UNI-LIFT 3500 NT ND UNI-LIFT 3200 NT Plus ND

Automotive-lift date: 12/2009 Manual date: 10.12.2009



Operating instruction and Documentation

Serial-number:	
Senai-number.	

retailer/ phone	





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Foreword

Nußbaum lifting systems are the result of over 25 years experience in the automotive lifting industry.

The high quality and the superior concept ensure reliability, a long lift lifetime and above all and economic business solution.

To avoid unnecessary damage, injury or even death, read the operating instructions with care and observe the contents.

Nußbaum lifts is not responsible for incidents involving the use of Nußbaum lifting systems for applications other than those for which they were designed.

Otto Nußbaum GmbH & Co. KG is not liable for any resulting damages. The user carries the risk alone.

Obligations of the user:

- To observe and adhere to the operating instructions.
- To follow the recommended inspection and maintenance procedures and carry out the prescribed tests.
- The operating instructions must be observed by all persons working with or around the lift.
- Above all chapter 4 "Safety Regulations" is very important and must be closely adhered to.
- In addition to the safety regulations stated in the operating instructions manual, the appropriate safety regulations and the operating procedures of the place of operation must also be considered.

Obligations of the operator:

The operator is obliged to allow only those persons complying to the following requirements to work with or around the unit.

- Persons being familiar with the basic regulations concerning labour safety and accident prevention and being trained to operate the particular unit.
- Persons having read and understood the chapter concerning safety and warning symbols.
- Persons using the lift are required to confirm that they have read and understood the chapter on safety and warning symbols by signing the appropriate form.

Dangers when operating the lift:

Nußbaum-Lifts are designed and built according to technical standards and the approved regulations for technical safety. The use of Nußbaum lifts for purposes other than those for which they were designed, may result in injury or even death.

The lift must only be operated:

- For its appropriate use
- In faultless condition concerning technical security.

Organisational Requirements

- The instructions for use are to be kept at the place of operation being easily accessible at any time.
- In addition to the instructions for use, rules pertaining to other regulations i.e. accident prevention and environmental rules are to be observed and adhered to.
- The owner of the Nußbaum lifting system must ensure that operators and persons working with or around the lift occasionally conduct "refresher" courses to ensure that the appropriate operating procedures and safety precautions are known.
- Personal Protective Equipment (PPE) must be used according to the appropriate regulations.
- All safety- and danger signs on and around the lift are to be observed and followed!
- Spare parts must comply with the technical requirements specified by the manufacturer. This is only warranted with original parts.
- Observe and adhere to the specified time intervals between tests and inspections.

Maintenance works, repairing faults

- Adjustments, maintenance, and inspections, are to be followed according to the time intervals specified. Details regarding the exchange of parts and components as mentioned in the operating instructions are to be adhered to.
 - These works must only be carried out by expert personal.
- After maintenance- and repair works loose screws, nuts and bolts must always be firmly tightened!

Guarantee and liability

- Our "General conditions of selling and delivering" are in force.
 - There will be no guarantee or liability for incidents involving injuries or death or damage to equipment if these incidents are the result of one or more of the following reasons.
- Inappropriate use of the lift
- Inappropriate installation, initiation, operation and maintenance of the lift.
- Use of the lift while one or several security devices do not work, do not work correctly or are not installed correctly.
- Failure to follow the regulations of the operating instructions regarding transport, storage, installation, initiation, operation and maintenance of the lift.
- Unauthorized changes to the structure of the lift without first asking the producer.
- Unauthorized changes of adjustments of important components of the lift (e.g. driving elements, power rating, motor speed, etc)
- Wrong or incorrect maintenance practice.
- Catastrophes, acts of God or external reasons.





After completely filling out this sheet including signatures, copy and return the original to the manufacturer. The copy must remain in the manual.

Otto Nußbaum GmbH & Co. KG Korker Straße 24 D-77694 Kehl-Bodersweier

Record of installation

The a	utomotive lift with the				
serial	number:		was installed on:		
at the	firm:		at:		
The ir The ir The o	nitial safety check was nstallation was carried nitial safety check was perating authority con ms the correct initial o	out by the opera carried out by a irms the correct	ting authority/comp competent person	petent (please de before the initial	operation.
	Used Dowels(*):			(Type/Name)	
	Minimum anchorage	depth (*) kept:		_mm	ok
	Starting torque (*) kep	ot:		_NM	ok
date			erating authority	signature of the	operating authority
date			mpetent person	signature of the	competent person
Your	customer service:				(stamp)
(*) see	supplement of the do	wel manufacture	ers		
			Automotiv	e Lift date: 12/2009 /	Manual date: 10.12.2009



Record of handing over

The automotive lift with the			
serial number:		was installed on:	
at the firm:		at:	
the safety was checked and	d the lift was start	ed.	
•			notive lift. The introduction was anchised dealer (competent
date	name		signature
date	name of compe	tent signa	ature of the competent
Your customer service:			(stamp)

1.General Information

The document "Operating Instructions and Documentation" contains important information about installation, operation and maintenance of the automotive lift.

- Conformation of installation of the automotive lift is recorded on the "Record of Installation" form and must be signed and returned to the manufacturer.
- Conformation of once of, regular and out of the ordinary service checks is recorded in the
 respective check forms. The forms are used to document the checks. They should not be
 removed from the manual.

All **Changes to the structure** and any change of **location** of the automotive lift must be registered in the "**Master document**" of the lift

1.1 Installation and service checks of the automotive lift

Only specialised staff are allowed to repair and maintain the lift and only these specialised staff are allowed to conduct safety checks on the lift. For the purposes of this document these specialised staff will be called Experts and Competent persons.

Experts

are persons (for example self-employed engineers, experts) which have received instructions and have the appropriate experience to check and to test the automotive lifts. They are aware of the work involved and know the accident prevention regulations.

Competent persons are persons who have acquired adequate knowledge and experience with automotive lifts. They have completed the appropriate training provided by the liftmanufacturer (the servicing technicians of the manufacturer or dealer, are regarded as competent)

1.2 Warning Symbols

The three symbols below are used to indicate danger and other important information. Pay attention to areas on and around the lift that are marked with these symbols.



Danger! This sign indicates danger. Ignoring this warning may result in injury or even death.



Caution! This sign cautions against possible damage to the automotive lift or other material objects in the case of improper use .



Attention! This sign indicates an important function or other important information regarding the operation of the lift.

2.Master document of the automotive lift

2.1 Lift-manufacturer

Otto Nußbaum GmbH & Co. KG Korker Straße 24 D-77694 Kehl-Bodersweier

2.2 Application

The automotive lift UNI-LIFT 3500 NT ND is a lifting mechanism for lifting motor vehicles with a laden weight of up to 3500 kg.

The automotive lift UNI-LIFT 3200 NT PLUS ND is a lifting mechanism for lifting motor vehicles with a laden weight of up to 3200 kg. The wheel free lift a lifting mechanism for lifting motor vehicles with a laden weight of up to 2500 kg. The max. load distribution is 2:3 either in or against the drive-on direction.

The automotive lift has been designed for servicing vehicles only. It has not been designed to carry people. Carrying people either directly on the lift or in vehicles that are on the lift is therefore not allowed.

The installation of the standard lift in hazardous or dangerous locations such as wash bays is dangerous and is therefore not allowed.

Changes of construction, repairing and changes of place must be registered in this master document.

