Installation Instruction

Tail Lift

ZS/ZSS 150/200-135/155/175
ZD 150/200-155/175
ZT/ZTS 150/200/250-140
ZS/ZSS 250-135/155

ZEPRO
Tel.: +46 (0)10-459 05 00
E-mail: zeprotech@hiab.com | zepro.com

54273TL
2019-11-12

ZEPRO

Contents

1. CE marking

CE

Since 1/1/1995 ZEPRO tail lifts sold to the European market are stamped with a CE mark. This is the manufacturer's guarantee that the product conforms to the European Machinery Directive.

The application of the European Machinery Directive is intended to harmonise product safety levels across Europe.

There are some general principals that should be made clear when performing the installation of ZEPRO lifts.

Follow the installation instructions. If it is not possible to follow the installation instructions or if modifications are required, the modifications must be approved by the manufacturer. This is a consequence of the CE marking regulations as it cannot be possible for a manufacturer to certify conformity to the Machinery Directive if the product is subsequently changed without his knowledge or approval. In order for the product's CE marking to remain applicable the forms supplied by ZEPRO must be completed in case of modification.

Welding is **not necessary** unless specifically recommended by the manufacturer.

In order to increase security, additional decals, which are diagrammatic and easily understood independent of language will be sent with the lifts.
Ensure that these decals are affixed so that the information contained on them is available for all users of the lift.

Position the control unit to ensure that the operator has a good view of the load, the working area and the loading area, whilst maintaining a safe distance from the risk zone between the platform and the body. Follow the operator’s instructions for use of the control unit and its functions.

Technical description

The ZEPRO-lift is electro-hydraulically driven. An electric motor which gets its power from the truck's ordinary battery drives a hydraulic pump which supplies oil via hoses and pipes to the working hydraulic cylinders. The system is steered by electrical valves. The hydraulic power unit with all details is built into the lift's support frame. The control system is built into a seperate box. Both systems are easy to reach for service and maintenance.
The platform is supported by the lift arm which is very strong and rigid. The platform has a non-slip surface.
The lift arm lifting work is done by lift cylinders which have built in mech. safety valves for protection against hose breakage. The lift cylinder circuit is equipped with 1 or 2 electric safety valves, which are leakproof. These safety valves can also act as a transport lock for the platform.
The platform's tilt function is also provided by tiltcylinders which have built in mech. safety valves for protection against hose breakage. The tilt cylinder circuit is equipped with 1 or 2 electric safety valves, which are leakproof. These safety valves can also act as a transport lock for the platform. Lifting and tilting up speed are fixed by the pump capacity. Lowering and tilting down speeds are controlled by special constant flow valves. These valves give the same speed independent of the load.
The cylinder piston rods are treated with carbon nitriding which gives them very long life.
The hydraulic system is protected with a pressure regulator when lifting or tilting up.
Note! This regulator does not prevent overload at rest position or lowering.

The electric power is taken from the truck's ordinary starter motor. Control current is taken from the dash board. When the control current's isolator (cabin) switch is off, the lift is "locked". Fixed control units are electrically heated to prevent condensation damage to switches.
To save current the control current should be switched off when the lift is not used.
The lift can also be operated from other, optional units.
To ensure safe operation even with very long control cables, the hydraulic unit is equipped with relays. The relays situated in the electrical connection box placed in the support frame steer current directly from the main cable to the valves and the main switch for the motor.
The electric motor is equipped with a thermostat which breaks the current if the motor becomes overheated. The motor will stop until it is cool again.
The platform can be tilted to all positions from vertical to 10° below the horizontal. It has a mechanical or electric lock which must be activate during transport.

Hydraulic oil

A tail lift should operate just as well in tropical as in arctic climates. Heat does not adversely effect the hydraulic oil, however, low temperatures are more critical. ZEPRO therefore supply a hydraulic oil that meets the demands across the temperature range. ZEPRO oil (art.no 21963 for 1 litre) is made of a highly refined mineral oil, the lubricant additive is free from zinc and gives good protection against component wear. The hydraulic oil’s low temperature properties and high viscosity index allow hydraulic system start in a very cold climate and give reliable functioning with varying temperature conditions. With ZEPRO oil the hydraulic system also receives a very good protection against corrosion.

ZEPRO also has a biologically degradable oil (art. no 22235 for 1 litre)available which is based on a synthetic base oil. This also provides very good properties at low and high temperatures. It is even liquid down to -50° C. Resistance to oxidation is extremely good which gives long lifetime with longer intervals between oil changes. Good filtration and air seperation together with low density make the oil easy to pump. This minimises risk for cavitation and development of scum. Contact us for more information.

NB. Neither ATF nor HF oil should be used in the ZEPRO hydraulic circuit as they can damage the rubber in the sealing kits and reduce their lifetime.

Identification list, slider lifts

E.g. ZS - 150 - 135 ML

ZS = Single folded platform, for truck installation, hydraulic motor placed above support frame.
ZSS = Single folded platform, for truck installation, hydraulic motor placerad in front of support frame.
ZD = Double folded platform, for truck installation, hydraulic motor placed above support frame.
ZT = Single folded platform, for trailer installation, hydraulic motor placed above support frame.
ZTS = Single folded platform, for trailer installation, hydraulic motor placerad in front of support frame.

Max liftcapacity x 10 (kg)

Max lifting height --135 = 1350 mm, -140 = 1450 mm
-155 = 1540 mm, -175 = 1725 mm

Cylindermodel, ML = Double acting Tilt, limited stroke
Single acting one speed Lift

DL = Double acting Tilt, limited stroke
Double acting one speed Lift

Weights

Some components of the tail lift must be manipulated by ceiling cranes and therefore could represent hazards if their weights exceed the crane's permitted load. The following are the ranges of weights for various heavy components.

Cpl. Lift chassis (without platform)
(1590 mm slide profiles)

ZS/ZSS-150/200-135 => 401 kg
ZS/ZSS-250-135 => 412 kg

ZS/ZSS-150/200-155 => 410 kg
ZS/ZSS-250-155 => 421 kg

ZS/ZSS-150/200-175 => 419 kg

1370 mm slide profiles instead of 1590 mm -10 kg
1550 mm slide profiles instead of 1590 mm -2 kg

(1095 mm slide profiles)
ZD-200-155 => 393 kg
ZD-200-175 => 402 kg

1215 mm slide profiles instead of 1095 mm +4 kg

(1700 mm slide profiles)
ZT/ZTS 150-140 => 415 kg
ZT/ZTS 200/250-140 => 418 kg

Lift components (part of cpl. lift chassis).

Support frameZS/ZSS/ZD 150/200/250	84 kg
Support frame ZT-ZTS 150/200/250	76 kg
Lift arm ZS/ZSS/ZD 150/200-135	46 kg
Lift arm ZS/ZSS/ZD 250-135	50 kg
Lift arm ZS/ZSS/ZD 150/200-155	50 kg
Lift arm ZS/ZSS/ZD 250-155	54 kg
Lift arm ZS/ZSS/ZD 150/200-175	54 kg
Lift arm ZT-ZTS 150/200/250-140	51 kg
Lift cylinder ZT/ZTS 150-140	13,1 kg/pce.
Lift cylinder ZT/ZTS 200/250-140	14,3 kg/pce.
Lift cylinder ZS/ZSS/ZD 150/200-135	8,5 kg/pce.
Lift cylinder ZS/ZSS/ZD 150/200-155	9,5 kg/pce.
Lift cylinder ZS/ZSS/ZD 150/200-175	10,5 kg/pce.
Tilt cylinder ZT/ZTS 150/200/250-140	14,5 kg/pce.
Tilt cylinder ZS/ZSS/ZD 150/200-135	13 kg/pce.
Tilt cylinder ZS/ZSS/ZD 150/200-155	14,5 kg/pce.
Tilt cylinder ZS/ZSS/ZD 150/200-175	16 kg/pce.
Lift cylinder ZS/ZSS/ZD 250-135	11 kg/pce.
Lift cylinder ZS/ZSS/ZD 250-155	12,3 kg/pce.
Tilt cylinder ZS/ZSS/ZD 250-135	13,5 kg/pce.
Tilt cylinder ZS/ZSS/ZD 250-155	15 kg/pce.
Rollarm cpl. (only ZD)	12 kg
Hydraulic auto-tilt	10 kg

Max Power Consumption

ZT/ZTS 150/200 (130 bar)

7000	12 volt	24 volt
Pump - Motor Unit	245 A	125 A
Magnet (hydraulic unit)	4,2 A	2,1 A
Magnet (electric safety valve)	1,5 A	0,75 A
Solenoid	1,5 A	0,85 A
Cable area:		
Control cable	1,5 mm^2	1,5 mm^2
Main cable <8 m	35 mm^2	35 mm^2
Main cable 8-15 m	50 mm^2	35 mm^2
Main cable >15 m	-	50 mm^2
Power source:		
Min. capacity	170 Ah	180 Ah
Min. voltage	9 Volt	18 Volt

ZS/ZSS/ZD 150, ZT/ZTS 250 (160 bar)

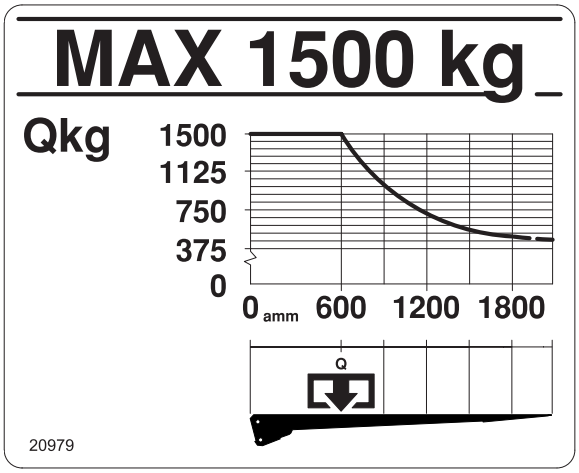
7000	12 volt	24 volt
Pump - Motor Unit	245 A	125 A
Magnet (hydraulic unit)	4,2 A	2,1 A
Magnet (electric safety valve)	1,5 A	0,75 A
Solenoid	1,5 A	0,85 A
Cable area:		
Control cable	1,5 mm^2	1,5 mm^2
Main cable <8 m	35 mm^2	35 mm^2
Main cable 8-15 m	50 mm^2	35 mm^2
Main cable >15 m	-	50 mm^2
Power source:		
Min. capacity	170 Ah	180 Ah
Min. voltage	9 Volt	18 Volt

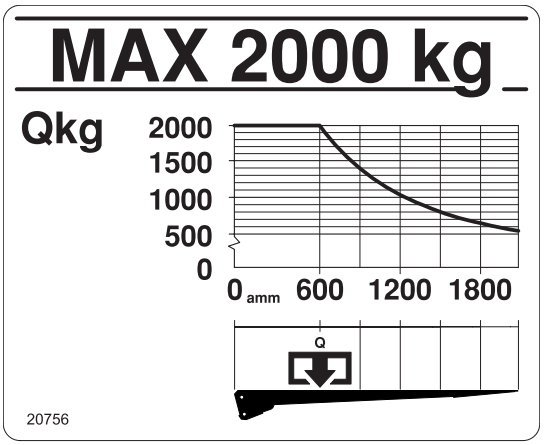
ZS/ZSS/ZD 200/250 (200 bar)

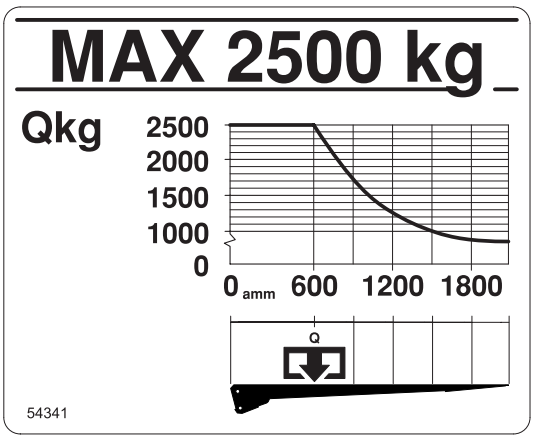
7000	12 volt	24 volt
Pump - Motor Unit	250 A	150 A
Magnet (hydraulic unit)	4,2 A	2,1 A
Magnet (electric safety valve)	1,5 A	0,75 A
Solenoid	1,5 A	0,85 A
Cable area:		
Control cable	1,5 mm^2	1,5 mm^2
Main cable <8 m	35 mm^2	35 mm^2
Main cable 8-15 m	50 mm^2	35 mm^2
Main cable >15 m	-	50 mm^2
Power source:		
Min. capacity	170 Ah	180 Ah
Min. voltage	9 Volt	18 Volt

Loading Diagram

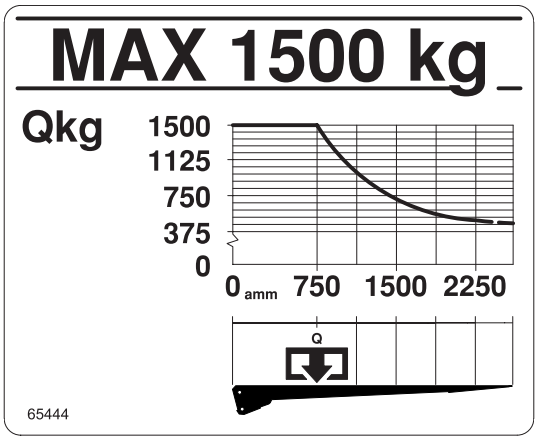
ZT/ZTS-150/200/250

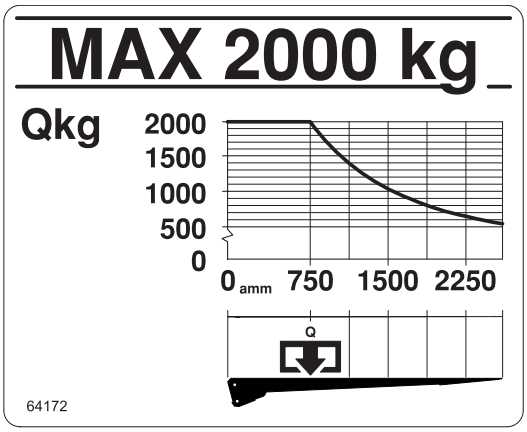


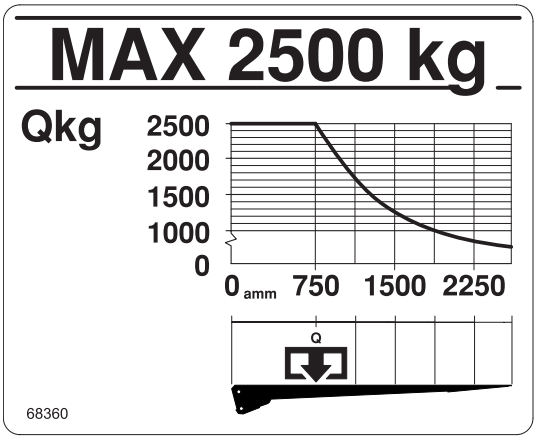




ZS/ZSS/ZD-150/200/250





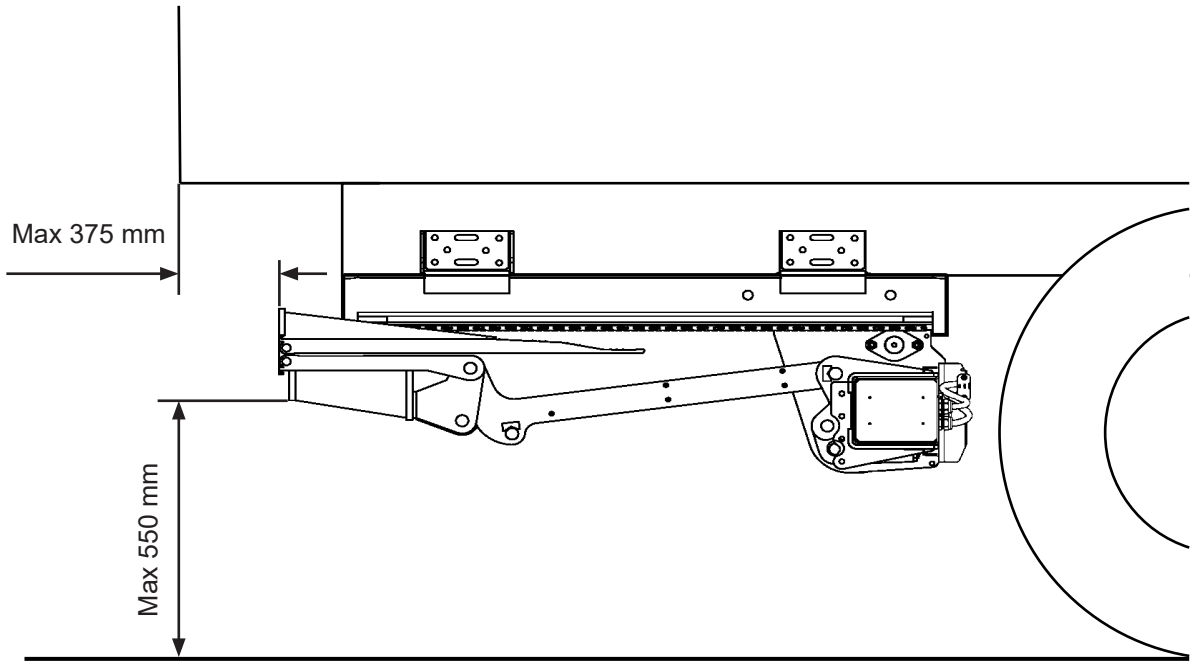


3. Dimensions for installation

Underrun Protection

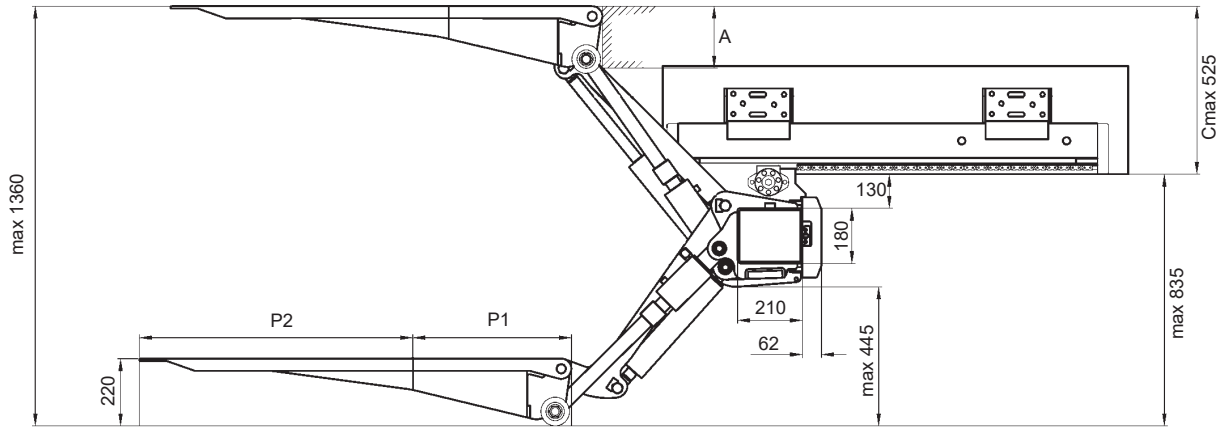
Try to install the slider profile in a position so that, when it is folded, the rear edge of the platform is in line with the rear edge of the vehicle body so that the platform can be folded out. Ensure that the installation position is such that the lift when folded meets the legal dimensions for underrun protection. See illustration below,

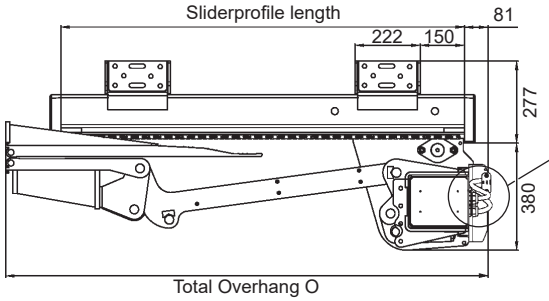
- Distance between the beam and the ground when the vehicle is unloaded: Max. 550 mm.
- Horizontal distance from the outermost part of the platform to the underrun protection: Max. 375 mm.

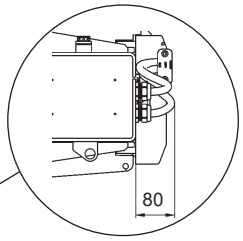


3. Dimensions for installation

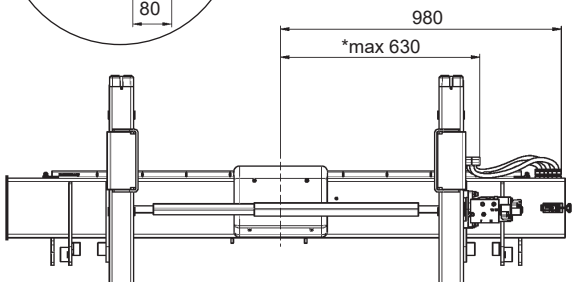
ZS-150/200/250-135







* NOTE: If the cables are a limiting factor, be careful to check the overhang



* at max frame width 1040

P1 (mm)	Slide profile length (mm)
- 600	1370
600 - 800	1590
800 -	1700

1500 / 2000 kg

P1	P2	O
545	1005	1605
675	960	1735
750	910	1810

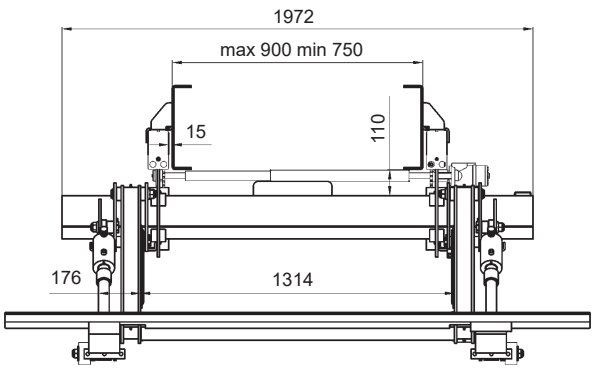
C	A
525	198
500	183
450	169
400	158
350	145
300	130
235	100

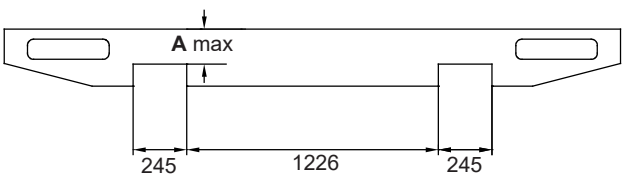
2500 kg

P1	P2	O
545	1005	1667
675	960	1797
750	910	1872

(P1 in Steel)

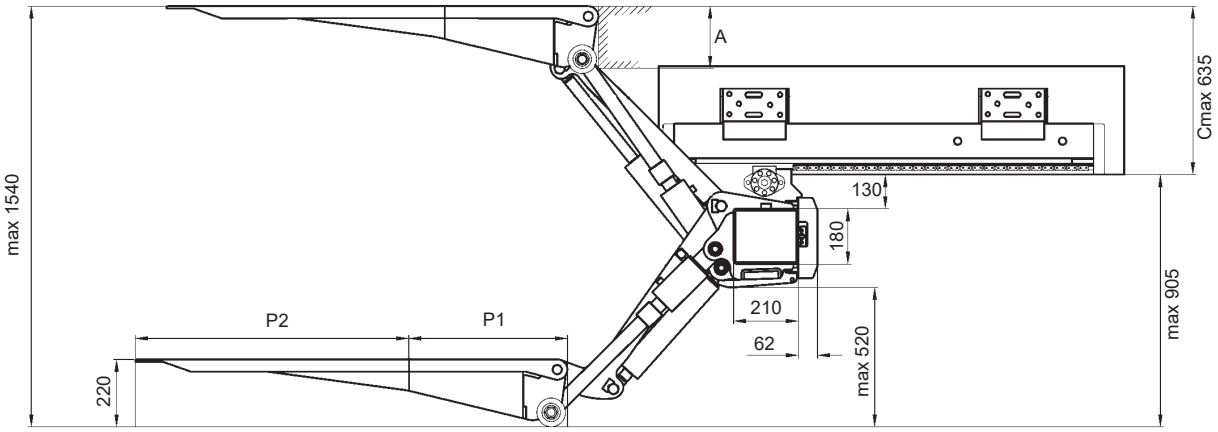
C	A
630	200
600	187
550	172
450	161
450	153
400	134
350	114

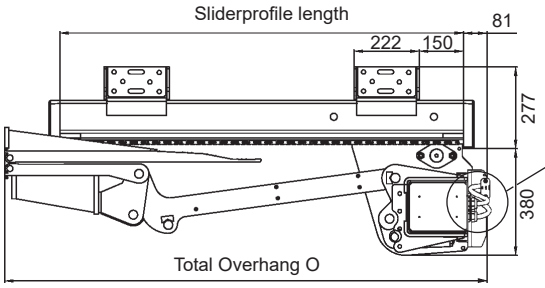


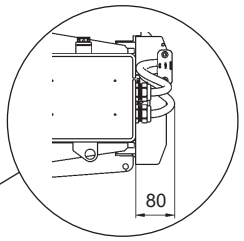


3. Dimensions for installation

ZS-150/200/250-155

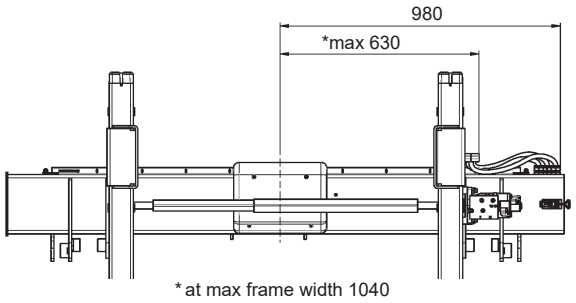






NOTE: If the cables are a limiting factor, be careful to check the overhang

P1 (mm)	Sliderprofile length (mm)
- 700	1590
700 -	1700



* at max frame width 1040

1500 / 2000 kg

P1	P2	O
545	1005	1725
675	960	1855
750	910	1930

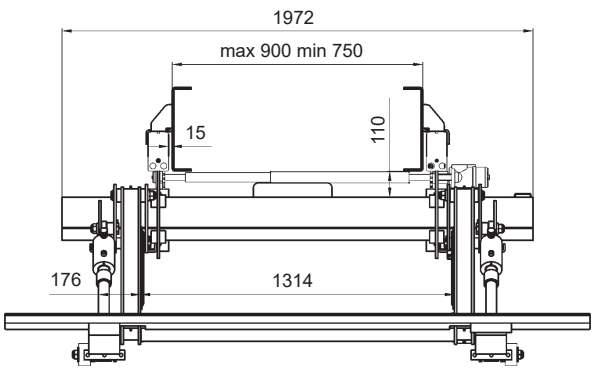
C	A
635	210
600	191
550	177
500	167
450	158
400	147
350	134
262	118

