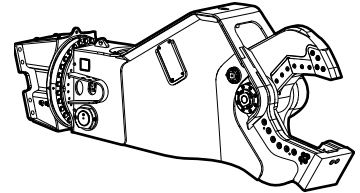


## Safety and operating instructions

### Hydraulic steel cutter

	Valid from serial number
SC 2500	DEQ169164
SC 3600	DEQ169166
SC 4500	DEQ169168
SC 6200	DEQ169052
SC 8300	DEQ169170





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## Introduction

Epiroc is a leading productivity partner for the mining, infrastructure and natural resources industries. With cutting-edge technology, Epiroc develops and produces innovative drill rigs, rock excavation and construction equipment, and provides world-class service and consumables. The company was founded in Stockholm, Sweden, and has passionate people supporting and collaborating with customers in more than 150 countries.

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## About these Safety and Operating Instructions



The aim of these Instructions is to familiarise you with the safe and effective operation of the hydraulic attachment. You will also find instructions for regular maintenance activities for the hydraulic attachment in this document.

Please read these Instructions carefully prior to the first attachment and use of the hydraulic attachment.

The different designation of the texts means as follows:

- ▶ Action step in a safety instruction
- ◆ Action step
- 1. Established operation process
- 2. Established operation process
- A Explanation of the elements of a drawing
- B Explanation of the elements of a drawing
- C Explanation of the elements of a drawing
- Listing
- Listing
- Listing

Symbols used in illustrations have the following meanings:

-  permitted operation
-  prohibited operation

## Safety instructions



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Read these Safety and operating instructions and specifically all safety instructions before using the hydraulic attachment. This will:

- prevent the risk of injuries and fatal accidents for yourself and others,
- protect the hydraulic attachment and other property against material damage,
- protect the environment against environmental damage.

Follow all instructions in these Safety and operating instructions.

Store these Safety and operating instructions in the document compartment of the carrier cab.

Anyone

- transporting,
- installing or removing,
- operating,
- maintaining,
- repairing,
- storing or
- disposing of

the hydraulic attachment must have read and understood these Safety and operating instructions.

These Safety and operating instructions belong to the hydraulic attachment. Keep it for the life of the product. Ensure, if applicable, that any received amendment is incorporated in the instructions. Hand over the Safety and operating instructions if ever you lend, rent out or sell the hydraulic attachment.

All safety regulations listed in this manual comply with the laws and regulations of the European Union. Also observe the additional national/regional regulations.

Hydraulic attachment operation outside the European Union is subject to the laws and regulations valid in the country of use. Please observe any other, more stringent regional regulations and legislation.

Read the carrier manufacturer's Safety and operating Instructions before attaching the hydraulic attachment to the carrier and operating it. Observe all instructions.

## Signal words

The signal words Danger, Warning, Caution, and Notice are used as follows in these Safety and operating instructions:

### **DANGER**

indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### **WARNING**

indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### **CAUTION**

indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### **NOTICE**

The signal word NOTICE is used to address practices related to possible property damage but not related to personal injury.



## Qualification

**Transporting** the hydraulic attachment is only permitted if carried out by people who:

- are authorised to operate a crane or a forklift truck according to the applicable national provisions,
- know all the relevant national/regional safety provisions and accident prevention rules,
- have read and understood the safety and transport chapter of these Safety and operating instructions.

**Installing, maintaining, storing and disposing** of the hydraulic attachment are only permitted if carried out by people who:

- know all the relevant national/regional safety provisions and accident prevention rules,
- have read and understood these Safety and operating instructions.

**Welding** of the hydraulic attachment is only permitted if carried out by qualified welders who:

- have been trained to operate MIG welding equipment according to the national regulations,
- know all the relevant national/regional safety provisions and accident prevention rules,
- have read and understood these Safety and operating instructions.

**Operating** the hydraulic attachment is only permitted if carried out by qualified carrier drivers. Carrier drivers are qualified if they:

- have been trained to operate a carrier according to the national regulations,
- know all the relevant national/regional safety provisions and accident prevention rules,
- have read and understood these Safety and operating instructions.

**Testing the hydraulic installation** is only permitted if carried out by professionals. Professionals are people who are authorised to approve a hydraulic installation for operation according to the national regulations.

**Repairing** the hydraulic attachment is only permitted if carried out by professionals trained by Construction Tools GmbH. These professionals must have read and understood these Safety and operating instructions. Otherwise the operational safety of the hydraulic attachment is not guaranteed.

## Intended use

Only attach the hydraulic steel cutter to a hydraulic carrier of a suitable load-bearing capacity.

The hydraulic steel cutter can be attached to the boom or to the stick.

Read the carrier manufacturer's Safety and Operating Instructions before attaching the hydraulic steel cutter to the carrier and operating it. Observe all instructions.

Only use the hydraulic jaw function of the equipment for the following work:

- demolition of steel construction buildings (general construction steels)
- subsequent reduction
- material separation
- cutting scrap

The hydraulic steel cutter is fitted with various guards that can be removed to perform maintenance and make adjustments. These guards must be reinstalled after the maintenance or adjustments have been completed. A hydraulic steel cutter must only be used with the guards in place.

Intended use also implies observing all instructions in these Safety and Operating Instructions.

## Use other than intended

Never use the hydraulic steel cutter

- for cutting alloy steel, hardened steel or cast metals like roller bearings, cylinder rods, hardox blades, railroad tracks  
This may damage the hydraulic steel cutter. Rails which break during the cutting process may be flung away and can cause serious injury if people are hit by them.
- to cut tensioned wire ropes  
Wire ropes that are under tension can spring away during the cutting process. This can lead to serious injury if the ropes strike a person.
- to pull/tear at girders, braces and walls.  
This damages the hydraulic steel cutter and adapter plate. The carrier may lose stability. It can topple over and cause injuries.
- to hit or chop  
This destroys the hydraulic steel cutter.
- as a crow bar  
This destroys the hydraulic steel cutter.
- to push debris/scrap  
This destroys the hydraulic steel cutter.

- to move the carrier supported by the hydraulic steel cutter  
This severely damages the hydraulic steel cutter.
- to lift or transport people  
People can fall. It cause serious injury or death.
- to lift or transport loads  
This damages the hydraulic steel cutter.
- under water  
This destroys the hydraulic steel cutter and may damage the whole hydraulic installation.
- in explosion-hazard environments  
Explosions cause serious injury or death.

## Protective equipment

Personal protective equipment must comply with the applicable health and safety regulations.

Always wear the following personal protective equipment:

- protective helmet
- safety glasses with side protectors
- protective gloves
- protective shoes
- warning vest
- hearing protection

## Carrier, precautions

### ⚠ **WARNING** Falling carrier

- If the load-bearing capacity of the carrier used is insufficient, the carrier will not be stable. It can topple over and cause injuries and damage.
- Using a carrier whose load-bearing capacity is too high, may cause mechanical overloading of the hydraulic steel cutter.
  - ▶ Only attach the hydraulic steel cutter to a hydraulic carrier of a suitable load-bearing capacity.
  - ▶ The carrier must remain stable at all times.
  - ▶ Read the carrier manufacturer's Safety and Operating Instructions before attaching the hydraulic steel cutter to the carrier and operating it. Observe all instructions.

## Transport, precautions

### ⚠ **WARNING Risk of death due to suspended loads**

When lifting loads these can swing out and fall. This can result in serious injuries or even death.

- ▶ Never stand underneath or in the swinging range of suspended loads.
- ▶ Only move loads under supervision.
- ▶ Only use approved lifting equipment and lifting gear with sufficient load bearing capacity.
- ▶ Do not use worn lifting gear (ropes, belts, chains, shackles etc.).
- ▶ Do not place lifting gear such as ropes and belts on sharp edges or corners, do not knot these or twist them.
- ▶ When leaving the workplace, set down the load.

### ⚠ **WARNING Injury due to swivelling load**

When transporting the load by crane it can swivel and cause severe injuries and considerable damage to property.

- ▶ Ensure that no personnel, objects or obstacles are located in the swivel range of the load.

## Hydraulic installation, precautions

### ⚠ **WARNING Hydraulic pressure too high**

If the hydraulic pressure is too high, the parts of the hydraulic attachment will be exposed to excessively high loads. Parts can break loose or burst causing serious injuries.

- ▶ Lay the drain line of the pressure relief valve directly in the tank to ensure the safe functioning of the pressure relief valve!
- ▶ The pressure relief valve must be set at the maximum static pressure.
- ▶ The pressure relief valve setting must be checked to ensure that the maximum static pressure (see chapter *Technical specifications*) of the hydraulic installation is not exceeded at any time. Attach a lead seal to the pressure relief valve.
- ▶ Prior to their first use, the safety facilities on the hydraulic installation must be checked by a professional/authorised monitoring body for their quality (CE mark etc.), suitability and proper functioning.
- ▶ If any significant changes are made to the hydraulic installation, a new acceptance inspection is to be carried out in accordance with the relevant national safety provisions.

### ⚠ **WARNING Hot hydraulic oil squirting out**

The hydraulic system is under high pressure. Hydraulic lines may spring a leak or burst. Hydraulic oil squirting out can lead to serious injury.

- ▶ When attaching the hydraulic attachment do not lay any hydraulic lines through the carrier's cab.
- ▶ Only use hydraulic lines which comply with the following quality requirements:

For the function open and close

#### **SC 2500 - SC 6200**

- Hydraulic hoses with 4 reinforcement steel wires according to DIN EN 856 4SH, Hydraulic pipes, seamless cold-drawn steel pipes according to DIN EN 10305

#### **SC 8300**

- Hydraulic hoses with 6 reinforcement steel wires according to EN 856 R13 - SAE 100 R13 - ISO 3862 R13, Hydraulic pipes, seamless cold-drawn steel pipes according to DIN EN 10305

For the function turn

**SC 2500 - SC 8300**

- Hydraulic hoses with 2 steel plaitings according to DIN EN 853 2SN, Hydraulic pipes, seamless cold-drawn steel pipes according to DIN EN 10305.

## Media/consumables, precautions

### ⚠ **WARNING Hot hydraulic oil under high pressure**

Hydraulic oil will squirt out under high pressure if there is a leakage. The jet of oil might penetrate people's skin and cause permanent damage. Hot hydraulic oil can cause burns.

- ▶ Never use your hands to find leaks.
- ▶ Always keep your face away from a possible leak.
- ▶ If hydraulic oil has penetrated your skin consult a doctor immediately.

### ⚠ **WARNING Hydraulic oil spills**

Spilt hydraulic oil can make a floor slippery. If people slip they can be injured. Hydraulic oil is environmentally harmful and must not penetrate the ground or enter the water table or water supplies.

- ▶ Make sure not to spill any hydraulic oil.
- ▶ Immediately clean the floor if you have spilt hydraulic oil.
- ▶ Observe all safety and environmental protection provisions when handling hydraulic oil.

### ⚠ **WARNING Skin infections/diseases due to oil and grease**

Hydraulic oil and grease can cause rashes (or even eczema) if they come into contact with the skin.

- ▶ Avoid all skin contact with hydraulic oil and grease.
- ▶ Use a suitable skin protection product.
- ▶ Always wear safety gloves when working with hydraulic oil or grease.
- ▶ Immediately clean any skin that has been contaminated by oil or grease with water and soap.

## Explosion and fire, precautions

### ⚠ **DANGER Explosion and fire**

Explosions cause serious injury or death. Explosives being cut by the hydraulic steel cutter may lead to an explosion.

- ▶ Never operate the hydraulic steel cutter in the direct vicinity of explosives.
- ▶ Make sure that no explosives are hidden in the concrete.
- ▶ Check gas line position plans of the complete construction area.

### ⚠ **DANGER Explosion and fire**

Operating the hydraulic steel cutter may create sparks which ignite highly flammable gases. This may lead to fire or an explosion.

- ▶ Never work in an environment with highly flammable substances.
- ▶ Make sure that there are no hidden sources of gas in the work area.
- ▶ Check gas line position plans of the complete construction area.

### ⚠ **DANGER Explosion and fire**

Dust-rich air can form an explosive atmosphere which may ignite when operating the hydraulic steel cutter. This may lead to fire or an explosion

- ▶ Never operate the hydraulic steel cutter in an explosion-hazard atmosphere.
- ▶ Always provide sufficient ventilation when working in buildings or in a confined area.

## Electrical shock, precautions

### ⚠ **DANGER Electrical shock**

Any contact of the hydraulic attachment with electric circuits or other sources of electricity will lead to an electric shock, resulting in serious injury or death. The hydraulic attachment is not electrically insulated.

- ▶ Never work in the vicinity of electric circuits or other sources of electricity.
- ▶ Make sure that there are no hidden circuits in the work area.
- ▶ Check wiring diagrams.

## Falling stones, precautions

### ⚠ **WARNING Fragments flying around**

Fragments of material which come loose while operating the hydraulic attachment may be flung away and can cause serious injury if people are hit by them. Small objects falling from a great height can also cause serious damage.

During hydraulic attachment operation the danger zone is considerably greater than during the excavation operation due to fragments of stone and pieces of steel flying around, and for this reason the danger zone must, depending on the type of material to be worked on, be enlarged correspondingly, or secured in a suitable manner through corresponding measures.

- ▶ Secure the danger zone.
- ▶ Stop the hydraulic attachment immediately if anyone enters the danger zone.
- ▶ Close the windscreen and the side windows of the driver's cab.

## Handling machines, precautions

### ⚠ **WARNING Narcotics, alcohol and drugs**

Narcotics, alcohol and medicinal drugs make their users less alert and affect their ability to concentrate. Negligence and incorrectly assessing a situation can result in serious injury or death.

- ▶ Never work on or with the hydraulic attachment when under the influence of narcotics, alcohol or drugs which affect your alertness.
- ▶ Never allow other people who are under the influence of narcotics, alcohol or drugs which affect their alertness to work on or with the hydraulic attachment.

## Changes to the hydraulic attachment, precautions

### ⚠ **WARNING Changes to the hydraulic attachment**

Changes to the hydraulic attachment or the adapter plate may lead to serious injury.

- ▶ Never carry out any changes to the hydraulic attachment or the adapter plate.
- ▶ Only use original parts or accessories approved by Epiroc.
- ▶ Modifications that entail new hazards may require a new procedure for assessing conformity.

## Environmental pollution, precautions

---

**NOTICE** Environmental pollution due to hydraulic oil

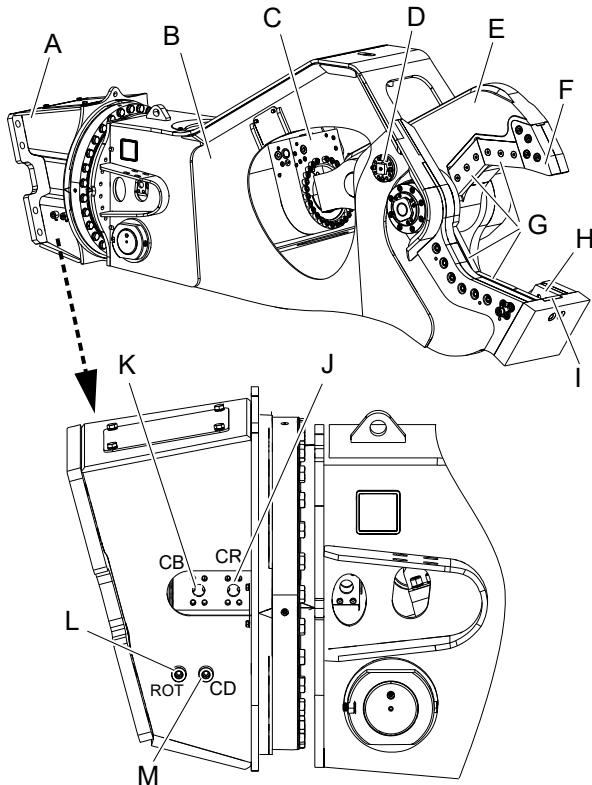
Hydraulic oil is permanently environmentally harmful. Escaped hydraulic oil will lead to groundwater and soil contamination. Organisms may die.

- ▶ Collect any hydraulic oil which escapes to avoid environmental pollution. For minor volumes use an absorbing medium (in case of an emergency use soil). In case of major leakages contain the hydraulic oil. It must not drain off and penetrate the ground or enter the water table or water supplies.
- ▶ Collect contaminated absorbing medium or soil in a watertight box/container and close it tight.
- ▶ Contact an authorized waste management company.
- ▶ Dispose of all contaminated material in accordance with the applicable environmental regulations.

## Overview

### Equipment description

The illustration gives an overview of the main parts and components of the hydraulic attachment. Actual details may differ.



- A. Upper part
- B. Housing
- C. Hydraulic cylinder
- D. Jaw guide
- E. Cutter jaw
- F. Nose blade
- G. Cutter blades
- H. Guide blade
- I. Front blade
- J. Connection »CR« - Pressure line - function »Open«
- K. Connection »CB« - Pressure line - function »Close«
- L. Connection »ROT« - Pressure/return line - function »Turn«
- M. Connection »CD« - Leakage oil line

### Function

The operation of a hydraulic steel cutter is described in a simplified version below:

#### Closing the hydraulic steel cutter

The carrier driver operates the valve, via a switch on the floor or via a joystick in the carrier, for the function »Close«. The rapid movement valve feeds oil to the hydraulic cylinder. The hydraulic cylinder extends its piston rod in fast traverse. The cutter jaw grab the material. Once the material has generated a force in the cutter jaw, the rapid movement valve switches to power movement. The hydraulic cylinder extends its piston rod in power movement. The material is cut. The piston rod reaches its end position.

#### Opening hydraulic steel cutter

The carrier driver operates the valve, via a switch on the floor or via a joystick in the carrier, for the function »Open«. Oil is fed to the hydraulic cylinder. The piston rod retracts. The cutter jaw opens.

#### Hydraulically turning the hydraulic steel cutter

The carrier driver activates the carrier function »Turn« via a switch on the floor or via a joystick in the carrier. Oil is fed to the hydraulic motor. The hydraulic motor, located in the upper part of the hydraulic steel cutter, causes the lower part of the hydraulic steel cutter to turn (housing, cutter jaw, hydraulic cylinder).

To achieve endless turning of the lower part of the hydraulic steel cutter, there is a rotary transmission between the upper part and housing. The oil flows for the functions »Open« and »Close« are transmitted through the rotary transmission.

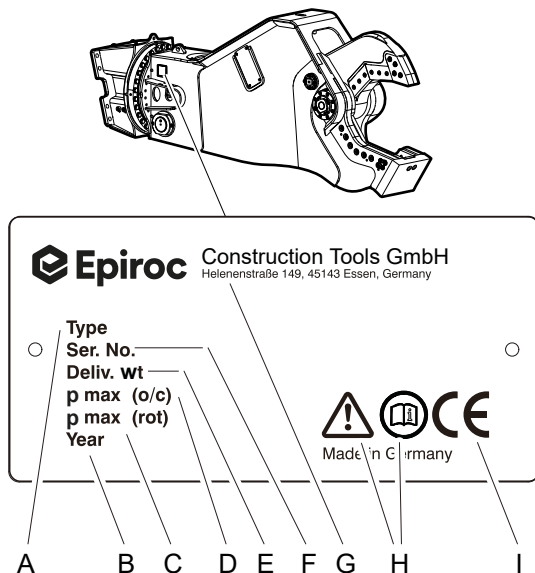
## Signs / labels

### ⚠ **WARNING** Missing warnings

The name plate and the labels on the hydraulic attachment contain important information about the hydraulic attachment and for personal safety. A missing warning can lead to overlooking or misinterpretation of possible risks and cause personal hazards. The signs and labels must always be clearly legible.

- ▶ Immediately replace any defective name plates and labels.
- ▶ Use the spare parts list to order new name plates and labels.

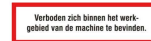
### Name plate



- A. Model
- B. Year of construction of hydraulic attachment
- C. Max. permissible operating pressure »Turn«
- D. Max. permissible operating pressure »Open / Close«
- E. Weight of hydraulic attachment
- F. Serial number
- G. Name and address of manufacturer
- H. The warning symbol and the book symbol indicate that the Safety and Operating Instructions must be read prior to use of the hydraulic tool and in particular the chapter on Safety.
- I. The CE symbol indicates that the hydraulic attachment was produced in conformity with the CE. You can find further information about this in the enclosed EC Declaration of Conformity.

## Labels

### Danger zone



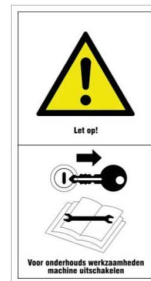
No persons should be within the danger zone. Fragments of material which come loose while operating the hydraulic attachment may be flung away and can cause serious injury if people are hit by them. Small objects falling from a great height can also cause serious damage.

### Read manual



The Safety and Operating Instructions must be read prior to use of the hydraulic attachment and in particular the chapter on Safety.

### Switch off the machine



Attention!  
Switch off the machine before performing maintenance.



## Guarantee

---

The guarantee or product liability will be invalidated by the following:

- Use other than intended
- Maintenance work not being carried out or being carried out incorrectly
- The use of incorrect consumables
- The use of non-approved parts
- Damage due to wear
- Damage due to improper storage
- Changes not carried out by or in consultation with the manufacturer

## Removing the packaging

---

- ◆ Remove all the packaging material.
- ◆ Dispose of it in accordance with the applicable provisions.
- ◆ Check that the delivery is complete.
- ◆ Check the delivery for visual damage.
- ◆ If any defects are found, consult the Epiroc Customer Center / dealer in your area.

## Scope of delivery

---

The hydraulic steel cutter is delivered complete with:

- Hydraulic steel cutter
- Safety and Operating Instructions
- Spare parts list
- EC Declaration of Conformity

Accessories as ordered:

- Hoses

Special accessories as ordered:

- e.g. adapter plate with Allen screws and pairs of lock washers
- e.g. base plate to construct an adapter plate with Allen screws and pairs of lock washers
- e.g. bump key to tighten the Allen screws of the adapter plate
- e.g. hydraulic fittings for the carrier

## Transport

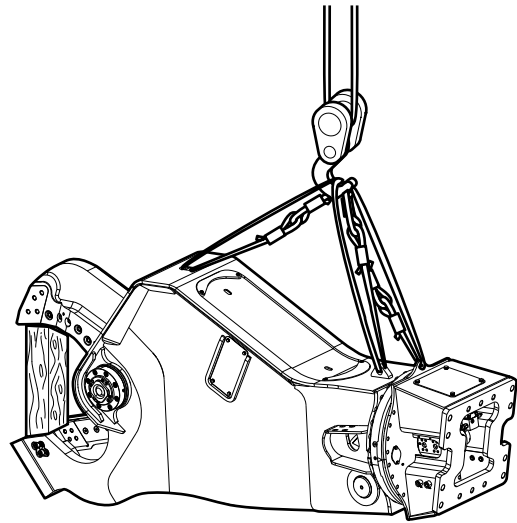
### ⚠ **WARNING Hoist tipping over / hydraulic attachment falling**

The hydraulic attachment is heavy. The hoist/lifting equipment and/or hydraulic attachment tipping over or falling may cause serious injury and material damage.

