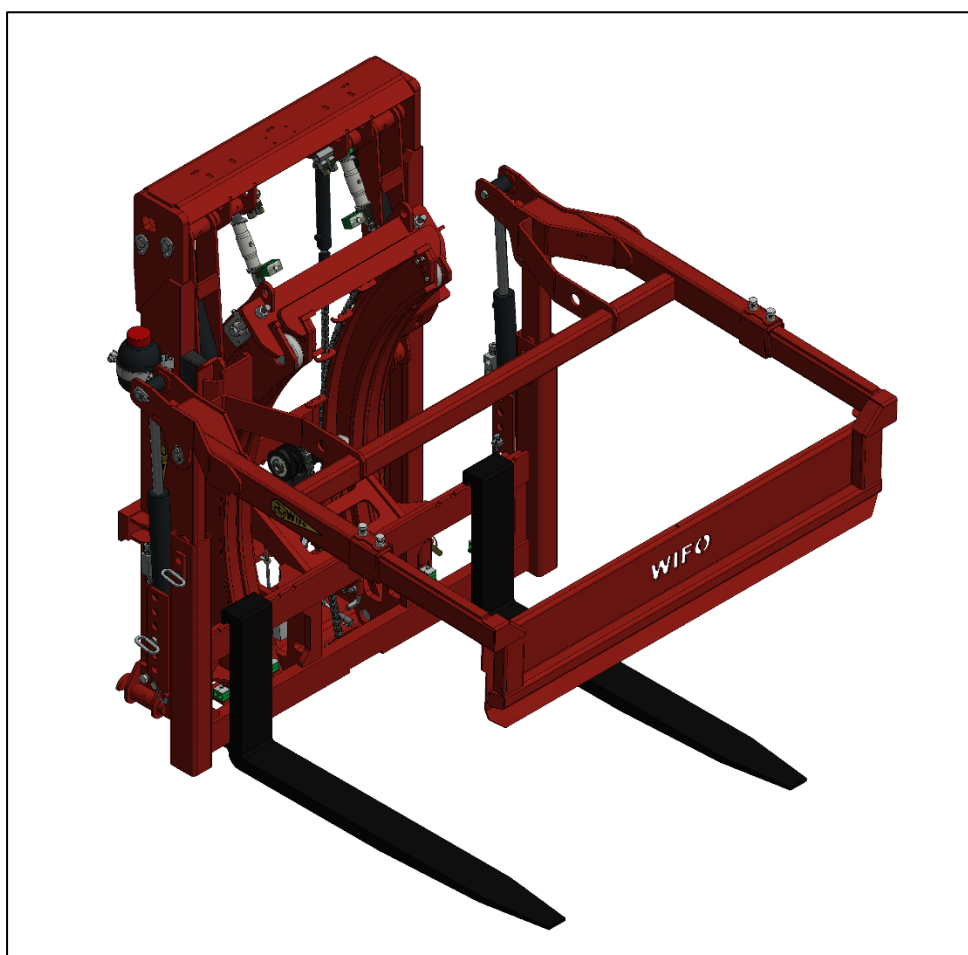


K95

Forward tipping box rotator



K95



English

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1. To the user

1.1 Introduction

The aim of this manual is to inform users about the commissioning, use and maintenance of their new WIFO forward tipping box rotator. Also included in this manual are a number of safety instructions to create a safe working environment.

At WIFO-Anema B.V. we aim to continuously improve our products. WIFO-Anema B.V. reserve the right to introduce any changes and improvements deemed necessary without prior notice.

Please read the manual thoroughly and observe the safety procedures before putting the unit into operation. Contact your dealer for any further questions or concerns you may have.

We trust that your WIFO forward tipping box rotator will provide many years of useful service.



ATTENTION:

Carefully read this manual before you put the machine into operation and act upon all directions that are given. This is to guarantee its safe, trouble-free operation.



Keep this manual in a safe place for future reference!

WIFO-Anema B.V.

Dealer:

1.2 Safety precautions and warnings

Please read this manual before you put the machine into operation for the first time, and observe the safety instructions at all times. The most important instructions are marked with a symbol.

	<p><i>This symbol is used for all important safety instructions throughout this manual. Carefully observe the instructions and be very cautious.</i></p>
	<p><i>This symbol is used for all important actions that should not be carried out under any circumstances. Carefully observe these prohibitions.</i></p>

Any person in charge of the commencement of operation, the operation itself or the maintenance of the machine is urged to carefully read and observe the following instructions.

