

# COMPACTTILT™



USER MANUAL  
INSTRUCTIONS  
PRODUCT INFORMATION

## HS03 CT3-2 v1.2024

Patent no.: PCT/DK2016/050047



## Congratulations on choosing Compacttilt!

We are happy that you have chosen our product - and look forward to it working for you.

Here at Compacttilt, we develop and create products based on the vision of creating the best user experiences. Therefore, it is also important for us that you remain satisfied with your Compacttilt product, and if something unexpected arises or questions - contact us or your machine dealer.

Compacttilt products are our own development and is manufactured in Compacttilt's factory in Denmark. This means that each part of the product is engineered based on our vision of what supplies the best tilt product. But we cannot avoid the fact that maintenance and correct use of the product is the way forward, for full utilization of the product's lifetime. Therefore, read this instruction and perform the maintenance according to the regulations.

Again, congratulations on your choice of Compacttilt. We look forward to a long and good cooperation. Just contact us for more information.

Daniel Duus,  
CEO and Product Engineer  
Compacttilt.com

*Compacttilt is a patented and protected product: The full ownership of all intellectual property rights regarding the product's manufacture, design, trademarks and copyrights, belongs to Compacttilt ApS.*

*Compacttilt™ lives up to PLc cf. DS/EN ISO 13849-1:2023.*

## EF- Declaration of conformity

According to The Machinery Directive 2006/42/EF, Appx. IIA



**Manufacturer:**

Compacttilt ApS  
Fabriksvej 5  
5580 Nørre Aaby, Danmark  
Tlf.: +45 6442 2080

Hereby declare that the following equipment:

Product: Compacttilt™  
Type: **HS03**

Serie no \_\_\_\_\_

Year: \_\_\_\_\_

Complies with the following directives:

2006/42 / EC Machinery Directive  
2014/30/EU EMC-directive (Electromagnetic Compatibility)

The following harmonized standards have been applied:

DS/EN 474-1:2022	Earthmoving machines - Safety - Part 1: General requirements
ISO 13031:2016	Earth-moving machinery – Quick couplers -- Safety
DS/EN ISO 13849-1:2023	Safety of machinery - Safety related parts of control systems - Part 1: General principles of construction
DS/EN ISO 12100:2011	Machine safety - General principles of construction - Risk assessment and risk reduction

Place / Date

December 2023

Name/Title Maria Gade, Administrator

Signature

The undersigned is the representative for the collection of the technical dossier

## Certificate: Lifting Hook

See application and restrictions further down in the manual.



<b>TEST CERTIFICATE</b>		<b>H-LIFT INDUSTRIES CO.,LTD.</b>			
		8/F., No. 560 Jincheng Road, Xiaoshan, Hangzhou, 311202, China Tel + 86-571-8263-6008, Fax + 86-571-8263-6028 http://www.h-lift.com E-mail: info@h-lift.com			
		CERTIFICATE NO.		ZS-14319-029	
		SUPPLIED TO		SOREISEN & KOFOED A/S SMEDEHOLM 7-9 2730 HERLEV DENMARK	
YOUR P/O NO.:	00059679-2	INVOICE NO.	14HC319		
(1) Description of Gear					
GRADE 80 WELD ON HOOK TESTING ACCORDING TO EN 1677 MATERIAL: ALLOY STEEL					
(2) PRODUCT CODE	(3) SIZE(t)	(4) QUANTITY (pcs)	(5) WORKING LOAD LIMIT(WLL)	(6) MIN. BREAKING FORCE (BF)	(7) MARKING
8-WOH-01	1	50	1t	49kN	WLL1T CE
8-WOH-02	2	100	2t	98kN	WLL2T CE
8-WOH-03	3	120	3t	147kN	WLL3T CE
8-WOH-05	5	40	5t	245kN	WLL5T CE
8-WOH-08	8	20	8t	392kN	WLL8T CE
I hereby certify that the item described in this certificate was tested and thoroughly examined and that the above particulars are correct.					
TEST RESULT		CERTIFIED BY:			
Pass <input checked="" type="checkbox"/>	Fail <input type="checkbox"/>	AUTHORISED SIGNATORY:			
		DATE (dd/mm/yy):			
				06/09/14	



Add: 8/F., No. 560 Jincheng Road, Xiaoshan, Hangzhou, 311202, China

Tel: +86-571-8263-6008 Fax: +86-571-8263-6028 http://www.h-lift.com Email: info@h-lift.com

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This instruction manual must be thoroughly read by any user of the Compacttilt before use. The Compacttilt may only be used for the purposes described in this manual. The Compacttilt is a quick-coupling equipment that connects the carrier with an implement - therefore user instructions and safety instructions from these two products must always be understood and complied with before the product is used.

