

Safety and operating instructions for scrap cutters SC 270 and SC 600

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Safety and operating instructions for scrap cutters

SC 270

SC 600

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1 Foreword

Please read this operating manual before using your scrap cutter for the first time so as to avoid errors and breakdowns through incorrect usage.

You will see that different formats have been used in this operating manual to help you identify

normal text,

- lists or
- activity steps.

These operating instructions contain:

- important safety instructions
- operating instructions for the scrap cutter
- maintenance instructions for the scrap cutter
- troubleshooting hints.

The operating instructions describe how to use the scrap cutter on site and should therefore be kept in the document compartment of the excavator cab.

Please pay careful attention to the safety regulations which are listed at the beginning of this manual and repeated in the relevant sections.

Responsibility for the observation of these safety regulations lies at all times with the operator, i.e. you.

All safety regulations listed in this manual comply with the laws and regulations of the European Union. Additional national regulations have also been taken into consideration wherever applicable.

Scrap cutter operation outside the European Union is subject to the laws and regulations valid in the country of use.

Please note that reliable operation of the Combi cutter can only be guaranteed if genuine spare parts are used.

We wish you every success with your scrap cutter.

Construction Tools GmbH

2 Accident prevention instructions

Familiarise yourself with the operating manual and the applicable instructions and regulations before starting work with the scrap cutter.

When using the scrap cutter in member states of the European Union, the regulations contained in the EC machinery directive 2006/42/EC must be observed and followed, as must all applicable national accident prevention regulations.

In countries outside the European Union, the valid local statutes and regulations shall apply where relevant.

The excavator manufacturer's safety instructions apply when transporting the excavator with the scrap cutter mounted on it.

2.1 Explanation of the symbols used in these operating instructions

To emphasise their importance, certain points in the operating instructions are marked with symbols.

The form and meaning of these symbols is described below:

	DANGER!	designates an imminent hazard which will ABSOLUTELY lead to severe personal injury or fatal injury if the warning is not heeded.
	WARNING!	designates a hazard or a dangerous activity which MAY lead to severe personal injury or fatal injury if the warning is not heeded.
	CAUTION!	designates a hazard or a dangerous activity which MAY lead to personal injury or material damage if the warning is not heeded.
	Note	A text marked with the phrase Note provides instructions on the correct use of the hydraulic tool aimed at avoiding incorrect operation or errors during work.

2.2 Qualification

Transporting the hydraulic attachment is only allowed 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 sections of these Safety and operating Instructions.

Installing, storing, maintaining and disposing of the hydraulic attachment are only allowed 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 tool 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 allowed 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 allowed if carried out by professionals. Professionals are people who are authorised to approve a hydraulic installation for operation according to the national regulations.

The hydraulic attachment must only be repaired by professionals trained by Construction Tools GmbH who have read and understood these Safety and operating Instructions. The operational safety of the hydraulic attachment is not guaranteed otherwise.

2.3 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

2.4 Safety instructions for the various operating stages

To avoid the risk of injury please observe the following instructions!

Transporting the scrap cutter:

When transporting the scrap cutter, use only the lugs provided and hoisting equipment of sufficient capacity!

The scrap cutter must be placed on the load-bearing surface of a transport vehicle and secured so that it cannot slide away or topple over.

When the cutter is transported by crane, there must not be any people within the range of the suspended load.

Mounting the scrap cutter:

Before mounting the scrap cutter to the carrier ensure that the hydraulic system has been depressurised! (see [section 9.1](#))

The presence of people between the cutter arms is not allowed. There is a risk of people being crushed when the cutter arms close unexpectedly!

Check the nominal width of the hydraulic lines on existing hydraulic systems! All supply and return lines for the hydraulic oil must have a sufficient inside diameter and wall thickness. (See [section 13](#)).

Use only hoses/pipes which satisfy the following quality criteria:

Hydraulic hoses with 4 wire spiral layers to DIN EN 856.

Hydraulic pipes, seamless, cold drawn steel pipes to DIN EN 10305.

Check the connections to the scrap cutter and the hydraulic hoses!

Check the connecting threads to ensure that they are undamaged. Sand or other foreign bodies in the threads must be cleaned away.

Do not run any hydraulic lines for attachment of the scrap cutter through the driver's cab! Hydraulic lines may spring a leak or even burst. The hydraulic oil becomes very hot during operation and has a high pressure.

Mounting the scrap cutter requires the presence of an assistant, who must be instructed by the carrier driver. The carrier driver and assistant should agree beforehand on clear hand signals.

When attaching the adapter use only the special steel allen screws included in the supply.

The scrap cutter should only be mounted on a carrier with sufficient load capacity! (See *section 13*).

Carriers below this weight class will not provide the required degree of stability and could even fall over during cutter use, causing injury and damage.

If the scrap cutter is mounted on a carrier above this weight class excessively high mechanical loads may be applied to the mounted attachment.

Never use your fingers to check bores or fitting surfaces. There is a risk of your finger being crushed or cut off!

If you have any questions on the required hydraulic power and its application, please contact our the Epiroc Customer Center/Dealer in your area.

Check the pressure relief valve on the hydraulic system for the cutter circuit for the exact target value setting!

Collect any oil which runs out and dispose of it in accordance with the applicable statutory provisions to avoid environmental hazards.

Operating the scrap cutter:

Observe the safety instructions of the excavator manufacturer!

The excavator manufacturer's instructions apply when using the excavator, also referred to as carrier in this document, for cutter operation.

The scrap cutter is only to be used for the applications described.

Close the front screen/splinter guard on the driver's cab to protect the driver from flying splinters of rock during scrap cutter operations.

Do not start up the scrap cutter until both carrier and scrap cutter are in the correct position.

Stop the scrap cutter immediately if anyone enters the danger zone!

During scrap cutter operation the danger zone is considerably greater than during the excavation operation - on account of 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.

Only use hydraulic oils that have been approved by the carrier manufacturer! All mineral hydraulic oils recommended by the carrier manufacturer are suitable for operating the cutter. The use of other hydraulic oils is only allowed upon request.

Only use hydraulic oils of sufficient viscosity!

In summer and in tropical climates, the minimum requirement is a hydraulic oil of type HLP 68.

The temperature of the hydraulic oil must be monitored to ensure that it does not exceed 80 °C.

At temperatures below minus 20 °C the scrap cutter must not be operated while the hydraulic oil is still cold!

For maintenance and repair work:

Before carrying out any maintenance or repair work on the hydraulic system of the scrap cutter/the carrier, ensure that the hydraulic system has been depressurised! (see *section 9.1*)

The presence of people between the cutter arms is not allowed. There is a risk of people being crushed when the cutter arms are closed unexpectedly!

Observe the maintenance intervals specified in the maintenance schedule!

Carry out the checks for wear and the status checks listed there!

Removing the scrap cutter:

Before removing the scrap cutter ensure that the hydraulic system has been depressurised! (see *section 9.1*)

Removing the scrap cutter requires the presence of an assistant, who must be instructed by the carrier driver. The carrier driver and assistant should agree beforehand on clear hand signals.

Observe the excavator manufacturer's safety instructions!

The excavator manufacturer's instructions apply when putting the excavator out of operation.

Never use your fingers to check bores or fitting surfaces. There is a risk of your finger being crushed or cut off!

The oil may be very hot. There is a risk of burns!

Oil-carrying parts will be very hot after operating the scrap cutter. There is a risk of burns!

Collect any oil which runs out and dispose of it in accordance with the applicable statutory provisions to avoid environmental hazards.

Lay the scrap cutter on wooden supports after removing it to prevent it from falling over.

3 Marking according to machinery directive 2006/42/EC

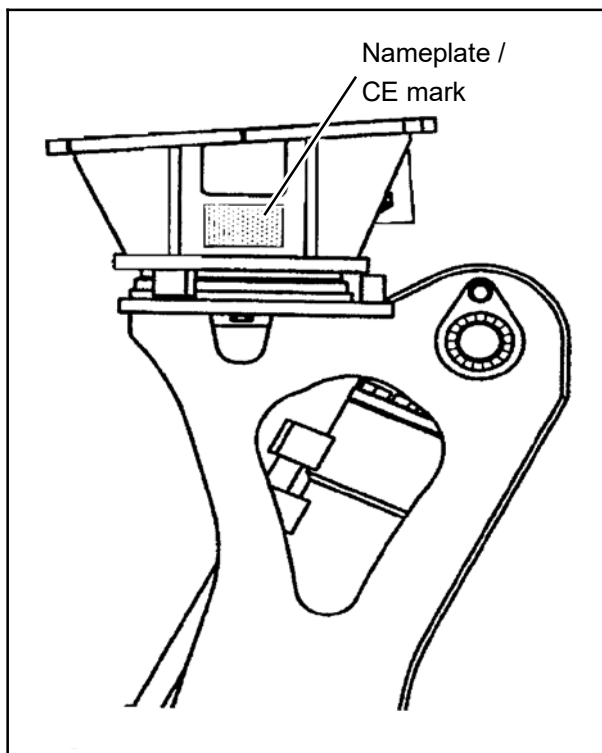
3.1 Scrap cutter identification

The nameplate fitted as shown in the diagram serves to identify the scrap cutter.

