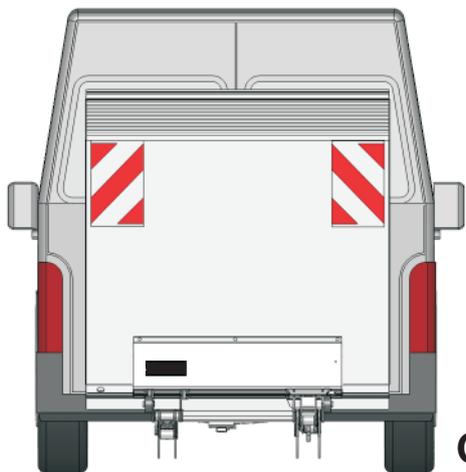


# MAXON®

## GPC liftgate Installation Manual



GPC X1-LDF



GPC X1-LD

**MAXON®**  
Lift CORP.

11921 Slauson Avenue.  
Santa Fe Springs, CA 90670  
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**GPC X1-LDF**  
**GPC X1-LD**  
Series up to 10



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2016

## Contents

Introduction	2
Transport of the tailgate and possible damages	2
Precaution measures by installation	2
Installation manual for the MAXON Tailgate type GPC X1-LD and GPC X1-LDF	3
Vehicle preparation	3
Mounting of the mainframe GPC X1-LD and GPC X1-LDF	4
Installation brackets for the different types of vehicles	5
Mounting the electrics	7
Central electric	7
Cabin switch	8
Attaching the option number plate lights and number plate on the tailgate	8
Control panel assembly GPC X1-LD	9
Control panel assembly GPC X1-LDF	9
Option Handheld remote with spiral cable	10
Battery cable / Earth cable / Fuse	11
Danger note – Sticker “Safe handling of the tailgate“	12
Mounting and adjustment of the platform	13
Mounting the platform	13
Adjustment of the lifting height	13
Adjustment of the parallelism GPC X1-LD und GPC X1-LDF	14
Operation of the adjusting fork for the adjustment of the parallelism between the platform and the vehicle floor	14
Adjustment of the support arm for the hinged right side of the platform of the tailgate GPC X1-LDF	15
Montage of the end stop of the (series 8)	16
Montage Bridge plate	16
Adjustment of platform inclination	17
Adjustment platform inclination (series 10)	18
Commissioning of the tailgate	19
Hydraulic oil recommendations	19
Painting the Mainframe	19
Name plate	19
Entry in the log book	19
Check of the function speeds	19
Load test	20
Warning flags	20
Valid torque table for all Sørensen tailgates	21
Diagnose Diode in the series 8 and series 10	22
Service Switch	24

## Introduction

This tailgate is developed especially for transporter / van. The installation manual contains all the instructions for installation and adaptation of the tailgate on vehicles which designed for. Is there doubts, whether the device can be installed on a specific vehicle, please contact us. We will provide you with the required information.

In the rule only existing mounting points (holes in the vehicle frame) are used for the installation. For every vehicle type [And here is difference's for vehicle producer and vehicle heights, as well as type (Front- or rear drive)]. As also the different wheel bases, we make different brackets. Changes main frame of the GPC X1-LD and GPC X1-LDF and on the necessary installation brackets

Are not allowed, and can lead to termination of any warranty.

Unapproved modifications and amendments from these installation directions may lead to failure and to operating interruptions, as well as to hazards to the operator.

The warranty of the device will be voided by "unproved modifications" and "deviations from the installation directions".

In order to protect the vehicle, all guidelines of the vehicle manufacturer are to be complied with. Please read the last guideline update hereunto what is to be observed for the vehicle on which you wish to install the tail lift.

**The installation guidelines of the chassis manufacturer need to be complied with.**

## Transporting the tail lift and transport damages

We are especially careful to pack our tail lifts in a environmental-friendly way. The shipping/forwarding company will be responsible for damages on the lift gate which occur during transportation. The lift needs to be checked for damages upon arrival. If any damages occurred during the transportation, they must be recorded on the waybill, so that claims can be raised.

## Installation-safety precautions

Before installing, the battery of the vehicle needs to be disconnected. The vehicle must be secured against all unintentional shifting.

Any special safety regulation (if applicable) must be complied with.

Safety gear, like protective goggles, work gloves and protecting shoes, need to be available before installing, and are to be used.

Safety devices on cranes, forklifts, and other lifting gear – necessary for installing the lift, must be checked to see if they are in proper working condition, before use.

## Installation manuals for the MAXON tailgates

### Type GPC X1-LD und GPC X1-LDF

#### Vehicle preparation



Attention! Must necessarily be considered before installation:

The exhaust may not be at the rear of the vehicle. If so it has to be rerouted.

For other of floor as wooden floor the installation possibilities must be checked.

Die rear doors must have a opening ability of 270°.

Eventual rear parking sensor will not be functional after mounting the platform

If a spare tire is located between the rear ache and the rear bumper, it must be removed to be able to install the lift gate.

If a step is located behind the rear bumper like on a Iveco daily, it has to be removed. By Mercedes Sprinter the installation is not possible if the vehicle has a rear bumper with integrated step. In these cases the rear bumper has to be changed to a standard bumper without step.

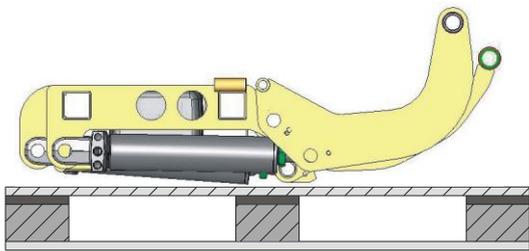
There is no need for extra stoppers whether for the main frame nor for the platform. The tailgate is as a standard equipped with adjustable stoppers for both the main frame and the platform.

Installation of the bridge plate between vehicle floor and the platform, should be done in a space saving way.

The main frame are painted with a cathodic dip-painting, and no further painting is required.

## Installation of the main frame of GPC X1-LD and GPC X1-LDF

The tail lift GPC X1-LD and GPC X1-LDF is delivered pre-assembled on a pallet.

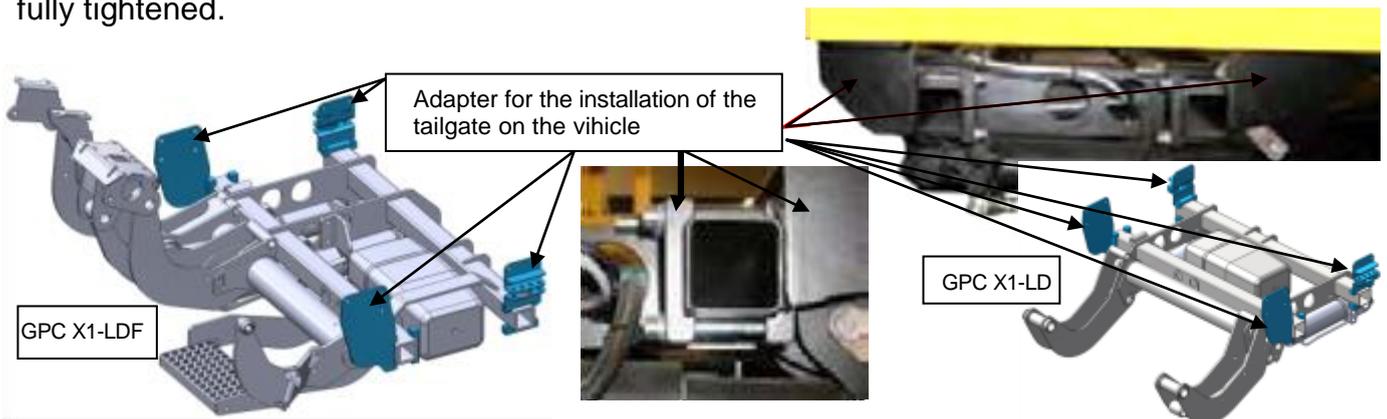


Lift the vehicle up to working height through appropriate means. Installation over a pit is also possible, but the vehicle must be additionally lifted above the pit (winches or wedges) in order to be able to drive pallet with the lifting gear under the vehicle.

Check the presence of insulation material in the area of the assembly adapters and remove it if there is any. If there blank body parts show, these must be treated against corrosion, according to the directives of the vehicle manufacturer.

Muffler systems which are located in the assembly area must be shortened or modified according to the vehicle manufacturer. This is very important to ensure enough distance to parts which get very hot.

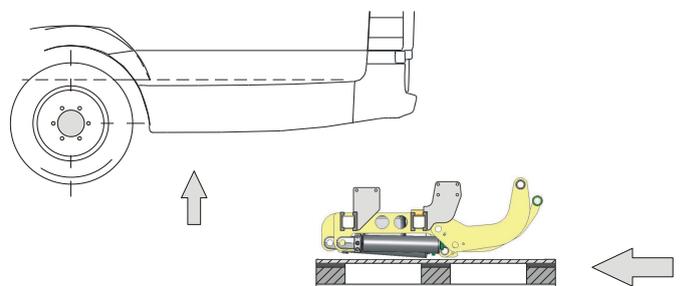
The assembly adapters can be of different designs, depending on vehicle manufacturer/type and their wheelbase. The adapters are pre-mounted on the lifting gears main frame, but not fully tightened.



