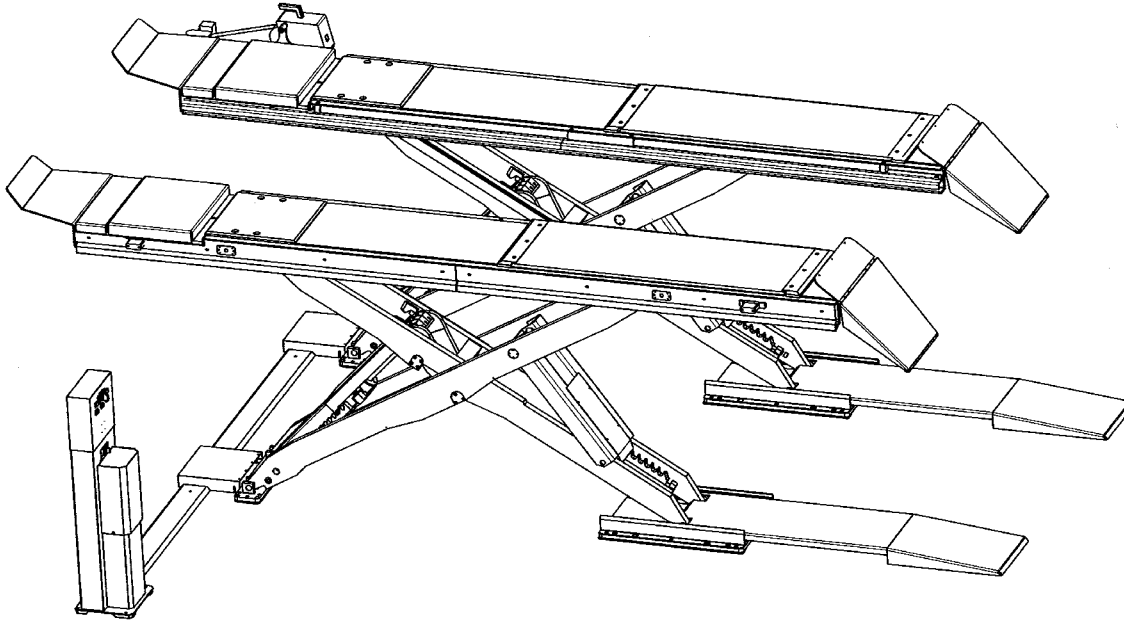


# UNI-LIFT 4000 MB

Automotive lift date: 02/1996

Manual date: 01.01.2010



Original Documentation

## Operating Instruction and Documentation

Serial-number: .....

Retailer address/ phone

Made in Germany



# Nussbaum

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

Tel: +49(0)7853/8990 Fax: +49(0)7853/8787

E-mail: [info@nussbaum-lifts.de](mailto:info@nussbaum-lifts.de)//<http://www.nussbaum-lifts.de>

## Table of contents

Foreword .....	10
Record of installation .....	12
Record of handing over .....	13
<b>1. Introduction.....</b>	<b>14</b>
1.1 Installation and check of the automotive lift .....	14
1.2 Information of Warning .....	14
<b>2. Master document of the automotive lift.....</b>	<b>15</b>
2.1 Lift–manufacturer .....	15
2.2 Application.....	15
2.3 Changes at the construction .....	15
2.4 Displacement of the automotive-lift .....	15
2.5 Declaration of conformity.....	16
<b>3. Technical information .....</b>	<b>17</b>
3.1 Technical ratings .....	17
3.2 Safety devices .....	17
3.3 Datasheet .....	18
3.4 Sketch of the base plates .....	20
3.5 Foundation plan.....	21
3.4 Hydraulic diagram drawing .....	23
3.5 Electrical diagram drawing .....	25
3.7 Electrical plug connection.....	37
3.6 Pneumatic diagram drawing .....	38
<b>4. Safety regulations .....</b>	<b>39</b>
<b>5. Operating instructions .....</b>	<b>40</b>
5.1 Lifting the vehicle.....	40
5.2 Lowering the vehicle.....	41
5.3 Lowering into the ratchet for wheel alignment .....	41
5.4 Equalisation the platforms .....	41
<b>6. Troubleshooting .....</b>	<b>43</b>
6.1 Driving on an obstacle .....	44
6.2 Emergency lowering.....	44
6.2.1 Emergency lowering with the main lift.....	44
<b>7. Inspection and Maintenance.....</b>	<b>47</b>
7.1 Maintenance plan of the lift.....	47
7.2 How often must the lift be cleaned? .....	49
<b>8. Security check .....</b>	<b>50</b>
<b>9. Installation and Initiation .....</b>	<b>50</b>
9.1 Regulations for the installation .....	50
9.2 Erection and doweling of the lift.....	51
9.3 Initiation .....	52
9.4 Changing the installation place.....	52
First security check before installation.....	59
Regular security check and maintenance.....	60
Extraordinary security check .....	66

## Document D.06: Short Description for QMW 1.0

QMW 1.0 describes the procedures of installation a new lift and of maintenance of lifts during the lift life cycle. The QMW 1.0 must be applied for all lifts certificated by Daimler AG for the wheel alignment in Daimler workshops.

**Attention ! Please fill in the reports instructed below, please make a copy of each and send it to the manufacturer or to your client in order that he will send the reports to the manufacturer.**

### → New Lift: Handing over and installation the lift in a Daimler workshop

1. Arrange delivery and installation date with the customer of the lift.
2. Check the delivery content for completeness and for possible damages  
Note missing parts on the **Shipping Report P.03**, in case of missing parts put this report to the others and send them back together. Note other irregularities on the **Installation and Instruction Report P.04**.
3. Assembly, Installation, Levelling of the lift
  - 3.1 After installing the lift apply the basic check for level alignment with an external electronic levelling device and note the results on the **Daimler Quality Report Q40.2/9.1**.
  - 3.2 In case the wheel alignment equipment is installed apply the track level alignment check with test sensors fixed to the vehicle as a cross check. Note the results on the **Quality Report Q40.2/9.1**, In case the wheel alignment equipment is not installed continue with step 4.  
Remove possible irregularities and note the irregularities and the repair steps on the **Quality Report Q40.2/9.1** under remarks.
4. Apply the security check according to the lift documentation and confirm it on the **Report P.04**.
5. Introduce the operating procedures to the operator(s) of the lift and hand over the lift to the customer.
6. Attach the sticker confirming the levelling to the lift
7. Fill in the **Installation and Instruction Report P.04** complete and readable. Note the customers address and the serial number and the type of the lift. The responsible of the customer has to confirm by sign the correctness of lift installation, obvious irregularities and the instruction of the operators.

### **Reports to send to manufacturer**

Installation and Instruction Report (P.04), DC Quality Report (Q40.2/9.1), in case of claims the Shipping Report (P.03).

### → Working Lift: Testing and / or repairing the lift in a Daimler-Workshop

1. Arrange delivery, maintenance, repair date
2. On the opportunity of a periodical maintenance or a annual security check please check the levelling of the lift either by a basic check or by a check with test sensors fixed to the vehicle. Note the results on the **Quality Report Q40.2/9.1**.
3. In case of faults on the levelling of the lift platforms apply the basic check with an electronic levelling device after finishing the adjustment. The adjustment should be cross checked by the track level alignment with test sensors fixed to the vehicle. Note the results on the **DC Quality Report Q40.2/9.1**.
4. Note maintenance / repair work on the **Quality Report Q40.2/9.1** under remarks. The responsible of the customer has to confirm by sign the correctness of the lift function or obvious irregularities.
5. Attach the sticker confirming the levelling to the lift

### **Reports send to manufacturer**

DC Quality Report (Q40.2/9.1)



Lifting Platform for Chassis Alignment System  
Quality Report Q40.2 / 9.1

# Nussbaum

Company:	Date:
Location:	Inspector:

Lifting platform model:	In service since: _____
Serial/equipment no.: _____	
Indicator lights/contact switches/light barriers	Function <input type="checkbox"/> yes <input type="checkbox"/> no

**Basic check for track level alignment with an external electronic levelling device**  
Use an electronic level to control the track elevations with the tracks loaded and completely lowered. Maximum allowable difference between the tire contact patches  $\leq 1$  mm.

Tracks completely lowered (F=Front; R=Rear; L=Left, R=Right)

FL _____ mm	FR _____ mm	Differenz _____ mm
RL _____ mm	RR _____ mm	Differenz _____ mm
FL _____ mm	RR _____ mm	Differenz _____ mm

Tracks settled off the ground

FL _____ mm	FR _____ mm	Differenz _____ mm
RL _____ mm	RR _____ mm	Differenz _____ mm
FL _____ mm	RR _____ mm	Differenz _____ mm

**Track level alignment with test sensors fixed to the vehicle.**  
Track alignment is evaluated based on wheel camber sensor readings. Drive vehicle onto turn and slide plates. Arrest brake pedal with lock. Pull the safety pins from the plates. Attach camber sensors to the vehicle.

Tracks completely lowered	Tracks settled off the ground	Difference
Camber VL _____	Camber VL _____	Camber _____
Camber VR _____	Camber VR _____	Camber _____
Camber HL _____	Camber HL _____	Camber _____
Camber HR _____	Camber HR _____	Camber _____

Allowable differences 2' + 1 Digit. For excessive differences check the computer system and / or the alignment of the lift platforms/realign the tracks.

Comments:

signatures:



Lifting Platform for Chassis Alignment System  
Quality Report Q40.2 / 9.1

# Nussbaum

Company:

Date:

Location:

Inspector:

Lifting platform model:

In service since: \_\_\_\_\_

Serial/equipment no.: \_\_\_\_\_

Indicator lights/contact switches/light barriers

Function  yes  no

### Basic check for track level alignment with an external electronic levelling device

Use an electronic level to control the track elevations with the tracks loaded and completely lowered. Maximum allowable difference between the tire contact patches  $\leq 1$  mm.

Tracks completely lowered (F=Front; R=Rear; L=Left, R=Right)

FL \_\_\_\_\_ mm                      FR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

Tracks settled off the ground

FL \_\_\_\_\_ mm                      FR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

### Track level alignment with test sensors fixed to the vehicle.

Track alignment is evaluated based on wheel camber sensor readings. Drive vehicle onto turn and slide plates. Arrest brake pedal with lock. Pull the safety pins from the plates. Attach camber sensors to the vehicle.

Tracks completely lowered

Tracks settled off the ground

Difference

Camber VL \_\_\_\_\_

Camber VL \_\_\_\_\_

Camber \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber \_\_\_\_\_

Allowable differences 2' + 1 Digit. For excessive differences check the computer system and / or the alignment of the lift platforms/realign the tracks.

Comments:

signatures:



Lifting Platform for Chassis Alignment System  
Quality Report Q40.2 / 9.1

# Nussbaum

Company:

Date:

Location:

Inspector:

Lifting platform model:

In service since: \_\_\_\_\_

Serial/equipment no.: \_\_\_\_\_

Indicator lights/contact switches/light barriers

Function  yes  no

### Basic check for track level alignment with an external electronic levelling device

Use an electronic level to control the track elevations with the tracks loaded and completely lowered. Maximum allowable difference between the tire contact patches  $\leq 1$  mm.

Tracks completely lowered (F=Front; R=Rear; L=Left, R=Right)

FL \_\_\_\_\_ mm      FR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

Tracks settled off the ground

FL \_\_\_\_\_ mm      FR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

### Track level alignment with test sensors fixed to the vehicle.

Track alignment is evaluated based on wheel camber sensor readings. Drive vehicle onto turn and slide plates. Arrest brake pedal with lock. Pull the safety pins from the plates. Attach camber sensors to the vehicle.

Tracks completely lowered

Tracks settled off the ground

Difference

Camber VL \_\_\_\_\_

Camber VL \_\_\_\_\_

Camber \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber \_\_\_\_\_

Allowable differences 2' + 1 Digit. For excessive differences check the computer system and / or the alignment of the lift platforms/realign the tracks.

Comments:

signatures:





Lifting Platform for Chassis Alignment System  
Quality Report Q40.2 / 9.1

# Nussbaum

Company:

Date:

Location:

Inspector:

Lifting platform model:

In service since: \_\_\_\_\_

Serial/equipment no.: \_\_\_\_\_

Indicator lights/contact switches/light barriers

Function  yes  no

### Basic check for track level alignment with an external electronic levelling device

Use an electronic level to control the track elevations with the tracks loaded and completely lowered. Maximum allowable difference between the tire contact patches  $\leq 1$  mm.

Tracks completely lowered (F=Front; R=Rear; L=Left, R=Right)

FL \_\_\_\_\_ mm                      FR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

Tracks settled off the ground

FL \_\_\_\_\_ mm                      FR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

### Track level alignment with test sensors fixed to the vehicle.

Track alignment is evaluated based on wheel camber sensor readings. Drive vehicle onto turn and slide plates. Arrest brake pedal with lock. Pull the safety pins from the plates. Attach camber sensors to the vehicle.

Tracks completely lowered

Tracks settled off the ground

Difference

Camber VL \_\_\_\_\_

Camber VL \_\_\_\_\_

Camber \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber \_\_\_\_\_

Allowable differences 2' + 1 Digit. For excessive differences check the computer system and / or the alignment of the lift platforms/realign the tracks.

Comments:

signatures:



Lifting Platform for Chassis Alignment System  
Quality Report Q40.2 / 9.1

# Nussbaum

Company:

Date:

Location:

Inspector:

Lifting platform model:

In service since: \_\_\_\_\_

Serial/equipment no.: \_\_\_\_\_

Indicator lights/contact switches/light barriers

Function  yes  no

### Basic check for track level alignment with an external electronic levelling device

Use an electronic level to control the track elevations with the tracks loaded and completely lowered. Maximum allowable difference between the tire contact patches  $\leq 1$  mm.

Tracks completely lowered (F=Front; R=Rear; L=Left, R=Right)

FL \_\_\_\_\_ mm                      FR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

Tracks settled off the ground

FL \_\_\_\_\_ mm                      FR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm                      RR \_\_\_\_\_ mm                      Differenz \_\_\_\_\_ mm

### Track level alignment with test sensors fixed to the vehicle.

Track alignment is evaluated based on wheel camber sensor readings. Drive vehicle onto turn and slide plates. Arrest brake pedal with lock. Pull the safety pins from the plates. Attach camber sensors to the vehicle.

Tracks completely lowered

Tracks settled off the ground

Difference

Camber VL \_\_\_\_\_

Camber VL \_\_\_\_\_

Camber \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber \_\_\_\_\_

Allowable differences 2' + 1 Digit. For excessive differences check the computer system and / or the alignment of the lift platforms/realign the tracks.

Comments:

signatures:





Lifting Platform for Chassis Alignment System  
Quality Report Q40.2 / 9.1

# Nussbaum

Company:

Date:

Location:

Inspector:

Lifting platform model:

In service since: \_\_\_\_\_

Serial/equipment no.: \_\_\_\_\_

Indicator lights/contact switches/light barriers

Function  yes  no

### Basic check for track level alignment with an external electronic levelling device

Use an electronic level to control the track elevations with the tracks loaded and completely lowered. Maximum allowable difference between the tire contact patches  $\leq 1$  mm.

Tracks completely lowered (F=Front; R=Rear; L=Left; R=Right)

FL \_\_\_\_\_ mm      FR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

Tracks settled off the ground

FL \_\_\_\_\_ mm      FR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

RL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

FL \_\_\_\_\_ mm      RR \_\_\_\_\_ mm      Differenz \_\_\_\_\_ mm

### Track level alignment with test sensors fixed to the vehicle.

Track alignment is evaluated based on wheel camber sensor readings. Drive vehicle onto turn and slide plates. Arrest brake pedal with lock. Pull the safety pins from the plates. Attach camber sensors to the vehicle.

Tracks completely lowered

Tracks settled off the ground

Difference

Camber VL \_\_\_\_\_

Camber VL \_\_\_\_\_

Camber \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber VR \_\_\_\_\_

Camber \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber HL \_\_\_\_\_

Camber \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber HR \_\_\_\_\_

Camber \_\_\_\_\_

Allowable differences 2' + 1 Digit. For excessive differences check the computer system and / or the alignment of the lift platforms/realign the tracks.

Comments:

signatures:

## **Foreword**

Nußbaum-Lifts are a result of long-standing experiences.

The high quality and the superior concept guarantee them reliability, a long lift time and the economic business. To avoid unnecessary damages and dangers, read the operating instruction attentive and observe the contents. Another or the described purpose going out use is not valid when not as agreed. This is valid particularly for climb and go.

Company Nußbaum is not liable for damages arising from this. The user carries the risk a lonely.

### **For the use belonged:**

- to observe all the notice in the operating instruction and
- the following of the inspection and maintenance work and the prescribed tests.
- The instruction for use has to be observed by all persons working with the lift.
- Especially the chapter "Safety/accident Prevention" has to be observed.
- In addition to the safety remarks of the instructions for use the regulations and instructions being valid at the place of operation have to be considered.

