

# OPERATING MANUAL

Rigid attachments



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## IMPRINT

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# 1. GENERAL INFORMATION

## 1.1 Foreword

Ensure that the operator always has access to the operating manual. You can find the current version in the download area of our homepage. Read the instructions carefully before using the bucket.

Observance of the operating manual:

- helps to avoid dangers.
- increases reliability during use.
- increases the service life of the product.
- reduces maintenance costs and downtime.

## 1.2 Information on the operating manual

This operating manual provides you with important information on handling the product. The prerequisite for safe working is compliance with all specified safety instructions and handling instructions. In addition, observe the local accident prevention regulations and general safety regulations applicable to the area of use of the product.

Therefore the following applies:

- Before you start working with the product, read this operating manual thoroughly!
- Make the operating manual accessible to staff at all times!
- Make the operating manual available when passing the product on to third parties!

In addition to this operating manual, the operating manuals for the installed components in the appendix also apply. Observe the instructions contained therein – especially the safety instructions!

To improve visualisation and explanation of the facts, the figures in this operating manual are not necessarily to scale and may differ slightly from the actual design of the product.

# 1. GENERAL INFORMATION

## 1.3 Explanation of symbols

Warnings are labelled with symbols in this operating manual. The instructions are introduced by signal words which express the extent of the hazard.

Always follow the instructions and act with caution to avoid accidents, personal injury and damage to property.

Signal word		Meaning
DANGER!		This combination of symbol and signal word indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING!		This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury.
CAUTION!		This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in minor or slight injuries.
NOTICE!		This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in damage to property and the environment.
ENVIRONMENT!		This combination of symbol and signal word indicates a potentially hazardous situation which, if not avoided, may result in damage to property and the environment.

# 1. GENERAL INFORMATION

## 1.4 Copyright protection

Treat this operating manual as confidential. It is intended exclusively for persons working with the product. It is not permitted to hand over the operating manual to third parties without the written authorisation of the manufacturer.



### INFORMATION!

The content, texts, drawings, images and other illustrations are protected by copyright and are subject to industrial property rights. Any misuse is a criminal offence.

Reproduction of any kind and in any form – even in extracts – as well as the utilisation and/or communication of the content is not permitted without a written declaration from the manufacturer. Infringements will be subject to compensation. We reserve the right to make further claims.

## 1.5 Scope of delivery

- Attachment
- Operating manual

## 1.6 Limitations of liability

All information and instructions have been compiled taking into account the applicable standards and regulations, the state of the art and our many years of knowledge and experience.

HENLE Baumaschinentechnik GmbH excludes warranty and liability claims for personal injury and damage to property if they can be attributed to one or more of the following causes:

- Improper use.
- Improper assembly, commissioning.
- Operation with improperly installed or non-functional safety devices.
- Failure to observe the safety instructions and notes in the operating manual.
- Repairs or manipulations carried out by persons who are neither authorised nor trained to do so.

# 1. GENERAL INFORMATION

- Unauthorised structural alterations or modifications.
- Maintenance and servicing work not carried out properly and on time.
- Accessories, spare parts and additives which are the cause of damage and which have not been approved by the manufacturer. The manufacturer accepts no liability for any consequential damage.
- The manufacturer is not liable for personal injury or damage to property resulting from unauthorised and improper use of the product.

## 1.6.1 Spare parts



### WARNING!

#### Risk of injury due to incorrect spare parts!

Incorrect or faulty spare parts may result in damage, malfunctions or total failure and impair safety.

#### Therefore:

→ Only use original spare parts from the manufacturer!

When ordering spare parts, please always state the following details:

- Attachment type (see rating plate)
- Serial no. and year (see rating plate)
- Designation/type of spare part

When ordering in writing, please state these details exactly or, if ordering by telephone, have the details ready before calling. This will make things easier for us and yourself and avoid errors and incorrect orders or deliveries. Further information on spare parts can also be found on our homepage: <https://www.henle-baumaschinentechnik.de/>



## INFORMATION!

Obtain the spare parts directly from the manufacturer:  
HENLE Baumaschinentechnik GmbH  
info@henle-baumaschinentechnik.de  
Telephone 07345 / 9677-0

### 1.7 Warranty conditions

The warranty conditions can be found in the manufacturer's general terms and conditions. The manufacturer is liable only for damage to the delivered product as described in Chapter 1.4 "Limitation of liability". Liability is excluded for damage and its consequences which occur during operation.

This includes e.g. damage as a result of

- improper installation/assembly,
- improper use,
- lack of maintenance,
- lack of visual inspection.

### 1.8 Customer service

Our customer service is available for technical information. Information can be obtained at any time from your contact by telephone, fax, email or via our website.

