

Box rotator

K54A-(Z)/K54C-(Z)/SK54A-(Z)/SK54C-(Z)



K54A-O/K54C-O



SK54A-O/SK54C-O



K54A-I/K54C-I



K54A-Z-O/K54C-Z-O



English

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1 To the user

1.1 Introduction

The purpose of this manual is to inform you about the commissioning, operation and maintenance of your new WIFO box rotator. In addition, this manual contains safety instructions, which ensure hazard-free application.

WIFO-Anema B.V. constantly strives to improve its products. WIFO-Anema B.V. reserves the right to make any changes and improvements it deems necessary.

Before commissioning, thoroughly read and observe the manual and safety instructions. If any questions remain open after reading the manual, it is best to contact your dealer.

We wish you much working pleasure with your WIFO box rotator.



CAUTION:

Please read this manual carefully before commissioning the machine and follow all instructions. This is to ensure safe, trouble-free operation.

Keep this manual carefully for future use!

WIFO-Anema B.V.



Dealer:

1.2 Language and translations

This manual is a translation of the original Dutch version. In case of discrepancies between translations and the Dutch version, the Dutch text prevails.

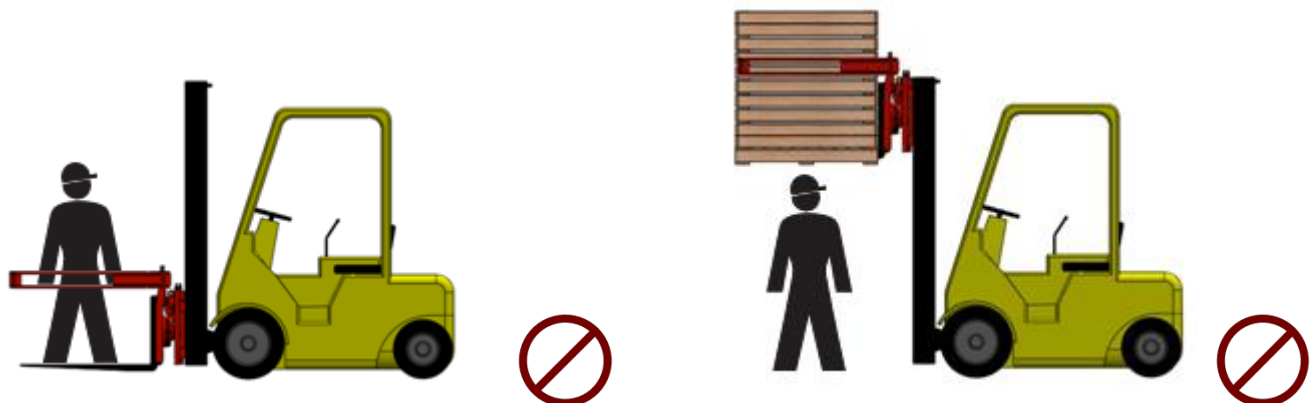
1.3 Safety regulations and warnings

Please read this manual before using the machine for the first time and absolutely observe the safety instructions. Particularly important instructions are marked with a pictogram.

	<p><i>You will find this sign next to all important safety instructions in this manual. Please observe the instructions carefully, and behave with particular caution in these cases!</i></p>
	<p><i>You will find this sign at all important actions that are strictly prohibited. Please observe this prohibition carefully!</i></p>

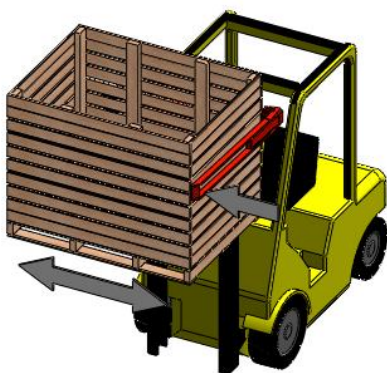
All persons entrusted with the commissioning, operation and maintenance of the machine must carefully read and observe the following instructions.

1.3.1 Safety regulations

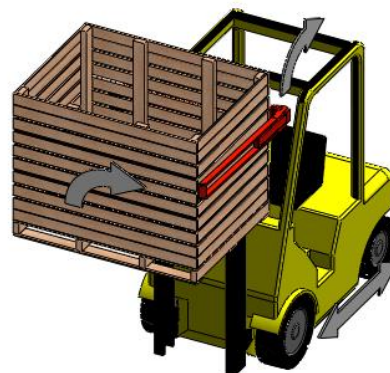


Don't let anyone ride along.

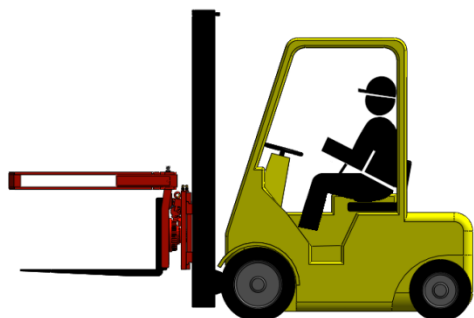
Do not allow any person to stand under the load, and stay out of the working area of the box rotator.



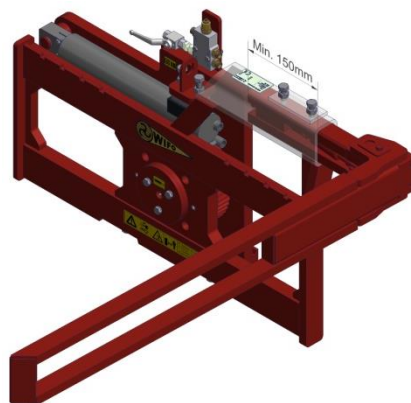
**Centre the load;
Place the forks as wide as possible;
Place the third fork against the side of the box.**



**Limit driving with lifted load;
Do not tip over during transport;
Allow lift mast to tilt backwards during transport.**



Only operate the tipper from the driver's seat of the forklift/tractor.



Keep at least 150 mm of the fork positioner of the folding fork in the slot and secure the same using the two bolts and lock nuts (140Nm).



For tilting work, use only durable boxes with flooring or grooves.


During the controlled tilting action, be aware of the back-tilt moment of the rotating cylinder.

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

Park the forklift truck / mast with the box rotator in the lowest position only. Make sure that unexpected movements are ruled out if the forklift truck / tractor is not being used. Place the box rotator on its back on a flat, stable surface after it has been removed from the forklift truck / mast for storage.

Make sure the operating lever for rotating is not mixed up with any other operating lever to prevent inadvertent tilting or side-shifting. Only the side-shift function remains in the event of a power cut while operating an electrically controlled valve. Disable the tilting motion by closing the ball valve next to the balancing valve. Unintentional operation is no longer possible.

1.3.2 Safety stickers and warning signs

	<p>Working safely also means being well informed about the various safety stickers on the machine. You need to be well aware of what they are warning you about.</p> <p>Stickers that are loose, illegible or off the machine should be replaced.</p>
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There are a number of safety stickers on the machine. The stickers used on this machine have the following meanings:




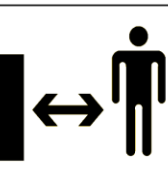
				<p>NL Het totaal van de massa van de machine en de lading mag de hefcapaciteit niet overschrijden.</p> <p>D Gewicht Anbaugerät und Last zusammen, darf Tragfähigkeit nicht überschreiten.</p> <p>F La capacité de levage doit être supérieure au total de la masse de la machine et du chargement.</p> <p>GB The weight of the attachment together with the load may not exceed the lifting capacity.</p>	<p>NL Zet de machine in de laagste stand indien deze niet gebruikt wordt.</p> <p>D Die Maschine muß sich in der untersten Position befinden bei Nichtgebrauch.</p> <p>F La machine soit sur la position la plus basse lorsque la machine n'est pas utilisée.</p> <p>GB The machine should be in the lowest position when the machine is not used.</p> <p><small>MDSTCE11</small></p>
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Figure 1.3.1 Safety sticker WIFO

Read the instructions in the manual carefully before carrying out maintenance on the machine!
Stop the engine and remove the key from the ignition while the machine is being worked on!
Always keep a safe distance between you and the machine!

