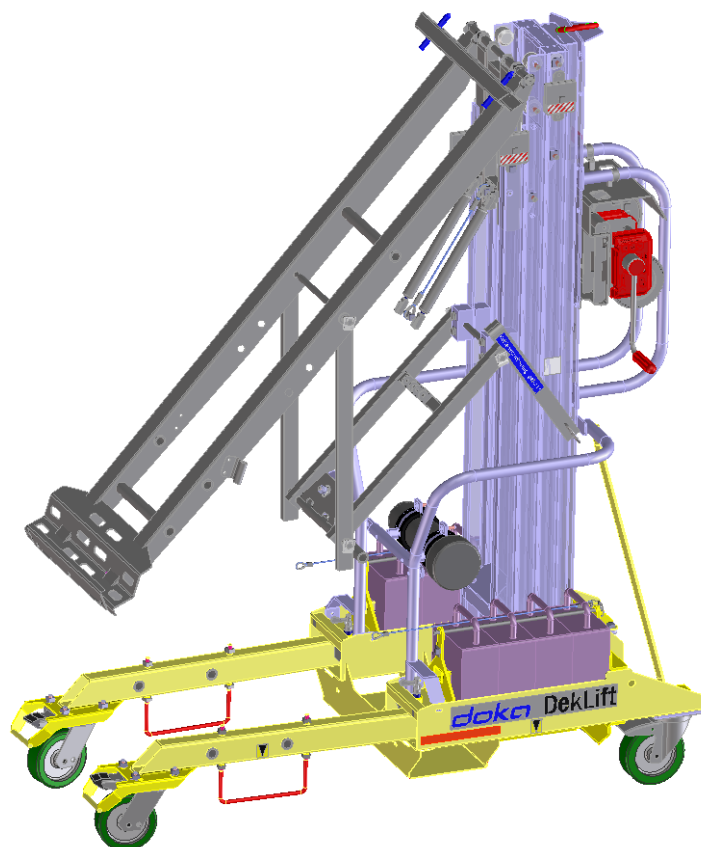


DekLift 4.50m

Art. n° 586553000

2013 models onward



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1 General

1.1 Information about these instructions

These instructions facilitate the safe and efficient handling of the DekLift 4.50m.

The instructions are a part of the DekLift 4.50m and must be kept in the immediate vicinity and be accessible at any time for personnel. A holder for the documentation is mounted on the DekLift 4.50m for this.

Personnel must have carefully read and understand these instructions before starting any work. A basic requirement for safe work is compliance with all safety information and handling instructions given in these instructions.

In addition, the local accident prevention regulations and general safety conditions for the application area of the DekLift 4.50m apply.

Illustrations in these instructions are for basic understanding and can differ from the actual design of the DekLift 4.50m.

Furthermore the illustrations are partly assembly situations and therefore not always complete with regard to technical safety. However any safety equipment from the Doka Company not shown in these illustrations is to be used by the customer according to the relevant regulations.

1.2 Explanation of symbols

These instructions facilitate the safe and efficient handling of the DekLift 4.50m.

Safety information

Safety information in these instructions is indicated by symbols. The safety information is introduced with signal words that express the extent of the risk.

Always comply with safety information and act with caution to prevent accidents, injuries and property damage.



DANGER!

... indicates an immediate dangerous situation that can lead to death or serious injuries if it is not avoided



WARNING!

... indicates a possible dangerous situation that can lead to death or serious injuries if it is not avoided



ATTENTION!

... indicates a possible dangerous situation that can lead to minor or slight injuries if it is not avoided



CAUTION!

... indicates a possible dangerous situation that can lead to property damage if it is not avoided

Tips and recommendations



NOTE!

... highlights tips and recommendations as well as information for efficient and faultless operation.

Special safety information

The following symbols are used in safety information to draw attention to special dangers.



DANGER!

Risk of fatal injury from electric current!

... indicates life-threatening situations from electric current. There is a risk of serious injuries or death if the safety information is not observed.

1.3 Limitation of liability

All specifications and information in these instructions were compiled under consideration of the valid standards and regulations of the state of technology.

The manufacturer is not liable for damage due to:

- Non-observance of the instructions
- Improper use
- Use of untrained personnel
- Unauthorised modifications
- Technical changes
- Use of non-approved spare parts

The obligations agreed upon in the delivery contract, the General Terms and Conditions as well as the delivery conditions of the manufacturer and the legal regulations valid at the time when the contract was completed apply.

We reserve the right to make technical changes within the framework of improvement of performance characteristics and further development.

1.4 Copyright

These instructions are protected by copyright and are only intended for internal purposes.

Passing this manual on to third parties, duplication of any kind even in form of excerpts - as well as the use and/or disclosure of the contents without the written consent of the manufacturer is not permitted except for internal purposes.

In the event of contraventions compensation for damages will be claimed.

We reserve the right to assert further claims.

1.5 Spare parts



WARNING!

Safety risk due to incorrect spare parts!

Incorrect or faulty spare parts can affect the safety and lead to damage, faulty functions or failure.

For this reason:

- Only use original spare parts of the manufacturer.



NOTE!

There are no warranty claims if non-original spare parts are used.



NOTE!

Changes and modifications that are not performed by us relieve us of any responsibility for any damages.

Spare parts can be purchased from an authorised dealer or directly from the manufacturer. See page 56 for the address.

1.6 Warranty conditions

The warranty conditions are included in the General Terms & Conditions

1.7 Customer service

Our customer service is available for technical information. See page 56-58 for the contact data.

In addition, our employees are always interested in new information and experiences arising from use that could be valuable for improving our products.

1.8 Lift acceptance

The DekLift 4.50m has been carefully checked and tested before shipment. To ensure that no damage occurred during transport, the DekLift 4.50m should be thoroughly checked when accepted.

2 Safety

This section gives an overview of all important safety aspects for optimal protection of personnel as well as for safe and faultless operation.

Non-observance of the handling instructions and safety information listed in these instructions can lead to considerable dangers.

2.1 Responsibility of the operator

The DekLift 4.50m is used in the commercial sector. The operator of the DekLift 4.50m is therefore subject to the legal obligations for work safety.

As well as the safety information in these instructions, the valid safety, accident prevention and environmental protection regulations for the application area of the DekLift 4.50m must be complied with. The following applies in particular:

- The operator must familiarise himself with the valid health and safety regulations and also determine risks that arise from the specific work conditions at the location of the machine in a risk assessment.
- The operator must clearly regulate and determine the responsibilities for all types of applications.
- The operator must ensure that all employees that handle the DekLift 4.50m have read and understood the operating instructions.
- The operator must provide personnel with the required protective equipment.

Furthermore the operator is responsible for making sure that the DekLift 4.50m is always in a faultless condition. For this reason, the following applies:

- The operator must ensure that the maintenance intervals described in these operating instructions are complied with.
- The operator must have all safety equipment regularly checked for functionality and completeness.

2.2 Personnel requirements

2.2.1 Qualifications



WARNING!

Risk of injury from inadequate qualification/improper handling can lead to serious injury and property damage.

- Only allow qualified personnel to carry out all activities.

The following qualifications for different areas of activity are named in the operating instructions.

■ **Instructed person**

This person was instructed in a training course by the operator about the tasks given to him and possible risks involved with improper conduct.

■ **Qualified person**

This person is in a position to carry out the tasks given to him and to recognise and avoid possible risks on his own due to his specialist education, knowledge and experience as well as his awareness of relevant conditions.

Only persons who can be expected to reliably carry out their work are allowed as personnel. Persons whose responsiveness is affected by drugs, alcohol or medication are not authorised.

- Observe the specific age and occupational regulations when selecting personnel at the site.

2.2.2 Instruction

Personnel must be regularly instructed by the operator. A log of training conducted must be kept for improved tracking.

Date	Name	Type of instruction	Instruction conducted by	Signature

Fig. 1

2.3 Intended use

The DekLift 4.50m is only designed and constructed for the intended purpose described here according to the following set of rules.

Machine directive 2006/42/EC: 2006-05

**NOTE!**

The DekLift 4.50m may only be used by instructed and trained personnel.

**NOTE!**

The DekLift 4.50m may only be used for ease of operation or as a moveable lifting unit for individual Dokadek elements for formwork and striking, particularly for larger ceiling heights up to 4.50m.

**WARNING!****Risk due to improper use!**

Any use of the DekLift 4.50m beyond the intended use and/or other usage can lead to dangerous situations and is forbidden.

For this reason:

- Only use the DekLift 4.50m for its intended purpose..
- Strictly comply with all specifications in these operating instructions.

Claims of any type for damages resulting from use other than for intended purpose are excluded.

The operator alone **shall be responsible for any damage arising from improper use.**

2.4 Personal protective equipment

When working, it is necessary to wear personal protective equipment in order to reduce health risks.

- When working, always wear the protective equipment required for this particular activity.
- Follow the instructions in the working area on personal safety equipment and clothing.

Always wear



Always wear for all work:

Work protective clothing

is close fitting, with low resistance to tearing, with narrow sleeves and without protruding parts. It serves primarily as protection from entanglement in moving machine parts.

Do not wear any rings, chains or other jewellery



Protective helmet

To protect against parts and materials that fall down.



Safety boots

To protect against heavy parts falling down and slipping on slippery floors.

2.5 Signage

The following symbols and signs are located in the work area. They refer to the immediate surroundings where they are attached.



WARNING!

Danger of injury due to illegible symbols!

Labels and signs can become dirty or unrecognisable in the course of time.

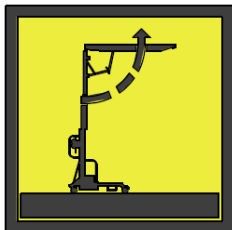
For this reason:

- Always keep safety, warning and operating instructions in a legible condition.
- Replace damaged signs or labels immediately.

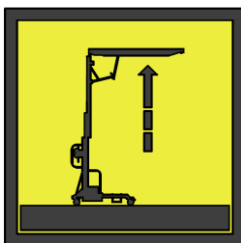


Observe the operating instructions

Only use the object indicated after having read these operating instructions.



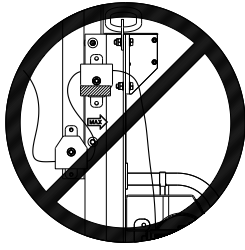
999 000 563 Sign to indicate the "Slew load carrier" winch function



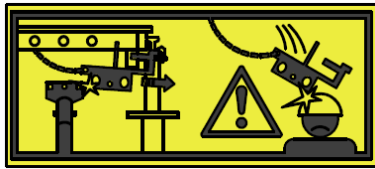
999 000 564 Sign to indicate the "Hoist load carrier" winch function



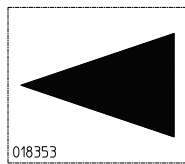
999 000 532 Prohibition sign to indicate it is forbidden to drive with raised load carrier



999 000 759 Prohibition sign No slack rope while slewing the load carrier away



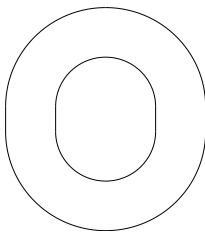
999 000 531 Sign Beware of falling support locking mechanism



018 353 Arrow indicating load lashing points



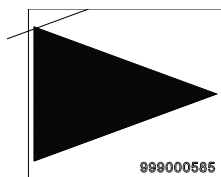
990 002 029 Labelling of forklift pocket



999 000 304 Labelling of engagement point of mounting rod



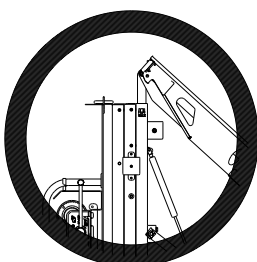
999 000 533 Labelling of hazard areas



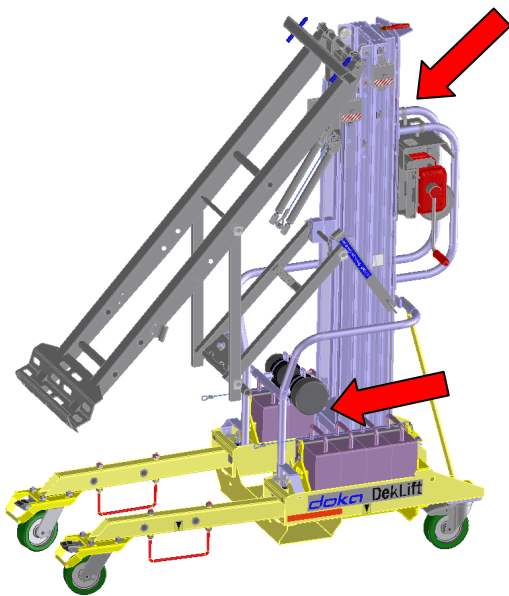
999 000 585 Labelling of the engagement point of the rail locking mechanism



999 000 662 Arrow to indicate the final position of the rails



999 000 769 Sign indicating the correct position of the Dokadek element



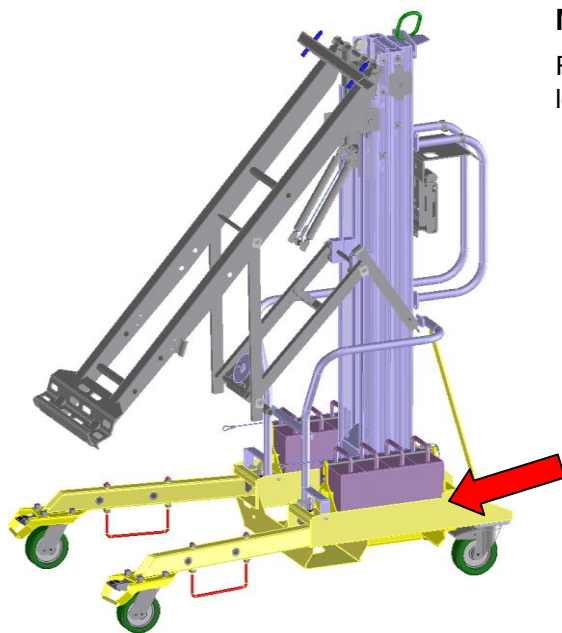
Brief operating instructions

This information is arranged above the cable winches.

