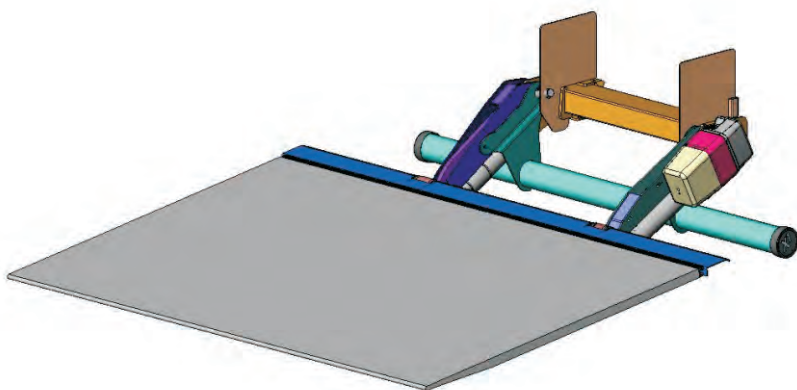
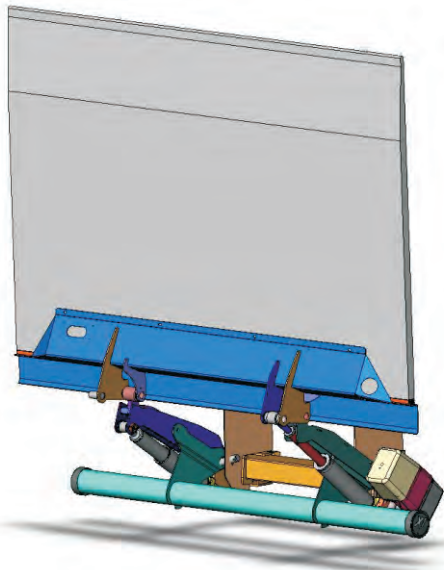


MAXON®

Cantilever GPC X1 Installation Manual



**Cantilever
Serie
GPC 22 X1**

**very
important
next page !**

MAXON®
Lift CORP.

11921 Slauson Avenue.
Santa Fe Springs, CA 90670
(800) 227 - 4116

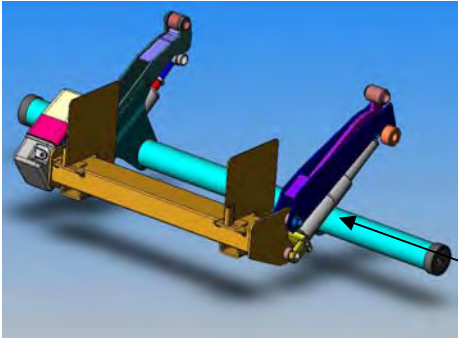
X1
TECHNOLOGY

Document no.: S 20 909 945
Version 2011

Very important!

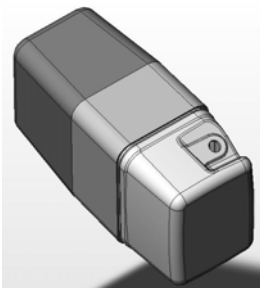
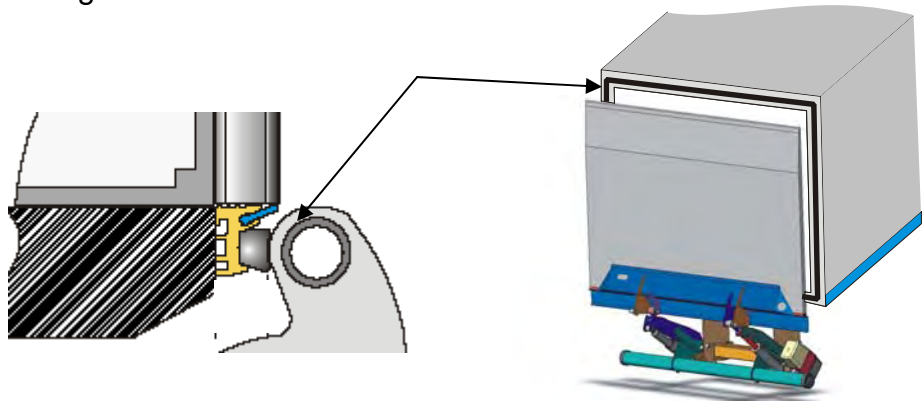
Caution!

Please follow these important steps before starting installation.



1. Read and fully understand complete installation manual.
2. Check and verify that your vehicle dimensions are correct for the model of liftgate that you are installing. Vehicle mounting data is found on page 9 and 10 of the installation manual.
3. The under run bar must be mounted before installing the liftgate to the vehicle.

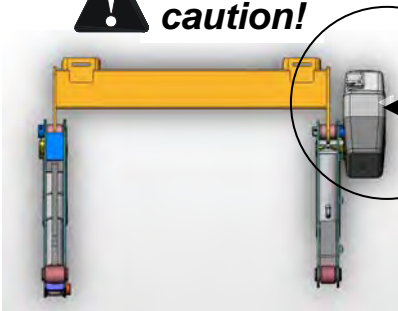
The optional rear door seal kit if supplied with the liftgate must be installed prior to the installation of the gate. Please refer to Page 25 in the manual for seal kit mounting instructions.



The power pack was already filled with oil in the factory.



caution!



caution with transport!

do not lift at the power pack

no pressure or shocks

do not use pry bars

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Introduction

These installation directions contain the instructions necessary to install the liftgate and adjust it to those vehicles for which the tailgate was designed. To determine whether the device may be installed on a certain vehicle, please contact us. We will provide the required information. If the liftgate needs to be modified or if it is necessary to differ from these installation directions, a written approval from Maxon Lift CORP. needs to be obtained first. Unapproved modifications and amendments from these installation directions may lead to failure and to operating interruptions as well as to hazards for the operator.

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

The installations guidelines of the chassis manufacturer need to be complied with!

Check for damages after arrival

For damages on the liftgate which occurred during transportation, the shipping/forwarding company will be responsible. The lift needs to be checked for damages upon arrival. If any damages occurred during transportation, they need to be recorded on the waybill, so that claims can be raised. Insurance claims can be settled only by Maxon Lift CORP. and the shipping/forwarding company or its insurance.

Trailer hitch

If the vehicle has a trailer hitch, the clearance of the shaft axle to the liftgate and the overall length need to be guaranteed by the installer.

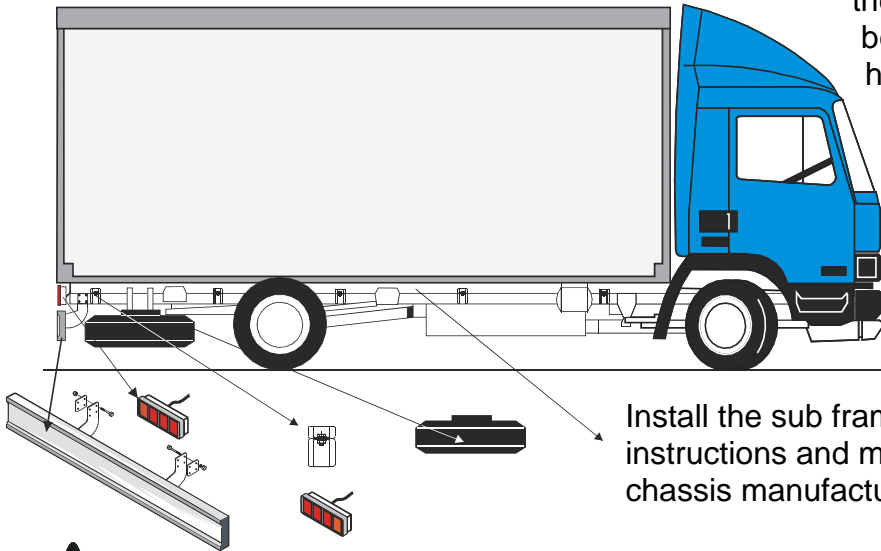
Installation-Safety Precautions

- Before installing, the battery of the vehicle needs to be disconnected. The vehicle needs to be secured against all unintentional shifting.
- The plugs for electronic systems as for example ABS needs to be pulled before welding. Fuel lines, air hoses of the brake system, and cables in the installation area need to be protected against damages.
- Any special safety regulations (if applicable) need to be complied with.
- Safety gear, like protective goggles, work gloves and work boots, need to be made available before installing and are to be used if necessary.
- Safety devices on cranes, forklifts, and other lifting gear necessary for installing are to be checked to see if they are in proper working condition before they are used.

Installation Directions GPC 22 X1

Preparation of the Vehicle

Dismantle the under run bar and the tail lights. If there are any U-shaped mounting brackets with threads on both sides, brackets, rivets, spare wheels, or couplings in the installation area of the mounting brackets, they need to be removed. If necessary, remove hinges and locks at the rear end plate of the body floor.



Install the sub frame according to instructions and manuals of the chassis manufacturer.



Warning

Only operate liftgate with battery cable fixed to a sufficient charged battery. Never use a charger or start unit even provisional as this can damage relay or motor.

The drivers cab should be protected against dirt using a suitable cover.

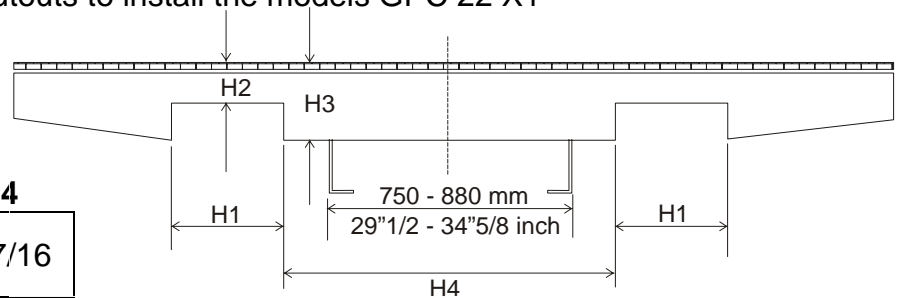
Cutouts in Rear Sill

If the dimension of the rear sill (H2) in the area of the lift arms is more than H2, then openings need to be cut out according to our recommendations.