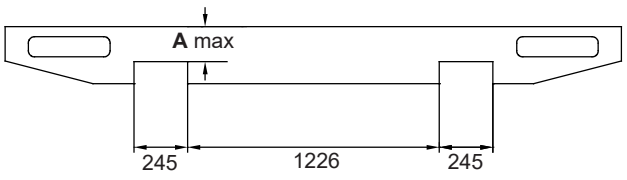
2500 kg

P1	P2	O
545	1005	1787
675	960	1917
750	910	1992

(P1 in Steel)

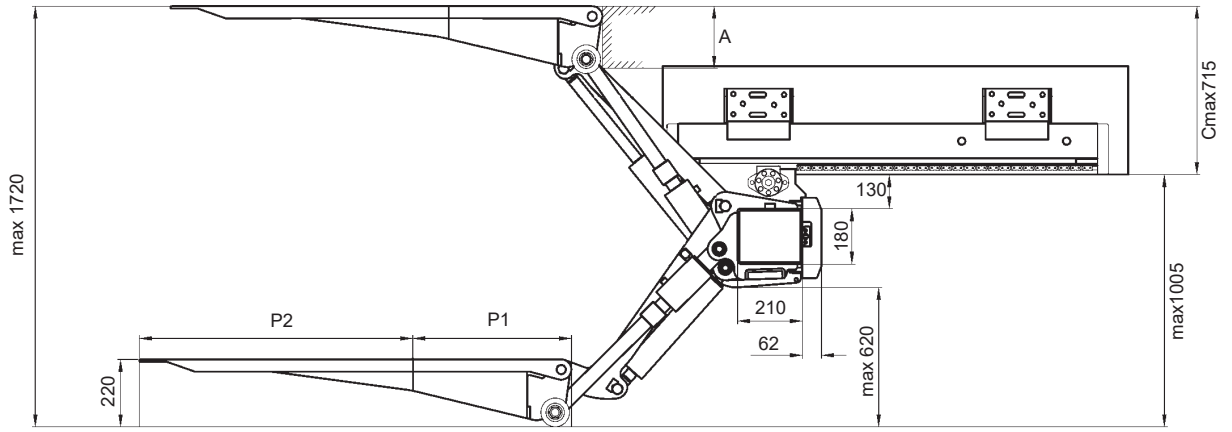
C	A
740	209
700	201
650	179
600	168
550	160
500	148
450	136
400	121
370	106

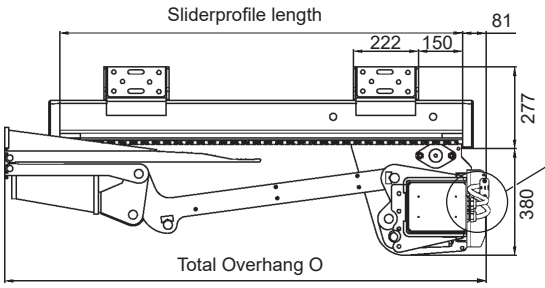


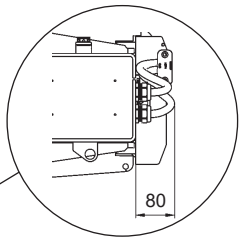


3. Dimensions for installation

ZS-150/200-175

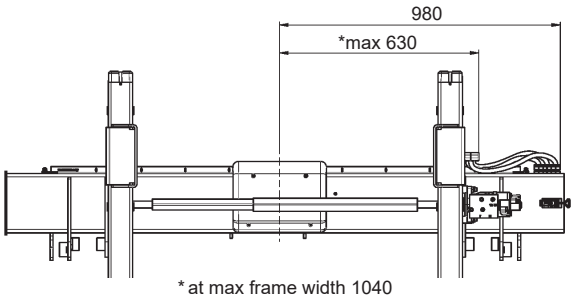






NOTE: If the cables are a limiting factor, be careful to check the overhang

P1 (mm)	Sliderprofile length (mm)
- 700	1590
700 -	1700



* at max frame width 1040

1500 / 2000 kg

P1	P2	O
545	1005	1845
675	960	1975
750	910	2050

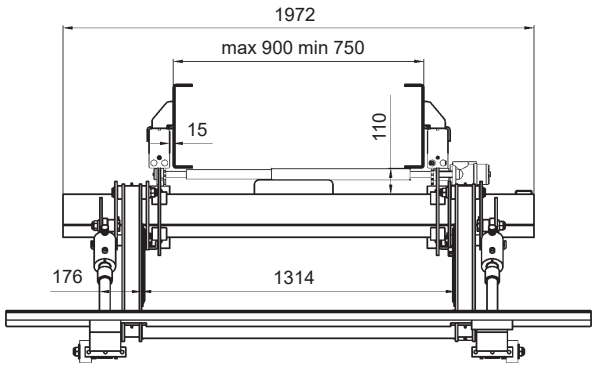
C	A
715	205
700	195
650	182
600	172
550	164
500	157
450	145
400	135
350	121
305	110

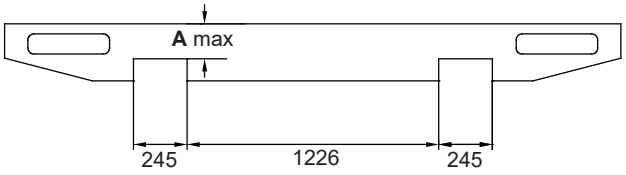
2500 kg

P1	P2	O
545	1005	1787
675	960	1917
750	910	1992

(P1 in Steel)

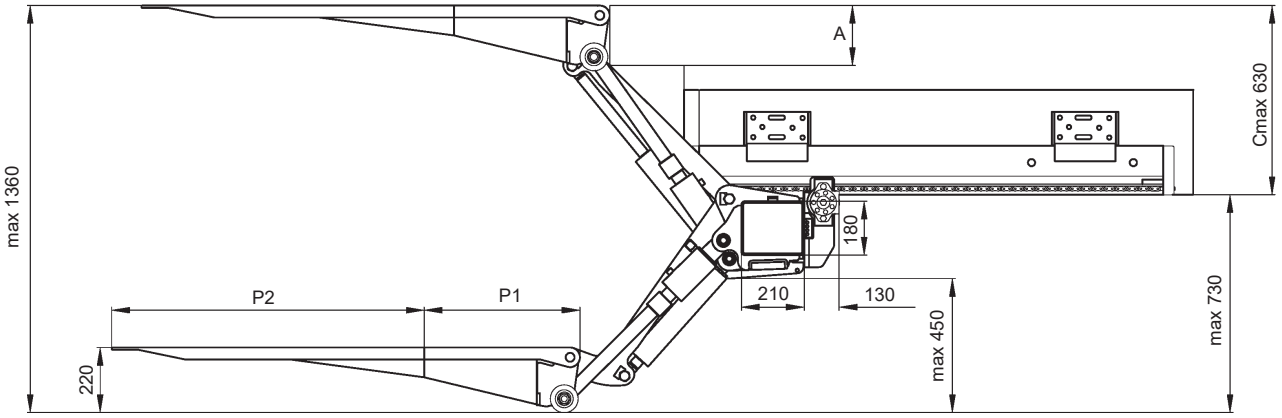
C	A
740	209
700	201
650	179
600	168
550	160
500	148
450	136
400	121
370	106
370	106

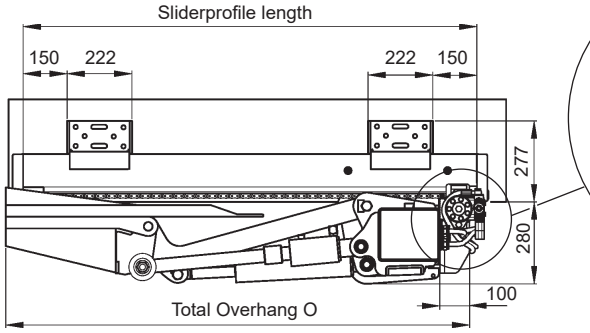


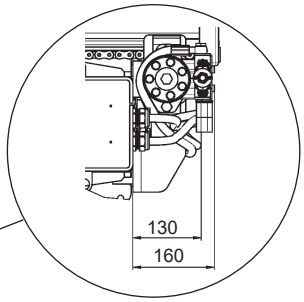


3. Dimensions for installation

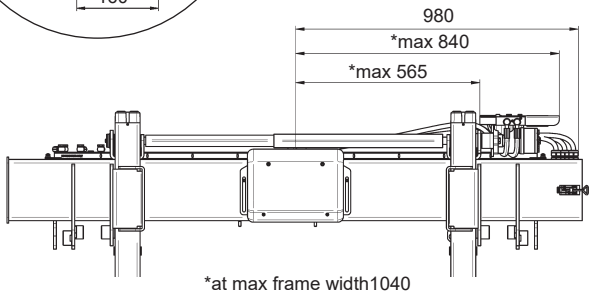
ZSS-150/200/250-135







NOTE: If the cables or valve system are a limiting factor, be careful to check the overhang.



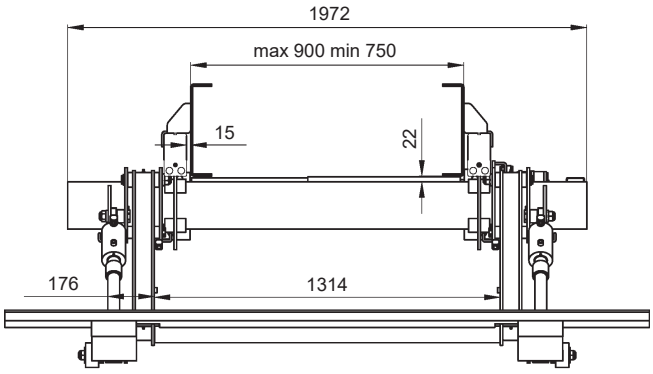
*at max frame width1040

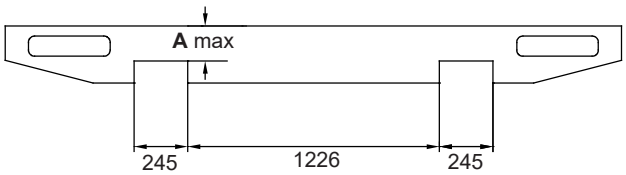
P1 (mm)	Slide profile length (mm)
- 550	1370
550 - 700	1590
700 -	1700

C	A
630	200
600	187
550	172
500	161
450	153
400	134
350	114

P1	P2	O
545	1005	1667
675	960	1797
750	910	1872

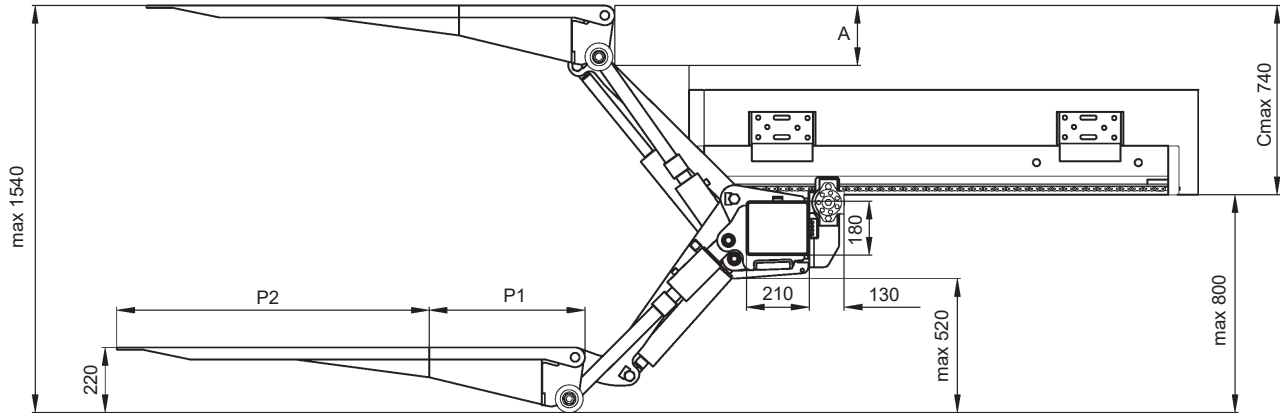
(2500 kg: P1 in Steel)

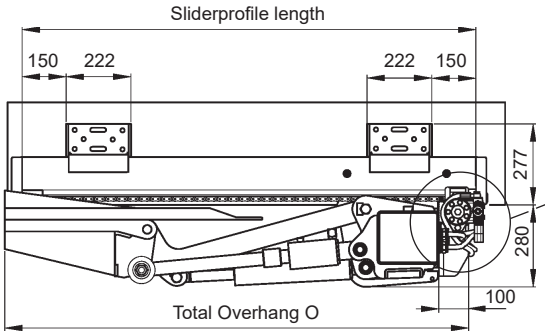


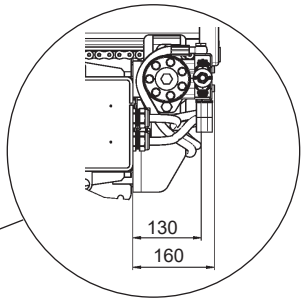


3. Dimensions for installation

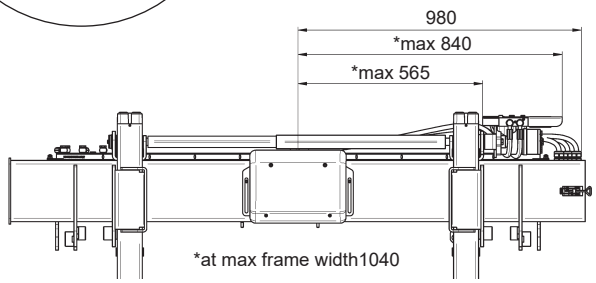
ZSS-150/200/250-155







NOTE: If the cables or valve system are a limiting factor, be careful to check the overhang.

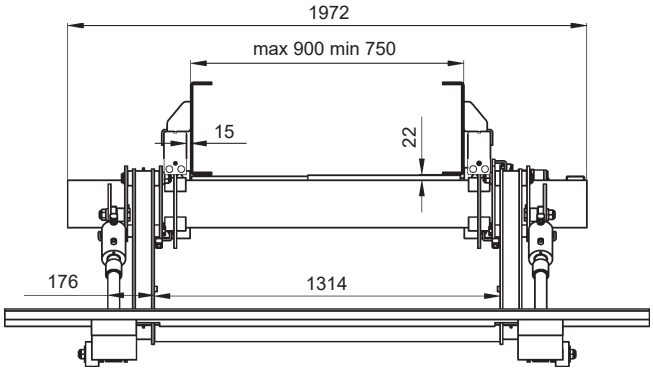


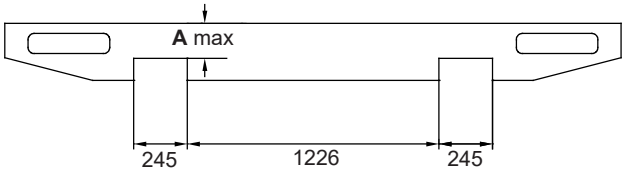
P1 (mm)	Slide profile length (mm)
- 600	1590
600 - 800	1700
800 -	1820

P1	P2	O
545	1005	1787
675	960	1917
750	910	1992

(2500 kg: P1 in Steel)

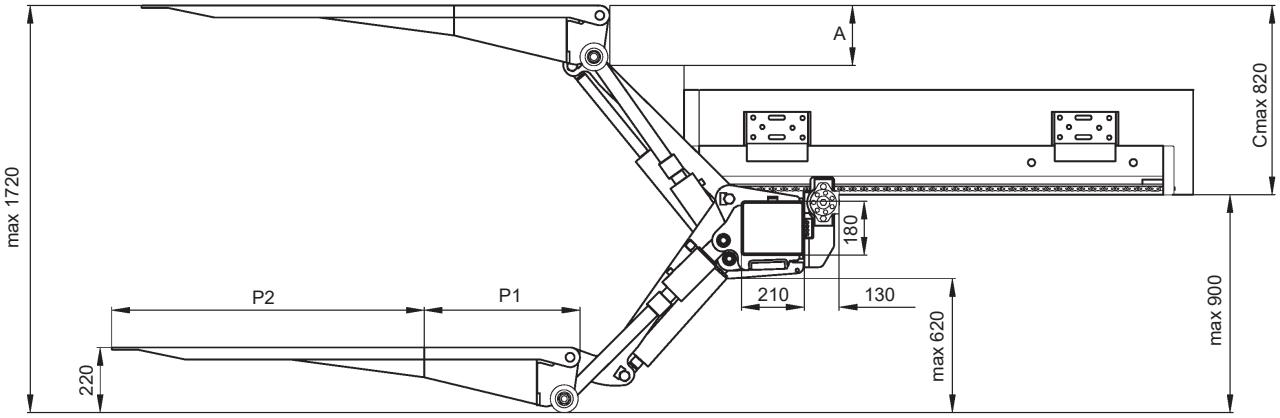
C	A
740	209
700	201
650	179
600	168
550	160
500	148
450	136
400	121
370	106

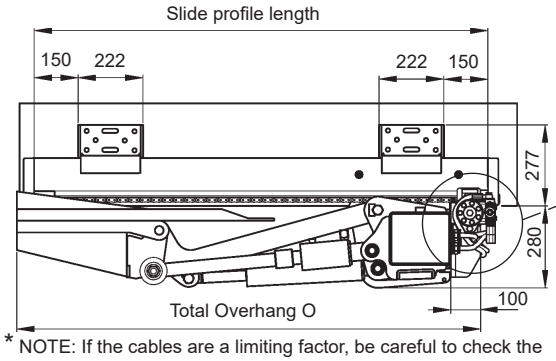


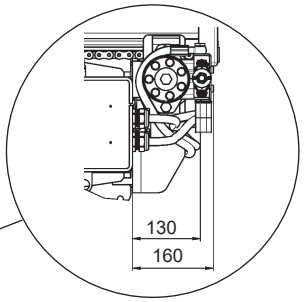


3. Dimensions for installation

ZSS-150/200-175

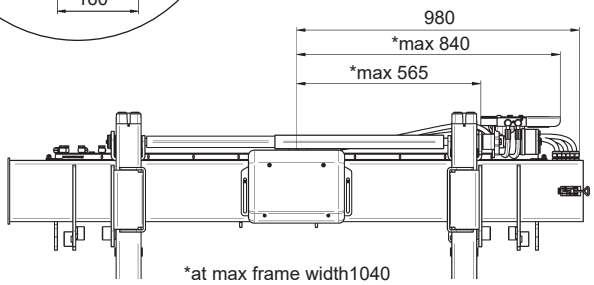






NOTE: If the cables or valve system are a limiting factor, be careful to check the overhang.

* NOTE: If the cables are a limiting factor, be careful to check the overhang

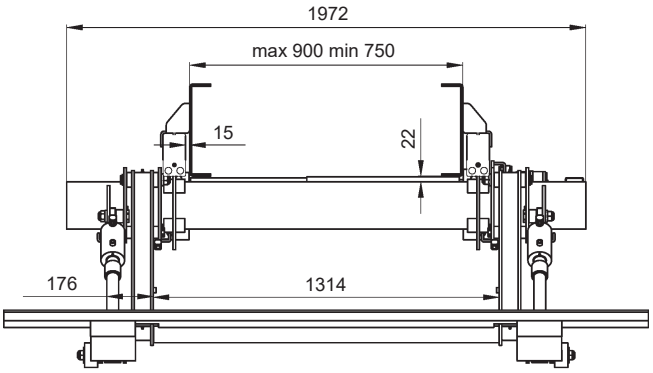


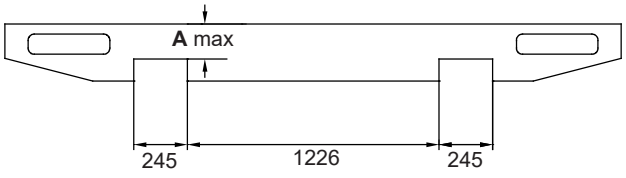
P1 (mm)	Sliderprofile length (mm)
- 550	1590
550 - 700	1700
700 -	1820

1500 / 2000 kg

P1	P2	O
545	1005	1907
675	960	2037
750	910	2112

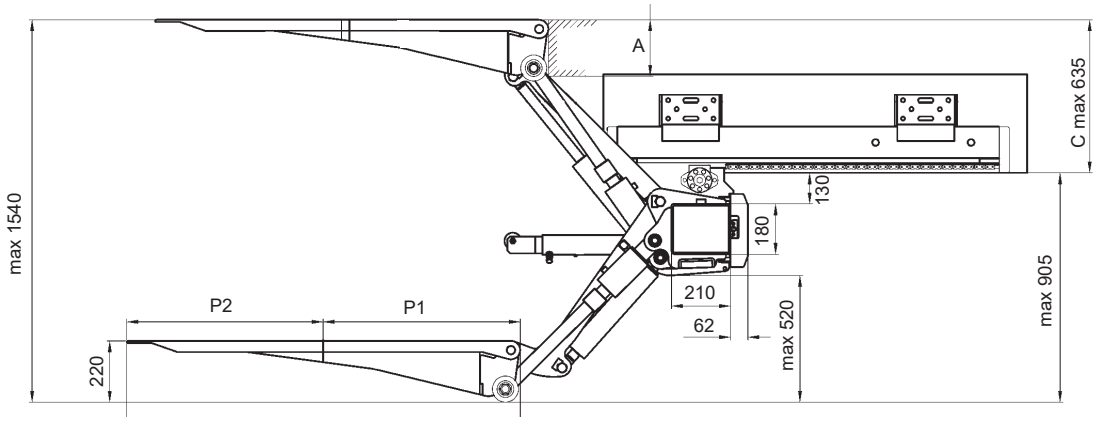
C	A
820	206
800	199
750	185
700	174
650	166
600	159
550	148
500	138
450	125

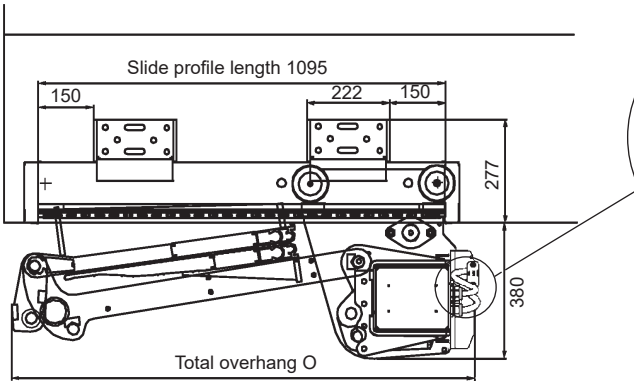


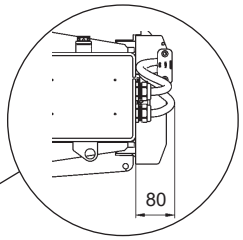


3. Dimensions for installation

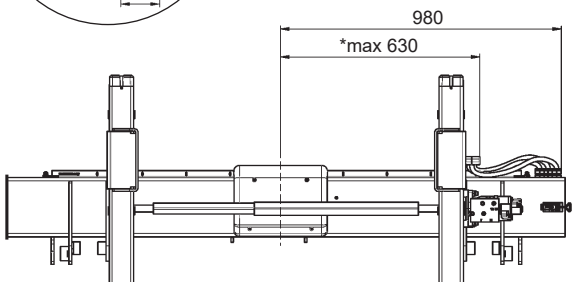
ZD-150/200-155







NOTE: If the cables are a limiting factor, be careful to check the overhang

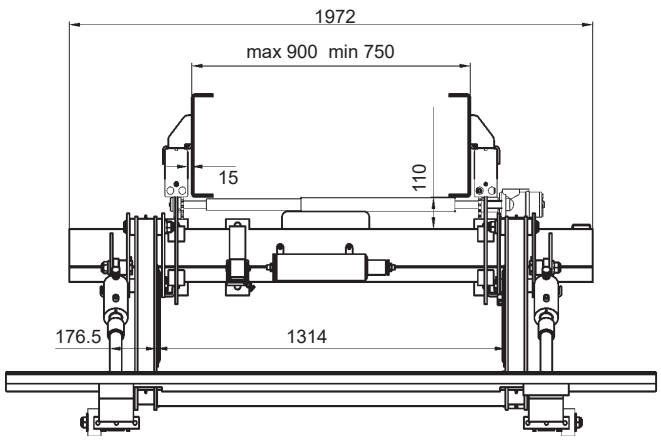


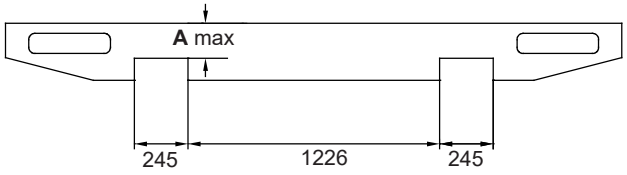
* at max frame width 1040

1500 / 2000 kg

P1	P2	O
754	639	1250

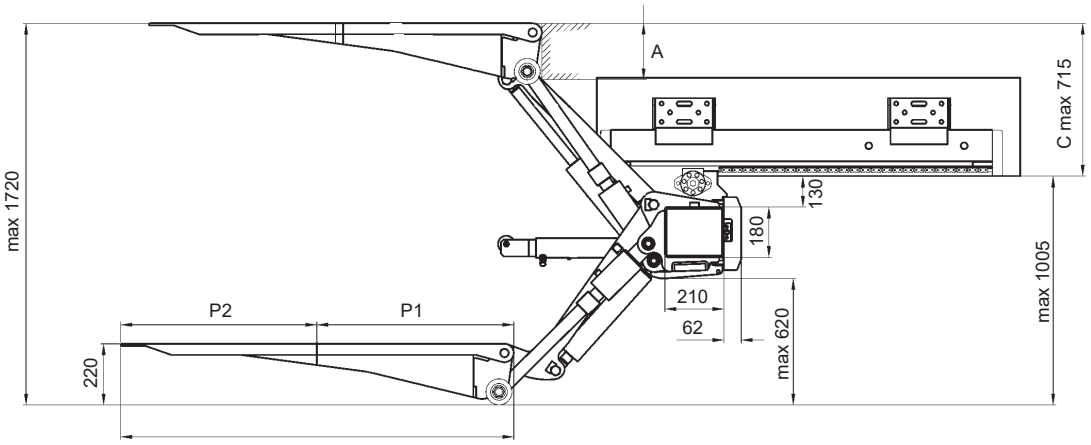
C	A
635	210
600	191
550	177
500	167
450	158
400	147
350	134
285	118