The mounting adapters on the lifting gears main frame can be adjusted sideward to assure the correct positioning of the tailgate.

After that the hole lifting gear on its pallet is driven under the vehicle with appropriate means. The assembly adapters are tightly fastened to the vehicle frame, using the existing fastening points. Please use the provided bolts and screws. You will find the torque values for the different bolts on page 21.

Now the mounting brackets can be tightened to The mainframe assuring that the lift is correct Side wards positioned.

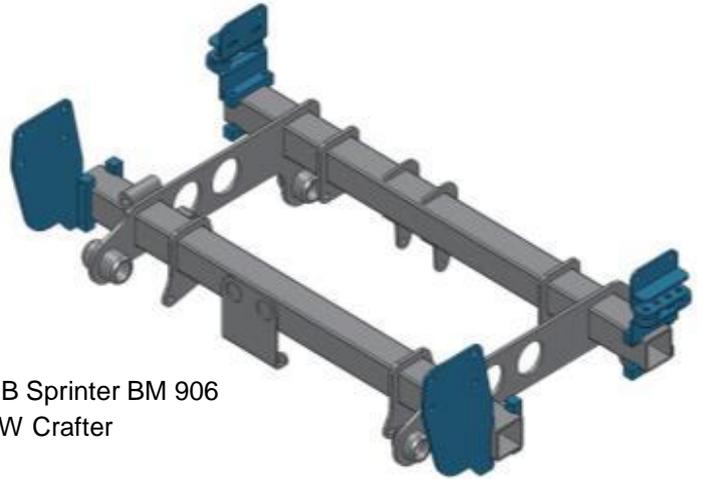


## Installation brackets for the different vehicle types:

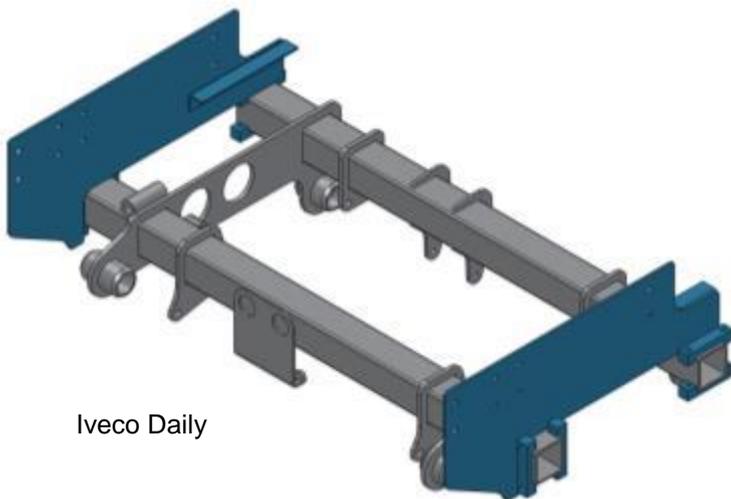
Installation brackets are available for the following types of vehicles, without having to make any modifications on the vehicle frame:

### MB Sprinter BM906 and VW Crafter:

for all Variants with leaf springs, except wheel base 127,9528 (Zoll) as well as all types with four wheel drive. The rear bumper must be without step. The vehicle should be equipped with an extra battery from the factory.



MB Sprinter BM 906  
VW Crafter



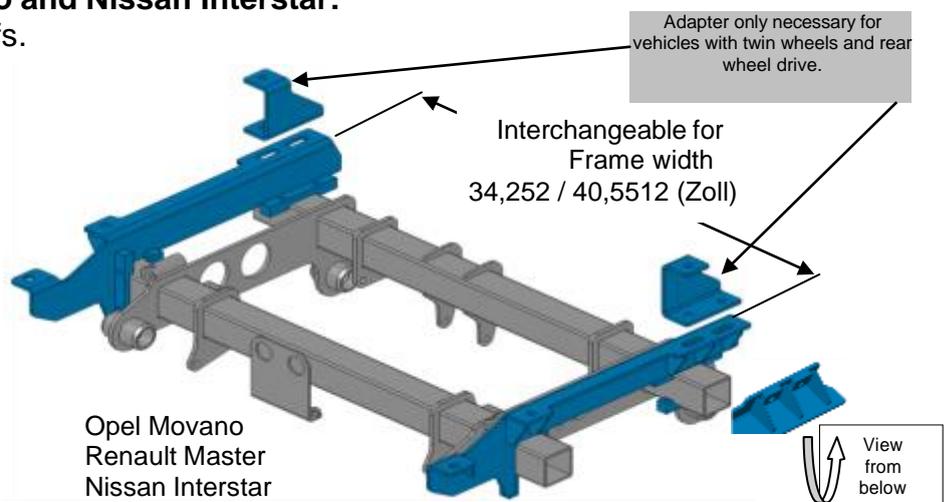
Iveco Daily

### IVECO Daily: Type 29L and 35S:

By all vehicle types with spring leaves, by all vehicles with four wheel drive the installation is not possible. To install the step behind the rear bumper must be removed.

### Renault Master, Opel Movano and Nissan Interstar:

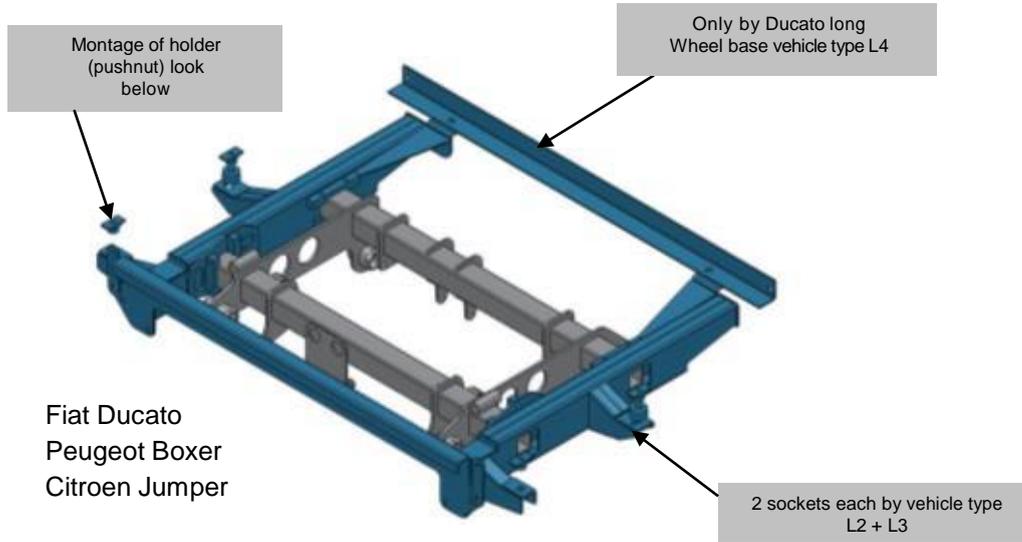
For all vehicles with spring leaves.



Opel Movano  
Renault Master  
Nissan Interstar

## Fiat Ducato, Peugeot Boxer, Citroen Jumper:

For all vehicle types with spring leaves.



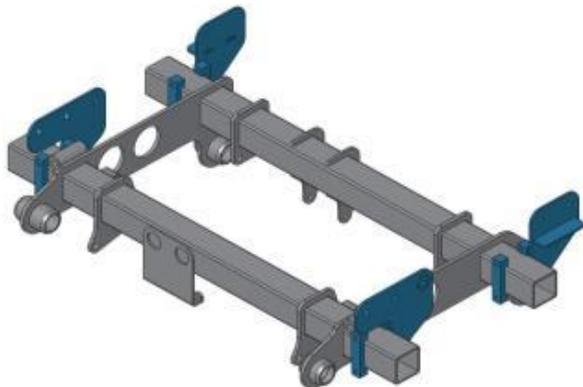
## Montage of the push nuts by Fiat, Peugeot, Citroen

Put in the push nuts in the existing holes and secure with the Hexagon nuts. After that the lifting gear with the installation brackets can be driven under the vehicle and be mounted.