1.2.1 Safety precautions

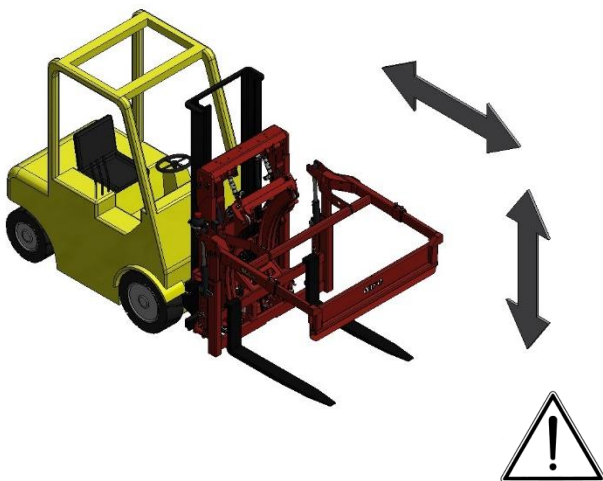
The following safety instructions apply to all types of WIFO forward tipping box rotators. No distinction is made with regard to the type of lifting vehicle used.



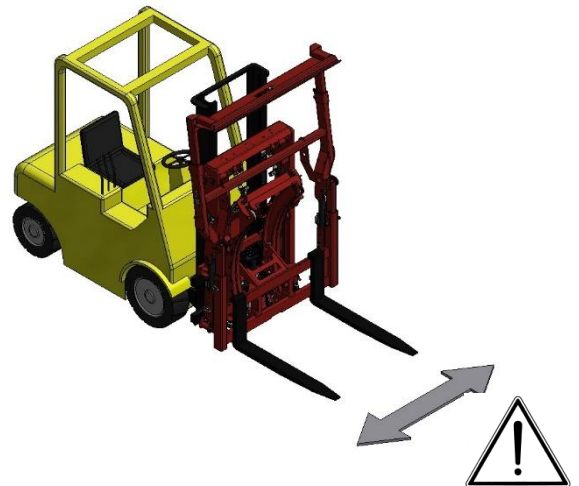
Do not allow anyone to hitch a ride.



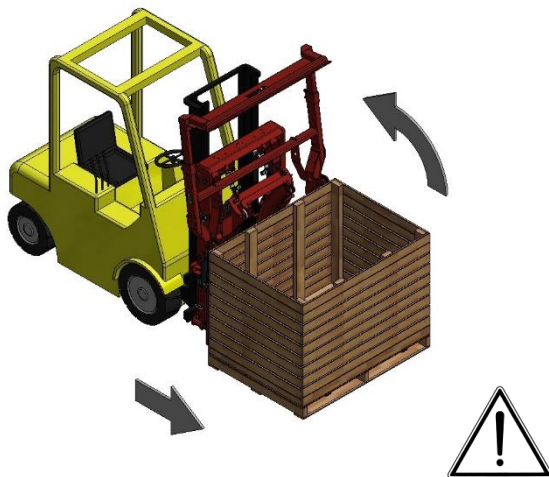
Persons must not stand below the load, and must remain outside the tipping range of the equipment. Bear in mind that items may fall from the box.



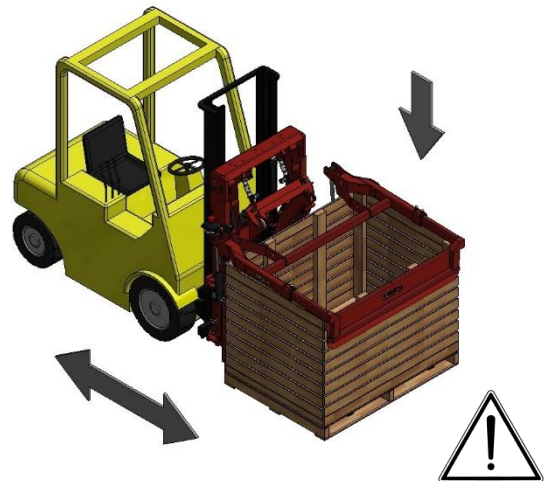
Adjust the upper clamp to take account of the height and depth of the boxes to be tipped.



Adjust the forklift forks to the right width so that they will not damage the box.



Raise the upper clamp using the clamping cylinder before picking up the box with the box rotator. Distribute the load as evenly as possible over the forks.



Keep the load as low as possible during transportation to maximise the stability of the lifting vehicle. Boxes must always be clamped during transportation.




Only solid boxes must be used for tipping operations.