In addition, our employees are constantly interested in new information and experiences which result from the application and could be valuable for improving our products.

## 2. Safety

This section provides an overview of all the important safety aspects for optimum protection of personnel and for safe and trouble-free operation.

Failure to observe the handling instructions and safety instructions in this manual may result in serious hazards.

### 2.1 Responsibility of the owner

The product is designed exclusively for the commercial sector. The owner of the product is therefore subject to the statutory occupational safety obligations.

In addition to the safety instructions in this operating manual, observe the safety, accident prevention and environmental protection regulations applicable to the area of use of the product. The following applies in particular:

- The owner must inform himself about the applicable health and safety regulations and carry out a risk assessment to determine any additional dangers arising from the specific working conditions at the product's place of use. This risk assessment must be implemented in the form of operating instructions for the operation of the product.
- During the entire period of use of the product, the owner must check whether the operating instructions, which he/she has drawn up, correspond to the current status of the regulations and, if required, adjust them.
- The owner must clearly regulate and define the responsibilities for installation, operation, maintenance and cleaning.
- The owner must ensure that all employees who work with the product have read and understood this operating manual. In addition, the owner must train staff at regular intervals and inform them about the dangers.
- The owner must provide the personnel with the required protective equipment.

Furthermore, the owner is responsible for ensuring that the product is always in perfect technical condition. The following therefore applies:

- The owner must ensure that the maintenance intervals described in this operating manual are observed.
- The owner must have all safety devices checked regularly to ensure that they are functional and complete.

### 2.2 Personnel requirements

#### 2.2.1 Qualifications



#### **WARNING!**

#### **Risk of injury due to insufficient qualifications!**

Improper handling may result in serious personal injury and damage to property.

#### **Therefore:**

- Have all work carried out by qualified personnel only.

The operating manual specifies the following qualifications for various areas of activity.

#### **Specialist personnel**

Specialist personnel are those who, on account of their specialist training, knowledge and experience as well as knowledge of the relevant regulations, are able to carry out the work assigned to them and to recognise and avoid potential hazards independently.

#### **Instructed person**

The person has been instructed by the owner about the tasks assigned to them and the potential dangers of improper behaviour.

- Only persons, who can be expected to carry out their work reliably, are authorised as personnel. Persons whose ability to react is affected, e.g. by drugs, alcohol or medication, are not permitted.

- When selecting personnel, observe the age and job-specific regulations applicable at the place of work.

#### 2.2.2 Unauthorised persons



#### **WARNING!**

#### **Danger to unauthorised persons!**

Unauthorised persons, who do not meet the requirements described here, are not aware of the dangers in the work area.

#### **Therefore:**

- Keep unauthorised persons away from the work area.
- If in doubt, speak to people and instruct them to leave the work area.
- Stop work as long as there are unauthorised persons in the work area.

#### 2.2.3 Instruction

Personnel must be regularly instructed by the owner. To improve follow-up, the instruction given must be logged.

Example of an instruction log:

Date	Name	Type of instruction	Instruction is given by	Signature

Fig. 1: Instruction log

### 2.3 Designated use

As the various rigid attachments are designed for different purposes, please refer to our product manual "THE HENLE" for the intended use of your product.



#### **WARNING!**

##### **Danger due to improper use!**

Any use of the device which goes beyond the designated use and/or any other use may result in hazardous situations.

##### **Therefore:**

- Use the device only as designated.
- Strictly observe all information in this operating manual.

### 2.4 Improper use

The attachment is not being used as intended if it is used contrary to the information in these operating instructions or the applicable safety regulations. These particularly include:

- Lifting or transporting people
- Non-compliance with the operating weight
- Tapping, hammering and knocking with the attachment
- Unauthorised modification or manipulation of safety-relevant equipment

Claims of any kind due to damage resulting from improper use are excluded. The owner is solely liable for any damage resulting from improper use.

### 2.5 Reasonably foreseeable misuse

Reasonably foreseeable misuse includes all types of use which are not described under "Designated use". Any other use or use beyond this is considered to be improper. The manufacturer is not liable for any resulting damage.

In particular, the following is considered to be misuse:

- Use of untrained personnel
- Unauthorised conversion
- Use of unauthorised spare and wearing parts
- Passenger transport
- Failure to replace wearing parts
- Improper use
- Failure to carry out or incorrectly carried out maintenance or repair work

### 2.6 Personal protective equipment

Personal protective equipment must be worn at work in order to minimise health hazards.

- While working, always wear the protective equipment required for the work in question.
- Follow the instructions on personal protective equipment posted in the work area.

#### **Basic protective equipment**

Always wear PPE for all work:

- Protective clothing
- Safety boots

#### **For particular work**

Special protective equipment is required when carrying out particular work. This special protective equipment is referred to separately in the individual chapters of this manual.