### **Obligations of the operator:**

The operator is obliged to allow only those persons complying to the following requirement to work at the unit

- being well acquainted with the basic regulations concerning labour safety and accident prevention and being trained to operate the unit.
- having read and understood the chapter concerning safety and warning instructions and confirmed that by their signature.

### **Dangers when operating with the lift:**

The Nußbaum-Lifts are designed and built according to technical standard and the approved regulations for technical security. Yet, danger for body and life of the operator may turn up when using the lift inexpertly.

### **The lift must only be operated:**

- for its appropriate use
- in unobjectionable condition concerning technical security.

### **Organising requirements**

- The instructions for use are constantly to be kept at the place of operation being at hand 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 directed.
- Safety- and danger alert operation of personal is occasionally and by observing the instructions for use to be controlled.
- As far as required and ordered by regulations personal protective equipment is to be used
- All safety- and danger-hints at the lift are to be observed!


- Spare parts must comply with technical requirements laid down by the manufacturer.  
This is only warranted with original parts.  
Consider time intervals given or fixed in instructions for use for repeated tests/inspections.

### **Maintenance works, remedy of faults and disposal**

- Fixed Adjusting-, maintenance- and inspection works and time intervals including Details for exchange of parts/part components as mentioned in the instructions for use are to be adhered.  
These works must only be carried out by expert personal.
- After maintenance- and repair works loose screw connections 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 injuries of persons or things if these injuries are caused by one or by some 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 or do not work correctly or are not installed correctly.
- Not to follow the regulations of the operating instruction concerning transport, storing, installation, initiation, operation and maintenance of the lift.
- Changes of the construction of the lift without asking the producer.
- Changes of important adjustments of the lift (e.g. driving elements, power rating, motor speed, etc)
- Wrong or incorrect maintenance.
- Catastrophes, acts of God or external reasons.

 **Fill out, undersign and copy this sheet and send the original to the lift manufacturer. The copy remains in the Manual.**

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

## Record of installation

The automotive lift with the

serial number:..... was installed on:.....

at the firm:..... at:.....

the safety was checked and the lift was started.

The installation was effected from the operating authority/competent (please delete as applicable).

The safety of the automotive lift was checked from the competent before the initial operation.

The operating authority attest the installation of the automotive lift, the competent attest the correct initial operation.

.....  
date                      name of the operating authority                      signature of the operating authority

.....  
date                      name of the competent person                      signature of the competent person

Your customer service:.....

## Record of handing over

The automotive lift with the

serial number:..... was installed on:.....

at the firm:..... at:.....

the safety was checked and the lift was started.

The persons below were introduced after the installation of the automotive lift. The introduction was carried out from an erector of the lift-manufacturer or from a franchised dealer (competent person).

.....  
date name signature

.....  
date name signature

.....  
date name signature

.....  
date name signature

.....  
date name signature

.....  
date name signature

.....  
date name of competent signature of the competent

Your customer service:.....

## 1. Introduction

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

To furnish proof of the **installation of the automotive lift** the form "Record of Installation" must be signed and returned to the manufacturer.

To furnish proof of the singular, regular and extraordinary check this documentation contains forms. The forms should be used to document the checks. They should not be removed from this documentation.

Every **change of the construction** and **displacement** of the automotive lift has to be registered in the "**Master document**" of the lift.

### 1.1 Installation and check of the automotive lift

Only specialist staff is allowed to do work concerning safety and to do the safety checks of the lift. They are called experts and competent persons in this document.

Experts are persons (for example self-employed engineers, experts) which have received instruction and have experience to check and to test automotive lifts. They know the relevant regulations concerning both labour and accidents prevention.

Competent persons are persons who have acquired adequate knowledge and experience with automotive lifts. They took part in training from the lift-manufacturer (servicing technicians of the manufacturer or dealer are competent)

### 1.2 Information of Warning

To show danger and to show important information the three symbols below are used. Pay attention to those passages, which are marked with these symbols.



***Danger! This sign indicates danger to life. Inexpert handling of the described operation may be dangerous to life.***



***Caution! This sign cautions against possible damage to the automotive lift or other material defects in case of inexpert handling .***



***Attention! This sign indicates an important function or another important note.***



## 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 is a lifting mechanism for lifting motor vehicles with a laden weight of up to 4000kg. The max. load distribution is 2:1 in or against drive-on direction.

The automotive lift is only designed for servicing vehicles. It is not allowed to carry persons with the lift. It is not allowed to climb on the lift or on the vehicle. It's not allowed to install the standard-automotive lift in a hazardous location, washing bays or wet environment.

After changes of the construction after essential maintenance work on carrying parts and after changing the installation place, an expert has to check the lift and to confirm its correctness and security.

### 2.3 Changes at the construction

#### Changes at the construction, expert checking, resumption of work

(date, kind of change, signature of the expert)

.....  
.....  
.....

name, address of the expert

.....  
place, date

.....  
signature of the expert

### 2.4 Displacement of the automotive-lift

#### Displacement of the automotive-lift, expert checking, resumption of work

(date, kind of change, signature of the expert)

.....  
.....  
.....

name, address of the expert

.....  
place, date

.....  
signature of the expert

## 2.5 Declaration of conformity

### EG- Konformitätserklärung

# Nussbaum

gemäß Maschinenrichtlinie Anhang II 1A

Declaration of Conformity according Machinery Directive 2006/42/EG ANNEX II 1A  
Déclaration de conformité selon directive machines annexe II 1A  
Declaración de conformidad según Directiva Maquinaria 2006/42/EG ANNEX II 1A  
Dichiarazione di conformità in accordo alla direttiva 2006/42/EG ANNEX II 1A

Hiermit erklären wir, daß die Hebebühne, Modell:

UNI LIFT 4000

Hereby we declare that the lift model:  
Par la présente nous déclarons que le pont élévateur modèle:  
Por la presente declara, que el elevador modelo:  
Con la presente si dichiara che il sollevatore:

allen einschlägigen Bestimmungen der folgenden Richtlinien entspricht:

fulfils all the relevant provisions of the following Directives:  
correspond aux normes suivantes:  
cumple todas las disposiciones pertinentes de las Directivas siguientes:  
adempie a tutte le richieste delle seguenti direttive:

Maschinenrichtlinie / Machinery Directive  
Niederspannungsrichtlinie / Low Voltage Directive  
EMV Richtlinie / EMC Directive

2006/42/EG  
2006/95/EG  
2004/108/EG

in Übereinstimmung mit den folgenden harmonisierten Normen gefertigt wurde

was manufactured in conformity with the harmonized norms  
fabriqué en conformité selon les normes harmonisées en vigueur.  
producido de acuerdo a las siguientes normas armonizadas.  
è stato fabbricato in conformità con le norme armonizzate

Fahrzeug- Hebebühnen / Vehicle lifts  
Elektrische Ausrüstung von Maschinen / Electrical equipment of machines  
Elektromagnetische Verträglichkeit / Electromagnetic compatibility (EMC)

EN 1493: 1998  
EN 60204 -1  
EN 61000-6-2 , -6-4

Beauftragter für die Technische Dokumentation  
Authorised to compile the technical file

M. Golutzki (Nussbaum)

Seriennummer  
Serial number

Seriennummer

Kehl- Bodersweier, 30.12.2009

Otto Nussbaum GmbH & Co. KG  
Korker Straße 24  
77694 Kehl-Bodersweier  
Tel. 0 78 53 1893-0  
i.A. Thomas Hassler (CE)

## 3. Technical information

### 3.1 Technical ratings

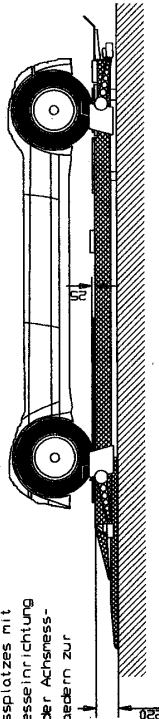
Capacity (main lift)	4000 kg
Load distribution	max. 2:1 in or against drive-on direction
Lifting time (main lift)	approx. 40 sec. with load
Lowering time (main lift)	approx. 24 sec. with load
Lifting height (main lift)	approx. 1720mm
Line voltage	3PH,N+PE, 400 Volt, 50Hz
Driving voltage	24V
Power rating	3 kW
Motor speed	2800 rot./min.
Pump capacity	3 cm <sup>3</sup>
Hydraulic pressure	approx. 250 bar
Pressure relief valve	approx. 280 bar
Oil tank	approx. 10 Litre
Sound level	≤ 75 dB(A)
Connection by customer	3~/N+PE, 400V, 50 Hz (standard version) with fuse 16 Ampere Time lag fuse (Pay attention to the voltage of your country)

### 3.2 Safety devices

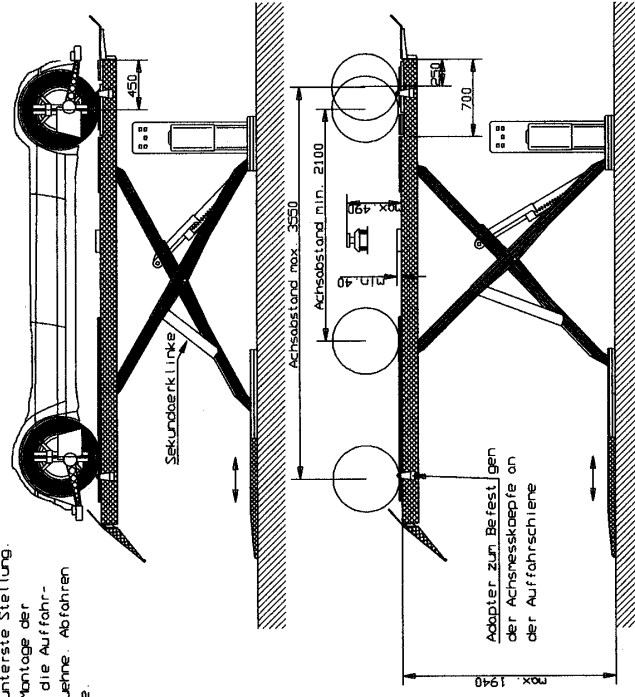
1. Safety ratchets at the main lift and the wheel free lift  
Safety device against unintentional lowering
2. Pressure relief valve  
Overprint-safety of the hydraulic system
3. Holding valve  
Safety device against unintentional lowering
4. Safety device at the end of the platform  
Safety device against crash of the load
5. Lockable main switch  
Safety device against unauthorised operation
6. Seat valves at the cylinders of the wheel free lift  
Safety device against unintentional lowering of the wheel free lift
7. CE-STOP  
Safety device against bruises in the area of the feet
8. Photo electric  
Safety device against bruises in the area of the feet

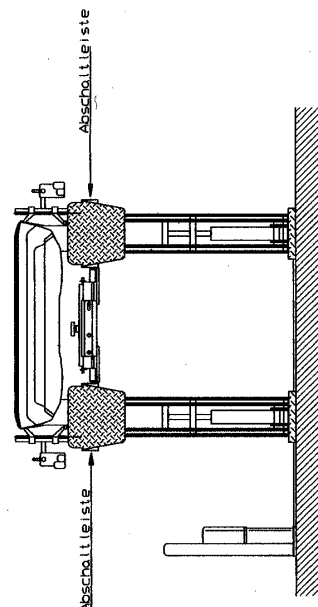
### 3.3 Datasheet

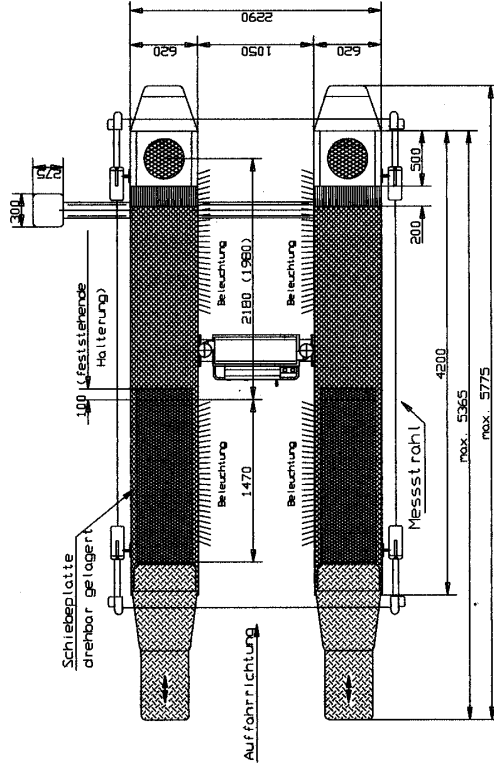
1. Achsskoepte sind an der Auf-fahrschiene der Hebeuehne be-festigt. Auffahren mit dem Fahr-zeug in der untersten Stellung der Hebeuehne. Kontrolle der Ebenheit des Messplatzes mit Hilfe der Achsmesseinrichtung (MKS). Montage der Achs-skoepte an den Radaern zur Eingangsmessung.



2. Anheben der Hebeuehne. Durch-fuehrung der Vermessungs- und Einstellungsarbeiten. Absenken des Fahrzeugs in die unterste Stellung. Ausgangsmessung. Montage der Achsskoepte an die Auf-fahrschiene der Hebeuehne. Abfahren von der Hebeuehne.








Tragfaehigkeit : 4 000 kg  
 Nutzhub : 1720 mm  
 Motorleistung : 3.0 kW  
 Netzanschluss : 3~/N+PE, 380 V, 50 Hz

Datenblatt UNI LIFT 4000  
 mit MKS, mit Jock 2000    Massstab 1:55

20.04.1994 / Veid    Einbau 0918

Alle Masse in mm.  
 Mass- und Konstruktionsaenderungen vorbehalten.  
 Der genaue Lieferumfang ist der Preisliste zu entnehmen.



TEL 07853/899-0    FAX 07853/8787  
 WWW.NUSSBAUM-UNILIFT.DE  
 77694 KEHL-BODERSWEILER

Achswahlweite max. 4025  
wheel distance

Sekundärlink  
retainer for wheel alignment position

B\* with SLR option  
and uneven surface  
at the landing  
with SLR-Option  
and ebenen Fußböden

Adapter zum Befestigen der Achsmessköpfe  
holder for measuring head

Adapter zum Befestigen der Achsschleife  
on der Aufhängeleiste  
holder for measuring head

Schiebepatte  
sliding plate

Aufwärtslichtung  
drive on direction

Aufwärtslichtung  
lighting

festes Halterung  
fixed holder

1948  
11770  
1380  
810  
400  
4700  
5665  
6275  
6920

Abschaltleiste  
switch off strip

Abschaltleiste  
switch off strip

Schieneninnermoss distance between platform	850 *	900	950 ***	1000	1050 **
Maß/dimension a	2090	2140	2190	2240	2290

\* Standardaufstellung/standardversion  
\*\* MB Version  
\*\*\* smart option

Tragfähigkeit : 5000kg  
capacity  
Nutzhub : 1720mm  
lifting height  
Motorleistung : 3 kW  
motor power  
Elektronenschub : 3PH-NPE 400V, 50Hz (standard version)  
electrical connection  
Absicherung : 16 A träge  
fuse time lag

subject to alterations!  
Maß- und Konstruktionsänderungen vorbehalten!