The box rotator must only be operated from the driver's position in the vehicle. Ensure that there is adequate visibility of the work activities from this position.

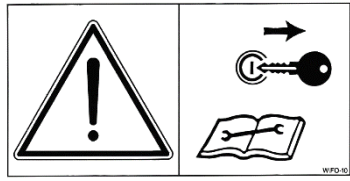
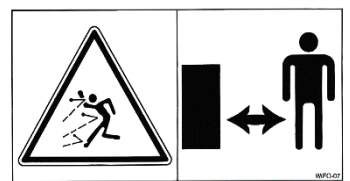
Make sure the hydraulic hoses and any power cables do not get jammed and that the box rotator is able to move freely.

The tipper must be placed in its lowest position when parking the lifting vehicle. Ensure that the clamp/vehicle combination cannot make any unintended movements while the vehicle is not in use. Place the rotator on its back on a flat, stable surface after it has been removed from the forklift truck / mast for storage.

1.2.2 Safety stickers and warning signs

	<p><i>A safe working environment also requires personnel to be well-informed about the various safety stickers on the machine. Be aware of the hazards they warn you to look out for.</i></p> <p><i>Replace any loose, illegible or missing stickers.</i></p>
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Several safety stickers have been put onto the machine. The meaning of the stickers on this machine is as follows:

	<p><u>N.B.:</u> <i>Please read the instruction manual prior to any maintenance to the machine. Turn off the engine and remove the key from the ignition while maintenance is carried out on the machine!</i></p>	<div>1</div>
	<p><u>Danger:</u> <i>Always keep at a safe distance from the machine!</i></p>	<div>2</div>

1.2.3 Location of the safety stickers on the machine



Figure 1.2.1- Location of safety stickers for K95

1.3 Purpose of use

WIFO K95 forward tipping box rotators are suitable only for the transportation and forward tipping (150° max.) of boxes with or without a bottom deck, provided the total weight of the box and its load for transport does not exceed 2750 kg and for tipping 2000 kg.

The K95 comes with two adjustable forklift forks as standard and is suitable of picking up boxes ranging in depth from 1000 mm to 1200 mm and 975 mm to 1275 mm in height.



ATTENTION:

The capacity of the forklift truck or lifting mast must exceed the total mass of the forward tipping box rotator, the box and its load. The forklift truck or lifting mast must be equipped with a double action hydraulic connection at the fork carrier.

The forward tipping box rotator is generally suitable for attaching to the FEM III fork carrier of a forklift truck or lifting mast. In addition the box rotator can be supplied ex works with a range of attachments for various telehandlers. When ordering, please specify what you intend to attach the box rotator to. If available they can be fitted in the factory and will be covered by the normal warranty terms.



ATTENTION:


WIFO-Anema B.V. can accept no liability for the construction and mounting of fitting equipment attached by users themselves.

The box rotator must in no circumstances be used for the carriage of persons!

1.4 Liability

Any person working with or on the machine must have read this manual. The machine is to be used for its intended purpose only. Included in the intended purpose are, among other things:

1. Work must be carried out in accordance with the directions and within the functional restrictions (e.g. maximum hydraulic working pressure) as outlined in the regulations. Use only sound and appropriate tools.
2. Electric/electronic equipment and accessories (e.g. cables) must be treated in accordance with the general accepted policy for using non-waterproof portable electric and electronic equipment, such as:
 - a) Storing and keeping in a clean, dry environment away from rodents and the like; and
 - b) Protecting the equipment against severe, uncushioned shocks and water (precipitation).
3. Use only original or compatible spare parts. Such parts must be assembled as directed (e.g. by observing the recommended tightening moments). Spare parts (as well as lubricants) are considered compatible only if explicitly approved by WIFO or in the event that the customer is able to prove they possess the required properties for the purpose(s) they are used.
4. Use only lubricants that meet the specifications as described in the directions.
5. Always observe the local regulations in terms of accident prevention, safety, traffic and transport.
6. Only trained personnel with knowledge of the possible hazards have permission to work with/on the machine.
7. WIFO-Anema B.V. will assume no liability in any shape or form for losses or damage caused following modifications to the machine, which have not been explicitly approved by WIFO.