- ▶ Only transport the hydraulic attachment with lifting equipment with the right load-bearing capacity for the weight of the hydraulic attachment.
- ▶ Only lift and secure the hydraulic attachment with lifting gear (ropes, chains, shackles etc.) with the right load-bearing capacity for the weight to be lifted.
- ▶ Make sure that there is nobody near or under the suspended hydraulic attachment.
- ◆ Transport the hydraulic steel cutter with the cutter jaws open.  
There is less oil in the hydraulic steel cutter if the hydraulic steel cutter is transported with open cutter jaws. In the event of a leak, less oil is lost and the environmental damage is lower.
- ◆ Open the hydraulic steel cutter before transporting it.
- ◆ Secure the cutter jaws with a square timber to keep them open.

## Transport using a crane

- ◆ Secure the hydraulic attachment with ropes or chains as shown in the following illustration.



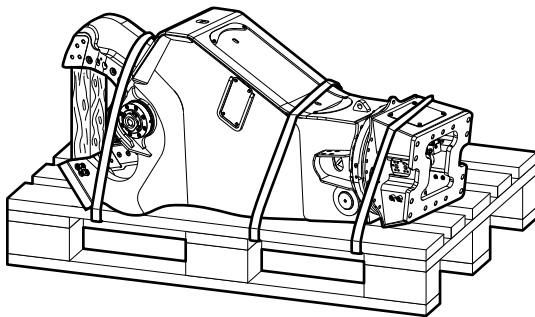
- ◆ Slowly lift the hydraulic attachment.
- ◆ Place the hydraulic attachment on a pallet.

## Transport using a forklift truck

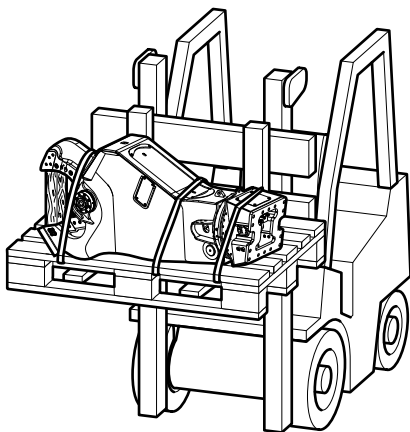
### ▲ **WARNING** Hydraulic attachment tipping over

The hydraulic attachment tipping off the fork of the forklift truck or the pallet may cause serious injury.

- ▶ Place the hydraulic attachment on a pallet.
- ▶ Strap the hydraulic attachment to the pallet using suitable strapping, as shown in the illustration below.
- ▶ Move the fork of the forklift truck under the pallet so that the centre of gravity is between the prongs.



- ◆ Move the fork of the forklift truck under the pallet so that the hydraulic attachment cannot tip over.



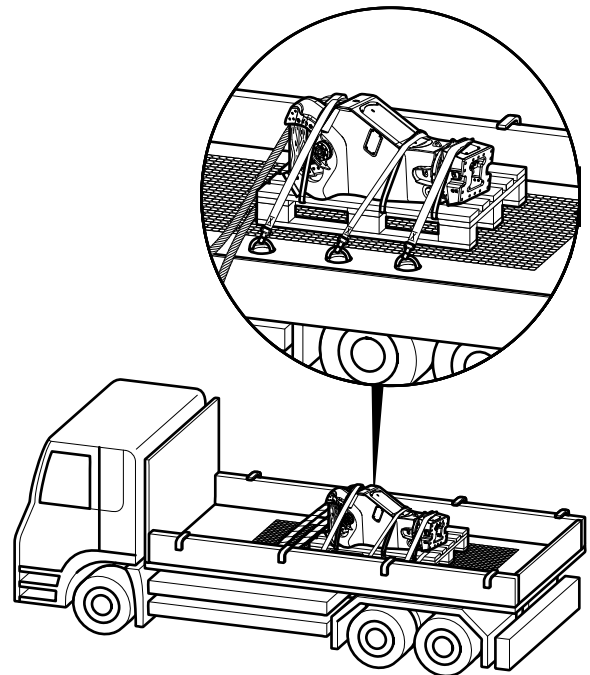
- ◆ Slowly lift the pallet with the hydraulic attachment.
- ◆ Transport the pallet with the hydraulic attachment to the location provided for.

## Transport using a truck

### ▲ **WARNING** Hydraulic attachment tipping over / slipping

The hydraulic attachment slipping or tipping over and falling from the loading area of a lorry may cause serious injury.

- ▶ Place the hydraulic attachment on a pallet.
- ▶ Strap the hydraulic attachment to the pallet using suitable strapping (see illustration in chapter *Transport using a forklift truck*).
- ▶ Place the pallet with the hydraulic attachment on an anti-slip mat.
- ▶ Secure the hydraulic attachment to the loading area with ropes or chains; use any available transport lugs.
- ◆ Secure the hydraulic attachment on the pallet and the loading surface as shown in the following illustration.
- ◆ Observe all the applicable national/regional regulations on securing loads.



# Installation

**⚠ WARNING Hot hydraulic oil squirting out**

The hydraulic system is under high pressure. If hydraulic connections come loose or are disconnected, hydraulic oil will squirt out under high pressure. Hydraulic oil squirting out can lead to serious injury.

- ▶ Depressurise the hydraulic system before connecting or disconnecting the hydraulic circuits of the hydraulic attachment (see chapter *Depressurising the hydraulic system*).

**NOTICE** Environmental damage due to hydraulic oil

Hydraulic oil is environmentally harmful and must not penetrate the ground or enter the water table or water supplies.

- ▶ Collect any hydraulic oil which escapes.
- ▶ Dispose of it in accordance with the applicable environmental regulations.

## Media/consumables

The following consumables are used when operating the hydraulic attachment:

### Mineral hydraulic oil

All hydraulic oil brands prescribed by the carrier manufacturer are also suitable for use when operating the hydraulic attachment.

However, the oil should comply with viscosity class HLP 32 or higher.

In summer and in hot climates, oils of viscosity class HLP 68 or higher should be used.

In all other respects the regulations of the carrier manufacturer are to be taken into consideration.

Optimum viscosity range	= 30 - 60 cSt
Max. start viscosity	= 2000 cSt
Max. oil temperature	= 80 °C

Special conditions apply to using the hydraulic attachment at low temperatures (see chapter *Low ambient temperature*).

- ◆ Check the oil filter!  
An oil filter must be integrated in the tank line of the hydraulic system. The maximum mesh width allowed for the oil filter is 50 microns; it must have a magnetic separator.

## Non-mineral hydraulic oil

**NOTICE** Mixed hydraulic oil

Never mix mineral and non-mineral hydraulic oils! Even small traces of mineral oil mixed in with non-mineral oil can result in damage to both the hydraulic attachment and the carrier. Non-mineral oil loses its biodegradability.

- ▶ Only use one type of hydraulic oil.

If you are using non-mineral oil it is imperative that the name of the oil in use be indicated when returning the hydraulic attachment for repair.

In order to protect the environment or on technical grounds, hydraulic oils are currently being used which are not classified as HLP mineral oils.

Before using hydraulic oils of this kind it is imperative to ask the carrier manufacturer whether operations with such fluids are possible.

Our hydraulic attachments are basically designed for use with mineral oils. Consult the Epiroc Customer Center / Dealer in your area before using other hydraulic oils approved by the carrier manufacturer. Following initial assembly and after any workshop repairs, our hydraulic attachments are subjected to a test run on a test bed powered by **mineral oil**.

## Grease

- ◆ When handling oils and greases observe the safety instructions that apply to these products.

Media /consumables	Part number
Cutter grease 12 x 400 g cartridges	3363 0949 14
PARLUBE 12 x 400 g cartridges, fully synthetic, for temperatures up to 200° C / 392 °F	4812 0374 02

## Gear oil

- ◆ When handling oils and greases observe the safety instructions that apply to these products.

Media /consumables	Part number
Gearbox oil Synthetic ISO 150 - like Shell Omala S4 GX 150	

## Manufacturing the adapter plate

Construction Tools GmbH also supplies base plates to manufacture adapter plates alternatively to the adapter plates supplied.

### NOTICE Adapter plate cracking

The adapter plate may crack if it is not designed for the high load.

- ▶ Take not only the weight of the hydraulic attachment but also the crowd force of the carrier, possible vibration etc. into account when dimensioning the adapter plate.
- ▶ Ensure that the design conforms to the state of the art.
- ▶ Have the web plates welded to the adapter plate base plate by a qualified welding specialist.

The base plate is made of the material EN10025-S355 J2G3.

- ◆ Have the web plates designed and manufactured or procure web plates to fit your carrier.
- ◆ Ensure that the web plates are welded to the base plate side marked "TOP".

The adapter plate must not strike in any position during operation of the hydraulic attachment.

Construction Tools GmbH does not design, manufacture or sell web plates for adapter plates.

## Installing the adapter plate

### NOTICE The adapter plate can come loose

The adapter plate can come loose if the fastening screws are not designed for local high loads.

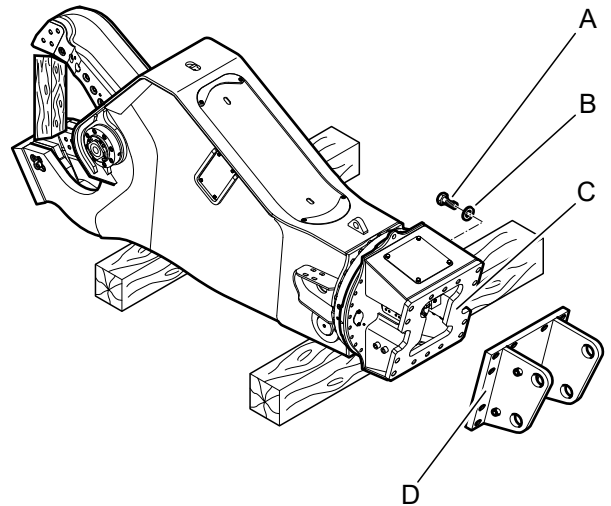
- ▶ Only use the Allen screws of strength category 8.8 and the pairs of lock washers included in the delivery to attach the adapter plate or the base plate.
- ◆ Place the hydraulic steel cutter on timber support blocks within the range of the carrier.
- ◆ Apply anti-seize compound to the Allen screw threads (A) before inserting them.

The contact faces of the screw head and the lock washers (B) must not be lubricated.

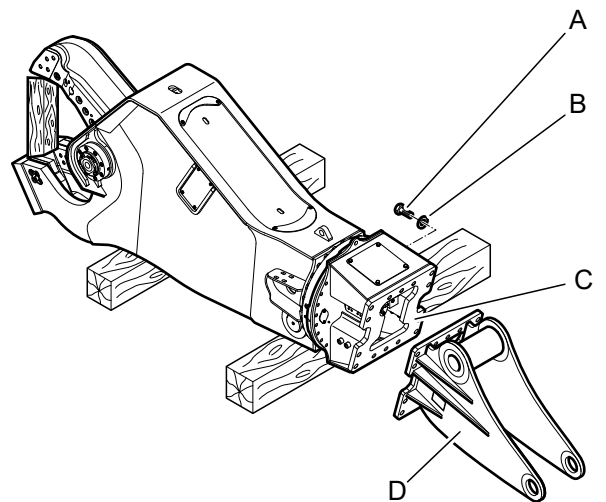
### ⚠ **WARNING** Hands and fingers being cut off or hurt

Bores and surfaces can act like a pair of scissors and cut off or hurt parts of your body.

- ▶ Never use your fingers to check bores or fitting surfaces.
- ◆ Align the adapter plate (D) to the upper part (C) of the hydraulic steel cutter as shown.  
Adapter plate for carrier stick (3rd member)



Adapter plate for carrier boom (2nd member)



- ◆ Fit a pair of lock washers (B) onto every screw.
- ◆ Tighten the Allen screws (A) with an Allen key.
- ◆ Tighten the Allen screws (A) with the required tightening torque.

Type	Key size	Tightening torque
SC 2500	22 (0.89 in.)	1500 Nm (1106 ft lbs)
SC 3600	27 (1.06 in.)	2300 Nm (1696 ft lbs)
SC 4500	27(1.06 in.)	2300 Nm (1696 ft lbs)
SC 6200	27(1.06 in.)	2300 Nm (1696 ft lbs)
SC 8300	27(1.06 in.)	2300 Nm (1696 ft lbs)

## Attaching the hydraulic attachment to the carrier stick (3rd member)

### Mechanical mounting aspects to carrier stick (3rd member)

You need an assistant to attach the hydraulic attachment to the carrier.

- ◆ Agree on hand signals with your assistant, to enable him to help you place the carrier in the proper position to attach the hydraulic attachment.
- ◆ Lower the stick of the carrier into the holder provided on the adapter plate.

#### ⚠ **WARNING Injury by impacts**

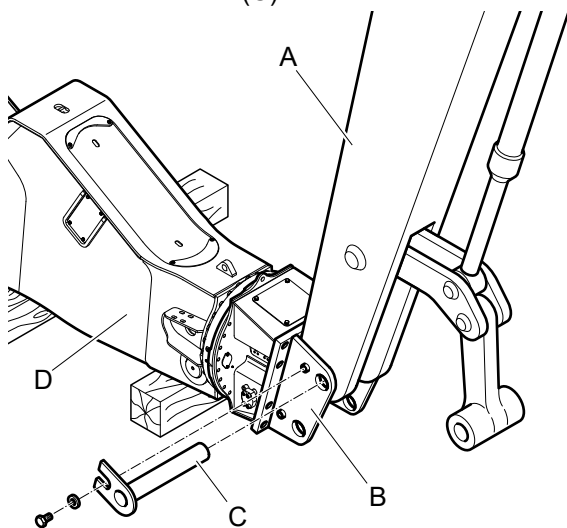
A sudden movement of the carrier may cause your assistant to be hit and injured by the boom or the hydraulic attachment.

- ▶ Only move the boom very slowly and in a controlled manner while an assistant is within the danger zone.
- ▶ Always keep sight of your assistant.

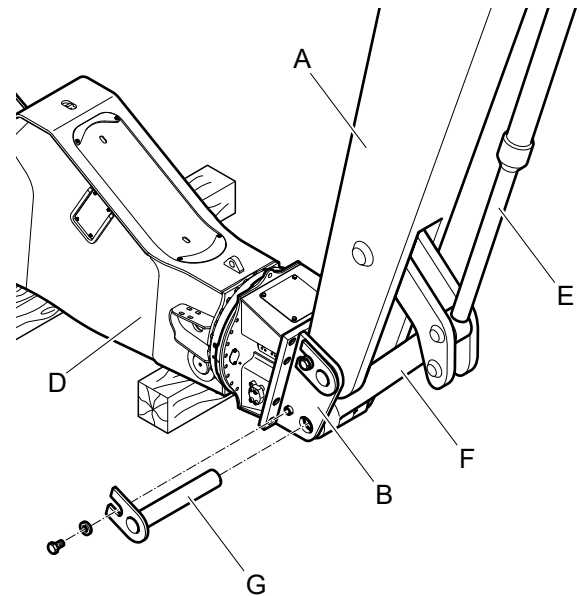
#### ⚠ **WARNING Hands and fingers being cut off or hurt**

Bores and surfaces can act like a pair of scissors and cut off or hurt parts of your body.

- ▶ Never use your fingers to check bores or fitting surfaces.
- ◆ Let your assistant instruct you until the bores in the adapter plate (B) and in the stick (A) are properly aligned.
- ◆ Install the stick bolt (C) and lock it.



- ◆ Lift the hydraulic attachment (D).



- ◆ Extend the bucket cylinder (E) until the bore in the linkage (F) aligns with the bore in the adapter plate (B).
- ◆ Install the linkage bolt (G) and lock it.
- ◆ Carefully move the bucket cylinder (E) into both end positions.

The adapter plate must not be stopped by the mechanical stops in either position. Consult the Epiroc Customer Center / Dealer in your area if the adapter plate is stopped by a mechanical stop.

## Mechanical mounting aspects to carrier boom (2nd member)

You need an assistant to attach the hydraulic attachment to the carrier.

- ◆ Agree on hand signals with your assistant, to enable him to help you place the carrier in the proper position to attach the hydraulic attachment.
- ◆ Lower the boom of the carrier into the holder provided on the adapter plate.

### ▲ **WARNING Injury by impacts**

A sudden movement of the carrier may cause your assistant to be hit and injured by the boom or the hydraulic attachment.

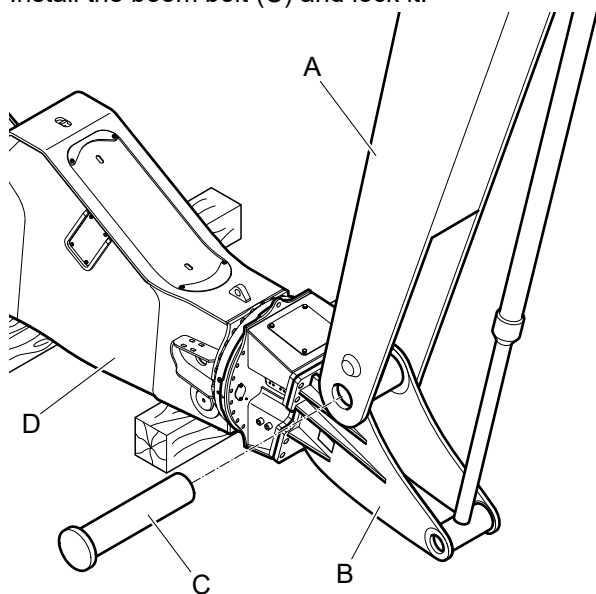
The stick cylinder may swing during attaching the adapter plate to the boom.

- ▶ Only move the boom very slowly and in a controlled manner while an assistant is within the danger zone.
- ▶ Always keep sight of your assistant.

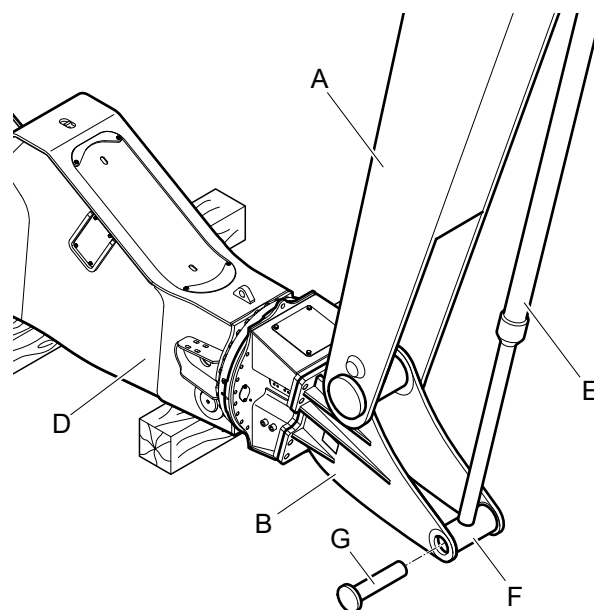
### ▲ **WARNING Hands and fingers being cut off or hurt**

Bores and surfaces can act like a pair of scissors and cut off or hurt parts of your body.

- ▶ Never use your fingers to check bores or fitting surfaces.
- ◆ Let your assistant instruct you until the bores in the adapter plate (B) and in the boom (A) are properly aligned.
- ◆ Install the boom bolt (C) and lock it.



- ◆ Lift the hydraulic attachment (D).



- ◆ Extend the stick cylinder (E) until the bore in the piston rod (F) aligns with the bore in the adapter plate (B).
- ◆ Install the stick cylinder bolt (G) and lock it.
- ◆ Carefully move the stick cylinder (E) into both end positions.

The adapter plate must not be stopped by the mechanical stops in either position. Consult the Epiroc Customer Center / Dealer in your area if the adapter plate is stopped by a mechanical stop.

## Making the hydraulic connections

**NOTICE** Faulty hydraulic installation

The carrier must have a suitable hydraulic installation to operate the hydraulic attachment. Improperly installed lines and incorrectly rated sizes may cause the oil to heat up and the hydraulic attachment to be damaged.

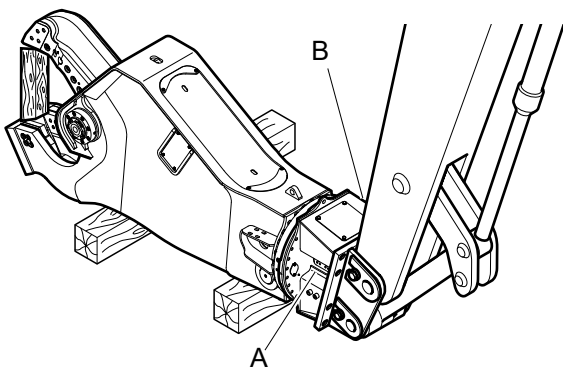
- ▶ Only use hydraulic lines of the rated sizes as instructed (see chapter *Technical Specifications*).
- ▶ Check the rated size of the hydraulic lines on existing hydraulic installations! All supply and return lines for the hydraulic oil must have a sufficient inside diameter and wall thickness.
- ▶ Route all hydraulic hoses in a torsion-free manner.
- ◆ Switch off the carrier.
- ◆ Depressurise the hydraulic system according to the manufacturer's safety and operating instructions for the carrier.
- ◆ Close all shut-off valves in the installation at the boom, if no quick couplings are used.

**NOTICE** Damage to hydraulic parts

Polluted hydraulic lines and connections may enable sand, fragments of material and dirt to penetrate the hydraulic attachment and damage the hydraulic parts.