Recommendations for the rear sill cutouts to install the models GPC 22 X1

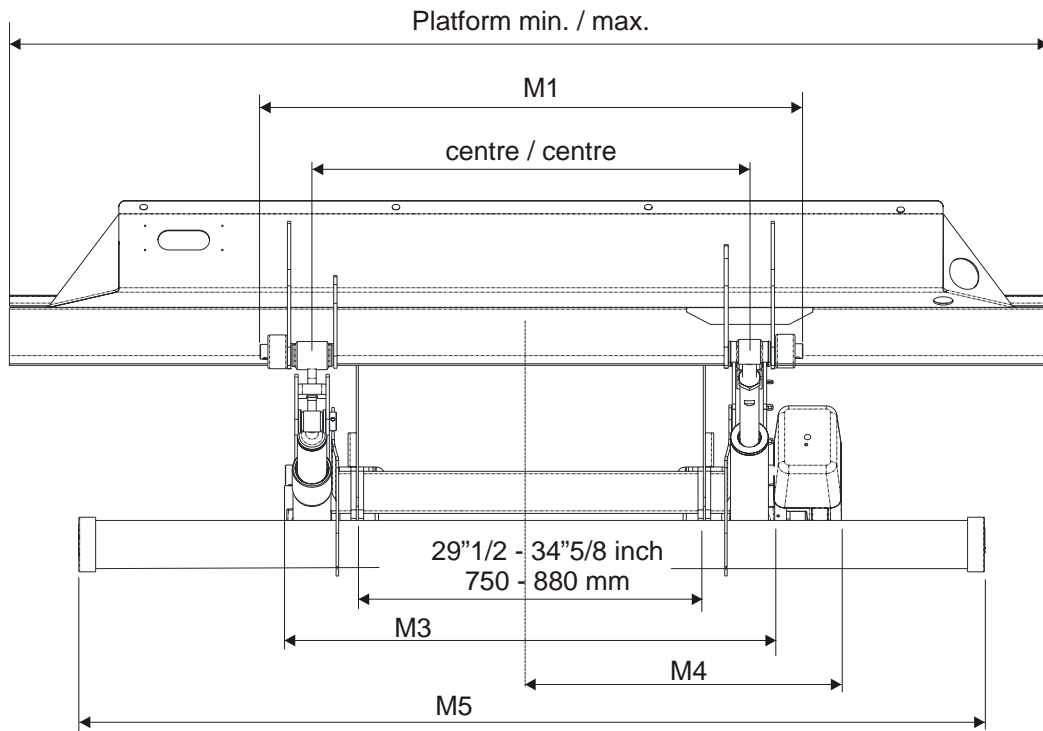
Table

inch	H1	H2	H3	H4
GPC 22X1	8 1/4	3 1/8	5 1/2	35 7/16



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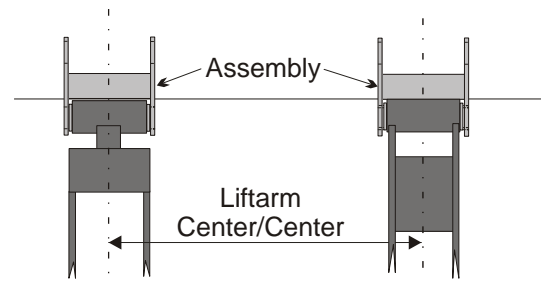
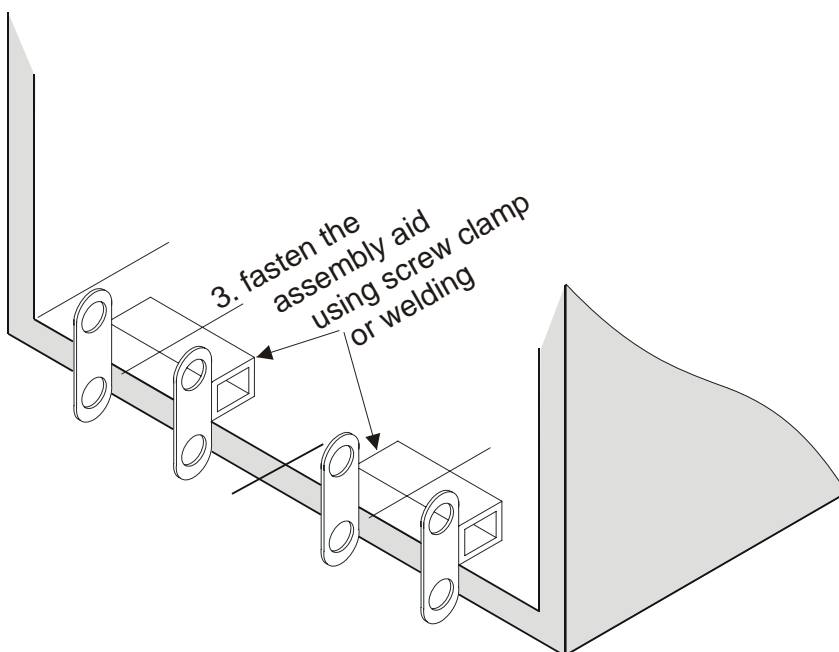
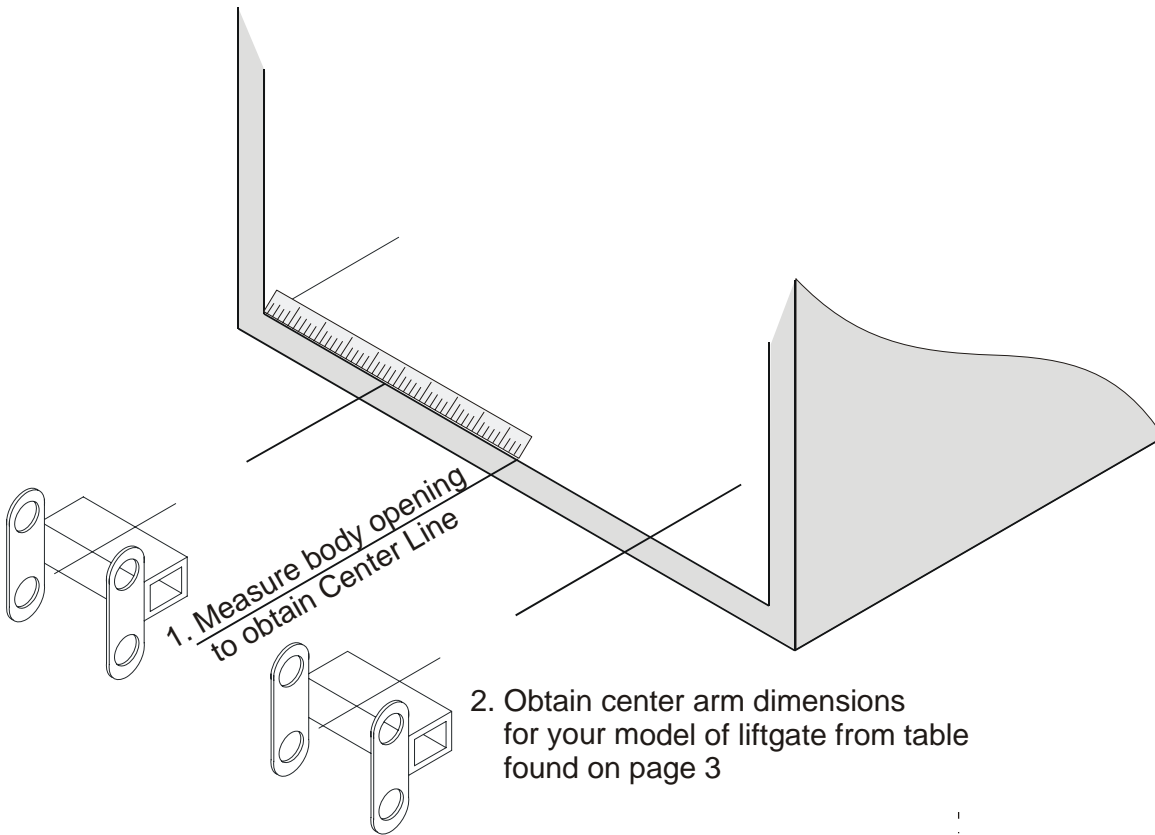
Dimensions GPC



Model	inch/	Platform max/min	Lift Arm Center/Center	M1	max M3	max M4	M5
GPC 22 X1	inch	101 9/16 / 76 3/4	40 15/16	51	47 7/16	34 1/16	84 5/8

	width x height	weights Platform	weights total
GPC 22 X1	98 x 59 inch	Platform 290 pounds	670 pounds

Placement of assembly aids.

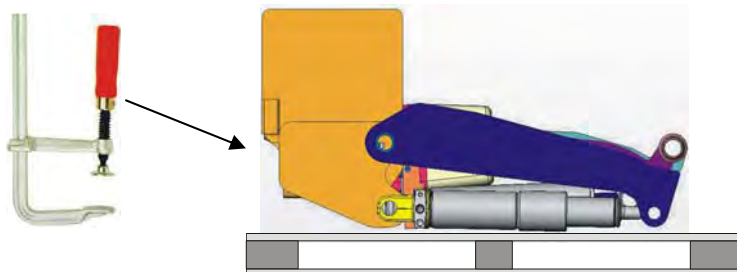


GPC 22 X1 Liftarm 20 15/32 / 20 15/32

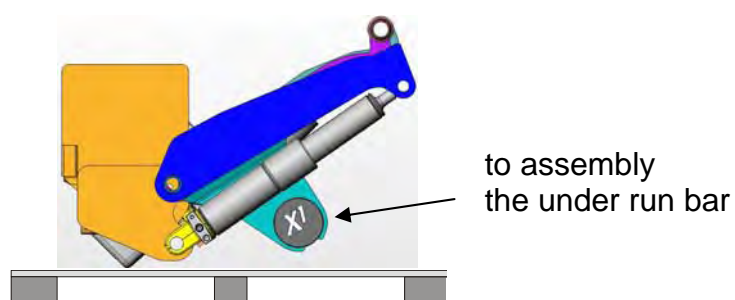
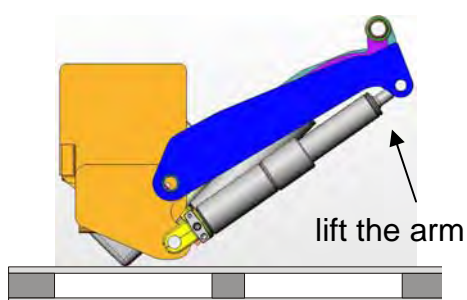
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Assembly of the lifting gear

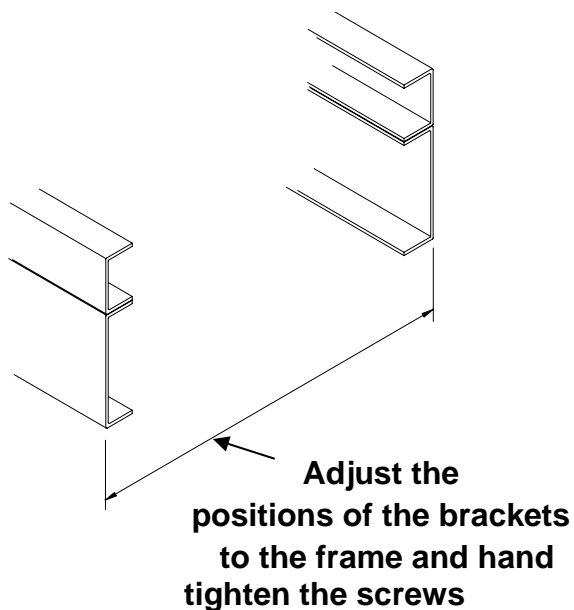
Install the mounting brackets loose, secure lifting mechanism with Screw clamp, and connect the positive and ground cables at the battery. (see also Page 17)



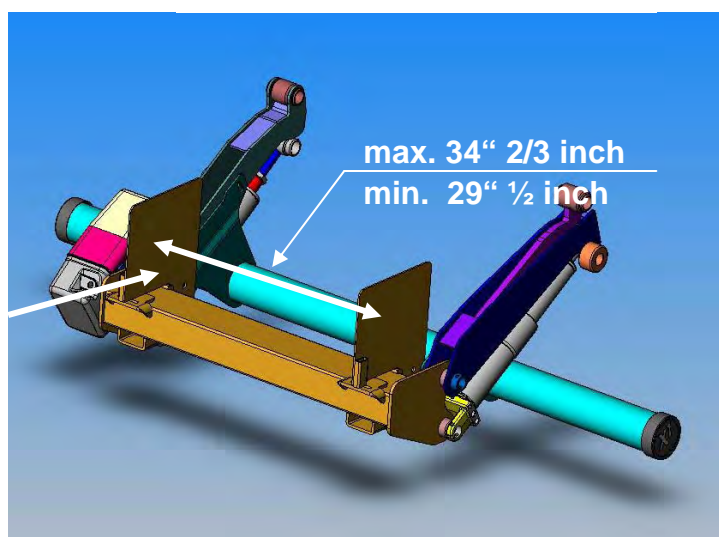
Lift up the Lift arms in order and to assemble the under run bar.




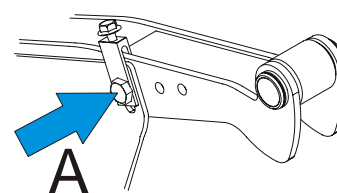
Measure the frame width of the vehicle.



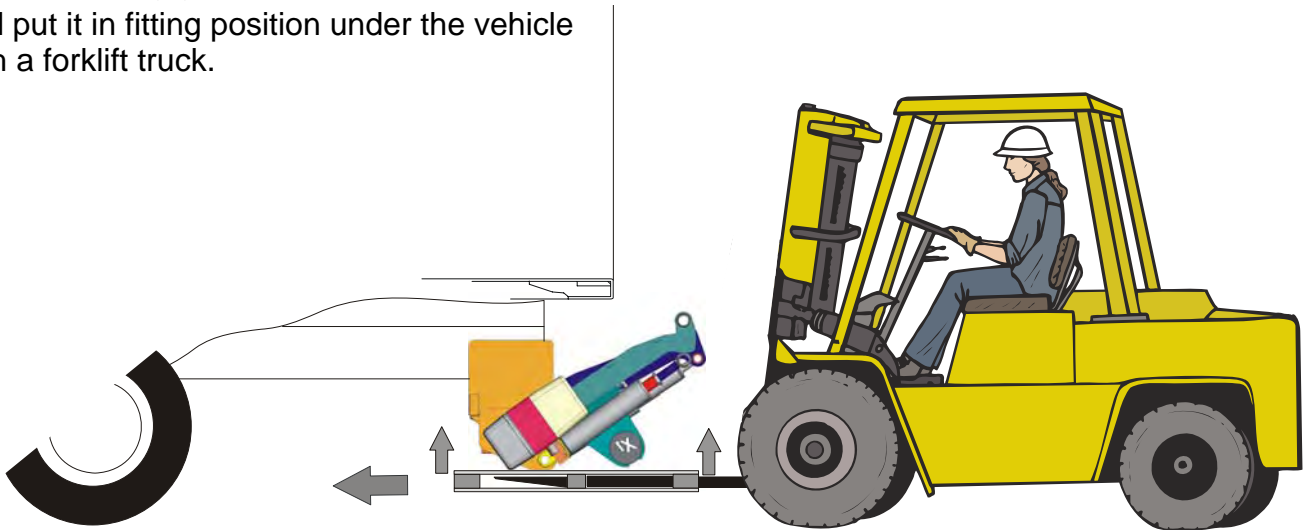
The brackets GPC positioned on the frame width



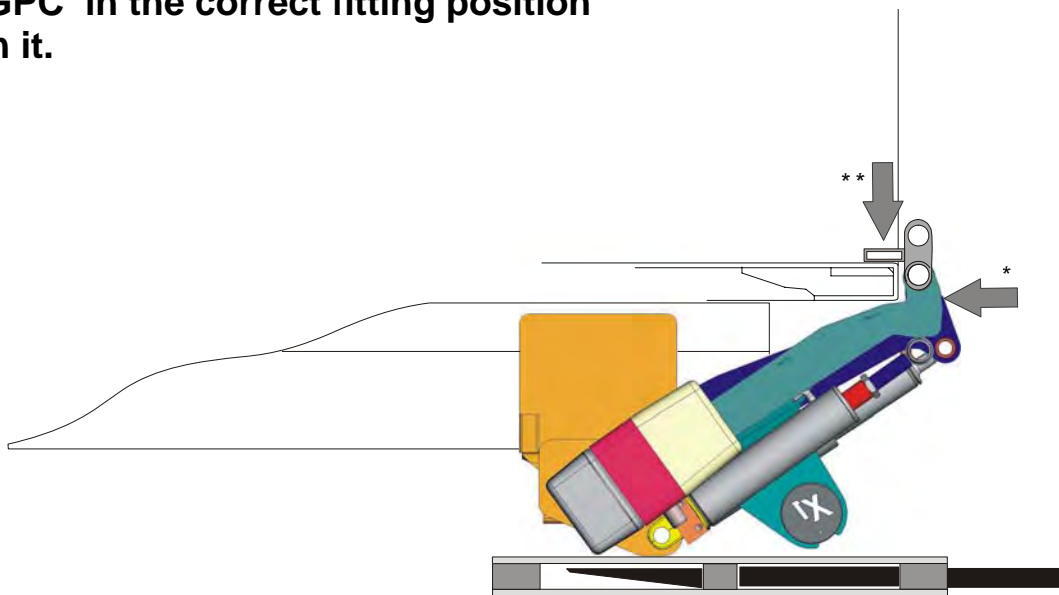
 Before assembling the lifting gear, it is imperative that the screw (A) is loose. It will be tightened after adjusting the lifting gear. (Please refer to page 13)



Place the lifting gear of the GPC on a pallet and put it in fitting position under the vehicle with a forklift truck.