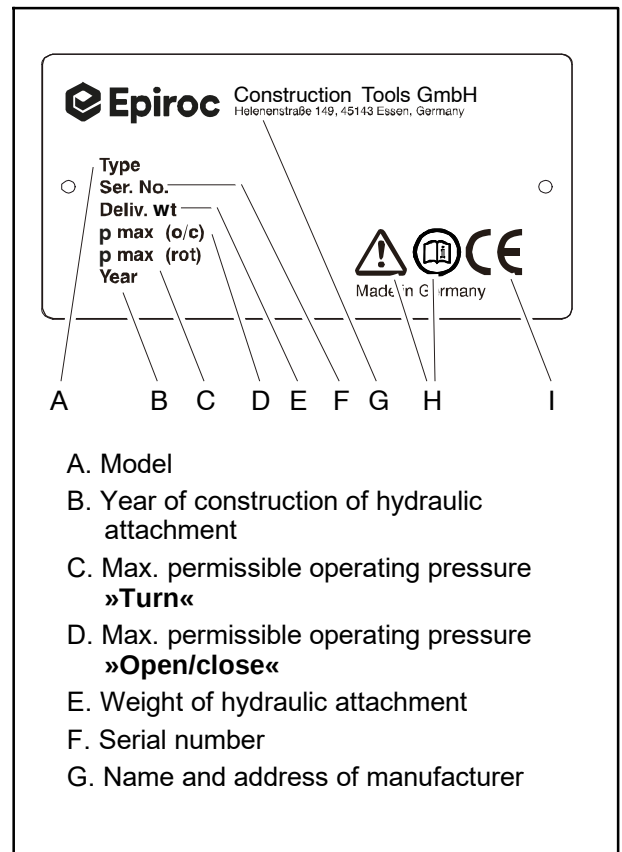
This data facilitates easy and correct identification in the event of future correspondence. This is important when ordering spare parts!

The following must be specified:

Part ID no./tool serial no. and delivery date (see the delivery slip).



3.2 CE name plate of scrap cutter product group



The CE nameplate contains information on the scrap cutter. The weight indication refers to the weight of the scrap cutter.

When selecting hoists and suspension aids for transporting the unit, the weight of the adapter may also have to be considered. In accordance with EC directives CE nameplates must be affixed firmly and in a clearly visible position.

Should these nameplates be lost or defaced, replacements can be ordered from your dealer/from Epiroc Construction Tools.

4 General information

The scrap cutter was developed to cut steel profiles and scrap steel at high speed in order to prepare it for transport or melting.

The scrap cutter mainly consists of high-strength, low-wear steel. This leads to little wear and a good mechanical resistance.

The hydraulic cylinder produces the high cutting force. The hydraulic cylinder and hoses are protected by the cutter structure.

The 360° rotation capability makes it possible to quickly and accurately manoeuvre the cutter into the position required for the specific application.

A valve protects the hydraulic motor from being overloaded.

4.1 Intended use

The scrap cutter is an attachment suitable for mounting on hydraulically operated excavators with sufficient load capacity.

After mounting the scrap cutter, it is powered by the carrier. The maximum operating pressure must never exceed the pressure indicated on the nameplate.

The cutter is operated by the driver from the excavator's driver's cab. The cutter can only be operated by a qualified excavator driver who has read and understood these operating instructions.

The scrap cutter must only be used:

- for cutting metal structures (supports, sections, cables, rods) and
- for demolition work with mini-excavators or demolition robots inside buildings and in contaminated areas (chemical, nuclear plants).

Modifications or changes to the scrap cutter are only allowed if agreed with Epiroc and approved in writing.

4.2 Other than intended use

The scrap cutter must never be used by non-authorized, non-qualified personnel.

The scrap cutter must only be used for cutting metal structures (supports, sections, cables, rods) and for demolition work with mini-excavators or demolition robots inside buildings and in contaminated areas (chemical, nuclear plants).

Any other use shall not be considered as intended use. Epiroc does not assume any liability for damage caused by other than intended use.

In particular, the scrap cutter must never be used for:

- pulling,
- hammering,
- levering,
- pushing aside,
- impacting,
- hitting or
- transporting suspended loads.

4.3 Applications

No part of the excavator and the scrap cutter shall come within 10 m of live power lines.

There must not be any pipes carrying gas or pressurized liquids inside the cutter's working range.

Underwater use of the scrap cutter is not allowed.

When using the scrap cutter in very high or low outside temperatures, the viscosity of the hydraulic oil must be sufficient for the relevant application. See the instructions in [section 8.6](#).

The temperature of the hydraulic oil must not exceed 80 °C.

4.4 Contents delivered

The scrap cutter delivery contains:

- scrap cutter
- operating instructions
- EC declaration of conformity

5 Components

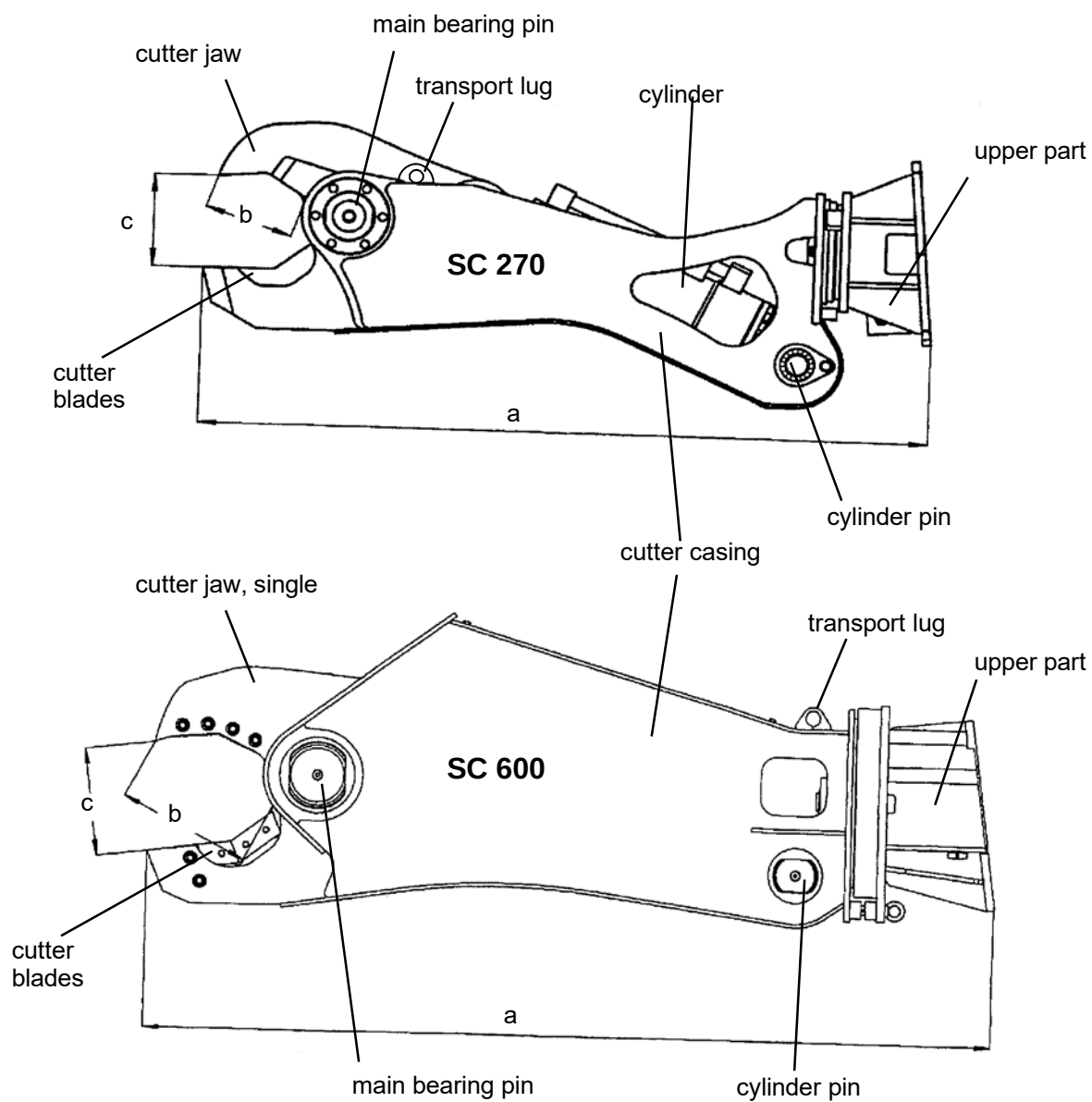


Table of dimensions

Model	a	b	c
SC 270	1350	160	185
SC 600	1900	240	245

6 Transport



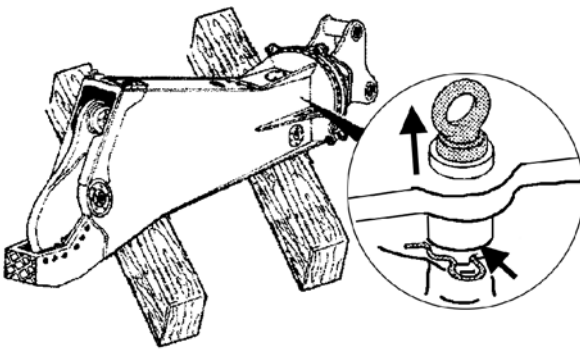
WARNING!