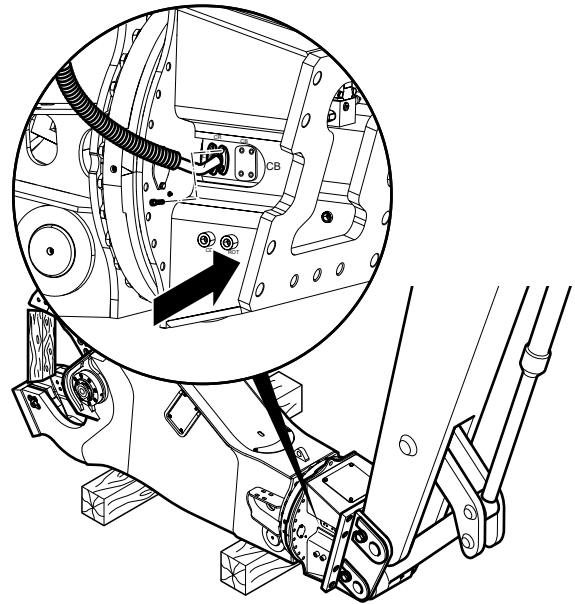
- ▶ Clean the hydraulic lines and connections prior to connecting the hydraulic lines.
- ◆ Have dirty hydraulic lines rinsed through by a specialist company.
- ◆ Clean dirty hydraulic line connections with a suitable grease-dissolving universal cleaner.
- ◆ Observe the cleaner manufacturer's information on safety and use.

### Connecting hydraulic hoses for the functions »Open / Close«



- A. Connect line »Close« to this side
- B. Connect line »Open« to this side

- ◆ Remove the blank flange from the connections »CR« and »CB« at the upper part of the hydraulic steel cutter and keep them in a safe place.



The connection of function »Open« is marked with »CR«, the connection of function »Close« with »CB«.

- ◆ Check that the connections on the hydraulic steel cutter and on the hoses are not damaged.
- ◆ Change any damaged connections.
- ◆ Fix the hose on the connection »CR« at one side of the carrier stick.
- ◆ Fix the flange halves on both sides of the hose with the fixing screws.
- ◆ Fix the hose on the connection »CB« at the other side of the carrier stick.
- ◆ Fix the flange halves on both sides of the hose with the fixing screws.
- ◆ Connect the hoses to the boom in a torsion-free manner.

#### Note:

The hydraulic steel cutters SC 4500, SC 6200 and SC 8300 have a connection »CR« and a connection »CB« at each side of the upper part. When attaching the hydraulic steel cutter to the carrier boom, this enables you to connect two hoses for »Open« and two for »Close«. Therefore additional modifications at the carrier are necessary.

For technical support contact the Epiroc Customer Center / Dealer in your area.



**⚠ WARNING Hydraulic hose flailing about**

Pressurised hydraulic hoses will flail about if a bolted connection comes loose or becomes loosened. A hydraulic hose flailing about may cause serious injuries.

- ▶ Tighten the fastening screws with the right tightening torque.  
Tightening torque (see chapter *Bolt connections / Tightening torques*).

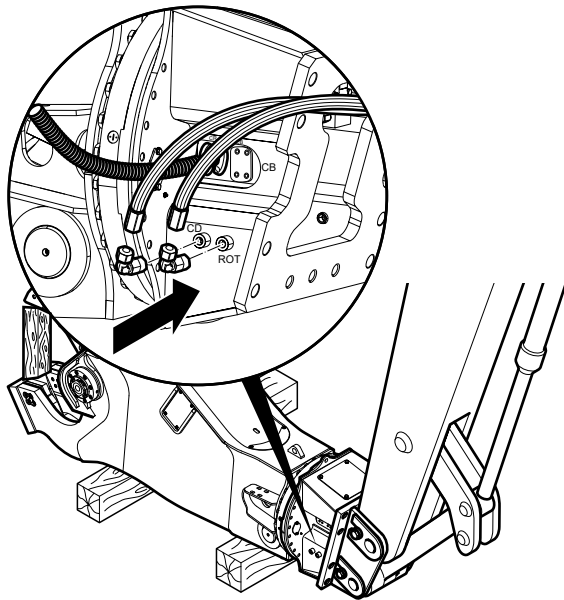
- ▶ Tighten the fastening screws with the required tightening torque.  
Tightening torque (see chapter *Bolt connections / Tightening torques*).

**Connecting hydraulic hoses for the function »Turn« and connecting leakage oil line**

**Note:**

The hydraulic steel cutters SC 2500 and SC 3600 do not need a leakage oil line.

- ◆ Remove the cap nuts and plugs from the connections »ROT« = Turn at both sides of the upper part. Save them for future use.
- ◆ Remove the cap nut and plug from the connection »CD« = leakage oil line at one side of the upper part and save them for future use.
- ◆ Check that the connections on the hydraulic steel cutter and on the hoses are not damaged.
- ◆ Replace damaged connections.
- ◆ Fix the hoses to the connections for functions »ROT« and »CD«.



- ◆ Connect the hoses for the functions »ROT« and »CD« at the boom in a torsion-free manner.

**⚠ WARNING Hydraulic hose flailing about**

Pressurised hydraulic hoses will flail about when bolted connection have come loose or have been loosened. A hydraulic hose flailing about may cause serious injuries.

## Removing the hydraulic attachment from the carrier

- ◆ Place the hydraulic attachment on timber support blocks.

### Dismantling the hydraulic connections

#### ⚠ **WARNING Unexpected movement**

Sudden movements of the carrier may cause serious injury.

- ▶ Secure the carrier such that it cannot move unexpectedly.
- ▶ Observe the carrier manufacturer's instructions.

#### ⚠ **WARNING Hydraulic hose flailing about**

Pressurised hydraulic hoses will flail about when bolted connections have come loose or have been loosened. A hydraulic hose flailing about may cause serious injuries.

- ▶ Depressurise the hydraulic system before disconnecting a hydraulic hose (see chapter *Depressurising the hydraulic system*).

#### ⚠ **WARNING Hot parts**

The hydraulic cylinder, hoses, pipes and fittings become very hot during operation. Touching them may lead to burns.

- ▶ Never touch hot parts.
- ▶ If you have to carry out activities where you have to touch the parts, wait for them to cool down first.
- ◆ Close all shut-off valves in the installation at the boom if no quick couplings are used.
- ◆ Disconnect the hose lines to and from the hydraulic attachment at the boom side.
- ◆ Close off all open hose ends.

### Mechanical disassembly from carrier stick (3rd member)

- ◆ You need an assistant to remove the hydraulic attachment.
- ◆ Agree on hand signals with your assistant, to enable him to help you move the boom.

#### ⚠ **WARNING Injury by impacts**

A sudden movement of the carrier may cause your assistant to be hit and injured by the boom or the hydraulic attachment.

- ▶ Only move the boom very slowly and in a controlled manner while an assistant is within the danger zone.

- ▶ Always keep sight of your assistant.

#### ⚠ **WARNING Metal chips shooting off**

When hammering out bolts, chips may shoot off and cause serious eye injuries.

- ▶ Wear safety glasses when hammering out the bolts.
- ◆ Remove the bolt locks from the stick and linkage bolts.
- ◆ Drive out the linkage bolt with a steel arbor and a hammer.
- ◆ Switch on the carrier.
- ◆ Retract the bucket cylinder.
- ◆ Drive out the stick bolt with a steel arbor and a hammer.
- ◆ Move the carrier stick out of the adapter plate.

### Mechanical disassembly from carrier boom (2nd member)

- ◆ You need an assistant to remove the hydraulic attachment.
- ◆ Agree on hand signals with your assistant, to enable him to help you move the boom.

#### ⚠ **WARNING Injury by impacts**

A sudden movement of the carrier may cause your assistant to be hit and injured by the boom or the hydraulic attachment.

- ▶ Only move the boom very slowly and in a controlled manner while an assistant is within the danger zone.
- ▶ Always keep sight of your assistant.

#### ⚠ **WARNING Metal chips shooting off**

When hammering out bolts, chips may shoot off and cause serious eye injuries.

- ▶ Wear safety glasses when hammering out the bolts.
- ◆ Remove the bolt locks from the boom and stick cylinder bolts.
- ◆ Drive out the stick cylinder bolt with a steel arbor and a hammer.
- ◆ Switch on the carrier.
- ◆ Retract the stick cylinder.
- ◆ Drive out the boom bolt with a steel arbor and a hammer.
- ◆ Move the carrier boom out of the adapter plate.

## Removing the adapter plate

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- ◆ Loosen the fastening screws of the adapter plate.
- ◆ Lift the adapter plate with a suitable lifting equipment and put it down on timber support blocks.
- ◆ Save the fastening screws and the pairs of lock washers for future use.

## Operation

### ⚠ **WARNING Hot hydraulic oil squirting out**

The hydraulic system is under high pressure. If hydraulic connections come loose, hydraulic oil will squirt out under high pressure. Hydraulic oil squirting out can lead to serious injury.

- ▶ Immediately switch off the hydraulic attachment and the carrier if you detect any leaks in the hydraulic circuits.
- ▶ Depressurise the hydraulic system (see chapter *Depressurising the hydraulic system*).
- ▶ Repair any leaks before operating the hydraulic attachment again.

### ⚠ **WARNING Hot parts**

The hydraulic cylinder, hoses, pipes and fittings become very hot during operation. Touching them may lead to burns.

- ▶ Never touch hot parts.
- ▶ If you have to carry out activities where you have to touch the parts, wait for them to cool down first.

**NOTICE** Environmental damage due to hydraulic oil

Hydraulic oil is environmentally harmful and must not penetrate the ground or enter the water table or water supplies.

- ▶ Collect any hydraulic oil which escapes.
- ▶ Dispose of it in accordance with the applicable environmental regulations.

**NOTICE** Hydraulic oil too hot

The temperature of the hydraulic oil must not exceed 80 °C. Higher temperature will damage the seals of the hydraulic parts.

- ▶ Monitor the oil temperature.
- ▶ Shut off the hydraulic attachment and the carrier if you measure an increased temperature in the tank.
- ▶ Check the hydraulic installation and the pressure relief valve.

## Preparations before starting

### ⚠ **WARNING Falling carrier**

A carrier falling or tipping over due to the surface not being level may cause serious injury and material damage.

- ▶ Always observe great care when moving the carrier.
- ▶ Do not use the hydraulic attachment until the carrier is positioned stably.

### ⚠ **WARNING Fragments flying around**

Fragments of material which come loose while operating the hydraulic attachment may be flung away and can cause serious injury if people are hit by them. Small objects falling from a great height can also cause serious damage.

During hydraulic attachment operation the danger zone is considerably greater than during the excavation operation due to fragments of stone and pieces of steel flying around, and for this reason the danger zone must, depending on the type of material to be worked on, be enlarged correspondingly, or secured in a suitable manner through corresponding measures.

- ▶ Secure the danger zone.
- ▶ Stop the hydraulic attachment immediately if anyone enters the danger zone.
- ▶ Close the windscreen and the side windows of the driver's cab.
- ◆ Before starting the hydraulic steel cutter:
  - Pump grease into all lubrication points.
  - Lubricate the live ring and the pinion.
  - Ensure the hydraulic steel cutter is complete.
  - Check whether the warning pictograms are damaged, replace if necessary.
  - Ensure the hydraulic steel cutter and adapter plate do not have any cracks.
  - Ensure the blade clearance is within tolerance.
  - Check the blades and wear parts for wear and damage.
  - Ensure none of the hydraulic line connections leak.
  - Check the level of the hydraulic oil in the tank of the carrier and top off if necessary.
  - Check to make sure the control handles operate the proper functions.

The preparations required prior to starting the hydraulic steel cutter depend on the ambient temperature:

- Ambient temperature below 0 °C (see chapter *Low ambient temperature*).
- Ambient temperature above 30 °C (see chapter *High ambient temperature*).

The oil temperature in the hydraulic steel cutter must be between 0 °C and +80 °C during operation.

The full capacity of the hydraulic steel cutter can be achieved when the oil temperature is approx. 60 °C.

- ◆ Make sure that there are no people in the danger zone.
- ◆ Start the carrier as instructed by the carrier manufacturer.
- ◆ Let the carrier warm up until the operating temperature prescribed by the carrier manufacturer has been reached.
- ◆ Put the carrier in its working position.

## Switching the hydraulic steel cutter on and off

After properly attaching the hydraulic attachment to the carrier, the hydraulic attachment can be operated using the carrier's hydraulic system. All functions for normal carrier operation remain intact.

The hydraulic attachment is switched on and off using electrical/hydraulic signals. If you have any questions about electric / hydraulic commands, consult the carrier manufacturer and/or the Epiroc Customer Center / Dealer in your area.

- ◆ Switch the hydraulic attachment on and off, as described in the carrier's operating instructions.
- ◆ When leaving the driver's cab, set the safety switch / lever for the electrical / hydraulic attachment installation to the "OFF" position.  
Carry out the above actions to prevent any unintended start-up of the hydraulic attachment.

## Initial operation of the hydraulic steel cutter

### Cutter cylinder

Because the hydraulic steel cutter operates at high pressures and high flow rates, it is necessary to bleed all air from the cylinder of the hydraulic steel cutter before initial operation or after repair. This prevents damage to the cylinder seals and the carrier machine's hydraulic system.

Every time the hydraulic steel cutter is installed, perform the following steps:

- ◆ Check the level of the hydraulic oil in the carrier's tank. Top it up if necessary.
- ◆ Follow the instructions provided by the manufacturer of the carrier concerning the method for starting and warming up the hydraulic system of the carrier. Do not operate the hydraulic steel cutter during the warm-up phase.
- ◆ Switch on the carrier and let it run with reduced motor rotation speed.
- ◆ Slowly open the hydraulic steel cutter until the cutter jaw is halfway open and close it again.
- ◆ Do not fully extend or retract the cylinder during the initial cycles.
- ◆ Repeat this procedure 5–6 times. Increase the stroke gradually until the full cylinder stroke has been reached.
- ◆ Switch off the carrier and re-check the level of the hydraulic oil in the carrier's tank. Top it up if necessary.
- ◆ Perform 5-6 complete cycles without allowing the cylinder to reach the end stops before the hydraulic steel cutter is subjected to the maximum operating load.
- ◆ During opening and closing the cutter jaw verify if there are other obstacles, which could prevent the correct operation of the hydraulic steel cutter.
- ◆ Switch the hydraulic steel cutter off immediately if oil leaks from the hydraulic lines or other malfunctions occur.
- ◆ Depressurise the hydraulic system (see chapter *Depressurising the hydraulic system*).
- ◆ Only take the hydraulic steel cutter back into operation once all leaks or malfunctions have been remedied.

### Valve block

The valve block is adjusted at the factory. Normally it is not necessary to readjust the valve block. To check the operation of the valve block, perform the following procedure:

- ◆ Raise the supply pressure to the rotation valve of the carrier to 180 bar.
- ◆ Connect the manometer to both measurement connections of the valve block.
- ◆ Connect the hoses to the rotation motor and secure the hydraulic steel cutter so it cannot rotate.
- ◆ Operate the »Turn« valve.
- ◆ Adjust the pressure cartridge of the valve block to 175 bar.
- ◆ Repeat the process for the other rotational direction.

## Functional test

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Always carry out a functional test before putting the hydraulic steel cutter into use. Check that all hydraulic lines and connections are tight and that the hydraulic steel cutter works without any problem.

- ◆ Prepare the hydraulic steel cutter so that you can start using it (see chapter *Preparations before to starting*).
- ◆ Lift the hydraulic steel cutter with the carrier boom function so that it hangs vertically.
- ◆ Close and open the cutter jaws.
- ◆ Turn the hydraulic steel cutter via the connected carrier function »Turn« left and right.
- ◆ Observe the hydraulic lines and whether the hydraulic steel cutter works properly.
- ◆ Switch off the hydraulic steel cutter immediately if oil leaks from the hydraulic lines or other malfunctions occur.
- ◆ Depressurise the hydraulic system (see chapter *Depressurising the hydraulic system*).
- ◆ Only take the hydraulic steel cutter back into operation once all leaks or malfunctions have been remedied.

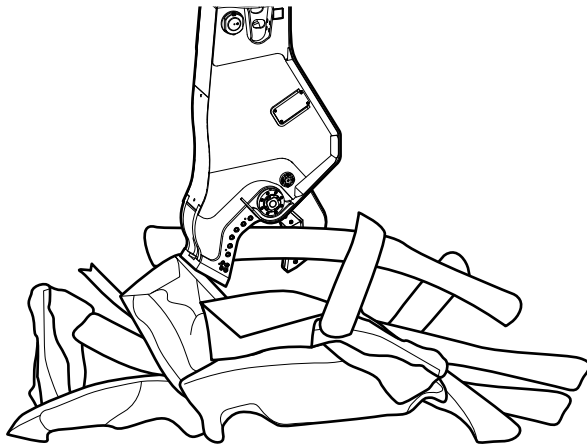
## Correct operation

### Cutting steel

During initial operation and the first time the hydraulic steel cutter is used after maintenance, you must first cut thin, light material. This hardens the blades, which increases their service life.

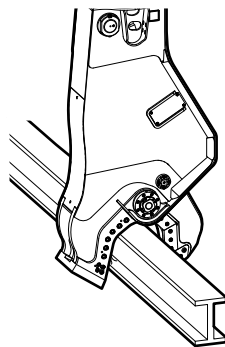
When work is performed at low temperatures, you must also begin by cutting thin, light material. This warms up the blades, which prevents crack formation as a result of a sudden change of temperature.

- ◆ Position the hydraulic steel cutter so that the blades encompass a piece of steel.



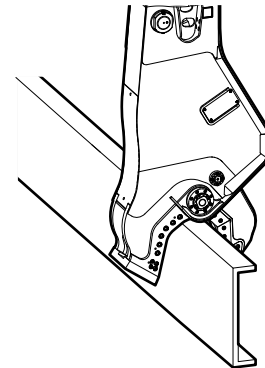
### Cutting profiled construction steel, pipe

- ◆ Position the hydraulic steel cutter so that the blades encompass the profiled construction steel or pipe.

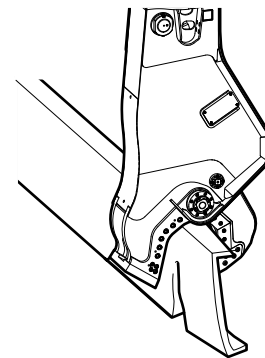


### Cutting wide profiled construction steel

- ◆ First cut one half of the profiled construction steel.  
The tip of the cutter jaw penetrates the web plate.



- ◆ Turn the profiled construction steel or reposition the hydraulic steel cutter.
- ◆ Cut the other half of the profiled construction steel.



### High ambient temperature

- ◆ Only use hydraulic oils of sufficient viscosity.  
In summer and in tropical climates, the minimum requirement is a hydraulic oil of type HLP 68.

### Low ambient temperature

#### Ambient temperature below -20 °C:

You must heat up the hydraulic attachment and the carrier when working in ambient temperatures of below -20 °C.

Preferably park the carrier and the hydraulic attachment in a heated, sheltered space while not using it.

**NOTICE** Hydraulic oil too cold

Operating the hydraulic attachment while hydraulic oil is still cold will damage the seals of the hydraulic parts.

- ▶ Do not operate the hydraulic attachment until the temperature of the hydraulic oil is at least 0 °C.
- ◆ Start the carrier as instructed by the carrier manufacturer.
- ◆ Let the carrier warm up until the operating temperature required by the manufacturer has been reached.
- ◆ Lift the hydraulic attachment using the boom function so that it hangs vertically.
- ◆ Close, open and turn the hydraulic attachment during the carrier warming-up phase.

**NOTICE** Damage to hydraulic parts

Hot hydraulic oil causes damage to subcooled hydraulic attachments.

- ▶ Do not fill the hydraulic system with hot hydraulic oil.

The temperature of the hydraulic oil of the carrier must be at least 0 °C.

- ◆ Start the hydraulic attachment, once the temperature has reached 0 °C.
- ◆ During operations, leave the carrier engine and pumps running even during breaks.

#### Note:

When work is performed at low temperatures, you must also begin by cutting thin, light material. This warms up the blades, which prevents crack formation as a result of a sudden change of temperature.

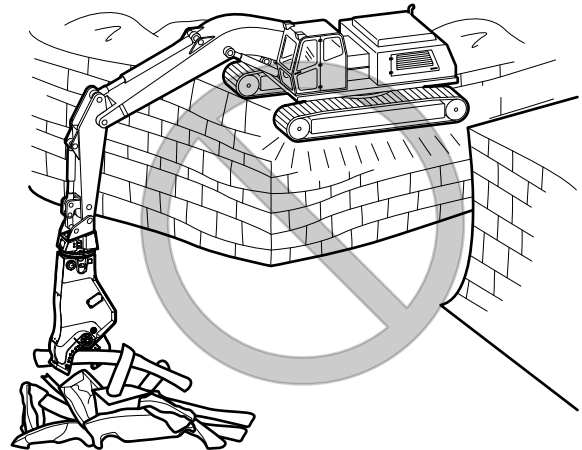
## Prohibited operation

### Unsafe base

#### ▲ WARNING Danger of tipping

The carrier can topple over and cause injuries and damage.

- ▶ Only work with the hydraulic attachment when the carrier is on a safe base.

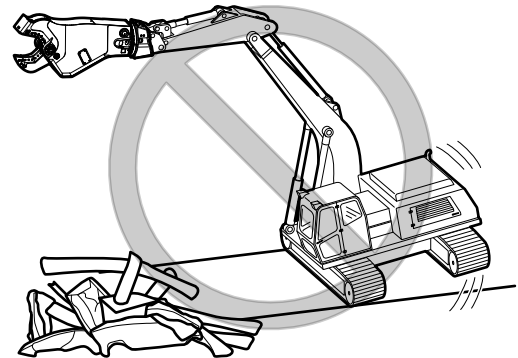


### Use over the chain

#### ▲ WARNING Danger of tipping

The carrier can topple over and cause injuries and damage.

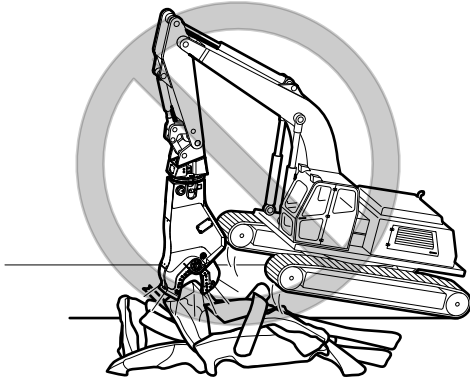
- ▶ Never work with full delivery sideways in the direction of movement.





