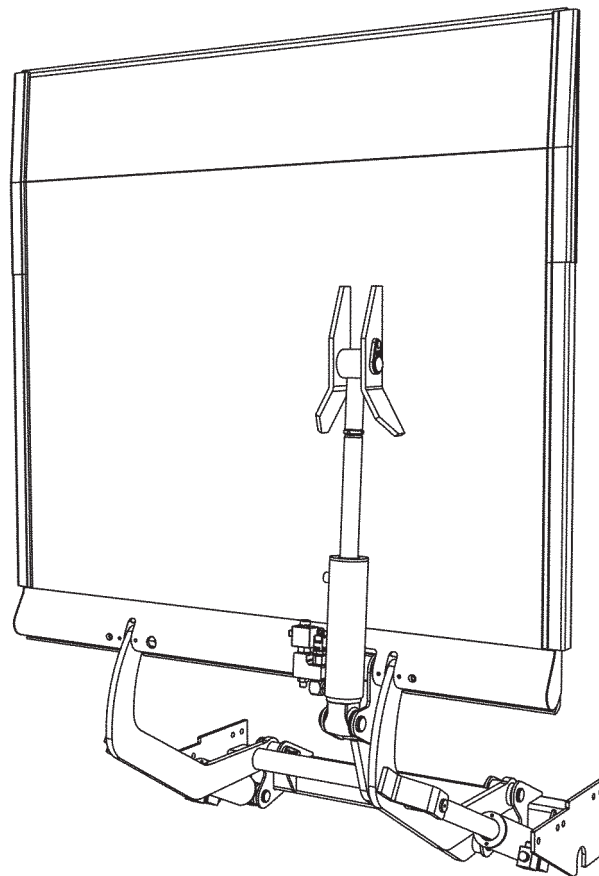


ZEPRO

Z-LYFTEN PRODUKTION AB

54910

INSTALLATION INSTRUCTION



ZV-50-85

2013-10-07

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1. CE marking



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.

2. General

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 a separate box. The system is 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. Lift cylinders provide the mechanical force to control the lift arm's movement. The cylinders are equipped with electric safety valves which prevent platform movement if a hose breaks. These valves are closed unless opened by current supplied from the hydraulic unit when the control unit down button is pressed. The tilt function is controlled by a double acting cylinder which is also equipped with an electric safety valve. Electric safety valves also provide a transport lock for the platform to both prevent downwards and outwards movement of the platform. Lifting and tilting up and down speeds are fixed by the pump capacity. Lowering speed are controlled by a special constant flow valve. These valve 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 13° 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 separation 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.

2. General

Identifications list

E.g. **ZHZ - 600 - 850 MA**

ZHZ = Standard model

Max liftcapacity x 1 (kg)

Max lifting height -850 = 850 mm

**Cylindermodel, MA = Double acting Adjustable Tilt
Single acting One speed Lift**

Weights

Some components of the tail lift must be manipulated by other lifting equipment during handling and therefore could represent hazards if their weights exceed the equipment's permitted load. The following are the ranges of weights for various heavy components.

Cpl. Lift chassis (without platform)

ZHZ-600-850 130 kg

Aluminiumplatforms

Flat 40mm

Alu. platform 1200x1400mm 60 kg

Alu. platform 1600x1400mm 71 kg

Lift components (part of cpl. lift chassis).

Support frame 20,5 kg

Liftarm 21,6 kg

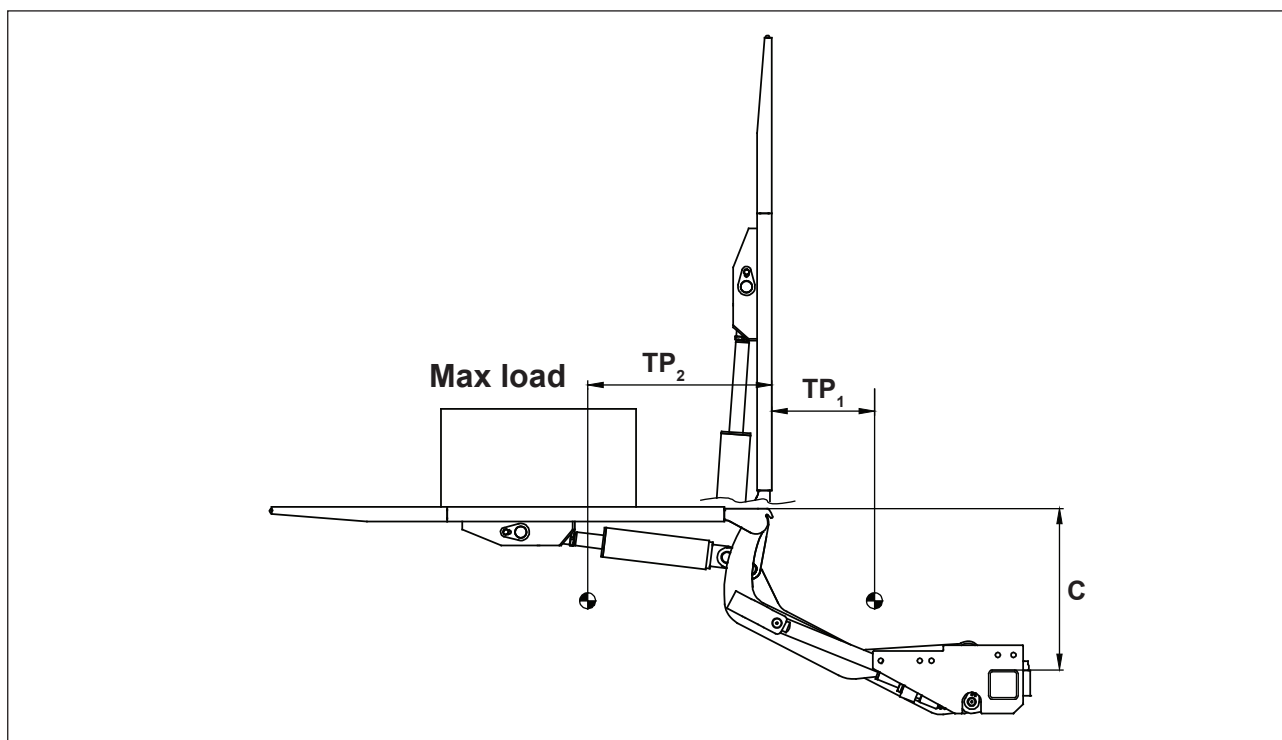
Supporting arm 5,6 kg

Connecting link 1,4 kg

Liftcylinder 7,8 kg/st.

Tiltcylinder 9 kg

Hydraulic Unit 13 kg



ZV-50-85, alu platform 1290x1310 mm

	C = 150	C = 300	C = 410
TP₁(mm)	219	197	170
TP₂(mm) 500 kg	475	494	498

2. General

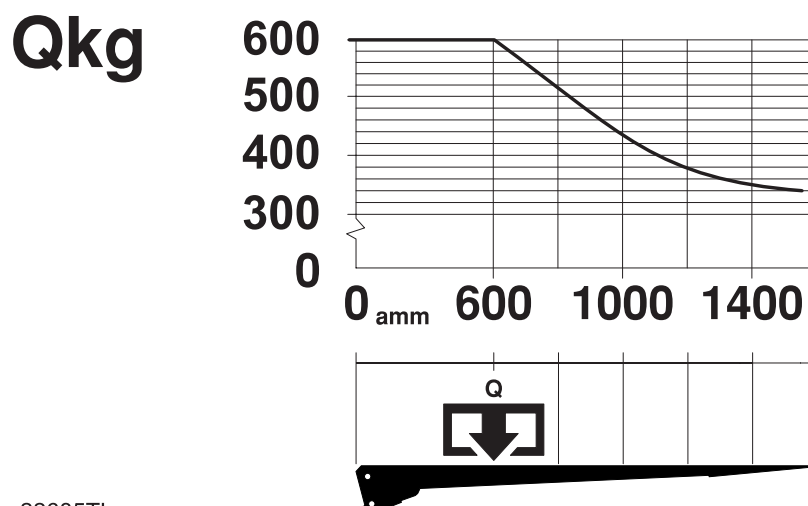
Max Power Consumption

ZHZ (190 bar)

	12 Volt	24 Volt
Pump - Motor Unit	110 A	60 A
Magnet (hydraulic unit)	1,4 A	0,7 A
Magnet (electric safety valve)	1,5 A	0,75 A
Solenoid	1,8 A	0,9 A
Cable area:		
Control cable	1,5 mm ²	1,5 mm ²
Main cable 0-8 m	35 mm ²	35 mm ²
Main cable 8-15m	35 mm ²	35 mm ²
Main cable < 15m	-	35 mm ²
Power source:		
Min. capacity	140 Ah	110 Ah
Min. voltage	9 Volt	18 Volt

Loading Diagram

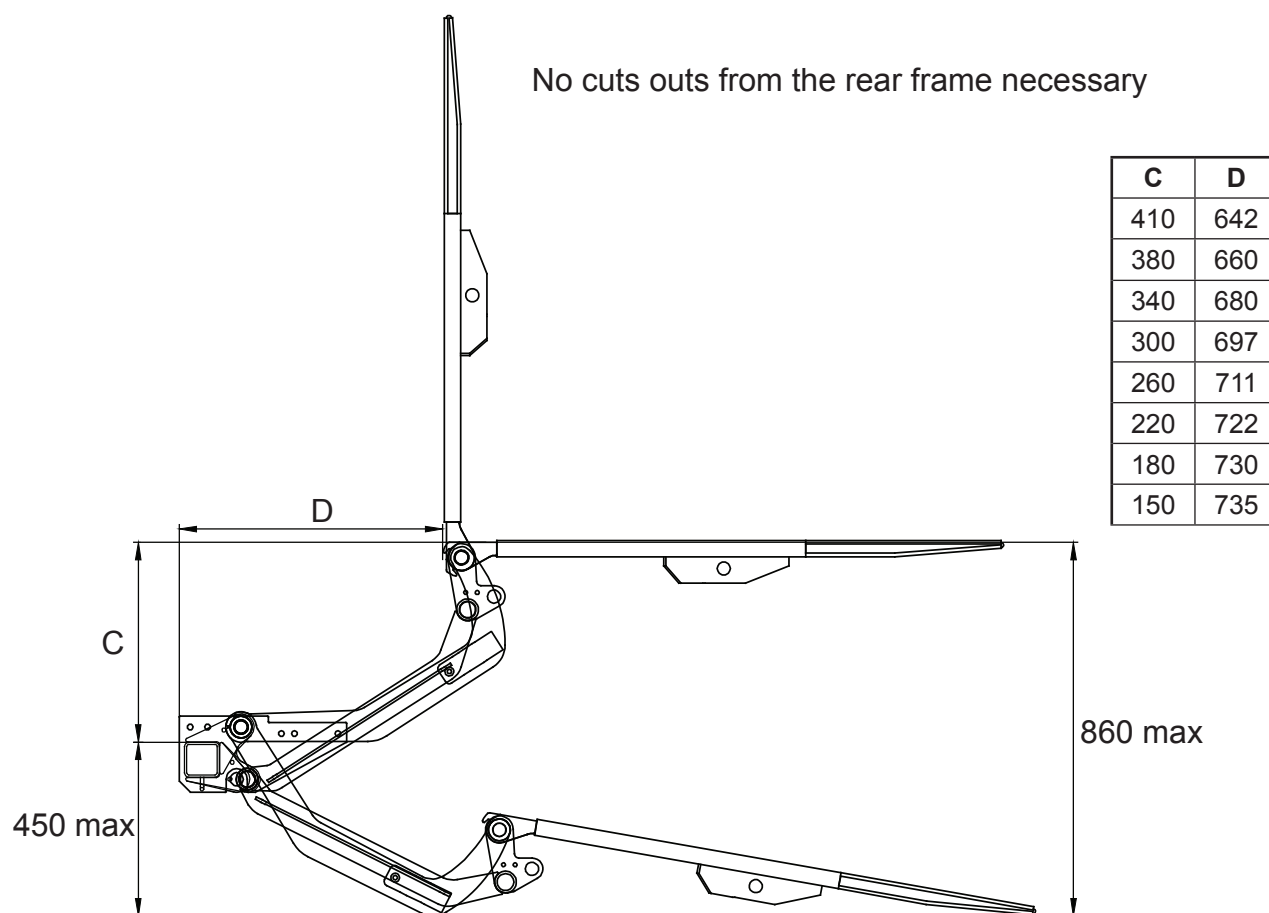
MAX 600kg



22685TL

3. Dimensions for installation

ZHZ-600-850



4. Introduction

ZV-50 taillift are intended for installation on vans and light trucks.

ZV-50 taillift assembly is based on the use of our mounting kits, the mounting kits are specially designed to specified van or light truck. Only mounting kits that are manufactured or approved by Zepro, can be used.

Mounting kit and vehicles factory made mounting points will determine the position of the taillift.

Note!! Tow hook device cannot be combined with tail-lift installation.

Principal order of mounting operations

- Install the mounting kit
- Premounting of the lifting gear
- Mounting of the power pack
- Mounting of the hydraulic hoses
- Connecting the push button boxes
- Electrical wiring
- Mounting of platform
- Test use and checking / fixing of dimensions and movements
- Mounting of rubber seals / rubber bumpers
- Final mounting
- Adjusting the tilting cylinder
- Install over drive bridge
- Mounting of labels
- Test run and final inspection

Main dimensions are determined by the mounting kit. Note dimensions of installation in case of not using mounting kit.