2.3 Changes at the construction expert checking, resumption of work (date, kind of change

signature of the expert)	dimption of work (date, kind of change,
name, address of the expert	
place, date	signature of the expert
2.4 Displacement of the automotive-lift	
Displacement of the automotive-lift, expert check	ing recumption of work (data kind of
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2.5 page for notice	



3. Technical Information

3.1 Technical data

Capacity without wheel free lift 3500 kg
with wheel free lift 3200 kg

Load distribution 2:1 in or against the drive on direction

Lifting time approx. 30 sec. with max. load Lowering time approx. 30 sec. with max. load

Wheel free lift 2500 kg

Load distribution 2:3 in or against the drive on direction

Lifting time approx. 8 sec. with max. load Lowering time approx. 12 sec. with max. load

Line Volthage 3 x 400 Volt , 50Hz

Power rating 3 kW (992856)

Motor rotation 2880 rotation/min
Pump capacity 2,7 cm³ (1BK74,2S)
Hydraulic pressure approx. 320 bar
Pressure control valve approx. 360 bar

Oil Tank: approx. 10 Litre
Sound level: ≤ 75 dB(A)

Connection by customer 3~/N+PE, 400V, 50 Hz

fuse 16 Ampere (time-lag fuse)

observe your regulations of your country

3.2 Safety devices

1. Pressure relief valve

Overprint-safety of the hydraulic system

2. Holding valve

safety device against unintentional lowering

3. Lockable main switch

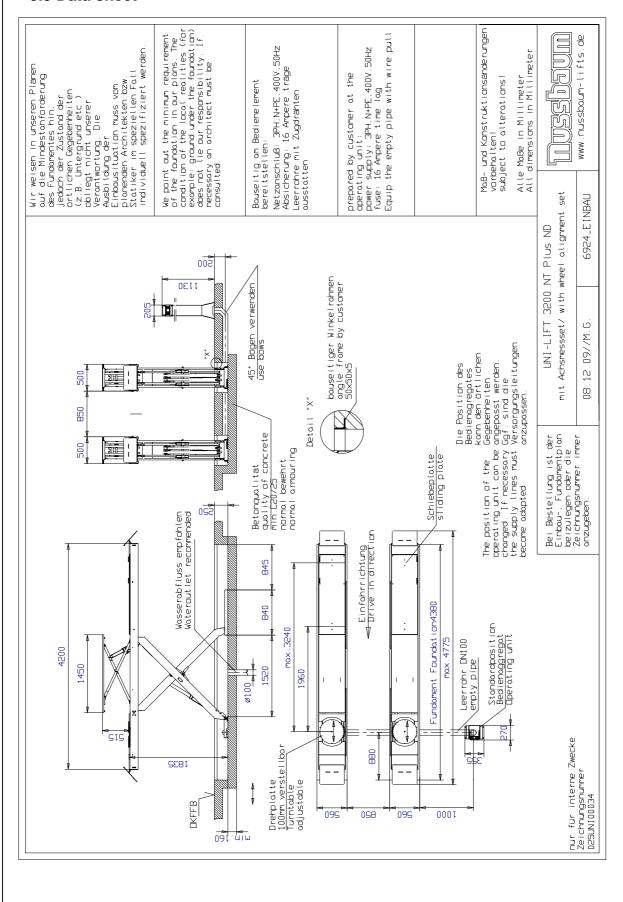
safety device against unauthorised operation

- 4. Two independent cylinders (each side master- and slave-cylinder) safety device against unintentional lowering
- 5. CE-STOP + acoustic signal (min. 120 mm over the danger point) safety device against squeeze
- 6. >Totmann< control

When you release the button, the actual motion of the lift stops

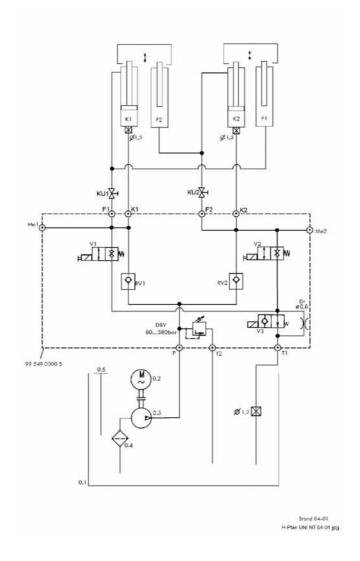


3.3 Data sheet





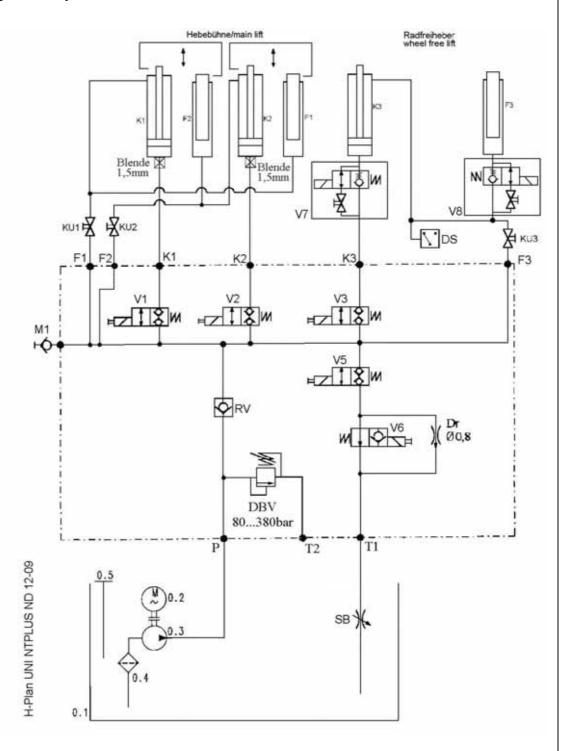
3.4 Hydraulic plan without wheel free lift



No.	Description	order number
0.1 0.2 0.3 0.4 0.5	Oil tank Sub oil motor 3kW Gear pump 2,7 cm³ Oil filter Oil level gauge	992856 (1BK74,2S) 980012 980098
RV1 RV2 DBV V1 V2	Holding valve Holding valve pressure relief valve Double seat valve (Unlocking by manual operation) Double seat valve (Unlocking by manual operation)	980480 980480 155211 980853 980853
V3 Me1 Me2 KU1 KU2	Seat valve (Unlocking by manual operation) Measuring connection Measuring connection Ball valve Ball valve	159318 155470 155470 980513 980513
K1 F1 K2 F2 DR	Master cylinder 1 Slave cylinder 1 Master cylinder 2 Slave cylinder 2 Flow control valve	025UNINT02000 025UNINT02050 025UNINT02000 025UNINT02050



3.5 Hydraulic plan with wheel free lift





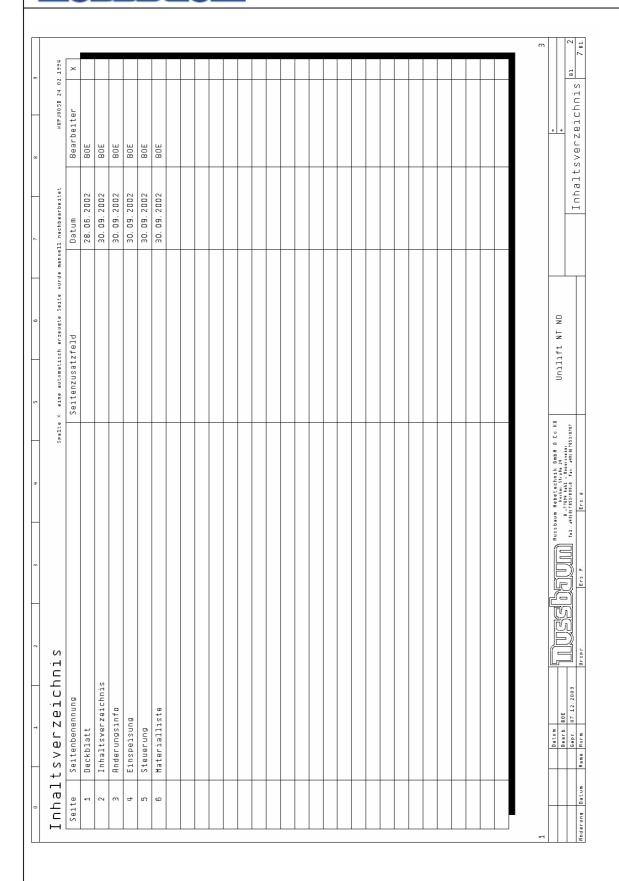
No.	Description	order number
0.1 0.2 0.3 0.4 0.5 RV DBV	Oil tank Sub oil motor 3kW Gear pump 2,7 cm³ (1BK74,2S) Oil filter Oil level gauge Holding valve Pressure control valve	992856 980340 980012 980098 980480 155211
V1 V2 V3	Double seat valve (Unlocking by manual operation) Double seat valve (Unlocking by manual operation) Double seat valve (Unlocking by manual operation)	980853 980853 980853
V5 V6 V7 V8	Double seat valve (Unlocking by manual operation) Seat valve (Unlocking by manual operation) 2/2 Seat valve with emergency lowering screw 2/2 Seat valve with emergency lowering screw	980853 159318 981434 981434
DR DS SB M1 KU1 KU2 KU3 KU4 K1 F1 K2 F2 K3 F3	Flow control Ø 0,8 pressure switch Lowering valve Measuring connection Ball valve Ball valve Ball valve Ball valve Master cylinder 1 Slave cylinder 1 Master cylinder 2 Slave cylinder 2 Master cylinder (Wheel free lift) Slave cylinder (Wheel free lift)	DSH000/003 155470 980513 980513 980513 980513 025UNINT02000 025UNINT02050 025UNINT02000 025UNINT02050 025RFH02700 025RFH02750