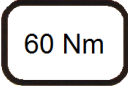
<div data-bbox="119 1019 510 1187">  <p>NL De bouten van het geleideblok regelmatig natrekken.</p> <p>D Die Bolzen der Gleitblocks regelmäßig nachziehen.</p> <p>F Serrer régulièrement les boulons du bloc de guidage.</p> <p>GB Regularly fasten the bolts on the guide block.</p> </div>	<p>Attention: Tighten the guide block bolts regularly and do so with the correct torque (60Nm)!</p>
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Figure 1.3.2 Tightening torque sticker WIFO

1.3.3 Location of safety stickers on the machine

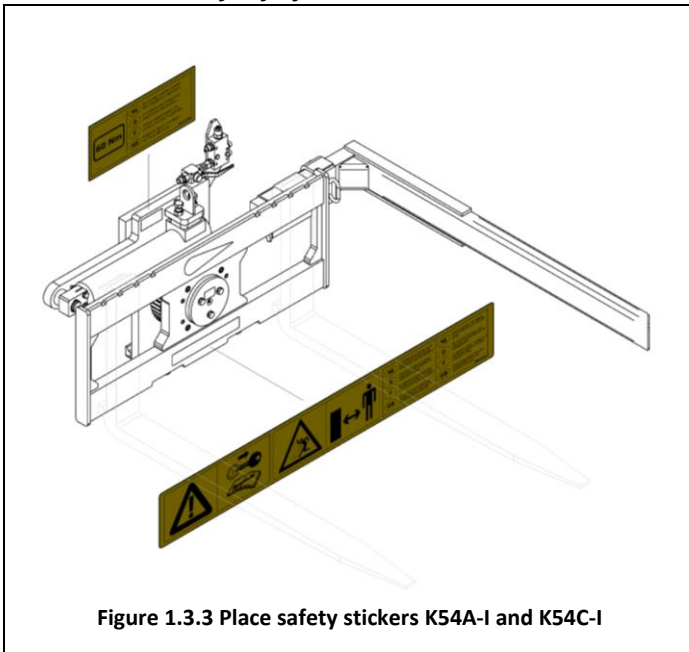


Figure 1.3.3 Place safety stickers K54A-I and K54C-I

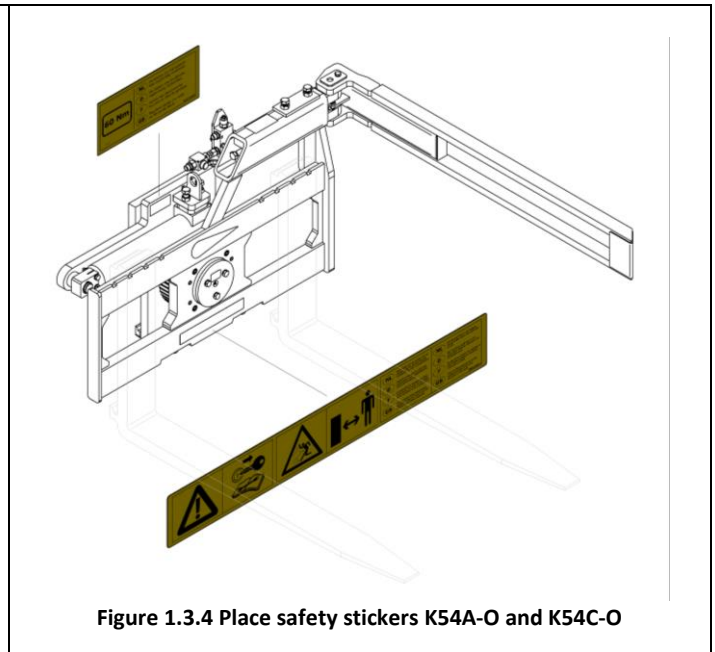


Figure 1.3.4 Place safety stickers K54A-O and K54C-O

1.4 Purpose of use

The WIFO box rotator is exclusively used for transporting and sideways tilting boxes with flooring or grooves, provided that the overall weight of the box including its load does not exceed the carrying capacity of the box rotator. The box rotator must be attached to a FEM II (K54A and SK54A) or FEM III (K54C and SK54C) fork carrier of a forklift truck or forklift mast.




The overall weight of the box rotator including its load may not exceed the capacity of the forklift truck or the forklift mast. (See the name plate on the forklift truck/forklift mast)

Do not use the box rotator for carrying people under any circumstances!

1.5 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.

	<p><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></p>
	<p><i>WIFO-Anema B.V. is constantly engaged in improving its products. It therefore reserves the right to make any changes and improvements it deems necessary.</i> <i>An obligation to affix them to previously delivered machines is not attached.</i></p>

1.6 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	K54A-I	K54A-(Z)-O	K54C-I	K54C-(Z)-O
Max. carrying capacity	2500 kg	2500 kg	3500 kg	3500 kg
Weight ¹	240 kg	270/285 kg	315 kg	345/360kg
Max. working pressure	22Mpa (220 bar)	22Mpa (220 bar)	22Mpa (220 bar)	22Mpa (220 bar)
Back-tilt moment ²	6.84 KNm	6.84 KNm	6.84 KNm	6.84 KNm
Center of gravity	133 mm	158 mm	134 mm	158 mm
Frontal extension length	165 mm		185 mm	185 mm
Height of the fork carrier	407 mm (FEM II)	407 mm (FEM II)	508 mm (FEM III)	508 mm (FEM III)
Rotation angle	180°	180°	180°	180°
Fork carrier width	1000 mm	1000 mm	1200 mm	1200 mm
Side-shift	No	No	No	No
Third fork plug-in ³	675 or 775 mm	-	775 or 875 mm	-
Third fork foldaway ⁴	-	580 - 800 mm	-	680 - 900 mm

Type	SK54A-(Z)-O	SK54C-(Z)-O		
Max. carrying capacity	2500 kg	3500 kg		
Weight ¹	335/350 kg	405/420 kg		
Max. working pressure	22Mpa (220 bar)	22Mpa (220 bar)		
Back-tilt moment ²	6.84 KNm	6.84 KNm		
Center of gravity	141 mm	145 mm		
Frontal extension length	173 mm	188 mm		
Height of the fork carrier	407 mm (FEM II)	508 mm (FEM III)		
Rotation angle	180°	180°		
Fork carrier width	1000 mm	1200 mm		
Side-shift	Yes, 200mm	Yes, 200mm		
Third fork plug-in ³	-	-		
Third fork foldaway ⁴	580 - 800 mm	680 - 900 mm		

Table 2.1.1-Features of WIFO box tipper

¹ With plastic bearing/roller bearings (z-type).

² The back-tilt moment has been calculated at 18 Mpa (180 bar) working pressure.

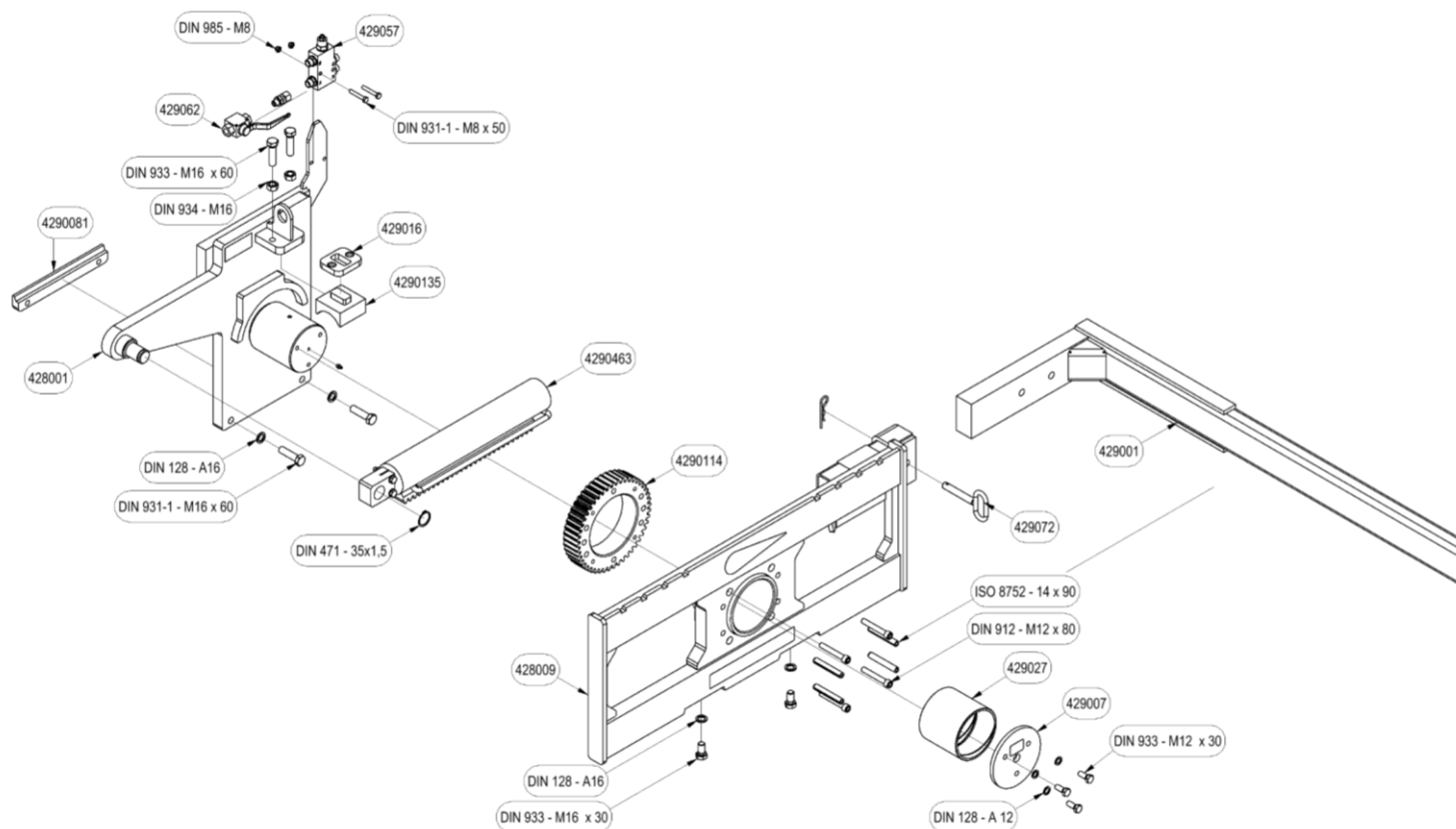
³ Two positions from inside fork to centre of rotating shaft.