Danger of load falling!

The lifting and/or transport equipment, ropes or chains must have sufficient capacity for the weight of the scrap cutter.

Depending on its destination and the customer's requirements the scrap cutter is supplied on a pallet or in a crate.

You must secure the individual parts before transport so that they cannot move.



- ▶ Install the anti-rotation pin.
- ▶ Lock the anti-rotation pin with the spring clip.
- ▶ Close the cutter.
- ▶ Secure the cutter against accidental opening.

6.1 Transport by crane

- ▶ Attach the crane ropes and/or chains to the scrap cutter's transport lugs.

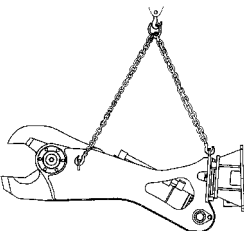


WARNING!

Danger due to suspended load!

There must not be any people within the range of the suspended load.

- ▶ Slowly lift the scrap cutter using the crane.
- ▶ Place the scrap cutter on wooden supports at the required location.



6.2 Transport using a forklift truck



WARNING!

Danger due to load toppling over!

The scrap cutter must be placed on the forks so that it cannot topple over during transport.

- ▶ Move the forks under the scrap cutter so that it cannot topple over and fall off.
- ▶ Slowly lift the scrap cutter.



WARNING!

Danger due to moving load!

Secure the transport route so that nobody can be in the way.

- ▶ Transport the demolition cutter to the required location.
- ▶ Place the scrap cutter on wooden supports.

6.3 Transport using a lorry

When transporting the unpacked scrap cutter on a lorry, you have to ensure that the cutter is safely secured to the transport surface.

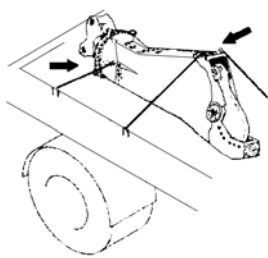


WARNING!

Danger due to load toppling over!

The scrap cutter must be placed on the transport surface so that it cannot topple over or slide away during transport.

- ▶ Attach ropes and/or chains to the scrap cutter's transport lugs.



- ▶ Secure the ropes and/or chains to the transport surface.

6.4 Storage



WARNING!

Risk of burns!

Oil-carrying parts and hydraulic oil will be very hot after operating the scrap cutter.



CAUTION!

Hydraulic oil running out!

Collect any hydraulic oil which runs out and dispose of it in accordance with the applicable statutory provisions to avoid environmental hazards.

- ▶ Collect any hydraulic oil which runs out when the hydraulic hoses are disconnected and dispose of it correctly.
- ▶ Close open pipes and hoses.
- ▶ Place the scrap cutter on wooden supports of sufficient size and stability.
- ▶ Store the cutter in a dry space, with a roof over it.

7 Installation

7.1 Agents/consumables



CAUTION!

When handling oils and greases observe the safety instructions that apply to these products!

7.1.1 Mineral hydraulic oil

All hydraulic oil brands prescribed by the carrier manufacturer are also suitable for operating the scrap cutter.

The oil should however 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. initial viscosity = 2000 cSt
 Max. oil temperature (short term) = 80 °C

Please refer to *section 8.6* for low-temperature scrap cutter applications.

7.1.2 Non-mineral hydraulic oil

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 tools are basically designed for use with mineral oils. Before using other fluid types which have been approved by the carrier manufacturer, always consult the Epiroc Customer Center/Dealer in your area. Following initial assembly and after any workshop repairs, our tools are subjected to a test run on a test bed powered by **mineral oil**.

Note:

When returning tools for repair, it is imperative that the name of the oil in use be indicated if you are using non-mineral oil.



CAUTION!

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



CAUTION!

Non-mineral oil is no longer biodegradable if it is contaminated with mineral oil. Contaminated non-mineral oil must be disposed of as special waste in accordance with the applicable statutory regulations for environmental protection.

7.1.3 Grease

Agents/consumables	Part ID No.
Cutter grease	3363 0949 14

7.2 Preconditions



WARNING!

Danger of crushing!

The presence of people between the cutter arms is not allowed.



CAUTION!

The screws must be designed for the loads to which the adapter is subjected. Only use the screws included in the delivery to attach the adapter.

Before mounting the scrap cutter on the excavator you have to check that the load capacity of the excavator is sufficient. Otherwise the excavator may become unstable and fall over.

The load capacity of the excavator must comply with the following conditions:

Model	Carrier class	
	mounted on stick of carrier boom	mounted on carrier boom
SC 270	4.0–5.0 t	5.5–6.5 t
SC 600	2.0–4.0 t	3.5–4.5 t

7.2.1 Conversion from hammering to cutter operation

The available hydraulic equipment can be checked by the Customer Service or the authorized dealer to determine to which extent additional equipment is required.

7.2.2 Checking a possibly existing cutter system

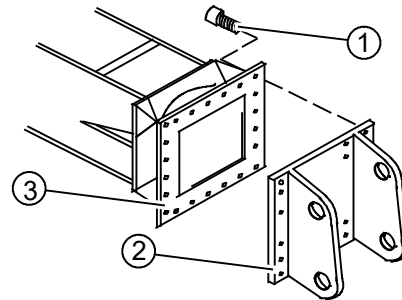
The existing cutter system (if available) can be checked by the Customer Service or the authorized dealer to ensure that it is free from problems, regardless of whether it is an Epiroc or third-party system. Additional equipment may be required.

In all these cases the operational quality of the system is checked and it is checked that all specifications such as capacity and operating pressure comply with the target specifications.

7.3 Mechanical mounting aspects

7.3.1 Attaching the adapter

- ▶ Place the scrap cutter on wooden supports.
- ▶ All connections must be facing upwards to avoid their being damaged.
- ▶ Align the adapter (2) with the rotation mechanism plate (3).



CAUTION!

The screws must be designed for the loads to which the adapter is subjected. Only use the screws included in the delivery to attach the adapter.

- ▶ Use all allen screws (1) included in the supply to secure the adapter.

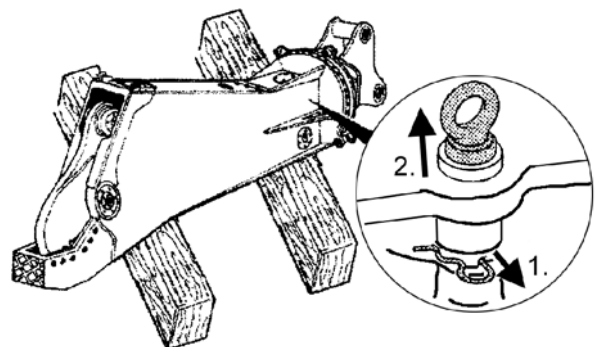
Note:

the illustration is a simplified picture showing only one allen screw.

- ▶ Tighten all allen screws to the right torques as specified in *chapter 9.3.2*.

7.3.2 Attachment to the boom stick

- ▶ Place the scrap cutter on wooden supports within the reach of the carrier boom.
- ▶ All connections must be facing upwards to avoid their being damaged.
- ▶ Remove the spring clip (1) from the anti-rotation pin.
- ▶ Remove the anti-rotation pin (2).

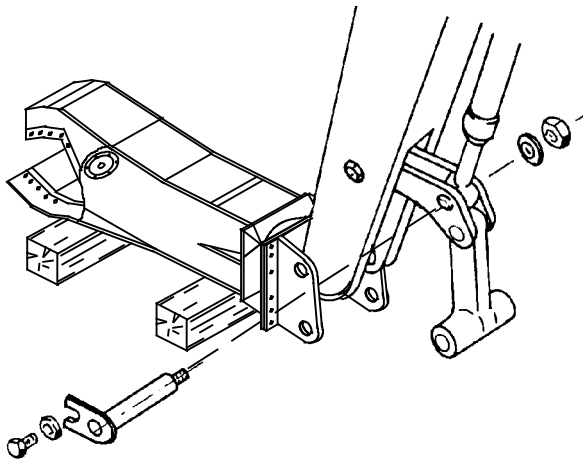


- Turn the scrap cutter with the mounted adapter so that the stick of the carrier boom can be moved into the adapter.
- Clean the interior connection surfaces using a rag.
- Clean the cutter pins and bushes.
- Agree with the assistant on clear hand signals to position the carrier boom.
- Move the carrier boom stick into the adapter.