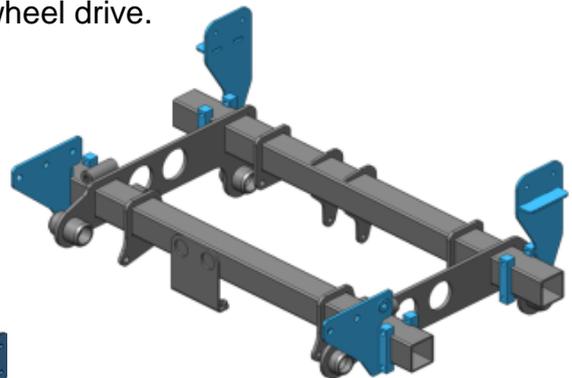


## Ford Transit:

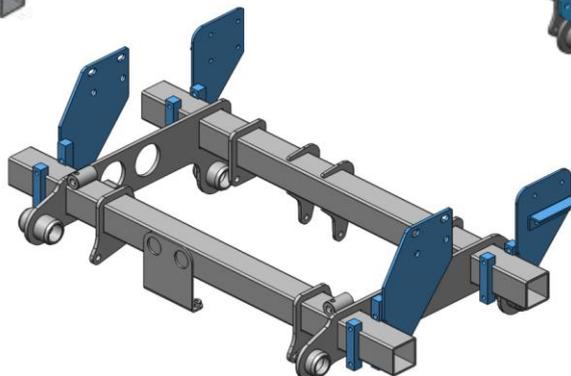
For all vehicle types with front wheel drive and spring leaves.



For all vehicles with rear wheel and four wheel drive.



For all Ford Transit model up to 2014



## Montage the electrics

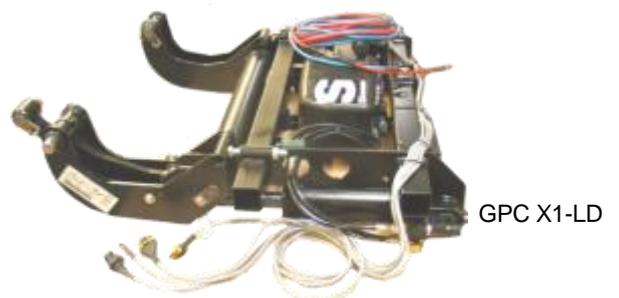
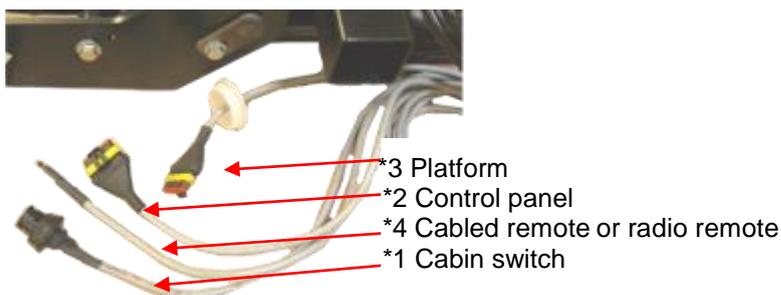
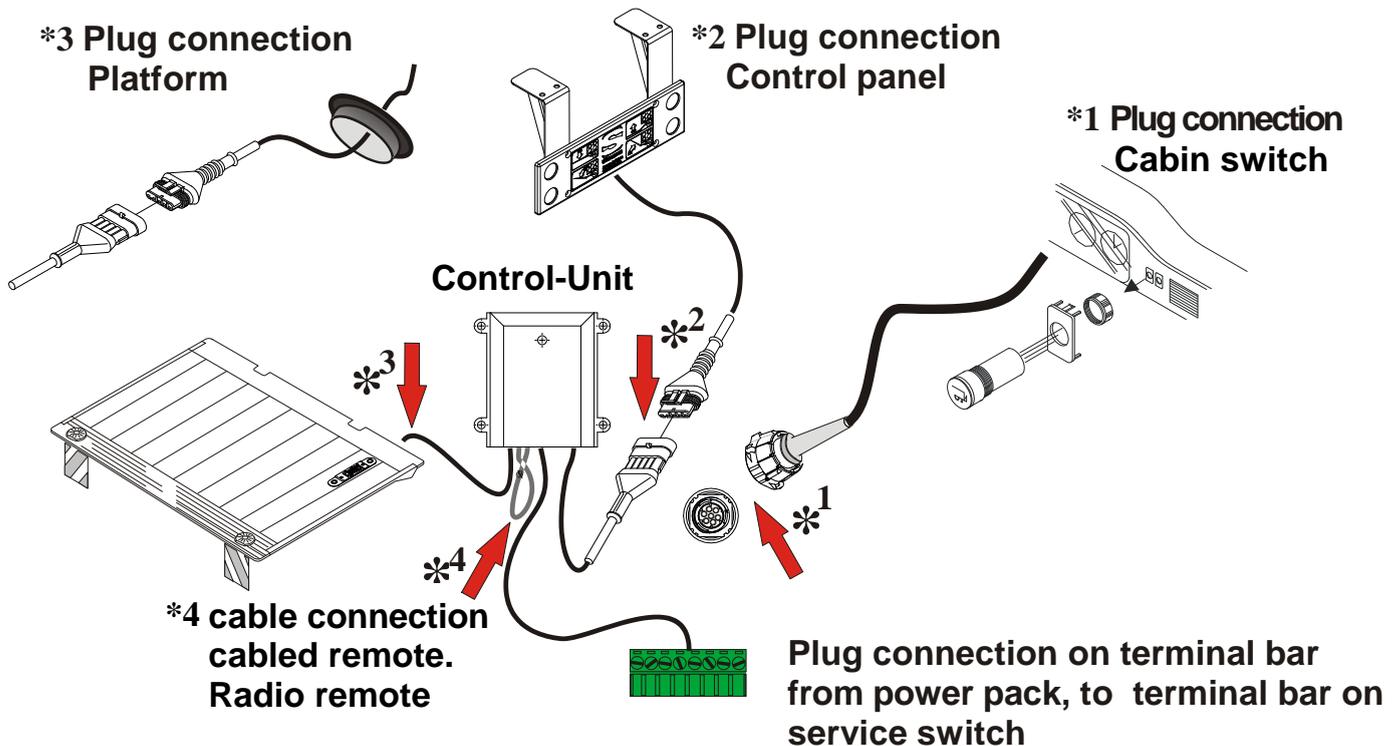
### Attention!

The tailgate is only to be operated, when the battery cable are connected as prescribed, and if there is sufficient voltage available. Don't ever use a charging device or start booster – it can lead to damages of the electric motor and the motor relay.

### Central electric

The Control-Unit (central controlling unit, central electric) is pre mounted from the factory. The connection (see sketch) to the cabin switch on the dashboard \*1, to the control panel \*2, to the platform \*3, to the handheld cabled remote \*4 or radio remote \*4 (option for export) must be done during the installation. The attachment of the cables to the device, must be done with the supplied cable ties, after the installation.

### Attention! The cables may not chafe or squashing.

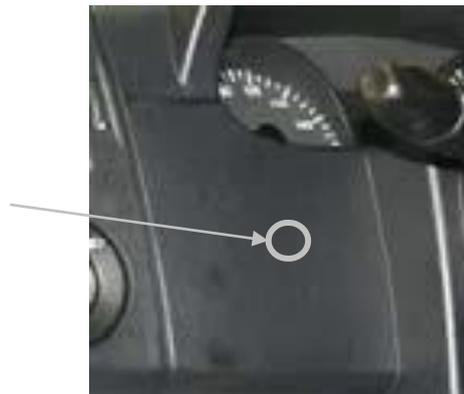


## Cabin switch

For the installation of the cabin switch a 0,6299 (Zoll) hole is necessary in the dash board, if possible in a free original – vehicle visor is used. Mount the cabin switch and connect it according to the supplied wiring diagram. Route the cable from the cabin switch to the Control-Unit, of the tailgate and connect with the round canon plug.

See sketch of the central electric

### \*1 Plug connection cabin switch



## Positioning the option Number plate lights and number plate on the Tailgate



The number plate and the number plate lights on the vehicle is in some vehicles placed over the platform of the tailgate.

Though there is a possibility to have an option, where the number plate and the number plate lights can be mounted on the platform.



Cable for the number plate light

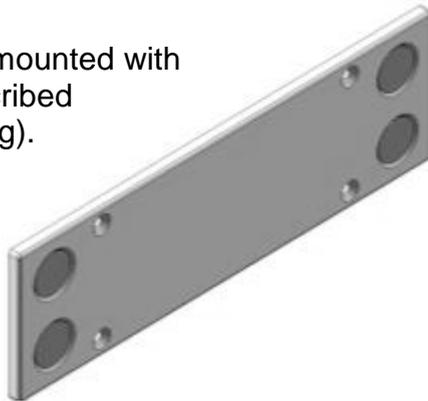


## Control panel montage GPC X1-LD

The control panel is mounted on the right side of the vehicle, so that the platform can be overviewed from the operating area.  
**The minimum distance should be 15"3/4 ± 1"15/16.**



The control panel is mounted with 4 screws in the prescribed Distance (see drawing).