**UNI-LIFT 4000 MB**

Schienenlänge/platform length 4700mm

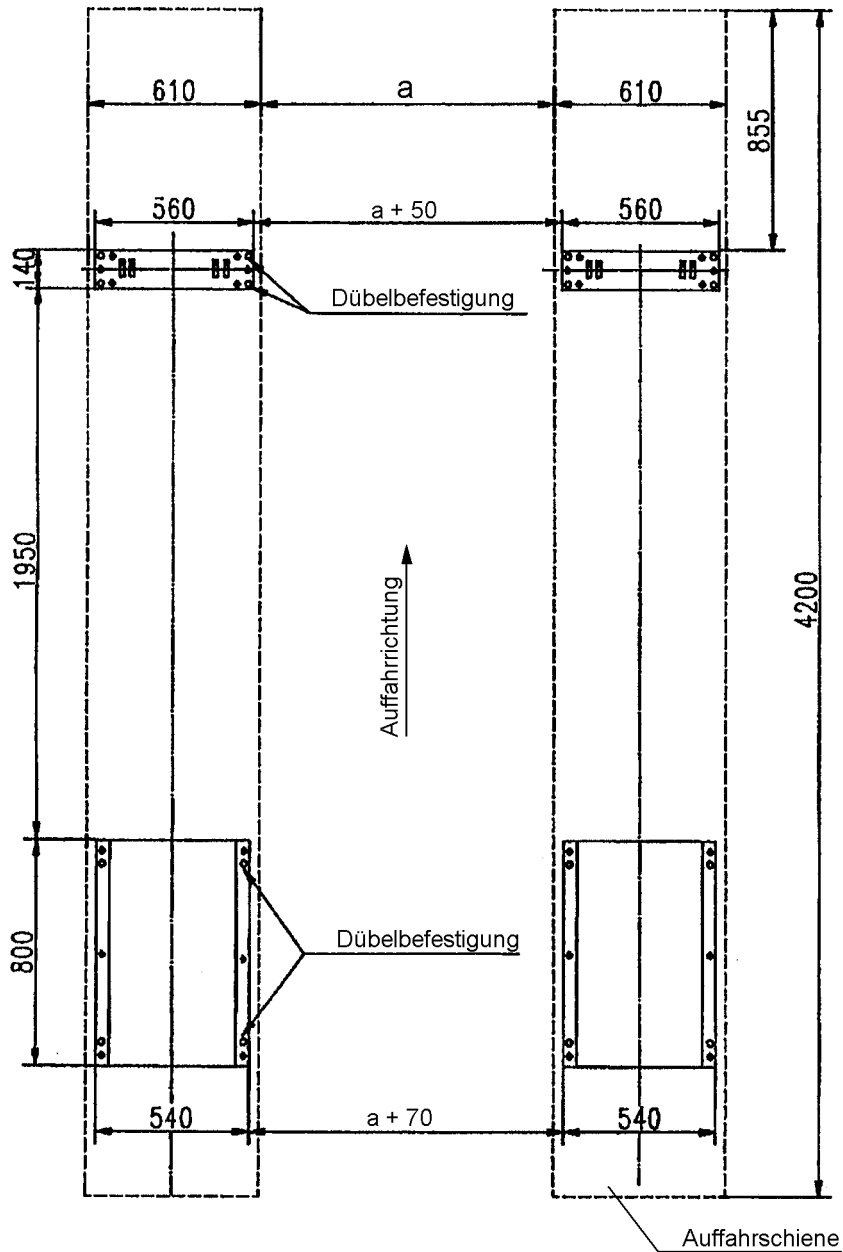
03.08.06 // M.C.      6459.EINBAU

www.nussbaum-lifts.de  
 77694 KEHL-BODERSWEIER

(SLR Option = längere Aufhängeleiste)  
SLR option = longer ramps

## 3.4 Sketch of the base plates

Observe the inner distance of the platforms.  
See the table of the data sheet EINBAU0680

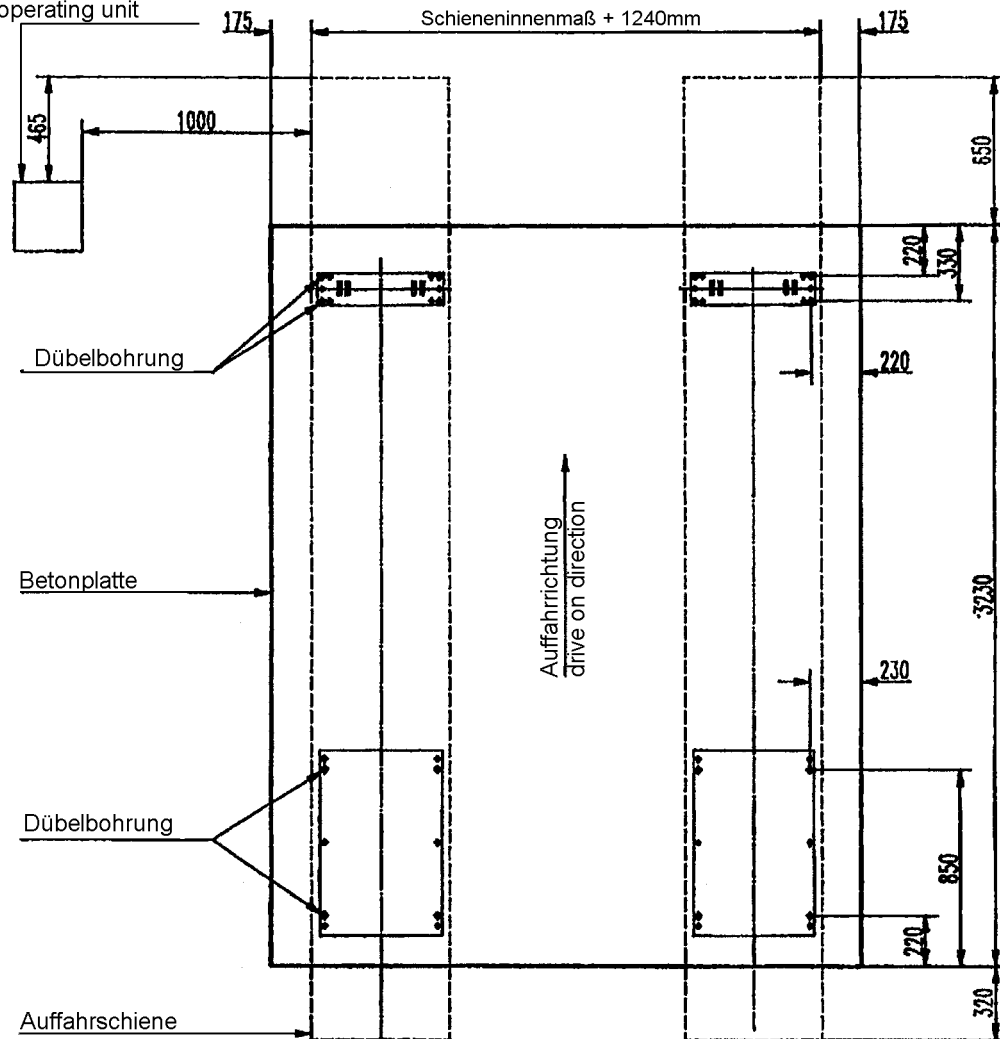




## 3.5 Foundation plan

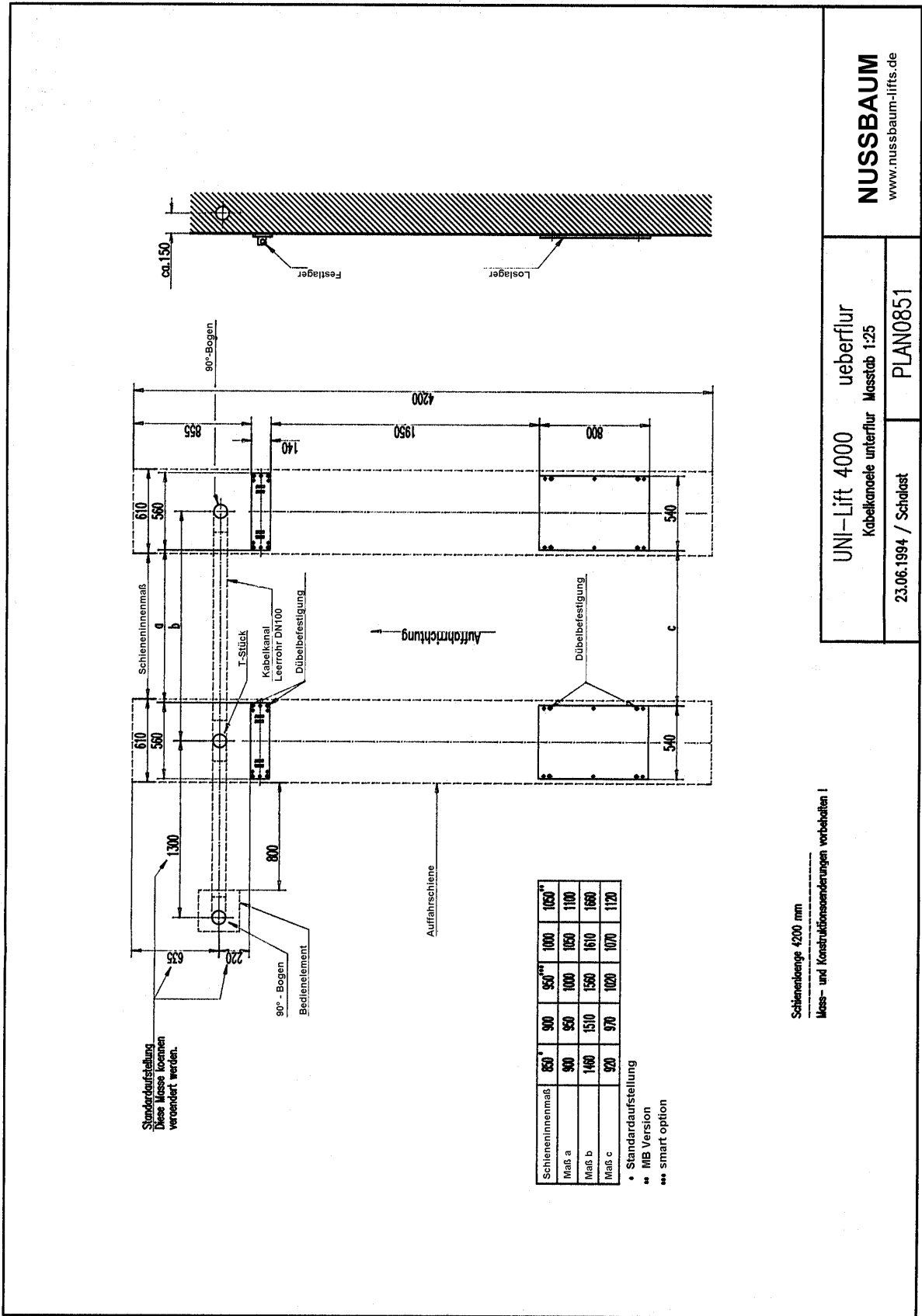
Standard position des  
Bedienaggregates  
Standard position of the  
operating unit

Observe the inner distance of the platforms.  
See the table of the data sheet EINBAU0680



Foundation: Quality of concrete min. C20/25 normal armouring  
Thickness of concrete: min.180mm

Prepared by customer at the main operating unit:  
power supply: 3PH,N+PE,400V,50Hz  
fuse: 16 Ampere, time lag  
cable diameter: 5x 2,5m<sup>2</sup>  
cable length:approx.2m  
air pressure: inner diameter 6mm, 6-10bar  
hose length: approx. 2m



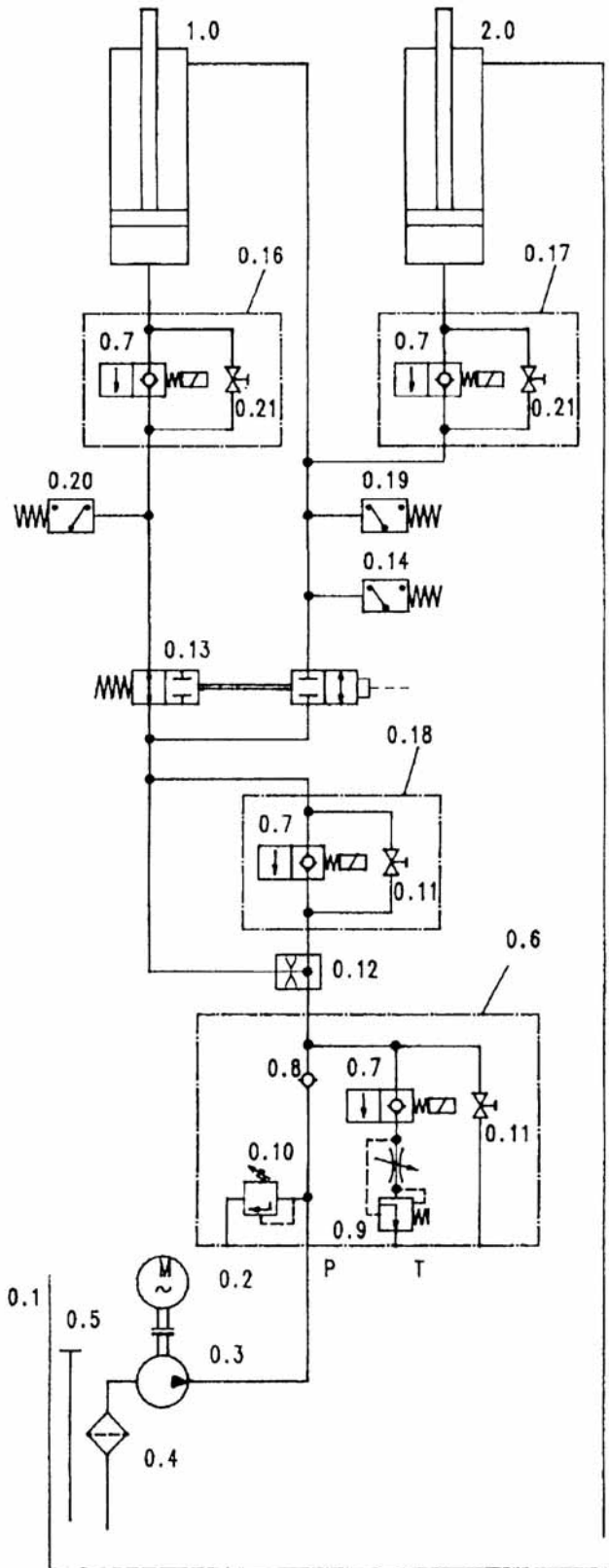
Schienneninnenmaß	850	900	950 <sup>***</sup>	1000	1050 <sup>**</sup>
Maß a	900	950	1000	1050	1100
Maß b	1460	1510	1560	1610	1660
Maß c	920	970	1020	1070	1120

- Standardaufstellung
- \*\* IMB Version
- \*\*\* smart option

Schiennenlänge 4200 mm  
Mess- und Konstruktionsänderungen vorbehalten!

<b>NUSSBAUM</b> www.nussbaum-lifts.de	
UNI-Lift 4000 ueberflur	Kabelkanäle unterflur
23.06.1994 / Scholast	Masstab 1:25
<b>PLAN0851</b>	

## 3.4 Hydraulic diagram drawing



## Hydraulic parts list

0.1	Oil tank	
0.2	Motor 400 Volt, 50 Hz	990303
0.3	Gear pump 3 cm <sup>3</sup> / rotation	980243
0.4	Oil filter	980201
0.5	Oil level gauge	980098
0.6	Hydraulic block	232POW22039
0.7	elec. unlocking Holding valve	980478
0.8	Holding valve	980480
0.9	flow control valve 1.9	9802471
0.10	Pressure rcontrol valve	232NSTL02082
0.11	Emergency lowering screw at the main block	9914-M12x020ZN
0.12	screen	-
0.13	Ball valve	980513
0.14	Pressure switch (15bar)	DSH000/002
0.15	Pipe rupture safety device	980178
0.16	Hydraulic block	030ULN02062
0.17	Hydraulic block	030ULN02062
0.18	hydraulic block	032UL12365
0.19	Pressure switch (15bar)	DSH000/002
0.20	Pressure switch (15bar)	DSH000/002
0.21	Emergency lowering screw	030ULN02064
1.0	Master cylinder	030ULN02002
2.0	Slave cylinder	030ULN02037

