Operator's Manual

Track excavator

803

Machine model	**803**
Edition	**3.0**
Order no.	**1000161857**
Language	**EN**

WACKER NEUSON

Documentation

Description	Language	Order no.
Operator's Manual	EN	1000161857
Spare parts list	De/En/Fr	1000161641

Legend

Edition	Issued
1.2	7 / 2008
1.3	11 / 2009
2.0	01 / 2010
3.0	03 / 2011

The machine in this document/on the cover can be equipped with options.

Translation of original Operator's Manual

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Document: BA 803 En
Order no.: 1000161857
Edition: 3.0

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1 Introduction

1.1 Important information on the Operator's Manual

The Operator's Manual is stored in the storage bin at the rear of the seat.

This Operator's Manual contains important information on how to work safely, correctly and economically with the machine. Therefore, it aims not only at new staff, but it also serves as a reference for experienced staff. It helps to avoid dangerous situations and reduce repair costs and downtimes. Furthermore, the reliability and the service life of the machine will be increased by following the instructions in the Operator's Manual. This is why **the Operator's Manual must always be kept at hand in the machine.**

Your own safety, as well as the safety of others, depends to a great extent on how the machine is moved and operated. Carefully read the Operator's Manual before putting the machine into operation. This Operator's Manual will help to familiarise yourself more easily with the machine, thereby enabling you to use it more safely and efficiently.

Follow chapter “Safety Instructions” in particular. As a rule, keep the following in mind:

Careful and prudent working is the best way to avoid accidents!

Operational safety and readiness of the machine do not only depend on your skill, but also on maintenance and servicing of the machine. This is why regular maintenance and service work is absolutely necessary.

Extensive maintenance and repair work must always be carried out by a Wacker Neuson workshop. Use only original spare parts for repairs. This ensures operational safety and readiness of your machine, and maintains its value.

- Special equipment and superstructures are not described in this Operator's Manual.
- We reserve the right to improve the technical standard of our machines without adapting the Operator's Manual.
- Modifying Wacker Neuson products and fitting them with additional equipment and attachments not included in our delivery program requires Wacker Neuson's written authorisation, otherwise warranty and product liability for possible damage caused by these modifications shall not be applicable.
- Subject to modifications and printing errors.

Your Wacker Neuson dealer will be pleased to answer any further questions regarding the machine or the Operator's Manual.

Abbreviations/symbols

- This symbol stands for a list
  - Subdivision within lists or an activity. Follow the steps in the recommended order

☞ *This symbol requires you to carry out the activity described*

➥ Description of the effects or results of an activity

n. s. = not shown

“Opt” = option

Stated whenever controls or other components of the machine are installed as an option.

 This symbol shows the driving direction – for better orientation in figures and graphics.

1.2 Machine overview (up to serial no. AI00966)

1 Boom light
2 Boom
3 Stick
4 Tracks
5 Undercarriage
6 Stabiliser blade
7 Handle
8 Eye hook for loading/tying down the machine
9 Engine cover
10 Storage bin for Operator's Manual
11 Lock lever

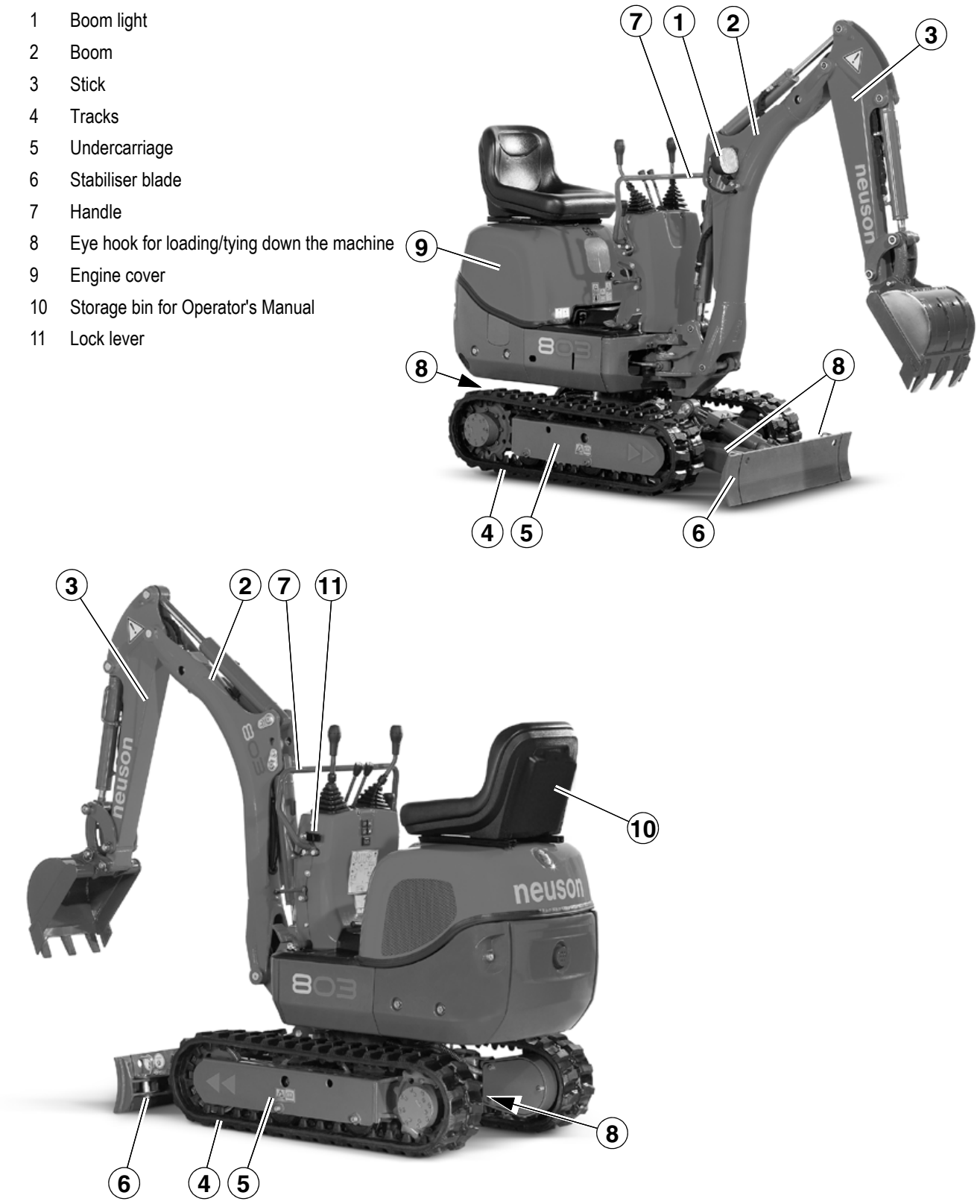


Fig. 1: Machine outside views

1.3 Machine overview (from serial no. AI00967)

1 Boom light
2 Boom
3 Stick
4 Tracks
5 Undercarriage
6 Stabiliser blade
7 Handle
8 Eye hook for loading/tying down the machine
9 Engine cover
10 Storage bin for Operator's Manual
11 Lock lever
12 ROPS rollbar (option)
13 Shatter protection (option)

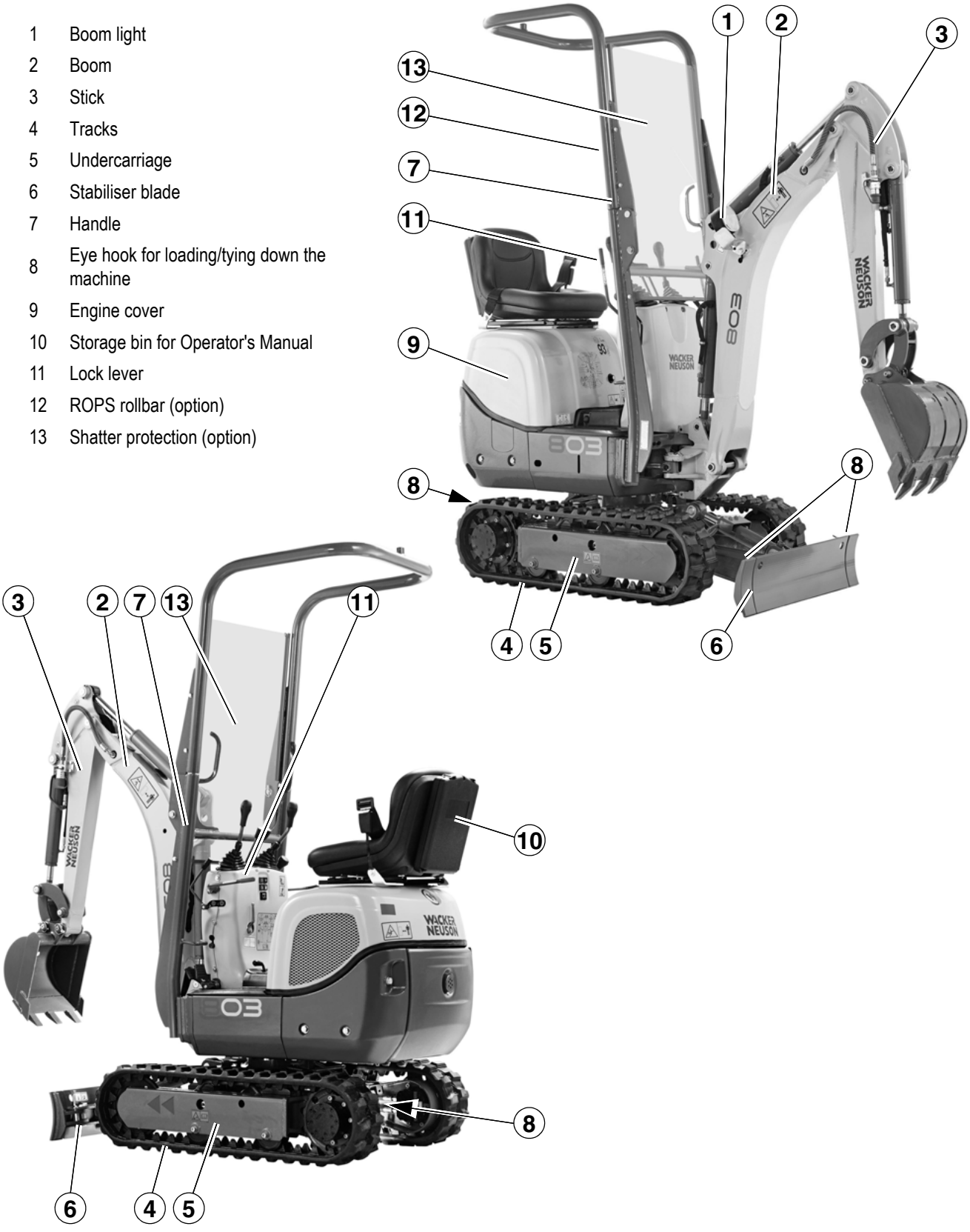


Fig. 2: Machine outside views

1.4 Brief description

The model 803 excavator is a self-propelled work machine.

Get informed on and follow the legal regulations of your country.

This machine is a versatile and powerful helper for moving earth, gravel and debris on construction sites and elsewhere. A wide range of attachments accounts for the numerous applications of the machine, including hammer operation.

See chapter Fields of application, attachments for further applications.

The main components of the machine are:

- Undercarriage
  - Tracked travel gear
  - Stabiliser blade
  - Live ring
- Upper carriage
  - Water-cooled diesel engine
  - Hydraulic and electrical components
- Boom

Travelling drive

The diesel engine permanently drives two gear pumps the oil flow of which is sent to the hydraulic motor currently actuated.

Work hydraulics

The diesel engine permanently drives two gear pumps the oil flow of which is sent to the work hydraulics as required. The oil flow of these pumps depends on the diesel engine speed.

Cooling system

An indicator light on the instrument panel of the machine ensures constant monitoring of the engine oil and coolant temperature.

TOPS rollbar (up to serial no. AF01416) (option)

ROPS rollbar (option)

The rollbar has been specially designed for protection in case of an accident.

- TOPS (Tip Over Protective Structure)
- ROPS (Roll Over Protective Structure)

1.5 Fields of application, attachments

The attachments will decide in the first place how the excavator is used.

Caution!

In order to avoid damage to the machine, only the attachments listed below have been certified for installation on the machine.

☞ *Please contact your Wacker Neuson dealer if you wish to use other attachments.*

Using tools of other manufacturers, or tools which have been released for other excavator types, can reduce the machine's output and stability considerably, and can also cause damage to the machine and injuries to the operator or the staff.

Always compare the weight of the attachment and its maximum payload with the indications in the lift capacity table. Never exceed the maximum payload stated in the lift capacity table.

Notice!

Please refer to the Operator's and maintenance manual of the attachment manufacturer for using and carrying out maintenance on attachments such as hammers, etc.

Use: attachment

Description of attachment	Weight	Capacity	Remarks
Bucket B = 250 mm	14.8 kg	14 l	
Bucket B = 370 mm	17.2 kg	18 l	
Bucket B = 700 mm	24.5 kg	27 l	
Hydraulic hammer NE06	63 kg	--	

1.6 Regulations

Requirements to be met by the driver

Earth moving machines may be driven and serviced only by persons who meet the following requirements:

- 18 years or older
- Physically and mentally suited for this work
- Persons have been instructed in driving and servicing the earth moving machine and have proven their qualifications to the contractor
- Persons are expected to carry out work reliably.

They have been appointed by the contractor for driving and servicing the earth moving machine.

Get informed on and follow the legal regulations of your country.

1.7 TOPS rollbar (up to serial no. AF01416)/ROPS

Caution!

Always fasten the lap belt if the rollbar is raised.

Caution!

Do not use the lap belt if the rollbar is lowered, or if the machine is not equipped with a rollbar.

1.8 EC declaration of conformity for all machines delivered before 29 December 2009

EC Declaration of Conformity

according to EC Directive 98/37/EC, 2000/14/EC Appendix 6

Wacker Neuson Linz GmbH
Haidfeldstr. 37
A-4060 Linz-Leonding

declare, under their own responsibility, that the product

Product name	Track excavator 803 RD
Model	803 RD
Version	803 RD
Serial no.	- - - - - - - - - - -

to which this declaration refers, corresponds to the pertinent fundamental requirements regarding safety and health of

EC Directive 98/37/EC,
and the requirements of further pertinent EC Directives and standards.

ISO 3471 and EN 13510	Tested		Administrative unit reported according to Appendix 6
2000/14/EC	information Noise level	dBA	TÜV München (Munich/Germany Industrial Supervisory Board) Westendstr. 199 D-80686 Munich
	Measured value	93	
	Guaranteed value	93	

The following standards and/or technical specifications have been used for the proper application of the requirements regarding safety and health stated in the EC Directives:
EN 474-1, EN 474-3, EN 12100-1, EN 12100-2, ISO 3471, EN 13510;

Place of storage of technical documentation:
Wacker Neuson Linz GmbH
Department: R & D
Haidfeldstr. 37
A-4060 Linz-Leonding

Linz-Leonding, (date) _ _ . _ _ . _ _ _ _

Ing. Hans Neunteufel (Managing Director)
Wacker Neuson Linz GmbH

1.9 EC declaration of conformity for all machines delivered after 29 December 2009

EC Declaration of Conformity

According to Machine Directive 2006/42/EC, appendix II A

Manufacturer

Wacker Neuson Linz GmbH
Haidfeldstr. 37
A-4060 Linz-Leonding

Product

Machine designation:	Hydraulic excavator
Machine model:	803
Serial no.:	_____
Output (kW):	9.6 kW
Measured sound power level:	93.3 dB (A)
Guaranteed sound power level:	93 dB (A)

Conformity assessment procedure

Notified body according to Directive 2006/42/EC, appendix XI:
Fachausschüsse Bau und Tiefbau
Prüf- und Zertifizierungsstelle im BG-PRÜFZERT
Landsberger Str. 309
D-80687 Munich
Distinguishing EU number 0515

Notified body according to Directive 2000/14/EC, appendix VI:
TÜV SÜD Industrie Service GmbH
Westendstr. 199
D-80686 Munich

Directives and standards

We hereby declare that this product corresponds to the relevant regulations and requirements of the following Directives and standards:
2006/42/EC (old 98/37 EC), 2004/108/EC (old 89/336/EEC), 2002/44/EC, 2005/88/EC, 2000/14/EC;
DIN EN ISO 12100-1 and 2, DIN EN 474-1 and 5, DIN EN 14121,
DIN EN 3471, DIN EN 13510, EN ISO 3744, EN ISO 3746, DIN EN ISO 3449

Leonding, _____	_____	_____
Place, date	Thomas Köck,	Josef Erlinger,
	Responsible for documentation	Managing director

1.10 Type labels and component numbers

Fig. 1: Type label: location

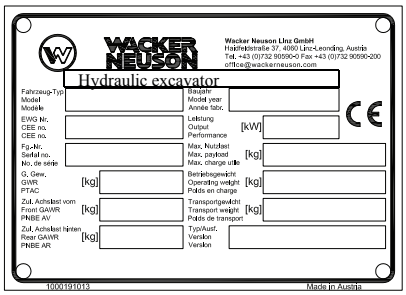


Fig. 2: Type label

Serial number

The serial number is stamped on the machine chassis. It is also located on the type label.

The type label is located at the front right on the machine chassis (at control stand level).

Type label information (example):

Example: 803

Machine designation:	HYDRAULIC EXCAVATOR
Model:	----------
Model year:	----------
CEE no.:	----------
Output:	----------
Serial no.:	----------
Max. payload:	----------
GWR:	----------
Operating weight:	----------
Front GAWR:	----------
Transport weight:	----------
Rear GAWR:	----------
Version:	----------

Other information – *see chapter 6 Specifications* on page 6-1

Fig. 3: ROPS bar type label

ROPS bar type label

The type label is located at the front right, on one side of the rollbar.

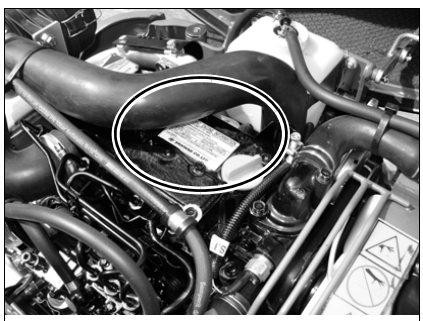
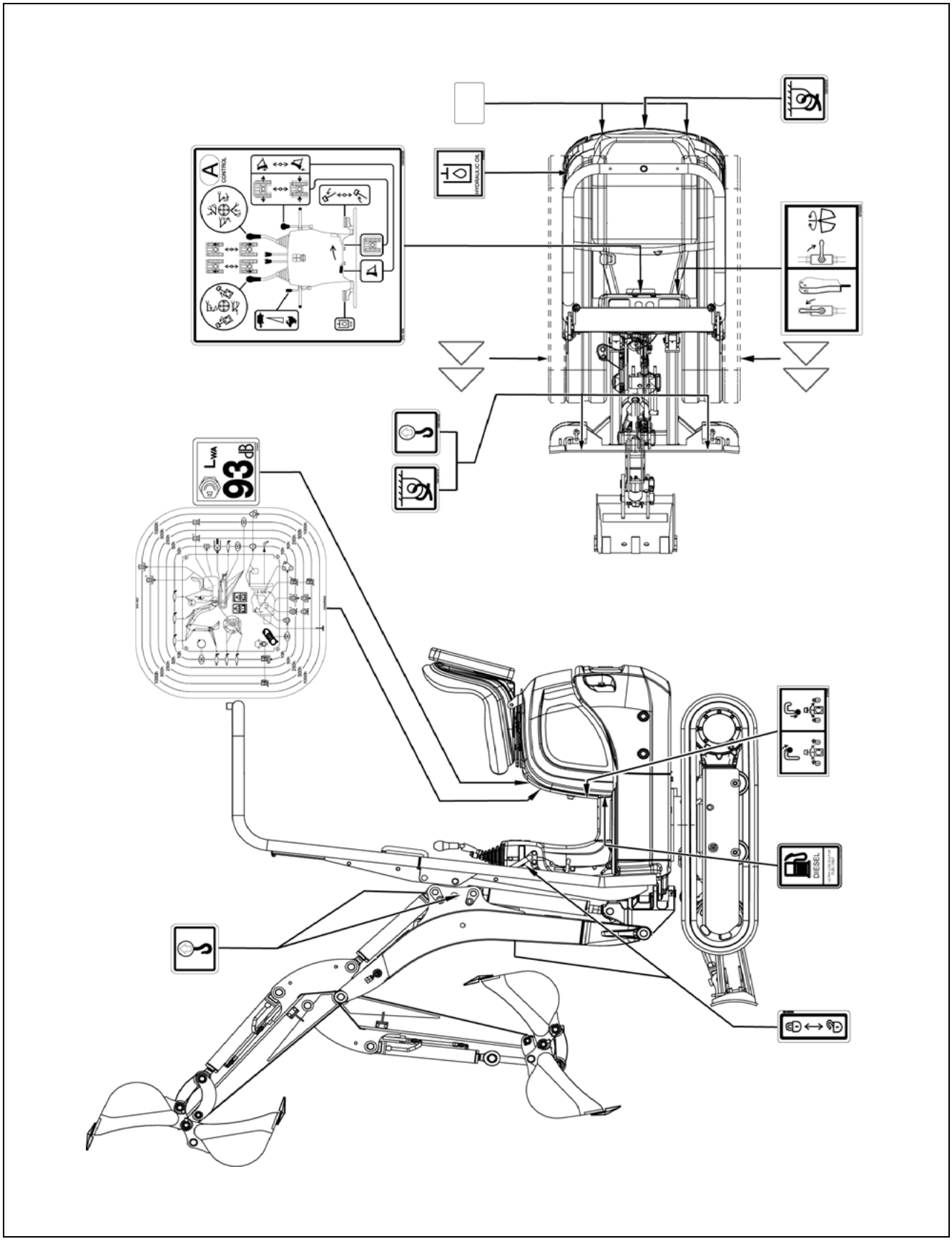


Fig. 4: Diesel engine number

Engine number

The type label is located on the valve cover (engine).

1.11 Overview of adhesive labels



The following states signs and symbols which are not unequivocally comprehensible. They do not contain explanatory text and are not explained in the following chapters.

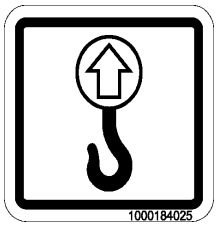


Fig. 5: Eye hooks

Meaning

Machine is raised by the eye hooks

– *see chapter 3.33 Fahrzeug mit Kran verladen* on page 3-39

Location

On either side of the stabiliser blade, and on either side of the boom

Fig. 6: Points for tying down the machine

Meaning

Points for tying down the machine.

The mounting points are used for tying down the machine during loading and transport.

– *see chapter 3.35 Fahrzeug verzurren* on page 3-43

Location

On either side of the stabiliser blade, at the centre of the undercarriage

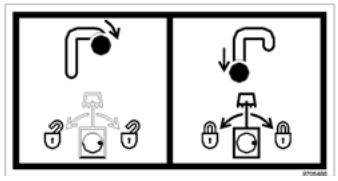


Fig. 7: Swivel unit lock

Meaning

This label shows how to lock the upper carriage.

Location

On the front side of the engine cover

Fig. 8: Noise level indication

Meaning

Noise levels produced by the machine.

L_{WA} = sound power level

Other information – *see chapter 6.2 Geräuschmessung* on page 6-2

Location

On the front side of the engine cover

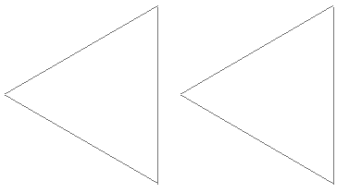


Fig. 9: Direction indicator

Meaning

This label shows the forwards driving direction.

Location

On either side of the undercarriage

Fig. 10: Hydraulic oil

Meaning

The tank contains hydraulic oil.

– *see chapter 5.6 Motor- und Hydraulik-Kühlsystem* on page 5-7

Location

On the hydraulic oil tank

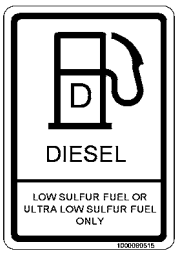


Fig. 11: Diesel

Meaning

Only refuel diesel fuel with a low content of sulphur!

– *see chapter 5.18 Betriebs- und Schmierstoffe* on page 5-32

Location

On the fuel tank

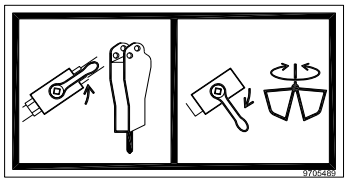


Fig. 12: Ball-type cock on boom

Meaning

Changeover from hammer to grab operation.