	<i>Noncompliance with the rules and directions from this manual will be considered as serious negligence, for the consequences of which WIFO-Anema B.V. accepts no liability whatsoever. In such cases, the user will bear the full risk of his actions!</i>
	<i>WIFO-Anema B.V. is continuously working on the improvement of its products. For that reason, WIFO-Anema B.V. reserves the right to introduce any changes and improvements deemed necessary without prior notice. However, it does not imply an obligation to make any such changes or improvements to machines bought by customers in the past.</i>

1.5 Warranty

WIFO-Anema B.V. guarantees the soundness of its products in terms of materials used and/or structural defects. However, in any event this warranty is limited to the free-of-charge replacement or repairs of the defect product, or part thereof. WIFO-Anema B.V. assumes no liability for any loss or damage arising from faulty deliveries and/or the breakdown of purchased goods before the warranty period has expired. **The warranty period for this product is twelve months.**

2. Technical data

2.1 General technical data

Type	Max. carrying capacity	Max. tilt capacity	Weight	Frontal extension length	Centre of gravity	Transport width	Tipping angle
K95	2.750 kg	2.000 kg	975 kg	460 mm	355 mm	1630 mm	150°

Table 2.1.1-K95 forward tipping box rotator

The K95 forward tipping box rotator is suitable for attachment to FEM III (508mm) fork carriers.

The box rotators are equipped with an hydraulic limit switch to prevent unintended opening of the upper clamp during tipping. The upper clamp can only be opened when the tipping frame is horizontal.

The K95 forward tipping box rotators are fitted with a locking mechanism for the fork carrier. The locking mechanism can be switched on if the forward tipping box rotator is being used for transporting boxes only. Figure 2.1.2. shows the handle, used for switching the locking device on and off. The handle can be locked in the right position by a linch pin. The fork carrier is locked in lowest position.

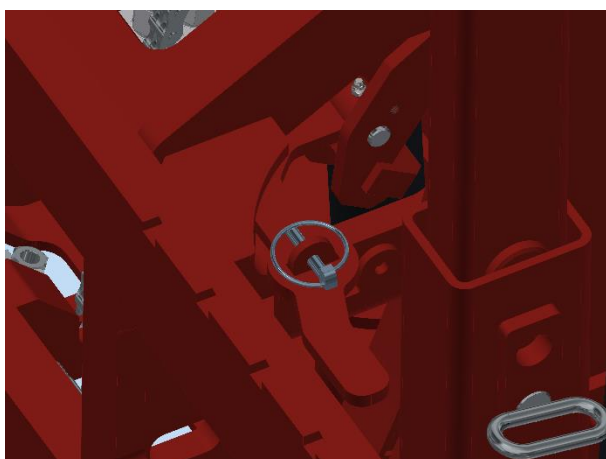
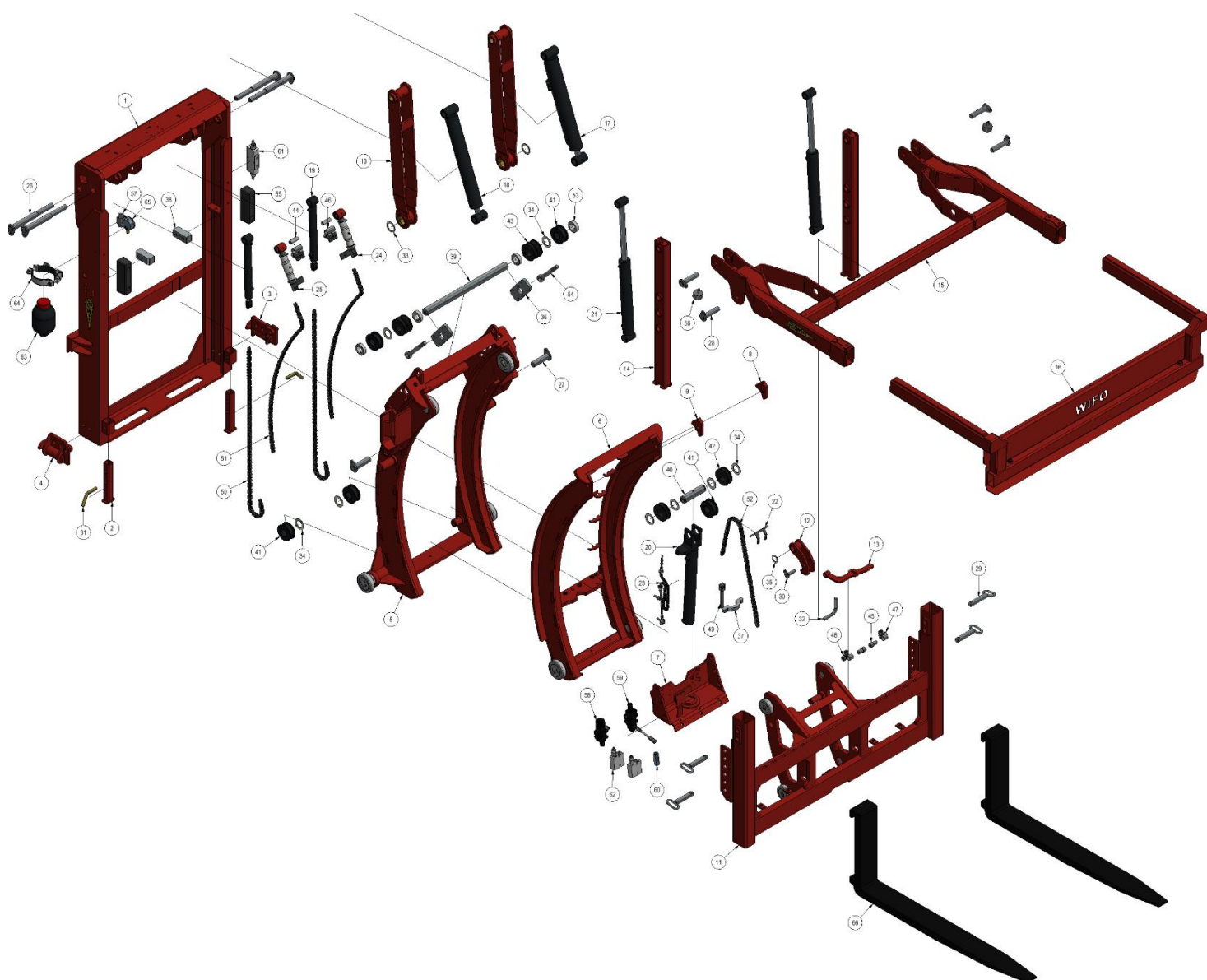