**WARNING!****Danger of body parts being crushed or cut off!**

Never use your fingers to check whether the bores are flush.

- Insert the stick pin and check that the pin bores are flush.



It must be possible to insert the stick pin without effort.

- If you cannot easily insert the stick pin, you have to pull it out again.
- Keep moving the carrier boom until you can insert the stick pin without effort.
- Carefully move the carrier boom without load to enable you to insert the toggle pin.

The toggle pin bores on the boom must link up with the toggle pin bores on the adapter.

- Insert the toggle pin.
- Keep moving the carrier boom until you can insert the toggle pin without effort.
- Secure both toggle pins with the pin locking elements.

7.4 Hydraulic mounting aspects

The high-pressure carrier/cutter connection hoses are not included in the supply.

**WARNING!****Danger of crushing!**

The presence of people between the cutter arms is not allowed.

**WARNING!****High-pressure hydraulic oil!**

Check the nominal width of the hydraulic lines on existing hydraulic systems! All supply and return lines for the hydraulic oil must have a sufficient inside diameter and wall thickness.

(see [section 13](#))

Use only hoses/pipes which satisfy the following quality criteria:

Hydraulic hoses with 4 wire spiral layers to DIN EN 856.

Hydraulic pipes, seamless, cold drawn steel pipes to DIN EN 10305.

Observe the following when making the connections:

Mar- king	Func- tion	Model [DIN 20023]	Max. oil pressure	
			SC 270 [bar]	SC 600 [bar]
A	Ope- ning	Connecting thread G 1/2"	250	300
		Hose size 1/2" 4SP		
C	Clo- sing	Connecting thread G 1/2"	250	300
		Hose size 1/2" 4SP		
R	Rota- ting	Connecting thread G 1/2"	100	100
		Hose size 1/2" 4SP		
T	Waste oil	Connecting thread G 1/4"		15
		Hose size 1/4" 1ST		

Note:

If the existing system has different rated sizes for the hydraulic line, you should connect the largest rated sizes to connection C – Closing! This way you will obtain maximum closing power.

The safety facilities on the hydraulic system must be checked by a professional/authorised persons for their quality (CE mark etc.), suitability and proper functioning prior to their first use. By checking the setting of and, where possible, attaching a lead seal to the pressure limiting valve, it can be guaranteed that the system's working pressure, laid down in accordance with chapter 13 Technical Specifications, can never be exceeded.

If you come to the conclusion that the system does not comply with the requirements listed above, the scrap cutter must not be operated. For reasons of safety, you should absolutely contact the Epiroc Customer Center/Dealer in your area.

- ▶ Remove the seal caps from the connections between the carrier and the scrap cutter.
- ▶ Remove all dirt and dust from all hose ports and connections.
- ▶ Screw the hoses to the ports.
- ▶ Tighten the screw connections.

7.5 Disassembling

Note:

See the instructions for putting the system out of operation in section 8.7.



WARNING!

High-pressure hydraulic oil!

Depressurise the hydraulic system, otherwise there is a risk of injury due to hydraulic oil squirting out.

Depressurise the hydraulic system as follows:

- ▶ Switch off the engine but leave the ignition switched on.
- ▶ Repeatedly operate the switches for opening/closing/rotating the scrap cutter.



WARNING!

Risk of burns!

Hydraulic oil can be very hot after operation. Make sure that nobody comes into contact with hot hydraulic oil.



CAUTION!

Hydraulic oil running out!

Collect any hydraulic oil which runs out and dispose of it in accordance with the applicable statutory provisions to avoid environmental hazards.

- ▶ Disconnect the hydraulic hose connections.
- ▶ Collect the hydraulic oil which runs out.
- ▶ Seal the connections with the seal caps.
- ▶ Remove the pin lock from the stick pin.
- ▶ Pull out the pin.
- ▶ Carefully move the carrier boom out of the cutter adapter.

8 Operating the scrap cutter

8.1 Starting up

The scrap cutter is ready for use as soon as it has been mounted.



WARNING!

Danger of crushing!

The presence of people between the cutter arms is not allowed.



WARNING!

Risk of injury!

Stop the scrap cutter immediately if anyone enters the danger zone! During scrap cutter operation the danger zone is considerably greater than during the excavation operation - on account of 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.



WARNING!

Risk of injury due to fragments of stone and pieces of steel flying around!

Close the front screen and, if available, the splinter guard on the driver's cab!

- The scrap cutter should only be operated from the driver's cab or using the remote control!

8.1.1 Switching the scrap cutter on/off from the carrier

After the proper attachment of the scrap cutters to the carrier, the scrap cutters can be operated using the carrier's hydraulic system. All functions for normal excavator operations remain intact. The scrap cutter is switched on and off using electrical and hydraulic signals. For further details please contact the carrier manufacturer or the Epiroc Customer Center/Dealer in your area.

- When leaving the driver's cab, the safety switch for these electrical signals must be set to the "OFF" position

so as to reliably prevent any unintended start-up of the scrap cutter

Both the carrier and the scrap cutter can be operated by remote control. For further details please contact the carrier manufacturer or the Epiroc Customer Center/Dealer in your area.

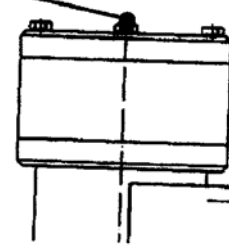
8.1.2 Waste oil SC 600

Rotation using the hydraulic motor is possible while the waste oil port is plugged up, provided that the drive pressure does not exceed 15 bar.

- Check the pressure in the waste oil line when making the initial installation.
- If a value in excess of 15 bar is measured, you should fit a waste oil hose connecting the waste oil port of the motor to the tank.

The waste oil port is located in the bottom of the motor. It is usually plugged up.

SC 600



- Remove the seal caps from the hydraulic oil ports on the carrier, the motor and the hydraulic hose.
- Carefully clean the ports.



CAUTION!

Dirt can lead to damage!

Carefully clean the ports to remove all dirt (grit, sand, dust) to avoid damage to the hydraulic cylinder.

- Fit the hoses and tighten the connections.

8.1.3 Functional test

- ▶ Start the carrier.
- ▶ Slowly pressurize the hydraulic circuit to avoid shocks.
- ▶ Increase the pressure until the maximum operating pressure specified on the nameplate of the scrap cutter is reached.
- ▶ Using the carrier boom functions, raise the scrap cutter until it is freely suspended.

First functional test: **opening and closing**

- ▶ Operate the switch in the leg-space area of the cab to open and close the cutter jaws.
- ▶ Open the cutter one quarter with the engine idling and close it again.
- ▶ Open the cutter halfway and finally three quarters, closing it again in between.
- ▶ Repeat this procedure 5–6 times to make sure that there is no leakage in the hydraulic system.

Second functional test:

Rotate the cutter to the left and to the right

The cutter rotation can be tested either by using the carrier function "**rotate cutter**" or by using a new additional system.

8.2 Using the scrap cutter



WARNING!

Risk of injury!

Stop the scrap cutter immediately if anyone enters the danger zone! During scrap cutter operation the danger zone is considerably greater than during the excavation operation - on account of 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.

8.2.1 Limitations when cutting steel



CAUTION!

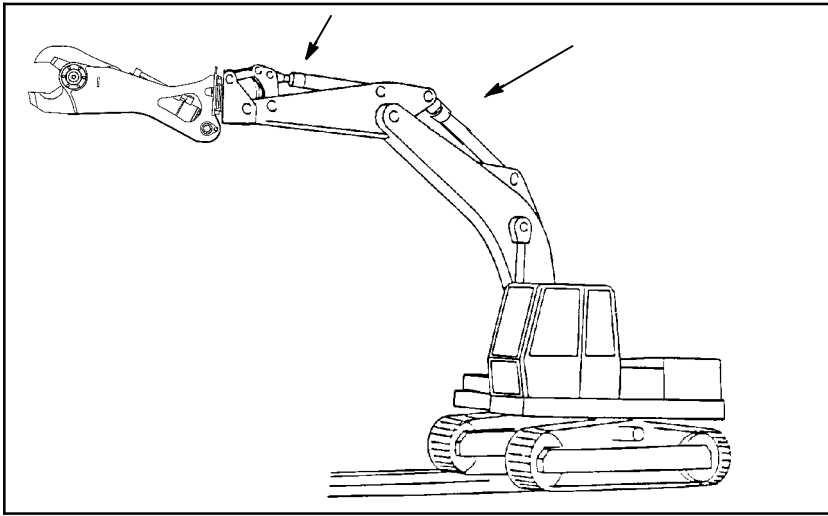
The scrap cutter is **not** suitable for cutting steel sheets and plates!
The scrap cutter must **not** be used to cut through tanks (oil tanks) either.

All steel sections of tensile strength $< 370 \text{ N/mm}^2$ can be cut using the scrap cutter.
Cutting higher steel grades e.g. rails for railways or streetcars, wire cables or spring steel may cause damage to the scrap cutter.