⁴ Continuously adjustable from inside fork to centre of rotating shaft.

Type	Letter	Description
K54A/K54C/SK54A/SK54C	L	Left-hand
	R	Clockwise
	Z	Industrial design with adjustable tapered roller bearings
K54A/K54C	I	Plug-in third fork
	O	Foldable third fork
SK54A/SK54C	E	Electrically operated changeover valve
	S	4-hose connection

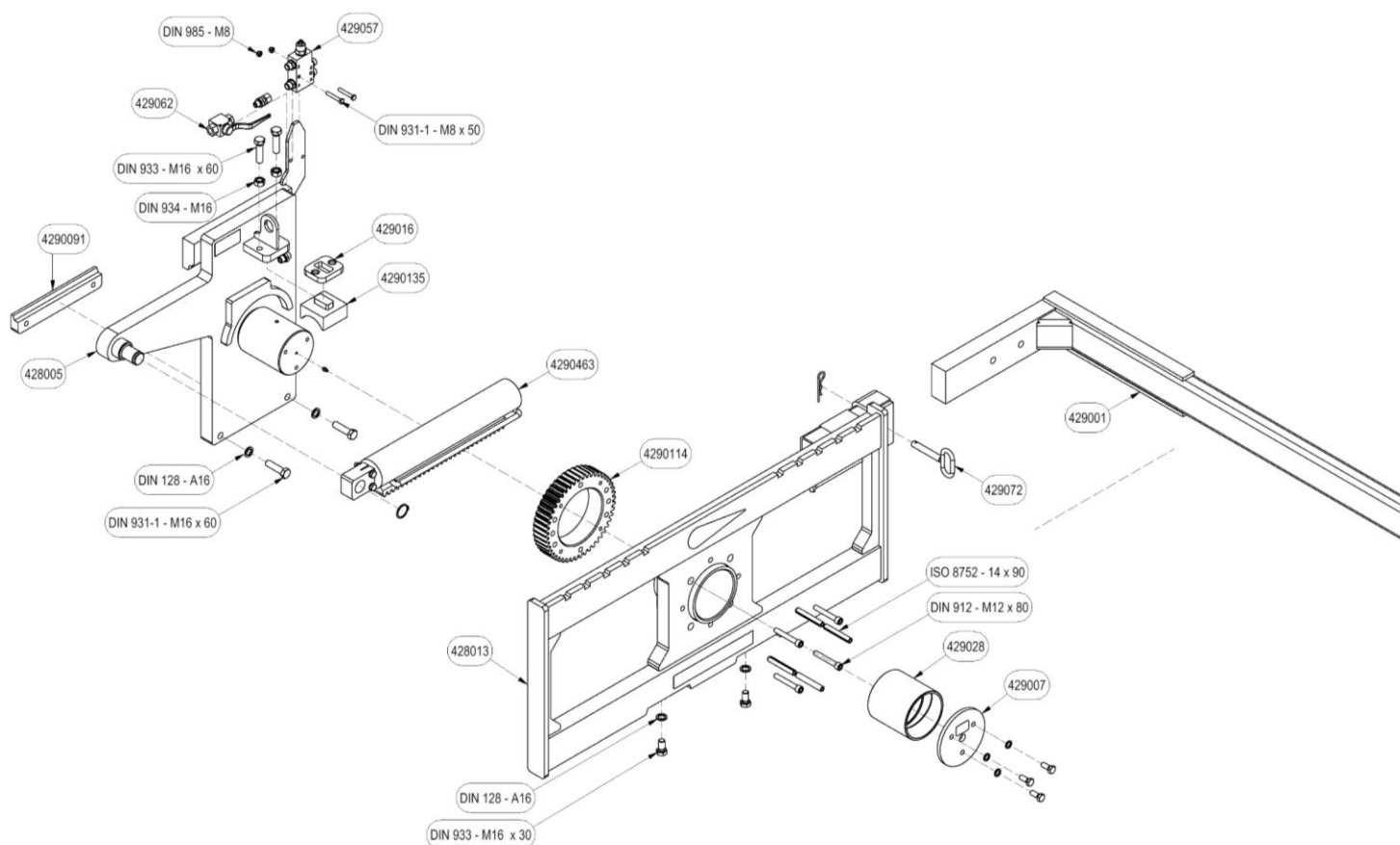
Table 2.1.2-Description of data on rating plate

2.2 Parts list K54A-I



Description	Spare part number
Locking plate K54-SK54	429007
Top plate pressure block K54	429016
Plain bearing K54A-SK54A	429027
Pressure block K54	4290135
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
<i>Cylinder DW 70-30-420 M5 (200°)</i>	<i>4290466</i>
Back plate K54A-L (180°)	428001
<i>Back plate K54A-L (200°)</i>	<i>428002</i>
Fork carrier K54A-I-L	428009
Clamping strip K54A	4290081
Plug-in fork K54	429001
Plug-in fork pin K54	429072
Gear M5 Z=48	4290114

2.3 Parts list K54C-I



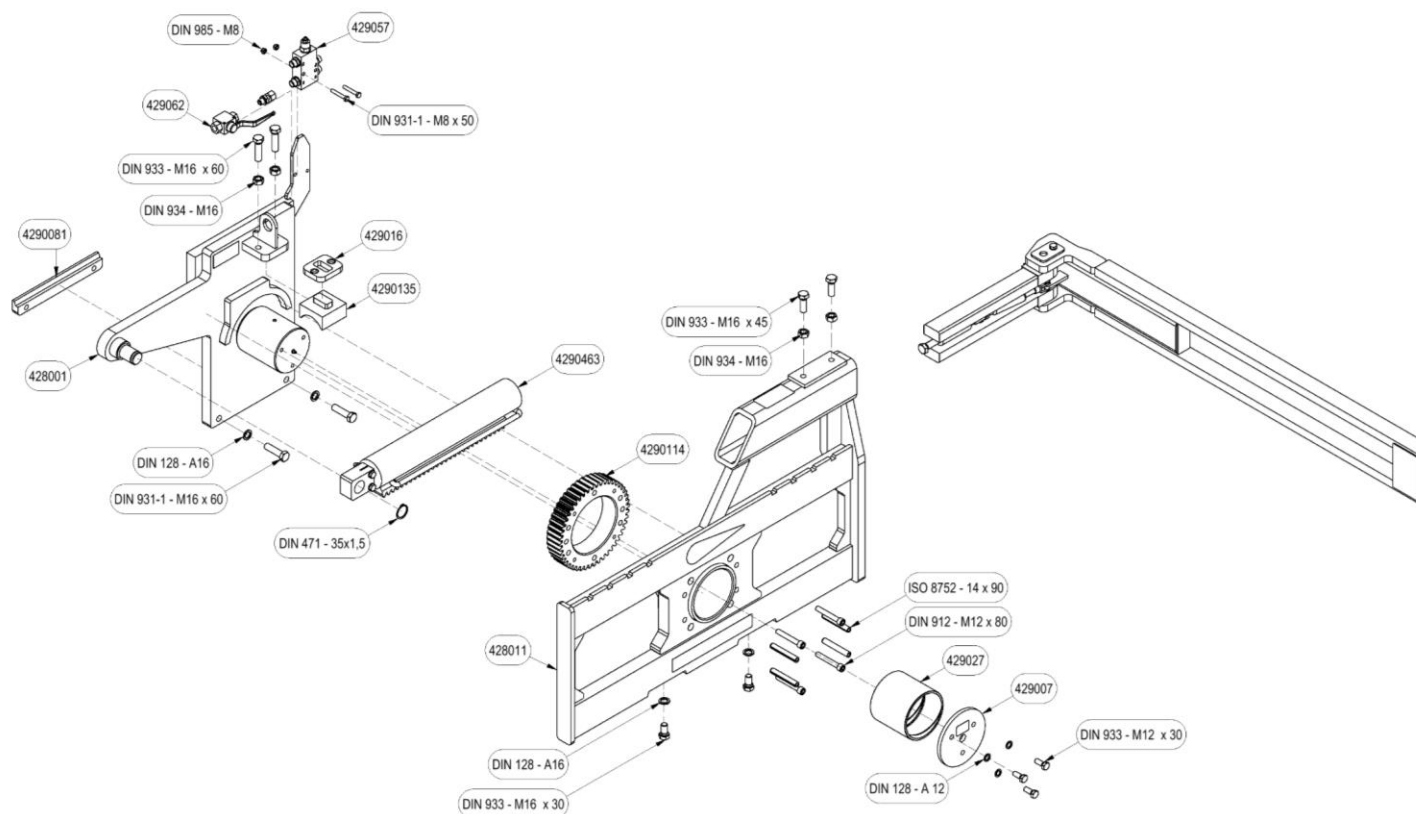
Description	Spare part number
Locking plate K54-SK54	429007
Top plate pressure block K54	429016
Plain bearing K54C-SK54C	429028
Pressure block K54	4290135
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
Cylinder DW 70-30-420 M5 (200°)	4290466
Clamping strip K54C	4290091
Back plate K54C-L (180°)	428005
Back plate K54C-L (200°)	428006
Fork carrier K54C-I-L	428013
Plug-in fork K54	429001
Plug-in fork pin K54	429072
Gear M5 Z=48	4290114