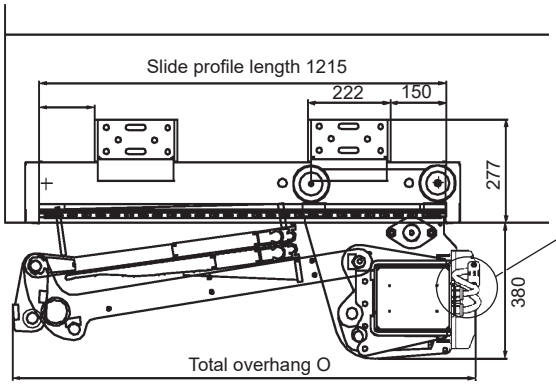


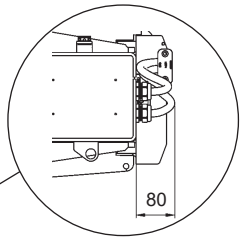


3. Dimensions for installation

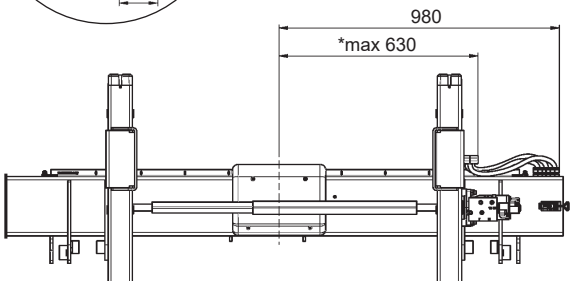
ZD-150/200-175







* NOTE: If the cables are a limiting factor, be careful to check the overhang

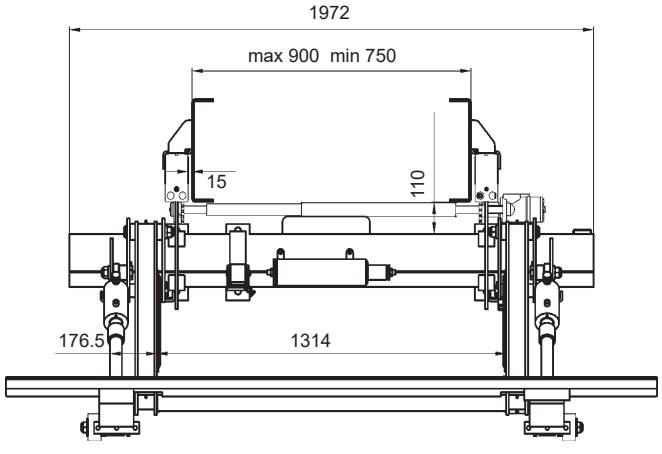


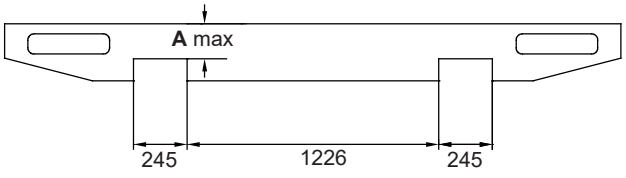
* at max frame width 1040

1500 / 2000 kg

P1	P2	O
879	764	1350

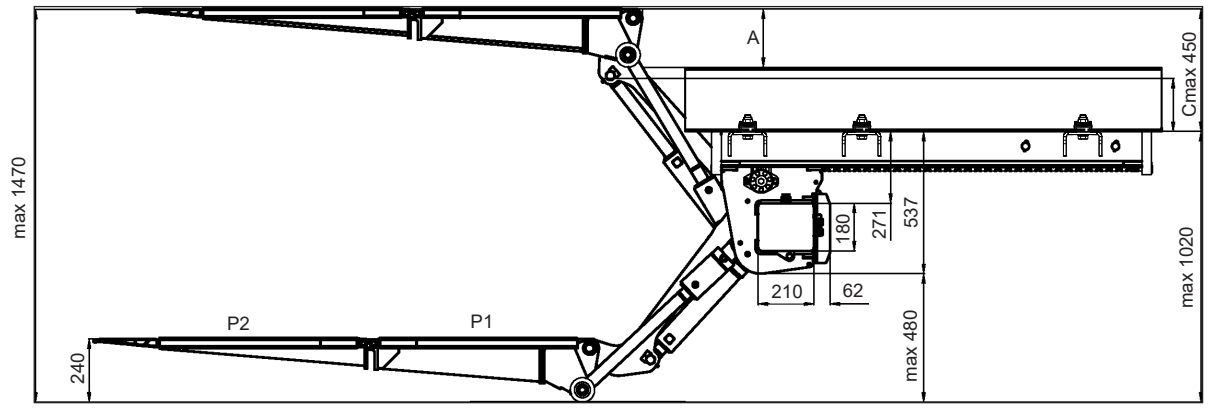
C	A
715	205
700	195
650	182
600	172
550	164
500	157
450	145
400	135
350	121
305	110

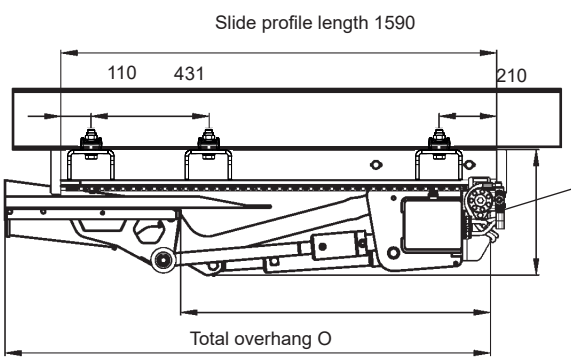


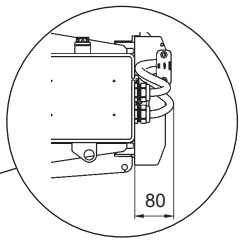


3. Dimensions for installation

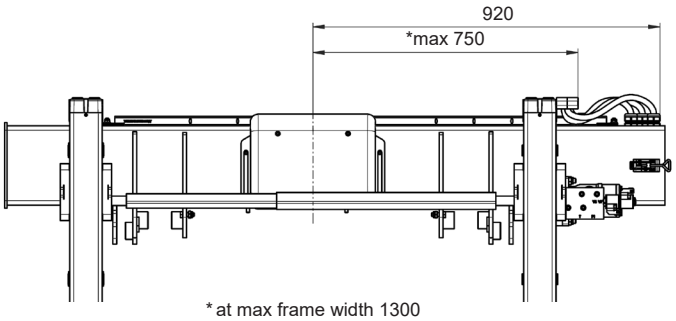
ZT-150/200/250-140







* NOTE: If the cables are a limiting factor, be careful to check the overhang



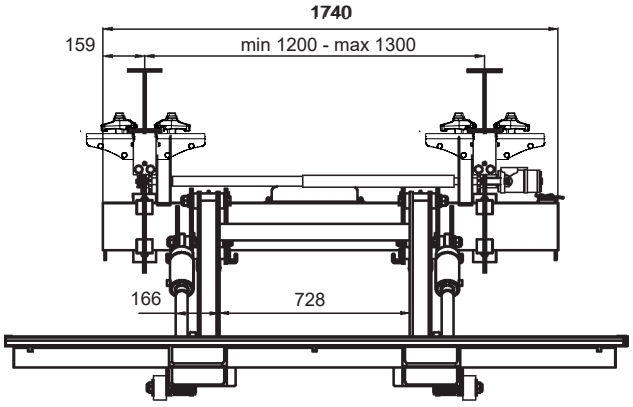
* at max frame width 1300

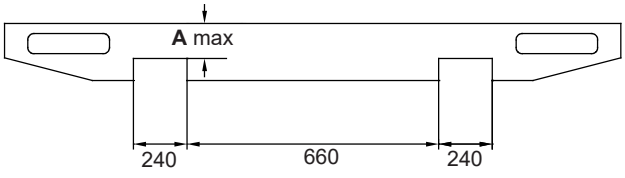
P1	P0
945	2044
875	1974
750	1849
675	1774

(2500 kg: P1 in Steel)

O
1060
1005
960
910
880

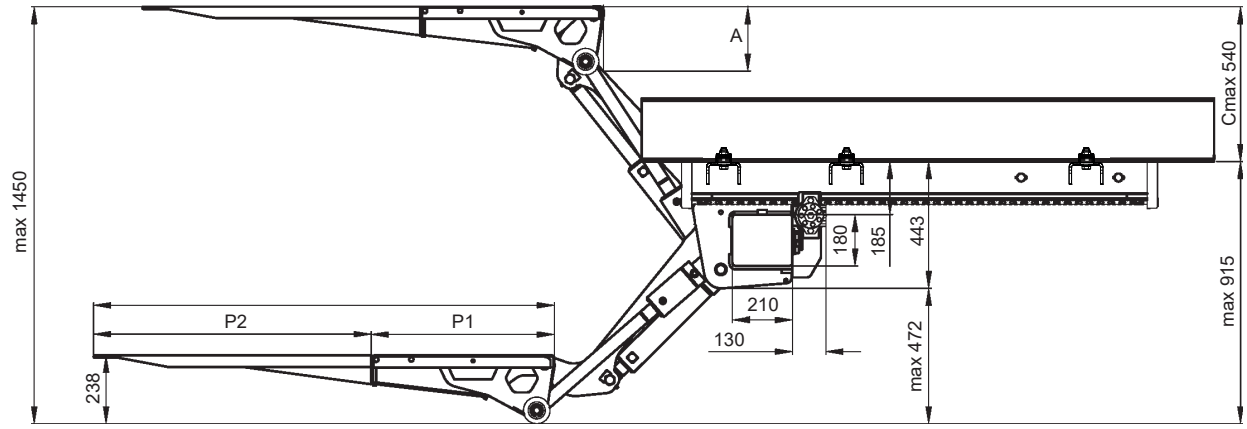
C	A
450	217
400	206
350	186
300	170
250	150
200	125

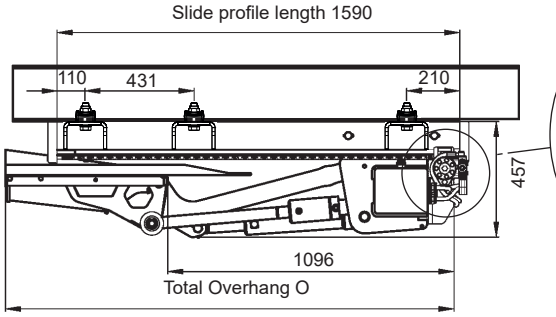


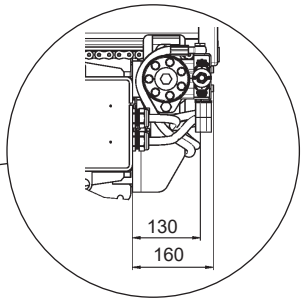


3. Dimensions for installation

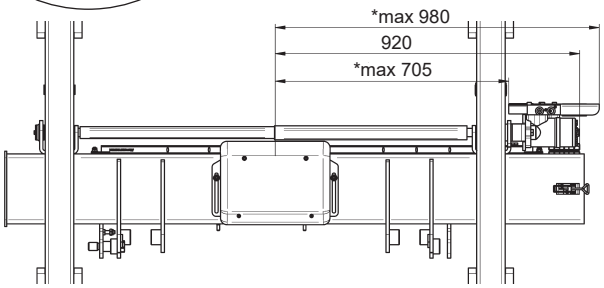
ZTS-150/200/250-140







NOTE: If the cables or valve system are a limiting factor, be careful to check the overhang.

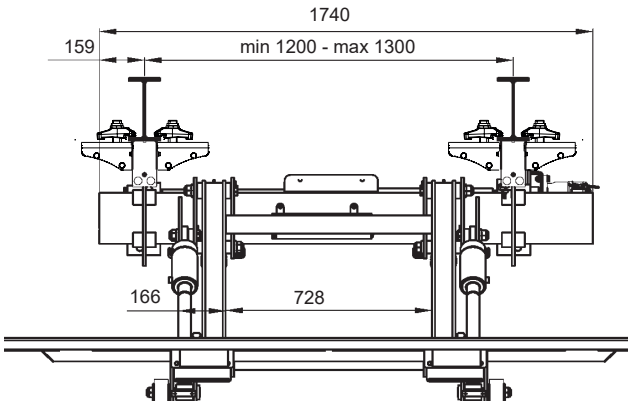


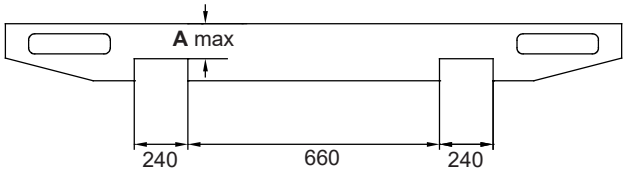
*at max frame width 1300

P1	P2	O
786	960	1916
786	910	1916
715	910	1845

(2500 kg: P1 in Steel)

C	A
540	225
500	207
450	191
400	179
350	170
300	163
270	159



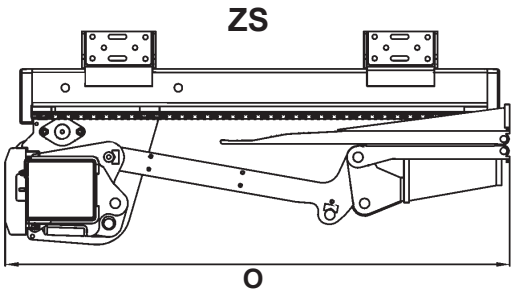


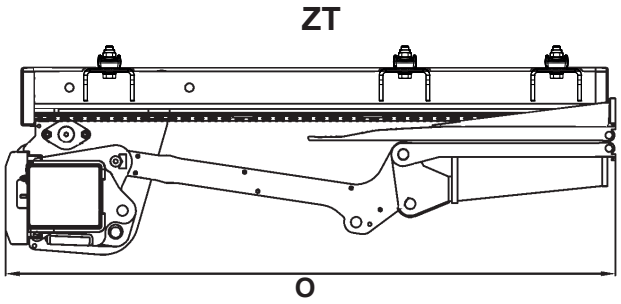
4. Slider installation

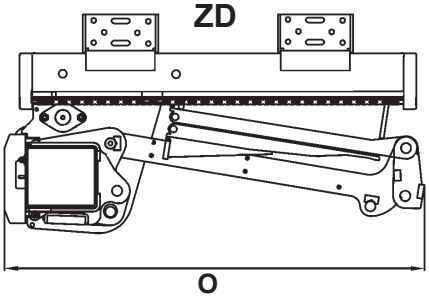
Attention! Also refer to the truck manufacturer´s instructions for auxiliary equipment

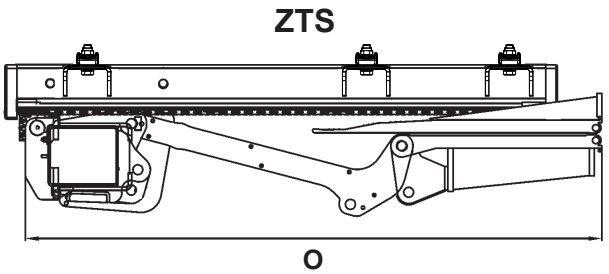
IMPORTANT: Finding the installation position of the slider is very simple if these instructions are followed.
The platform and lift arm combinations described on this page are optimised for **minimum total overhang (O)**, therefore always **install the slide profile rear edge level with the rear edge of the vehicle frame or tow hook device so that the platform can fold out**.
If the slide frame is placed further forward there is a risk (particularly for low ground clearance) that the platform will not be able to fold out. There are only two solutions. Either to move the slide frame to the position that we recommend or choose a different platform combination, but the new platform would have shorter first and second folding part (and hence perhaps be too short for your needs).
With these short overhang models the working position is not the same as the folding out position.

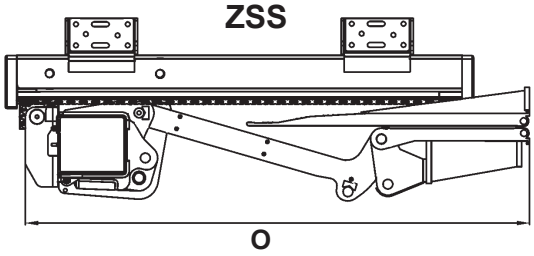
Make the cut-outs as required in the rear beam in accordance with the measures on previous pages.





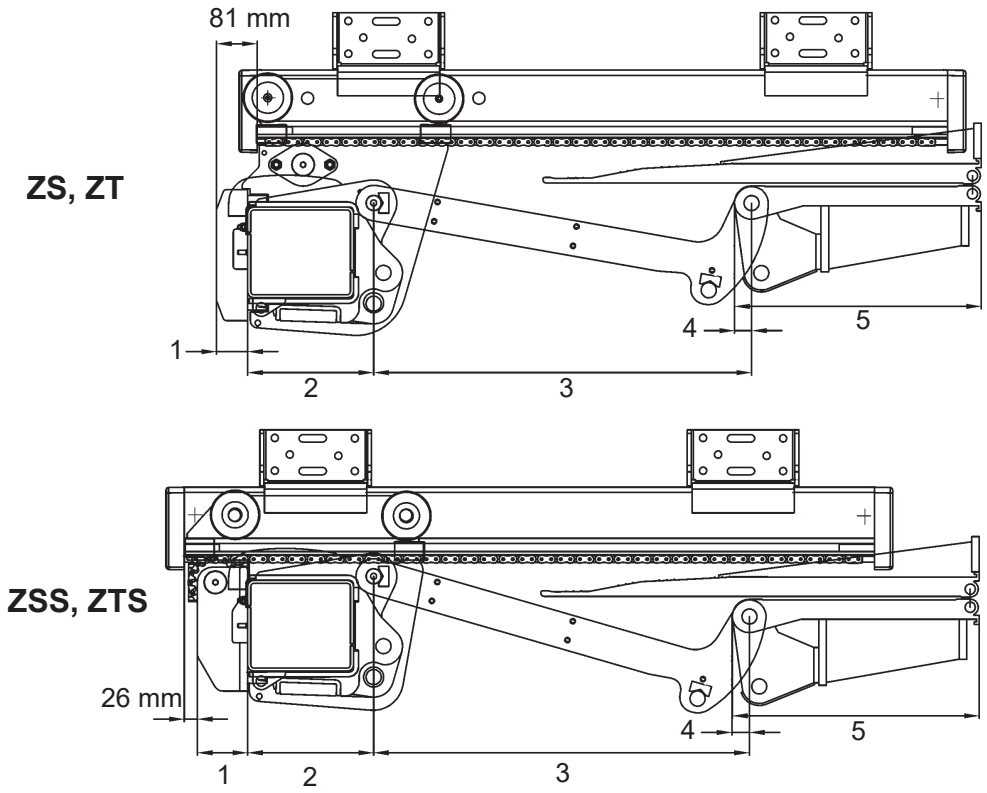






Single folding platform models ZS, ZSS, ZT, ZTS

OVERHANG NECESSARY



The following equation can be used to calculate the minimum overhang necessary for the installation of a slider.

Distance forward of the beam (1) + Beam (2)+ Lift arm (3) + Fixed part of platform (5) - Liftarm/platform overlap (4)

Distance forward of the beam = 62 mm (ZS, ZT), 100 mm (ZSS, ZTS).
Beam = *250 mm*
Lift arm = *750 mm* (-135), 815 mm (-140), 870 mm (-155), 990 mm (-175)
Fixed part of platform = depends on the platform ordered
Liftarm/platform overlap = *33mm* (AVI)
35mm (PML)

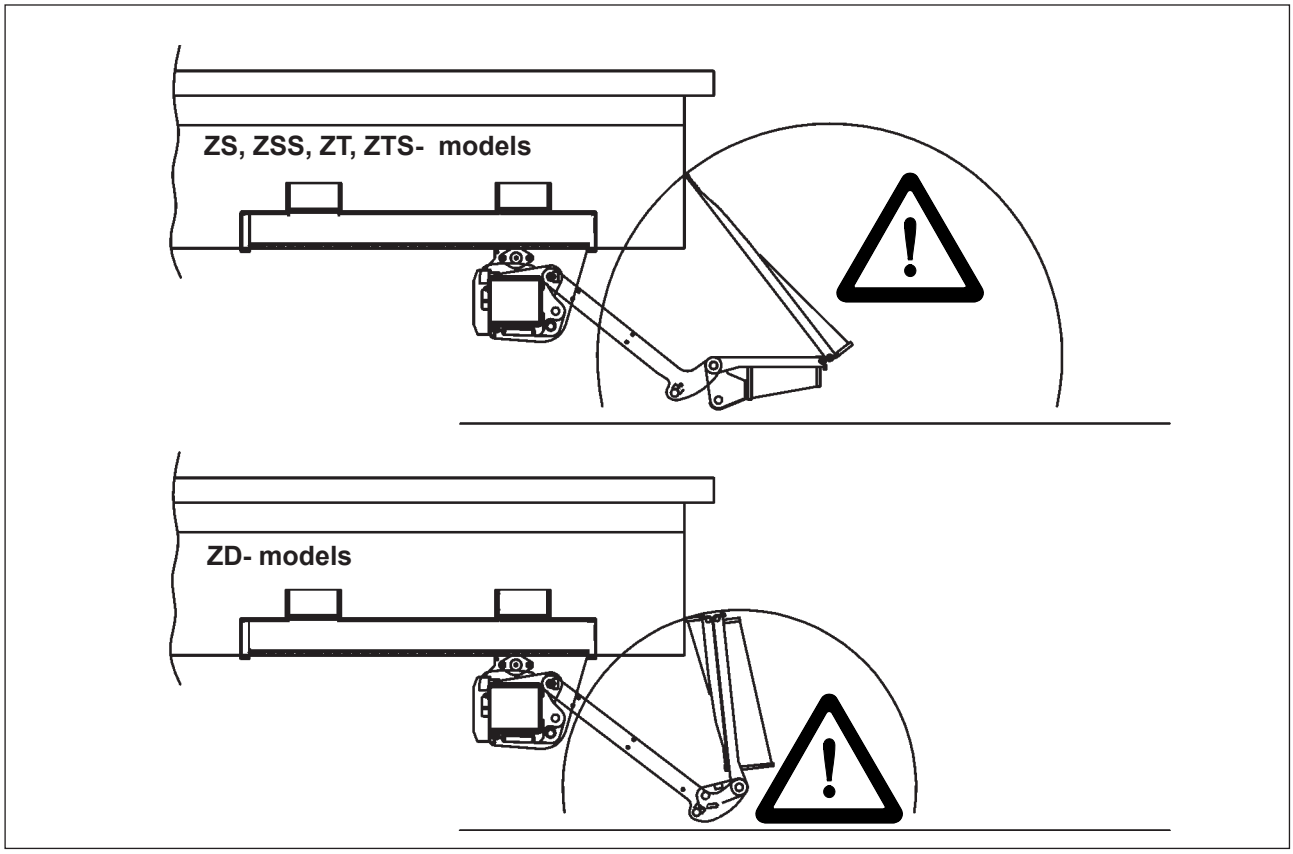
e.g. 1 Minimum overhang necessary for the installation of a ZS-200-155 with an AVI 500 mm + 860 mm platform.
62+250+870+500-33 =1649 mm.

e.g. 2 Minimum overhang necessary for the installation of a ZSS-200-155 with an AVI 500 mm + 860 mm platform.
100+250+870+500-33 =1687 mm.