Location

On the front side of the engine cover

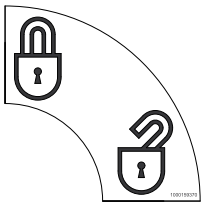


Fig. 13: Lock lever

Meaning (up to serial no. AI00814)

This label shows how to lock the control levers.

Location

On the left-hand side of the control element console

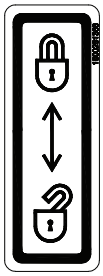


Fig. 14: Lock lever

Meaning (from serial no. AI00815)

This label shows how to lock the control levers.

Location

On either side of the control stand

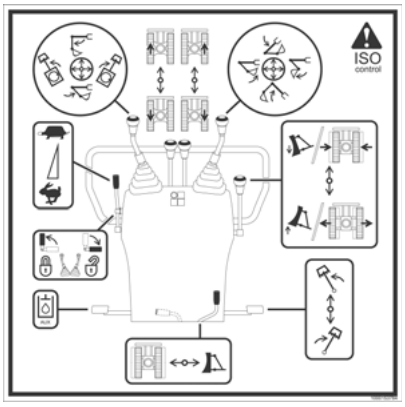


Fig. 15: Controls

Meaning (up to serial no. AI00814)

This label describes the pedal and control lever functions.

– *see chapter 3.14 Control levers (overview)* on page 3-41

Location

On the control stand

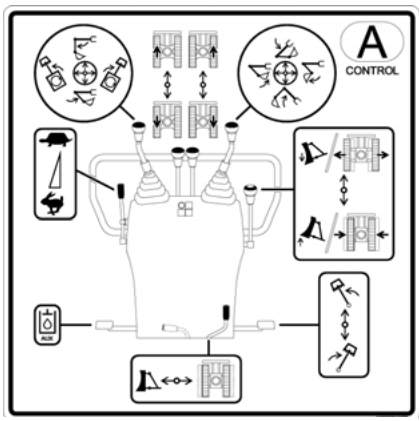


Fig. 16: Controls

Meaning (from serial no. AI00815 to serial no. AI00824)

This label describes the pedal and control lever functions.

– *see chapter 3.14 Control levers (overview)* on page 3-41

Location

On the control stand

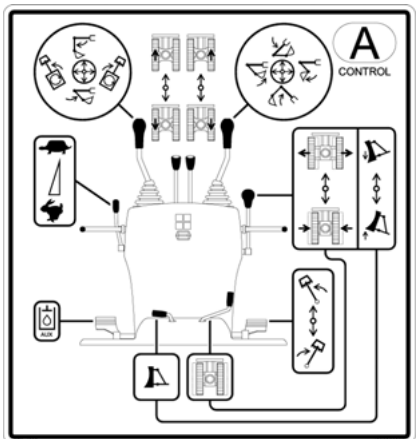


Fig. 17: Controls

Meaning (from serial no. AI00825)

This label describes the pedal and control lever functions.

– *see chapter 3.14 Control levers (overview)* on page 3-41

Location

On the control stand

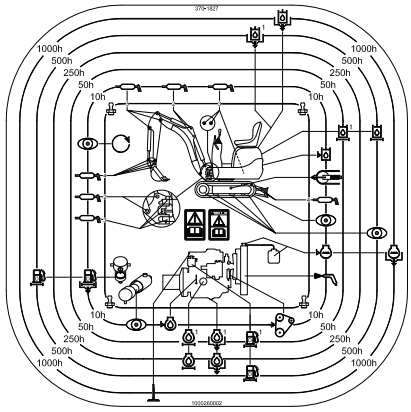


Fig. 18: Maintenance plan

Meaning

Maintenance plan

Location

On the front side of the engine cover

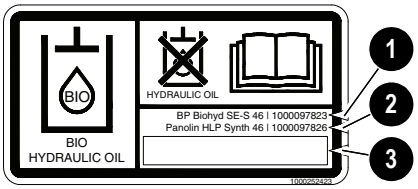


Fig. 19: Biodegradable hydraulic oil

Meaning (option)

The tank contains biodegradable hydraulic oil.

This label is notched on the side depending on the biodegradable hydraulic oil used.

1 BP Biohyd SE-S 46

2 PANOLIN HLP Synth 46

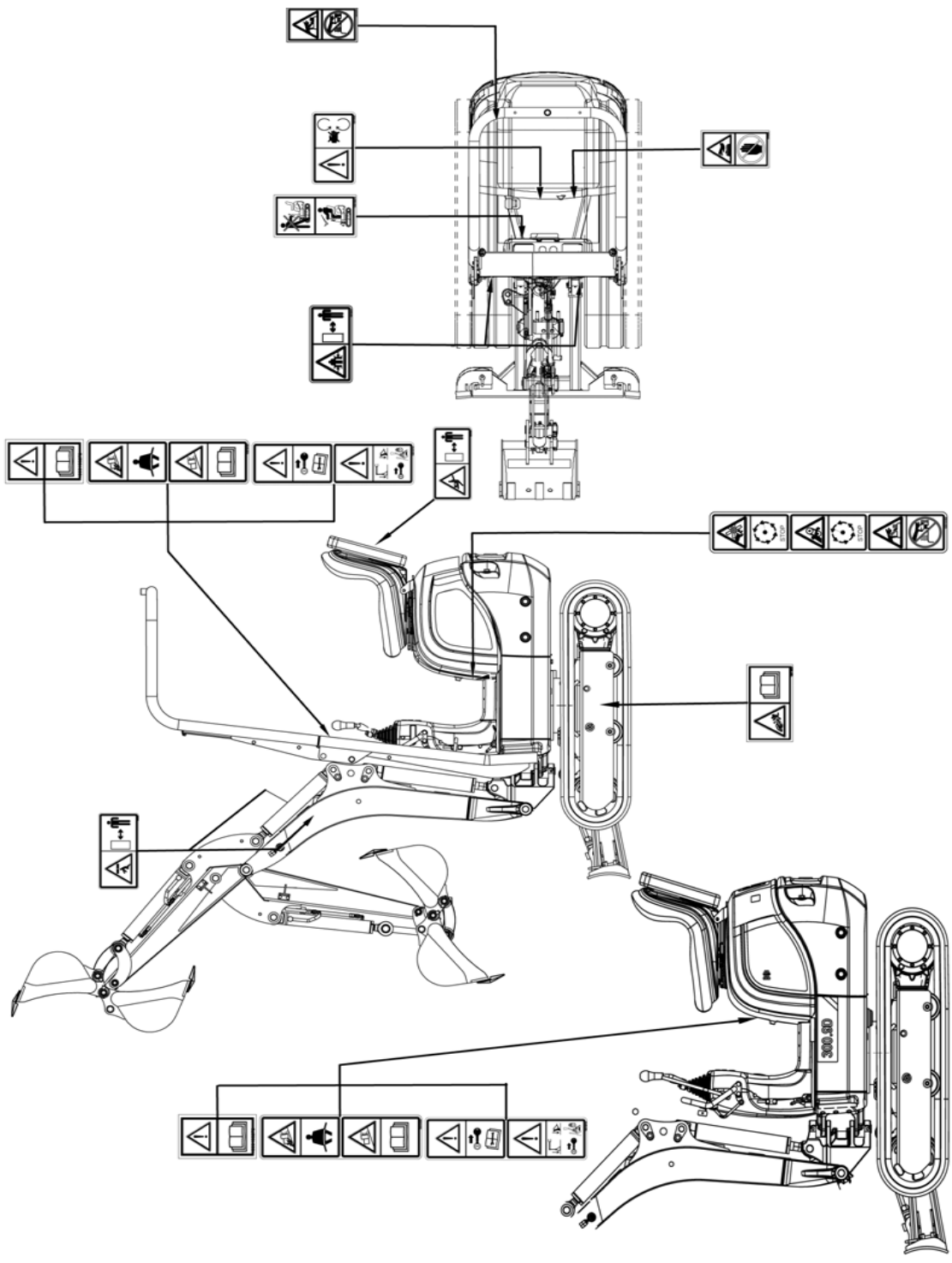
3 Other producer of biodegradable hydraulic oil

– *see chapter Important information for the use of biodegradable oil* on page 5-20

Location

Under the engine cover on the hydraulic oil tank

1.12 Overview of safety labels



Notice!

Always follow the instructions given on the safety labels to avoid severe injuries or death.

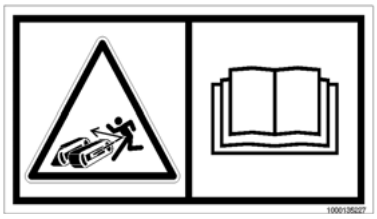


Fig. 20: Tightening the tracks

Meaning

- Danger due to grease squirting out!
- Always read the Operator's Manual before working with the track tensioner.

Location

On either side of the undercarriage.

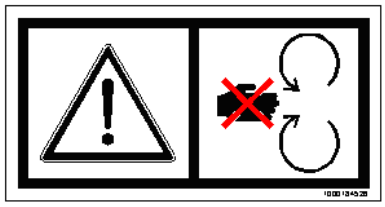


Fig. 21: Stop the engine

Meaning

Caution, danger due to rotating and moving parts!

Stop the engine before opening or dismounting the safety devices (e.g. engine cover, fan guard ...)

Location

On the front side of the engine cover

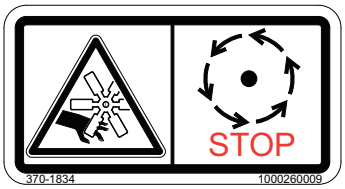


Fig. 22: Fan in engine compartment

Meaning

- Caution, rotating fan!

  Stop the engine before opening the engine cover!

  Stay clear of the engine compartment if the fan is still running.

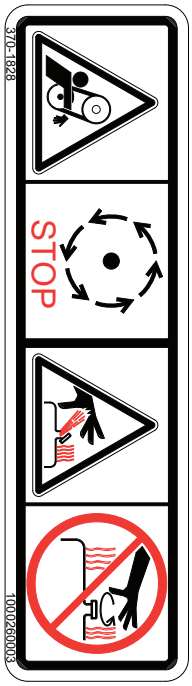


Fig. 23: Hydraulic oil tank under pressure

Meaning

Caution, danger due to rotating and moving parts!

Stay clear of the engine compartment with the engine running!

Carry out work in the engine compartment at engine standstill only.

- Caution, the tank is hot and under pressure!

  Allow the tank to cool down!

  Carefully and slowly open the cover only after the tank has cooled down, to release the pressure.

  Wear suitable protective clothing to open the cover.

Location

In the engine compartment

Fig. 24: Tank under pressure

Meaning

Caution, the tank is hot and under pressure!

- Allow the fluids to cool down!

  Carefully and slowly open the cover only after the tank has cooled down, to release the pressure.

  Wear suitable protective clothing and goggles to open the cover.

Location

On the hydraulic oil tank

Fig. 25: Hot surfaces

Meaning

Caution, danger of burns due to hot surfaces!

- Do not touch surfaces, wait for parts to cool down.

Location

In the engine compartment

Fig. 26: Read the Operator's Manual

Meaning

Caution, read the Operator's Manual before starting the machine!

The machine may be put into operation only if you read, understand and observe the Operator's Manual.

Location

At the front on the engine cover (standard).

On the left on the rollbar (option).

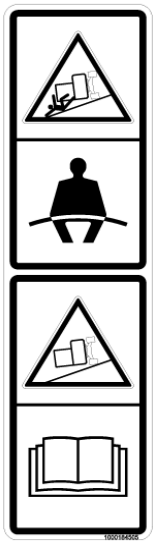


Fig. 27: Warnings

Meaning (up to serial no. AI00824)

Caution, danger of severe or fatal injuries!

- Operate the machine only when seated on the seat.
- Putting the machine into operation and operating it with a raised rollbar is allowed only if the seat belt is fastened and tightened to prevent the driver from falling out of the machine.
- Do not fasten the seat belt if the rollbar is lowered.

Caution, danger of severe or fatal injuries!

- Always work ensuring machine stability, do not overload the machine and use only attachments that have been released by the manufacturer. Always work on firm ground. Follow the instructions given in the Operator's Manual.

Location

At the front on the engine cover (standard).

On the left on the rollbar (option).

Fig. 28: Warnings

Meaning (from serial no. AI00825)

Caution, danger of severe or fatal injuries!

- Operate the machine only when seated on the seat.
- Putting the machine into operation and operating it with a raised rollbar is allowed only if the seat belt is fastened and tightened to prevent the driver from falling out of the machine.
- Do not fasten the seat belt if the rollbar is lowered.

Caution, danger of severe or fatal injuries!

- Always work ensuring machine stability, do not overload the machine and use only attachments that have been released by the manufacturer. Always work on firm ground. Follow the instructions given in the Operator's Manual.

Location

At the front on the engine cover (standard).

On the left on the rollbar (option).

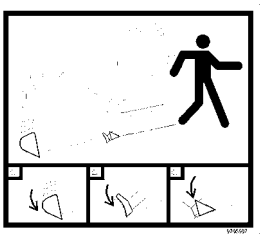


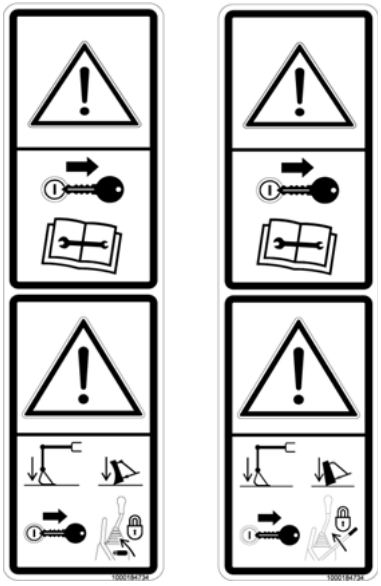
Fig. 29: Parking the machine correctly

Meaning (up to serial no. AI00681)

Lower the boom and the stabiliser blade to the ground as you leave the machine, remove the ignition key and place chocks on the left and right under the tracks.

Location

At the front on the engine cover



(up to serial no. AI00824) (from serial no. AI00825)

Fig. 30: Warnings

Meaning

Caution, danger of unintentional machine operation!

Danger of severe crushing of body!

- Before carrying out maintenance and repair work, stop the engine, raise the lock lever and remove the ignition key.
  The key must be kept by the operator.

Location

At the front on the engine cover (standard).

On the left on the rollbar (option).

Caution, danger of severe or fatal injuries!

- Lower the boom and the stabiliser blade to the ground before leaving the machine, stop the engine, raise the lock lever and remove the ignition key.

Location

At the front on the engine cover (standard).

On the left on the rollbar (option).

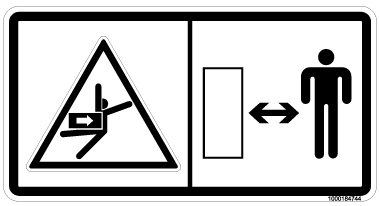


Fig. 31: Slewing range

Meaning

Caution, danger of severe crushing of body!

Stay clear of the machine's slewing range during operation.

Location

At the rear left

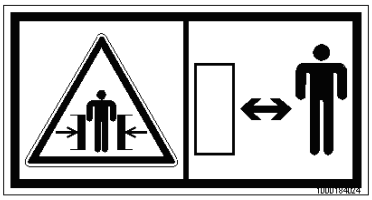


Fig. 32: Slewing range

Meaning

Caution, danger of severe crushing of body!

Stay clear of the machine's slewing range during operation.

Location

At the front left and right of the chassis

Fig. 33: Danger label

Meaning (up to serial no. AI00681)

General indication of danger.

This label warns persons standing or working near the excavator of an existing danger within the area of increased danger around the machine.

Location

On either side of the boom

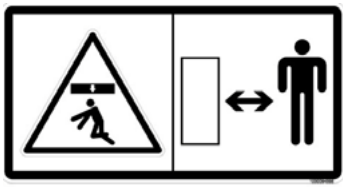


Fig. 34: Boom operation

Meaning

Caution, danger of severe or fatal injuries!

Stay clear of the machine's work range during operation.

Location

On either side of the boom

Fig. 35: Use the lock lever

Meaning (from serial no. AF01941 to serial no. AI00824)

Caution, danger of severe or fatal injuries!

Operate the machine only when seated on the seat.

Before leaving the seat, raise the lock lever to prevent unintentional movements!

Stay clear of the machine's slewing range during operation.

Location

At the right on the control stand

Fig. 36: Use the lock lever

Meaning (from serial no. AI00825)

Caution, danger of severe or fatal injuries!

Operate the machine only when seated on the seat.

Before leaving the seat, raise the lock lever to prevent unintentional movements!

Location

At the right on the control stand

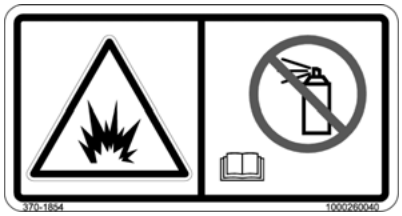


Fig. 37: Do not use ether

Meaning

Caution, danger of severe or fatal injuries!

Caution, danger of powerful explosions!

Do not use ether!

This machine is equipped with an intake-air preheating system. Using ether can cause explosions or fire, which in turn can cause death or severe injuries.

Location

In the engine compartment on the air intake hose

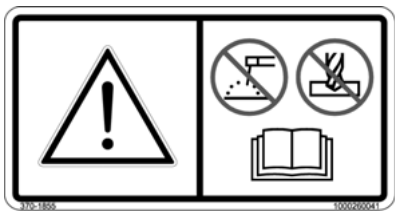


Fig. 38: Do not drill holes or weld the ROPS structure

Meaning (option, only with ROPS bar)

Caution, danger of severe or fatal injuries!

Structural damage, roll-over accidents, retrofitting work, structural modifications or improper repair work affect the protective effect.

Do not drill holes or carry out welding on this structure. *Repair work may be carried out by a Caterpillar dealer only.*

Location

On the ROPS bar

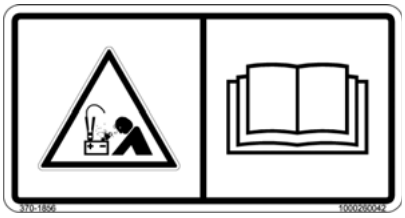


Fig. 39: Danger of explosion

Meaning

Caution, danger of powerful explosions!

Connecting jump leads incorrectly can cause explosions and personal injuries with possible death.

Always wear protective goggles and clothing.

Follow the specific battery safety instructions!

Location

Near the battery

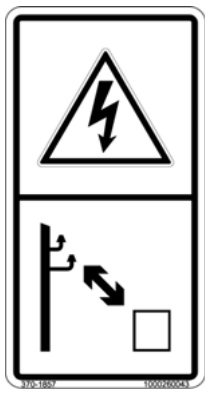


Fig. 40: Danger near high-voltage lines

Meaning

Caution, danger of fatal electric shock!

Keep a safe distance from high-voltage lines. Always keep a safe distance from electrically conductive parts with the machine and the equipment.

Location

On the control stand

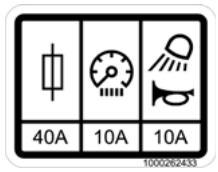


Fig. 41: Fuses

Meaning

Fuse assignment.

Use only original fuses with the specified current rating!

Location

Behind the right-hand trim

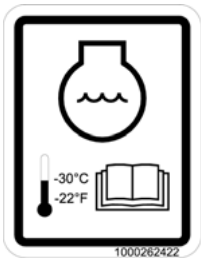


Fig. 42: Antifreeze

Meaning

The coolant must have a thermal stability of -30 °C (-22 °F).

– *see chapter 6.10 Kühlmittel-Mischtabelle* on page 6-3

Location

In the engine compartment on the expansion tank

2 Safety instructions

2.1 Identification of warnings and dangers

Important indications regarding the safety of the staff and the machine are identified in this Service Manual with the following terms and symbols:

Danger!

Failure to observe the instructions identified by this symbol can result in personal injury or death for the operator or other persons.

☞ *Measures for avoiding danger*

Caution!

Failure to observe the instructions identified by this symbol can result in damage to the machine.

☞ *Measures for avoiding danger for the machine*

Notice!

This symbol identifies instructions for a more efficient and economical use of the machine.

Environment!

Failure to observe the instructions identified by this symbol can result in damage to the environment. The environment is in danger if environmentally hazardous material (e.g. waste oil) is not subject to proper use or disposal.

2.2 Warranty

Warranty claims can be made only if the conditions of warranty have been observed. They are included in the General Conditions of Sales and Delivery for new machines and spare parts sold by the dealers of Wacker Neuson Linz GmbH.

Warranty claims can be brought forward to your Wacker Neuson dealer only.

Furthermore, all instructions in this Operator's Manual must be observed.

2.3 Disposal

All fluids, lubricants, material, etc., used on the machine are subject to specific regulations regarding collection and disposal. Dispose of different materials and consumables separately and in an environmentally friendly manner!

Disposal may be carried out by a Wacker Neuson dealer only. Also observe the national regulations regarding disposal!

Environment!

Avoid damage to the environment! Do not allow the oil and oily wastes to get into the ground or stretches of water!

2.4 Designated use and exemption from liability

- The machine is intended for:
  - Moving earth, gravel, coarse gravel or ballast and rubble
  - Every other application is regarded as not designated for the use of the machine. Wacker Neuson will not be liable for damage resulting from use other than mentioned above. The user alone will bear the risk.
  - Designated use also includes observing the instructions set forth in the Operator's Manual and observing the maintenance and service conditions.
- The safety of the machine can be negatively affected by carrying out machine modifications without proper authority and by using spare parts, equipment, attachments and optional equipment which have not been checked and released by Wacker Neuson GmbH. Wacker Neuson GmbH will not be liable for damage resulting from this.
- Wacker Neuson Linz GmbH shall not be liable for personal injury and/or damage to property caused by failure to observe the safety instructions and the Operator's Manual, and by the negligence of the duty to exercise due care when:
  - handling
  - operating
  - servicing and carrying out maintenance work and
  - repairing the machine. This is also applicable in those cases in which special attention has not been drawn to the duty to exercise due care, in the safety instructions, the Operator's Manuals and maintenance manuals (machine/engine).
  - Read and understand the Operator's Manual before starting up, servicing or repairing the machine. Observe the safety instructions!
- The machine may not be used for transport jobs on public roads!
- Hammer operation is only allowed in specified areas.

2.5 General conduct and safety instructions

Organisational measures

- The machine has been designed and built in accordance with state-of-the-art standards and the recognised safety regulations. Nevertheless, its use can constitute a risk to life and limb of the user or of third parties, or cause damage to the machine and to other material property
- The machine must only be used in technically perfect condition in accordance with its designated use and the instructions set forth in the Operator's Manual, and only by safety-conscious persons who are fully aware of the risks involved in operating the machine. Any functional disorders, especially those affecting the safety of the machine, must therefore be rectified immediately!
  Basic rule*:*
  Before starting up the machine, inspect the machine for safety in work operation!
- Careful and prudent working is the best way to avoid accidents!
- The Operator's Manual must always be at hand at the place of use of the machine, and must therefore be kept in the document box at the rear of the seat.
  Immediately complete or replace an incomplete or illegible Operator's Manual!
- In addition to the Operator's Manual, observe and instruct the operator in all other generally applicable legal and other mandatory regulations relevant to accident prevention and environmental protection.
  These compulsory regulations may also deal with handling hazardous substances, issuing and/or wearing personal protective equipment, or traffic regulations
- With regard to specific operational features, e.g. those relevant to job organisation, work sequences or the persons entrusted with the work, supplement the Operator's Manual by corresponding instructions, including those relevant to supervising and reporting duties
- Persons entrusted with work on the machine must have read and understood the Operator's Manual and in particular, chapter “Safety Instructions” before beginning work. This applies especially to persons working only occasionally on the machine, e.g. set-up or maintenance
- The user/owner must check – at least from time to time – whether the persons entrusted with operation or maintenance of the machine are working in compliance with the Operator's Manual and are aware of risks and safety factors.
- The user/owner commits himself to operate and keep the machine in perfect condition, and, if necessary or required by law, to require the operating or servicing persons to wear protective clothing etc.
- In the event of safety-relevant modifications or changes on the machine or of its behaviour, stop the machine immediately and report the malfunction to the competent authority/person.
  Safety-relevant damage or malfunctions of the machine must be rectified immediately!
- Never make any modifications, additions or conversions to the machine and its superstructures, as well as to the attachments, which might affect safety without the approval of Wacker Neuson! This also applies to the installation and the adjustment of safety devices and valves, as well as to welding work on load-bearing elements
- Spare parts must comply with the technical requirements specified by Wacker Neuson. Original spare parts can be relied to do so.
- Replace hydraulic hoses within stipulated and appropriate intervals even if no safety-relevant defects have been detected.
- Before working on or with the machine, remove jewellery, such as rings, wristwatches, bracelets etc. Tie back long hair and do not wear loose-fitting garments, such as unbuttoned or unzipped jackets, ties or scarves.
  Injury can result from being caught up in the machinery or from rings catching on moving parts!