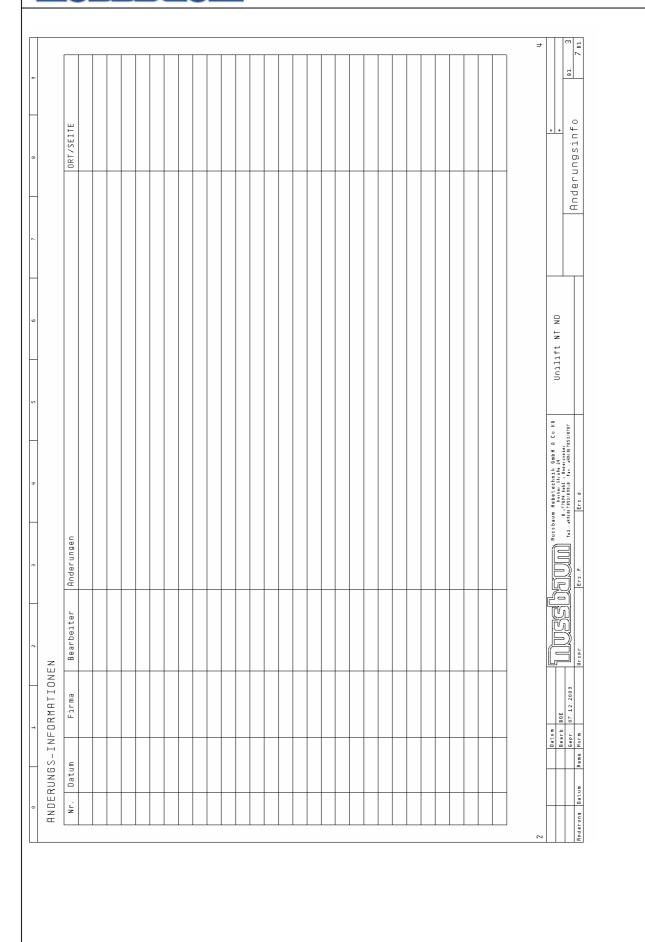
3.6 Electrical diagram UNI 3500 NT ND

5 6 7 8 2	Nussbaum Hebetechnik 6mbH & Co.K6 Korker Straße 24 0-77694 Kehl Bodersweier Tel.: +49(0)7853/899-0	LTPLAN	OBJEKT : unilift NT ND ANLAGE : KUNDE : SCHALTPLANNR: unilift NT ND 12/09/001	3.) Sicherheitsprüfung und Schutzmaßnahmen gerschilter schalt nach gerschilter auf unter Beachtung der Bereitig der Technik nach gerschonisten wurde unter Beachtung der anzigt gestale Fringen unter Grandlich gerschaft, sein filligen unter Bereitig gestale Fringen unter Guterberüfurt und sprüfung der Einstansprüfung und der Leistungsprüfung der Schulzschankes nach VEELIOO/3 73. Fammungsprüfung und der Leistungsprüfung und Stückprüfung nach VEELIOO/3 73. Fammungsprüfung und Stückprüfung nach VEELIOO/3 73. Par 3. Schulz Bezindafreiten Berühren nach VEELIOO/3 73. Par 5.	Diese Schaltpläne sind unser geistiges Eigentum. Sie dürfen ohne unsere Genehmigung weder ver- vielfätigt noch Dritten weitergegeben werden !	co.k6 Unilift NT ND :
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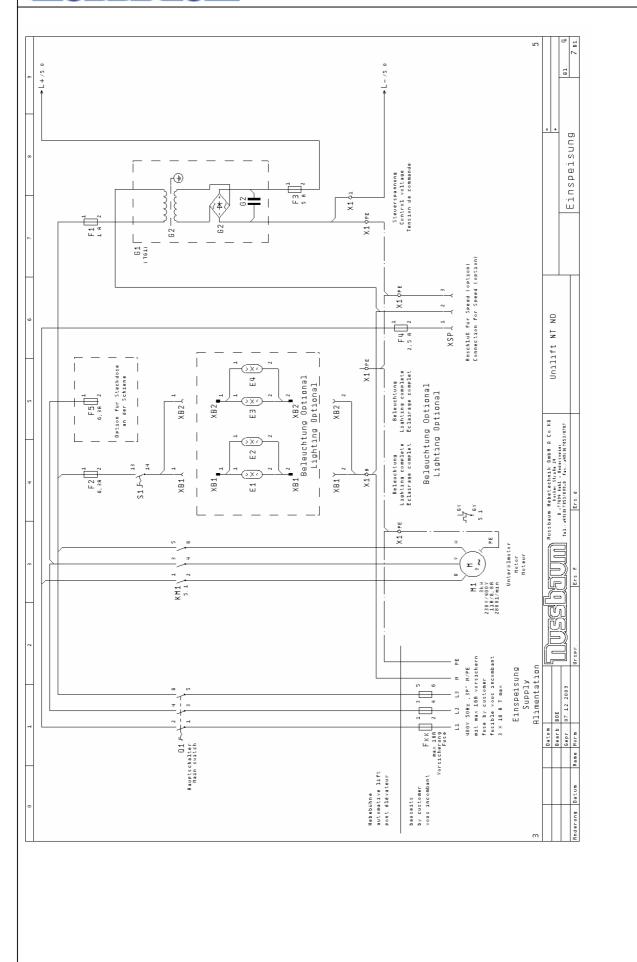




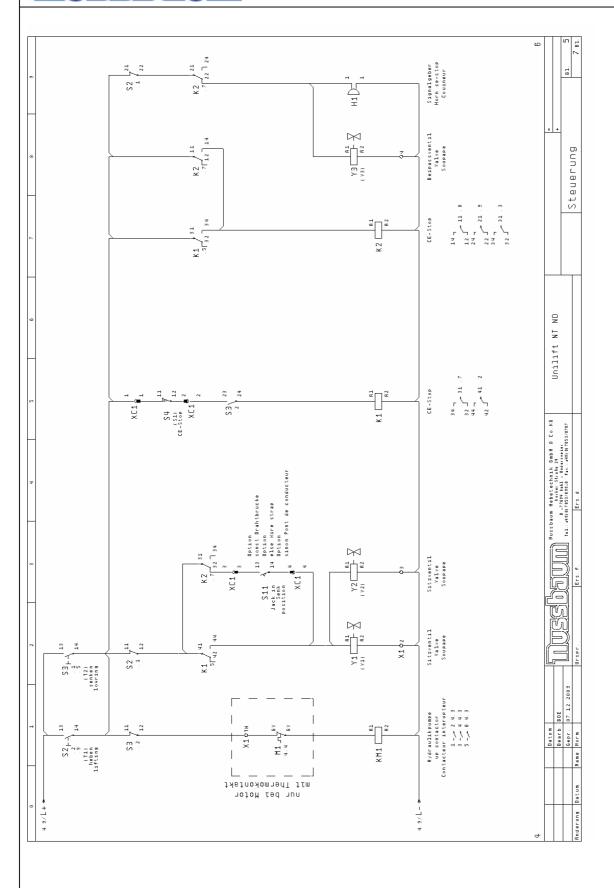














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3.7 Electrical diagram UNI 3200 NT Plus ND

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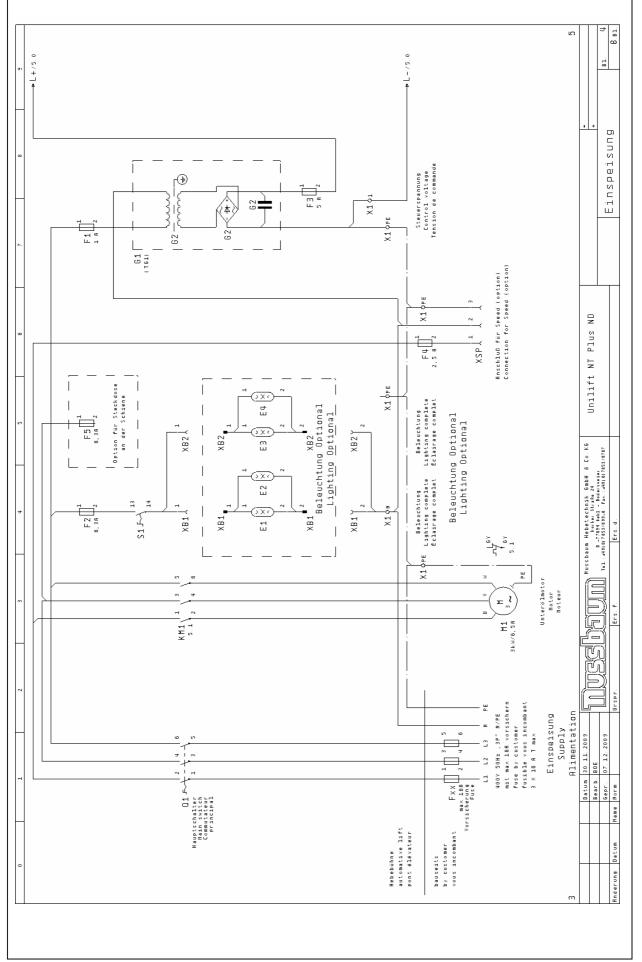


