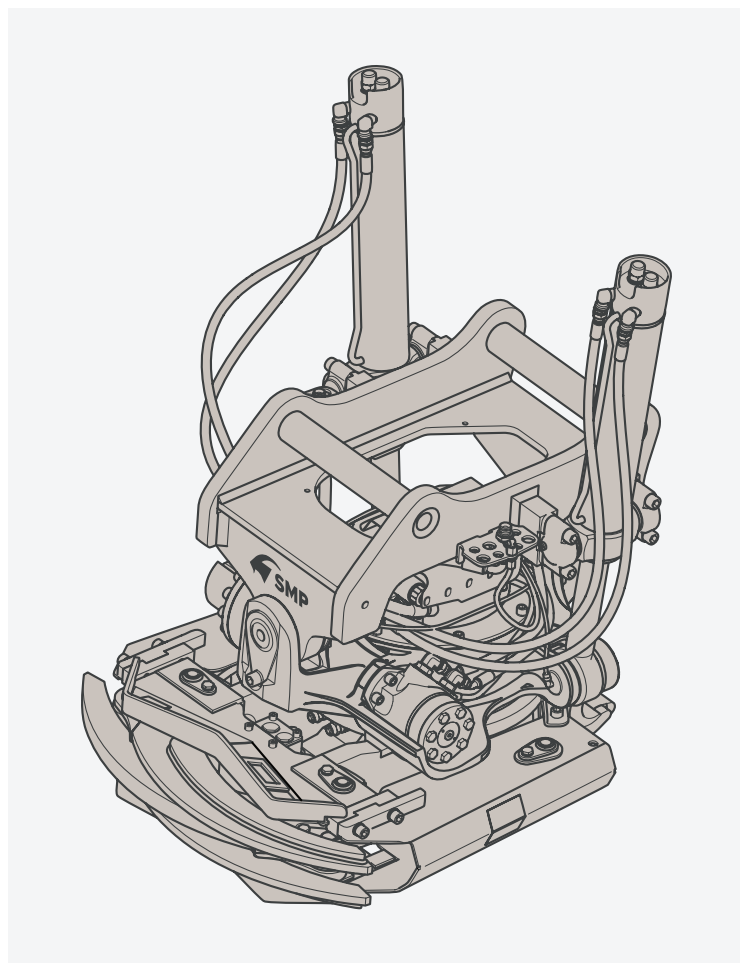
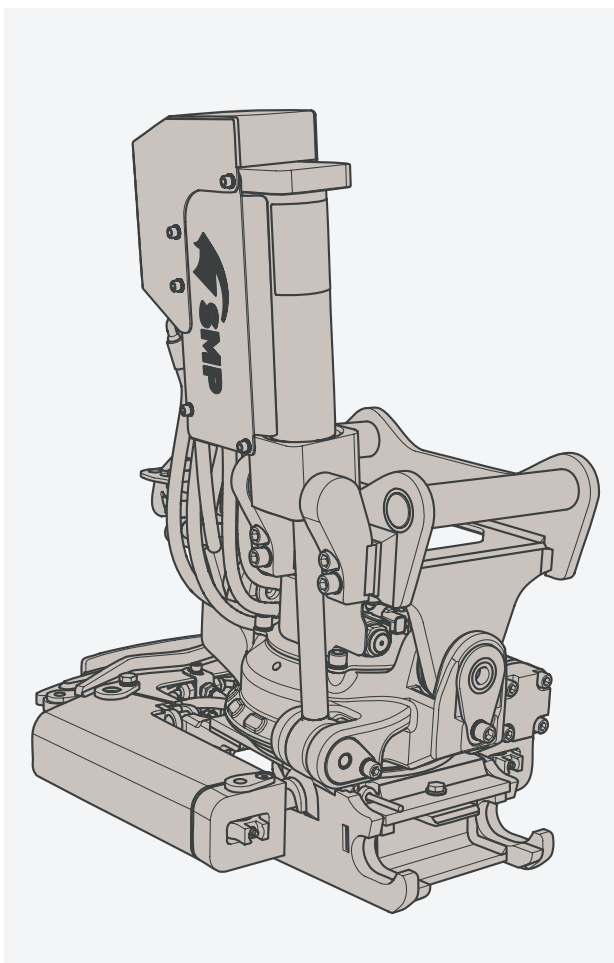


The right tool for the right job saves energy.

USER MANUAL

SMP TILTROTATOR



ST4 ST6 ST10 ST15
ST18 ST22 ST28

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The contents of this document have been carefully checked by SMP Parts, but deviations may occur. We cannot therefore guarantee absolute consistency. The illustrations are intended to represent the products described. Actual products may differ in part from illustrations.

We reserve the right to make changes to maintain continuous improvement in the construction, performance, and environmental impact of the product. Any necessary corrections will be made in future audits.

Original instruction manual.



**Thank you for the trust in us
you have shown by choosing
SMP!**

Please read this manual carefully before using the equipment. This manual explains safety aspects for operating and handling the equipment, as well as how to get the best possible performance and life-span from the equipment.

Look after your SMP equipment, and you will have a strong and reliable colleague for many years!

We welcome you as a customer of SMP Parts AB.

Please feel free to contact us whenever you need more information.

www.smpparts.com

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INTRODUCTION

General information

This manual

This manual is intended to be used when connecting or disconnecting the tiltrotator and connected tools, in the operation and maintenance of SMP's tiltrotator and grapple (accessories).

The manual contains instructions for the correct use and maintenance of the tiltrotator. The operator of the equipment must have read and understood the contents of this manual before putting the equipment into service.

The safety information given in this manual relates only to SMP's tiltrotator and does not cover the excavator or attachments.

In addition to this manual, there may be additional documents, with specific detail for the chosen product.

Installation, operation and maintenance may vary to some extent between different products due to special adaptations and choice of control system. Contact SMP Parts or dealer for more information!

SMP reserves the right to change the contents of this manual without prior notice. A new manual can be ordered from SMP Parts.

SMP Tiltrotator

The SMP Tiltrotator is designed to be able to easily perform advanced precision operations without having to move the excavator. Infinite rotation and 40 degrees tilt in all directions significantly increase flexibility and broaden the machine's range of applications, for example when digging with a reverse digging angle.

The design allows for easy assembly in an existing quick coupler or directly on the excavator arm and can be adapted to most machines and various quick coupler solutions, as well as systems with a directly attached top or bottom part. The swing house design requires less maintenance and eliminates the risk of environmentally hazardous oil spills due to oil leaks.

The SMP Tiltrotator can be equipped with different types of valves and control systems, and thus offers great potential for adaptation to the customer's needs.

Our models cover excavators and backhoes of classes 2–28 tonnes.

Intended use

SMP's tiltrotator is mounted on the excavator arm to enable tilting and rotation of the bucket or attachment. The tools connected to the tiltrotator must be of the type normally used when working with excavators.

The tiltrotator is not designed for, and should not be used for, work that requires high torque, such as cable ploughing or work with frost breakers.

Under no circumstances is it permitted to lift or transport persons with the tiltrotator or tool.

Before use

Read and observe all warnings and warning symbols on the equipment and in this manual before using the equipment. This is to prevent personal injuries and damage to the equipment.

Before use ensure that:

- no one is within the working range of the basic machine. The risk zone is 3 m.
- The tiltrotator and connected tools are installed in accordance with current instructions and are locked into both the machine's and tiltrotator's coupler.

EC Declaration of Conformity

SMP Parts develops and manufactures all its products in accordance with European legislation 2006/42/EC, 2014/30/EU and 2011/65/EU. The products come with an EC Declaration of Conformity, which guarantees that the equipment is manufactured in accordance with applicable laws and regulations.

If a tiltrotator is built or supplemented with other products not approved by the manufacturer, this guarantee ceases to apply.

This manual is an original manual according to the Machinery Directive.

Compliance with standards

- ISO 13766-1:2018 Electromagnetic Compatibility (EMC) — Part 1: General requirements under typical environmental conditions
- ISO 13766-2:2018 Electromagnetic Compatibility (EMC) — Part 2: Requirements from a functional safety point of view
- ISO 13031:2016 Quick coupling — Safety
- EN IEC 63000:2018 Technical Documentation for the Assessment of Electrical and Electronic Equipment with Respect to Restriction of Hazardous Substances
- EN 474-6:2022 Safety — Part 6: Requirements for dumpers

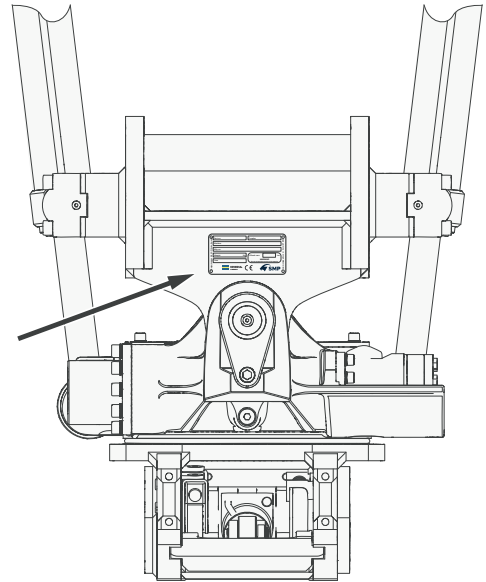
Name plate

The name plate states the model designation, production number and year of manufacture.

The name plate also has a CE marking, which shows that the product meets the machinery directive.

Fill in the fields with the information from the bucket name plate to have on hand at any service requirements.

Bergsjövägen 3 820 71 Ilbo, Sweden	Part no.	Coupler
	Machine	
	Mfg. no.	
	Weight Kg	Lifhook max ton
	Year	
WARNING Do not exceed the machine lift capacity		
 DESIGNED IN HÄLSINGLAND SWEDEN		
		
		
www.smpparts.com Art.nr 67854		



SAFETY

Safety information concerns everyone who works with the machine! Anyone who fails to follow the instructions given in this manual must ensure that the work is carried out without the risk of damage to persons, machinery or property!

Remember:

- follow directions in this manual
- be trained for the task
- comply with local laws, safety regulations and rules
- use the equipment and tools provided for the task
- wear the correct protective equipment
- the excavator must be intended for lifting in accordance with EN 474-1:2022

Precautions and Warnings

This chapter contains safety information that must be considered before, during and after use of the equipment.

The terms DANGER, WARNING, CAUTION, and NB are used throughout this manual to mark safety-critical or otherwise important information. Always read the sections highlighted in this way, in order to work safely and avoid damage to the equipment. Terms are explained below.

DANGER	Imminent hazard which, if not avoided, could result in death or serious injury. This word is only used to highlight the most extreme situations.
WARNING	A potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	A potentially hazardous situation which, if not avoided, could result in slight or moderate injury. It is also used to mark unsafe handling or manoeuvring.
NB!	This highlights information that is important to installers, operators, and maintenance technicians, but is not directly safety-related.

Warning symbols



Read the instruction manual.



Risk of trapping in moving parts.



Warning symbol. Pay attention.



Warning for pressurised hydraulic oil.



NEVER stand under raised tools.

Safety warnings in this manual**WARNING!**

Do not install the tiltrotator before you have read and understood all the contents, including the safety instructions, of this user manual.

**DANGER!**

Never walk or stand under a hanging load!

**DANGER!**

Leave plenty of free space for the sweeping radius the machine and tools require when working. No unauthorised persons may be in the machine's working area during work. Risk of serious injury or death! **Risk zone: 3 metres.**

**WARNING!**

Incorrect installation can result in serious injury or death. In case of any doubt, contact the dealer or SMP Parts AB.