## 3.5 Electrical diagram drawing

0	1	2	3	4	5	6	7	8	9																				
<p><b>Nussbaum Hebetchnik</b>                  GmbH &amp; Co. KG                  Korker Straße 24                  D-77694 Kehl Bodersweier                  Tel.: +49(0)7853/899-0</p>																													
<h1 style="margin: 0;">SCHALTPLAN</h1>																													
<p><b>OBJEKT</b> : Unilift 4000  <b>ANLAGE</b> :  <b>KUNDE</b> :  <b>SCHALTPLANNR:</b> Unilift 4000 05/10/001</p>																													
<p><b>1.) Schaltpläne und Schaltunterlagen</b>                  Die Schaltpläne werden von uns nach bestem Gewissen angefertigt. Für beigezeichnete Schaltpläne und Schaltunterlagen sind wir nicht haftbar. Die Schaltpläne sind für die Montage der Anlage zu verwenden. Diese trifft insbesondere für Schaltpläne zu, die von uns nach fremden Plänen angefertigt werden. Diese werden von uns nur nach den vom Auftraggeber überlassenen Unterlagen des Herstellers angefertigt.  <b>2.) Funktionsprüfung der Schaltanlagen</b>                  Schaltpläne sind keine Serienzeugnisse. Bei der Prüfung des Schaltchrankes im Werk können Fehler wie Fühler, Thermistate und Motoren nicht einbezogen werden. Auch bei sorgfältiger Prüfung oder hat durch uns zu erfolgen. Sie ist grundsätzlich Bestandteil unseres Auftrages. Mängel werden im Rahmen unserer Gewährleistung bei der Inbetriebnahme beseitigt. Unsere Haftung übernehmen wir nur für die Nachbesserungen, die im Rahmen der Inbetriebnahme von Schaltplänen bei Nacht von uns im Betrieb vorgenommenen Schaltanlagen werden. Deshalb nur gegen Berechnung gemäß unseren Service-Bedingungen ausgeführt. Kosten für Nachbesserungen durch Dritte können wir nicht anerkennen.</p>																													
<p>Diese Pläne sind auf einem CAD-System erstellt worden.                  Um die Pläne immer auf dem aktuellen Stand zu halten, bitten wir                  Änderungen nur durch uns vornehmen zu lassen.</p>																													
<p><b>3.) Sicherheitsprüfung und Schutzmaßnahmen</b>                  Der Schaltchrank wurde unter Beachtung der anerkannten Regeln der Technik nach den geltenden Vorschriften für die Herstellung von Schaltanlagen (VDE 0100/5 73) gefertigt und geprüft. Folgende Prüfungen wurden durchgeführt:                  1. Prüfung der Isolierfestigkeit der Schaltchrankteile nach VDE 0100/5 73.                  2. Prüfung der Kurzschlussfestigkeit der angeordneten Schutzmaßnahmen nach VDE 0100/7 75 Par. 22.                  3. Funktionsprüfung und Schutzprüfung nach VDE 0100/5 73: Par. 4.                  4. Schutz gegen direktes Berühren nach VDE 0100/5 73: Par. 4.                  5. Schutz bei indirektem Berühren nach VDE 0100/5 73: Par. 5.</p>																													
<p>Diese Schaltpläne sind unser geistiges Eigentum.                  Sie dürfen ohne unsere Genehmigung weder vervielfältigt noch Dritten weitergegeben werden!</p>																													
<p style="text-align: right;">2</p>																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Unilift 4000</td> <td style="width: 50%; text-align: center;">-</td> </tr> <tr> <td style="width: 50%; text-align: center;">Deckblatt</td> <td style="width: 50%; text-align: center;">1</td> </tr> <tr> <td style="width: 50%; text-align: center;">12 Bl.</td> <td style="width: 50%; text-align: center;">1</td> </tr> </table>										Unilift 4000	-	Deckblatt	1	12 Bl.	1														
Unilift 4000	-																												
Deckblatt	1																												
12 Bl.	1																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Datum</td> <td style="width: 20%;">04.05.2010</td> <td style="width: 20%;">Nussbaum Hebetchnik GmbH &amp; Co. KG</td> <td style="width: 40%;">Ers. f.</td> </tr> <tr> <td>Bearb.</td> <td>BOE</td> <td>Korker Straße 24</td> <td></td> </tr> <tr> <td>Gepr.</td> <td>06.05.2010</td> <td>D-77694 Kehl - Bodersweier</td> <td></td> </tr> <tr> <td>Name</td> <td>Norm</td> <td>Tel.: +49(0)7853/899-0 Fax: +49(0)7853/899-1</td> <td>Ers. d.</td> </tr> <tr> <td>Urspr.</td> <td></td> <td></td> <td></td> </tr> </table>										Datum	04.05.2010	Nussbaum Hebetchnik GmbH & Co. KG	Ers. f.	Bearb.	BOE	Korker Straße 24		Gepr.	06.05.2010	D-77694 Kehl - Bodersweier		Name	Norm	Tel.: +49(0)7853/899-0 Fax: +49(0)7853/899-1	Ers. d.	Urspr.			
Datum	04.05.2010	Nussbaum Hebetchnik GmbH & Co. KG	Ers. f.																										
Bearb.	BOE	Korker Straße 24																											
Gepr.	06.05.2010	D-77694 Kehl - Bodersweier																											
Name	Norm	Tel.: +49(0)7853/899-0 Fax: +49(0)7853/899-1	Ers. d.																										
Urspr.																													

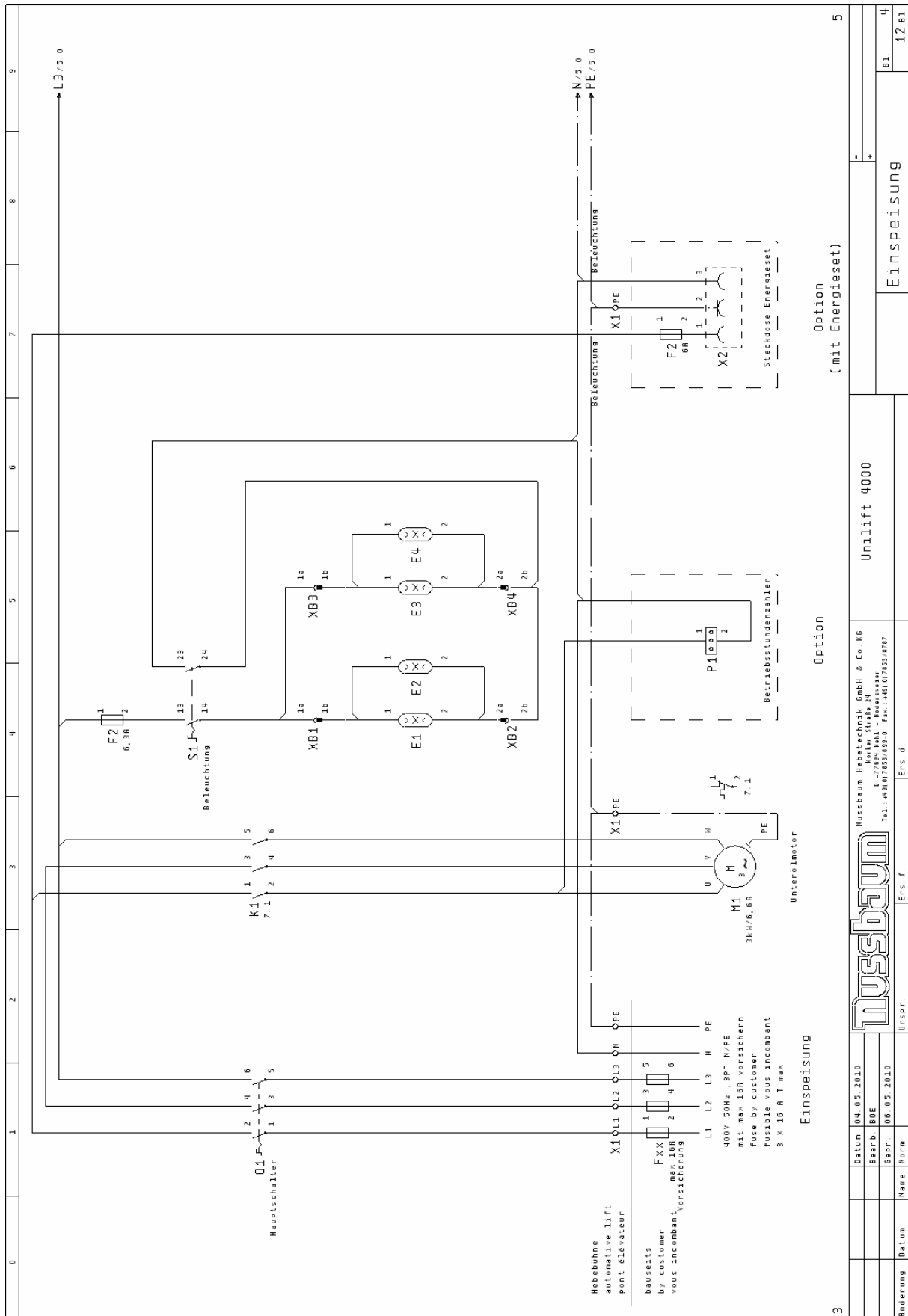
0	1	2	3	4	5	6	7	8	9
<b>Inhaltsverzeichnis</b>									
Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet									
MUP.00050 24.02.1994									
Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearbeiter	X				
1	Deckblatt		14.07.2005	BOE					
2	Inhaltsverzeichnis		13.01.2006	BOE					
3	Änderungsinfo		14.07.2005	BOE					
4	Einspeisung		13.01.2006	BOE					
5	Steuerspannung		13.01.2006	BOE					
6	Steuerung		13.01.2006	BOE					
7	Steuerung		13.01.2006	BOE					
8	Steuerung		13.01.2006	BOE					
9	Steuerung		13.01.2006	BOE					
10	X1		13.01.2006	BOE					
11	Stückliste		13.01.2006	BOE	x				
12	Stückliste		13.01.2006	BOE	x				
3									
1	Datum	04.05.2010							
	Bearb.	BOE							
	Begr.	06.05.2010							
Änderung	Datum	Name	Norm	Urspr.	Ers. f.	Ers. d.			
							Unilift 4000		
							Inhaltsverzeichnis		
							Bl.	12 Bl.	
							2		



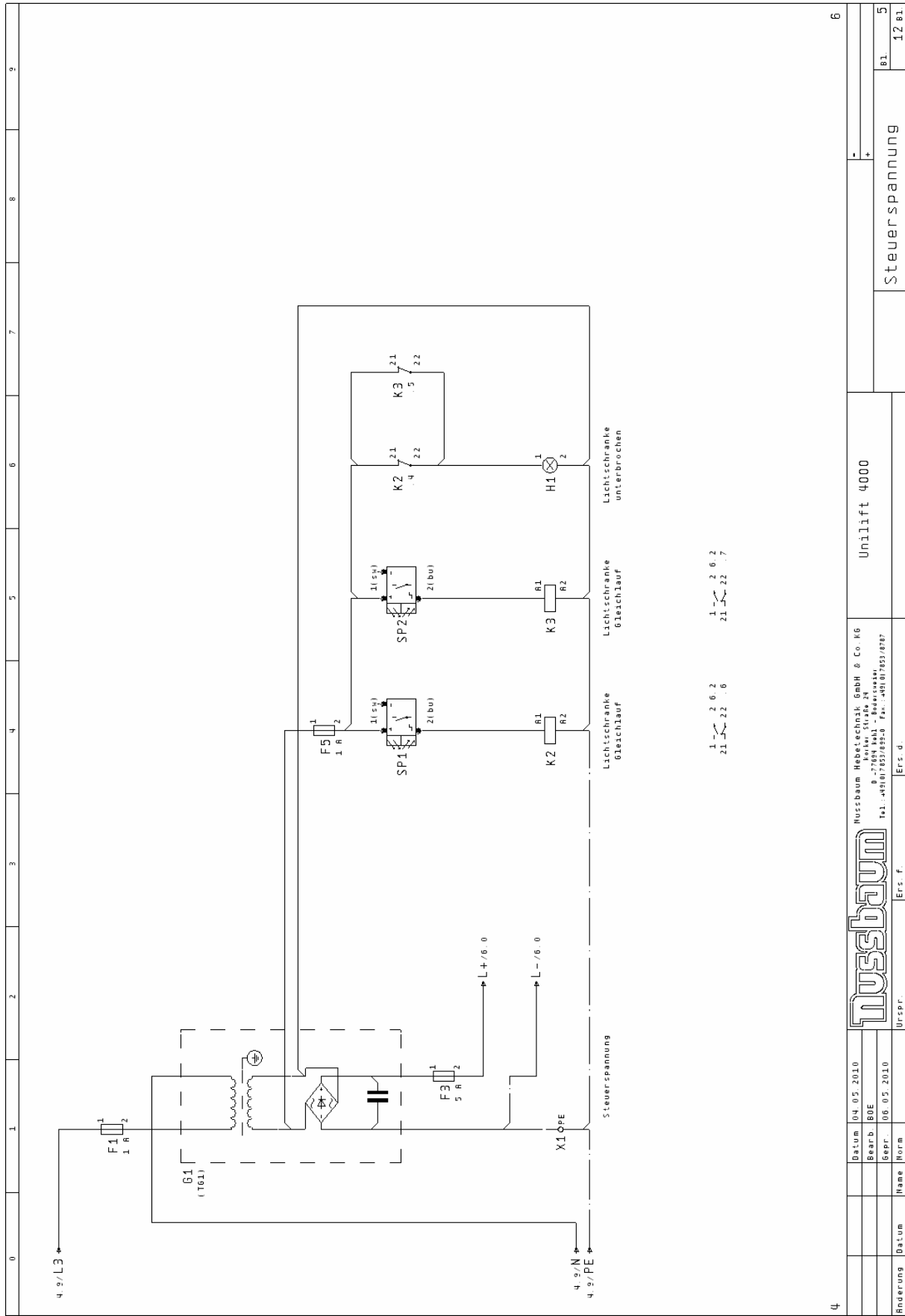
Nussbaum Hebeteknik GmbH & Co. KG  
 Inker, Straße 24  
 D-70514 Bad - Bellingen  
 Tel.: +49 (0) 71 52 91 52 50 Fax: +49 (0) 71 52 91 52 70



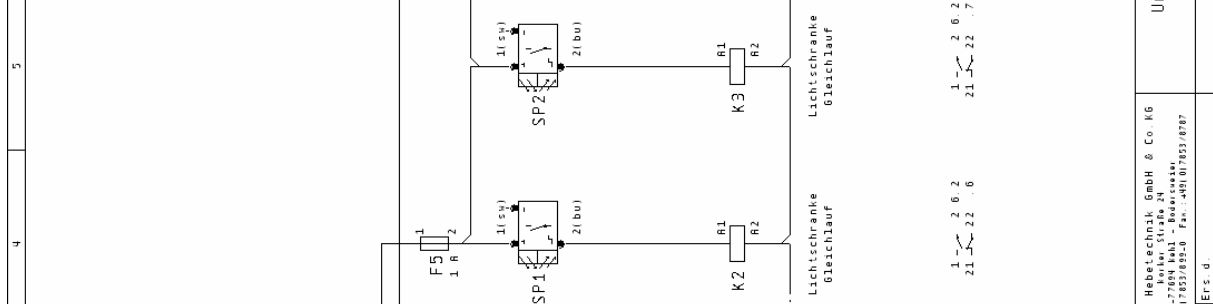




3	Option		Option		Option	
Hebebühne		Unilift 4000		(mit Energieset)		
automotive lift / pont. elevator		Nussbaum Hebe-technik GmbH & Co. KG		-		
baureits by customer		D-7061 Leinf.-Engeh.-St. 24		+		
vous incambant / vorschierung		Tel.: +49 (0) 71 23 23 23 23		Einspeisung		
		Fax: +49 (0) 71 23 23 23 23		81	4	
Erderung	Datum	Name	Norm		12 81	