2.3.1 Commissioning of K54A-I and K54C-I

1. Remove **clamping strip**.
2. Remove the forks from the forklift or lift mast.
3. Make sure the Fork carrier is straight and clean.
4. Place the tipper on the fork carrier of the forklift or lift mast.
5. Make sure the locking cam falls into the recess in the centre of the Fork carrier. If this recess is missing:
 - a) Should this recess be cut in, or
 - b) Should the tipper's blocking cam be ground away and at the site of a existing recess in the fork carrier, a proper blocking cam must be fitted.
This so that the tipper is in the middle in front of the Fork carrier and cannot slide sideways.
6. Mount the **Clamping strip** with two **bolts M16 x 60**. Tighten these securely (140 Nm)!
7. Before connecting the hydraulic hoses, check the quick connectors to ensure that they are clean, so that no dirt enters the machine's hydraulic system.
8. Connect the hydraulic hoses to the double-acting connection on the Fork carrier.
9. Remove the two **M16x30 bolts** in the lower plate of the fork carrier of the tipper. Hang the forks on the fork carrier and install the two **bolts M16x30**.
10. Set the third **scoop/ Plug-in fork** depending on the width of the boxes to be tipped.
11. Secure the third **spoon/ Plug-in fork** with the **pin plug-in fork** and provide it with the **Ø4 locking spring**.
12. Before tilting, first **open** the **ball valve**. This is open when the lever is parallel to the pipe.
13. Next, check that the hydraulic hoses move freely along everything and check that the system does not leak oil.
14. Check the tipper for proper operation by operating the hydraulic functions.

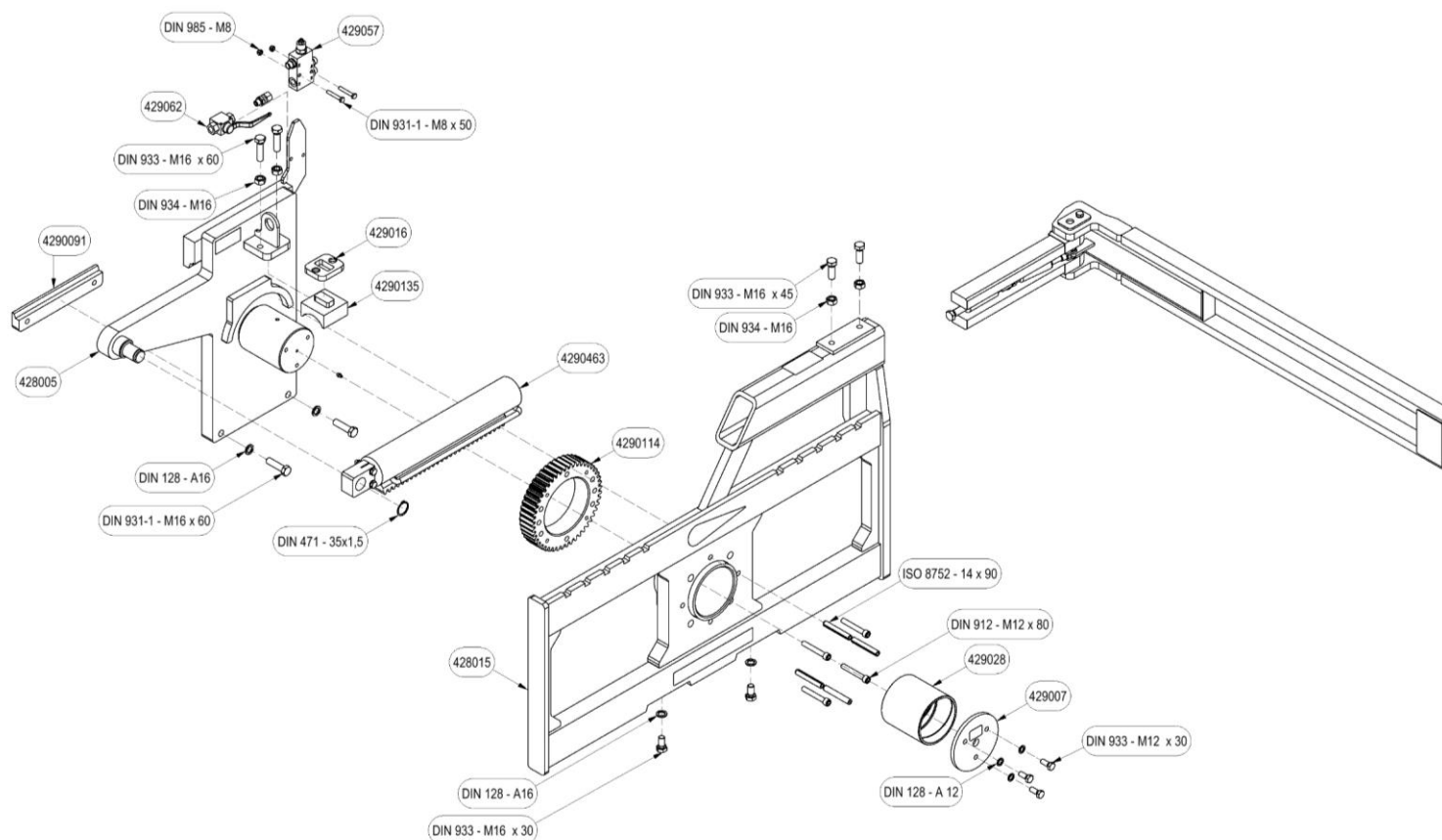
The WIFO box rotator is now ready to be used.

2.4 Parts list K54A-O



Description	Spare part number
Locking plate K54-SK54	429007
Top plate pressure block K54	429016
Plain bearing K54A-SK54A	429027
Pressure block K54	4290135
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
<i>Cylinder DW 70-30-420 M5 (200°)</i>	<i>4290466</i>
Back plate K54A-L (180°)	428001
<i>Back plate K54A-L (200°)</i>	<i>428002</i>
Fork carrier K54A-SK54A-O-L	428011
Clamping strip K54A	4290081
Gear M5 Z=48	4290114

2.5 Parts list K54C-O



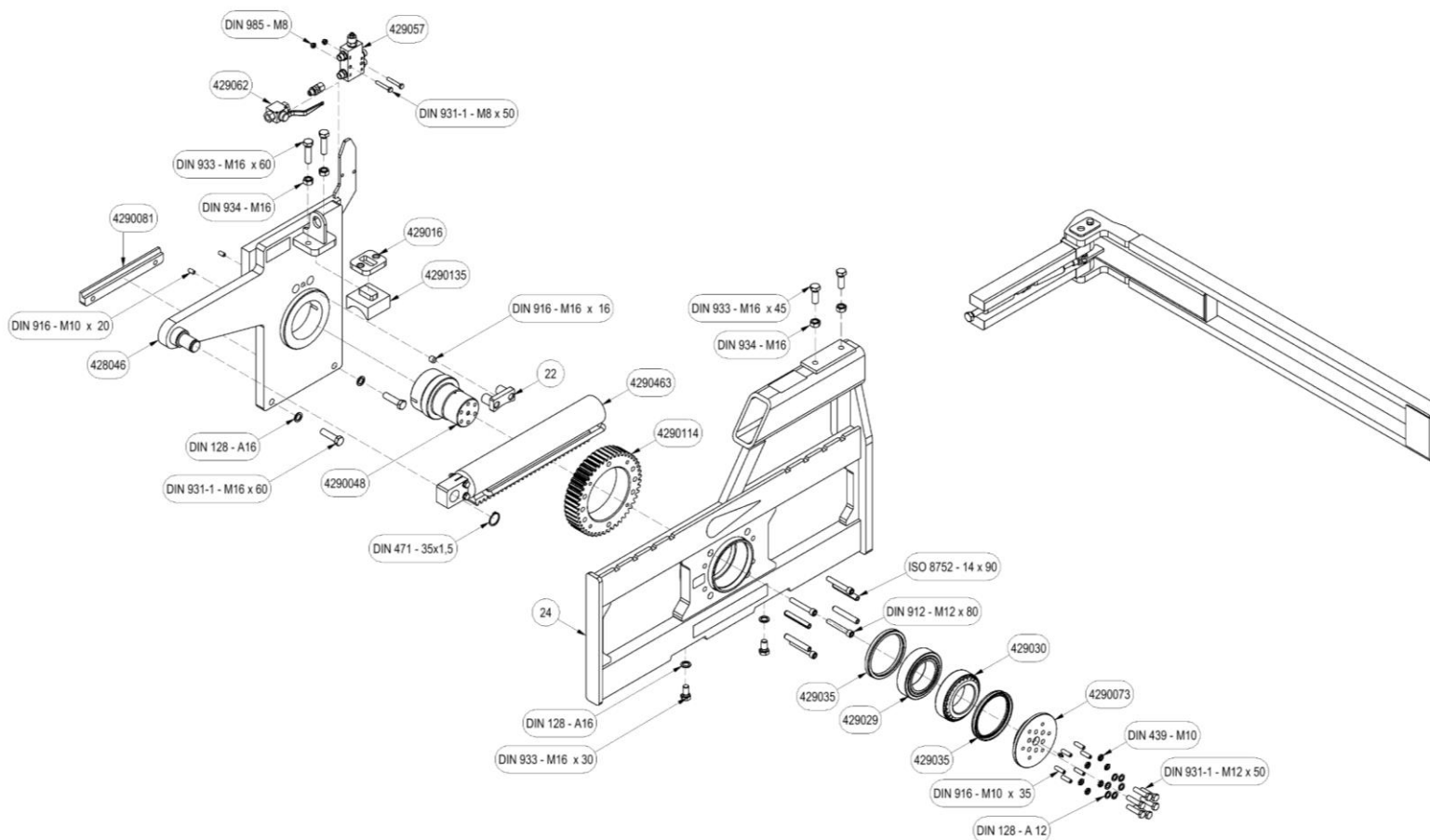
Description	Spare part number
Locking plate K54-SK54	429007
Top plate pressure block K54	429016
Slide bearing K54C-SK54C	429028
Pressure block K54	4290135
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
Cylinder DW 70-30-420 M5 (200°)	4290466
Clamping strip K54C	4290091
Back plate K54C-L (180°)	428005
Back plate K54C-L (200°)	428006
Fork carrier K54C/SK54C-O-L	428015
Gear M5 Z=48	4290114