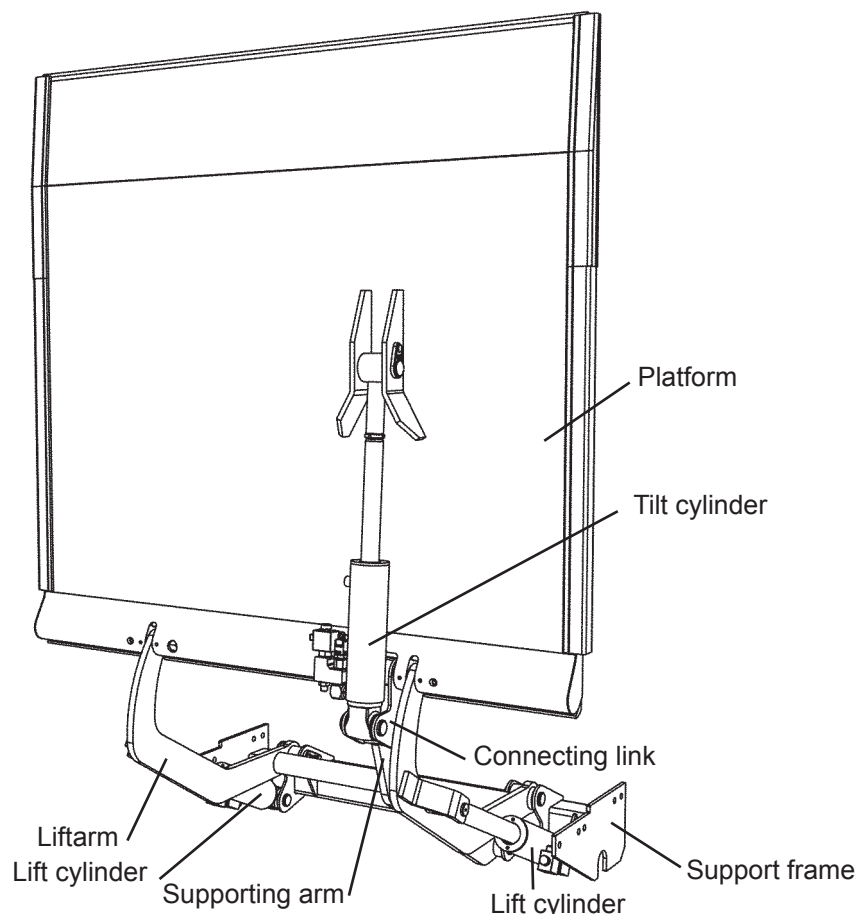
The most important distance is C, distance between body floor level and the bottom of the chassis beam. When C- distance is known, D- distance may be obtained from charts. D- distance will determine space which is required for tail-lift. With C- and D- distance you can check that there is enough room for tail-lift.

H- distance is unloaded body height from the ground. H- distance must be less than tail-lifts max lifting height, do not exceed tail-lifts max lifting height. If tail-lifts max lifting height is exceeded, the platform will not reach the ground level in all vehicle positions. The support surface of the platform bracket must always reach the ground, installation where the support surface is not reaching the ground is forbidden.

NOTE! Tail-lift must not be mounted directly against vehicle's frame, there must be small gap between tail-lifts frame and vehicles frame. This gap will allow movements of vehicle's frame. Remember this when calculating C- distance.

WARNING! ZV-50 tail-lift can only be mounted with mounting kit supplied or approved by Zepro.

WARNING! Installation where the support surface is NOT reaching the ground is forbidden.



5. Mounting kits

MANUFAC- TURER	MODEL	VERSION	MORE	CPL. WEIGHT	ART. NO.	PAGE
Citroen	Jumper	Year to 2006		22,9 kg	53329	13
		Year from 2007		17,8 kg	56187	25
Fiat	Ducato	Year to 2006		22,9 kg	53329	13
		Year from 2007		17,8 kg	56187	25
Ford	Transit	330/350	RWD	18,7 kg	53289	16
		260/300	FWD (1)	17,6 kg	53306	18
		330/350	RWD (3)	20,7 kg	53363	17
Iveco	Daily	35S/45C/50C	X=1479	18,5 kg	53320	12
M-B	Sprinter	200,300-series	L=3000 (2)	21,3 kg	53310	19
		200,300-series	L=3550	25,4 kg	53275	20
		200,300-series	L=3550 (3)	27,8 kg	53355	22
		400-series	L=3550	31 kg	53299	21
		400-series	L=4025	25,4 kg	53275	20
		400-series	L=4025 (3)	27,8 kg	53355	22
		906	300-series	L=4325	53840	23
		906	300-series	L=3665	56072	24
		906	500-series	L=3665	59015	27
		906	500-series	L=4325,X=1600	17,6 kg 59025	28
		906	500-series	L=4325,X=2000	18,3 kg 53840	29

1) Road clearance is about 194 mm. Increase of the road clearance is about 50 mm, when using stiffened rearsprings. Modification must be made by specialized workshop.

2) Rear antiroll bar must be removed to get enough mounting space (effect to driving stability). Antiroll bar must be optional equipment. If not, you have to get permission of the manufacturer.

3) Mounting without doors. Platform will take the place of backdoors.
Model MB Sprinter 400-serie minimum wheelbase is 4025 mm

L= Wheelbase (mm)

X= Rear overhang (mm)

5. Mounting kits

MANUFAC-TURER	MODEL	VERSION	MORE	CPL. WEIGHT	ART. NO.	PAGE
Nissan	NV400	Year from 2010	FWD	21,0 kg	72159TL	30
		Year from 2010	RWD	-	On verification	31
Peugeot	Boxer	Year to 2006		22,9 kg	53329	13
		Year from 2007		17,8 kg	56187	25
Renault	Mascot Master		RWD	19,2 kg	53248	14
		Year to 2009		18,3 kg	53339	15
		Year from 2010	FWD	21,0 kg	72159TL	30
		Year from 2010	RWD	-	On verification	31
Opel	Movano	Year to 2009		18,3 kg	53339	15
		Year from 2010	FWD	21,0 kg	72159TL	30
		Year from 2010	RWD	-	On verification	31
VW	LT	28/35	L=3000 (2)	21,3 kg	53310	19
	LT	28/35	L=3550	25,4 kg	53275	20
	LT	28/35	L=3550 (3)	27,8 kg	53355	22
	LT	46	L=3550	31 kg	53299	21
	LT	46	L=4025	25,4 kg	53275	20
	LT	46	L=4025 (3)	27,8 kg	53355	22
	Crafter	30/35	L=4325	18,3 kg	53840	23
	Crafter	30/35	L=3665	27,6 kg	56072	24
	Crafter	50-series	L=3665	24,4 kg	59015	27
	Crafter	50-series	L=4325,X=1600	17,6 kg	59025	28
	Crafter	50-series	L=4325,X=2000	18,3 kg	53840	29

1) Road clearance is about 194 mm. Increase of the road clearance is about 50 mm, when using stiffened rearsprings. Modification must be made by specialized workshop.

2) Rear antiroll bar must be removed to get enough mounting space (effect to driving stability). Antiroll bar must be optional equipment. If not, you have to get permission of the manufacturer.

3) Mounting without doors. Platform will take the place of backdoors.
Model MB Sprinter 400-serie minimum wheelbase is 4025 mm

L= Wheelbase (mm)
X= Rear overhang (mm)

5. Mounting kits

NOTE! Make sure that mounting kit fits to vehicle / model series before mounting.

The holes in the mounting kit corresponds to existing holes in truck/van frame, by that you will get the position for taillift/platform.

IVECO DAILY (art. no. 53320)

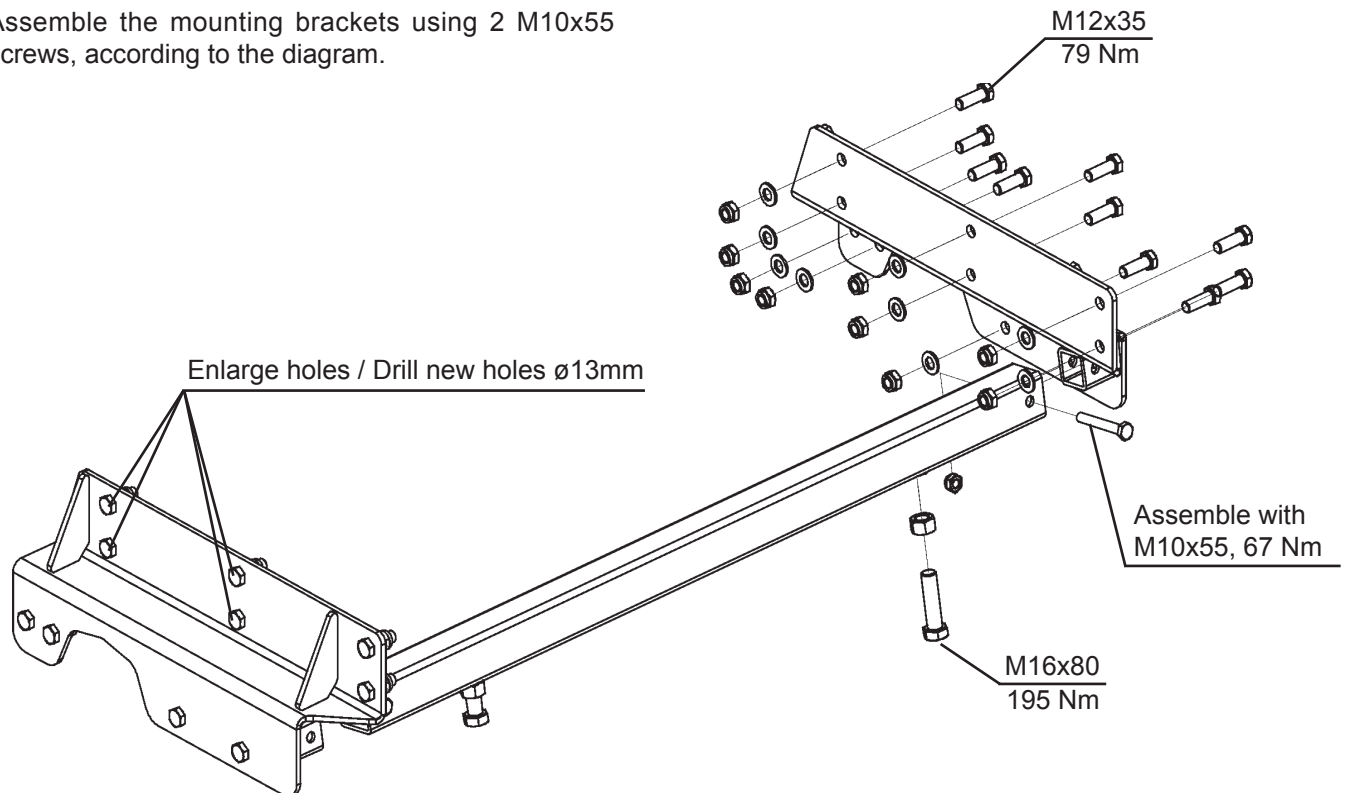
Preparations

Following parts must be removed before mounting tail-lift

- Help step
- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

The rear mounting holes in the frame must be drilled from 10 mm to 13 mm. Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension. Drill middle mounting holes to frame, install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension.

NOTE! Remember use washers on frame side.

5. Mounting kits

PEUGEOT BOXER, FIAT DUCATO, CITROEN JUMPER (art. no. 53329)

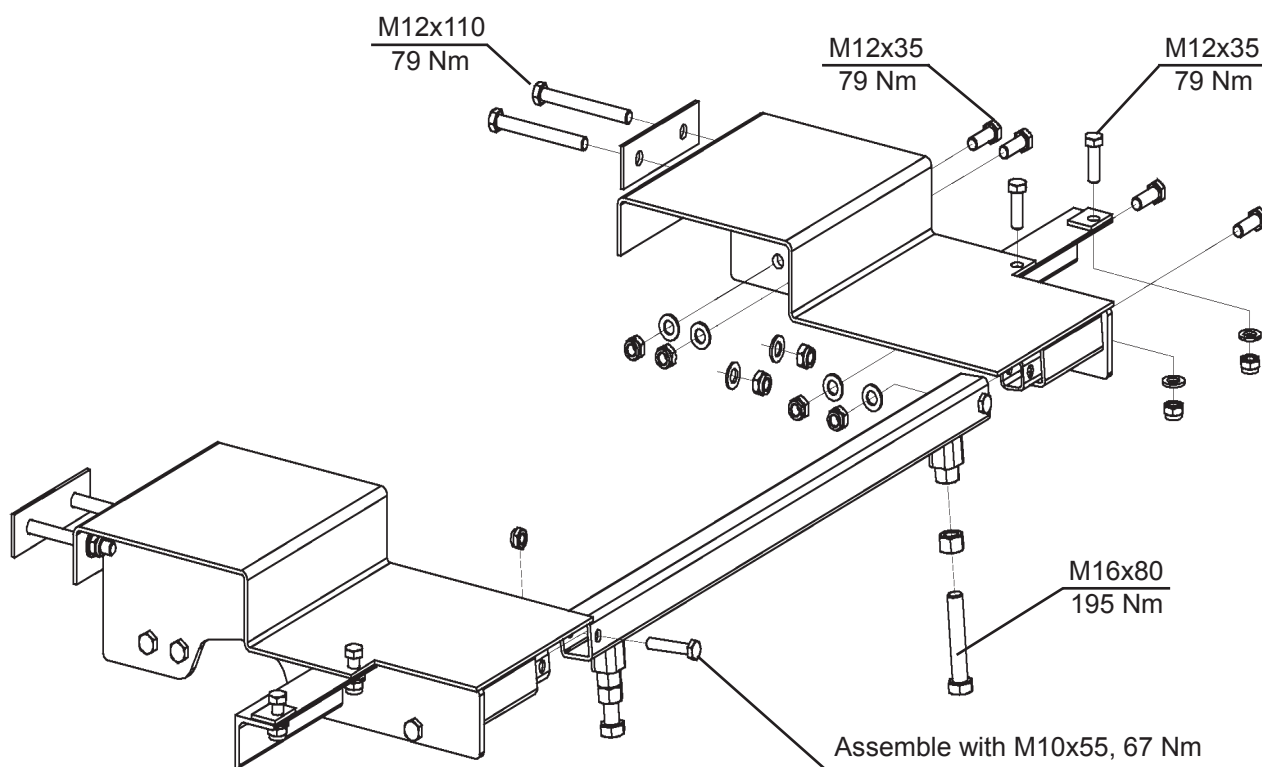
Models to 2006

Preparations

Remove spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension.