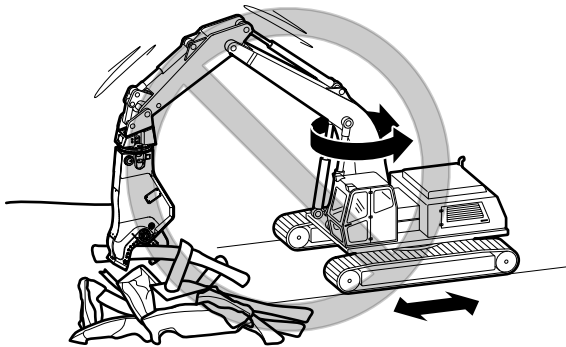
### Moving the carrier

- ◆ Never relocate the carrier sideways by placing the hydraulic attachment on the ground to lift the carrier. This would seriously damage the hydraulic attachment.



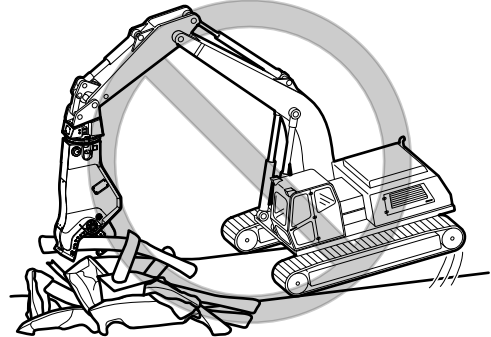
### Moving the boom

- ◆ Never move the boom or the carrier during cutting. This would seriously damage the hydraulic attachment.



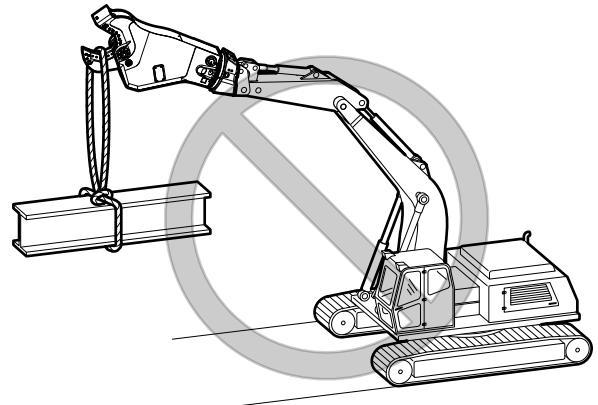
### Pulling

- ◆ Never pull at jammed steel pieces with the hydraulic attachment. This would damage the hydraulic attachment and the adapter plate. The carrier may lose stability. It can topple over and cause injuries.



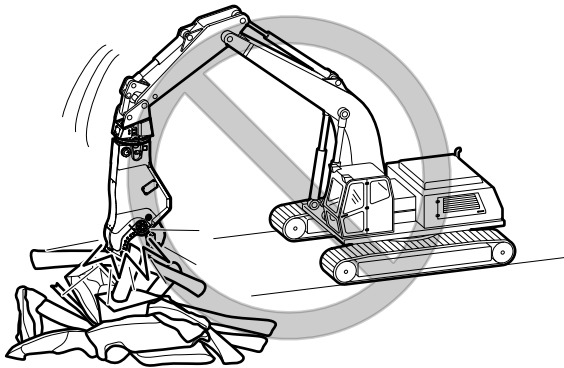
### Lifting/Transporting

- ◆ Never use the hydraulic attachment to lift or transport loads. The hydraulic attachment was not constructed to lift or transport loads. This would damage the hydraulic attachment.



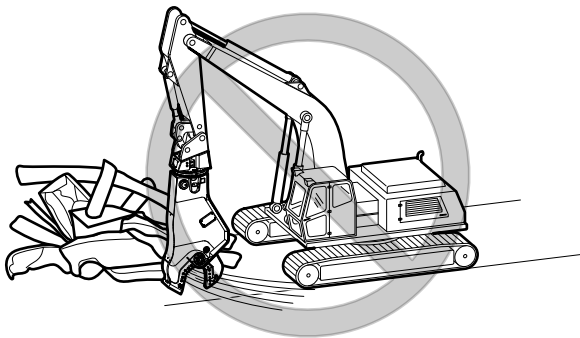
**Impacting/chopping**

- ◆ Do not use the hydraulic attachment to impact or chop to destroy material. This would seriously damage the hydraulic attachment.



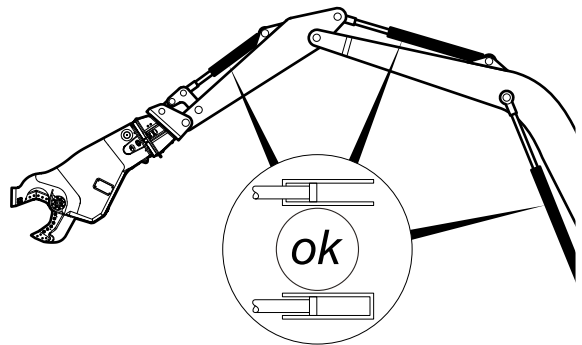
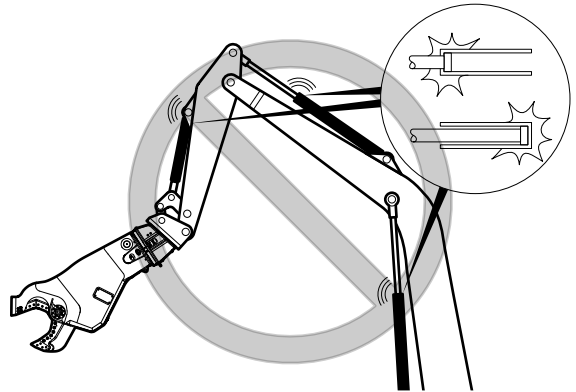
**Moving objects**

- ◆ Never use the hydraulic attachment to move debris/scrap. This would damage the hydraulic attachment.



**Cylinder end positions**

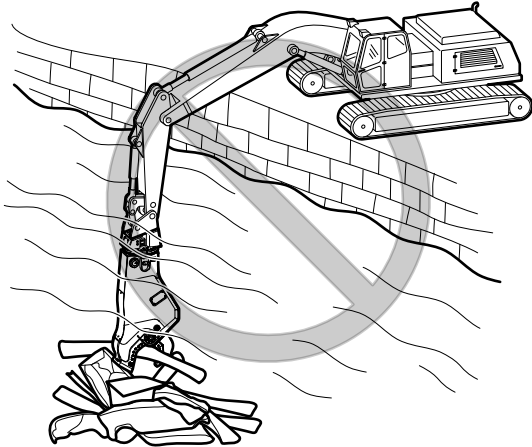
- ◆ Reposition the carrier to avoid working with the cylinder in its end positions. Avoid operating the hydraulic attachment when the carrier stick and bucket cylinder are in one of their end positions. These end positions have damping facilities; the hydraulic cylinder may be damaged by prolonged use while in its end positions.



### Use under water

- ◆ Never use the hydraulic attachment under water.

This would seriously damage the hydraulic attachment and may damage the whole hydraulic installation.



### Cutting high-grade steels or cast metals

- ◆ Never use the hydraulic steel cutter for cutting alloy steel, hardened steel or cast metals like roller bearings, cylinder rods, hardox blades, railroad tracks, etc..

There is always a small percentage of material which need to be cut by torch or in a different way.

## Maintenance

The maintenance activities are carried out by the carrier driver.

### ⚠ **WARNING Hot hydraulic oil squirting out**

The hydraulic system is under high pressure. If hydraulic connections come loose, hydraulic oil will squirt out under high pressure. Hydraulic oil squirting out can lead to serious injury.

- ▶ Immediately switch off the hydraulic attachment and the carrier if you detect any leaks in the hydraulic circuits.
- ▶ Depressurise the hydraulic system (see chapter *Depressurising the hydraulic system*).
- ▶ Repair any leaks before operating the hydraulic attachment again.

### ⚠ **WARNING Hot hydraulic oil squirting out**

The hydraulic system is under high pressure. Hydraulic oil escaping out can lead to serious injury.

- ▶ Immediately switch off the hydraulic attachment and the carrier if you detect any leaks in the hydraulic circuits.
- ▶ Do not inspect for possible leaks with your fingers or other parts of the body, but use a piece of cardboard instead, holding it up to the suspected leakage site.
- ▶ Examine the cardboard for traces of liquid.
- ▶ Depressurise the hydraulic system (see chapter *Depressurising the hydraulic system*).
- ▶ Repair any leaks before operating the hydraulic attachment again.

### ⚠ **WARNING Hot parts**

The hydraulic cylinder, hoses, pipes and fittings become very hot during operation. Touching them may lead to burns.

- ▶ Never touch hot parts.
- ▶ If you have to carry out activities where you have to touch the parts, wait for them to cool down first.

### ⚠ **WARNING Accidental start**

If the hydraulic attachment is started by accident this may lead to serious injury.

- ▶ Follow the instructions in the Operating Instructions of the carrier to prevent the hydraulic attachment starting by accident.

### ⚠ **WARNING Unexpected movement**

Sudden movements of the carrier may cause serious injury.

- ▶ Secure the carrier so that it cannot move unexpectedly.
- ▶ Observe the carrier manufacturer's instructions.

### ⚠ **WARNING Parts of the body or whole bodies may be sheared or crushed**

Cutter jaws may close unexpectedly and shear or crush parts of the body or whole bodies.

- ▶ Secure the upper cutter jaw from unexpected closing with a suitable belt or rope when working between the cutter jaws. This is particularly important while checking, adjusting or replacing the blades.

**NOTICE** Environmental damage due to hydraulic oil

Hydraulic oil is environmentally harmful and must not penetrate the ground or enter the water table or water supplies.

- ▶ Collect any hydraulic oil which escapes.
- ▶ Dispose of it in accordance with the applicable environmental regulations.

## Maintenance schedule

every 8 operating hours	<p><b>General:</b>                  Check hydraulic steel cutter and adapter plate for cracks.                  Check bolted connections of hydraulic steel cutter (main bolt, blades, covers, ...), adapter plate, and connection to the carrier boom or stick. Replace missing or broken bolts and tighten as required.                  Check carrier stick and boom, carrier's cylinder mounting and cutter jaw for wear and damage to the bearing seat.                  Check hydraulic lines for leaks and damage.                  Check bolted connections at the hydraulic lines and tighten as required.                  Check the pipe clamp receiver on the carrier.                  Check the hardfacing.</p> <p><b>Upper part:</b>                  Check connection bolts of the upper part. Replace missing or broken bolts and tighten as required.                  Check bolts of the connection hydraulic motor and gearbox. Replace missing or broken bolts and tighten as required.</p> <p><b>Lubricate:</b>                  Lubricate main bolt.                  Lubricate front and rear cylinder bolts.                  Lubricate cutter jaw (Jaw guide).                  Lubricate pinion.                  Lubricate carrier's stick bolt / boom bolt.                  Lubricate carrier's linkage bolt / cylinder bolt.</p> <p><b>Check and adjust jaw guide and blades:</b>                  Tighten all blade screws with the required tightening torque.                  Jaw guide - gap 0.13 – 0.38 mm                  Guide blades - gap max. 0.50 mm, max. 3 mm radius                  Rotate, shim to tolerance and replace when worn.                  Nose blades -                  gap to front blade 6 - 12 mm                  gap between nose blades 0.1 - 0.5 mm                  Replace in pairs when edges are worn.                  Cutter blades - gap max. 0.50 mm, max. 3 mm radius                  Upper cutter blades (cutter jaw): Rotate to use all cutting edges, then replace.                  Lower cutter blades (housing): Rotate, shim to tolerance and replace when worn.                  Front blade - gap to nose blades 6 - 12 mm                  Rotate to use all cutting edges, then replace.</p>
after the first 50 operating hours	<p>Change gear oil (not for SC 2500 and SC 3600).                  Change hydraulic oil filter cartridge.</p>
every 40 operating hours	<p>Jaw guide: Check and adjust play between the sliding piece and wear surface of the cutter jaw.</p>
every 50 operating hours	<p>Lubricate live ring.</p>
every 80 operating hours	<p>Check bolted connections on cylinder rod bearing. Replace missing or broken bolts and tighten as required.</p>
every 400 operating hours	<p>Check hydraulic hoses.                  Check oil filter cartridge, replace if necessary</p>
every 1000 operating hours	<p>Change gear oil (not for SC 2500 and SC 3600).</p>
every 2000 operating hours or every 6 month	<p>Check hydraulic hoses. Replace after 2 years.                  Replace bolts at live ring.</p>
every 2500 operating hours	<p>Replace valves in cylinder.                  Replace cylinder seals.</p>
if necessary	<p>Replace hardfacing.                  Replace bent and damaged pipes.                  Replace damaged hoses.                  Check wear at the adapter plate bolts.</p>

## Depressurising the hydraulic system

Even when you have switched off the carrier, a considerable residual pressure can still be present in the hydraulic system.

A residual pressure can still be present in the hydraulic attachment even after you have disconnected the quick-release couplings or closed the shut-off valves.

The hydraulic attachment can only be depressurised using the hydraulic system of the carrier, by allowing hydraulic oil to drain to the tank via the return connection.

Depending on the type of hydraulic attachment, the internal leaks, the oil temperature, the type of hydraulic oil and the design of the hydraulic installation of the carrier, the time required to relieve the pressure can vary.

Observe the following steps in order to depressurise the hydraulic attachment:

1. Ensure that the hydraulic oil in the hydraulic attachment and in the carrier has a temperature of at least 0 °C. If necessary, pre-heat it to at least 0 °C.
2. The hydraulic attachment must be connected to the hydraulic system of the carrier device, i.e. the hydraulic hoses must be connected up and the respective shut-off valves in the supply pipe and in the connection to the tank must be opened.
3. Open the cutter jaw completely.
4. Place the hydraulic attachment horizontal on the ground.
5. Close the cutter jaw briefly, just enough to see a movement of the cutter jaw.
6. Depressurise the hydraulic system according to the manufacturer's safety and operating instructions for the carrier.
7. You must wait at least another 60 minutes until the pressure has been relieved through leakages.
8. When you have made sure that no more pressure is present in the hydraulic system, you must disconnect the hydraulic connection to the carrier. Close the shut-off valves or disconnect the quick-release couplings, so that no hydraulic oil can flow back from the carrier.

## Cleaning

**NOTICE** Environmental damage due to polluted water

Hydraulic oil and cutter grease are environmentally harmful and must not penetrate the ground or enter the water table or water supplies.

- ▶ Collect the water used for cleaning if it has been contaminated by hydraulic oil and cutter grease.
- ▶ Dispose of the water in accordance with the applicable regulations to avoid environmental hazards.

### Preparations

#### Hydraulic steel cutter attached:

- ◆ Place the hydraulic steel cutter on the opened jaw.  
All parts are thus accessible for cleaning.

- ◆ Secure the carrier such that it cannot move unexpectedly.

#### Hydraulic steel cutter not attached:

- ◆ Plug up all hydraulic ports.

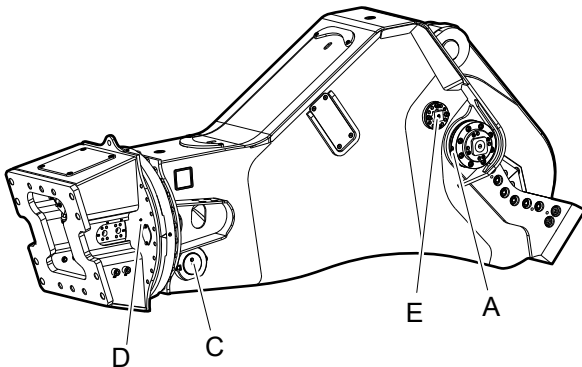
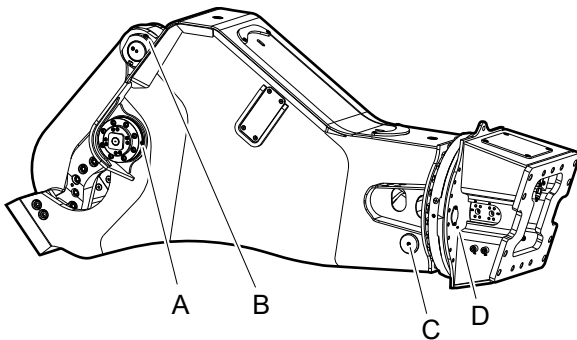
### Procedure

- ◆ Use a pressure cleaner to remove dirt from the hydraulic steel cutter.

## Lubrication

### Every 8 operating hours

- ◆ Close the hydraulic steel cutter.
- ◆ Place the hydraulic steel cutter on the ground. The cutter jaw is on top.
- ◆ Secure the carrier so that it cannot move unexpectedly.
- ◆ Only use recommended grease for lubrication.
- ◆ Place the grease gun on the lubrication nipples and inject grease until it comes out.

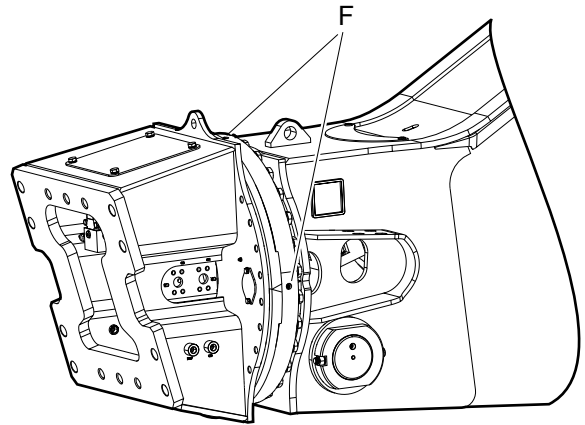


- A. Main bolt (two lubrication points)
- B. Cylinder bolt, bottom end of cylinder (two lubrication points)
- C. Cylinder bolt, rod end of cylinder (one lubrication point)
- D. Pinion (two lubrication points)
- E. Jaw guide (one lubrication point)  
(not for SC 2500)

### Every 50 operating hours

Four lubrication points:

- ◆ Place the hydraulic steel cutter on the ground.
- ◆ Secure the carrier such that it cannot move unexpectedly.
- ◆ Only use recommended grease for lubrication.
- ◆ Place the grease gun on the lubrication nipples (F) of the live ring and inject grease until it comes out.



### Checking the hydraulic steel cutter and adapter plate for cracks

- ◆ Secure the carrier such that it cannot move unexpectedly.
- ◆ Check all the hydraulic steel cutter and adapter plate load-bearing parts and welds for cracks prior to every shift.
- ◆ Ensure repair or refinishing in good time to prevent greater damage.

## Checking hydraulic steel cutter for wear

### ⚠ **WARNING** Parts of the body or whole bodies may be sheared or crushed

Cutter jaws may close unexpectedly and shear or crush parts of the body or whole bodies.

- ▶ Ensure that there is nobody between the cutter jaws.
- ◆ Secure the carrier such that it cannot move unexpectedly.
- ◆ Every 8 hours, check all blades for wear.
- ◆ Replace blades in good time to prevent greater damage (see Chapter *Correcting the blade clearance, turning or changing the blades.*).

**NOTICE** Damage to blade seat

Working without blades causes serious damage to the blade seat and the cutter jaws.

- ▶ Replace the missing blades immediately.

## Checking hydraulic lines

- ◆ Secure the carrier such that it cannot move unexpectedly.
- ◆ Perform a visual inspection of all lines (pipes and hoses) from the pump to the hydraulic attachment and back to the tank, before starting work.
- ◆ Tighten loose bolted connections and hose clamps to the torque required (see Chapter *Bolted connections / tightening torques*).
- ◆ Replace damaged pipes and/or hoses.

## Checking bolted connections

- ◆ Secure the carrier such that it cannot move unexpectedly.
- ◆ Check all bolted connections regularly for tight fit (see Chapter *Bolted connections / Tightening torques*).
- ◆ Tighten loose bolted connections and hose clamps to the torque required (see Chapter *Bolted connections / Tightening torques*).

## Checking the adapter plate bolts for wear

- ◆ Carry out this visual check whenever the hydraulic attachment has been removed from the carrier.
- ◆ Check the adapter plate bolts for excessive wear such as cracks, pitting or severe erosion.
- ◆ Rework or replace worn bolts.

## Checking and cleaning the hydraulic oil filter of the carrier

An oil filter must be integrated in the return circuit of the hydraulic system. The maximum mesh width allowed for the oil filter is 50 microns; it must have a magnetic separator.

- ◆ Secure the carrier such that it cannot move unexpectedly.
- ◆ Change the oil filter cartridge after the first 50 operating hours.
- ◆ Check the oil filter **every** 400 operating hours and replace if it is necessary.

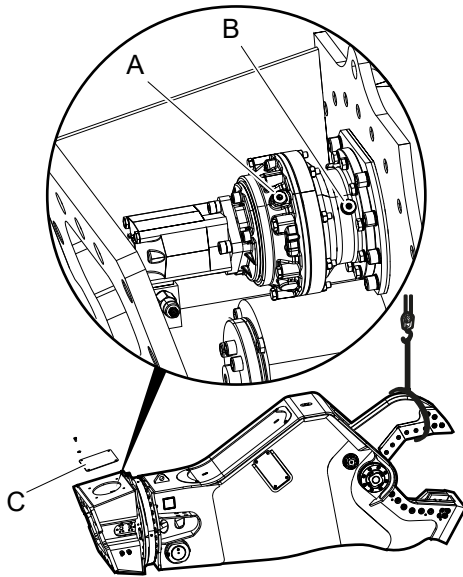


## Replacing gear oil

(not for SC 2500 and SC 3600)

Replace gear oil every 1000 operating hours but latest once a year.

- ◆ Place the hydraulic steel cutter on the ground. The cutter jaw is on top.
- ◆ Secure the carrier so that it cannot move unexpectedly.
- ◆ Remove the cover (C) from the upper part.



A. Fill opening

B. Drain opening

- ◆ Place an oil drain pan under the drain opening of the gearbox.
- ◆ Unscrew the drain plug and remove the fill plug from the fill opening.
- ◆ Once all the oil is drained from the gearbox, the drain plug must be reinstalled and tightened.
- ◆ Fill the gearbox with suitable oil via the fill opening. Do not fill with more than the max. fill capacity.
- ◆ Reinstall the fill plug in the fill opening.
- ◆ Dispose of used oil in accordance with the applicable environmental regulations.