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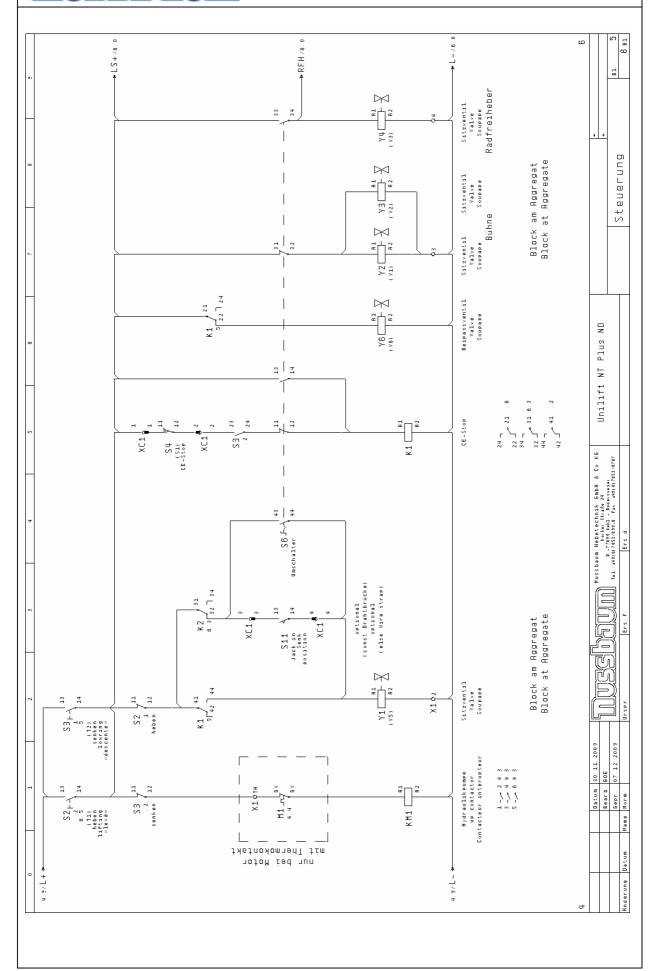


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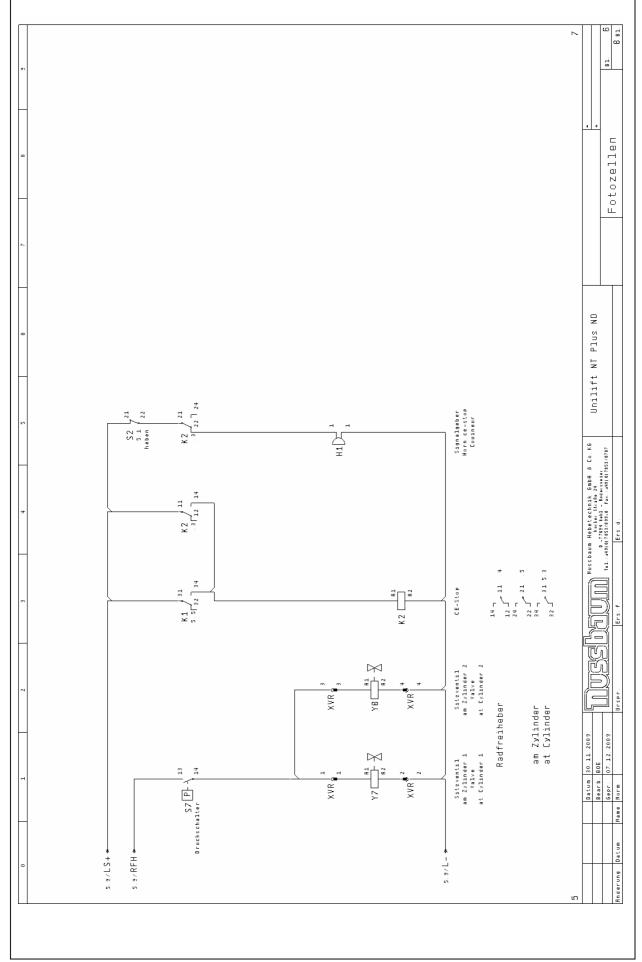




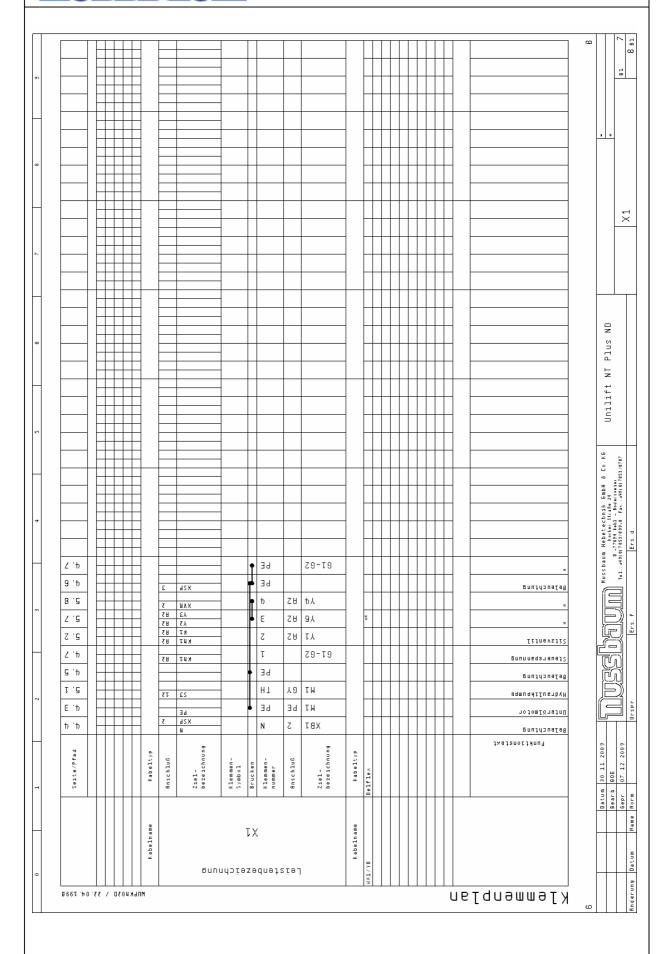














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4. Safety regulations

If you use the automotive lift, the German following regulations are to be considered: BGG945: Examine of automotive-lifts; BGR260 Using automotive-lifts; (VBG14).

Especially the following regulations are very important:

- The laden weight of the lifted vehicle mustn't be more than 3500 kg for the automotive lift without wheel free lift. (UNI-LIFT 3500 NT ND)
- The laden weight of the lifted vehicle mustn't be more than 3200 kg for the automotive lift with wheel free lift. (UNI-LIFT 3200 NT PLUS ND)
- The laden weight of the lifted vehicle must not be more than 2500 kg for the wheel free lift
- The automotive lift must be lowered completely, before the vehicle is driving, in the provided direction, on the lift.
- During working with the lift the operating instruction has to be followed.
- At vehicles with low sub-ground clearance or with optional equipment (sport equipment) or sport-vehicles, it is to be tested previously whether damages can appear.
- Only trained personnel over the age of 18 years old are to operate this lift.
- Position the polymer supports as described of the vehicle manufacturer under the vehicle.
 (Version with wheel free lift)
- The correct position of the polymer pads has to be checked after the vehicle has been lifted a little bit.
- It's not allowed to stay under the lifted or lowered vehicle (except for the operator).
- Check the center of gravity of the vehicle if heavy parts are removed.
 (Version with wheel free lift)
- It's not allowed to transport passengers on the lift or in the vehicle.
- It's not allowed to climb onto the lift or onto a lifted vehicle.
- The automotive lift must be checked from an expert after changes in construction or after repairing carrying pads.
- It's not allowed to start with operations at the lift before the main switch is switched off.
- During lifting or lowering the vehicle it must be observed from the operator.
- It's not allowed to install the standard-automotive lift in hazardous location or in washing bays.