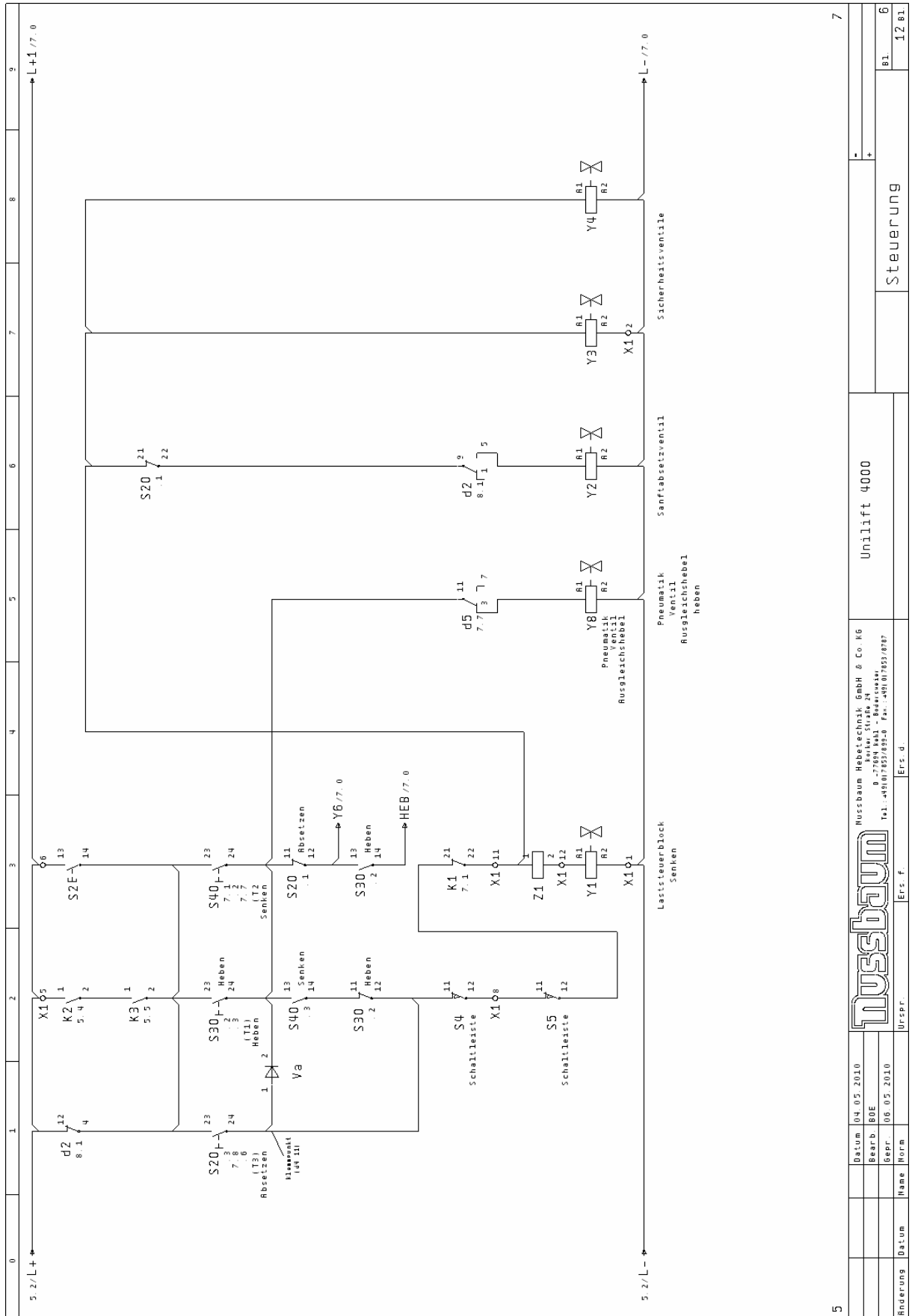


0	1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---	---

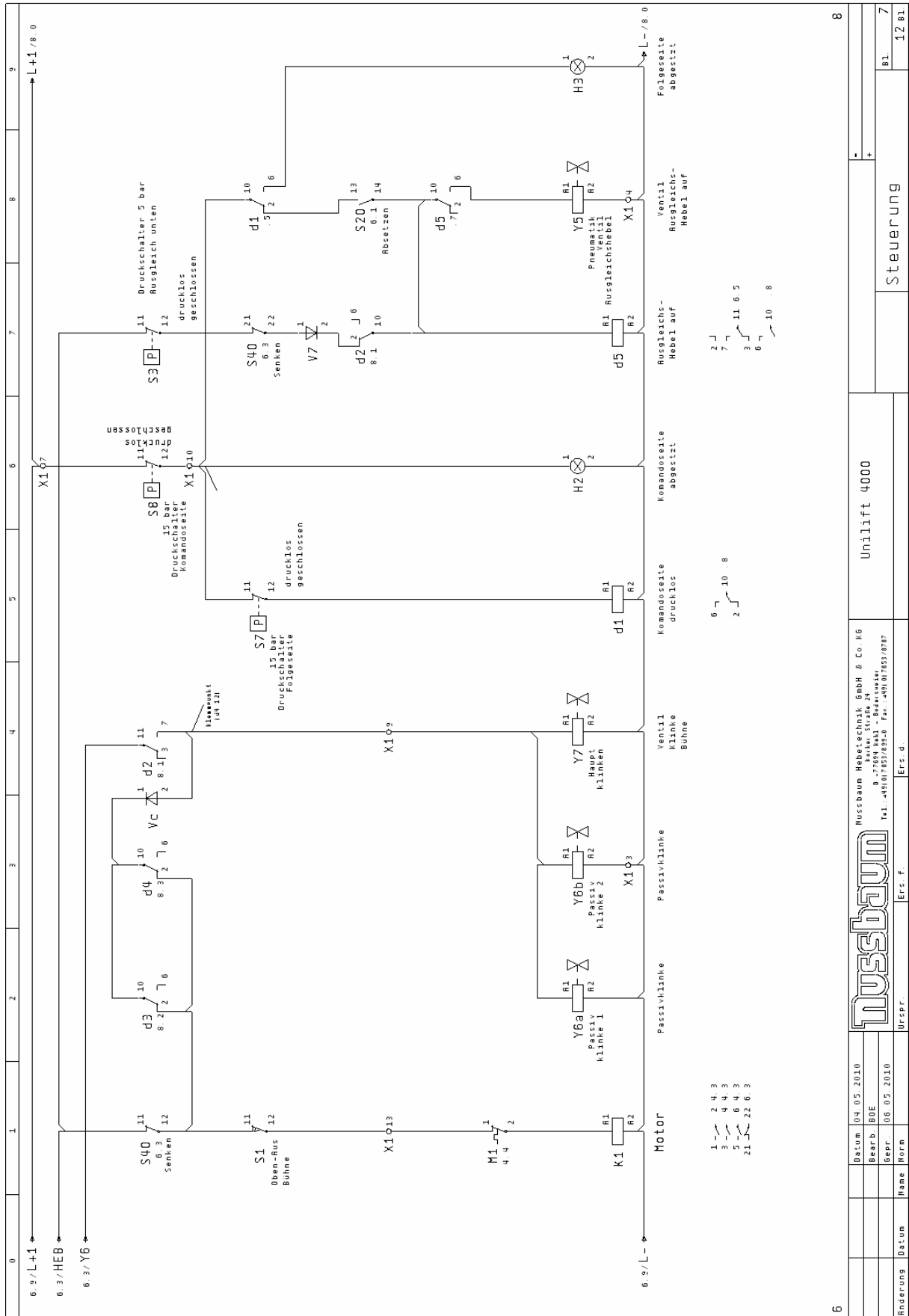


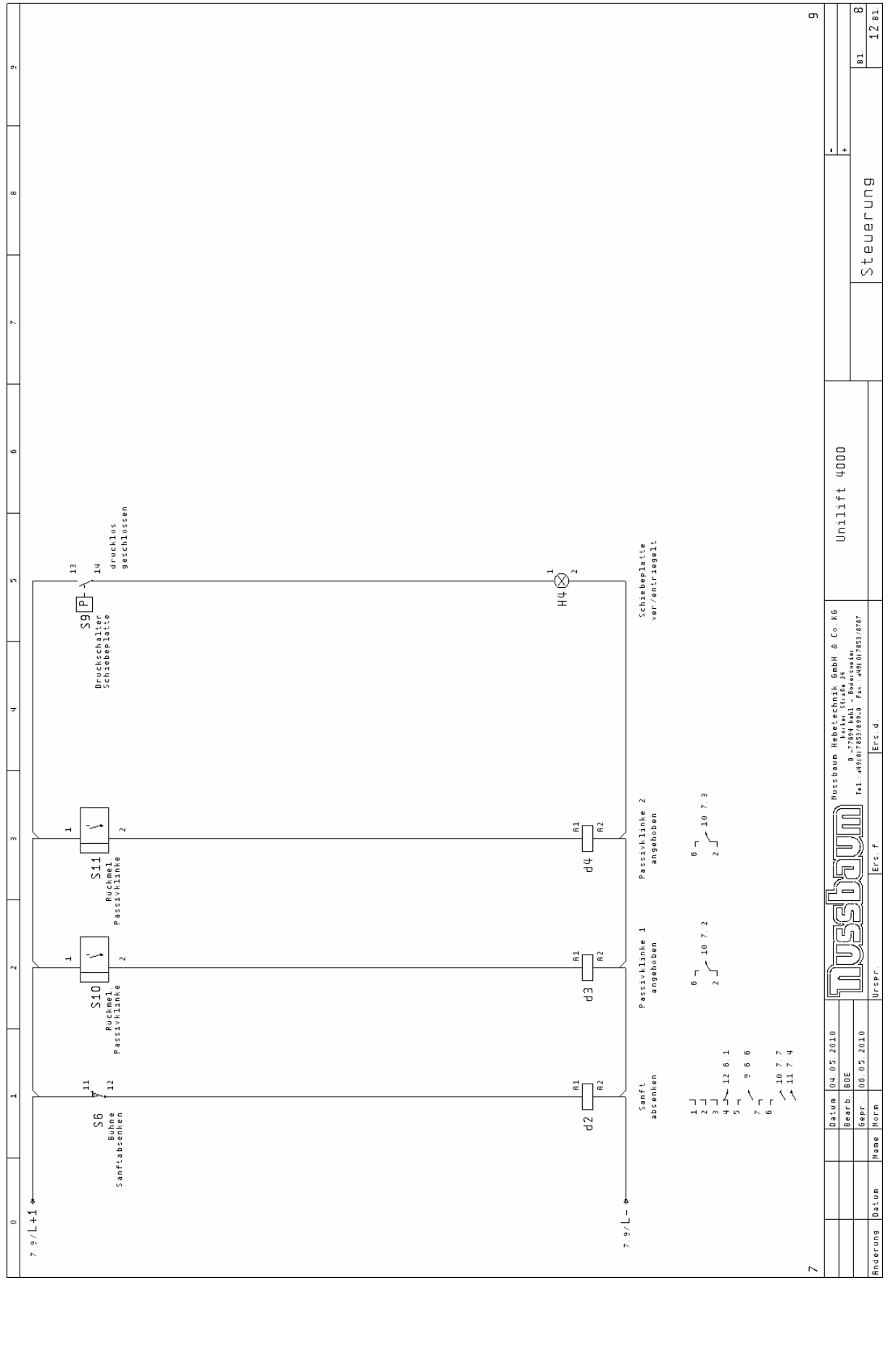
Steuer-spannung		
Lichtschranke Gleichlauf		
Lichtschranke Gleichlauf		
Lichtschranke unterbrochen		

4	Datum	04.05.2010	Nussbaum Hebeltechnik GmbH & Co. KG	
	Bearb.	BDE	Imker, Straße 24	
	Bepr.	06.05.2010	81718 Heilbronn, Germany	
	Name		Tel. +49(0)7142555222 Fax: +49(0)7145538707	
	Datum		Erspr.	
	Name		Ers f	
	Datum		Ers d	
	UNI-LIFT 4000			
	Steuer-spannung			
	81			5
	12			81



5.2/L+	0	1	2	3	4	5	6	7	8	9	L+1/7.0
5											7
	Datum	04.05.2010									
	Bearb.	BDE									
	Beprf.	06.05.2010									
Änderung	Datum	Name	Norm	Urspr.	Ers. F.	Ers. d.	Unilift 4000				
							Nussbaum Hebe- und Transporttechnik GmbH & Co. KG D-70514 Heilbronn - Bismarckstr. 24 Tel.: +49(0)7141 20282220 Fax: +49(0)71453 8787				
							Steuerung				
										81	12 Bl.







0	1	2	3	4	5	6	7	8	9
8			<b>NUSSBAUM</b>		Nussbaum Hebe-Technik GmbH & Co. KG D-70544 Heilbronn - Bismarckstr. 24 Tel. +49 (0) 71 42 29 82 20 Fax. +49 (0) 71 42 53 87 87		UniLift 4000		10
		Datum 04.05.2010						- +	
		Bearb. BDE							
		Bepr. 06.05.2010							
Änderung		Datum		Name		Norm			
								frei	
								81 12 81	



### Stückliste

WUP00030 24.02.1994

0	1	2	3	4	5	6	7	8	9
Bauteilbenennung	Menge	Bezeichnung	Typen Nummer	Lieferant	Artikelnnummer				
01	1	Hauptsch. Mot.-Aus 3p 10A 5, 2kV	A 10573 0200-EV/50	Hertz GmbH	990403				
01	1	Drehst. motor 3kV/0 BR 50/600Hz	8LK2-897	Hanning GmbH	990303				
F2	1	Sicherungsklemme Trenner 5x20 mm	N4/8. 5F	Entrelec	990661				
F2	1	Feinsicherung	FEINSICHERUNG	G.F.	990286				
S1	1	Mahlst. 2St. Dreihk. I, 0 rastl. (N22)	N22-AR	Hoeller	990446				
S1	1	Kontaktblock 15 (N22)	N22-K10	Hoeller	990142				
S1	1	Kontaktlement 15 (N22)	N22-K10	Hoeller	990133				
E1	1	2 = Stabluchte 1x Klemmkasten	BELEUCHTUNG UNILIFT	Nussbaum_Beleuchtung	0300UM03302				
E1	1	Betriebsstundenzähler 82 342	BEIIESSSTUNDENZÄHLER	Thelen	990231				
E3	1	2 = Stabluchte 1x Klemmkasten	BELEUCHTUNG UNILIFT	Nussbaum_Beleuchtung	0300UM03302				
F2	1	Einschraubversicherungshalter 5x20 mm	2518810	G.F.	990125				
F2	1	Feinsicherung	FEINSICHERUNG	G.F.	990286				
G1	1	Trafo + Gleichrichter + Kondensator	TRAF0_1-PH	Schmelzer	990835				
F1	1	Sicherungsklemme Trenner 5x20 mm	N4/8. 5F	Entrelec	990661				
F1	1	Feinsicherung	FEINSICHERUNG	G.F.	990662				
F3	1	Sicherungsklemme Trenner 5x20 mm	N4/8. 5F	Entrelec	990661				
F3	1	Feinsicherung	FEINSICHERUNG	G.F.	990307				
F5	1	Sicherungsklemme Trenner 5x20 mm	N4/8. 5F	Entrelec	990661				
F5	1	Feinsicherung	FEINSICHERUNG	G.F.	990302				
SP1	1	OT18RS-AH12-02 0-10L	SPIEGELREFLEKTLICHTASTER	Bernstein	990411				
R2	1	Leistungsschutz 5,7 kW 24 V 50-60 Hz	118612 01 A 24V AC	Lovato electric	990840				
SP2	1	OT18RS-AH12-02 0-10L	SPIEGELREFLEKTLICHTASTER	Bernstein	990411				
R3	1	Leistungsschutz 5,7 kW 24 V 50-60 Hz	118612 01 A 24V AC	Lovato electric	990840				
H1	1	E10 - Schraubanschluss	KONTROLLEUCHT ROT	RAFI GmbH & Co	990301				
H1	1	KONTROLLEUCHE E 10, 24V, 2 WATT	KONTROLLEUCHT E10	RAFI GmbH & Co	990283				
S20	1	Drucklaste schwarz 25 20 Harquard	1663 0101	Harquardt GmbH	990334				
S20	1	PVC-RAPPE für Schalter Harquard	203 201 011	Harquardt GmbH	990321				
S30	1	Sperndiode BYV 28 -100 1000V; 3A	BYV 28 -100	Conrad Elektronik	990042				
S30	1	Drucklaste schwarz 25 20 Harquard	1663 0101	Harquardt GmbH	990334				
S30	1	PVC-RAPPE für Schalter Harquard	203 201 011	Harquardt GmbH	990321				
S2	1	C-UIZ/K	GRENZFÄSTER 15 10	Bernstein	990130				
S40	1	Drucklaste Flach o. Tast. Platte (N22)	N22-D-X	Hoeller	990130				
S40	1	Kontaktblock 15 (N22)	N22-K11	Hoeller	990132				
S40	3	Kontaktlement 15 (N22)	N22-K10	Hoeller	990133				
S40	1	Kontaktlement 10 (N22)	N22-K01	Hoeller	990181				
S40	1	Tastentaste Pfeil (N22)	N22-XD-S-K7	Hoeller	990131				
Z1	1	Anspruchsbogen 1,5 s	ZHEIDRAHT ZEITRELAIS	BTR	990212				
Y8	1	stehe Stückliste Mechanik	SIENE STÜCKLISTE MECHANIK	Zulieferer	XXXXXX				
K1	1	Leistungsschutz 5,7 kW 24 V DC	118612 01 D 24V DC	Lovato electric	990842				
K1	1	Greuzfaster 10 15 Klein Stange	GRENZFÄSTER 10 15 KLEIN STANGE	Bernstein	990003				
Y6a	1	stehe Stückliste Mechanik	SIENE STÜCKLISTE MECHANIK	Zulieferer	XXXXXX				
Y6b	1	stehe Stückliste Mechanik	SIENE STÜCKLISTE MECHANIK	Zulieferer	XXXXXX				
Yc	1	Sperndiode BYV 28 -100 1000V; 3A	BYV 28 -100	Conrad Elektronik	940042				
Y7	1	stehe Stückliste Mechanik	SIENE STÜCKLISTE MECHANIK	Zulieferer	XXXXXX				
S7	1	Druckschalter 1 Hechster	DRUCKSCHALTE 15 BAR	Nussbaum	DSH000/002				
d1	1	INDUSTRIEFLAIS 24V 4 Hechster	2741	BTR	990267				
S8	1	Industrierelaissockel für 4 Hechster	110178	BTR	990381				
H2	1	Druckschalter 1 Hechster	DRUCKSCHALTE 15 BAR	Nussbaum	DSH000/002				
H2	1	E10 - Schraubanschluss	KONTROLLEUCHT GRÜN	RAFI GmbH & Co	990282				
H2	1	KONTROLLEUCHE E 10, 24V, 2 WATT	KONTROLLEUCHT E10	RAFI GmbH & Co	990283				