Sec- tion	SC 270	SC 600
H	120 mm	140 mm
L	100/100/10 mm	120/120/10 mm
O	Ø 70x3 mm	Ø 114x4 mm
●	Ø 40 mm	Ø 50 mm

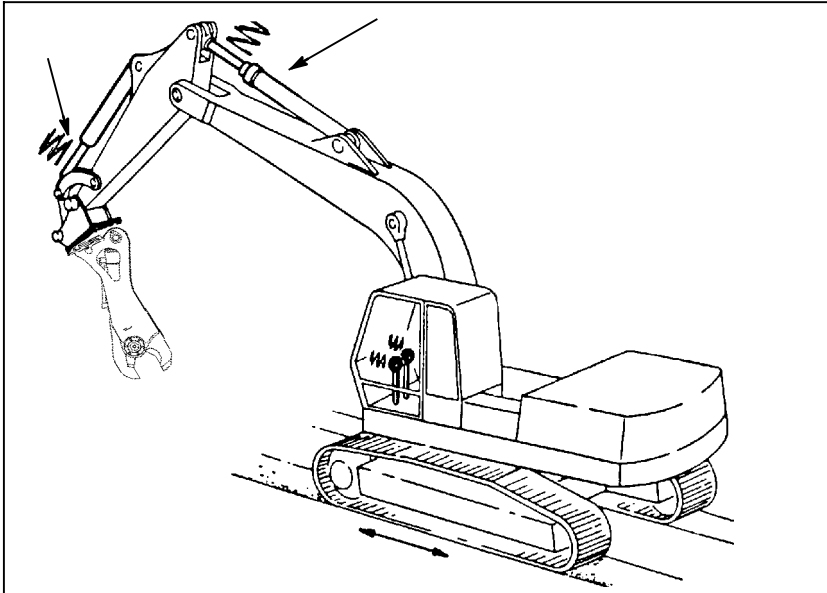
8.3 Instructions on the correct use of the scrap cutter

A number of examples showing the proper operation of the scrap cutter and specifying improper use are listed below.



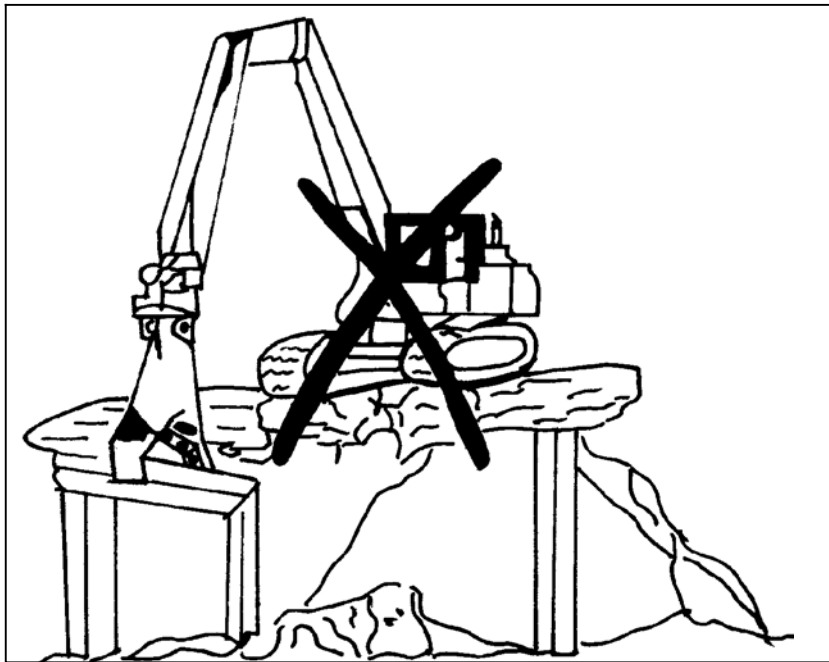
CAUTION!

Operating the scrap cutter with the boom/stick cylinders fully extended or retracted must be avoided at all costs. These end positions are equipped with damping functions; continuous operation at full extension/retraction can result in damage to the hydraulic cylinders.

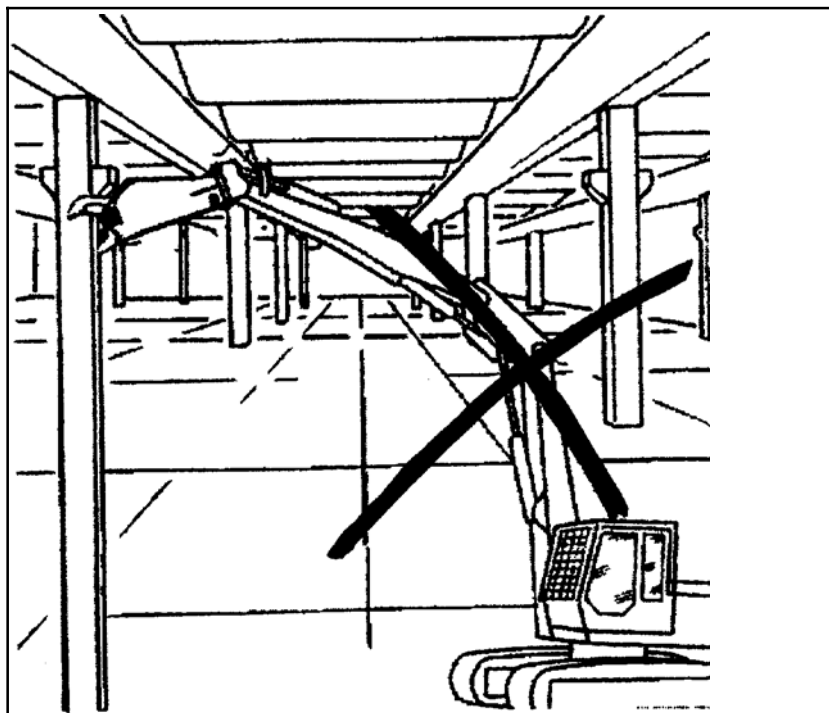


CAUTION!

Operating the scrap cutter with the boom/stick cylinders fully extended or retracted must be avoided at all costs. These end positions are equipped with damping functions; continuous operation at full extension/retraction can result in damage to the hydraulic cylinders.

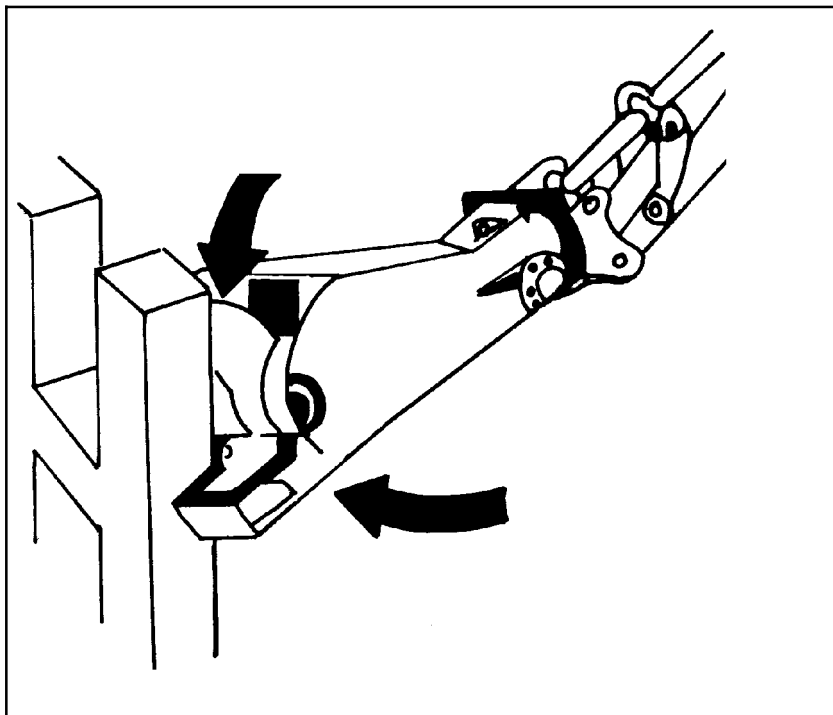
Instructions on the correct use of the scrap cutter**DANGER!**

When working on floors/
roofs, ensure that they are
strong enough to bear the
weight of the carrier.
Danger of collapse!