- Keep the machine clean. This reduces:
  - Fire hazard, e.g. due to oil-soaked rags lying around
  - Danger of injury, e.g. due to dirt or debris on the footholds, and
  - Danger of accidents e.g. due to dirt pile-up on the pedals
- Observe all safety, warning and information signs and labels on the machine!
- Adhere to prescribed intervals or those specified in the Operator's Manual for routine checks/inspections and maintenance work!
- Tools and workshop equipment adapted to the task on hand are absolutely indispensable for carrying out service, inspection, maintenance or repair work!

Selection and qualification of staff, basic responsibilities

- Any work on or with the machine must be carried out by reliable staff only. Do not let unauthorised persons drive or work with the machine! Observe statutory minimum age limits!
- Employ only trained or instructed staff on the machine, and clearly and unequivocally define the individual responsibilities of the staff for operation, set-up, maintenance and repair!
- Define the machine operator's responsibilities – also with regard to observing traffic regulations. Give the operator the authority to refuse instructions by third parties that are contrary to safety
- Do not allow persons to be trained or instructed or persons taking part in a general training course to work on or with the machine without being permanently supervised by an experienced person!
- Work on the electrical system and equipment, on the undercarriage and the steering and brake systems may be carried out only by skilled staff which has been specially trained for such work. Work on the hydraulic system of the machine must be carried out only by staff with special knowledge and experience in hydraulic equipment!
- Seal off the danger area should it not be possible to keep a safe distance.
  Stop work if persons do not leave the danger area in spite of warning! Keep out of the danger area!

Danger area:

The danger area is the area in which persons are in danger due to the movements of the

- machine
- work equipment
- additional equipment or
- material

This also includes the area affected by falling material, equipment or by parts which are thrown out. The danger area must be extended by 0.5 m in the immediate vicinity of

- buildings
- scaffolds or
- other elements of construction

2.6 Safety instructions regarding operation

Normal operation

- Putting the machine into operation and operating it with a raised rollbar is allowed only if the seat belt is fastened and tightened.
- Do not fasten the seat belt if the rollbar is lowered – *see chapter Operation without ROPS rollbar* on page 2-7.
- Before releasing the seat belt, raise the lock lever and stop the engine to avoid unintentional operation.
- Operate the machine only when seated on the seat.
  - The driver must touch the backrest with his back.
  - When operating the machine, always leave your feet on the pedals or footrests/floor mats.

  ➥ Do not press the pedals unintentionally!

  ➥ Feet must not protrude beyond the floor mat – danger of crushing!
  - Before leaving the seat, raise the lock lever to prevent unintentional movements!
- Avoid any operational mode that might be prejudicial to safety!
- Apart from the driver, no other persons are allowed to ride on the machine.
- Before beginning work, familiarise yourself with the surroundings and circumstances of the work site. These are e.g. obstacles in the working and travelling area, the soil bearing capacity and any necessary barriers separating the work site from public roads
- When driving across a slope with the telescopic undercarriage extended, position the boom facing down the slope, and the bucket about 20 – 30 cm above the ground, in order to reduce injuries and damage to a minimum in the event of a hose rupture on the telescopic ram. A hose rupture might cause the undercarriage to retract and jeopardise the machine's stability.
- Take the necessary precautions to ensure that the machine is used only when in a safe and reliable state!
  Operate the machine only if all protective and safety-oriented devices, e.g. removable safety-devices, soundproofing elements etc., are in place and fully functional!
- Check the machine at least once a day/per work shift for visible damage and defects. Report any changes (incl. changes in the machine's working behaviour) to the competent organisation/person immediately! If necessary, stop the machine immediately and lock it!
- In the event of malfunctions, stop the machine immediately and lock it! Have any defects rectified immediately!
- Carry out start-up and shut-down procedures in accordance with the Operator's Manual, and observe the indicator lights!
- Before putting the machine/attachment into operation (start-up/moving), ensure that no-one is at risk by putting the machine/attachment into operation!
- Before driving with the machine, and also after interrupting work, check whether the drive levers, the signalling and the light systems are functional!
- Before moving the machine always check whether the supplementary equipment and the attachments have been safely stowed away or attached!
- When driving on public roads, ways and places, observe the valid traffic regulations and, if necessary, ensure beforehand that the machine is in a condition perfectly compatible with these regulations!
- Always switch on the lights in conditions of poor visibility and after dark!
- No lifting, lowering or carrying persons in the work equipment/attachments!
- Installing a man basket or a working platform is prohibited!
- When crossing underpasses, bridges and tunnels, or when passing under overhead lines always ensure that there is enough clearance!
- Always keep a safe distance from the edges of building pits and slopes!

- When working in buildings or in enclosed areas, look out for in particular:
  - Height of the ceiling/clearances
  - Width of entrances
  - Maximum load of ceilings and floors
  - Sufficient room ventilation – danger of poisoning!
- Avoid any operation that might be a risk to machine stability!
- During operation on slopes, drive or work uphill or downhill. If driving across a slope cannot be avoided, bear in mind the tilting limit of the machine!
  Always keep the attachments/work equipment close to the ground. This also applies to driving downhill!
- On sloping terrain always adapt your drive speed to the prevailing ground conditions!
- Secure the machine against unintentional movement and unauthorised use!
  Lower the attachments to the ground.
- Before starting work check whether
  - all safety devices are properly installed and functional.
- Before moving the machine or before taking up work:
  - Ensure that visibility is sufficient
  - Adjust your correct seat position, never adjust the seat when driving or working!
  - Fasten your seat belt (with ROPS rollbar option)
  - Inspect the immediate area (children!)
  - In the work area the operator is responsible for third parties!
- Caution when handling fuel – increased danger of fire!
  - Ensure that fuel does not come into contact with hot parts!
    Do not smoke during refuelling, and avoid fire and sparks! Stop the engine during refuelling and do not smoke!
- Never get on or off a moving machine! Never jump off the machine!
- Should the lights of the machine not be sufficient for carrying out work safely, provide additional lighting of the work area.
- Installed work lights must not be switched on for travel on public roads. They can be switched on in work operation if users of public roads are not dazzled.
- The pedals take time getting used to them. Drive speed must be adapted to your skills and to the prevailing conditions.

TOPS rollbar (up to serial no. AF01416)

ROPS rollbar

The machine can be equipped with an optional foldable TOPS or ROPS rollbar.

Danger!

In order to ensure the best possible protection for the driver, operate the machine only with a raised rollbar.

Caution!

☞ *No drilling, cutting or grinding.*

☞ *Do not mount any brackets.*

☞ *No welding, straightening or bending.*

☞ *Replace the complete rollbar if it is damaged or deformed and/or if it has any cracks.*

- *If you are not sure, always contact a Wacker Neuson dealer.*

☞ *Repair work may be carried out by a Wacker Neuson dealer only.*

Operation without TOPS rollbar (up to serial no. AF01416)

Operation without ROPS rollbar

Danger!

Machine operation without rollbar –

Immediate danger of severe crushing of body and of death!

The machine may be operated without rollbar only if the following conditions are fulfilled:

☞ *Obtain the approval of the competent national authority.*

☞ *Driving and working with the machine is only allowed on absolutely level ground.*

☞ *Avoid tipping movements of the machine under all circumstances.*

☞ *Working in areas involving a risk of falling objects is prohibited.*

☞ *Hammer operation is prohibited.*

☞ *Overhead working is not allowed under any circumstances.*

☞ *The seat belt must not be fastened.*

Checks when reversing the machine

- Careful when reversing the machine – danger of accidents!
- Persons in the blind spot of the machine cannot seen by the driver.
- Ensure that nobody is within the danger area of the machine when changing the driving direction!

Applications with lifting gear

Applications with lifting gear are understood as procedures involving raising, transporting and lowering loads with the help of slings and load-securing devices (e.g. ropes, chains). In doing so, the help of persons is necessary for securing and detaching the load. This applies for example to lifting and lowering pipes, shaft rings or containers.

Caution!

No applications with lifting gear!

Working with attachments

- Prior to driving the machine, remove all attachments which cannot be secured in compliance with the legal regulations of your country!
- Attachments affect handling and the machine's steering capability!
- Fit the attachments with the specially required devices only!
- Before uncoupling or coupling hydraulic lines (hydraulic quick couplers)
  - Stop the engine
  - Release the pressure in the hydraulic system. In order to do so, move the control levers of the hydraulic control units back and forth a couple of times
- Coupling attachments requires special care!
- Secure the attachments against unintentional movement!
- Operate the machine only if all protective facilities have been installed and are functional, and if all brake, light and hydraulic connections have been connected!
- If optional equipment is installed, all lighting equipment, indicator lights etc. that are required in addition must be installed and functional.
- Mount the attachments only if the engine and the drive have been switched off.
- Ensure that the attachment is safely locked with the machine. Check again before starting work.
- Raise the lock lever before mounting attachments on the stick.
- Be careful when coupling attachments to the machine: danger of personal injury due to crushing and shearing. Ensure that nobody is between the machine and the attachment!

Transport

- The machine must be towed, loaded and transported only in accordance with the Operator's Manual!
- For towing the machine observe the prescribed transport position, admissible speed and itinerary
- Use only suitable means of transport of adequate capacity/payload!
- Safely secure the machine on means of transport! Use suitable mounting points and load-securing devices.
- The recommissioning procedure must be strictly in accordance with the Operator's Manual!

Working in the area of underground electric lines

- Before starting any work, the machine operator must ensure that there are no lines in the work area.
- If you are not sure, contact the person in charge at the network operator.
- If there are lines, take the following safety measures:
  - Mark the position and path of the lines unambiguously
  - Fasten, support or secure exposed lines
  - Safely fasten lines if vibration or shocks to these lines must be avoided

Working near overhead electric lines

Danger!

Touching overhead electric lines carries a risk of fatal injuries!

Risk of fatal injuries due to electric shock!

☞ *When working with the machine, maintain a safe distance from overhead electric lines!*

☞ *If work must be carried out close to overhead lines, the equipment/attachments must be kept well away from them.*

Rated voltage (volts)	Safety distance	
	Metres	Feet
Up to 1000 V	1 m	3.3 ft.
Over 1 kV to 110 kV	3 m	9.8 ft.
Over 110 kV to 220 kV	4 m	13.1 ft.
Over 220 kV to 380 kV	5 m	16.4 ft.
Unknown rated voltage	5 m	16.4 ft.

- If no sufficient distance can be kept to overhead electric lines, the machine operator must take other safety measures, for instance switching off the current, in agreement with the owner or operator of the lines.
- If an energised line is touched nevertheless:
  - Do not leave the machine
  - Drive the machine out of the danger area
  - Warn others against approaching and touching the machine
  - Have the live wire de-energised
  - The driver must not touch any metallic parts
  - Do not leave the machine until the line that has been touched or damaged has been safely de-energised!

2.7 Safety instructions for maintenance

- Avoid any operational mode that might be prejudicial to safety!
- Operational readiness and the service life of machines are heavily dependent on maintenance.
- It is therefore in the interest of the machine owner to carry out the prescribed maintenance work.
- The manufacturer requires the owner to carry out maintenance work under all circumstances. Otherwise warranty shall not be given in full.
- Observe the adjustment, maintenance and inspection activities and intervals set forth in the Operator's Manual, including information on the replacement of parts/partial equipment! These activities may be carried out only by a Wacker Neuson workshop.
- The machine may not be serviced, repaired or test-driven by unauthorised staff.
- Brief the staff/the driver before beginning special operations and maintenance work! Appoint a person to supervise the activities!
- In any work concerning the operation, conversion or adjustment of the machine and its safety-oriented devices, or any work related to maintenance, inspection and repair, observe the start-up and shut-down procedures set forth in the Operator's Manual, and the information on maintenance work.
- If required, secure the maintenance area appropriately!
- Prior to carrying out service, maintenance and repair work, attach warning labels, such as “Repair work – do not start machine!”, to the ignition lock or to the control elements. Remove the ignition key!
- Carry out service, maintenance and repair work only if the
  - machine is positioned on firm and level ground
  - Lower the work equipment/attachments to the ground
  - Stop the engine
  - Raise the lock lever
  - Ignition key removed
  - Move the control levers
  - machine has been secured against unintentional movement
- Should maintenance or repair be inevitable with the engine running:
  - Lower the stabiliser blade and raise the lock lever
  - Only work in groups of two
  - Both persons must be authorised for the operation of the machine
  - One person must be seated on the seat and maintain visual contact with the other person
  - Observe the specific safety instructions in the work manual
  - Keep a safe distance from all rotating and moving parts, e.g. fan blades, V-belt drives, fans etc.
- Prior to carrying out assembly work on the machine, ensure that no movable parts will roll away or start moving.
- To avoid the risk of accidents, parts and large assemblies being moved for replacement purposes must be carefully attached and secured to lifting gear.
  Use only suitable lifting gear and suspension systems in a technically perfect state with adequate load-bearing capacity!
  Stay clear of suspended loads!
- Have loads fastened and crane operators instructed by experienced persons only!
  The person giving the instructions to the operator must be within sight or sound of him.
- Disconnect the negative terminal of the battery if work needs to be carried out on the electrical system.

- Always use specially designed or otherwise safety-oriented ladders and working platforms to carry out overhead assembly work. Never use machine parts or attachments/superstructures as a climbing aid! Wear a safety harness when carrying out maintenance work at greater heights! Keep all handles, steps, handrails, platforms, landings and ladders free from dirt, snow and ice!
- Clean the machine, especially connections and threaded unions, of any traces of oil, fuel or preservatives before carrying out maintenance/repair work!
  Do not use aggressive detergents!
  Use lint-free cleaning rags!
- Before cleaning the machine with water, steam jet (high-pressure cleaner) or detergents, cover or tape up all openings which – for safety and functional reasons – must be protected against water, steam or detergent penetration. Special care must be taken with the electrical system.
- After cleaning, remove all covers and tapes applied for that purpose!
- After cleaning, examine all fuel, lubricant and hydraulic oil lines for leaks, chafe marks and damage!
  Rectify all defects without delay!
- Always retighten any screw connections that have been loosened during maintenance and repair!
- Any safety devices removed for set-up, maintenance or repair purposes must be refitted and checked immediately upon completion of the maintenance and repair work.
- Ensure that all consumables and replaced parts are disposed of safely and with minimum environmental impact!
- Do not use the work equipment as lifting platforms for persons!
- Before taking up work on machine parts dangerous for life and limb (bruising, cutting), always ensure safe blocking/support of these areas.
- Carry out maintenance and repair work beneath a raised machine, attachments or additional equipment only if a safe and secure support has been provided for (the sole use of hydraulic rams, jacks etc. does not sufficiently secure raised machines or equipment/attachments).
- Avoid contact with hot parts, such as the engine block or the exhaust system during the operation of the machine and for some time afterwards – danger of burns!
- Remove retainer pins slowly and carefully – danger of injury!
- Using starting fuel is not allowed! This applies in particular if the intake-air preheating is used at the same time – danger of explosions!
- Apply special care when working on the fuel system – increased danger of fire!
- When carrying out maintenance work, ensure that there is a fire extinguisher in the work area.
- Before carrying out (maintenance) work on the machine, remove all jewellry, such as rings, watches and bracelets. Tie back long hair, and button up or zip up loose-fitting garments.
  Injury can result from hair, jewellry or garments getting caught on moving parts!
- Always wear a hard hat and safety shoes when working with the machine or carrying out maintenance work on it. If necessary, wear protective clothing, goggles, masks, gloves and ear protectors.

2.8 Warning of special hazards

Electrical energy

- Use only original fuses with the specified current rating!
  Switch off the machine immediately, disconnect the battery and rectify the malfunction if trouble occurs in the electrical system!
- Work on the electrical system may only be carried out by a technician with appropriate training, in accordance with the applicable electrical engineering rules.
- Inspect and check the electric equipment of the machine at regular intervals. Defects such as loose connections or scorched cables must be rectified immediately.
- Observe the operating voltage of the machine/attachments!
- Always remove the earthing strap from the battery when working on the electrical system or when carrying out welding work!
- Starting with a battery jump cable can be dangerous if carried out improperly. Observe the safety instructions regarding the battery!
- – *see chapter Working near overhead electric lines* on page 2-9
- – *see chapter Working in the area of underground electric lines* on page 2-8

Gas, dust, steam, smoke

- Operate the machine only on adequately ventilated premises! On enclosed premises or before starting the internal combustion engine, ensure that there is sufficient ventilation! Observe the regulations in force at the respective site!
- Welding, burning and grinding work on the machine may only be carried out by a Wacker Neuson dealer.
- In areas with special hazards (e.g. toxic gases, caustic vapours, toxic environments), carry appropriate protective equipment (breathing filters, protective clothing)!

Hydraulics

- Work on the hydraulic equipment of the machine must be carried out only by persons having specific technical knowledge and experience in hydraulic systems!
- Check all lines, hoses and screw connections regularly for leaks and obvious damage! Repair any damage and leaks immediately! Splashed oil can cause injury and fire!
- In accordance with the Operator's Manual/instructions for the respective assembly, release the pressure in all system sections and pressure lines (hydraulic system) to be opened before carrying out any implementing/repair work!
- Hydraulic lines must be routed and installed properly! Ensure that no connections are interchanged. The fittings, lengths and quality of the hoses must comply with the technical requirements.

Noise

- Never operate the machine without the sound baffles included in the standard equipment of the machine.
- Wear ear protectors if necessary!

Oil, grease and other chemical substances

- When handling oil, grease and other chemical substances (e.g. battery electrolyte – sulphuric acid), observe the product-related safety regulations (safety data sheet)!
- Be careful when handling hot consumables – risk of burning or scalding!
- When using the machine in contaminated areas, take appropriate measures for the protection of the driver and the machine.

Battery

- When handling the battery observe the specific safety instructions and regulations relevant to accident prevention. Batteries contain sulphuric acid – caustic!
- Especially when charging batteries, as well as during normal operation of batteries, an oxyhydrogen mixture is formed in the battery cells – danger of explosion!

- In case of a frozen battery or of an insufficient electrolyte level, do not try start-up with a battery jump cable. The battery can burst or explode

  ☞ Dispose of the battery immediately!

Tracks

- Check track tension at regular intervals.
- Repair work on the tracks must be carried out by technical staff or by Wacker Neuson dealers only!
- Defective tracks reduce the machine's operational safety. Check the tracks regularly for:
  - Cracks, cuts or other damage
  - Check track tension at regular intervals

2.9 Hammer operation

- Contact your Wacker Neuson dealer for information on the correct equipment.

Safety instructions

- *– see chapter 2.5 General conduct and safety instructions* on page 2-3
- If there is a risk of material coming off in fragments and splinters, e.g. when working with a hydraulic hammer, a suitable protection, e.g. a shatter protection or another suitable protective facility must be installed on the machine.
- During operation, all persons must stay clear of the work area of the machine.
- Do not place the machine directly underneath the workplace during demolition, otherwise parts can fall onto the machine or the building can collapse.
- Do not carry out demolition work below the machine, this could cause the machine to tip over.
- The machine can lose its balance and tip over if a hammer or other heavy attachment is used. Proceed as follows to carry out work both on level ground and on slopes:

  ☞ Never turn, lower or set down the attachment abruptly.

  ☞ Do not extend or retract the boom abruptly, otherwise the machine can tip over.
- Do not use the impact force of the attachment to carry out demolition work. Falling demolished parts (e.g. parts of buildings) can cause personal injury and/or damage to property and/or the machine.
- Stop work immediately if a hydraulic hose moves back and forth in an unusual manner. This could be a cause for a defect. Contact your Wacker Neuson dealer and have the error repaired immediately.

Working with a hammer

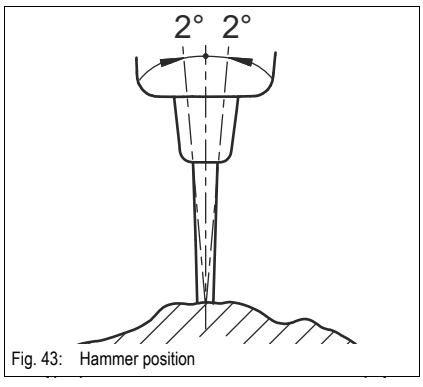


Fig. 43: Hammer position

Caution!

Bear in mind the following for hammer operation:

- Keep the hammer perpendicular to the surface (max. deviation to all sides is 2°).
- *After you have driven the hammer into the material, do not try to fragment the material with movements to the sides.*
- Never move the hammer as you drive it into the material.
- Do not operate the hammer in the same spot uninterruptedly for more than 15 seconds.
- *If the applied impact force does not break the material, move the hammer to the edge or start again in another place in order to break the material.*
- Do not put the hammer into operation if a ram is fully extended or retracted.
- Never use the hammer horizontally or upwards.

- Do not use the hammer for catching or collecting material.
- Press the hammer firmly against the material to avoid hammer operation without any resistance.
- Do not use the hammer to raise loads.
- Do not hit the hammer against rocks, concrete, etc..

Caution!

Always observe the following instructions:

- Do not raise the machine with the boom.
- Do not carry out any movements with the machine during hammer operation.
- Working with the rams and/or the boom fully extended is not allowed.

3 Operation

This chapter describes the controls, and contains information on the function and handling of the indicator lights and controls on the control stand.

The pages stated in the table refer to the description of the controls.

A combination of digits, or a combination of digits and letters (e.g. 40/**18** or 40/**A**) used for identifying the control elements, means:
fig. no. 40/control element no. 18 or position **A** in fig. no. 40

Figures carry no numbers if they are placed to the left of the text.

The symbols used in the description have the following meanings:

- This symbol stands for a list
  - Subdivision within lists or an activity. Follow the steps in the recommended order.