- Hard hat
- Safety goggles
- Protective gloves



### Protective clothing

For all activities on the carrier, wear close-fitting work clothing with low tear resistance, tight sleeves and no protruding parts.



### Hard hat

Hard hats protect the head against falling objects, swinging loads and impact with stationary objects.



### Safety goggles

Wear safety goggles tested in accordance with DIN EN 166.



### Protective gloves

Wear protective gloves when carrying out all activities to protect your hands from friction, abrasions, punctures or deeper injuries, as well as from contact with hot surfaces.



### Safety boots

Wear safety boots when carrying out all activities. Safety boots protect feet from crushing, falling parts and slipping on slippery surfaces.

### 2.7 Safety instructions

- The operator must read the operating instructions for the machine carefully and strictly adhere to them.
- Before each start-up, the operator must check the operational safety of the attachment.
- The attachment may only be used if it is in perfect technical condition.
- The operating conditions of the machine specified by the manufacturer must be observed.
- Both the owner and operator are responsible for keeping the workplace tidy, clean and adequately lit.
- Work on or with the attachment may only be carried out by reliable, trained or instructed personnel. The legally prescribed minimum age and required qualifications must be observed.

- Personal protective equipment (PPE) must be worn when operating the device. This includes close-fitting clothing, safety shoes with toe caps and protective gloves.
- Transporting people or animals with the attachment is not permitted.
- The operator must ensure that there are no persons in the danger area of the attachment.
- The connection to the carrier must be checked for proper fit.

### 2.8 Work and danger areas



### DANGER!

#### Danger of death!

Physical contact with operating or uncontrolled moving device components may result in serious injury or even death!

#### Therefore:

- Before commissioning the entire device, ensure that there are no persons in the danger and work areas.
- Switch off the entire device before assembly and disassembly work as well as maintenance and testing work and secure it against being switched on again!



### **WARNING!**

#### **Risk of injury due to improper operation!**

Improper operation may result in serious personal injury or damage to property.

#### **Therefore:**

- Carry out all operating steps as described in this operating manual.
- Before starting work, ensure that all covers and safety devices have been installed and are functioning properly.
- Never disable safety devices during operation.
- Keep the work area tidy and clean! Loose components and tools lying on top of each other or lying around are sources of accidents.

### 2.9 Specific dangers

The following section identifies residual risks which have been determined with the help of a risk assessment.

- To reduce health hazards and avoid dangerous situations, follow the safety instructions listed here and observe the warnings in the other chapters of this manual.

#### **Suspended loads**



### **DANGER!**

#### **Danger of death due to suspended loads!**

Falling loads may result in serious injury or even death.

#### **Therefore:**

- Never stand under suspended loads.
- Move loads only under supervision.
- Set loads down when leaving the workstation.



### **WARNING!**

#### **Danger due to falling loads!**

The values specified in the lifting load tables for the carrier refer to the load without attachment. When using attachments, the weight of the attachment and quick changer must be deducted from the lifting load values of the carrier. Also observe the maximum load torque of the quick changer.

The maximum load torque can be found on the rating plate of the quick changer.

#### **Therefore:**

- Check the locking mechanism of the quick changer after each change process.

#### **Sharp edges and pointed corners**



### **CAUTION!**

#### **Risk of injury from edges and corners!**

Sharp edges and pointed corners may cause abrasions and cuts to the skin.

#### **Therefore:**

- Be careful when working near sharp edges and pointed corners.
- If in doubt, wear protective gloves.

### 2.10 Securing the switch to prevent reactivation



#### **DANGER!**

#### **Danger of death due to unauthorised reactivation!**

When working in the danger area, there is a risk that the power supply may be switched on without authorisation. This means that there is a danger of death for people in the danger area.

#### **Therefore:**

- Follow the instructions on securing the switch to prevent reactivation in the chapters in this operating manual.
- Always observe the procedure described below for securing the switch to prevent reactivation.

Personnel:

- Specialist personnel

Personal protective equipment:

- Protective clothing
- Safety boots
- Safety goggles
- Protective gloves

#### **Securing the switch to prevent reactivation:**

Switch secured with lock  
on: ..... at: ..... hours  
**DO NOT SWITCH ON**  
The lock may be removed only  
by: .....  
after ensuring that there are no  
persons in the danger area.

1. Switch off the power supply.
2. If possible, secure the switch with a lock and attach a clearly visible sign to the switch as shown in Fig. 2.
3. Have the employee named on the sign keep the key.