**WARNING!**

Make sure the hydraulic system is completely depressurised before starting any maintenance or repair work.
The hydraulic oil is under high pressure and can penetrate the skin and cause serious injury or death.

**DANGER!**

When installing, maintaining, or repairing equipment, the machine should be switched off and secured.

**WARNING!**

When installing the tiltrotator, the tilt limit must be checked to minimise the risk of injury.

**WARNING!**

Never use your hands to check for leaks in the hydraulic system. Risk of injury due to pressurised hydraulic oil penetrating the skin.

**CAUTION!**

Wear protective equipment such as a helmet, protective gloves, safety shoes and hearing protection when working on and with the equipment to minimise the risk of injury.

**WARNING!**

Never use equipment that is connected to the quick coupler unless the locking mechanism is in the locked position, and the bucket/attachment is properly locked.

**WARNING!**

Installations, repairs and maintenance work may only be carried out by personnel trained for the task.

**WARNING!**

Negligence or incorrectly installed tiltrotator and grapple module can lead to machine damage, serious injury or death. Pay attention to all warning symbols on the tiltrotator and grapple module.

**WARNING!**

Never open the locking mechanism in such a position that the attachment may fall off from the quick coupler.

**WARNING!**

This manual covers only the parts of the tiltrotator and complements the user manual for the excavator. Read all instructions for operating the excavator carefully before using the tiltrotator.

**WARNING!**

Read all instructions for use and operation of the tiltrotator carefully before use.

**WARNING!**

Make sure the hydraulic system is completely depressurised before disconnecting the pressure hoses to the locking mechanism.

Hydraulic oil is under high pressure and can penetrate the skin and cause serious injury or death. Plug the hydraulic hoses so that the excavator's arm can be operated during installation.

**WARNING!**

Mounted tiltrotator changes the geometry of the basic machine, which means that there is a risk of collision with tools against the machine. Negligent operation can cause serious damage to the machine and serious injury or death.

**DANGER!**

The maximum capacity of the equipment must never be exceeded, nor exceeded by modifications not approved by SMP Parts. Risk of machine damage, serious injury or death.

**WARNING!**

The excavator's lifting capacity may be lower than that of the tiltrotator and must never be exceeded.

**WARNING!**

The lifting hook must not be used if the locking mechanism does not work properly or is damaged.

**WARNING!**

The lifting capacity of the lifting hook may be lower than that of the excavator and must never be exceeded.

**DANGER!**

The maximum permissible lifting capacity must never be exceeded. Take into account the weight of the tiltrotator and the increased reach to avoid reduced stability. Risk of machine damage, serious injury or death.

**WARNING!**

Before coupling, check that the coupling parts of the bucket or tool as well as the tiltrotator are clean and free of soil and debris that can prevent correct coupling.

**WARNING!**

Be careful when connecting or disconnecting all brackets regardless of equipment – there is a risk of trapping for hands and fingers.

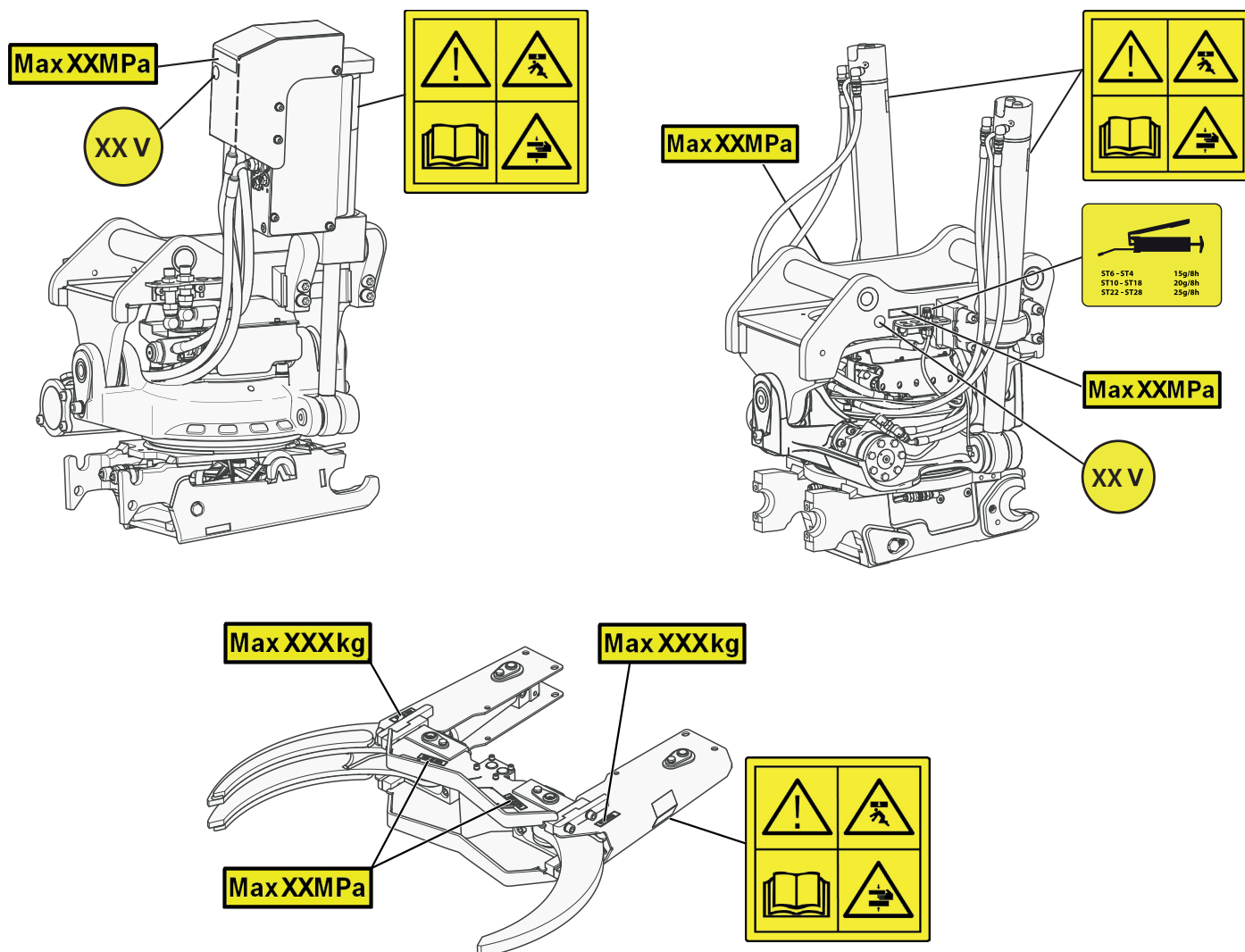
**WARNING!**

Locked couplings must not be inserted into the bracket. Risk of serious machine damage.

**WARNING!**

Remove all harmful dirt and grit during switching, disconnection and operation. Risk of serious machine damage.

Placement of warning and information signs



Environmentally hazardous waste

Waste oils and liquids should always be disposed of by an authorised company.

Be aware of leakage of oils and other liquids!

Fix leaks immediately.

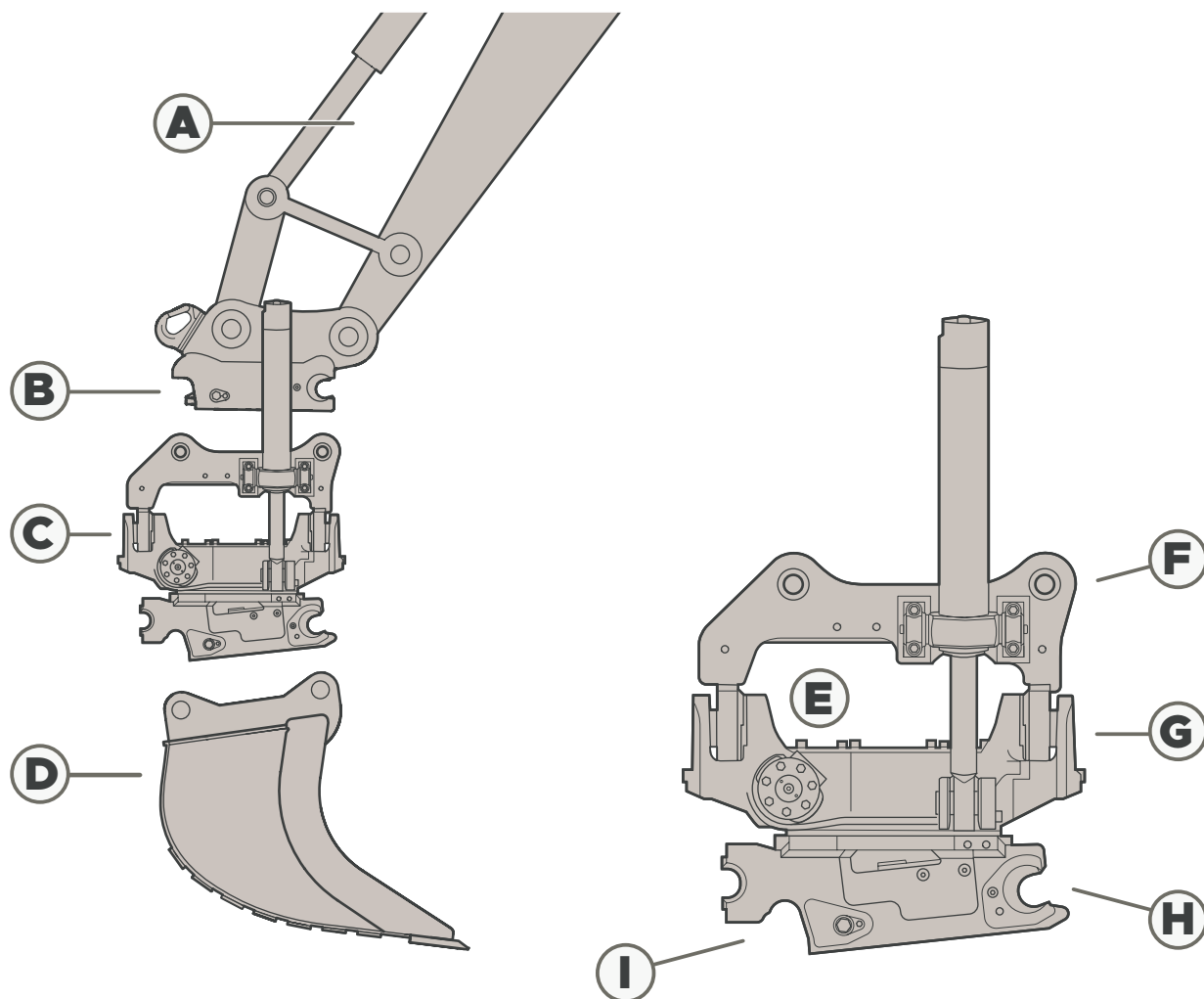
Cleanliness

The function and service life of hydraulic components largely depend on how clean the hydraulic oil is. Therefore, it is of the utmost importance to avoid dirt entering the hydraulic system.