5. Mounting kits

RENAULT MASCOT (art. no. 53248)

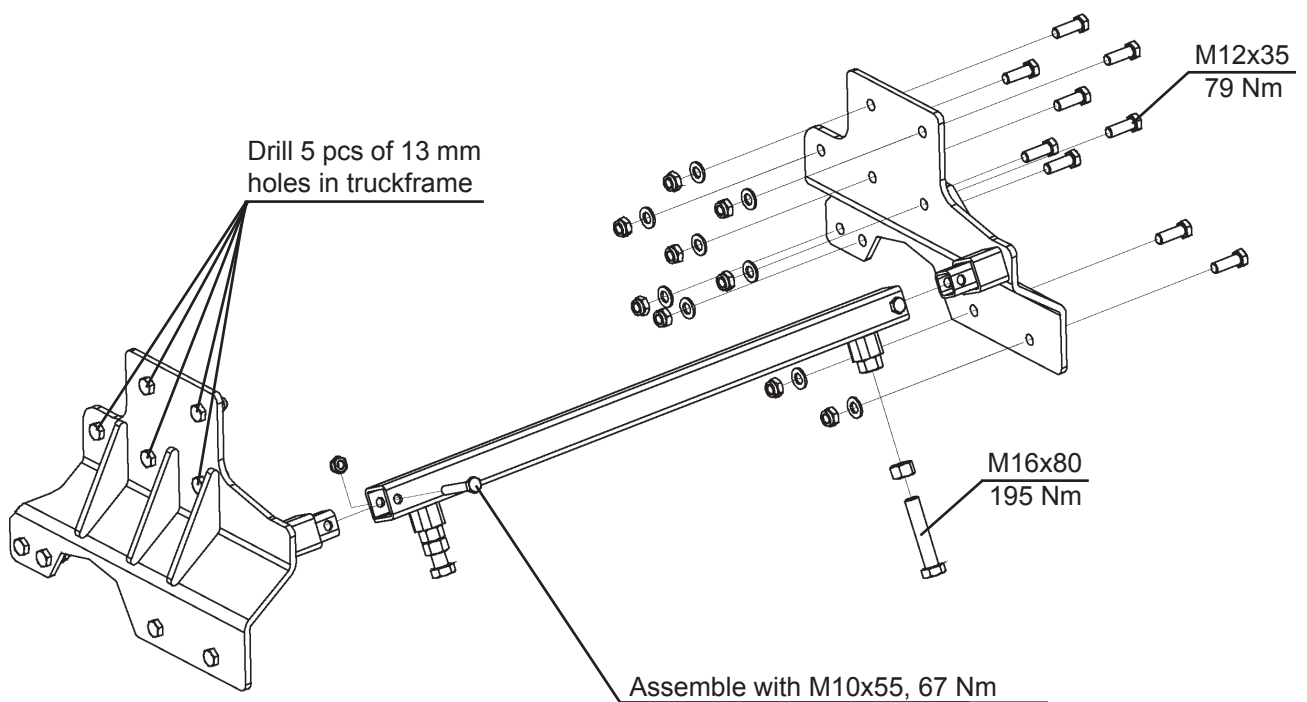
Preparations

Following parts must be removed before mounting tail-lift

- Help step
- The horizontal bar behind of the help step bracket.

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Mascott mounting kit must be drilled during the installation.

Follow instructions bellow:

- Mount tail-lift to mounting kit, do not tighten up bolts
- Lift up tail-lift and mounting kit to it's position
- Secure mounting kit with clamps
- Make sure that tail-lifts is square to vehicles
- Make sure that lifting arms are properly located to back doors and cargo area
- Re-check measures
- Drill 5 pcs of 13mm holes in truckframe
- Install 5pcs M12 bolts as instructed in the picture above
- Tighten up mounting kit bolts
- Tighten up tail-lifts connecting bolts

5. Mounting kits

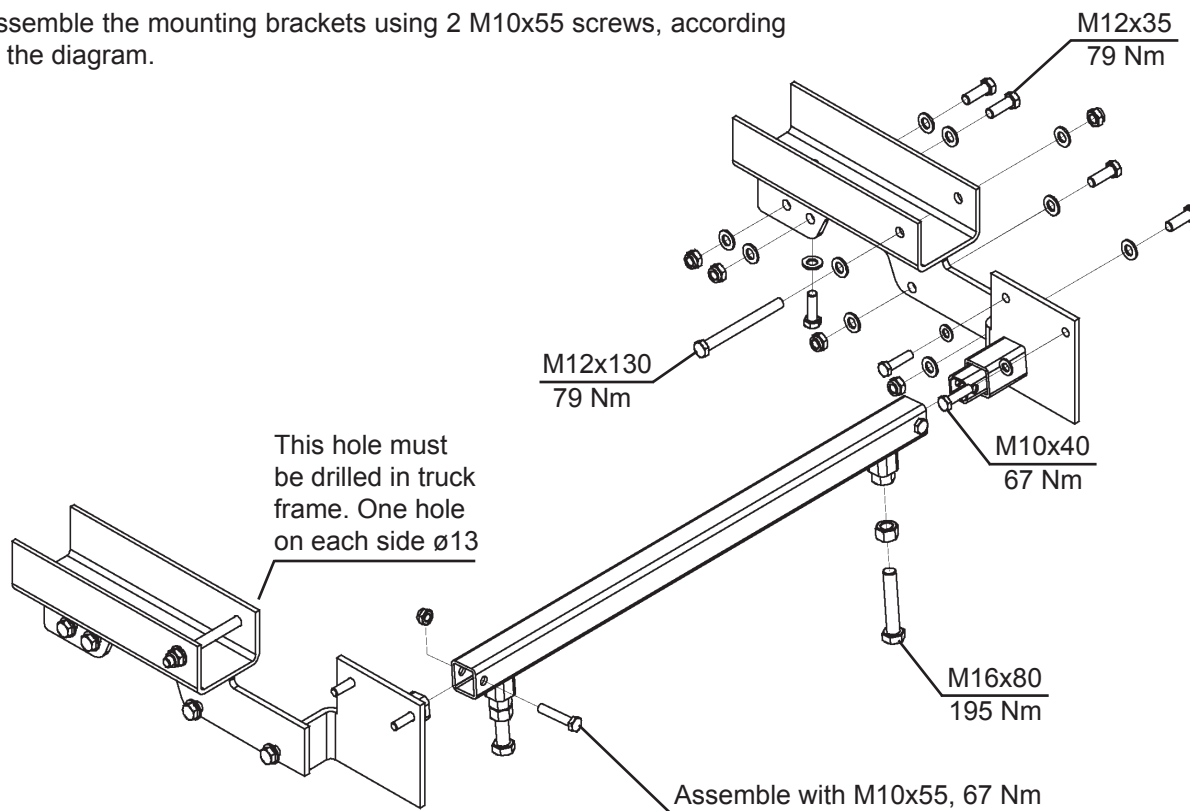
RENAULT MASTER / OPEL MOVANO (art. no. 53339)

Preparations

There is no need for preparations, if spare wheel is located inside cargo area. Otherwise remove spare wheel and spare wheel bracket.

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kit is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension.

Drill holes as instructed in drawing above, install bolts and tighten up.

Note! Right side bumper bracket must be slightly persuaded or smooth down to make room for mounting kit. Remember to protect bracket with paint after modification.

5. Mounting kits

FORD TRANSIT 330-350, REAR WHEEL DRIVE (art. no. 53289)

Preparations

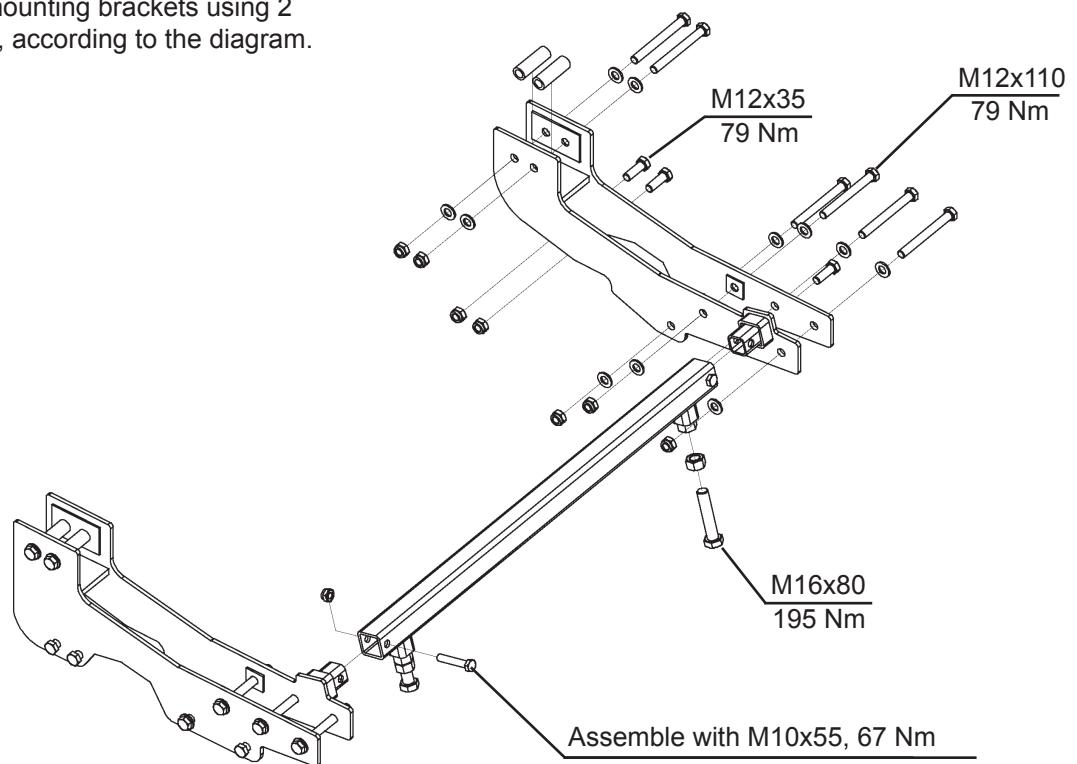
Following parts must be removed before mounting tail-lift

- Exhaust pipe
- Spare tire and spare tire mounting bracket
- Middle part of rear bumper
- Rear bumper brackets

Rear bumper brackets have welded nuts, these nuts must be removed with grinder. Also left side mounting bracket have towing hook, this hook must be removed with grinder. Protect modified parts with paint, when mounting brackets are not mounted in vehicle.

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Mount rear bumper brackets to mounting kit pocket.

Mount included bolsters to rear mounting holes.

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Rear bumper

You must make notches to rear bumper brackets, to make clearance for lifting arms. Paint rear bumper brackets after modification.

Make sure that platform comes to vehicles floor height, secure limiting bolts.

Install rear bumper middle section and make similar notches to bumper as to brackets. You must also make notch for reaction bar to rear bumper.

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

FORD TRANSIT 330-350, REAR WHEEL DRIVE (art. no. 53363) Mounting without doors

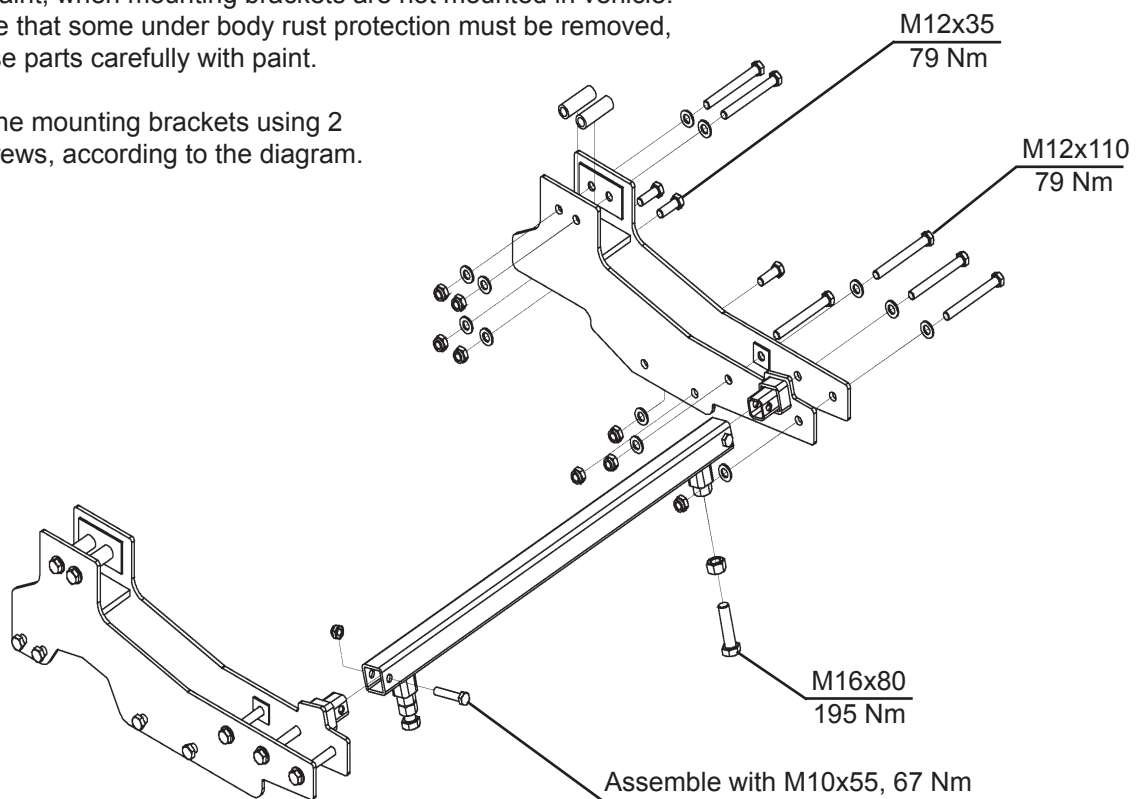
Preparations

Following parts must be removed before mounting tail-lift

- Exhaust pipe
- Spare tire and spare tire mounting bracket
- Middle part of rear bumper
- Rear bumper brackets

Rear bumper brackets have welded nuts, these nuts must be removed with grinder. Also left side mounting bracket have towing hook, this hook must be removed with grinder. Protect modified parts with paint, when mounting brackets are not mounted in vehicle. It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Mount rear bumper brackets to mounting kit pocket.

Mount included bolsters to rear mounting holes.

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Rear bumper

You must make notches to rear bumper brackets, to make clearance for lifting arms. Paint rear bumper brackets after modification.

Make sure that platform comes to vehicles floor height, secure limiting bolts.

Install rear bumper middle section and make similar notches to bumper as to brackets. You must also make notch for reaction bar to rear bumper.

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

FORD TRANSIT 330-350, FRONT WHEEL DRIVE (art. no. 53306)

Preparations

Note!

Road clearance is only 194 mm with this mounting kit on a Ford transit 330. Increase of the road clearance is about 50mm, when using stiffened rearsprings. Modification must be made by specialized workshop.