2.5.1 Commissioning of the K54A-O and K54C-O

1. Remove **clamping strip**.
2. Remove the forks from the forklift or lift mast.
3. Make sure the Fork carrier is straight and clean.
4. Place the tipper on the fork carrier of the forklift or lift mast.
5. Make sure the locking cam falls into the recess in the centre of the Fork carrier. If this recess is missing:
 - a) Should this recess be cut in, or
 - b) Should the tipper's blocking cam be ground away and at the site of a existing recess in the fork carrier, a proper blocking cam must be fitted.This so that the tipper is in the middle in front of the Fork carrier and cannot slide sideways.
6. Mount the **Clamping strip** with two **bolts M16 x 60**. Tighten these securely (140 Nm)!
7. Before connecting the hydraulic hoses, check the quick connectors to ensure that they are clean, so that no dirt enters the machine's hydraulic system.
8. Connect the hydraulic hoses to the double-acting connection on the Fork carrier.
9. Remove the two **M16x30 bolts** in the lower plate of the fork carrier of the tipper. Hang the forks on the fork carrier and install the two **bolts M16x30**.
10. Adjust the **Folding fork** depending on the width of the boxes to be tipped. For this, the **Fork positioner** should be at least 150mm inside the box.
11. Secure the **Fork positioner** with the two **bolts M16x45** and tighten the 2 **counter nuts M16**.
12. Before tilting, first open the **ball valve**. This is open when the lever is parallel to the pipe.
13. Next, check that the hydraulic hoses move freely along everything and check that the system does not leak oil.
14. Check the tipper for proper operation by operating the hydraulic functions.

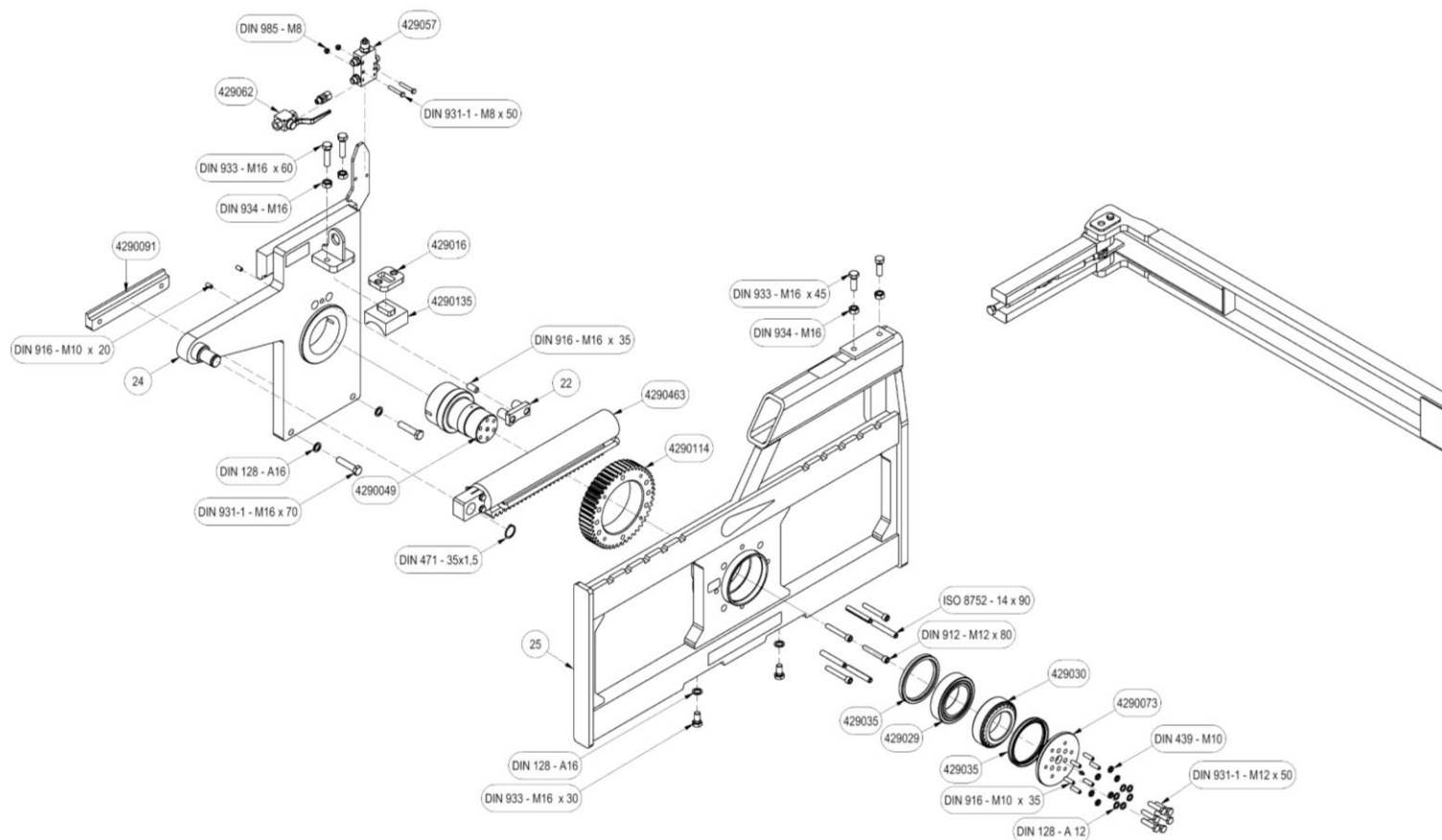
The WIFO box rotator is now ready to be used.

2.6 Parts list K54A-Z-O



Description	Spare part number
Top plate pressure block K54	429016
Tapered roller bearing 33117/Q	429030
Tapered roller bearing 33018/Q	429029
Pressure block K54	4290135
Packing seal	429035
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
Cylinder DW 70-30-420 M5 (200°)	4290466
Locking plate K-SK54-Z	4290073
Cylinder guide strip K54 tapered roller bearing	22
Back plate K54A-L tapered roller bearing	428046
Fork carrier K54/SK54A-O-L conical bearing	24
Clamping strip K54A	4290081
Gear M5 Z=48	4290114
Pivot pin K54A-Z	4290048

2.7 Parts list K54C-Z-O



Description	Spare part number
Top plate pressure block K54	429016
Tapered roller bearing 33117/Q	429030
Tapered roller bearing 33018/Q	429029
Pressure block K54	4290135
Packing seal	429035
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
<i>Cylinder DW 70-30-420 M5 (200°)</i>	<i>4290466</i>
Locking plate K-SK54-Z	4290073
<i>Cylinder guide strip K54 tapered roller bearing</i>	<i>22</i>
Clamping strip K54C	4290091
Back plate K54C-L tapered roller bearing	24
Fork carrier K54C/SK54C-0-L conical bearing	25
Gear M5 Z=48	4290114
Pivot pin K54C-Z	4290049