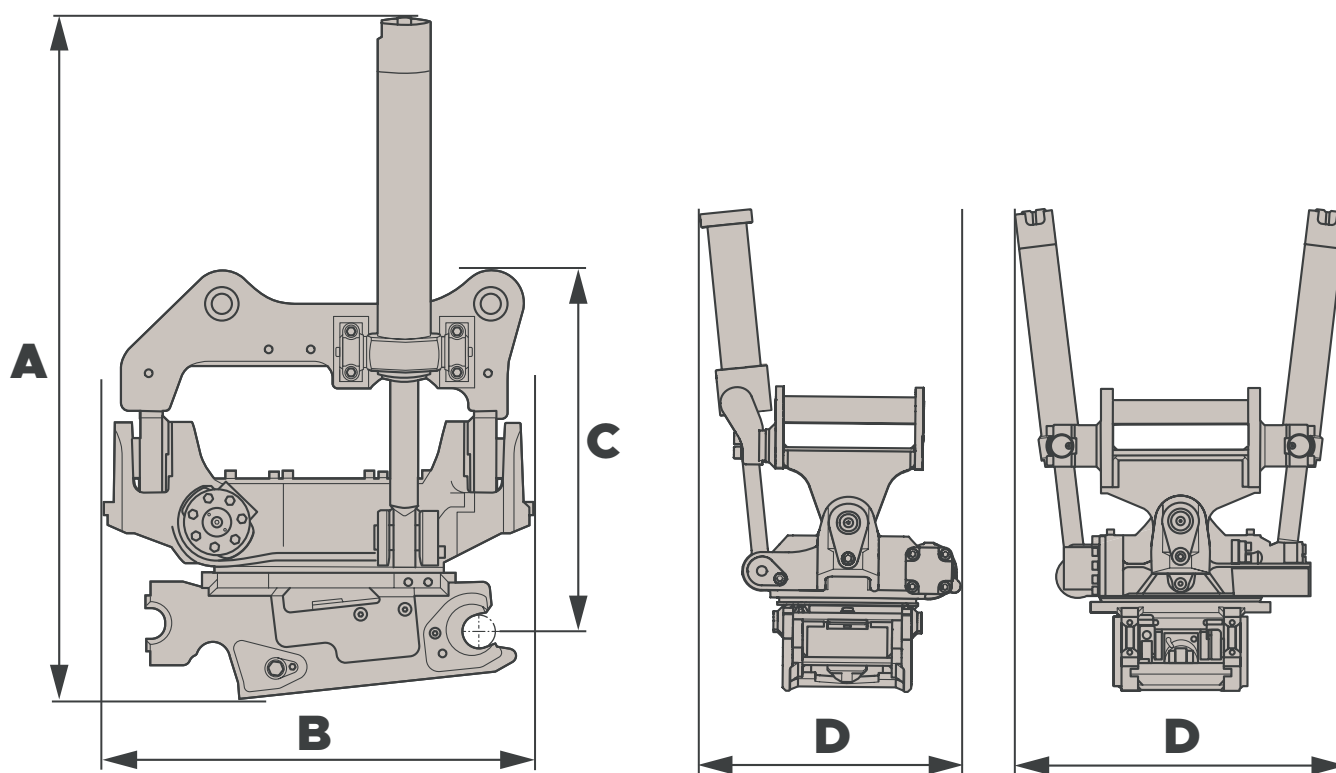
A few simple tips for keeping your hydraulic system clean:

- Always clean the area around a component before starting work.
- Seal hose connections immediately after they are loosened. If possible, use the correct seals for the connection type. If seals are missing, use clean plastic bags and cable ties or tape to seal the connection.

TECHNICAL DATA



Pos	Designation
A	Stick
B	Quick coupler
C	Tiltrotator
D	Bucket/Attachment
E	Hydraulic Control Valves
F	Top/Coupler
G	Rotator housing
H	Bottom/quick coupler
I	Attachment for grapple cassette

Technical data ST4 - ST28

Model		ST4	ST6	ST10	ST15	ST18	ST22	ST28
Machine weight class	tonnes	2-4	3-6	6-10	10-16	14-18	16-22	22-30
Weight	kg	98	150	235	370	490	620	750
Height (A)	mm	717	720	870	905	920*	1000*	1080*
Length (B)	mm	450*	495*	590*	726*	770*	830*	1020*
Wheelbase (C)	mm	323*	345*	430*	465*	505*	600*	670*
Width (D)	mm	441*	415*	600*	665*	810*	830*	860*
Tilt angle	°	+/- 45°						
Rotation	°	360°						
Electrical system	V	12	12-24					
Oil flow max**	l/min	60	80	100	100	120	120	120
Working pressure max	MPa	21						
Tilt torque at 21 MPa	kNm	-	12.3	25.3	34.1	46	52	53
Rotational speed	rps	7						
Noise level	dB	20						
Operating temperature	°C	-25 to +50						

* Dimensions may vary depending on configuration and options.

** Recommended amount.

Technical data – Grapple module

Couplers	S40	S45,S50	S60,S70,S1
Max Opening	450 mm	600 mm	800 mm
Grapple strength*	5.9 kN	9.0 kN	10.3 kN
Max Lifting Capacity	400 kg	600 kg	800 kg
Weight	40 kg	70 kg	135 kg
Width back/front**	480 mm/430 mm	625 mm/560 mm	736 mm/804 mm
Parallelism Solution	Counter pressure	Grapple syncro	Grapple syncro***
Max hydraulic pressure	21 MPa	21 Mpa	21 Mpa

* Dimensions may vary depending on the type of tilt cylinders and quick coupler

** Tilt torque can vary depending on the type of tilt cylinders

*** Only on certain couplers

Torque – Grapple module

These tightening torques apply to screws on assembled grapple module/lower parts of the tiltrotator.

M12	136 Nm
M14	217 Nm
M16	333 Nm

INSTALLATION

Introduction

Before starting the installation, check if there are the necessary additional documents, specific to the chosen product. Installation, operation and maintenance may vary to some extent between different products due to special adaptations and choice of control system. This section of this user manual only provides a general description of the various steps in an installation procedure. For more detailed instructions for the installation of custom models and safety regulations, please refer to the respective installation manual. Contact SMP Parts or dealer for more information!



WARNING!

Do not install the tiltrotator before you have read and understood all the contents, including the safety instructions, of this user manual.



WARNING!

Incorrect installation can result in serious injury or death. In case of any doubt, contact the dealer or SMP Parts AB.



WARNING!

Make sure the hydraulic system is completely depressurised before disconnecting the pressure hoses to the locking mechanism. Hydraulic oil is under high pressure and can penetrate the skin and cause serious injury or death. Plug the hydraulic hoses so that the excavator's arm can be operated during installation.



WARNING!

Mounted tiltrotator changes the geometry of the basic machine, which means that there is a risk of collision with tools against the machine. Negligent operation can cause serious damage to the machine and serious injury or death.



WARNING!

Installations, repairs and maintenance work may only be carried out by personnel trained for the task.



DANGER!

When installing, maintaining, or repairing equipment, the machine should be switched off and secured.



WARNING!

Negligence or incorrectly installed tiltrotator and grapple module can lead to machine damage, serious injury or death. Pay attention to all warning symbols on the tiltrotator and grapple module.



CAUTION!

Wear protective equipment such as a helmet, protective gloves, safety shoes and hearing protection when working on and with the equipment to minimise the risk of injury.



WARNING!

When the tiltrotator is installed, the tilt limit must be checked to minimise the risk of injury.



WARNING!

Be careful when connecting or disconnecting all brackets regardless of equipment – there is a risk of trapping for hands and fingers.



WARNING!

Remove all harmful dirt and grit during coupling, disconnection and operation. Risk of serious machine damage.

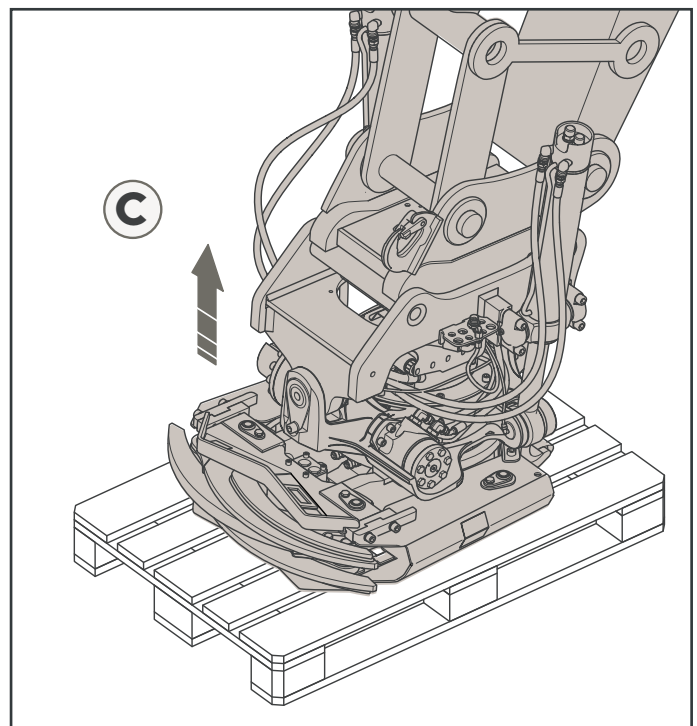
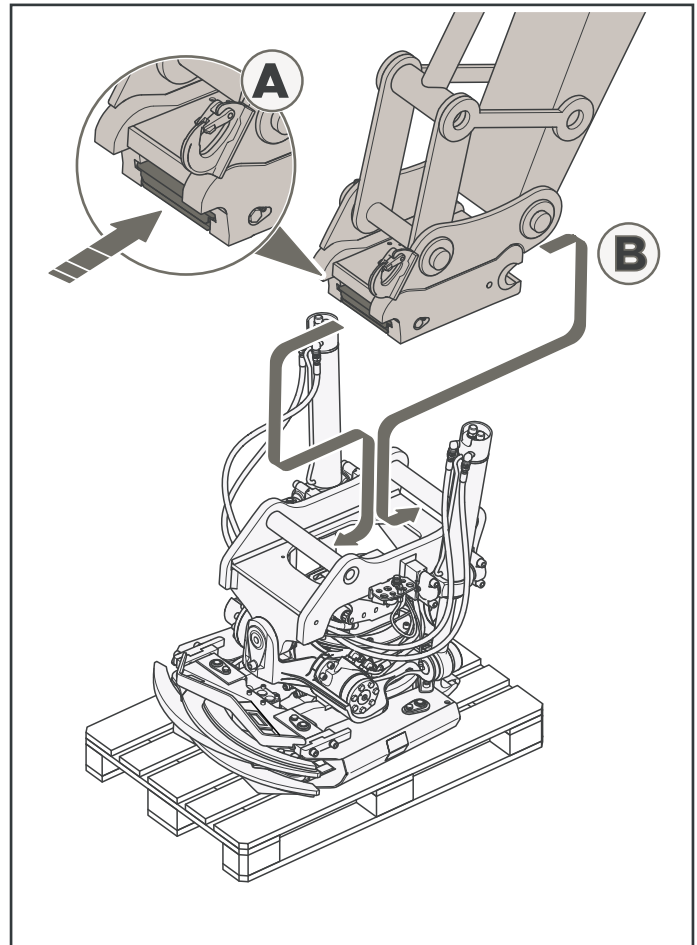
Attachment to the excavator's quick coupler

To ensure proper assembly, place the tiltrotator on an open and flat surface.

- A. Open the excavator's quick coupler according to the excavator manufacturer's instructions.



- B. Connect the rear of the tiltrotator and then the front part. Lock the quick coupler according to the excavator manufacturer's instructions.
- C. When the tiltrotator is correctly locked, lift it slightly off the ground to relieve any hydraulic pressure.
- D. Connect hydraulic and electrical lines, see Installation manual for SMP tiltrotator. To avoid oil leakage or short circuits, check that hoses and cables are of suitable length and that there is no risk of trapping or stretching hydraulic hoses or electrical cables.
- E. To test the tiltrotator's function, see the SMP tiltrotator installation manual. Check for risk of collision between the bucket/attachment and the machine.
- F. Check all points according to daily supervision before using the equipment.