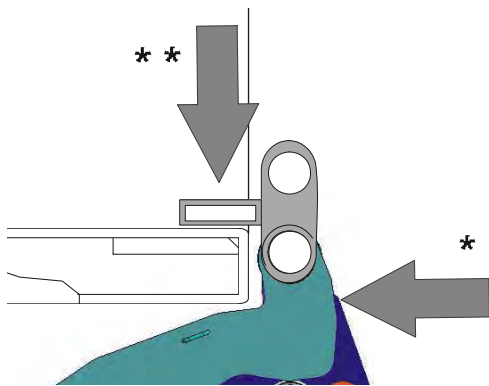


Put the GPC in the correct fitting position and align it.



You will find all needed measurements on page 10 of these instructions.

Position and pin both liftgate arms into the assembly brackets.



*

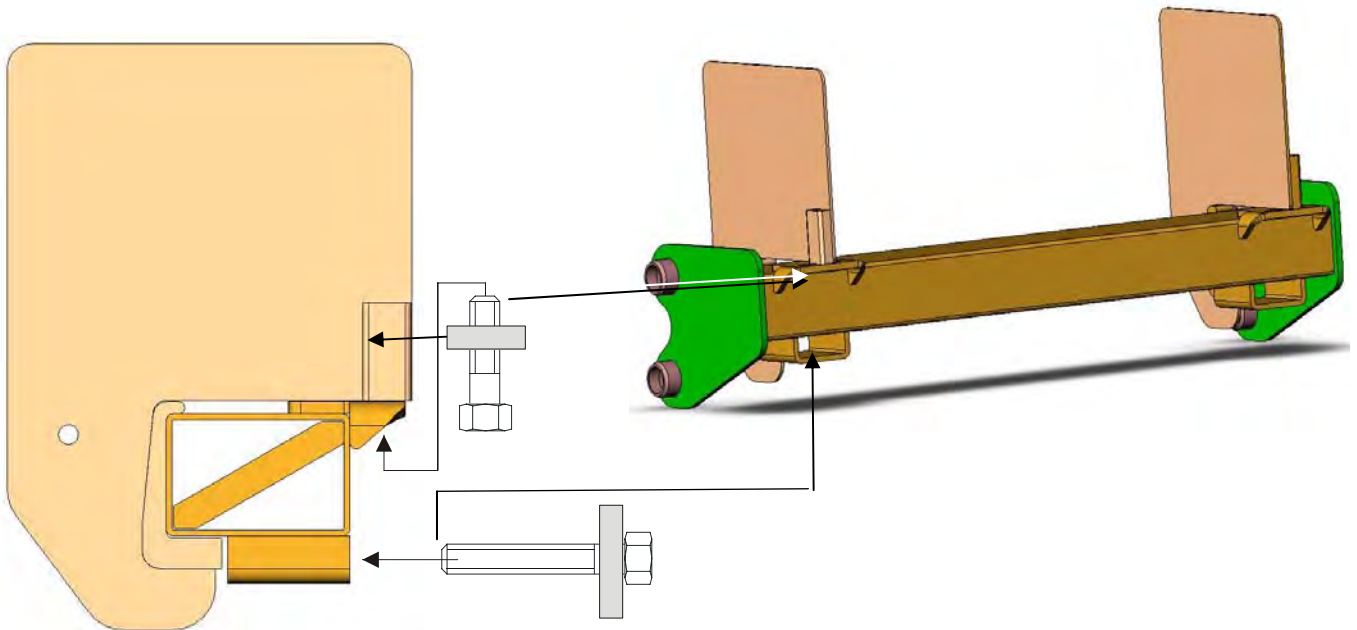
Press the lifting arms against the rear frame of the vehicle and secure them against unintentional movement.

**

Secure the assembly bracket with a weight or with clamps. It is essential that the bracket lies firmly on the vehicle floor.

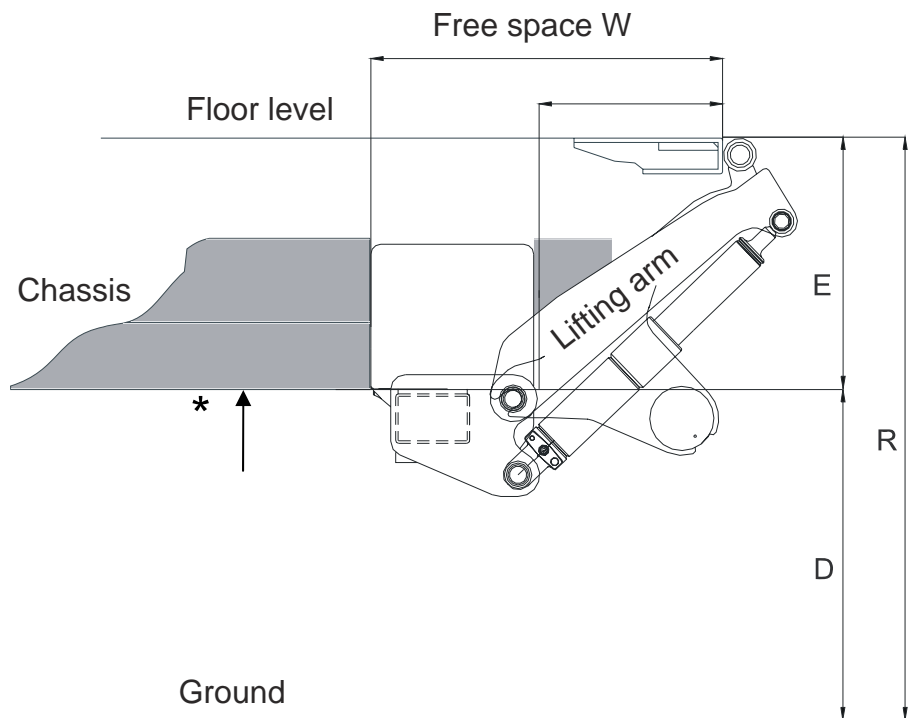
Weld on the brackets at the vehicle frame, according to table at page 11.

Secure the main beam by tightening the 4 screws according to the tightening torque table on page 21.



Tighten the screws according to the torque table

Assembly measurements



* Stay always close to the measurement under the vehicle frame

Please refer to page 4 and 10 in the installation manual for correct mounting dimensions.

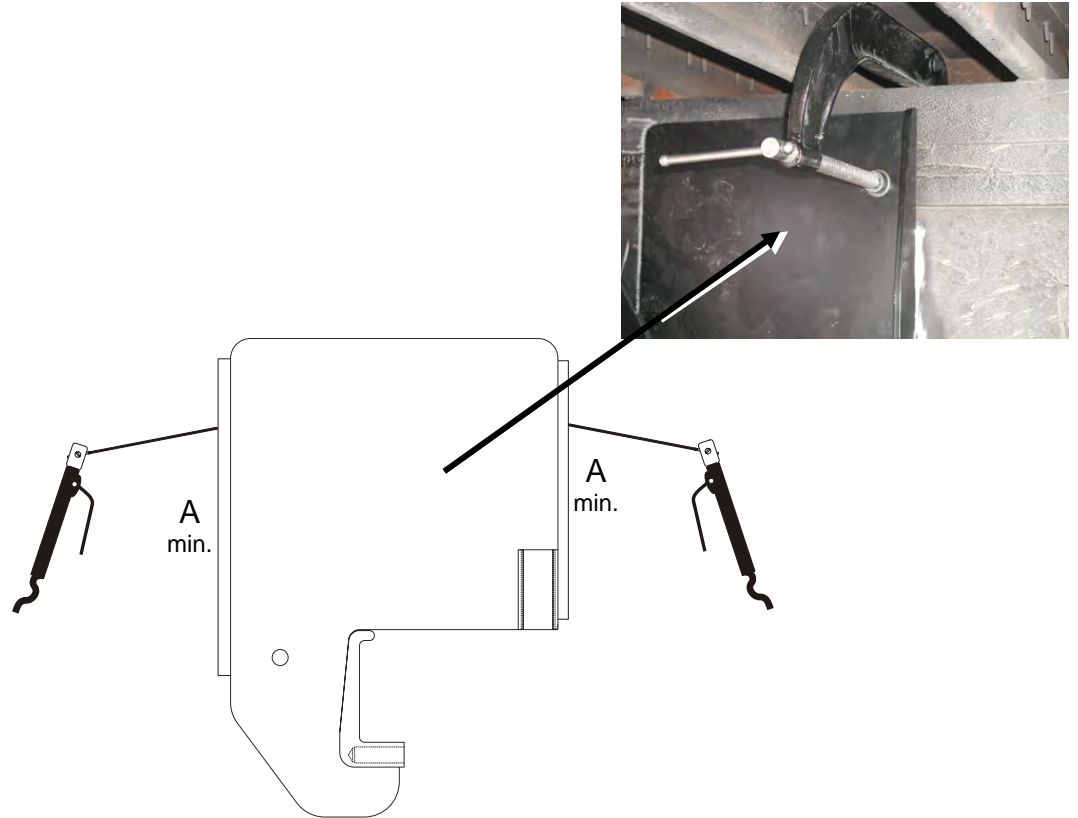
Installation Chart GPC 22 X1

Model	(inch)	Length of the lift arm (inch) Liftgate	R max (inch) Vehicle	R min (inch) Vehicle	D from - to (inch) Top of main beam	E from - to (inch) Top of main beam	W from - to (inch) Space
GPC 22 X1	(inch)	26 9/16	46 7/16	33 13/16	18 7/8 – 26 6/16	14 15/16 – 20 1/16	28 5/16 – 32 11/16
GPC 22 X1	(inch)	29 1/2	51 3/16	39 3/4	19 11/16 – 27 15/16	20 1/6 – 23 1/4	30 1/8 – 33 7/16

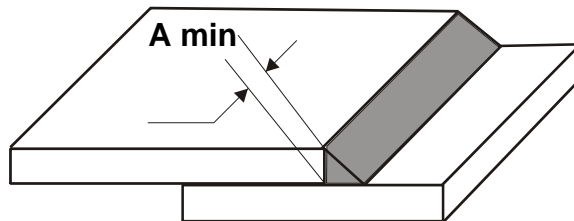
If there is not enough space, please contact the sales department. The sales department will contact the technical department to check whether the installation, considering the dimensions of the vehicle, is possible. If the installation is possible, you will get a special drawing in which the installation situation is shown.

Weld requirements

Before mounting Liftgate, see if any modification to the vehicle body is needed to access battery cable from the Main Frame Housing.



Welds on both sides of the mounting bracket in the whole height of the vehicle frame.