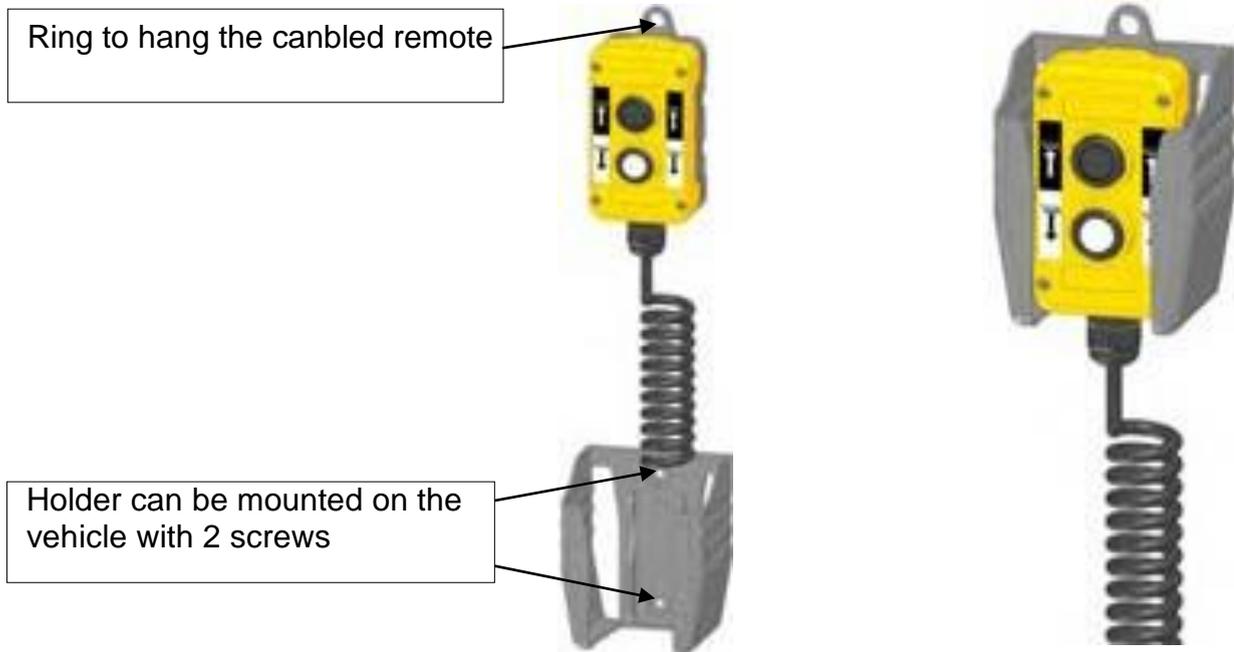
## Control panel installation GPC X1-LDF



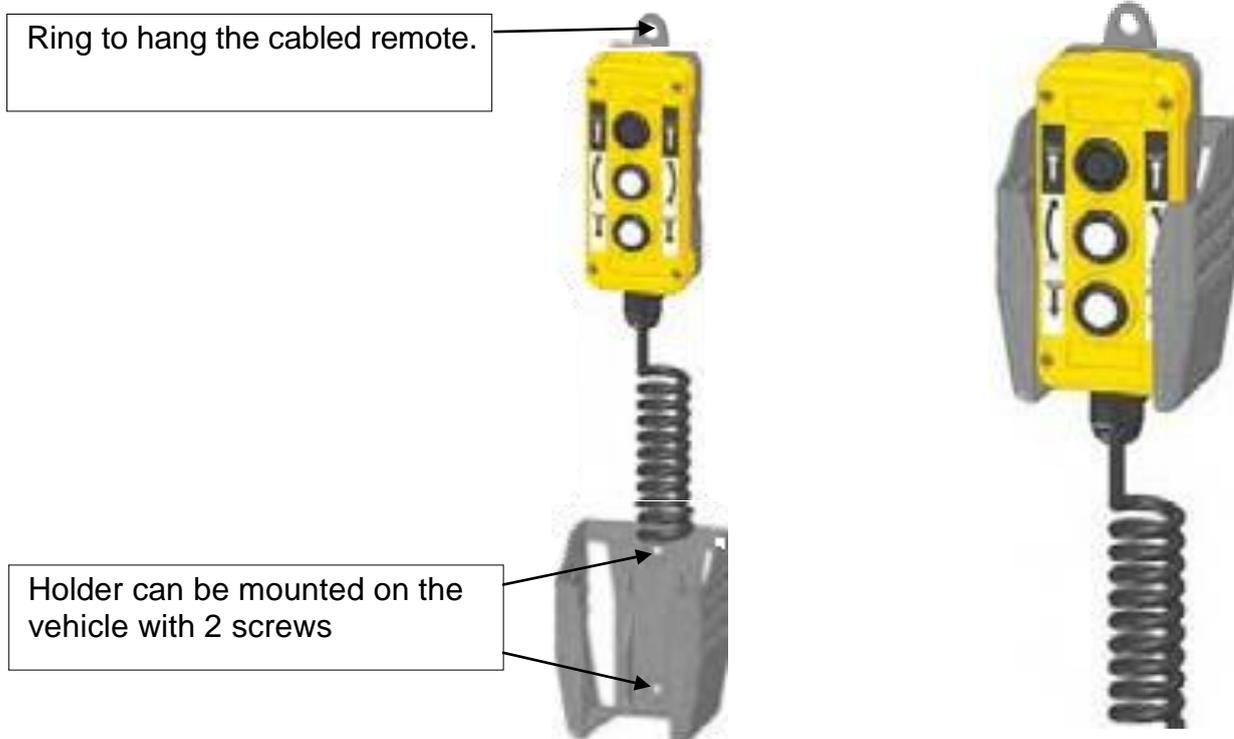
The control panel can be mounted on the inside of the right door.

## Handheld remote with spiral cable

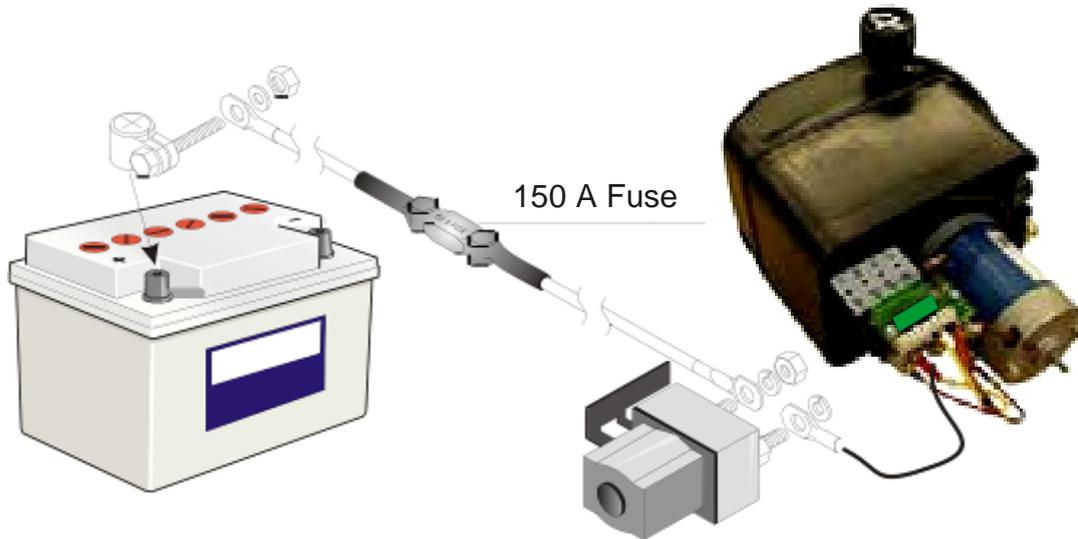
With the 2 button cabled remote the functions lift and lowering can be operated, after the platform has been opened by the control panel.



With the 3 button cabled remote the functions lift and lowering can be operated, and in addition the tilt functions at open platform.