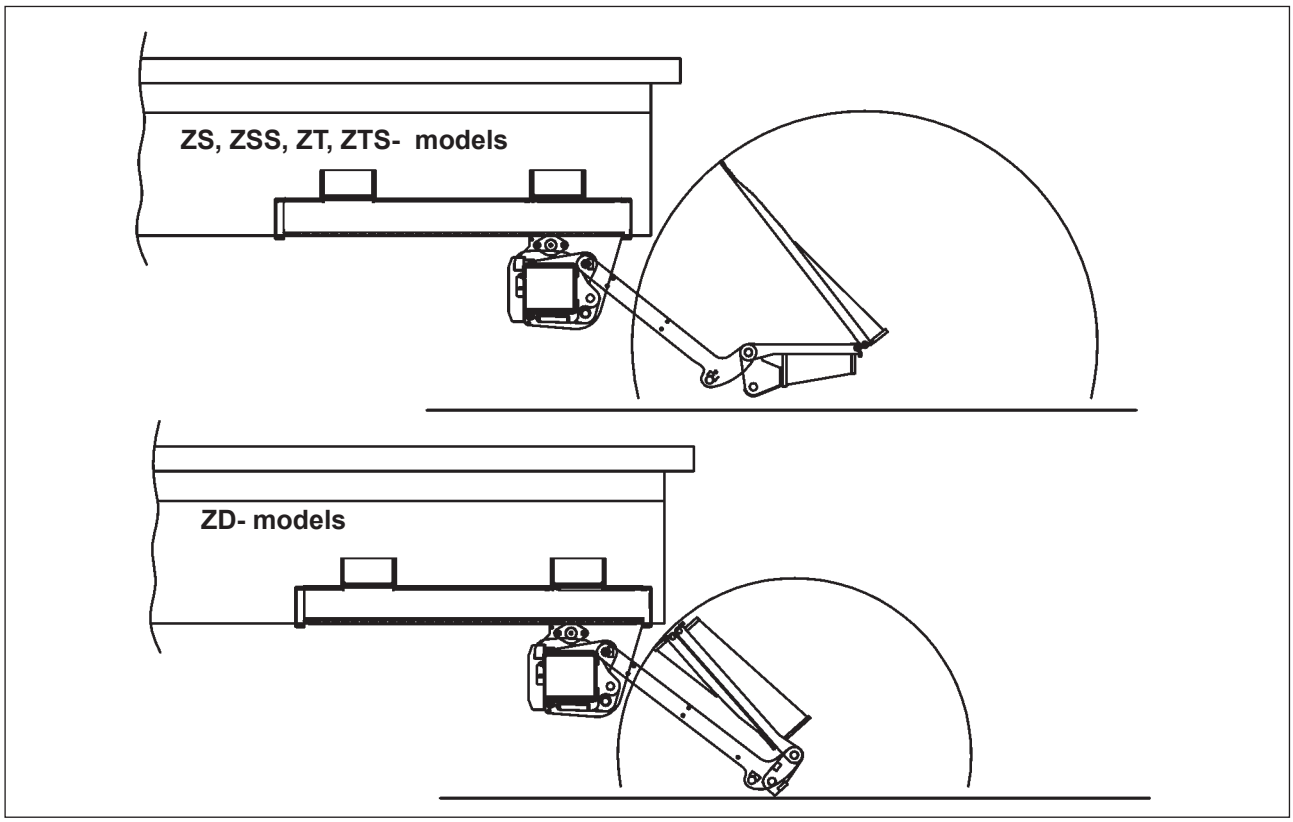
4. Slider installation

Geometry of sliding lift installation

If you want to avoid that the following installation problem occurs...



and would prefer the lift to be installed as in this diagram...



then take time to read these instructions carefully and follow them!!!

Geometry of sliding lift installation

The nature of the installation geometry of sliding tail lifts is more complicated than standard models and therefore more thought and attention is required when considering which lift model is suited to which frame and the exact position on the frame at which the lift should be attached. The stowed lift must fit in the available overhang and the folding part of the platform must have clearance from the vehicle frame in order to be folded out for use. Short overhangs and long platforms can be mutually exclusive, so it is advisable to clearly understand the questions involved.

The points to be considered are the following:

a) What is the lifting height required to the highest possible position of the unladen vehicle bed.

b) Total platform length is made up of the sum of the lengths of the fixed and folding part of the platform.

c) The fixed part of the platform (to which the lifting arms and cylinders are attached) contributes to the total length of the lift in the stowed position.

d) 250 mm (for the support frame)

+ lift arm length

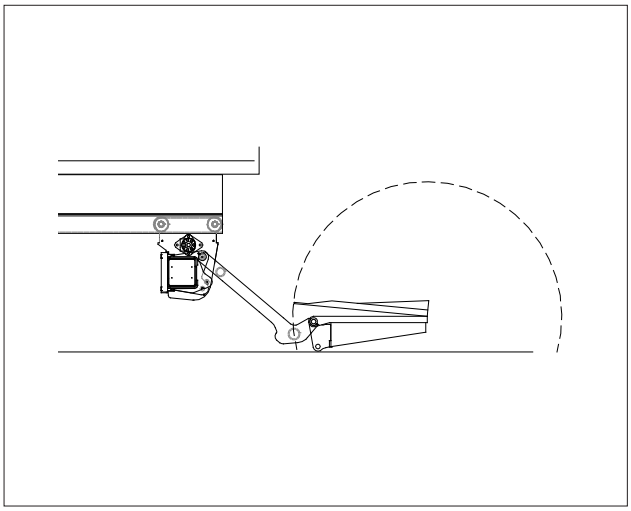
+ fixed part of the platform

the total lift length in the stowed position

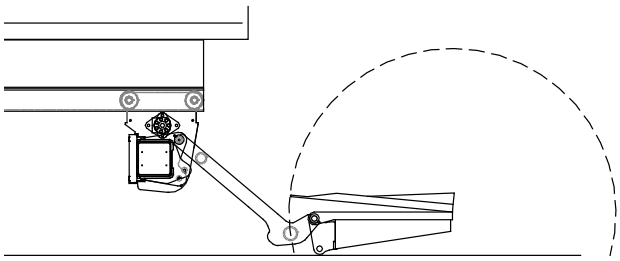
e) The available overhang must be greater than the total lift length in the stowed position.

f) Let's consider the case of the single folded platforms. In the stowed position, the folding part of the platform cannot be longer than the space available above the fixed platform part and the lift arm, up to the wheeled mounting brackets. So the total platform length permissible is geometrically limited. ZEPRO will not sell you a platform combination that cannot fit, however, this serves as an explanation as to the limitation of platfom/ liftarm combinations available.

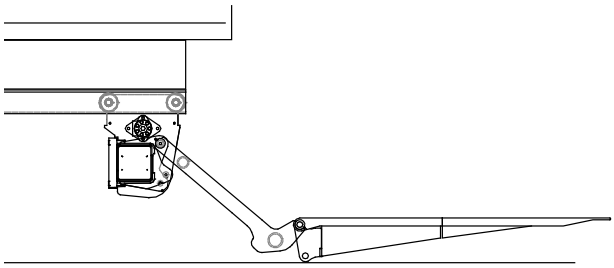
g) Another point to bear in mind is when the lift is slid out from the stowed position and the lift arm is lowered to the ground so that the folding part of the platform can be folded out, the distance between the lower rear edge of the vehicle frame and the platform hinge between the two platform parts is the upper limit for the length of the folding platform part. This varies from vehicle to vehicle and is a factor dependent on ground clearance and chassis design. ZEPRO or their approved dealers can give advice on this point.



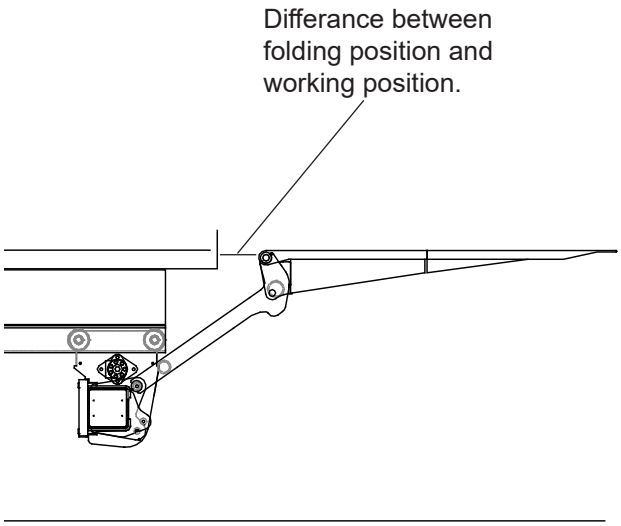
Geometry of sliding lift installation



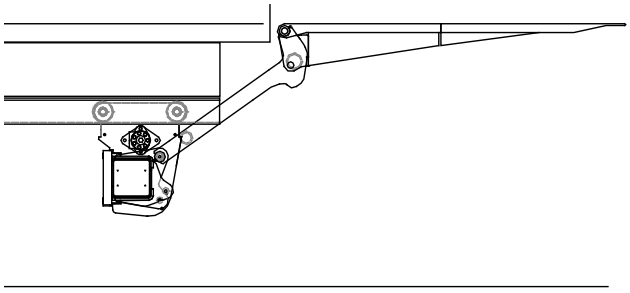
h) On this page diagrams show sliding lifts installed with their slide profiles installed in the recommended position for short overhang model as far back as possible on the vehicle frames.



i) When the lift has been slid completely out to the end of the slide profiles and the platform is folded out, the position of the mounting brackets in the slide profiles is known as the **folding position**.



j) However, when the platform is raised to the bed height it is not next to the bed and must be moved forward to the working position. The distance between the folding position and the working position is shown here.

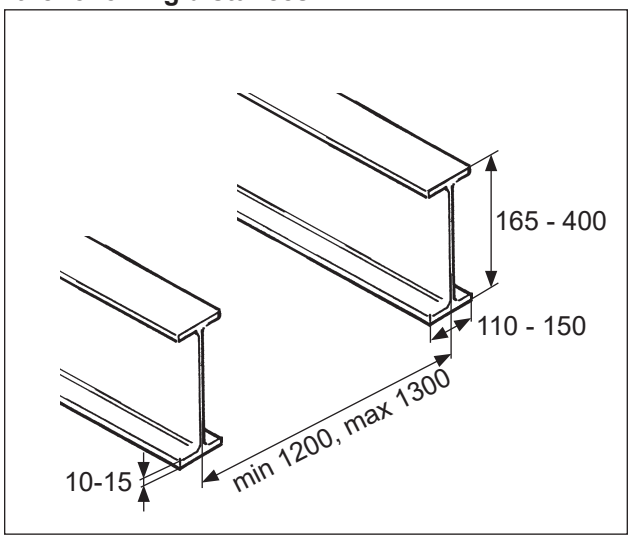


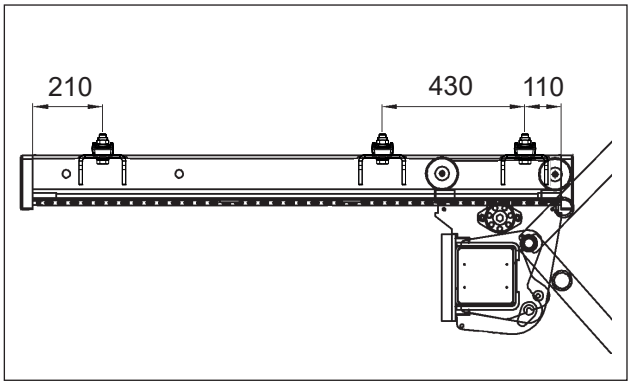
k) The position of the mounting brackets in the slide profiles when the platform is raised to the vehicle floor level and touches the rear edge of the floor ready for loading or unloading is known as the **working position**.

4. Slider installation

ZT/ZTS-150/200/250

Suitable for installation on the following distances





If the stop at the slide profile rear end not is the same as platform- body, then you have to mount a working position lock (art. no. 56280) so the distance between platform and body is correct.

Installation of slide profiles

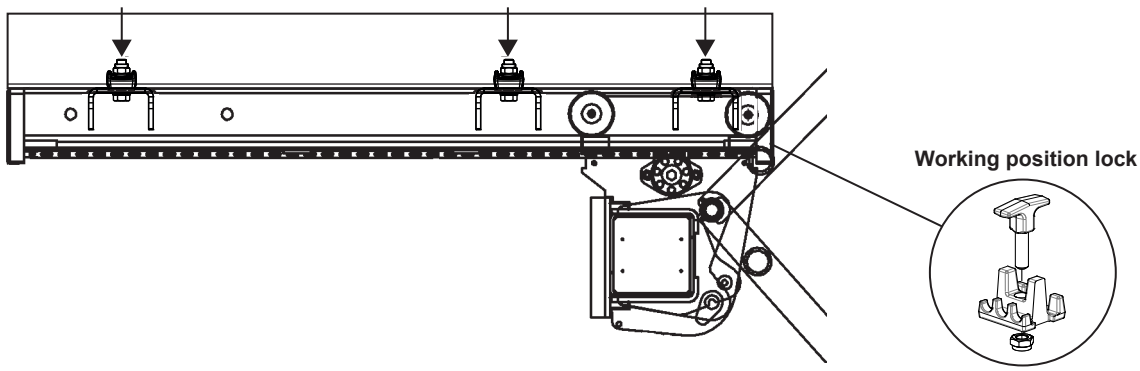
Position the lift under the trailer frame. Bring the lift into position.
Adjust the slide profiles so it is in the centre of the trailer chassis. Make sure there is no dirt between slide bracket and I-beam during adjustment .
Place clamping brackets (6 pieces on each side) according to the picture. Screw the lift securely with the torques indicated.

After installation and load test, the screws on the clamping bracket have to be re-torqued once more, as well as after 2-4 weeks of use.

In order for the under run protection to be valid, the slide profiles must be 'fastened' in either of the following ways:-
Eg. 1 Weld a lock plated (see diag.).
Eg. 2 Drill hole and screw in a locking nut/ bolt (se diag.).

Fit the support frame to the trailer chassis using the clamps.

Torque 180 Nm.

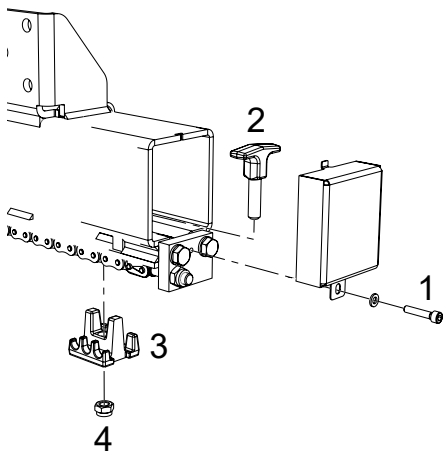


Mounting of working position lock

If the lift has no working position lock and the stopping piece against the rear end of the sled profile does not match tothe lift's working position (refer to page 23), the working position lock (art. no. 56280) must be mounted so that the distance between the bridge and the cabinet is correct.

The working position locks are always mounted in pairs (left and right), and at equal distances from the end of each profile (count links from the edge).

1. Unscrew and remove the protective end cover from the transport profile.
2. Insert the T-shaped stopping pin into the transport profile's groove.
3. Hook into position the lower part of the lock onto the chain that provides the correct working position.
4. Fasten with a nut. **Torque setting 50 Nm.**
5. Screw the protective end cover back into position.



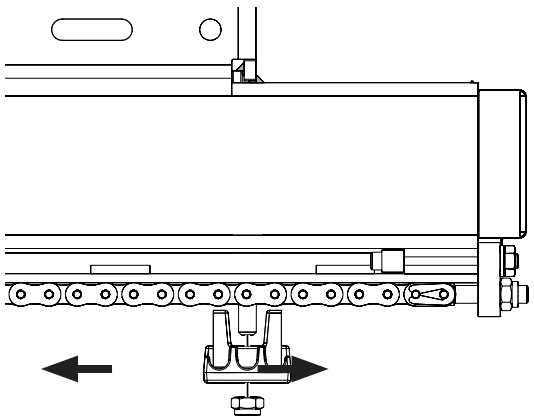
NOTE!

Working position locks must not be used to achieve a stop in a position other than the working position.

Setting of working position lock

If the working position lock stopping piece does not match the working position of the lift (refer to page 23), the locks positions must be changed. The left and right working position locks are always mounted at equal distances from the end of each profile (count links from the edge).

1. Unscrew the nut that holds the respective working position lock.
2. Move the working position lock to a position that provides the correct working position.
3. Hook into position the lower part of the lock onto the chain.
4. Fasten with a nut. **Torque setting 50 Nm.**



NOTE!

Working position locks must not be used to achieve a stop in a position other than the working position.

4. Slider installation

ZS/ZSS/ZD-150/200/250

General

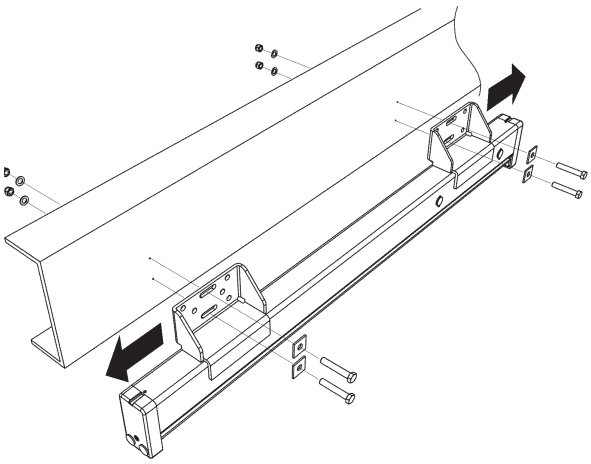
The ZS sliders with single folding platforms and ZD sliders with double folding platforms are identical except for the addition of a roll arm on the ZD models to aid the folding out of the platform. The roll arm is installed at the factory.

These slider lifts are premounted to a great extent at the factory. The work to be carried out before the lift can function is limited to :

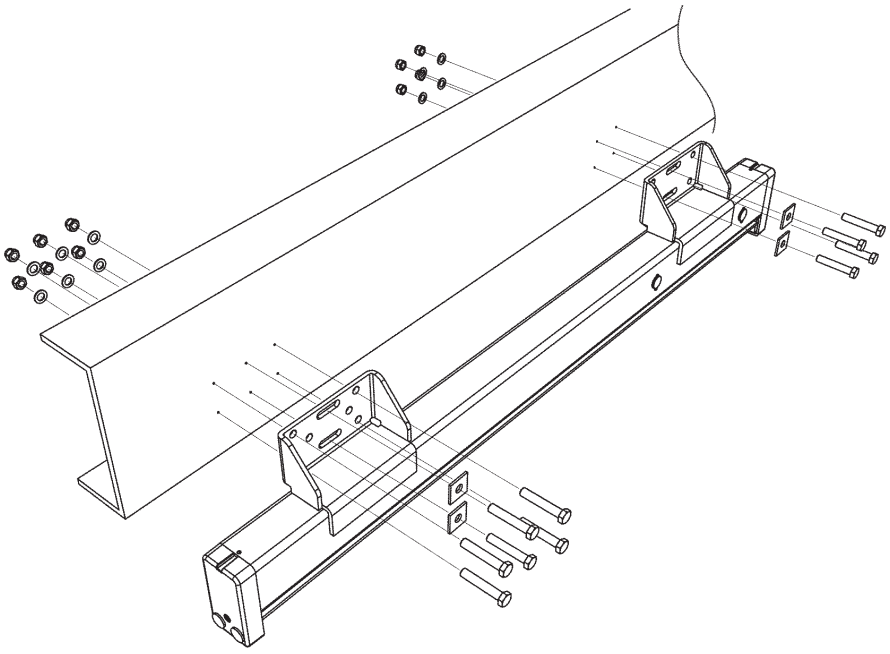
1) attaching lift to the vehicle chassis,
2) attaching the platform
3) connecting the lift battery cable + cabin switch
4) installing the control units

Installing the slider frame

The installation is very simple if you follow the instructions for the positioning of the slider profiles in section 4. The slide profile mounting brackets are screwed into the outside of the truck chassis frame as on a standard lift installation **(see pict 2)**. The first bolt in each bracket should be bolted through the slot thus allowing subsequent adjustment **(see pict 1)**. **Holes for the other bolts must be drilled after the final position adjustment is made**, this is after test running the lift and platform. Bottom of the slider frames should be in alignment with bottom of vehicle frame.



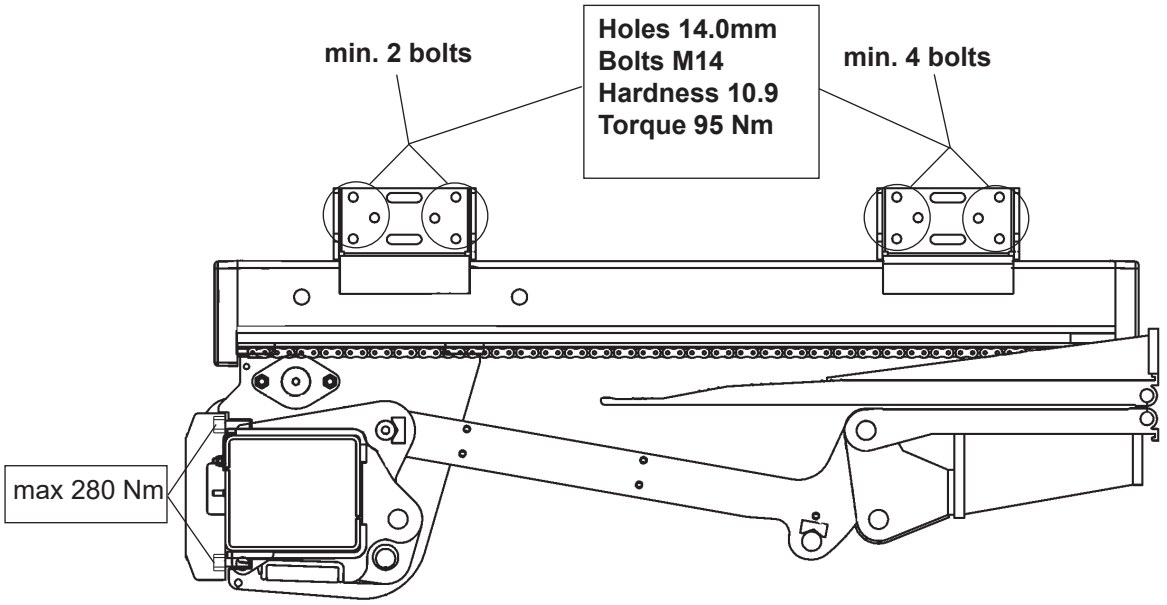
Pict 1



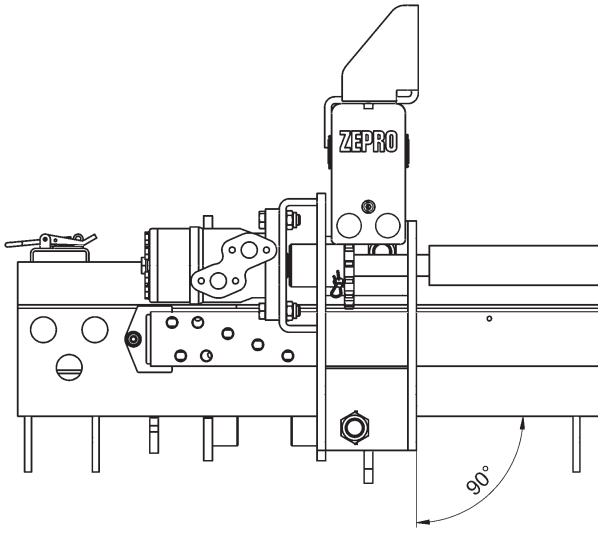
Pict 2

4. Slider installation

ZS/ZSS/ZD-150/200/250



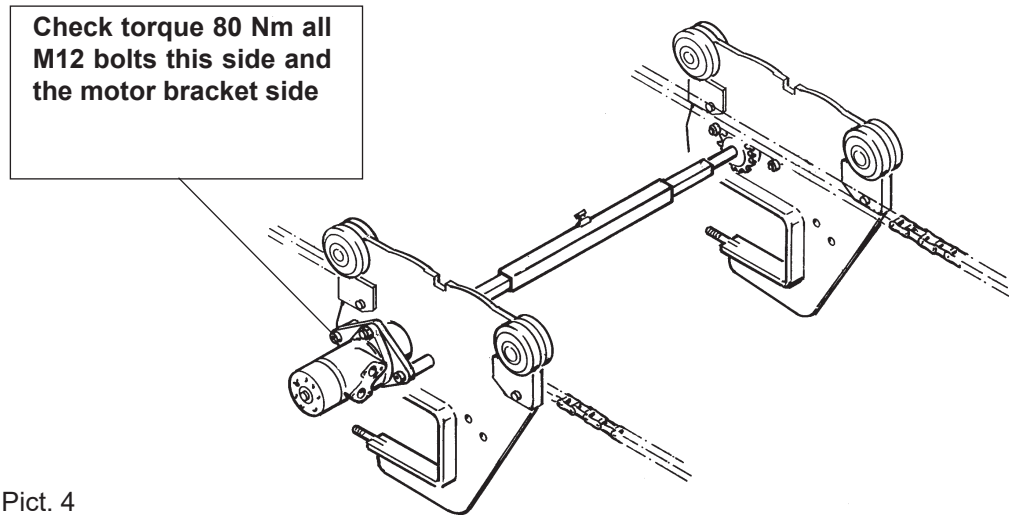
NB. All holes except for those for the bolts through the slots should be drilled after test running the lift. Thus, the slide can be adjusted if necessary by movement in the slot.



Pict. 3

ZSS/ZTS-150/200/250

NB. The mounting bracket fastening plate should be installed perpendicular to the support frame. Any imprecision will result in an increased risk that the chain wheel does not run straight along the chain which will result in unnecessary wear and noise.



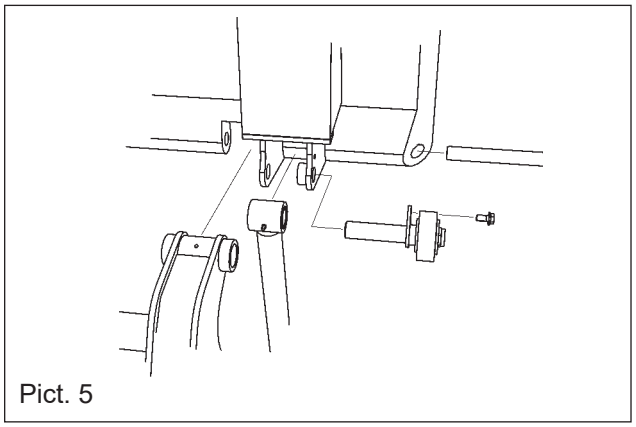
Pict. 4

4. Slider installation

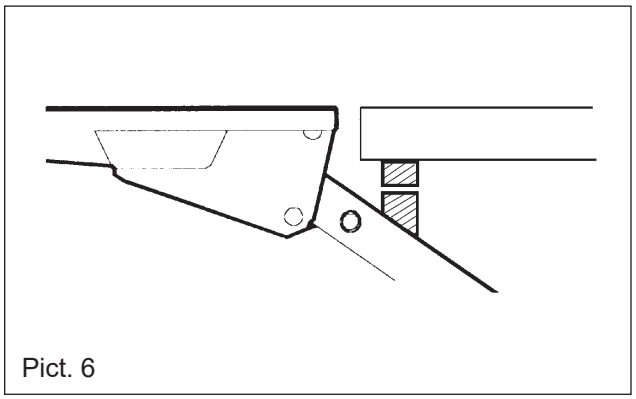
For fixed part of the aluminium platform , place the lift arm in its slot in the platform then push in the axle bolts and fix them with the locking screws. Bolt the tilt cylinders to the platform bracket **(see pict. 7)**.