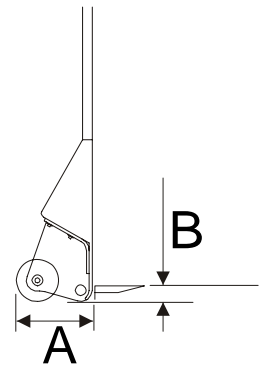


	GPC 22 X1
A min. (inch)	1/8

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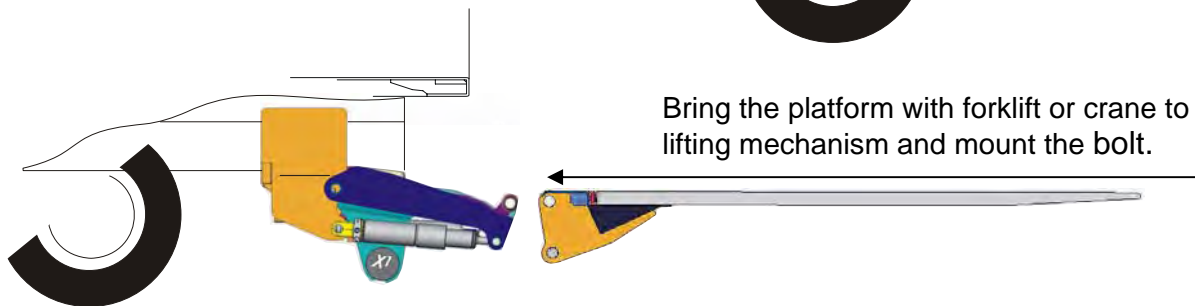
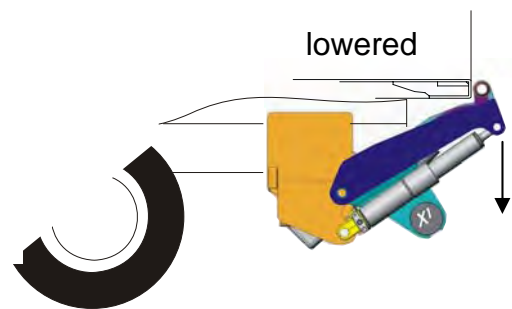
Chart Platform Measurements

Model	A	B
GPC 22 X1 (inch)	9	2 5/16



Installation of the platform

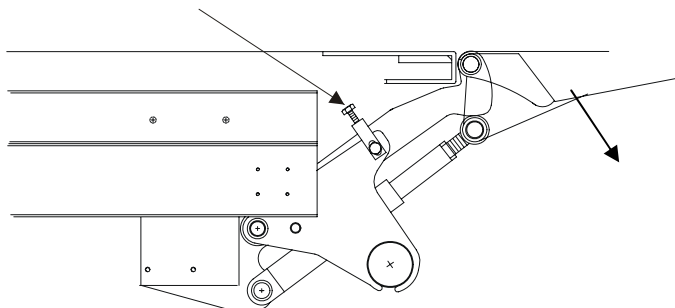
The lifting gear will be lowered far enough so that the installation of the platform is possible. Grease bearing on lift arms and the bearing heads of the tilting cylinder with the special installation grease; put on the O-rings; place the lift arms and the tilting cylinder; install and secure the bolts.



Bring the platform with forklift or crane to the lifting mechanism and mount the bolt.

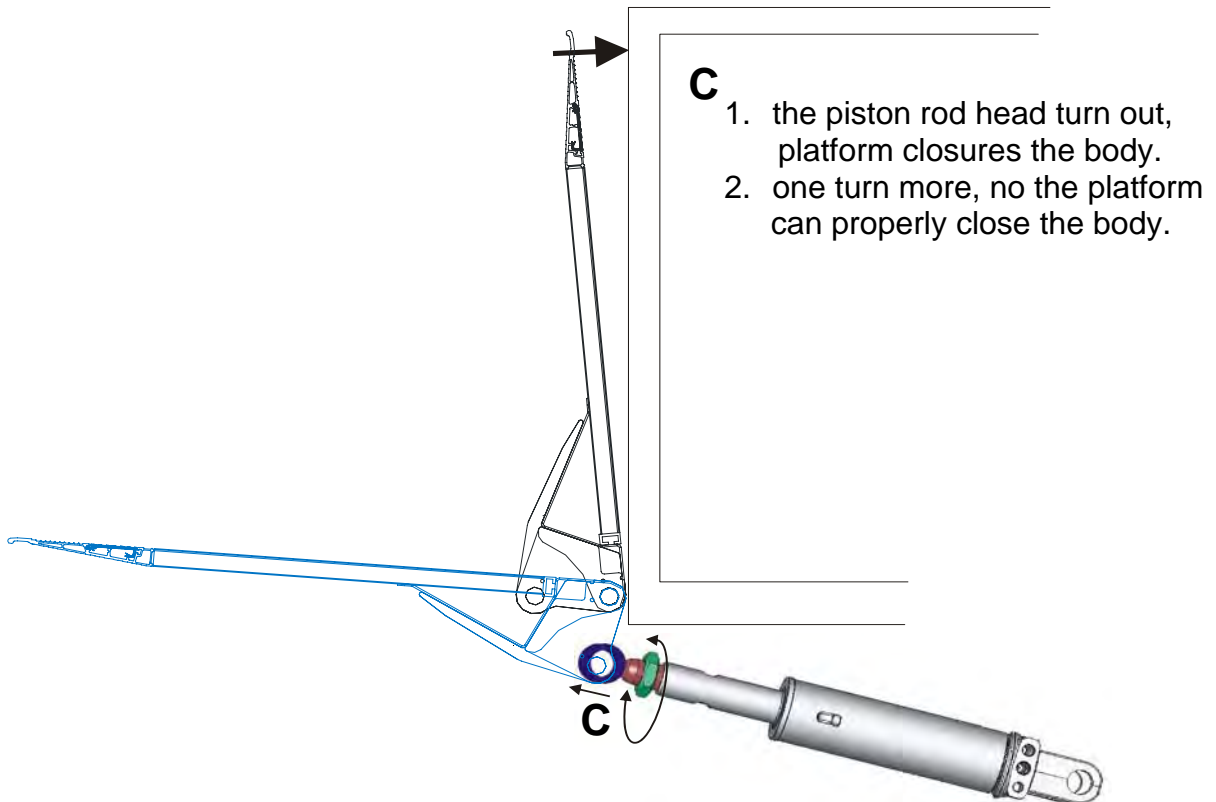
Adjustment of the platform to the vehicle bed:

Move the lifting gear with the opened platform hydraulically behind the body sill. For the adjustment, the lift arms must not touch the body sill. Between the rear frame and lift arms, there should be a space of 3/8" between the body sill and the lift arms. With the adjusting screws, the lifting gear will be adjusted until the rear frame and the platform are parallel. After the adjustment, both screws of the underrun bar fastening are to be tightened.

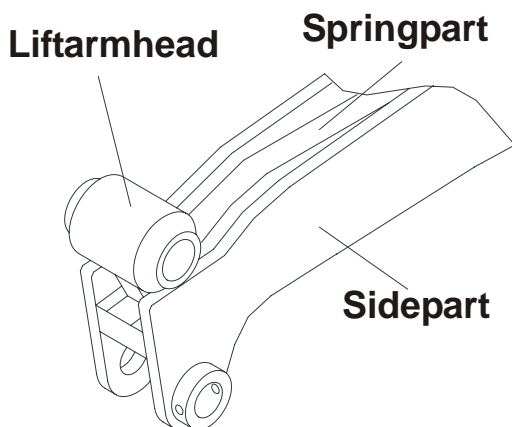


Adjustment of the platform for installation in a closed position:

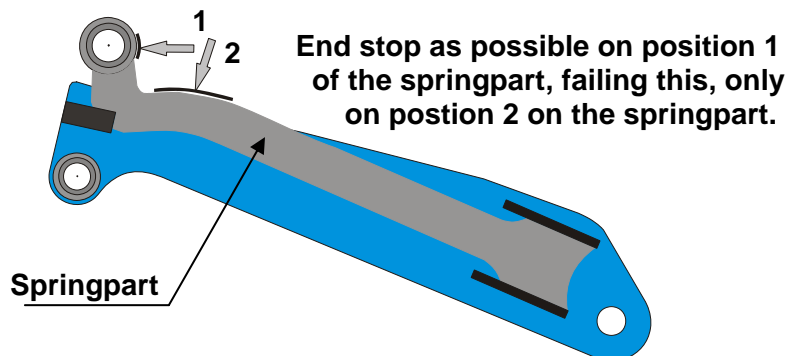
Close the platform hydraulically. The cylinder needs to reach its end position when the platform slightly touches the body sill or is set at 90° against the bed of the vehicle. Now rotate the rod eye one more turn out of the cylinder rod; secure it. Now the platform can properly close the body.



Stop for liftarm on body (head of liftarm)



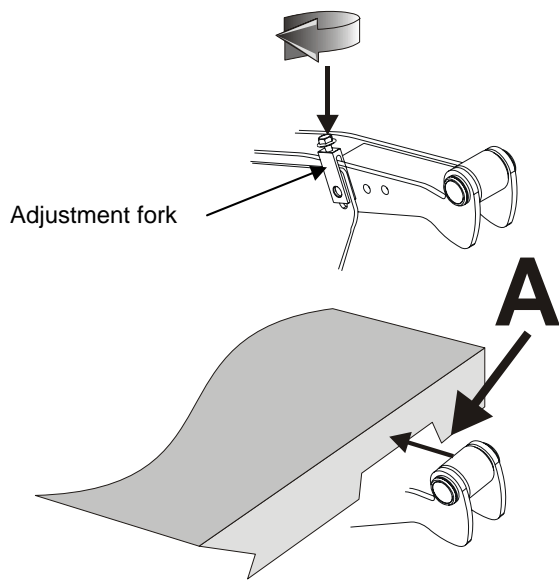
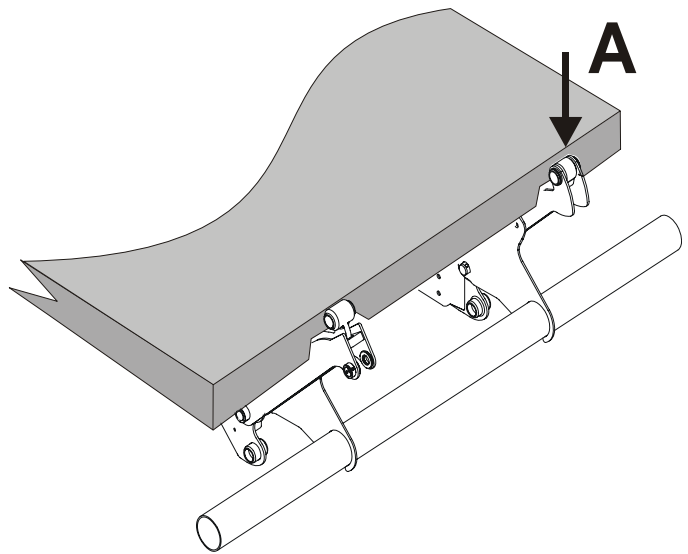
Is this not possible due to the fitting situation, it must be secured that only the **spring part** of the lifting arm (the part in the middle) are touching the body, and the **side parts** can move freely against the **liftarm head**.



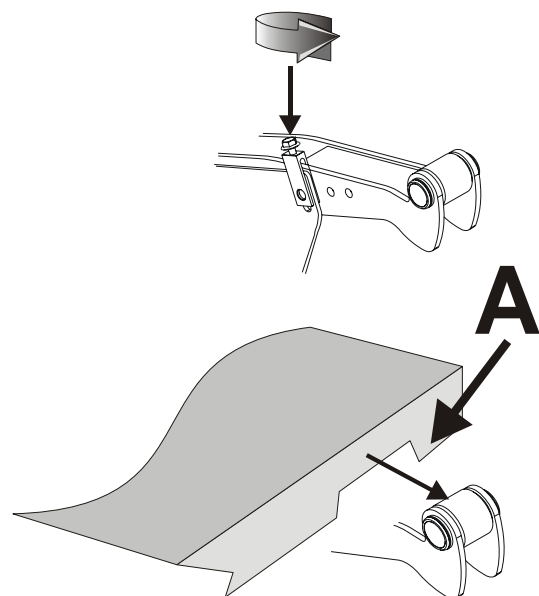
Function of the adjustment fork

After the installation of the liftgate the two arms must touch the body sill at the same time, and must be touching the body sill also all the time when platform is normally loaded.

This can be done with the adjustment fork on the right lift arm if an adjustment is necessary.