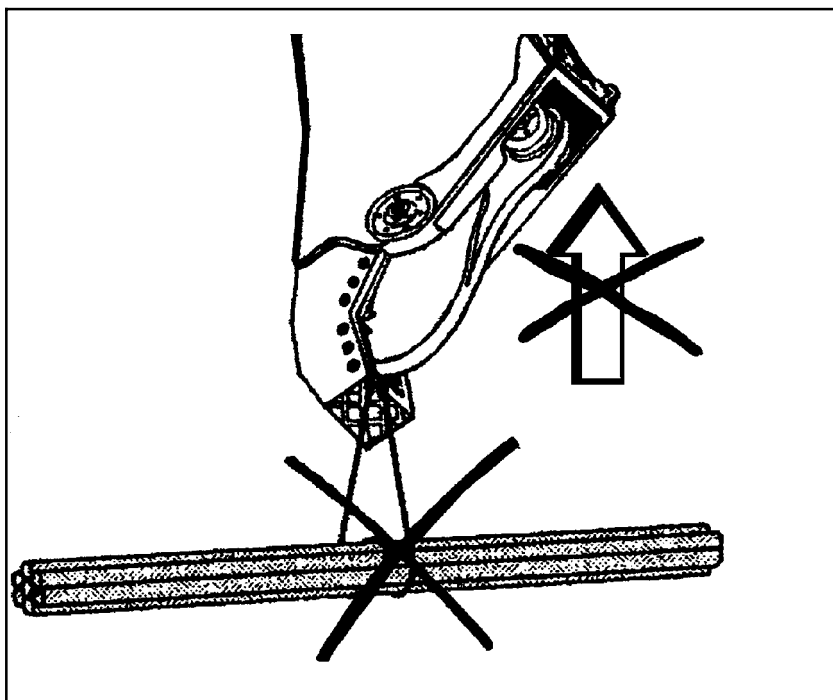
**DANGER!**

When demolishing
structures, always work
from the top downwards.

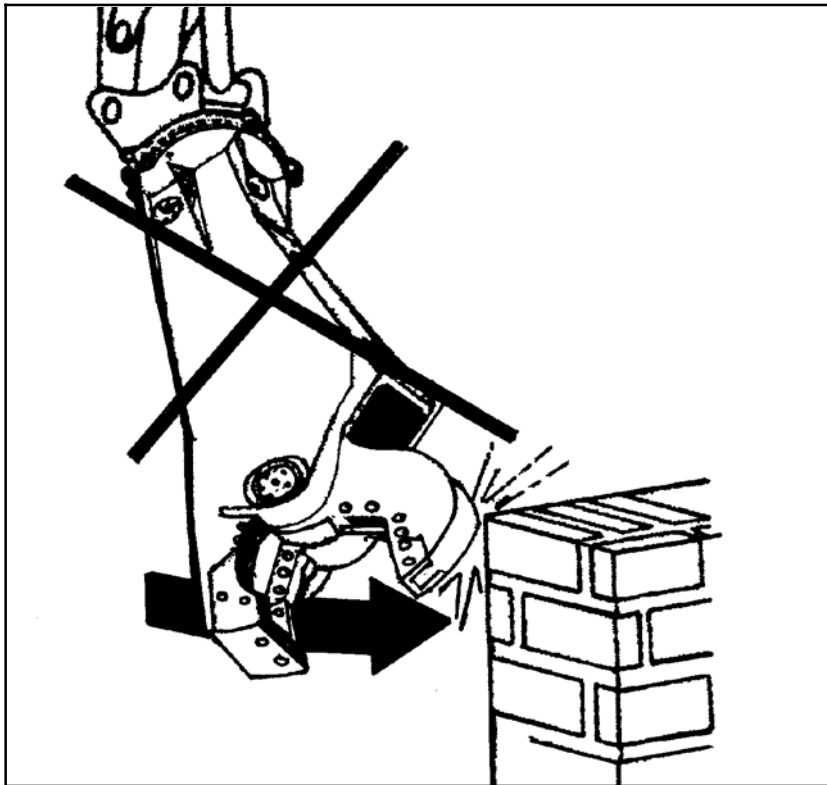
Otherwise the overhead
section might collapse!

Instructions on the correct use of the scrap cutter**CAUTION!**

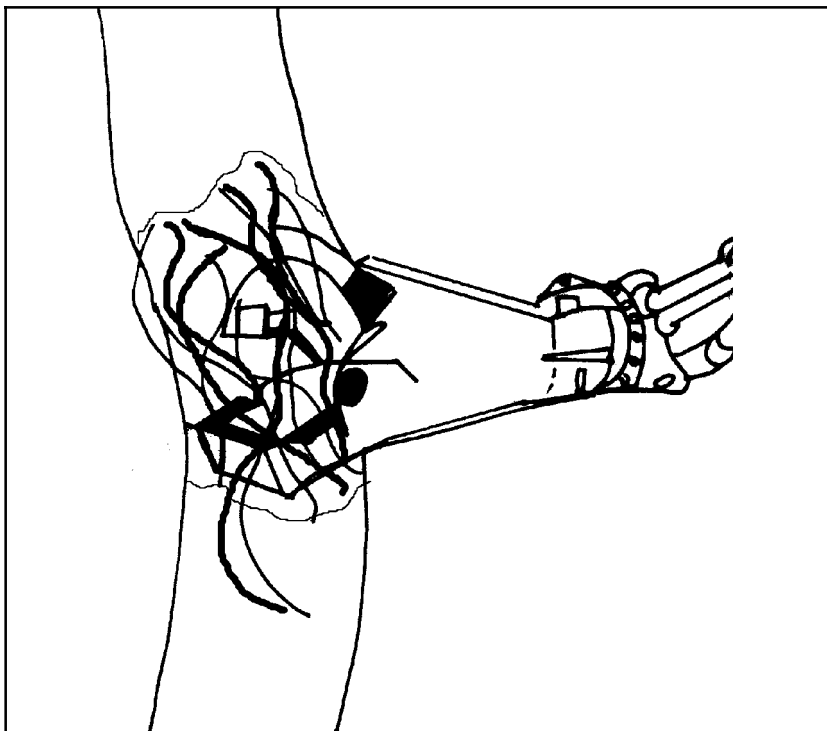
Change the scrap cutter's point of attack in good time. Wherever possible, scrap cutting should be started on narrow faces.

**CAUTION!**

Never lift or transport loads with the scrap cutter!

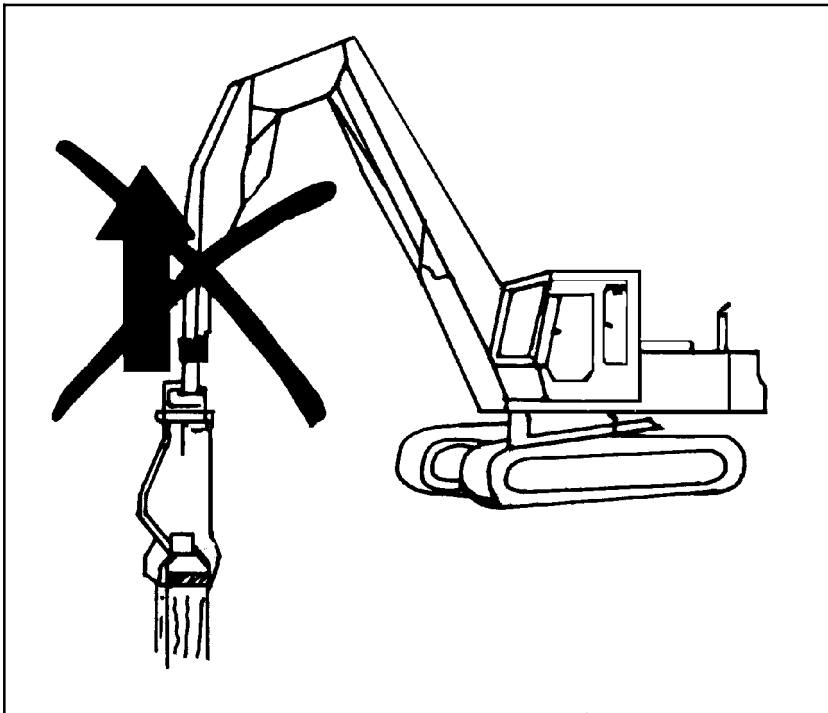
Instructions on the correct use of the scrap cutter**CAUTION!**

Never hack or pound with the scrap cutter since this will cause serious damage to the scrap cutter.

**CAUTION!**

Do not make any sudden movements if the cutter jams in the structure. First clear the cutter before continuing your work!

Instructions on the correct use of the scrap cutter



CAUTION!

Never pull at girders or supports with the scrap cutter!

This will damage both the scrap cutter and the adapter.
The carrier may also become unstable and fall over.

8.4 Underwater use

The scrap cutter must never be used underwater!

Observe the excavator manufacturer's safety instructions!

8.5 Working in high ambient temperature

The temperature of the hydraulic oil must be monitored to ensure it does not exceed 80 °C. If higher temperatures are measured in the tank, the system and the pressure-relief valve have to be checked. Only use hydraulic oils of sufficient viscosity. In summer and in tropical climates, the minimum requirement is a hydraulic oil of type HLP 68.

Note:

During operations, leave the excavator engine and pumps running even during breaks.
The scrap cutter and excavator will not operate to full capacity until the oil temperature has reached at least 60 °C.