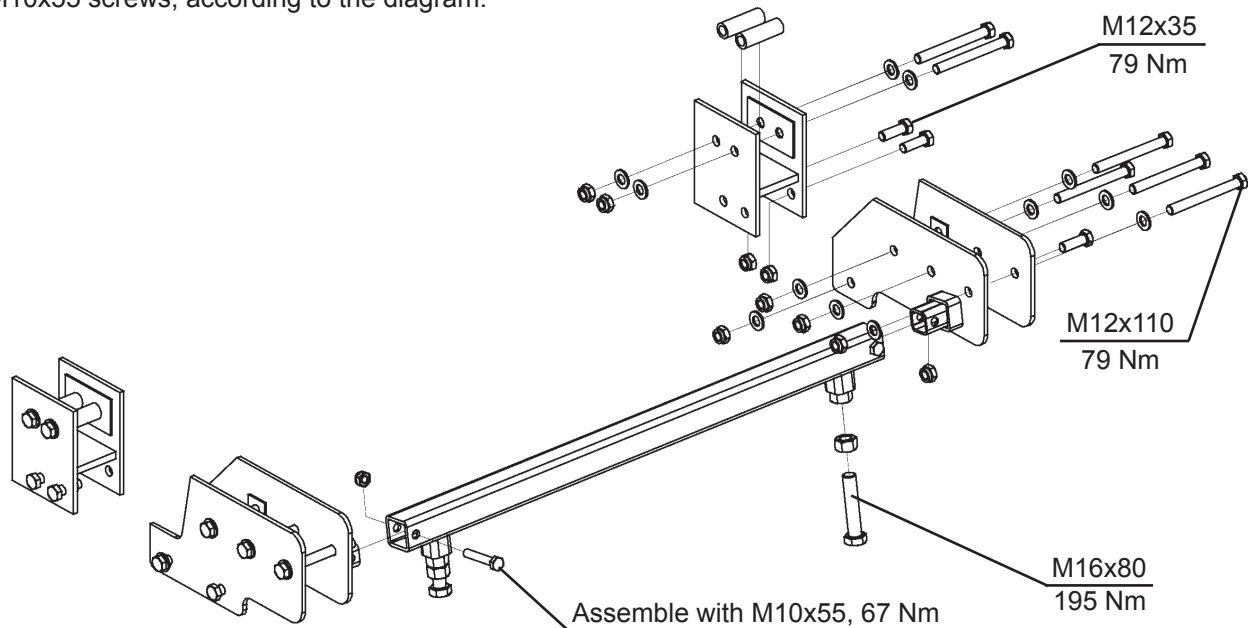
Following parts must be removed before mounting tail-lift

- Exhaust pipe
- Spare tire and spare tire mounting bracket
- Middle part of rear bumper
- Rear bumper brackets

Rear bumper brackets have welded nuts, these nuts must be removed with grinder. Also left side mounting bracket have towing hook, this hook must be removed with grinder. Protect modified parts with paint, when mounting brackets are not mounted in vehicle.

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Mount rear bumper brackets to mounting kit pocket.

Mount included bolsters to rear mounting holes.

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Rear bumper

You must make notches to rear bumper brackets, to make clearance for lifting arms. Paint rear bumper brackets after modification.

Make sure that platform comes to vehicles floor height, secure limiting bolts.

Install rear bumper middle section and make similar notches to bumper as to brackets. You must also make notch for reaction bar to rear bumper.

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

MB SPRINTER 200/300, VW LT 28/35 wheel base = 3000 mm (art. no. 53310)

Rear antiroll bar must be removed to get enough mounting space (effect to driving stability). Antiroll bar must be optional equipment. If not, you have to get permission of the manufacturer.

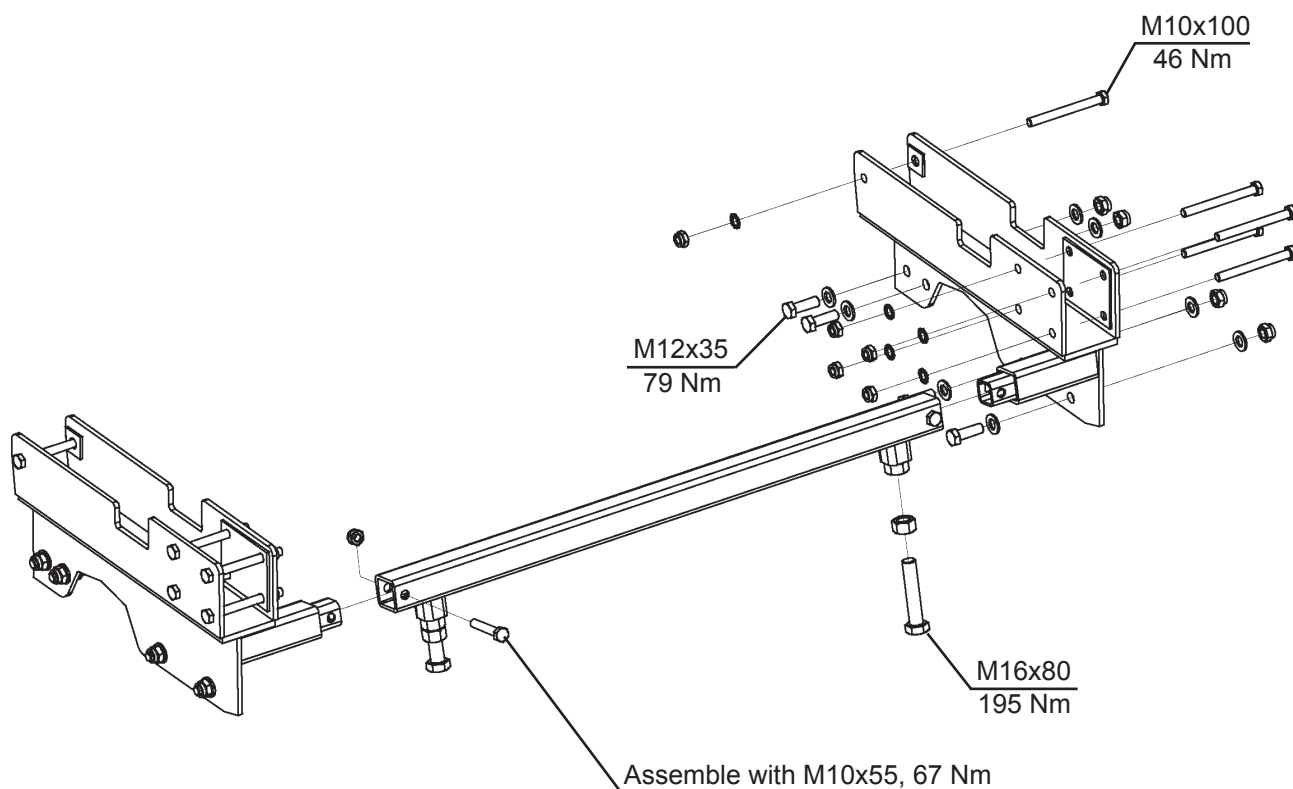
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

MB SPRINTER 200/300, VW LT 28/35, wheel base = 3550 mm (art. no. 53275)
MB SPRINTER 400, VW LT 46, wheel base = 4025 mm

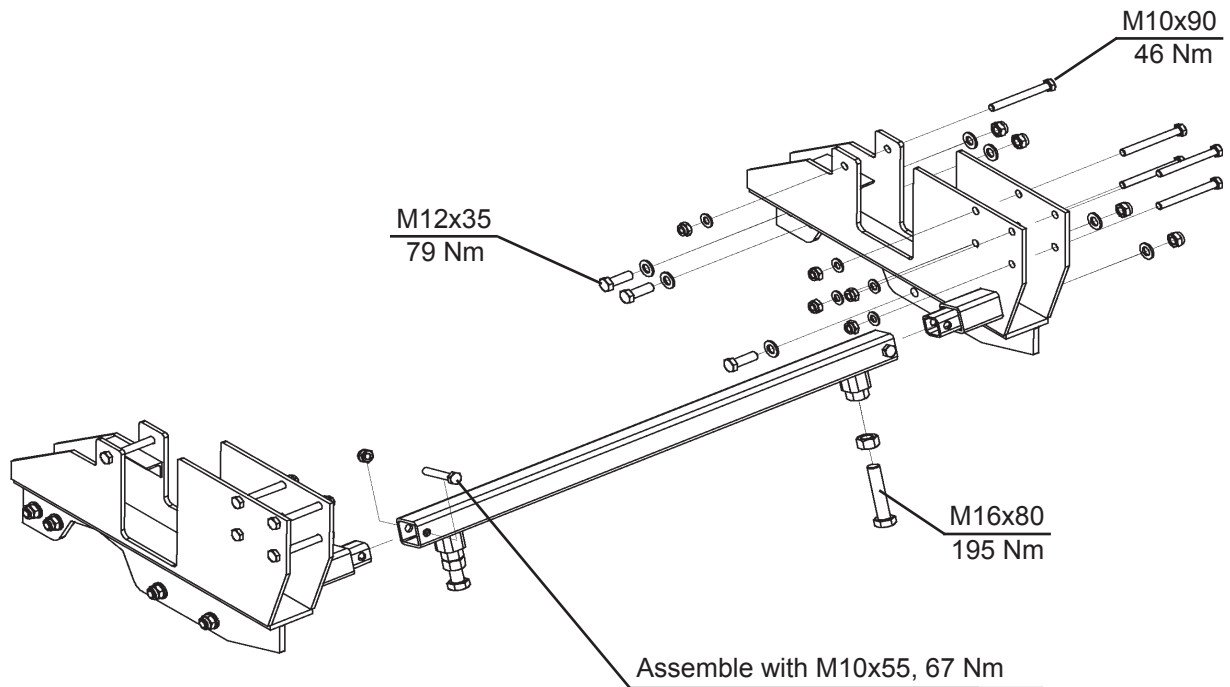
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

MB SPRINTER 400, VW LT 46, wheel base = 3550 mm (art. no. 53299)

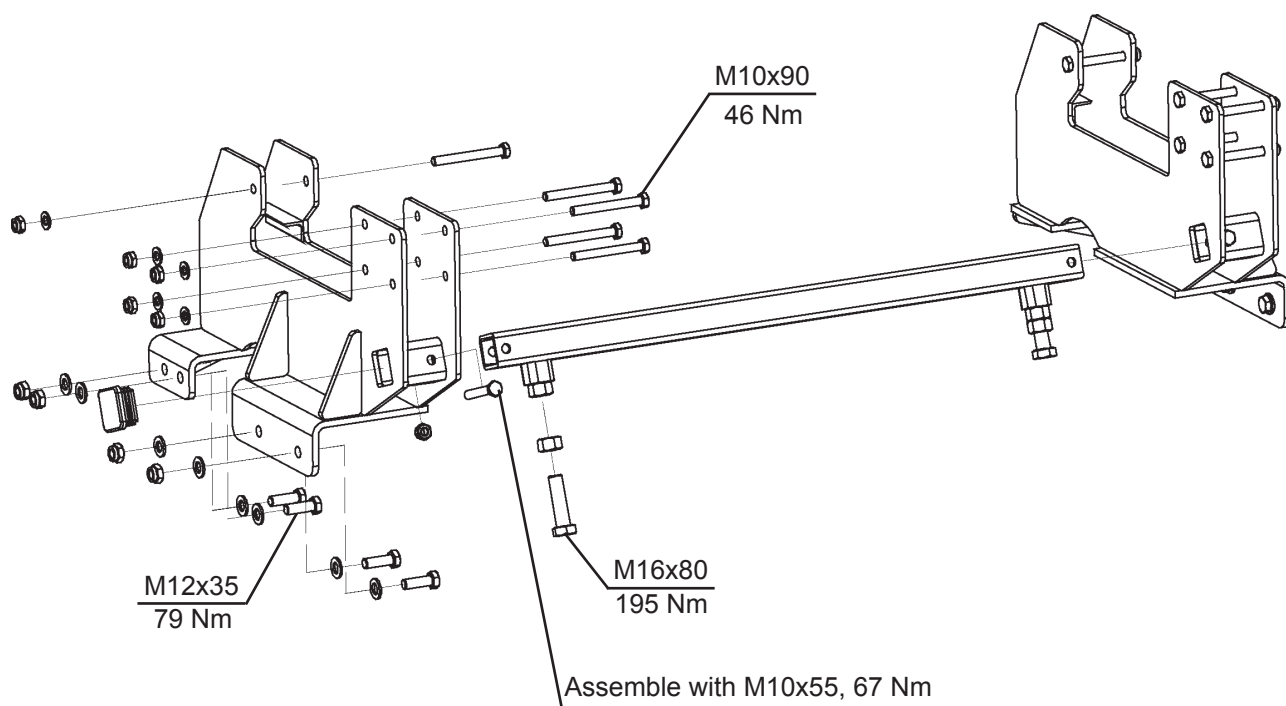
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

MB SPRINTER 200/300, VW LT 28/35, wheel base = 3550 mm (art. no. 53355)

MB SPRINTER 400, VW LT 46, wheel base = 4025 mm

Mounting without doors

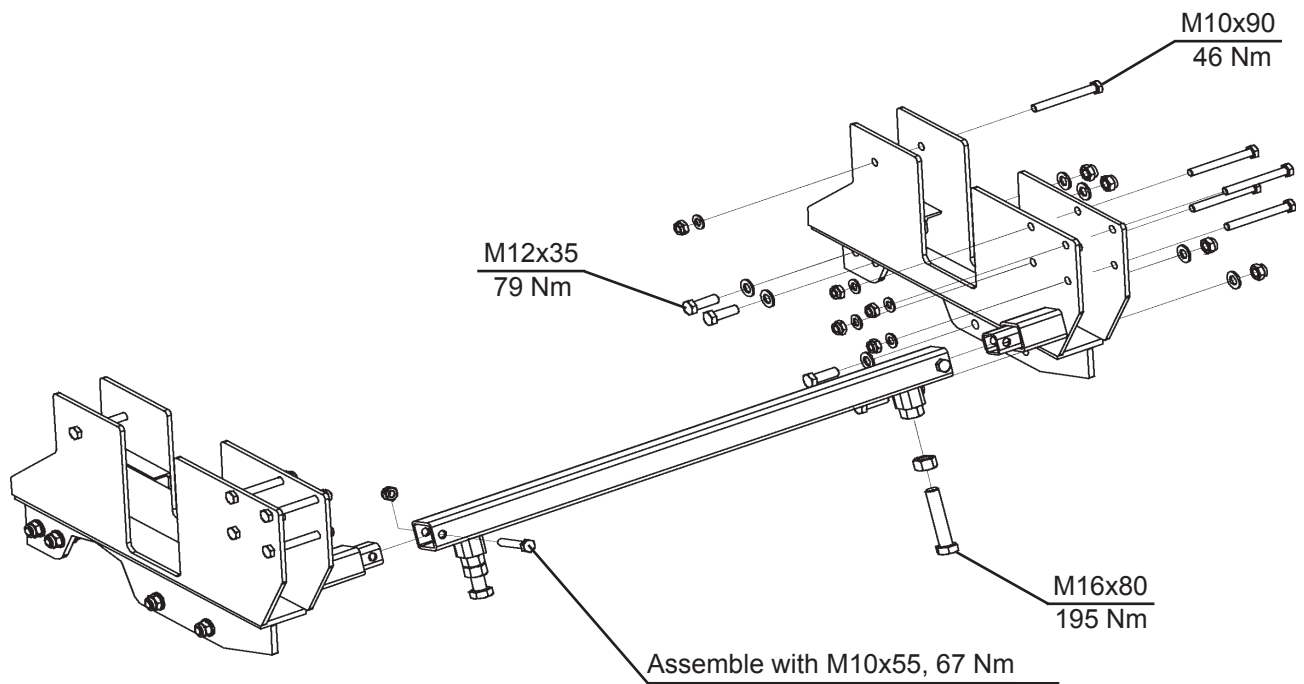
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