## Compacttilt: purpose and function

- To give the excavator increased flexibility, so as the Compacttilt is mounted between an excavator's arm and an attachment, Compacttilt adds the function that the attachment can be tilted and rotated.
- NOTE: The weight of the Compacttilt and the increased range can lead to impaired stability which in the worst case can lead to personal or property damage.
- The Compacttilt is only for use in implements intended for excavators and must not be used for other purposes.

## Restrictions on use

The Compacttilt is only intended for use with digging implements. It is not recommended to use the Compacttilt for oil hammer / hydraulic hammer, as it significantly reduces the service life of the Compacttilt.

Compacttilt must not be used with a crane arm, for transporting or lifting people.

## Before use

- This instruction only involves the Compacttilt - the safety information described will at all times depend on the excavator, where the applicable safety instructions and lifting graphs for the excavator as well as any other equipment, is to be read and understood at all times before commissioning and subsequently complied with.
- It is ensured that the information in the declaration of conformity corresponds to the information plate mounted on the Compacttilt. If there are deviations, contact the supplier immediately before carrying out the installation.
- Never attempt to raise the excavator's maximum capacity.
- Make sure to insulate the electric connectors and component when installing electric equipment.
- Maintenance and repairs must be carried out by trained professionals.
- The hydraulic quick coupler may only be activated during change of equipment.
- When lifting, use the lifting hook to the extend the excavator is approved.
- If any doubt occurs regarding the use- and safety specification, contact the dealer or manufacturer of the Compacttilt product.
- Be aware of the risk of squeezing/pinching by moving parts.
- It is strictly forbidden, at any time, to:
  - Stay under the Compacttilt when mounted on an excavator.
  - To influence, sabotage or manipulate the Compacttilt using 3rd party objects.
  - To use the Compacttilt for other machine types than the specific one for which it is manufactured, cf. the type plate.

## Before daily use

- The mounting points are safety components that require regular inspection and adjustment. In the event of signs of wear or cracking, the Compacttilt must not be used.
- Always follow the instructions and pay attention to the personal and environmental instructions in the data sheet that comes with hydraulic oil and grease.
- Never use your hands to check for leaks in the hydraulic system - there is a risk of personal injury.
- Never use the Compacttilt on a damaged or defective excavator or equipment.
- Always replace damaged or unreadable labels and warning signs before using the machine.
- There is a risk of burns when in contact with hot hydraulic oil.
- Make sure the hydraulic system is depressurized before carrying out work on the system.
- Maintenance and repairs must be carried out by trained professionals.
- Be extremely careful when handling long objects due to forces due to “live/movable weight” and the increased risk area. Risk of personal injury and property damage.
- The Compacttilt must not be used beyond the maximum capacity.
  
- Do not use the product without:
  - The tilt and the hydraulic coupler is adjusted correctly.
  - It is ensured that hoses, hydraulics etc. does not bother the Compacttilt and its features.
  - The operator and the third party are not under the tool and / or in the working area of the tool, where the hazardous squeezing situation may occur.

## Intended use

- When installing the Compacttilt and/or mounting bracket, check the tip load limitations.
- Equipment attached to the Compacttilt must only be used if it is locked correctly.
- It is not allowed to manipulate or in any other way to change the Compacttilt’s mounting or function.
- Mounting and installation must be carried out at an authorized workshop.

## Regular security checks Compacttilt

### During inspection and maintenance:

- Lubrication of lubrication points according to the overview
- Threads and bolts are intact
- Function and state of the quick coupler locking pins
- Eyes and bushings are intact
- No loose bolting joints
- No cracks or fractures
- It is ensured that the quick coupler is clean, and mounted and tightened correctly
- Compacttilt is correctly mounted between the excavator and the implement
- There is no hydraulic leak
- There is no grease leakage on hoses or couplings

## Every month or when needed for inspection and maintenance:

- All bolts and nuts are inspected and tightened
- Check for unusual wear
- Cleaning of hoses and couplings
- Check for abnormal play. If play exceeds 2 degrees, contact your dealer for service.