Type	max. fill capacity
SC 4500	1.5 l
SC 6200	1.5 l
SC 8300	3.5 l

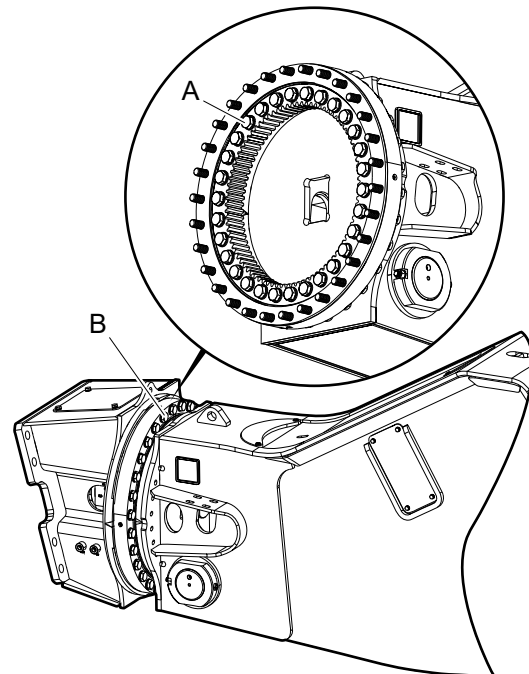
## Tightening and replacing the live ring's screws

### ▲ **WARNING** Detaching hydraulic steel cutter

If the live ring's screws are not tightened, the hydraulic steel cutter can detach, fall and cause serious injuries and damage to property.

- ▶ Tighten loose screws to the torque required (see chapter *Bolt connections/Tightening torques*).
- ▶ Replace all screws after every 2000 hours.
- ▶ Do not use the same screws more than twice. Thus the correct strength is preserved and a stretch of the screws is avoided.

Replace all live ring's screws (A and B)



## Checking and correcting the jaw guide

(not for SC 2500)

### Checking the jaw guide

The jaw guide ensures that the upper and lower jaw do not contact each other. The sliding piece (B) of the jaw guide is an adjustable wear part that is in contact with the wear surface (A) of the upper jaw.

The jaw guide must be visually inspected every 8 operating hours for wear and damage. When there is considerable wear or damage, the jaw guide must be replaced. The play between the sliding piece and wear surface must be between 0.13 and 0.38 mm.

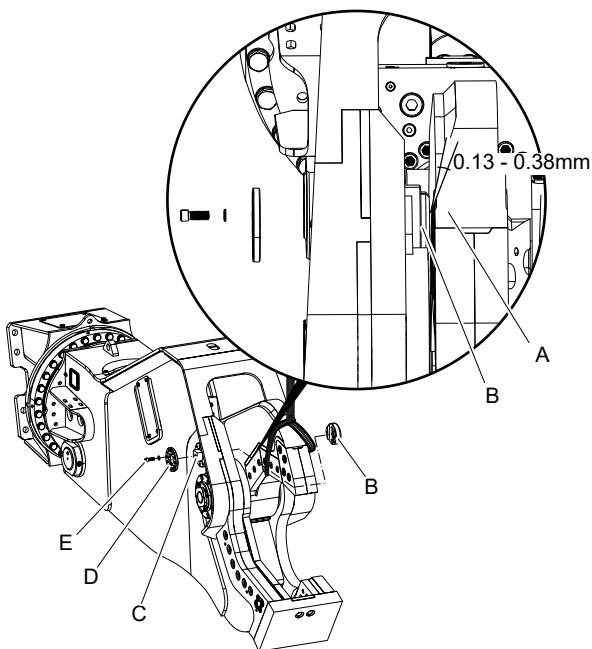
This play must be inspected and adjusted after every 40 hours of operation. The sliding piece may never exert excessive pressure on the wear surface.

- ◆ Adjust the jaw guide clearance before adjusting the blade clearance of the hydraulic steel cutter.

### Adjusting the jaw guide

Check and adjust the jaw guide every 40 hours.

- ◆ Remove the four bolts (E) of the retaining ring (D).
- ◆ Remove the retaining ring (D).
- ◆ The adjustment bolt can now be turned using a spanner placed on the square block (C).



- ◆ Adjust the clearance by using a shim or feeler gauge.

- ◆ Remount the retaining ring (D) and the four bolts (E) to ensure that the setting does not change.
- ◆ Tighten the four bolts (E) with the required tightening torque (see chapter *Bolt connections/ Tightening torques*).

## Checking the blade condition and the blade clearance

Regular and correct maintenance of the blades of the hydraulic steel cutter contribute to the cutting power. Inspections, adjustments and maintenance are necessary for maximum cutting power and long service life of the hydraulic steel cutter.

### ⚠ **WARNING** Parts of the body or whole bodies may be sheared or crushed

Cutter jaws may close unexpectedly and shear or crush parts of the body or whole bodies.

During maintenance of the blades and the jaw it may be necessary to move the jaw (particularly during inspection of the blade clearance). If this is performed by two people (one operator and one inspector), the operator must be certain that the inspector is at a safe distance when he operates the hydraulic steel cutter.

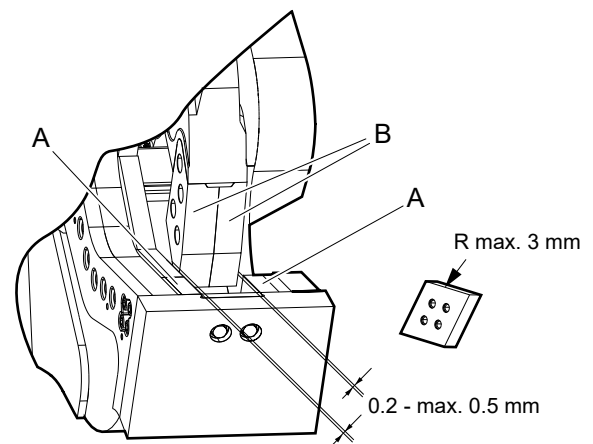
- ▶ Secure the upper cutter jaw from unexpected closing with a suitable belt or rope when working between the cutter jaws.
  - ▶ Ensure that there is nobody between the cutter jaws.
  - ▶ Perform work while outside the open cutter jaws, not between them.
- ◆ Check the blade clearance of all blades every 8 operating hours.

## Checking the guide blades

- ◆ Tighten the blade screws every 8 operating hours with the required tightening torque.
- ◆ Check the cutting edges of the guide blades (A) for wear every 8 operating hours.

The cutting surfaces may be worn to a maximum radius (R max.) of 3 mm.

- ◆ Once you have adjusted the jaw guide, you need to check the blade clearance between the guide blades (A) and the nose blades (B).
- ◆ The correct blade clearance between guide blade and nose blade is 0.2 - 0.5 mm.  
The blade clearance must not be greater than 0.5 mm when operating the hydraulic steel cutter.



- ◆ Open the cutter jaw completely.
- ◆ Slowly close the cutter jaw partially until the nose blades and the guide blades overlap.
- ◆ Secure the carrier to prevent any unexpected movements.
- ◆ Measure the blade clearance with a feeler gauge (leaf gauge).
- ◆ Slowly move the cutter jaw in both directions to check if the play is constant over the entire path and does not exceed 0.5 mm.
- ◆ The blade clearance must be corrected if it is greater than 0.5 mm.

### Checking the nose blades

The cutting power and the safety of the hydraulic steel cutter are highly dependent on regular maintenance and repair of the nose blades. An excessive gap width will cause the material to cling to the jaw. This will greatly reduce the strength of the hydraulic steel cutter.

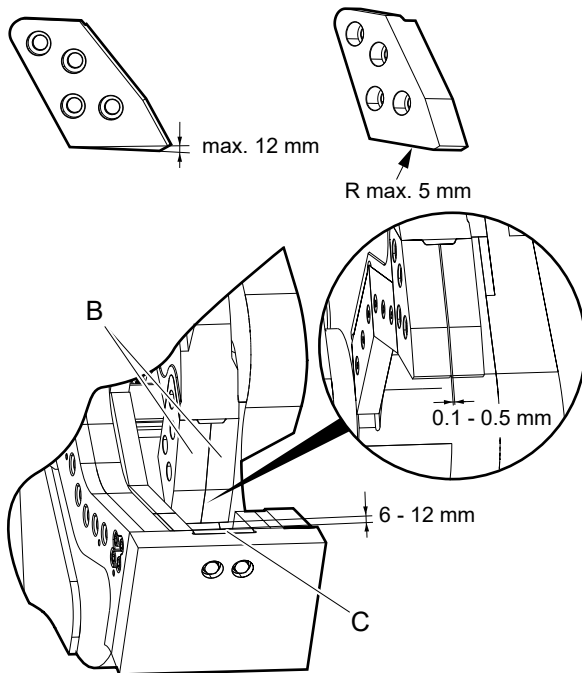
- ◆ Tighten the blade screws every 8 operating hours with the required tightening torque.
- ◆ Every 8 operating hours check the cutting edges of the nose blades (B) for wear.

The cutting surfaces may be worn to a maximum radius (R max.) of 5 mm. The nose blades can be ground with a maximum difference of 2 mm from top to bottom.

- ◆ Check the gap between the two nose blades (B).

The correct gap between the nose blades (B) is 0.1 - 0.5 mm. The nose blades are not allowed to make individual contact.

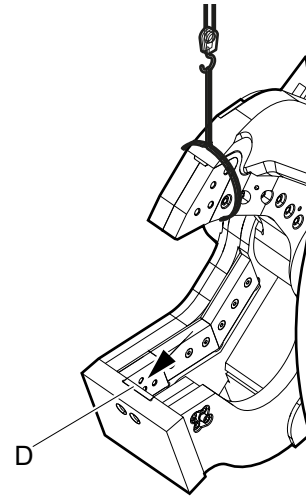
- ◆ Check the condition of the nose blades with a suitable ruler or measuring square.
- ◆ The correct blade clearance between nose blades (B) and front blade (C) is 6 - 12 mm.



- ◆ Open the cutter jaw completely.
- ◆ Slowly close the cutter jaw until the cutting surfaces of the nose blades and the front blade are parallel.
- ◆ Secure the carrier to prevent any unexpected movements.
- ◆ Measure the blade clearance with a feeler gauge (leaf gauge).
- ◆ Replace the nose blades and the front blade if the blade clearance is greater than 12 mm.

### Checking the front blade

- ◆ Tighten the blade screws every 8 operating hours with the required tightening torque.
- ◆ Every 8 operating hours check the cutting edge of the front blade (D) for wear.



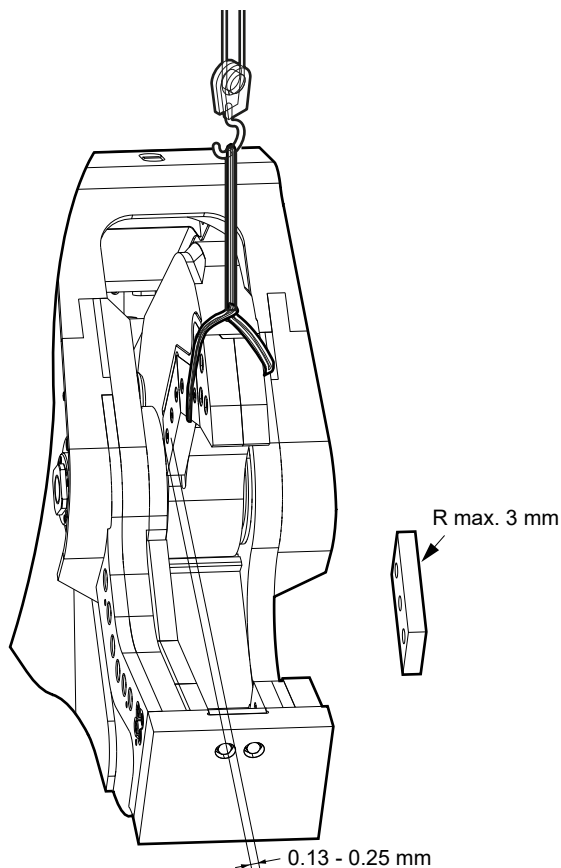
### Checking the upper and lower cutter blades

- ◆ Tighten the blade screws every 8 operating hours with the required tightening torque.
- ◆ Every 8 operating hours check the cutting edges of the upper and lower cutter blades for wear.

The cutting surfaces may be worn to a maximum radius (R max.) of 3 mm. Once the wear is greater, the blade must be replaced or rotated.

- ◆ Check the condition of the upper and lower cutter blades with a suitable ruler or measuring square.
- ◆ Once you have set the jaw guide and the play between guide blade, nose blade, and front blade, you need to check the blade clearance between the upper and lower cutter blades.
- ◆ You must check the blade clearance every 8 hours.

The optimal blade clearance between the upper and lower cutter blades is 0.13 - 0.25 mm. The blade clearance must not be greater than 0.5 mm when operating the hydraulic steel cutter.



- ◆ Open the cutter jaw completely.
- ◆ Slowly close the cutter jaw so far until the first cutter blades overlap.

- ◆ Secure the carrier to prevent any unexpected movements.
- ◆ Measure the blade clearance with a feeler gauge (leaf gauge).
- ◆ Close the cutter jaw a bit further and perform the inspection again.
- ◆ Repeat this until you have checked the entire length of the cutter blades.

## Correcting the blade clearance, turning or changing the blades

Shims are required to correct the blade clearance at the guide blades and the lower cutter blades. These are not included in the hydraulic steel cutter's scope of delivery. They must be purchased separately. The order number can be seen in the list of spare parts.

### Note:

You may never line the nose blades, the front blade and the upper cutter blades with shims.

### ⚠ **WARNING** Parts of the body or whole bodies may be sheared or crushed

Cutter jaws may close unexpectedly and shear or crush parts of the body or whole bodies.

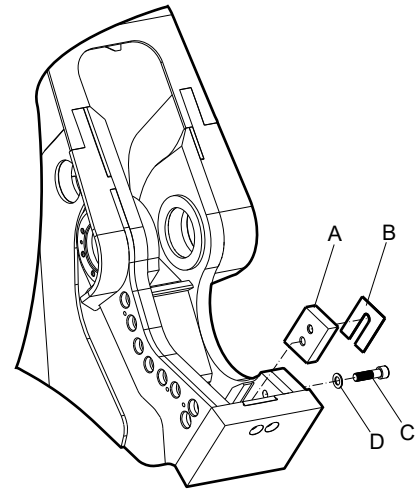
- ▶ Ensure that there is nobody between the cutter jaws.
- ▶ Perform work while outside the open cutter jaws, not between them.
- ▶ Secure the carrier such that it cannot move unexpectedly.

Open the cutter jaws completely.

Disconnect the hydraulic supply to the hydraulic steel cutter by shutting the shut-off valves of the lines at the boom.

## Correcting the blade clearance of the guide blades

- ◆ Loosen the Allen screws (C) with an Allen key and the washers (D).



- ◆ Lever the guide blade (A) out of the blade seat using a screw driver or thin chisel.
- ◆ Push shims (B) between guide blade and blade seat.
- ◆ Tighten the Allen screws (C) to the torque required (see chapter *Bolt connections/ Tightening torques*).
- ◆ Re-check the blade clearance (see chapters *Checking the guide blades*).
- ◆ Repeat this procedure until the blade clearance is less than 0.5 mm.
- ◆ If there is still an outsized play existing, despite of all mounted shims, you must replace the guide blade and / or the nose blade.

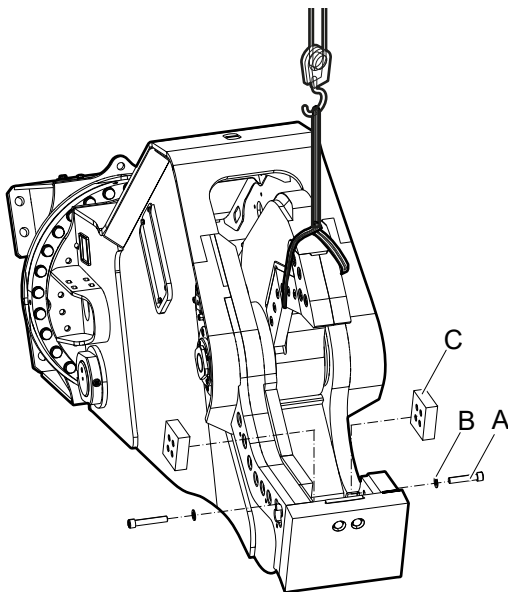
### Rotating or replacing the guide blades

The guide blades are rotatable so that all four cutting edges can be used.

**NOTICE** Damage to the hydraulic steel cutter

Never remove or rotate the compensation plates at the blade seats of guide blades. These are specially machined for the hydraulic steel cutter and must only be replaced when they are damaged.

- ▶ Only replace these compensation plates with original compensation plates.
- ▶ For technical support contact the Epiroc Customer Center / Dealer in your area.
- ◆ Remove all Allen screws (A) using an Allen key and the washers (B).



- ◆ Lever the guide blades (C) out of the blade seats using a screw driver or thin chisel.
- ◆ Remove the guide blades (C).
- ◆ Remove the shims.
- ◆ Check the blade seats.

The blade seats should not have any severe damage since this means the support of the guide blade (C) is not ensured. Damage to the blade seat may lead to fracture of the guide blade.

For technical support contact the Epiroc Customer Center / Dealer in your area.

- ◆ Check the guide blades.
- ◆ Rotate the guide blades if a cutting edge is worn and the contact face is undamaged.
- ◆ Change the guide blades if all cutting edges are worn, the contact face is damaged or if the guide blades shows any other damage.
- ◆ Use new, original Allen screws when you attach new guide blades.

- ◆ Replace damaged Allen screws.

### Fitting guide blades

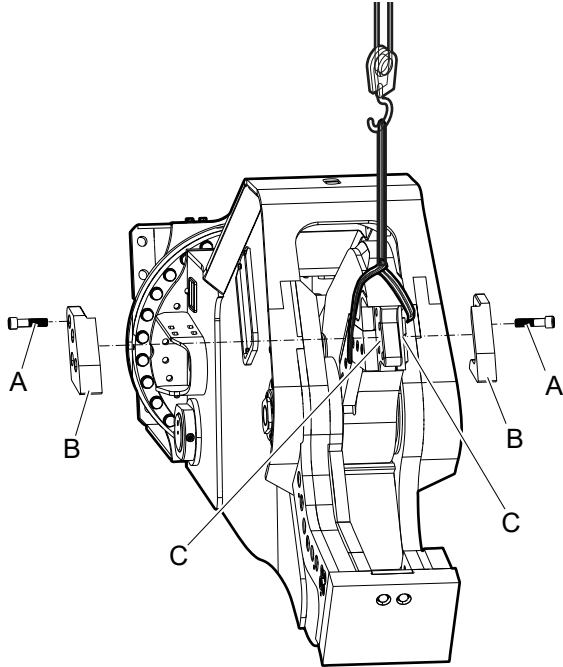
If the inspection of the blade seats does not show any defects or if they have been reworked, fitting of the guide blades can begin.

- ◆ Clean the blade seats.
- ◆ Fit the guide blades, at first without shims.
- ◆ Fit a washer onto each Allen screw and tighten using an Allen key.
- ◆ Tighten the Allen screws to the torque required (see chapter *Bolt connections / Tightening torques*).
- ◆ Check the blade clearance (see chapter *Checking the guide blade*) and correct it.

### Replacing the nose blades

The nose blades must be replaced after 40 to 80 operating hours, depending on the material that is being cut.

- ◆ Remove the Allen screws (A) using an Allen key with an extension bar or a torque multiplier.



- ◆ Lever the nose blades (B) out of their blade seats (C) using a screw driver or thin chisel.
- ◆ Clean the blade seats, remove all contaminants and particles.
- ◆ Check the blade seats.

The blade seats should not have any severe damage since this means the support of the nose blade (B) is not ensured. Damage to the blade seat may lead to fracture of the nose blade.

For technical support contact the Epiroc Customer Center / Dealer in your area.

#### ◆ Fitting nose blades

Fit a new pair of nose blades (B) once you have checked that the blade seats are clean.

**Note:** You always have to replace nose blades in pairs.

- ◆ Use anti-corrosion paste or grease on the bolt threads and under the bolt heads.
- ◆ Fix the cutter blades with the Allen screws (A) and tighten the screws by hand.
- ◆ Slide the nose blades upwards into their fitted seats.
- ◆ Make sure there is a gap of 0.1 to 0.5 mm between the nose blades.
- ◆ Tighten the Allen screws to the torque required (see chapter *Bolt connections / Tightening torques*).

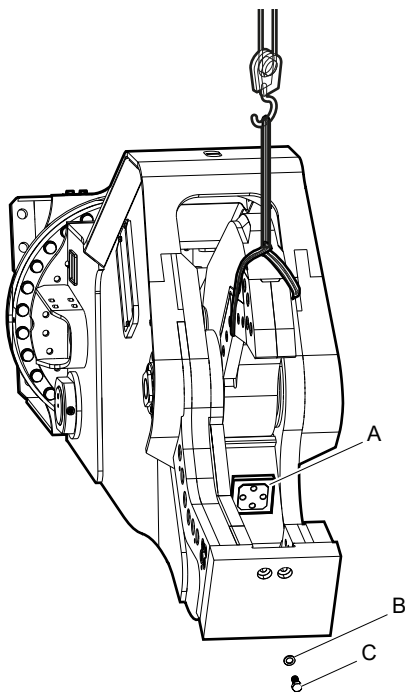
- ◆ Check the blade clearance (see chapter *Checking the nose blades*) and correct it.



### Rotating or replacing the front blade

If the specified blade clearance between the nose blades and the front blade cannot be reached after replacement of the nose blades, the front blade must be replaced. Never try to position the front blade with shims.

- ◆ Rotate the front blade if the cutting edge is worn and the contact face is undamaged.
- ◆ Change the front blade if all cutting edges are worn, the contact face is damaged or if the front blade shows any other damage.
- ◆ Use new, original Allen screws when you attach a new front blade.
- ◆ Remove the Allen screws (C) using an Allen key and the washers (B).



- ◆ Lever the front blade (A) out of the blade seat using a screw driver or thin chisel.
- ◆ Check the blade seat.