5. Operating instructions



The Safety Regulations must be observed during working with the automotive lift. Read the safety regulations in chapter 4 carefully before working with the lift!

5.1 Lifting the vehicle

- Drive vehicle over the lift, longitudinal axes on line of the lift.
- Block the vehicle against rolling, put into gear, use the parking brake.
- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Switch on the control system; main switch on position "1" (see pic.1)
- Choose between main lift/ wheel free lift (see pic.1, 4)



- (Wheel free lift) Position the polymer supports under the pick-up points which are described by the vehicle manufacturer. Do not lay them on edge! The vehicle might fall down!
- Raise the lift. Press the button "lifting".
- (Wheel free lift): Stop the lifting when the wheels are free to check the safe position of the vehicle on the polymer pads.
- Lift the vehicle on the working height. Press the button "lifting".



pic. 1: operation unit

1 main switch

2 button "lifting"

3 button "lowering"

4 reversing switch main lift/wheel free lift

5.2 Lowering the vehicle

- Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- Choose between main lift/ wheel free lift (see pic.1, 4)
- Lower the vehicle to the working height or until the platform reaches the lowest point; press the button "lowering".
- · Observe the complete process.
- Before the main lift reaches the lowest position, it stops (approx. 120 mm). Let off the "lowering". Control the dangerous places. Press the button again. You hear an acoustic signal until the lift reaches the lowest position.
- When the lift is in its lowest position, remove the polymer supports (wheel free lift)
- Drive the vehicle out of the lift if the lift (main lift) is in the lowest position.

5.3 Equalization of the platforms

Because there are two independent hydraulic systems, differences between the two rails should normally not appear when you operate the lift correctly.

Check possible mistakes before you equalize the two platforms (for instance a leakage of the hydraulic system or another external mistake)



Equalize the rails only without load! Before an equalization you have to remove any kind of load of the lift!

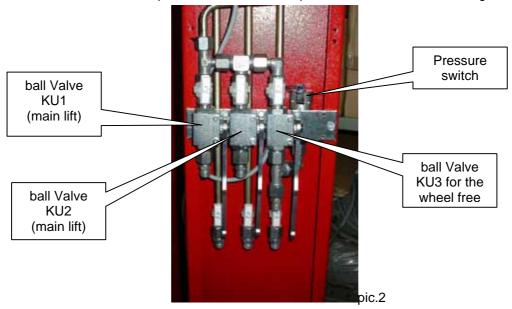
An equalization could be necessary when one side isn't let down completely into the lowest position or if the loads of the two rails are very different of each other, for example.

Correct equalization:

Situation: One platform is higher than the other.

preparations/measures:

• Lower the lift as far as possible into the lowest position. Press button "lowering".



pic. 2: ball valves for the equalization of the lift.

- Remove the cover of the operation unit (back side)
- Raise the main lift on the highest end position. Pull ball valve KU1 and KU2 and press button "Lifting "once again. Put the ball valves into the start position again.

• Equalization of the wheel free lift:

Choose the wheel free lift ("RFH") at the reversing switch (see pic.1, 4) Lift the wheel free lift in the highest position.

Pull ball valve KU3 and press button "lifting or lowering" until the platforms are on the same height. Put the ball valve into the start position, again.

5.4 Change the position of the Turntable

- It is possible to enlarge (max.100mm) the distance between the sliding plate and the turn table. This is necessary to reach the maximum wheel base distance of max.3240mm.
- Raise the lift on the top end position. Remove the 8 piece thumbscrews under the platform.
- Lower the lift on approx. 800mm.
- Remove both Turntables. Rotate both Turntable to 180° and then position the Turntable from the right side to the left side and the left turntable to the right side.
- Raise the lift on the top end position. Fasten the 8 piece thumbscrews under the platform, again.



6. Troubleshooting

If the lift does not work properly, the reason for this might be quite simple. Please check the lift for the potential reasons mentioned on the following pages. If the cause of trouble cannot be found, please call the technical service.

Problem: Motor does not start!

possible causes:

no power supply

- The main switch is not engaged

The fuse is defective

- The feed line is cut

- The thermal switch in the motor is active

- The Motor is defective

solution:

Check the power supply

Put main switch on

Check fuse and replace it if necessary

Repair it

Let it cool down

Call your service partner

Problem: Motor starts, lift does not lifting! possible causes:

The vehicle is too heavy

- Level of the oil is too low

- Leakage of the hydraulic system

- The Gear pump is defective

solution:

Unload it Fill oil in

Repair the system

Call your service partner

Problem: The lift does not lower! possible causes:

- The lift is standing on a obstacle

- Hydraulic valve id defective

- The fuse is defective

Button "lowering" not pushedSeat valves cannot be unlocked

solution:

Push button "lifting"

Call your service partner

Check fuse and replace it if necessary

Push the correct button! Emergency lowering

6.1 Driving on an obstacle

If the lift drives on an obstacle, the hydraulic system has got no more pressure and the lift stops. To remove the obstacle the lift has to rails have to be lifted a little. Therefore push button "lifting" until the obstacle can be removed.

6.2 Emergency lowering of the main lift/ wheel free lift



A emergency lowering is an intervention into the control of the lift and can be done only by experienced expert.

The emergency lowering must be carried in this order. Otherwise a malfunction can lead it to damages or lead to danger for body and lives.

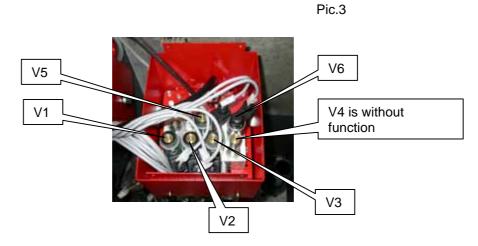


Every kind of external leakage must be removed. This is necessary particular before an emergency lowering.

Reasons which provoke an emergency lowering are e.g. disturbances of the valves or a breakdown of the power supply.

Main-Lift

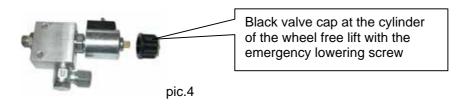
- 1. Disconnect the lift from the power supply before starting the emergency lowering.
- 2. Open the covers of the operating unit. You have to be able to reach the seat valves of the hydraulic bloc. (pic. 4)
- 3. Check the dangerous places of the lift and be sure that there are no objects or people in the immediate area of the lift or on the lift.
- 4. Emergency lowering of the main lift: Press simultaneously in the middle of the brass head the valves V1, V2, V5 with a suitable tool.
- 5. Observe the complete emergency lowering procedure.
- 6. Lower the main lift into the lowest position.



pic. 4 Valves with buttons for emergency lowering

Wheel free lift

1. Unscrew the black cap of the valves at both hydraulic cylinder. Turn the emergency lowering screws maximum one rotation anticlockwise (brass).



- 2. Press simultaneously in the middle of the brass head the valves V3, V5 with a suitable tool.
- 3. The lowering starts immediately. If there is any danger, let off the valves and stop the emergency lowering!!
- 4. Observe the complete procedure.
- 5. Lower the lift or the wheel free lift in his lowest position.
- 6. Change the defect parts of the lift, before you initiate the lift again, if it is necessary. Therefore call your service partner.



Switch off the main switch and lock it. Do not work with the lift until the faulty parts are exchanged.



7. Inspection and Maintenance



Before conducting maintenance work, preparations must be made to ensure that during maintenance and repair work there is no risk to the safety of people working on or around the lift and also that there is no risk of damage to equipment being used on or around the lift.

To guarantee the utmost availability and to ensure that the lift remains functional, maintenance work contracts are organised between our clients and their local retailers.

A service must be performed at regular intervals of 3 months through the operator in accordance with following service manual. If the lift is in continuous operation or in a dirty environment, the maintenance rate must be increased.

During daily operation the lift must be closely observed to ensure that it is functioning correctly. In the case of malfunction or leakage the technical service must be informed.