## Annual inspection or after 500 operating hours:

- Inspection must be carried out in accordance with applicable legislation.

## Tightening torque:

Bolt size [mm]	Torque [NM] (10.9 bolts)	Torque [NM] (12.9 bolts)
M5	8.1	9,7
M6	14	17
M8	33	40
M10	65	79
M12	114	136
M14	181	217
M16	277	333

**The manufacturer requires attachment control  
damage occurs, contact service support  
The manufacturer requires inspection of the products mounting and installation.**

**The manufacturer requires inspection of the quick coupler locking component. If damage is detected, contact  
service. The excavator must not be used until it is repaired.**

			
High pressure fluid The pump generates high pressure fluid. Never check for leaks with a hand or other body part. Always drain pressure before working on the hydraulicsystem	Safety glasses needed	Wear safety boots	Stay on safe distance from hazard

- Only trained personnel and operators above the age of 18 are allowed to operate the product.
- The operator must be aware of correct mounting of the product before use.
- The machine bracket must be properly mounted. Any irregularities must be reported and fixed.
- All operators must be registered by the person in charge of the excavator.
- During maintenance all moving parts must be in a locked position.
- During maintenance the manufacturer demands that the operator uses correct safety equipment

## Warning – Prohibition - Reminders

 This manual must be available immediately at the machine. If this is not possible, the machine must clearly mark where the manual is stored.

 Other rules, established by national or other authorities or by the company itself, must be observed. If these are violated, the manufacturer and his representative disclaim any responsibility for damage to persons or material.

 The machine must be operated in accordance with the instructions and instructions given in this and the other instructions that together constitute the operating instructions for the machine.

 This manual must be read before using the machine.  
All operators and others who must operate the machine must review this manual before working on the machine. By operators is meant all persons working at the machine, both operators and employees who are engaged in e.g. unloading and loading, cleaning, maintenance etc.

Only those persons who need it as part of their work may access the machine.

 If it is necessary to provide access to the machine for persons unfamiliar with the function (eg during repairs, visits or demonstrations), this must be done under the pre-determined safety precautions. The person responsible for the operation of the machine must be informed of the presence of strangers.

 Operators and repairers who are to operate or work on the machine must undergo training in the use of the machine before the work may take place. The manufacturer carries out the necessary training of operators and repairers when handing over the machine.

If the safety instructions are ignored by the user, the manufacturer and his representative disclaim all responsibility

 If the user changes, disassembles or adds to the original design, mechanical shielding, electrical safety, pneumatics, hydraulics, as well as functions related to the original design, the manufacturer's CE marking lapses.

- Only instructed personnel may operate the machine part.
- The operator must pay attention to proper fastening of the machine part before start-up.
- The machine part must not be installed with irregularities and must be notified to the person in charge immediately.
- Everyone who operates the part must be registered by the person in charge.
- When working and repairing, all moving functions must be in the locked stop.
- When working with the machine part, the manufacturer requires operators to have personal protection.

## Moving the product



Always ensure that there are no objects, persons or third-party objects under the product, or with the risk that it may interfere with the movement.

When moving, use correct lifting devices, e.g. truck or crane. Always remember to ensure that the product is properly secured during the move. It is the user's responsibility that lifting straps, or lifting chains, are safety approved for the weight of the product. For truck transport, machine parts must be secured with straps. For crane lifting, lifting chains / straps must be designed for the weight.

## Disposal

### Cessation of use and disassembly

- The equipment must not be pressurized during disassembly and must be drained of oil.
- A plan for disassembly must be prepared. The plan must include a risk assessment for the work and for disposal of the Compacttilt / machine part.
- Plan and risk assessment must be prepared in accordance with applicable rules at the time of dismantling.



## Scrapping

The product is dismantled and sorted into categories that require in applicable environmental requirements. The product is subject to valid version of: Directive 2008/98/EC on waste.

When the product is obsolete, all the components that make up the Compacttilt / machine part must be sorted and handed in at an approved recycling site or conducted by an approved recycling company.

The product must not be disposed as unsorted household waste. Use the local WEEE collection points for the disposal of electrical components of this product and make sure that all relevant regulations are observed.