OPERATION AND HANDLING



DANGER!

When installing, maintaining, or repairing equipment, the machine should be switched off and secured.



WARNING!

Read all instructions for use and operation of the tiltrotator carefully before use.



DANGER!

The maximum capacity of the equipment must never be exceeded, nor exceeded by modifications not approved by SMP Parts. Risk of machine damage, serious injury or death.



WARNING!

Make sure the hydraulic system is completely depressurised before starting any maintenance or repair work.
The hydraulic oil is under high pressure and can penetrate the skin and cause serious injury or death.



DANGER!

Never walk or stand under a hanging load!



WARNING!

The excavator's lifting capacity may be lower than that of the tiltrotator and must never be exceeded.



CAUTION!

Wear protective equipment such as a helmet, protective gloves, safety shoes and hearing protection when working on and with the equipment to minimise the risk of injury.



DANGER!

Leave plenty of free space for the sweeping radius the machine and tools require when working.
No unauthorised persons may be in the machine's working area during work. Risk of serious injury or death! **Risk zone: 3 metres.**



WARNING!

Remove all harmful dirt and grit during coupling, disconnection and operation. Risk of serious machine damage.

Residual pressure in tiltrotator

In some cases, trapped pressure may remain in the tiltrotator's hydraulic system.

To drain trapped pressure:

Carefully loosen hydraulic connections to the machine.



WARNING!

Never completely unscrew a connection with enclosed pressure. Pressurised hydraulic oil can penetrate skin and cause serious injury or death.

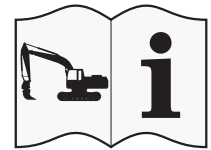
Maximum lifting capacity



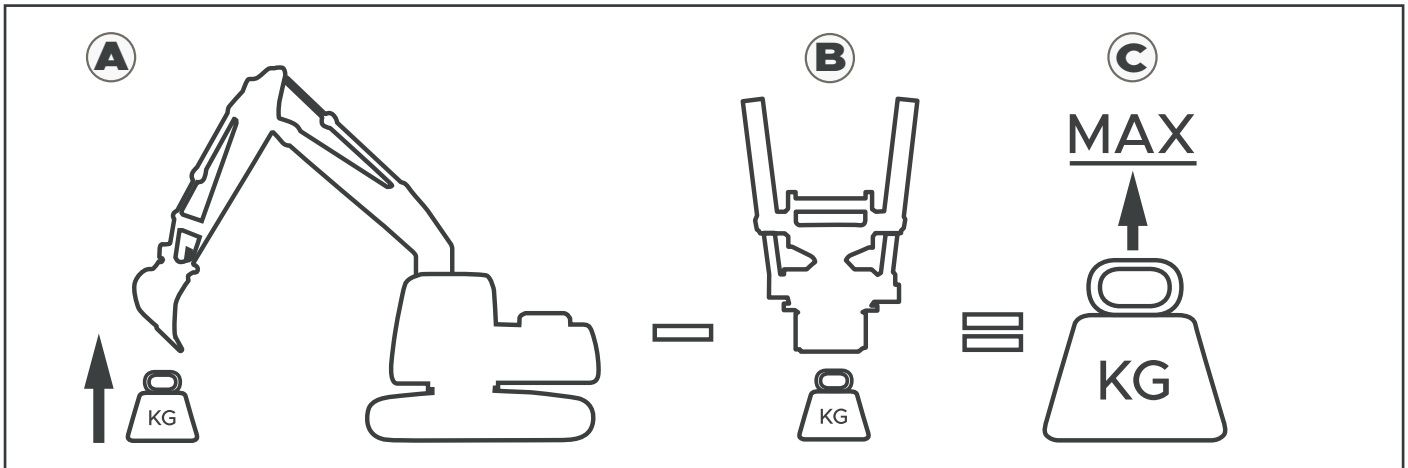
DANGER!

The maximum permissible lifting capacity must never be exceeded. Take into account the weight of the tiltrotator and the increased reach to avoid reduced stability. Risk of machine damage, serious injury or death.

The excavator manufacturer's stated values for maximum lifting capacity for different reaches does not include the weight of the tiltrotator and attachment. Therefore, the permissible limits are affected due to the extra weight that each connected piece of equipment entails. The excavator's reach is also affected.



To determine the maximum permissible lifting capacity, the excavator manufacturer's specified values for maximum lifting capacity must be reduced by the weight of the tiltrotator.



A: Limit values specified by the excavator manufacturer

B: Tiltrotator weight

C: Maximum permissible lifting capacity

Operating temperature

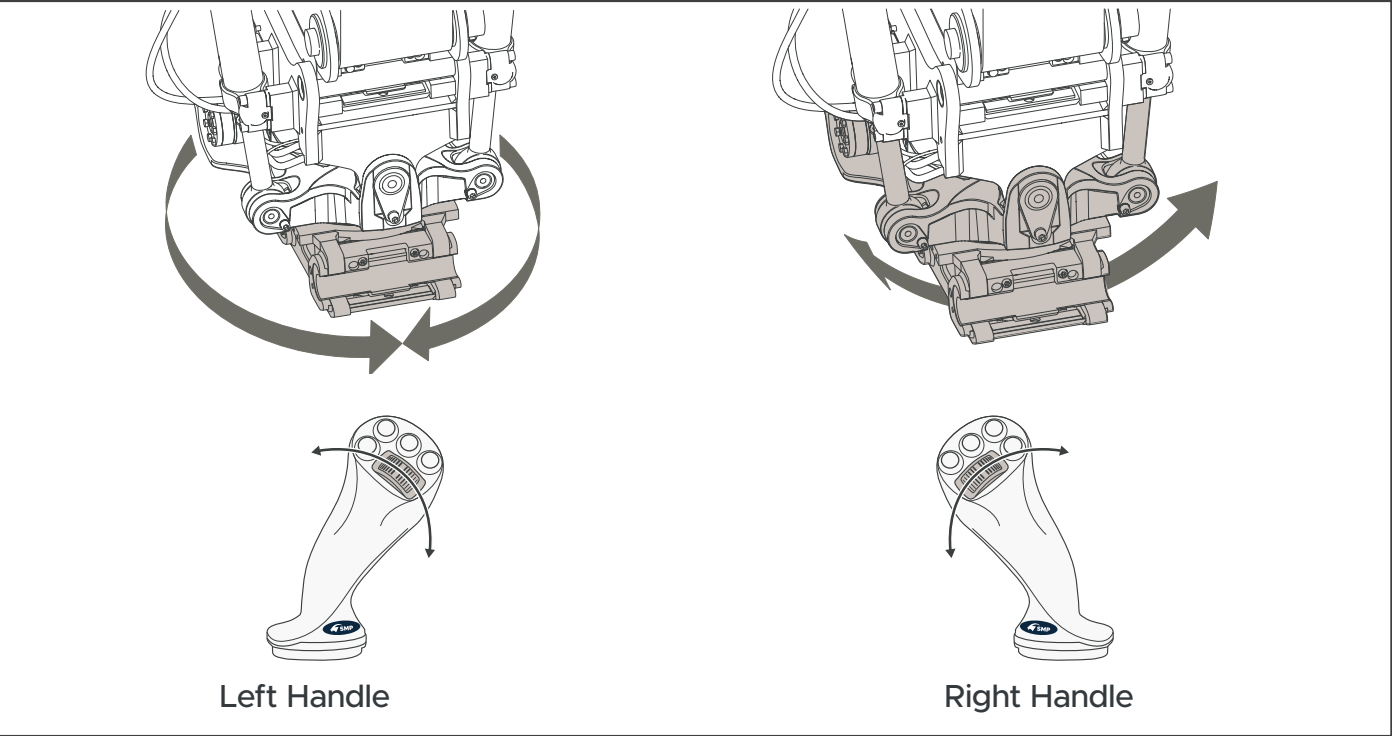
The tiltrotator and grapple module must be warmed up 1 minute before commissioning. Manoeuvre the tiltrotator's rotor function 2-3 turns and all other functions to the end position.

See the operating temperature range below:

Operating temperature

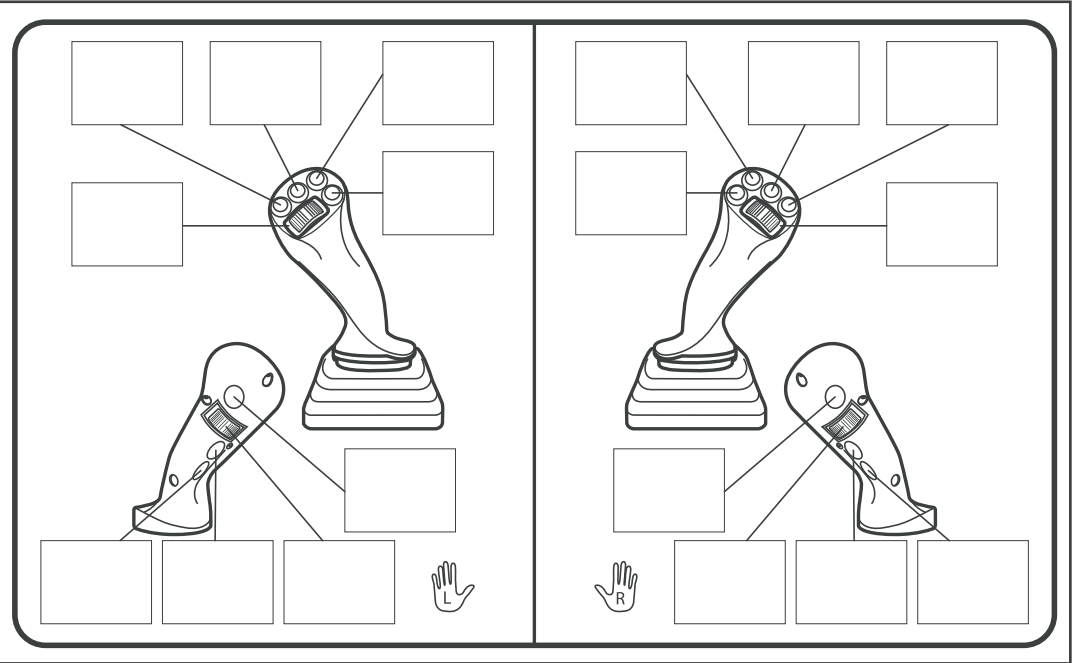
-25° to +50°C

Operation with rollers in the handles



Joystick layout in cab

A joystick layout shows the operator which functions are controlled by which of the joysticks' rollers and buttons. A layout is completed with accompanying symbols for different functions. Completed layouts should be printed out and placed in the driver's cab. The appearance of the layouts varies depending on the excavator and machine model, see examples.



