

 **Wingliner**<sup>®</sup>  
Work less, do more.

## Assembly and Repair Manual



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## Table of Contents

1.	General information	4
2.	Transport and storage	9
3.	Construction parts	11
4.	Assembling frame and back square	12
5.	Reinforcing frame and adjusting them to motor vehicle	14
6.	Assembling rubber buffer	16
7.	Assembling hydraulic system	18
7a	Assembling hydraulic system for wingliners with 2 swivel motors per side	22
8.	Electrical connection and adjusting the swivel motor	24
9.	Mounting and adjusting the side walls	28
10.	Assembling the swivel arms	30
11.	Adjusting swivel arms on drive side and contact pressure of the side wall	32
12.	Adjusting swivel arms at the rear	34
13.	Assembling linkage	36
14.	Assembling hinge hook	38
15.	Assembling remaining parts	40
16.	Wear-resistance plate	42
17.	Final tasks	44
18.	Function inspection	46
19.	Markings	47
	Appendix	

# 1. General Information


Read this handbook before beginning the assembly  
This manual assists in proper assembly procedure

This present manual has been divided into individual assembly steps for purposes of clarity

The assembly of the  Wingliner® and its additional facilities is to be undertaken so that they may be operated according to our operating instructions

## Tips on Assembly Instruction



The points on the diagrams show the relevant assembly area on the  Wingliner®. Positional numbers are identical to the numbers on the drawing and replacements parts

## Regulations and Guidelines to be Observed

- Maintaining the valid safety regulations and safety-minded conduct when working are prerequisites for proper assembly
- We especially call to your attention the following:
  - The laws norms guidelines and rules specific to each technical area and country
  - Construction guidelines of the vehicle manufacturer
  - Safety regulations of the vehicle manufacturer
  - The norms and guidelines for motorcar electricity
  - Guidelines for drilling on the vehicle
  - Guidelines for welding on the vehicle frame


Note:




**ATTENTION** means a possibly damaging situation for the product



**WARNING** means danger to persons

- The safety regulations in these assembly instructions must be observed
- From the beginning of assembly of the sides up to the final removal of the  no persons may be in the swivel area without taking proper safety measures
- Vehicle batteries are to be disconnected before beginning assembly in order to avoid damage to the electronic parts, such as ABS, through welding procedures
- The electrical connection may only be undertaken by specialists
- Welding may only be undertaken by tested welders with the qualification of DIN 8560 (accident prevention regulation VBG 14)
- Always install the ground next to the parts to be welded
- Welding procedures only to be undertaken at a surrounding temperature of +5 degrees C
- Welding seam only to be done on smooth parts
- Any alteration of the construction parts is **FORBIDDEN**
- Changes in construction parts may only be made with our written permission

Note:

- Only original  Wingliner®-parts may be used
- Hydraulic system - use only the following types of oil:  
Wingliner special article No.: 50-2700  
Other hydraulic oils require a written release by Wingliner GmbH

### **Welding Procedure**

- Manual arc welding, number 135 according to 1504063
  - Electrodes: E 5122 RRG DIN 1931
- Inert gas shielded arc welding, number 135 according to 1504063
  - Welding rod: SG 2 DIN 8559
  - Welding deposit: SG 2 M 25232
  - Inert gas: M 2, deposit from welding according to  
DIN 8563, group BK and/or BS

### **Range of Delivery**

We reserve the right to undertake changes in delivery form, execution and technique

---

Note:

### **Guarantee Services**

- Guarantee services follow according to our guarantee or type certificate and our general delivery and payment conditions
- We are not responsible for assembly mistakes
- Claims cannot be made from the descriptions, pictures and information given in this manual
- All guarantee claims are invalid if changes on construction parts, additional superstructures and other additions have been made without our written permission

---

Note:

### Type Plate



 **Wingliner®**  
Wingliner GmbH  
CE

Bahnweg 1, A-5301 Eugendorf  
Tel: +43 (0) 6225 / 7627-0  
Fax: +43 (0) 6225 / 7627-29  
E-Mail: office@wingliner.com  
www.wingliner.com

Serial No.:

Engine No.:

Aggregate No.:

LL / LH:

Year of construction:

Please read the type plate on the machine  
Write down the information given in the type plate chart shown here

Note:



## 2. Transport and Storage

### Regulations and Guidelines

- Only use tested hoists with adequate loading capacity and stability
- Note the center of gravity when transporting the side walls
- Cover and secure weight loads according to regulations
- Never transport weight loads over persons and never walk under suspended weights
- Prepare unloading zone properly before lifting a load and avoid unnecessarily long lifting periods
- Lift loads only when transport pathway is clear, select the clearest transport pathway
- Only trained personnel should operate the hoists in order to avoid danger to other persons and damage to the construction parts
- Protective helmet, shoes and gloves must be worn

### Transport Conditions

- Protect system parts against transport damages by using retaining belts, buffer elements and ensuring adequate distance to other transport goods
- Handle the construction parts carefully and never tip them
- Do not set heavy weights on the parts
- Avoid heavy impacts

---

Note:

### **Unloading, Inspection and Damage Reports**

After unloading:

- Remove transport packaging
- Dispose of packaging according to waste disposal laws
- Check that delivered goods are complete and undamaged

When goods are incomplete or damaged:

- write down details immediately
- Also note the claim on the transport company's papers
- Photograph damaged parts
- Send report to Wingliner Produktions- und Vertriebs GmbH

### **Storage**

Storage conditions:

- Store construction parts in a dry area and protect against scratches
- Store electric construction parts especially carefully in a packed condition
- For longer storage periods, protect bare metal pieces (i.e. oil them)

Storage area:

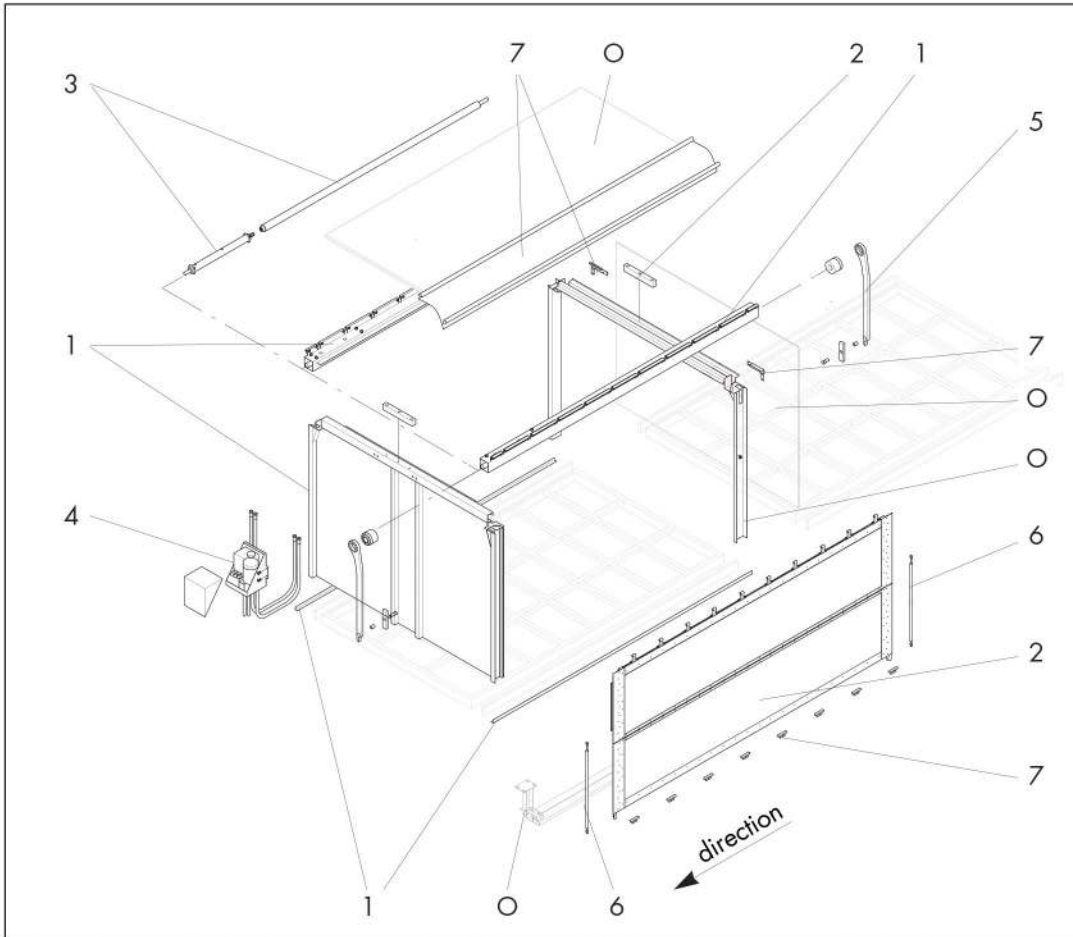
- In a storage room or packed in adequate weather protection
- The storage area must be free of corrosive materials, vapors and combustible materials

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Note:



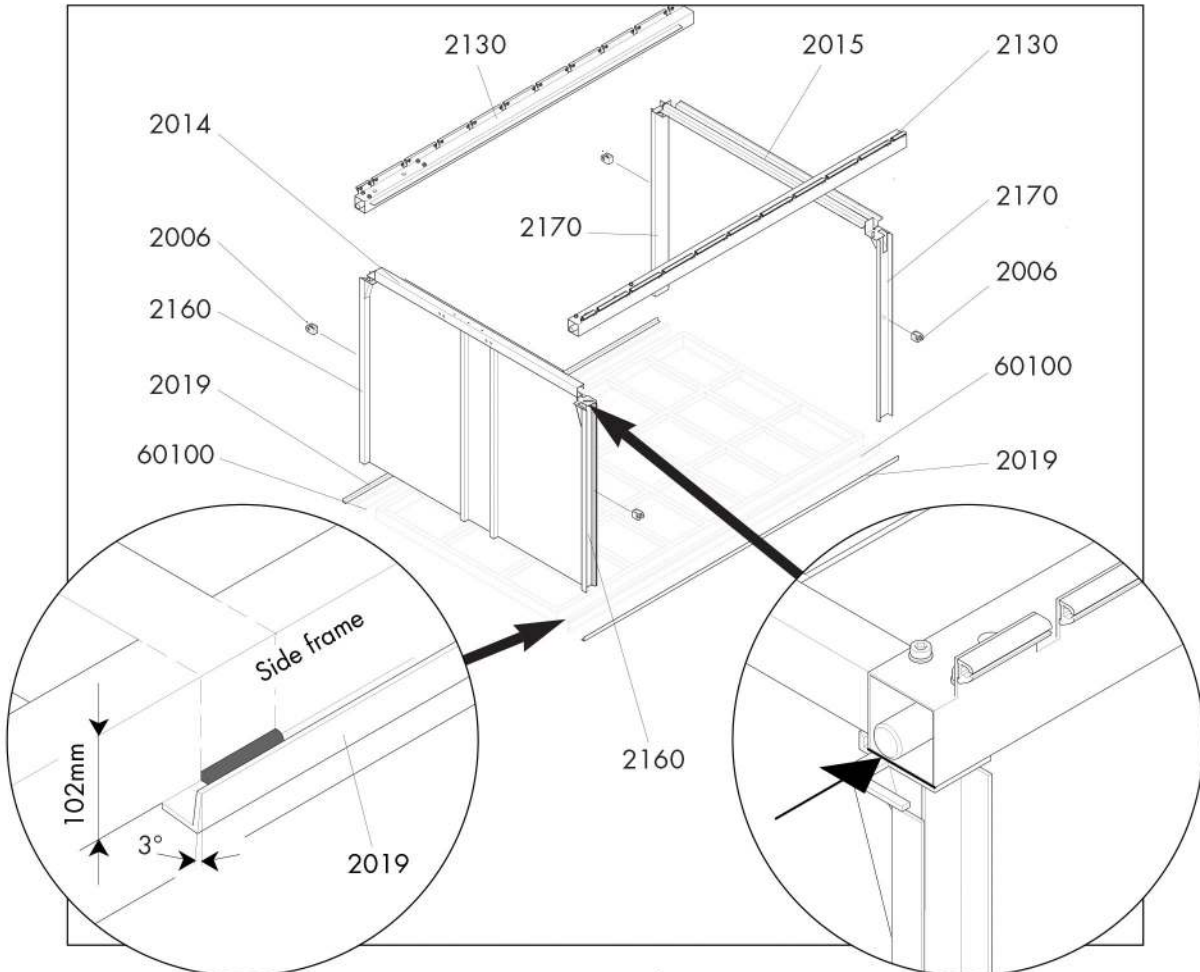
### 3. Construction Parts



- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>1 Frame, steel angle border</li> <li>2 Side walls, rubber buffer</li> <li>3 Drive, torsion shaft (built in)</li> <li>4 Hydraulic system</li> <li>5 Swivel arms</li> <li>6 Linkage</li> </ul> | <ul style="list-style-type: none"> <li>8 Remaining parts                             <ul style="list-style-type: none"> <li>- Hinge plugs</li> <li>- Upper chord cover</li> <li>- Tarpaulin</li> <li>- Various screws, washers and hexagon nuts</li> </ul> </li> </ul> |
|---|--|
- 
- |  |
|--|
| <ul style="list-style-type: none"> <li>○ Optional items                             <ul style="list-style-type: none"> <li>- Roofing plate, see „working instructions glue up roof“</li> <li>- Rear wall, portal door</li> <li>- Folding step (Foldector)</li> </ul> </li> </ul> |
|--|



## 4. Assembling Frame and Back Square



### Parts List

- 2006 Bracket for linkage (assembled)
- 2014 Upper front chord
- 2015 Upper rear chord
- 2019 Back square for lock
- 2130 Upper side chord
- 2160 Front end stanchion
- 2170 Rear end stanchion
- 60100 Aluminum cover strip

**Note:**

The front portal with built-in front wall and the rear portal are supplied completely welded and hot-galvanised.