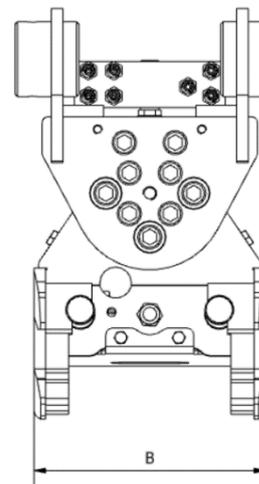
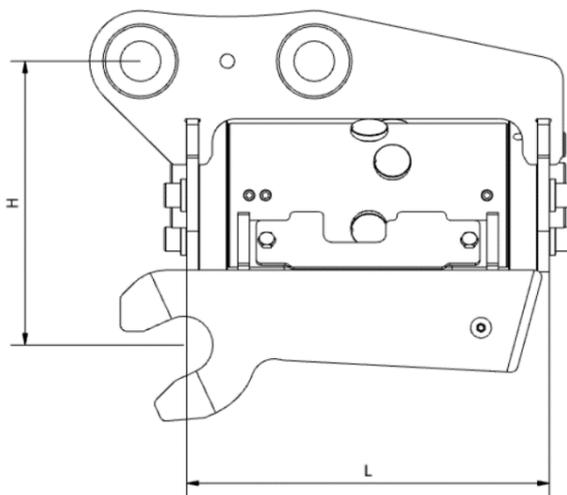
The Compacttilt or tilt consists of the following parts and must be sorted accordingly:

- Iron
- Aluminum
- Plastic (hard & soft)
- Rubber
- Oil & grease
- Electrical components
- Copper
- Other metals

If parts of a Compacttilt are resold for purposes other than disposal, it is the owner's responsibility to make the recipient aware of the disposal rules.

## Technical data Compacttilt

Data/Compacttilt str.	HS03
Max machine weight	3.000 kg
Min. installation height [H]	245mm
Width [B]	200mm
Length [L]	313mm
Weight incl. quick coupler/ex top	41 kg
Total tilt angle	100°
Tilt angle	2x50°
Max. hydraulic pressure [MPa]	25
Recommended Hydraulic Flow [L / min]	3-6
Torque [Nm at 210bar]	4220,2
Type of quick coupler	HS03
Max. Excavation torque [kNm]	30,7
Max. Breaking torque [kNm]	20,6
* Max. Digging and breaking torque is calculated in relation to the following bucket size. Width height	600/800mm



## Installation

Documentation for the carrying machine must be available and read thoroughly before installation. In the following it's described how to install the Compacttilt directly on the machine.

If the Compacttilt is detachable, then see the documentation for the quick coupler installed on the machine.

## Before start of installation

- Consider the limits for tipping load, the weight of the Compacttilt, and the extended range, which may make it necessary to reduce the volume of the bucket or other attached equipment.
- Place the carrier machine on a level and non-slip surface.
- Place the bottom of the Compacttilt on a flat and non-slip surface, making sure the tilt is in neutral position (**Figure 1**). The digging arm is moved into position, so that the arm can be lowered against the Compacttilt without contact.



**Figure 1**

## Installation



Position the link arm so that its pin bolt hole is flush with the mounting holes in the machine bracket (**Figure 2**).

Fit the pin bolt of the link arm and lock it with a bolt or locking pin in the transverse hole of the mounting bracket (**Figure 3**).

**Figure 2**

**OBS.** Use the supplied pin bolts, if supplied.





Figure 4

Lower the main arm into the bracket until its pinhole aligns with the mounting holes in the machine bracket.

The pin bolt is also locked with a bolt corresponding to the link arm (**Figure 3**).

Figure 3

## Inspection for unwanted contact between machine and the Compacttilt

Make sure there are no interference between the machine and the Compacttilt. Position 1,2,3 and 4 shows where it typically can occur. Perform the inspection before connecting the hydraulics.