The blade seat should not have any severe damage since this means the support of the front blade (A) is not ensured. Damage to the blade seat may lead to fracture of the front blade.

For technical support contact the Epiroc Customer Center / Dealer in your area.

The first time the front blade is rotated, it is turned 180° so the lower edge faces upwards. The second rotation is 90° to change sides. The last time, the blade is rotated 180° again.

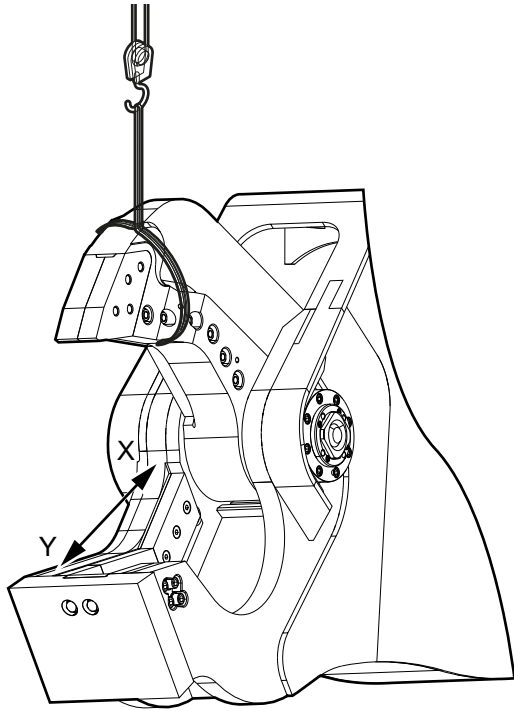
### Fitting front blade

If the inspection of the blade seat does not show any defects or if it has been reworked, fitting of the front blade can begin.

- ◆ Clean the blade seat.
- ◆ Fit the front blade (A).
- ◆ Fit each Allen screw (C) with a washer (B) and fix the front blade (A).
- ◆ Tighten the Allen screws to the torque required (see chapter *Bolt connections / Tightening torques*) using an Allen key.
- ◆ Check the blade clearance (see chapter *Checking the nose blades and Checking the front blade*) and correct it.

### Correcting the blade clearance of the lower cutter blades (housing)

It may be necessary to use a different number of shims for compensation at the upper (X) and lower (Y) end of the blades. The difference in shim thickness between the upper and lower end may not exceed 1.3 mm.

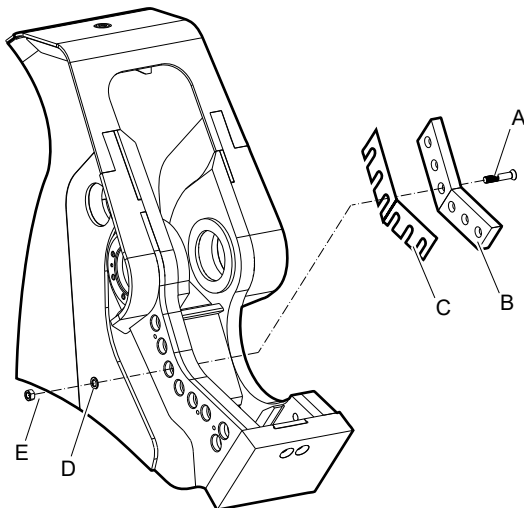


- ◆ Tighten the bolted connections to the torque required (see chapter *Bolt connections/ Tightening torques*).
- ◆ Re-check the blade clearance (see chapters *Checking the upper and lower cutter blades*).
- ◆ Repeat this procedure until the blade clearance is less than 0.5 mm.

The optimal blade clearance between the upper and lower cutter blades is 0.13 - 0.25 mm.

- ◆ If there is still an oversized play existing, despite of all mounted shims, you must replace upper and / or lower cutter blades.

- ◆ Hold the Allen screws (A) with an Allen key to stop turning.



- ◆ Loosen the hexagon nuts (E) with socket wrench and ratchet.
- ◆ Lever the cutter blades (B) out of the blade seats using a screw driver or thin chisel.
- ◆ Push shims (C) between cutter blade (B) and blade seat.

## Turning or replacing the cutter blades

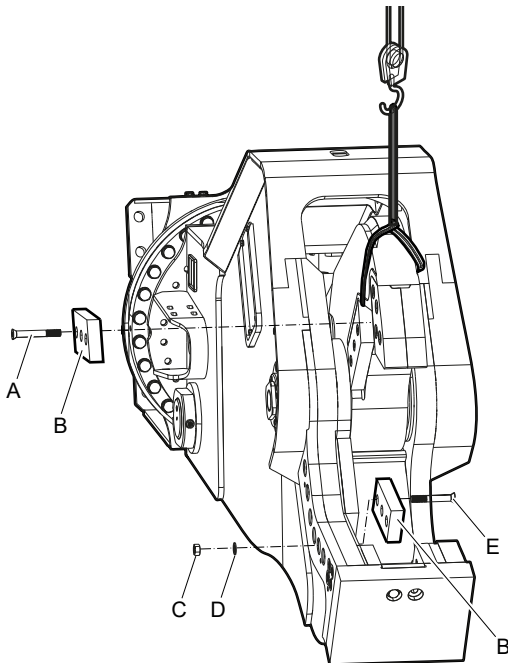
The cutter blades are rotatable so that all four cutting edges can be used.

The cutter blades must be replaced after 40 to 80 operating hours, depending on the material that is being cut. When cutting thin parts, maintenance must be performed at shorter intervals. Once the cutter blades have been rotated so that all four cutting surfaces are worn, the cutter blades must be replaced.

**NOTICE** Damage to the hydraulic steel cutter

Never remove or rotate the compensation plates at the blade seats of the lower cutter jaws. These are specially machined for the hydraulic steel cutter and must only be replaced when they are damaged.

- ▶ Only replace these compensation plates with original compensation plates.
- ▶ For technical support contact the Epiroc Customer Center / Dealer in your area.
- ◆ Turn the cutter blade if the cutting edge is worn and the contact face is undamaged.
- ◆ Change the cutter blade if all cutting edges are worn, the contact face is damaged or if the cutter blade shows any other damage.
- ◆ Use new, original Allen screws when you attach new cutter blades.
- ◆ Remove all Allen screws (A) using an Allen key.



- ◆ Hold the Allen screws (E) with an Allen key to stop turning.
- ◆ Loosen the hexagon nuts (C) with socket wrench and ratchet.

- ◆ Remove the hexagon nuts (C) and the washers (D).
- ◆ Remove the Allen screws (E).
- ◆ Lever the cutter blades (B) out of the blade seats using a screw driver or thin chisel.
- ◆ Check the blade seats.

The blade seats should not have any severe damage since this means the support of the cutter blades is not ensured. Damage to the blade seats may lead to fracture of the cutter blades.

For technical support contact the Epiroc Customer Center / Dealer in your area.

- ◆ Check the cutter blades.
- ◆ Rotate the cutter blades if a cutting edge is worn and the contact face is undamaged.
- ◆ Change the cutter blades if all cutting edges are worn, the contact face is damaged or if the cutter blades shows any other damage.
- ◆ Use new, original Allen screws when you attach new cutter blades.
- ◆ Replace damaged Allen screws.

## Fitting the cutter blades

If the inspection of the blade seats does not show any defects or if it has been reworked, fitting of the cutter blades can begin.

- ◆ Clean the blade seats.
- ◆ Fit the upper cutter blades.
- ◆ Fix the upper cutter blades with the Allen screws (A).
- ◆ Tighten the bolted connections to the torque required (see chapter *Bolt connections / Tightening torques*).
- ◆ Fit the lower cutter blades.
- ◆ Push the Allen screws (E) through the free drilled holes.
- ◆ Fit a washer (D) onto each Allen screw (E).
- ◆ Screw the hexagon nuts (C) on.
- ◆ Hold the Allen screws (E) with an Allen key to stop turning.
- ◆ Tighten the bolted connections to the torque required (see chapter *Bolt connections / Tightening torques*).
- ◆ Check the blade clearance (see chapter *Correcting the blade clearance of the lower cutter blades (housing)*) and correct it if necessary (see chapter *Correcting the blade clearance of the lower cutter blades (housing)*).

### Note:

If the cutter blades have been replaced according to the instructions, the gap will be the same over the entire length of the cutter blades.

## Bolt connections / Tightening torques

The bolt connections of hydraulic steel cutters are subjected to very high loads.

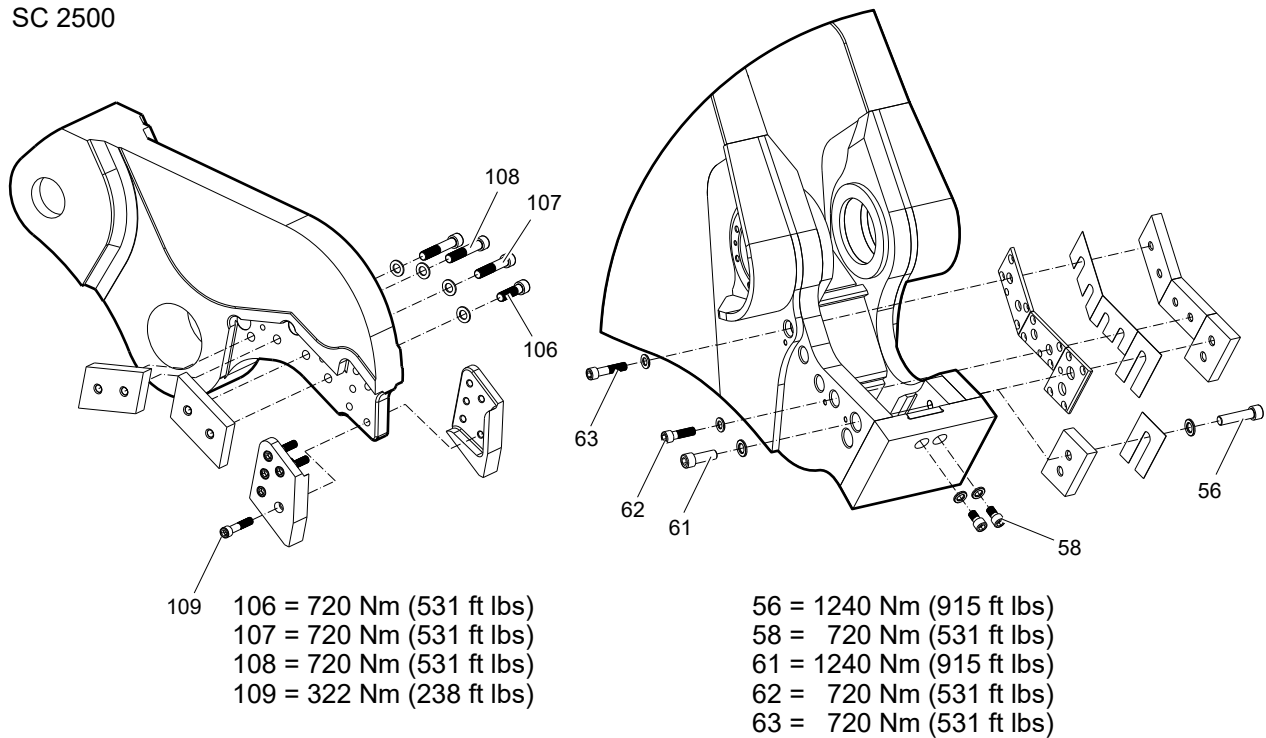
◆ Tighten any loose connections without exceeding the recommended tightening torques.

The data in the subsequent table are based on dry bolted connections.

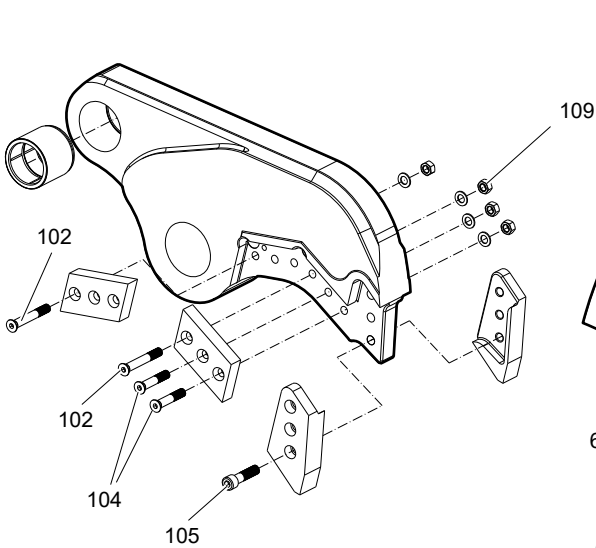
◆ Clean the threaded holes, screws, and nuts carefully from dirt, grease, and oil.

Screw	Property class 8.8	Property class 10.9	Property class 12.9
Diameter (metric)	Tightening torque	Tightening torque	Tightening torque
M6	10.4 Nm (7.67 ft lbs)	15.5 Nm (11.4 ft lbs)	18 Nm (13.3 ft lbs)
M8	25 Nm (18.4 ft lbs)	37 Nm (27.29 ft lbs)	43 Nm (31.7 ft lbs)
M10	51 Nm (37.6 ft lbs)	75 Nm (55.3 ft lbs)	87 Nm (64.2 ft lbs)
M12	87 Nm (64.2 ft lbs)	130 Nm (96 ft lbs)	150 Nm (111 ft lbs)
M14	140 Nm (103 ft lbs)	205 Nm (151 ft lbs)	240 Nm (177 ft lbs)
M16	215 Nm (159 ft lbs)	310 Nm (229 ft lbs)	370 Nm (273 ft lbs)
M18	300 Nm (221 ft lbs)	430 Nm (317 ft lbs)	510 Nm (376 ft lbs)
M20	430 Nm (317 ft lbs)	620 Nm (457 ft lbs)	720 Nm (531 ft lbs)
M22	580 Nm (428 ft lbs)	830 Nm (612 ft lbs)	970 Nm (715 ft lbs)
M24	740 Nm (xx ft lbs)	1060 Nm (782 ft lbs)	1240 Nm (915 ft lbs)
M27	1100 Nm (546 ft lbs)	1550 Nm (1143 ft lbs)	1850 Nm (1365 ft lbs)
M30	1500 Nm (1106 ft lbs)	2100 Nm (1549 ft lbs)	2500 Nm (1844 ft lbs)

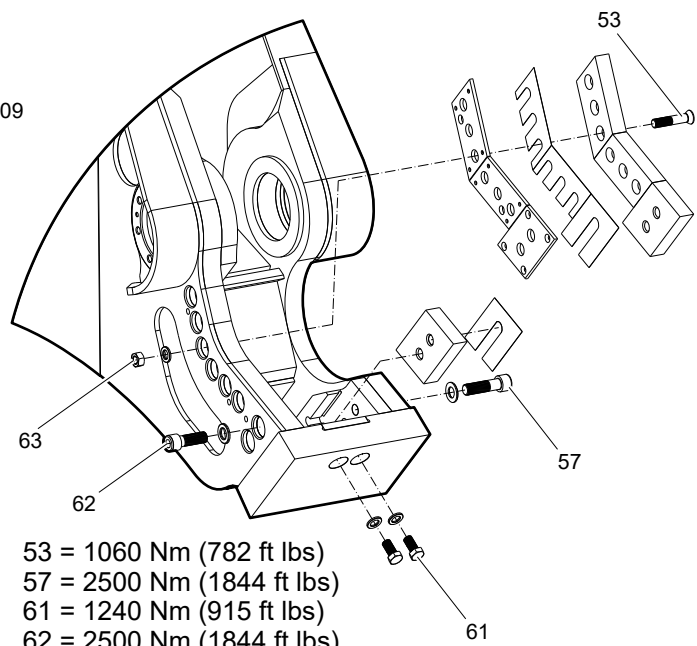
### SC 2500



SC 3600

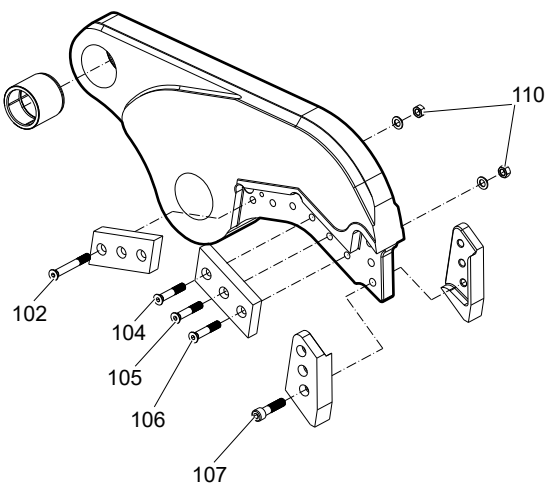


- 102 = 1060 Nm (782 ft lbs)
- 104 = 1060 Nm (782 ft lbs)
- 105 = 1580 Nm (1165 ft lbs)
- 109 = 1060 Nm (782 ft lbs)

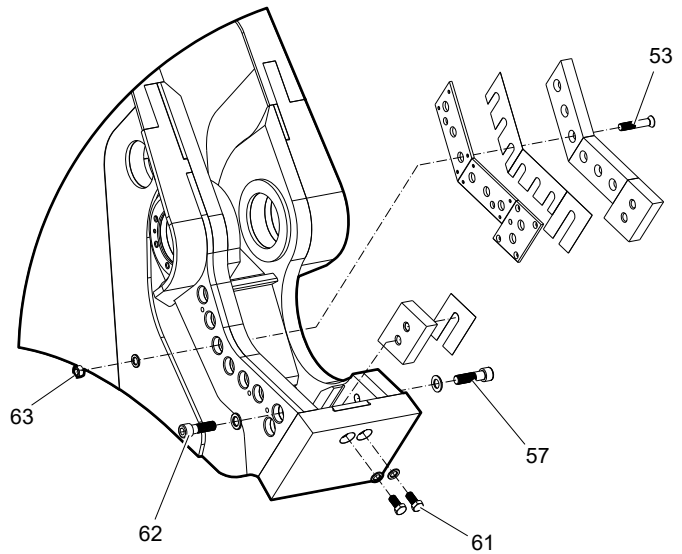


- 53 = 1060 Nm (782 ft lbs)
- 57 = 2500 Nm (1844 ft lbs)
- 61 = 1240 Nm (915 ft lbs)
- 62 = 2500 Nm (1844 ft lbs)
- 63 = 1060 Nm (782 ft lbs)

SC 4500

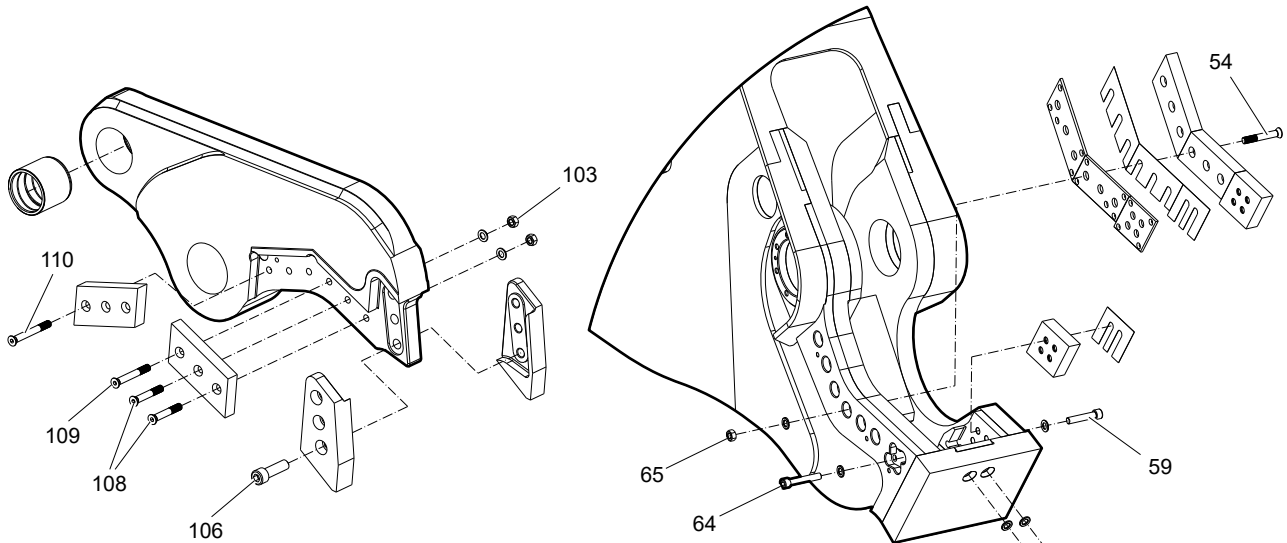


- 102 = 1060 Nm (782 ft lbs)
- 104 = 1060 Nm (782 ft lbs)
- 105 = 1060 Nm (782 ft lbs)
- 106 = 1060 Nm (782 ft lbs)
- 107 = 1580 Nm (1165 ft lbs)
- 110 = 1060 Nm (782 ft lbs)



- 53 = 1060 Nm (782 ft lbs)
- 57 = 2500 Nm (1844 ft lbs)
- 61 = 1240 Nm (915 ft lbs)
- 62 = 2500 Nm (1844 ft lbs)
- 63 = 1060 Nm (782 ft lbs)