Install armstops **(see pict. 6)** for both arms at the rear beam. Install them equal on both sides so they meet the liftarms at the same time. The stops must reach as high up as possible on the liftarm.

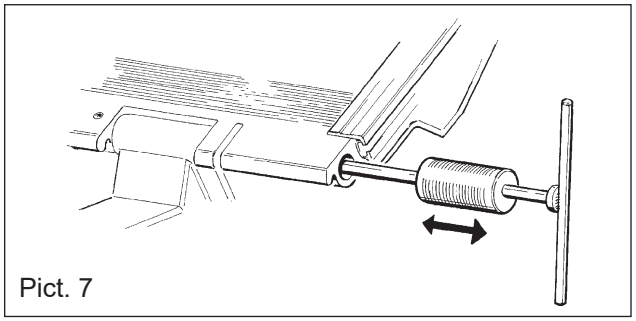
Test run the lift carefully. Fine adjust the position of the slide profiles (forwards or backwards) if necessary.



Pict. 5

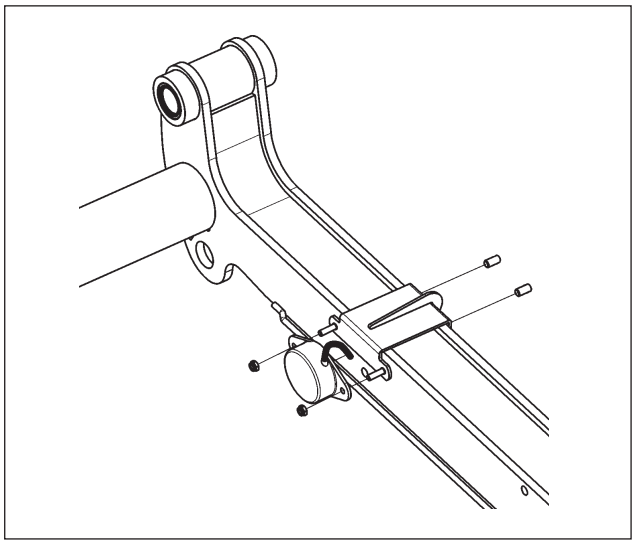


Pict. 6

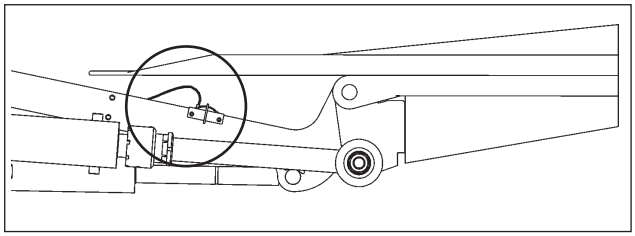


Pict. 7

Hydraulic Automatic Tilt
When hyd. auto-tilt is installed the angle sensor should be installed on the lift arm as in the diagram



Check that the platform can be folded with out any conflict between platform and angle sensor.



4. Slider installation

Adjustment of tilt down angle.

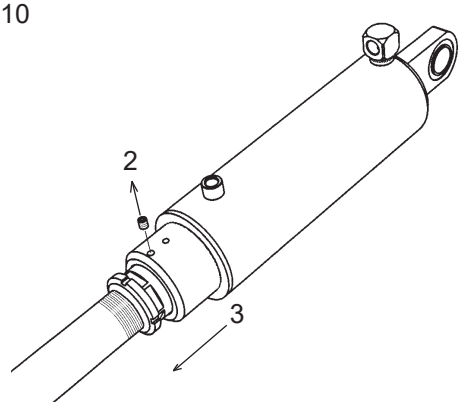
Run the lift up so that the lift is at the floor level, see pict 9.

Loosen the ring's lock screw (2). Screw the ring out in the direction of the platform (3). See pict 10.

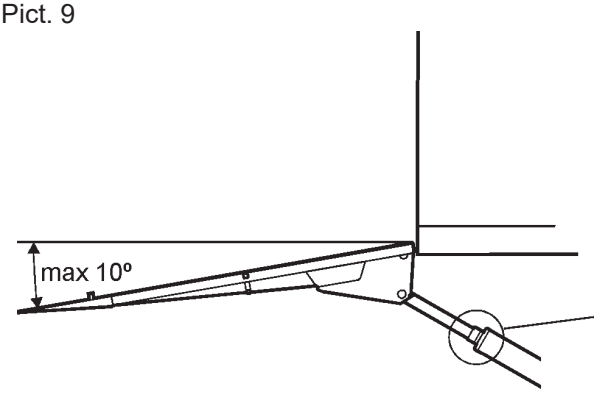
Tilt down the platform to maximum 10 degrees under horizontal (or any other required tilt angle).
As per pict 9.

Adjust the ring to the top of the cylinder (4).
Tighten the lock screw in the ring (5). See pict 11.
Test run all functions.

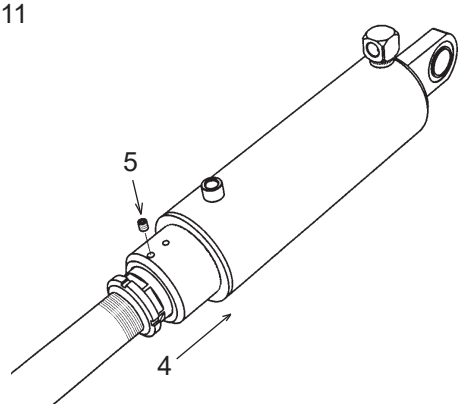
Pict. 10

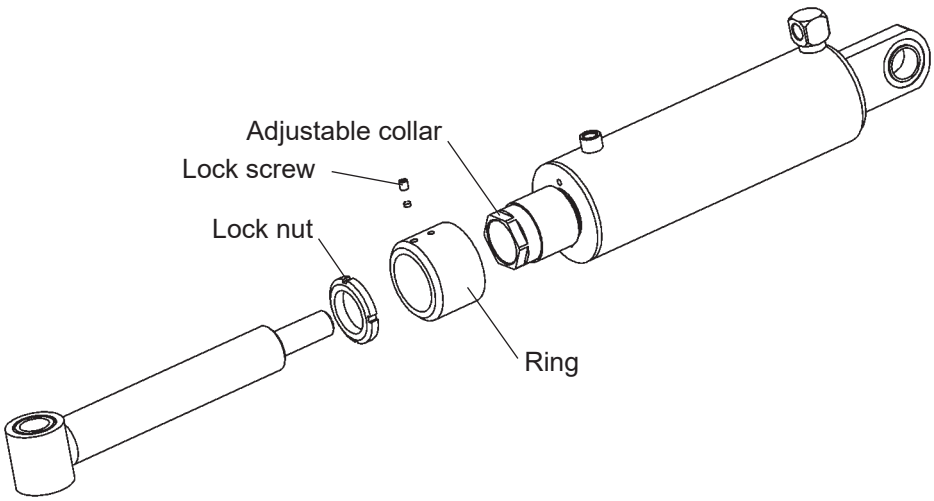


Pict. 9



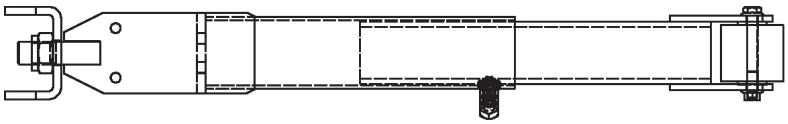
Pict. 11



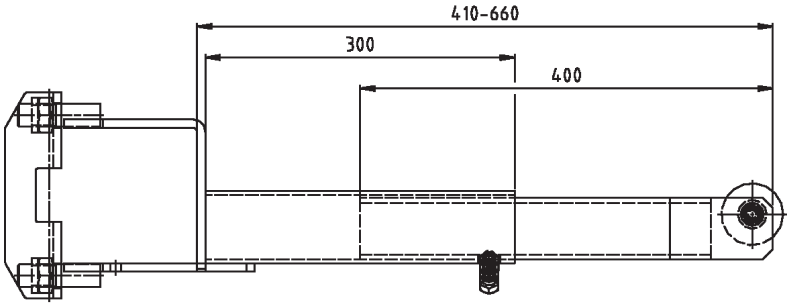


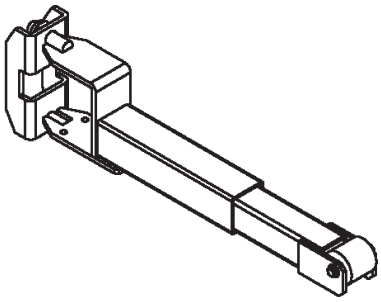
4. Slider installation

For ZD models



ZD models with double folded platforms have an adjustable roll arm attached to the support frame to aid folding out of the platform. This is installed at the factory but should be adjusted 410-660 mm after platform installation.





Control devices

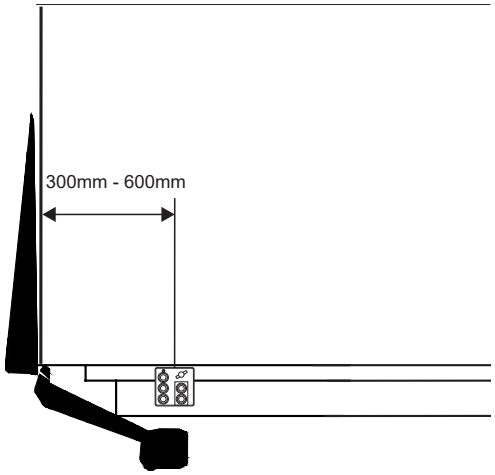
1. Fit the control devices in the desired locations. They must be positioned so that the operator is in the safest possible location and has a clear view of the load, the tail lift and the surrounding area.

2. The distance between the vehicle's rear edge and the centre of the controllers must be between 300 mm 600 mm. See image.

NOTE.

All cable inlets must be pointing downwards.

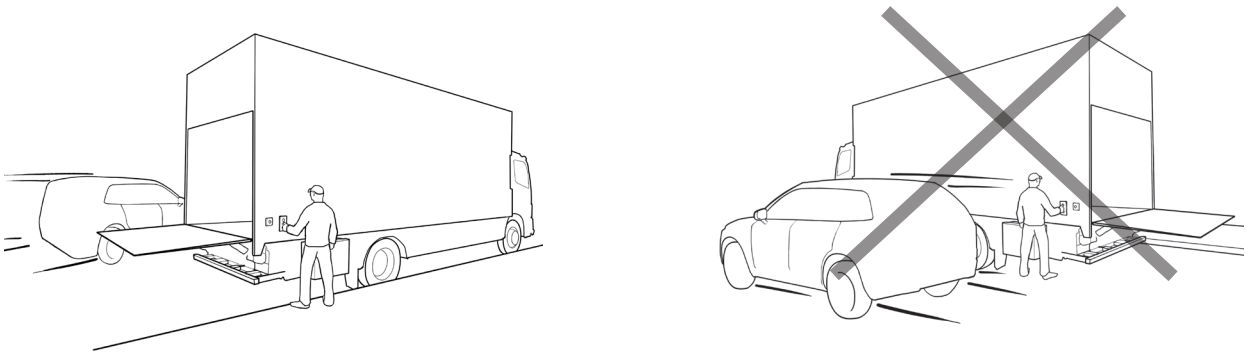
3. The control device's cable is connected to the control card.



Installing the control device.

⚠WARNING!

A controller must always be fitted on the side that is facing away from traffic in motion. If there is a need for a controller on the opposite side, a further controller must therefore be fitted. Fitting on the other side involves increased risk of injury.



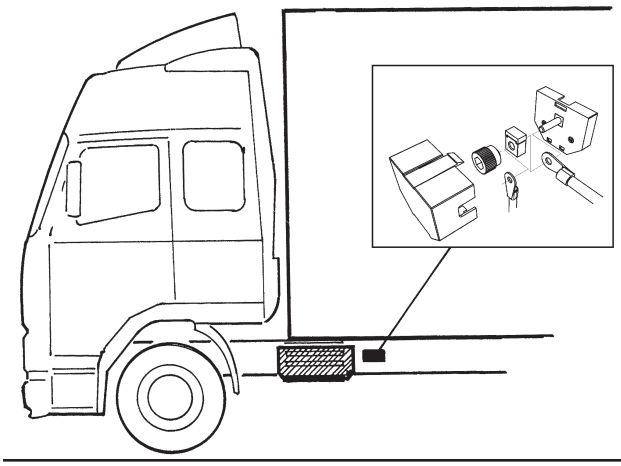
Installing control device

5. Electrical installation

Please refer to the instructions for electrical installation regarding ancilliary equipment from your vehicle supplier.
Install control units at suitable places, but the position of the control unit should ensure that the operator has a good view of the load, the working area and the loading area, whilst maintaining a safe distance from the risk zone between the platform and the body. Note that all cables must be connected from below so that water can´t get into the units but condensation can drain out.
Fixed control units are normally electrically heated. The heating cable must be well earthed. Note that 12 V (black) and 24 V (red) has different heating cables.

All control units must be connected in parallel.
The control cable is connected to the circuit card in the connection unit (see electric diagram).
Install the control current cable from the dashboard of the truck according to the customers requirements. The control current swich should be located so it is possible to be reached from the ground 10 A (24 V), 15 A (12 V) fuse between the current source and the switch.
The control current cable is connected to a fixed control unit. You can fasten the cable together with the main cable to the hydraulic unit.
Connect the main power cable to the starter motor (B+) of the truck, never to the battery. The cable should be protected with a plastic sheath. It must not be fastened together with brake pipes or other electric cables of the truck. When passing through holes the cables must be protected with rubber bushings.
A 160 A (24 V) or 250 A (12 V) fuse is to be installed on the main power cable running from the battery compartment**. This acts to protect the electrical systems from overloading and the risk of fire

**Note! The fuse should be placed on a well protected place and as near as possible to the battery.



If you have a spiral cable unit, its cable colours are different (see electric diagram):
If you want an electrically heated spiral cable unit you can order a 5 - part cable (spare-part no 21303). Note that the spiral cable unit must have its fastening plate for the wall (spare-part no 20302).

Check that the hydraulic unit is well earthed according to truck manufacturer´s instructions.

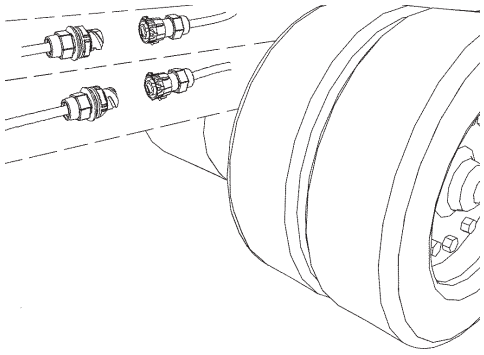
If you must lead a spiral cable up through the floor you must protect it with a sheath up from the floor.
If you need to use power from the circuit card +ve connection point a fuse must be installed, eg. overload alarm 7.5 Ampere.

Test run all functions from all control units.

Alarm for open platform
The alarm consists of a warning lamp (which should be placed clearly visible in the driver cabin), which illuminates when the ignition key is turned on, and the lift platform is not pressed up against the underside of the chassis
The device consists of:
*Pressure guard placed on the lift cylinder circuit.
*Cable to the dash board
*Fuse
*Warning lamp 12 alt. 24 Volt

Alarm for open platform (trailer)
The alarm consists of a warning lamp (which should be placed on the body of trailer, clearly visible so that the driver can see it in the rear mirror), which illuminates if the lift platform is not pressed up against the underside of the chassis
Anordningen består av:
*Pressure guard placed on the lift cylinder circuit.
*Cable to the dash board
*Fuse
*Warning lamp 12 alt. 24 Volt

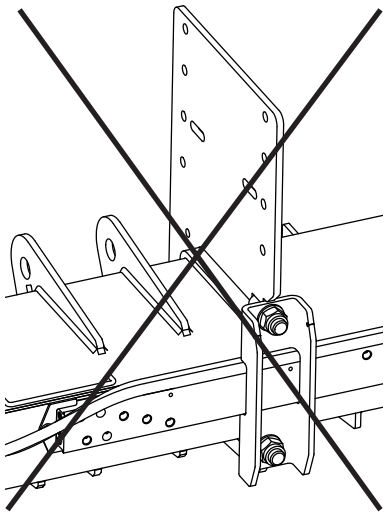
NB. The quick connectors must be well protected and should be positioned inside the vehicle chassis.

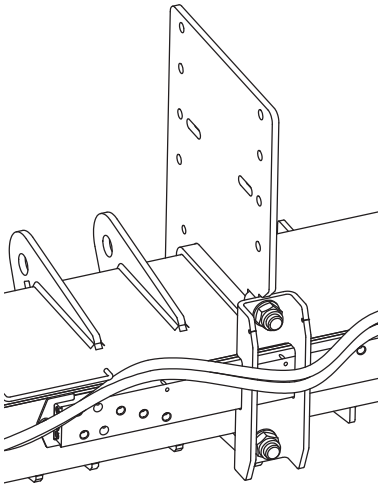


5. Electrical installation

Cable routing of earth and supply cable to the lift.

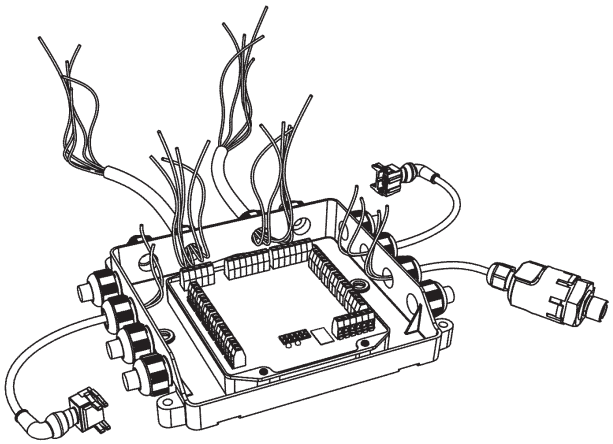
Due to the risk of cables being pinched and / or damaged which can lead to short circuits and cable fire, the earth and supply cable should be mounted outside the clamping bracket (see photos above). They must also be sufficiently far away from edges so there is no risk for abrasion.
Also make sure that the routing of cables is done with similar care to avoid damage from contact with edges of the frame and other parts of the vehicle. This will increase the life of the cables and reduce the risk of unnecessary downtime





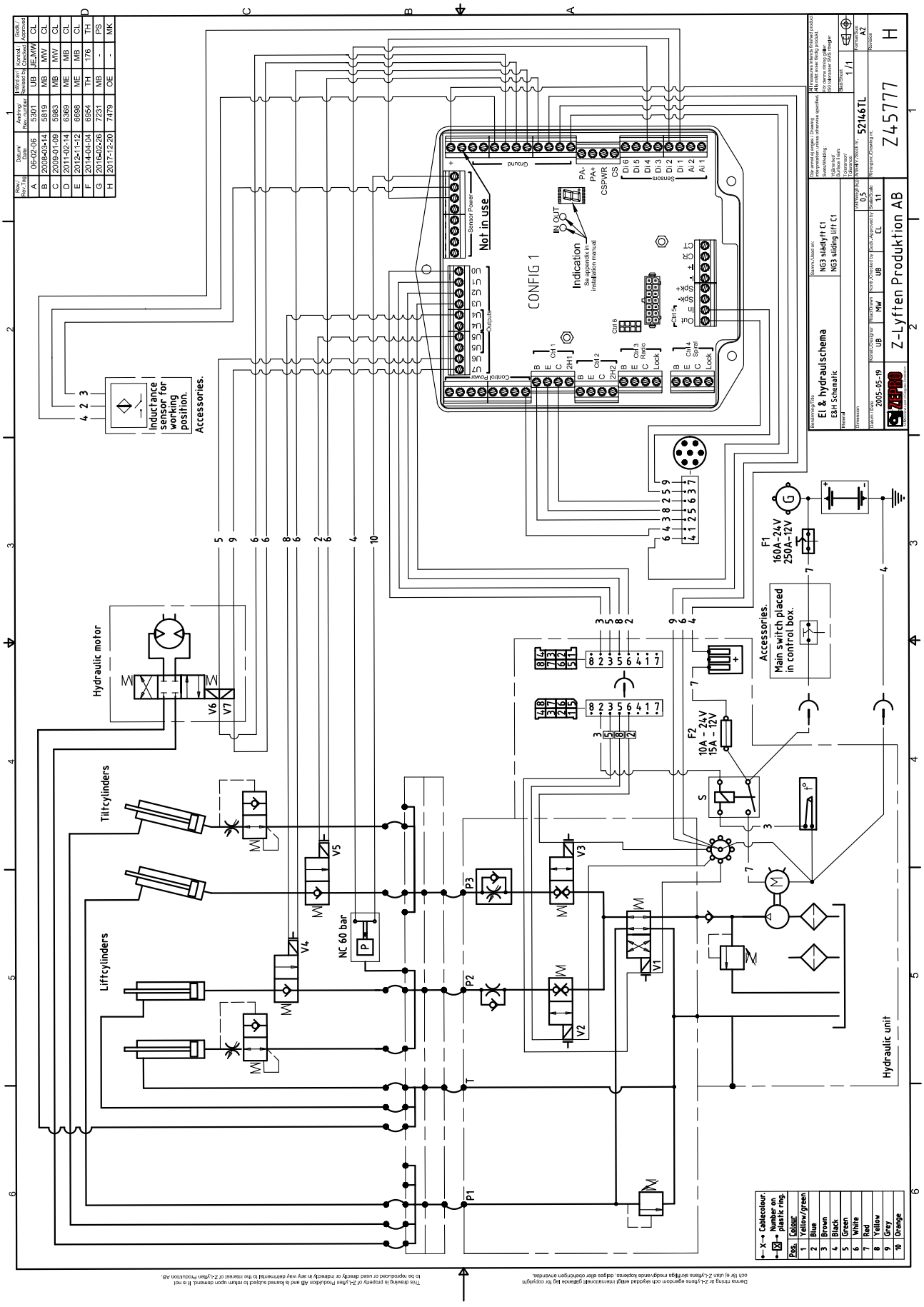
Connection of non-original components on zepro tail lifts

It has always been forbidden to connect foreign equipment (both electric and hydraulic) on all Zepro tail lifts. Using non-original components can affect tail lift safety. If it's really important for you to make such installations please check with the vehicle manufacturers installation instructions and use the trucks capabilities.