☞ *This symbol requires you to carry out the activity described*

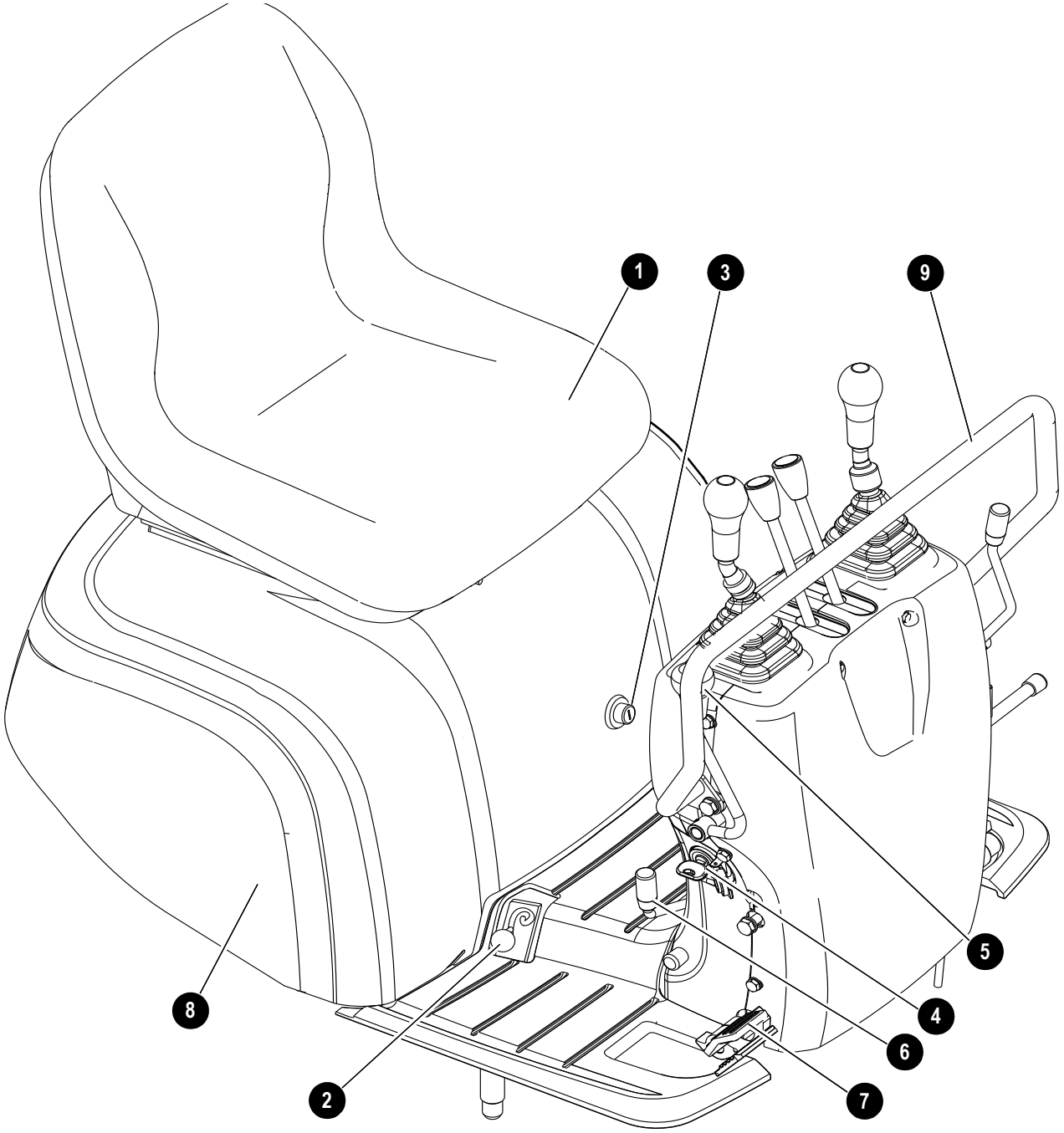
➥ Description of the effects or results of an activity

n. s. = not shown

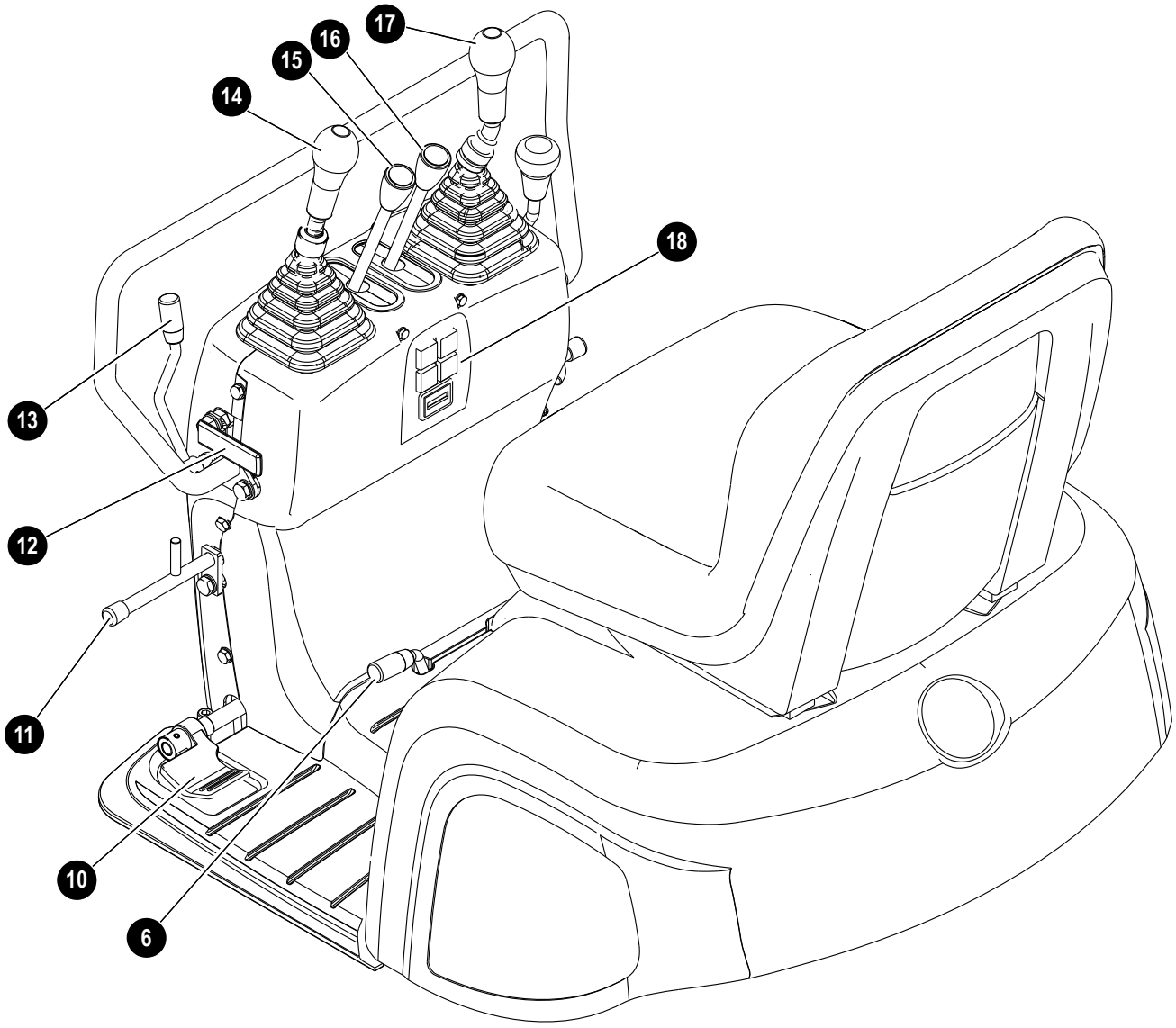
“Opt” = option

Stated whenever controls or other components of the machine are installed as an option.

3.1 Control stand overview (up to serial no. AI00814)

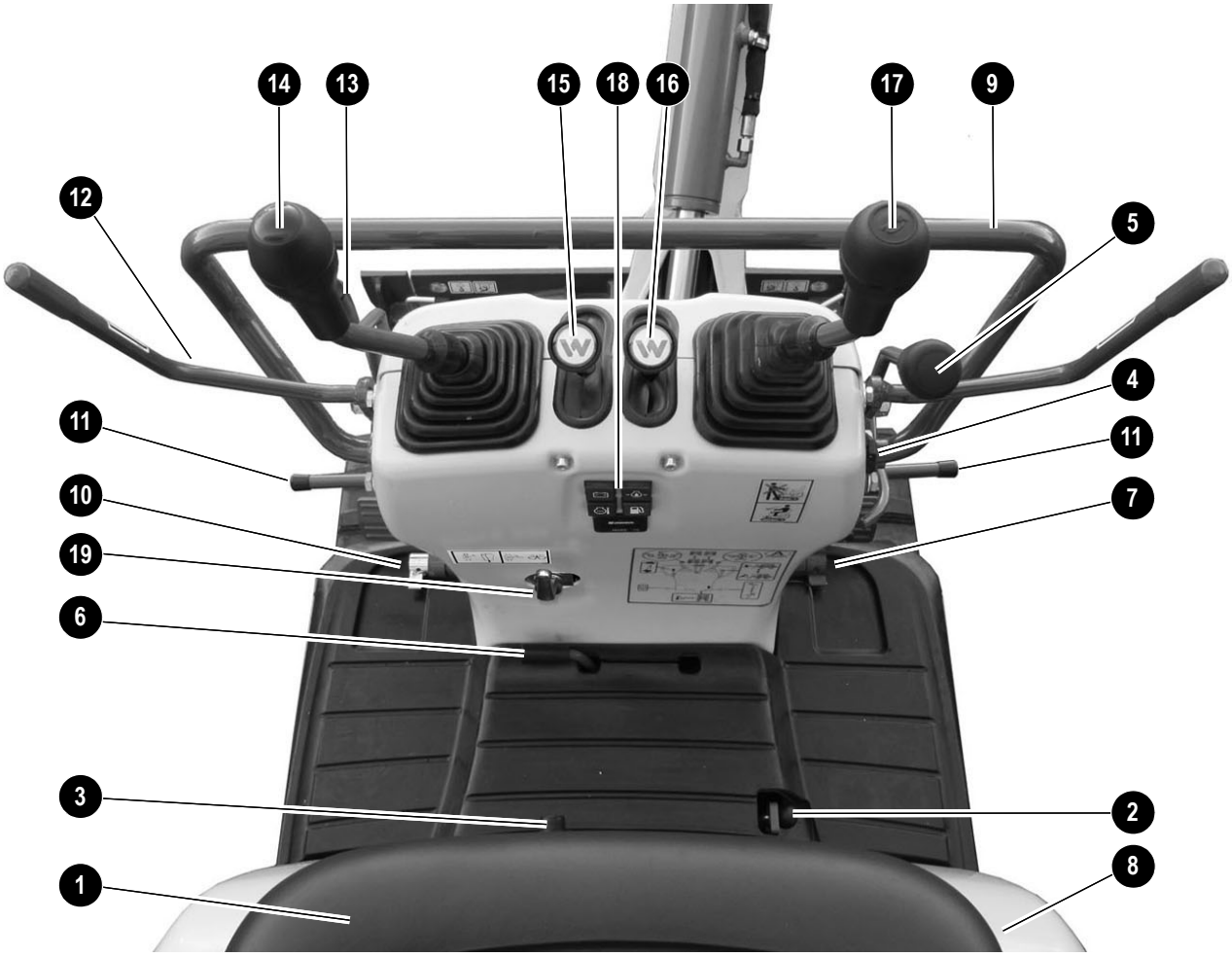


Pos.	Description	For more information see page
1	Seat	*3-21*
2	Upper carriage lock	*3-19*
3	Engine cover lock	*3-32*
4	Ignition lock	*3-9*
5	Stabiliser blade/telescopic undercarriage lever	*3-17,3-19*
6	Stabiliser blade/telescopic undercarriage changeover lever	*3-19*
7	Boom swivel pedal	*3-42*
8	Engine cover	
9	Handle	



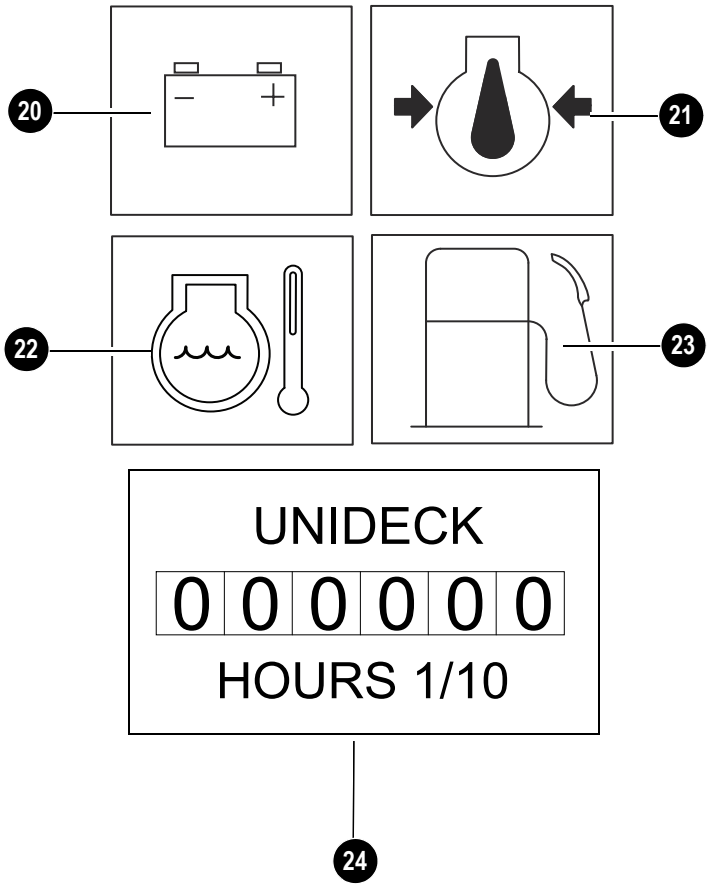
Pos.	Description	For more information see page
10	Auxiliary hydraulics pedal	3-44
11	Footrest	
12	Lock lever	3-51
13	Throttle	3-9
14	Control lever (left)	3-41
15	Drive lever (left)	3-14
16	Drive lever (right)	3-14
17	Control lever (right)	3-41
18	Indicator	3-5

3.2 Control stand overview (from serial no. AI00815)



Pos.	Description	For more information see page
1	Seat	3-21
2	Upper carriage lock	3-19
3	Engine cover lock	3-32
4	Ignition lock	3-9
5	Stabiliser blade/telescopic undercarriage lever	3-17,3-19
6	Stabiliser blade/telescopic undercarriage changeover lever	3-19
7	Boom swivel pedal	3-42
8	Engine cover	3-33
9	Handle	
10	Auxiliary hydraulics pedal	3-44
11	Footrest	
12	Lock lever	3-51
13	Throttle	3-9
14	Control lever (left)	3-41
15	Drive lever (left)	3-14
16	Drive lever (right)	3-14
17	Control lever (right)	3-41
18	Indicator	3-5
19	Lever for switching over hammer/grab operation (option)	3-52

3.3 Overview of indicators



Pos.	Description	For more information see page
20	Alternator charge function indicator light (red)	3-10
21	Engine oil pressure indicator light (red)	3-10
22	Coolant temperature indicator light (red)	3-10
23	Indicator light (yellow) – fuel gauge	3-10
24	Hour meter	3-10

3.4 Putting into operation

Notice!

Machine operation is only allowed when seated on the seat.

Safety instructions

- Always use the climbing aids when climbing aboard the machine – *see chapter 3.8 Access to the control stand* on page 3-22.
- Never use the controls, lines or cables as handles.
- Never get on or off a moving machine! Never jump off the machine.
- Refer to the corresponding load diagrams for the boom – *see chapter 6.14 Lift capacity table 803* on page 6-8.

Putting the machine into operation for the first time

Important information

- The machine may be put into operation by authorised staff only!
  – *see chapter 1.6 Regulations* on page 1-6
  – *see chapter Selection and qualification of staff, basic responsibilities* on page 2-4
- The staff must have read and understood this Operator's Manual before putting the machine into operation.
- The machine may only be used in technically perfect condition in accordance with its designated use and the instructions set forth in the Operator's Manual, and only by safety-conscious persons who are fully aware of the risks involved in operating the machine.
- Go through the “Start-up” checklist in the following chapter

Running-in period

Handle the machine carefully during its first 50 operating hours.

Observe the following recommendations during the running-in period to ensure full output and a long service life of the machine.

- Do not change engine speed abruptly!
- Avoid using the machine under heavy loads and/or at high speeds.
- Avoid abrupt acceleration, braking and changing driving direction.
- Do not run the engine at high speed for extended periods.
- Strictly observe the maintenance schedules in the appendix – *see chapter 5.17 Maintenance plan (overview)* on page 5-39

Check lists

The checklists below are intended to assist you in checking and monitoring the machine before, during and after operation.

These checklists cannot claim to be exhaustive; they are merely intended as an aid for you in fulfilling your duties as a conscientious operator.

The checking and monitoring jobs listed below are described in greater detail in the following chapters.

If the answer to one of the following questions is NO, first rectify the cause of the fault before the machine can be put into operation.

Start-up checklist

Check the following points before putting the machine into operation:

No.	Question	✔
1	Enough fuel in the tank? (➠ *5-2*)	
2	Coolant level OK? (➠ *5-9*)	
3	Water drained from the water separator? (➠ *5-5*)	
4	Engine oil level OK? (➠ *5-6*)	
5	Oil level in hydraulic tank OK? (➠ *5-17*)	
7	V-belt condition and tension checked? (➠ *5-15*)	
8	Lubrication points greased? (➠ *5-28*)	
9	Tracks checked for cracks, cuts etc. ? (➠ *5-26*)	
10	Light system, acoustic warning system, indicator and warning lights OK? (➠ *3-21*, *3-10*)	
11	Are the lights and the footholds clean?	
12	Raise the lock lever (➠ *3-51*)	
13	Attachment safely locked? (➠ *3-53*)	
14	Engine cover safely closed and locked? (➠ *3-32*)	
15	Especially after cleaning, maintenance or repair work: ➥ Rags, tools and other loose objects removed?	
16	Correct seat position? (➠ *3-21*)	
17	Seat belt fastened (only if the machine is equipped with the rollbar option, and if this rollbar is raised)? (➠ *3-30*)	
18	Anyone dangerously close to the machine?	
19	Indicator lights for engine oil pressure and alternator charge function come on.	

Operation checklist

After starting the engine, check and observe the following points:

No.	Question	✔
1	Indicator light for engine and coolant temperature gone out? (➠ *3-5*)	
2	Indicator lights for engine oil pressure and alternator charge function gone out? (➠ *3-10*)	
3	Do the drive levers and pedals work correctly? (➠ *3-14*)	

Parking checklist

Check and observe the following points when parking the machine:

No.	Question	✔
1	Attachments lowered to the ground? (➠ *3-20*)	
2	Stabiliser blade lowered to the ground?	
3	Lock lever raised, especially if the machine cannot be supervised? (➠ *3-51*)	
4	Machine keys removed, especially if the machine cannot be supervised? (➠ *3-20*)	
When parking on public roads:		
5	Machine adequately secured?	
When parking on slopes:		
6	Machine also secured with chocks under the tracks to prevent it from rolling away? (➠ *3-20*)	

3.5 Driving the excavator

Ignition lock

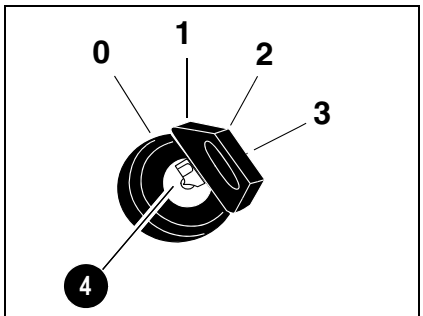


Fig. 44: Preheating start switch

Position	Function	Power consumer
0	Insert or remove the ignition key	None
1	ON/drive position	Feed pump switched on ➥ Indicator lights come on
2	Preheats the engine (10 – 15 seconds)	Glow plugs
3	Starts the engine	Starter

Throttle

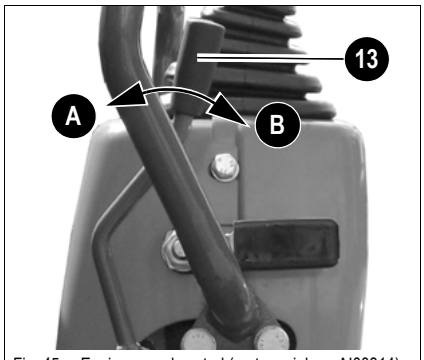


Fig. 45: Engine speed control (up to serial no. AI00814)

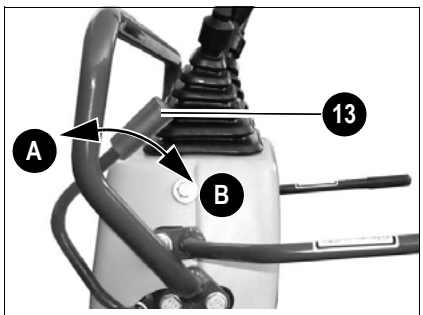


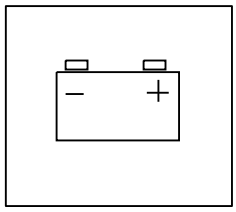
Fig. 46: Engine speed control (from serial no. AI00815)

Speed is set continuosly with throttle **13**.

➥ Position **A**: idling speed

➥ Position **B**: max. engine speed

Indicator lights and warning lights (overview)



Alternator charge function indicator light (red)

Caution!

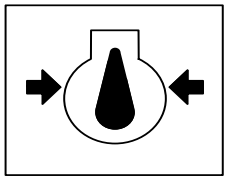
The coolant pump no longer runs either if the V-belt is faulty. Danger of engine overheating or breakdown!
If the indicator light comes on with the engine running:

☞ *Stop the engine immediately and*

☞ *Have the cause repaired by an authorised workshop*

The V-belt or the charging circuit of the alternator is faulty if the indicator light comes on with the engine running. The battery is no longer charged.

The indicator light comes on when the ignition is turned on and goes out as soon as the engine runs.



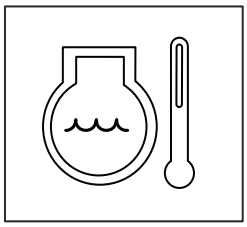
Engine oil pressure indicator light (red)

Comes on if the engine oil pressure is too low. In this case:

☞ *Stop the engine immediately and*

☞ *Check the oil level*

The indicator light comes on when the ignition is turned on and goes out as soon as the engine runs.



Coolant temperature indicator light (red)

Danger!

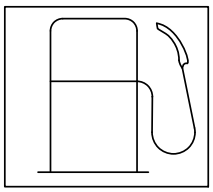
Never open the radiator and never drain coolant if the engine is warm since the cooling system is under high pressure
–

Danger of burns!

☞ *Wait at least 10 minutes after stopping the engine!*

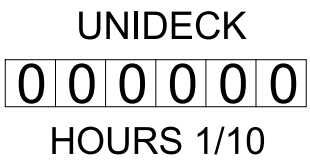
☞ *Wear protective gloves and clothing*

☞ *Open the cap to the first notch and release the pressure*



Fuel level indicator

Fill up immediately if this indicator light comes on. Bleed the fuel system if the tank has been run empty.



Hour meter

Counts the service hours when the engine is running.

Before starting the engine

☞ *Adjust your seat position – see* ***Seat adjustment*** *on page 3-21*

Notice!

All controls must be within easy reach and you must be able to move them to the limit!

Notice!

Operate the machine only on adequately ventilated premises! Ensure sufficient ventilation on enclosed premises!

☞ *Fasten your seat belt (rollbar option only)*
– see ***Seat belt (rollbar option)*** *on page 3-30*

☞ *Check whether all levers and pedals are in neutral position*

☞ *Move the throttle to the centre position (between minimum and maximum) if the engine is cold*

Starting the engine: general

- The starter cannot be actuated if the engine is already running (start repeat interlock).
- Do not run the starter for more than 10 seconds.
- Wait about 1 minute so the battery can recover before trying again.

Procedure

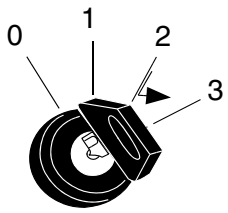


Fig. 47: Preheating start switch

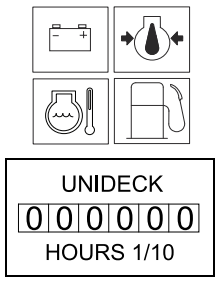


Fig. 48: Indicators

Caution!

Actuating the preheating system too long can damage the glow elements.

☞ *Never preheat the engine more than 10 seconds*

After you have completed the starting preparations:

☞ *Insert the ignition key in preheating start switch*

☞ *Turn the ignition key to position* ***1***

☞ *Check whether all indicator lights are on*

☞ *Replace defective indicator lights immediately*

☞ *Turn the ignition key to position* ***2*** *and hold it in this position for about 5 seconds*

➥ Engine is preheated

☞ *Turn the ignition key to position* ***3*** *and hold it in this position until the engine starts*

➥ If the engine does not start after 10 seconds

☞ Interrupt the start procedure and try again after about 1 minute

➥ If the engine does not start after the second try

☞ Contact a Wacker Neuson workshop for troubleshooting.

➥ As soon as the engine runs:

☞ *Release the ignition key*

3.6 Starting at low temperatures

Notice!

In general, a battery delivers less energy in cold conditions. Therefore ensure that the battery is always well charged.

When the engine has started

☞ *Check whether all indicator lights have gone out*

☞ *Let the engine warm up*

At cold temperatures:

☞ *Increase the engine speed slowly*

☞ *Apply full load to the engine only after the warm-up phase*

Engine and machine warm-up

- Once it has started, let the engine warm up about 5 Minutes at slightly increased idling rpm. Actuate the work hydraulics to warm up the hydraulic oil and the components more quickly.
- Set the engine speed lever to the centre position, actuate the work hydraulics about 5 minutes and repeatedly move the bucket ram to the limit for less than 10 seconds.
- Move the engine speed lever to maximum position, move all control levers through all positions so the warm oil can circulate through all hydraulic components.

At temperatures below -18 °C or if the functions still respond slowly, extend the warm-up phase accordingly.

During the warm-up phase, check for unusual noise, exhaust colour, leaks, malfunctions or damage. In case of malfunctions, damage or leaks, park and secure the machine, and find out the cause for the damage and have it repaired.

Jump-starting the engine (supply battery)

Safety instructions

- Never jump-start the engine if the battery of the machine is frozen – danger of explosion!

  ☞ Dispose of a frozen battery!
- The excavator must not touch the jump-starting vehicle when connected with jump leads – risk of sparking!
- The external power source must deliver 12 V; higher supply voltages will damage the electrical system of the vehicles!
- Use only authorised jump leads which conform to the safety requirements and which are in perfect condition!
- The jump lead connected to the positive **+** terminal of the starting battery must never be brought into connection with electrically conductive vehicle parts ***– danger of short circuit!***
- Route the jump leads so that no-one can catch on rotating components in the engine compartment!