In case of any deviations, please contact Compacttilt on [Support@compacttilt.com](mailto:Support@compacttilt.com)



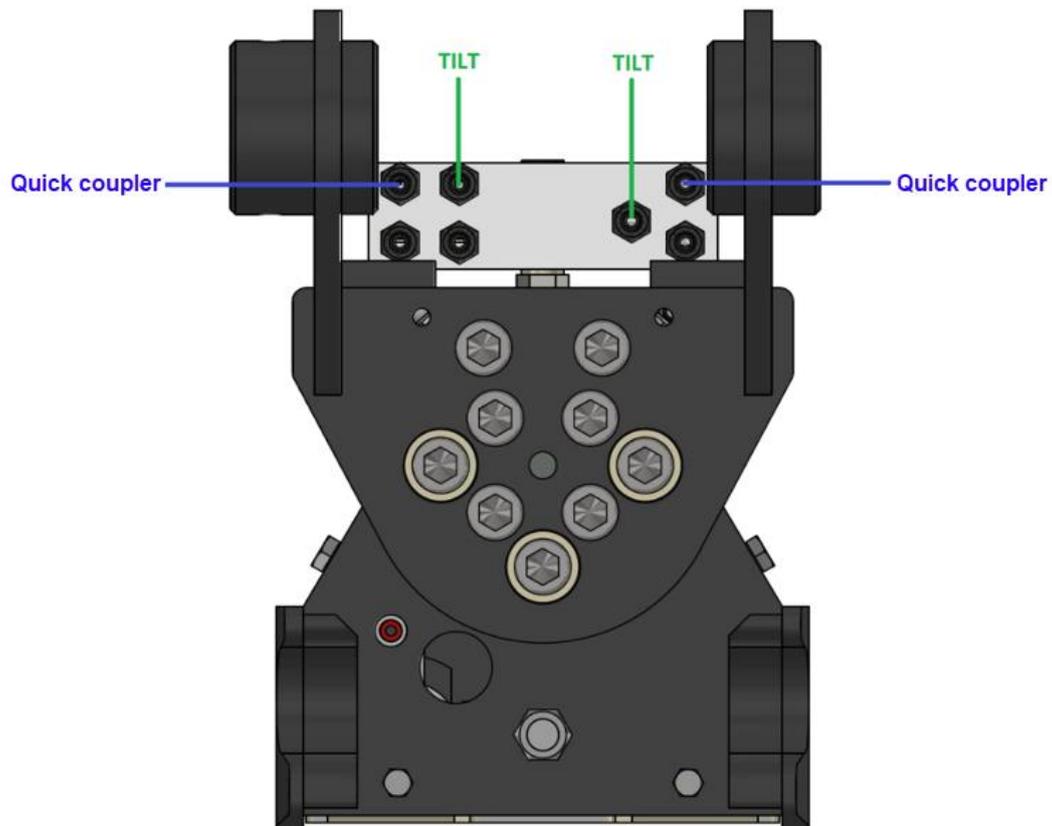
## Hydraulic connection

Before connecting the hydraulics, the machine must be switched off and the hydraulic system depressurized.

Hoses are installed so there is no risk of damage or pinching, when using the machine and attached equipment.