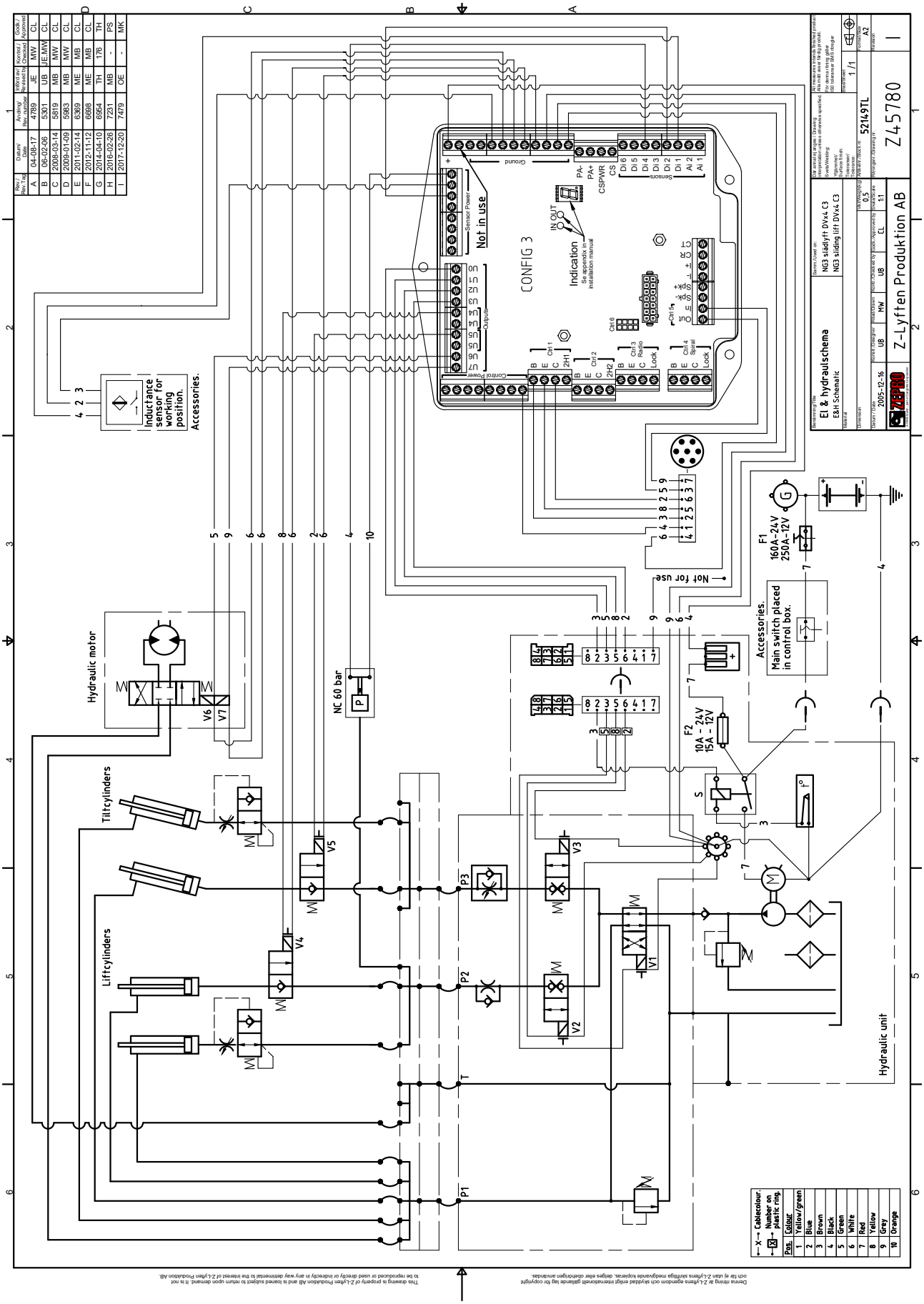
6. Electric and hydraulic diagram

ZS/ZD/ZSS/ZT/ZTS-150/200/250 ML



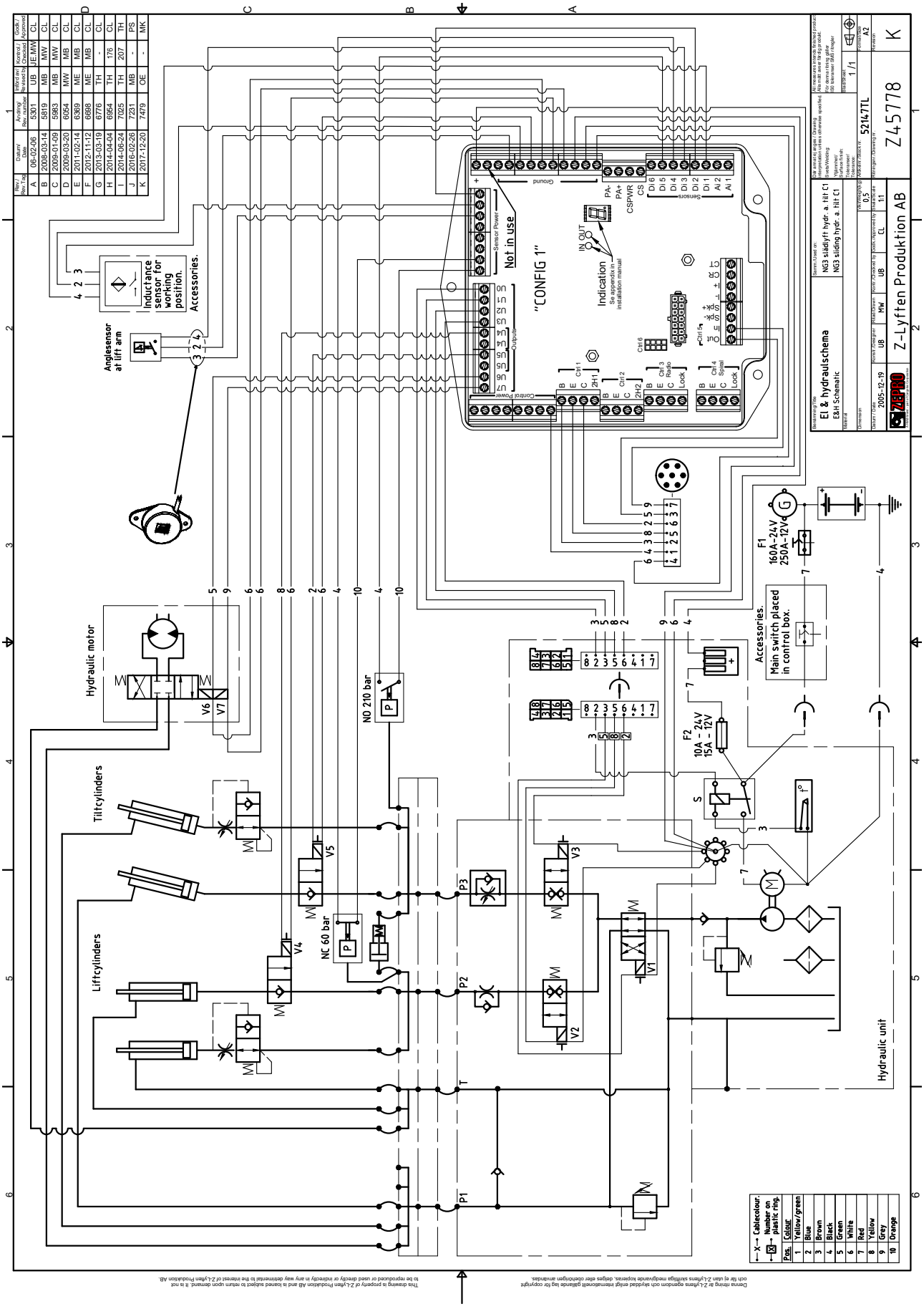
6. Electric and hydraulic diagram

ZS/ZD/ZSS/ZT/ZTS-150/200/250 DL



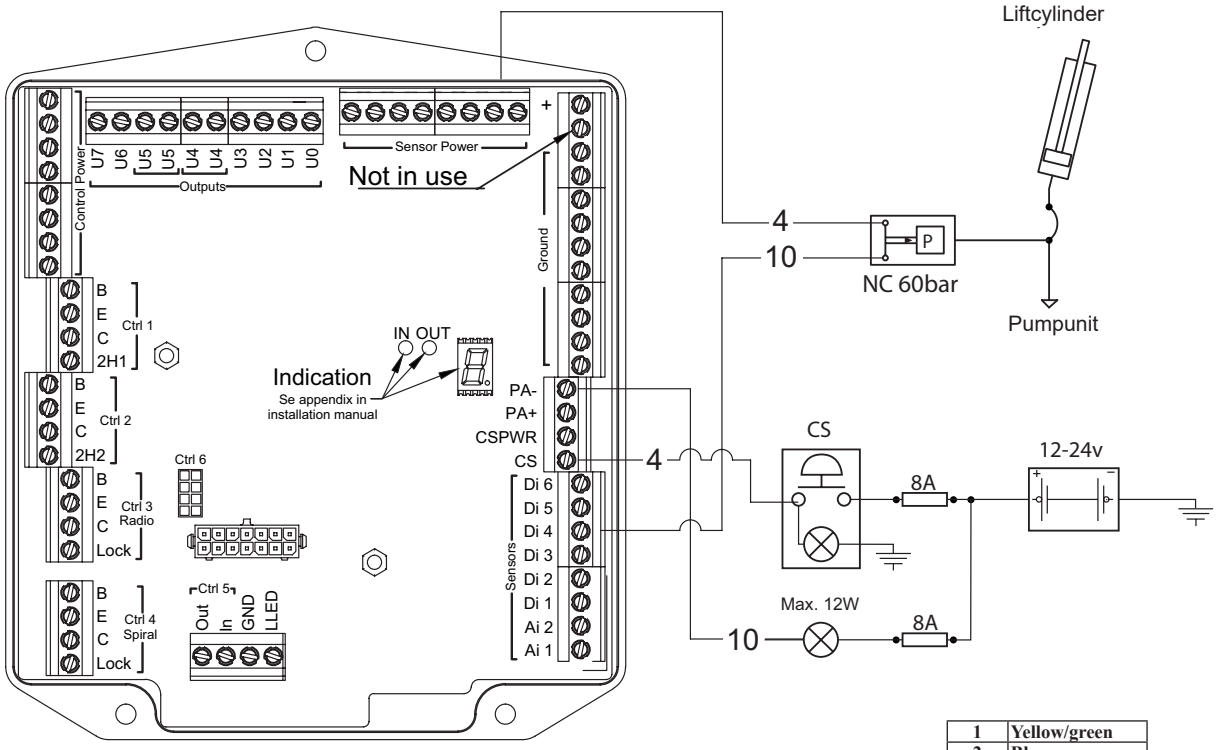
6. Electric and hydraulic diagram

ZS/ZD/ZSS/ZT/ZTS-150/200/250 ML, with hydraulic Auto-Tilt



6. Electric and hydraulic diagram

Cabin switch, Alarm for open platform

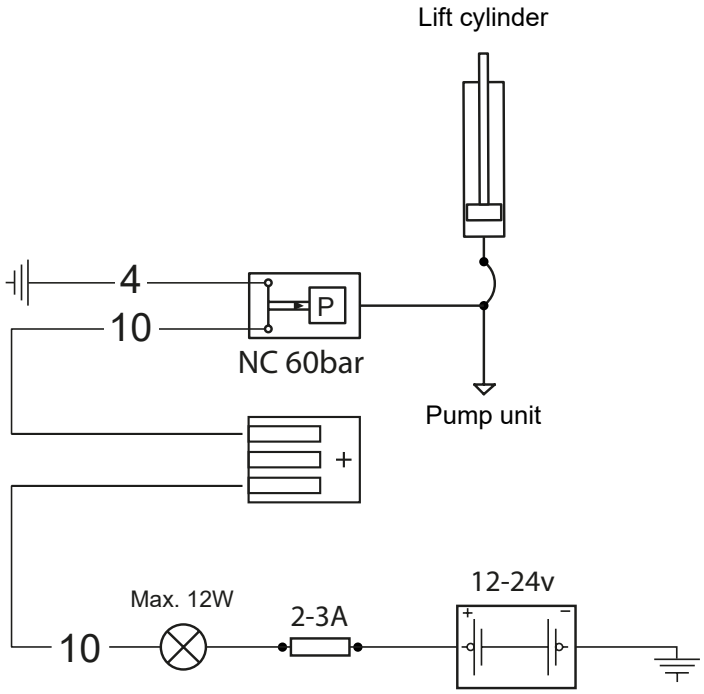


1	Yellow/green
2	Blue
3	Brown
4	Black
5	Green
6	White
7	Red
8	Yellow
9	Grey
10	Orange
11	Purple
12	Pink

6. Electric and hydraulic diagram

Reconstruction for Alarm open bridge with main switch

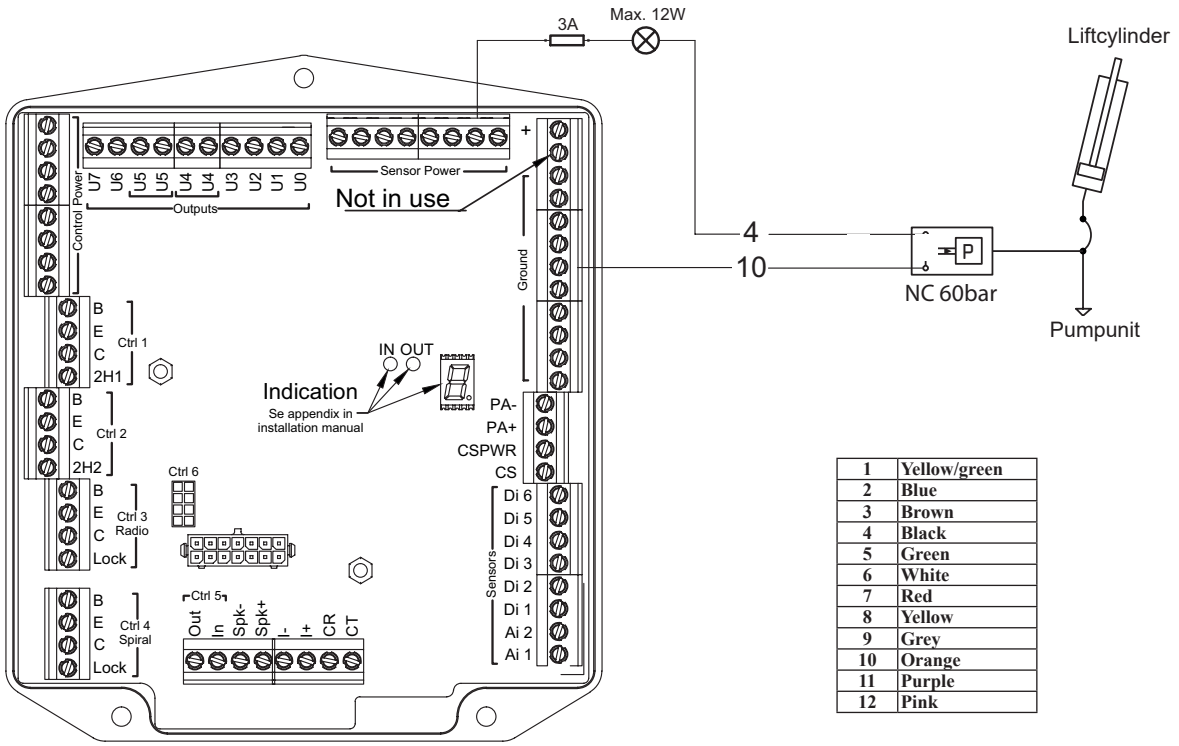
If the lift is fitted with a main switch, reconnection must be effected as shown below in order for an Alarm open build to function with the main switch off.



Pos.	Color
1	Yellow/green
2	Blue
3	Brown
4	Black
5	Green
6	White
7	Red
8	Yellow
9	Grey
10	Orange
11	Purple
12	Pink

6. Electric and hydraulic diagram

Alarm for open platform (trailer)



1	Yellow/green
2	Blue
3	Brown
4	Black
5	Green
6	White
7	Red
8	Yellow
9	Grey
10	Orange
11	Purple
12	Pink

ZEPRO recommends that a strobe lamp/light placed on the trailer body exterior represents the alarm indication, clearly visible so that the driver can see it in the rear mirror

The light must be of amber color.

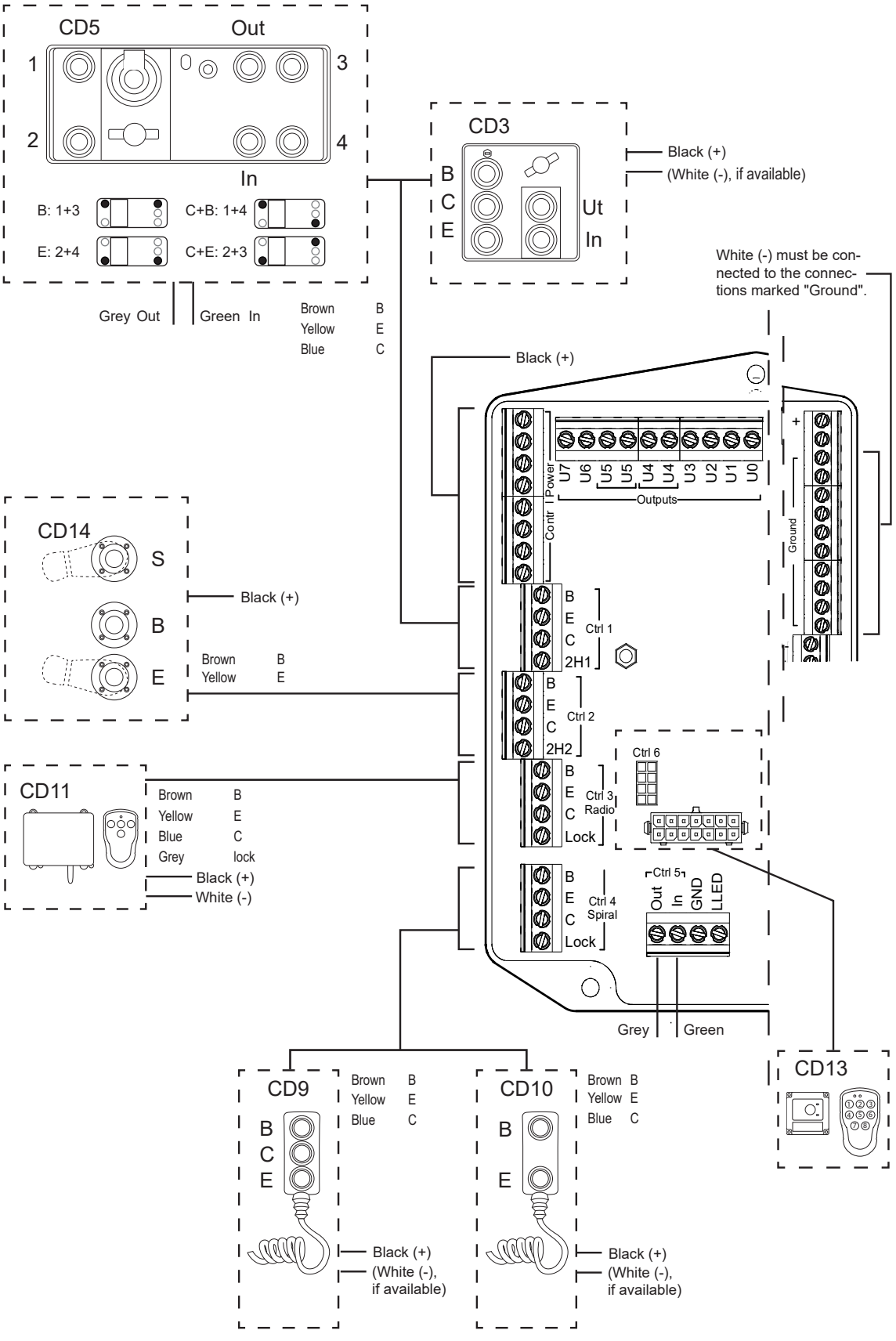
Connect the lamp/indicator according to the electric diagram.

3A fuse connected between the circuit card and the pressure switch.

6. Electric and hydraulic diagram

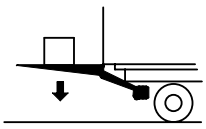
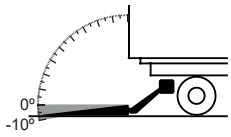
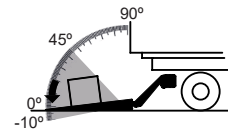
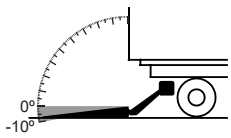
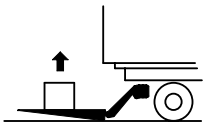
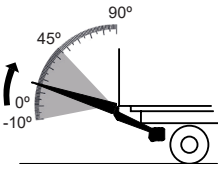
Connecting control device

The most commonly occurring control device (CD) models are shown below. Possible control device models vary depending on lift model, configuration and relevant market.



7. Functional schematic drawing

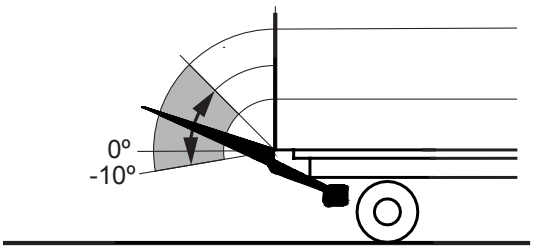
ZS/ZD/ZT/ZTSZSS 150-200 (Config 1)

Function		Input signal high	Input signal low (0V)	Output signal	Comment	Control device	Illustration
Lower	1	E	Di3	U1+U2+U4		Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4 Ctrl 6	
	2	E+Di3*		U1+U2+U4+U5	Autotilt down	Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4 Ctrl 6	
Tilt down		C+E+Di2		U0+U1+U3+U5		Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4 Ctrl 6	
Raise		B		U0+U2	Autotilt up	Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4 Ctrl 6	
		B		U0+U2		Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4 Ctrl 6	
Tilt up	1	B+C+Di2		U0+U3	Tilting up to approximately 45º.	Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4 Ctrl 6	

* Only required at start of motion; after change of sensor, it is ignored until a re-run takes place.

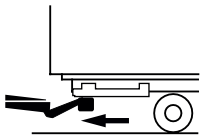
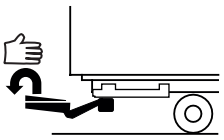
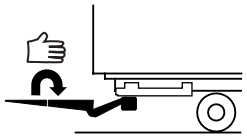
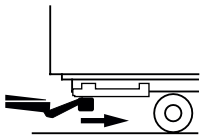
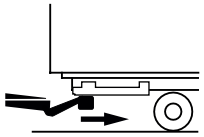
Restriction in use of control device

Tilt up/down



All available control devices can be used over the entire working area.

7. Functional schematic drawing

Function		Input signal high	Input signal low (0V)	Output signal	Comment	Control device	Illustration
Slider out		Out		U0+U1+U6		Ctrl 5 Ctrl 6	
					Platform is folded out manually		
					Platform is folded in manually		
Slider in	1	In	Di1	U0+U1+U7	Normal	Ctrl 5 Ctrl 6	
	2	C+In+Di1*		U0+U1+U7	Safe	Ctrl 5 Ctrl 6	

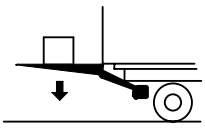
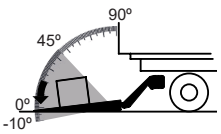
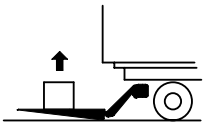
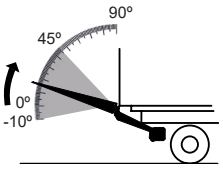
* Endast krav vid start av rörelse, efter omslag av sensor ignoreras den till dess att omtag sker.

Sensor (Config 1)

Di1			Not in use on this lift model and should not be connected.
Di2	Platform	Angle sensor	Non-actuated Di3 disables Tilt up with the secondary control device so that the operator must use the two-hand button - 2H along with the primary control device in order to continue to maintain the tilt up function.
Di3	Liftarm	Angle sensor	For Autotilt, safety function.
Di4	Tiltcylinder	Alarm for open platform	Pressure sensor for falling pressure connected to +side of lift cylinder. In the actuated state, returns the connection signal (+) to Di4 and resulting in output signal (-) at Pa-. Also phase (+) signal out at Pa+.
Di5			Not in use on this lift model and should not be connected.
Di6			Not in use on this lift model and should not be connected.
Cs	Cabin	Activation	No signal in at Cs results in blocked control device terminals. Signal to Cs usually comes from the cabin switch. In individual cases where the cabin switch is not used, the (+) signal comes in to Cs jumpered from (CS PWR) on nearby terminal.
2H	Control devices	Two-hand button	Activated in connection with opening and closing of vehicle body. Used for Quick opening.

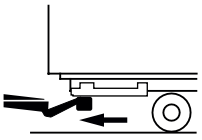
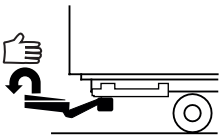
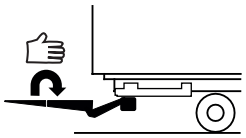
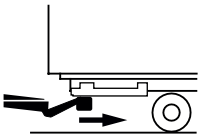
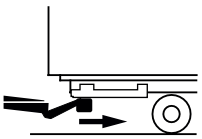
7. Functional schematic drawing

ZS/ZD/ZT/ZTSZSS 150-200 (Config 3)

Function	Input signal high	Input signal low (0V)	Output signal	Comment	Control device	Illustration
Lower	E		U0+U1+U2+U4		Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4	
Tilt down	C+E		U0+U1+U3+U5		Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4	
Raise	B	Di5	U0+U2		Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4	
Tilt up	B+C	Di5	U0+U3	Tilting up to approximately 45º.	Ctrl 1 Ctrl 2 Ctrl 3 Ctrl 4	

* Only required at start of motion; after change of sensor, it is ignored until a re-run takes place.

7. Functional schematic drawing

Function		Input signal high	Input signal low (0V)	Output signal	Comment	Control device	Illustration
Slider out		Out		U0+U1+U6		Ctrl 5 Ctrl 6	
					Platform is folded in manually		
					Platform is folded in manually		
Slider in	1	In	Di1	U0+U1+U7	Normal	Ctrl 5 Ctrl 6	
	2	C+In+Di1*		U0+U1+U7	Safe	Ctrl 5 Ctrl 6	

* Endast krav vid start av rörelse, efter omslag av sensor ignoreras den till dess att omtag sker.

8. Connection unit

Power save mode

If the control card is not used for a certain amount of time, it goes into power save mode.
Time with CS off = 5 min - CS on = 20 min. With CS on, press any control button for approx. 0,5 seconds to "wake up" the control card again.

Operating information

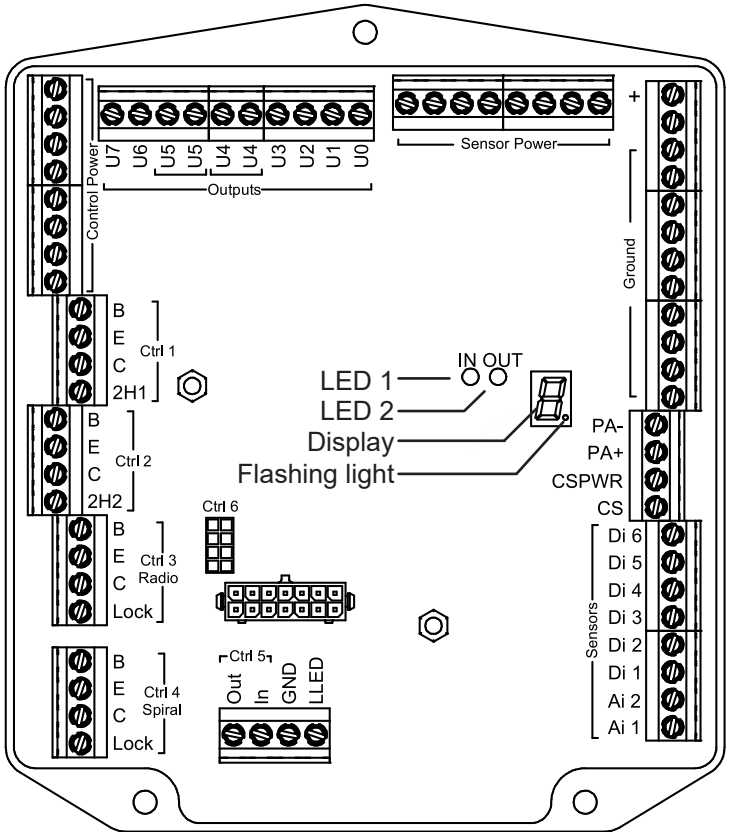
All the lift's functions are controlled and monitored through the control card, which is equipped with an alphanumerical display with a flashing light and 2 red LEDS. These display current operating information. In the event of any operational disturbances, fault codes are displayed to facilitate troubleshooting.

The display indicates:
- Active control device
- Fault display
- Program configuration
- Sensors' current status

Flashing light indicates:
- Supply voltage
- Off: No supply voltage
- On: Supply voltage available but CS (cabin switch) is not active.
- Flashing: CS (cabin switch) is active, the system is awaiting input signal.