Fig. 2: "Lock secured" sign

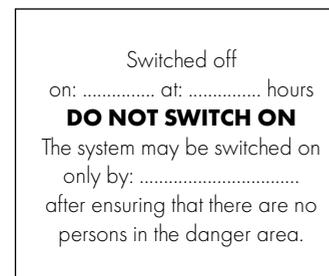


Fig. 3: "Switched off" sign

4. If it is not possible to secure a switch with a lock, affix a sign as shown in Fig. 3.
5. Ensure that no persons are in the danger area after all work has been completed.
6. Ensure that all protective devices have been installed and are functional.
7. Remove the sign only now.

### 2.11 Behaviour in the event of danger and accidents

#### **Preventive measures**

- Always be prepared for accidents or fire!
- Keep first aid equipment (first aid kit, blankets, etc.) within easy reach.
- Familiarise staff with accident reporting, first aid and rescue equipment.
- Keep access routes clear for emergency vehicles.

#### **If the worst comes to the worst: Act correctly in the event of an accident**

- Move the attachment into a safe position.
- In the event of malfunctions that pose an immediate danger to persons or property, stop the machine movements as quickly as possible and switch off the power supply.
- Initiate first aid measures.
- Rescue people from the danger zone.
- Alert the emergency services.
- Inform the person in charge at the place of use.
- Clear access routes for emergency vehicles.

#### **Emergency shutdown**

In hazardous situations, machine movements must be stopped as quickly as possible and the power supply switched off.

Personnel:

- Specialist personnel

Personal protective equipment:

- Protective clothing
- Safety boots
- Safety goggles
- Protective gloves

1. In the event of malfunctions that pose an immediate danger to persons or property, stop the machine movements as quickly as possible and switch off the power supply. Inform the person responsible on site.
2. Alert the doctor and fire brigade.
3. Rescue people from the danger zone. Initiate first aid measures.
4. Switch off the main switch and secure it to prevent reactivation.
5. Keep access routes clear for emergency vehicles.
6. If necessitated by the severity of the emergency, inform the relevant authorities.
7. Authorise specialist personnel to eliminate the malfunction.

### After the rescue operations



#### **WARNING!**

##### **Danger of death due to premature reactivation!**

If the switch is reactivated, there is a danger of death for all persons in the danger area.

#### **Therefore:**

- Before reactivating the switch, ensure that there are no more people in the danger area.

Personnel:

- Specialist personnel

Personal protective equipment:

- Protective clothing
- Safety boots
- Safety goggles
- Protective gloves

Check the system before restarting it and ensure that all safety devices have been installed and are functional.

### 2.12 Environmental protection



#### **ENVIRONMENT!**

##### **Environmental hazard due to incorrect handling!**

Incorrect handling of environmentally hazardous substances, in particular incorrect disposal, may result in considerable damage to the environment.

#### **Therefore:**

- Always follow the instructions below.
- If environmentally hazardous substances are accidentally released into the environment, take appropriate measures immediately. If in doubt, inform the responsible local authority about the damage.

The product mainly consists of steel and can be disposed of as scrap metal.

### 3. Technical data

The general technical data (e.g. operating weight, volume, weight, tooth system, holder, dimensions) is specified in our product manual "THE HENLE", on the rating plate or on the order/delivery note, see Appendix A.

#### 3.1 Rating plate

- 1) Designation
- 2) Type
- 3) Operating weight [t]
- 4) Serial number
- 5) Width [mm]
- 6) Capacity [m<sup>3</sup>]
- 7) Weight [kg]
- 8) Max. load capacity of load hook [t]
- 9) Load holding torque [kNm]
- 10) Year of construction



Fig. 4: Rating plate

### 4.1 Overview

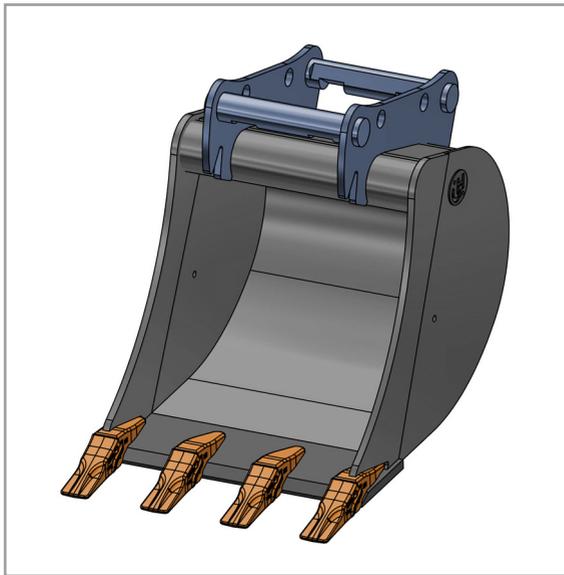


Fig. 6: Rigid attachment

- ① Holder
- ② Attachment
- ③ Teeth (if available)

### 4.2 Brief description

The rigid attachments are designed for a wide range of applications, but have a standardised basic structure: They consist of the connection to the carrier, the attachment itself and wear parts such as the teeth and blades.