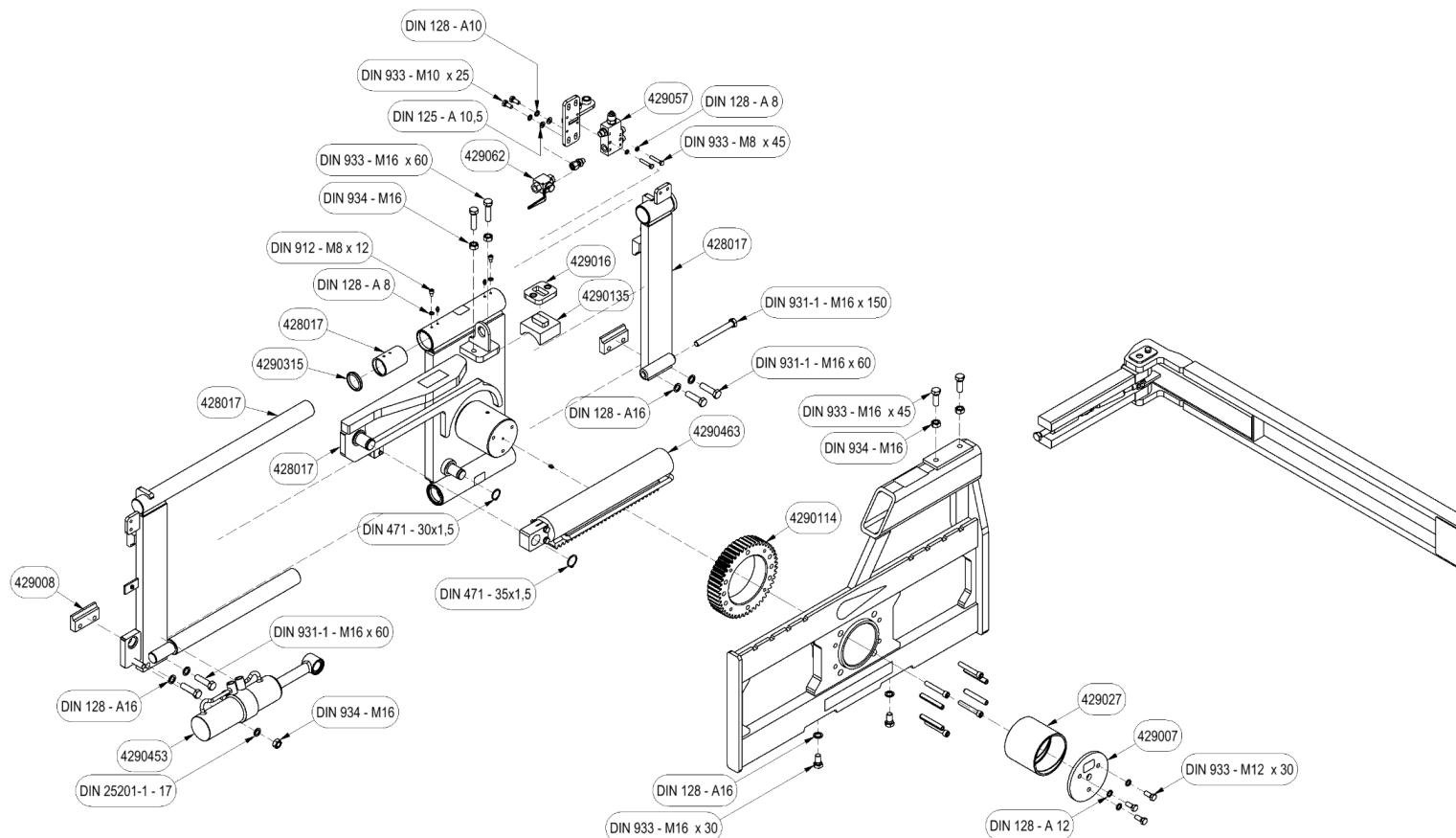
2.7.1 Commissioning of K54A-Z-O and K54C-Z-O

1. Remove **clamping strip**.
2. Remove the forks from the forklift or lift mast.
3. Make sure the Fork carrier is straight and clean.
4. Place the tipper on the fork carrier of the forklift or lift mast.
5. Make sure the locking cam falls into the recess in the centre of the Fork carrier. If this recess is missing:
 - a) Should this recess be cut in, or
 - b) Should the tipper's blocking cam be ground away and at the site of a existing recess in the fork carrier, a proper blocking cam must be fitted.

This so that the tipper is in the middle in front of the Fork carrier and cannot slide sideways.
6. Mount the **Clamping strip** with two **bolts M16 x 60/70**. Tighten these securely (140 Nm)!
7. Before connecting the hydraulic hoses, check the quick connectors to ensure that they are clean, so that no dirt enters the machine's hydraulic system.
8. Connect the hydraulic hoses to the double-acting connection on the Fork carrier.
9. Remove the two **M16x30 bolts** in the lower plate of the fork carrier of the tipper. Hang the forks on the fork carrier and install the two **bolts M16x25**.
10. Adjust the **Folding fork** depending on the width of the boxes to be tipped. For this, the **Fork positioner** should be at least 150mm inside the box.
11. Secure the **Fork positioner** with the two **bolts M16x45** and tighten the 2 **counter nuts M16**.
12. Before tilting, first open the **ball valve**. This is open when the lever is parallel to the pipe.
13. Next, check that the hydraulic hoses move freely along everything and check that the system does not leak oil.
14. Check the tipper for proper operation by operating the hydraulic functions.

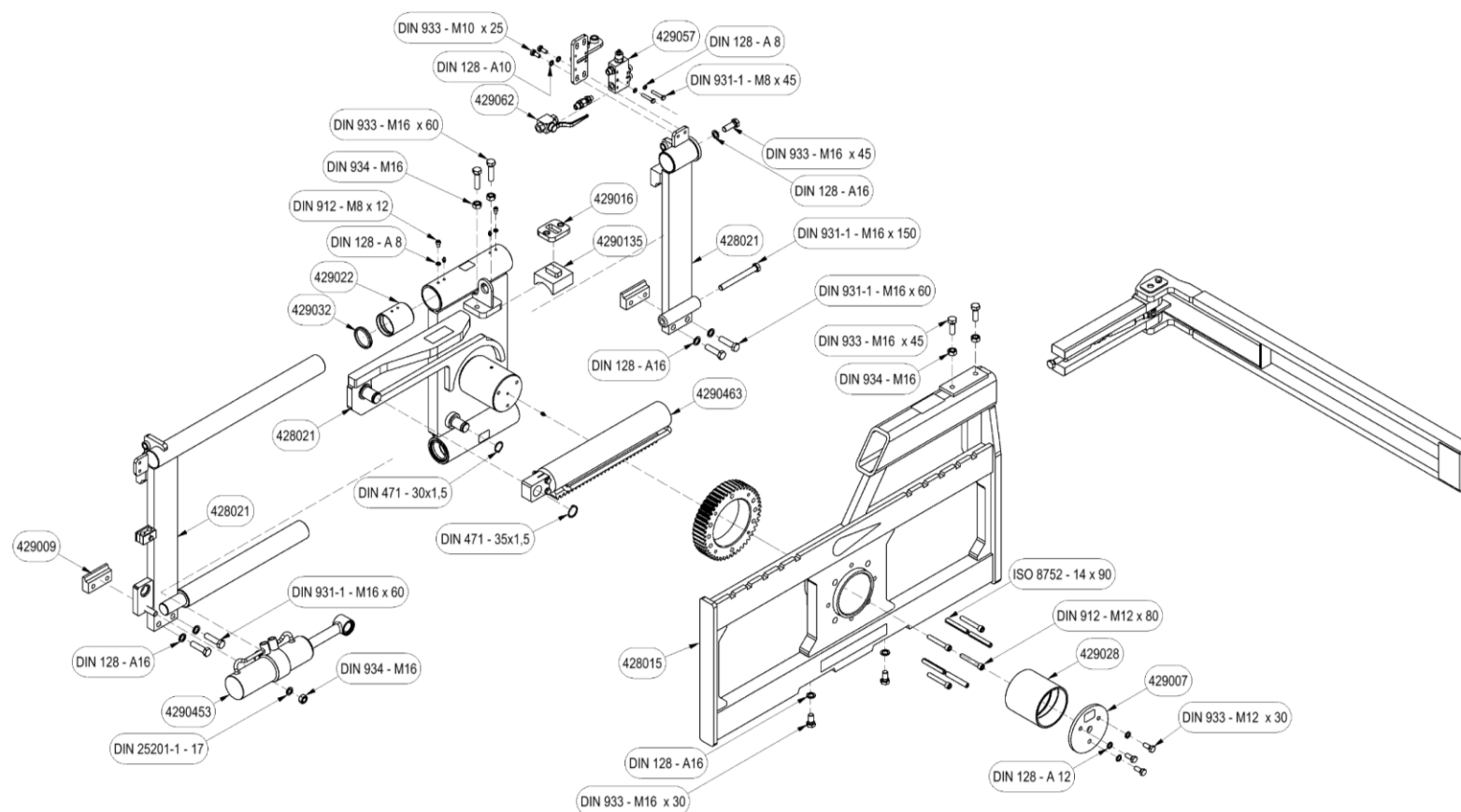
The WIFO box rotator is now ready to be used.