MB SPRINTER 906, VW Crafter 28/35, wheel base = 4325 mm & VW Crafter 50, wheel base = 4325 with overhang 2000mm (art. nr. 53840)

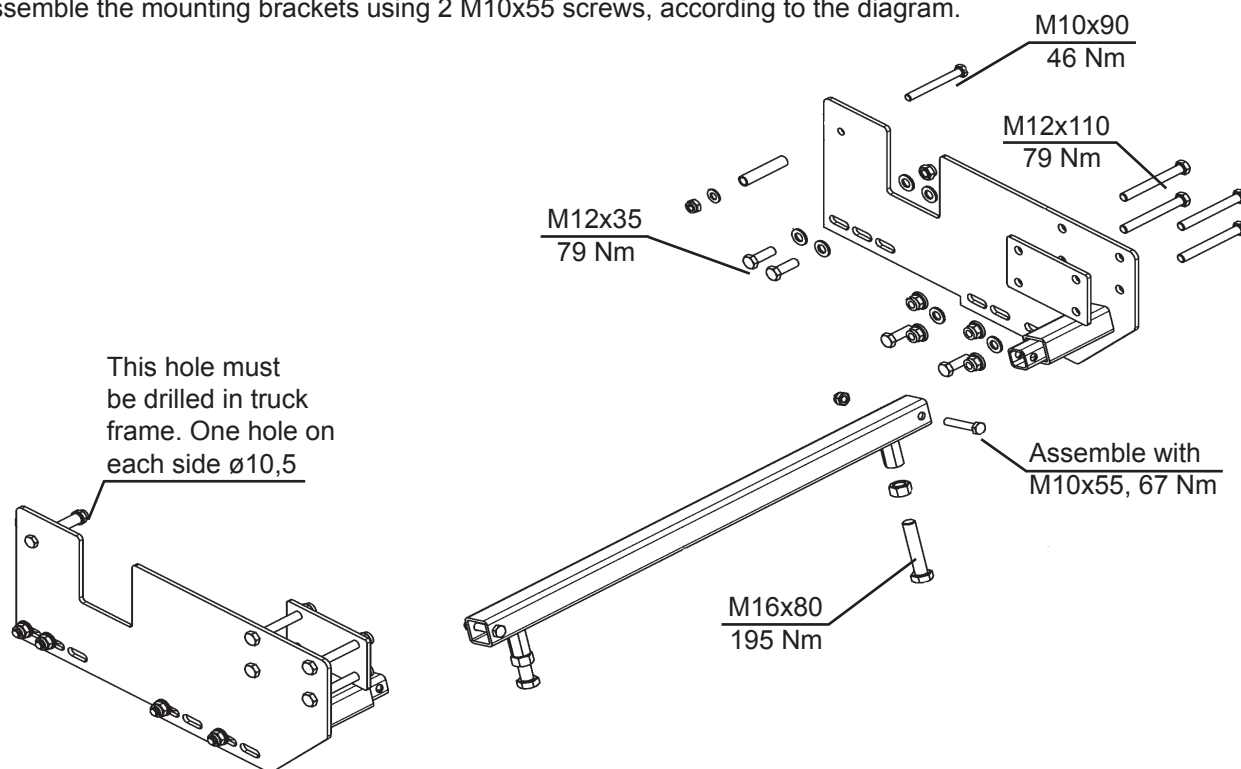
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

MB SPRINTER 906, VW Crafter 28/35, wheel base = 3665 mm (art. nr. 56072)

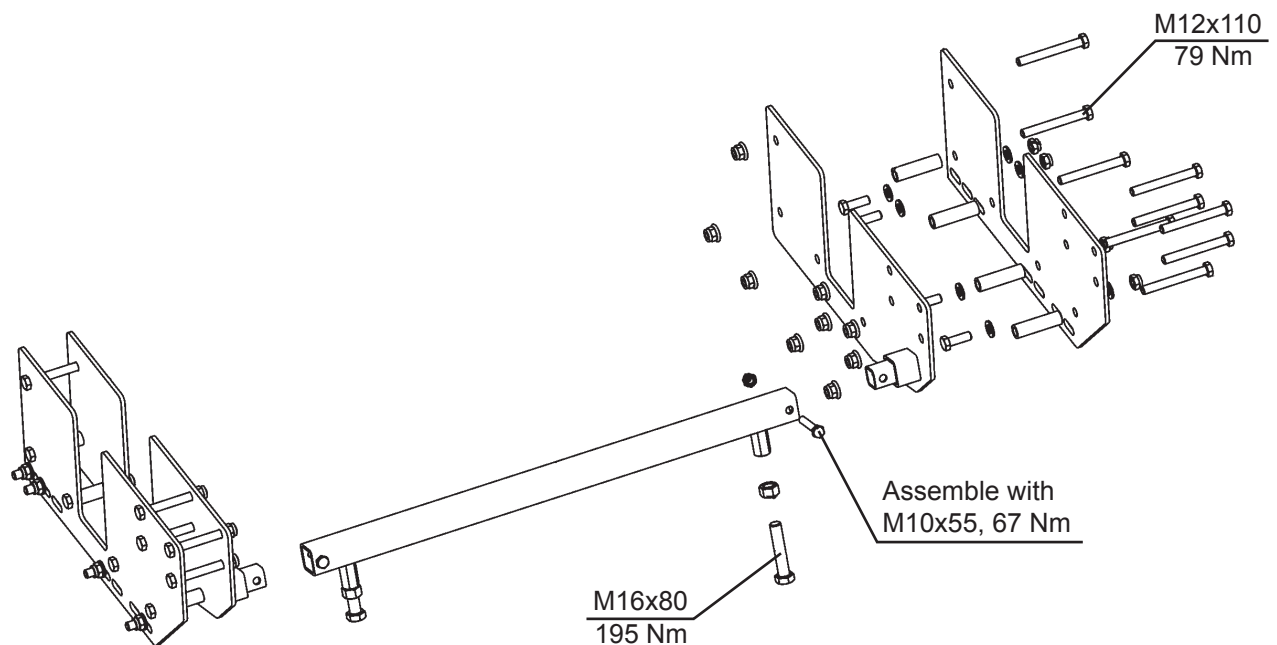
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

PEUGEOT BOXER, FIAT DUCATO, CITROEN JUMPER (art. no. 56187)

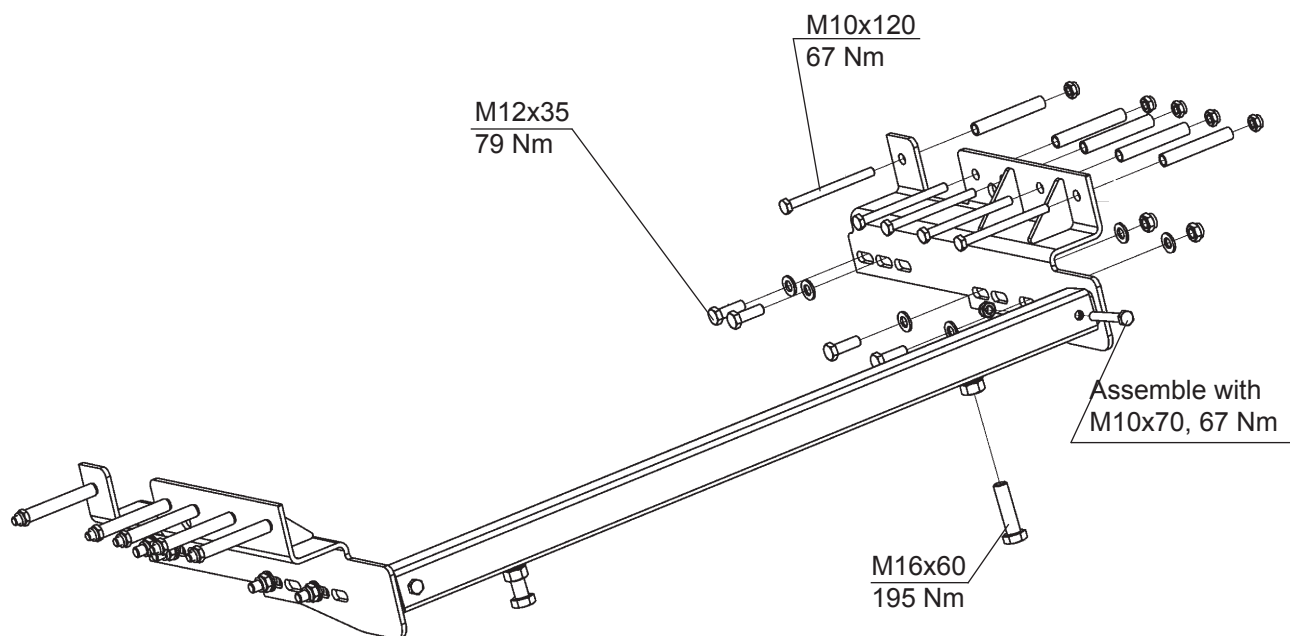
Models from 2007

Preparations

Remove spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x70 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

MB SPRINTER 906, VW Crafter 50, wheel base = 3665 mm (art. nr. 59015)

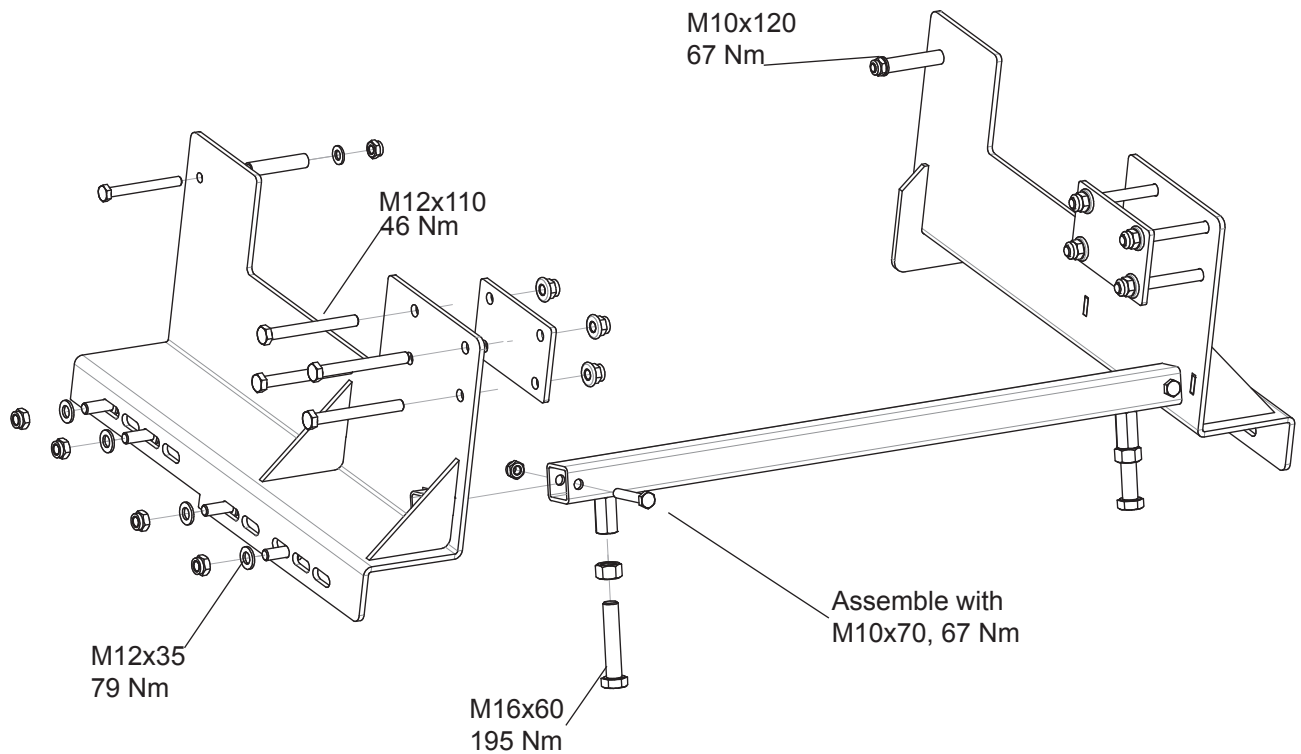
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

**MB SPRINTER 906, VW Crafter 50, wheel base = 4325 mm Overhang 1600mm
(art. nr. 59025)**

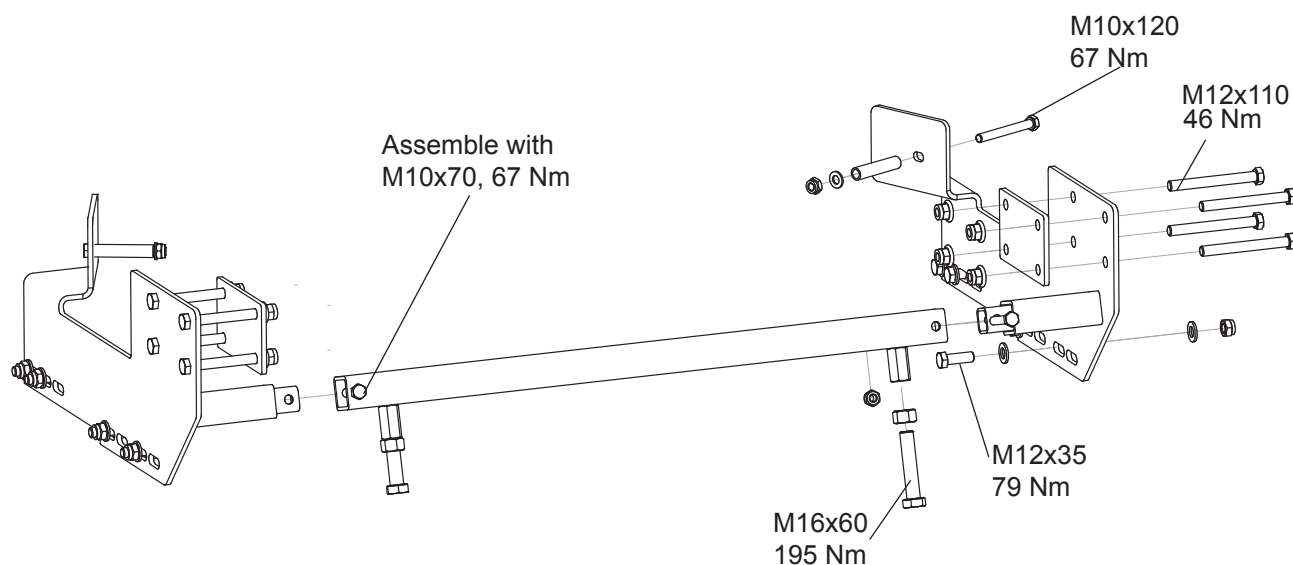
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