8.6 Working in low ambient temperature

There are no special instructions for temperatures down to minus 20 °C. At temperatures below minus 20 °C, the carrier must be warmed up prior to use in the way described by the excavator manufacturer. In the majority of cases, carriers and attachments are kept in protected or even heated areas when not in use. However, if the carrier and the scrap cutter are left out in the open, the carrier and all equipment must be warmed up before the demolition cutter can be started up. The excavator manufacturer's regulations must be observed in full. Ensure that the hydraulic oil in the carrier is at least at 0 °C. The scrap cutter cannot be started up until the oil temperature is 0 °C or higher.



CAUTION!

Feeding hot hydraulic oil to an extremely cold scrap cutter will cause internal stresses in the unit resulting in its failure. Operation without allowing the hydraulic oil to heat up first will result in damage.

8.7 Putting the system out of operation

Proceed as follows at the end of your work shift or before storing the scrap cutter:

- ▶ Fully open the cutter while the engine is running.
The piston rod will be fully retracted.
- ▶ Rotate the cutter so that you can insert the anti-rotation pin.
- ▶ Fit the anti-rotation pin and lock it with the spring clip.
- ▶ Secure the cutter against accidental opening of the cutter jaws.
- ▶ Fully retract the cutter towards the excavator.
- ▶ Place the front of the scrap cutter on the floor.
- ▶ Remove the pin lock from the toggle pin.
- ▶ Pull out the toggle pin.
- ▶ Move the jaw and place the cutter on wooden supports.
- ▶ Put the excavator in neutral gear and switch off the engine.

Note:

To remove the scrap cutter, please observe the instructions in *section 7.5*.

9 Maintenance

9.1 General information

In order to obtain the best performance from the scrap cutter, maintenance work should be carried out by the operator at the prescribed intervals.

The maintenance work listed here must be carried out by a qualified carrier driver at the prescribed intervals. The carrier driver must be familiar with the use of a torque wrench.



WARNING!

Danger of crushing!

The presence of people between the cutter arms is not allowed.



WARNING!

High-pressure hydraulic oil!

Depressurise the hydraulic system, otherwise there is a risk of injury due to hydraulic oil squirting out.



WARNING!

High-pressure hydraulic oil!

Never use your fingers to check the hydraulic system for leaks. There is a risk of injury due to hydraulic oil squirting out and penetrating into your skin. Use some paper or board to check the system for leaks.

Depressurise the hydraulic system as follows:

- ▶ Depressurise the hydraulic system as follows:
 - Switch off the engine but leave the ignition switched on.
 - Repeatedly operate the switches for opening/closing/rotating the scrap cutter.
 - Disconnect the hydraulic hoses from the scrap cutter.
- ▶ Secure the motor against accidental or unauthorized operation.

9.2 Maintenance schedule

9.2.1 Maintenance after the first 10 operating hours

- ▶ Tighten all screws on the rotation mechanism to the right torques as specified in [section 9.3.2](#).

9.2.2 Daily maintenance (at least every 10 operating hours)



CAUTION!

The screws can only be tightened to torque once. If the screws come loose, you should fit new screws and tighten them to the torques indicated.

- ▶ Check all screws on the rotation mechanism to make sure that they are tight.
- ▶ If a screw has come loose, you should fit a new screw and tighten it to the torque indicated.
- ▶ Tighten all screws on the covers.
- ▶ Lubricate all lubricating points and the live ring, as described in [section 9.3.1](#).
- ▶ Replace broken lubricating nipples.
- ▶ Check the front and rear cutter blade clearance values. They must comply with the values listed in [section 9.3.3](#).

Daily visual checks:

- ▶ Check the scrap cutter and adapter for cracks.
- ▶ Check the cylinders, manifolds, hydraulic motor, hydraulic hoses and connections for wear.
- ▶ Check the blades for wear.
Replace worn blades in time.
- ▶ Check the hard facing on the cutter jaws for wear.
- ▶ Replace the hard facing if it is found to be worn.
Proceed as described in [section 9.3.6](#).

9.2.3 Weekly maintenance (at least every 50 operating hours)

- Reverse the blades. This ensures uniform blade wear. Proceed as indicated in *section 9.3.5*.



CAUTION!

The screws can only be tightened to torque once. If the screws come loose, you should fit new screws and tighten them to the torques indicated.

- Fit new screws to secure the blades.
- Tighten the screws to the right torques as specified in *section 9.3.2*.
- Check that all screw connections are tight.
- Replace screws that have come loose and tighten the new screws to the required torque.

9.2.4 Monthly maintenance

- Check the oil level in the rotation mechanism gears.

9.3 Maintenance activities

The maintenance work listed here must be carried out by a qualified carrier driver at the prescribed intervals. The carrier driver must be familiar with the use of a torque wrench.

Note:

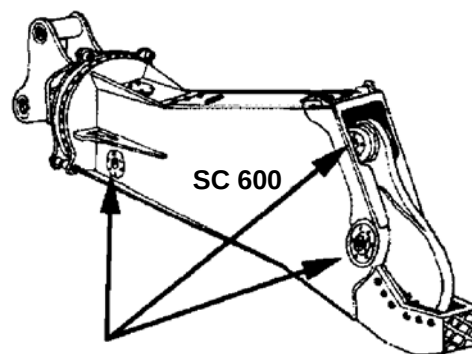
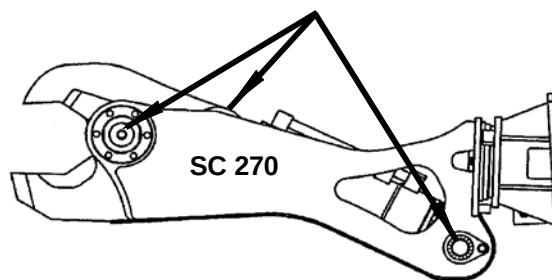
Please consult the Epiroc Customer Center/Dealer in your area for major repairs to the rotation mechanism (replacing the pinion, ring, hydraulic motor etc.).

9.3.1 Lubrication

Use Epiroc cutter grease, part ID no. 3363 0949 14.

Lubricate the lubrication points on the scrap cutter using a grease gun (part ID no.0909 1071 00).

- The lubrication points on the scrap cutter must be greased daily, using the grease gun.
- Apply enough strokes to make the grease protrude from the lubrication point a little.



9.3.2 Torques for screw connections

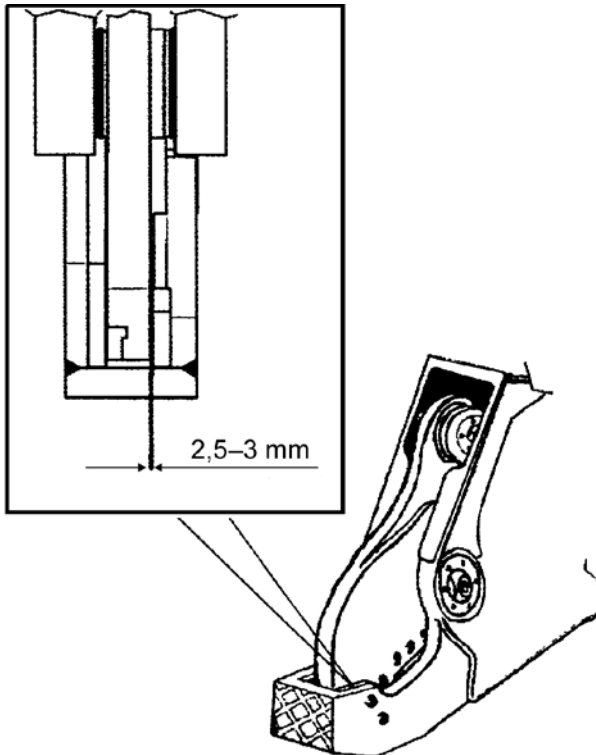
- Tighten all screws to the required torques.

Screw diameter	Torques [Nm]		
	Class 8.8	Class 10.9	Class 12.9
M8	25	35	42
M10	50	70	85
M12	85	120	145
M14	135	190	230
M16	210	295	355
M18	290	410	490
M20	410	575	690
M24	710	995	935
M27	1050	1450	1750
M30	1420	2000	2350

9.3.3 Checking the blade clearance

Check the cutter blades for the correct clearance. If the clearance between the cutter jaw and the cutter casing is too much, thin material may get stuck.

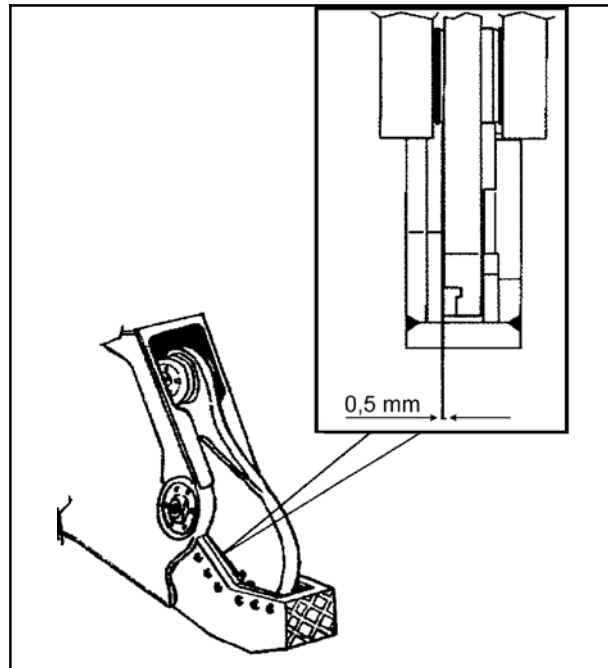
- ▶ Lower the cutter jaw until the cutting edge rests against the corresponding cutter casing edge.
- ▶ Use a feeler gauge to check the blade clearance.