2.8 Parts list SK54A-O



Description	Spare part number
Locking plate K54-SK54	429007
Top plate pressure block K54	429016
Plain bearing K54A-SK54A	429027
Pressure block K54	4290135
Wiper shaft Ø50	4290315
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
Cylinder DW 70-30-420 M5 (200°)	4290466
Cylinder DW 70-30-200 sideshift anti-clockwise	4290453
Clamping strip SK54A	429008
Securing guiding frame SK54A-L	428017
Guiding frame SK54A-L	428017
Back plate SK54A-L 180°	428017
Back plate SK54A-L 200°	428018
Fork carrier K54A-SK54A-O-L	428011

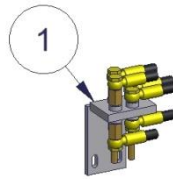
2.9 Parts list SK54C-O



Description	Spare part number
Locking plate K54-SK54	429007
Top plate pressure block K54	429016
Slide bearing K54C-SK54C	429028
Pressure block K54	4290135
Wiper shaft Ø60	429032
Balancing valve 3/8" EW	429057
Ball valve 3/8"	429062
Cylinder DW 70-30-377 M5 (180°)	4290463
Cylinder DW 70-30-420 M5 (200°)	4290466
Cylinder DW 70-30-200 sideshift anti-clockwise	4290453
Clamping strip SK54C	429009
Securing guiding frame SK54C-L	428021
Guiding frame SK54C-L	428021
Back plate SK54C-L 180°	428021
Back plate SK54C-L 200°	428022
Fork carrier K54C/SK54C-O-L	428015

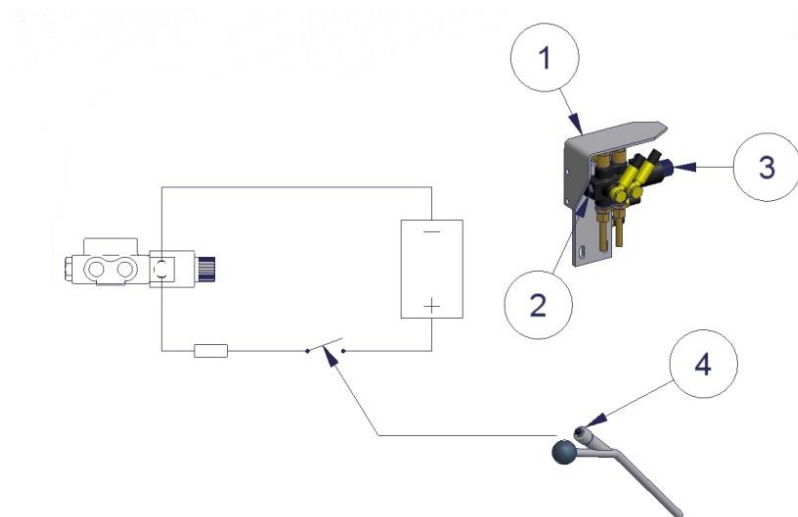
2.9.1 Connection options of SK54A-0 and SK54C-0

Version with four-hose connection



The box rotator's two hydraulic functions (rotating and sideshifting) are each connected with a pair of hydraulic hoses. For correct connection and operation, 2 double-acting hydraulic functions are required on the forklift.

Version with electric-hydraulic switch valve



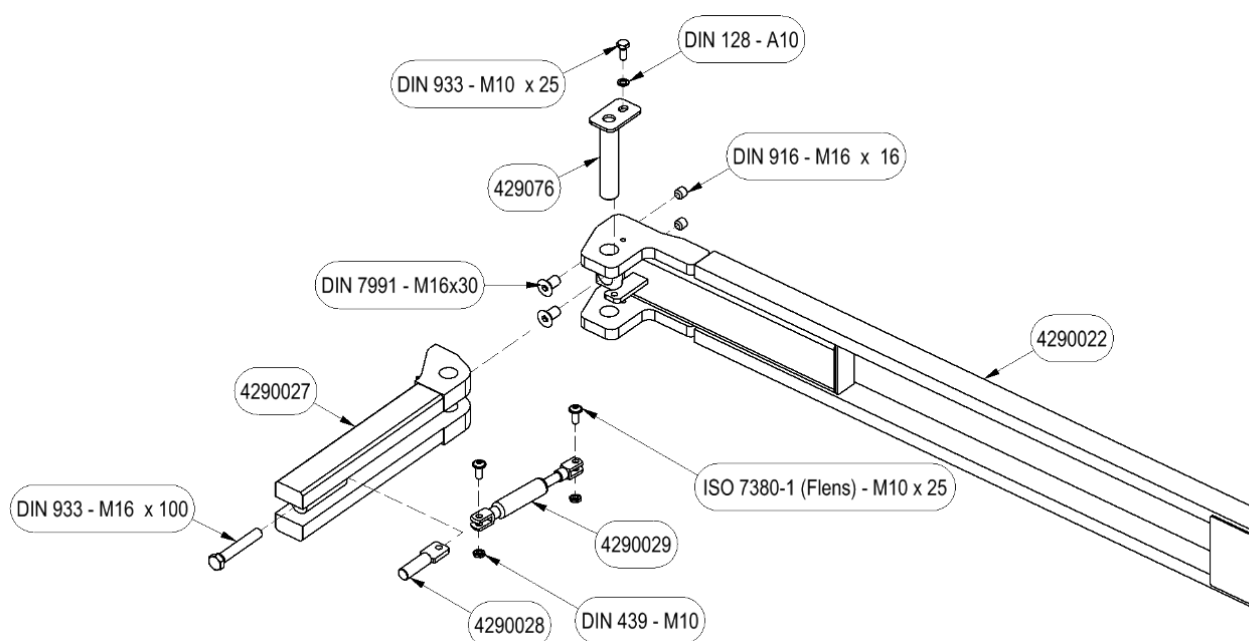
The two hydraulic functions of the box rotator (rotating and sideshifting) are controlled via a 6/2 12V electric switch valve. This electric switch valve is connected to 1 double-acting hydraulic function on the lift truck. Please note that connection in combination with a 12V electric switch valve requires a 12V connection on the fork carrier of the forklift truck!

2.9.2 Commissioning of SK54A-O and SK54C-O

1. Remove the **clamping strips**.
2. Remove the forks from the forklift or lift mast.
3. Make sure the Fork carrier is straight and clean.
4. Place the tipper on the fork carrier of the forklift or lift mast.
5. Make sure the locking cam falls into the recess in the centre of the Fork carrier. If this recess is missing:
 - a) Should this recess be cut in, or
 - b) Should the tipper's blocking cam be ground away and at the site of a
A proper blocking cam must be fitted to the existing cut-out in the fork carrier.
This so that the tipper is in the middle in front of the fork carrier and cannot move sideways.
6. Mount the **clamping strips** with four **bolts M16x60**. Tighten these well! (140 Nm)
7. Before connecting the hydraulic hoses, check the quick connectors to ensure that they are clean, so that no dirt enters the machine's hydraulic system.
8. Depending on the version, the following hydraulic hoses are connected:
 - a) **Electrically operated changeover valve:**
Connect the hydraulic supply/drain hoses to the double-acting connection on the Fork carrier.
To work safely, unintended operation or inability to operate must be ruled out!
Note the correct voltage of the lifting gear and valve. The voltage can be found on the coil. Connect a 2-wire cord according to the electrical diagram. Include a pilot light, fuse and/or socket in the circuit if necessary.
 - b) **Four-hose connection:**
Connect the two pairs of hydraulic supply/drain hoses to the two double-acting connections on the Fork carrier.
9. Remove the two **M16x30 bolts** in the lower plate of the fork carrier of the tipper. Hang the forks on the fork carrier and install the two **bolts M16x30**.
15. Adjust the **Folding fork** depending on the width of the boxes to be tipped. For this, the **Fork positioner** should be at least 150mm inside the box.
16. Secure the **Fork positioner** with the two **M16x45 bolts** and tighten the 2 **M16 lock nuts**.
10. Before tilting, first open the **ball valve**. This is open when the lever is parallel to the pipe
11. Next, check that the hydraulic hoses and electric cables can move freely along everything and check that the system is not leaking oil.
12. Check the tipper for proper operation by operating the hydraulic functions.

The WIFO box rotator is now ready to be used.

2.10 Folding fork (S)K54A-(Z)O/(S)K54C-(Z)O




Description	Spare part number
Gas spring	4290029
Swivel pin folding support fork (S)K54	429076
Push-pin gas spring retractable support fork	4290028
Support fork (S)K54 1200	4290022
Prop folding support fork K54-SK54	4290027

3 Faults and maintenance

This manual contains the necessary safety instructions for maintenance work on the machine. Compliance with these instructions is mandatory to ensure the safety of personnel and to keep the machine in optimal condition.

3.1 General safety regulations

It is compulsory to wear personal protective equipment (PPE) when carrying out maintenance work on the machine. This is to protect against potential hazards such as mechanical hazards, sharp edges, hot surfaces and harmful substances.

	<p><u>Attention:</u></p> <p><i>Read the instructions in the manual carefully before performing maintenance on the machine!</i></p> <p><i>Stop the engine and remove the key from the ignition as long as there is any work on the machine worked!</i></p>
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3.2 Required Personal Protective Equipment (PPE)

Maintenance personnel should wear at least the following PPE:

- **Safety goggles** - To protect against dust, sparks or flying particles.
- **Gloves** - Suitable for the specific job (cut-resistant, heat-resistant or chemical-resistant gloves, depending on the task).
- **Safety shoes** - With steel or composite toecap and non-slip sole.
- **Hearing protection** - If work takes place in a noisy environment (>80 DB(A)).

3.3 Specific safety measures

- Make sure the tipper is always in the lowest position when maintenance or repair to the tipper is taking place.
- Prevent unintentional tilting by blocking the oil supply by turning the ball cock.
- Additional measures can be taken by disconnecting the hydraulic hoses.
- Prevent unauthorised persons from entering the work zone.
- Use the right tools and follow the manufacturer's instructions.
- After maintenance, the machine should be checked for correct functioning before being put back into operation.