## Battery cable / Ground cable / Fuse Main power fuse version for 12 Volt devices

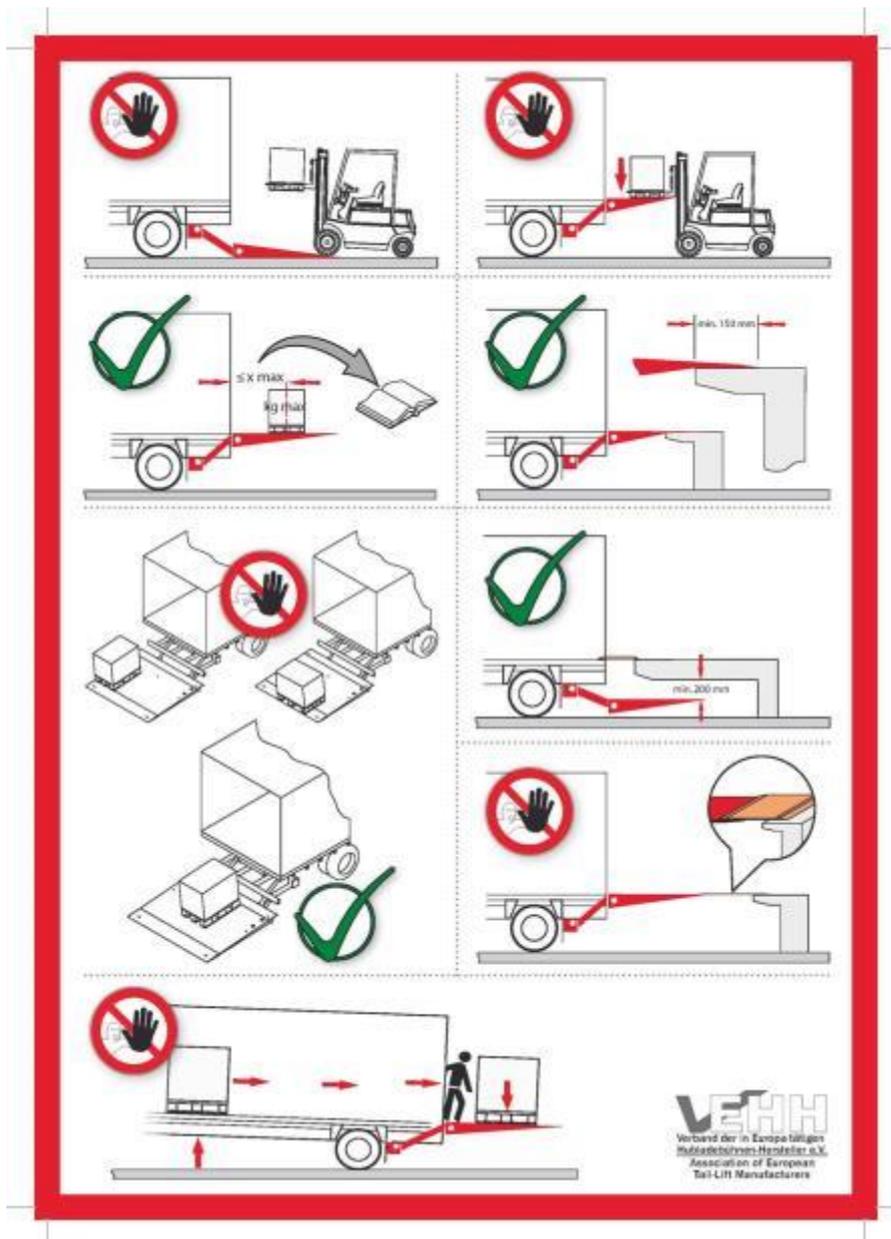


The plus cable and the ground cable are mounted on to the power pack from the factory. They shall be routed to the right poles on the battery, hereby comply to the construction guidelines of the vehicle manufacturer. The ground cable is blue and the Plus cable is red. Take care that no chafe marks are made, and that the cables are not close to heat carrying objects.

## Danger clue - Sticker “Safe handling of the tailgate“

This sticker is delivered with all new tailgates, and must be placed on a visible place on the inside of rear part of the vehicle. The danger clue – sticker shows possible falls actions and right actions in the single Pictograms.

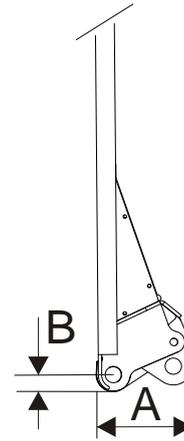
On this place we want to thank the installation companies for their support in the objective, to make it clear for the operators how the tailgate is operated in a proper way.



This sticker can be ordered under the part number S 20 909 238.

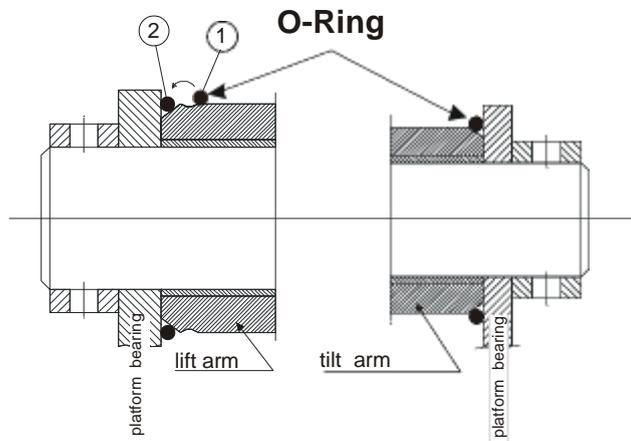
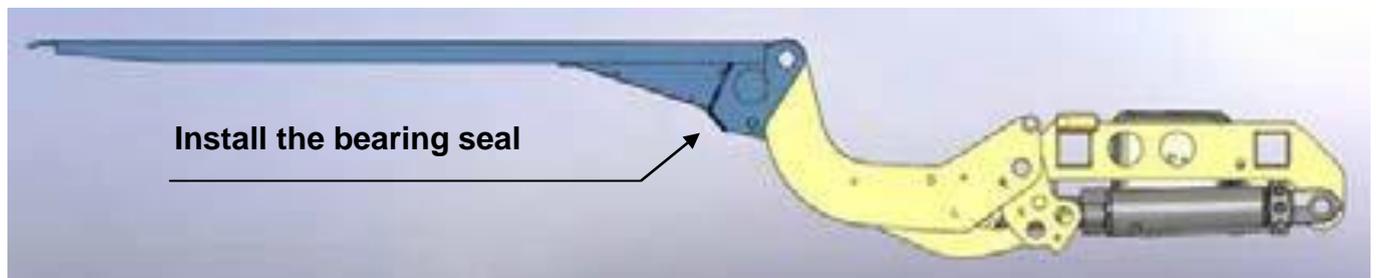
## Mounting and adjusting the platform

Type	A (Zoll)	B (Zoll)
GPC X1-LD	7,866	2,2835
GPC X1-LDF	7,866	2,2835



### Mounting the Platform

The lifting gear are lowered so much, that the installation of the platform is easily possible. The bushings in the lifting arms tilt cylinder shall be greased with the special grease. Mount the O-Rings, hang in the lifting arms and the tilt cylinder, mount pins and secure them.



All bushing connections are sealed with an O-Ring sealing. For mounting the platform locate the O-Rings on both sides of the lift and tilt arm in Pos. 1.

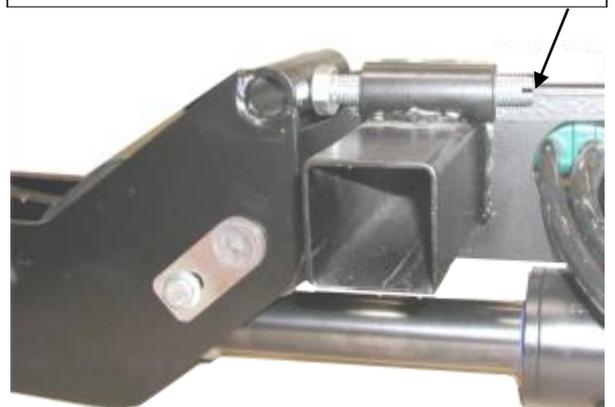
After completion of the installation the O-Rings are carefully locatet in Pos. 2.

### Adjustment of the lifting height to the vehicle floor

With the 2 pre mounted adjustment screws in the main frame (GPC X1-LD), it is possible to adjust the lift- and tilt arm to the wanted height to the vehicle floor.

With the 2 pre mounted adjustment screws in the main frame GPC X1-LDF, it is possible to adjust the lift- and tilt arm to the wanted height to the vehicle

Slotted adjustment screw (stopper) for adjustment of the lifting height to the vehicle floor with a screw driver.