Detailed operating instructions

The operating instructions are kept in the document box.

Fig. 2 Arrangement of the brief operating instructions

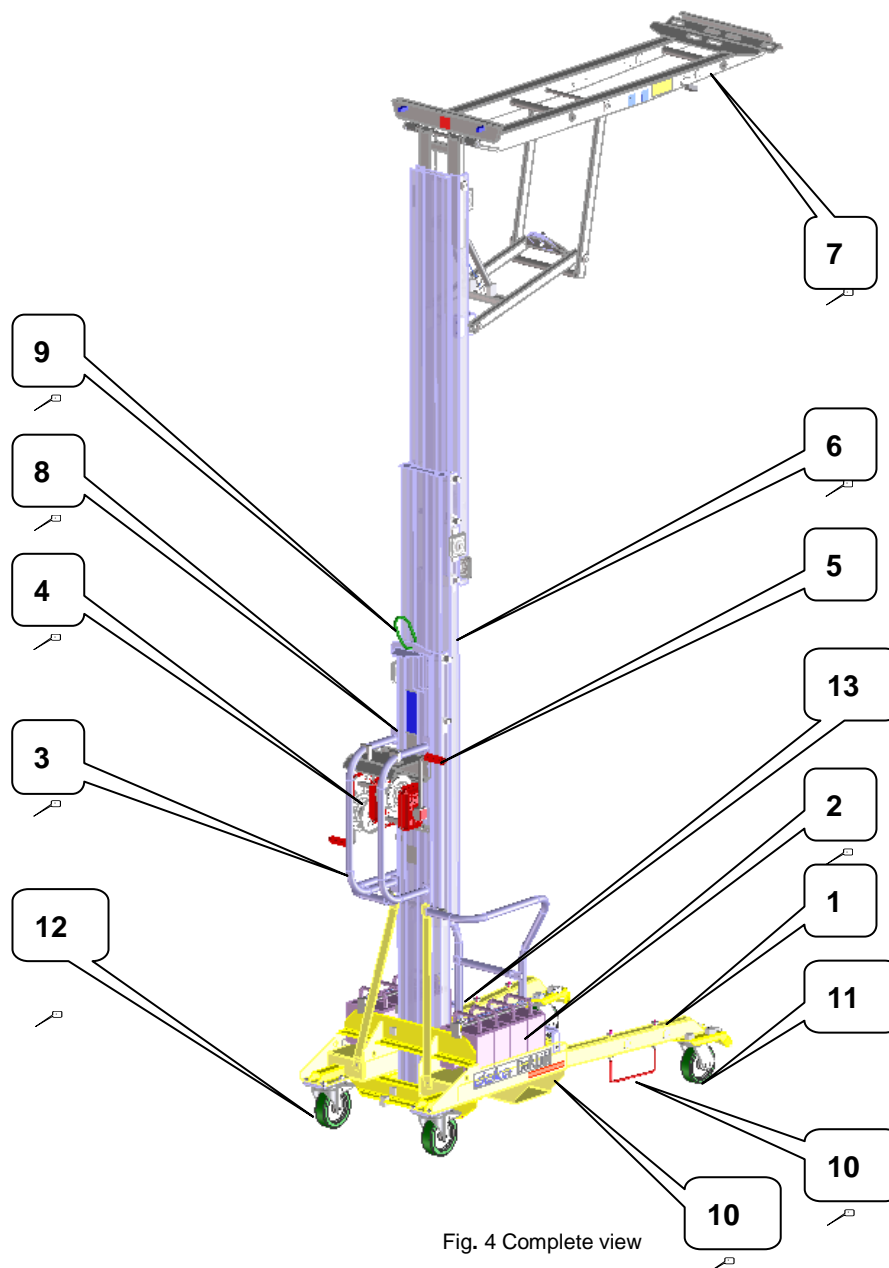


Max. load

Refer to the type plate for the maximum load. The type plate is located at the rear part of the chassis.

Fig. 3 Arrangement of the type plate

3 Overview of DekLift 4.50m



- | | | | |
|---|--|----|--|
| 1 | Chassis | 6 | Rail package / mast |
| 2 | Ballast weights | 7 | Load carrier |
| 3 | Moveable bracket | 8 | Rail protection (not visible) |
| 4 | Load winch for swivelling the Dokadek elements up and down | 9 | Eye hook |
| 5 | Load winch for lifting and lowering the Dokadek element | 10 | Support for forklift transport |
| | | 11 | Castor with directional lock |
| | | 12 | Castor with parking brake |
| | | 13 | Cylindrical box for operating instructions |

3.1 Components of the DekLift 4.50m



NOTE!

Procedures and conditions are explained in more detail in the following text using illustrations. The figures in brackets in the text refer directly to the illustration.

3.1.1 Manual winches

With the aid of the manual winches, the load handling device with the Dokadek element can be lifted and lowered (1) as well as swivelled up and down (2).



NOTE!

*The load is automatically held when the hand cranks are released
An installed automatic brake prevents the hand cranks falling back.*

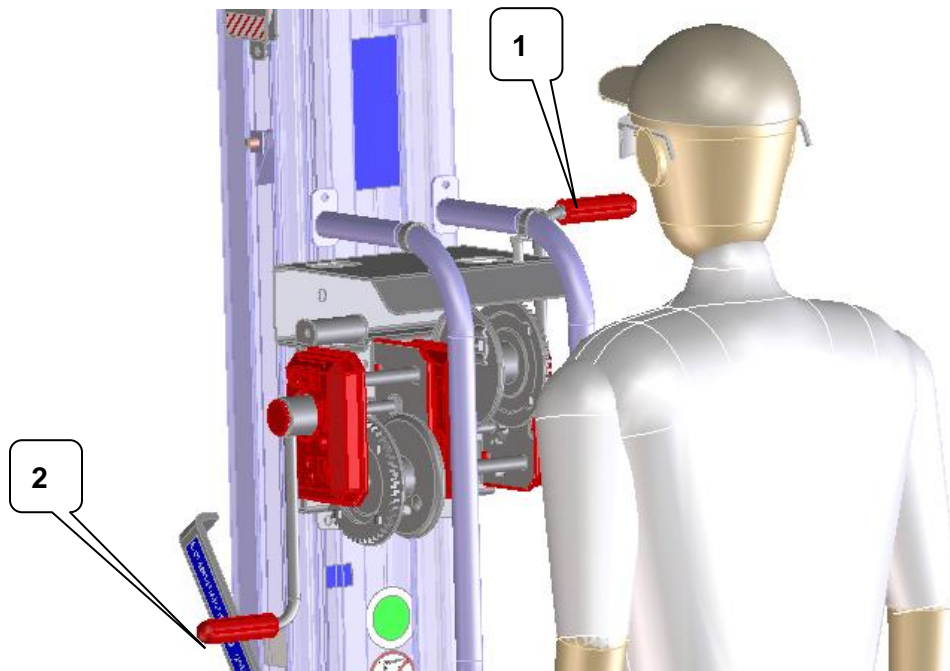


Fig. 5 Manual winches

Lower Dokadek element → Manual winch (1) anti-clockwise

Lift Dokadek element → Manual winch (1) clockwise

Swivel Dokadek element down → Manual winch (2) anti-clockwise

Swivel Dokadek element up → Manual winch (2) clockwise

3.1.2 Arm

The front wheelbase of the DekLift 4.50m can be temporarily reduced to be able to move between the ceiling supports or narrow passages, for example.



ATTENTION!

Increased risk of tipping when moving with a narrower wheelbase!

Moving is only allowed without formwork!

→ Immediately reset wheels to the standard distance as soon as the narrow wheelbase is no longer required.

Procedure to reduce the wheelbase:

1. Loosen the directional lock (1) of the front arm (2).
2. Pull up locking pin (3) on the chassis
3. Slew the arm (2) inwards up to the limit stop.

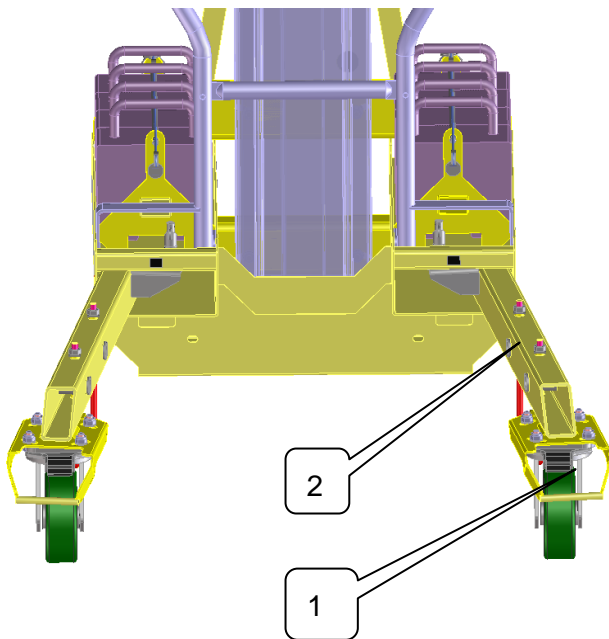


Fig. 6

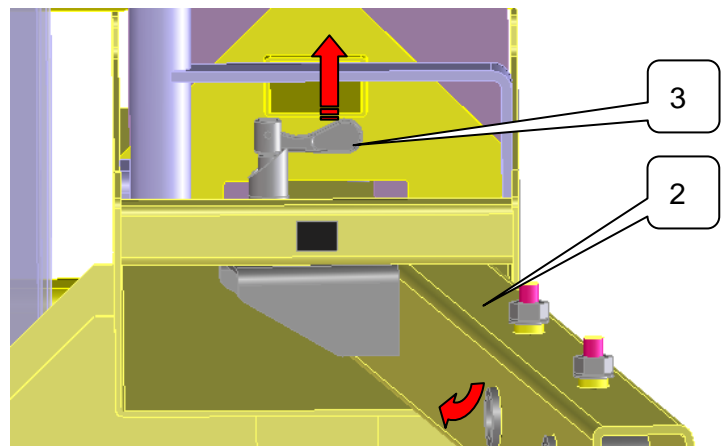


Fig. 7

3.1.3 Ballast weights

The DekLift 4.50m is equipped with a total of 8 ballast weights each weighing 20kg.

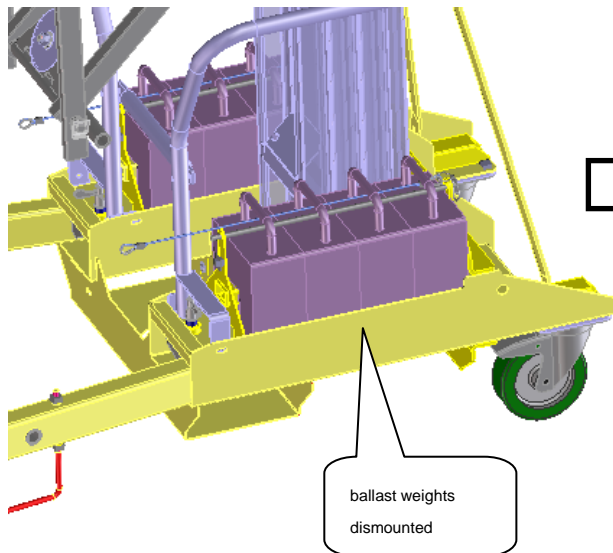


ATTENTION! Risk of tipping over!

Operation is only allowed when all ballast weights are mounted and secured on the chassis.

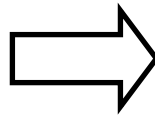
The ballast weights may **only** be dismounted from the chassis for **transportation** of the DekLift 4.50m.

Lay the bolt's safety cable in such a way that it cannot get into the rails.



DekLift 4.50m '**ready for operation**'
with ballast weights

Fig. 8



DekLift 4.50m '**transport position**'
without ballast weights

Fig. 9

3.1.4 Castors

The DekLift 4.50m is equipped with four castors.

At the front part of the chassis, there are two castors with directional locks mounted on the arm.

At the rear of the chassis, two castors with parking brakes are fitted that can lock the rotation of the wheel.

4 Description and function

The DekLift 4.50m is a moveable lifting unit for assembling elements of the Dokadek 30 and Dokadek 30 formwork system with drophead, particularly suited for ceilings up to 4.50m.