### Montage

**ATTENTION** Upper cord (2130) must be mounted flush with the cut-out on the support (front and back)

- Position front portal with front wall and rear portal and attach to assembling frame
- ➔ Check verticals and diagonals
- Divide upper side flanges (2130) into lengths and attach
- ➔ Align frame construction, check diagonals, check that upper cord is flush with cut-out
- Weld frame construction
- Delineate position for back square (2019) (102 mm from upper edge of side frame)
- Attach back square (2019) to the side frame, adjust length
- Adjust aluminum cover strip (60100) to assembly frame and mount
- Apply a new base coat to welded areas

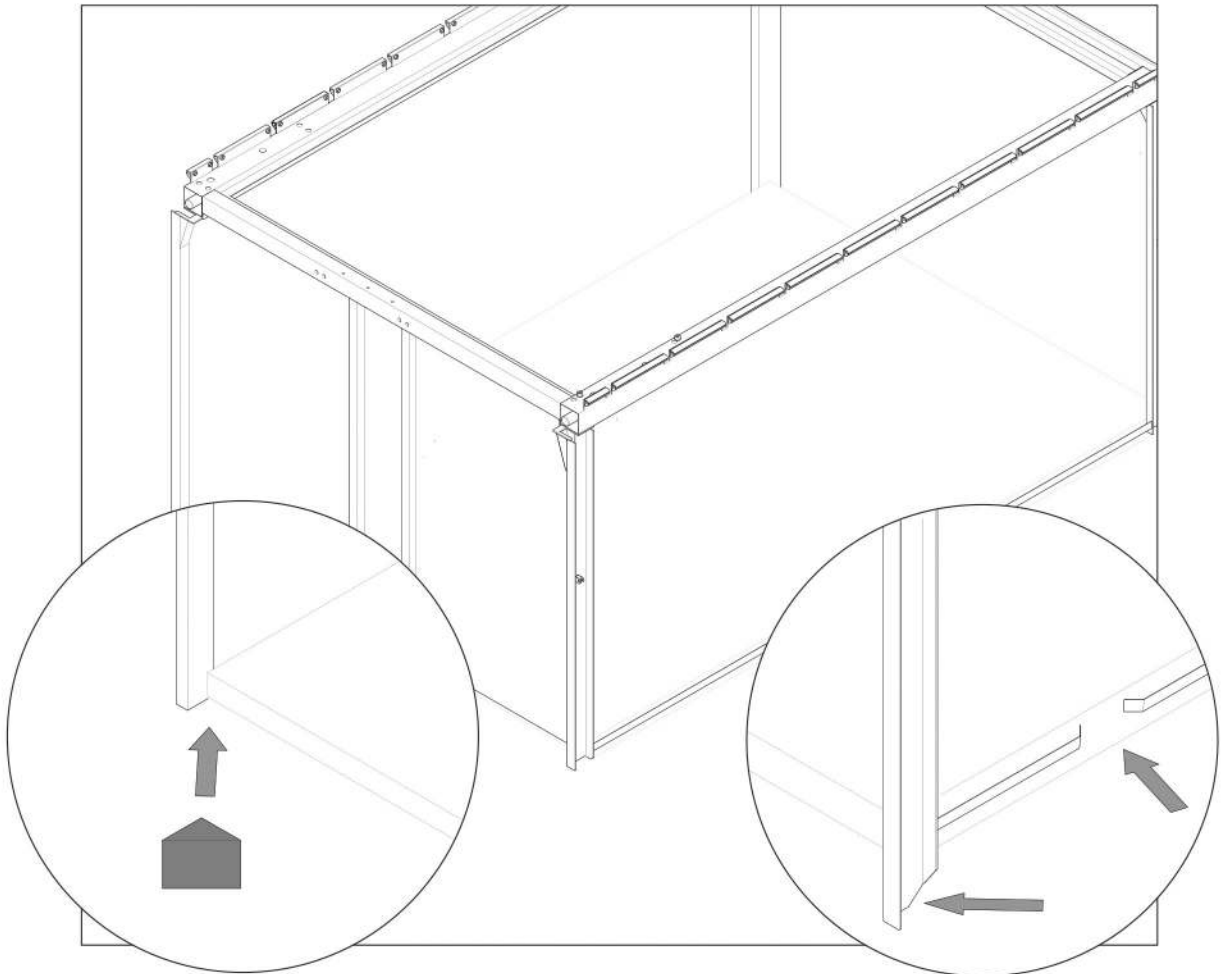
### Check

- ☞ Diagonals
- ☞ Back square position, pneumatic spring brackets
- ☞ Welding seams
- ☞ That holes for rubber buffer and hydraulic connections are present in the upper chords (2130, 2014) - if not, drill holes


Note:



## 5. Reinforcing Frame and Adjusting them to Motor Vehicle



### Assembly

- Reinforce frame construction in front area
  - Adjust back square (2019) to vehicle conditions  
(Make recesses for wheel case, filler neck, tank)
  - Weld back square to assembly frame
  - ➔ Set welding seams in the area of the crossbars on the assembly frame
  - ➔ Set welding seams from above and from below
  - Mount any additionally-purchased construction parts
  - ➔ Observe the guidelines and rules of each manufacturer
-  Check and repair galvanising

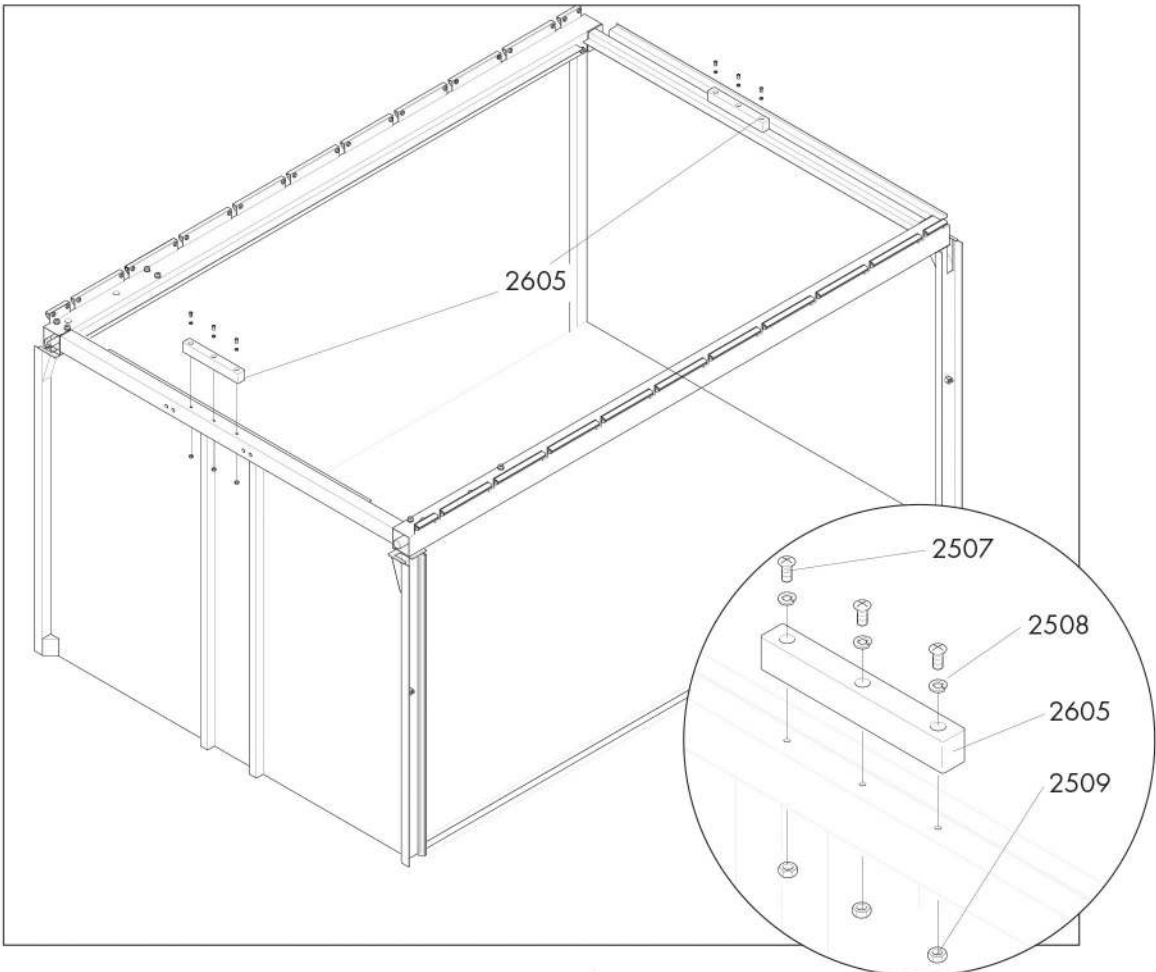
### Varnish if desired

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Note:



## 6. Assembling Rubber Buffer



### Parts List

- |      |                                    |
|------|------------------------------------|
| 2507 | Saucer-head screw M10x50 - DIN 603 |
| 2508 | Lock washer ø10 - DIN 127          |
| 2509 | Hexagon nut M10 - DIN 934          |
| 2605 | Rubber buffer                      |



**Assembly**

- Mount both rubber buffers (2605) on the upper belt in front and in the rear using the saucer-head screws (2507), lock washers (2508) and hexagon nuts (2509)



**ATTENTION** The rubber buffer **MUST** be assembled before the side walls in order to avoid damaging the side walls when opening them !

**Note:**

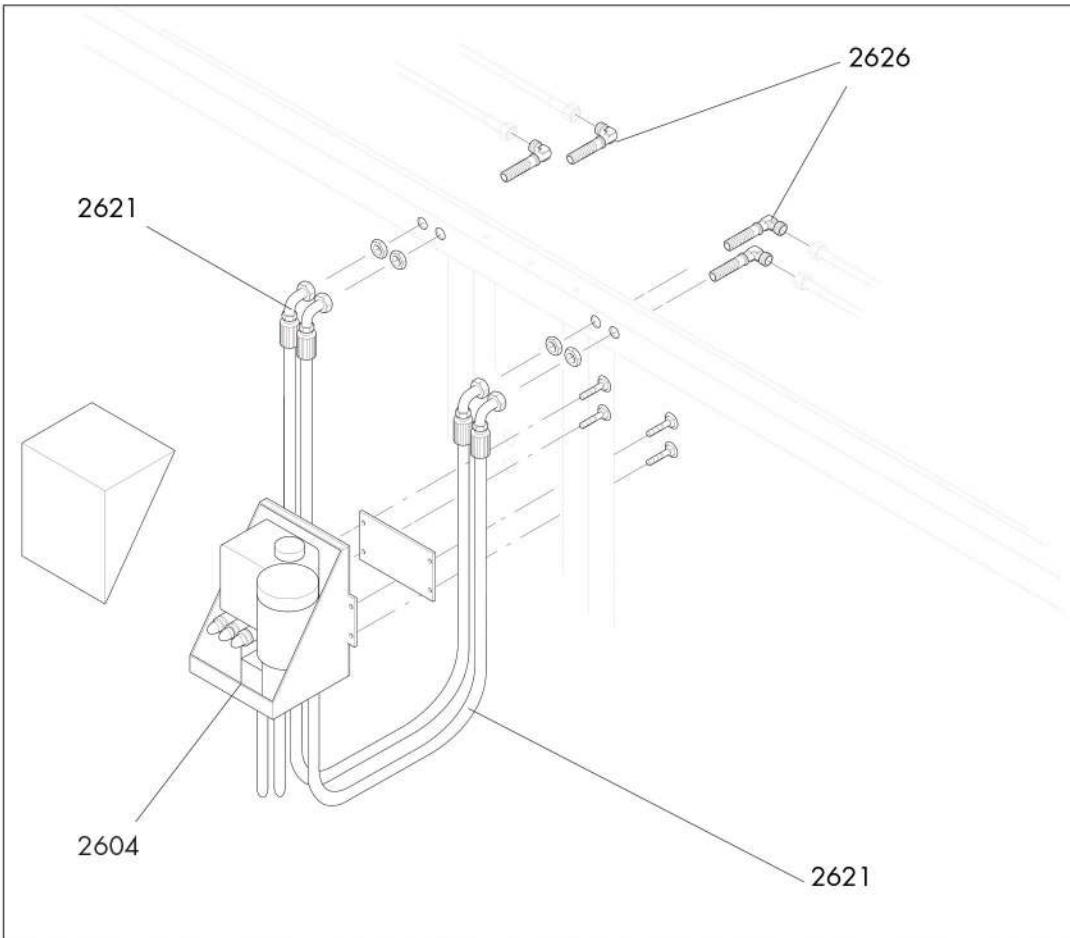
After assembling the rubber buffer, the roof can be assembled. When the roof is supplied by Wingliner, the instructions for "Assembling the roof" must be followed. (See appended instructions)

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Note:



## 7. Assembling Hydraulic System



### Parts List



- |      |  |
|------|--|
| 2604 | Hydraulic aggregate complete with mounting plate |
| 2620 | Hydraulic tubes 1050-2 SNK/10                    |
| 2626 | Threaded elbow fitting - WSV 12-L                |
| 2621 | Hydraulic tubes 1000-2 SNK/10                    |

approx. 10 litre hydraulic oil - only use Wingliner special oil (2700)



**ATTENTION** Do not blow out construction parts !  
Ensure absolute cleanliness !

#### Preliminary Work

-  Check hydraulic aggregate - delivery content, damages
-  Check drill holes for angular threaded joint in the upper chord and remove enamel spills, if necessary
- Remove transport safety devices
- Have ready: hydraulic oil (amount: approx. 10 l)
- Determine assembly area for hydraulic aggregate
- Remove cover caps on the hydraulic tubes
- Prepare hydraulic diagram (see supplements in the appendix)

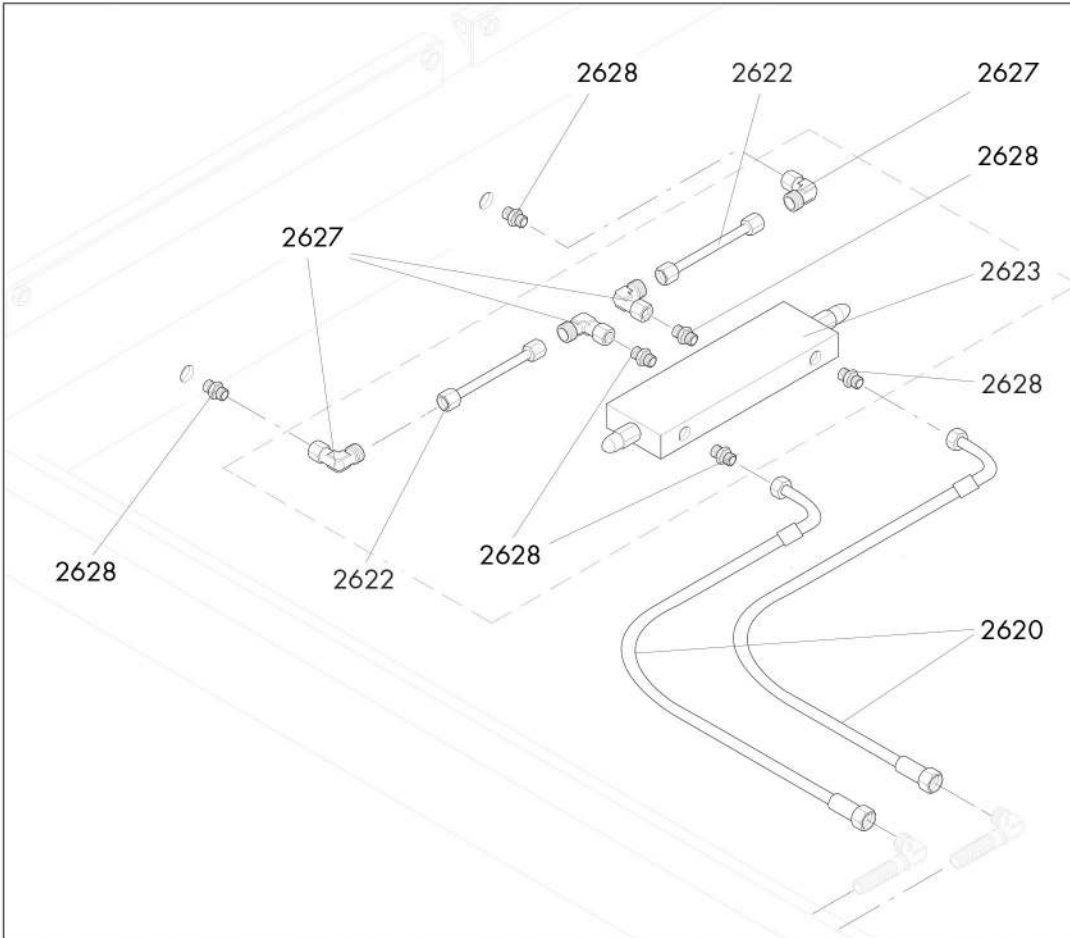
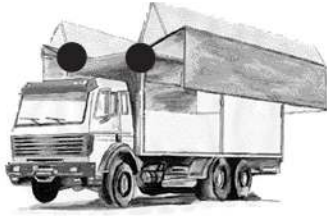
#### Assembly

- Mount hydraulic aggregate (2604) with mounting plate
- Mount hydraulic tubes (2621) - check left and right !



**ATTENTION** Operational pressure is 180 bar !

Note:





**Parts List**

- 2621 Hydraulic tube 1050-2 SNK/10
- 2622 Pipe
- 2623 Countertorque holding valve - OWC/DE - 38/LU
- 2626 Male elbow fitting - WSV 12L
- 2627 Threaded elbow fitting - EVW 12L on 2620 premounted
- 2628 Straight screw union piece - GE 12-LR-ED

**Note:**

Countertorque holding valve with elbow fittings is premounted in the upper cord.