### 4-hose connection

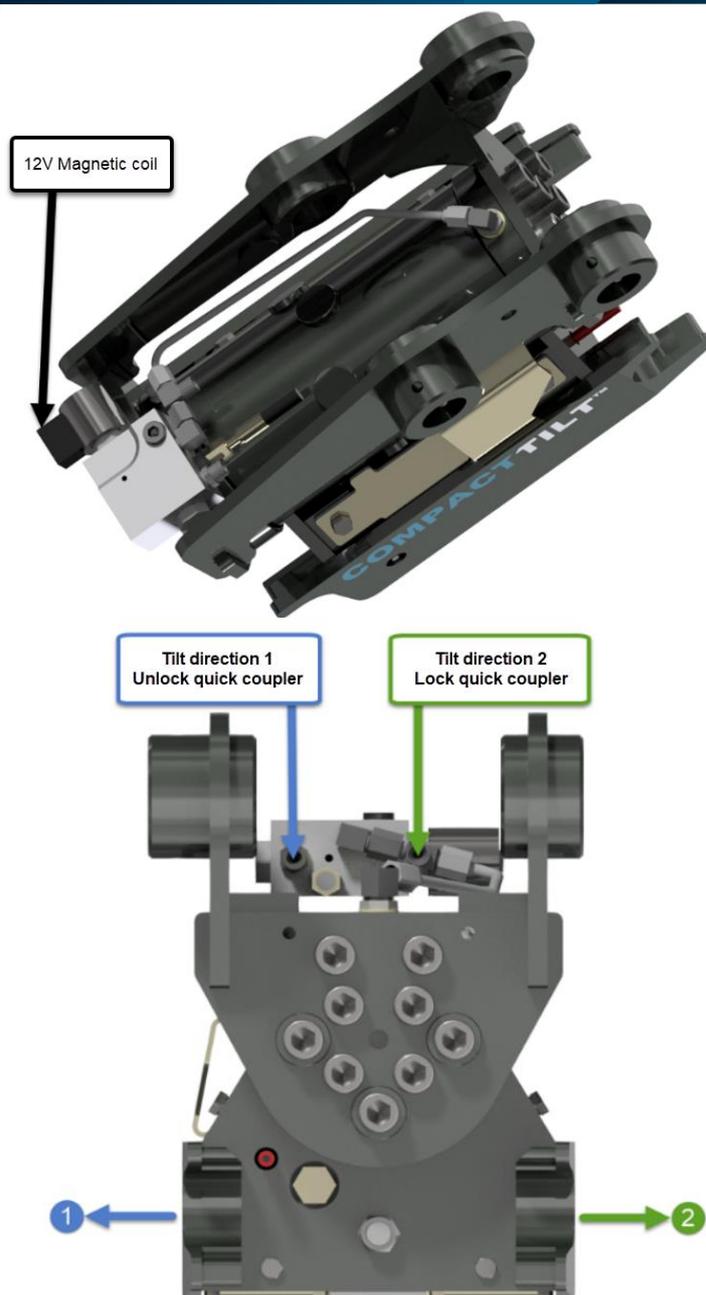
Connections = 1/8" 06L



## 2-hose connection

The magnetic coil must be connected to an approved safety switch. An acoustic signal must be activated when the magnetic coil is activated, to signal the quick coupler is unlocked. It is the machine dealer's responsibility to ensure that this safety feature is done correctly.

Connections = 1/8" 06L



## Attachment of equipment

To attach a piece of equipment to the Compacttilt, activate the quick coupler to retract the locking pins. The retraction of the locking pins can be confirmed when the indicator is fully pushed out (**Figure 5**).

The equipment to be attached must be positioned so that the quick-change shaft can catch.



*Figure 5*

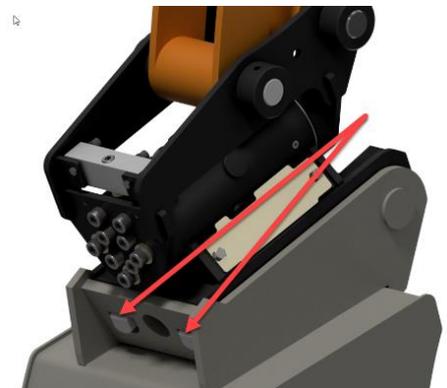


*Figure 6*

Catch the axle of the equipment to be connected (**Figure 6**).

When the equipment is caught, this is maneuvered into place, so the locking pins can be activated to lock the equipment to the CompactTilt. (**Figure 7**).

The locking of the quick coupler can be confirmed when the indicator is retracted into the tilt housing.



*Figure 7*

**The machine is now ready for use with the attached equipment.**

## Quick coupler with valve system



### Installation inspection

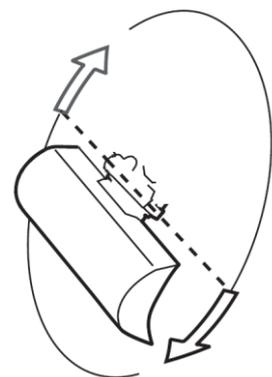
1. Check that the Compacttilt functions correctly.
2. Check that hoses and electric cables are not in risk of being pinched or stretched.
3. Check for hydraulic leaks.
4. Check that fasteners are properly tightened [see machine instructions].
5. Check that there is no contact with the digging arm and the Compacttilt at full swing.
6. Check that the tilt mounting bracket fits the carrier machine [see type plate].
7. Ensure that the pin-lock is fully engaged, and the indicator pin is correctly mounted.

**NOTE:** Assembly and installation may only be carried out by workshops approved by the manufacturer. Do not make any changes to the assembly without the manufacturer's permission. Workshops approved by the manufacturer are dealers with their own workshop, unless otherwise stated in the delivery of the Compacttilt.