Figure 2.1.2-K95 locking mechanism fork carrier

2.2 K95

2.2.1 Parts list



Number	Description	Number	Description
1	Main frame K95	34	Locking ring chain roll
2	Support leg K95	35	Locking ring fork carrier locking
3	Rapid coupling FEM III left	36	Adjustmentplate roll axle
4	Rapid coupling FEM III right	37	Clamping plate rotating cylinder
5	Curved outer frame K95	38	Main frame end stop
6	Curved inner frame K95	39	Roll axle outer frame
7	Screwplate inner frame K95	40	Pin chain roll
8	Inner frame stop block left	41	Chain roll
9	Inner frame stop block right	42	Single hydraulic hose roll
10	Pantograph arm	43	Dubble hydraulic hoser roll
11	Fork carrier frame 1600	44	Bush hydraulic transit
12	Locking fork carrier	45	Distancebush hydraulic transit
13	Handle locking	46	Dubble hydraulic transit
14	Upper clamp height adjustment	47	Single hydraulic transit left
15	Upper clamp frame 1600	48	Single hydraulic transit right
16	Upper clamp valve 1600	49	Chain tightener
17	Rotating cylinder pantograph left	50	Flyerchain Length = 1200mm
18	Rotating cylinder pantograph right	51	Flyerchain Length = 1047mm
19	Tension cylinder chain	52	Flyerchain Length = 934mm
20	Rotating cylinder inner frame	53	Lock collar Ø40
21	Clamping cylinder upper clamp	54	Eye bolt M20x180
22	Locking hose roll	55	Rubber buffer long
23	Control chain hydraulic switch	56	Rubber buffer Ø50
24	Toplink with chain part left	57	Ball valve 2/2
25	Toplink with chain part right	58	Hydraulic 3-way valve 3/8"
26	Main frame pin	59	Hydraulic 3-way valve 3/8"
27	Curved outer frame pin	60	Check valve 3/8" 0,5 bar
28	Upper frame pin	61	Balancing valve 3/8" DW
29	Height adjustment pin	62	Sequence valve 1/2"
30	Locking cylinder pin short	63	Accumulator 0,75 Ltr - 250 Bar
31	Support leg pin	64	Accumulator clamp Ø120
32	Pin for end stop Ø16	65	Pressure gauge Ø63
33	Locking ring pantograph arm	66	Forklift fork FEM II 125x45x1200

Table 2.2.1- Parts list for K95

2.2.2 Commissioning the K95 box rotator

1. Turn the rapid coupling on the main frame left & right **(3 & 4)** so the half moon pointing down.
2. Remove the forks from the forklift truck or forklift mast.
3. Make sure the fork carrier is straight and clean.
4. Place the box rotator on the forklift truck or lifting mast fork carrier.
5. Make sure the locking cam slots into the recess in the centre of the fork carrier. If no recess is available:
 - a) Grind such a recess; or
 - b) Grind the locking cam from the box rotator and attach a sound locking cam on the spot of an existing recess in the fork carrier. In doing so, make sure the box rotator sits secure in the centre in front of the fork carrier, so it is unable to slide sideways.
6. Check to make sure the hydraulic hoses are clean before connecting them to the rapid-action couplings to prevent any debris from entering the hydraulics of the machine.
7. Connect the pair of hydraulic supply/discharge hoses to the dual-action connection on the fork carrier.
8. Check that the forward tipping box rotator operates correctly.