## Adjustment of the parallelism GPC X1-LD und GPC X1-LDF

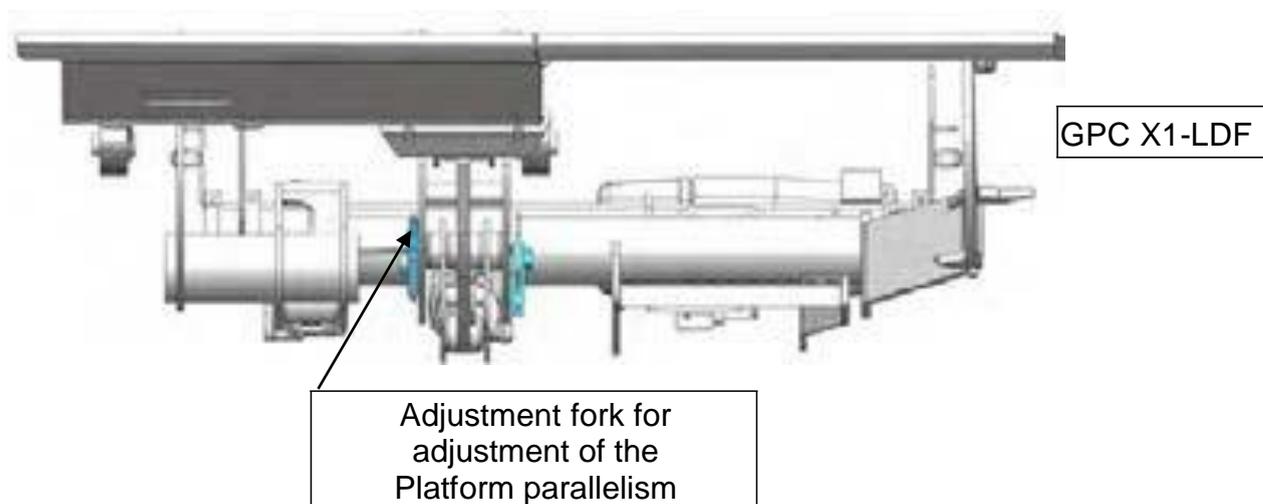
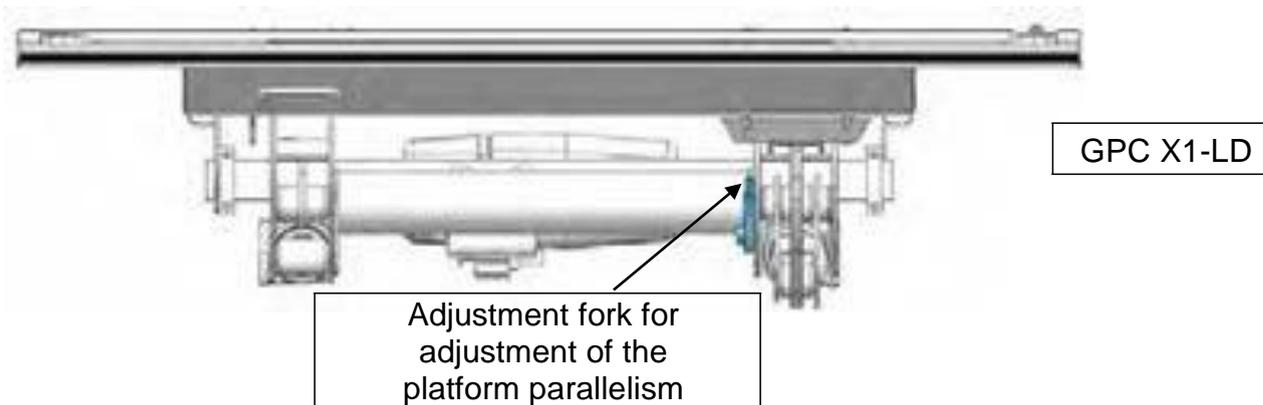
To obtain that the lift arm and the tilt arm are reaching the adjustable stoppers on the main frame at the same time, there is a possibility to adjust the parallelism with a adjustment fork.

Drive the open platform close to the height of the vehicle floor – not against the stoppers. With the adjustment screw the platform is adjusted to be parallel to the vehicle floor. After the adjustment the screws of the torsion bar are tightened according to the table with the torque values .

### Mode of action of the Adjustment fork for adjusting the parallelism between the platform and the vehicle floor.

Both arms shall be driven against the stoppers of the mainframe, and may not give in when the platform are loaded.

This adjustment must, if necessary, be made on the adjustment fork on the tilt arm. By turning the screw to the right the lift and tilt arm are going harder on the stoppers.



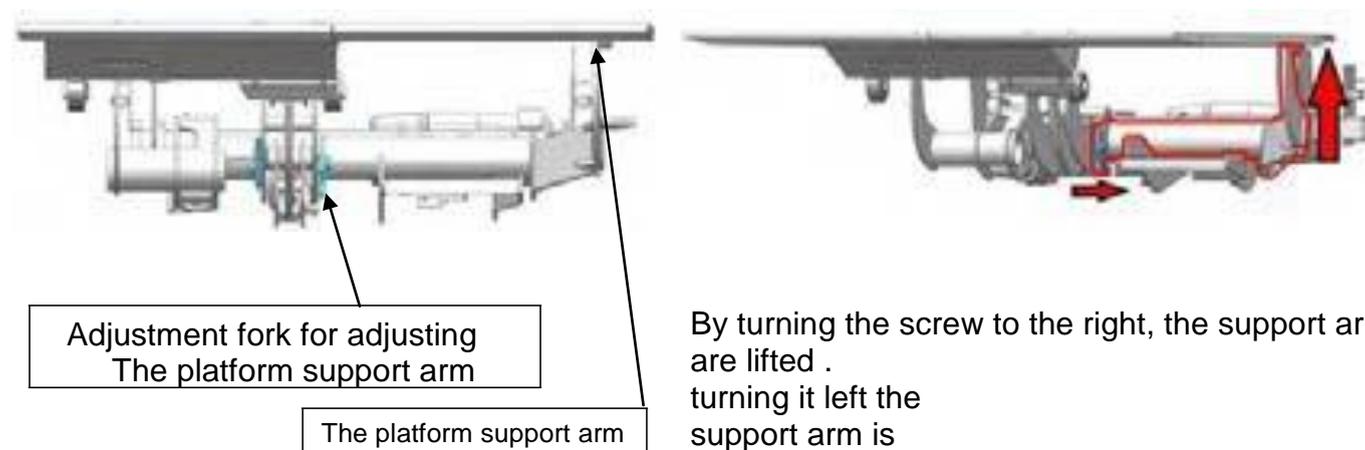
By turning the screw in the adjustment fork to the right the lift- and tilt arms goes up and the platform are getting closer to the vehicle.

By turning the screw to the left the lift- and tilt arm are lowering, and the platform gets further away from the vehicle.



## Adjustment of the support arm for the foldable right platform side of the tailgate GPC X1-LDF

The GPC X1-LDF tailgate has a further adjustment fork. With this the support arm for the foldable right side of the platform can be adjusted. The support arm shall be so adjusted that the platform are resting on and supported of the support arm.



By turning the screw to the right, the support arm are lifted . turning it left the support arm is lowered.  
See Sketch

## Installation of the stopper for the platform

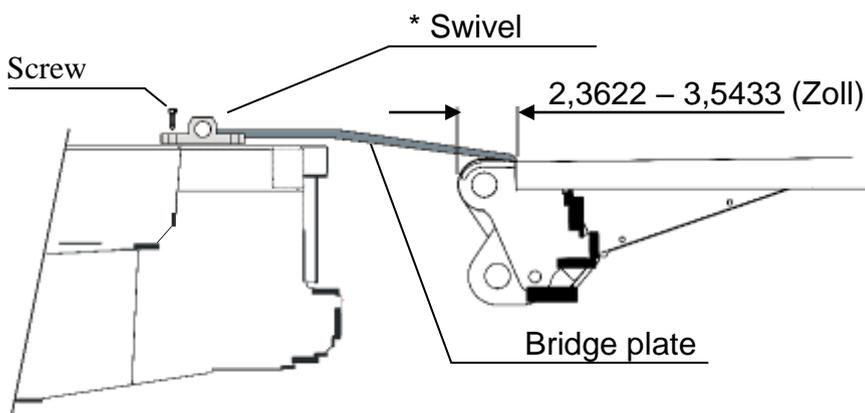
The stopper for the platform in vertical position is pre mounted from the factory. The platform does not need any additional stopper on the vehicle.

After installation of the platform the stopper must be mounted to the platform bracket like showed in the graphics. Drive the platform not quit to vertical, let it be 3° to 4° open. Then tighten tightening plate of the stopper. By repeated closing of the platform it should get vertical.



Stopper of the platform  
Mounted on the tilt arm.