### Preliminary Work

-  Check the construction parts - delivery content, damages
-  Ensure absolute cleanliness
- Remove blind plugs



**ATTENTION** No hydraulic tubes may be mounted between the swivel motor and the countertorque holding valve !



**Do not blow out construction parts !**

**Starting torque for hydraulic screw connections = 55 Nm !**

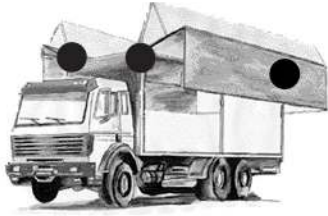
### Assembly

- Mount hydraulic tube (2620) on the countertorque holding valve (2623)
- Lay hydraulic tube (2620) with male elbow fitting (2626) along the upper cord (2014), pass through the hole in the upper cord (2014) and then secure
- Connect hydraulic tube (2621) to hydraulic tube (2620)
- Fill hydraulic oil into oil tank of hydraulic aggregate

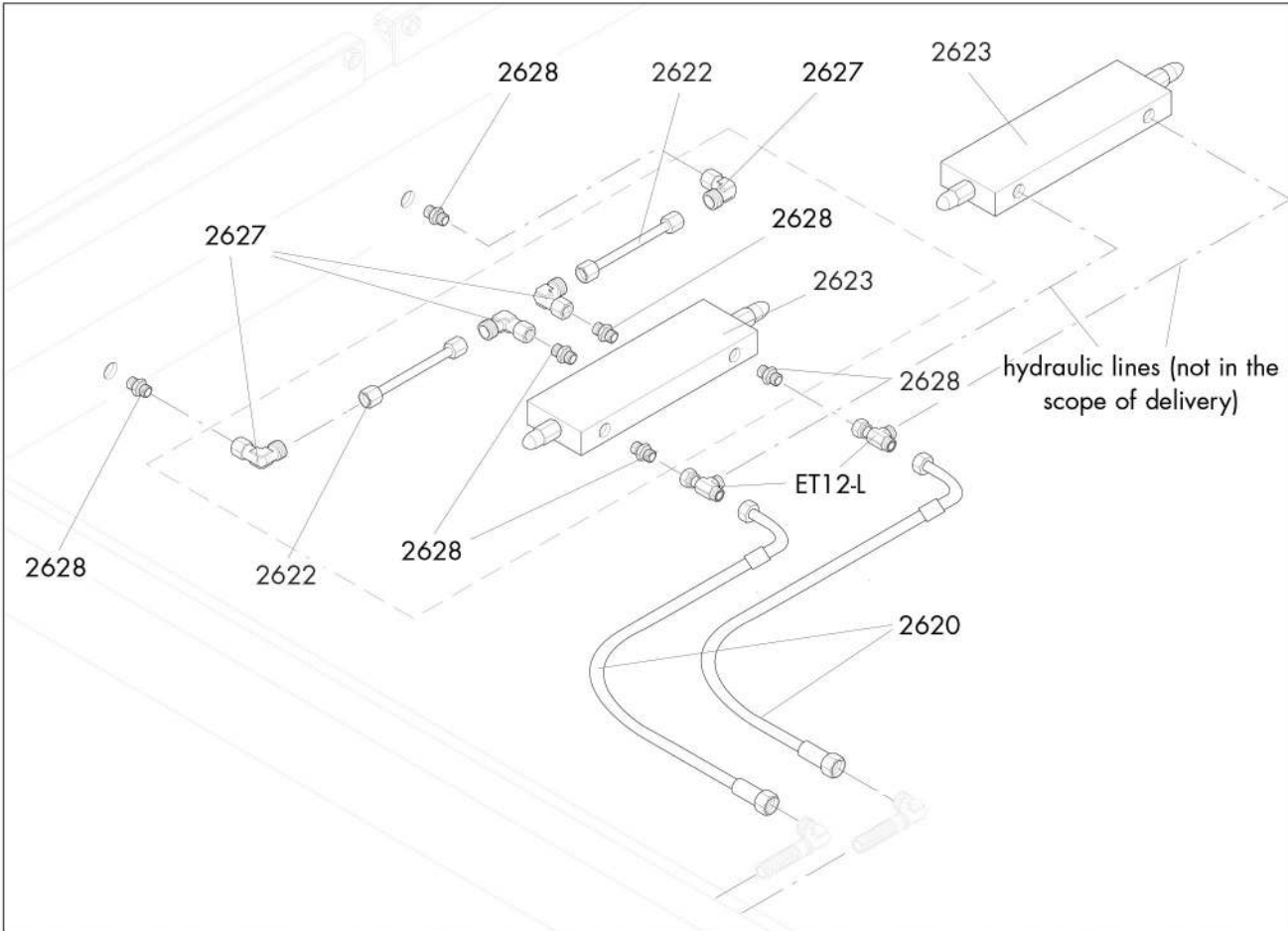
### Check

-  That screw connections are tight
-  That hydraulic system is leak-proof

Note:



## 7a. Assembling Hydraulic System for wingliners with 2 swivel motors per side



### Parts List

2621	Hydraulic tube 1050-2 SNK/10
2622	Pipe
2623	Countertorque holding valve - OWC/DE - 38/LU
2626	Male elbow fitting - WSV 12L
2627	Threaded elbow fitting - EVW 12L on 2620 premounted
2628	Straight screw union piece - GE 12-LR-ED
ET12-L	T-connector

#### Note:

Countertorque holding valve with elbow fittings is premounted in the upper cord.

- ❑ please follow the instructions on pages 18 and 19 first

### Preliminary Work

- ☞ Check the construction parts - delivery content, damages
- ☞ Ensure absolute cleanliness
- Remove blind plugs



**ATTENTION** No hydraulic tubes may be mounted between the swivel motor and the countertorque holding valve !

**Do not blow out construction parts !**

**Starting torque for hydraulic screw connections = 55 Nm !**

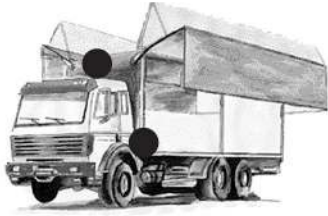
### Assembly

- ❑ Mount T-connector (ET 12-L) and hydraulic hose (2620) on the countertorque holding valve
- ❑ Thread the hydraulic hose (2620) with the angular screwed connections (2626) through the drill hole in the upper run (2014) and then fasten
- ❑ Connect the hydraulic hose (2621) with the hydraulic hose (2620)
- ❑ Lay the hydraulic lines (not included in the scope of delivery) from the T-connector to the countertorque holding valve in the rear (2626). The front connection of the countertorque holding valve should be connected to the rear connection of the rear countertorque holding valve and vice versa
- ❑ Fill in hydraulic oil in the oil reservoir of the hydraulic aggregate

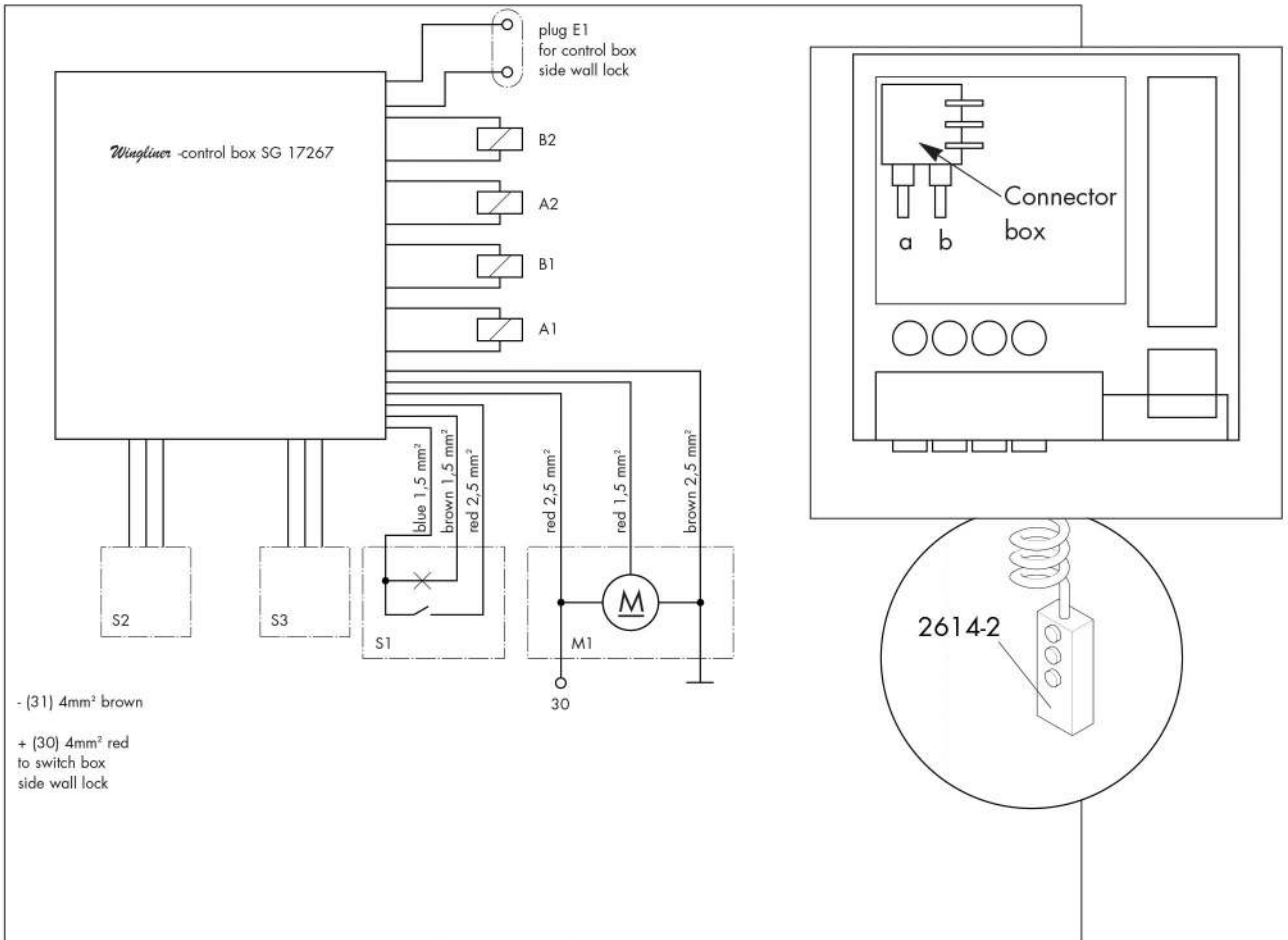
### Check

- ☞ That screw connections are tight
- ☞ That hydraulic system is leak-proof

Note:



## 8. Electrical Connection and Adjusting the Swivel Motor



### Parts List

2614-2 Service part



### ATTENTION

The service part should be mounted in the driver's cab (protected from the weather)! In trailers, semitrailers and interchangeable superstructures the service part must be mounted in the delivered case such that it is protected against the weather.





**ATTENTION** The guidelines of the vehicle manufacturer must be followed.



### Preliminary Work

- ➔ Read up on electrical requirements as well as cable lay-out in the vehicle manufacturer's construction guidelines
- Also see supplements in the appendix under electrical circuitry diagram
- Mark the cable on socket 50 of the ignition lock (The guidelines of the vehicle manufacturer must be followed!)
- Mount the assembly area for the safety switch on the dashboard or connect to loading edge wall switch

### Assembly

- Mount holder for service part
- Mount safety switch on dashboard or use the loading edge wall switch
- Lay cable for hydraulic aggregate and connect according to flow diagram (minimum cross-section 35mm<sup>2</sup>)
- Clamp service part (2614-2) to electric supply connection  
Connections to electric supply:
  - (a) service part on side wall, passenger side
  - (b) service part on side wall, driver's side
- Cut cable on socket 50 of ignition approx. 30 cm from ignition and mount plug and socket connections on both cable ends
- Connect plug and socket connection to relay
- Screw relay onto underside of dashboard

### Check

-  All cable connections
-  Safety switch function

### Montage

- Function check of the opening process - turn the motor 4-5 complete turn - then move to zero position (= wall closed) and mark zero position on the shaft journal of the motor
- Then open swivel motor 10°

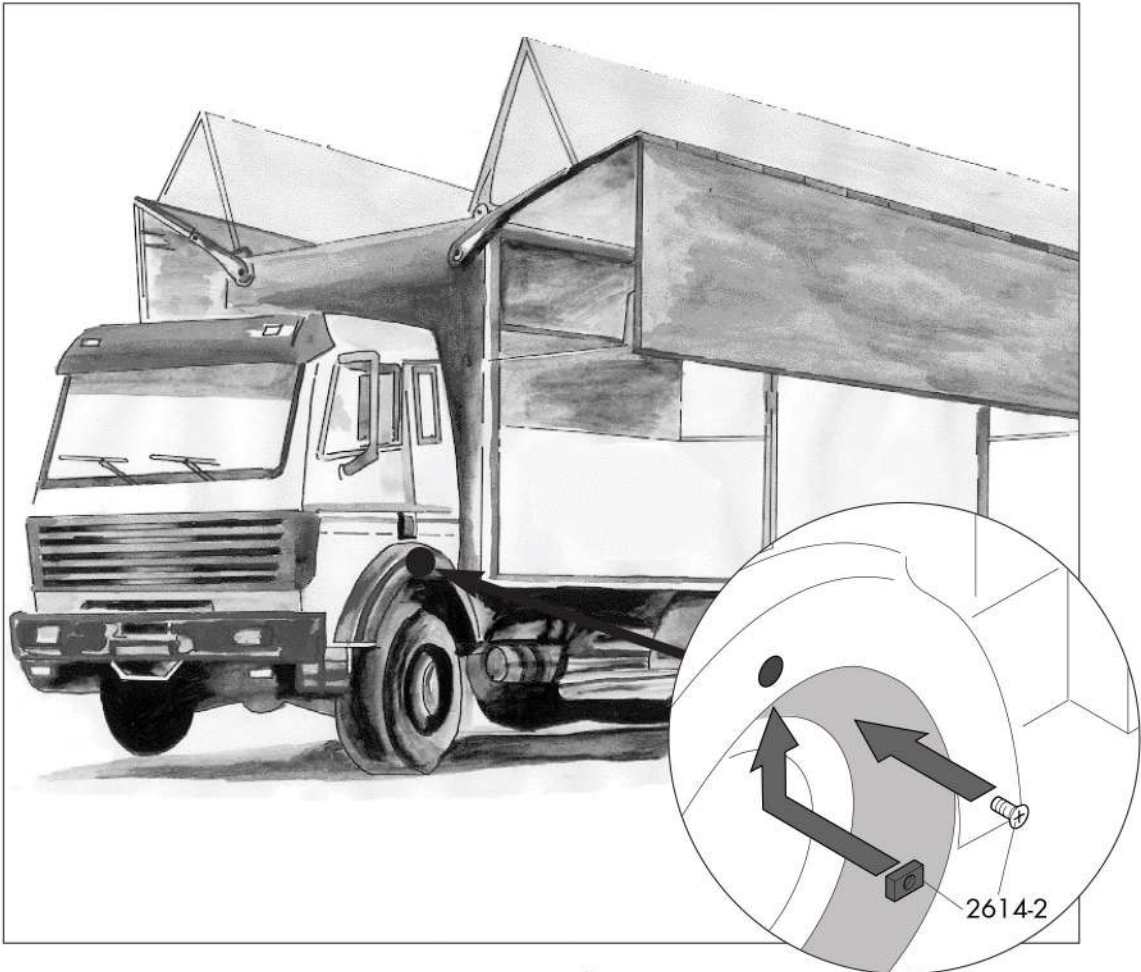
### Assembly with wingliners with 2 swivel motors (2602)

Please follow the above instructions for the two swivel motors (2602)

Note:

For precise instructions for the electrical connection please refer to the assembly instructions for the E-set. The instructions can be found in the E-set packaging or in the Annex.