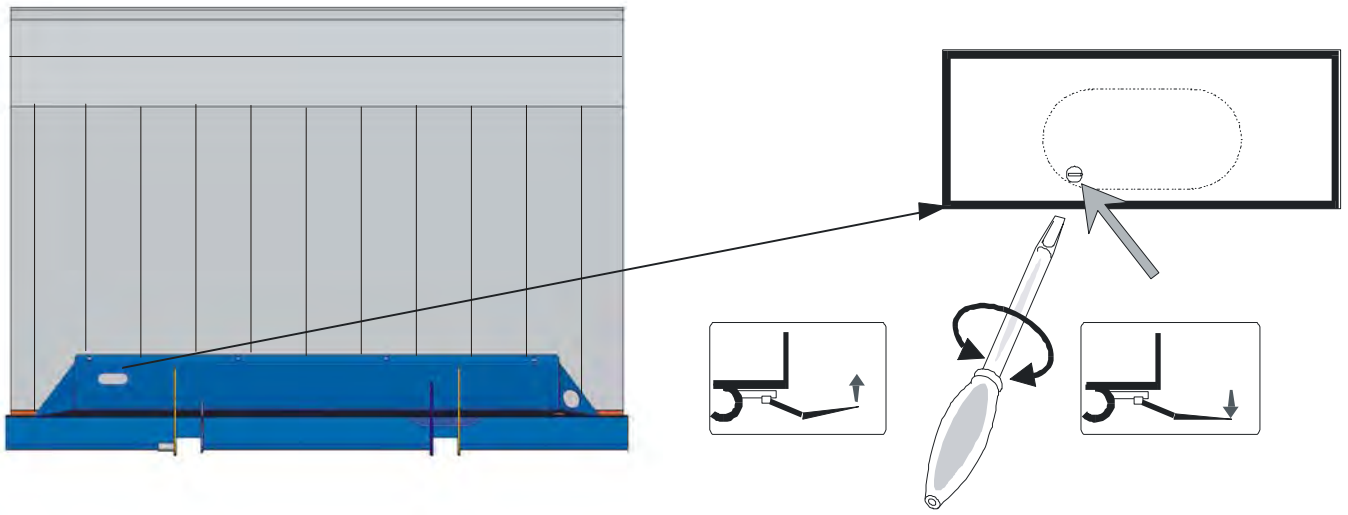
Turning the screw clockwise the right liftarm will come closer to the body sill.



Turning counter-clockwise the right liftarm will stay further away from the body sill.

Adjustment of the Platform tilting to horizontal

Turn the adjusting screw clockwise; the platform will switch off earlier during the next tilting. The tip of the platform is pointed downwards. Turn the adjusting screw counter-clockwise; the tip of the platform is pointed upwards. The platform will switch off later during the next tilting.

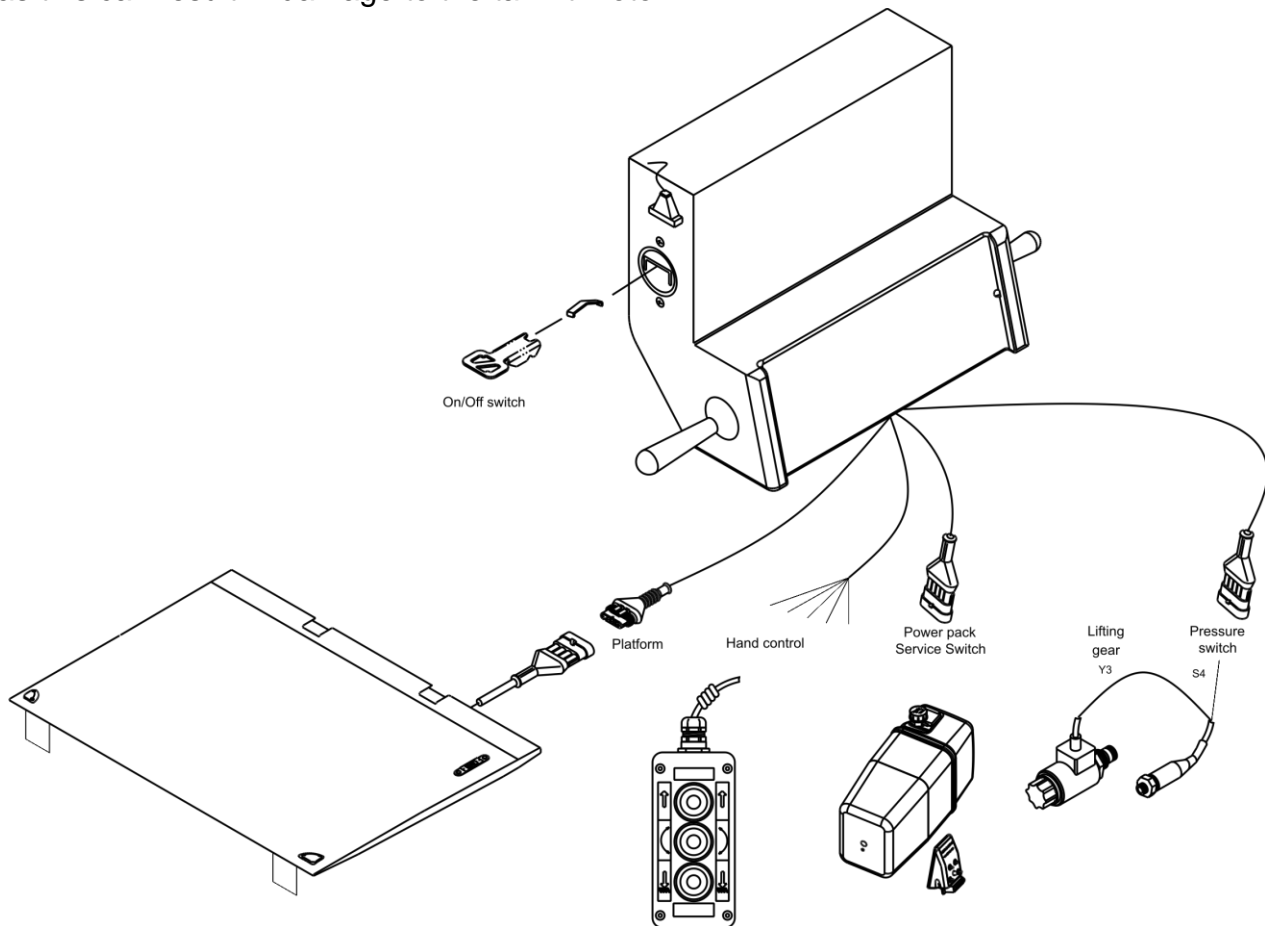


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Assembly of electrical devices

⚠ Caution !

All operations of the tail lift must only be performed if the battery cables are correctly attached to it, and if there is enough tension available. Never use a battery charger or a starting device, as this can result in damage to the tail lift motor.



Hand control

Connect it to the wanderlead with the attached shrink connectors and protect with the shrink hose.

Cable to Platform

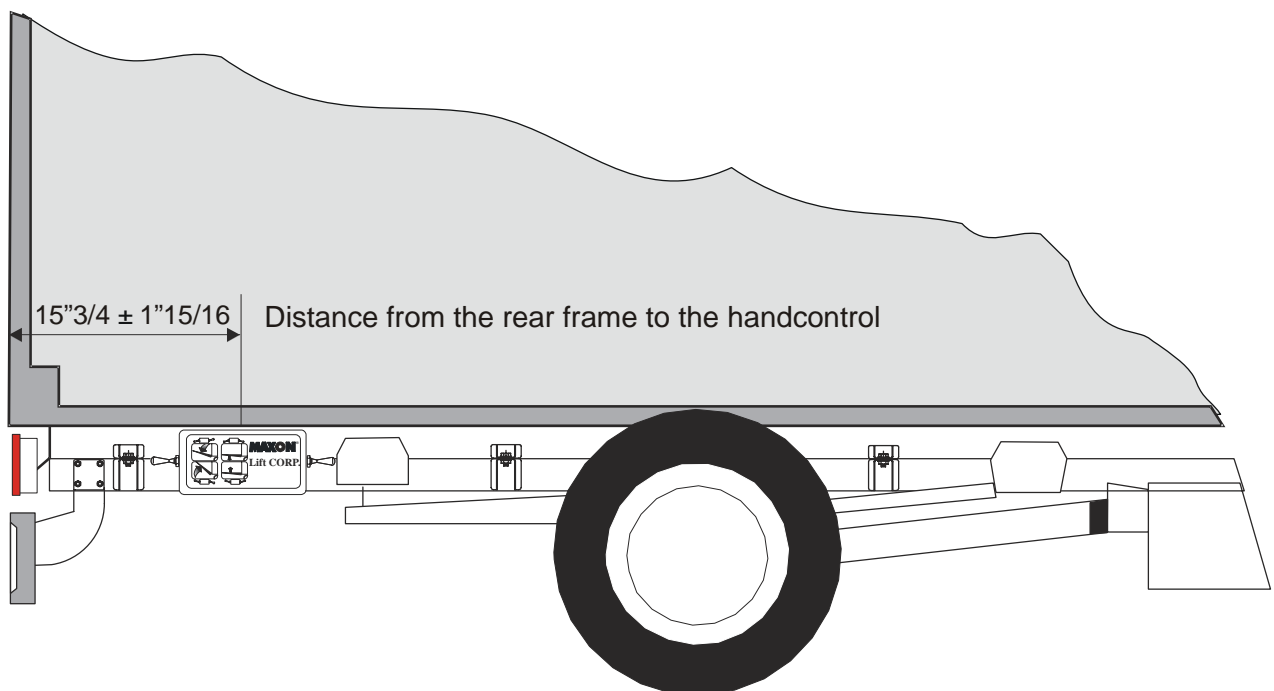
Lead the cable coming out of the platform along the lifting arm and connect it to the flat plug coming out of the hand control box.

Please secure all cables with the delivered looms, to exclude pinching or scrubbing.

Assembly of the hand control box

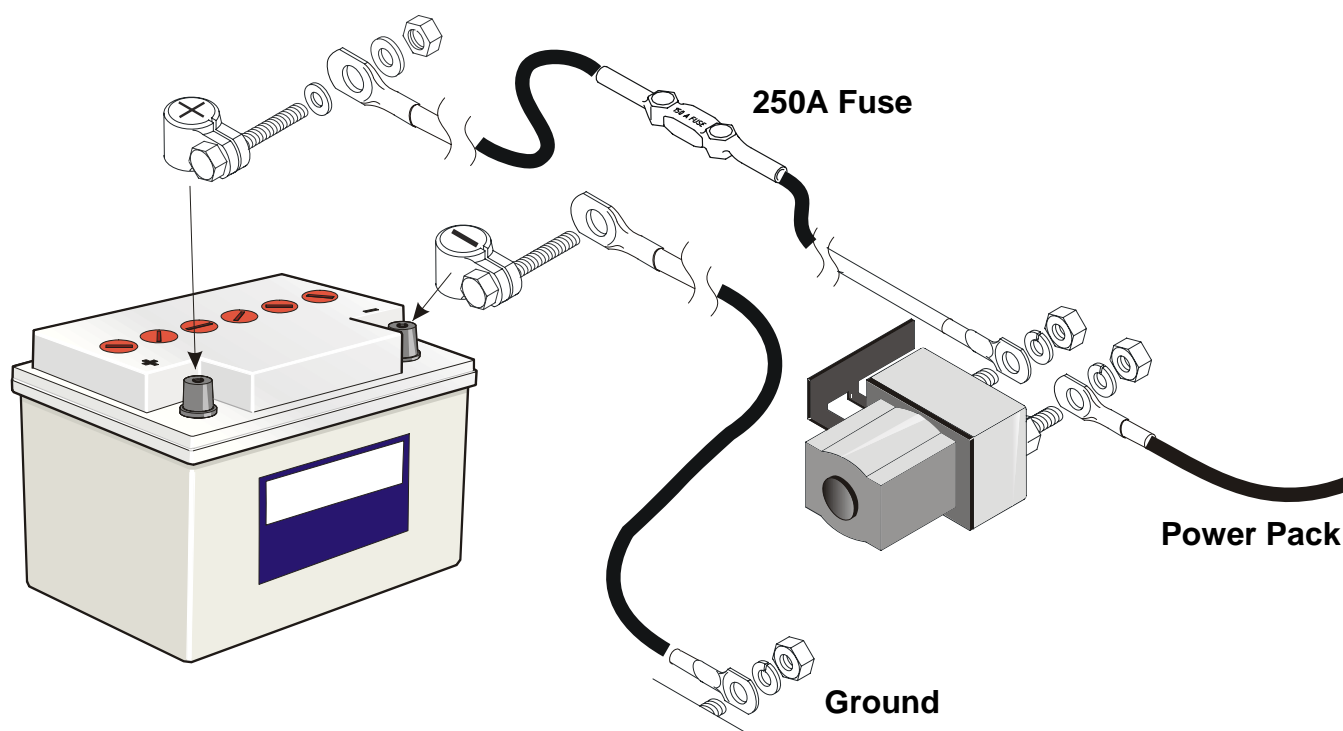
The hand control box is assembled and connected in the factory. It is positioned so that the total surface of the platform can be seen while operating the device.

The distance should be 15" 3/4 inch plus minus 1" 15/16 inch



Power fuse

Version for 12 Volt devices



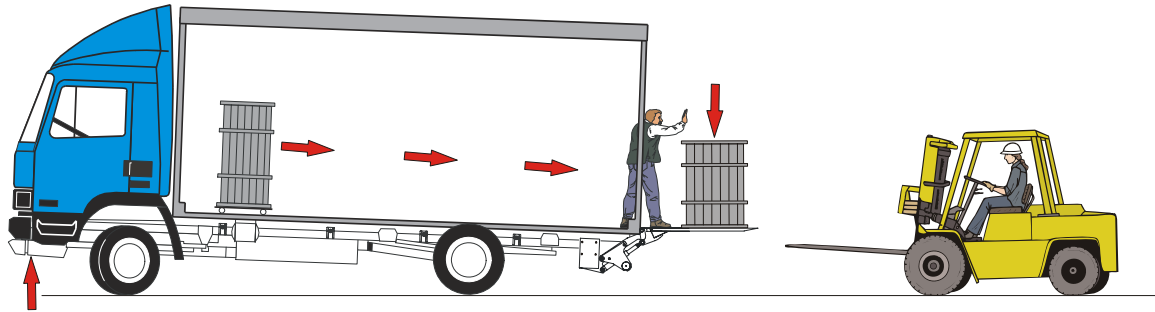
Assemble the fuse kit to the battery plus. Lead the plus cable from the battery to the power unit and connect it to the motor relay.