## Montage bridge plate



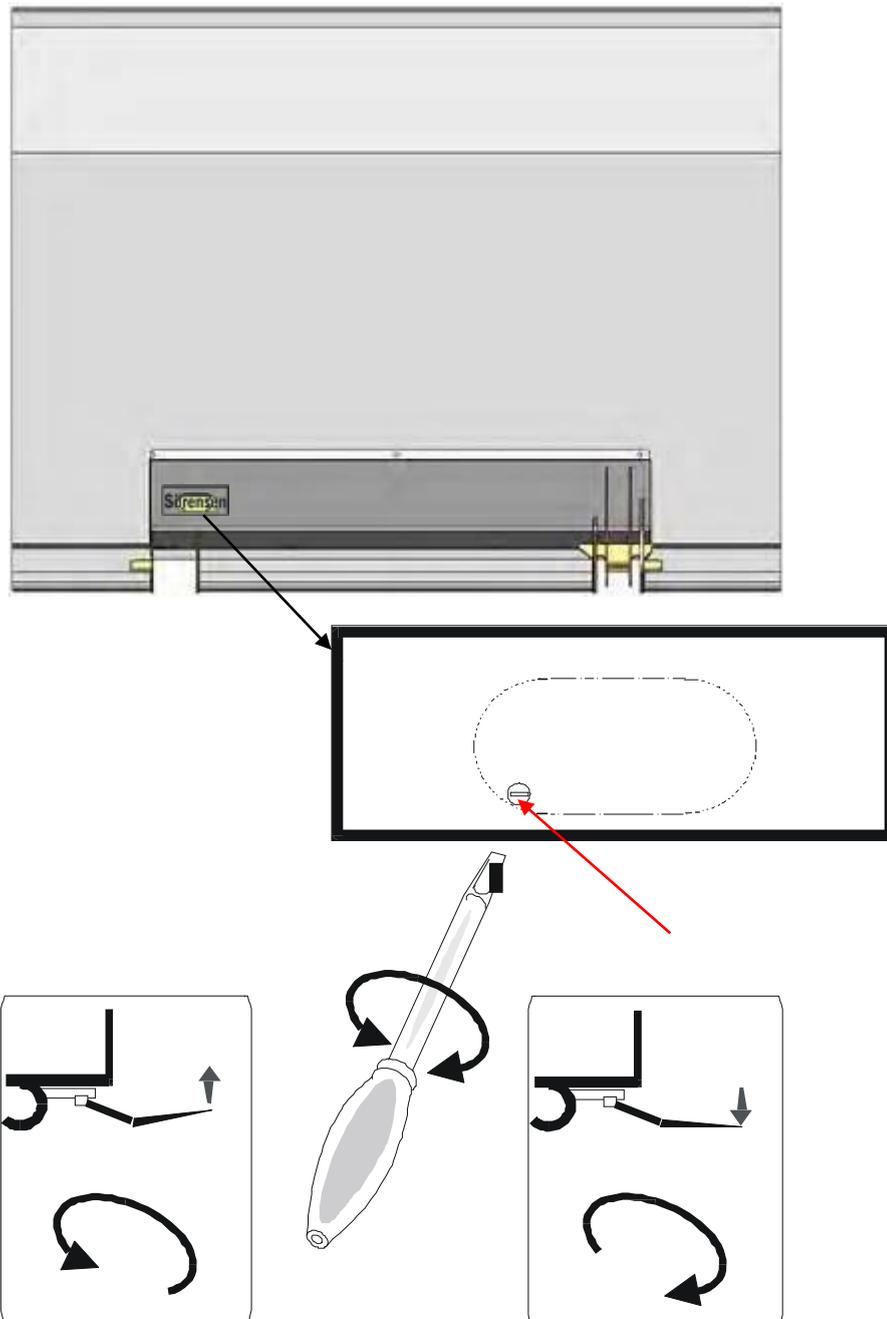
### \* Swivel

In stead of the swivel, the bridge plate in some models can be done with a hinge band.  
By some model the bridge plate can be in two parts

## Adjustment of the platform inclination series 8

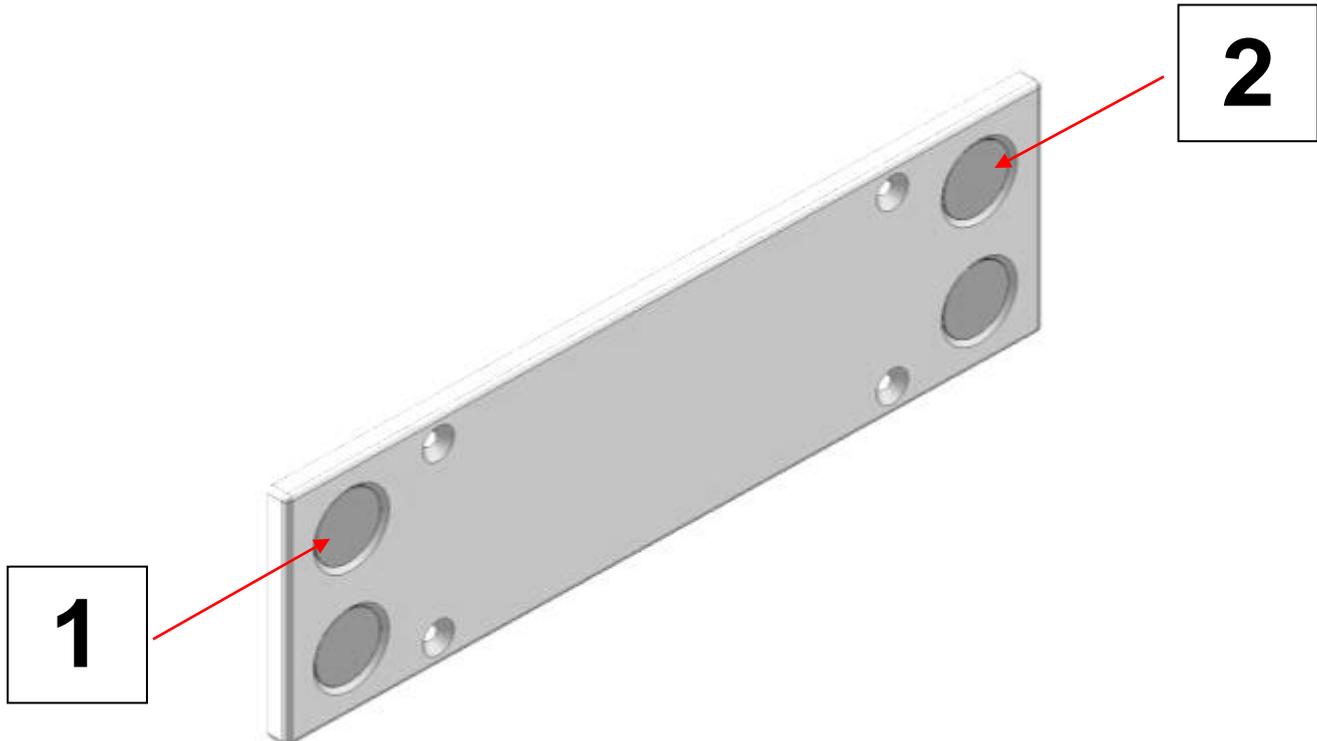
Turn the adjustment screw to the right – the platform tilt-up from the ground stops earlier. The platform tip is pointing downwards.

Turn the adjustment screw to the left – the platform tilt-up from the ground stops later. The platform tip is pointing more upwards.



## Adjusting the platform inclination Series 10 (Tilt sensor programming)

 **Attention!** This version of platform harness are not compatible with former versions.  
The programming is done with a key combination.



After installation or repair of the tailgate:

- Drive the platform the horizontal position
- press button 1 (upper left) three times, then
- press button 2 (upper right) three times

The flashing-light switches off for 5 seconds and indicates the success of the programming.

The programmed adjustment will be active until another programming are made.

## Taking the lift into use

Readiness for operation test. Test all moving parts for place to move. (No chafe marks on hoses cables etc.). Test the tightness of the hydraulics.

### Hydraulic oil – Recommendations

HLPD 22 (ISO-VG 22) "detergent", so that free water remains emulsified (against ice formation in winter operation) and to improve oil film adhesion.

\*In colder regions use the type HLPD 10.

Sörensen Hydraulic oil HLPD 10 Art. No.20 841 181

Sörensen Hydraulic oil HLPD 22 Art. No.60 700 283

Sörensen Bio-oil Art. No.20 858 811

Aral (BP)	Castrol Hyspin HLP-D 22	Aral (BP)	* Castrol Hyspin DSP 10
Shell	Tellus DO 22 (* DO 10)	Shell	* Tellus DO 10
Panolin	HLP SYNTH (Bio-Öl)	Panolin	HLP Plus
Esso Mobil Oil	Mobil DTE 20	ESSO Mobil Oil	* Mobil DTE 10
Fuchs	Rhenolin MR 5	Fuchs	* Rhenolin MR 3)

### Name plate

The name plate with the loading diagram is positioned on the right lifting arm (the tilt arm). Additional to this there is a further name plate on the inside of the power pack cover.

### Entry in inspection record book

After the installation the test "Inspection before taken into use" Must be noted and signed by an expert.

## Test of the working speeds

### Vertical speed

The vertical speed (Lifting and lowering) must not exceed 5,9 (Zoll) / sec. Are lifting and lowering too fast, Then compare the vehicle voltage with the voltage of the power pack, The voltage must be identical. Are lowering and tilt out (opening) to fast, then check the throttle valves for function and for pollution.

### Closing and opening speed

If the platform are not closed and/or opened by hand, then the angular velocity may not exceed 10°/sec.

### Tilting speed in working zone

The angular velocity may not exceed 4°/sec.

## Load test

### Static test

Drive the platform into horizontal position half way between ground and bed height. Load the platform in the loading distance with a test load up to 125 % of the max. load. Loading distance and max. load can be seen on name plate. The load diagram on the name plate shows the allowed loads for the different loading distances. In a test duration of 15 minutes the platform must not lower more than 0,5906 (Zoll) and must not tilt down more than 2°.