Note:



**Parts list**

2614-2 Magnet for service part

### Assembly

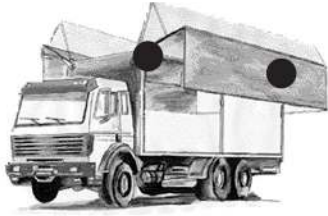
- Furnish magnet (2614-2) with threading
- Mounting position on vehicle:  
on wheel case, in vertical of door handle
- Drill hole
- Screw in magnet (2614-2)

#### Note:

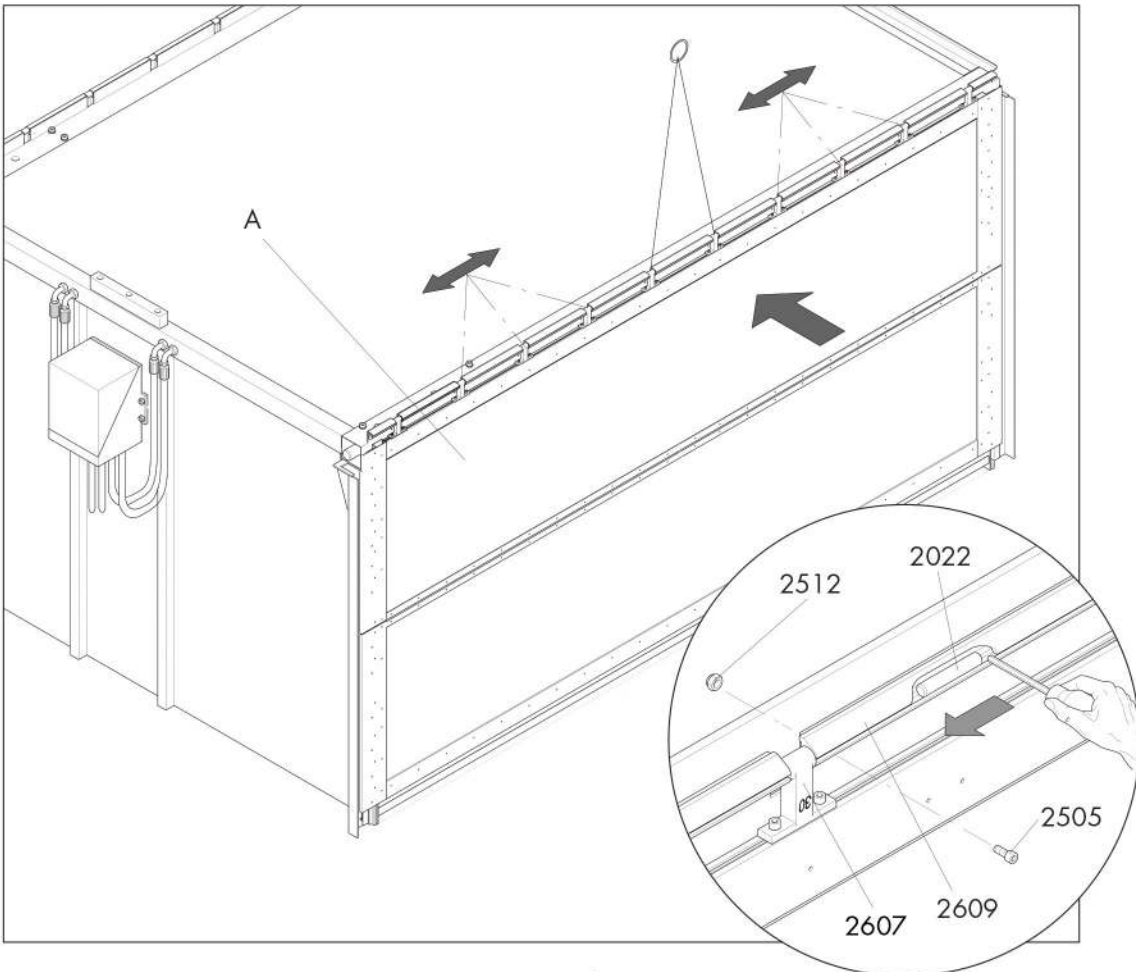
In trailers, semitrailers and interchangeable superstructures the magnets should be mounted so that the driver is outside the swivel range when operating the side walls.

---

Note:



## 9. Mounting and Adjusting the Side Walls



### Parts List

A	Side Wall
2022	Hinge bolts
2505	Hexagon socket screw M8x25 - 8.8 vz - DIN 912
2512	Hexagon nut M8 - 8 vz - DIN 934
2607	Hinge eye (preassembled)
2609	Hinge strip (preassembled)

### Preliminary Work

- Check for damages to the side walls (A)
- Screw the hinge eye (2607) loosely onto the side walls (A)
- Center the two hinge eye (2607) at a distance of 500 mm from one another and screw in tightly

### Assembly



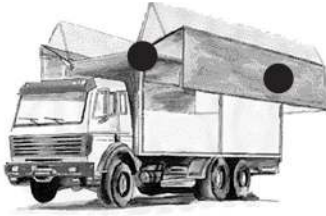
**WARNING** No persons may be under the side wall during its assembly !

- ➔ Note fitting position of side wall (A) !
- ☐ Hang transport device on the fastened hinge eye (2607) and carefully lift the side wall (A)
- ☐ Thread the side wall (A) into the hinge strip (2609)
- ☐ Center and align the side wall (A) to the frame
- ☐ Screw in both outer hinge eyes (2607) tightly
- ☐ Disassemble transport device
- ☐ Screw in other hinge eyes (2607) tightly
  
- ☐ Assemble second side wall (A) in the same way

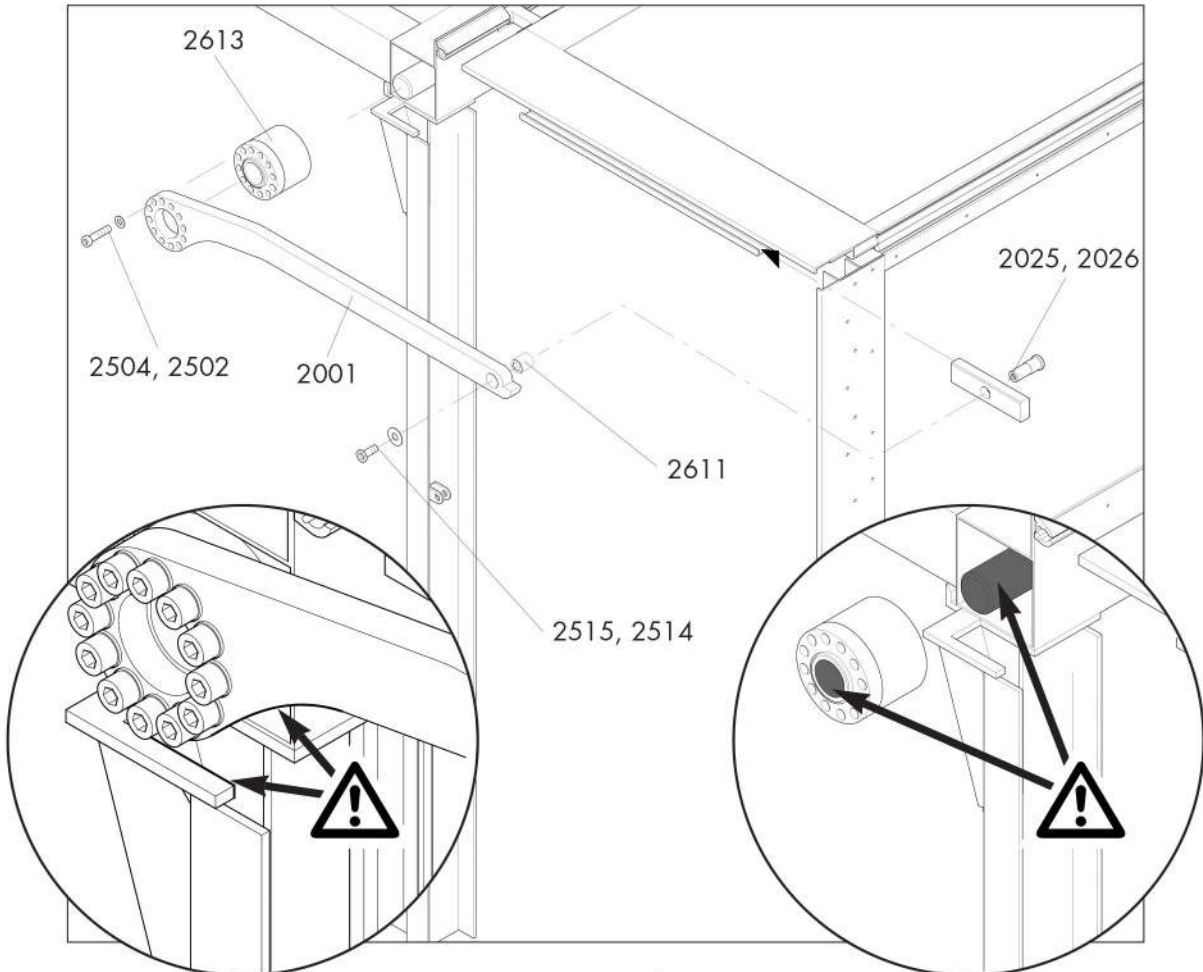
### Check

- ☞ Check that screws are tight !

Note:



## 10. Assembling the Swivel Arms



### Parts List

2001	Swivel arm
2025	Sliding block
2026	Bolt
2514	Washer B13 - DIN 433
2515	Straining screw M8x12 - UN 1206
2611	Swivel arm bush
2613	Clamping device

### Note:

Components of the swivel arm (2001 to 2611) are preassembled at the factory

**ATTENTION Do not disassemble clamping device !**

Do not de-grease or re-work cone surfaces of clamping device - Cone surfaces have a permanent coating of smooth enamel on a MoS<sub>2</sub> basis which enables later disassembly

**Preliminary Work**

- Clean grease and dirt from the shaft journals of the drive and from the borehole of the tension journal with a **greaseless solvent** such as acetone, milk of lime, etc.
- Push clamping devices (2613) carefully onto shaft

**Assembly****WARNING No persons should be under the side wall during its assembly !**

- Secure side wall against closing
- Slide sliding block (2025) of the swivel arm (2001) into side wall guide
- Push swivel arm (2001) onto shaft attachment - **do not screw swivel arm (2001) tight !**
- Mount the swivel arms on the second side wall in the same manner

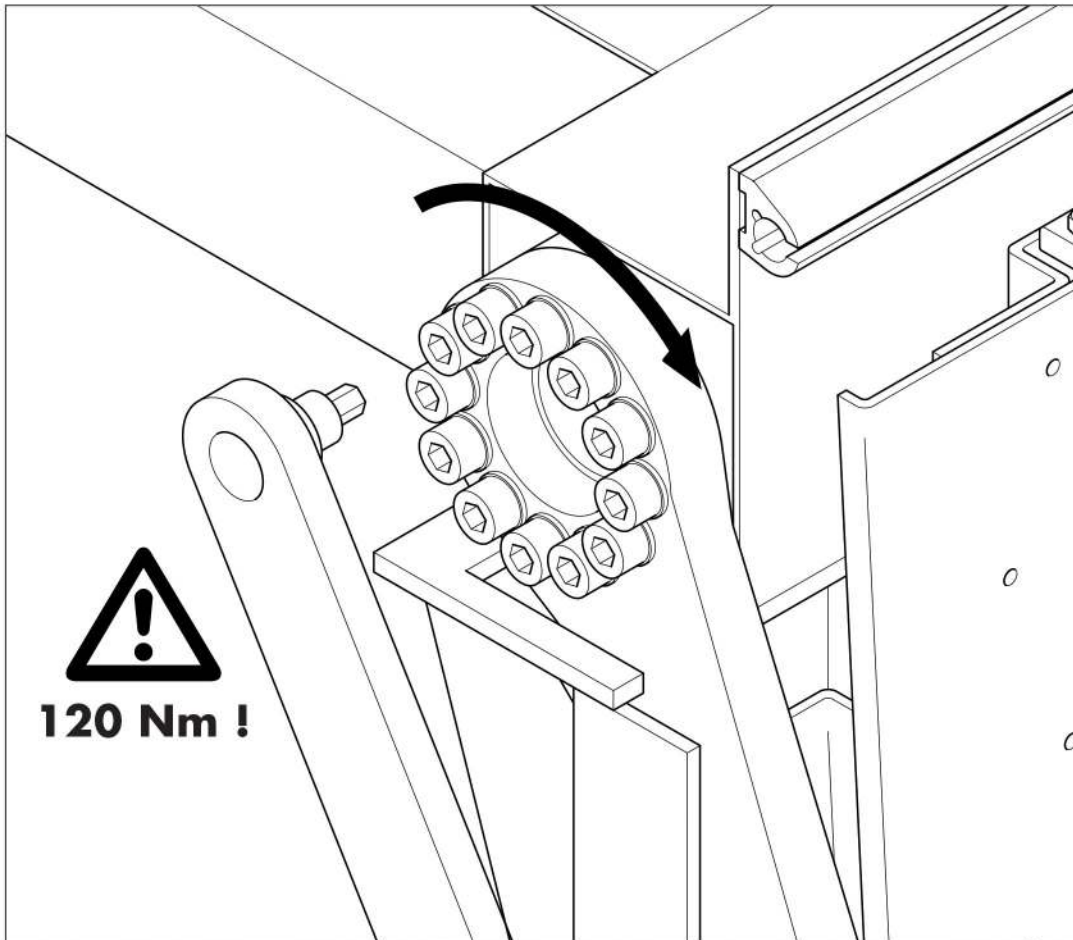
**Note:**

Do not open the side wall when assembling the lever arm !

Note:



## 11. Adjusting Swivel Arms on Drive Side



### Preliminary Work

- Check - is the hydraulic system deaerated ?**
- Move the motor twice into the stop positions (1<sup>st</sup> function check)
- Check oil in the hydraulic aggregate
- Adjust dynamometric key to **120 Nm**






### Adjustments

**ATTENTION** Make sure that the swivel arm is parallel to the edge of the side wall border. Swivel arm may not scrape on the side wall !

- Press the side wall (**drive side**) onto the **front corner post** in the area of the middle hinge strip with the screw clamp (use liners!)
- Following this, open the swivel motor about 10°
- Tighten the straining screws one after the other **in several rotations** full tightening moment of **120 Nm**
- Detach screw clamp
- Mount second swivel arm (drive side) in the same manner

### Check

-  The tightening moment of the straining screws **diagonally**

### Assembly with wingliners with 2 swivel motors (2602)

- Please follow the above instructions for swivel arms
- Adjust the ganging of the two swivel motors
- Use a SW 17 fork wrench to loosen the cap nut pointing to the front wall with the left countertorque holding valve (in the direction of travel) and screw it off carefully with your hand (for the right-hand side: screw off the cap nut in the direction of the rear side)
- Use a SW5 hexagonal socket screw key to adjust the M8 adjusting screw until ganging
- Do the same with the rear countertorque holding valve (2623) if necessary



**ATTENTION** Adjust max. 1/4 - 1/2 rotations

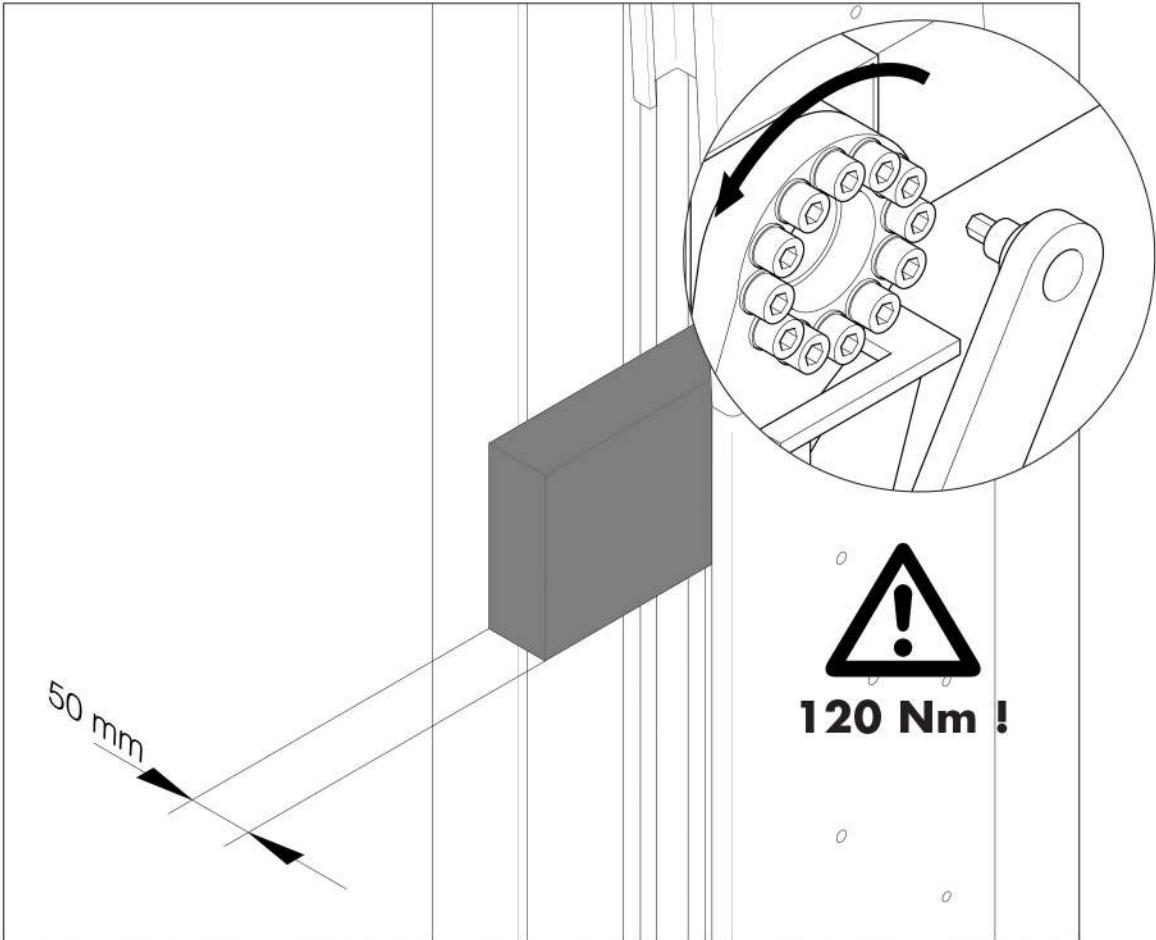


**WARNING** No persons should be in the side wall opening area !

Note:



## 12. Adjusting Swivel Arms At The Rear



### Preliminary Work

- Adjust dynamometric key to **120 Nm**





### Adjustments

**ATTENTION** Make sure that the swivel arm is parallel to the edge of the side wall border. Swivel arm may not scrape on the side wall !