RENAULT MASTER, OPEL MOVANO, NISSAN NV400 FRONT WHEEL DRIVE (art.nr 72159TL)

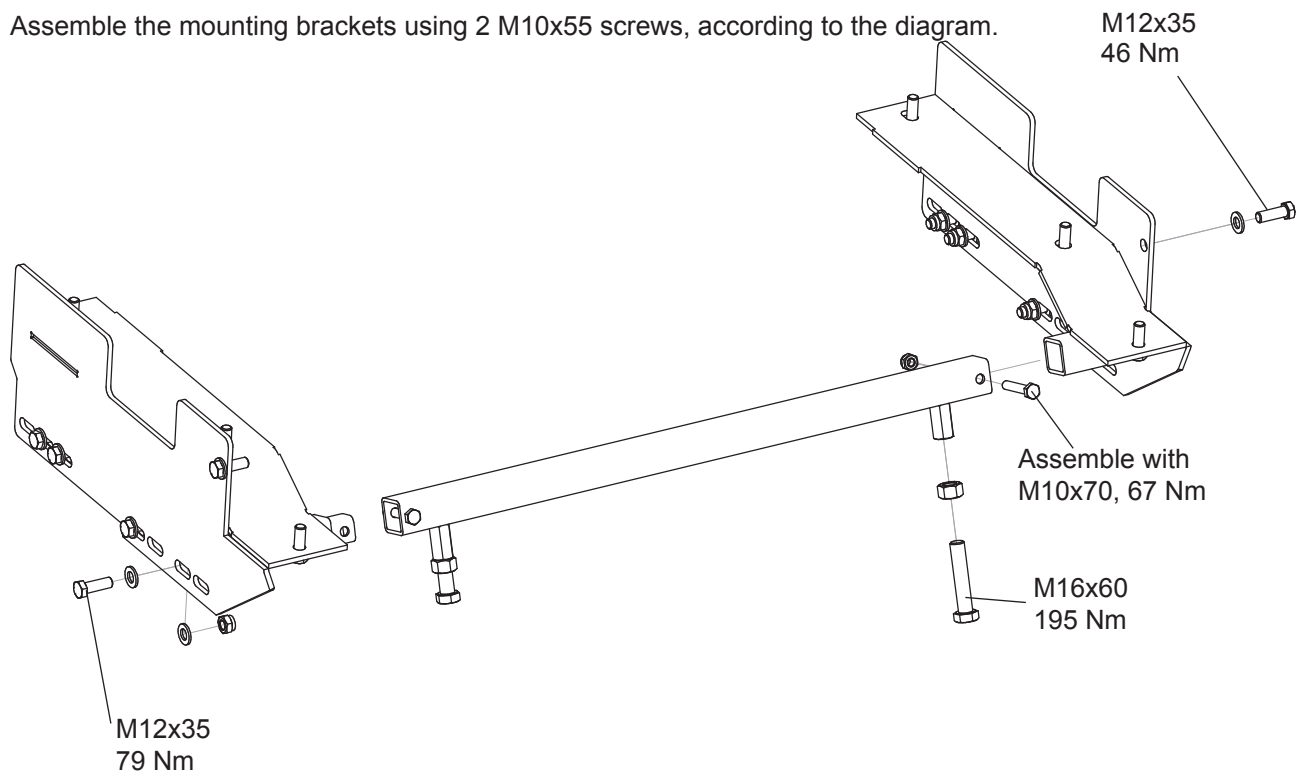
Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket
- Rear towing eye

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.



Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

RENAULT MASTER, OPEL MOVANO, NISSAN NV400 REAR WHEEL DRIVE (art.nr XXXXXTL)

Preparations

Following parts must be removed before mounting tail-lift

- Spare tire and spare tire mounting bracket
- Rear towing eye

It is possible that some under body rust protection must be removed, protect these parts carefully with paint.

Assemble the mounting brackets using 2 M10x55 screws, according to the diagram.

Mounting kit assembly

Lift mounting kit up and make sure that mounting kits is properly located.

Install mounting kits bolts, washers and nuts as instructed in picture, do not tighten up bolts to final tension

Exhaust pipe

Exhaust pipe must be modified and relocated. In panel vans exhaust gases must be leaded to left side of vehicle. In trucks exhaust pipe can be also directed under the truck. Check your local laws before modifications.

5. Mounting kits

Tail-lifts assembly

Lift up tail-lift to mounting kit. Install bolts and nuts as instructed in picture. When you are sure that tail-lift is properly in place, first tighten up mounting kits bolts and after that tail-lifts mounting bolts.

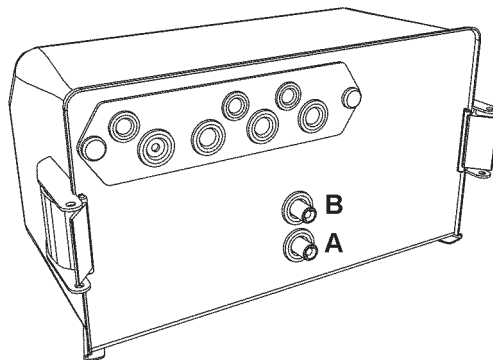
Power pack mounting

Note! Replace the transport plug with regular filler cap before the plugs on port A and B are removed. We recommended that power pack will be mounted inside cargo area, above the inner wing, using included mounting bracket.

Connect hydraulic hoses to hydraulic unit as following:

The power pack can be mounted horizontal or vertical.

Returnside tiltcylinder (A), Pressureside lift/tiltcylinder (B).



Platform mounting

Remove cover plates from the ends of platform, remove grease nipple and pivot pin locking's.

Remove pivot pins with slide hammer.

Lift up platform and connecting link to it's place, re-install pivot pins.

Install grease nipples and locking's back to place.

NOTE! Grease platform pivot pins at this stage.

Installation of tilting cylinder

Drive tilting cylinder out and install top pivot pin, remember locking.

6. Electrical installation

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 12V (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 schema).

Install the control current cable from the dashboard of the truck according to the customers requirements. The control current switch 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 + pole of 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.

The picture below shows proper connection.

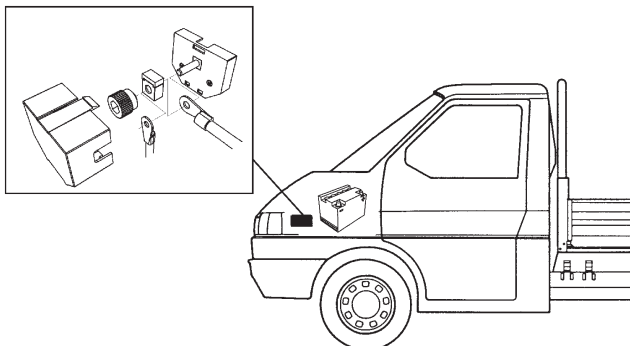
If you want an electrically heated spiral cable unit you can order a 5-part cable (spare-part no 21303). Note that the spiral cable unit must have its fastening plate for the wall (spare-part no 20302).

Check that the hydraulic unit is well earthed according to truck manufacturer's instructions (earthing is made through leading in plate, see picture).

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.

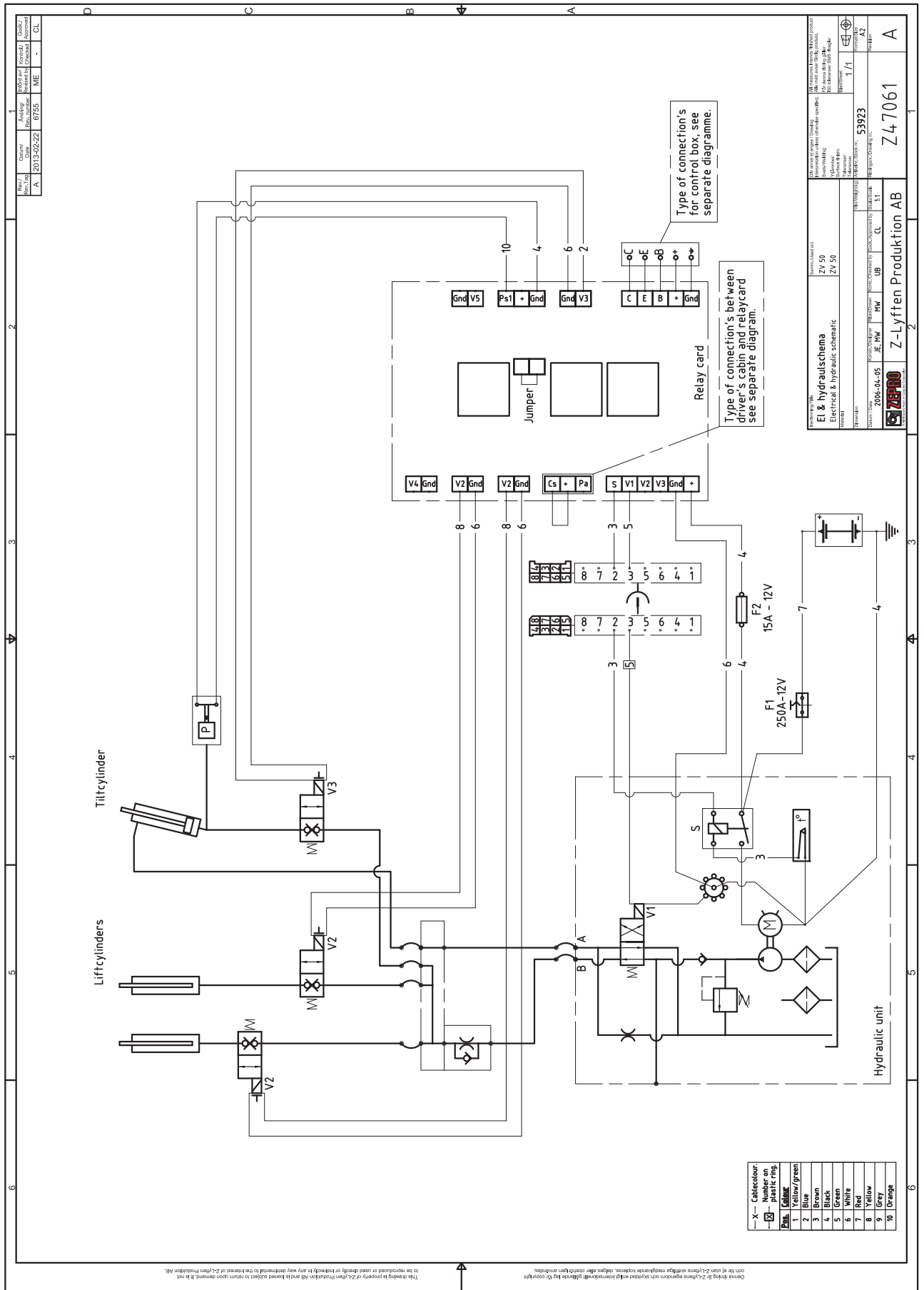
Test run all functions from all control units.

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



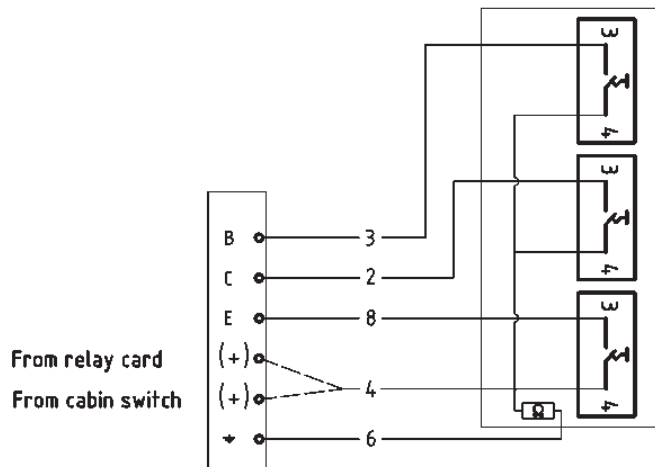
7. Electric and hydraulic diagram

ZV-50-85 MA

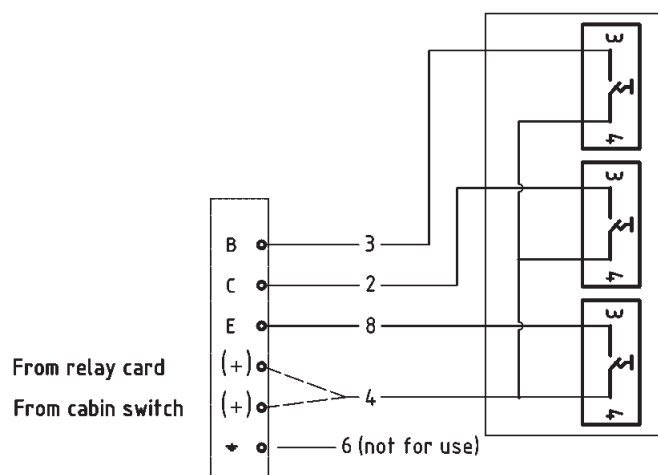


7. Electric and hydraulic diagram

Control unit / control unit with spiral cable

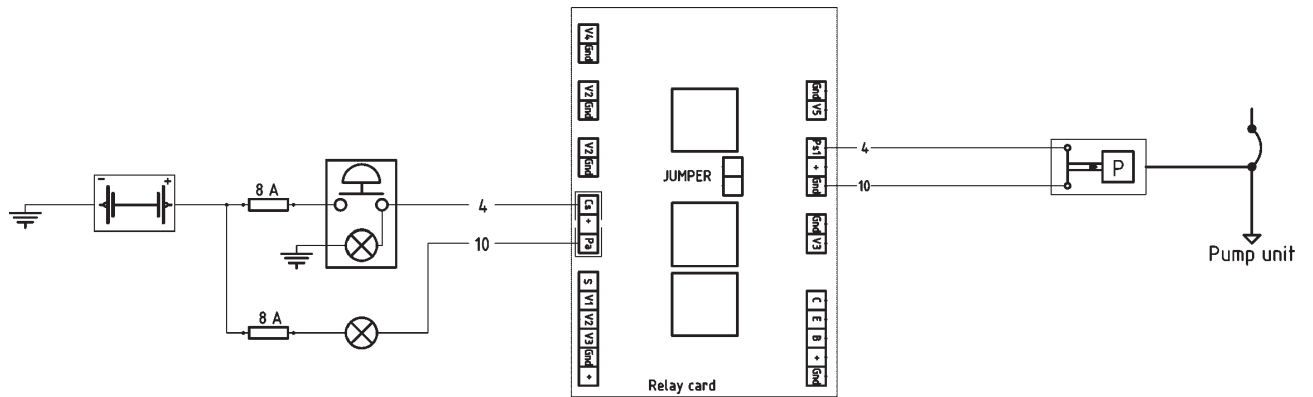


Nr. /No.	Färg / Color/Farbe
1.	Gul / Grön, Yellow / Green, Gelb / Grün
2.	Blå / Blue / Blau
3.	Brun / Brown / Braun
4.	Svart / Black / Schwarz
5.	Grön / Green / Grün
6.	Vit / White / Weiß
7.	Röd / Red / Rot
8.	Gul / Yellow / Gelb
9.	Grå / Grey / Grau
10.	Orange / Orange / Orange