The blade clearance must not exceed 2.5–3 mm.

For optimum scrap cutter operation you should also measure the clearance behind the cutting gap.

- ▶ Lower the cutter jaw further until its total edge rests against the corresponding cutter casing edge.
- ▶ Use a feeler gauge to check the rear clearance.



The rear clearance must not exceed 0.5 mm.

9.3.4 Correcting the blade clearance

If the blade clearance exceeds the target values you can correct it by fitting shims behind the stationary lower cutter jaw.



CAUTION!

You can fit more shims provided that the total clearance does not exceed 3.5 mm. In this event you will have to replace the worn blade.



WARNING!

Risk of injury due to crushing or cuts!

When working on the blades there is a risk of parts of your body being cut or crushed if the cutter suddenly closes. Secure the moving upper cutter jaw with a block of wood.

- ▶ Open the cutter all the way and secure the moving upper cutter jaw with a wooden block to prevent it snapping closed.
- ▶ Loosen the screws of the lower blades.
- ▶ Slide shims between the blade and the blade seat.
- ▶ Tighten all blade screws to the right torques as specified in [section 9.3.2](#).
- ▶ Remove the wooden block and carefully close the cutter.
- ▶ Check the blade clearance again.

9.3.5 Reversing and replacing blades



CAUTION!

Missing blades must be replaced immediately. Working without blades causes serious damage to the blade seat on the cutter jaw. Repairing the blade seat is highly time-consuming and expensive.

- ▶ A blade must be replaced if its cutting edge is damaged.



CAUTION!

A blade should only be reversed if its contact face is undamaged. When fitting new blades, always use new fastening screws. Use only genuine Epiroc fastening screws!

- ▶ Reverse the blades every 50 operating hours to ensure uniform wear.
- ▶ Remove the blade screws.
- ▶ Reverse the blade or fit a new blade.
- ▶ Use new screws to fit the blades.
- ▶ Tighten the screws to the right torques as specified in [section 9.3.2](#).

9.3.6 Hard facing for cutter jaws

When the hard facing in the cutter jaws becomes worn, it can be renewed by a qualified welding specialist.



WARNING!

Danger due to toxic vapors!

Evaporated paint ingredients can produce toxic vapors during welding. Remove all paint residues from the hard facing.



WARNING!

Risk of fire!

There is a risk of oil and other flammable products igniting during welding. Remove all oil and all other flammable products from the working area to prevent them igniting.



DANGER!

Risk of electric shock!

Welding with a faulty earth connection can result in an electric shock. Connect the welder's earth pole to the part to be welded, in the immediate vicinity of the welding area.

The earth pole must be connected so that the current cannot flow through the hinges and the cutter cylinder.



CAUTION!

If the cutter is mounted on the carrier during welding, the carrier instructions must be observed to prevent damage to the battery or the electric system of the carrier.

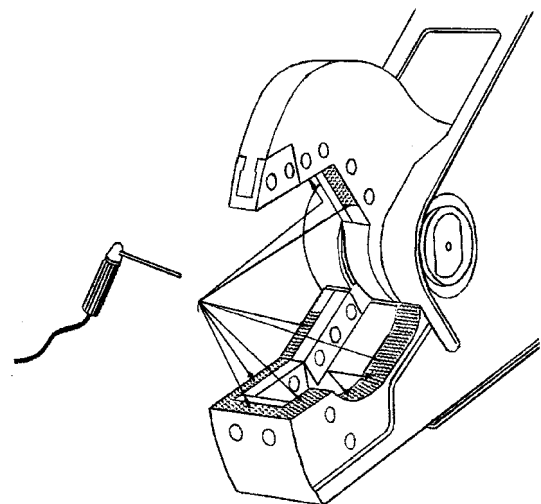
- ▶ Carefully clean the application area.



CAUTION!

Regularly check the temperature. The cutter may be damaged if the preheating temperature is exceeded.

- ▶ Preheat the application area and its immediate vicinity to 150–200 °C.
- ▶ Follow the grain while applying the material (see illustration).



- ▶ Use a Castolin D004 or Castolin 6804 continuity electrode.

Note:

do not apply more than two layers.

- ▶ Grind down the ends of the weld beads.
- ▶ Allow the applied facing to cool down slowly without an air draft.

10 Troubleshooting

We have listed a number of possible problems, causes and remedies in this section.

10.1 The scrap cutter does not work

Cause	Remedy	By
Check valve in line A or C closed	Open the check valve	Carrier driver
Defective couplings blocking lines A / C	Replace defective coupling parts	Workshop
Electrical equipment for cutter hydraulics defective	Check the electrical equipment and repair as necessary	Workshop
Rocker switch defective	Check the rocker switch and repair as necessary	Workshop
Magnet on switch-on valve defective	Replace the magnet	Workshop

10.2 Shearing capacity of scrap cutter insufficient

Cause	Remedy	By
Connections for lines A and C are wrong	Connect up lines A and C correctly Only in case of different pressure settings of lines A and C, i. e. existing system is suitable for scrap cutter operation.	Carrier driver
Operating pressure too low	Correct the operating pressure	Workshop or Epiroc Customer Center/Dealer in your area

10.3 The scrap cutter does not cut

Cause	Remedy	By
Blades worn/broken. Excessive brake clearance	Check blades, if necessary adjust or replace them	Workshop

10.4 The scrap cutter cannot be rotated

Cause	Remedy	By
Rotation motor/gear unit/transmission defective	Replace the defective parts	Epiroc Customer Center/Dealer in your area

10.5 Operating temperature too high

Cause	Remedy	By
Pump delivery too high - excess oil squirts out via pressure relief valve	Correct carrier engine speed. Correct pump pilot system if available	Carrier driver or Epiroc Customer Center/Dealer in your area
Pressure relief valve defective	Fit new pressure relief cartridge	Epiroc Customer Center/Dealer in your area
Oil level in tank too low	Top up oil	Carrier driver or Workshop

10.6 Oil leaks from hydraulic ports

Cause	Remedy	By
Cap nuts loose	Tighten cap nuts	Carrier driver

10.7 Insufficient lubrication

Cause	Remedy	By
Intervals between lubrication too long	Lubricate more frequently	Carrier driver

11 Disposal



CAUTION!

Dispose of the scrap cutter and the hydraulic oil in accordance with the applicable statutory provisions on environmental protection.

- ▶ Put the scrap cutter out of operation and disassemble it as described in sections 8.7 and 7.5.
- ▶ Dispose of the scrap cutter in line with all applicable regulations or consult an authorised and specialised recycling company.

12 SC scrap cutters: small but strong

Features:

- very good cutting force along entire blade length
- powerful cylinder
- hydraulic 360° rotation unit for fast, precision positioning
- short cycle times
- solid, extremely resistant components
- replaceable blades

13 Technical specifications

Model	SC 270	SC 600
Weight		
with adapter [kg]	338	574
without adapter [kg]	385	645
Carrier class		
mounted on carrier boom stick [t]	4.0 – 5.0	5.5 – 6.5
Carrier class		
mounted on carrier boom [t]	2.0 – 3.0	3.5 – 4.5
Dimensions		
Length [mm]	1350	1900
Width [mm]	approx. 370	approx. 540
Live ring Ø [mm]	approx. 245	approx. 400
Jaw opening [mm]	185	245
Jaw width [mm]	approx. 120	approx. 150
Jaw depth [mm]	160	240
Blade length [mm]	160	240
Swivel range [°]	> 360°	> 360°
Max. cutting force [t]	102	138
Operating pressure, opening / closing [bar]	200 – 250	250 – 300
Oil flow rate, opening / closing [l/min]	60 – 100	90 – 120
Operating pressure, rotation [bar]	190 – 200	90 – 100
Oil flow rate, rotation [l/min]	10 – 15	15 – 20
Cylinder connection thread	3/4" G	1/2" G
Cylinder hose size [mm]	20	20
Rotation connection thread	1/2" G	1/2" G
Rotation hose size [mm]	20	20

14 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.

Scrap cutter	Part number
SC 270	8460 0100 10
SC 600	3093 0400 62

Technical Documentation authorised representative:

Stephan Schröer

Construction Tools GmbH

45143 Essen

Germany

Authorised Representative:

see respective separate original EC declaration of conformity

Manufacturer:

Construction Tools GmbH

45143 Essen

Germany

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