Nußbaum lifts have been designed and manufactured for longevity and safe operation. Proper installation and operation, regular inspections and ensuing preventative maintenance by authorised personnel and product care, are the key to operators safety, product reliability, low overall repair costs, qualified warranty claims and finally, longevity of the lift.

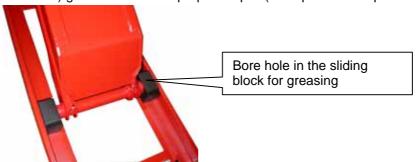
The following are the minimum, requirements regarding the maintenance of Nußbaum-lifts.

7.1 Maintenance plan of the lift

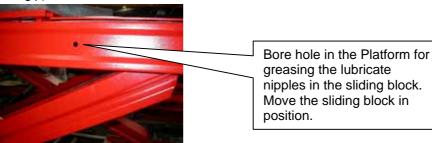


Before beginning any maintenance work isolate the power supply. Secure the main switch (lock it). Secure the danger area around the automotive lift and secure the lift against unintentional lowering.

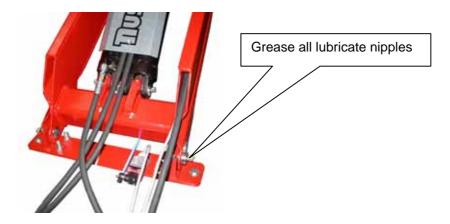
- Clean and check the stripper of the cylinder.
- Clean the piston-rod using compressed air.
- Check the function and condition of the bolts, axes, bush bearing, sliding peace. If necessary exchange it.
- Clean and lubricate the moving parts of the lift (hinge bolts, sliding pieces, sliding surfaces) grease with a multipurpose liquid (example: Auto Top 2000 LTD. Agip).



 Grease all lubricate nipples with a multipurpose lipid. (example: Auto Top 2000 LTD. Agip).







- · Check the condition of the white polymer supports. If necessary, exchange it
- Check the condition and function of the roll over safety device. (approx. 45 ° position)
- Check the hydraulic tubes for leakage.
- Check all welded joints for cracks on the automotive-lift.
 If any cracks are found on the lift cease use immediately. Switch-off and secure the main switch (lock) and call the service partner.
- Damage to external surfaces, must be immediately repaired.
 If theses repairs are not made immediately, permanent damage to the powder-coated surface may result.
 - Repair and clean damaged areas with an abrasive paper (grain 120). After this is complete, use a suitable paint (observe the RAL Number).
- Check the zinc surface and repair it with a suitable tool. Use abrasive paper (grain 280).
 White rust can result from moisture laying in certain areas for long periods of time. Poor aerating can also result in rust formation.
 - Rust may result from mechanical damage, wear, aggressive sediments (de-icing salt, liquids) or insufficient cleaning.
 - Repair and clean these areas with abrasive paper (grain 280).
 - After this is complete, use a suitable paint (observe the RAL Number).
- Füllstand des Hydrauliköls überprüfen. Ggf. sauberes Hydrauliköl nachfüllen.
- The hydraulic oil has to be changed at least once a year. To change the oil, lower the lift into its lowest position. Empty all tanks and refill with clean oil, approx. (see chapter 3.) per hydraulic unit are needed.
 - Use an ATF-Suffix hydraulic-oil (OEST Company) if the ambient temperature is under 5 degrees centigrade. After filling, the hydraulic oil must be between the upper and lower markings of the oil level gauge.
 - Remove the old oil according to the appropriate regulations.
- Durability of the hydraulic hoses:
 - The use duration of the hose lines should not exceed six years, including a storage time of at most two years.
- Check that all screws and bolts are correctly torque (turning moments, see the list)



Turning moment for screws

M24

Operating Instruction and Documentation UNI-LIFT 3500 NT ND/ UNI-LIFT 3200 NT Plus ND

property	class 8.8		
	0,10*	0.15**	0,20***
MB	20	25	30
M10	40	50	60
M12	69	87	105
M16	170	220	260
M20	340	430	520

740

	0.10*	0,15**	0,20
M8	30	37	44
M10	59	73	87
M12	100	125	151
M16	250	315	380
M20	490	615	740
M24	840	1050	1250

property class 10.9

skiding friction 0,10 for very good surfaces, lubricated skiding friction 0,15 for good surfaces, lubricated oder dry

890

*** sliding friction 0,20 surface black or phosphatized, dry



The valves (cartrigdes) have to be tightened with approx. 30 - 35 Nm in regular intervals. (see attachment) With intensive utilization of the lifting platform, the maintenance interval has to be curtailed.

Before the cartridges with the demanded turning moment can be tightened, the coils have to be removed through releasing the black turn-lock fastener.



Fasten the screws (M16/10.9) with 180Nm

7.2 How often must the lift be cleaned?

A regular and appropriate maintenance practice will aid the preservation of the lift.

No guarantees can be given when damage (egg rust or fading colour) is the direct result of poor maintenance and cleaning practice.

Regular cleaning of all kinds of dirt is the best protection against wear and the formation of rust and will prolong the life of the lift

- Dirty deposits that can cause rust include:
 - · de-icing salt
 - sand, pebble stone, natural soil
 - all types of industrial dust
 - water; also in connection with other environmental influences
 - · all types of aggressive deposits
 - constant humidity caused by insufficient ventilation



Obviously this is dependent on the type of work being done with the lift, the degree of cleanliness of the workshop and location of the lift. The degree and amount of dirt is dependent on the season, on the weather conditions and the ventilation of the workshop.

During poor conditions it may be necessary to clean the lift once week, but cleaning once a month will suffice.

Clean the lift and the floor with a non-aggressive and non-abrasive detergent. Use a gentle detergent to clean the parts. Use an standard washing-up liquid and lukewarm water.

- Do not use steam jet cleaners.
- Remove all dirt carefully with a sponge or if necessary with a brush.
- Ensure that no washing-up liquid is left on the lift after cleaning.
- Do not use aggressive means for cleaning the workshop floor and the automotive lift.
- A permanent contact with any kind of liquid is not allowed. Do not use high pressure devices for cleaning the lift.
- After cleaning dry the automotive-lift with a suitable type of cloth and inject it with a wax spray or an oil spray.

8. Security check

The security check is necessary to guarantee the safety of the lift during use. It has to be performed in the following cases:

- Before the initial operation, after the first installation.
 Use the form "First security check before initiation"
- 2. In regular intervals after the initial operation, at least annually. Use the form "Regular security check at least annually"
- 3. Every time the construction of that particular lift has been changed. Use the form "Extraordinary security check"



The first and the regular security check must be performed by a competent person. It is also recommended to carry out a service on the lift at this time.

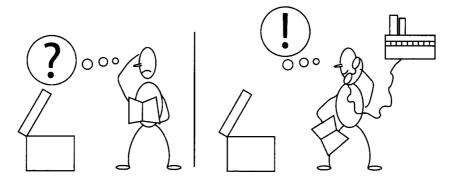


After the construction of the lift has been changed (changing the lifting height or capacity for example) and after serious maintenance works (welding load bearing parts) an extraordinary security check must be performed by an expert.

This manual contains forms with a schedule for the security checks. Please us the appropriate forms for the security checks. The forms should remain in this manual after they have been filled out. A short description about special safety devices follows.



9. Handing over and Initiation



9.1 Installation Regulations

- The installation of the lift is performed by trained technicians of the manufacturer or one of its distribution partners. If the operator can provide trained mechanics, he or she can install the lift by him or herself. The installation has to be done according to this regulation.
- Installing the standard-automotive lift in a hazardous location or a washing bay is not allowed.
- Before installation a sufficient foundation must be constructed. If the foundation is already
 constructed then proof that the foundation conforms to the standard is required.
 A level foundation for the installation is required. The foundations must be based in a frost
 resistance depth, both outdoors and indoors in a position where the installer believes there is
 no chance of frost.
- An electrical supply 3~/N+PE, 400 V, 50 Hz must be provided.
 The supply line must be protected with a time-lag fuse T16A (VDE0100 German regulation).
 The minimum diameter amounts to 2.5 mm².
- All cable ducts must be equipped with protective coverings to prevent accidents.
- After assembly of the lift, the protective grounding of the lift must be examined after International Electronical Commission (IEC) guidelines (60364-6-61) before first start-up by operators. Also an insulation resistance examination is recommended.

