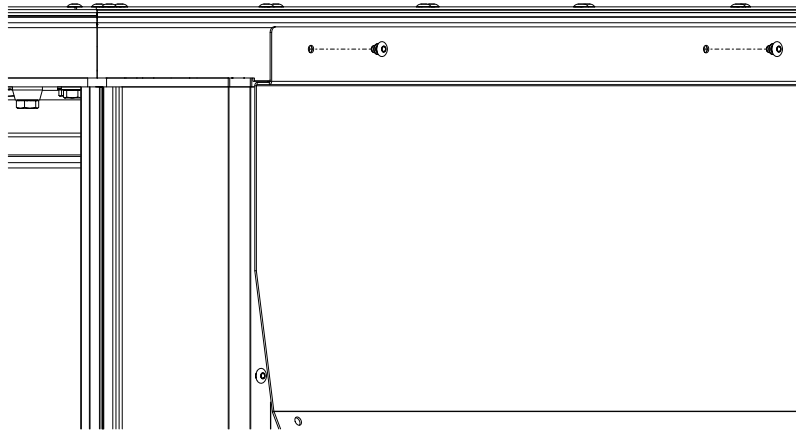


This drilling is only necessary a roof **without** hydraulics.

Carriage bolt, washer and nut are part of the **applicable mounting kit**.

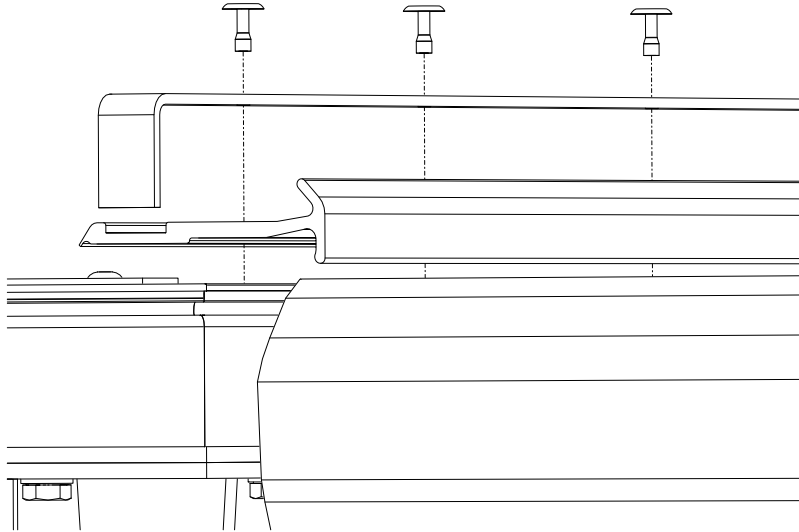
Mounting of the sealing sheet metal and sealing profiles

1



Hemlok rivet, 6.5F,
KL-BER3.4-5.4mm

Rivets and sealing sheet metal
are part of the **applicable
mounting kit.**

2

Cover strip for rain strip
TSE no.: 305-51.511

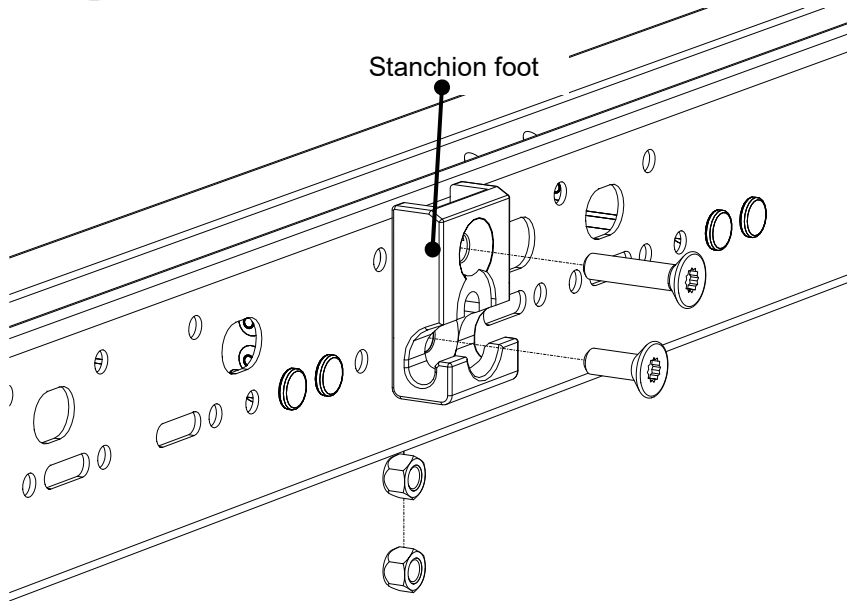
Rain strip
TSE no.: 306-52.102


Sealing profile
TSE no.: 204-52.101


Cover strip, rain strip and
sealing profile are part of the
applicable assembly kit.