## Steering range – Compacttilt

Compacttilt has the following control angle which must be considered:

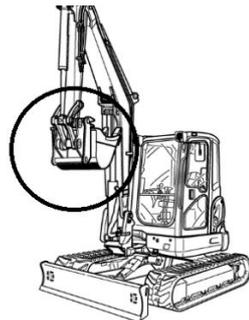
Tilt 2 x 50° grader



## Lifting hook – use and limitations

### Application

This illustration (**Figure 8**) is taken from the standard *DS/EN 474-1*, and describes how the lifting hook (**Figure 19**) must be used. See the inscription on the hook for max. capacity load. Human lifting is prohibited.



**Figure 8**



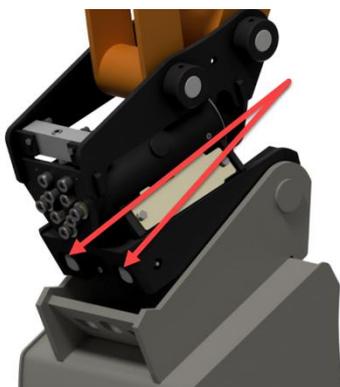
**Figure 9**

### Decoupling the bucket

The bucket / equipment is lowered so that it supports a solid surface (**Figure 10**).



**Figure 10**



**Figure 11**

The quick coupler is unlocked by the operator until the locking pins are retracted and the indicator is pushed out. (**Figure 11**).

With the quick coupler unlocked, the tilt is now maneuvered away from the equipment (*Figure 12*).

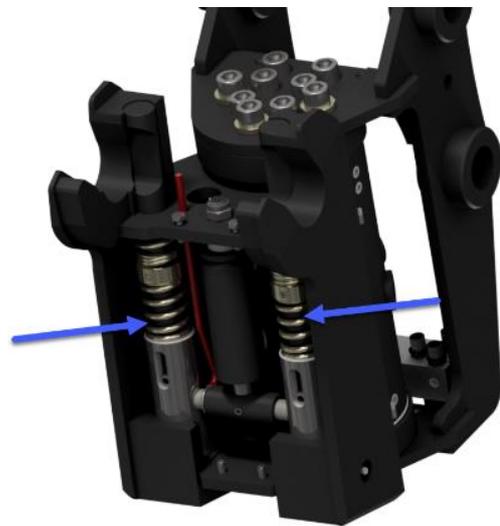


*Figure 12*

## Safety - Hydraulic quick change

The Compacttilt quick coupler is fitted with heavy-duty springs to ensure that equipment is not released in the event of a hose breakage or internal leakage in the hydraulic cylinder of the coupler.

The Compacttilt must not be used if the springs are damaged or removed.



## Lubrication overview

For lubrication of the Compacttilt, it is recommended to use: **Castrol Molub-Alloy 370-2**

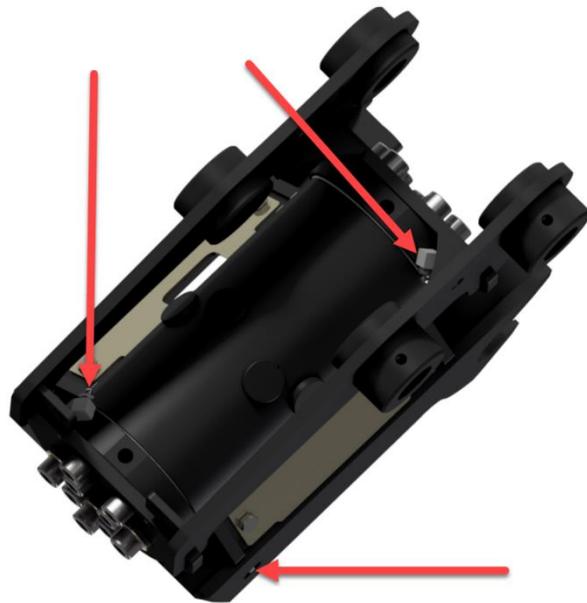
Lithium-based high-pressure grease with min. 3% molybdenum disulphide (MoS<sub>2</sub>) EP additives in NLGI 2.

Spec.: -DIN 51502 KF2K-25

-ISO 6743-9 ISO-LXCCIB2

**Greases containing graphite and copper must not be used.**

Always ensure that the lubrication nipples are free of dirt before lubrication is carried out.



## Spare part list

Contact your machine dealer if you have a request for spare parts for Compacttilt.







# CT

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