The DekLift 4.50m is suitable for use on building sites, even in the open air, due to a damage-proof and corrosion resistant design and was designed according to Machine Directive 2006/42/EC.

The DekLift 4.50m is used as an aid for the formwork and striking procedure of the Doka slab formwork systems DokaDek 30 and DokaDek 30 with drophead. The Dokadek element is fixed on the load handling device of the DekLift 4,50m, positioned or mounted and swivelled on the ceiling supports without the need for a change of position of the device.

The formwork elements can be mounted on the device by two people.

The DekLift 4.50m is equipped with two hand crank winches; one for lifting and lowering and the second for swivelling up and down the Dokadek elements that are mounted on the load handling device.

5 Technical data

5.1 DekLift general specifications

General specifications	Value	Unit
Load capacity max.	150	kg
Assembly height max.	4,50	m
Movement speed max.	4	km/h

Environmental conditions	Value	Unit
Maximum permitted winch speed	30	km/h
Permitted ambient temperature for operation	- 20 to + 50	°C
Maximum humidity	85 % relative humidity	

Weights	Value	Unit
Total weight (without ballast weight)	approx. 198	kg
Total weight (with ballast weight)	approx. 370	kg
Chassis (without ballast weight)	approx. 80	kg
Element support	approx. 40	kg
Ballast weight 8 pcs. each	approx. 20	kg

5.2 Emissions

Dimensional specifications	Value	Unit
Noise emission	< 70	dB(A)

5.3 Dimensions

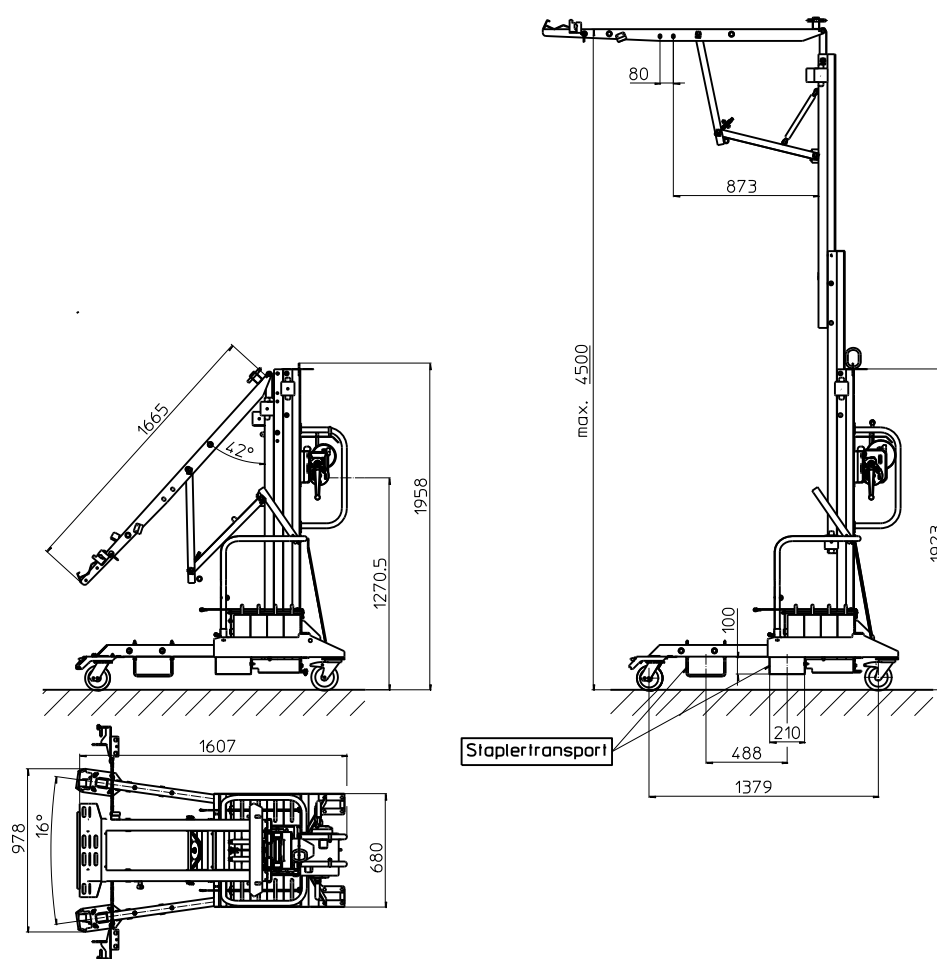
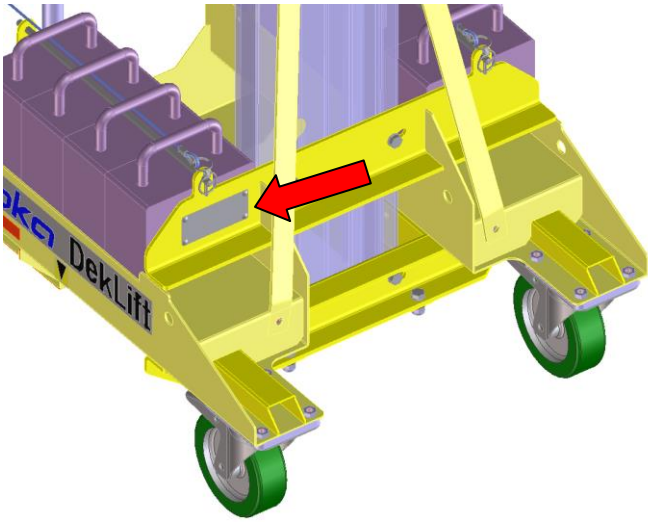


Fig. 10 General dimensions

5.4 Type plate

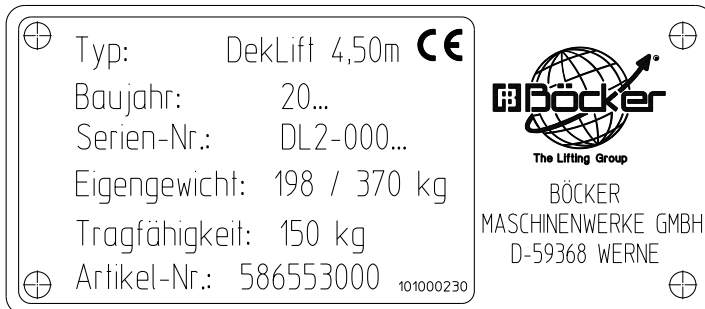


The type plate **is located at the rear part of the lift** and is attached to the chassis.

Fig. 11 Type plate

The type plate includes the following information:

Fig. 12 Type plate example



Explanation for net weight: 198 kg without ballast weights
370 kg with ballast weights

6 General setup



ATTENTION! Risk of tipping over!

Observe the following information!

The DekLift 4.50m may only be set up on a load-bearing, firm, even surface.

See safety information for this on page .28.

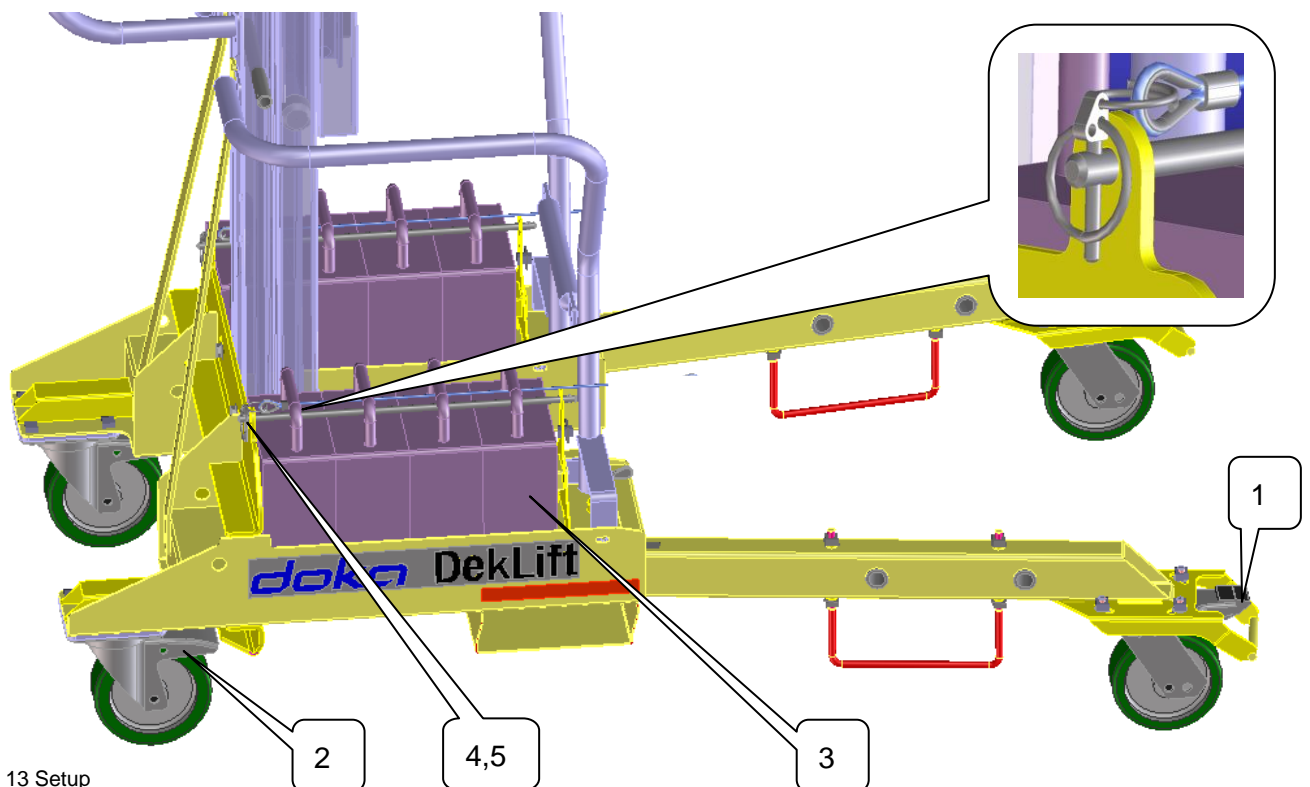


Fig. 13 Setup



DANGER!

The setup sequence must be complied with. The device could start moving or tip over unintentionally and endanger persons!

1. Determine the direction of the castors (1) at the front part of the chassis.
2. Activate the brake at the castors (2) at the rear part of the chassis.
3. Position the ballast weights (3) on the chassis.
4. Secure the ballast weights (3) with the aid of the locking pin (4) and the lynch pin (5).

7 Startup



ATTENTION!

Observe the following information!

- Only persons who are adequately trained and know all required operating instructions and regulations are allowed to start up the system.
- The DekLift 4.50m may only be operated and set up on a load-bearing, firm and even surface.
- Startup is only allowed when all ballast weights are mounted and secured on the chassis.
- Startup is only allowed on an incline $< 3\%$.
- Startup is only allowed when the arms are locked. (See following explanation)



WARNING!

The operating personnel must be reliable and at least 18 years old.

The arms can be brought to a **narrower** position for transport purposes.

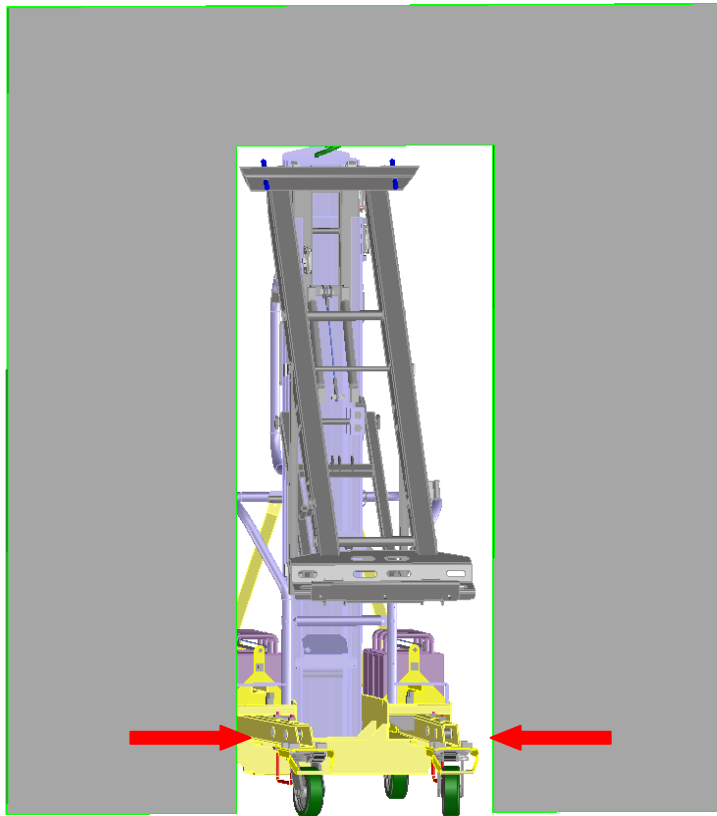


Fig. 14 Narrow setup

The arms are to be brought to the **wide** position before startup:

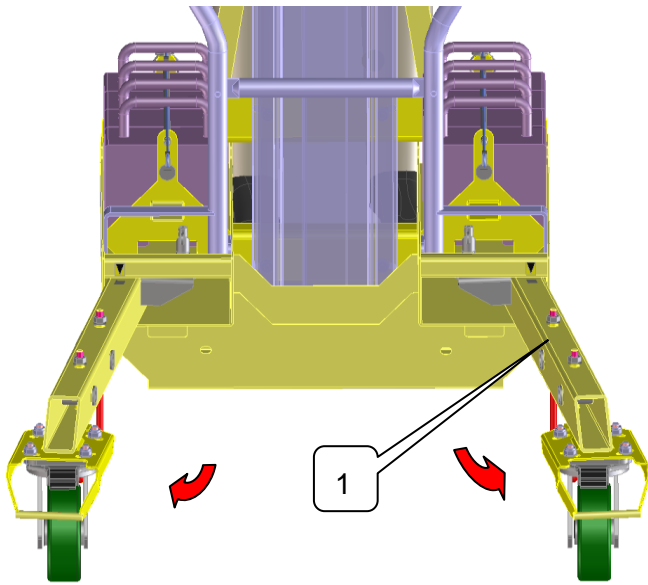


Fig. 15

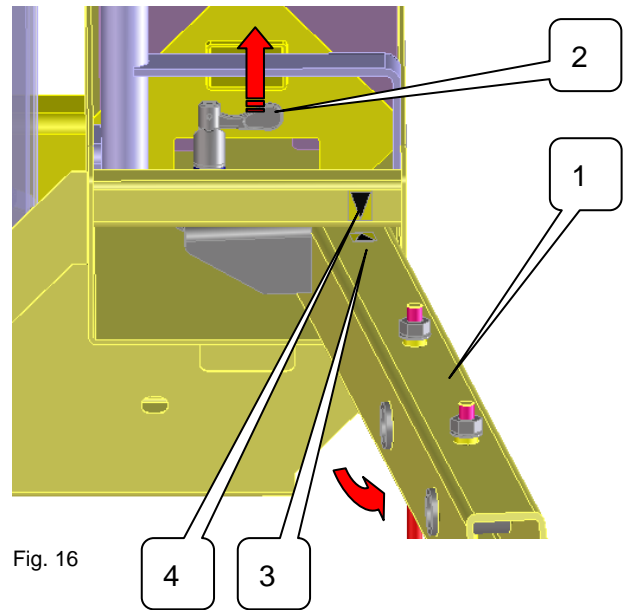


Fig. 16

1. Turn both arms (1) outwards until the respective locking pin (2) locks in the borehole provided.
2. Check whether the arrows of the arm (3) and chassis (4) are lined up with each other.



ATTENTION!
Risk of tipping over! Risk of injury!

The stability for formwork and striking is not guaranteed if the locking pin is not locked and the arrows are aligned!

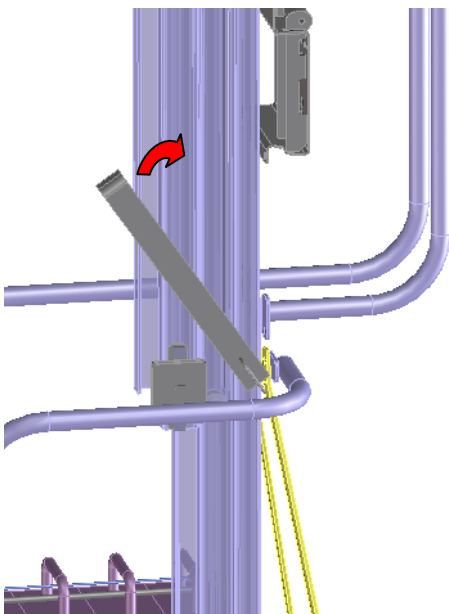
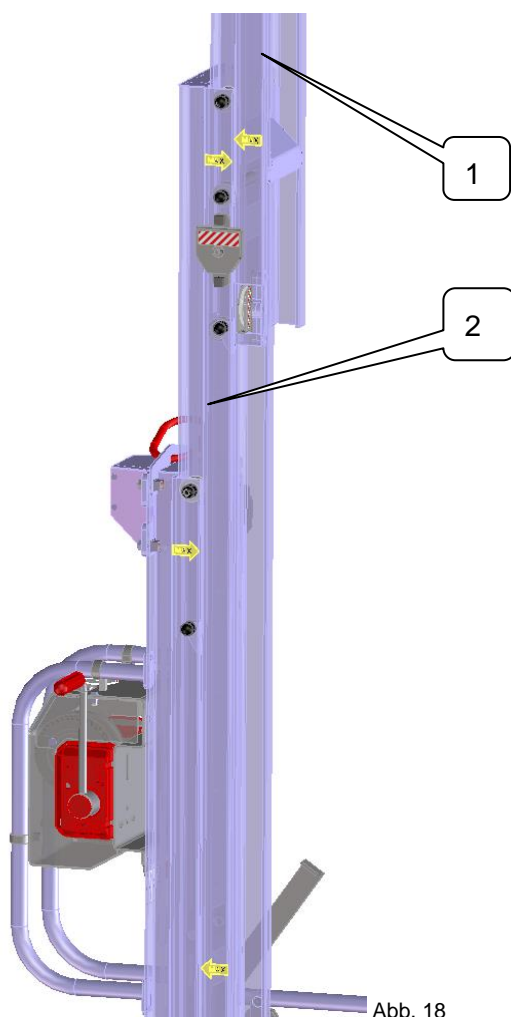


Fig. 17

3. Unlock the rails by pulling out the rail protection, turning back in the direction of the operator and lowering in the last rail.



4. Check whether the rails extend and retract in the correct sequence. Front mast (1), then 2nd mast (2), etc. The reverse order when lowering.
5. Please consult Doka service if this differs.
6. The arrows on the rails indicate the maximum extension length of the rails.

8 Handling

NOTE!

At this point, a reference is made to the operating instructions **Element slab formwork Dokadek 30 or Dokadek 30 with drophead** with the no. **999803301_de or 999807001** from the Doka Company. The procedure described here only refers to the handling of the DekLift 4.50m, not the basic rules of formwork procedures and the necessary supports



ATTENTION!

Observe the following information!

- The DekLift 4.50m may only be set up on a load-bearing, firm, even surface.
- Operation is only allowed when all ballast weights are mounted and secured on the chassis.
- Operation is only allowed on an incline < 3%.
- Operation is only allowed when the arms are locked.
- Max. travel speed 4 km / h (step speed)!
- Operation is only permitted up to a max. 30km/h wind speed.
- Movement of the DekLift 4.50m only permitted with a retracted rail package.



ATTENTION!

Take particular care during handling / operation when dealing with:

- Changes in height
- Steps
- Openings
- Wind



WARNING!

- The operating personnel must be reliable and at least 18 years old.
- The load must be adequately secured when lifting and lowering as well as when swivelling up and down! For this purpose, the slab formwork elements must be mounted or locked at the points provided (marked in blue).



NOTE!

When moving the DekLift 4.50m:

Close construction openings either with non-slip coverings with adequate load capacity or provide appropriately strong edged enclosures!

Use of movement aids forbidden!

Transportation of passengers forbidden!

After moving and parking the DekLift 4.50m, secure against unintentional movement (tighten parking brake, wheel chocks, etc.).

8.1 Formwork procedure (e.g. support head)



NOTE!

The following points explain the formwork procedure using illustrations.
The figures in brackets in the text refer directly to the illustration.



ATTENTION!

Furthermore the illustrations are partly assembly situations and therefore not always complete with regard to technical safety. However any safety equipment from the Doka company not shown in these illustrations is to be used by the customer according to the relevant regulations.

1. At least 2 persons are required to mount the Dokadek elements in the load handling device of the DekLift 4.50m.

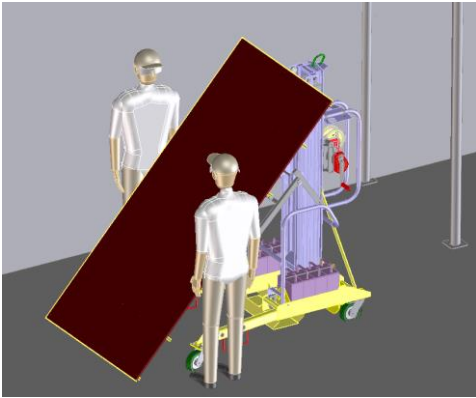


Fig. 19

2. The Dokadek element (1) is mounted with the outermost cross beam at the frame cross-section in the upper part of the load handling device (2) in the two varnished bolts (3) provided for this.

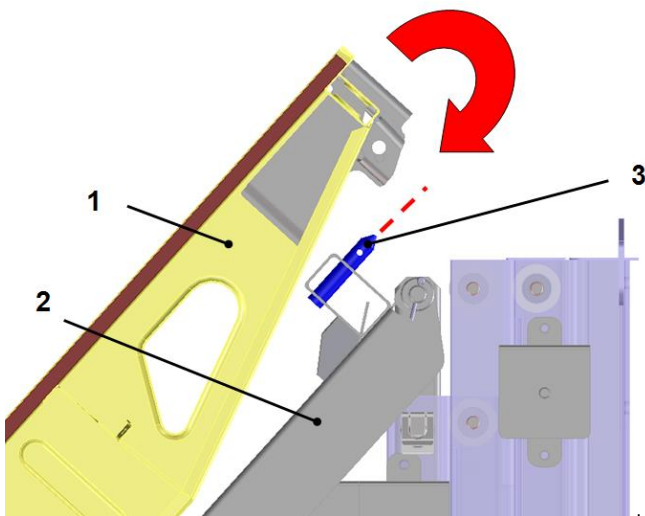


Fig. 20



NOTE!

Observe the adhesive sign on the load carrier

3. Check whether the Dokadek element (profile marked black) at the lower end of the load handling device (2) rests on the inner cross girder in the guide.

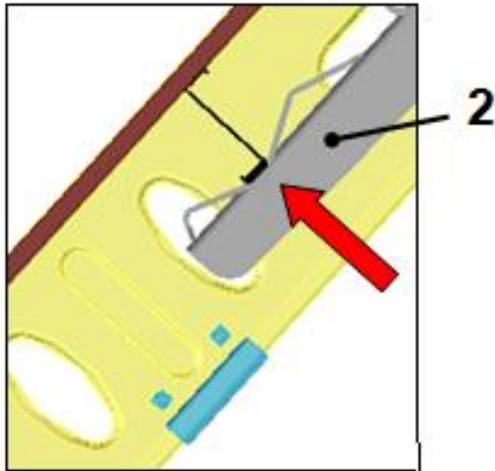


Fig. 21

4. Check whether the Dokadek element is positioned centrally on the load handling device.
→ A red marker point must be visible through the centred borehole in the frame cross-section (4).

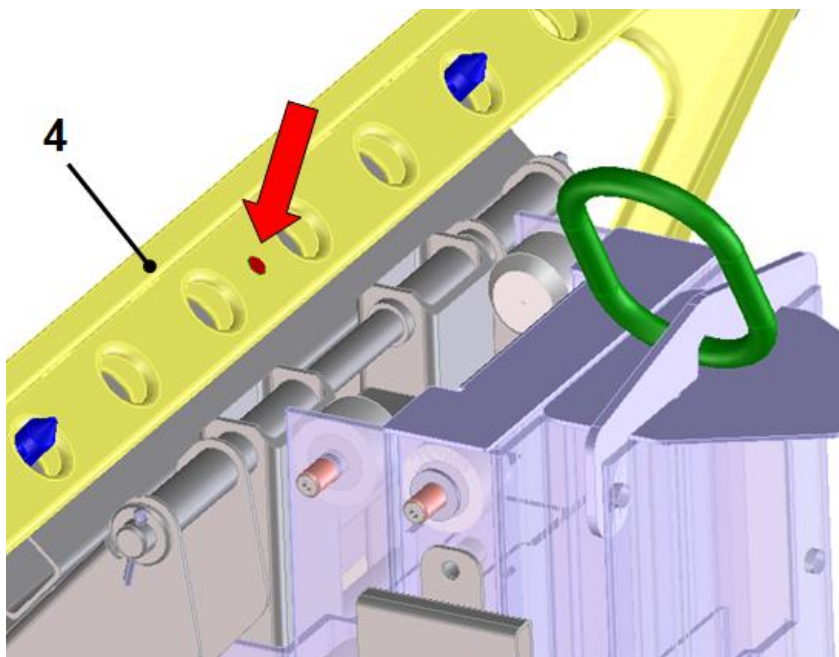


Fig. 22



ATTENTION!

Risk of tipping over! Load must be evenly distributed!

The Dokadek element must be centrally mounted in the load handling device!