- Place spacer on the **drive side** between the front corner post and edge wall in the area of the middle hinge  
Measurement of the spacer is 50 mm
- Close side wall until it lies on the spacer
- Press side wall onto the **rear corner post** in the area of the middle hinge strip with screw clamp (use liners!)
- Tighten the straining screws one after the other **in several rotations** full tightening moment of **120 Nm**
- Detach screw clamp
  
- Mount second rear swivel arm in the same manner

### Check

-  The tightening moment of the straining screws **diagonally**
-  The careful opening of the side walls, opening angle - max. 30°



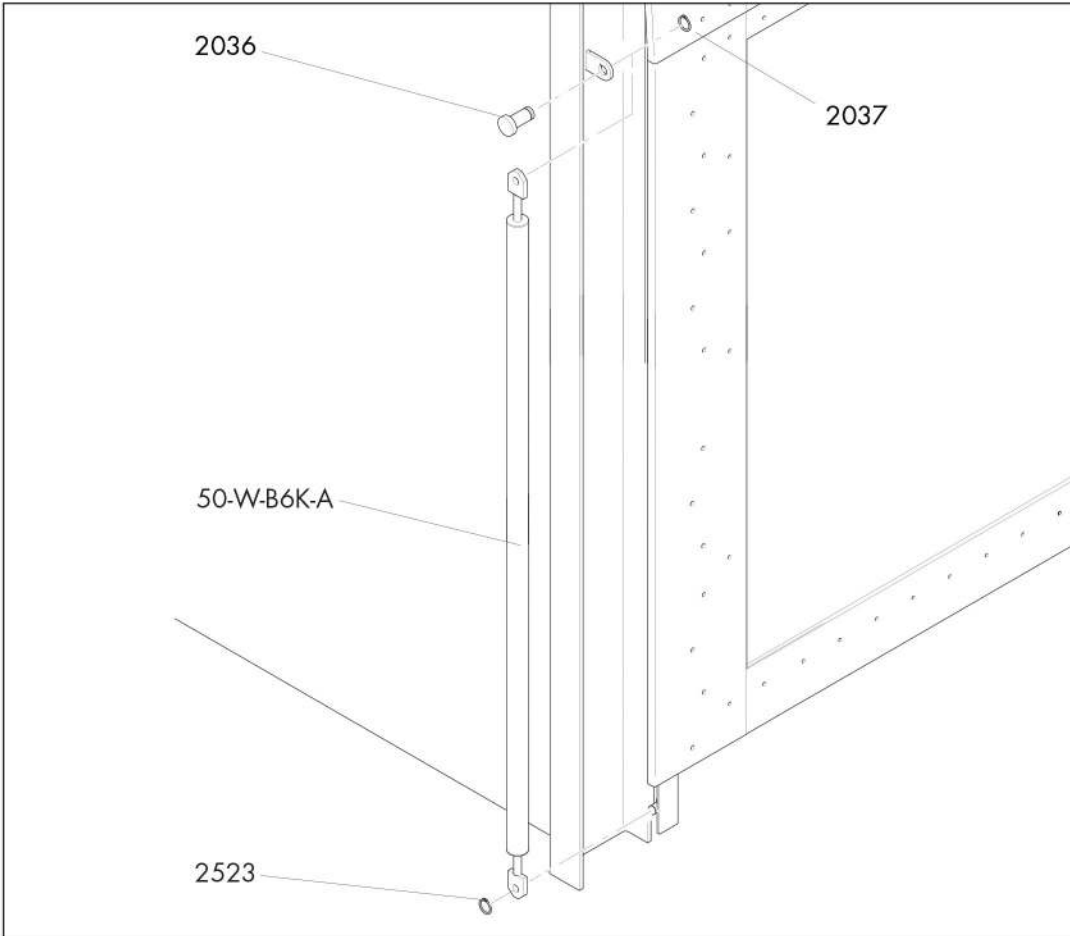
**WARNING** No persons should be in the opening area of the side walls !

**Remove all loose parts and tools from the roof !**

Note:



### 13. Assembling Linkage



#### Parts List

- 50-W-BGK-A Linkage assembly 50-W-BGK-A
- 2523 Circlip  $\varnothing 12 \times 1$  - DIN 471
- 2036 Bolt  $\varnothing 8 \times 30$
- 2037 Circlip  $\varnothing 8 \times 1$  - DIN 471

### Preliminary Work

- Open side walls approx. 20°



**WARNING** No persons should be under the side wall during its assembly !

### Assembly

- Assemble linkage

### Check

- ☞ Function by careful opening of the side walls  
During this ensure even movement of the side walls

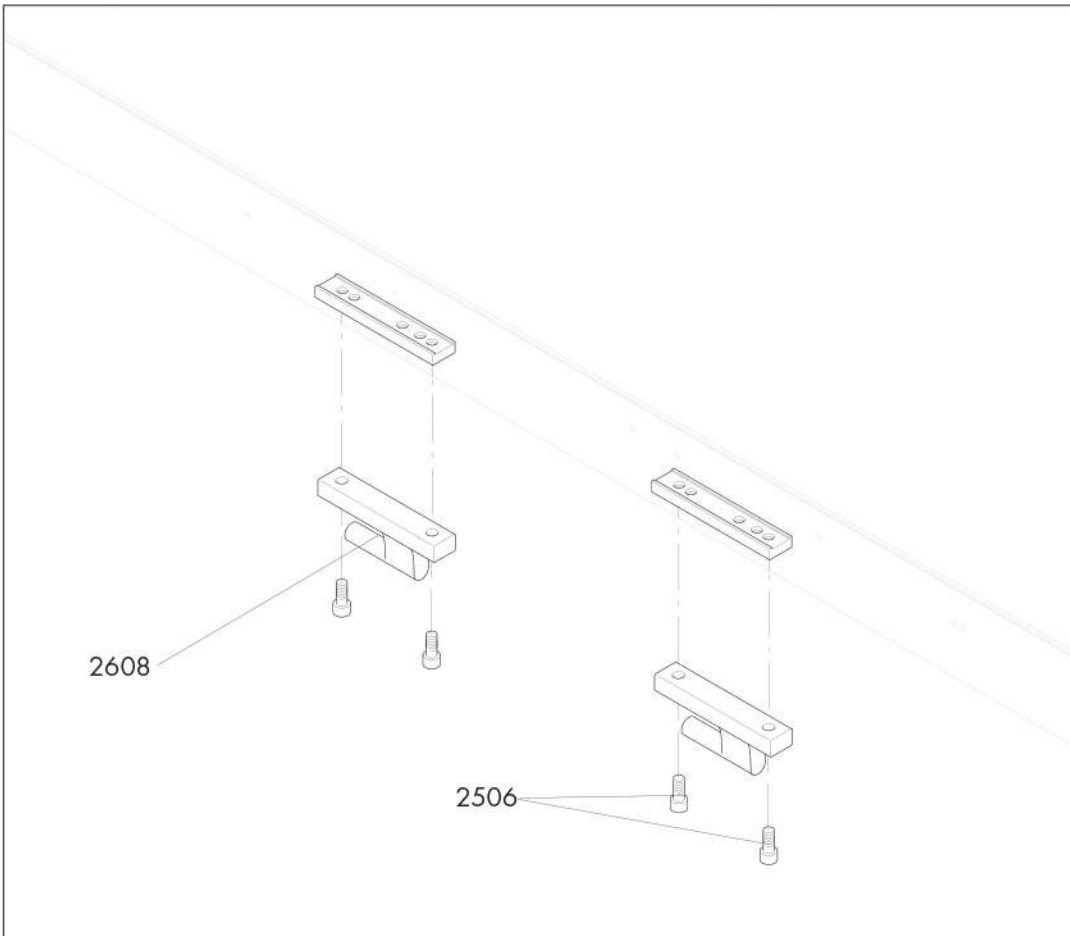
**WARNING** No persons should be in the opening area of the side walls !



Note:



## 14. Assembling Hinge bolt



### Parts List

- |      |   |
|------|---|
| 2608 | Hinge bolt                                    |
| 2506 | Hexagon socket screws M8x22 - 8.8 vz- DIN 912 |



### Note:

Versions of the hinge bolt between two and three items long are supplied with long Wingliner superstructures. These should be mounted in the centre of the Wingliner superstructure.

### Assembly

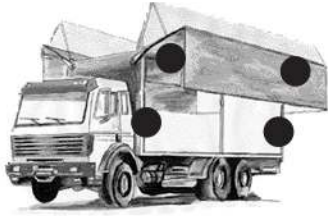
- Swivel side wall to an optimal assembly position for you
- Note positioning of hinge bolts (2608) (**Bend points inwards**)
- Fasten hinge hooks to threaded strip and adjust to side wall length
- Screw in hinge bolts (2608) tightly

### Check

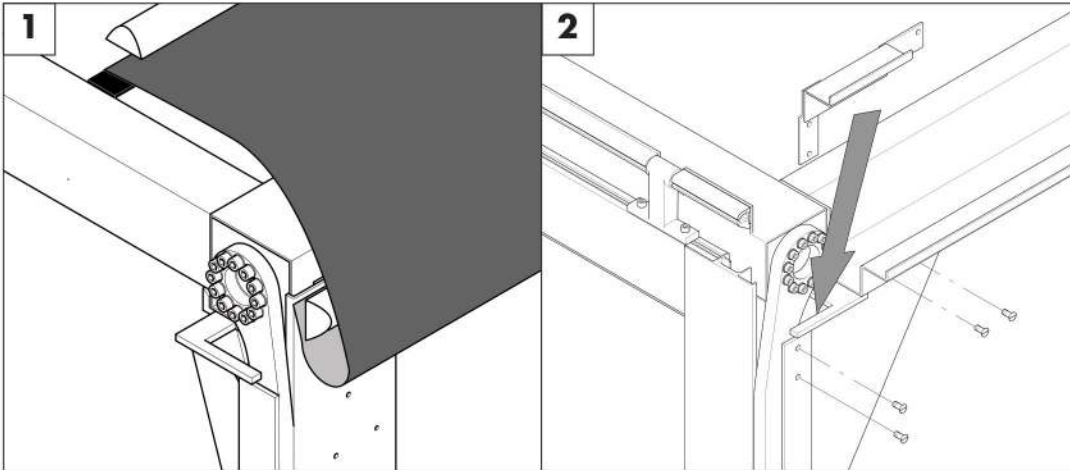
-  That screws are fastened tightly
-  Closing of the side wall

---

Note:



## 15. Assembling of Remaining Parts



### Parts List

- 1 Tarpaulin, clamp strip
- 2 Cover plate



### **Preliminary Work**

- Grease all joints with oil
- Grease sliding jaws

### **Assembly**

#### Tarpaulin (1)

- Customer cuts tarpaulin to measure (flush with border)
- Open side wall approx. 5 degrees
- Mount tarpaulin with clamp strips  
(Mount viewing area tarpaulin driven in on the pre-assembled Al-flat-border (25x4))

#### Cover plates (2)

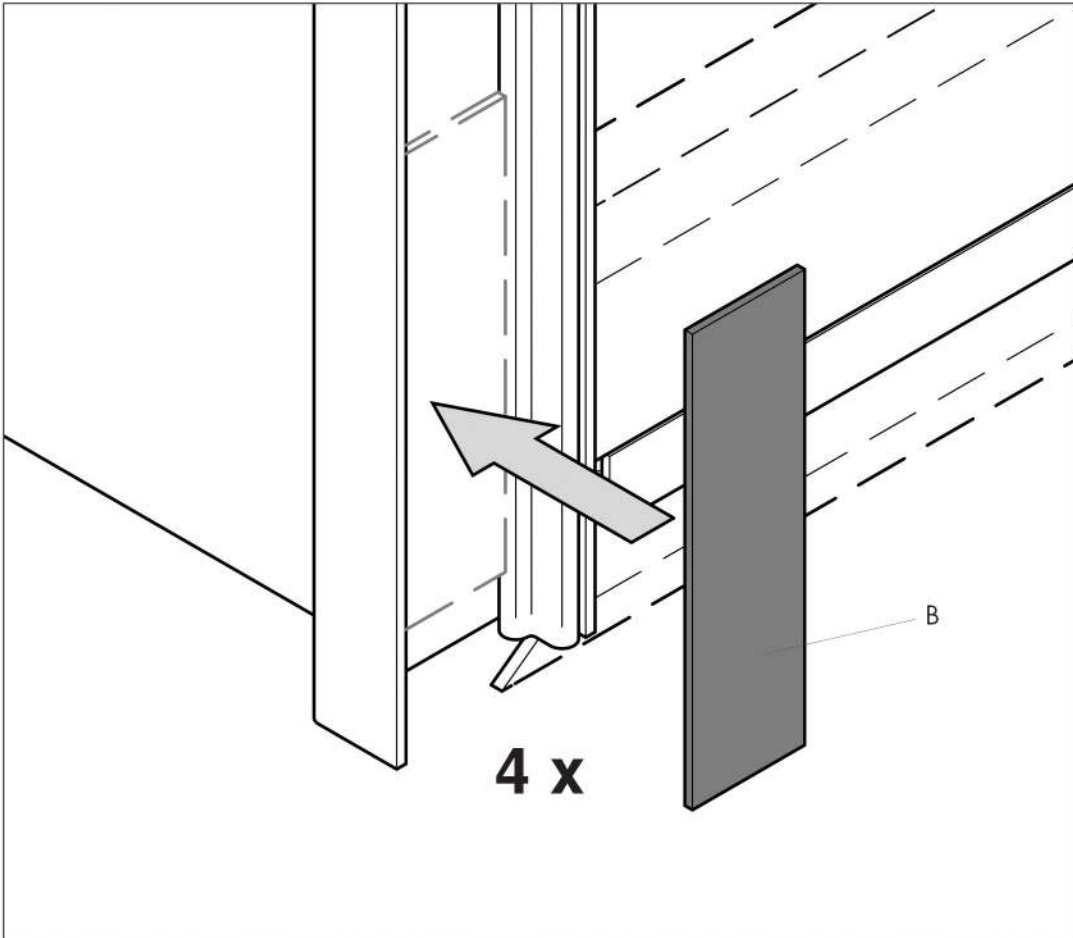
- Drill holes for the cover plates (2)
- Screw on cover plates (2) with screws (3) and washers

---

Note:



## 16. Wear-Resistance Plate



- B Wear-resistance plate  
(Niro plate 150x90x2-1.5 mm)