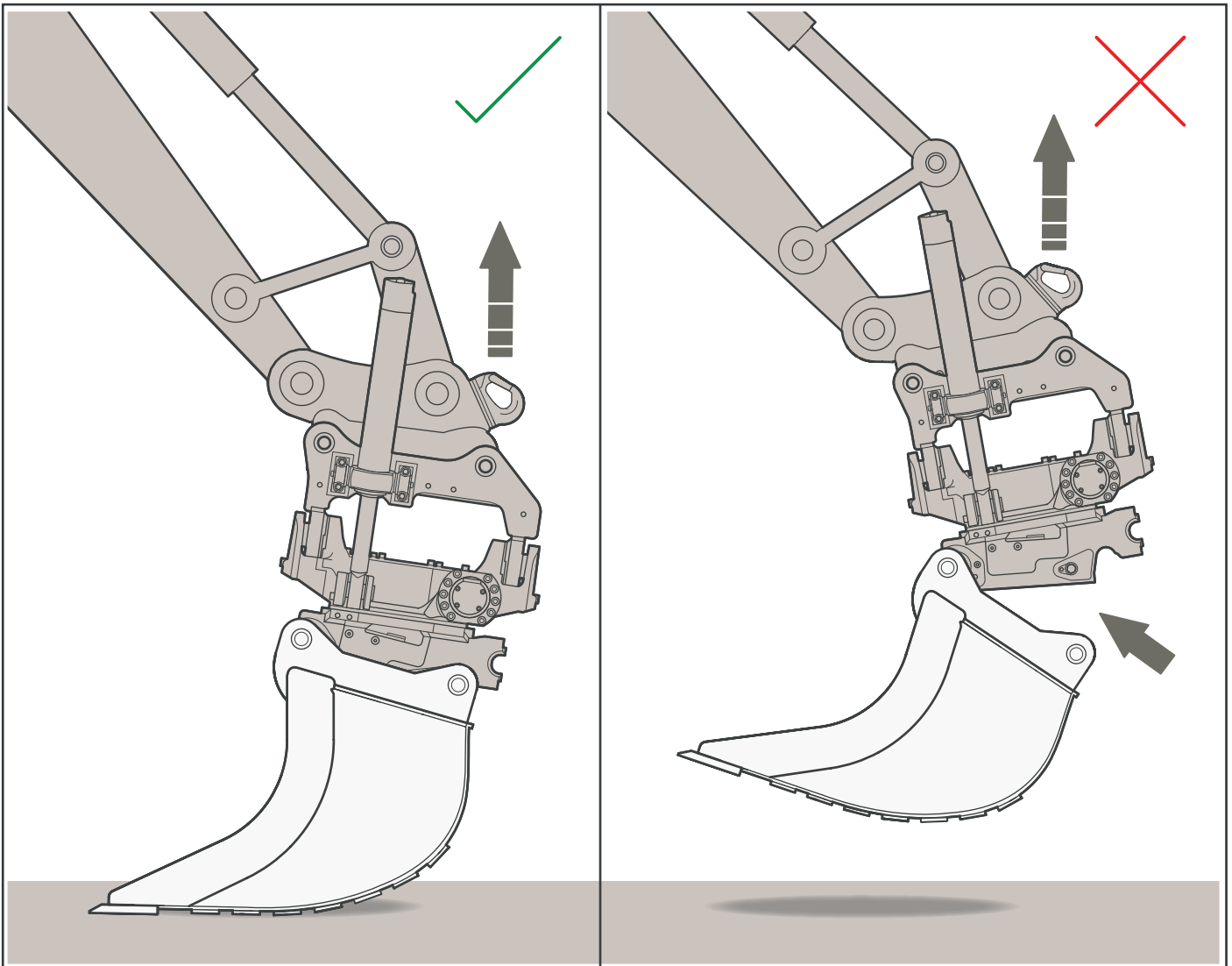
Attachment and disconnection of attachments

**WARNING!**

Under no circumstances is it permitted to connect and "pick up" a bucket or tool with the jaws of the coupler or with the eccentric lock axle, although under certain conditions this is technically possible. Never lift a bucket or tool unless the quick coupler is fully locked.

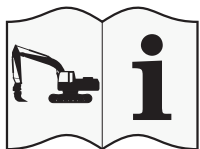
**WARNING!**

Before coupling, check that the coupling parts of the bucket or tool as well as the tiltrotator are clean and free of soil and debris that can prevent correct coupling.



Activation of the tool lock function

To ensure that the tool lock is not opened accidentally, the locking function is locked with a safety breaker switch. For information on how to open excavator tool lock, please refer to the excavator manufacturer's user manual.



The tiltrotator's tool lock is often called "the lower tool lock" and is the lock that locks the bucket/tool connected to the tiltrotator.

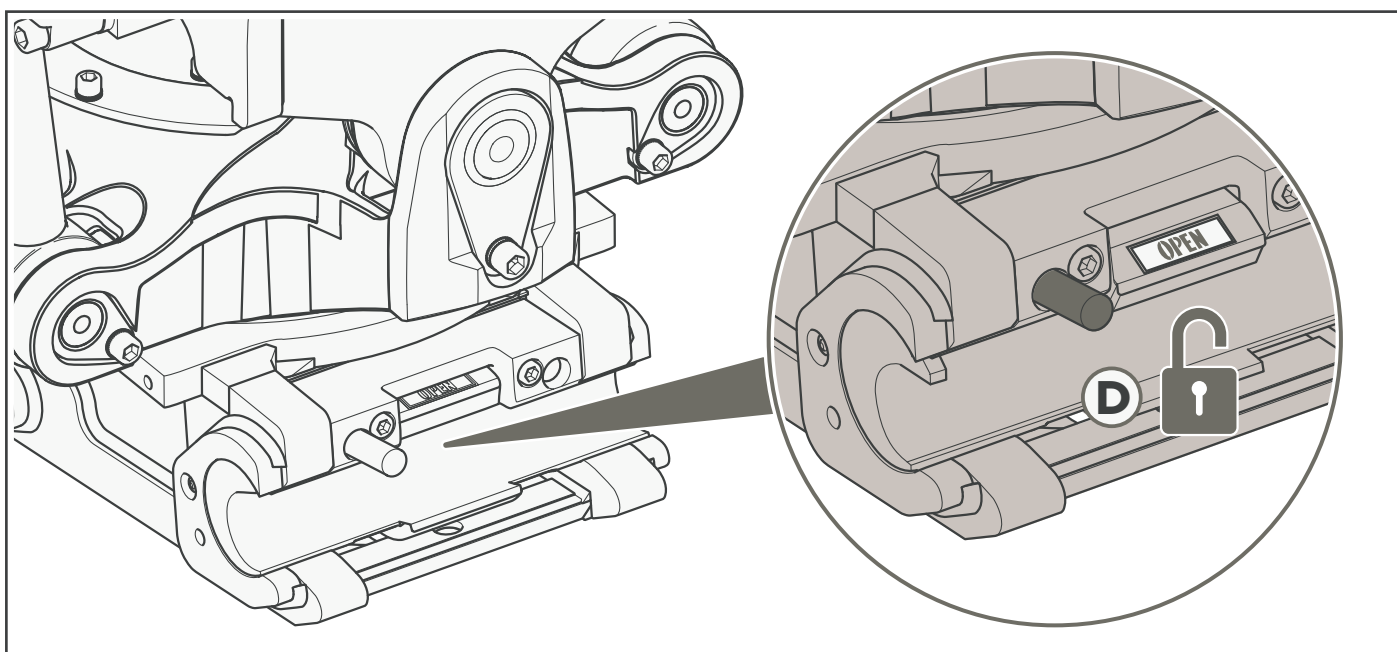
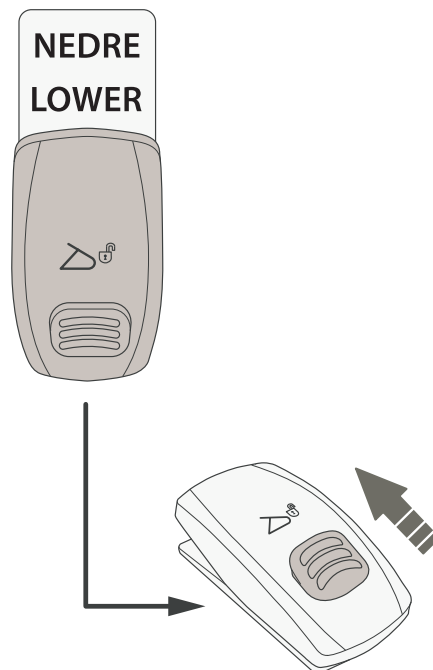
To open and lock the tiltrotator's tool lock:

- A. Activating the tiltrotator's safety switch by pressing the switch's locking latch at the same time as the switch is pressed.
- B. A signal indicating that the lock is opened will sound.
- C. The tool lock is opened by pressurising the tiltrotator. Pressurise by operating a function on the tiltrotator via a button or roller on the joystick handles.
- D. Make sure that the lock indicator or lock indicators (HardLock) are visible. The tool lock is now open and it is possible to connect or disconnect a tool.



WARNING!

Never use equipment connected to the tiltrotator unless the locking mechanism is in the locked position and the bucket/attachment is properly locked.



Coupling of tools

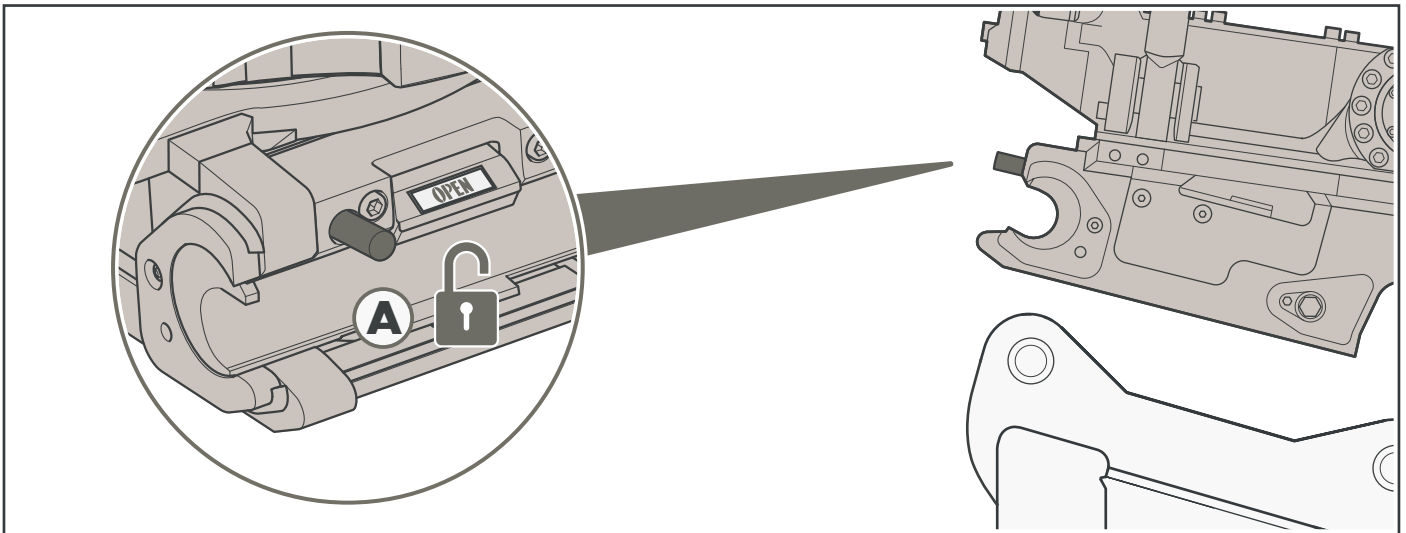


WARNING!

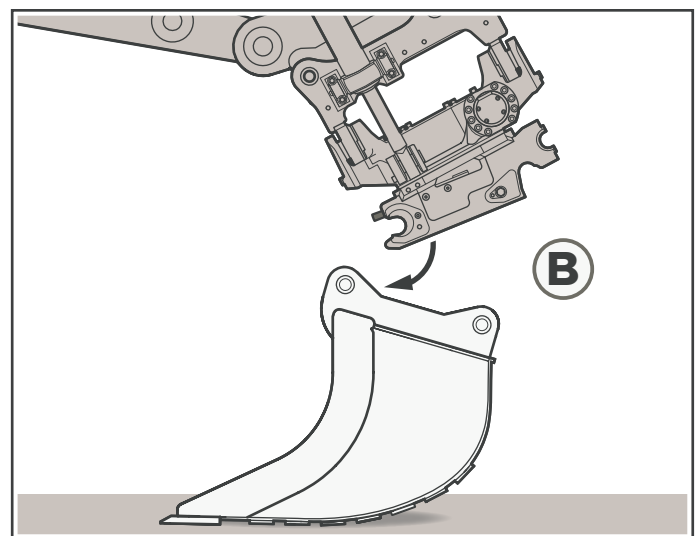
Locked couplings must not be inserted into the bracket. Risk of serious machine damage.