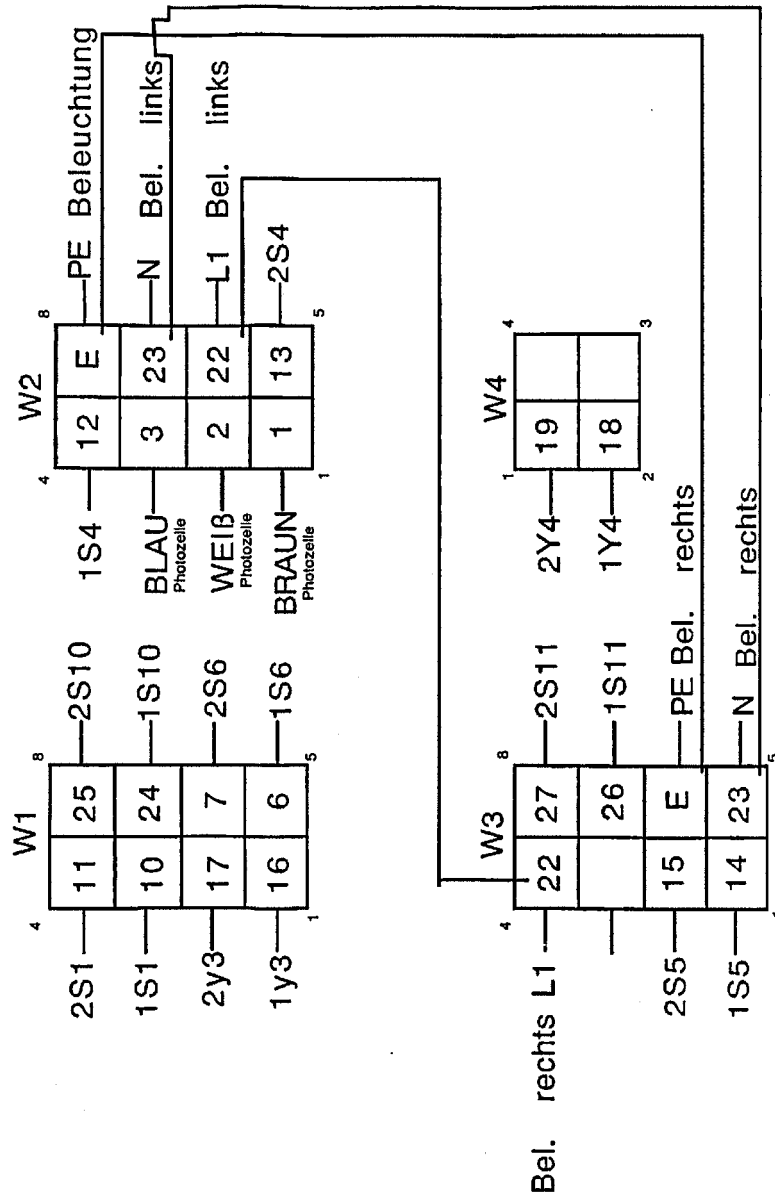
12

10

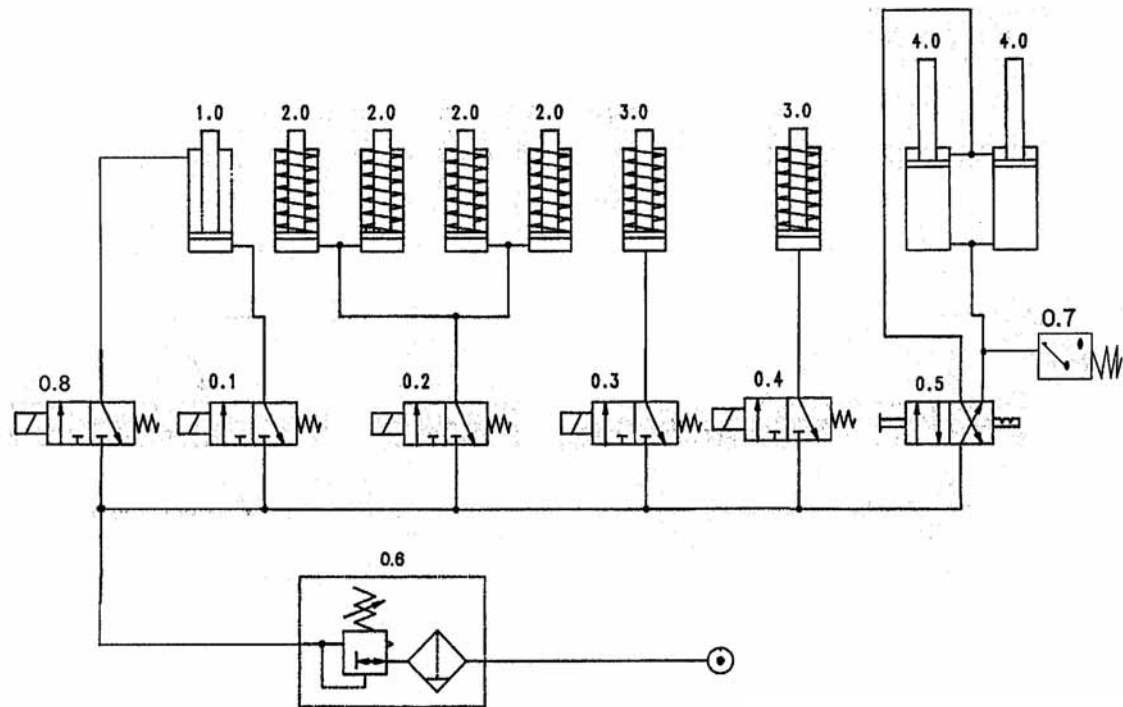
Datum	05.05.2010			-	
Bearb	806			+	
Bepr.	06.05.2010				
Urspr.		Ers. F.		Ers. d.	
		Nussbaum Hebe-technik GmbH & Co. KG		Unilift 4000	
		Industriestraße 24			
		D-70614 Heilbronn - Bismarck			
		Tel.: +49 (0) 71 41 92 91 50 Fax: +49 (0) 71 41 92 91 51			
		Stückliste		81 11	
				12 81	



## 3.7 Electrical plug connection



## 3.6 Pneumatic diagram drawing



air connection: 6mm  
air pressure: 6-10 bar

## Pneumatic parts list

Nr.	description	order number
0.1	3/2-way valve (equalization pneumatic cylinder)	960047
0.2	3/2-way valve (ratchet main lift)	960047
0.3	3/2-way valve (ratchet wheel free lift)	960047
0.4	3/2-way valve (passive ratchet)	960047
0.6	air pressure control valve	960039
0.7	pressure switch	DSP000/001
0.8	3/2-way valve	960047
1.0	Pneumatic cylinder (equalization pneumatic cylinder)	960086
2.0	Pneumatic cylinder (ratchet main lift)	030ULN10036
3.0	Pneumatic cylinder (ratchet wheel free lift)	030ULN10036
4.0	Pneumatic cylinder (Passive ratchet)	960029, 9600029

## 4. Safety regulations

If you use the automotive lift, the German following regulations are to be considered:  
BGG945: Examine of automotive-lifts; BGR500 Using automotive-lifts; (VBG14).

### **Especially the following regulations are very important:**

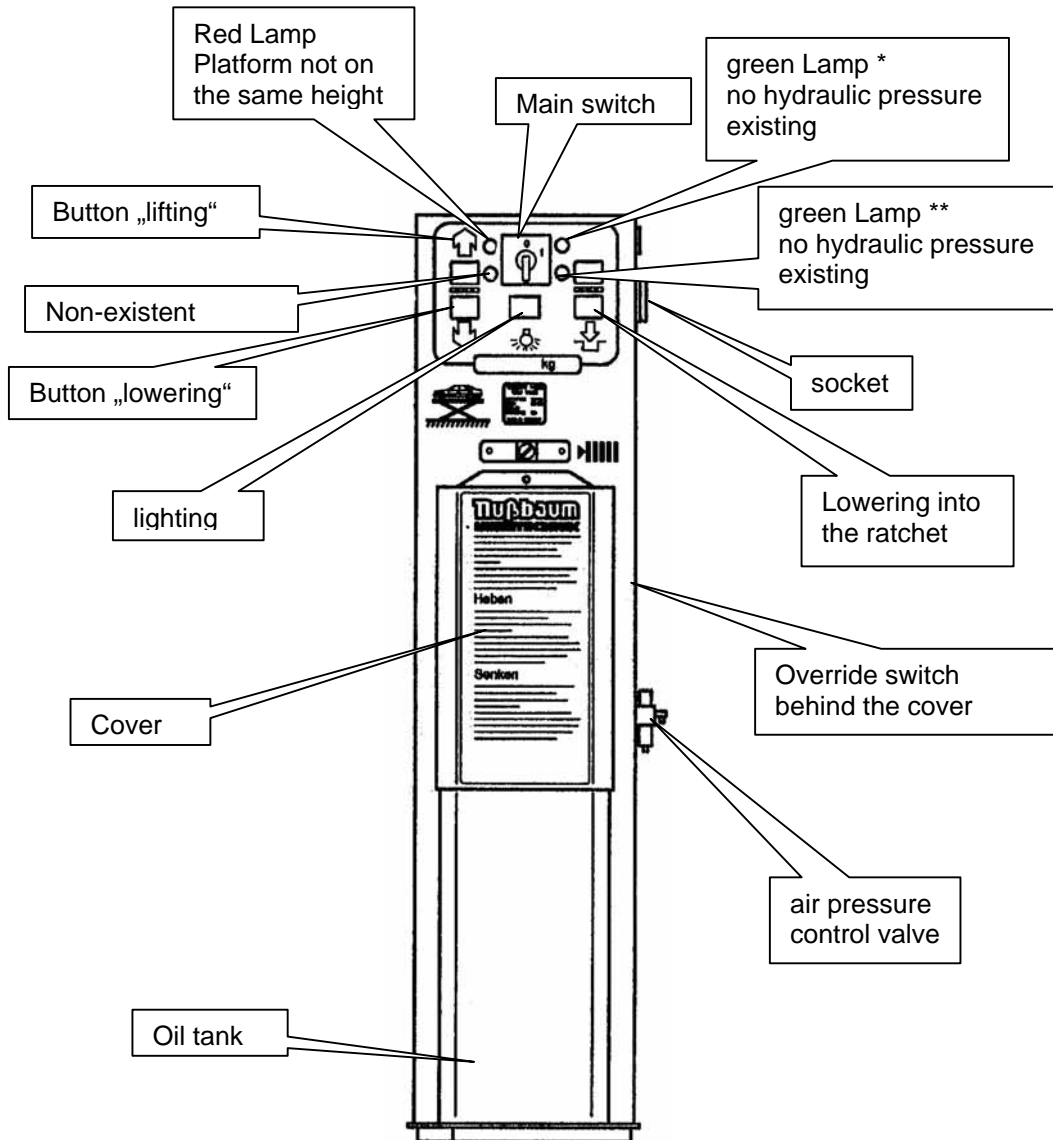
- The laden weight of the lifted vehicle mustn't be more than 4000 kg for the automotive lift, 3500 kg for the automotive lift with wheel free lift.
- The automotive lift must be lowered completely, before the vehicle is driving, in the provided direction, on the lift.
- During working with the lift 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 few millimetres.
- It's not allowed to stay under the lifted or lowered vehicle (except for the operator).
- Check the centre 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



\* Master side

\*\* Slave side



- Drive vehicle over the lift, longitudinal axes on line of the lift.
- Block the vehicle against rolling, put into gear.
- 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)
- Raise the lift. Press the button „lifting“.
- Lift the vehicle on the working height. Press the button „lifting“ .
- Observe the complete lifting procedure.

## 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.
- Lower the vehicle to the working height or until the platform reaches the lowest point; press the button „lowering“ .
- Observe the complete lowering procedure.
- Before the lift reaches the lowest position, it stops (CE-STOP).  
Let off the „lowering“. Control the dangerous places. Press the button again. You hear an acoustic signal until the lift reaches the lowest position.
- Drive the vehicle out of the lift if the lift is in the lowest position.
- Observe the complete lowering procedure.

## 5.3 Lowering into the ratchet for wheel alignment

- Before carrying out the wheel alignment procedure, the lift must be lowered into the ratchet.
- Raise the lift on the working height.
- Press the button „lowering into the ratchets“.
- Press the button until the hydraulic system is without pressure and both green lights at the operating unit are on.



***In case the even surface of the workshop floor is not guaranteed, wrong data of the wheel alignment are possible. Before, levelling the automotive.***

- After the wheel alignment procedure, press the button „lifting“ until the ratchets are unlocked.
- After it, lower the lift onto the working height.

## 5.4 Equalisation the platforms

The automotive-lift is equipped with an automatic equalisation system of the platforms. Every time when the lift is set into the ratchets for performing wheel-alignment, the slave side will be lowered to the level of the master side if the two sides are unequal in height. Every time the UNI-Lift is lifted from the lowest position the slave side will be lifted to the level of the master side. The lift is equipped with a photoelectric barrier that supervises the ganging of the two rails. If the lift is used for a certain time without being set into the ratchets or reaching the lowest position an unequal level of the two rails might occur which is caused by normal operating. The

photoelectric barrier is cut and the lift stops. It can neither be lifted nor lowered. To regain the lift's function perform as follows:

**Equalisation the lift as described in case the platform difference is permanent:**



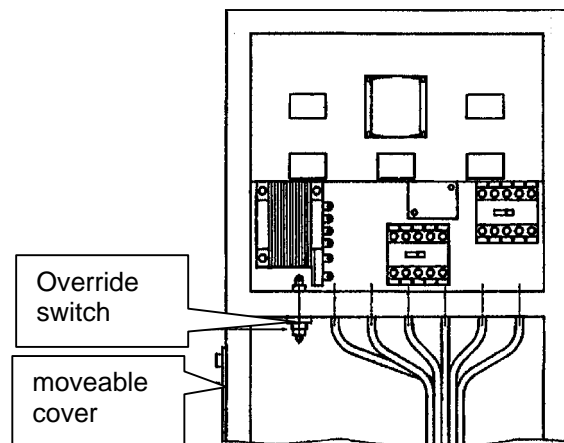
**Carry out an equalisation without the load (vehicle), otherwise the vehicle can fall down.**

- Select the mode of operation. Position the operating lever on the wheel-free-lift.
- Behind the lateral moveable cover are the override switches.  
Pos. N override switch „automotive lift“ // Pos. O) override switch „Wheel free lift “



**The bypass switch must only be used for restoring the normal operating state. Using the bypass switch for normal operating of the automotive lift the vehicle might fall down.**

- Lower the lift onto the lowest position.
- Remove the vehicle from the lift.
- Raise the lift approx. 500 mm.



pic 2. Position of the override switch

**Equalisation the main lift:**

**Slave side has a higher level than the master side**

- Push override switch, located behind the lateral movable cover of the operating unit (see pic. 2)
- Push button "Lowering into the ratchets" simultaneously. The lift will lower slowly into the next ratchet.
- Keep on pushing the two buttons until the complete hydraulic system is pressure less (signal lamp "Master side without pressure" and signal lamp " Slave side without pressure " must lighten). Now both platforms are at the same height.
- Release buttons and close cover.

**The Master side has a higher level than the slave side**

- Master side has a higher level than the slave side.

- Push override switch, located behind the lateral movable cover at the right side of the operating unit (see. pic. 2)
- Push button "Lowering" simultaneously. The lift will lower to lowest position with both platforms.
- Release buttons and close cover.
- Push button "Lifting". In the lowest position of the lift the slave cylinder is filled with oil until it is at the same level as the master cylinder. Now the lift is in normal function again and can be used as described in this manual.

## 6. Troubleshooting

The terms master side and slave side or master cylinder and slave cylinder, respectively, that are used in the following chapters and the wiring and hydraulic diagrams are explained as follows: If the lift is installed as recommended in the foundation plan (command unit at the left front side) the slave cylinder is placed under the rail that is near the command unit. The master cylinder is found under the rail remote to the command unit. Master and slave cylinder are different in the cylinder tube's exterior diameter (master cylinder  $\varnothing$  120 mm, slave cylinder  $\varnothing$  110 mm). For this reason there are distance elements with a width of 5 mm between the cylinder and the square tube which the ratchets are welded to. These distance blocs are not necessary at the master side as the diameter cylinder is larger

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.

<b>Problem: Motor does not start</b>	
<b>possible causes:</b>	<b>solution:</b>
<i>no power supply</i>	<i>Examine the power supply</i>
<i>main switch defective</i>	<i>Examine the main switch</i>
<i>main fuse defective</i>	<i>Examine the fuse</i>
<i>fuse in the operating unit defective</i>	<i>Examine the fuse</i>
<i>the fee line is cut</i>	<i>Make a repair</i>
<i>thermal switch in the motor is active</i>	<i>Let it cool down</i>
<i>Motor defective</i>	<i>Call your service partner</i>
<i>The top limit switch is active or the switch is defective</i>	<i>Examine the top-limit switch</i>
<i>The button „lifting“ is defective</i>	<i>Examine the press button</i>

<b>Problem: Motor starts, lift does not lifting!</b>	
<b>possible causes:</b>	<b>solution:</b>
<i>The vehicle is to heavy</i>	<i>Unload the vehicle</i>
<i>Level of the oil is too low</i>	<i>Fill in if the lift is in the lowest position</i>
<i>Pressure relief valve is defective</i>	<i>Call your service partner</i>
<i>Leakage in the hydraulic system</i>	<i>Examine the hydraulic system</i>
<i>Coupling between the motor and pump is defective</i>	<i>Call your service partner</i>
<i>Gear pump defective</i>	<i>Call your service partner</i>

<b>Problem: The lift does not lower!</b>	
<b>possible causes:</b>	<b>solution:</b>

<i>The lift is standing on a obstacle</i>	<i>See chapter 6.1</i>
<i>The lift is locked in the ratchet</i>	<i>See chapter 5.3</i>
<i>Seat valve defective</i>	<i>Examine the electrical power supply to the valves</i>
<i>The Photo electric is interrupt /the reflector is dirty</i>	<i>Check the Photo electric/Reflector</i>

<b>Problem: No automatically levelling of the platforms</b>	
<b>possible causes:</b>	<b>solution:</b>
<i>Pneumatic valve is defective (valve for the equalisation ball valve)(Pneumatic plan Nr. 0.1)</i>	<i>Exchange the valve</i>
<i>Seat-valve at the cylinders defective</i>	<i>Carry out an emergency lowering</i>

## 6.1 Driving on an obstacle

If the lift is running onto an obstacle while lowering, the lift stops immediately. In this case please perform as follows:

### Driving onto an obstacle with the master side

- Push button "Lifting" until the obstacle can be removed.
- Remove obstacle.
- Now the lift has the normal function again and can be used as described in this manual.