**Assembly**

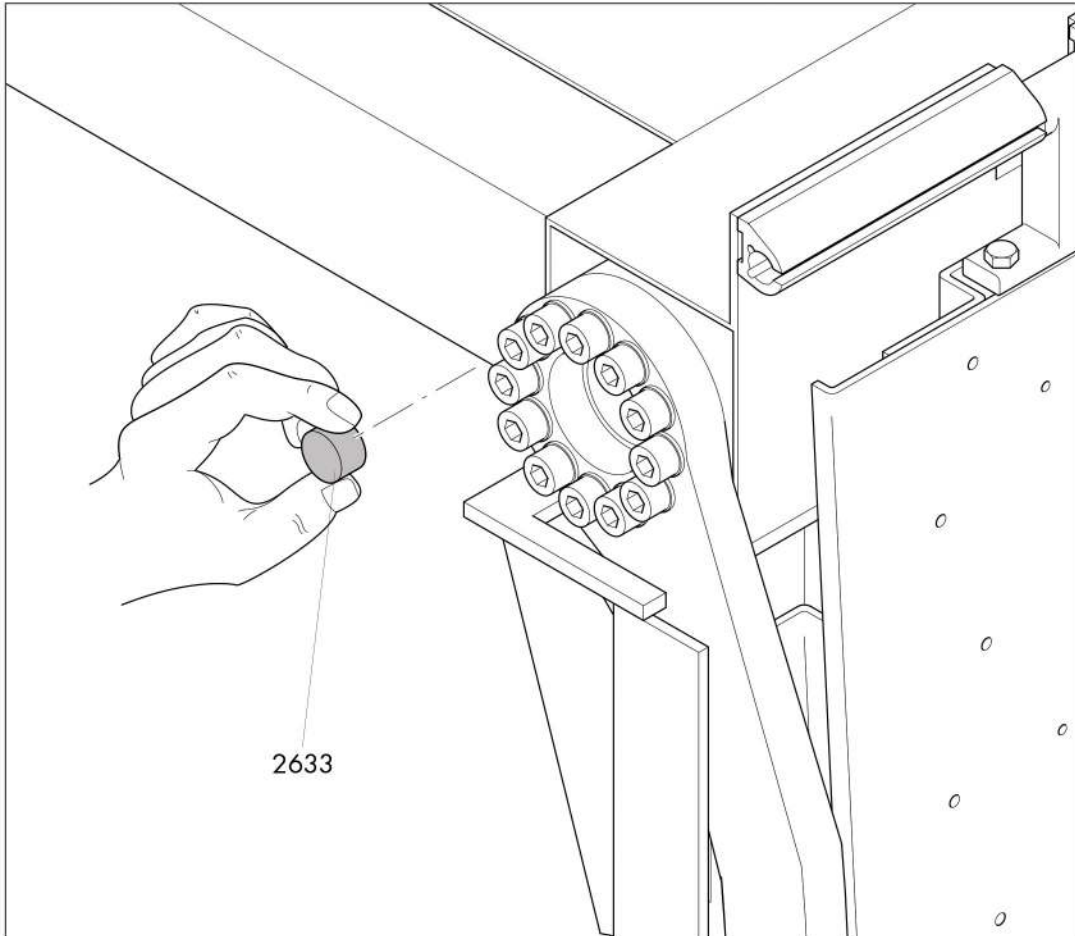
- Open and close side wall
- Mark any places where side wall scrapes the end stanchions
- Prepare wear-resistance plate (B)
- Pre-treat areas to be glued according to manufacturer's directions
- Glue wear-resistance plate (B) to marked areas with car body glue (Gluing procedures according to manufacturer's directions)

---

Note:



## 22. Final Tasks



### Parts list

2633 Screw cover

### Tasks

- ☞ Check that all screws are tight
- ☞ Check that all circlip rings (Seeger) are tight
- ☞ Check that hydraulic screws and tubes are sealed
- ☞ Open side wall carefully three times; opening angle 90° (upper part horizontal) - to release air from the swivel motor
- ☞ Check oil level in the hydraulic aggregate
- ☞ Conduct complete opening procedure of the side walls carefully, two or three times
- ☞ Normal operation
- ☞ Mark all straining screws with screw lock coating
- ☞ Mount screw covers (2633)  
(only for front swivel arms)

---

Note:

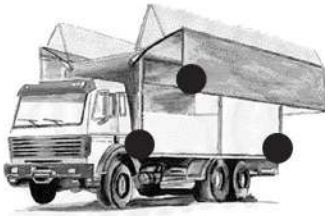
## 18. Functional Inspection

### Check:

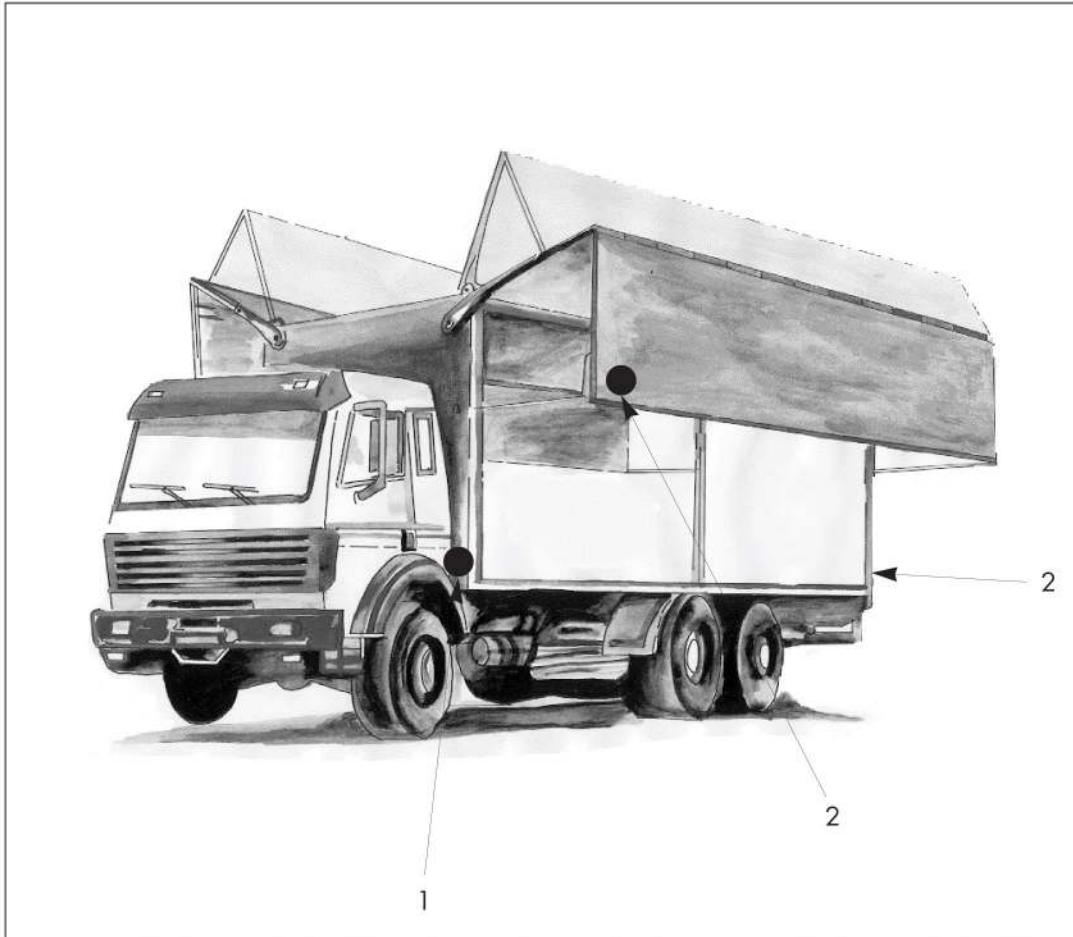
- ☞ That opening and closing of side wall can be done smoothly with no jerking motion
- ☞ The hinge bolts engagement
- ☞ Hydraulic oil level
- ☞ Switch-off function by removing control system from magnet.side wall scrapes

---

Note:



## 19. Markings



1 Type plate

	Bahweg 1, A-6301 Eggenhof Tel: +43 (0) 8225 / 7627-0 Fax: +43 (0) 8225 / 7627-29 E-Mail: office@wingliner.com www.wingliner.com
	CE
Serial No.:	<input type="text"/>
Engine No.:	<input type="text"/>
Aggregate No.:	<input type="text"/>
LL / LH:	<input type="text"/>
Year of construction:	<input type="text"/>

2 Wingliner



Mounted at the factory





## Appendix

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Note:

## Inquiries on the Wingliner®

### **for repeat-orders, replacement parts and inquiries**

Details to be given on inquiries:

- Your company address
- Your name
- Telephone number
- Telefax number
- Manufacturing number (type plate)

Details to be given on orders:

- Your company address
- Your name
- Telephone number
- Telefax number
- Delivery address
- Serial number (type plate)
- Order details (spare parts list)
- Identification number
- Designation
- Number of pieces

The customer is responsible for any delivery mistakes due to incomplete details given.

Please prepare your order carefully.

---

Note:

## Delivery Content

Pos	Quantity	Description
	2	Side wall
2001	4	Swivel arm
2004	1/1	Support front end stanchion
2005	1/1	Support rear end stanchion
2006	4	Bracket for linkage
2007	1/1	Bearing bush
2014	1	Upper front chord
2015	1	Upper rear chord
2016	1/1	Front plate console
2017	2	Rear plate console
2018	2/2	End stanchion
2019	2	Back square for lock
2022	20	Hinge bolt
2025	4	Sliding block
2026	4	Bolt
2180	2/2	Angle plate for linkage
2122	2	Toothed hub
2601	4	Linkage
2602	2	Swivel motor
2604	1	Hydraulic aggregate with mounting plate
2605	2	Rubber buffer
2606	36	Flat bar steel
2607		Hinge eye
2608		Hinge hook
2609	1/1	Hinge strip
2612	2	Service part
2613	4	Clamping device

Note:

## List of Hardware

Pos	Quantity	Designation
2036	4	Bolt $\varnothing$ 8x30
2037	4	Circlip $\varnothing$ 8x1 - flat bar steel. - DIN471
2501	16	Hexagon socket screw M12x20 - 8.8vz - DIN 912
2502	64	Washer B13 gehärtet - 8vz - DIN 433
2503	2	Hexagon screw M12x50 - 8.8vz - DIN933
2504	48	Hexagon socket screw M12x75 - 12.9vz - DIN912
2505	62	Hexagon socket screw M8x25 - 8.8vz - DIN912
2506	80	Hexagon socket screw M8x22 - 8.8vz - DIN912
2507	6	Saucer-head screw M10x50 - 4.6vz - DIN603
2508	6	Spring lock washer $\varnothing$ 10 - flat bar steel - DIN127
2509	6	Nut M10 - 8vz - DIN934
2512	31	Nut M8 - 8vz - DIN934
2513	8	Nut M12 - 8vz - DIN934
2514	4	Washer 9x35x2,5
2515	4	Straining screw M8x12
2516	8	Hexagon socket screw M6x16 - 8.8vz - DIN7991
2517	12	Hexagon socket screw M8x16 - 8.8vz - DIN7991
2518	12	Nut M8 - 8vz - DIN936
2523	4	Circlip $\varnothing$ 12x1 - flat bar steel. - DIN471
2610	2	O-ring for bearing bush 3.55x48 di NBR70 - DIN3771
2611	4	Sleeve for swivel arm
2615	2	Tarpaulin
2616	4	Clamp strip
2620	4	Hydraulic tube 1050-2 SNK/10
2621	4	Hydraulic tube 1000-2 SNK/10
2622	4	Pipe 12x1,5x160 + 0,5

Note:

Pos	Quantity	Desidnation
2623	2	Countertorque holding valve OWC / DE - 38 / LU
2626	8	Male elbow fitting WSV 12-PL
2627	4	Threaded elbow fitting EVW 12L
2628	12	Straight screw union piece GE 12-LR-WD
2633	24	Caps 600K18
2634		Seal
2061	1	Drill template for lock

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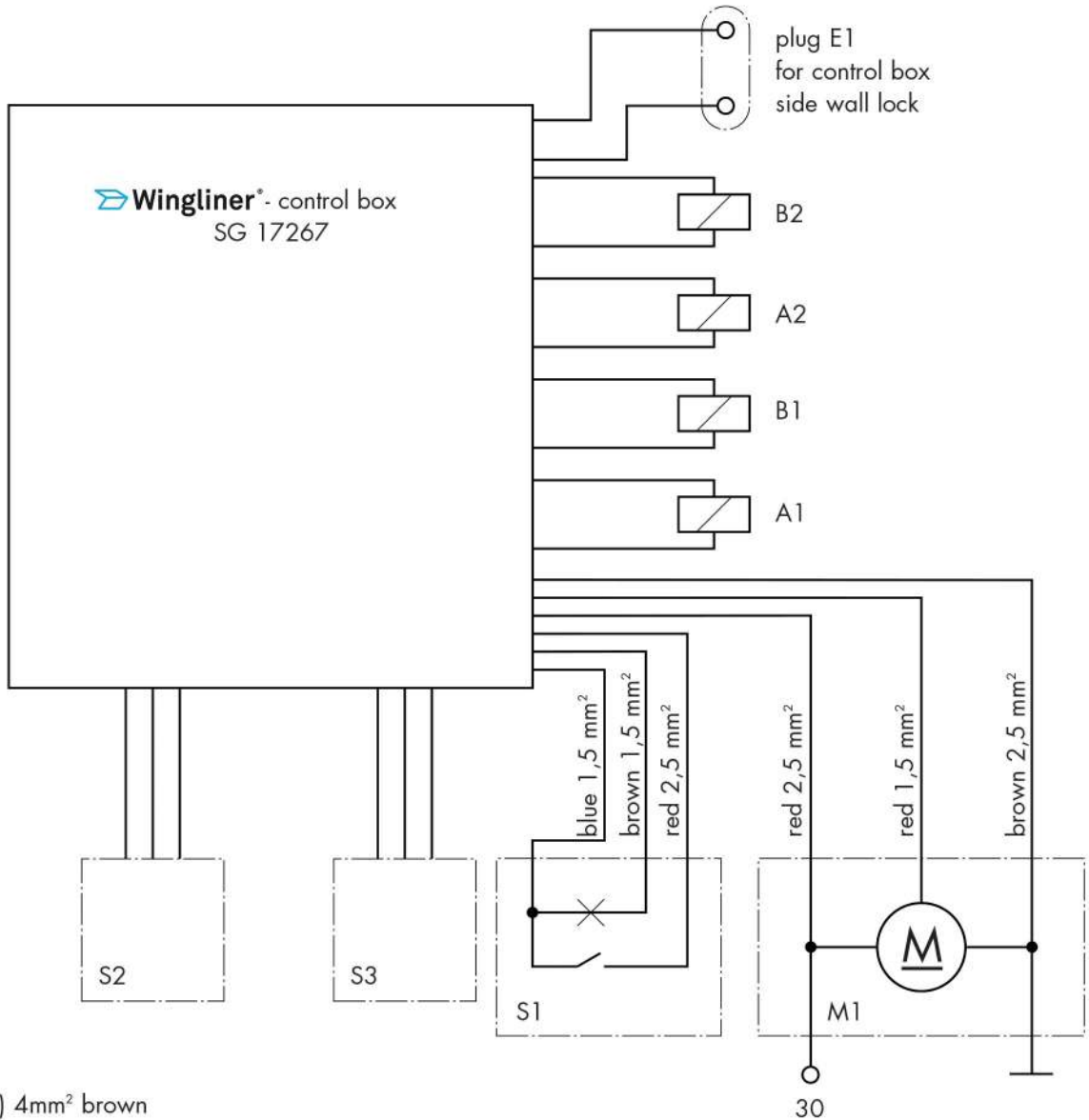
Note:

## Electrical Connection Diagrams KE-Schedule

Abbreviation	Function	Cabel		Connection	
		Color	Cross-section		
V1	supply	red brown red	2,5 mm <sup>2</sup> 2,5 mm <sup>2</sup> 1,5 mm <sup>2</sup>	= = =	24 V + Plus - Minus motor-control
S1	main switch (drive cab)	red blue brown	2,5 mm <sup>2</sup> 1,5 mm <sup>2</sup> 1,5 mm <sup>2</sup>	= = =	entry switch exit switch minus for control lamp in switch
S2	control switch (outer passenger side)	yel/brown braun blue		1 2 3	outlet no.
S3	control switch (outer passenger side)	yel/brown brown blue		1 2 3	outlet no.
A1	hydraulic valve	blue/brown		=	up - passenger side
B1	hydraulic valve	blue/brown		=	down - passenger side
A2	hydraulic valve	blue/brown		=	up - driver's side
B2	hydraulic valve	blue/brown		=	down - driver's side

Note:

## Electical Connection Diagrams Control



- (31) 4mm<sup>2</sup> brown

+ (30) 4mm<sup>2</sup> red  
to switch box  
side wall lock

**Attention:**

The vehicle manufacturers construction guidelines, especially in relation to the automobile electrical systems, are to be strictly observed, further also the valid norms for the automobile electrical systems and/or legal regulations.