NB! Coupling is made easier if the tool and excavator are aligned with each other and on a flat surface.

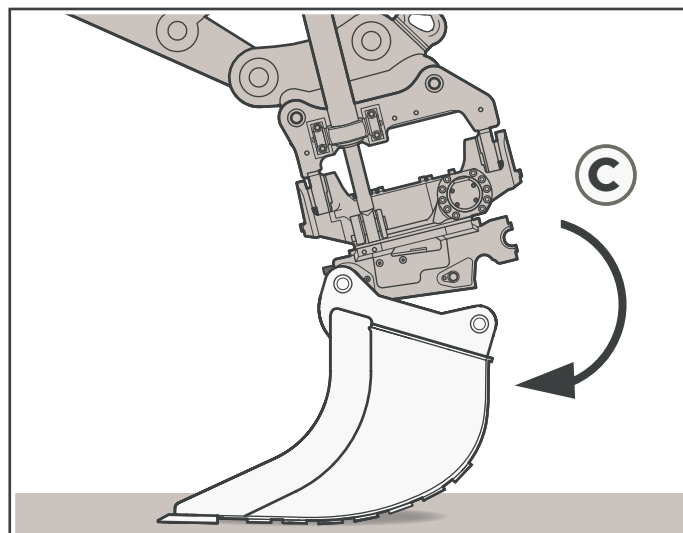
- A. Check that the lock indicator or locking indicators (Hardlock) are visible – this shows that the quick coupler is open.



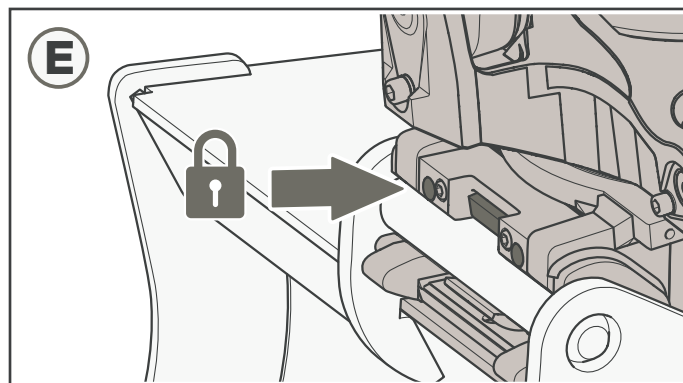
- B. Place the quick coupler on the bracket.



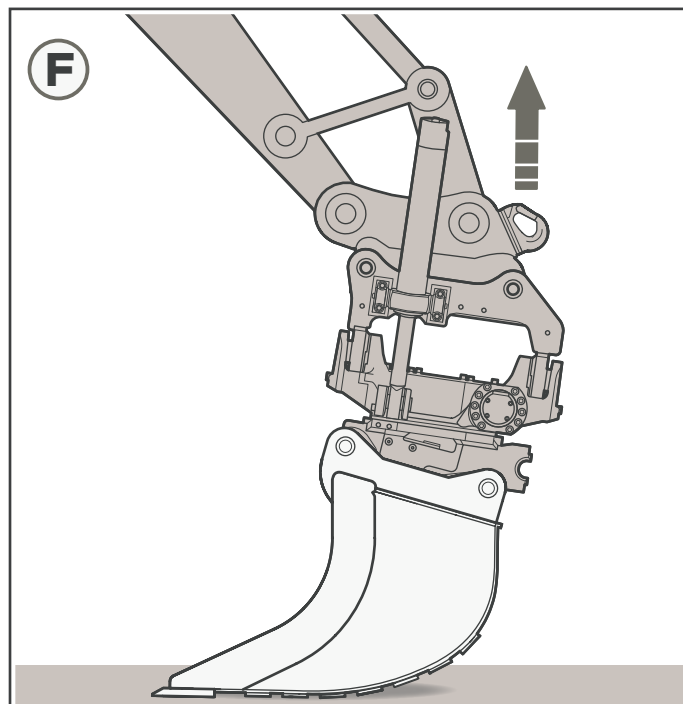
- C. Operate the tilt function so that the quick coupler engages with the tool mount.
- D. When the tool is connected to the tiltrotator, lock the tool by setting the safety switch to the locked position. The machine's pressure will pressurise and lock, as well as keep pressure on the lock. Always make sure that the tool is securely attached to the tiltrotator before work begins.



- E. Check the indicators to make sure the quick coupler is locked – For the Hardlock quick coupler, both indicator pins should line up with the edge of the lock block and the "Open" sticker should not be visible to indicate proper locking.



- F. Carefully check that the tool is secure by tapping lightly against the ground.



Disconnecting tools



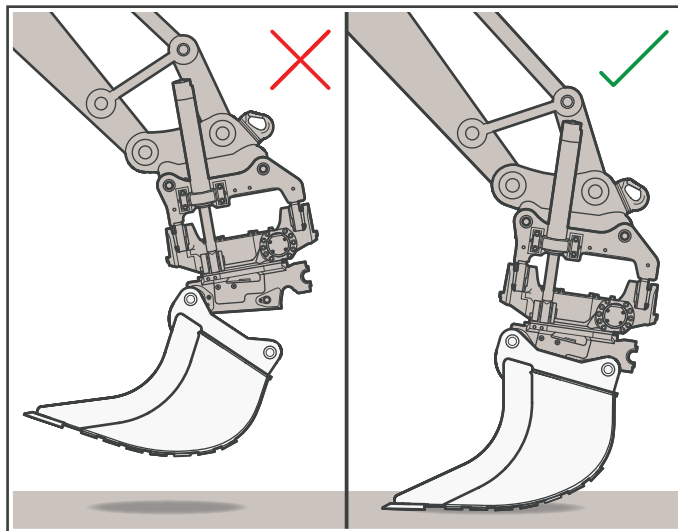
WARNING!

Never open the locking mechanism in such a position that the attachment may fall off from the quick coupler.



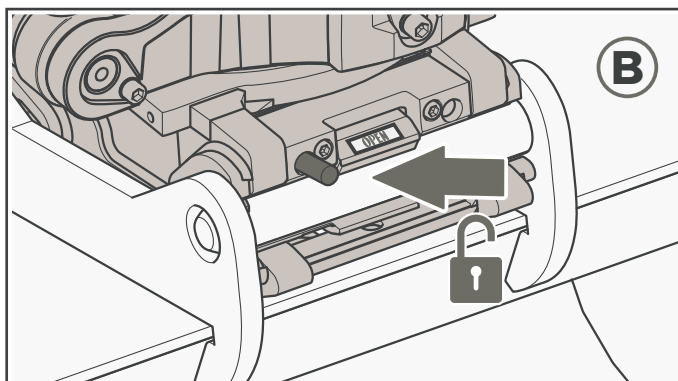
DANGER!

Never walk or stand under a hanging load!

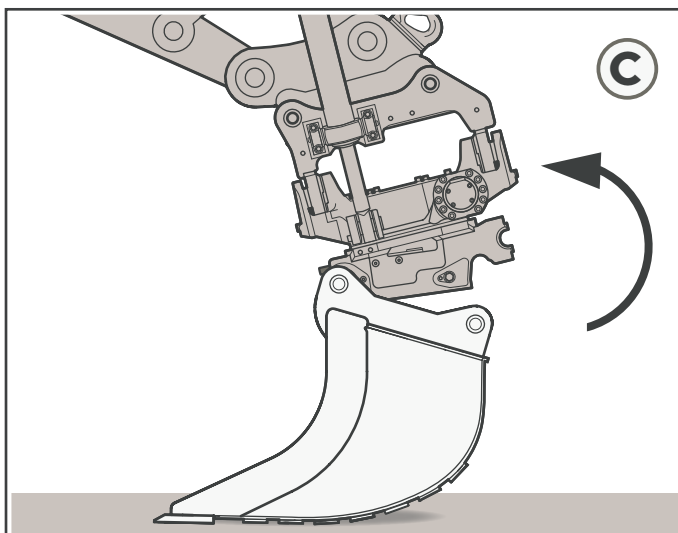


A. Place the tool on the ground before opening the lock and disconnecting it.

B. Open the quick coupler locking mechanism according to the instructions “Activation of the tool lock function”.



C. Operate the tilt function and carefully disconnect the tool.



Grapple module

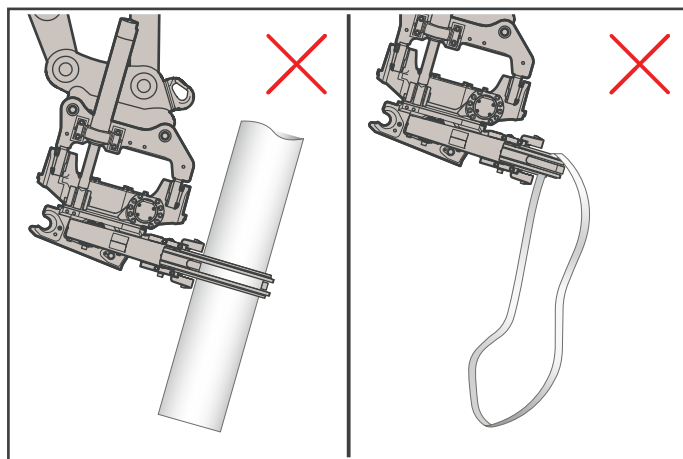
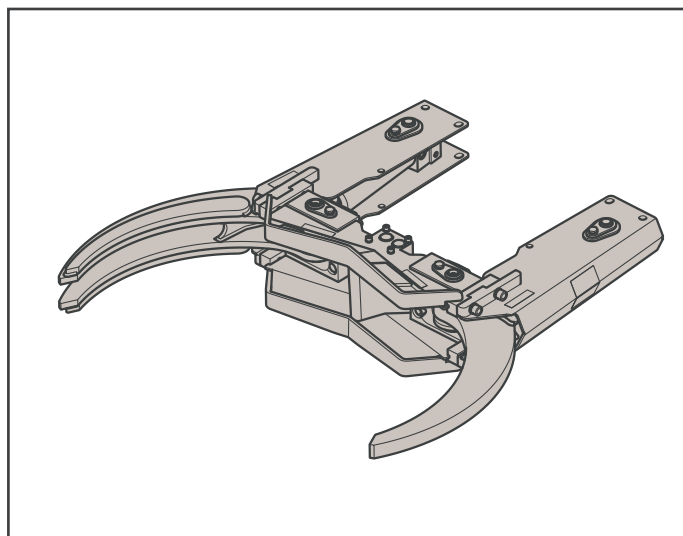
The grapple module is a hydraulic tool intended to be used as a picking and lifting tool for e.g. Water pipes, smaller stones, etc. The grapple must not be used For heavier lifting, such as post pressing. The grapple must not be used for lifting with a strap or chain. Use the existing safety hook on the machine coupler.

The grapple module is adapted for and can be used along with most attachments and tools connected to the tiltrotator.



WARNING!

Negligence or incorrectly installed grapple module can lead to damage to the tiltrotator and grapple module, serious injury or death. Pay attention to all warning symbols on the tiltrotator and grapple module.