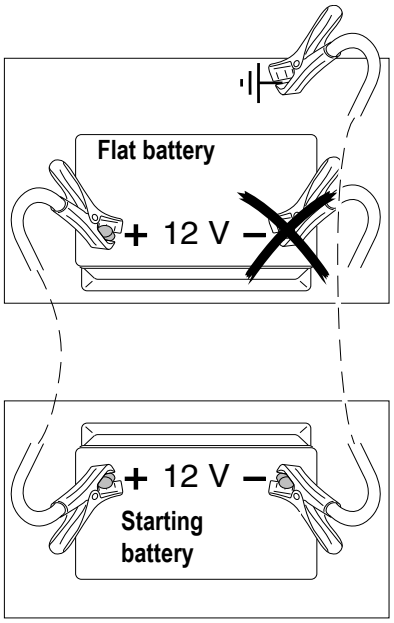


Fig. 49: Starting aid with jump leads

Procedure

☞ *Drive the jump-starting vehicle close enough to the machine so that the jump leads can reach to connect the two batteries*

☞ *Let the engine of the jump-starting vehicle run*

☞ *First connect one end of the red jump lead (+) to the + terminal of the flat battery, then connect the other end to the + terminal of the starting battery*

☞ *Connect one end of the black jump lead (–) to the – terminal of the starting battery*

☞ *Connect the other end of the black jump lead (–) onto a solid metal component fimly mounted on the engine block or onto the engine block itself. Do not connect it to the negative terminal of the flat battery, as otherwise explosive gas emerging from the battery can ignite if sparks are formed!*

☞ *Start the engine of the machine with the flat battery*

Once the engine has started:

☞ *With the engine running, disconnect both jump leads in exactly the reverse order (first remove the – terminal, then the + terminal) – this prevents sparking in the vicinity of the battery!*

Special instructions for driving on public roads

The machine is subject to the:

- Applicable legal regulations of your country

Also observe the applicable regulations for accident prevention of your country.

Moving off

After starting the engine:

☞ *The alternator charge indicator light goes out*

☞ *Slowly actuate the drive lever*

➥ Machine moves off

Drive levers

Danger!

Rotating through 180° (the stabiliser blade is at the rear) inverts the drive lever functions.

Danger of accidents!

☞ *Bear in mind the stabiliser blade's position*

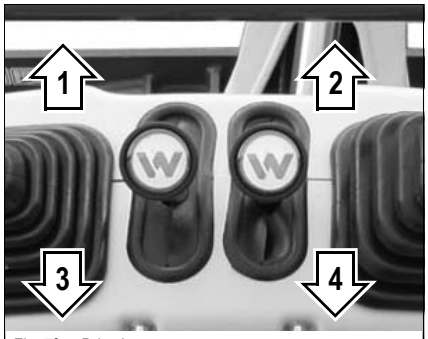


Fig. 50: Drive lever

The stabiliser blade side is the front side.

Raise the attachment and the stabiliser blade.

The drive movements of the machine are controlled with the drive levers.

Lock the upper carriage when travelling over longer distances.

Position	Lever	Function
• 1 • 2	Push forwards Push forwards	Track excavator moves forwards
• 3 • 4	Pull backwards Pull backwards	Track excavator moves backwards
• 3 • 2	Pull backwards Push forwards	Track excavator turns to the left
• 1 • 4	Push forwards Pull backwards	Track excavator turns to the right

Forwards or reverse drive speed depends on the position of the drive levers and on the engine speed.

Notice!

Ensure that both tracks move as you change direction, otherwise the rubber tracks are subject to increased abrasion.

Hydraulic brake

The pedals automatically return to their initial positions as soon as they are released, which creates sufficient hydraulic braking effect.

When driving downhill, the automatic hydraulic brake valves prevent the machine from “racing”. The machine does not run any faster than the admissible drive speed.

Notice!

Reduce drive speed with the drive pedals, and *not* with the engine speed control of the engine.

3.7 Driving on slopes

Follow these safety instructions carefully when driving on slopes, in order to avoid accidents.

Specific safety instructions

- Raise the bucket about 20 – 30 cm off the ground as you move the machine. Avoid reversing downhill.
- When driving through hollows or crossing obstacles
  - Keep the attachment close to the ground and drive slowly.
- Do not steer or drive across slopes.
  - Always change your driving direction on level ground. This requires more time, but is safer.
- When driving the machine, ensure that you can stop safely any time if the machine starts to slip or if it becomes unstable.
- Swivelling or operating the attachment on slopes can cause the machine to lose its balance and to tip over.
  - Avoid this under all circumstances.
- Rotating the upper carriage when driving downhill with a full bucket is especially dangerous.
  - Should this be nevertheless necessary, create a platform of level ground so that the machine can work in horizontal position.
- *Do not drive on slopes steeper than 15°, otherwise the machine can tip over.*
- If the tracks slip as you drive uphill and if it is no longer possible to move on with the force of the tracks alone.
  - Do not apply pressure with the boom to move the machine – danger of tipping over!

Driving on slopes

Proceed as follows to prevent the machine from tipping over or slipping sideways.

Caution!

When driving across a slope with the telescopic undercarriage extended, position the boom facing down the slope, and the bucket about 20 – 30 cm above the ground, in order to reduce injuries and damage to a minimum in the event of a hose rupture on the telescopic ram. A hose rupture might cause the undercarriage to retract and jeopardise the machine's stability.

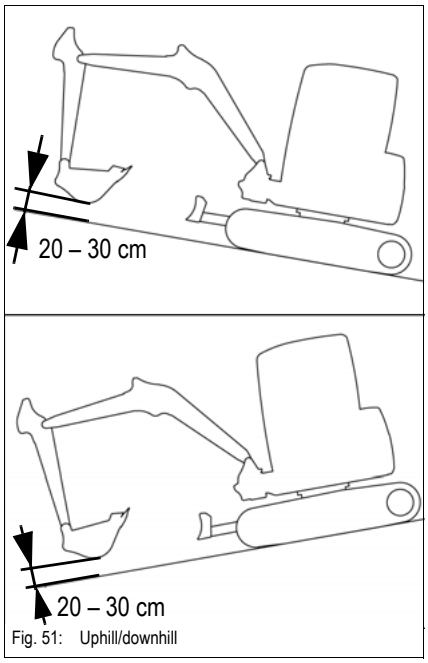


Fig. 51: Uphill/downhill

☞ *Keep the attachment about 20 – 30 cm above the ground. In an emergency, lower the attachment immediately to the ground so you can stop the machine more easily.*

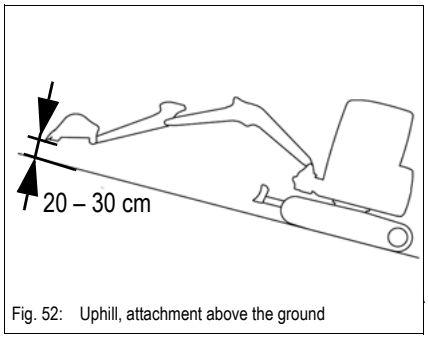


Fig. 52: Uphill, attachment above the ground

☞ *Place the control stand with the front side upwards as you drive uphill, and downwards as you drive downhill. Always check the ground's firmness underneath the front part of the machine as you drive.*

☞ *When driving downhill, extend the attachment to improve stability, and keep it about 20 – 30 cm above the ground. Drive slowly.*

☞ *Reduce engine speed when driving downhill, keep the drive lever next to neutral position and drive slowly.*

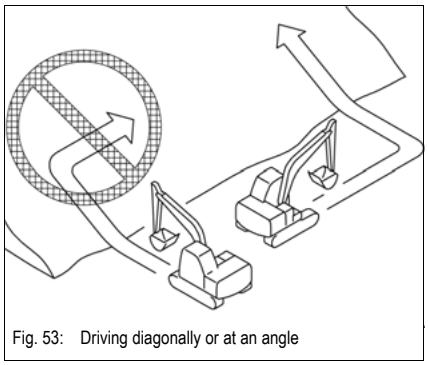


Fig. 53: Driving diagonally or at an angle

☞ *Always drive straight ahead when driving uphill or downhill. Driving diagonally or at an angle to the slope is very dangerous.*

☞ *Never change direction on slopes or drive across slopes.*
Always change position on level ground before continuing to drive on a slope.

☞ *Drive slowly on slippery ground (e.g. wet steel plates, ice). The machine can slip even if the ground is level. If the engine stops as you drive across a slope, immediately put the control levers to neutral position and start the engine again.*

Stabiliser blade operation

Danger!

The stabiliser blade lever is not secured against unintentional operation.
If operated unintentionally –

Danger of severe or fatal injuries!

☞ *Do not operate the control lever of the stabiliser blade unintentionally.*

☞ *Keep out of the danger area of the stabiliser blade!*

Danger!

Raising the lock lever does not prevent the stabiliser blade from being lowered.

Caution!

Lowering the stabiliser blade too deeply into the ground can create too much resistance – *see* ***Grading*** on page 3-61.

☞ *Slightly raise the stabiliser blade*

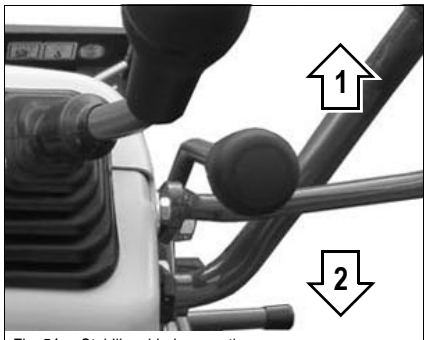


Fig. 54: Stabiliser blade operation

Position	Lever	Function
• 1	Push forwards	Lowers the stabiliser blade
• 2	Pull backwards	Raises the stabiliser blade

Notice!

Check the position of the stabiliser blade before driving the machine.

Changing the width of the stabiliser blade

Danger!

The stabiliser blade lever is not secured against unintentional operation.
If operated unintentionally –

Danger of severe or fatal injuries!

☞ *Do not operate the control lever of the stabiliser blade unintentionally.*

☞ *Keep out of the danger area of the stabiliser blade!*

Danger!

Raising the lock lever does not prevent the stabiliser blade from being lowered.

Caution!

The machine can be damaged if the telescopic undercarriage and the stabiliser blade are set to different widths (for instance when driving through a door).

☞ *Adjust the stabiliser blade and the telescopic undercarriage to the same widths when operating the machine.*

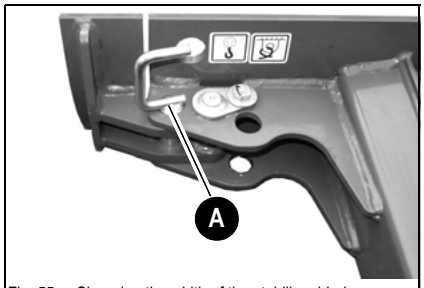


Fig. 55: Changing the width of the stabiliser blade

Reducing the width of the stabiliser blade

☞ *Raise the stabiliser blade to about 1 – 2 cm (about 0.4 – 0.8 in).*

☞ *Pull out pins* **A** *on either side.*

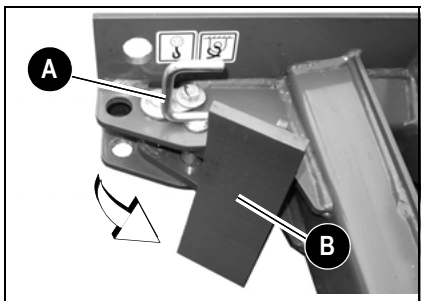


Fig. 56: Changing the width of the stabiliser blade

☞ *Screw in the stabiliser blade extensions* ***B*** on either side.

☞ *Insert pins* **A** *on either side.*

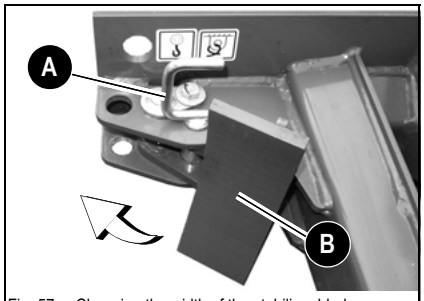


Fig. 57: Changing the width of the stabiliser blade

Increasing the width of the stabiliser blade

☞ *Raise the stabiliser blade to about 1 – 2 cm (about 0.4 – 0.8 in).*

☞ *Pull out pins* **A** *on either side.*

☞ *Fold out the stabiliser blade extensions* ***B*** on either side.

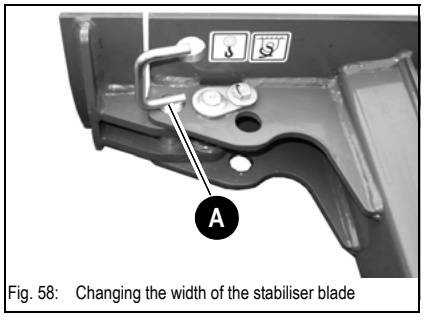


Fig. 58: Changing the width of the stabiliser blade

Insert pins **A** *on either side.*

Telescopic undercarriage

Danger!

Careful – reduced stability due to narrow track!

Danger of accidents!

☞ *When driving across a slope with the telescopic undercarriage extended, position the boom facing down the slope, and the bucket about 20 – 30 cm above the ground, in order to reduce injuries and damage to a minimum in the event of a hose rupture on the telescopic ram. A hose rupture might cause the undercarriage to retract and jeopardise the machine's stability.*

Caution!

Do not run the machine in an intermediate telescopic position, otherwise this can cause damage to the shift mechanism!

☞ *Always set the undercarriage to its final position!*

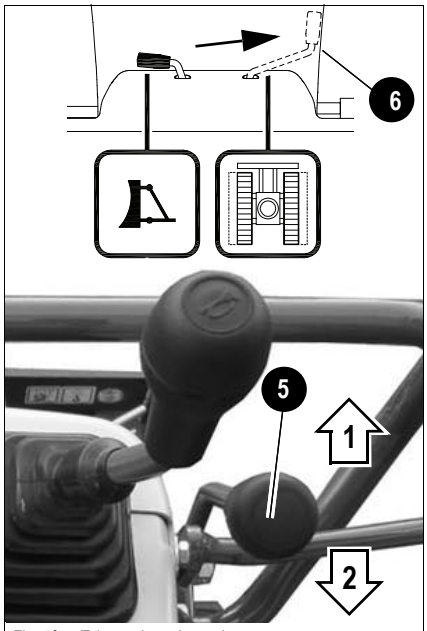


Fig. 59: Telescopic undercarriage

The track of the machine can be widened hydraulically to improve stability during work.

Proceed as follows:

☞ *Move lever* **6** to the final right-hand position

☞ *The telescopic undercarriage is controlled via control lever* **5***:*

Position	Lever	Function
1	Push forwards	The travel gear is extended (wide track)
2	Pull backwards	The travel gear is retracted (narrow track)

Notice!

Push or pull lever **5** until the undercarriage has reached its final position.

Upper carriage lock

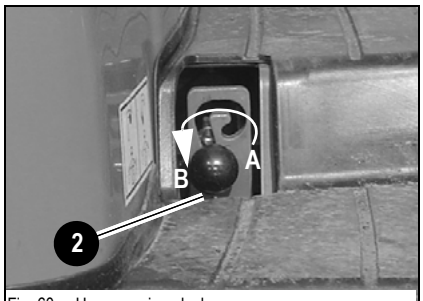


Fig. 60: Upper carriage lock

Danger!

Lock the upper carriage when transporting the machine!

Danger of accidents!

The upper carriage lock prevents the upper carriage from rotating when driving the machine over longer distances, or locks the upper carriage during transport.

Locking the upper carriage

☞ *Pull lever* **2** *from position* ***A*** *to position* ***B***

Unlocking the upper carriage

☞ *Push lever* **2** *from position* ***B*** *to position* ***A***

Parking the machine

Danger!

Always park the machine on firm ground –

Danger of accidents

☞ *Park the machine on level ground*

☞ *Lower the boom and the stabiliser blade to the ground*

☞ *Secure the tracks accordingly (e.g. chocks)*

☞ *Stop the machine*

☞ *Lower the bucket and the stabiliser blade to the ground*

☞ *Reduce engine speed completely*

Caution!

Never stop the engine under full load, otherwise it can be damaged due to overheating. Except in case of an emergency, always ensure that the engine can cool down before it is stopped.

☞ *Let the engine run at idling speed with no load for at least 5 minutes before you switch it off.*

☞ *Secure the machine against unauthorised operation*

☞ *Raise the lock lever*

☞ *Remove the ignition key and carry it with you.*

Parking the machine on slopes

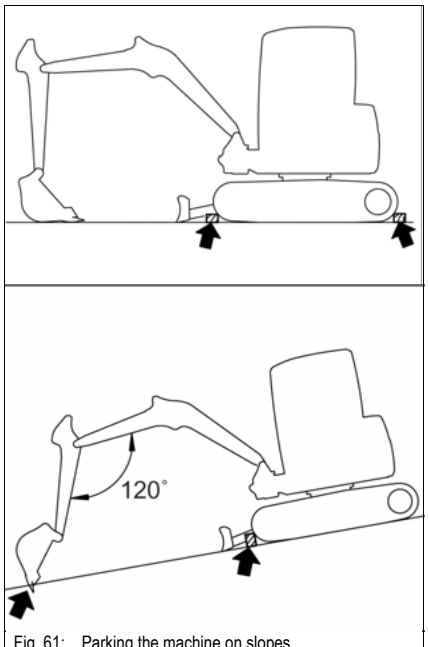


Fig. 61: Parking the machine on slopes

☞ *Avoid stopping the machine abruptly. Always ensure that there is enough space for stopping the machine.*

- Park the machine on level ground with sufficient bearing capacity. Never park on slopes. If you cannot avoid parking the machine on a slope:

☞ Lower the bucket *into* the ground on the downhill side of the machine.

☞ Place the stabiliser blade downhill and lower it to the ground.

☞ Place chocks under the tracks to prevent the excavator from moving.

Danger!

Severe accidents can be caused by unintentionally actuating the control levers, and hence moving the attachment or the entire excavator.

Danger of accidents

☞ Raise the lock lever before leaving the seat.

Light system

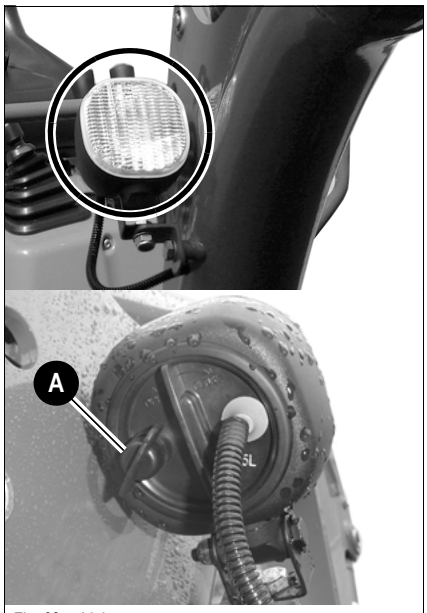


Fig. 62: Light system

The working light is located on the right on the boom.

The working light can be switched on with switch **A** as soon as the ignition key is in position “1”.

The switch has several positions and can be turned.

Therefore continue turning switch **A** by one notch to switch the working light on or off.

Seat adjustment

Danger!

Never change the seat position when driving or working!

Danger of accidents!

☞ *Adjust the correct seating position.*

☞ *Adjust the seat only at machine standstill!*

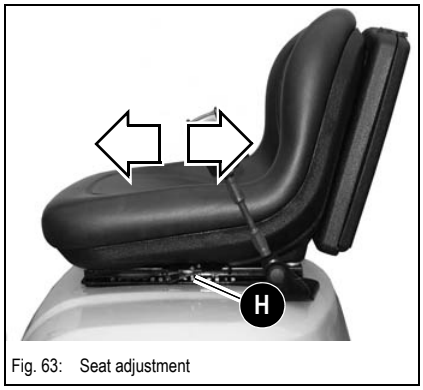


Fig. 63: Seat adjustment

Horizontal adjustment:

☞ *Sit down on the seat*

☞ *The driver must touch the backrest with his back.*

☞ *Pull lever **H** upwards and at the same time*

☞ *Move the seat forwards or backwards*

3.8 Access to the control stand

Danger!

Careful when accessing the control stand –

Danger of accidents!

☞ *Bear in mind the following before accessing the control stand:*

- The footholds and handles must be free of snow, ice, oil, grease, mud or other dirt.
- Stop the machine on firm, level and horizontal ground – *see chapter* ***Parking the machine*** on page 3-20
- Lower the boom
- Stop the engine
- Raise the lock lever
- Remove the ignition key

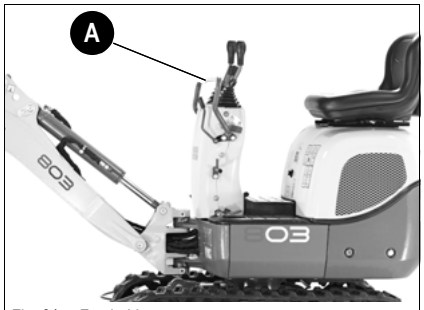


Fig. 64: Footholds

☞ *Use footholds and handles* ***A***.

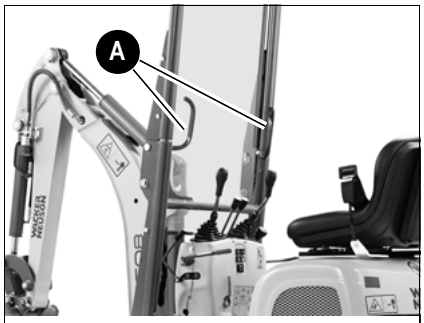


Fig. 65: ROPS handles

☞ *Use footholds and handles* ***A***.

Telescopically extended undercarriage

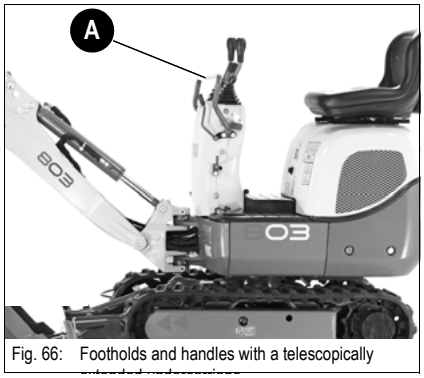


Fig. 66: Footholds and handles with a telescopically

☞ *Use foothold and handle* ***A***.

3.9 Foldable TOPS rollbar (up to serial no. AF01416) (option)

Danger!

Careful when installing, removing and raising or lowering the rollbar –

Danger of personal injury!

☞ *Always carry out these activities by two persons.*

☞ *– see chapter* ***Operation without ROPS rollbar*** *on page 2-7*

☞ *– see chapter* ***TOPS rollbar (up to serial no. AF01416)*** *on page 2-7*

Danger!

Always fasten the lap belt if the rollbar is raised.

Danger of accidents!

☞ *Use the lap belt only if the rollbar is raised!*

Danger!

In case of structural damage on the rollbar, replace it immediately otherwise safety is no longer ensured!

Caution!

The boom must not be moved if the rollbar is lowered!

Notice!

For reasons of safety, always use the rollbar if it is fitted on the machine.

Lowering the rollbar

☞ *Stop the machine on firm, level and horizontal ground*

☞ *Fully raise the boom*

☞ *Pull the stick towards the machine*

☞ *Dump in the bucket*

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key*

Notice!

In order to lower it, the rollbar must be held by two persons on either side.

Fig. 67: Lowering the rollbar

☞ *Remove the lock nuts and screws* ***A*** *on either side*


Fig. 68: Lowering the rollbar

☞ *Slowly and carefully fold down the rollbar*

Raising the rollbar

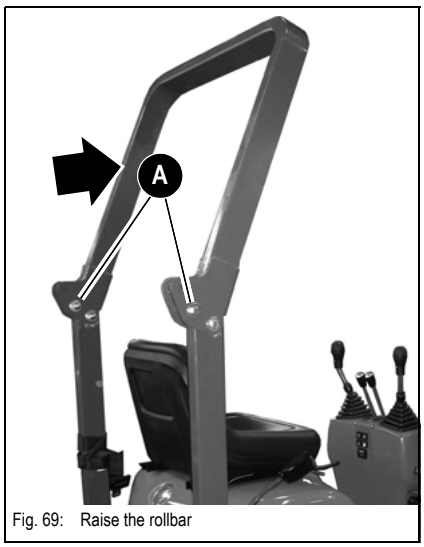


Fig. 69: Raise the rollbar

☞ *Stop the machine on firm, level and horizontal ground*
☞ *Stop the engine*
☞ *Raise the lock lever*
☞ *Remove the ignition key*

Notice!

In order to raise it, the rollbar must be held by two persons on either side.

☞ *Slowly and carefully raise the rollbar*
☞ *Re-insert the screws on either side* **A** *and secure them with new lock nuts* **A**

Caution!

The lock nuts may be used only once and must be replaced by new ones every time they are removed!