5. Move the DekLift 4.50m with extended rail package up to the formwork location or centrally between the supports.

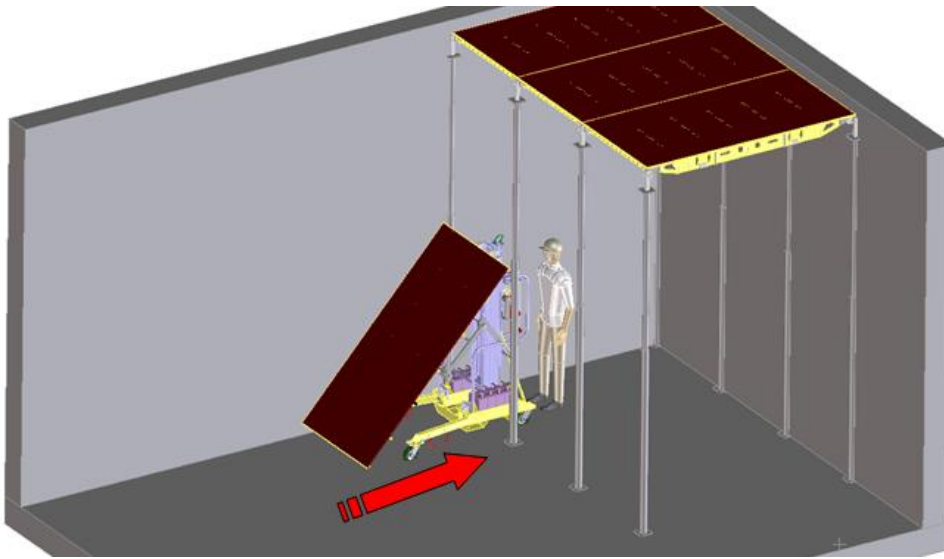


Fig. 23

6. The Dokadek elements are lifted by turning the right hand crank (1) (see fig. 5) in a clockwise direction. The load is automatically held when the hand cranks are released. An installed automatic brake prevents the hand cranks falling back. (see fig. 5)

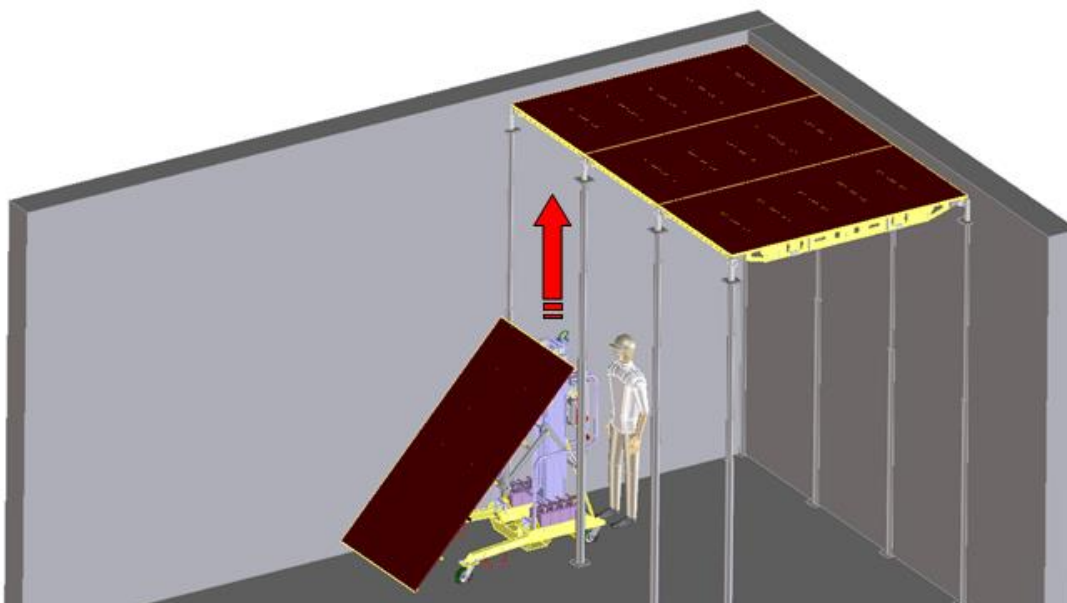


Fig. 24

7. Lift the Dokadek element just above the pins of the head (5).

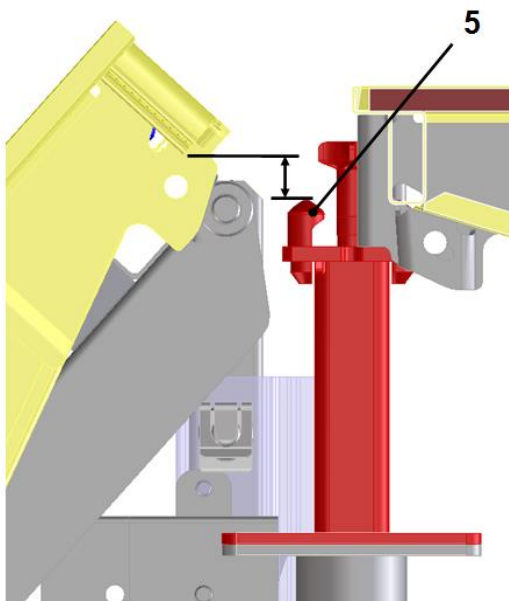


Fig. 25

8. The DekLift 4.50m must first be slowly moved back and then lowered to position the support in the head.



ATTENTION!

Only lower to such an extent that the hoist cable remains tense.
(Risk of hanging out!!)

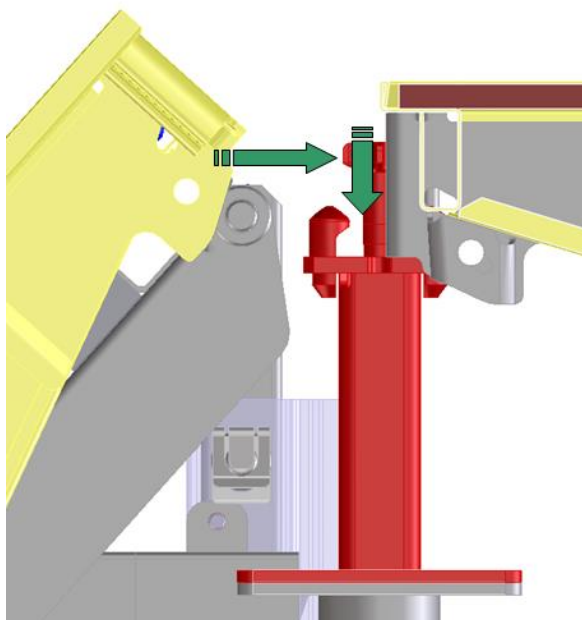


Fig. 26



ATTENTION!

Check whether the element is correctly mounted in the pin of the head

Swivel up the Dokadek element on the load handling device in the horizontal position using the cranks of the left manual winch in the clockwise direction. (see fig. 5)

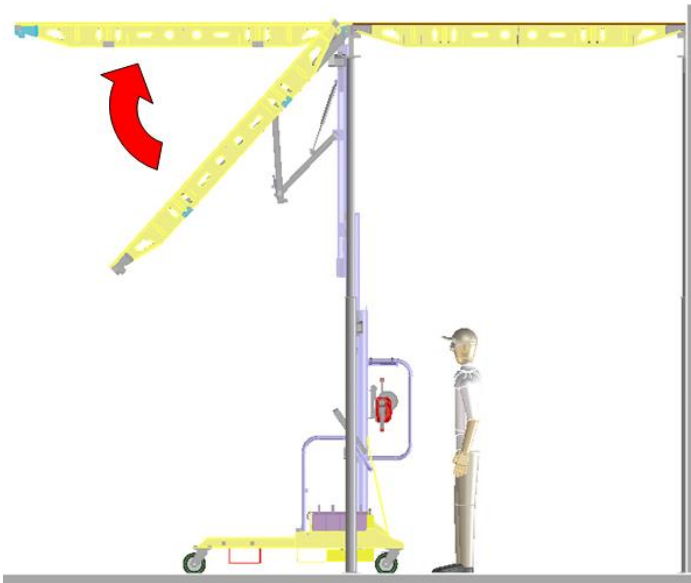


Fig. 27

**ATTENTION!**

Check whether the element is correctly mounted in the pin of the head

**NOTE!**

At this point, a reference is made to the operating instructions **Element slab formwork Dokadek 30** or **Dokadek 30 with drophead** with the no. **999803301_de** or **999807001** from the Doka Company. The procedure described here only refers to the handling of the DekLift 4.50m, not the basic rules of formwork procedures and the necessary supports.

9. Support Dokadek element with ceiling support and assembly rod.

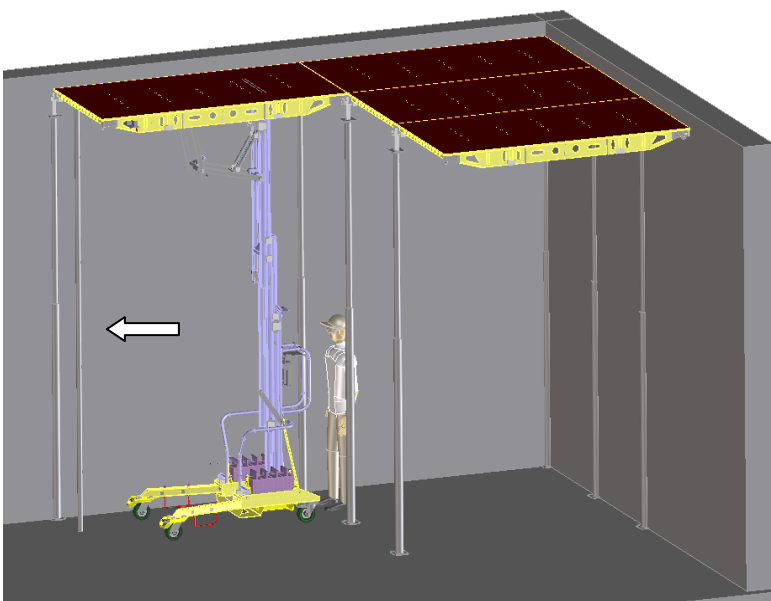


Fig. 28

10. Slightly lower the load handling device by turning the right hand crank in an anti-clockwise direction. The blue varnished bolts of the load handling device come out of the support boreholes of the Dokadek element.
11. Move the DekLift 4.50m forward so that the bolts slide out of the boreholes of the Dokadek element. (see fig. 5)

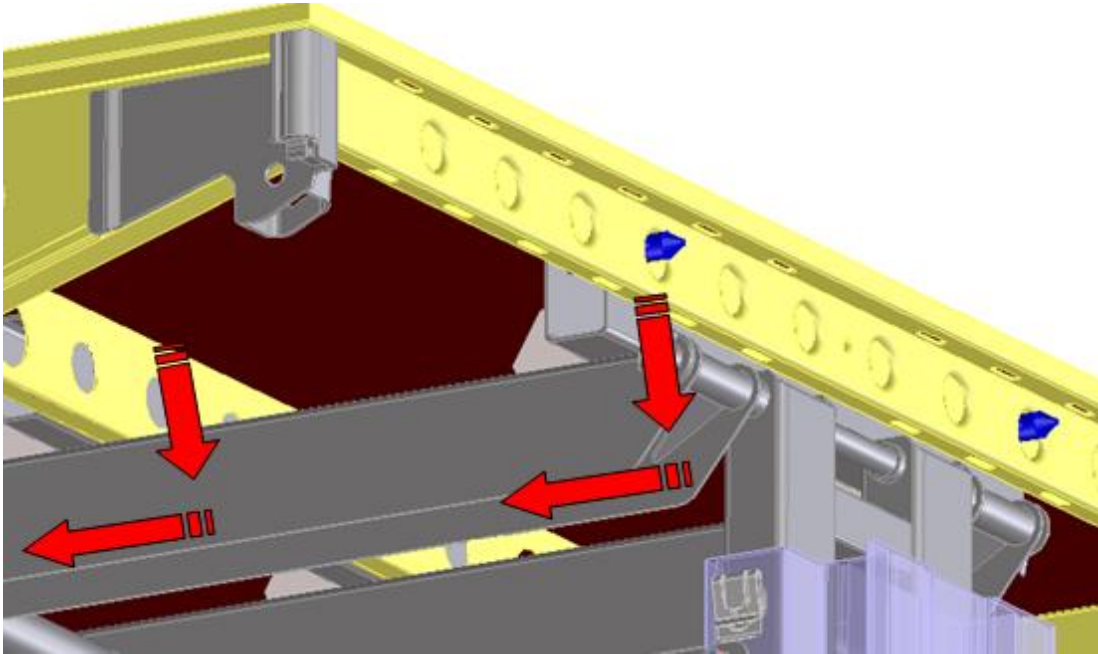


Fig. 29

12. Lower the element support by turning the right hand crank in an anticlockwise direction. (see fig. 5)

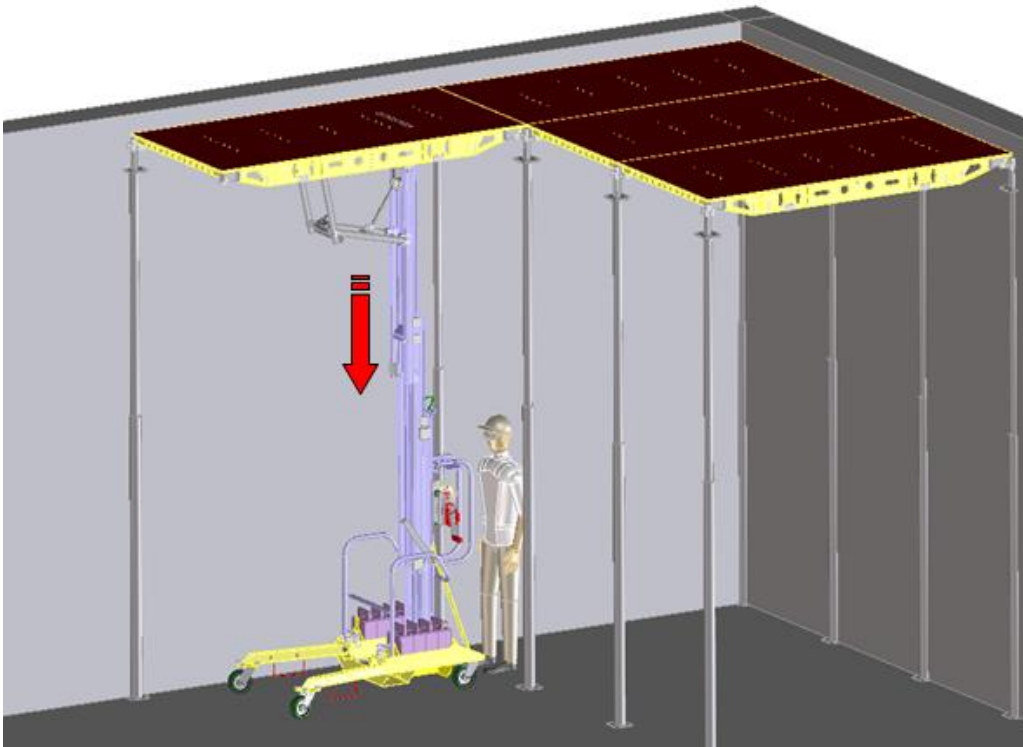


Fig. 30

13. For the next step, move the lifting device into the traverse position by slewing and lowering (first use the left hand crank, secondly the right hand crank). (see Fig. 5) When slewing, do not allow the rope to become slack.