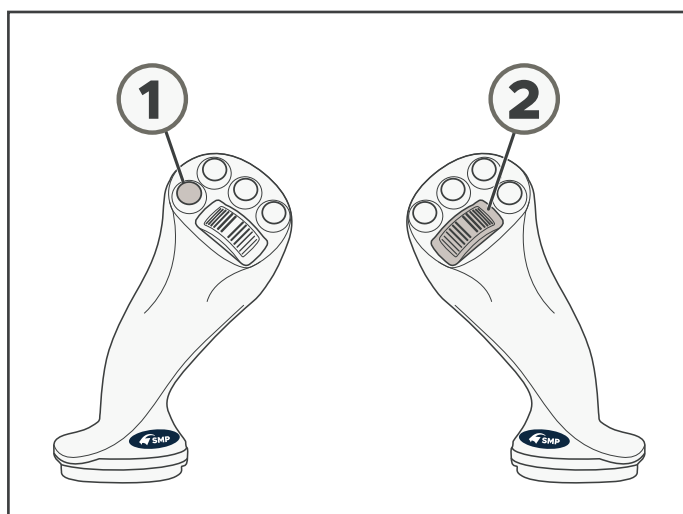


Activation and operation of the grapple module

The grapple module is connected to the tiltrotator's extra function and is therefore controlled by the extra function's control. This can be done by shifting Tilt to Extra as in the TSX-TSXXC cases, or with buttons as in P-control.

Examples of operation with MACS systems:
Activate the grapple function by pressing and holding button (1) on the handle. The grapple is manoeuvred via tilt function roller (2).

The grapple and tilt functions get their oil from the same hydraulic circuit, which means that these functions cannot be run at the same time.



Lifting with a chain or lifting strap

Use the tiltrotator's lifting hook when lifting with a chain or lifting strap. The maximum permitted lifting weight is stated on the sticker next to the lifting hook. The maximum permitted lifting weight must not be exceeded.

Always check and ensure that the lifting hook and lifting equipment is working properly and that there is no damage that may affect function.



DANGER!

Leave plenty of free space for the sweeping radius the machine and tools require when working. No unauthorised persons may be in the machine's working area during work. Risk of serious injury or death! **Risk zone: 3 metres.**



WARNING!

The lifting hook must not be used if the locking mechanism does not work properly or is damaged.



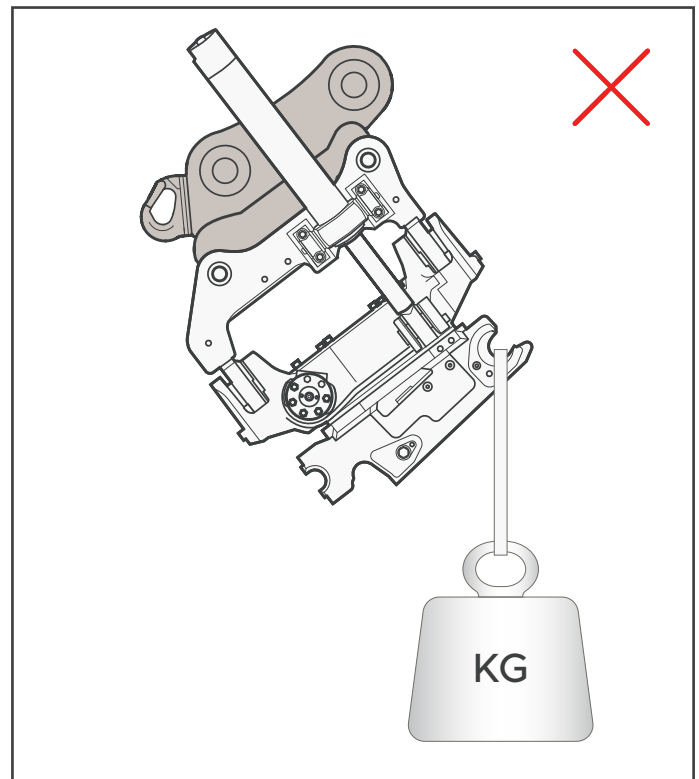
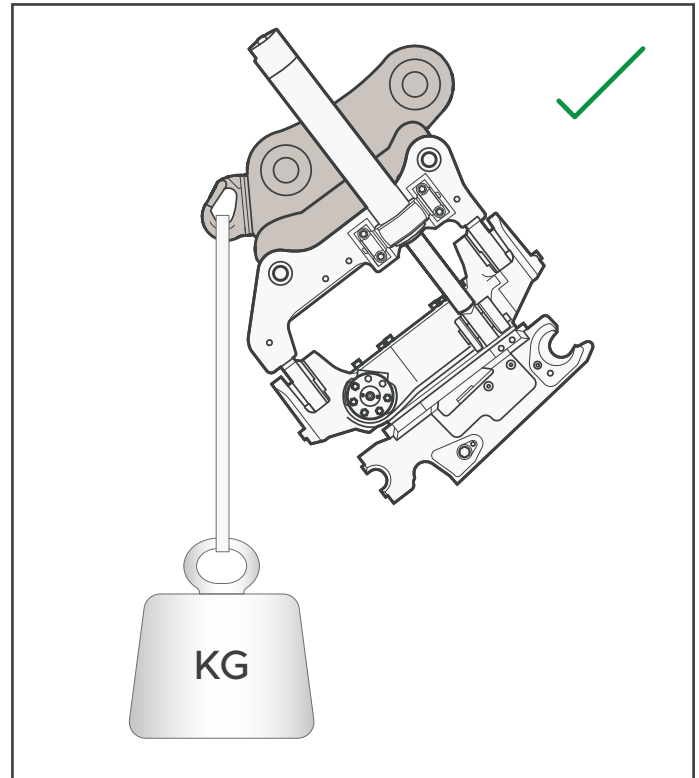
WARNING!

The lifting capacity of the lifting hook may be lower than that of the excavator and must never be exceeded.



DANGER!

Never walk or stand under a hanging load!



TROUBLESHOOTING

Poor functioning can have many causes. The list below states checks that cover some main categories of possible causes of failure.

- Check if foreign objects, such as stone or scrap, are jammed so that they block the tiltrotator's mechanical functions.
- Check for any mechanical damage.
- Check the excavator for any faults or malfunctions.
- Check for any leaks.
- Check the fuses in case of a short circuit.

NB! Troubleshooting and repairs may only be carried out by staff with the correct competence for the task. Call a service technician if necessary.

 **WARNING!**

Installations, repairs and maintenance work may only be carried out by personnel trained for the task.

 **CAUTION!**

Wear protective equipment such as a helmet, protective gloves, safety shoes and hearing protection when working on and with the equipment to minimise the risk of injury.

 **DANGER!**

When installing, maintaining, or repairing equipment, the machine should be switched off and secured.

NB! For quick assistance with support cases, make sure to have the production number, model designation and year of manufacture written down when you contact SMP Parts.

This information can be found at page 8 in this manual.

 **WARNING!**

Make sure the hydraulic system is completely depressurised before starting any maintenance or repair work.
The hydraulic oil is under high pressure and can penetrate the skin and cause serious injury or death.

 **WARNING!**

Never use your hands to check for leaks in the hydraulic system. Risk of injury due to pressurised hydraulic oil penetrating the skin.

Bergsjövägen 3 820 71 Ilso, Sweden

Part no.

Coupler

Machine

Mfg. no.

Weight

Kg

Year

Lifhook max

ton

DESIGNED IN
HÄLSINGLAND
SWEDEN

CE



Art.nr 67854

www.smpparts.com

WARNING

Do not exceed the machine lift capacity

SERVICE AND MAINTENANCE

In order for the products to have the best possible lifespan and function, it is very important that service and maintenance are carried out regularly. In order for SMP's product warranty to be valid only SMP original parts shall be used.



WARNING!

Installations, repairs and maintenance work may only be carried out by personnel trained for the task.



CAUTION!

Wear protective equipment such as a helmet, protective gloves, safety shoes and hearing protection when working on and with the equipment to minimise the risk of injury.



DANGER!

When installing, maintaining, or repairing equipment, the machine should be switched off and secured.



WARNING!

Make sure the hydraulic system is completely depressurised before starting any maintenance or repair work.

The hydraulic oil is under high pressure and can penetrate the skin and cause serious injury or death.



WARNING!

Never use your hands to check for leaks in the hydraulic system. Risk of injury due to pressurised hydraulic oil penetrating the skin.

Daily monitoring

- Check electrical wiring for damage in cable breaks or contact housings.
- Check valves and magnets.
- Operate the tiltrotator and grapple and check their functions.
- Visually check the locking pins and nuts of the axles.
- Check the hydraulic system for leaks.
- Check all parts of the product for cracks and damage.
- Make sure the quick coupler is properly attached to both the bucket and excavator.
- Check that the grapple claws do not loosen in the attachment.
- Clean the tiltrotator and grapple.
- Lubricate according to the lubrication schedule and check that all joints are well lubricated.
- Checking all lubrication points and any central lubrication.
- Check the axial clearance in the upper and lower bracket. Contact SMP's dealer if necessary.
- Check the attachment of the axles. Retighten locking screws and nuts, if necessary.
- Check the quick coupler and lubricate the coupler's lubrication points daily.

Periodic inspections

Regular inspections to be carried out every 6 months or every 500 operating hours, whichever occurs first:

- Check for any tilt cylinder leaks.
- If necessary, check and tighten bolted joints on the tilt cylinder axles and cylinder surfaces.
- Check the quick coupler's moving parts for any wear and cracking.

Regular checks to be carried out every 12 months or every 1000 hours of operation, whichever occurs first:

- Check clearance between the rotator housing and lower part when adjusting according to instructions in separate document provided on request.
- Check and retighten the bolt strap, see separate appendix.