Please connect the power unit plus and ground cable directly on the battery.

The guidelines of the vehicle manufacturer must be followed

Caution sticker “secure the load”

This sticker is not included in the delivery of the tail lift. This sticker is an information that there are situation during loading and unloading that may be a hazard, when the front truck axle is coming up. On the resulting ramp, the load may start to move an can be very hazardous to people.



Please apply the sticker on the free space above the controls of the control box. This spot should be in area that is visible to the operator at all times.

**Caution ! Secure the load against moving
Or use mechanical supports**

©Sörensen Hydraulik GmbH

20 904 940

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First operation of the Cantilever Gate

Check if the lift is ready to be operated. Check if all moving parts can move freely (no rubbing or pinching on hoses or cables). Check hydraulic system for leaks

Hydraulic oil – recommendations

ISO 32 HYDRAULIC OIL		ISO 15 HYDRAULIC OIL		ISO-10 OR MIL-H-5606 Hydraulic Fluid	
AMSOIL	AWH-05	AMSOIL	AWF-05	AMSOIL	N/A
CHEVRON	HIPERSYN 32	CHEVRON	FLUID A, AW-MV-15	CHEVRON	FLUID A, FLUID G
KENDALL	GOLDEN MV	KENDALL	GLACIAL BLU	KENDALL	GLACIAL BLU
SHELL	TELLUS T-32	SHELL	TELLUS T-15	SHELL	AEROSHELL FLUID-41
EXXON	UNIVIS N-32	EXXON	UNIVIS HVI-1	EXXON	UNIVIS HVI-13
MOBIL	DTE-13M, DTE-24, HYDRAULIC OIL-13	MOBIL	DTE-11M	MOBIL	AERO HFA

Painting the lifting gear

The lifting gear is delivered from the factory treated with black epoxy powder. If another colour is wished, this has to be done by the bodybuilding company. (please note that the powder must be abraded prior to painting). Please note that the black piston rods must be covered before painting. Remove all rests of paint and tape before operating the cylinders, otherwise you will damage the seals, which is also a warranty exclusion.

Operating sticker

Stick the operating label to the control box

Type label

The type label with load diagram has to be affixed permanently on the lift.

Note in the test book

In the test book, the part „check before first operation“ must be filled out and signed by a skilled person

Check of operating speeds

Vertical speed

The vertical speed (lifting and lowering) must not exceed 6"/second. If lifting and lowering are too fast, please compare the battery voltage and amperage with the values of the power unit. These values must be identical.

If lifting and lowering are too slow, please check the valves for dirt.

Please call Maxon Tech Service if your liftgate is experiencing a problem with operating speeds

Tilting speed

The angle speed while tilting must not exceed 4°/second. The platform tilting must be limited to 10°

Load test

Static test

Drive the platform horizontally between the vehicle floor and the ground. Put a test gauge up to 125% of the nominal lift capacity on the platform, at the distance given by the load diagram. The distance is marked permanently on the platform. Within 15 minutes, the lift must not lower more than 15 mm or tilt more than 2°

The assembler must check the lift for any deformation after this test.

Dynamical test

The functions lifting, lowering, tilt up and tilt down must be tested with a nominal load placed at nominal load distance. If necessary, the pressure valve must be adjusted so that the load can be lifted securely. CAUTION : The pressure valve is adjusted in the factory, a correction is generally not necessary. If it has to be done anyway, please note the following :

The pressure valve can only be adjusted if a manometer for reading the pressure is provided.

The maximum allowed pressure is engraved on the type label.

After the static and dynamical tests, please check the hydraulic system for leaks.

Test against overloading

This test is made to ensure that the device can not lift a load greater than 125% of the nominal capacity of the taillift

Test of security devices

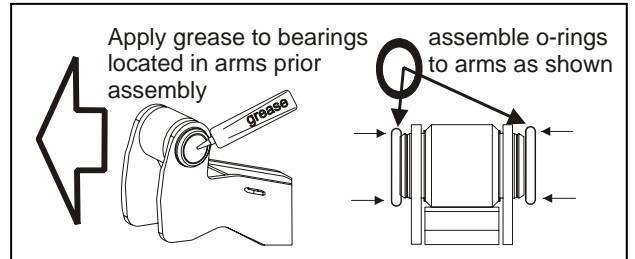
Drive all functions to their end, until the security devices are sollicitated.

Torque table for all supplied and installed screws on Maxon liftgates

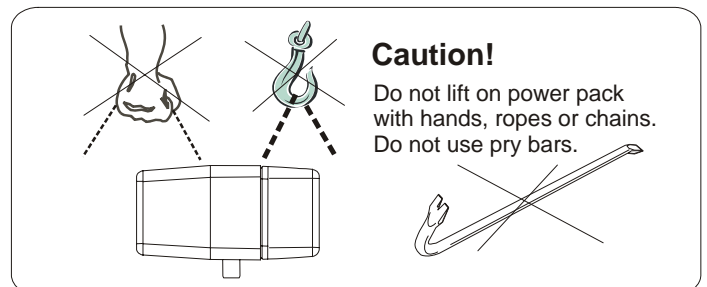
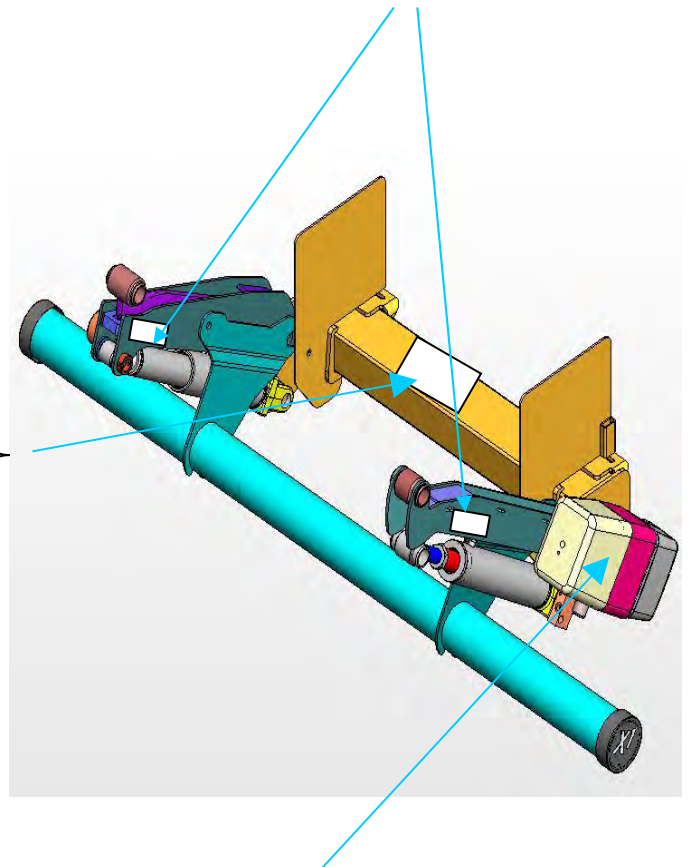
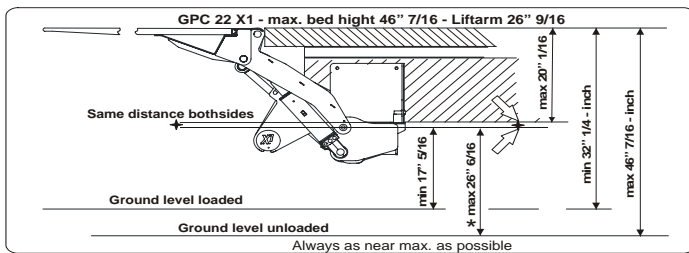
Screw Size	Tightening Torque		Screw Connections	Tightening Torque	
	in ft.lb	/ Nm		in ft.lb	/ Nm
8.8					
M4	2	2.7	G1/4"	29	40
M6	7	9.5	G3/8"	70	95
M8	17	23	G1/2"	96	130
M10	33	46	Connection Nuts		
M12	59	80	M16 x 1.5	44	60
M14	96	130	M18 x 1.5	44	60
M16	143	195	Plugs		
M20	283	385	G1/8"	11	15
			G1/4"	24	33
			G3/8"	51	70
10.9					
M12	85	115			
M14	132	180			
M16	202	275			
M20	398	542			
Solenoid valve					
YM, Y1, Y2	20	27			
Starter solenoid					
KM	6	8			

Decals

These Decals should be read and completely understood before operating the unit. They should also be kept clean and readable at all times. If any decals should become detached from the vehicles, or defaced, it must be replaced. Free replacement are available from: MAXON Lift Corp., Parts Department.



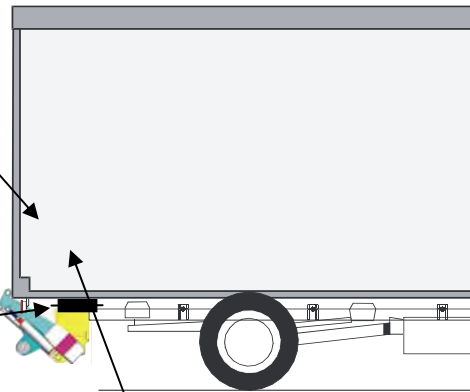
max. bed hight



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GPC 22 X1

THE MAXIMUM CAPACITY OF THIS LIFT IS
2200 POUNDS



CAUTION
STAND CLEAR
WHEN OPERATING

50092

WARNING
TILT THE PLATFORM TO
LEVEL POSITION PRIOR
TO RAISING

WARNING
READ CAREFULLY

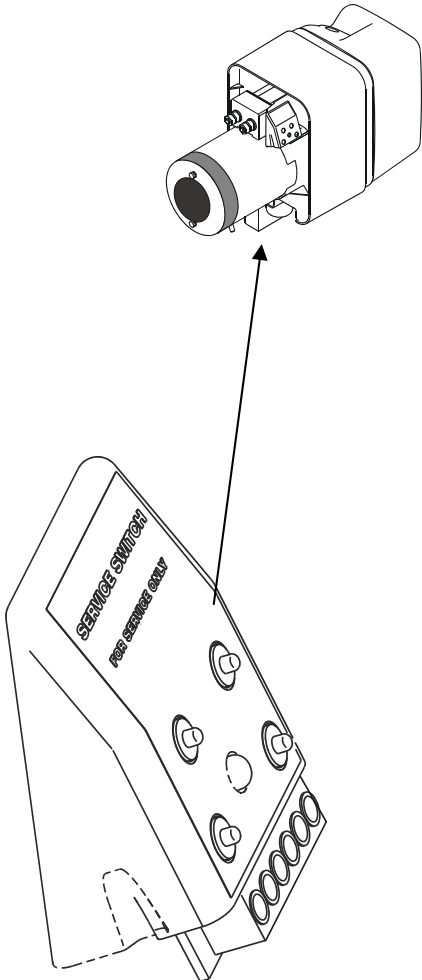
- Improper operation of this Lift can result in serious personal injury. Do not operate unless you have been properly instructed and have read, and are familiar with the operating instructions. If you do not have a copy of the instructions, please obtain them from your employer, distributor, or lessor, before you attempt to operate Lift
- Be certain that the vehicle is properly and securely braked before using the Lift
- Always inspect this Lift for maintenance or damage before using it. If there are signs of improper maintenance, damage to vital parts, or slippery Platform surface, do not use the Lift until these problems have been corrected
- Do not overload the Lift. The load limit is based on evenly distributed cargo over the entire Platform surface. If you are using a pallet jack, be sure it can be maneuvered safely. Do not operate a forklift on the Platform or travel with the platform in an open position at any time.
- Load should be placed in a stable position close to the edge of the Platform nearest the truck. The heaviest portion of the load should never be placed beyond the center of the Platform away from the truck.
- Never allow yourself, a helper, or bystander to stand in a position where a falling load could land on either of you. Also do not allow any part of yours or your helper body to be placed under, within, or around any portion of the moving liftgate, or it's mechanisms, or in a position that would trap them between the platform and the ground or truck when the liftgate is operated.
- If a helper is riding the Platform with you, make sure you are both doing so safely and that you are not in danger of coming in contact with any moving or potentially moving obstacles. USE GOOD COMMON SENSE. If load appears to be unsafe, do not lift or lower it.

MAXON LIFT CORP. PART NO. 264081

All liftgate warning, capacity, and caution decals should be affixed to the truck body in plain view of the operator near the main lift gate Control Station.