### 4.3 Work and danger areas



#### **DANGER!**

#### **Danger of death!**

Physical contact with operating or uncontrolled moving device components may result in serious injury or even death!

#### **Therefore:**

- Before commissioning the entire device, check that there are no persons in the danger and work areas.
- Switch off the entire device before assembly and disassembly work, as well as maintenance and testing work and secure it against being switched on again.

### 5.1 Safety

#### Personnel

Installation and initial commissioning may only be carried out by specially trained personnel.

#### Personal protective equipment

- Protective clothing
- Safety boots
- Safety goggles
- Protective gloves



#### **WARNING!**

##### **Risk of injury due to improper installation and initial commissioning!**

Improper installation and initial commissioning may result in serious personal injury or damage to property.

#### **Therefore:**

- Before starting work, ensure that there is sufficient space for installation.
- Handle open sharp-edged components with care.
- Keep the assembly area tidy and clean. Loose components and tools lying on top of each other or lying around are sources of accidents.
- Install the components correctly and observe the prescribed screw tightening torques.
- Secure the components so that they do not fall or topple over.



#### **NOTICE!**

Further protective equipment, which must be worn for certain work, is referred to separately in the warnings in this chapter.

### Securing the switch to prevent reactivation



#### **DANGER!**

##### **Danger of death due to unauthorised reactivation!**

During installation, there is a risk that the power supply may be switched on without authorisation. This means that there is a danger of death for people in the danger area.

#### **Therefore:**

- Before starting work, switch off all power supplies and secure them against being switched on again.

### 5.2 Installation

After installing the attachment, fully tilt the excavator arm in and out, paying attention to possible collisions.

#### **Quick-change system**

Mounting the attachments with the quick-change holder, see supplier documentation "Quick-change system".



#### **WARNING!**

##### **Risk of injury due to pinch points!**

There is a risk of injury when installing or adjusting the forks.

#### **Therefore:**

- Wear protective gloves.
- Work carefully and cautiously in accordance with the installation instructions.

### 5.3 Tests

#### Quick-change system

Testing of attachments with the quick-change holder, see supplier documentation "Quick-change system".

### 6.1 Safety



#### **WARNING!**

#### **Risk of injury due to improper operation!**

Improper operation may result in serious personal injury or damage to property.

#### **Therefore:**

- Carry out all operating steps as described in these operating instructions.
- Before starting work, ensure that all covers and safety devices have been installed and are functioning properly.
- Never deactivate the safety devices during operation.
- Keep the work area tidy and clean. Loose components and tools lying on top of each other or lying around are sources of accidents.

### 6.2 Emergency shutdown

In hazardous situations, machine movements must be stopped as quickly as possible and the power supply switched off.

Proceed as follows in the event of danger:

1. Move the attachment into a safe position.
2. Shut down the machine according to the manufacturer's instructions.
3. Inform a responsible person on site.
4. Alert the doctor and fire brigade.
5. Rescue people from the danger zone and initiate first aid measures.
6. Switch off the main switch and secure it to prevent reactivation.
7. Keep access routes clear for emergency vehicles.
8. Inform the relevant authorities if the severity of the emergency requires you to do so.
9. Authorise specialist personnel to eliminate the malfunction.
10. Check the system before restarting it and ensure that all safety devices have been installed and are functional.

## 6. OPERATION



### **WARNING!**

#### **Danger of death due to premature reactivation!**

If the switch is reactivated, there is a danger of death for all persons in the danger area.

#### **Therefore:**

→ Before reactivating the switch, ensure that there are no more people in the danger area.

### 6.3 Activities after use

- Remove coarse dirt from the attachment after use.
- Ensure the attachment is placed down safely.

## 7. TRANSPORT, PACKAGING AND STORAGE

### 7.1 Safety instructions for transport

#### **Improper transport**



### **CAUTION!**

#### **Damage due to improper transport!**

Improper transport may result in considerable material damage.

#### **Therefore:**

- During delivery and internal transport, proceed carefully when unloading the packages and observe the symbols and instructions on the packaging.
- Use only the designated attachment points.
- Do not remove packaging until shortly before assembly.

#### **Suspended loads**



### **WARNING!**

#### **Danger of death due to suspended loads!**

When lifting loads, there is a danger of death from falling or uncontrolled swivelling parts.

#### **Therefore:**

- Never stand under suspended loads.
- Observe the specifications for the designated attachment points.
- Do not strike protruding machine parts or eyelets on attached components and ensure that the slings are securely attached.
- Use only approved lifting gear and slings which have sufficient load capacity.
- Do not use torn or chafed ropes and belts.
- Do not place ropes and straps on sharp edges and corners, do not knot them and do not twist them.