7. Electric and hydraulic diagram

Cabin switch, Alarm for open platform

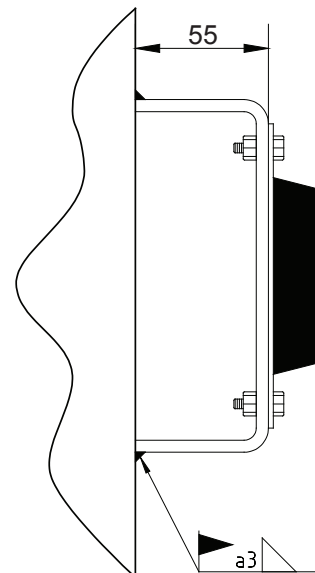
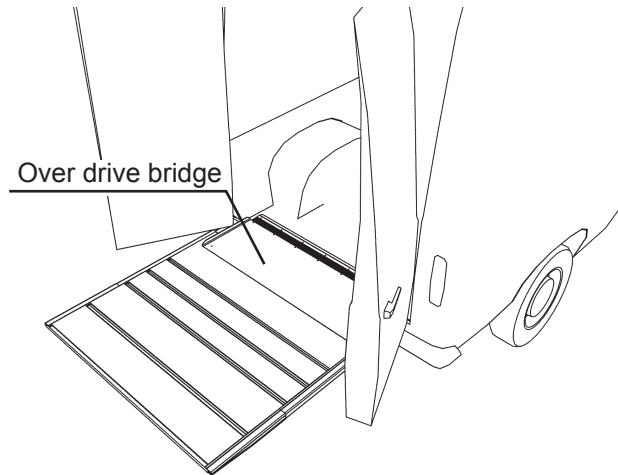


8. Installation, continued

Over drive bridge

Install over drive bridge to the vehicle in such a way that the tip of over drive bridge overlaps the platform at least 40 - 60 mm.

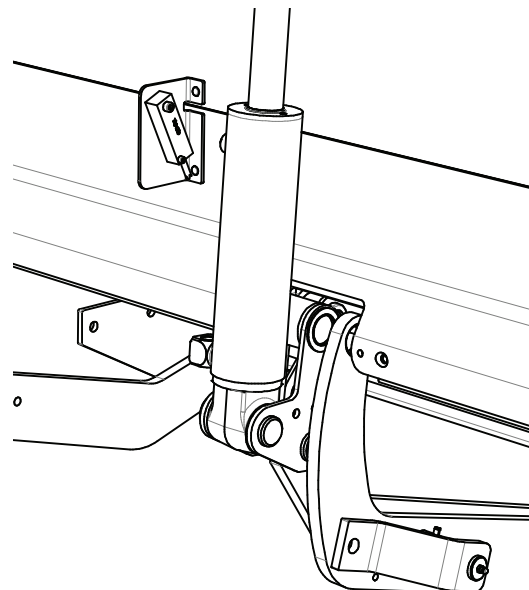
For safety reasons the clearance between the platform and the rear beam should be at least 75 mm when the platform surface and the bottom of the edge of the rear beam are at the same height. If distance is less than 75 mm the vehicles frame must be modified.



If the side seal are not used then leave a gap between the platform and the back of the body to prevent the risk of crushing fingers. Mount rubber bumpers onto the back wall of the body high enough, or adjust the tilting cylinder to leave gap between platform and back of the body.

Radio remote control

When installing radio remote control, the angle sensor should be installed on the platform according to picture.



8. Installation, continued

MOUNTING OF PLATFORM SEALS (if applicable)

Sealing system (horizontal)

Install the horizontal aluminium or steel guide bar. Self-tapping screws delivered. Drill 7.2 mm holes. Mitre the rubber against the side seal.

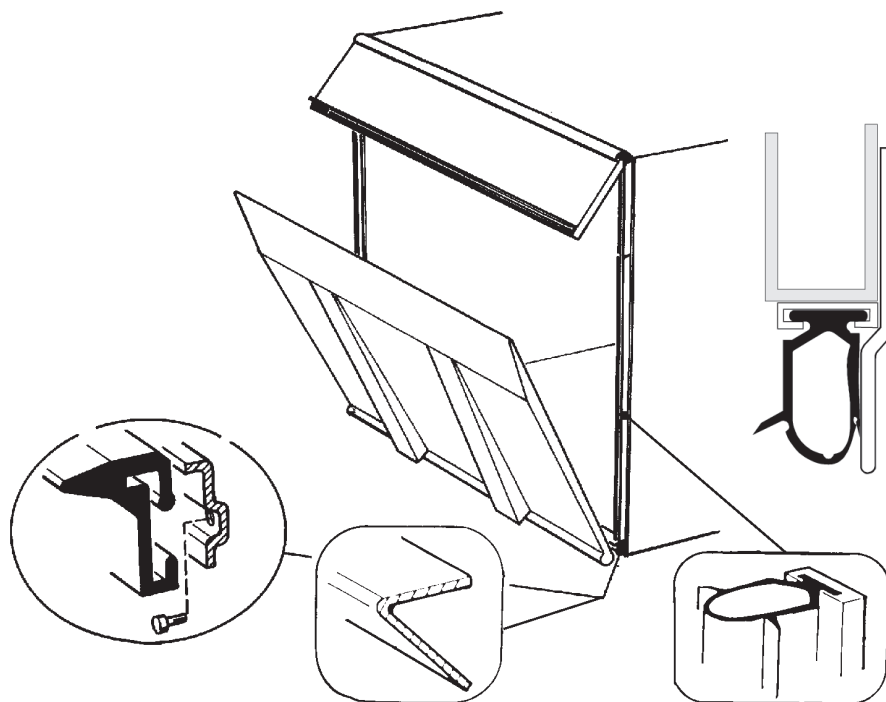
Sealing system (vertical)

Install the rails for the vertical sealing strips. Note the position of the lock ears.

They can be fastened with screws, rivets or welding. The rubber strips are installed after the lock ears.

The rubber strips are locked by pressing the rails together.

If upper seal must be installed you must mitre 45 degrees against vertical stripes.

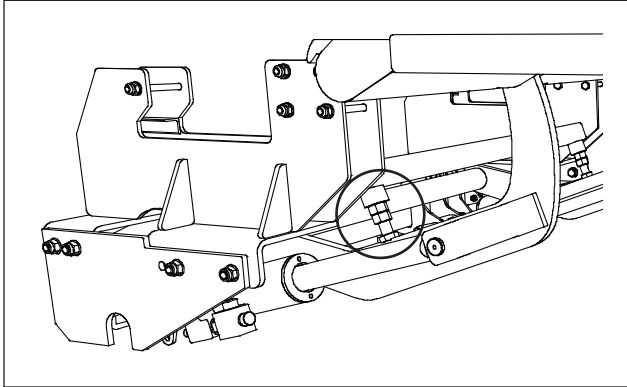


8. Installation, continued

Armstops

The armstops must be adjusted after the installations of mounting kit and tail-lift.

Adjust the two screws so both of the armstops meet the liftarms at the same time.



Bleeding the cylinders

For all lift cylinder models.

Fully lower the platform a few times. You may have to lift the truck to fully lower the platform.

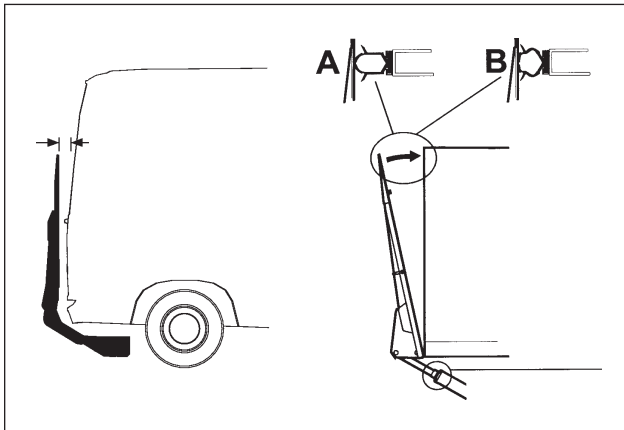
Concerning tiltcylinder models

Tilt cylinder can be purged of air by closing the platform up against the vehicle body and then opening and tilting all the way down.

8. Installation, continued

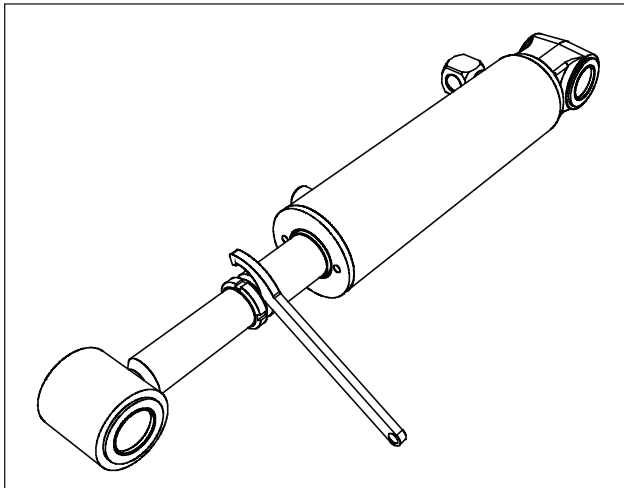
Adjusting the tiltcylinder

The tilt cylinder can be adjusted in order that the platform is positioned vertically behind the rear of the body. Occasionally the ZV platform can be used as a rear door of a body-and in such cases the tiltcylinder's adjustment is used to provide a good fit between the rubber body seals and the platform.

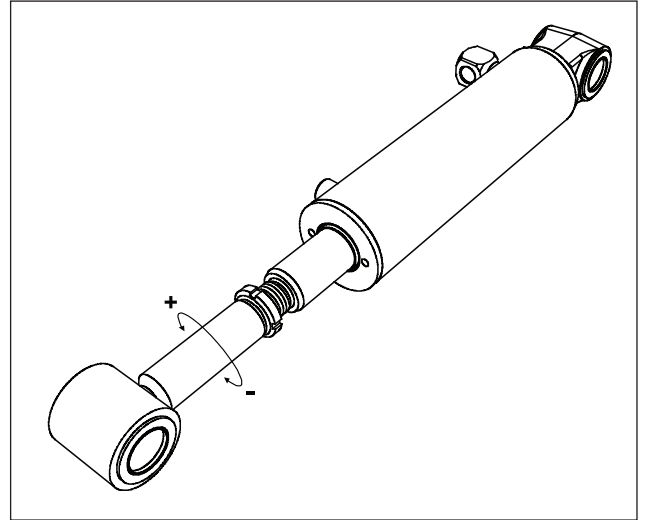


In order to adjust the tilt cylinder

Loosen the locking nuts
Grip the collar with a tool
Twist the piston rod clockwise or anti-clockwise depending on the required direction of adjustment. See diagram

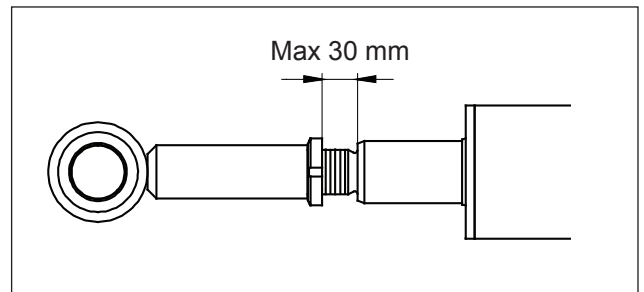


Adjust the tilt cylinder when horizontal.
Clockwise adjustment results in the platform being lowered. Anti-clockwise adjustment results in the platform being raised



NB! DO NOT EXCEED the max. adjustment is 30 mm.

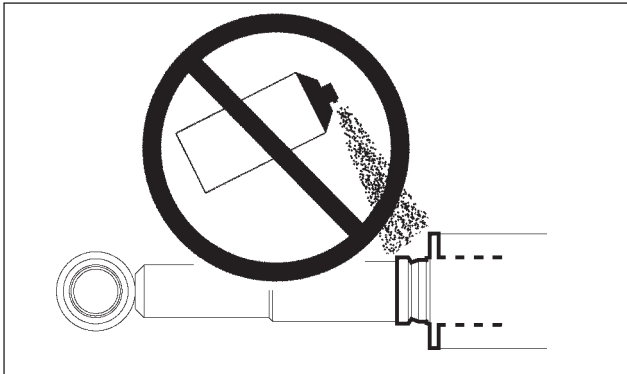
After adjustment, tighten the lock nuts. 80 Nm.



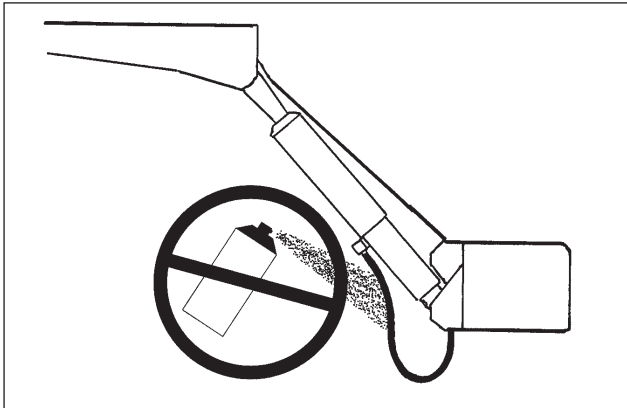
7. Important information

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).