### Driving onto an obstacle with the slave side

- Push bypass switch, located behind the cover at the right side of the command unit (see pic. 2)
- Push button "Lifting" simultaneously until the obstacle can be removed.
- Remove obstacle. Now the lift is in normal function again and can be used as described in this manual

## 6.2 Emergency lowering



***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.

### 6.2.1 Emergency lowering with the main lift

In case of power failure the control valve, the stop valves at the cylinders and the pneumatic valves that release the ratchets will not open. Therefore the lift cannot be lowered. In this case there is the possibility to lower the lift by opening the valves manually, so the vehicle can be driven off.



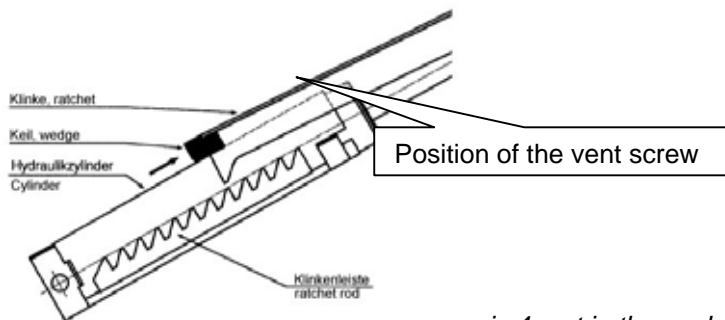
**The emergency lowering can only be performed when the ratchets are not engaged (they can be lifted manually).**



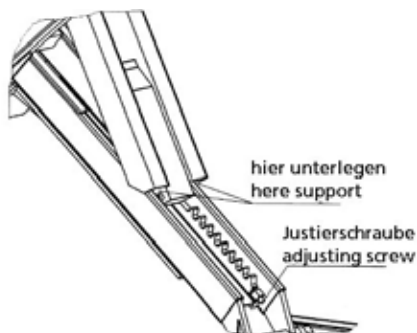
**The emergency lowering must only be performed by persons instructed to use the lift. Please refer to the regulation "Lowering".**

The wheel-free-lift must be in the lowest position, before carry out the emergency lowering with the main lift. If necessary carry out an emergency with the wheel free lift.

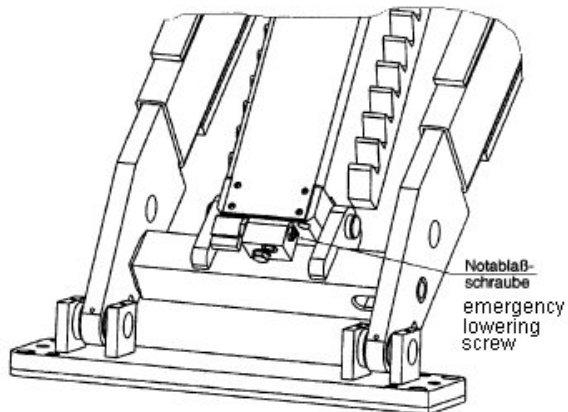
- Raise the ratchets at both hydraulic cylinders manually and support them with an appropriate means (for example wedge between cylinder and upper part) so they cannot engage (see pic. 4).
- Raise the passive ratchets at both sides and support them with an appropriate means (for example: wedge between scissors and ratchet profile) so they cannot engage (see pic.4).
- Remove the motor cover at the operating unit.
- Remove both cover of the cylinder (fixed bearing at the bottom).
- Loosen the security nut (marked with red colour) at the valve located at the bottom of each cylinder. This nut secures the set screw. Turn in the set screw for about one turn. This has to be done at both cylinders (see pic.6).



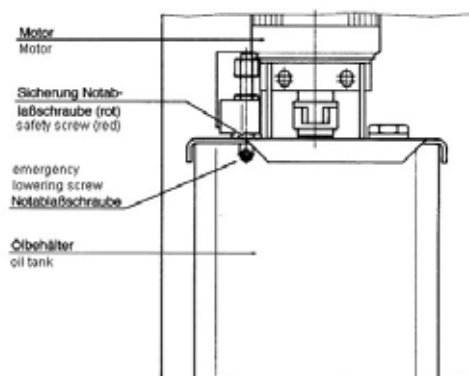
pic 4: put in the wedge



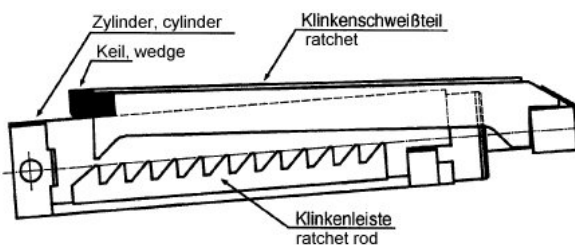
pic 5: put in the wedge



pic 6: position of the emergency lowering screw



pic 7: emergency lowering screw at the operating unit



pic 8: remove the object (wedge) in case the last teeth go over the ratchet rod

- Loosen security screw that secures the set screw for emergency lowering (marked with red colour) in the hydraulic main bloc (located in the command unit) with a hexagon socket screw key (see pic.7).
- Loosen the set screw until the lowering procedure starts.
- With danger close the emergency lowering screw at the operating unit.
- Fasten set screw when the upper parts of the ratchets have passed the last ratchet tooth and the ratchets cannot engage anymore.
- Remove the supports from ratchets.



**The supports must be removed before lowering the lift to the lowest position. Otherwise the lift can be seriously damaged.**

- Continue lowering the lift (loosen set screw again) until the lift has reached its lowest position.

- Fasten set screw and secure it by fastening the security screw.
- Drive off vehicle from the lift.
- After power is reinstalled, push button "Lifting" and lift the lift until the access to the valves at the cylinders' bottom is free.
- Turn out set screws at the valve located at the bottom of each cylinder to the position they have had before. Secure it with the security nut.



**After finishing the emergency lowering, all the three set screws must be brought into the position they have had before. Otherwise a malfunction of the lift can occur**

- Reinstall covers at the cylinder' s bottoms and at the command unit.



**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.

### 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.**

Maintenance plan	Period
Clean the piston rod from dirt with air pressure. Check the piston for damages.	min. once in a year
Clean and check the stripper of the cylinder.	min. once in a year
Clean and lubricate the moving parts of the lift (hinge bolts, sliding pieces, sliding surfaces) grease with a multipurpose liquid (e.g.: Auto Top 2000 LTD. Agip).	min. once in a year
Check the condition of the DU bush bearings. In case of damages exchange it.	min. once in a year
Check the condition of the white polymer supports. If necessary exchange it.	min. once in a year
Examine the electrical parts for damages (cables, switches, plugs, press buttons, optional: lighting, etc.)	min. once in a year



Grease all lubricate nipples with a multipurpose lipid. (example: Auto Top 2000 LTD. Agip).	min. once in a year
Clean and check the condition and function of the photo electric and reflector.	min. once in a year
Check the condition and function of the safety devices (CE-STOP + warning signal, photo electric, roll over safety device etc.)	min. once in a year
Clean and check condition and function of the ratchets also the pneumatic cylinder. Grease the surface with a multipurpose lipid.	min. once in a year
Check the function of CE-Stop + acoustic warn signal.	min. once in a year
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.	min. once in a year
Check all surfaces and repair if necessary. Damage to external surfaces, must be immediately repaired. If these 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).	min. once in a year
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).	min. once in a year
The hydraulic oil has to be changed at least once a year. To change the oil, lower the lift into its lowest position. Empty the tank 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.	min. once in 2 years
Check the condition of the hydraulic tubes and fittings for leakage.	min. once in a year
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)	min. once in a year



Turning moment for screws  
property class 8.8

	0,10*	0,15**	0,20***
M8	20	25	30
M10	40	50	60
M12	69	87	105
M16	170	220	260
M20	340	430	520
M24	590	740	890

property class 10.9

	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

Drehmomentswerte 8.8-10.9 E

- \* sliding friction 0,10 for very good surfaces, lubricated
- \*\* sliding friction 0,15 for good surfaces, lubricated oder dry
- \*\*\* sliding friction 0,20 surface black or phosphatized, dry

pic 9:

## 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 lifting during use. It has to be performed in the following cases:

1. 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 recommended to service the lift at this occasion.***



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

This manual contains form with a schedule for the security checks. Please use the adequate form for the security checks. The form should remain in this manual after they have been filled out. In the following there is a short description about special safety devices.

## 9. Installation and Initiation

### 9.1 Regulations for the installation

- 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. (see the foundation diagram drawing)
- An standard electrical supply 3PH, N+PE, 400V, 50 Hz must be provided. Observe the electrical power supply of your country.  
The supply line must be protected with a fuse 16 Ampere time lag . The minimum diameter amounts to 2.5 mm<sup>2</sup>.
- A compressed air supply with an inside width of 6 mm has to be provided at the operating unit. The pressure must be between 6 - 10 bar (8 bar recommended)
- 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 Erection and doweling 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, electric cable and the pneumatic lines with the operating unit. All hoses are marked.
- Fill in the hydraulic oil, approx. 10 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.
- Raise the Lift to a height of 1500 mm. Push the button „lifting“ until the vent screws (on the top of the slave cylinders, see pic. 4) can be reached. Open vent screw (pan head screw with copper seal) at the top of the master cylinder's guide bush until the air can escape. When oil starts penetrating screw down the vent screw again.
- Perform the equalisation of the rails as described in chapter 5.4.
- Set lift into its ratchets.
- 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 recommend safety dowels e.g. Liebig, Hilti, Fischer (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. 10. If floor tiles are on the concrete floor, the dowels have to be chosen according pic. 11. 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 operating unit at the floor.
- Tighten the dowels with the dynamometric key (observe the description of the dowel manufacturer).



***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.
- Deaerate the oil volume between master cylinder and slave cylinder after several empty lifting's: Open the vent screw (cylinder screw with copper ring seal ring) at the top in the guide bush of the master cylinder until air is coming in, when oil is coming close and tighten the vent screw.
- Equalize the lift, if necessary.
- Mount the covers: Do not damage the cables.

## 9.3 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.**

## 9.4 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:

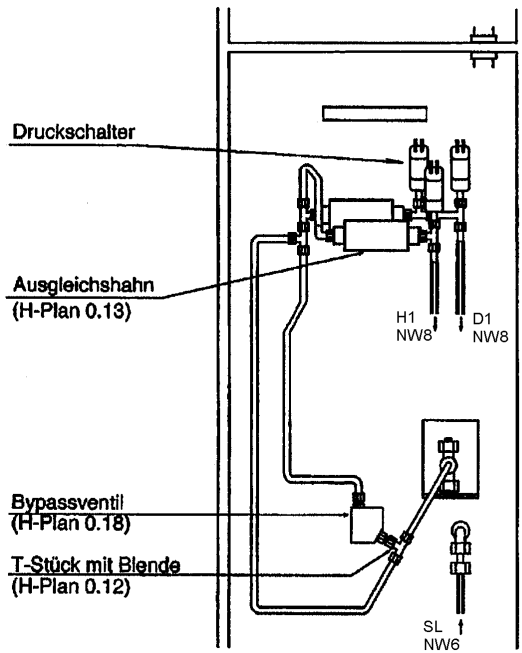
- Raise the lift on approx. 1000 mm.
- Remove the cover of the hydraulic tubes.
- Loose the dowels.
- Lower the lift in the lowest position.
- Loose the plug of the power supply.
- If necessary loose the hydraulic hoses only on the operating unit and marked it.
- If necessary use blind plugs to close 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.**

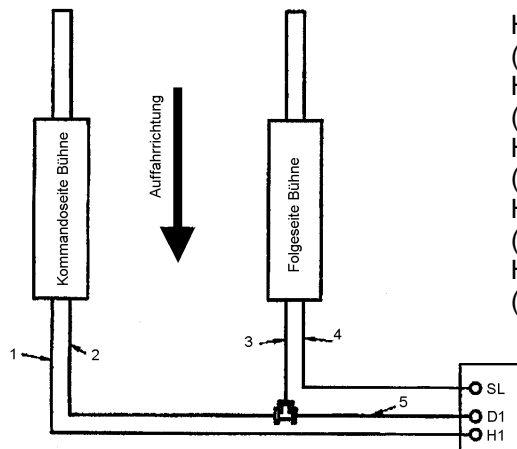


**A security check must be performed before re initiation by a competent person. Use form "Regular security check"**



Pic. Connection of the hydraulic hoses in the operating unit

Pic. Hydraulic hoses from the operating unit to the lift



- Hydraulic-hose 1: line to the Master cylinder (from hydraulic unit to master cylinder (below))
- Hydraulic-hose 2: return line from master cylinder (from master cylinder (above) to T-piece)
- Hydraulic-hose 3: line to the slave cylinder (from T-piece to the slave cylinder (below))
- Hydraulic-hose 4: return line (from hydraulic unit to the slave cylinder (above))
- Hydraulic-hose 5: equalization line (from hydraulic unit to the T-piece)

**Pic. 10: choice of the dowel length without floor pavement or tile surface**

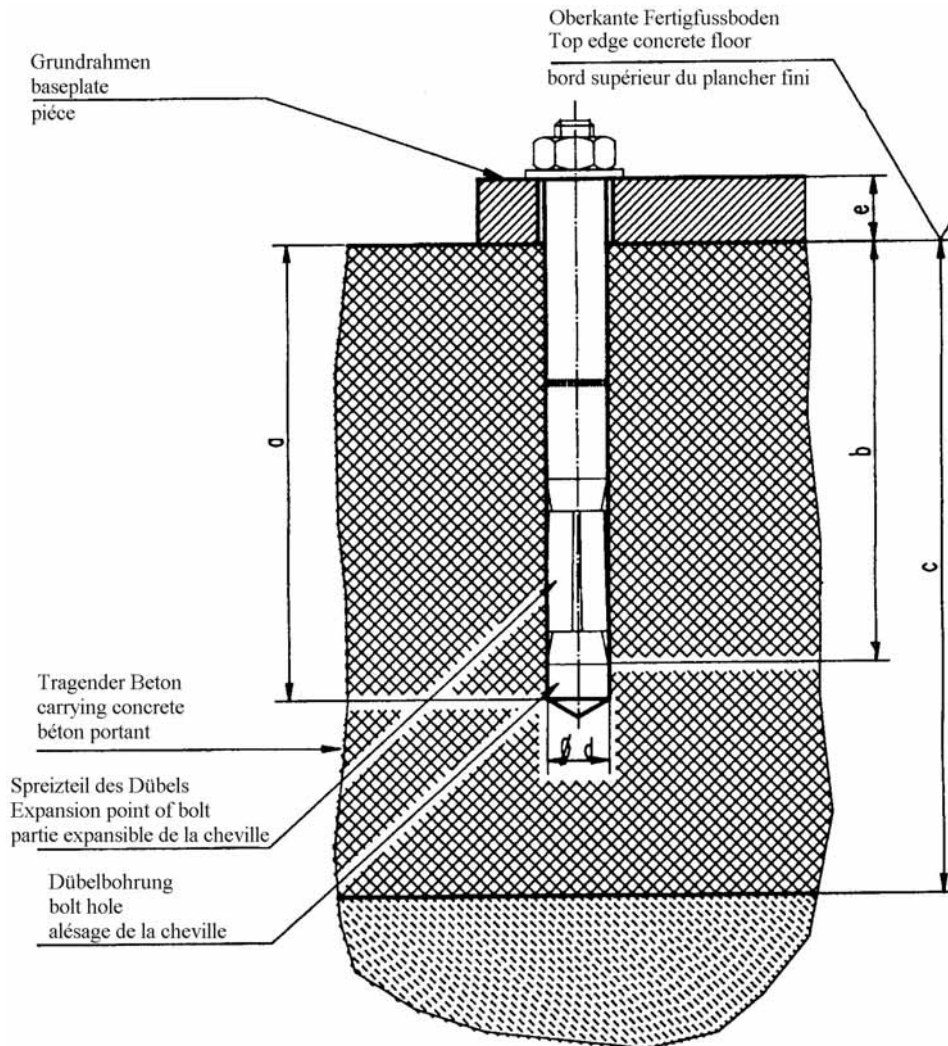


Table to pic. 9

Liebig-dowels

Dowel type		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
Number of dowels		16
Starting torque		70