3.4 Compliance and accountability

- Failure to comply with these PPE requirements may result in serious injury or damage.
- Employers and employees are jointly responsible for wearing PPE correctly.
- Regularly check that PPE is in good condition and replace it if necessary.

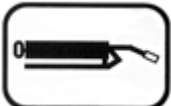

3.5 Preventive maintenance and lubrication

After the first 8 hours of operation:

- Check connections and swivels of the hydraulic hoses.
- Retighten **Locking plate** bolts (100Nm) and **Clamping strips** (140Nm).
- Check the clamping bolts of the plunger rod head tilt cylinder, they should be tight.
- Tighten the **guide block** studs of the tilt cylinder to tension (60 Nm), and secure them with the locknuts.

After every 40 hours of operation:


- Check the **locking plate** bolts and tighten if necessary (100Nm).
- Clean and grease gear and rack of **tilt cylinder**. Check both for wear and tear. If there is excessive wear, replace them.
- Check the attachment of the cylinder head in the cylinder tube for play.
- Grease tilt cylinder at the sliding strip of the **Guide block**.
- Check the tension of the Guide block on the cylinder, adjust if necessary with the adjustment bolts (60 Nm), and secure with the lock nuts.

	<p><i>This sticker indicates the position of a grease nipple on the machine. Lubrication should be done after every 10 hours of operation of the machine. The best lubricants are SAE 30 oil and Grade 2 greases based on Lithium.</i></p>
	<p><i>Check the hydraulic section regularly for leaks. Never try to find or even plug a leak by hand. High-pressure fluid easily sprays through skin and clothing and causes serious injuries. If the hydraulic hoses are damaged, they should be replaced to prevent hose breakage and resulting accidents.</i></p> <p><i>Regularly check the oil level of your lift truck/tractor's hydraulic system.</i></p>


3.6 Faults

Box rotator model	Problem	Solution
All models.	The box rotator is not in a horizontal position if the piston rod of the cylinder is fully retracted.	Loosen the clamping bolts at the ends of the piston rod and screw/unscrew the piston into/from the block. Proceed until the fork carrier is in a horizontal position with the back plate. Tightly secure the clamping bolts.
	The cylinder head has clearance in the cylinder tube.	If there is any clearance, please contact WIFO-Anema BV. We strongly recommend not to use the machine till further instructions.
K54A/K54C/SK54A/SK54C	There is some play in the bearing (sleeve bearing) on the shaft of the fork positioner.	The bearing is worn-out and must be replaced by a skilled mechanic.
K54A-Z/K54C-Z/SK54A-Z/SK54C-Z	There is some play in the bearing (tapered roller bearing) on the shaft of the fork positioner.	Loosen the lock nuts of the socket set bolts; fasten the socket set bolts by hand in the locking plate and turn one quarter back. Proceed with tightening the lock nuts.

Table 3.6.1 Fault table

	<p><i>If other problems arise, it is best to contact your dealer. They will be happy to assist you.</i></p>
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3.7 Work to be carried out by a skilled mechanic

	<p><i>When replacing parts, always use original WIFO parts, otherwise the warranty may be void.</i></p>
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3.7.1 Instructions for replacing the plain bearing for K54A/K54C/SK54A/SK54C

1. Disconnect the hydraulic hoses.
2. Remove the forklift forks.
3. Take the tipper off the forklift/handler and place it with its back on a flat, stable surface.
4. Take the pressure off the **Guide block** by loosening the **M16x60 compression bolts**.
5. Support the tilt cylinder so that it no longer rests on the sprocket of the **fork carrier folding model / fork carrier plug-in model**.
(Use suitable lifting equipment, the minimum lifting capacity must be greater than the weight of the tipper, see technical data section 2.1)
6. Remove the **locking plate** by loosening the **M12x30 bolts**. Prevent unexpected shifting of the Fork carrier from the Back plate.
7. Pull the Fork carrier off the axle prop, and clean the axle prop of the **Back plate** and check for wear; *If worn, contact the dealer. Also check the operation of the lubrication. Lubricant should reach the bearing bush through the lubrication nipple and through the lubrication opening on the axle prop. If necessary, clean this lubrication channel.*
8. Press the old **plain bearing** out of the bearing housing from the gear side to the front of the Fork carrier. Clean the bearing housing and axle prop.
9. Press the new **plain bearing** into the bearing housing. Make sure that the plain **bearing** fits properly and avoid damage. The front of the plain bearing should come flush with the front of the bearing housing.
10. Place the **Fork carrier** with the new **plain bearing** back on the **Back plate**. Prevent damage to the **slide bearing** by proper support and guidance. Remember to return the **Fork carrier** and **tilt cylinder** to the correct position.
11. Fit the **locking plate** with the three **bolts M12x30** and tighten it securely (100Nm).
12. Replace the **guide block** and apply tension (60Nm) with the **M16x60 compression bolts**. Secure the bolts with the **M16 lock nuts**.
13. Place the tipper back on the forklift/lift mast and replace the forklift forks.
14. Lubricate the bearing, connect the hydraulic hoses and check the tipper for proper operation.

3.7.2 Instructions for replacing tapered roller bearings for K54A-Z/K54C-Z/SK54A-Z/SK54C-Z

1. Disconnect the hydraulic hoses.
2. Remove the forklift forks.
3. Take the tipper off the forklift/handler and place it with its back on a flat, stable surface.
4. Take the pressure off the **Guide block** by loosening the **M16x60 compression bolts**.
5. Support the tilt cylinder so that it no longer rests on the **Fork carrier** sprocket.
(Use suitable lifting equipment, the minimum lifting capacity must be greater than the weight of the tipper, see technical data section 2.1)
6. Turn back the **M10x35 adjustment bolts** of the bearings in the **Locking plate** a full turn.
7. Remove the **locking plate** by loosening the **M12x50 bolts**. Prevent unexpected shifting of the Fork carrier from the **Back plate**.
8. Pull the fork carrier off the **axleprop** . Remove the **tapered roller bearings** from the shaft prop and from the bearing housing of the **fork carrier**. Clean the bearing housing and axleprop and check for wear. *In case of wear, contact the dealer. Also check the operation of the lubrication. Lubricant should enter the bearing housing through the lubrication nipple and through the lubrication opening on the axle prop. If necessary, clean this lubrication channel.*
9. Press the new **tapered roller bearings** around the shaft prop and into the bearing housing according to Figure 3.3.1.
10. Place the **Fork carrier** back on the **Back plate** . Avoid damaging the **tapered roller bearings** by proper support and guidance. Remember to return the **Fork carrier** and **tilt cylinder** to the correct position in relation to the **Back plate**.
11. Fit the locking plate with the **M12x50 bolts** and tighten securely. (100 Nm)
12. Hand-tighten the **M10x35 adjustment bolts** of the tapered roller bearings in the **Locking plate** and then turn them back a quarter of a turn. Secure the **M10x35 adjustment bolts** with the **M10 lock nuts**.
13. Hand-tighten the adjusting bolts of the **adjusting rack and** then turn them back half a turn.
14. Replace the **guide block** and apply tension (60 Nm) with the **M16x60 compression bolts**. Secure the bolts with the **M16 lock nuts**.
15. Place the tipper back on the forklift/lift mast and replace the forklift forks.
16. Lubricate the bearing, connect the hydraulic hoses and check the tipper for proper operation.

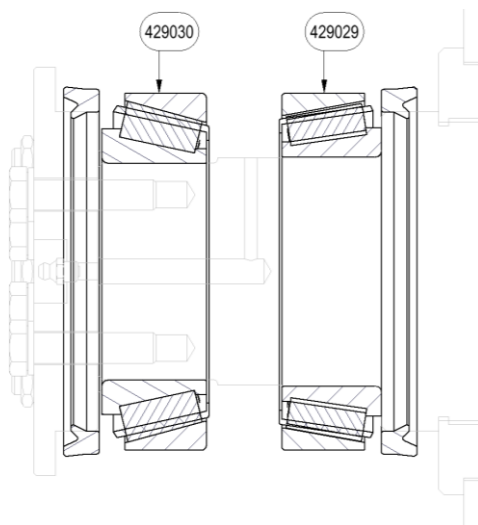


Figure 3.7.1 Position of tapered roller bearings

EC DECLARATION OF CONFORMITY

(In accordance with the Machinery Directive 2006/42/EC, Annex II, A)

Name: **WIFO-Anema BV**

Address: **Hegebeintumerdyk 37, 9172GP, Ferwert, Netherlands**

Telephone: **+31 (0)518411318**

E-mail: **info@wifo.nl**

Declares that the following machine complies with the relevant directives:

Typeplaatje WIFO

Machine description:

The **WIFO box rotator** is an interchangeable piece of equipment that can be fitted as standard to an ISO 2328 standardised fork carrier. Among other things, this rotator is used for 180° (200° optional) sideward tilting and emptying of crates containing, for example, potatoes, onions, carrots, etc.

Applied European directives:

- Machinery directive 2006/42/EC

Harmonised standards applied:

- EN ISO 12100:2010 - General safety principles

Name: **Wytze Anema**

Function: **Director**

A handwritten signature in black ink, appearing to be 'Wytze Anema', written over a horizontal line.

Location: **Ferwert**

Date: **01-01-2025**