LED 1 indicates:
- Active input, button(s) on control device pressed.

LED 2 indicates:
- Active output (approved input signal from control device and sensors), the lift is operated.



The control card is equipped with an alphanumerical display with a flashing light and 2 red LEDS

8. Connection unit

Information codes
Codes are shown on the display in a sequence. First a letter for identification of information, followed by figures or segments for further information and then ending with a pause:

When the CS (cabin switch) is switched on, the current program configuration (P) is displayed first, followed by configuration number. The number of volts detected is then displayed and, after this, the current software version (J), followed by version number.

As long as no control device is used, a scrolling sequence is then displayed, with sensor indication (C), followed by 0-6 segments showing which sensors have a signal.

When a control device is used, the control device being used (1-7) is displayed, followed by which button has been pressed, segments B, C, E or X (X symbolises the 4th button on the respective control device (2h1 for fixed control device 1, 2h2 for fixed control device 2, lock knob for radio control device and coil control device).

The control devices are symbolised by the figures 1-7

1	CTRL 1	Fixed control device 1, including two-hand button 2h1
2	CTRL 2	Fixed control device 2, including two-hand button 2h2
3	CTRL 3	Radio control device, External
4	CTRL 4	Coil control device
5	CTRL 5	Slider lift control device
6	CTRL 6	Radio control device, internal module
7	CS	CS (cabin switch)

Once a button has been released, the control system for the current control device is locked for a while to ensure that no other person operates the lift from another control device. During the period the control system is locked for the current control device, its number (1-7) will flash on the display. This primarily applies to radio and coil control devices, as other control devices have such a short locking period that there is hardly time to see the indication.

Coil control devices can be equipped with a locking function. Once the control device has been used, the control system is locked for the current control device until it is unlocked manually from the respective control device's deactivation button. With some configurations, however, the coil control device can, for safety reasons, always tilt the platform down in the event of the operator getting shut inside.

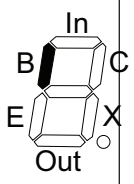
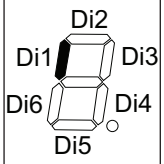
The radio control device is also equipped with a locking function. The control system can then be locked/unlocked by pressing and holding button 5. The lock's status is indicated by the locking function LED, which comes on when the lock is activated. In the event of a fault in the remote control, unlocking can be performed by turning the control power (CS) Off/On.

On certain remote control models the lift is locked again as soon as a button on the remote control is pressed when the lift is unlocked through the control power being turned Off/On.

NOTE.

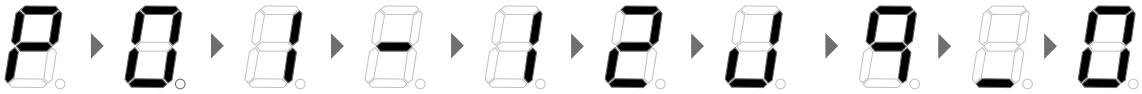
The lift remains locked if it loses power and is then started up again, and the number 6 flashes on the control card's display. Unlocking is performed as described above.

8. Connection unit

Information codes					
Identification	**Code 1**	**Code 2**	**Code 3**	**Information**	**Other**
P (Program configuration)	00–99			Cancelled configuration	
		-		Dividers	
			12/24	Number of volts detected	
J Software version	01–99	–	1-9	Version number	
1-6 (Fixed light) Active control device while operating	1-6			Fixed light (1-6) displays active control device during operation.	
		Segment B, C, E or X.		Segments B, C, E or X are illuminated depending on which button is pressed	
1-7 (Flashing) The control device for which the control system is locked for a while after completed operation.	1-7			Control device for which the control system is locked. This primarily applies to radio and coil control devices, as other control devices have such a short locking period that there is no time to see the indication. The number will stop flashing when one of the current control device's buttons are pressed. If the control card has been without voltage and receives the voltage again when the CS (cabin switch) is switched on, "7" will flash on the display and the control card is locked until the Off/On on the CS is operated. 1-6 = Ctrl 1-6 7 = CS	
C Sensor indication	Segment			1-6 segments indicate sensors. On - signal in. Off - no signal in. 0V. (See electrical and hydraulics diagrams for information about the location of the sensors).	

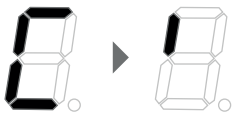
Example of sequence of information codes:

Program configuration: 01, Voltage detected: 12V, Software version: 09



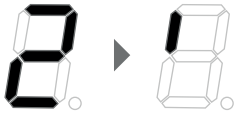
Example of sequence with sensor indication:

Sensor indication: C, Detected sensor: Di1



Example of sequence with control device indication:

Control device: 2, Detected button: B



Fault codes

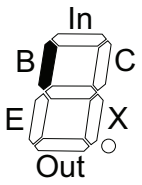
If a fault arises, the fault code is shown in the display in the form of a letter for identifying the fault, followed by numbers and/or number segments for further information, followed by sensor indication (C) in accordance with the previous page.

In fault codes E, F and U, the numbers (1-9) show which control device/output the fault code refers to.

1	CTRL 1	Fixed control device 1, including two-hand button 2h1
2	CTRL 2	Fixed control device 2, including two-hand button 2h2
3	CTRL 3	Radio control device, External
4	CTRL 4	Coil control device
5	CTRL 5	Slider lift control device
6	CTRL 6	Radio control device, internal module
7	CS	CS (cabin switch)
8	Control Power	
9	Sensor Power	

If the system discovers several faults, only the fault code for the fault with the highest priority will be shown automatically. The display is prioritised in the order in the table below, L/H, E, F, and A. To see all current faults, press and hold in button C on the control device.

When the CS is switched off, the system will browse through a list containing the five most recent faults detected before the display goes off after approx. 5 minutes, the control card then goes into power save mode.

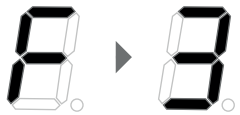
Fault codes					
Identification	**Code 1**	**Code 2**	**Code 3**	**Information**	**Other**
L Low battery voltage	07-35			Voltage measured	
H High battery voltage	07-35			Voltage measured	
E Control device locked	1			Fixed control device 1 (incl. two-hand button 2h1 if they are monitored)	
	2			Fixed control device 2 (incl. two-hand button 2h2 if they are monitored)	
	3			Radio control device, external	
	4			Coil control device	
	5			Truck slider control device	
	6			Radio control device, internal module	
	7			CS (cabin switch)	
		Segment		Segments B, C, E or X are illuminated depending on which button locks the control device.	
F Output short-circuited/high current	0-9			Which output has short-circuited/has high current. Fault code is reset automatically if the function in question is running (function verified).	1-7 U0-U7, displayed only after the respective output/function has been active. 8 Control power 9 Sensor power
Output not connected/cable breakdown	0-7			Which output is not connected/has cable breakdown. Fault code is reset automatically if the function in question is running (function verified).	Displayed only after the respective output U0-U7 has been active.
A Internal fault	0-			Any measurement faults are registered by the system.	Contact support if the lift does not function.

8. Connection unit

All fault codes can be reset manually by switching On/Off the CS (cabin switch). Fault codes F0-F7 and U0-U7 are reset automatically if the function in question is running (function verified). Fault codes L and H are reset automatically if the battery voltage becomes correct. Fault code E is reset automatically if the control system has not received any signal from the relevant control device for 6 minutes.

Example of sequence of fault codes:

Output No. 3 short-circuited.



Control devices

If a control device button is held down for too long, the control device is blocked and cannot be used for a number of minutes. Fault code E flashes on the display. The fault is also indicated on a non-active coil control device with a lock button, if this is connected to Ctrl 4. The LED on the coil control device then flashes the same number of times as the number on the control device in question, see the list in page 47. **Example:** Control device 2 is blocked, the LED on the coil control device then flashes twice, goes out for a moment, flashes twice again, etc.

Coil control device's LED	
Fixed light	The coil control device is active
Extinguished (weak glimmer)	The coil control device is not active
Flashing	One of the other control devices is blocked

Supply voltage

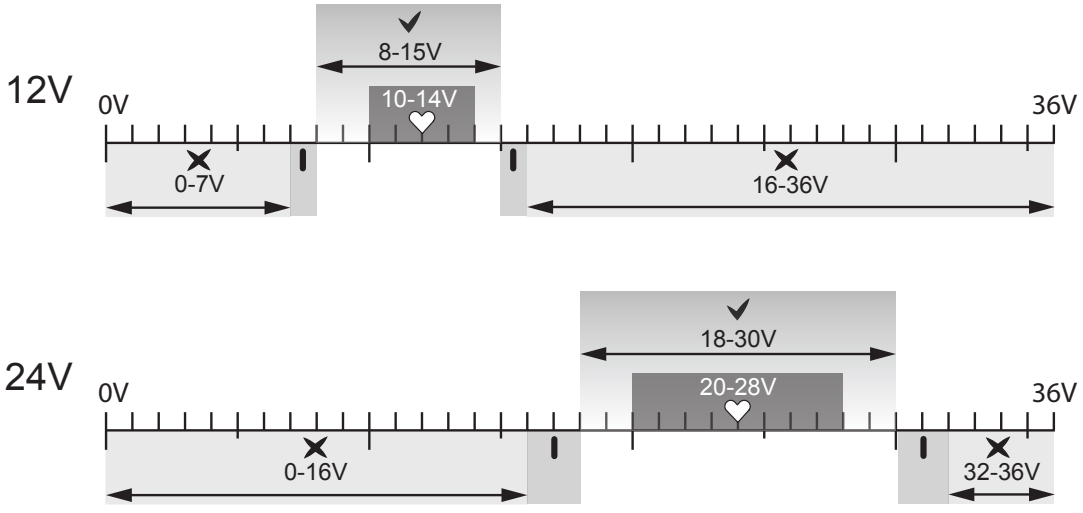
The illustrations below show the desired supply voltage for 12V and 24V systems. Specified voltage refers to voltage when the lift is operated. See also page 7.

✗ The lift is not working.

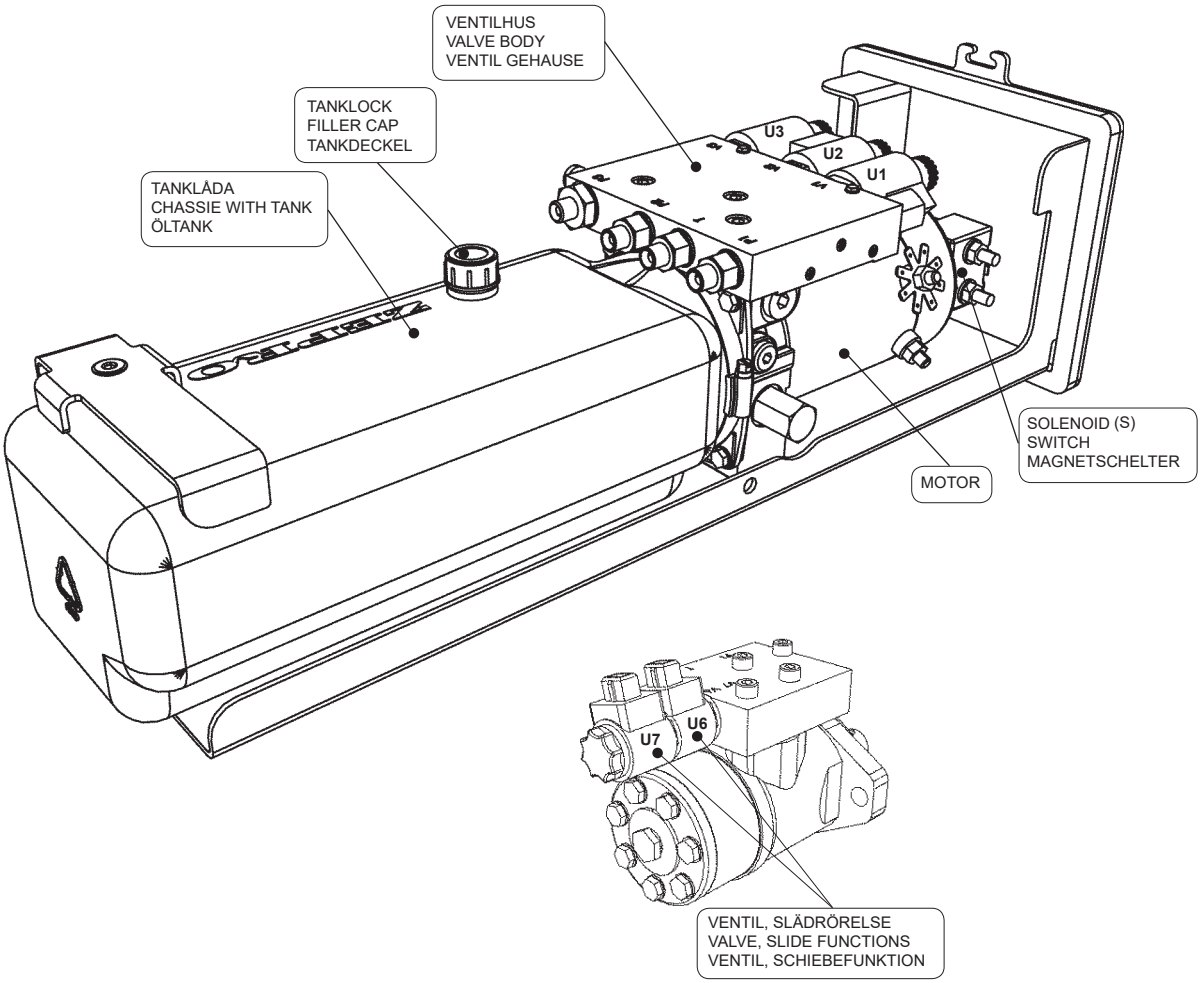
I The lift is working but is issuing a warning. This voltage range is only recommended for emergency operation.

✓ The lift is working, but the voltage range outside the 'heart-marked' area is only recommended for operation for short periods.

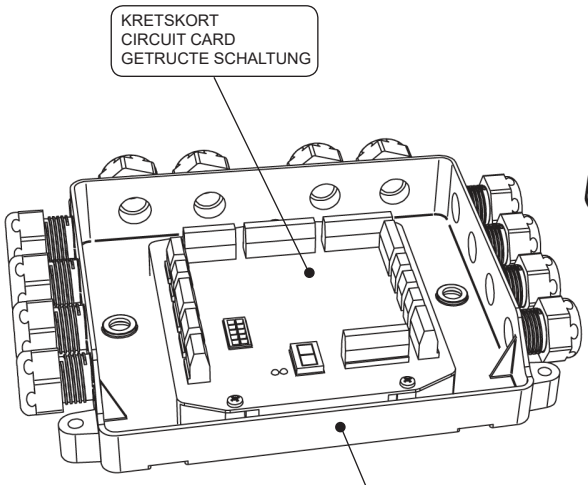
♡ The lift is working within the voltage range for optimum function and service life.

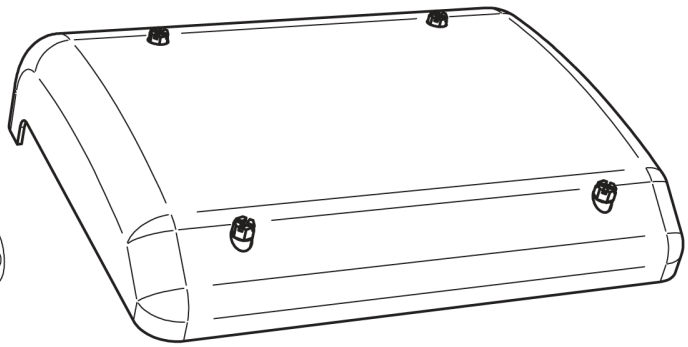


8. Connection unit



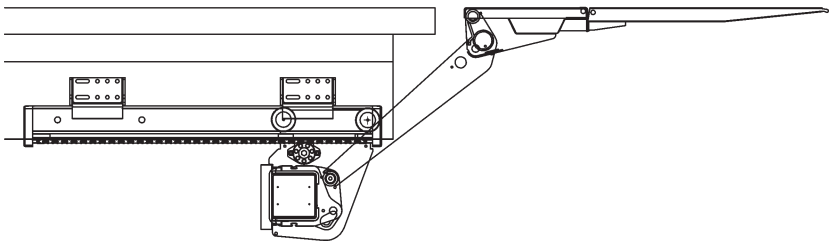
VENTIL, SLÄDRÖRELSE
VALVE, SLIDE FUNCTIONS
VENTIL, SCHIEBEFUNKTION



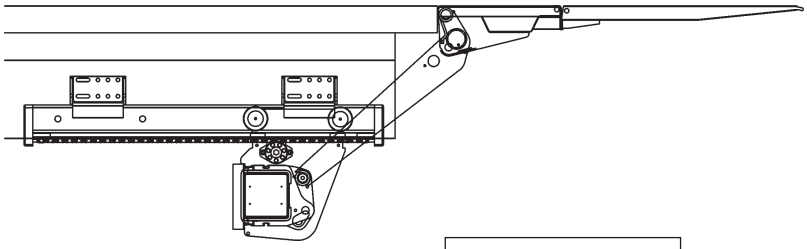


9. Accessories

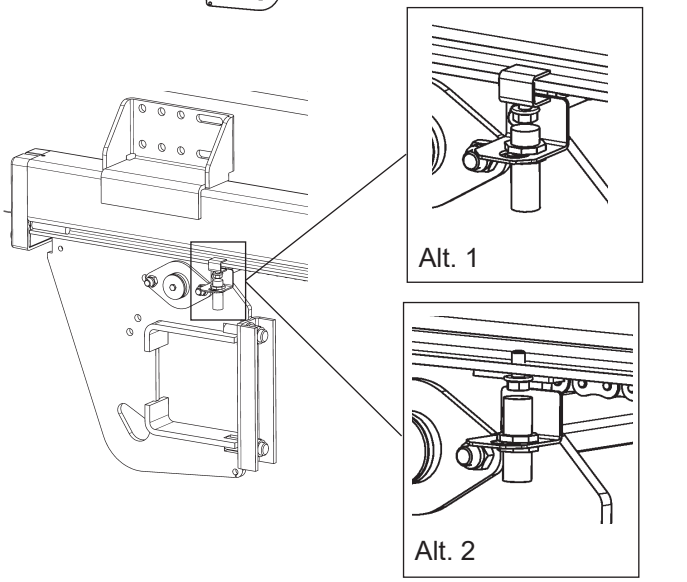
Working position indicator



Slide out the lift, open the platform and lift to the floor height.



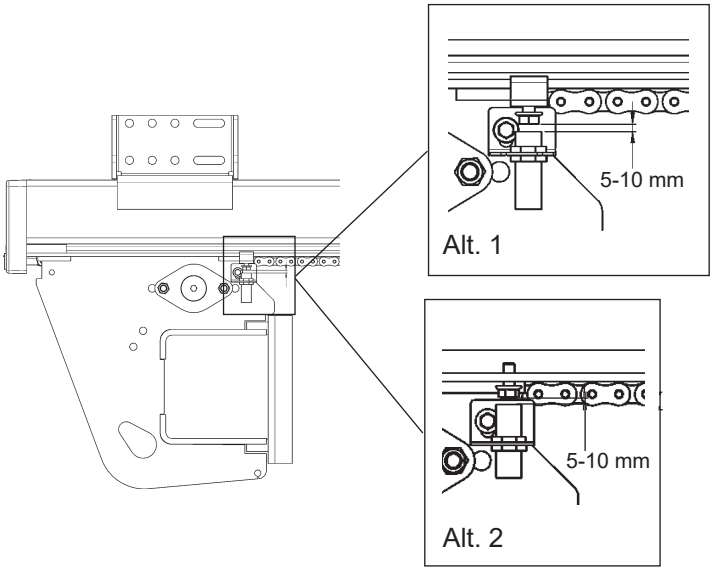
Run the lift into the body, this is the working position. Fasten the stop plate when the red diode lamp lights up.



The working position sensor is already installed at the factory, therefore only the stop plate needs to be installed (see eg. 1 & 2) .

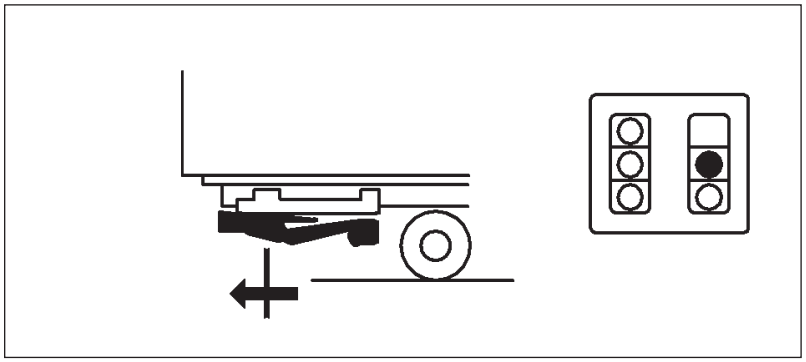
Eg. 1 Clamp. Clamped to slide profile.

Eg. 2 Screw, drill a hole and screw in a bolt.



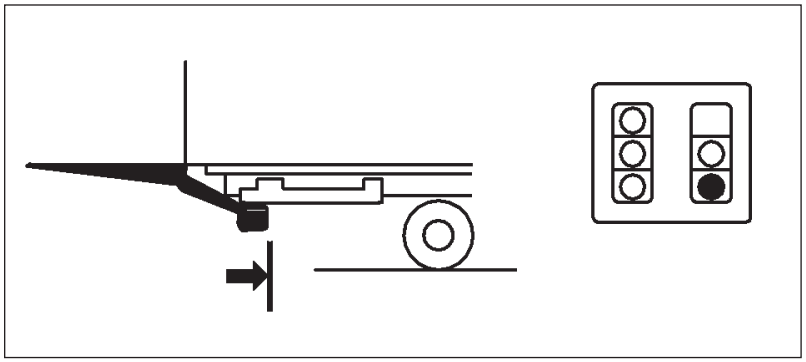
The distance between the sensor and the stop plate (in both cases eg. 1 & 2) should be adjusted to between 5-10 mm.

Working position indicator

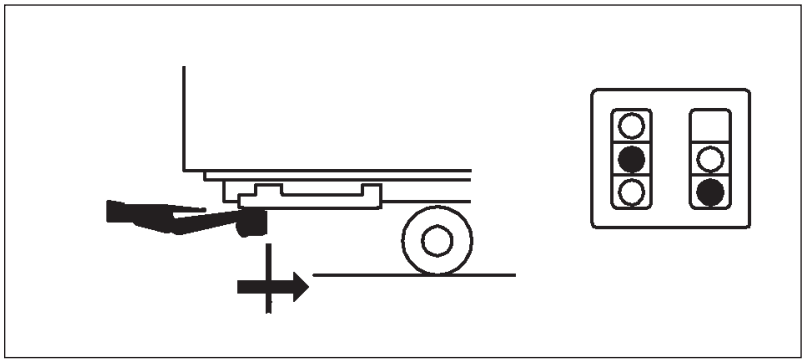


Test all functions:

Working position function, slide out the lift, open the platform and lift to the floor height.



Run the lift into the body, then the lift should stop at right working position, if not, adjust the stop plate.

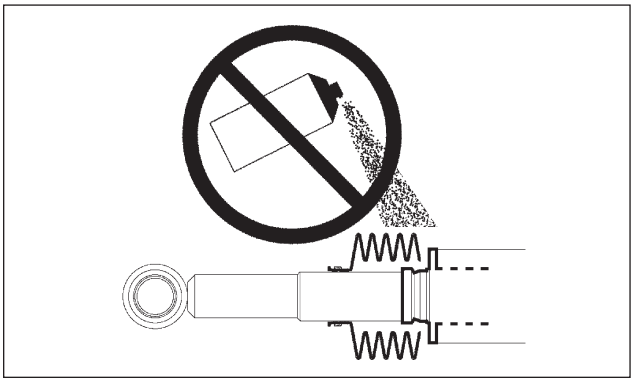


When parking the lift into transport position, drive the lift in with in-button and middle-button (middle-button disactivates working position indicator).

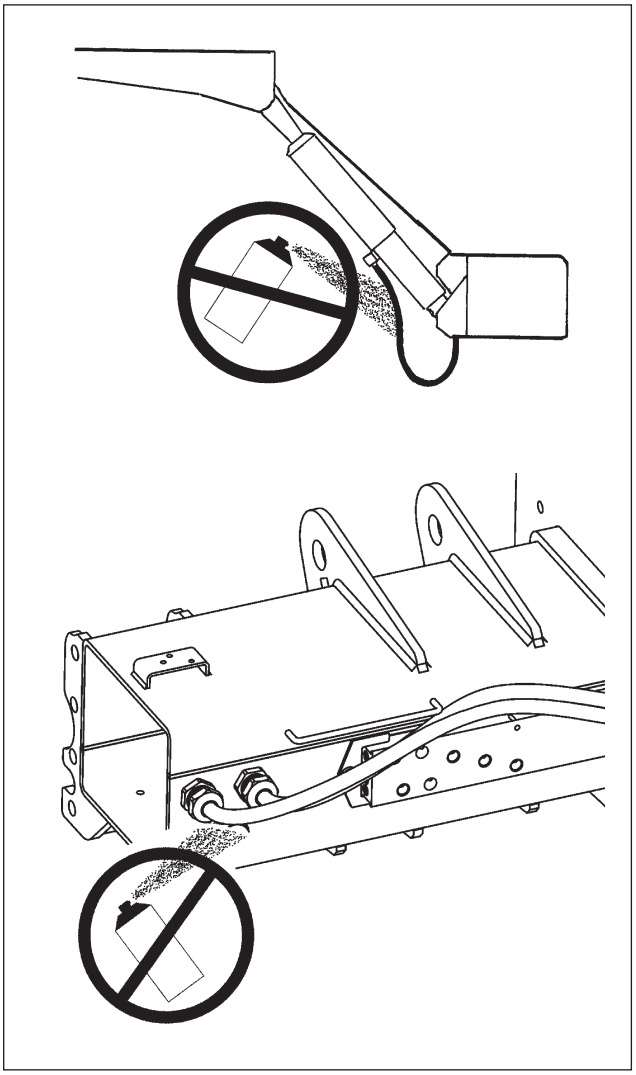
10. Important information

Repainting

NB. If the cylinders are to be repainted, ensure that the cylinder push rod and cover are not painted (this can damage the seals/gaskets). This also applies to rubber bellows if they exists!