3.10 Foldable ROPS rollbar (from serial no. AF01416 to serial no. AI00966) (option)

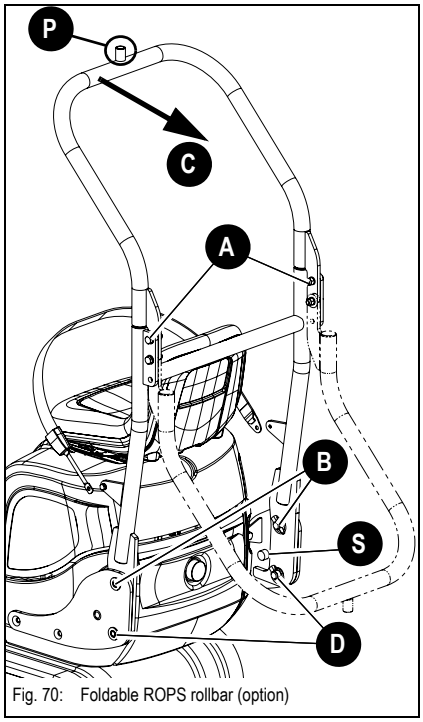


Fig. 70: Foldable ROPS rollbar (option)

Danger!

The rollbar is very heavy. Careful when folding down and raising the rollbar –

Danger of personal injury!

☞ *Always carry out these activities by two persons.*

☞ *– see chapter* ***Operation without ROPS rollbar*** *on page 2-7*

☞ *– see chapter* ***TOPS rollbar (up to serial no. AF01416)*** *on page 2-7*

Always fasten the lap belt if the rollbar is raised.
Do not use the lap belt if the rollbar is folded down!

Danger of accidents!

In case of structural damage on the rollbar, replace it immediately otherwise safety is no longer ensured!

Caution!

The boom must not be moved if the rollbar is lowered!

Notice!

For reasons of safety, always use the rollbar if it is fitted on the machine.

Bracket **P** for installing a rotating beacon is located on top of the rollbar.

Lowering the rollbar

☞ *Stop the machine on firm, level and horizontal ground*

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key*

Notice!

In order to lower it, the rollbar must be held by two persons on either side.

☞ *Remove the lock nuts and screws* ***A*** *on either side*

☞ *Slowly and carefully fold down the rollbar*

☞ *Insert the screws again on either side and secure them with the lock nuts*

Caution!

The lock nuts may be used only once and must be replaced by new ones every time they are removed!

Raise the rollbar

☞ *Stop the machine on firm, level and horizontal ground*

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key*

Notice!

In order to raise it, the rollbar must be held by two persons on either side.

☞ *Remove the lock nuts and screws **A** on either side*
☞ *Slowly and carefully raise the rollbar*
☞ *Insert the screws again on either side and secure them with the lock nuts*

Caution!

The lock nuts may be used only once and must be replaced by new ones every time they are removed!

Lowering the rollbar

☞ *Stop the machine on firm, level and horizontal ground*
☞ *Stop the engine*
☞ *Raise the lock lever*
☞ *Remove the ignition key*

Notice!

In order to lower it, the rollbar must be held by two persons on either side.

☞ *Remove the split pins and pins **B** on either side*
☞ *Slowly and carefully fold down the rollbar towards **C** to the limit **S**.*

Raise the rollbar

☞ *Stop the machine on firm, level and horizontal ground*
☞ *Stop the engine*
☞ *Raise the lock lever*
☞ *Remove the ignition key*

Notice!

In order to raise it, the rollbar must be held by two persons on either side.

☞ *Slowly and carefully raise the rollbar*
☞ *Fit pins **B** again on either side and secure them with the split pins*

3.11 Foldable ROPS rollbar (from serial no. AI00967) (option)

Danger!

Careful when installing, removing and raising or lowering the rollbar –

Danger of personal injury!

☞ *Always carry out these activities by two persons.*
☞ *– see chapter **Operation without ROPS rollbar** on page 2-7*
☞ *– see chapter **TOPS rollbar (up to serial no. AF01416)** on page 2-7*

Danger!

Always fasten the lap belt if the rollbar is raised.

Danger of accidents!

☞ *Use the lap belt only if the rollbar is raised!*

Danger!

In case of structural damage on the rollbar, replace it immediately otherwise safety is no longer ensured!

Caution!

The boom must not be moved if the rollbar is lowered!

Notice!

For reasons of safety, always use the rollbar if it is fitted on the machine.

Lowering the rollbar

Notice!

Remove the window if the machine is equipped with the shatter protection option – *see chapter 3.12* ***Mounting/removing the shatter protection (from serial no. AI00967) (option)*** on page 3-38.

☞ *Stop the machine on firm, level and horizontal ground*
☞ *Fully raise the boom*
☞ *Pull the stick towards the machine*
☞ *Dump in the bucket*
☞ *Position the boom straight ahead*
☞ *Stop the engine*
☞ *Raise the lock lever*

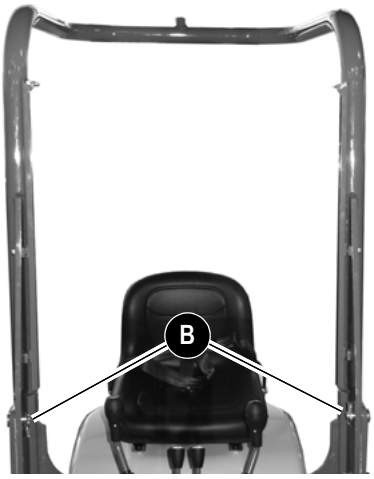


Fig. 71: Lowering the rollbar

☞ *Remove the ignition key*

Notice!

In order to lower it, the rollbar must be held by two persons on either side.

☞ *Remove the linch pins and bolts* **B** *on either side*


Fig. 72: Rollbar lowered

☞ *Slowly and carefully lower the rollbar as far as it will go*

Lowering the rollbar


Fig. 73: Lowering the rollbar

☞ *Stop the machine on firm, level and horizontal ground*

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key*

Notice!

In order to raise it, the rollbar must be held by two persons on either side.

☞ *Slowly and carefully raise the rollbar*

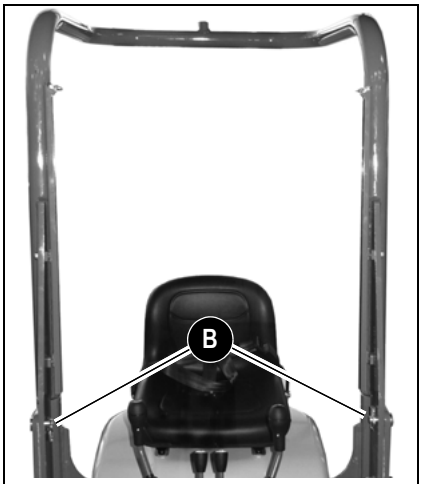


Fig. 74: Lowering the rollbar

☞ *Mount the linch pins and bolts* **B** *on either side*

Fig. 75: Rotating beacon bracket

Rotating beacon bracket

Bracket **P** for installing a rotating beacon is located on top of the rollbar.

Seat belt (rollbar option)

Danger!

Always fasten the lap belt if the rollbar is raised.
Do not use the lap belt if the rollbar is lowered!

Danger of accidents!

☞ *Fasten the seat belt before starting the machine with the rollbar raised!*

- Seat belt must not be twisted!
- Seat belt must run over the hips – not over the stomach – and must always be applied tightly!
- Do not place the seat belt over hard, edged or fragile items (tools, meter rule, glasses, pen) carried inside your clothes!
- No other persons except the driver are allowed to sit on the seat and fasten the seat belt!
- Check the condition of the seat belt. Have a damaged seat belt immediately replaced by a workshop!
- Always keep the seat belt clean, as coarse dirt can impair proper functioning!
- Seat belt buckle must not be obstructed by foreign bodies, otherwise the buckle latch cannot lock into place!

After an accident the belt strap is stretched and no longer serviceable, even if no optical defects can be detected. In a further accident, the seat belt

Will not provide adequate protection!

☞ *Replace the seat belt after an accident.*

☞ *Have fastening points and seat fixture checked for bearing capacity!*

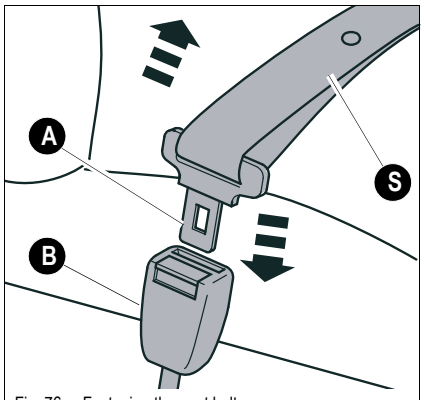


Fig. 76: Fastening the seat belt

Seat belt **S** is for the driver's safety.

Fastening the seat belt:

☞ *Fasten the seat belt as follows before starting the machine:*

- Hold belt on buckle latch **A** and run it slowly and steadily over the hips to buckle **B**
- Insert buckle latch **A** into buckle ***B*** with an audible click **(pull test)**
- Tighten the seat belt by pulling at its end

  ➥The seat belt must be tightly in place over the hips!

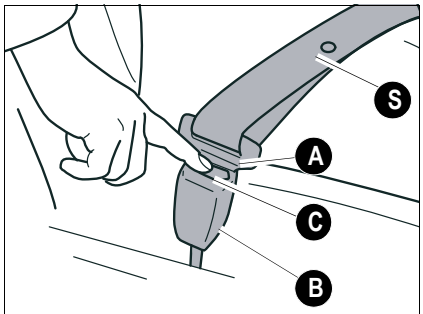


Fig. 77: Unfastening the seat belt

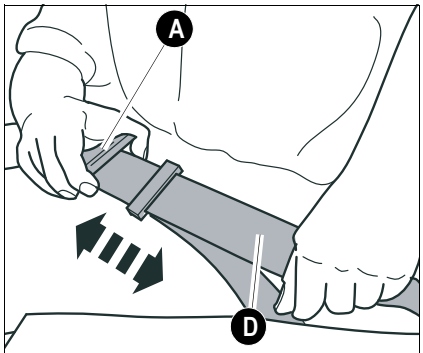


Fig. 78: Longer/shorter seat belt adjustment

Unfastening the seat belt:

☞ *Unfasten seat belt **S** as follows:*

- Hold the seat belt
- Press switch **C** on buckle **B**

  ➥Latch **A** is released by spring pressure
- Unfastening the seat belt

Longer/shorter lap belt adjustment:

☞ *Lengthen the lap belt as follows:*

- Hold buckle latch **A** at a right angle to the seat belt and pull the seat belt to the required length
- To shorten the lap belt, just pull the free end **D** of the belt

Engine cover

Danger!

Rotating and moving parts in the engine compartment – danger of injury!

☞ *Open the engine cover only at engine standstill!*

☞ *Stop the engine before carrying out work in the engine compartment!*

☞ *Raise the lock lever*

☞ *Remove the ignition key*

Caution!

Danger of burns due to hot parts in the engine compartment!

☞ *Stop the engine before carrying out work in the engine compartment!*

☞ *Raise the lock lever*

☞ *Remove the ignition key*

☞ *Let the engine cool down.*

Caution!

Lock the engine compartment after working in the engine compartment or after opening the engine cover.

☞ *This avoids unintentional opening.*

Notice!

Ensure that no-one is injured by the open engine cover!
Ensure that no-one is injured when locking or unlocking it!

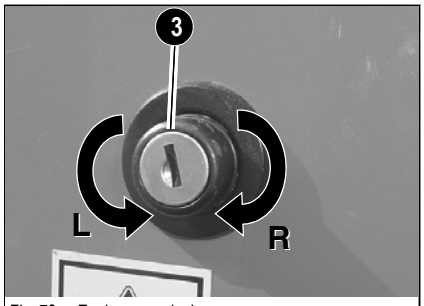


Fig. 79: Engine cover lock

Opening:

☞ *Press lock* **3**

☞ *Pull the engine cover upwards*

Closing:

☞ *Firmly press down the engine cover until lock* **3** *engages with an audible click*

Locking and unlocking:

Close the engine cover with the ignition key of the preheating start switch.

☞ *Turn the ignition key in lock* **3** *to the* ***left*** *(****L****)*

➥ Engine cover locked

☞ *Turn the ignition key in lock* **3** *to the* ***right*** *(****R****)*

➥ Engine cover unlocked

Fig. 80: Open engine cover

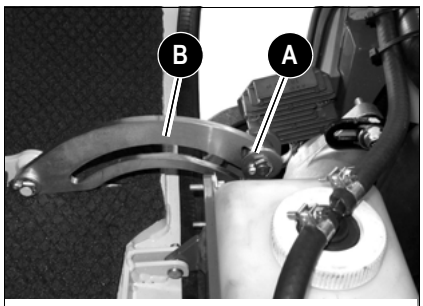


Fig. 82: Opening and closing the engine cover

Open the engine cover

Caution!

Follow the safety instructions.

☞ *– see **Danger of burns due to hot parts in the engine compartment!** on page 3-32*

☞ *Unlock and open the engine cover.*

☞ *Let the engine cover engage in position* **A**.

- It is locked by letting curved rail **B** engage in position **A**.

Close the engine cover

☞ *Unlock the engine cover.*

- It is unlocked by raising curved rail **B**.

☞ *Lower the engine cover slowly.*

☞ *Ensure that the engine cover closes correctly.*

☞ *Close the engine cover.*

☞ *Lock the engine cover.*

Towing the track excavator

Safety instructions:

- Ensure that the machine can be towed safely.
- A tractor vehicle of the same weight category must be used as a minimum.
- Use towing bracket ***A*** for towing the machine
- Use the towing bracket only for towing the machine
- Use a shackle pin with a lock pin.
- Move off slowly!
- Ensure that no-one is close to the towing equipment (towing bar, cable).

Towing

Danger!

Keep out of the danger area of the machine –

Danger of accidents!

☞ *Ensure that no-one is dangerously close to the excavator.*

Caution!

The towing bracket has a maximum admissible load of 1000 daN.

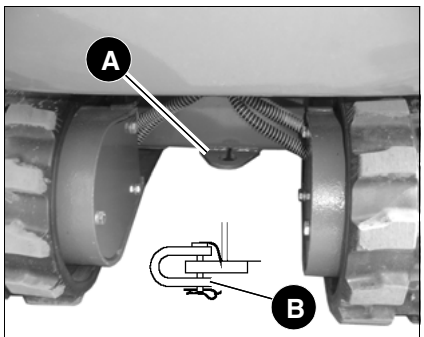


Fig. 83: Towing bore

☞ *Use towing bracket **A***

☞ *Secure shackle **B** with the shackle pin and a lock pin*

☞ *Mount a towing bar or cable of adequate size to the towing bore*

☞ *Pull the machine slowly*

☞ *Tow the machine only until the ground conditions allow the machine to move on its own.*

Caution!

Do not tow away the machine if it is at a standstill or broken down, otherwise the machine's travelling drive can be damaged

☞ *The machine must be transported with a crain – see chapter **Crane handling the machine** on page 3-35.*

Notice!

- No towing away other machines with towing bracket **A**.
- The manufacturer's warranty shall not apply to accidents or damage caused by towing the excavator.

Crane handling the machine

Safety instructions

- The crane and the lifting gear must have suitable dimensions
- Crane handling the machine requires suitable lifting gear
- Lock the upper carriage! – *see chapter* ***Upper carriage lock*** on page 3-19
- Secure the machine against unintentional movement!

Danger!

Incorrect crane handling of the machine –

Danger of accidents!

☞ *Ensure that no-one is near the machine!*

☞ *Have loads fastened and crane operators instructed by experienced persons only! The person giving the instructions to the crane operator must be within sight or sound of him.*

☞ *Ensure that the crane and the lifting gear (cables, chains) have sufficient lifting capacity!*

☞ *Raise the machine only if the standard bucket is empty.*

☞ *Stay clear of suspended loads!*

☞ *It is essential that you read the safety instructions at the beginning of this chapter and follow any other safety instructions relevant in your country!*

☞ *Ensure that the lifting gear has the required lengths* **L1** *and* **L2**.

Notice!

Remove the window if the machine is equipped with the shatter protection option – *see* ***Mounting/removing the shatter protection (from serial no. AI00967) (option)*** on page 3-38.

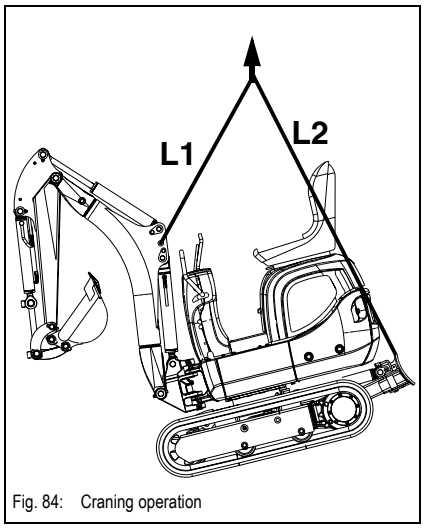


Fig. 84: Craning operation

- Fit the standard bucket and lock it safely
- Empty the standard bucket or remove the attachment
- Dump in the bucket
- Fully raise the boom
- Pull the stick towards the machine
- Raise the stabiliser blade (it must be at the rear)
- Stop the engine
- Raise the lock lever
- Remove the ignition key
- Lock the engine cover
- Use suitable lifting gear, chains etc.

☞ Mount the lifting gear at the point on the boom provided for lifting the machine

☞ Mount the lifting gear at the points on the stabiliser blade provided for lifting the machine

☞ Ensure that the lifting gear has the required lengths **L1** and **L2**

- Slowly raise the machine

Required lengths **L1** and **L2** of the lifting gear:

Excavator	Length	Dimension
803	L1	1054 mm
803	L2	1718 mm

Loading and transporting the machine

Safety instructions

- The transport vehicle must be of adequate size – refer to *Chapter* ***6 "Specifications"*** for the machine's dimensions and weights!
- Remove dirt (e.g. mud, snow, ice) from the tracks so that the machine can be safely driven onto the ramps.

Danger!

The machine must be loaded and transported properly –

Danger of accidents!

☞ *It is essential that you read the safety instructions at the beginning of this chapter and follow any other safety instructions relevant in your country!*

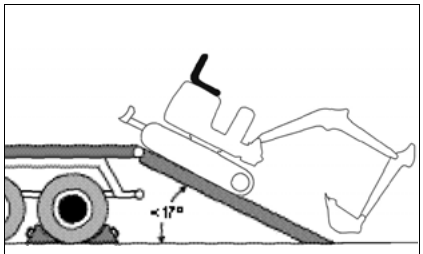


Fig. 85: Access ramps

- Secure the transport vehicle with chocks to prevent it from rolling
- Place the access ramps at the smallest possible angle. Ensure that the grade does not exceed 17° (30 %). Use access ramps with an antiskid surface only.
- Ensure that the loading area is clear and access to it is not obstructed – e.g. by superstructures
- Ensure that the access ramps and the tracks of the excavator are free of dirt (e.g. oil, grease, ice)
- Start the engine of the excavator
- Raise the boom enough so that it will not touch the access ramps
- Rotate the upper carriage to the rear (see figure **85**)
- Carefully drive the excavator onto the middle of the transport vehicle
- Move the excavator to transport position
- Stop the engine
- Raise the lock lever
- Remove the ignition key
- Close and lock the engine cover

Notice!

The manufacturer's warranty shall not apply to accidents or damage caused by loading or transporting the excavator.

- Secure the machine against unintentional movement – *see chapter* ***Parking the machine*** on page 3-20!

Tying down the machine

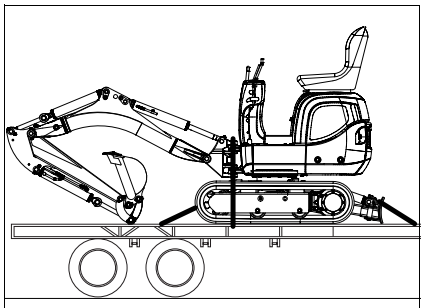


Fig. 86: Tying down the excavator

Danger!

The machine must be loaded and transported properly –

Danger of accidents!

☞ *It is essential that you read the safety instructions at the beginning of this chapter and follow any other safety instructions relevant in your country!*

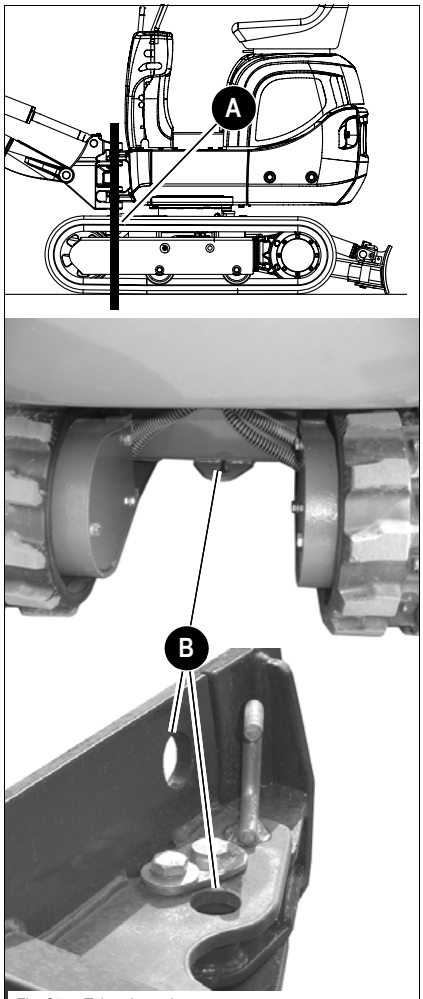


Fig. 87: Tying down the excavator

- Ensure that the authorised maximum height is not exceeded
- Lock the upper carriage – *see chapter* ***Upper carriage lock*** on page 3-19
- Lower the stabiliser blade and the boom
- Firmly tie down the excavator at the swivelling console onto the platform, with belts or chains **A** of adequate size
- Firmly tie down the excavator at the eye hooks **B** onto the platform, with belts or chains of adequate size
- Ensure that the driver of the transport vehicle knows the overall height, width and weight of his vehicle (incl. excavator) before departure, as well as the legal transport regulations of the country or countries where transport is to take place!

Notice!

Use edge protectors to avoid damage both to the machine and to the belts, ropes or chains.

3.12 Mounting/removing the shatter protection (from serial no. AI00967) (option)

Caution!

Install/remove the shatter protection only when standing in the control stand.

☞ *Mount or remove with two persons only.*

☞ *Ensure that the staff does not get caught on the control levers or other protruding parts.*

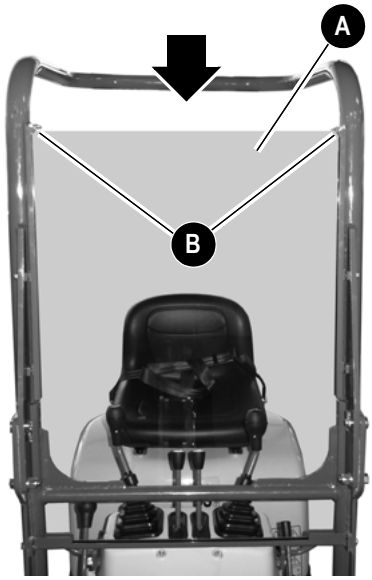


Fig. 88: Mounting the shatter protection

Assembly

☞ *Follow the safety instructions for assembly – see chapter* ***Parking the machine*** *on page 3-20.*

☞ *Lower the boom to the ground.*

☞ *Stop the engine*

☞ *Raise the lock lever*
– see chapter ***Lock lever (up to serial no. AI00814)*** *on page 3-51*
– see chapter ***Lock lever (from serial no. AI00815)*** *on page 3-51*

☞ *Remove the ignition key*

☞ *With the help of two persons, carefully slide shatter protection* ***A*** *from above into the guide rails.*

☞ *Secure the shatter protection on either side with two linch pins* ***B****.*

Removing

☞ *Follow the safety instructions for assembly – see chapter* ***Parking the machine*** *on page 3-20.*

☞ *Lower the boom to the ground.*

☞ *Stop the engine*

☞ *Raise the lock lever*
– see chapter ***Lock lever (up to serial no. AI00814)*** *on page 3-51*
– see chapter ***Lock lever (from serial no. AI00815)*** *on page 3-51*

☞ *Remove the ignition key*

☞ *Remove the shatter protection on either side with two linch pins* ***B****.*

☞ *With the help of two persons, carefully remove shatter protection* ***A*** *from the guide rails.*

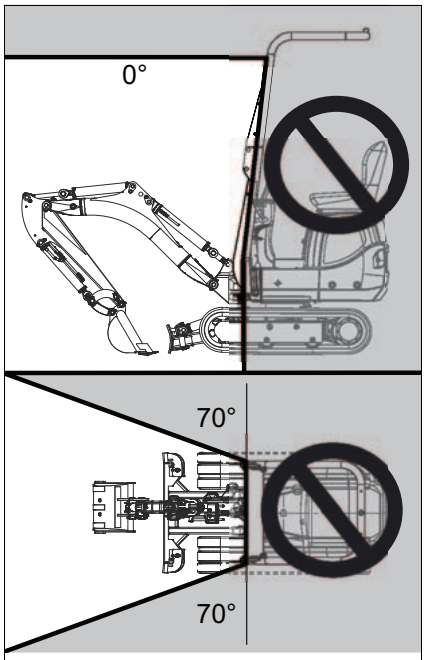


Fig. 89: Work area

Work area and visibility restrictions

Danger!