## 7. TRANSPORT, PACKAGING AND STORAGE

### Eccentric centre of gravity



#### **WARNING!**

##### **Danger of falling due to eccentric centre of gravity!**

Packages may have an eccentric centre of gravity. If the package is not attached correctly, it may overturn and cause life-threatening injuries.

#### **Therefore:**

- Observe the markings on the packages.
- Position the crane hook so that it is above the centre of gravity.
- Lift the load carefully and observe whether the load tilts. Change the stop, if required.

### 7.2 Transport inspection

On receipt, check that the delivery is complete and that there is no transport damage.

- In the event of externally recognisable transport damage, proceed as follows:
- Do not accept the delivery or accept it only with reservations.
- Note the extent of the damage on the transport documents or on the delivery note of the carrier.
- Initiate a complaint.



#### **NOTICE!**

Lodge a complaint about any defect as soon as it is detected. Claims for damages can be asserted only within the applicable complaint periods.

## 7. TRANSPORT, PACKAGING AND STORAGE

### 7.3 Packaging

#### **Handling packaging materials**

Dispose of packaging materials in accordance with the applicable statutory provisions and local regulations.



#### **CAUTION!**

##### **Environmental damage due to incorrect disposal!**

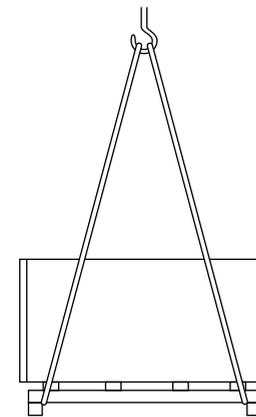
Packaging materials are valuable raw materials and in many cases can be reused or usefully processed and recycled.

#### **Therefore:**

- Dispose of packaging materials in an environmentally friendly manner.
- Observe the locally applicable disposal regulations. If required, commission a specialist company to dispose of the packaging materials.

### 7.4 Transport

#### **Transporting pallets by crane**



Packages secured on pallets can be transported by crane under the following conditions:

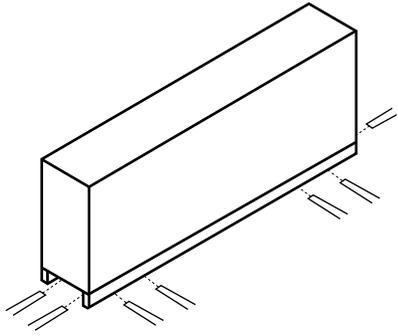
- The crane and lifting gear must be designed for the weight of the packages.
- The operator must be authorised to operate the crane.

#### Attaching pallets:

1. Attach ropes, straps or multi-point hangers to the pallet as shown in Fig. 13.
2. Check that the packages are not damaged by the slings. If required, use different slings.
3. Start the transport.

Fig. 7: Transporting pallets by crane

### Transporting pallets using a forklift truck



Packages secured on pallets can be transported by forklift truck under the following conditions:

- The forklift truck must be designed according to the weight of the transport units.
- The driver must be authorised to drive the forklift truck.

Fig. 8: Transporting pallets using a forklift truck

Attaching pallets:

1. Drive the forklift truck with the forks between or under the pallet boards.
2. Insert the forks until they protrude on the opposite side.
3. Ensure that the pallet cannot overturn if the centre of gravity is off-centre.
4. Lift the package and start the transport.



#### **DANGER!**

##### **Danger of death!**

Tipping over of the earth-moving machine leads to property damage and serious physical injury or even death.

##### **Therefore:**

- Before starting to transport mounted devices on earth-moving machines, always observe all of the warnings regarding transport for the relevant earth-moving machine (e.g. cab in the direction of travel, boom folded in). See supplier documentation for the earth-moving machine.



#### **CAUTION!**

##### **Material damage!**

Insufficient ground clearance of the device during transport leads to material damage.

##### **Therefore:**

- Ensure sufficient ground clearance before starting transport journeys.

## 8. MAINTENANCE

### 8.1 Maintenance schedule

The following sections describe the maintenance work required for optimum and trouble-free operation. If regular inspections reveal increased wear, shorten the required maintenance intervals according to the actual signs of wear. If you have any questions about maintenance work and intervals, please contact the manufacturer; see address in the imprint.

Item	Work to be carried out	To be carried out by	Daily	Monthly	Page
1	Carry out a visual inspection	Operator	X		46
2	Remove dirt from the contact surfaces of the holder	Operator	X		46
3	Inspection of all weld seams	Specialist		X	47
4	Using a suitable tool, check that all of the screws are tight	Operator		X	47
5	Check the surface and holder of the work equipment for severe deformation, destruction and wear	Specialist		X	

### 8.2 Maintenance work

#### Safety

##### Personnel

- The maintenance work described here can be carried out by the operator, unless otherwise indicated.
- Some maintenance work may only be carried out by specially trained personnel or exclusively by the manufacturer. This is indicated separately in the description of the individual maintenance work.