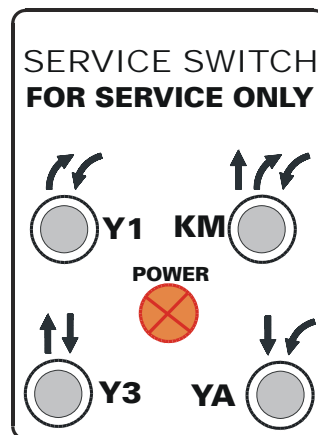
Note: The main liftgate Control Station is normally mounted on right rear corner of the truck body.

Service Switch

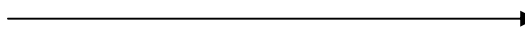


Through the Service Switch mounted in the power unit, the service mechanic can pilot and test all the lift functions directly

Should the hand or foot control not work, the taillift can be operated completely with this device (emergency operation)

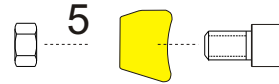
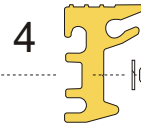


Function	YA	Y1	Y3	KM
Power is green		•		
Lift			•	•
Lower	•		•	
Open / tilt down	•	•		•
Close / tilt up		•		•

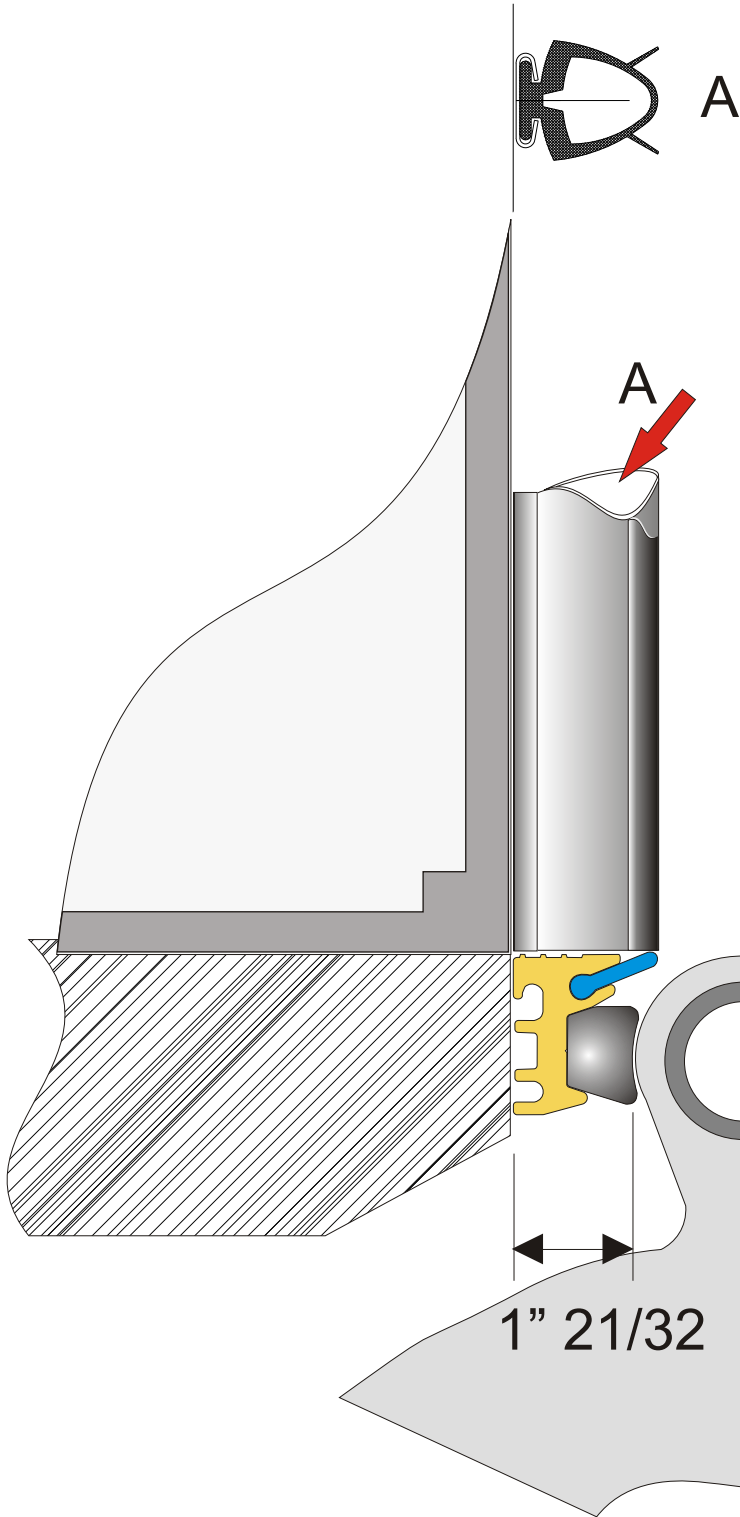


Please respect the sequence, KM always last

Body Seal Kit



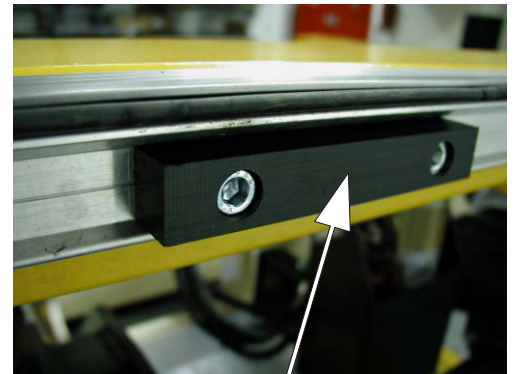
5



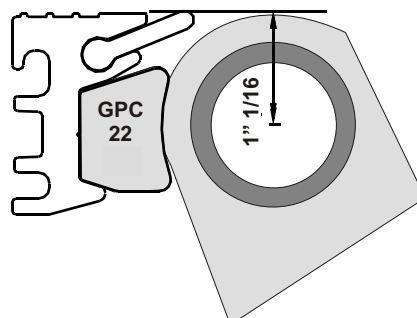
Parts list 6

1	Rubber-profil	20 840 321	118"
2	Rail (Alu)	20 840 542	102"
3	Rubber-profile	20 904 899	98"
4	Alu-profile	20 905 044	98"
5	End stop 6" wide	20 905 047	2 pieces
*	Bolt and nut	M10 or 3/8"	4 pieces
*	Bolt and nut	M8 or 5/16"	3 pieces

* not in scope of delivery

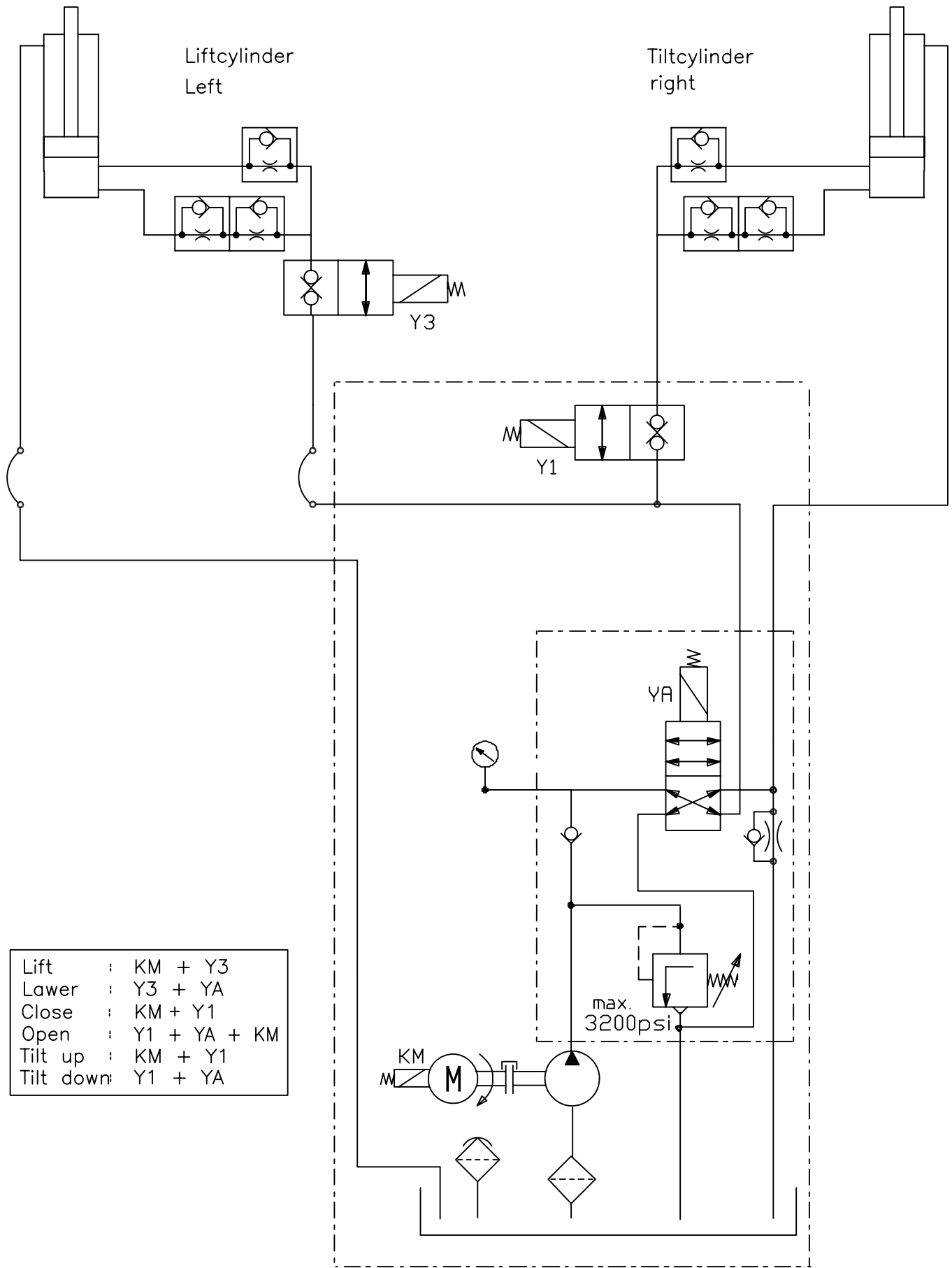


Turn the end stop 180° for GPC 22 X1



MAXON[®]
Lift CORP.

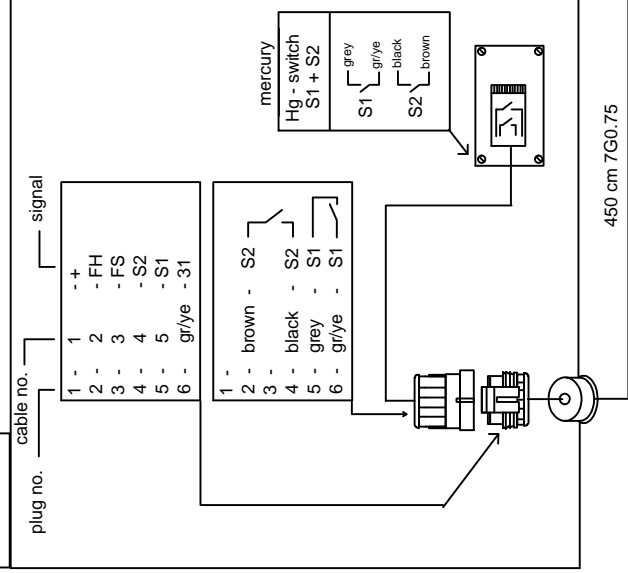
11921 Slauson Avenue.
Santa Fe Springs, CA 90670
(800) 227 - 4116



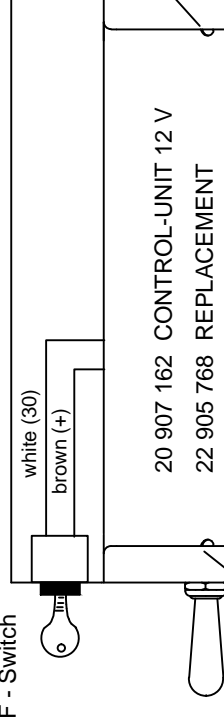
- | | |
|-----------|----------------|
| Lift | : KM + Y3 |
| Lower | : Y3 + YA |
| Close | : KM + Y1 |
| Open | : Y1 + YA + KM |
| Tilt up | : KM + Y1 |
| Tilt down | : Y1 + YA |

left lamp is out, if "up" is pressed and S2 switched at horizontal platform position.
 left lamp is out also, if "down" is pressed and S4 switched if platform is on ground (lift-cylinder is without pressure).
 right lamp is out, if switch "up" or "down" is pressed on handheld controlbox.