Adjusting the upper clamp

1. The K95 forward tipping box rotator is suitable for tipping boxes between 975 mm and 1275 mm in net height. If the box is raised at all, the upper clamp should be horizontal or sloping on the box in the direction of the valve front plate. This can be adjusted as follows:
 - Remove the pins **(28)** and securing clips from the upper clamp and the pins and securing clips from the clamping cylinders.
 - Adjust the height of the upper clamp, use the height of the box + 5 cm for the correct holes agreement.
2. The K95 forward tipping box rotator is suitable for tipping boxes ranging in depth from 1000 mm to 1200 mm. With the back of the box against the tipping frame, the front plate of the upper clamp should be just on the edge of the box, against the front of the box. This can be adjusted as follows:
 - Loosen the upper clamp securing bolts.
 - Slide the valve up against the box and retighten the upper clamp using the securing bolts and locknuts.



Ensure that the hydraulic hoses and electrical cables can not become trapped during use.


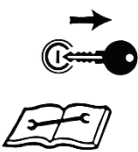
The WIFO forward tipping box rotator is now ready for use.

2.3 Replacement components

Box rotator model	Description	Component no.
K95	Hydraulic cylinder DW50-30-330	429039
	Clamping cylinder seal kit DW50-30-330	7792823
	Hydraulic cylinder DW30-20-250	4290401
	Hydraulic cylinder DW50-36-366	4290402
	Hydraulic cylinder DW60-30-400 L	4290403
	Hydraulic cylinder DW60-30-400 R	4290404
	Hydraulic switch	429059
	Balancing valve DW	429058
	Sequence valve 1/2"	429099

Table 2.3.1- Replacement components for WIFO forward tipping box rotators

3. Maintenance and troubleshooting


 	<p><u>N.B.</u> <i>Please read the instruction manual prior to any maintenance to the machine. Turn off the engine and remove the key from the ignition while maintenance is carried out on the machine!</i></p>
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The forward tipping box rotator must be placed in its lowest position when maintenance or repairs are carried out. Prevent the unintended tipping and/or raising of the rotator during maintenance activities by switching off the vehicle's engine and removing the ignition key. An additional precaution would be to disconnect the hydraulic hoses.

3.1 Preventive maintenance and lubrication

After the first 8 working hours:

- Check the connections and turnbuckles of the hydraulic hoses.
- Tighten all bolts.
- Check the tension of the flyer chains. (incidentally, every 40 working hours)

	<p><i>This sticker shows the position of a grease nipple on the machine. Lubricate the machine after every 10 working hours. Recommended lubricants include SAE 30 oil and Grade 2 lithium-based grease.</i></p>
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	<p><i>Regularly check the hydraulic system for any leaks. Never try and search for leaks or stop a leak by hand. Liquid under high pressure can easily penetrate skin and clothing, and may cause serious injuries. Replace any damaged hydraulic hoses to prevent them from breaking and any accidents as a result!</i></p>
	<p><i>Regularly check the oil level of the hydraulic system of your forklift truck / tractor!</i></p>

3.2 Troubleshooting

Forward tipping box rotator type	Problem	Solution
K95	The upper clamp fails to rise when operated.	See section 3.2.1.
K95	The rotator starts rotating before the upper clamp has closed properly.	See section 3.2.2
K95	The rotator rotates too slowly (forwards).	See section 3.2.3
K95	The rotator rotates up to 45 degrees and does not go any further.	See section 3.2.4
K95	The rotator slowly rotates back or not at all.	See section 3.2.5
K95	The upper clamp rises too slowly.	See section 3.2.6

Table 3.2.1- Troubleshooting

3.2.1 The upper clamp fails to rise when operated

The K95 forward tipping box rotator is protected against unintended opening of the upper clamp during tipping by means of a hydraulic limit switch. See figure 3.2.1. If the upper clamp fails to open in its horizontal position, check whether the limit switch on the tipping frame is operated. If not, the limit switch stop must be raised to the point where the switch does operate.