## 8. MAINTENANCE



### **DANGER!**

#### **Danger of death!**

Falling components and uncontrolled movements may result in serious injuries or even death!

#### **Therefore:**

- Before starting maintenance work, place the work equipment on firm ground and secure it against tipping over and uncontrolled movement.
- Switch off the entire device and secure it to prevent reactivation.

#### Personal protective equipment

- Hard hat
- Protective gloves
- Protective clothing
- Safety goggles
- Safety boots



### **NOTICE!**

Further protective equipment, which must be worn for certain work, is referred to separately in the warnings in this chapter.



### **WARNING!**

#### **Risk of injury due to improperly performed maintenance work!**

Improper maintenance may result in serious personal injury or damage to property.

#### **Therefore:**

- Before starting work, ensure that there is sufficient space for installation.
- Keep the assembly area tidy and clean. Loose components and tools lying on top of each other or lying around are sources of accidents.
- Ensure correct installation if components have been removed. Reinstall all of the fastening elements and adhere to the screw tightening torques.

### **Securing the switch to prevent reactivation**



### **DANGER!**

#### **Danger of death due to unauthorised reactivation!**

During maintenance work, there is a risk that the power supply may be switched on without authorisation. This means that there is a danger of death for people in the danger area.

#### **Therefore:**

- Before starting work, switch off all power supplies and secure them against being switched on again.



### **NOTICE!**

This visual inspection must be carried out by the operator every time before starting work. If the operator detects a defect, the attachment must be taken out of operation immediately.

The device may only be recommissioned after it has been professionally repaired and successfully tested.

### **1. Carry out a visual inspection**

**Maintenance interval(s):** Daily

1. In particular, visually check the holder for damage or deformation.
2. Check the tooth system and tooth retainers are complete and tight. (If available)

### **2. Remove dirt from the contact surfaces of the holder**

**Maintenance interval(s):** Daily

1. Remove any dirt and material residue from the contact surfaces of the holder (shafts, locking plate).

### **3. Inspection of all weld seams**

**Maintenance interval(s):** Monthly

1. Check all of the weld seams for cracks.

### 4. Using a suitable tool, check that all of the screws are tight

Maintenance interval(s): Monthly

1. Check all of the screws are tight using a suitable tool.  
(see tightening torques in the Appendix)

### 5. Check the surface and holder of the work equipment for severe deformation, destruction and wear

Maintenance interval(s): Monthly

1. Check the entire attachment for deformation, damage and wear, especially the connection to the excavator. To prevent any consequential damage, typical wear parts such as the blades, teeth and bucket bottom should be replaced in good time if they are subject to increased wear.

### 8.3 Measures to be taken after maintenance

After completing the maintenance work, carry out the following steps before activation:

1. Check that all previously removed protective devices and covers have been properly reinstalled.
2. Ensure that all tools, materials and other equipment used have been removed from the work area.
3. Clean the work area and remove any spilled substances such as liquids, processing materials or similar.
4. Ensure that all of the safety devices on the system are functioning properly.

### 9.1 Eliminating malfunctions

Wear the following protective equipment for all work:

- Hard hat
- Protective gloves
- Protective clothing
- Safety goggles
- Safety boots



#### **INFORMATION!**

Further protective equipment, which must be worn for certain work, is referred to separately in the warnings in this chapter.

### Fundamentals



#### **DANGER!**

##### **Danger of death due to unauthorised reactivation!**

During troubleshooting work, there is a risk that the power supply may be switched on without authorisation. This means that there is a danger of death for people in the danger area.

#### **Therefore:**

→ Before starting work, switch off all power supplies and secure them against being switched on again.



#### **WARNING!**

##### **Risk of injury due to improper troubleshooting!**

Improper troubleshooting may result in serious personal injury or damage to property.

#### **Therefore:**

- Before starting work, ensure that there is sufficient space for installation.
- Keep the assembly area tidy and clean. Loose components and tools lying on top of each other or lying around are sources of accidents.
- Ensure correct installation if components have been removed. Reinstall all of the fastening elements and adhere to the screw tightening torques.

### Behaviour in the event of malfunctions

Personnel:

- Specialist personnel

Personal protective equipment:

- Protective clothing
- Hard hat
- Safety boots
- Safety goggles
- Protective gloves

In principle, the following applies:

1. Move the attachment into a safe position.
2. In the event of malfunctions that pose an immediate danger to persons or property, stop the machine movements as quickly as possible and switch off the power supply.
3. Determine the cause of the malfunction.
4. If troubleshooting requires work in the danger area, switch off and secure against reactivation.
5. Immediately inform the person responsible on site about the malfunction.
6. Depending on the type of malfunction, have it eliminated by authorised specialist personnel or eliminate it yourself if you are a specialist.
7. Contact the manufacturer directly for technical assistance.