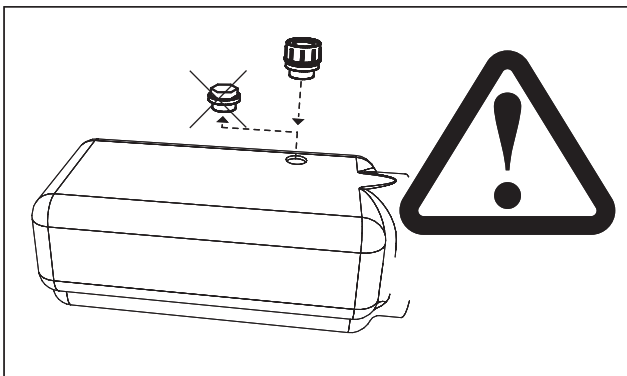


Hydraulic hoses must not be painted, the paint's solvent can damage the hose's rubber compound and can adversely affect durability



Replace the transport plug

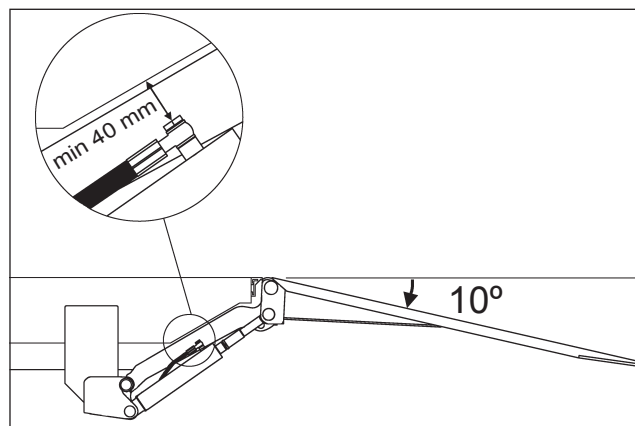
During installation the oil tank transport plug should be removed and replaced



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.



9. Markings, decals

(see pictures on next page)

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

There 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.

ZEPRO			
Z-LYFTEN PRODUKTION AB, SWEDEN			
TYPE	Z-LYFTEN PRODUKTION AB		
MAX LOAD KG	KATRINEHOLM +46 150-48 95 50		
PROD NO.	BISPGÅRDEN +46 696-172 00		
PROD YEAR	SWEDEN		
	ETC	EC	EMC

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.



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

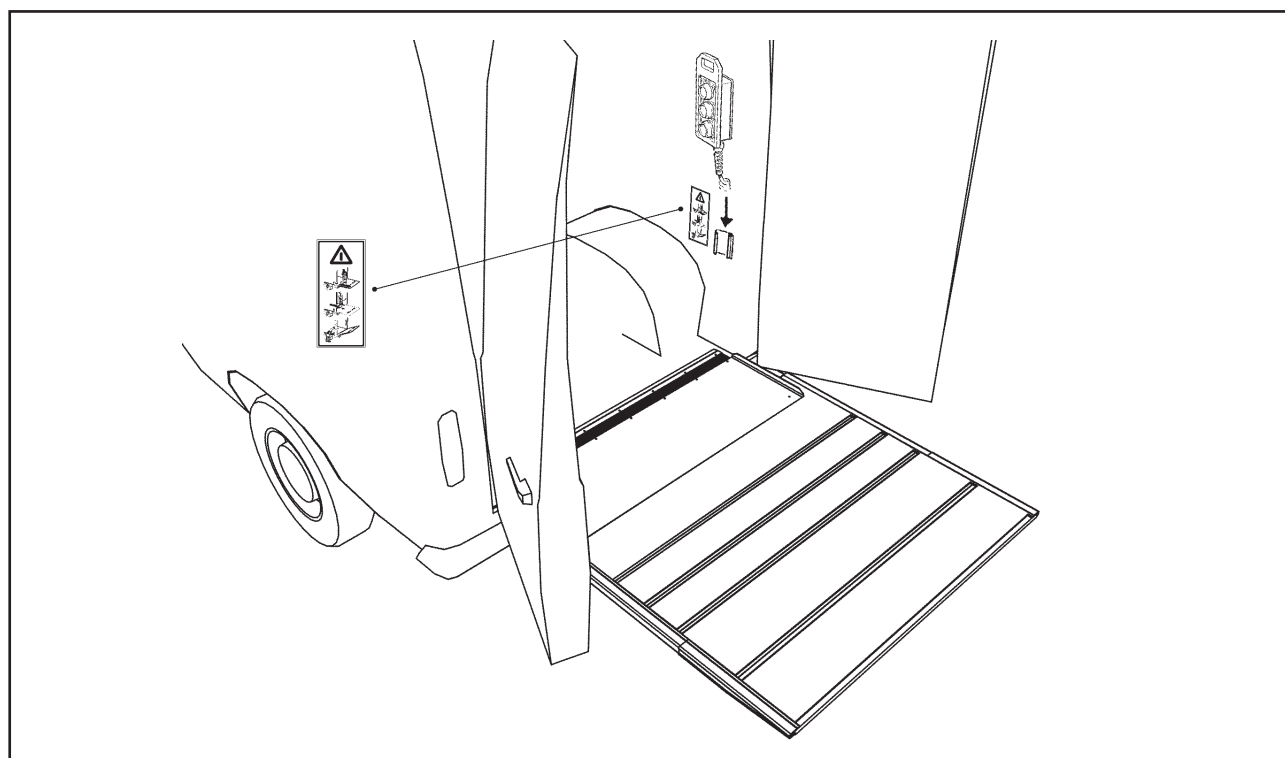
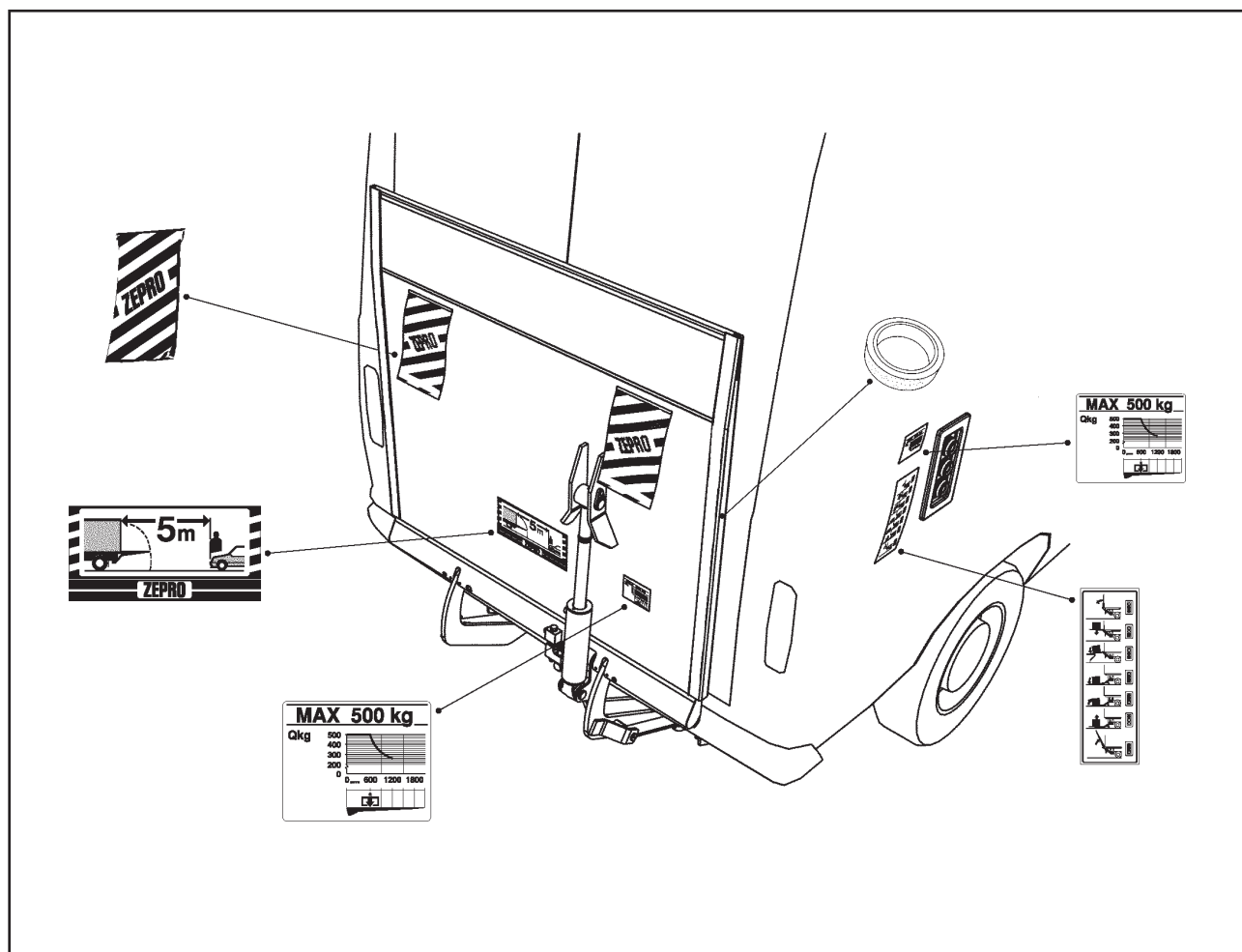
An operating instructions decal should be placed next to the main control unit.

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 yellow/black warning tape along the side edge of the platform to make it more clearly visible when in the horizontal position.

Install the warning flags with reflection strips, 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.

9. Markings, decals

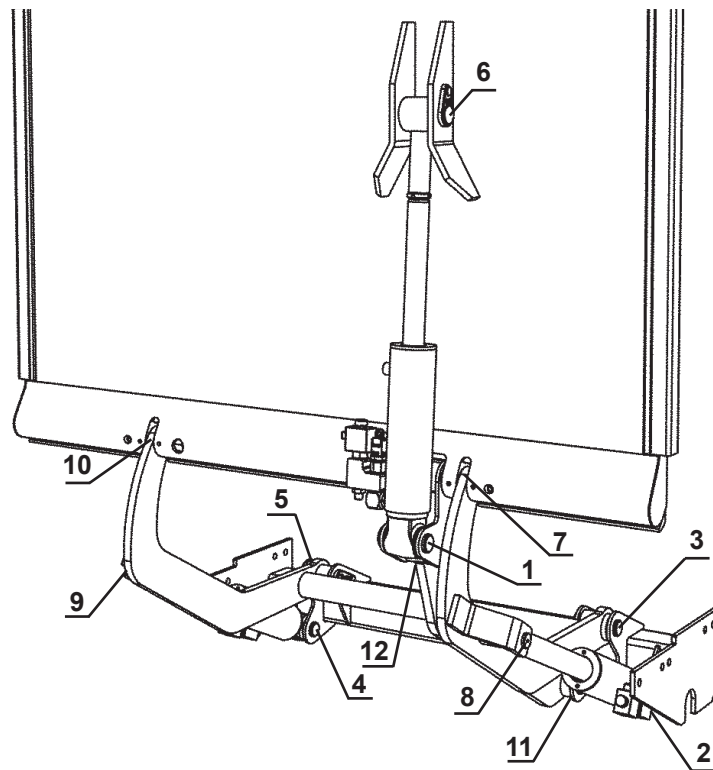


10. Maintenance

Grease all bearings and platform locks with LE lubricant 1233 or equivalent.

Greasing at least 8 times / year

1. Tiltcylinder, lower bearing.
2. Right liftcylinder, lower bearing.
3. Liftarm right side, lower bearing.
4. Left liftcylinder, lower bearing.
5. Liftarm left side, lower bearing.
6. Tiltcylinder, upper bearing
7. Liftarm right side, upper bearing incl. connecting link
8. Right liftcylinder, upper bearing.
9. Left liftcylinder, upper bearing.
10. Liftarm left side, upper bearing.
11. Supporting arm, lower bearing.
12. Supporting arm, upper bearing.



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.

11. Load testing the tail 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

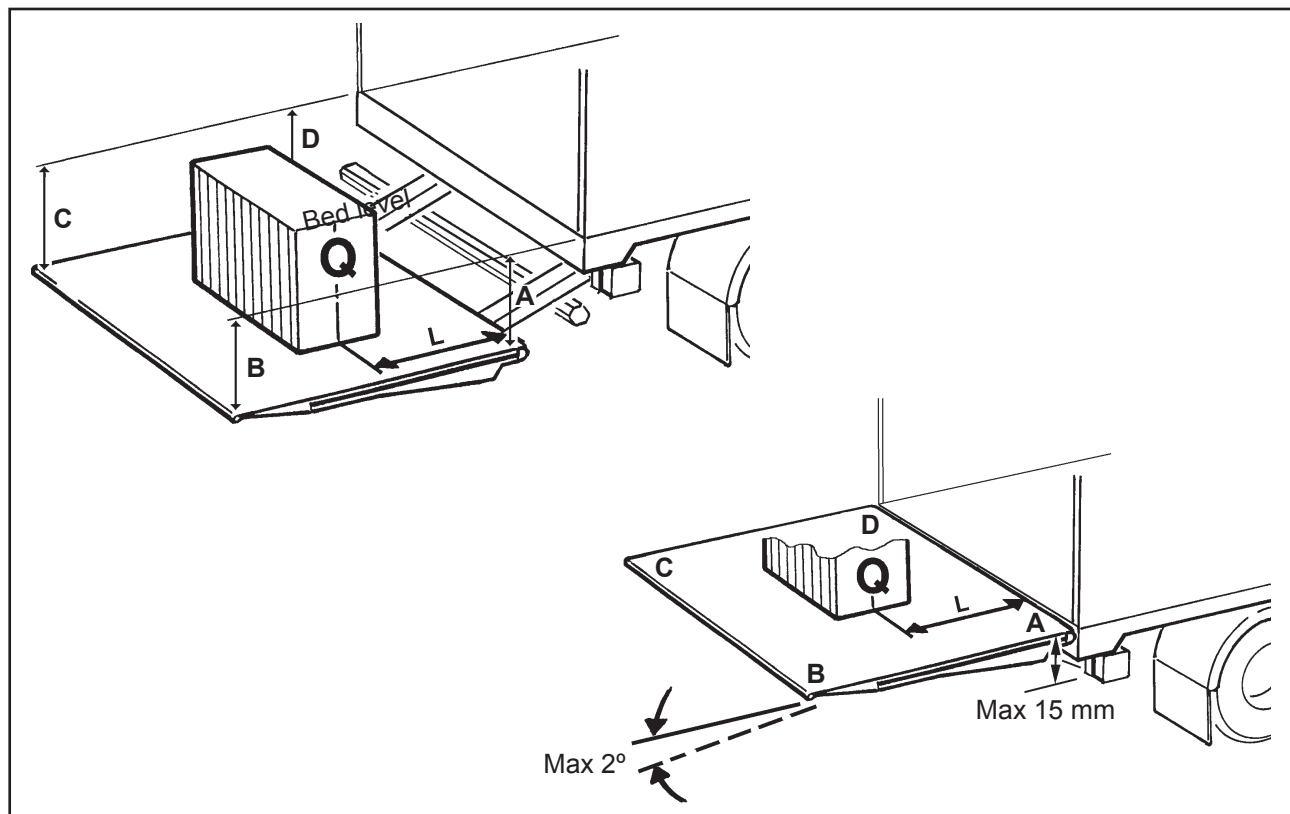
Place a test load on the platform according to the table (for the corresponding tail lift model and loading capacity). The tail lift should be in the same level and angle as floor. Leave the test load on the platform for 15 minutes. Check that the platform's deflection is not more than 15mm vertically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



11. Load testing the tail 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).

12. 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 same 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.