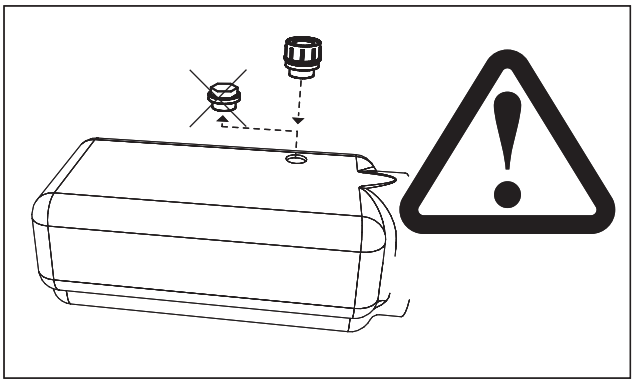


Hydraulic hoses or cables must not be painted, the paint's solvent can damage the hose's/cables rubber compound and can adversely affect durability



Replace the transport plug

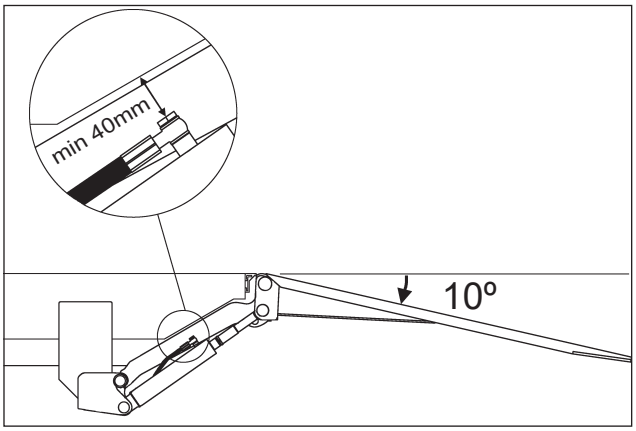
During installation the oil tank transport plug should be removed and replaced



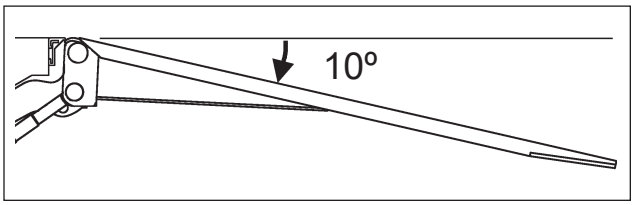
Moveable parts - free movement

When the final post-installation testing is carried out, it is important that there is sufficient clearance between the cylinders working envelopes and all fixed points. During lift operation and cylinder movement there is a risk for conflict with the subframe, truck frame, number plate, lamp holders and even the mounting brackets when the overhang is very limited (due to lift arm angle). Hence it is important to thoroughly check all of these points on both sides.

The final test is performed with the platform at floor height tilted down 10° from the horizontal. The cylinders must have a minimum clearance of 40 mm to all fixed points from this position.



Note! The platform must not be tilted down more than max 10° below the horizontal.



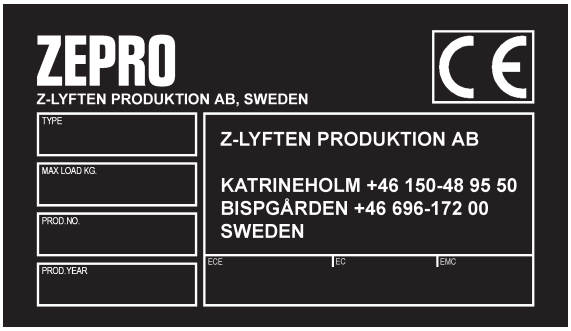
11. Markings, decals

The loading diagram plates should be placed near the control unit and in a clearly visible position on the platform. The plate clearly indicates the nominal loading and the diagram shows the maximum permitted loading at different positions on the platform.

The name plate is installed on the support frame of the tail lift and contains the following information:

-Lift type
-Maximum permitted load in kg
-Serial number
-Year of manufacture
-Address and tel. no. of the manufacturer
-Country of manufacture
-EU type no. for bumper bar certificate

Their is also a similar name plate in the form of a decal which is to be affixed to the cabin's door frame to ensure correct product identification.



The mark below represents the manufacturer's guarantee that the tail lift is designed and was supplied according to the requirements laid down in the European Machinery Directive. It is a customer's guarantee of high quality and safety.

CE

A "danger area" decal is also to be placed on the platform warning drivers who are parking cars behind the vehicle that 5m are necessary to allow for platform opening and sufficient manoeuvring space for loading and unloading goods.

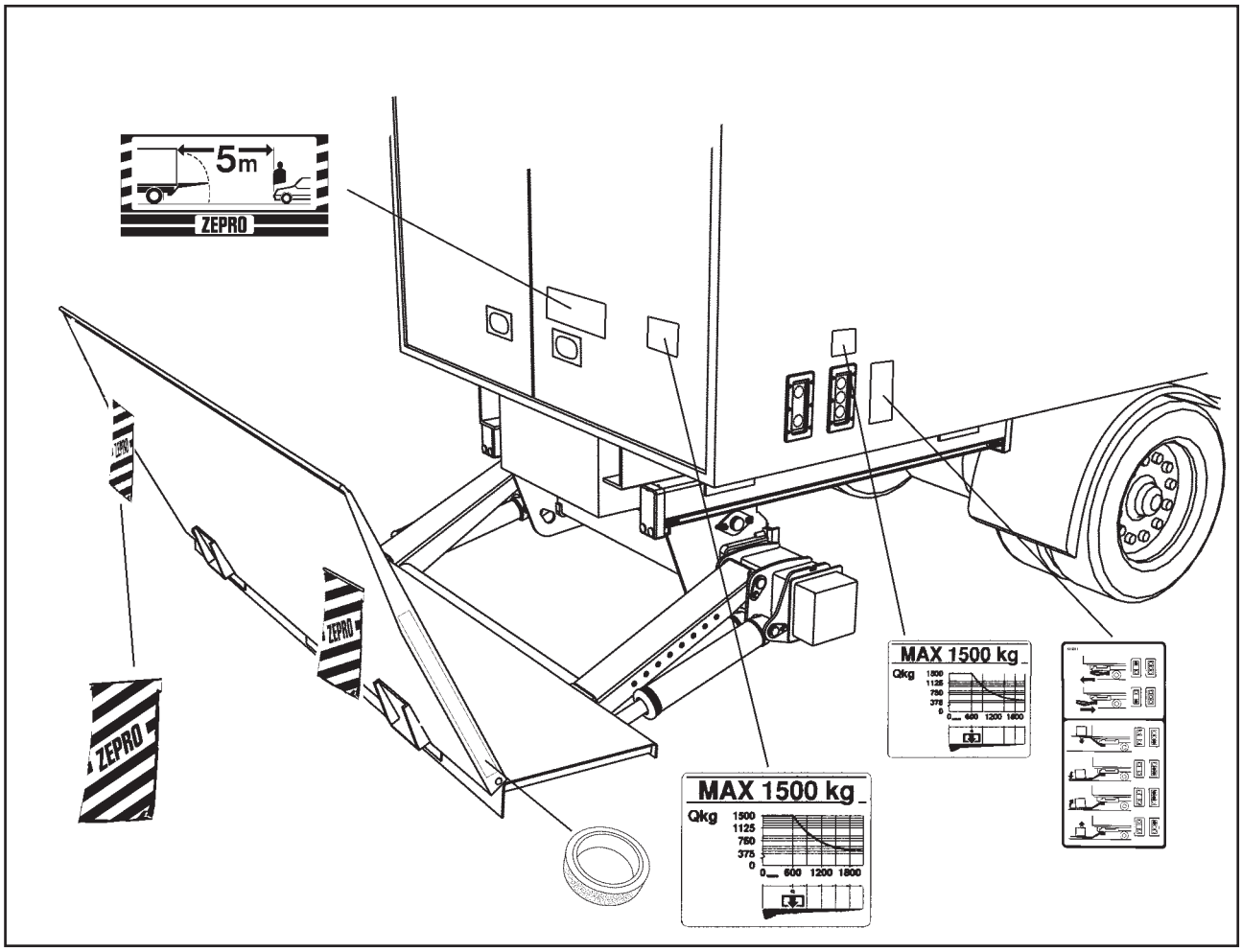
An operating instructions decal should be placed next to the main control unit.

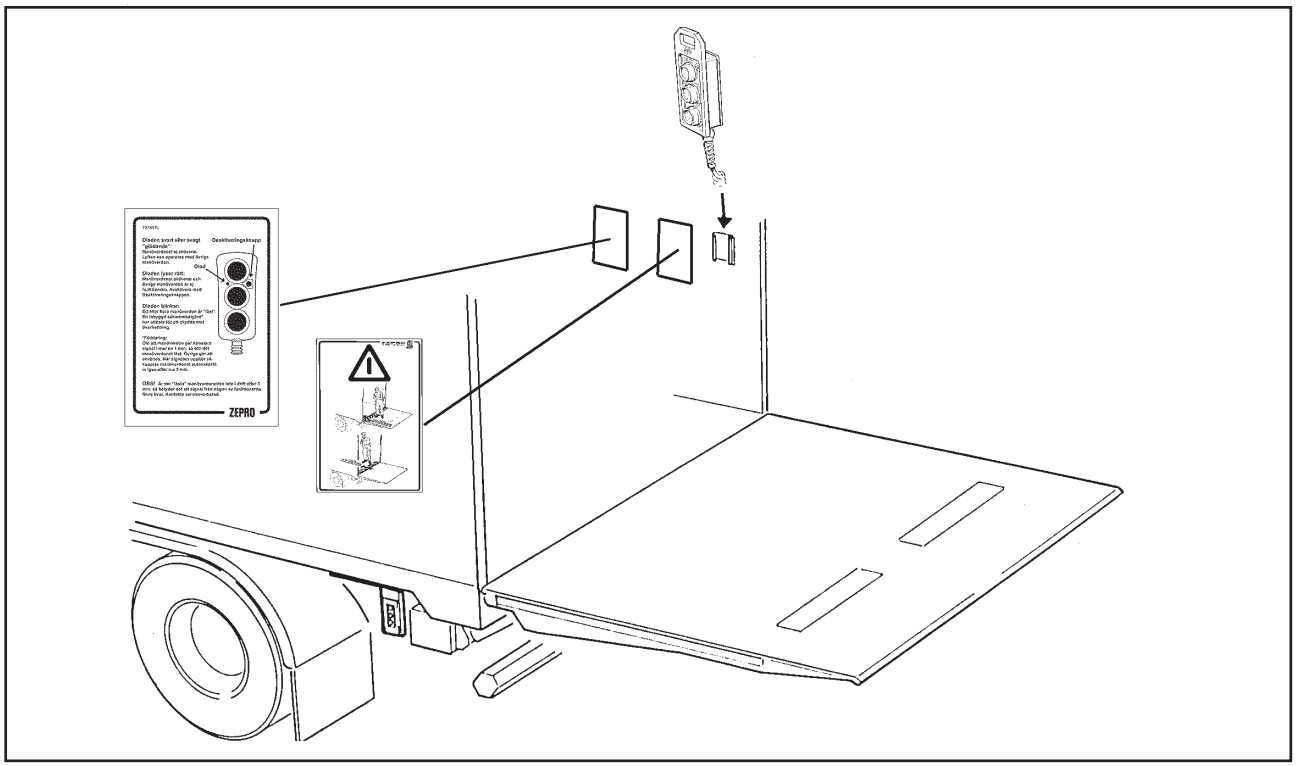
A danger zone decal, warning of the danger area between the platform and the vehicle bed is to be affixed on the inside of the vehicle body near to the spiral cable control, if installed.

We suggest that you stick the warning tape along the side edge of the platform to make it more clearly visible when in the horizontal position.

Install the warning flags, as close to the top and to the side of the platform as possible, however, ensure that the flags will not detach when the platform reaches the ground. Crimp the ends of the flag profiles so that the flags stay in position.

11. Markings, decals



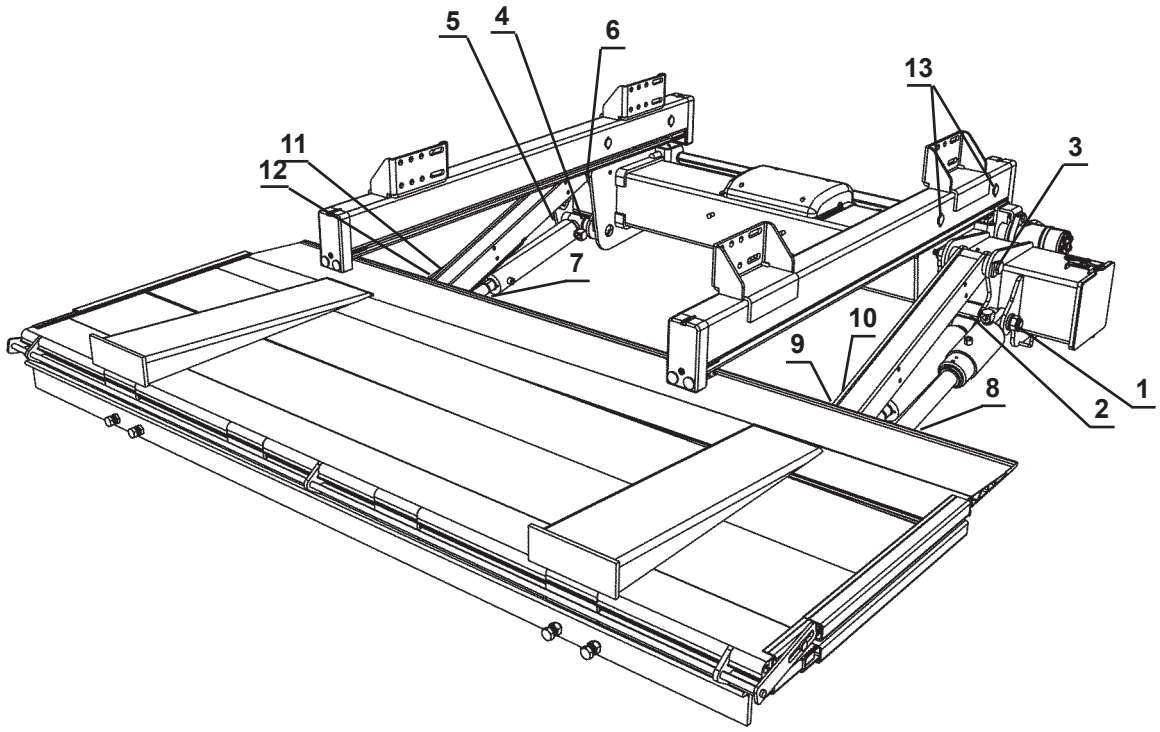


12. Maintenance

Grease all bearings and platform locks with LE lubricant 4622 or equivalent.

Greasing at least 8 times / year

1. Right tilt cylinder, lower bearing.
2. Right lift cylinder, lower bearing.
3. Lift arm right side, lower bearing.
4. Left lift cylinder, lower bearing.
5. Left tilt cylinder, lower bearing.
6. Lift arm left side, lower bearing.
7. Lift tilt cylinder, upper bearing.
8. Right tiltcylinder, upper bearing.
9. Lift arm right side, upper bearing.
10. Right lift cylinder, upper bearing.
11. Left lift cylinder, upper bearing.
12. Lift arm left side, upper bearing.
13. Wheels in slider profile.



The hydraulic unit tank is filled with a mineral based hydraulic oil (art.no 21963 for 1 litre.) or a biodegradable synthetic oil (art.no 22235 for 1 litre). There is a sticker on the hydraulic unit indicating which type of oil is in the tank.

13. Testing the lift

Testing and verification of the tail lift.
Carried out in accordance with the installation instruction and delivery check list.

Check that the tail lift chosen corresponds to the vehicle and to its foreseen use.

Static loading test
To be carried out when installation is complete.
Deformation
Position the tail lift with the platform horizontal about half way between the ground and the vehicle floor. Measure the distances A,B,C,D as shown in the diagram. Place a test load on the platform according to the table (for the corresponding tail lift model and loading capacity). Remove the load from the platform. Repeat the measurements of A,B,C,D and check that there is no permanent deformation to the tail lift or its brackets.

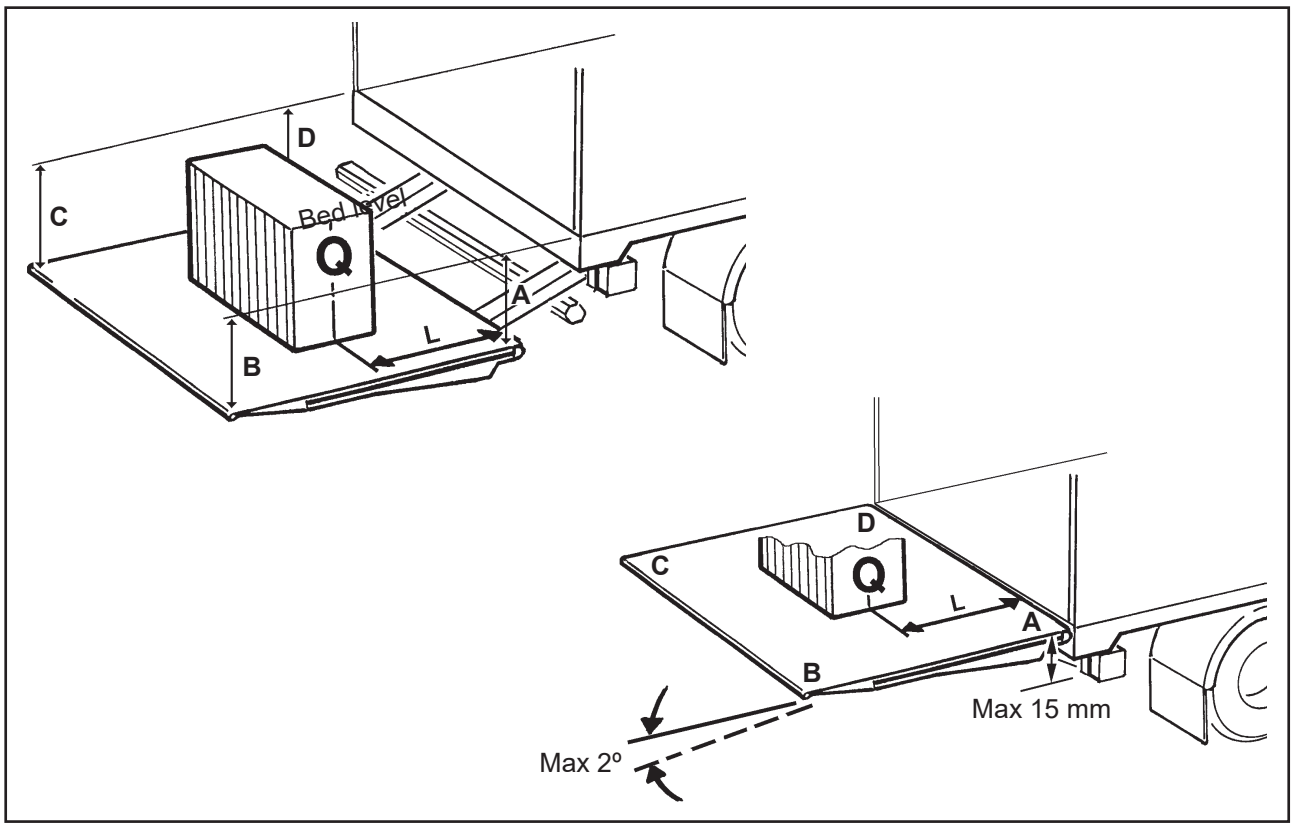
Deflection
Place a test load on the platform according to the table (for the corresponding tail lift model and loading capacity). The tail lift should be in the same level and angle as floor. Leave the test load on the platform for 15 minutes. Check that the platform´s deflection is not more than 15mm vertically (point A and D) and that it is not more than 2º in angular deflection (point b and C), in relation to floor level.

Static loading (Test load 1,25 x tail lift loading capacity). For tail lifts with load centre of 600 mm

Capacity	Load 500 kg	Load 1000 kg
	Distance out in platform (L)	
450 kg	(450 kg) 675 mm	-
500 kg	750 mm	-
700 kg	1050 mm	-
750 kg	1125 mm	-
1000 kg	1450 mm	750 mm
1500 kg	2250 mm	1125 mm
2000 kg	-	1550 mm
2500 kg	-	1875 mm

Static loading (Test load 1,25 x tail lift loading capacity). For tail lifts with load centre of 750 mm

Capacity	Load 1000 kg	Load 1500 kg
	Distance out in platform (L)	
1000 kg	940 mm	-
1500 kg	1410 mm	940 mm
2000 kg	1875 mm	1250 mm
2500 kg	2340 mm	1560 mm



13. Testing the lift

Dynamic load testing
Test with nominal load
Place a test load on the platform according to the table for the respective tail lift model and lifting capacity. Check that the tail lift operates correct in the normal range of movement allowed ie. up, down, tilting at the ground level and tilting at the vehicle floor level.

Test with over load.
Place a test load on the platform according to the table for the respective tail lift model and lifting capacity. The test load should be 1,25 x the lift models max load. Check that the tail lift cannot lift this load (it may, however, be possible to operate the tilting movement). Remove the test load from the platform.

Dynamic load (Test load 1,0 x tail lift loading capacity). For tail lifts with load centre of 600 mm

Capacity	Load 500 kg	Load 1000 kg
	Distance out in platform (L)	
450 kg	600 mm	-
500 kg	600 mm	-
700 kg	800 mm	-
750 kg	900 mm	-
1000 kg	1200 mm	600 mm
1500 kg	1800 mm	900 mm
2000 kg	-	1200 mm
2500 kg	-	1500 mm

Dynamic load (Test load 1,0 x tail lift loading capacity). For tail lifts with load centre of 750 mm

Capacity	Load 1000 kg	Load 1500 kg
	Distance out in platform (L)	
1000 kg	750 mm	-
1500 kg	1125 mm	750 mm
2000 kg	1500 mm	1000 mm
2500 kg	1875 mm	1250 mm

Test of safety functions
The tail lifts safety functions must be tested
Check:

- That the red lamp in the vehicle cabin turns off when the platform is completely closed against the body and that it turns on when the platform is opened (where applicable).

- That the tail lift will not operate if the cabin switch is in the off position.

- That the tail lift cannot be operated when the main current fuse is removed (where applicable).

- That the overflow valve is activated when the lift is run up to the floor level or armstops.

- That the tail lift cannot be lowered or tilted down respectively if the electrical connector from the lift and tilt cylinders respectively electric safety valve is removed.

-That the platforms max load marking has been included and is correctly positioned according to the loading diagram for the tail lift model concerned.

- That the warning flags are installed and fulfill their function correctly.

- That all safety and operating stickers are installed in their specified position.

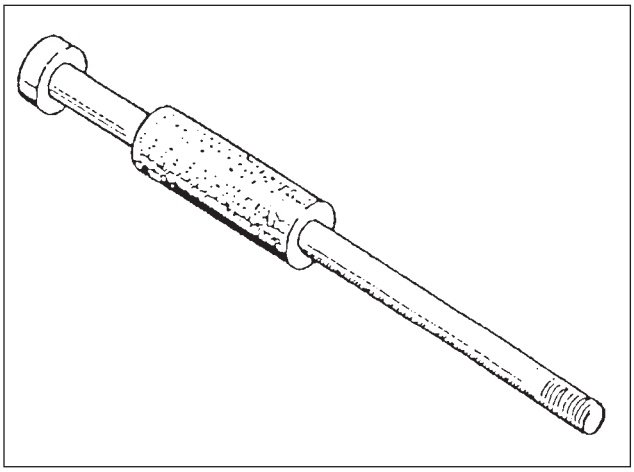
- That the platform´s mechanical lock functions correctly (where applicable).

- That the Operator´s Handbook has been left in the driver´s cabin.

- That the declaration of CE conformity has been filled in (where applicable).

16. Dismantling

1. In the event of dismantling the tail lift from the vehicle, in the case of transferring it to another vehicle, for storage or for modification please follow these instructions.
2. Support the platform by a crane or similar equipment that can safely carry the platform's weight. (NB. weight info).
3. Dismantle the tilt cylinders upper axle in the platform and rest the cylinders on the ground.
4. Run the tilt cylinders to their minimum stroke limit to remove pressure from the circuit.
5. Dismantle the tilt cylinder's lower axle at the support frame. Remove the cylinder and take away the hoses. NB. Oil can leak from the hoses and cylinder.
6. Dismantle the side profiles from the platform.
Take away the grease nipples and the lock screws in the platform's axles. Screw the special tool (see diagram) into the axle. Using the sliding weight of the tool, hammer the axle out of the profile. Follow the sames procedure for the other side.
Lift away the platform, lower the liftarm to the ground.
7. Unscrew the lift cylinder's upper axle at the lift arm and lower the cylinders to the ground. Take the lift cylinder's lower axle away at the support frame and remove the cylinders completely. Loosen the connected hoses.
8. Unscrew the lift arm's axles at the support frame and take away the lift arm.
9. Support the support frame from its underside with a forklift or similar equipment with sufficient loading capacity. Unscrew all bolts from the mounting brackets.
10. Check that the battery is disconnected. Unscrew the cable from the battery to the tail lift and all the cables and wires between the hydraulic unit and the control unit. Lower the support frame and remove it from the truck chassis.



HIAB

BUILT TO PERFORM

Zepro, Del and Waltco are Hiab brands for tail lifts. Hiab is a world-leading supplier of equipment, intelligent services and digital solutions for on-road load handling. As an industry pioneer our company commitment is to increase the efficiency of our customers' operations and to shape the future of intelligent load handling.