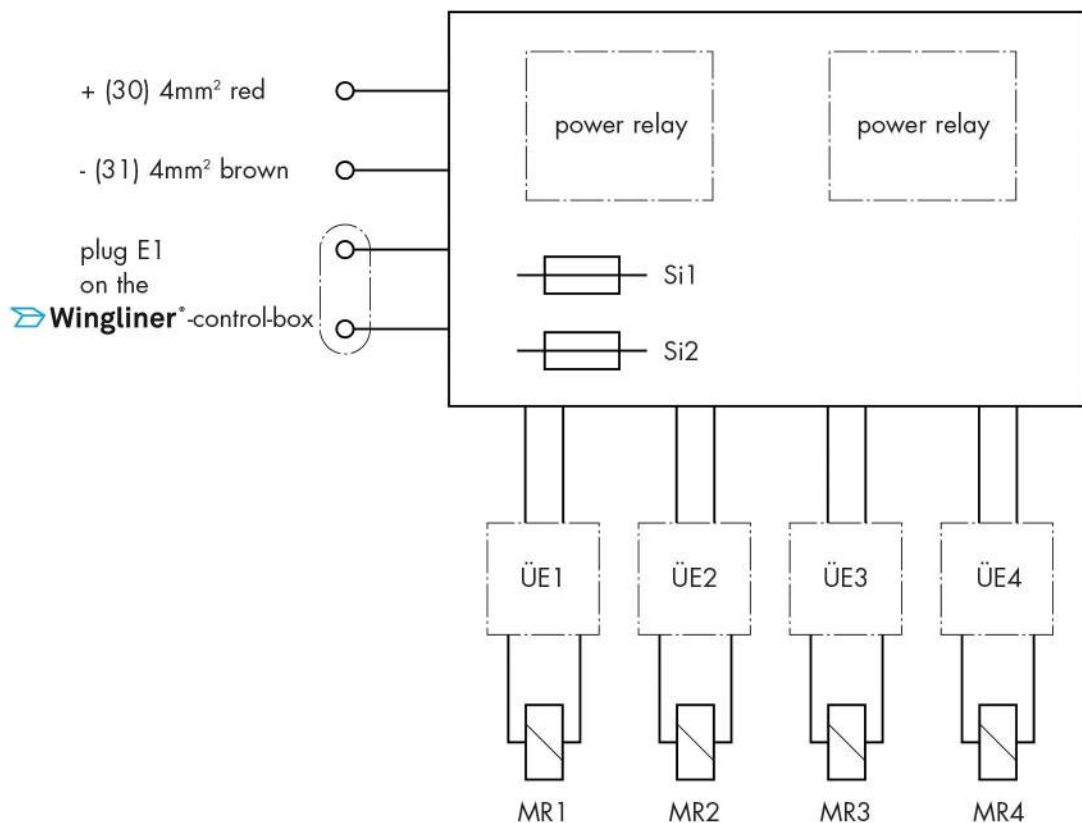
Abbreviation	Description
V1	supply
S1	main switch (driver's cab)
S2	control switch (outer passenger side)
S3	control switch (outer driver's side)
A1	hydraulic valve (up - passenger side)
B1	hydraulic valve (down - passenger side)
A2	hydraulic valve (up - driver's side)
B2	hydraulic valve (down - driver's side)
LED	control - readiness
M1	motor - aggregate HE6000
M2	starter
E1	plug for control box of the side wall lock

Note:





# Electrical Connection Diagram Lock



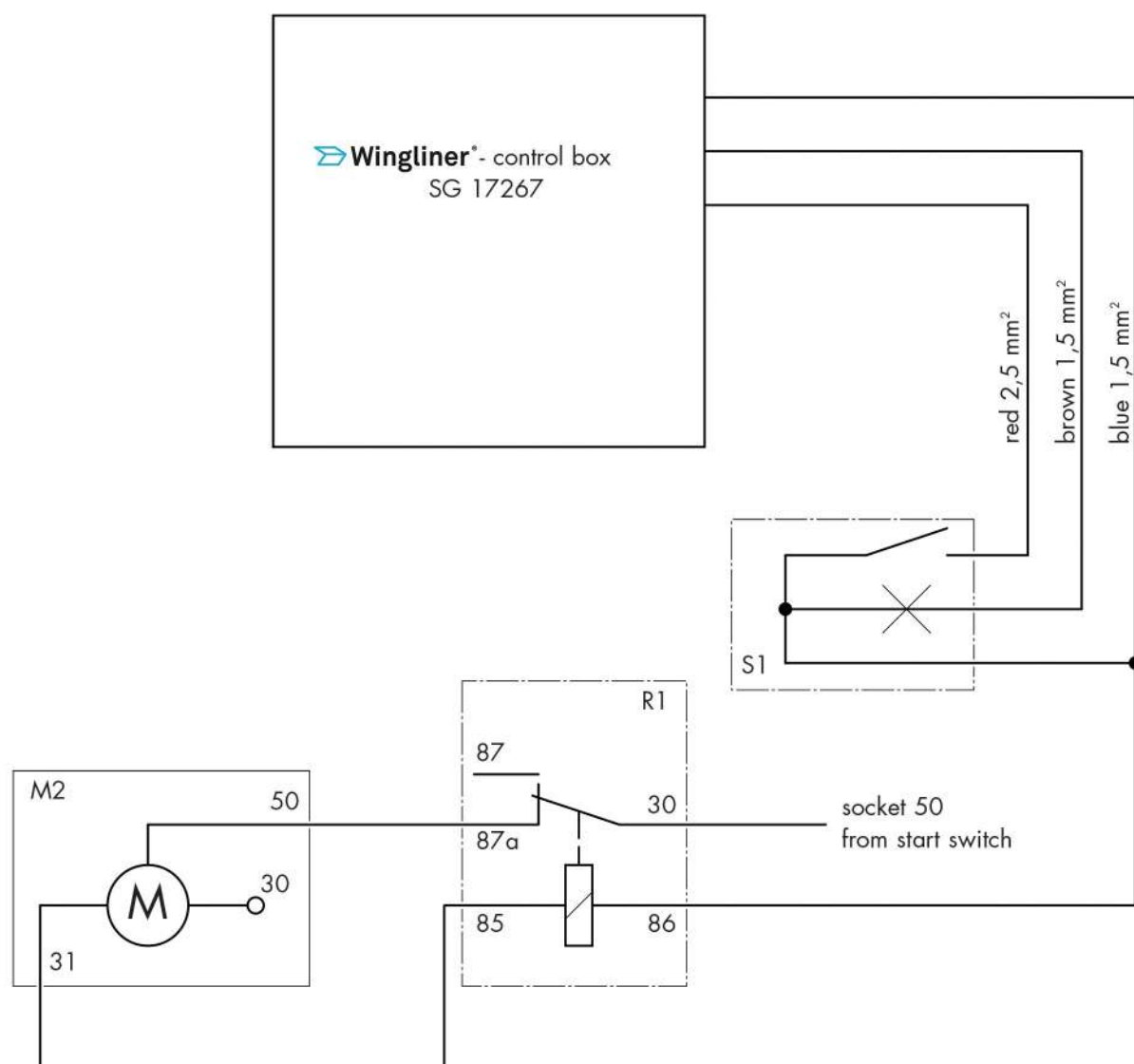
**Attention:**

The vehicle manufacturers construction guidelines, especially in relation to the automobile electrical systems, are to be strictly observed, further also the valid norms for the automobile electrical systems and/or legal regulations.

<b>Abbreviation</b>	<b>Description</b>
Si1	fuse (30A) lock (driver's side)
Si2	fuse (30A) lock (passenger side)
E1	double channel plug from the control box (SG17267)
MR1	lock magnet (passenger side, front)
MR2	lock magnet (passenger side, rear)
MR3	lock magnet (driver side, front)
MR4	lock magnet (driver side, rear)
ÜE1 bis 4	overexcitation device for lock magnet
+ (30)	plus (24 Volt) from motor relay (HE6000)
- (31)	minus from electric motor (HE6000)
M2	starter
E1	control box plug for side wall lock

Note:

## Circuit Diagram Interlock System (optional)



**Attention:**

The vehicle manufacturers construction guidelines, especially in relation to the automobile electrical systems, are to be strictly observed, further also the valid norms for the automobile electrical systems and/or legal regulations.

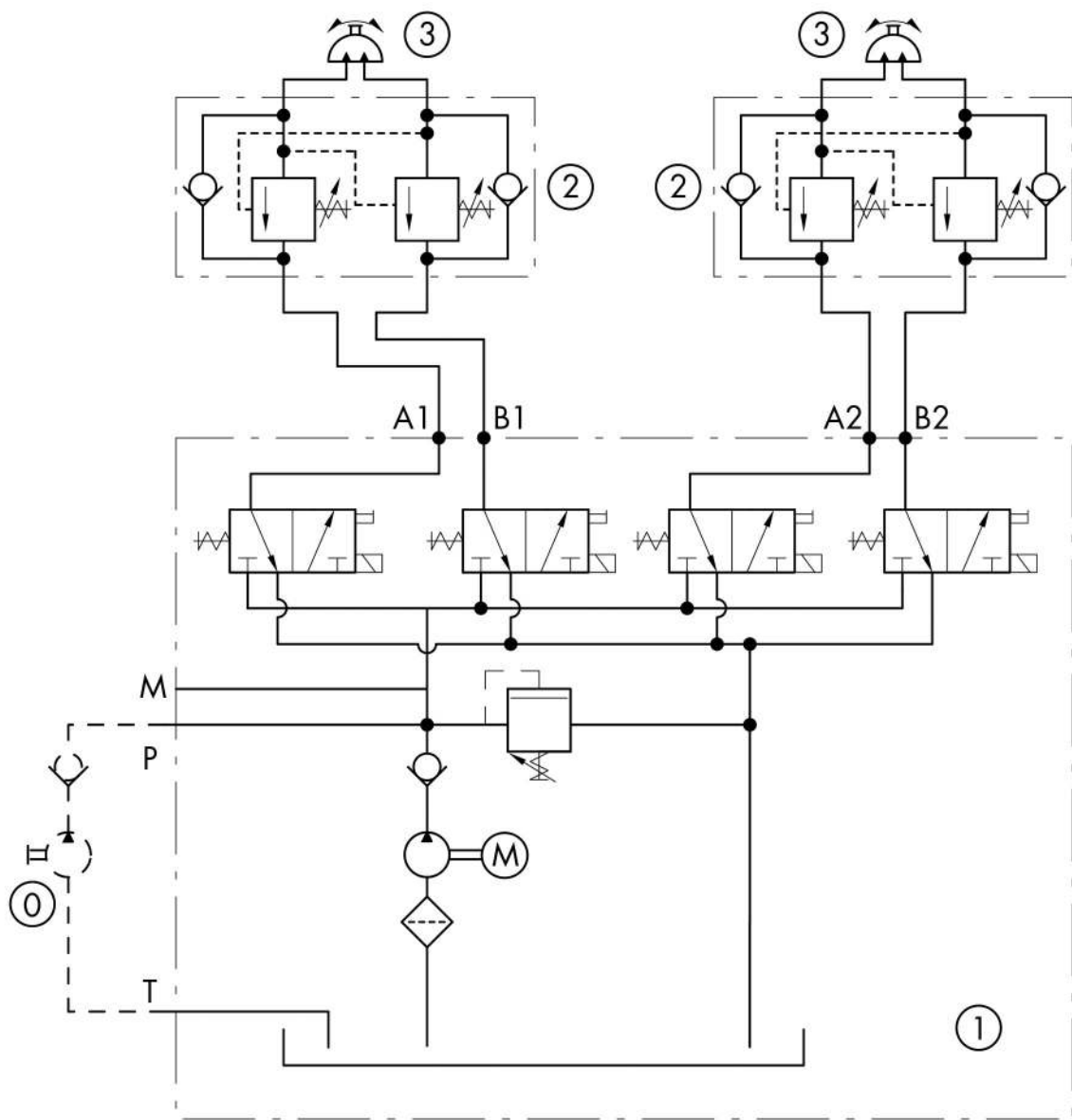
<b>Abbreviation</b>	<b>Description</b>
V1	supply
S1	main switch (driver's cab)
S2	control switch (outer passenger side)
S3	control switch (outer driver's side)
A1	hydraulic valve (up - passenger side)
B1	hydraulic valve (down - passenger side)
A2	hydraulic valve (up - driver's side)
B2	hydraulic valve (down - driver's side)
LED	control - readiness
M1	motor - aggregate HE6000
M2	starter

<b>Socket</b>	<b>Meaning</b>
30	battery plus
31	minus / ground
50	starter control

<b>Socket - Relay</b>	<b>Meaning</b>
85,86	control coil (relay)
30	relay entry
87	break contact
87a	make contact

Note:

Hydraulic Diagram



<b>Part</b>	<b>Pcs..</b>	<b>Description</b>
1	1	hydraulic aggregate
2	2	countertorque holding valve
3	2	swivel motor
○	1	hand pump (optional - not included in delivery content)

---

Note:





## Spare Parts

### Table Of Contents

Frame

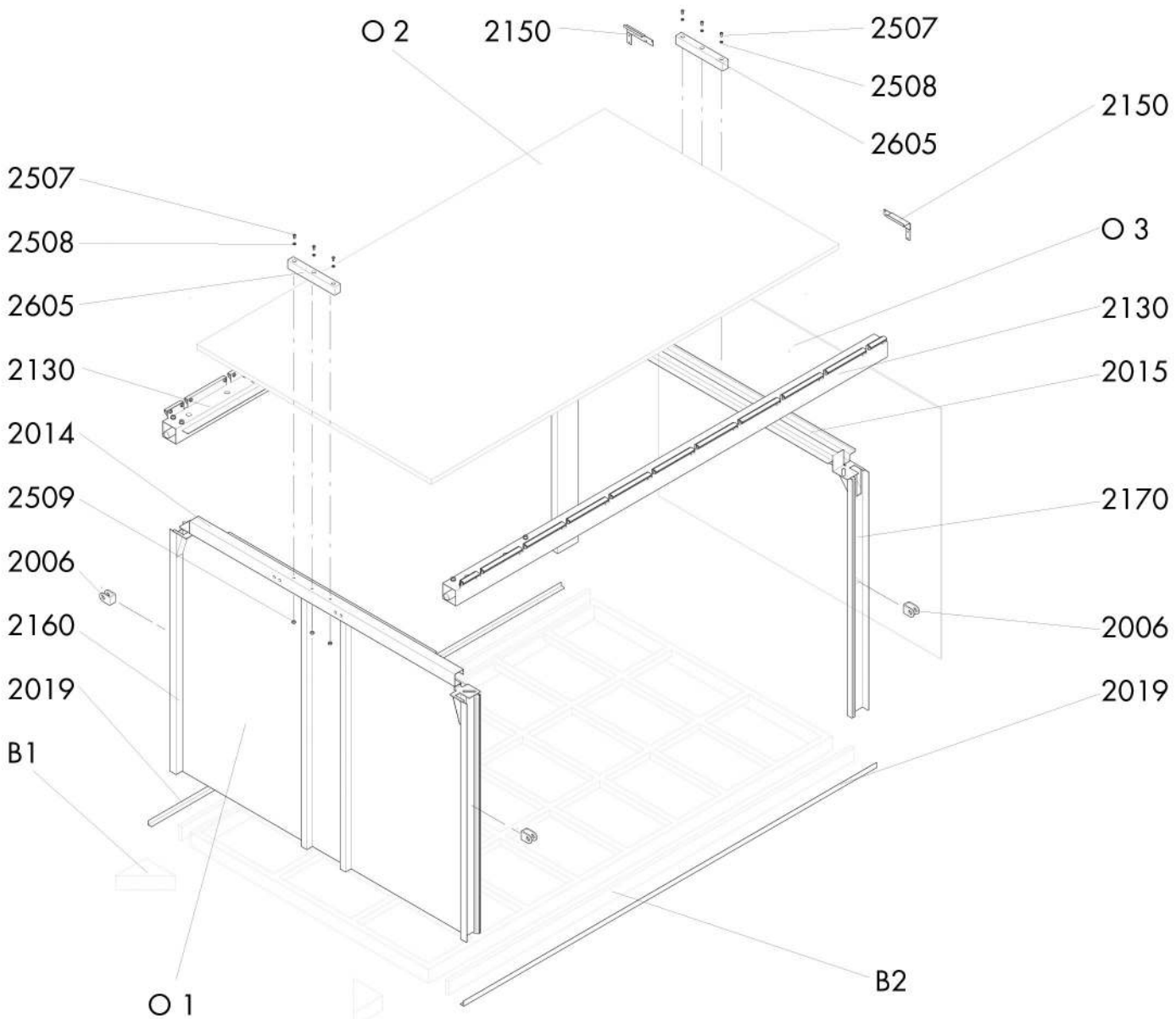
Drive

Side Wall

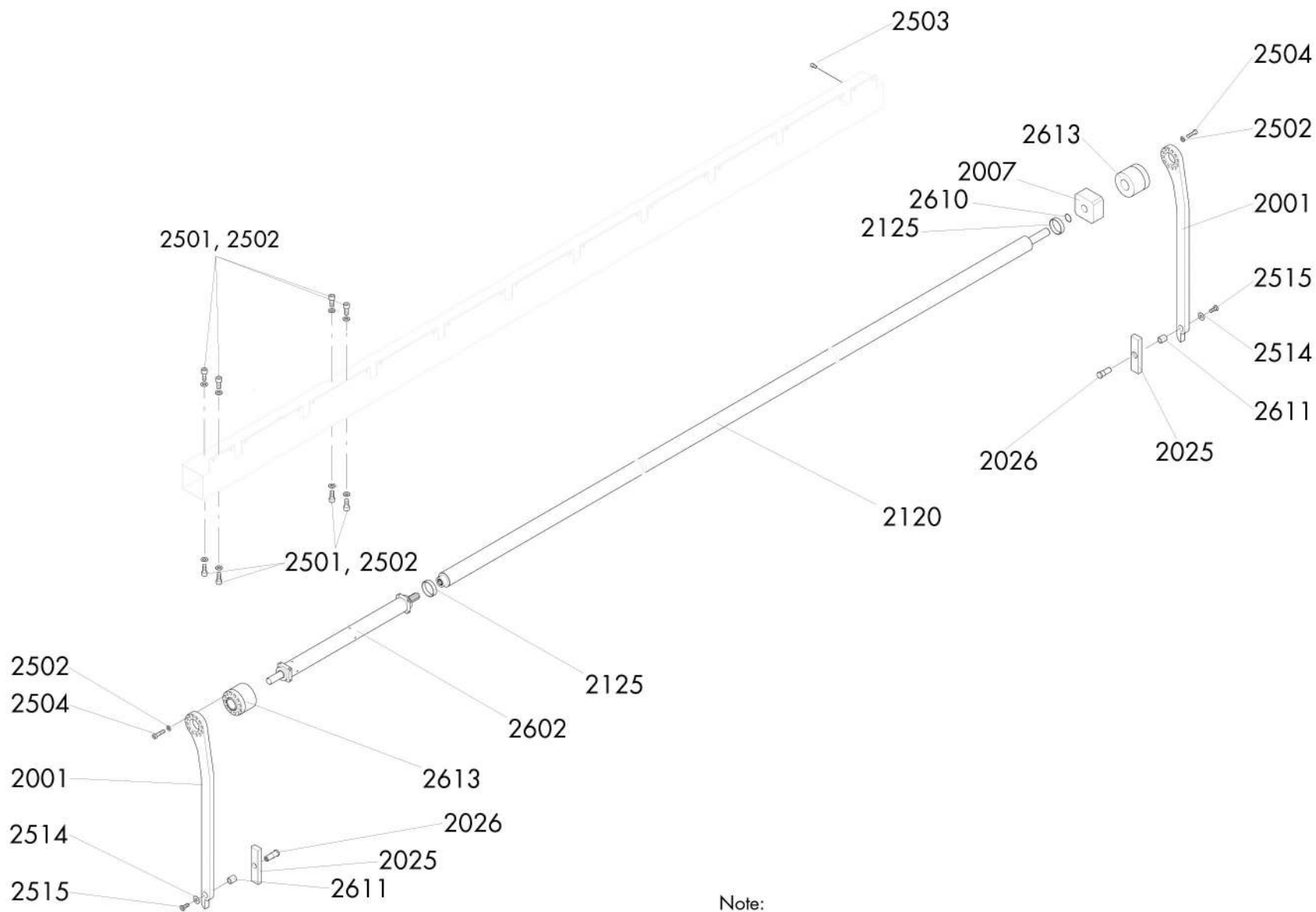
Hydraulic

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Note:

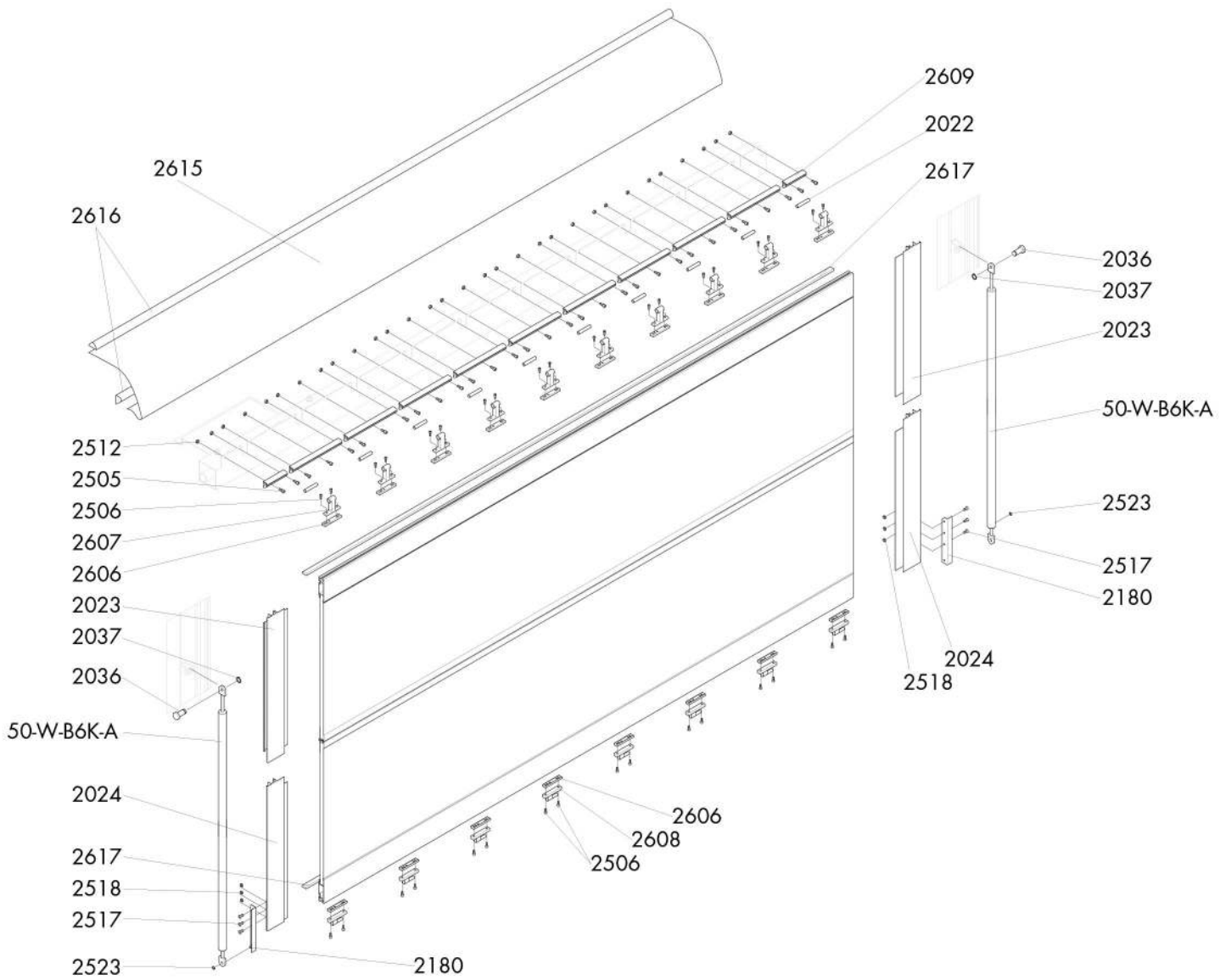


<b>Pos.</b>	<b>Description</b>	<b>Quantity</b>	<b>Designation</b>
2006	bracket for linkage	4	4x25x88,5 - St 52-3
2014	upper front chord	1	4x346xLBh-194 - St 52-3
2015	upper rear chord	1	3x453,5xLBh-210 - St 52-3
2019	back square for lock	2	40x40x5xLL-100 - St 37-3
2130	upper side chord	1/1	165x370xLL+27 - St 52-3
2150	upper chord cover	1/1	60x145x232,5 - St 52-3
2160	front end stanchion	1/1	150x162,5xLH+170
2170	rear end stanchion	1/1	160x199,5xLH+267
2507	saucer-head screw	6	M10x50 - 4.6 vz - DIN 603
2508	spring lock washer	6	ø10 - DIN 127
2509	nut	6	M10 - 8 vz - DIN 934
2605	rubber puffer	2	
O1	front wall		
O2	roofing plate		
O3	rear wall, portal door		
B1	front wall reinforcement - assembly frame		
60100	sealing and closing strip		

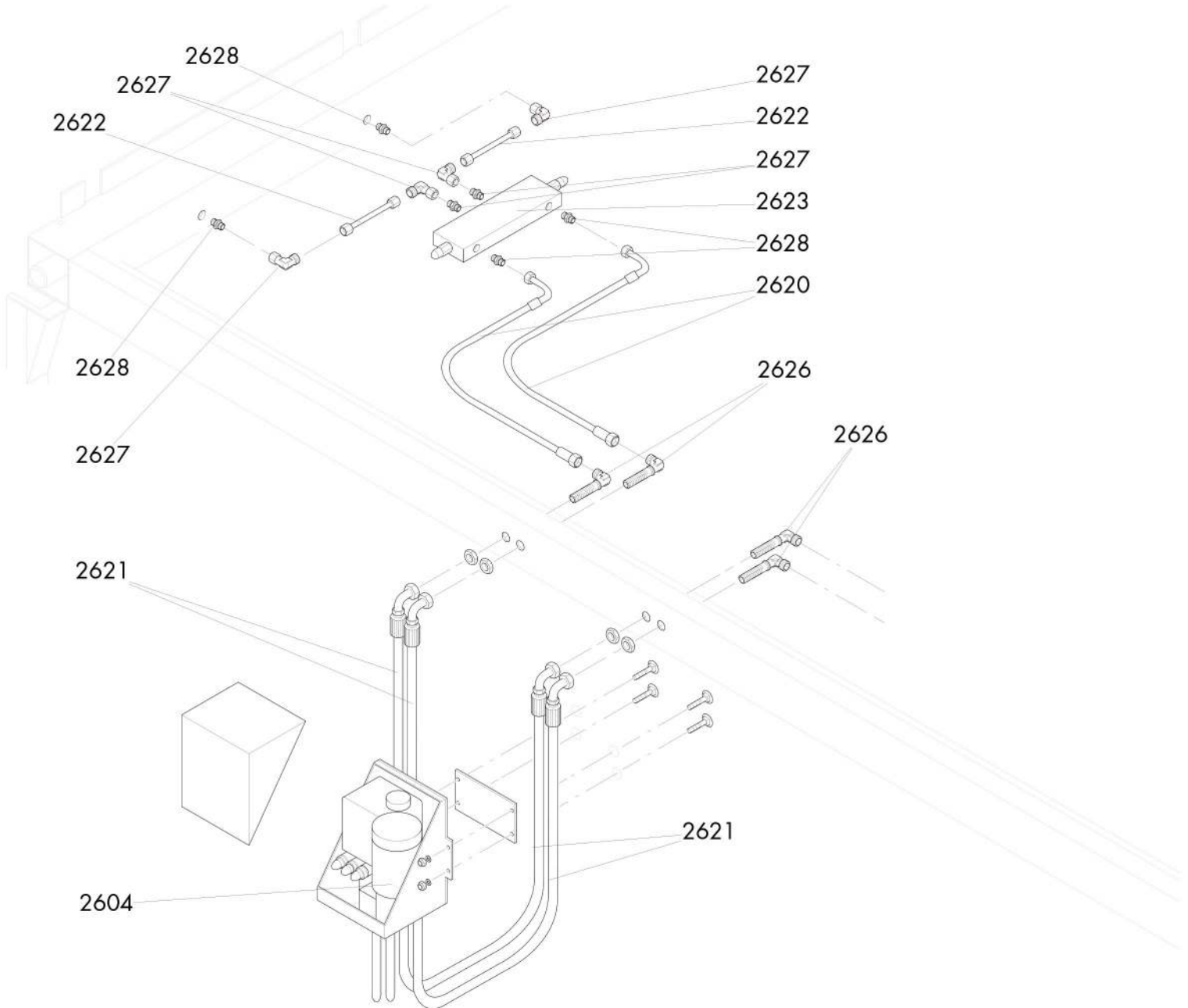


Note:  
Swivel motor with torsion shaft is supplied built into the upper cord  
Swivel arm is supplied pre-assembled with sliding jaws

<b>Pos.</b>	<b>Description</b>	<b>Quantity</b>	<b>Designation</b>
2001	swivel arm	4	
2007	bearing bush	2	113,5x113,5x60
2025	sliding block	4	35x37,5x150
2026	bolt	4	ø24x68,5
2120	torsion shaft	2	ø101,6xLL-1127 - St 52-3
2125	bearing ring	4	ø112x25
2501	hexagon socket screw	16	M12x20 - 8.8 vz - DIN 912
2502	washer	16	B 13 hardened - 8 vz - DIN 433
2503	hexagon screw	2	M12x50 - 8.8 vz - DIN 933
2504	hexagon socket screw	16	M12x70 - 12.9 vz - DIN 912
2514	washer	4	9x35x2,5 - UN 732
2515	cap screw	4	M8x12 - 10.9 - UN 1206
2602	swivel motor	2	
2610	O-ring for bearing bushing	2	3,55x48 di - NBR 70 - DIN 3771
2611	sleeve for swivel arm	4	
2613	tension piece	4	



<b>Pos.</b>	<b>Description</b>	<b>Quantity</b>	<b>Designation</b>
2022	hinge bolt	20	ø16x120 - 1.4301
2023	upper side wall border	4	47x194xBWH+13,5 - Al
2024	lower side wall border	4	40,5x194xBWH+13,5 - Al
2036	bolt	2	ø 8 x 30
2037	circlip	2	ø 8 x 1 - DIN 471
2180	angle plate for linkage	4	35x40x300 - St 52-3
2505	hexagon socket screw	62	M8x25 - 8.8 vz - DIN 912
2506	hexagon socket screw	72	M8x22 - 8.8 vz - DIN 912
2512	nut	62	M8 - 8 vz - DIN 934
2513	nut	4	M12 - 8 vz - DIN 934
2517	hexagon socket screw	12	M8x16 - 8.8 vz - DIN 7991
2518	nut	12	M8 - 8 vz - DIN 936
2523	circlip	8	ø 12 x 1 - DIN 471
2606	flat bar steel	36	Al
2607	hinge eye	20	
2608	hinge bolt	16	
2609	hinge strip	1	
2615	tarpaulin	2	
2616	clamp strip	4	
2617	sealing		
50-W-B6K-A	linkage complete	2	





<b>Pos.</b>	<b>Description</b>	<b>Quantity</b>	<b>Designation</b>
2604	hydraulic aggregate with mounting plate	1	
2620	hydraulic tube	4	1050-2 SNK/10
2621	hydraulic tube	4	1000-2 SNK/10
2622	pipe	4	12x1,5x160 +0,5
2623	countertorque holding valve	2	OWC / DE - 38 / LU
2626	male elbow fitting	4	WSV 12-L
2627	threaded elbow fitting	8	EVW 12L
2628	straight screw union piece	12	GE 12-LR-WD