Mounting of hinge stanchion

1



 Countersunk screw with Torx drive M14x55

 Countersunk screw with Torx drive M14x40

 Hexagon nut M14

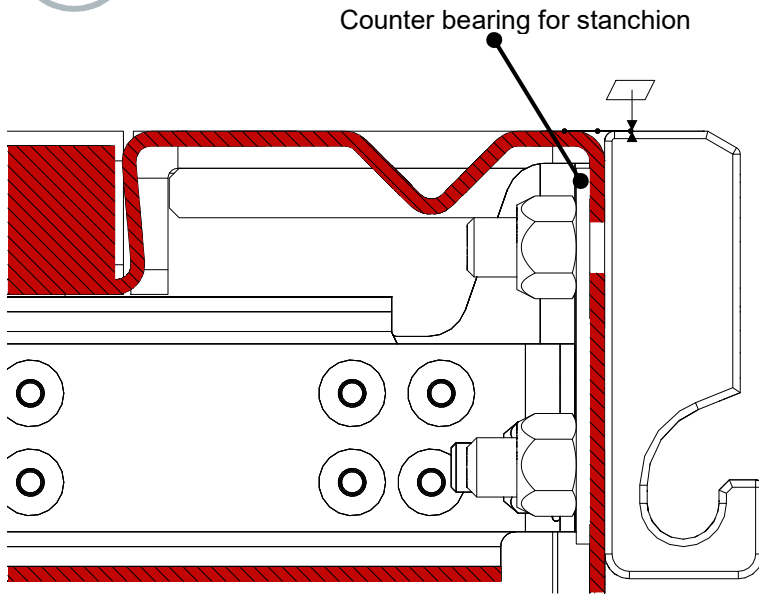
 **Torque 190 Nm**

Position of the stanchion foot according to calculation sheet

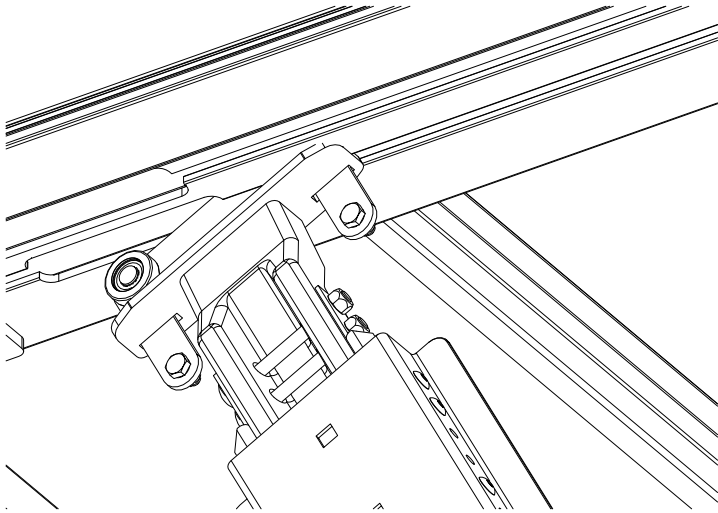
Drillings are made by the customer.

Countersunk screws, stanchion foot, hexagon nut and counter bearings are part of the **applicable stanchion**.

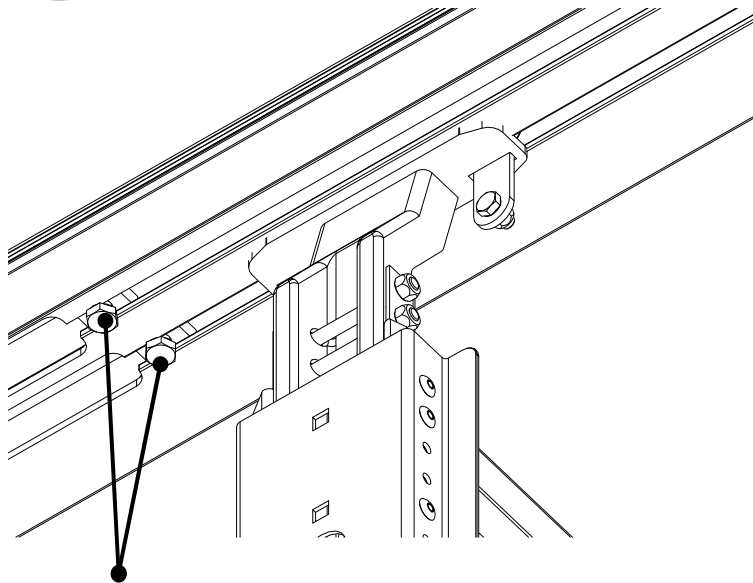
2



3



4



Stopper for roof rails



Stopper for roof rails

Hexagon screw, fully threaded
M10x35**Torque 48 Nm**

Mount all hinge stanchions and the fix them with the stopper for roof rails. The number of hinge stanchions depends on the length of the construction.

Stopper for roof rails and hexagon screws are part of the **applicable top**.

Revision levels

Revision level	Kind of change	Date	Name
00	New creation of mounting instruction	25 March 2019	Laib / Maier
01	Concerning the mounting of insertions, no. 000-06.017 will replace no. 000-06.013 and no. 000-06.125 will replace no. 000-06.057	15 April 2019	Laib / Maier
02	The safety hints have been supplemented	01 August 2019	Maier
03	Corrected tightening torques	29 September 2020	Boll
04	Page 4 changed	24.11.2020	Boll
05	Page 26, picture 1, screw fom M12 to M14	11 January 2023	Laib

Erstellt	Geprüft und Freigegeben
Datum: Name/Abt. Unterschrift	Datum: 29.09.2020 Name/Abt. U.Boll
Dokument: FB45120A	