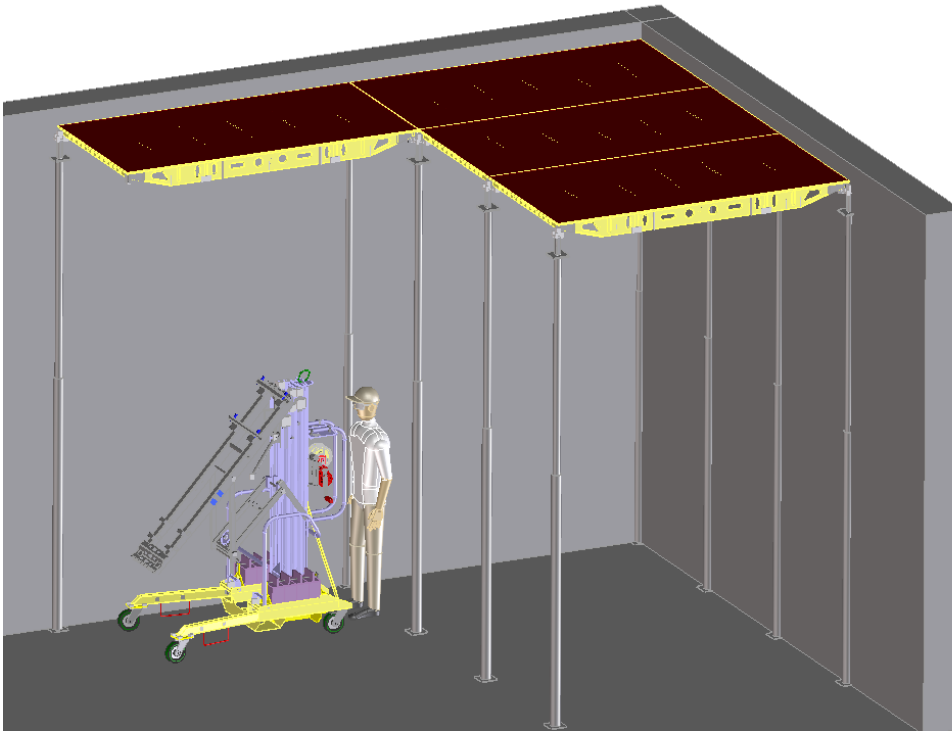


Fig. 31

8.2 Formwork procedure with additional ceiling support + head (e.g. support head)

1. Mount the Dokadek element as described in section 8.1 point 1-5 on the DekLift 4.50m and position at the formwork site.
2. Mount a maximum of 1 ceiling support at the lower end of the Dokadek element. Secure the ceiling support with the bolt protection at the Dokadek element.

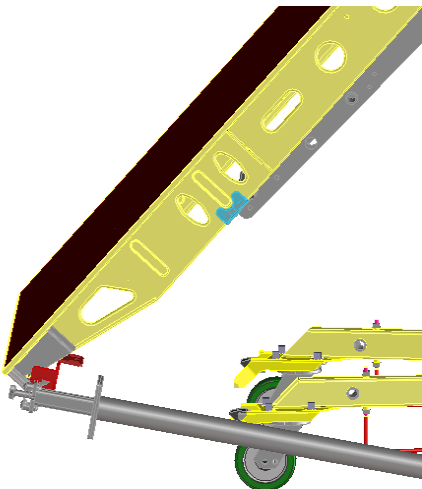


Fig. 32

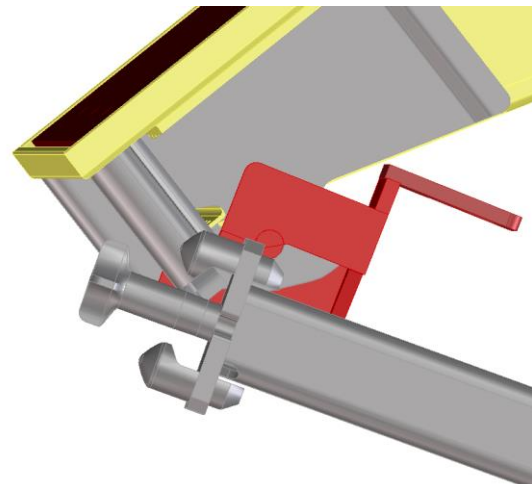


Fig. 33



ATTENTION!

Before lifting the Dokadek element with ceiling support: Check whether the ceiling support is correctly mounted and secured.

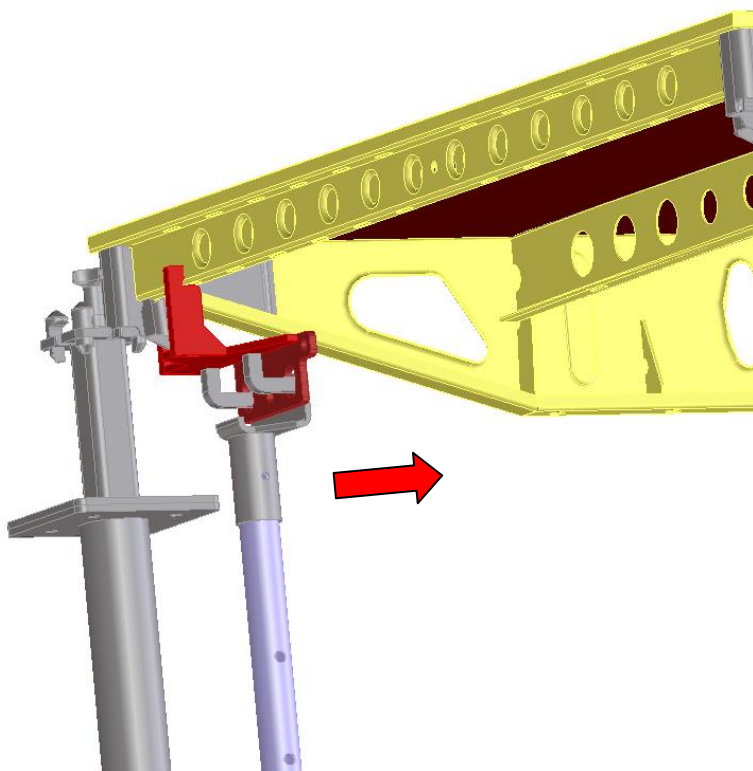
3. The first person lifts the Dokadek element by turning the right hand crank (pos 1, fig. 6) while the second person tracks and supports the ceiling support.
4. During the mounting procedure and upward swivelling of the Dokadek element by person 1 (sec. 8.1 point 7-9), the support is tracked and observed continually by person 2.



ATTENTION!

If the support tilts or gets caught, the formwork procedure is to be stopped and the support brought to the correct position.

5. Position support: Mount in the previously erected Dokadek element and set the height. (Observe element slab formwork operating instructions!)
6. Remove support protection with the aid of the assembly rod.



7. Support element with assembly rod.
8. Mount and lower DekLift 4.50m out of the Dokadek element.

8.3 Striking procedure

1. Lower the ceiling support of the first element series to be formed by a max. 2 cm (approx. 1 revolution of the setting nut)
2. Move the DekLift 4.50m centrally below the 1st element and swivel up and lift the element support and move below the Dokadek element.
Grip the element support in the Dokadek element with the bolt.

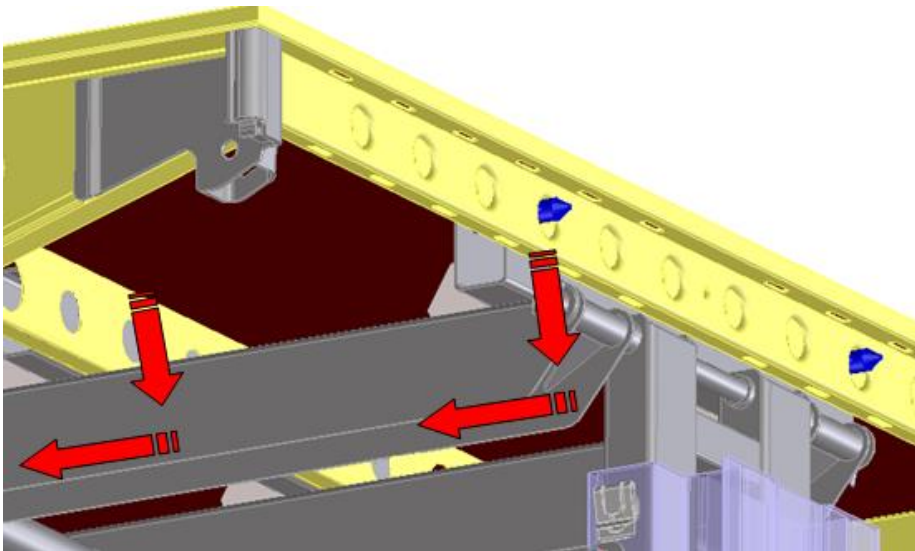


Fig. 34

3. Position assembly rod for 2nd element.
4. Remove ceiling support and store on stacking pallet.
5. Completely slew down the Dokadek element by activating the left manual winch.
6. Lift the Dokadek element by activating the right hand winch to lift the Dokadek element out of the formwork heads.
7. Advance the DekLift 4.50m with the element 20 cm and lower the Dokadek element with the right hand winch.
8. Person 1 and 2: Take element from DekLift 4.50m and store on the element pallet.

8.4 Out of service

If the DekLift 4.50m is out of service, make sure that it is stored and/or shut down in a "dry and airy" place and protected from the influence of the weather and aggressive substances.



ATTENTION!

- Only shut down without formwork for pauses or final parking state.
- Never shut down the DekLift 4.50m with a load without supervision!
- After moving and parking the DekLift 4.50m, secure against unintentional movement (tighten parking brake, use wheel chocks, etc.).