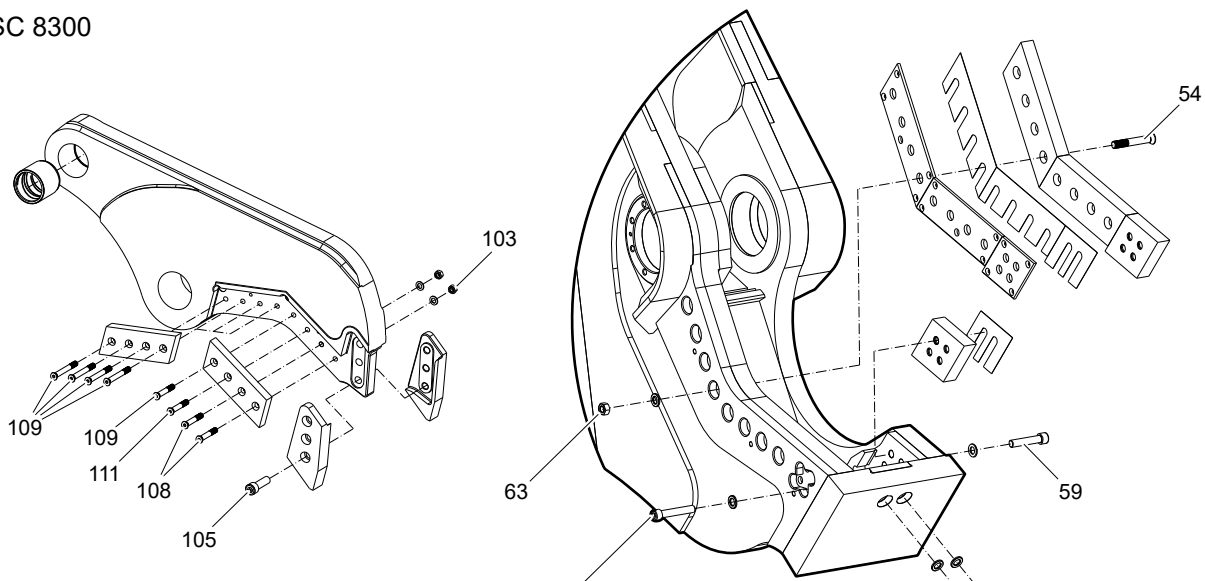
SC 6200



- 103 = 1060 Nm (782 ft lbs)
- 106 = 3737 Nm (2756 ft lbs)
- 108 = 1060 Nm (782 ft lbs)
- 109 = 1060 Nm (782 ft lbs)
- 110 = 1060 Nm (782 ft lbs)

- 54 = 1060 Nm (782 ft lbs)
- 59 = 1240 Nm (915 ft lbs)
- 62 = 1240 Nm (915 ft lbs)
- 64 = 1240 Nm (915 ft lbs)
- 65 = 1060 Nm (782 ft lbs)

SC 8300



- 103 = 1060 Nm (782 ft lbs)
- 105 = 3737 Nm (2756 ft lbs)
- 108 = 1060 Nm (782 ft lbs)
- 109 = 1060 Nm (782 ft lbs)
- 111 = 1060 Nm (782 ft lbs)

- 54 = 1060 Nm (782 ft lbs)
- 59 = 1240 Nm (915 ft lbs)
- 62 = 1240 Nm (915 ft lbs)
- 63 = 1060 Nm (782 ft lbs)
- 64 = 1240 Nm (915 ft lbs)

## Troubleshooting

### Too less cutting power

Cause	Remedy	By
Carrier does not provide the necessary pressure	Check hydraulic system of the carrier	Epiroc Customer Center / Dealer in your area
Rapid movement valve is set incorrectly, dirty or defective	Check rapid movement valve	Workshop
Internal leakage in the cylinder	Replace piston seals of the cylinder	Workshop
Internal leakage in the rotary transmission	Replace seals of the rotary transmission	Workshop

### Poor quality cutting

Cause	Remedy	By
Dimensions of product being cut are larger than cutting capacity of the hydraulic steel cutter	Contact the Epiroc Customer Center / Dealer in your area	Epiroc Customer Center / Dealer in your area
Blades are worn	Check blades and replace (see chapter <i>Correcting the blade clearance, turning or changing the blades</i> )	Carrier driver
Excessive blade clearance	Check blade clearance and re-adjust (see chapter <i>Correcting the blade clearance, turning or changing the blades</i> )	Carrier driver
Too much back pressure on the rod side of the cylinder	Check the main valve of the carrier	Epiroc Customer Center / Dealer in your area

### Nose blades does not cut correctly

Cause	Remedy	By
Nose blades are worn	Check nose blades and replace	Carrier driver
Front blade is worn	Check front blade and replace	Carrier driver

### Cycle time too long

Cause	Remedy	By
Rapid movement valve is set incorrectly, dirty or defective	Check rapid movement valve and reseal if necessary	Workshop

### Cut material gets stuck between upper and lower jaw

Cause	Remedy	By
Blade clearance between cutter blades too large	Check blade clearance (see chapter <i>Correcting the blade clearance, turning or changing the blades</i> )	Carrier driver
Cutter blades are worn	Check cutter blades and replace if necessary (see chapter <i>Correcting the blade clearance, turning or changing the blades</i> )	Carrier driver
Nose blades are worn	Check nose blades and replace if necessary (see chapter <i>Correcting the blade clearance, turning or changing the blades</i> )	Carrier driver

## Opening or closing the jaw takes too long

Cause	Remedy	By
Too much back pressure on the return side of the cylinder	Check the main valve of the carrier	Epiroc Customer Center / Dealer in your area
Malfunction in rapid movement valve	Check rapid movement valve	Workshop

## Cutter jaw remains closed

Cause	Remedy	By
Problem with seals in the hydraulic steel cutter's cylinder	Check cylinder for internal leakage and replace seals if necessary	Workshop or Epiroc Customer Center / Dealer in your region
Problem with seals in rotary transmission	Check rotary transmission for internal leakage and replace seals if necessary	Workshop or Epiroc Customer Center / Dealer in your region
Malfunction in rapid movement valve	Check rapid movement valve and replace if necessary	Workshop or Epiroc Customer Center / Dealer in your region

## No rotation or rotation only in one direction

Cause	Remedy	By
Pressure set incorrectly	Check pressures at rotation valve, valve block and rotation motor	Epiroc Customer Center / Dealer in your area
Defective components	Check rotation valve on valve block and rotation motor	Epiroc Customer Center / Dealer in your area
Defective rotation valve	Check whether the rotation valve moves in both directions	Epiroc Customer Center / Dealer in your area

## Rotation mechanism rattles

Cause	Remedy	By
Pressure set too high	Check pressure settings	Epiroc Customer Center / Dealer in your area

## Insufficient lubrication

Cause	Remedy	By
Intervals between lubrication too long	Check lubrication and lubricate (see chapter <i>Lubrication</i> )	Carrier driver

## Hydraulic steel cutter turns faster in one direction

Cause	Remedy	By
One oil flow rate »rotation« set higher or lower than the other	Set oil flow rate »rotation« correctly	Epiroc Customer Center / Dealer in your region



## Hydraulic steel cutter rotates too quickly or too slowly

Cause	Remedy	By
Oil flow rate »rotation« set too high or too low	Set oil flow rate »rotation« correctly	Epiroc Customer Center / Dealer in your area

## Rotation speed differs from set value

Cause	Remedy	By
Setting of non-return valve with throttle function has changed	Set non-return valve correctly	Epiroc Customer Center / Dealer in your region
Defective or dirty non-return valve	Clean non-return valve and replace if necessary	Epiroc Customer Center / Dealer in your region
Defective directional valve	Replace directional valve	Epiroc Customer Center / Dealer in your region
Pressure settings too low	Correct pressure settings	Epiroc Customer Center / Dealer in your region

## Operating temperature too high

Cause	Remedy	By
Oil level in tank too low	Check oil level and top up oil	Carrier driver or workshop
Carrier pump delivery too high; a constant volume of oil is squirted out of the pressure relief valve	Check and correct motor speed of carrier Drive the pump	Epiroc Customer Center / Dealer in your area
Pressure relief valve defective or valve with poor characteristics	Fit new type-tested pressure relief cartridges or a more precise pressure-limiting valve	Workshop or Epiroc Customer Center / Dealer in your area

## Oil leaks from hydraulic ports

Cause	Remedy	By
Flange halves and/or cap nuts are loose	Check and tighten flange halves and/or cap nuts (see chapter <i>Bolt connections/Tightening torques</i> )	Carrier driver

## Repair

### ⚠ **WARNING Risk of injury**

Nonprofessional repair of the hydraulic steel cutter may lead to serious injury and property damage.

- ▶ Repair is only permitted if carried out by professionals trained by Construction Tools GmbH. These professionals must follow all safety instructions and guidelines for repair.
- ◆ For technical support contact the Epiroc Customer Center / Dealer in your area.

## Sending in the hydraulic attachment for repairs

### NOTICE Mixed hydraulic oil

Never mix mineral and non-mineral hydraulic oils! Even small traces of mineral oil mixed in with non-mineral oil can result in damage to both the hydraulic attachment and the carrier. Non-mineral oil loses its biodegradability.

- ▶ Only use one type of hydraulic oil.
- ◆ Always specify which hydraulic oil has been used when sending in the hydraulic attachment to have it repaired.

## Welding

- ◆ Only commission qualified welding specialists to perform welding; specialists are people who:
  - have been trained to operate MIG welding equipment according to the national regulations,
  - know all the relevant national/regional safety and accident prevention regulations and
  - who are familiar with and understand these Safety and Operating Instructions.

### ⚠ **WARNING Hot hydraulic oil squirting out**

The hydraulic system is under high pressure. If hydraulic connections come loose or are disconnected, hydraulic oil will squirt out under high pressure. Hydraulic lines may spring a leak or burst. Hydraulic oil squirting out can lead to serious injury.

- ▶ Depressurise the hydraulic system before carrying out repairs to the hydraulic attachment or the carrier (see chapter *Depressurising the hydraulic system*).

- ▶ Depressurise the hydraulic system according to the manufacturer's safety and operating instructions for the carrier.

### ⚠ **WARNING Hot parts**

The hydraulic cylinder, hoses, pipes and fittings become very hot during operation. Touching them may lead to burns.

- ▶ Never touch hot parts.
- ▶ If you have to carry out activities where you have to touch the parts, wait for them to cool down first.

**NOTICE** Environmental damage due to hydraulic oil

Hydraulic oil is environmentally harmful and must not penetrate the ground or enter the water table or water supplies.

- ▶ Collect any hydraulic oil which escapes.
- ▶ Dispose of it in accordance with the applicable environmental regulations.

### Repair welding and hardfacing

It is extremely important to protect the hydraulic steel cutter against wear. This can be achieved through hardfacing. This must first be performed after around 200 hours of operation. The wear that is present on the surfaces of the upper and lower cutter jaw can be compensated by means of repair welding.

When performing repair welding and hardfacing on the hydraulic steel cutter, observe the following guidelines:

- Remove blades located close to the area being welded. The cutting surfaces can be damaged by the heat produced during welding.
- The curve radius at the intersection of the jaw must be maintained.
- Do not weld directly onto the base material; this can cause cracks.
- Perform all grinding and welding work in the direction of the grain of the material.
- Tap every weld with the chipping hammer to eliminate stress and harden the material.
- Do not allow any penetration notches to develop at the ends of the welds.
- The hardfacing may not consist of more than two layers.
- Make sure that the ends of the welds are staggered rather than along a single line to prevent a notch effect. Do not begin or end the weld directly above a cutting point or hole in the jaw.

- Cover the welded area with an insulating blanket so the welded area can cool slowly (approx. 8 hours).  
Do not use the hydraulic steel cutter until the welds have cooled completely.

**Procedure for repair welding**

Use the following procedure to perform repair welding:

1. Use a ruler or similar tool to determine the area in which repair welding is required.
2. Preheat the area to 180 °C. Maintain this temperature during welding, and make sure it does not exceed 200 °C.
3. Build up the surface with weld such that the original profile is almost entirely restored. Apply individual beads of weld in the direction of the grain and tap every weld with the chipping hammer. Only use prescribed welding material, see Table below.
4. Once the surface has been built up with welding material, grind the surface until the original profile has been restored.
5. Cover of the welded area with an insulating blanket.

Welding material repair welding:

Producer	Standard	
	E-hand 111	MAG 135
AWS	A 5.5 E 12018	A 5.28 ER 120 S
EN	EN 757 E89 4 Mn2Ni1CrMoB42H5	EN 12534 G MN4Ni2CrMo
DIN	DIN 8529 EY 89 53Mn2Ni1CrMoBH5	-
Oerlikon	Tenacito 100	-
Esab	-	OK Autrod 13.31

**Procedure for hardfacing**

Use the following procedure to perform hardfacing:

1. Determine which areas will be hardfaced based on the information in (see chapter *Positions for hardfacing*). Use a ruler or similar tool to establish the welding area.
2. Preheat the area to 180 °C. Maintain this temperature during welding, and make sure it does not exceed 200 °C.
3. The welding pattern must consist of separate beads of weld. Use only the prescribed material for hardfacing, see Table below.

**Note:**

Do not apply a bead of weld to the edge; start 6 mm from the edge.

4. Every weld seam must be covered by a bead consisting of no more than two layers. Tap every weld with the chipping hammer.
5. Grind the ends of the beads of weld in the direction of the grain over a length of 30 to 40 mm relative to the base material.

Welding material buffer layer:

Producer	Standard	
	E-hand 111	MAG 135
AWS	7018	-
EN	EN 499 E 46 5 1Ni B 32 H5	-
DIN	-	DIN 8556 SG X 10 CRNiMn18 8
Castolin	CP33033	-
Oerlikon	-	-
Esab	OK 48.08	OK 16.95

Welding material hardfacing:

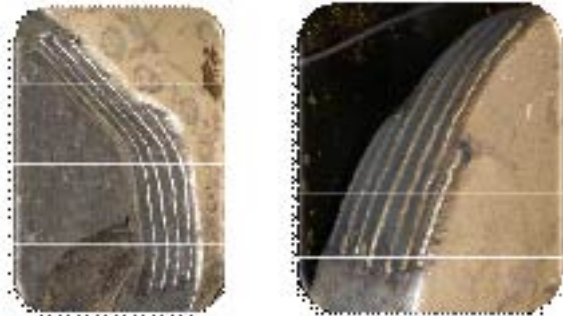
Producer	Standard	
	E-hand 111	MAG 135
AWS	814 H	-
EN	-	-
DIN	DIN E 3 UM60 T	DIN 8555 MSG 2 GZ 50 P
Castolin	Castolin 2R	-
Oerlikon	CITODUR 600	CARBOFIL A 500
Esab	OK Autrod 13.31	-

**Positions for hardfacing**

Only perform hardfacing in the areas specified in this section. Hardfacing must be carried out in the pattern described here. It is not permitted to apply hardfacing to other areas.

The picture below shows the areas of the upper cutter jaw that may be hardfaced. The beads of weld must be spaced 25 mm from each other. The beads run from behind the nose blade to the throat of the jaw. The beads of weld on the top run from the nose blade to an area approximately in the middle of the upper cutter jaw.

Upper cutter jaw (bottom at the left, top at the right)



The hardfacing must be applied to the lower cutter jaw (housing) as shown in the following picture. Here the beads of weld must be spaced 25 mm from each other. The beads of weld run across the top of the chin plate and along the underside towards the throat of the jaw. The underside of the chin plate must be cross-hatched. This can be achieved by applying the beads of weld at 45° to each other, creating a 25 mm diamond-shaped pattern.

Lower cutter jaw (housing)



## Storage

### Hydraulic steel cutter

**▲ WARNING Falling hydraulic steel cutter**

The hydraulic steel cutter is heavy. If it topples over where it is stored, it may cause injury.

- ▶ Store the hydraulic steel cutter horizontal on squared timbers or a pallet on a horizontal base.

The following procedure applies to storage:

- ◆ Lubricate the hydraulic steel cutter (see chapter *Lubrication*).
- ◆ Open the cutter jaws.  
There is less oil in the hydraulic steel cutter if the cutter jaws are open. In the event of a leak, less oil is lost and the environmental damage is lower.
- ◆ Secure the cutter jaws with a square timber to keep them open.
- ◆ Remove the hydraulic steel cutter from the carrier (see chapter *Removing the hydraulic attachment from the carrier*).
- ◆ Store the hydraulic steel cutter in a dry, well-ventilated room.
- ◆ If storage is only possible outdoors, then the hydraulic steel cutter is to be protected from the weather with plastic film or tarpaulins.
- ◆ Store the hydraulic steel cutter horizontal on squared timbers or a pallet on a horizontal base.

### Grease cartridges

**▲ WARNING Fire and harmful vapors**

Grease can burn and cause serious fire. Harmful vapors are generated when grease is burnt.

- ▶ Never store grease cartridges near fire-propagating or self-igniting substances.
- ▶ Do not expose the grease cartridges to direct sunlight.
- ◆ Store the grease cartridges in a cool, properly ventilated room.

## Disposal

**NOTICE** Environmental damage due to consumables

Hydraulic oil and grease are environmentally harmful and must not penetrate the ground or enter the water table or water supplies.

- ▶ Collect any such consumables which may escape.
- ▶ Dispose of them in accordance with the applicable environmental regulations.

## Hydraulic steel cutter

- ◆ Remove the hydraulic steel cutter from the carrier (see chapter *Removing the hydraulic attachment from the carrier*).
- ◆ Remove the adapter plate (see chapter *Removing the adapter plate*).
- ◆ Remove the hydraulic hoses from the hydraulic steel cutter.
- ◆ Clean the hydraulic steel cutter (see chapter *Cleaning*).
- ◆ Dispose of the hydraulic steel cutter in line with all applicable regulations or consult an authorised and specialised recycling company.

## Hydraulic hoses

- ◆ Drain the hydraulic oil from the hydraulic hoses and collect it.
- ◆ Dispose of the hydraulic hoses in accordance with the applicable regulations to avoid environmental hazards.

## Hydraulic oil

- ◆ Collect any hydraulic oil that escapes.
- ◆ Dispose of it in accordance with the applicable environmental regulations.

## Grease and grease cartridges

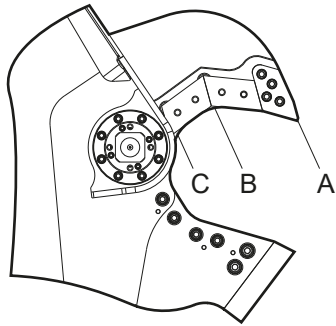
- ◆ Dispose of grease and not completely emptied grease cartridges in accordance with the applicable regulations.
- ◆ Completely emptied grease cartridges can be recycled.

# Technical specifications

Type	SC 2500 R	SC 2500	SC 3600 R	SC 3600	SC 4500 R	SC 4500
Carrier weight class <sup>1</sup> Boom mounted	16 t (35800 lbs)		20 t (44100 lbs)		25 t (55000 lbs)	
Carrier weight class <sup>1</sup> Stick mounted	21 t (46300 lbs)		32 t (70500 lbs)		38 t (83800 lbs)	
Service weight <sup>2</sup>	2750 kg (6063 lbs)	2550 kg (5622 lbs)	4030 kg (8885 lbs)	3830 kg (8444 lbs)	4880 kg (10759 lbs)	4477 kg (9870 lbs)
Weight without adapter	2500 kg (5510 lbs)	2300 kg (5071 lbs)	3590 kg (7915 lbs)	3390 kg (7474 lbs)	4440 kg (9790 lbs)	4037 kg (8900 lbs)
Dimensions						
Length	2596 mm (102 in.)	2235 mm (88 in.)	3106 mm (122 in.)	2880 mm (113 in.)	3568 mm (141 in.)	3220 mm (127 in.)
Width	1268 mm (50 in.)		1409 mm (56 in.)		1620 mm (64 in.)	
Depth	720 mm (28 in.)		760 mm (30 in.)		940 mm (37 in.)	
Width cutter jaw	100 mm (3.9 in.)		143 mm (5.6 in.)		143 mm (5.6 in.)	
Width housing jaw	330 mm (13 in.)		445 mm (18 in.)		445 mm (18 in.)	
Jaw opening / max.	448 mm (18 in.)		607 mm (24 in.)		750 mm (30 in.)	
Jaw depth	417 mm (16 in.)		544 mm (21 in.)		625 mm (25 in.)	
Cutting force (at 350 bar)						
Tip (A)	130 t (143 tn. sh.)		156 t (172 tn. sh.)		168 t (185 tn. sh.)	
Apex (B)	240 t (265 tn. sh.)		296 t (327 tn. sh.)		319 t (351 tn. sh.)	
Throat (C)	532 t (586 tn. sh.)		664 t (732 tn. sh.)		813 t (896 tn. sh.)	
Operating pressure						
Open/close	350 bar (5076 psi)		350 bar (5076 psi)		350 bar (5076 psi)	
Rotation	max. 170 bar (max. 2465 psi)		max. 170 bar (max. 2465 psi)		max. 170 bar (max. 2465 psi)	
Return pressure	max. 45 bar (max. 653 psi)		max. 45 bar (max. 653 psi)		max. 80 bar (max. 1160 psi)	
Leak oil pressure	-		-		max. 8 bar (max. 116 psi)	
Oil flow						
Open/close	150 - 240 l/min (40 - 60 gal/min)		300 - 450 l/min (80 - 120 gal/min)		300 - 450 l/min (80 - 120 gal/min)	
Rotation	50 l/min (13.2 gal/min)		50 l/min (13.2 gal/min)		50 l/min (13.2 gal/min)	
Cycle <sup>3</sup>						
Closing	3.10 s		2.23 s		3.62 s	
Opening	2.88 s		2.79 s		2.90 s	
Hydraulic connections						
Open/close	M42 x 2		SAE 1¼" 6000 PSI		SAE 1¼" 6000 PSI	
Rotation	M20 x 1.5		M20 x 1.5		M20 x 1.5	
Leakage oil line	-		-		M20 x 1.5	
Hose lines (inside diameter)						
Open/close	min. 25 mm (min. 1")		min. 32 mm (min. 1¼")		min. 32 mm (min. 1¼")	
Rotation	8 mm (0.3")		8 mm (0.3")		8 mm (0.3")	
Leakage oil line	-		-		8 mm (0.3")	
Pipework (diameter and wall thickness)						
Open/close	min. 30 x 4 mm (1.2 x 0.16 in.)		min. 38 x 5 mm (1.5 x 0.2 in.)		min. 38 x 5 mm (1.5 x 0.2 in.)	
Rotation	12 x 1.5 mm (0.47 x 0.06 in.)		12 x 1.5 mm (0.47 x 0.06 in.)		12 x 1.5 mm (0.47 x 0.06 in.)	
Hole pattern	HB 2000 - HB 2500		HB 3100 - HB 4700		HB 3100 - HB 4700	

<sup>1</sup> Weight apply to standard carriers only.  
Any variations must be agreed with Epiroc and / or the carrier manufacturer.

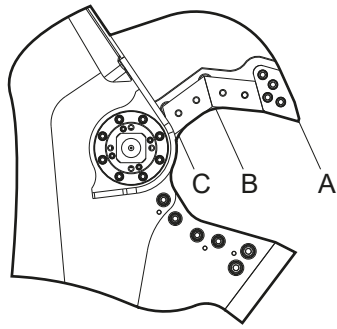
- 2 hydraulic steel cutter including adapter plate of medium size.  
Please note that the working weight can be considerably higher, depending on the adapter plate.
- 3 with maximal oil flow, starting with completely opened jaw.