Appendix A - Delivery note (example)

**Lieferschein**

(Kopie 1)  
 Nummer : 00160613  
 Tour : 2-stüd  
 Auftrag : 00210245 / 06.06.2025  
 ihre Kundennummer :  
 Ihre Nummer / Ihr Datum :  
 Liefertermin : 26/2025  
 Besteller :  
 Lieferbedingung :  
 Versandart : Tour 2

Datum/Seite : 18.06.2025 / 001

Pos	Artikel	Menge	ME	Bezeichnung	Lagerplat	Best.mg.	Restmg.
1	10406	1	Stck	TIEFLÖFFEL Klasse 1 Einsatzgewicht 1,0t bis 2,0t Schnittbreite: 300mm Inhalt/SAE: 0,027m³ mit Verschleißsicheln 3 Zähne Mini-Z 1 Messer: 16mm mit Diebstahlschutzlaschen passend QC01HT S/N: 2509269-M060280  Gewicht: 30,0kg	P1-4-4	1	0
2	10409	1	Stck	TIEFLÖFFEL Klasse 1 Einsatzgewicht 1,0t bis 2,0t Schnittbreite: 600mm Inhalt/SAE: 0,063m³ mit Verschleißsicheln 4 Zähne Mini-Z 1 Messer: 16mm mit Diebstahlschutzlaschen passend QC01HT S/N: 2509270-M060281  Gewicht: 45,0kg		1	0

Appendix B - Declaration of Conformity



**EG-Konformitätserklärung**  
 nach Maschinenrichtlinie 2006/42/EG Anhang II Teil 1 Abschnitt B

Hersteller: **HENLE Baumaschinentechnik GmbH**  
 Ringstraße 9, 89192 Rammingen

Dokumentbevollmächtigter: HENLE Baumaschinentechnik GmbH  
 Abt. Konstruktion  
 Tobias Gnann

Der Hersteller erklärt, dass die nachfolgend bezeichnete auswechselbare Ausrüstung den grundlegenden Anforderungen der Maschinenrichtlinie 2006/42/EG entspricht.

**Produktbezeichnung: Starre Anbaugeräte für Hydraulikbagger**

Einsatzbereich: Zum Anbau an Hydraulikbagger mittels Schnellwechsler-Adapter oder direkter Baggeraufnahme.

- Angewandte EG-Richtlinien:**  
 Maschinenrichtlinie 2006/42/EG
- Angewandte Normen:**  
 DIN EN ISO 12100 :2011-03 – Sicherheit von Maschinen – Allgemeine Gestaltungsleitsätze  
 EN474-1 :2022 – Erdbaumaschinen – Allgemeine Sicherheitsanforderungen  
 EN474-5 :2022 + AC :2022 – Spezifische Anforderungen für Hydraulikbagger
- Angewandte nationale technische Vorschriften:**  
 DGUV Regel 100-500 – Betreiben von Arbeitsmitteln, Kapitel 2.12 (Erdbaumaschinen)

Rammingen, 14. Juli 2025

Gerhard Henle  
 Geschäftsführer



## Appendix C - Screw tightening torques

### Metric standard threads

The table shows the screw tightening torques for obtaining the maximum permissible preload for metric standard threads in Nm.

Diameter	 [mm]	 [mm]	Screw quality		
			8G / 8.8	10K / 10.9	12K / 12.9
M 8	13	6	25	34	43
M 10	17	8	47	65	83
M 12	19	10	78	100	120
M 14	22	12	120	175	215
M 16	24	14	180	260	310
M 18	27	14	250	360	430
M 20	30	17	340	470	560
M 22	32	17	430	600	700
M 24	36	19	560	790	950

## Appendix D - Screw tightening torques

### Metric fine pitch threads

The table shows the screw tightening torques for obtaining the maximum permissible preload for metric fine pitch threads in Nm.

Diameter	 [mm]	 [mm]	Screw quality		
			8G / 8.8	10K / 10.9	12K / 12.9
M 8 x 1	13	6	30	41	50
M 10 x 1	17	8	55	78	95
M 12 x 1.5	19	10	95	107	128
M 14 x 1.5	22	12	140	200	240
M 16 x 1.5	24	14	200	290	350
M 18 x 1.5	27	14	270	390	470
M 20 x 1.5	30	17	350	500	600
M 22 x 1.5	32	17	450	630	740
M 24 x 1.5	36	19	590	830	1000

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