9 Transport

9.1 Transport state

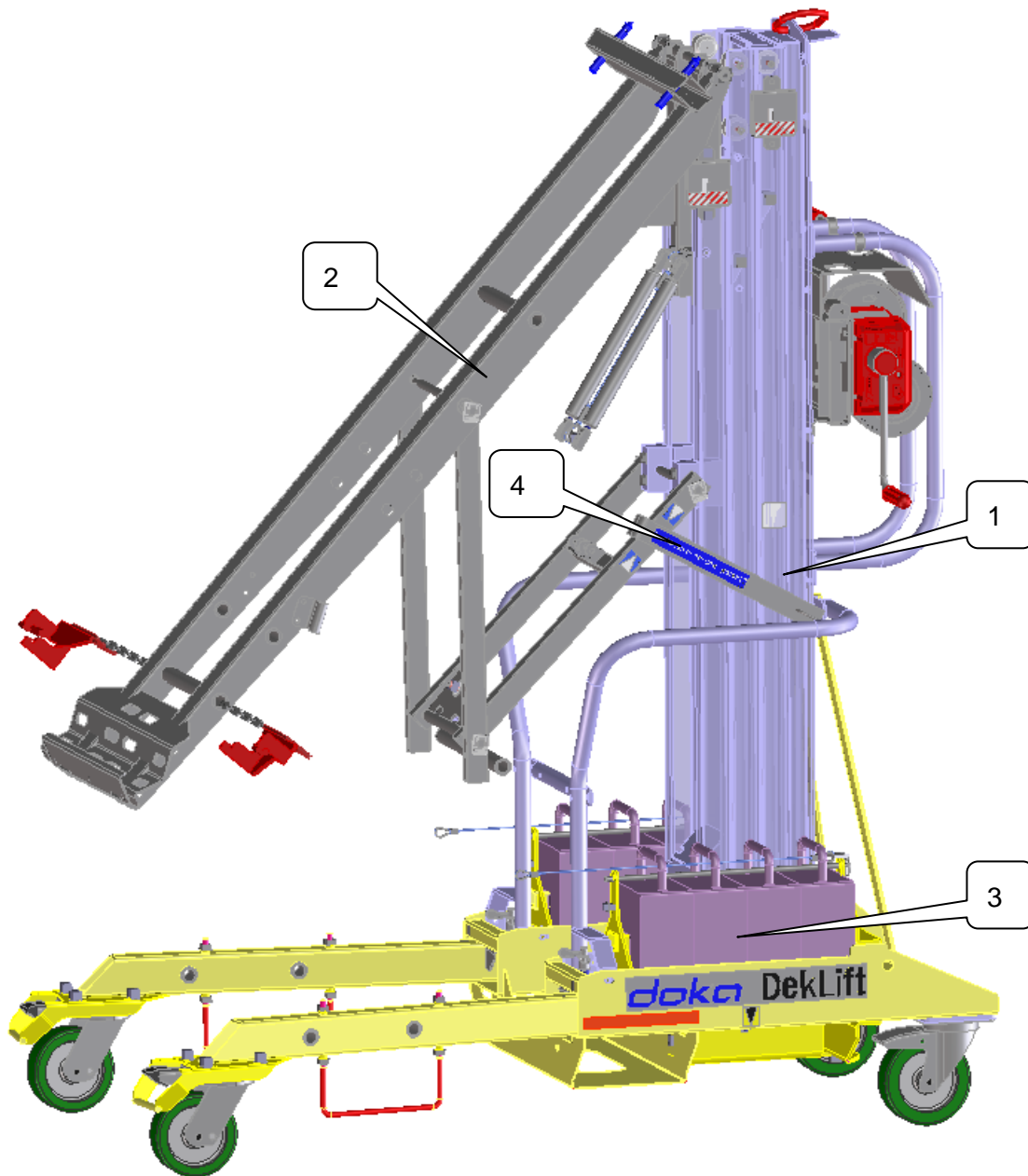


Fig. 35 Transport state

The DekLift 4.50m can be transported when standing or lying down in vehicles or trailers.

The rail package (1) is retracted and the load handling device (2) drawn in the transport position (see Fig. 35 Transport state).

The ballast weights (3) can be transported separately and must not be attached on the DekLift 4.50m.

The rail locking mechanism (4) is to be latched between the marking arrows to secure the rails.

9.2 Transport while standing

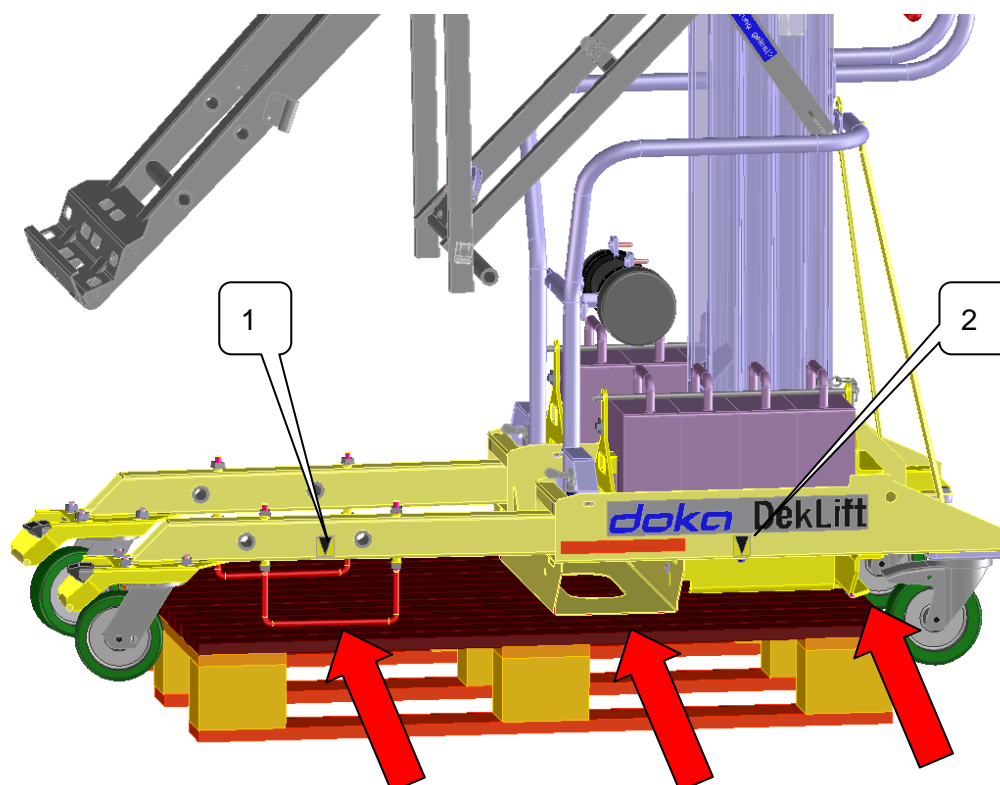


Abb. 36 Attachments for transport - standing

The DekLift 4.50m lies on a Euro pallet at points marked with arrows and is lashed with the aid of at least two lashing straps.

The lashing straps are to be put on the points indicated with adhesive labels. Fig. 35 point (1) and (2)

9.3 Transport when lying down

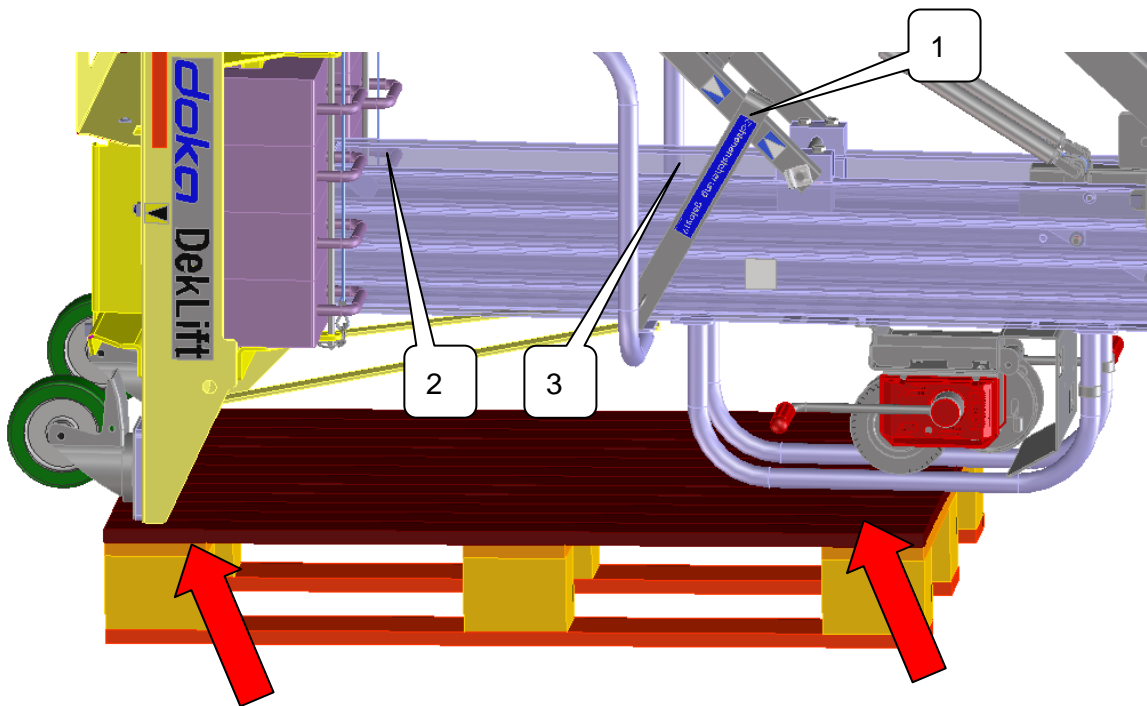


Fig. 37 Attachments for transport – lying down

For transport when lying down, the rail protection (1) must be locked and the wire cables of the manual winches tensed as otherwise the rails / masts slide apart.

The rail protection must be placed between the white-blue marking arrows! (see fig. 37)



CAUTION!
Risk of injury due to crushing and shearing!

The rail package can move unintentionally during transportation if the locking of the rail protection is not observed.

The DekLift 4.50m lies on points marked with arrows on a Euro pallet and lashed down with the aid of at least two lashing straps at point (2) and (3) fig. 36.

9.4 Transport with a crane

There is an eye hook for transport at the upper end of the rail package (page 40; in fig. 35). Also with this form of transport, the rail protection must be locked and the wire cables of the manual winches tensed as otherwise the rails / masts slide apart.

9.5 Transport with a forklift

Supports for forklift forks are provided on the chassis for loading and unloading the DekLift 4.50m from a transport vehicle.



Fig. 38 Supports for forklift transport



ATTENTION!

Ensure correct centre of gravity position and tipping protection!

- The forks of the forklift may only be inserted / fixed in the supports provided for this (red arrow).
- The forks of the forklift must be pushed apart as far as possible.

10 General safety regulations

- Never overload the DekLift 4.50m!
- Do not travel with passengers!
- Do not stand under the load!
- Stop operation for wind strengths above 4 on the Beaufort scale
- Never leave the DekLift 4.50m standing without supervision with an elevated load
- Stop operation immediately if the wire cables are damaged
- It is strictly forbidden to make changes to the device that could affect safety or breach official safety regulations

The operating instructions and accident prevention regulations must be observed when operating the DekLift 4.50m.

11 Maintenance

11.1 Safety

Personnel

- The maintenance work described here can be carried out by qualified persons unless indicated otherwise.
- Some maintenance work may only be carried out by specially trained personnel or only by the customer service of the manufacturer. The description of the individual maintenance work is indicated separately.

Personal protective equipment

Wear the following protective equipment for all maintenance work:

- Work protective clothing
- Protective helmet
- Safety boots
- Safety gloves

Improperly performed maintenance work



WARNING!

Risk of injury due to improperly performed maintenance work!

Improper maintenance can lead to serious injuries or property damage.

For this reason:

- Ensure that there is adequate space for assembly before starting work.
- Make sure the assembly place is clean and tidy! Loose components and tools lying around or on top of each other can cause accidents.
- If components were removed, ensure assembly is correct, all attachment elements are reinstalled and observe the screw tightening torques.

Environmental protection

Observe the following information on environmental protection during maintenance work:

- Remove escaping, used or excess grease at all lubrication points that are supplied with lubricant by hand and dispose of according to the valid local regulations.

11.2 Maintenance plan

The maintenance work that is required for optimum and fault-free operation is described in the following sections.

Lifting platforms are to be checked by an expert every year at least according to BGR500 sec. 2.9.1.

If increased wear is detected during regular checks, the required maintenance interval is to be reduced according to the actual signs of wear.

Contact the Doka customer service for queries about maintenance work:

You can find the relevant contact partner on page 59;

Annex 14.3 Doka International Customer Service

**DANGER!****Risk of fatal injury due to damaged cable!**

Stop operation immediately if the wire cables are damaged Never stand under the load!

**DANGER!****Risk of fatal injury due to oiled brake mechanism!**

Never oil or grease the brake mechanism during maintenance or when greasing/lubricating individual components of the hand crank winch!

Interval	Designation	Activity	Comment	To be performed by
Daily / before each use	Wire cable check	Visual inspection for damage/ Wire Rope Break	*1	User
	Dirt removal	Protect lift from dirt, rain and other influences of the weather	Particularly in the areas: Winch crank, moving parts of the mast, supporting surfaces, castors	User
	Order of rails when extending	Check whether the order of the rails is correct.	Order: Front mast, then 2 nd mast, etc. The reverse order when lowering	User
	Cable/ plastic rollers	Check wear and condition of the rollers.		User
If required	Screws of the rail package	Check, retighten if necessary.	Torque wrench required	User
	Rail package	Lubricate the inner side of the mast with silicon spray.	Mast is delivered with lubrication from the factory.	User
	Hand cranks	Visual inspection for adequate greasing of the thread at the crank.	Hand crank winch is delivered with lubrication from the factory.	User
	Manual winches	Lubricate bearing bushes of the drive shafts and the drum hubs	See warning in the list!	User
	Castors	Grease sprocket		User
		Lubricate the bearing of the castors		

*1 – Degree of wear for wire rope D=6mm 819V sZ Art. No. 101000269 and wire rope D=5mm 819V Art.No. 101000258

- on a length of 6xd with 3 visible wire rope breaks
- on a length of 30xd with 6 visible wire rope breaks

Interval	Designation	Activity	Comment	To be performed by
yearly	Operational safety check	Yearly operational safety check according to UVV	See label on rail package	Expert
	Load carrier	Relubricate the swivel joints	Use adhesive lubricant: KS Pro Böcker ID.: 105700	User
	Castors	Check directional lock for function		User
	Manual winches	Check brake function		User
		Check damage to gear tooth		User
	Rails	Clean, lubricate inner side of the mast with silicon spray.		

**ATTENTION!**

Never lubricate the brake mechanism of the manual winches!