**(\*) minimum concrete thickness by using this LIEBIG dowels. Otherwise the description of in the foundation plan are valid.**

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



pic 11: choice of the dowel lengths with floor pavement or tile surface

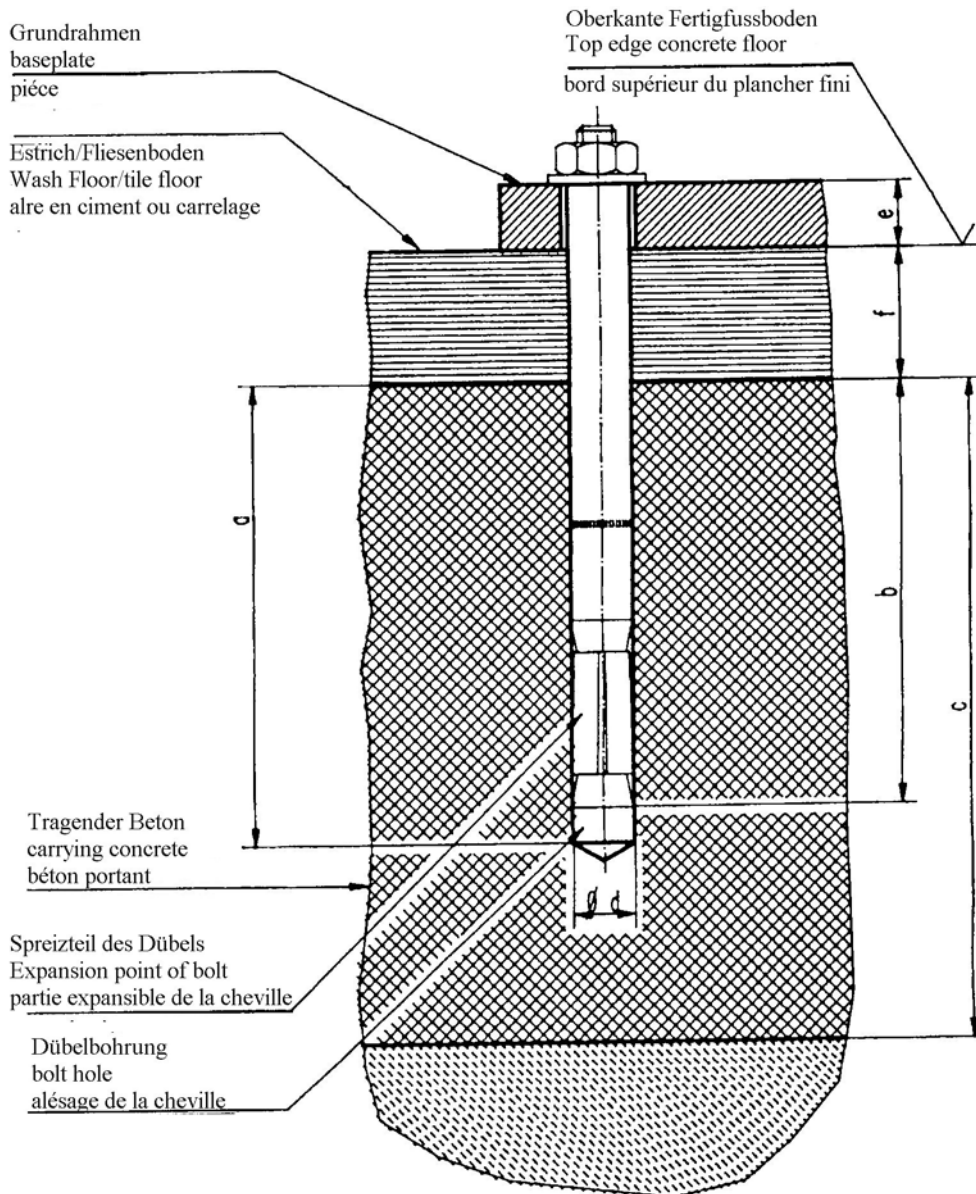


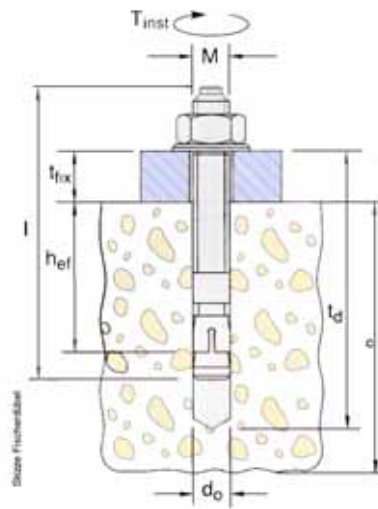
Table to pic. 10

Liebig-dowels

Dowel type	BM12-20/80/65	BM12-25/80/100	BM12-20/80/140
Drilling depth	a 100	100	100
Min. anchorage depth	b 80	80	80
Thickness of concrete	c min.160(*)	min.160(*)	min.160(*)
Diameter of bore	d 20	20	20
Thickness of the lift-pieces	e 40-65	65-100	100-140
Number of dowels	16	16	16
Starting torque	70 Nm	70Nm	70Nm

**(\*)minimum concrete thickness by using this LIEBIG dowels. Otherwise the description of in the foundation plan are valid.**

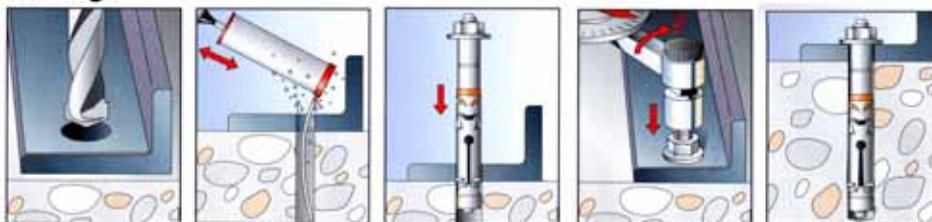
**It is possible to use equivalent dowels from another dowel manufacturer (with license) but observe their regulation.**



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

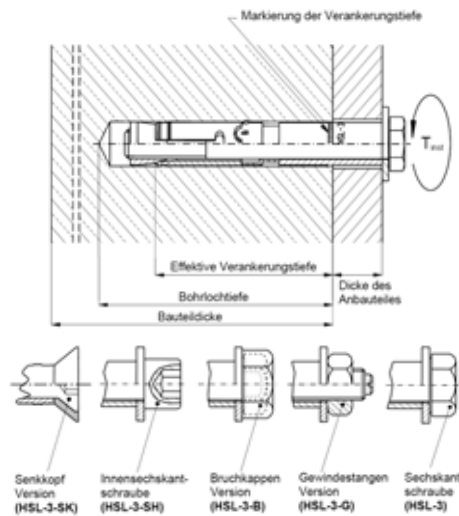
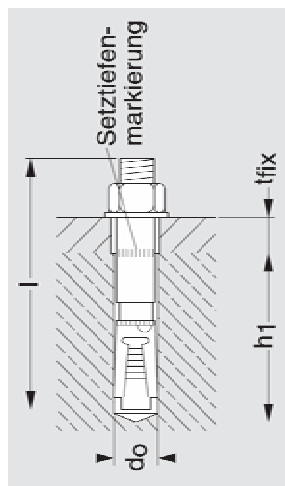
<b>fischer-Dübel</b>		<b>UNI-LIFT 4000<sup>e</sup></b>		
Dübel typ of dowel type de cheville		FH 15/50 B Bestellnr. 970265	FH 18 x 100/100 B Bestellnr. 972230	FH 24/100 B Bestellnr. 970267
Bohrtiefe drilling depth Profondeur de l'alésage	t <sub>d</sub>	145	230	255
Mindestverankerungstiefe min.anchorage depth Profondeur minimale d'ancrage	h <sub>ef</sub>	70	100	125
Betonstärke thickness of concrete Épaisseur du béton	c	siehe den aktuellen Fundamentplan see current foundation-diagram drawing vois le plan de fondation actuel		
Bohrerdurchmesser diameter of bore Diamètre de l'alésage	d <sub>o</sub>	15	18	24
Bauteildicke thickness of the lift-piece Épaisseur de la pièce	t <sub>fix</sub>	0-50	0-100	0-100
Anzugsdrehmoment Nm turning moment moment d'une force	M <sub>D</sub>	40	80	120
Gesamtlänge Total length Longueur totale	l	155	230	272
Gewinde Thread fil	M	M10	M12	M16
Stückzahl piece number nombre des pièces	a	4		
	b	8		
	c	10		
	d	12		
	e	16		
	f	20		

### Montage



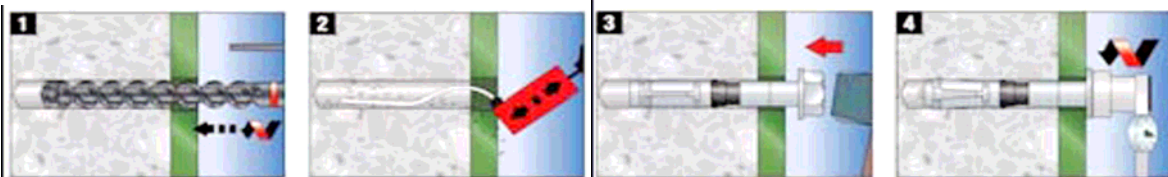
Es können auch gleichwertige Sicherheitsdübel anderer Hersteller (mit Zulassung) unter Beachtung deren Bestimmungen verwendet werden.  
It is possible to use equivalent safety-dowels (with license) of other manufacturer but observe their regulations.  
Des chevilles des autres marques (autorisées) peuvent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



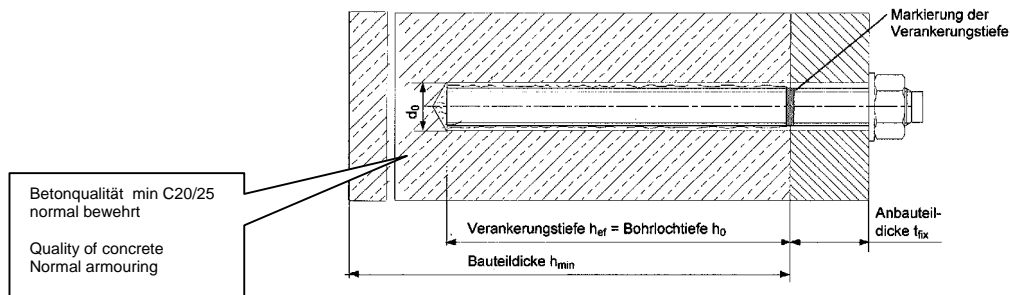


Änderungen vorbehalten!  
subject to alterations!  
sous réserve des modifications!

Hilti-anchor			UNI-LIFT 4000 <sup>1</sup>	UNI-LIFT 4000 <sup>1</sup>				
Bodenbelag (Estrich, Fliesen)			ohne Bodenbelag	ohne Bodenbelag	mit Bodenbelag	ohne Bodenbelag	mit Bodenbelag	
Dübel typ of dowel type de cheville			HSL-3-G M10/40 Art.Nr.371797	HSL-3-G M12/50 Art.Nr.371800	HSL-3-G M12/100 Art.Nr.371831	HSL-3-G M16/50 Art.Nr.371803	HSL-3-G M16/100 Art.Nr.371832	
Bohrtiefe drilling depth Profondeur de l'alésage	h <sub>1</sub>	90	105	105	125	125		
Mindestverankerungstiefe min.anchorage depth Profondeur minimale d'ancrage	h <sub>ef</sub>	70	80	80	100	100		
Betonstärke thickness of concrete Épaisseur du béton	c	siehe den aktuellen Fundamentplan see current foundation-diagram drawing vois le plan de fondation actuel						
Bohrerdurchmesser diameter of bore Diamètre de l'alésage	do	15	18	18	24	24		
Bauteildicke thickness of the lift-piece Épaisseur de la pièce	t <sub>fix</sub>	0-40	0-50	0-100	0-50	0-100		
Anzugsdrehmoment Nm turning moment moment d'une force	T <sub>inst</sub>	35	60	60	80	80		
Gesamtlänge Total length Longueur totale	l	135	164	214	188	238		
Gewinde Thread fil	M	10	12	12	16	16		
Stückzahl piece number nombre des pièces	a						4	
	b						8	
	c						10	
	d						12	
	e						14	
	f						16	
	g						20	



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 respectant les directives du fabricant.



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

Hilti-Injektionsdübel Hilti - Injection ancor		UNI-LIFT 4000 <sup>f</sup>		
Betonboden / concrete floor		ohne Bodenbelag / without floor pavement (tiles)		
Dübel type of dowel type de cheville		HIT-V-5.8 M10x130	HIT-V-5.8 M12x150 Art.Nr.387061	HIT-V-5.8 M16x200 Art.Nr.956437
Bohrtiefe (mm) drilling depth Profondeur de l'alésage	<b>h<sub>o</sub></b>	90	108	144
Mindestverankerungstiefe (mm) min.anchorage depth Profondeur minimale d'ancrage	<b>h<sub>ef</sub></b>	90	108	144
Betonstärke (mm) thickness of concrete Epaisseur du béton	<b>H<sub>min</sub></b>	min.120	min.138	min.180
Bohrerdurchmesser (mm) diameter of bore Diamètre de l'alésage	<b>d<sub>o</sub></b>	12	14	18
Bauteildicke (mm) thickness of the lift-piece Epaisseur de la pièce	<b>t<sub>fix</sub></b>	max.17	max.19	23
Anzugsdrehmoment (Nm) turning moment moment d'une force	<b>T<sub>inst</sub></b>	20	40	80
Gesamtlänge (mm) Total length Longueur totale	<b>l</b>	130	150	200
Gewinde Thread fil	<b>M</b>	10	12	16
Stückzahl piece number nombre des pièces	a	4		
	b	8		
	c	10		
	d	12		
	e	14		
	f	16		
	g	20		
<p>Die Montageanweisung des Dübelherstellers ist Folge zu leisten. Bei Bodenbelag (Estrich/Fliesen) sind längere Dübel zu verwenden.</p> <p>Observe necessarily the installation description of the dowel manufacturer. Use longer dowels with version with floor pavement and tiles</p>				
<p>Es können auch gleichwertige Injektionsdübel anderer Hersteller (mit Zulassung) unter Beachtung deren Bestimmungen verwendet werden. It is possible to use equivalent injections dowels (with license) of other manufacturer but observe their regulations. Des chevilles des autres marques (autorisées) peuvent aussi être choisies en respectant les directives du fabricant.</p>				

## First security check before installation



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	veri- fication	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

- Initiation not permitted, verification necessary
- Initiation possible, repair failures

until.....

- No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....  
(Use another form for verification!)

.....  
signature of the operator

## Regular security check and maintenance



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	verification	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary

Initiation possible, repair failures

until.....

No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....

(Use another form for verification!)

.....  
signature of the operator

## Regular security check and maintenance



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	veri- fication	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary

Initiation possible, repair failures

until.....

No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....

(Use another form for verification!)

.....

signature of the operator

## Regular security check and maintenance



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	veri- fication	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary

Initiation possible, repair failures

until.....

No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....

(Use another form for verification!)

.....

signature of the operator

## Regular security check and maintenance



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	veri- fication	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary

Initiation possible, repair failures

until.....

No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....

(Use another form for verification!)

.....

signature of the operator

## Regular security check and maintenance



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	veri- fication	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary

Initiation possible, repair failures

until.....

No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....

(Use another form for verification!)

.....

signature of the operator



## Regular security check and maintenance



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	veri- fication	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary

Initiation possible, repair failures

until.....

No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....

(Use another form for verification!)

.....

signature of the operator

## Extraordinary security check



Filling out and leave in this manual

Serial-no.: \_\_\_\_\_

kind of check	all right	defect missing	verification	remark
Short operating instruction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Type plate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Sticker capacity .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lifting/lowering".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "main switch".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function button "lowering into the ratchet".....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function signal lamps.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition / function ramps and roll over safety device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Security of the bolts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition bolts and bearing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition sliding blocks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition colour.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Construction (deformation, cracking).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Torque moment of the dowels.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Fixed seat of the screws.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition operating unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition/Function photo electric + reflector.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition cylinder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition, function safety ratchets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition piston rod.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition of the covers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Closeness of the hydraulic system.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Level of the hydraulic oil .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition hydraulic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition pneumatic hoses .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition electrical wires.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function test wheel free lift with vehicle.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition Polymer supports.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Condition welding.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....
Function CE-Stop + acoustic signal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.....

**( mark here applicable, in case of verification mark in addition to the first mark!)**

Security check carried out:.....

Carried out the company:.....

Name, address of the competent:.....

Result of the Check:

Initiation not permitted, verification necessary

Initiation possible, repair failures

until.....

No failings, Initiation possible

.....  
signature of the expert

.....  
signature of the operator

If failures must be repaired:

Failures repaired at: .....

(Use another form for verification!)

.....

signature of the operator