Lubrication schedule

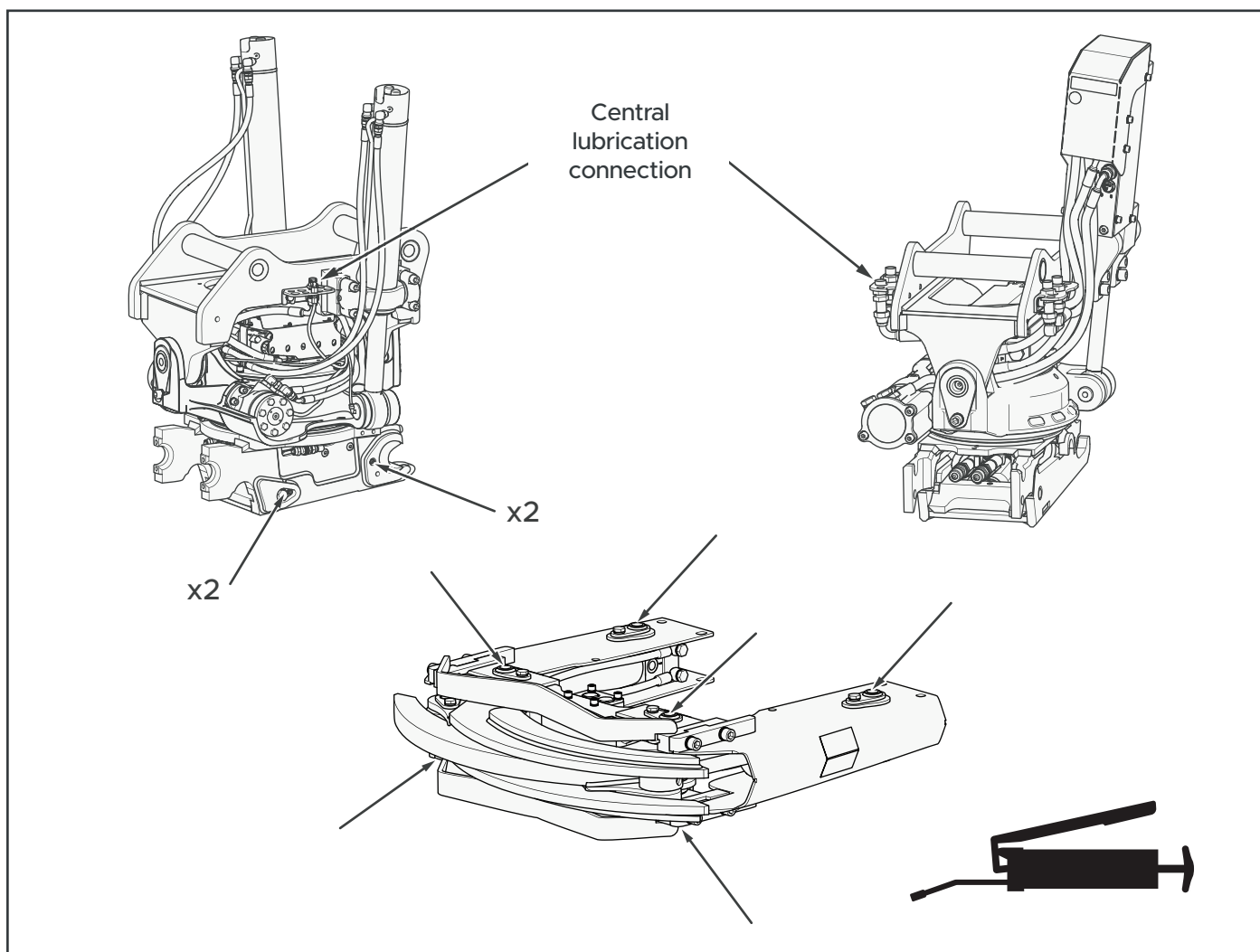
Lubrication with grease must be done daily or every 8 operating hours. See the location of lubrication points. Lubrication of all parts of the tiltrotator except the coupler is done via a connection to central lubrication. Check daily that all joints, including those connected to central lubrication, are well-lubricated, see section “Daily monitoring”.

Dosage

Pump 2-3 times for each grease nipple. **One pump = approx 1 g of grease**

If a grease nipple is not working properly, replace the nipple and clear the duct.

Model	Amount of grease (g)
ST4-ST6	15
ST10-ST18	20
ST22-ST28	25



Replacement of hoses

Always make sure that hoses to be replaced are made by a certified manufacturer. Do not try to manufacture hoses yourself without sufficient knowledge or the required certification.

The hoses must meet the requirements of standard: EN 857 2SC.
Always make sure to use press couplings when manufacturing.

NB! Reusable screw couplings are not permitted due to high pressures.



WARNING!

Incorrect installation can result in serious injury or death. In case of any doubt, contact the dealer or SMP Parts AB.



WARNING!

Never use your hands to check for leaks in the hydraulic system. Risk of injury due to pressurised hydraulic oil penetrating the skin.



WARNING!

Make sure the hydraulic system is completely depressurised before starting any maintenance or repair work.
The hydraulic oil is under high pressure and can penetrate the skin and cause serious injury or death. Risk of personal injury!



CAUTION!

Wear protective equipment such as a helmet, protective gloves, safety shoes and hearing protection when working on and with the equipment to minimise the risk of injury.

Waste management

Oil spills

In the event of an oil spill in connection with maintenance and repair work the oil must be collected and handed over to a collection centre for environmentally hazardous waste.

Recycling

When the unit is decommissioned or scrapped, this must be done in accordance with all applicable local and national standards.

Replaced parts are handed in to authorised recycling centres or can be resold through SMP Re-Use.

Lifting and transporting tiltrotators



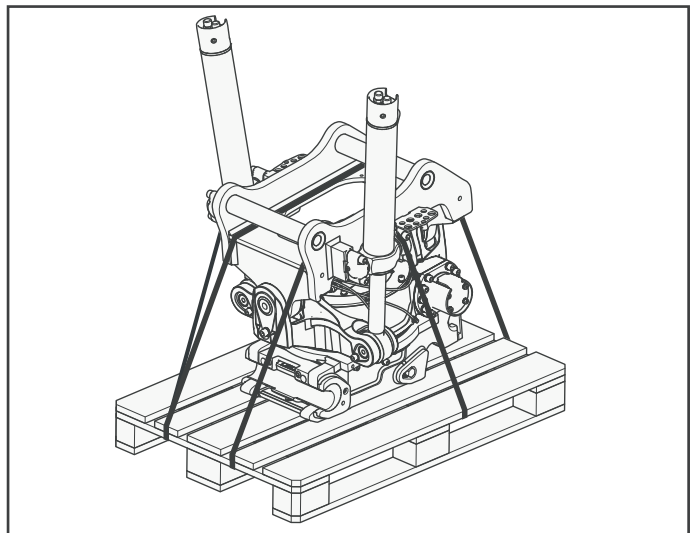
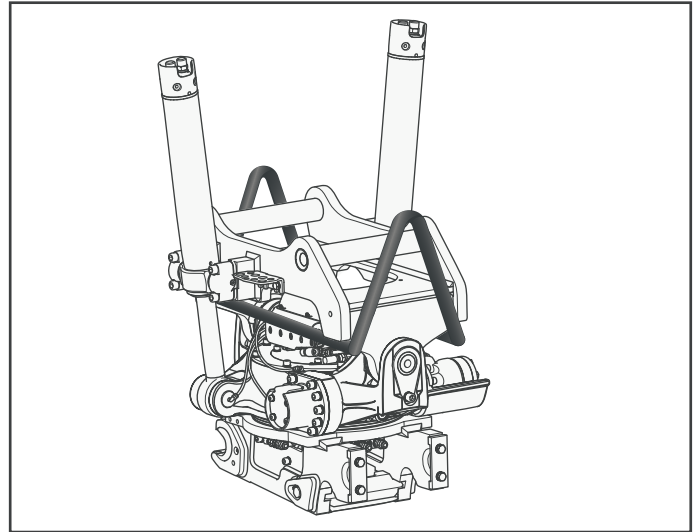
DANGER!

Never walk or stand under a hanging load!

To safely lift non-fixed tiltrotators, a lifting strap must be used. Make sure that the lifting strap is checked for any damage, and that it is suitable for the weight of the tiltrotator. See name plate for weight.

Check that the lifting strap cannot loosen, slip or otherwise cause the tiltrotator to fall or tip.

For longer transport, tools must be disconnected and the tiltrotator secured with clamping straps as shown in the example to the right.



Storage

Storage for a longer period of time should be indoors protected from moisture and sunlight. Below is the temperature range when stored.

Storage temperature range

-25° to +50°C

TECHNICAL SUPPORT AND SPARE PARTS

Contact SMP Parts or your dealer for service and spare parts.

SE

EG-FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

SMP Parts AB

Adress: Bergsjövägen 3,

SE-829 91 Ilsbo, SVERIGE

SMP Parts AB

Behörig att sammanställa teknisk dokumentation: Marcus Larsson
försäkrar härmed att följande produkter, är i överensstämmelse med maskindirektivet 2006/42/EC samt EMC direktivet 2014/30/EU.

ENG

EC-DECLARATION OF CONFORMITY

We, SMP Parts

Address: Bergsjövägen 3,

SE-829 91 Ilsbo, SWEDEN

SMP Parts AB

Authorized officer for compiling technical documentation: Marcus Larsson
declares that the following products are in conformity with the Machinery Directive 2006/42/EC, 2014/30/EU and the EMC Directive 2014/30/EU

DE

EG-KONFORMITÄTSERKLÄRUNG

Wir, SMP Parts AB

Adresse: Bergsjövägen 3,

SE-829 91 Ilsbo, SCHWEDEN

SMP Parts AB

Bevollmächtigte Person für die technische Dokumentation: Marcus Larsson
erklärt hiermit, dass die folgenden Produkte der Maschinenrichtlinie 2006/42/EG und der EMV-Richtlinie 2014/30/EU entsprechen.

FR

DÉCLARATION DE CONFORMITÉ CE

Nous, SMP Parts AB

Adresse : Bergsjövägen 3,

SE-829 91 Ilsbo, SUÈDE

SMP Parts AB

Agent habilité à compiler la documentation technique: Marcus Larsson
déclare par la présente que les produits suivants sont conformes à la directive Machines 2006/42/CE et à la directive CEM 2014/30/UE.

NO

EF-OVERENSSTÆMMELSEERKLÆRING

Vi, SMP Parts AB

Adresse: Bergsjövägen 3,

SE-829 91 Ilsbo, SVERIGE

SMP Parts AB

Fullmektig for utarbeidelse av teknisk dokumentasjon: Marcus Larsson
erklærer at følgende produkter er i samsvar med maskindirektivet 2006/42/EC, 2014/30/EU og EMC-direktivet 2014/30/EU

SE**PRODUKTBESKRIVNING**

Tiltrotator till grävmaskin.

PRODUKTMODELLER

SMP TILTROTATORER

ST4, ST6, ST10, ST15, ST18, ST22, ST28

SERIENUMMER

GILTIGT FÖR SERIENUMMER MELLAN

199001 - 199999

200000 – 299999

100000 – 150000

ENG**PRODUCT DESCRIPTION**

Tiltrotator for excavator.

PRODUCT MODELS

SMP TILTROTATORS

ST4, ST6, ST10, ST15, ST18, ST22, ST28

SERIAL NUMBER

VALID FOR SERIAL NUMBERS BETWEEN

199001 - 199999

200000 – 299999

100000 – 150000

DE**PRODUKTBESCHREIBUNG**

Tiltrotator für Bagger.

PRODUKTMODELLE

SMP TILTROTATOREN

ST4, ST6, ST10, ST15, ST18, ST22, ST28

SERIENNUMMERN

GÜLTIG FÜR SERIENNUMMERN ZWISCHEN

199001 - 199999

200000 – 299999

100000 – 150000

FR**DESCRIPTION DES PRODUITS**

Tiltrotator pour pelleteuses.

MODÈLES DE PRODUITS

TILTROTATEURS SMP

ST4, ST6, ST10, ST15, ST18, ST22, ST28

NUMÉROS DE SÉRIE

VALIDE POUR LES NUMÉROS DE SÉRIE COMPRIS ENTRE

199001 - 199999

200000 – 299999

100000 – 150000

NO**PRODUKTBESKRIVELSE**

Tiltrotator for gravemaskin.

PRODUKTMODELLER

SMP TILTROTATORER

ST4, ST6, ST10, ST15, ST18, ST22, ST28

SERIENUMMER

GYLDIG FOR SERIENUMMER MELLOM

199001 - 199999

200000 – 299999

100000 – 150000

SMP Parts AB

Monika Guten, CEO

llsbo, Valid from 2025-01-01



NOTES

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*Our support is here to help you
with what you need.*

ABOUT US

SMP Parts was founded in 1980, but the craftsmanship tradition on which the company is built extends over a hundred years.

Today, SMP is one of Sweden's leading manufacturers of durable and high-quality tools for construction machinery.

The company has over 100 employees, most of whom work at the factory in Ilsbo, but also has subsidiaries in Norway and Germany as well as several partners worldwide.



Head office

SMP PARTS AB

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829 91 Ilsbo
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info@smpparts.com

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47906 Kempen
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Tel: +49 2152 55669-0
info@smpparts.de

Our dealers

Find your nearest
dealer:

SMPPARTS.COM