Working with a shatter protection is only allowed in the defined work area.

Danger of injury outside the work area

Caution!

Stop working when visibility is restricted due to rain, snowfall, dust etc.

☞ *Resume work only if visibility is no longer restricted.*

Notice!

Do not use brushes, steel wool or similar abrasive means. Never wipe dust in a dry state.

3.13 Working with the machine

General safety instructions

- Machine operation is only allowed when seated on the seat – *see chapter 2.6* ***Safety instructions regarding operation*** on page 2-5.
- Do not use the machine in areas with danger of falling objects!
- Never drive up to the edge of a pit from outside – danger of cave-in!
- Never undermine the foundations of walls – danger of collapse!
- Do not dig under projecting ground. Stones or the projecting earth can fall onto the machine.
- Do not excavate deeply under the front side of the machine. The ground under the machine could collapse and cause it to tip over.
- In order to leave the control stand more easily under especially difficult circumstances, position the tracks parallel to the roadside or to the uphill slope with the drive pinion behind the driver.
- Do not carry out demolition work below the machine, this could cause the machine to tip over.
- When working on roofs or similar structures, check the resistance and the structure before starting work. The building can collapse, causing severe/fatal injury and severe damage.
- Do not place the machine directly underneath the workplace during demolition, otherwise demolished parts can fall onto the machine or the building can collapse, causing severe/fatal injury and severe damage.
- Do not use the impact force of the attachment to carry out demolition work. Falling demolished parts (e.g. parts of buildings) can cause personal injury and/or damage to property and/or the machine.
- In general the machine is more liable to tilt if the boom is positioned laterally than if it is positioned parallel to the longitudinal axis of the machine.
- The machine can lose its balance and tilt if a demolition hammer or other heavy attachment is used. Proceed as follows to carry out work both on level ground and on slopes:
  ☞ Never lower, turn or set down the attachment abruptly.
  ☞ Do not extend or retract the boom abruptly, otherwise the machine can tip over.
- Do not raise the bucket over the heads of persons, the seat or the cabs of trucks or other means of transport. Material can fall out, or the bucket can knock against the truck and cause severe/fatal injury and severe damage.
- Operation of the machine by unauthorised staff is prohibited!
- Look out for high-voltage cables, underground cables, gas and water pipes during excavation work!
- The hydraulic system of the machine is still pressurised even when the engine is not running! Release the pressure in the sections of the system and hydraulic lines which are to be opened before starting setup or repair work, e.g. fitting/removing an attachment with hydraulic functions – *see* ***Lowering the boom with the engine stopped*** on page 3-49

3.14 Control levers (overview)

Notice!

Moving a control lever quickly causes the corresponding function to be carried out quickly. Moving a control lever slowly causes the corresponding function to be carried out slowly.

Left-hand control lever

Danger!

Unintentional operation of control lever fig. 90/**14** when driving on public roads –

Danger of accidents!

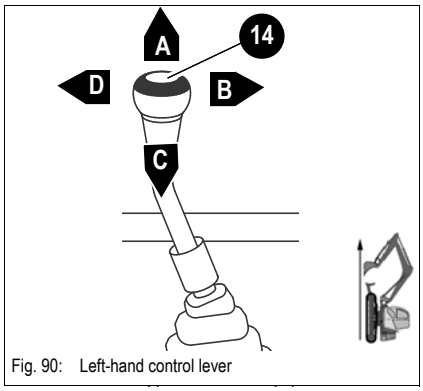


Fig. 90: Left-hand control lever

Position	Lever	Function
• A	☞ *Forwards*	➥ Stick is extended
• B	☞ *To the right*	➥ Upper carriage rotates to the right
• C	☞ *Backwards*	➥ Stick is retracted
• D	☞ *To the left*	➥ Upper carriage rotates to the left

Notice!

Always carry out smooth control movements.

Right-hand control lever

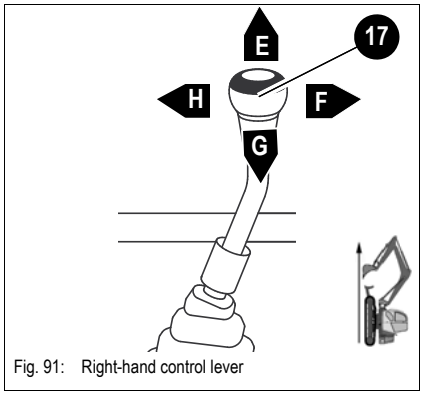


Fig. 91: Right-hand control lever

Position	Lever	Function
• E	☞ *Forwards*	➥ Boom is lowered
• F	☞ *To the right*	➥ Dumps out the bucket
• G	☞ *Backwards*	➥ Boom is raised
• H	☞ *To the left*	➥ Dumps in the bucket

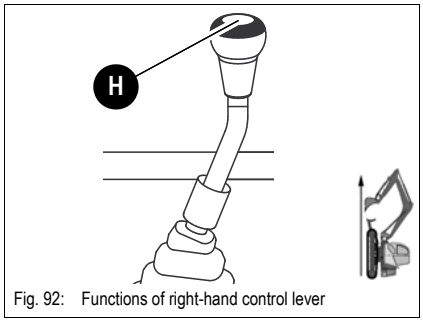


Fig. 92: Functions of right-hand control lever

Button	Function
☞ *H*	➥ Horn

Boom swivel controls (up to serial no. AI00975)

Danger!

The pedal is not locked by folding up the lock lever!

Caution!

Danger of injury due to unintentional actuation of the pedal.

☞ *Actuate the pedal carefully, otherwise the boom is swivelled earlier than required.*

☞ *In order to avoid unintentional actuation of the offset ram, release the pedal once swivelling is over.*

☞ *Fold the pedal forwards once swivelling is over.*

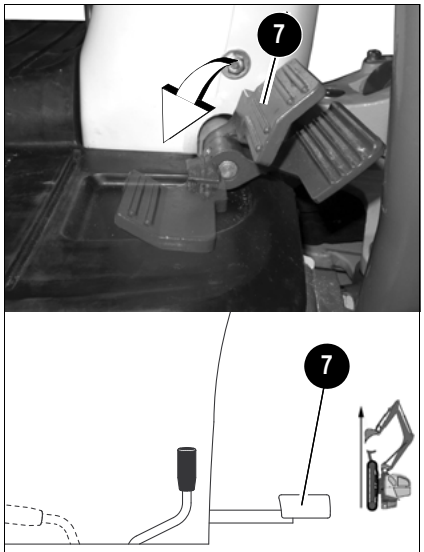


Fig. 93: Swivel controls

☞ *Unfold the right-hand pedal* **7**

➥ The boom can be swivelled

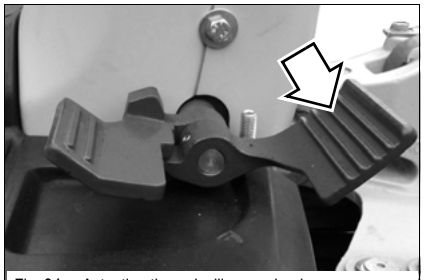


Fig. 94: Actuating the swivelling mechanism

Swivelling the boom to the left:

☞ *Press the front half of the right-hand pedal*

➥ Boom swivels to the left

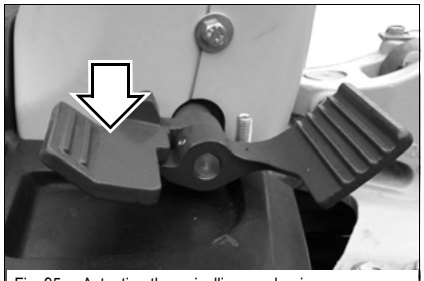


Fig. 95: Actuating the swivelling mechanism

Swivelling the boom to the right:

☞ *Press the rear half of the right-hand pedal*

➥ Boom swivels to the right

Boom swivel controls (from serial no. AI00976)

Danger!

The pedal is not locked by folding up the lock lever!

Caution!

Danger of injury due to unintentional actuation of the pedal.

☞ *Actuate the pedal carefully, otherwise the boom is swivelled earlier than required.*

☞ *The pedal is secured with a torsion spring. The pedal flips back to the front and is locked as soon as it is released.*

☞ *In order to avoid unintentional actuation of the offset ram, release the pedal once swivelling is over.*

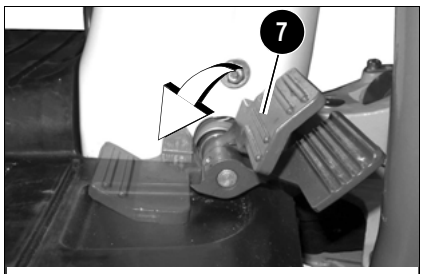


Fig. 96: Swivel controls

☞ *Unfold the right-hand pedal* **7**

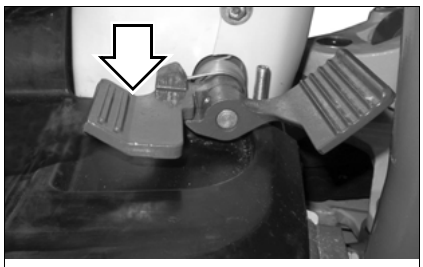


Fig. 97: Keeping the swivelling mechanism in position

☞ *Keep the right-hand pedal in position but do not press it*

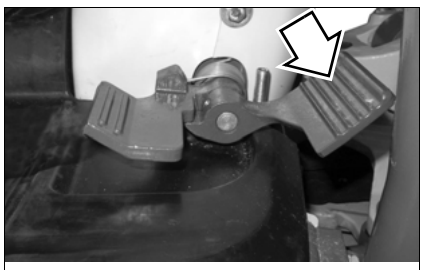


Fig. 98: Actuating the swivelling mechanism

Swivelling the boom to the left:

☞ *Press the front half of the right-hand pedal*

➥ Boom swivels to the left

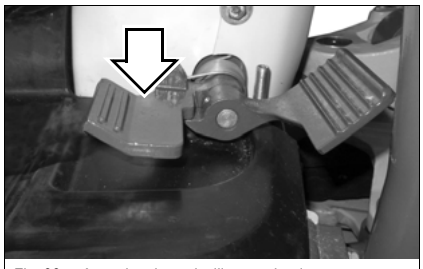


Fig. 99: Actuating the swivelling mechanism

Swivelling the boom to the right:

☞ *Press the rear half of the right-hand pedal*

➥ Boom swivels to the right

Auxiliary hydraulics (up to serial no. AI00975)

Danger!

The pedal is not locked by folding up the lock lever!

Caution!

Danger of injury due to unintentional actuation of the pedal.

☞ *Actuate the pedal carefully, otherwise the auxiliary hydraulics are actuated earlier than required.*

☞ *In order to avoid unintentional actuation of the auxiliary hydraulics, release the pedal once swivelling is over.*

☞ *Fold the pedal forwards once swivelling is over.*

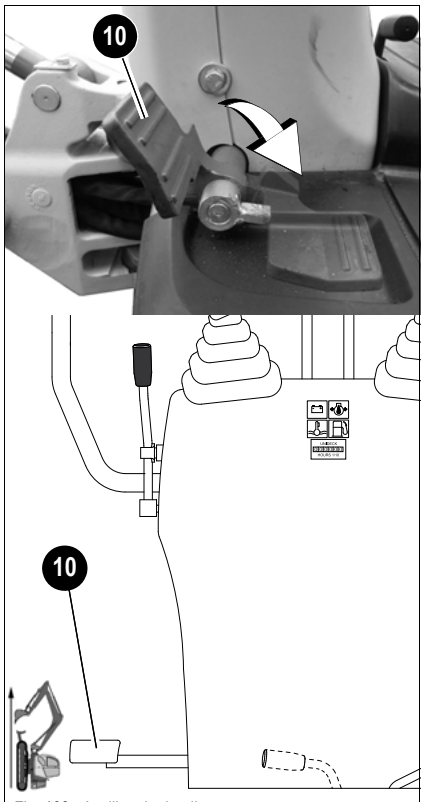


Fig. 100: Auxiliary hydraulics

☞ *Unfold the left-hand pedal **10***

➥ Auxiliary hydraulics can be actuated

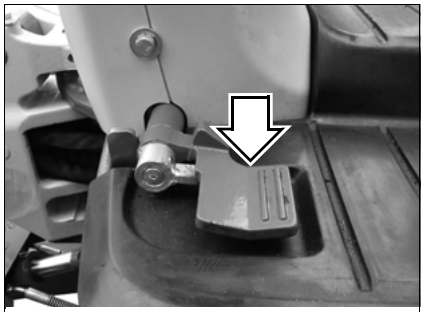


Fig. 101: Actuating the auxiliary hydraulics

Actuating the auxiliary hydraulics:

☞ *Press the left-hand pedal*

➥ Oil flows through the auxiliary hydraulics line

Auxiliary hydraulics (from serial no. AI00976)

Danger!

The pedal is not locked by folding up the lock lever!

Caution!

Danger of injury due to unintentional actuation of the pedal.

☞ *Actuate the pedal carefully, otherwise the auxiliary hydraulics are actuated earlier than required.*

☞ *The pedal is secured with a torsion spring. The pedal flips back to the front and is locked as soon as it is released.*

☞ *In order to avoid unintentional actuation of the auxiliary hydraulics, release the pedal once swivelling is over.*

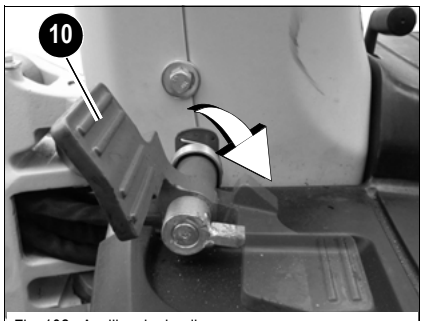


Fig. 102: Auxiliary hydraulics

☞ *Unfold the left-hand pedal **10***

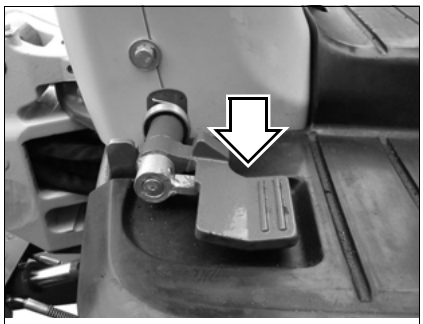


Fig. 103: Actuating the auxiliary hydraulics

☞ *Keep the left-hand pedal in position but do not press it*

Actuating the auxiliary hydraulics:

☞ *Press the left-hand pedal*

➥ Oil flows through the auxiliary hydraulics line

Auxiliary hydraulics (double-action option) (up to serial no. AI00975)

Danger!

The pedal is not locked by folding up the lock lever!

Caution!

Danger of injury due to unintentional actuation of the pedal.

☞ *Actuate the pedal carefully, otherwise the auxiliary hydraulics are actuated earlier than required.*

☞ *In order to avoid unintentional actuation of the auxiliary hydraulics, release the pedal once swivelling is over.*

☞ *Fold the pedal forwards once swivelling is over.*

Notice!

Follow the instructions in the Operator's Manual of the attachment manufacturer for connecting the auxiliary hydraulics to an attachment.

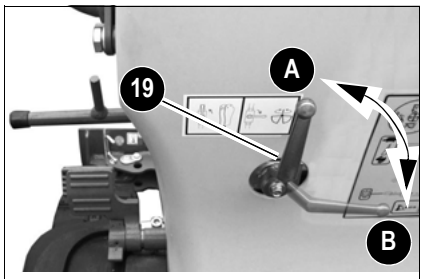


Fig. 104: Hammer/grab operation changeover

Hammer/grab operation changeover

Hammer/grab operation changeover is carried out with lever **19**.

Position	Lever	Function
A	☞ *Turn lever* **19** *upwards*	➥ Hammer operation
B	☞ *Turn lever* **19** *to the right*	➥ Grab operation

Hammer operation enabled

➥ Oil flows to the hammer through the pressure line and to the tank through the return line.

Grab operation enabled

- Press the pedal backwards – the grab rotates to the left.
- Press the pedal forwards – the grab rotates to the right.

➥ Oil flows forwards through the left or right-hand pressure line.

Notice!

Check the auxiliary hydraulics pedal for correct function.

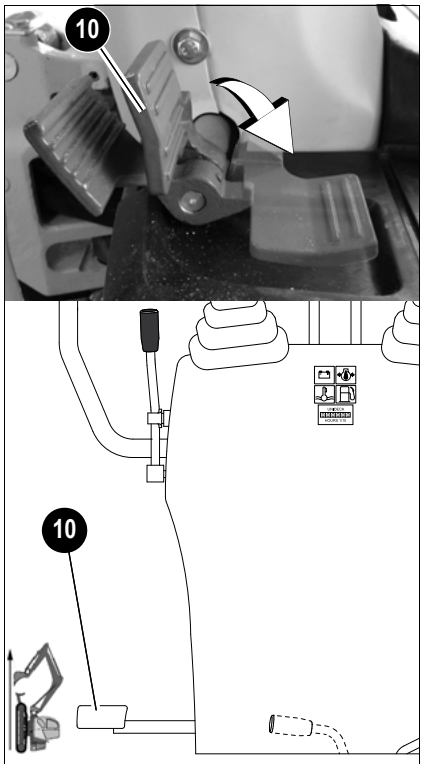


Fig. 105: Auxiliary hydraulics

☞ *Unfold the left-hand pedal **10***

➥ Auxiliary hydraulics can be actuated

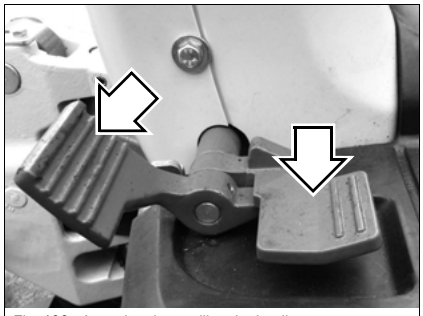


Fig. 106: Actuating the auxiliary hydraulics

Actuating the auxiliary hydraulics:

☞ *The left-hand pedal can be pressed forwards or backwards*

➥ Oil flows through the auxiliary hydraulics line

Auxiliary hydraulics (double-action option) (from serial no. AI00976)

Danger!

The pedal is not locked by folding up the lock lever!

Caution!

Danger of injury due to unintentional actuation of the pedal.

☞ *Actuate the pedal carefully, otherwise the auxiliary hydraulics are actuated earlier than required.*

☞ *The pedal is secured with a torsion spring. The pedal flips back to the front and is locked as soon as it is released.*

☞ *In order to avoid unintentional actuation of the auxiliary hydraulics, release the pedal once swivelling is over.*

Notice!

Follow the instructions in the Operator's Manual of the attachment manufacturer for connecting the auxiliary hydraulics to an attachment.

Hammer/grab operation changeover

Hammer/grab operation changeover is carried out with lever **19**.

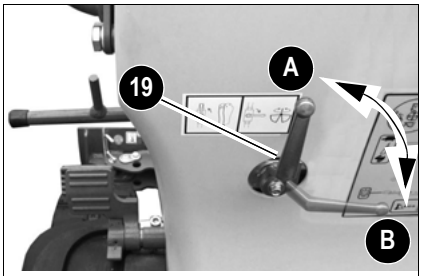


Fig. 107: Hammer/grab operation changeover

Position	Lever	Function
A	☞ *Turn lever* **19** *upwards*	➥ Hammer operation
B	☞ *Turn lever* **19** *to the right*	➥ Grab operation

Hammer operation enabled

➥ Oil flows to the hammer through the pressure line and to the tank through the return line.

Grab operation enabled

- Standard: press the pedal backwards – the grab rotates to the left.
- Standard: press the pedal forwards – the grab rotates to the right.

➥ Oil flows forwards through the left or right-hand pressure line.

Notice!

Check the auxiliary hydraulics pedal for correct function.

☞ *Unfold the left-hand pedal **10***

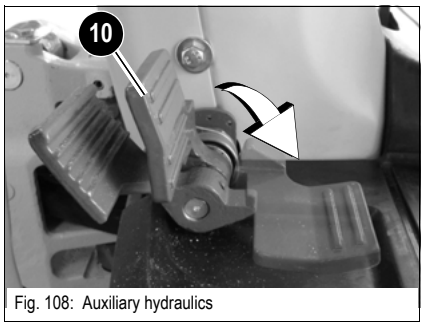


Fig. 108: Auxiliary hydraulics

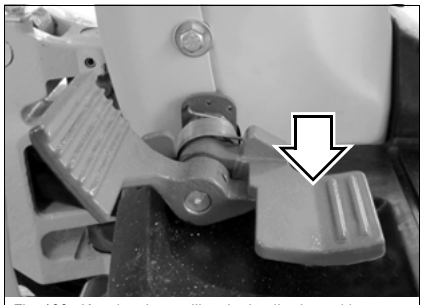


Fig. 109: Keeping the auxiliary hydraulics in position

☞ *Keep the left-hand pedal in position but do not press it*

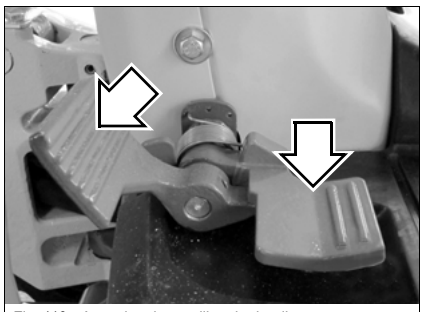


Fig. 110: Actuating the auxiliary hydraulics

Actuating the auxiliary hydraulics:

☞ *The left-hand pedal can be pressed forwards or backwards*

➥ Oil flows through the auxiliary hydraulics line

Lowering the boom with the engine stopped

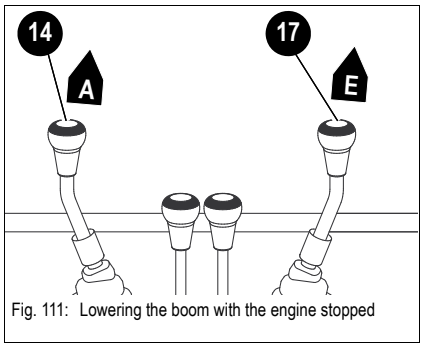


Fig. 111: Lowering the boom with the engine stopped

When the engine is stopped, the boom can move under the following conditions:

- The boom has not been lowered to the ground.
- The lock lever is lowered.

Danger!

With the engine stopped, the boom can be lowered with the control lever at any time –

Danger of accidents!

☞ *Ensure that no-one is in the danger area or work area!*

Lower the boom as follows:

☞ *Ensure that no-one is in the danger area or work area!*

☞ *Push control levers* **14** *and* **17** *forwards (**A** and **E**),*

➥ Until the boom is completely lowered.

☞ *Return the control lever to neutral*

Rotating the upper carriage

Specific safety instructions

Danger!

After releasing the control lever, the upper carriage can rotate a little bit further if the machine has not yet reached its operating temperature.

Caution!

If the upper carriage needs to be rotated on a slope, actuate the control lever very slowly. Proceed with extreme care and avoid abrupt movements if the bucket is full.

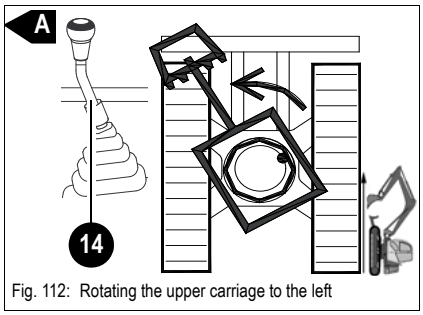


Fig. 112: Rotating the upper carriage to the left

Fast actuation of the control lever rotates the upper carriage fast, slow actuation of the control lever rotates the upper carriage slowly.

Rotate the upper carriage to the left as follows:

☞ *Push the left-hand control lever* **14** *to the left* ***A***

➥ The upper carriage rotates to the left

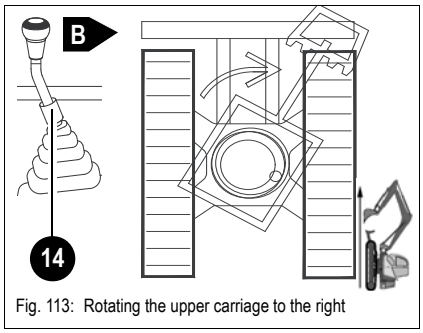


Fig. 113: Rotating the upper carriage to the right

Rotate the upper carriage to the right as follows:

☞ *Push the left-hand control lever* **14** *to the right* ***B***

➥ The upper carriage rotates to the right

Upper carriage deceleration

Hydraulic swivel unit brake:

The upper carriage's rotation is sufficiently braked by moving the left-hand control lever **14** back to initial position. Moving the control lever in the opposite direction (counteraction) brakes the upper carriage with maximum hydraulic output.