Discard State of Wire Ropes as per ISO 4309-2012

Single-layer and parallel stranded ropes

Number of visible broken wires which has been reached or exceeded, for single layer and parallel stranded ropes, indicating discard state

RCN	Total number of load-bearing wires in the outer strand layers of the rope n	Number of visible external wire breaks ^b					
		Rope sections which run over steel plates and/or are wound onto a single layer drum (random distribution of wire breaks)				Rope sections on a multi-layer drum	
		Classes M1 to M4, or unknown class				All classes	
		Ordinary lay		Lang's lay		Ordinary lay & Lang's lay	
		over a length of					
		6d ^e	30d ^e	6d ^e	30d ^e	6d ^e	30d ^e
01	$n \leq 50$	2	4	1	2	4	8
02	$51 \leq n \leq 75$	3	6	2	3	6	12
03	$76 \leq n \leq 100$	4	8	2	4	8	16
04	$101 \leq n \leq 120$	5	10	2	5	10	20
05	$121 \leq n \leq 140$	6	11	3	6	12	22
06	$141 \leq n \leq 160$	6	13	3	6	12	26
07	$161 \leq n \leq 180$	7	14	4	7	14	28
08	$181 \leq n \leq 200$	8	16	4	8	16	32
09	$201 \leq n \leq 220$	9	18	4	9	18	36
10	$221 \leq n \leq 240$	10	19	5	10	20	38
11	$241 \leq n \leq 260$	10	21	5	10	20	42
12	$261 \leq n \leq 280$	11	22	6	11	22	44
13	$281 \leq n \leq 300$	12	24	6	12	24	48
	$n > 300$	$0.04 \times n$	$0.08 \times n$	$0.02 \times n$	$0.04 \times n$	$0.08 \times n$	$0.16 \times n$

RCN = Rope Category Number

For the purposes of this International Standard, filler wires are not considered as load-bearing wires and are not included in the value of n .

A broken wire has two ends (counts as one wire).

The values apply to damage to the crossing and overlapping areas of windings due to deflection angles (not for rope sections which only run over sheaves and do not wind up on the drum).

For ropes on drive mechanisms of groups M5 to M8, twice the number of wire breaks listed can be applied.

d = Nominal rope diameter.

Rotation-resistant ropes

Number of visible broken wires which has been reached or exceeded, for rotation-resistant ropes, indicating discard state

RCN	Total number of load-bearing wires in the outer strands of the rope n	Number of visible external wire breaks ^b			
		Rope sections which run over steel plates and/or are wound onto a Single layer drum (random distribution of wire breaks)		Rope sections that are wound onto a multi-layered drum	
		over a length of			
		$6d^d$	$30d^d$	$6d^d$	$30d^d$
21	4 strands $n \leq 100$	2	4	2	4
22	3 or 4 strands $n \leq 100$	2	4	4	8
23-1	$71 \leq n \leq 100$	2	4	4	8
23-2	$101 \leq n \leq 120$	3	5	5	10
23-3	$121 \leq n \leq 140$	3	5	5	11
24	$141 \leq n \leq 160$	3	6	6	13
25	$161 \leq n \leq 180$	4	7	7	14
26	$181 \leq n \leq 200$	4	8	8	16
27	$201 \leq n \leq 220$	4	9	9	18
28	$221 \leq n \leq 240$	5	10	10	19
29	$241 \leq n \leq 260$	5	10	10	21
30	$261 \leq n \leq 280$	6	11	11	22
31	$281 \leq n \leq 300$	6	12	12	24
	$n > 300$	6	12	12	24

RCN = Rope Category Number

For the purposes of this International Standard, filler wires are not considered load-bearing wires and are not included in the value of n .

A broken wire has two ends (counts as one wire).

The values apply to damage to the crossing and overlapping areas of windings due to deflection angles (not for rope sections which only run over sheaves and do not wind up on the drum)

d = Nominal rope diameter.

Discard State



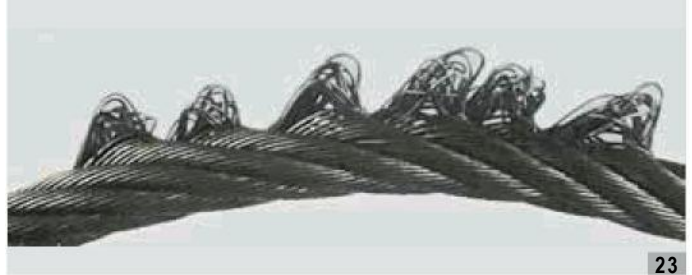
Warning: For reasons of safety, crane ropes are to be discarded in time if any of the following criteria applies:

- A strand break
- Tangle of broken wires
- Reaching the number of wire breaks defined in the table
- Appearance of 2 or more breaks in the wire in the strand valleys or at the point of contact of two adjacent strands within one lay length (about $6 \times$ nominal rope diameter)
- Corkscrew-like deformations of more than $1/10$ of the rope diameter ($g / d \leq 0.1$)
d: Nominal rope diameter, g: Height of waviness
- Birdcaging (Fig. 22)
- Hairpin-shaped emergence of wires or groups of wires from the rope (Fig. 23)
- Reduction of rope diameter - relative to the nominal diameter - with uniform decrease in the diameter by:
 - 7.5% for non-rotation-resistant ropes with steel core
 - 5.0% for rotation-resistant ropes
- Localised increase in cable diameter by more than 5% compared to the diameter of the rest of the rope
- Bad corrosion: the surface of the wires is badly affected or oxide dust escapes from the cable
- Loosening the rope structure (Fig. 24)
- Necking (Fig. 25)
- Kinking or crushing (Fig. 26, 28)
- Kink or permanent deformation (Fig. 27)
- Bluish discoloration, broken or melted wires due to heat or electrical voltage

If several of the above criteria are given, their overall effect must be assessed. Consequently, wire ropes are to be discarded if none of the criteria are completely fulfilled, but several of them are met in part. For example: slight corkscrew with individual broken wires.

The above criteria are an excerpt from ISO 4309-2010 Maintenance and care, inspection and storage. Consequently, these do not replace the instructions and requirements for inspection and maintenance of wire ropes prescribed in the standard.

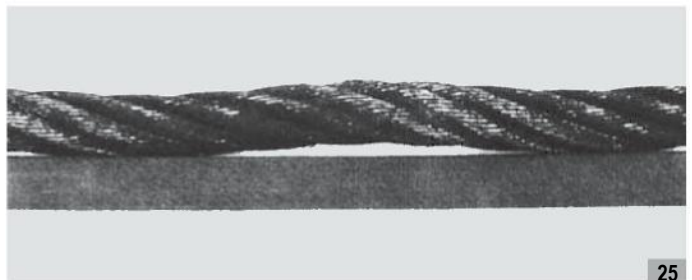
Loop formation on a wire rope



Extremely loose strand resulting from rusting and wear



Necking as a result of a destroyed rope core



Wire rope flattened by being driven over



Corkscrew deformation



Birdcaging



Kink caused by Pinching a loop





Kink caused by mechanical damage



11.3 Screw tightening torques

Metric regular threads

The screw tightening torques to achieve the most reliable initial tension for metric regular threads are specified in the table in Nm.

Diameter	 [mm]	 [mm]	Screw quality		
			8G / 8.8	10K / 10.9	12K / 12.9
M 8	13	6	25	34	43
M 10	17	8	47	65	83
M 12	19	10	78	100	120
M 14	22	12	120	175	215
M 16	24	14	180	260	310
M 20	30	17	340	470	560
M 24	36	19	560	790	950

11.4 Actions after performing maintenance

After completing maintenance work, carry out the following steps before initial startup:

1. Check all screw connections that were previously loosened for tight fitting.
2. Check whether all previously removed safety equipment and covers are properly installed.
3. Make sure that all used tools, materials and other equipment have been removed from the work area.
4. Clean the work area and remove any escaping substances such as liquids, processing material or similar.
5. Make sure that all safety equipment functions correctly.

12 Check

The check depends on national regulations. The check duties for the operator/user are regulated in Germany by the Betriebssicherheitsverordnung (Industrial Safety Regulations).

Specifications of the DekLift

Type plate	Attachment
Labelling	Legibility
	Completeness

Detailed operating instructions

Condition
Legibility

Compliance with maintenance regulations

Documentation of maintenance activities	Checked
---	---------

Winches

Type	
Cable drum	Function
Gear tooth	Wear
Brake	Safety equipment
Cable attachment	Lubrication

Cables and pulleys

Cable attachment	Function
Cable run / cable guide	Wear
Pulleys	Damage
Pulley bags	Ageing / corrosion

Rail package

Rails	Function
Castors / guide rollers	Wear
Limit stops	Lubrication
Attachment at chassis	Damage
Load carrier attachment	

Chassis

Arm	Function
Castors	Wear
Brake	Damage
Securing of weights	
Directional lock of front arm	

Safety brake

Safety brake of rail package	Function
Load carrier damper	Wear
	Damage

Load carrier

Swivel equipment	Function
Element support	Wear
Identification	Damage
Holder for support protection	

Functional check

Extend, retract rails	Function
Swivel load carrier up, down	Visual inspection
Move chassis	with load
Swivel front wheels and lock in work position	without load
Handles	

Beaufort scale

Designation acc. to Beaufort	Speed km/h / kn	Inland conditions
0 Calm	<1 / <1	Smoke rises vertically
1 Light air	1-5 / 1-3	Smoke drift indicates wind direction
2 Light breeze	6-11 / 4-7	Wind can be felt on face, leaves rustle, flag moves
3 Gentle breeze	12-19 / 8-11	Small twigs and leaves begin to move
4 Moderate breeze	20-28 / 12-15	Twigs and small branches begin to move, dust and loose paper rise
5 Fresh breeze	29-38 / 16-21	Large branches sway
6 Strong breeze	39-49 / 22-27	Whistling sound on wire lines, thick branches start moving, umbrella can hardly be used
7 High wind	50-61 / 28-33	Noticeable hindrance when walking, trees start to move
8 Gale	62-74 / 34-40	Branches break from trees, walking is substantially more difficult
9 Strong gale	75-88 / 41-47	Small damage to houses and roofs
10 Whole gale	89-102 / 48-55	Trees are uprooted, significant damage to houses
11 Violent storm	103-117 / 56-63	Serious storm damage

13 Conduct in case of fault

Possible causes for faults and the work required for their rectification is described in the following chapter.

Reduce the maintenance interval according to the actual load for faults that occur repeatedly.

Contact the manufacturer for faults that can not be rectified using the following information, see service address on page 46.

13.1 Safety

Personnel

- **The work for fault clearance described here can be carried out by the operator unless indicated otherwise.**

Personal protective equipment

Wear the following protective equipment for all work for fault clearance:

- **Work protective clothing**
- **Protective helmet**
- **Safety boots**
- **Safety gloves**

Improper fault clearance



WARNING!

Risk of injury due to improper fault clearance!

Improper fault clearance can lead to serious injuries or property damage.

For this reason:

- Ensure that there is adequate space for assembly before starting work.
- Make sure the assembly place is clean and tidy! Loose components and tools lying around or on top of each other are cause of accidents.
- If components were removed, ensure assembly is correct, all attachment elements are reinstalled and observe the screw tightening torques.

13.2 Faults

Conduct with faults

The following always applies:

1. **Stop operation immediately for faults that pose an immediate risk to persons or property.**
2. **Determine the cause of the fault**
3. **Inform the responsible persons at the site of the fault immediately.**
4. **Depending on the type of fault, let specialist personnel rectify it or rectify it yourself.**



NOTE!

The fault table listed below has information on who is authorised to rectify the fault.

Fault	Possible cause	Troubleshooting	Rectification by
Rail package does not extend correctly or not at all	Rail protection still locked	Release rail	User
	Overload	Observe the max. load capacity acc. to the type plate specification	User
	Damaged mast cable by overloading / one-sided loading / uneven winding of cable on cable winches	Replace the wire cable	Customer service
Extension order of rails not as specified	Wire cable has jumped off the roller	Arrange wire cables correctly	Customer service
	Rollers or roller bearings are faulty	Replace rollers or roller bearings	Customer service
	There is dirt or refuse between the mast parts or on the rollers	Cleaning of the masts / rollers	Customer service



ATTENTION!

Do not rectify faults under a load!



ATTENTION!

It is essential to rectify the fault / cause. Contact the manufacturer for queries or help concerning the device (contact data, see page 46).

14 Annex

14.1 Applicable documents


- Declaration of conformity
- Spare parts list (item no.: 101000196)

14.2 EC Declaration of conformity



EC Declaration of Conformity

acc. to 2006/42/ECG, Appendix II, No. 1 A
(Translation based on the original German version!)

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Acc. to EC Directive for Machines (Machinery Directive) 2006/42/EC, we declare that our product:

DekLift 4,50m

Function	Lift for handling of individual Dokadek-elements for formwork and striking
Serial no.	

in the delivered design complies with the relevant provisions:

- EC Machine Directive 2006/42 EC

Authorized person for the compilation of the technical documents: Ms. Fleige, Böcker Maschinenwerke GmbH

Böcker Maschinenwerke GmbH

Werne, 11.06.2013

Place and date of declaration

Dipl.-Ing. Frank Kolkmann
(Authorized signatory)

Dipl.-Ing. Günter Röhling
(Head of Research and Development)

14.3 Doka International Customer Service

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