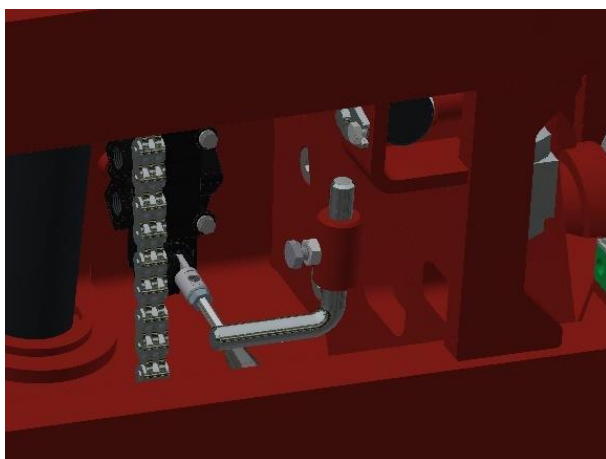


Figure 3.2.1- Hydraulic limit switch

1. Check that the flyer chain of the tipping frame / fork carrier is correctly tensioned. Check this in the extreme forward position, with the tipping frame / fork carrier against the end stop and the flyer chain at the correct tension. The stop can then be adjusted in the horizontal position.
2. Loosen the adjusting tube bolt and locknut. See figure 3.2.1.
3. Bring the stop to the correct height, so that it comes up against the handle of the hydraulic switch. Check that the limit switch operates.
4. Securely retighten the bolt and locknut in the adjusting tube.
5. Check that the forward tipping box rotator operates correctly.

3.2.2 The rotator starts rotating before the upper clamp has closed properly

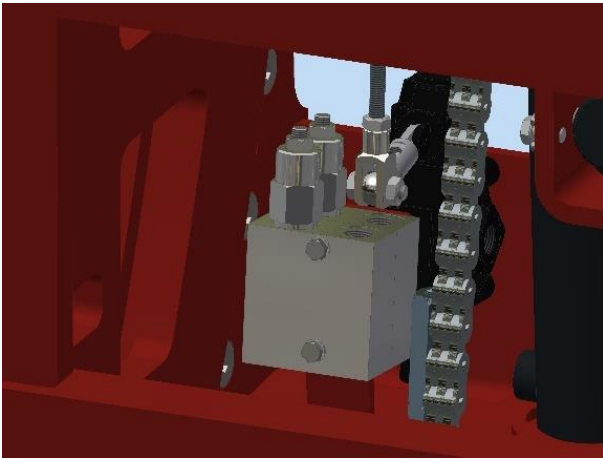


Figure 3.2.2- Sequence valve rotator

If the upper clamp does not close properly and the rotator has already started rotating the pressure in the rear/ second sequence valve has not been set correctly. The (switch) pressure is set too low and needs to be increased. Remove the cap from the sequence valve to get access to an adjustment screw. Turn this screw carefully in a clockwise direction. Adjust with small turns and keep testing its effect by operating the hydraulic function of the forklift/tractor. Always stay clear of the rotator while doing this to avoid accidentally getting trapped!

3.2.3 The rotator rotates too slowly (forwards)

If the rotator rotates too slowly the pressure in the rear/ second sequence valve has not been set correctly. The (switch) pressure is too high and needs to be lowered. Remove the cap from the sequence valve to get access to an adjustment screw. Turn this screw carefully in an anticlockwise direction. Adjust with small turns and keep testing its effect by operating the hydraulic function of the forklift/tractor. Always stay clear of the rotator while doing this to avoid accidentally getting trapped!