### Dynamic test

Make a test with max. load, where lifting lowering and tilt down/up are tested. If necessary the pressure relief valve can be adjusted so that the load can be lifted in a safe way. **Attention!** The pressure relief valve is set from the factory, and an adjustment is normally not necessary. However if an adjustment is necessary then be aware of the following points.

Do only adjust the pressure when the set pressure can be read over a manometer. The max. allowed pressure can be read on the name plate.

After the static and dynamic test a visual inspection of the hydraulics for tightness is made.

### Test against lifting an overload

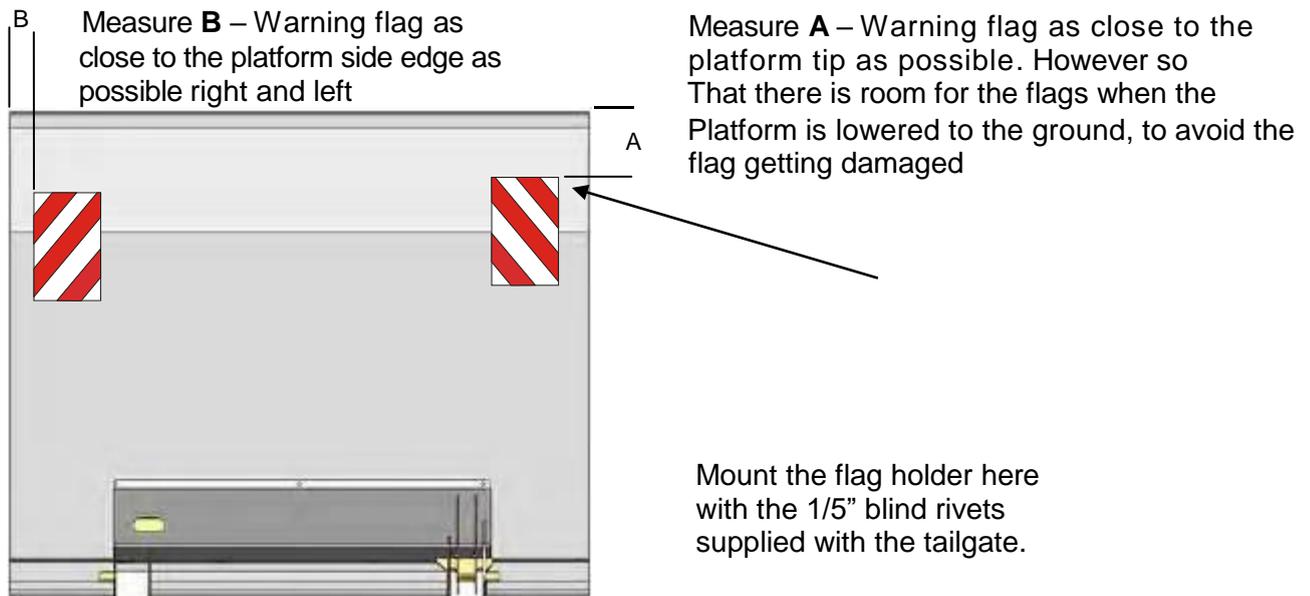
With a test it must be secured that the tailgate cannot lift more than max. a 125% of the max. allowed load.

### Test of the safety devices

Drive all functions in the end positions, until respond to the safety devices.

## Warning flags

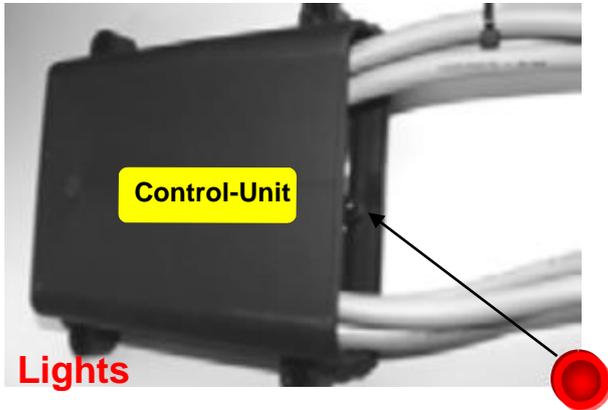
Mount the warning flags with the supplied blind rivets





## Diagnose diode in series 8 and series 10

### Explanation of the diagnosis diode on the control unit



#### Diode lights constantly, if:

Cabin switch is on

or

Platform position 60° till ca. 90°

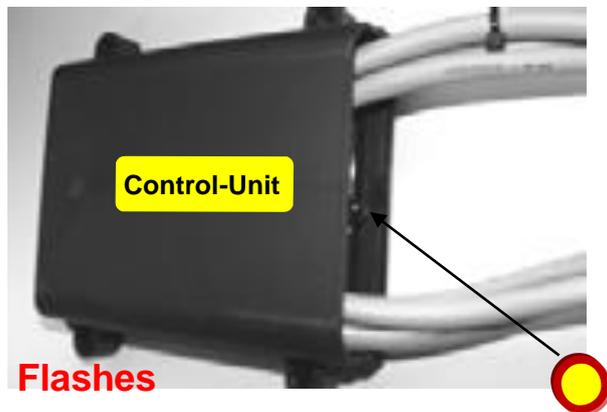
or

Platform position 0° till -10°

Explanation: Platform closed (vertical) 90°

Platform open (horizontal) 0°

Platform tip tilted down -10°



#### Diode flash signal, if:

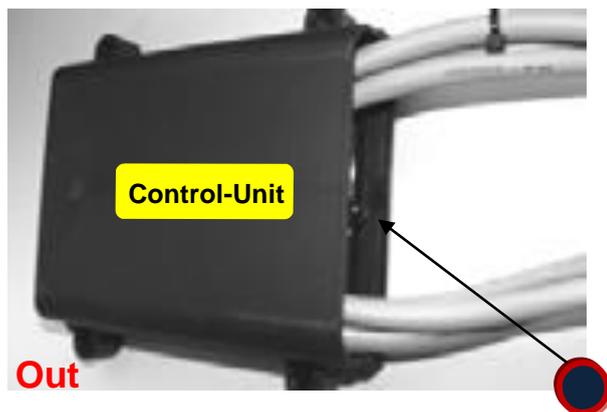
Control key operated

or

Foot control operated

or

Key on cabled remote operated



#### Diode out, if:

Main switch off

or

Platform position 0° till 60°

## **Test of the sensor switch in the Platform:**

Platform closed and lift on:

**LED lights.**

Power supply Ok.

Platform position 0 ° till ca. 60 °

**LED out**

Sensor-Switch S1 in Ok.

Platform lights are activated

Platform position 0° till -10° (tilted down)

**LED lights.**

Sensor-switch S2 in Ok.

the switch over occurs by horizontal Position.

Making it possible to set the automatic tilt-function.

## **Test of the pressure switch S4:**

With the foot control keys for lowering – >> begin lowering.

**LED Flashes.**

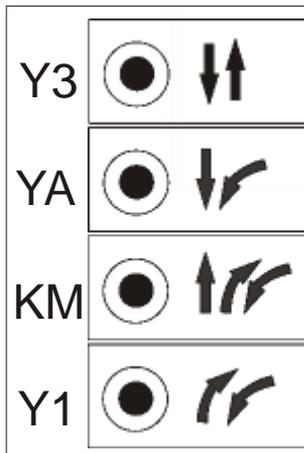
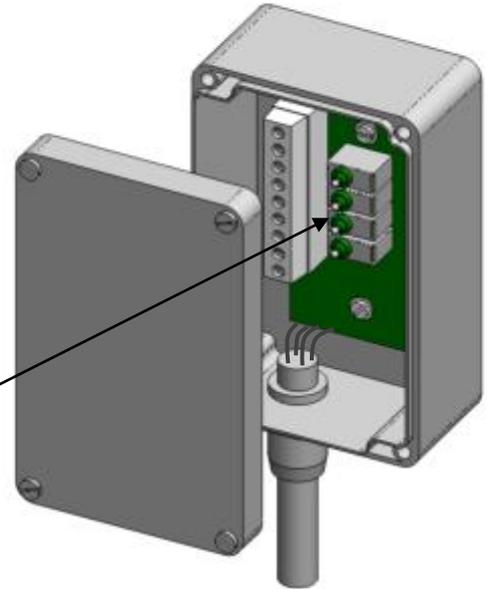
As soon as the platform has reached the ground and the pressure switch switches, flashing changes into constant light - **LED lights** and die platform tilts down.

This indicates that the pressure switch has switched. If not the pressure switch is defect.

## Service switch

With the service circuit mounted in a housing (**Service Switch**) Are instructed service personal allowed for testing, to drive the functions of the tailgate directly.

Should the hand controls or the foot controls be out of function, it is possible for instructed personal with the Service Switch (**emergency function**) to drive the lift into any wished position.



Function	YA	Y1	Y3	KM
Power lights green		•		
Lifting			•	•
Lowering	•		•	
Open / tilt-down	•	•		•
Closing / tilt-up		•		•

Please adhere to the sequence, always operate KM at last. →