platform-cable 20 905 109

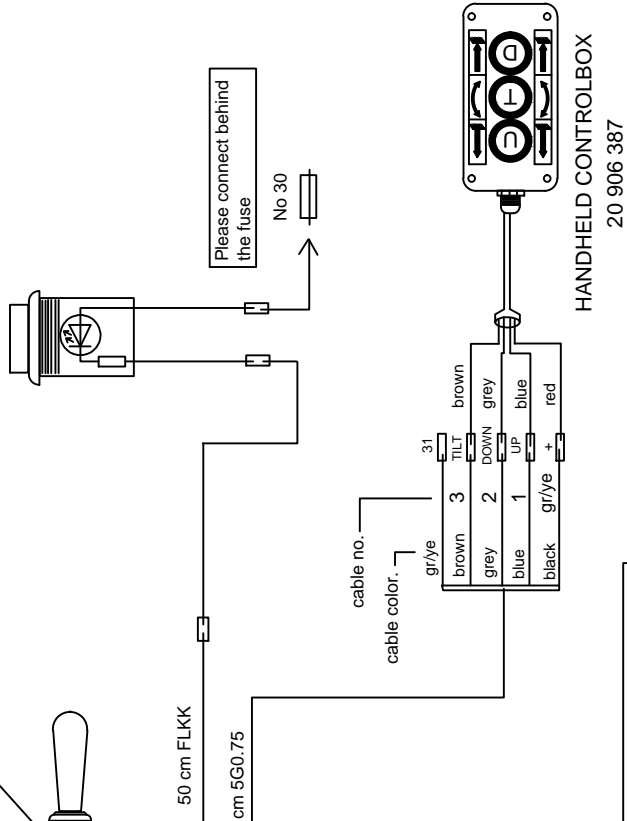


ON/OFF - Switch



OPTION:

CONTROL-LAMP 20 905 547

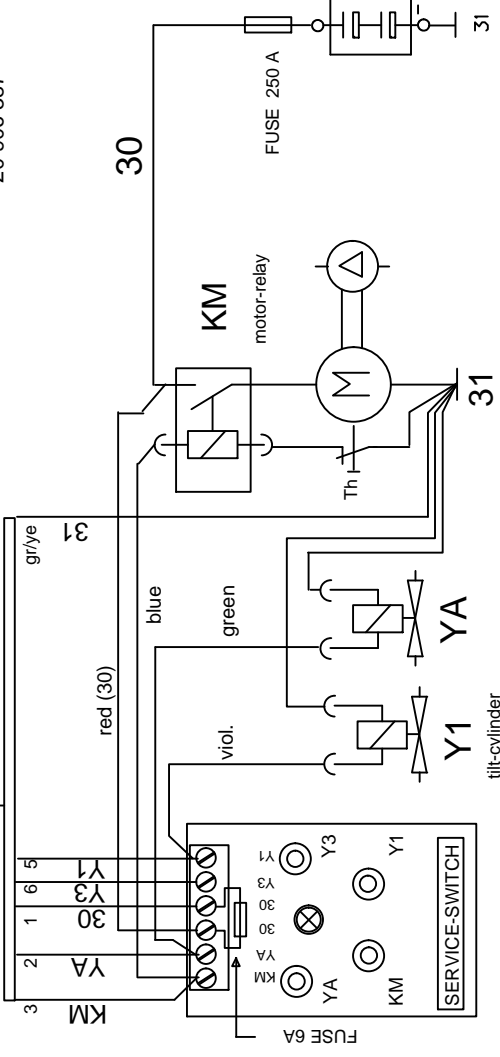


	KM	YA	Y1	Y3	S1	S2	S4
LIFT	X	X	X				
TILT-UP			X	X			
LOWER	X	X		X			
TILT DOWN	X	X	X				
TILT-UP	X	X	X				X
LIFT	X	X		X			X
LOWER	X	X	X				X
TILT-DOWN	X	X	X				X

HANDHELD CONTROL
 CONTROLBOX

*S1 signal is lead to ground

- 30 - batteryplus
- 31 - batteryminus
- KM - motorrelay
- YA - solenoid in power-pack
- Y1 - solenoid tilt-cylinder
- Y3 - solenoid lift-cylinder
- S1 - mercury-switch
- S2 - mercury-switch lift
- S4 - pressure-switch tilt down
- Th - motor-thermoswitch



MAXON®

POWER-PACK

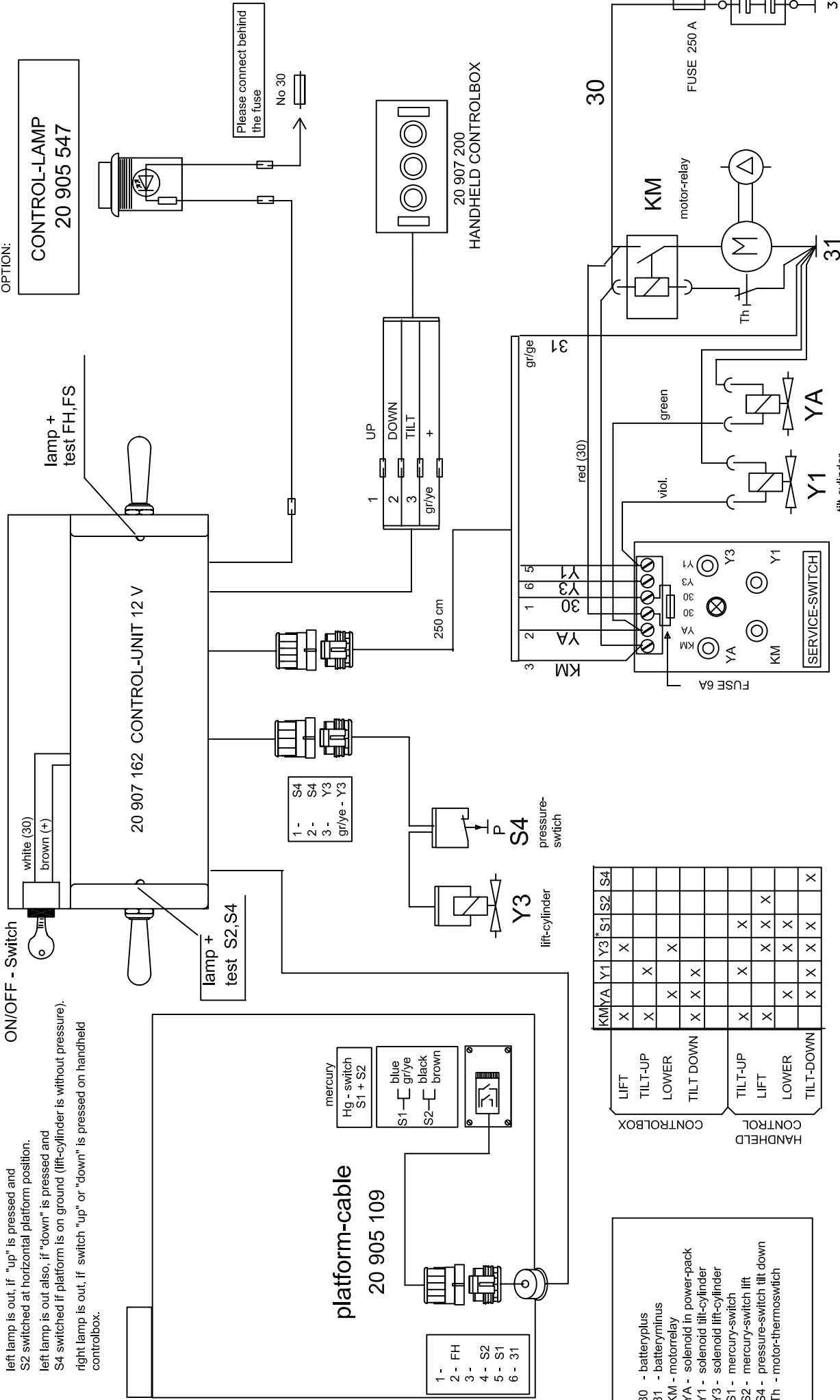
control-unit
STANDARD 12V GPC 22 X1

DATUM: 29.01.2008
 gez.: W.Bassen SOE28050

No.: 20 908 356

left lamp is out, if "up" is pressed and S2 switched at horizontal platform position.
 left lamp is out also, if "down" is pressed and S4 switched if platform is on ground (lift-cylinder is without pressure).
 right lamp is out, if switch "up" or "down" is pressed on handheld controlbox.

ON/OFF - Switch



OPTION:

CONTROL-LAMP
20 905 547

lamp +
test FH,FS

20 907 162 CONTROL-UNIT 12 V

lamp +
test S2,S4

1- S4
2- S4
3- Y3
gr/ye - Y3

platform-cable
20 905 109

1- FH
2- S2
3- S1
4- S1
5- S1
6- 31

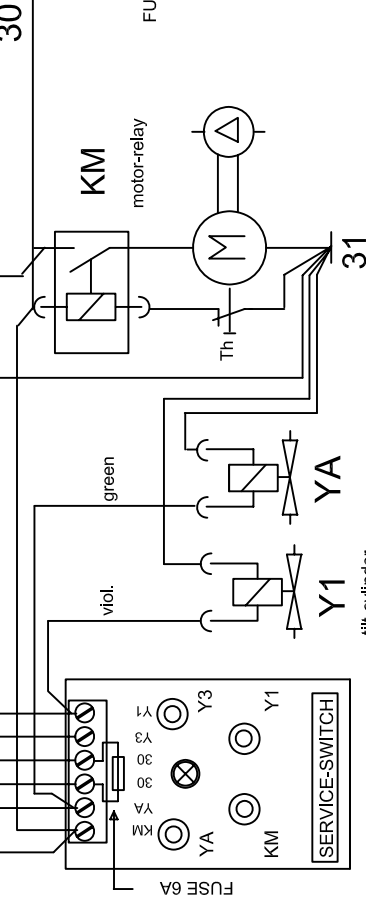
20 907 200
HANDHELD CONTROLBOX

1 UP
2 DOWN
3 TILT
gr/ye +

Y3 lift-cylinder
S4 pressure-switch

	KM	YA	Y1	Y3	S1	S2	S4
LIFT	X			X			
TILT-UP	X		X				
LOWER		X					
TILT-DOWN	X	X	X				
TILT-UP	X		X		X	X	X
LIFT	X		X	X	X	X	X
LOWER		X	X	X	X	X	X
TILT-DOWN			X	X	X	X	X

- 30 - batteryplus
- 31 - batteryminus
- KM - motorrelay
- YA - solenoid in power-pack
- Y1 - solenoid tilt-cylinder
- Y3 - solenoid lift-cylinder
- S1 - mercury-switch
- S2 - mercury-switch lift
- S4 - pressure-switch tilt down
- Th - motor-thermoswitch



control-unit
STANDARD 12V GPC 22 X1
 DATUM: 16.03.2004
 gez.: W.Bassen SOF25130

No.: S 20 907 163

ON/OFF - Switch

left lamp is out, if "up" is pressed and S2 switched at horizontal platform position.
 left lamp is out also, if "down" is pressed and S4 switched if platform is on ground (lift-cylinder is without pressure).
 right lamp is out, if switch "up" or "down" is pressed on handheld controlbox.

OPTION:
CONTROL-LAMP
 20 905 547

lamp + test FH,FS

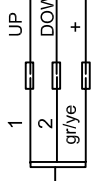
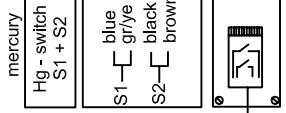
20 906 863 CONTROL-UNIT 12 V

lamp + test S2,S4

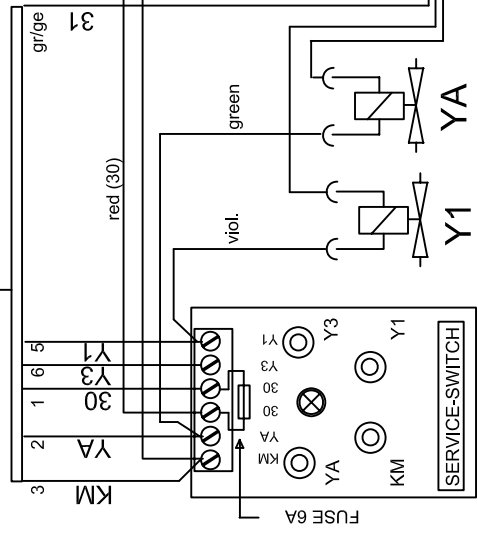
Please connect behind the fuse
 No. 30

platform-cable
 20 905 109

- 1- 2- FH
- 3- 4- S2
- 5- 6- S1
- 31



20 906 733
HANDHELD CONTROLBOX



	KM	YA	Y1	Y3	S1	S2	S4
LIFT	X		X				
TILT-UP	X	X		X			
LOWER		X					
TILT DOWN	X	X	X				
TILT-UP	X		X		X		
LIFT	X		X		X		
LOWER		X	X		X		
TILT-DOWN		X	X		X		X

- 30 - batteryplus
- 31 - batteryninus
- KM - motorrelay
- YA - solenoid in power-pack
- Y1 - solenoid tilt-cylinder
- Y3 - solenoid lift-cylinder
- S1 - mercury-switch lift
- S2 - mercury-switch tilt down
- S4 - pressure-switch tilt down
- Th - motor-thermoswitch



POWER-PACK

control-unit X1

STANDARD 12V GPC

DATUM: 21.07.2004

gez.: W.Bassen

Nr.: 20 906 864