3.2.4 The rotator rotates up to 45 degrees and then stops

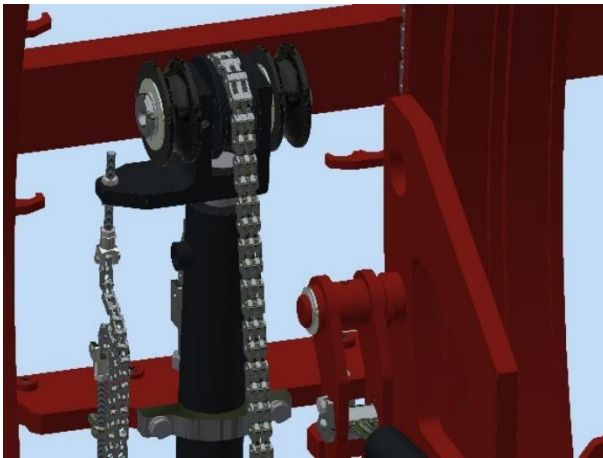


Figure 3.2.3- Control chain hydraulic switch

If the box rotator tipping forward to 45 degrees and then stops, it means that the hydraulic switch that takes care of this step has not been touched. Operation of this switch will have to be checked. Figure 3.2.3. shows the operating chain for this switch. This chain will control the hydraulic switch after completing a full stroke of the central rotating cylinder. The length/tension of the control chain needs to be changed if the switch is not operated. The rotating cylinder allows adjusting the tension of the chain, which will change the length of the chain. Adjust the chain little by little and keep testing its effect by operating the hydraulic function of the forklift/tractor. Always stay clear of the rotator while doing this to avoid accidentally getting trapped!

3.2.5 The rotator slowly rotates back or not at all



Figure 3.2.4- Hydraulic circuit return rotating

If the box rotator tipping slowly or fails to tip back in the first step, the cylinders that trigger this motion will have insufficient retraction force. Figure 3.2.4. shows the hydraulic circuit of these cylinders to which the flyer chains are attached for the back-tilting motion. This is a closed hydraulic circuit sealed by the ball valve at the inside of the profile. The manufacturer has set the oil pressure in this hydraulic circuit at **45/50 bar**, which can be read on the pressure gauge next to the ball valve. This pressure will ensure the proper operation of the forward tipping box rotator and the back tipping motion. The cylinders with the two flyer chains have a spring action.

The pressure in this closed circuit has been set incorrectly if the box rotator moves slowly or fails to tipping back in the first step. This pressure is set too low and needs to be increased. The pressure can be increased by turning the ball valve to the open position. Ex works, the lever of this valve is mounted in reverse to the valve, to prevent the unintentional opening of the ball valve. In the open position of the ball valve, the hydraulic circuit is connected to the hydraulic operation of the box rotator. That is when the pressure can be increased by operating the hydraulic function of the forklift truck/tractor. Do so in very small steps: the hydraulic pressure, which can be read on the pressure gauge, goes up after adding a small amount of oil. Always stay clear of the rotator while doing this to avoid accidentally getting trapped! After reaching a pressure of 45/50 bar, return the ball valve to the closed position. Turn the lever, and then mount it back in reverse to the ball valve. The box rotator is then ready for use again.

3.2.6 The upper clamp rises too slowly

If the upper clamp rises too slowly the pressure in the front/ first sequence valve has not been set correctly. The (switch) pressure is too high and needs to be lowered. Remove the cap from the sequence valve to get access to an adjustment screw. Turn this screw carefully in an anticlockwise direction. Adjust with small turns and keep testing its effect by operating the hydraulic function of the forklift/tractor. Always stay clear of the rotator while doing this to avoid accidentally getting trapped!



Always use original WIFO parts for replacement in order to comply with the warranty terms and conditions.



Please contact your dealer for any further concerns you may have. He will be pleased to assist.

EG-VERKLARING VAN OVEREENSTEMMING VOOR MACHINES
EC-DECLARATION OF CONFORMITY FOR MACHINERY
EG-MASCHINENÜBEREINSTIMMUNGSEKTLÄRUNG
DÉCLARATION DE CONFORMITÉ "CE" POUR MACHINES

Fabrikant/Manufacturer/Fabrikant/Fabricant:

WIFO-Anema B.V.

Adres/Address/Adresse/Adresse:

Hegebeintumerdyk 37

9172 GP Ferwert

The Netherlands

Verklaart hiermede dat /Herwith declares that/Erklärt hiermit, daß/Déclare ci-après que

Serienummer/Serial number/Serienummer/Numéro de série:

Uitvoering/Model/Ausführung/Modèle:

- Voldoet aan de bepalingen van de Machinerichtlijn (Richtlijn 2006/42/EG, zoals laatstelijk gewijzigd) en de nationale wetgeving ter uitvoering van deze richtlijn;
- Is in conformity with the provisions of the Machine Directive (Directive 2006/43/EC, as amended) and with national implementing legislation;
- Konform ist mit den einschlägigen Bestimmungen der EG-Maschinenrichtlinie (EG-Richtlinie 2006/42/EG), inklusive deren Änderung, sowie mit dem entsprechenden Rechtserlaß zur Umsetzung der Richtlinie in nationales Recht;
- Est conforme aux dispositions de la Directive "Machines" (Directive 2006/42/EC telle que dernièrement modifiée) et la législation nationale adoptée en application de ladite directive.

Ferwert, January 2019



Wytze Anema
(Director)