9.2 Installation of the lift

- Install the lift according to the data sheet and the foundation plan.
- Install the operating unit at its designed place. Connect the power supply.
- · Connect the hydraulic. All hoses are marked.
- Fill in the hydraulic oil, approx. 14 litres are needed. A high quality hydraulic oil is recommended, it should be 32 cst. (e.g. HLP 32 LTD. OEST Company) After the fill up, the hydraulic oil must be between the upper and low marking of the oil level gauge or approx. 2 cm under the filler neck.
- Push button "lifting" until the vent screws (on the top of the slave cylinders, see pic. 5) can be reached. Execute a deaerate according to chapter 9.6, if necessary.
- Adjust the lift: first one base plate, than the second base plate. If there is an uneven floor
 even it with metal sheets. A continuous contact between the floor and the base plate must be
 guaranteed to avoid hollow spaces. Dowel the lift:
 - Nußbaum Company recommend safety dowels (e.g. LIEBIG German dowel manufacturer) or equivalent dowels of other manufacturer but observe their regulations.
 - Before doweling check the concrete floor (with quality C20/25) if the concrete floor goes to



the top edge of the floor. For an existing concrete floor the dowels have to be chosen according to pic. 8. If floor tiles are on the concrete floor, the dowels have to be chosen according pic. 9. Its important for the trouble-free working that the base plate are clean and the guides of the sliding block are clean and greased.

Check the adjustment of the base plates and dowel the lift: Bore the holes to fix the dowels through the borings of the base plates. Clean the holes with pressure air. Put in the safety dowels.

- · Dowel the aggregate in the floor.
- Tighten the dowels with the dynamometric key.



Each dowel must be tightened with the demanded torque. Otherwise the normal and secure function of the lift can not guaranteed.

Observe the regulations of the other dowel-manufacturer.

- Raise and lower the lift several times with load. Check the torque of the dowels and check the hydraulic hoses tightness.
- Equalize the lift, if this is necessary.
- Mount the covers: Do not damage the cables.

9.3 Deaerate the hydraulic system (main lift)

• The correct power supply, the correct hydraulic oil and the closeness of the hydraulic system have to be controlled after the installation of the lift.

By connecting the hydraulic hoses, air might enter the hydraulic system and provoke problems of ganging. In consequence a Ventilation is necessary.

Check again the correct installation of the hydraulic hoses!

Effects, which make a Ventilation necessary are e.g. a sudden lifting out of the lowest position or unequal rails.

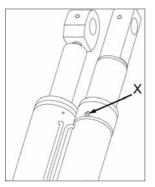
Correct Ventilation:

There have to be 14 litres of hydraulic oil filled in the oil tank.

- Choose the main lift at the reversing switch (see pic.1)
- Open the vent screws on the top of the slave cylinders a little bit.

Do not open them completely.

 Push button "lifting". The air streams out of the borings on the slave cylinders. Keep the screws open until only hydraulic oil comes out of the borings. Close the vent screws afterwards.



pos. X = vent screw on the top of the slave cylinders





If you do not close the vent screws, trouble and disturbances of the lift will occur!

- Push button "lifting" and drive the lift into the highest position. Repeat the procedure of ventilation, if necessary.
- · Check if the vent screws are closed.
- Push button "lowering" and drive the lift into the lowest position. (While you lower the lift it is possible that the oil-air mix makes sounds).

9.4 Initiation



Before the initiation a security check must be performed. Therefore use form: First security check.

If the lift is installed by a competent person, he will perform this security check. If the operator installs the lift by himself, he has to instruct a competent person to perform the security check.

The competent confirms the faultless function of the lift in the installation record and form for the security check and allows the lift to be used.



Please send the filled installation record to the manufacturer after the installation.

9.5 Changing the installation place

If the place of installation shall be changed, the new place has to be prepared in according to the regulations of the first installation. The changing should be performed in accordance with the following points:

- Raise the lift on approx. 1000 mm.
- · Remove the cover of the hydraulic tubes.
- · Loose the dowels.
- Lower the lift in the lowest position.
- Loose the plug of the power supply.
- If necessary loose the hydraulic hoses only on the operating unit.
- If necessary use blind plugs to close the hoses.
- · Disconnect the power supply.
- Transport the lift to its new place.
- Install the lift in accordance with chapter 9 "Installation and Initiation".
- · Equalize and deaerate the lift!



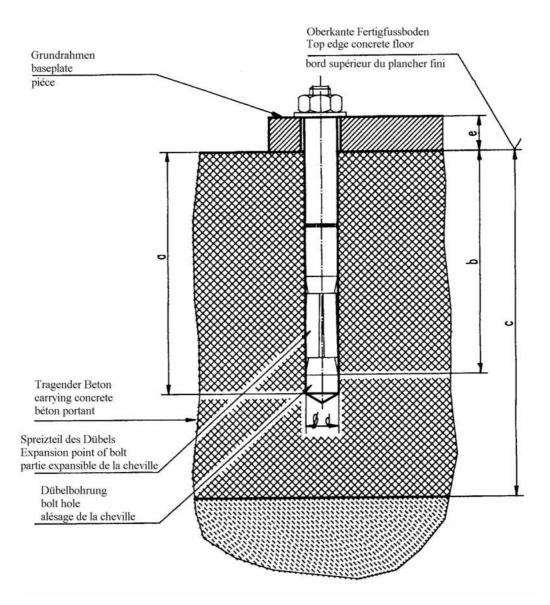
Use new dowels, the used dowels can not be used anymore.



A security check must be performed before reinitiation by a competent person. Use form "Regular security check"



Pic 8: Selection of Liebig-Dowels without tiles, floor pavement



Liebig dowels

Dowel typ BM12-20/80/40

Drilling depth a 100 Min. anchorage depth b 80

Thickness of concrete c min.160 (*)

Diameter of bore d 20 Thickness of the lift-pieces e 0-40

Quality of concrete min.C20/25 (B25) with normal armouring

Number of bolts according to the lift type

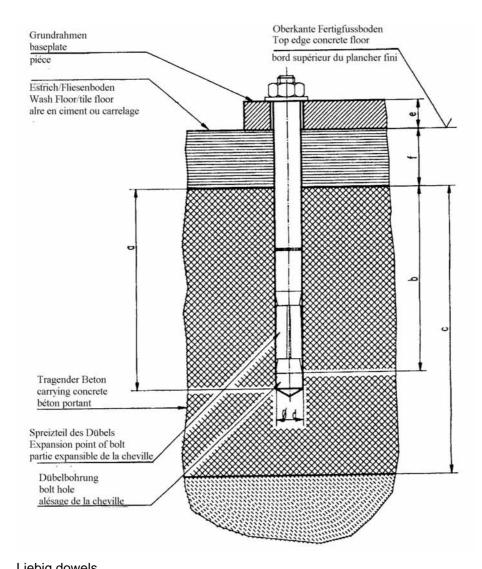
Starting torque 70 Nm

(*) minimum thickness of concrete by using the mentioned dowels. Otherwise, observe the regulation of the foundation plan.

It is possible to use equivalent dowels from another dowel manufacturer (with license) but observe their regulation.



Pic 9: Selection of Liebig-Dowels with tiles, floor pavement

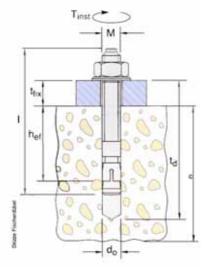


Liebig dowers				
Dowel type	В	M12-20/80/65	BM12-20/80/100	BM12-20/80/140
Drilling depth (mm)	а	100	100	100
Min. anchorage depth (mm)	b	80	80	80
Thickness of concrete (mm)	С	min.160(*)	min.160(*)	min.160(*)
Diameter of bore (mm)	d	20	20	20
Thickness of the lift-pieces (mm)	e+f	40-65	65-100	100-140
Quality of concrete		min.C20/25 (B	25) with normal arm	nouring
Number of bolts		according to th	ne lift type	
Starting torque		70 Nm	70Nm	70Nm

(*) minimum thickness of concrete by using the mentioned dowels. Otherwise, observe the regulation of the foundation plan.

It is possible to use equivalent dowels from another dowel manufacturer (with license) but observe their regulation.