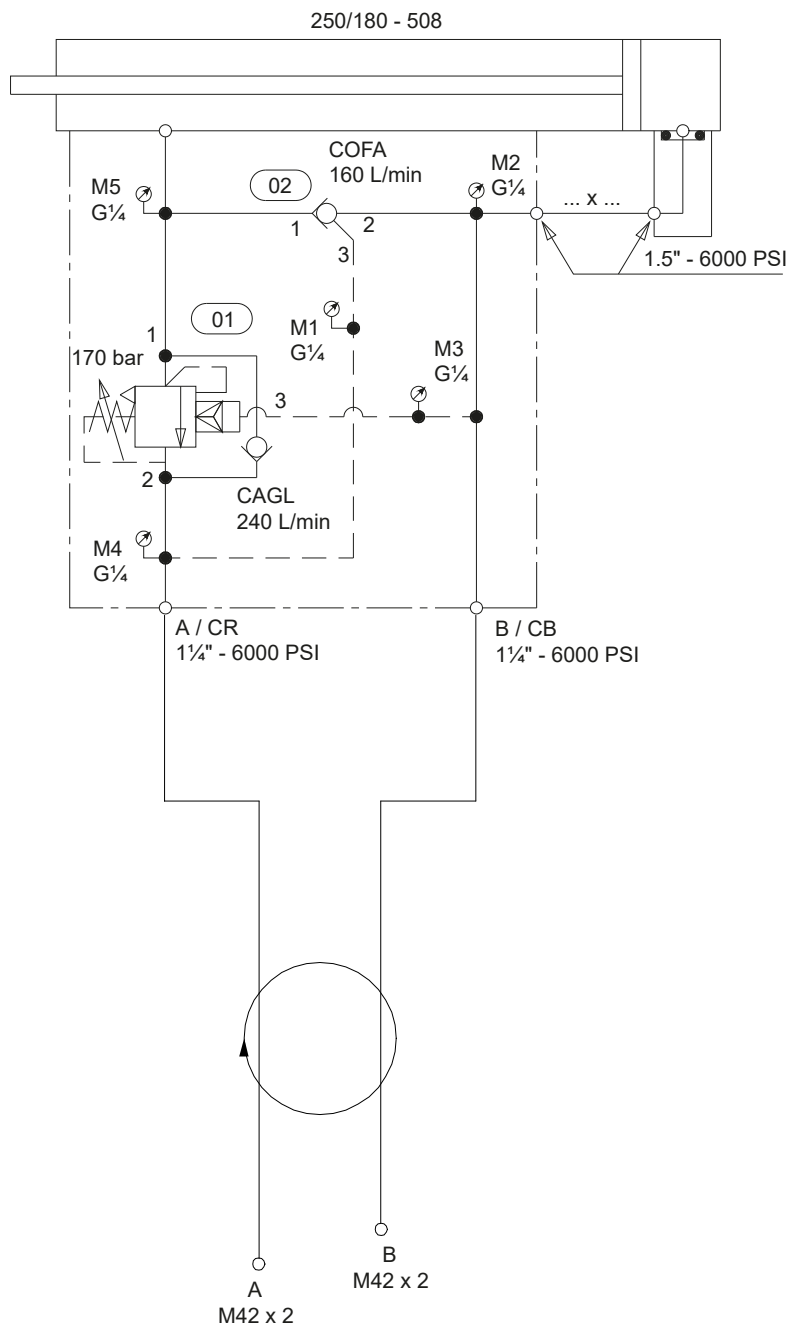
Type	SC 6200 R	SC 6200	SC 8300 R	SC 8300
Carrier weight class <sup>1</sup> Boom mounted	30 t (66140 lbs)		45 t (99210 lbs)	
Carrier weight class <sup>1</sup> Stick mounted	50 t (110230 lbs)		65 t (143300 lbs)	
Service weight <sup>2</sup>	6860 kg (15124 lbs)	6460 kg (14242 lbs)	9060 kg (19974 lbs)	8310 kg (18320 lbs)
Weight without adapter	6180 kg (13630 lbs)	5780 kg (12743 lbs)	8250 kg (18190 lbs)	7500 kg (16535 lbs)
Dimensions				
Length	3903 mm (154 in.)	3555 mm (140 in.)	4730 mm (186 in.)	4230 mm (167 in.)
Width	1681 mm (66 in.)		2013 mm (79 in.)	
Height	940 mm (37 in.)		1030 mm (41 in.)	
Width cutter jaw	158 mm (6.2 in.)			
Width housing jaw	500 mm (20 in.)			
Jaw opening / max.	782 mm (31 in.)		947 mm (37 in.)	
Jaw depth	701 mm (28 in.)			
Cutting force (at 350 bar)				
Tip (A)	201 t (221 tn. sh.)		242 t (266 tn. sh.)	
Apex (B)	390 t (430 tn. sh.)		467 t (515 tn. sh.)	
Throat (C)	955 t (1053 tn. sh.)		1338 t (1474 tn. sh.)	
Operating pressure				
Open/close	350 bar (5076 psi)		350 bar (5076 psi)	
Rotation	max. 170 bar (max. 2465 psi)		max. 170 bar (max. 2465 psi)	
Return pressure	max. 80 bar (max. 1160 psi)		max. 80 bar (max. 1160 psi)	
Leak oil pressure	max. 8 bar (max. 116 psi)		max. 8 bar (max. 116 psi)	
Oil flow				
Open/close	350 - 450 l/min (90 - 120 gal/min)		500 - 750 l/min (130 - 200 gal/min)	
Rotation	50 l/min (13.2 gal/min)		50 l/min (13.2 gal/min)	
Cycle <sup>3</sup>				
Closing	3.48 s		3.19 s	
Opening	5.32 s		4.88 s	
Hydraulic connections				
Open/close	SAE 1¼" 6000 PSI		SAE 1½" 6000 PSI	
Rotation	M20 x 1.5		M20 x 1.5	
Leakage oil line	M20 x 1.5		M20 x 1.5	
Hose lines (inside diameter)				
Open/close	min. 32 mm (min. 1.26 in.)		min. 38 mm (min. 1.5 in.)	
Rotation	8 mm (0.3 in.)		8 mm (0.3 in.)	
Leakage oil line	8 mm (0.3 in.)		8 mm (0.3 in.)	
Pipework (diameter and wall thickness)				
Open/close	min. 38 x 5 mm (1.5 x 0.2 in.)			
Rotation	12 x 1.5 mm (0.47 x 0.06 in.)		12 x 1.5 mm (0.47 x 0.06 in.)	
Hole pattern	HB 7000		HB 10000	

- 1 Weight apply to standard carriers only.  
Any variations must be agreed with Epiroc and / or the carrier manufacturer.
- 2 hydraulic steel cutter including adapter plate of medium size  
Please note that the working weight can be considerably higher, depending on the adapter plate.
- 3 with maximal oil flow, starting with completely opened jaw

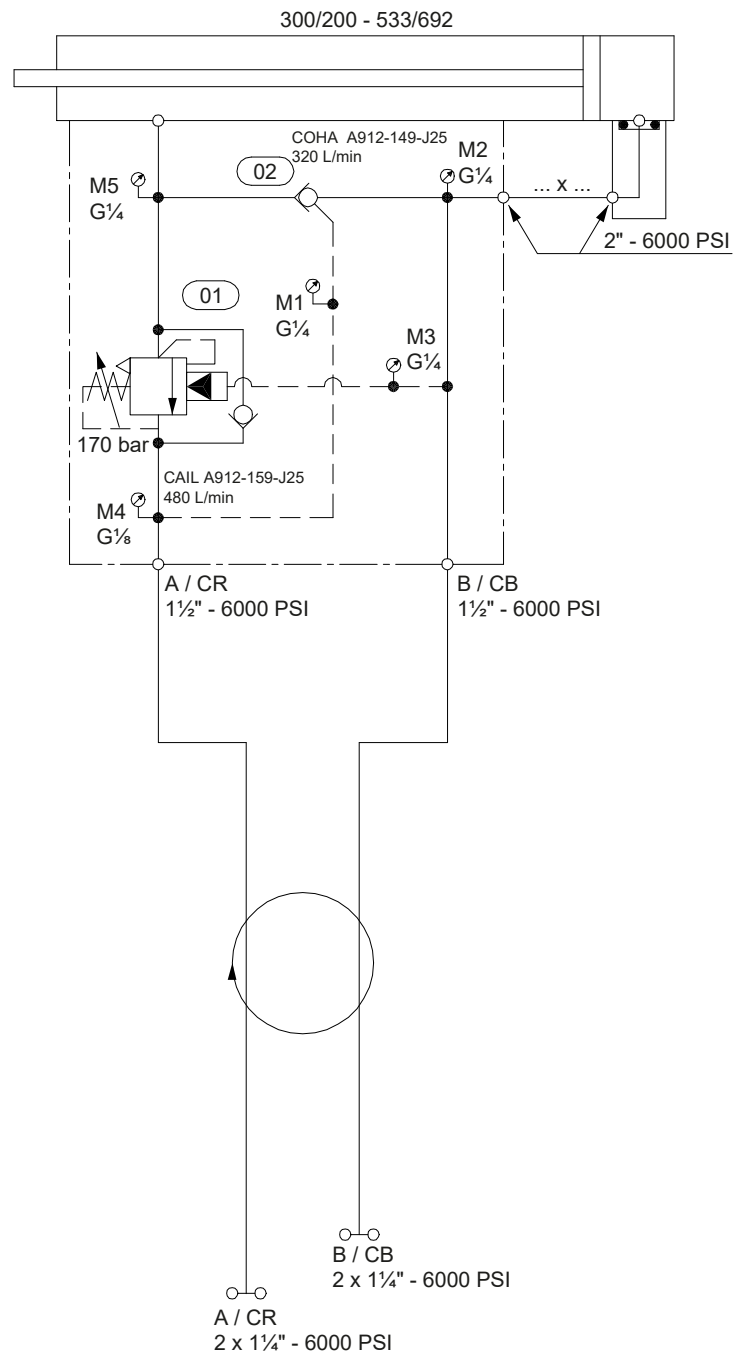


# Appendix

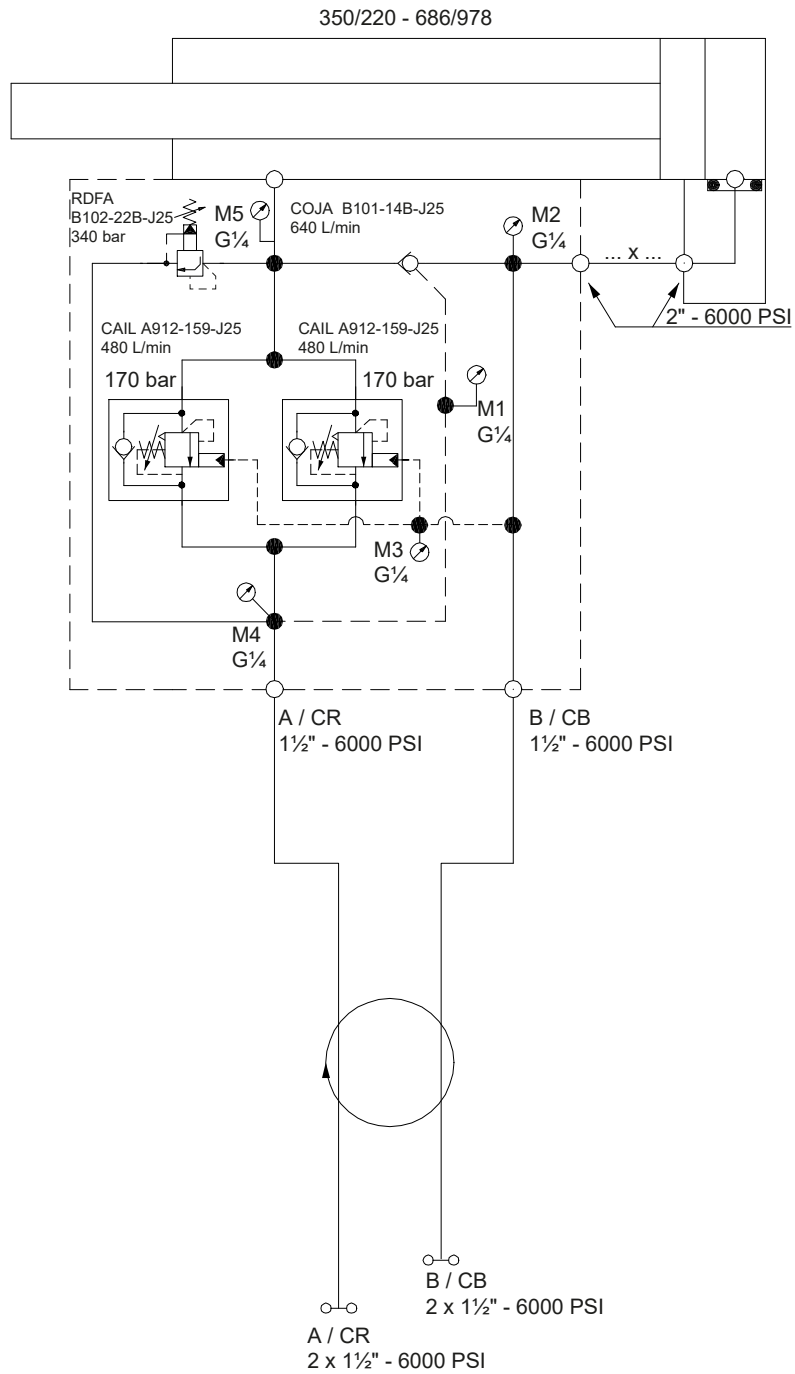
## Hydraulic plan "Speed valve" SC 2500



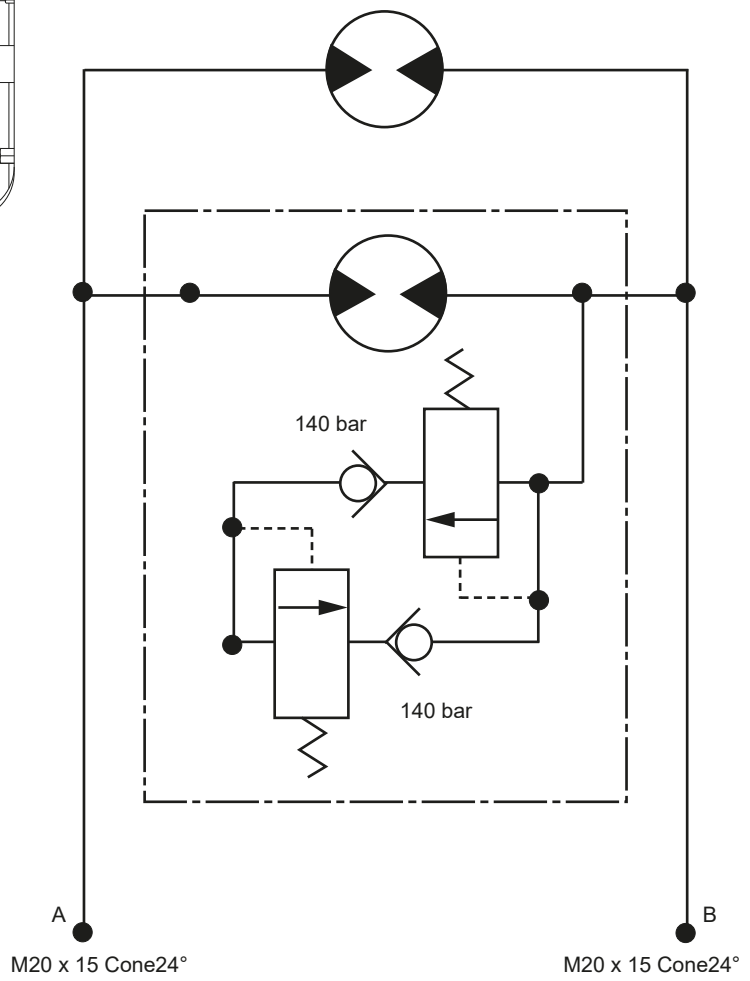
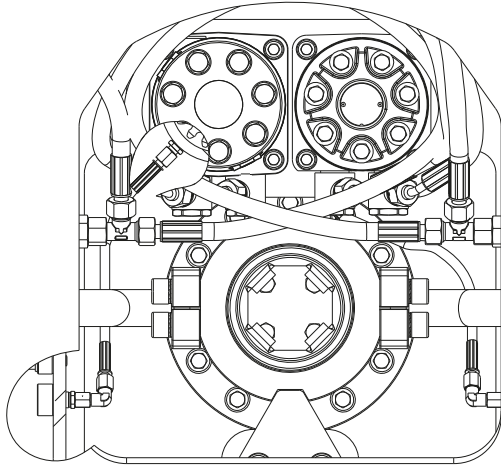
Hydraulic plan "Speed valve" SC 3600, SC 4500



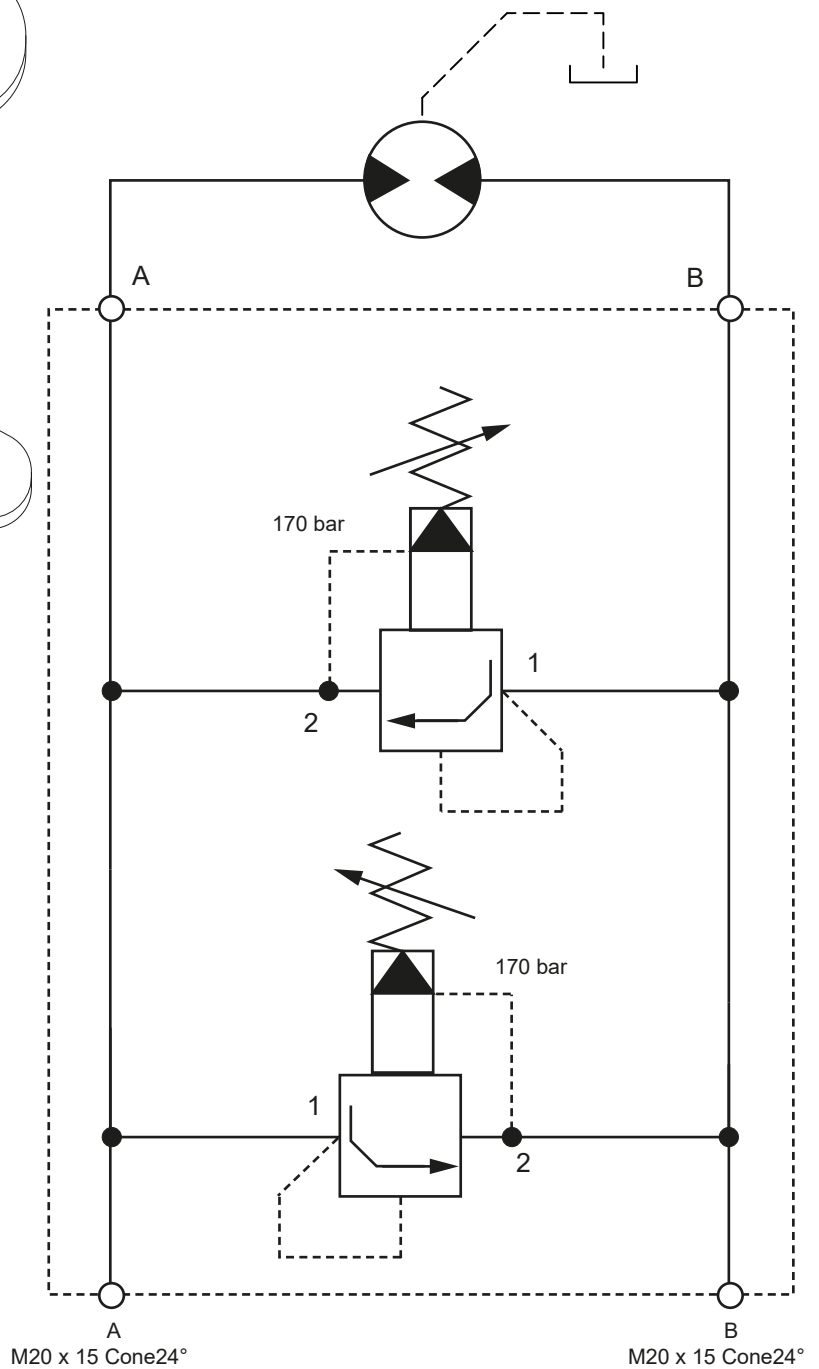
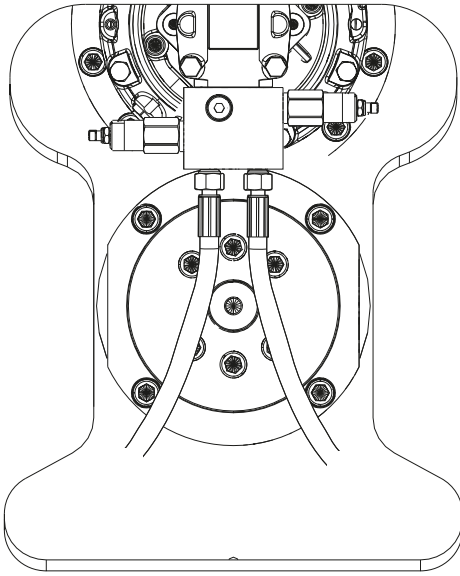
Hydraulic plan "Speed valve" SC 6200, SC 8300



Hydraulic plan "Rotation" SC 2500, SC 3600



Hydraulic plan "Rotation" SC 4500, SC 6200, SC 8300



## EC Declaration of Conformity (EC Directive 2006/42/EC)

We, Construction Tools GmbH, hereby declare that the machines listed below conform to the provisions of EC Directive 2006/42/EC (Machinery Directive), and the harmonised standards mentioned below.

Hydraulic steel cutter	Part number
SC 2500 R	3363 1156 66
SC 2500	3363 1189 98
SC 3600 R	3363 1156 67
SC 3600	3363 1189 99
SC 4500 R	3363 1156 68
SC 4500	3363 1190 00
SC 6200 R	3363 1156 71
SC 6200	3363 1190 01
SC 8300 R	3363 1156 72
SC 8300	3363 1190 02

### Following harmonised standards were applied:

- ◆ EN ISO 12100
- ◆ EN ISO 4413

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### Place and date:

Essen, 2016-04-07









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