Änderungen vorbehalten! subject to alterations! sous réserve des modifications!

fischer-dowel		UNI-Lift 3200 NT Plus ND ^d UNI-LIFT 3500 NT ND ^d						
Dübel typ of dowel type de cheville		FH 15/50 B Bestellnr. 970265	FH 18 x 100/100 B Bestellnr: 972230	FH 24/100 B Bestellnr. 970267				
Bohrteife drilling depth Profondeur de l'alésage	t d	145	230	255				
Mindestverankerungstiefe min.anchorage depth Profondeur minimale dáncrage	h ef	70	100	125				
Betonstärke thickness of concrete Epaisseur du béton	С		siehe den aktuellen Fundament see current foundation-diagram di vois le plan de fondation actu	rawing				
Bohrerdurchmesser diameter of bore Diamètre de l'alésage	do	15	18	24				
Bauteildicke thickness of the lift-piece Epaisseur de la pièce	t fix	0-50	0-100	0-100				
Anzugsdrehmoment Nm turníng moment moment d'une force	MD	40	80	120				
Gesamtlänge Total length Longueur totale	I	155	230	272				
Gewinde Thread fil	M	M10	M12	M16				
	а		4					
Stückzahl	b	8						
piece number	ece number 10							
nombre des pièces	e	12						
	f	16						
	g	24						

Montage











Es können auch gleichwertige Sicherheitsdübel anderer Hersteller (mit Zulassung) unter Beachtung deren Bestimmungen verwendet werden. It is possible to use equivalent safety-dowels (with license) of other manufacturer but observe their regulations. Des chevilles des autres marques (autorisées) peuvent aussi être choisies en respetant les directives du fabricant.



First security check before installation

Fill out and leave in this manual	Ser	ial-numbe	r:		
kind of check	all right	defect missing	veri- fication	remark	
Type plate					
short operating instruction					
sticker capacity					
Detailed operating instruction					
Condition automotive-lift	\sqcup	닏	\sqcup		
Designation "lifting/lowering"	H	님	님		
Function button "lifting/lowering" Function switch "main lift/wheel free lift"	H	님	H		
Condition, Hydraulic unit	H	H	H		
Condition, Electrical box	H	H	H		
Condition, Function main switch	Ħ	Ħ	Ħ		
Pin safety of the bolts					
Function CE-Stop + acoustic signal					
Condition bolts and DU-bearings					
Condition Platform (main lift)	\sqcup	Ц			
Condition Platform (wheel free lift)	\vdash	닏	닏		
Condition, Function drive on ramps	H	님	님		
Condition Construction (deformation, cracking)	H	Η	H		
Condition Construction (deformation, cracking) Torque moment of screws and dowels	H	H	H		
Condition of the covers	H	H	H		
Condition, Function turntable and sliding plate	Ħ	Ħ	H		
Condition concrete (cracking)					
Condition electrical cables					
Function (optional) lighting					
Function test with vehicle					
Function test "driving to the end position "	\sqcup	닏	\sqcup		
Function equalisation of the lift		 :			
(mark here applicable, in case of verification	IIIaik	in addition	i to the mst	iliai k:)	
Security check carried out:					
Carried out the company:					
Name, address of the competent:					
Result of the Check:					
	ot norm	sittad varifi	iaatian naaa	200#/	
<u> </u>	•		ication neces	•	
		-			
☐ No failings	, Initiat	ion possibl	е		
signature of the expert		signat	ure of the op	perator	
If failures must be repaired:					
Failures repaired at:					
signature of the operator (Use another form for verification!)					



Regular security check and maintenance

F	Fill out and leave in this manual	Serial-number:			
kind of	check	all right	defect missing	veri- fication	remark
Type pla	ate				
short op	perating instruction				
sticker o	capacity				
Detailed	d operating instruction	\sqcup	\sqcup	\vdash	
	on automotive-lifttion altomotive-lift	H	Η	H	
	n button "lifting/lowering"	H	H	H	
	n switch "main lift/wheel free lift"	П	Ħ	Ħ	
	on, Hydraulic unit				
	on, Electrical box				
	on, Function main switch		닏	\sqcup	
	ety of the bolts	H	님	\vdash	
	n CE-Stop + acoustic signal on bolts and DU-bearings	H	片	H	
	on Platform (main lift)	H	H	H	
	on Platform (wheel free lift)	П	Ħ	Ħ	
Condition	on, Function drive on ramps				
	on colour				
	on Construction (deformation, cracking)	Ц	님	닏	
	moment of screws and dowelson of the covers	H	님	\vdash	
	on, Function turntable and sliding plate	H	H	H	
	on concrete (cracking)	Ħ	H	H	
	on electrical cables				
	n (optional) lighting				
	n test with vehicle				
	n test "driving to the end position "	H	님	H	
runctio	n equalisation of the lift	Ш			
(mark	here applicable, in case of verification	mark	in addition	to the first	mark!)
Security	check carried out:				
Carried	out the company:				
Name, a	address of the competent:				
F	Result of the Check:				
	_	•		cation neces	
	☐ Initiation p	ossible	, repair fail	ures until	
	☐ No failings	, Initiat	ion possibl	е	
\$	signature of the expert		signat	ure of the op	erator
I£ £= !!	a unuat la annaire di				
	es must be repaired:				
F	Failures repaired at:				
			signat	ure of the op	erator
(Use another form for verification!)					



Regular security check and maintenance

F	Fill out and leave in this manual	Serial-number:			
kind of	check	all right	defect missing	veri- fication	remark
Type pla	ate				
short op	perating instruction				
sticker o	capacity				
Detailed	d operating instruction	\sqcup	\sqcup	\vdash	
	on automotive-lifttion altomotive-lift	H	Η	H	
	n button "lifting/lowering"	H	H	H	
	n switch "main lift/wheel free lift"	П	Ħ	Ħ	
	on, Hydraulic unit				
	on, Electrical box				
	on, Function main switch		닏	\sqcup	
	ety of the bolts	H	님	\vdash	
	n CE-Stop + acoustic signal on bolts and DU-bearings	H	片	H	
	on Platform (main lift)	H	H	H	
	on Platform (wheel free lift)	П	Ħ	Ħ	
Condition	on, Function drive on ramps				
	on colour				
	on Construction (deformation, cracking)	Ц	님	닏	
	moment of screws and dowelson of the covers	H	님	\vdash	
	on, Function turntable and sliding plate	H	H	H	
	on concrete (cracking)	Ħ	H	H	
	on electrical cables				
	n (optional) lighting				
	n test with vehicle				
	n test "driving to the end position "	H	님	H	
runctio	n equalisation of the lift	Ш			
(mark	here applicable, in case of verification	mark	in addition	to the first	mark!)
Security	check carried out:				
Carried	out the company:				
Name, a	address of the competent:				
F	Result of the Check:				
	_	•		cation neces	
	☐ Initiation p	ossible	, repair fail	ures until	
	☐ No failings	, Initiat	ion possibl	е	
\$	signature of the expert		signat	ure of the op	erator
I£ £= !!	a unuat la annaire di				
	es must be repaired:				
F	Failures repaired at:				
			signat	ure of the op	erator
(Use another form for verification!)					













Extraordinary security check

Fill out and leave in this manual Serial-number:					
ind of check	all right	defect missing	veri- fication	remark	
 Type plate					
hort operating instruction	H	H	H		
ticker capacity	Ħ	Ħ	H		
letailed operating instruction	Ħ	Ħ	Ħ		
ondition automotive-lift	Ħ	Ħ	Ħ		
esignation "lifting/lowering"					
unction button "lifting/lowering"					
unction switch "main lift/wheel free lift"					
ondition, Hydraulic unit					
ondition, Electrical box	Ц	Ц			
ondition, Function main switch	Ц	닏			
n safety of the bolts	H	님	닏		
unction CE-Stop + acoustic signal	\vdash	님	님		
ondition bolts and DU-bearings	H	님	님		
ondition Platform (wheel free lift)	H	片	H		
ondition Platform (wheel free lift)	H	片	H		
ondition, Function drive on ramps	H	H	H		
ondition Construction (deformation, cracking)	H	Η	H		
orque moment of screws and dowels	H	H	H		
ondition of the covers	H	H	H		
ondition, Function turntable and sliding plate.	H	H	H	•••••	
ondition concrete (cracking)	Ħ	Ħ	H		
ondition electrical cables	Ħ	Ħ	Ħ		
unction (optional) lighting	Ħ	Ħ	Ħ		
unction test with vehicle	Ħ	Ħ	Ħ		
unction test "driving to the end position "	Ħ	Ħ	Ħ		
unction equalisation of the lift					
(mark here applicable, in case of verification					
carried out the company:					
lame, address of the competent:					
Result of the Check:		1			
			ication neces		
☐ Initiation p☐ No failings		•			
signature of the expert		signat	ture of the op	perator	
failures must be repaired:					
Failures repaired at:					
(Use another form for verification!)	signat	ture of the op	perator		