Lock lever (up to serial no. AI00814)

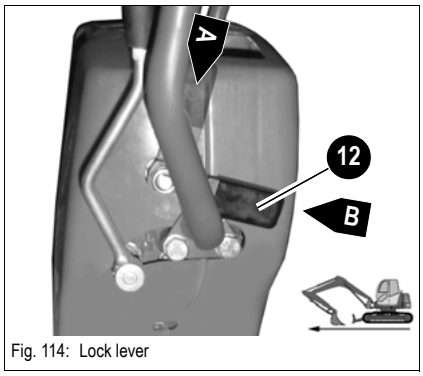


Fig. 114: Lock lever

Caution!

Before leaving the seat, raise the lock lever to prevent unintentional movements!

Locking the lock lever

☞ *Set lever* **12** *to position* ***A***.

➥ The control levers are locked.

Unlocking the lock lever

☞ *Set lever* **12** *to position* ***B***.

➥ The control levers are unlocked.

Notice!

Locking the lock lever makes it impossible to carry out any functions with the control and drive levers!
The boom swivel and auxiliary hydraulics pedals are not locked and can be actuated!

Lock lever (from serial no. AI00815)

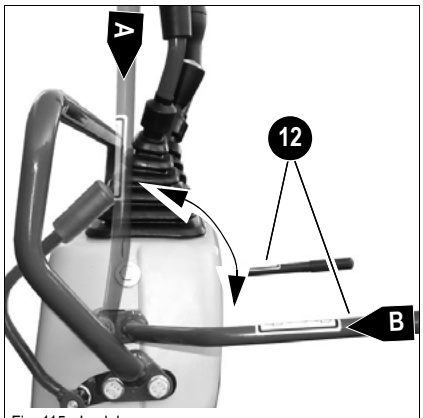


Fig. 115: Lock lever

Caution!

Before leaving the seat, raise the lock lever to prevent unintentional movements!

Locking the lock lever

☞ *Set lever* **12** *to position* ***A***.

➥ The control levers are locked.

Unlocking the lock lever

☞ *Set lever* **12** *to position* ***B***.

➥ The control levers are unlocked.

Notice!

Locking the lock lever makes it impossible to carry out any functions with the control and drive levers!
The boom swivel and auxiliary hydraulics pedals are not locked and can be actuated!

3.15 Pressure release on the auxiliary hydraulics

Caution!

Before connecting or removing hydraulic lines from an attachment with hydraulic functions, ensure that the hydraulics are not under pressure! Ensure that no-one is dangerously close to the machine

Notice!

The hydraulic system of the machine is still pressurised even when the engine is not running! The hydraulic quick couplers can be released, however they cannot be re-attached due to the residual pressure in the lines.

- Release the pressure.
- Release the pressure in the sections of the system and hydraulic lines which are to be opened before starting setup or repair work, e.g. fitting/removing an attachment!

Releasing pressure

Release the pressure as follows:

☞ *Park the machine on level and horizontal ground.*

☞ *Lower the boom and the attachment completely to the ground.*

☞ *Stop the engine.*

☞ *Lower (unlock) the lock lever.*

☞ *Move the control levers in all directions repeatedly.*

➥ The pressure in the system sections that have been actuated is released. This can be seen by the brief movement the hoses make as the pressure is actually released.

➥ Uncouple the attachment immediately after the pressure has been released, otherwise pressure can be created again!

3.16 Re-equipping attachments

Re-equipping the attachments is described below for a bucket. If you are fitting or removing attachments with their own hydraulic functions – e.g. grab or offset bucket – you must follow the special information given in the Operator's Manual of the attachment.

Specific safety instructions

- Driving in pins with a plastic hammer can cause them to splinter, which can cause severe personal injury.
  ☞ Always wear goggles, a hard hat, protective gloves, safety shoes and other suitable protective clothing.
- Do not stand behind the bucket when removing pins.
  ☞ Do not place your foot underneath the bucket.
- Pay special attention to your fingers when removing and reinserting pins.
- Never insert fingers in the bores of the pins as you align them.

Danger!

Re-equipping attachments –

Danger of personal injury!

☞ *Avoid accidents and injuries by following the information below:*

- Stop the engine
- Raise the lock lever
- Remove the ignition key
- Re-equip attachments only with suitable tools
- Do not align components with your fingers or your hands but use suitable tools – danger of crushing!

☞ *After you have re-equipped an attachment, or before starting work, ensure that the attachment is safely locked in the stick and the joint rod.*

Removing a bucket

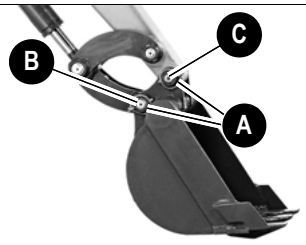


Fig. 116: Removing a bucket

- Lower the bucket to level ground with the flat side facing downwards
- Stop the engine
- Raise the lock lever
- Remove the ignition key
- Remove linch pins **A**
- First remove pin **B**, and then pin **C**. Carefully expel pins that are stuck with a hammer and a brass punch

If pin **C** is stuck:

- Start the engine
- Slighty raise and lower the boom to take the load off the pin
- Stop the engine
- Raise the lock lever
- Remove the ignition key

Notice!

Place the bucket only with minimum pressure on the ground as you remove the pins. The higher the pressure on the ground, the higher the resistance and the more difficult it is to remove the pins.

Mounting a bucket

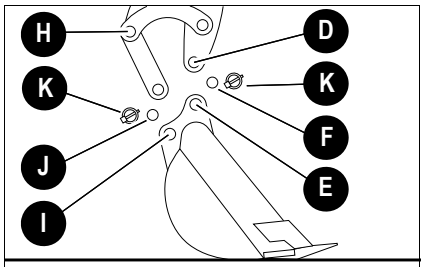


Fig. 117: Mounting a bucket

- Mount a bucket only if it is positioned on level ground with the flat side facing downwards
- Apply grease to the pins and joints before inserting the pins
- Start the engine
- Straighten the stick so that bores **D** and **E** are flush
- Insert greased pin **F**
- Actuate the stick ram until bores **H** and **I** are flush
- Insert the greased pin **J**
- Mount linch pins **K**

Connections for auxiliary hydraulics

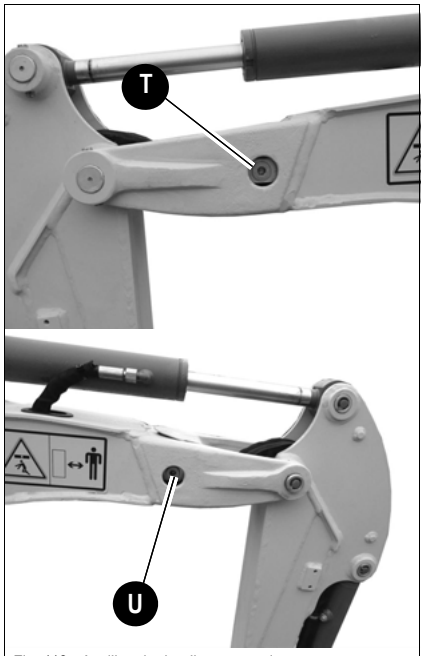


Fig. 118: Auxiliary hydraulics connections

Notice!

For hammer operation we recommend installing the hydraulic lines up to the stick in order to avoid damage – *see chapter* ***Connections for auxiliary hydraulics (stick hose routing option)*** on page 3-55.

Auxiliary hydraulics can be connected as required

If the machine is equipped with the double-action auxiliary hydraulics option, only the flow direction of the hydraulic oil changes.

Port	Left-hand boom	Right-hand boom
T	☞ *Return line*	
U		☞ *Pressure line*

Notice!

Follow the instructions in the Operator's Manual of the attachment manufacturer for connecting the auxiliary hydraulics to an attachment.

Connect and disconnect as follows:

☞ *Park the machine on level and horizontal ground.*

☞ *Extend the stick ram halfway through.*

☞ *Stop the engine.*

☞ *Release the pressure on the work hydraulics* – *see chapter 3.15* ***Pressure release on the auxiliary hydraulics*** *on page 3-52.*

➥ The attachment couplings can be connected.

☞ *Raise the lock lever.*

☞ *Remove the ignition key.*

Connections for auxiliary hydraulics (stick hose routing option)

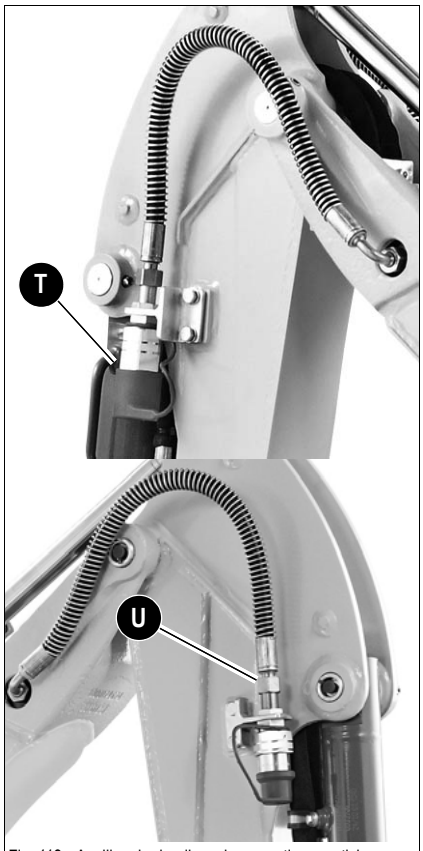


Fig. 119: Auxiliary hydraulics – hose routing on stick

Auxiliary hydraulics can be connected as required

If the machine is equipped with the double-action auxiliary hydraulics option, only the flow direction of the hydraulic oil changes.

Port	Stick (left)	Stick (right)
T	☞ *Return line*	
U		☞ *Pressure line*

Notice!

Follow the instructions in the Operator's Manual of the attachment manufacturer for connecting the auxiliary hydraulics to an attachment.

Connect and disconnect as follows:

☞ *Park the machine on level and horizontal ground.*

☞ *Extend the stick ram halfway through.*

☞ *Stop the engine.*

☞ *Release the pressure on the work hydraulics* *– see chapter 3.15* ***Pressure release on the auxiliary hydraulics*** *on page 3-52.*

➥ The attachment couplings can be connected.

☞ *Raise the lock lever.*

☞ *Remove the ignition key.*

Attachments

Notice!

Please refer to the Operator's and maintenance manual of the attachment manufacturer for using and carrying out maintenance on attachments such as hammers, etc.

Notice!

Check the auxiliary hydraulics pedal for correct function.

Maintenance of attachments

Notice!

Correct maintenance and service is absolutely necessary for smooth and continuous operation, and for an increased service life of the attachments. Observe the lubrication and maintenance instructions in the Operator's Manuals of the attachments.

Working with the standard bucket

The following section describes work operations with the machine equipped with the standard bucket.

The standard bucket is mainly used for digging earth, and for loosening, picking up, digging and loading loose material (or material to be loosened).

Inadmissible work procedures

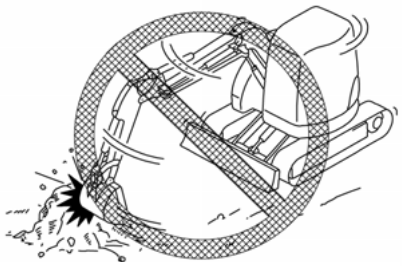


Fig. 120: Working with the swivel force

Working with the swivel force

☞ *Do not use the swivel force of the upper carriage to compact the ground or tear down piles or walls.*

☞ *Do not touch the ground with the bucket as you rotate the upper carriage.*

➥ Working this way damages the attachments.

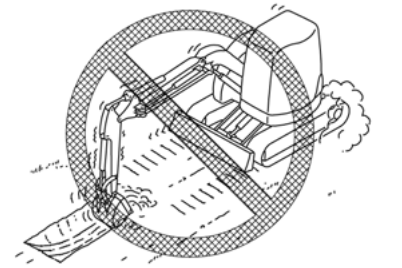


Fig. 121: Working with the drive force

Working with the drive force

☞ *Do not allow the bucket to penetrate into the ground and do not excavate by using the drive force of the machine.*

➥ Working this way can damage the machine or the attachments.

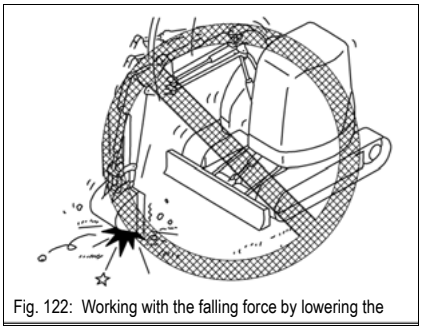


Fig. 122: Working with the falling force by lowering the

Working with the falling force by lowering the bucket

☞ *Do not use the machine's falling force for excavating, and do not use the bucket's falling force as a hoe, hammer or pile-driver.*

➥ Working this way can greatly reduce the machine's service life.

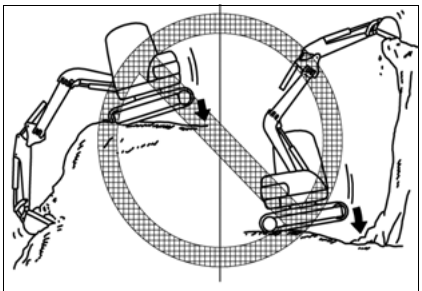


Fig. 123: Working with the machine's falling force

Working with the falling force by lowering the machine

☞ *Do not use the machine's falling force for excavating.*

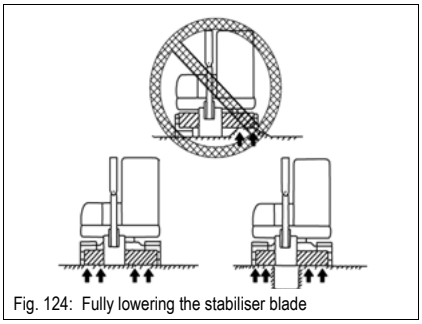


Fig. 124: Fully lowering the stabiliser blade

No thrusting the stabiliser blade

☞ *Do not thrust the stabiliser blade against rocks or blocks to avoid damage to the rams and the blade itself.*

Fully lowering the stabiliser blade

☞ *Fully lower the stabiliser blade when using it on the side opposite the excavation side.*

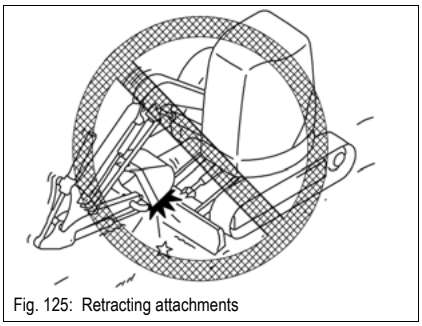


Fig. 125: Retracting attachments

Retracting attachments

☞ *Ensure that the bucket does not hit the stabiliser blade as you retract attachments for driving or transport.*

Excavator work position

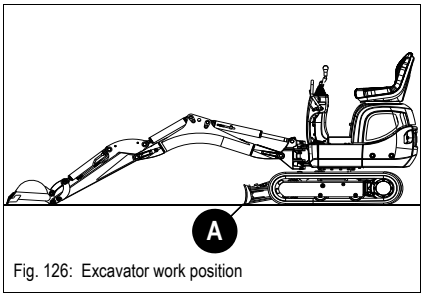


Fig. 126: Excavator work position

☞ *Place stabiliser blade **A** on the side you want to dig*

Bucket position when digging

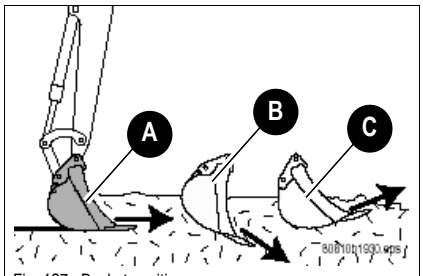


Fig. 127: Bucket position

☞ *Move the bucket as shown in **A**.*

➥ Move the flat side of the bucket parallel to the ground

Notice!

Position **B** causes the bucket to penetrate into the ground. Work slows down, and the engine and the hydraulic pump are subject to overload if this position is used over a longer period of time!
Position **C** causes the bucket to be forced upwards and not to be filled completely.

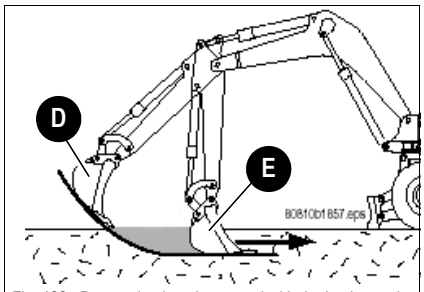


Fig. 128: Penetrating into the ground with the bucket and aligning it

☞ *Excavate as follows:*

- Penetrate into the ground with bucket **D**
- Lower the stick and at the same time align bucket **E** until
- Reaching the required digging depth and
- The flat side of the bucket is parallel to ground

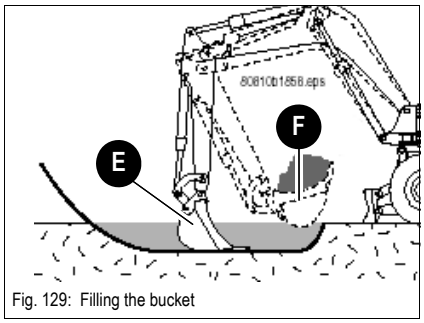


Fig. 129: Filling the bucket

☞ *Pull bucket **E** parallel to the ground towards the excavator. At the same time, if possible:*

- Move the stick towards the excavator
- Lower the boom

☞ *With a sufficiently full bucket **E**:*

- Keep on moving the stick towards the excavator and at the same time
- Tilt in stick **F**

Excavating trenches

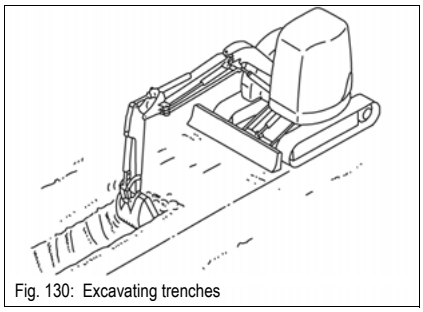


Fig. 130: Excavating trenches

- Excavating trenches is more efficient

☞ by using a suitable bucket for this work and positioning the tracks parallel to the limit line of the trench.

☞ In case of large trenches, first excavate the side sections and then the centre section.

Loading

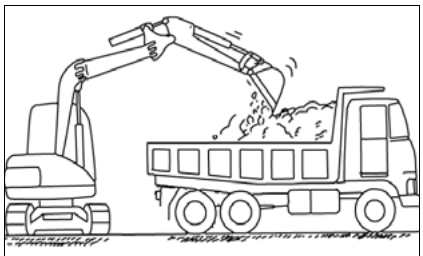


Fig. 131: Loading

- Loading in confined areas with a limited angle of rotation is more efficient

  ☞ by positioning the transport vehicle so as to ensure maximum visibility of the transport vehicle for the driver of the excavator.
- Loading material onto transport vehicles is more efficient

  ☞ if the excavator is at the rear end of the transport vehicle and not at the side.

Grading

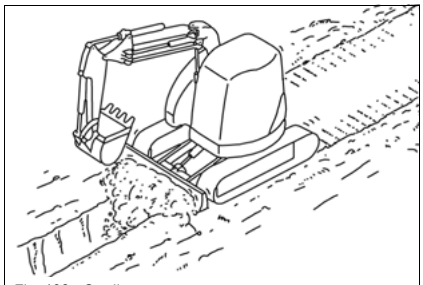


Fig. 132: Grading

- Use the stabiliser blade to fill in trenches and to grade (even out) surfaces.

Notice!

Work on level ground. Grade with the stabiliser blade first in case of sloping ground.

Excavating trenches sideways

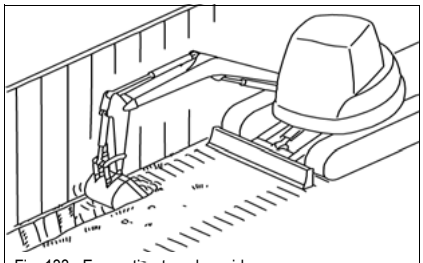


Fig. 133: Excavating trenches sideways

- The machine can be used for excavating trenches sideways in confined areas

  ☞ by rotating the upper carriage and swivelling the main boom (combined position and movement of both).

Further practical hints for digging

When planning and carrying out digging work, we recommend that you observe the following points:

- Exits from pits must be outside the digging line and as level as possible.
- Dig by removing adjacent strips if possible.
- Ensure that you can drive forwards when driving out of the digging area with a fully loaded bucket.
- Whenever possible, drive in reverse when transporting a full bucket down a steep slope.

Freeing the machine

If the machine gets stuck in the ground:

☞ *Dump out/rotate the bucket until the blade/teeth are vertical above the ground*

☞ *Lower the boom all the way*

☞ *Slowly dump out the bucket*

➥ The machine is pushed backwards

☞ *Reverse slowly*

☞ *Repeat this procedure until the tracks reach firm ground*

☞ *Reverse the machine away*

3.17 Grading

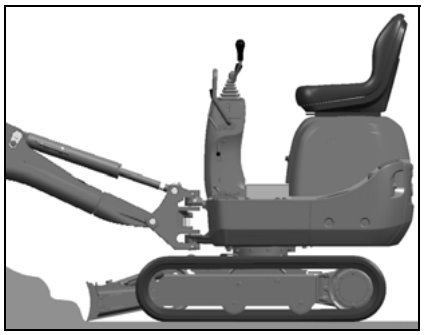
Danger!

Careful when grading –

Danger of accidents!

☞ *Ensure that no-one is in the danger area when working with the stabiliser blade*

Grading



☞ *Lower the stabiliser blade to the ground*
– see chapter ***Stabiliser blade operation*** *on page 3-17*

☞ *Set the depth of the layer you want to remove with the stabiliser blade lever*

➥ No raising the machine by lowering the stabiliser blade

➥ The clearance between the stabiliser blade and the ground should be about 1 cm

Working alongside trenches

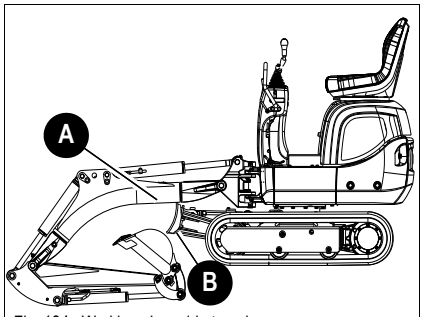


Fig. 134: Working alongside trenches

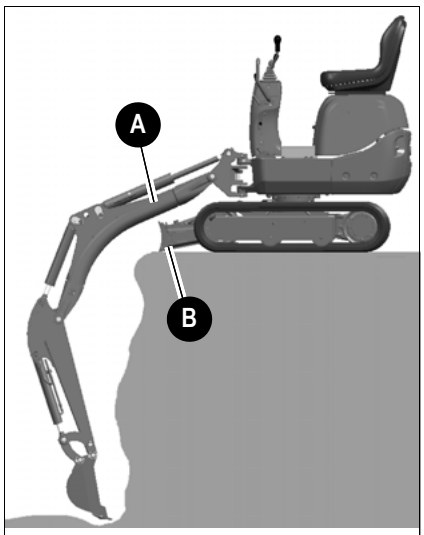


Fig. 135: Deep excavation

Caution!

Danger of damaging boom **A** when working alongside trenches, slopes etc. and operating the stabiliser blade and the boom incorrectly.

☞ *Always use stabiliser blade* ***B*** *for stabilisation during excavation work*

☞ *Ensure that stabiliser blade* ***B*** *never touches boom* ***A*** *Fig. 134.*

☞ *If you carry out deep excavations with stabiliser blade* ***B*** *at the front, ensure that boom* ***A*** *does not touch or rest on stabiliser blade* ***B*** *(Fig. 135).*

Stabiliser blade at rear

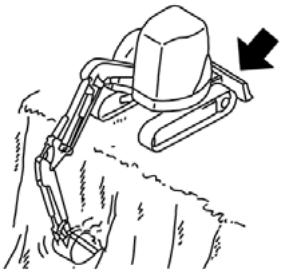


Fig. 136: Deep excavation

Danger!

Improper or careless operation of machine when working alongside trenches, slopes, etc., with the stabiliser blade **B** at the rear –

Danger of falling!

☞ *This work position is prohibited since the machine can tilt forwards into the trench.*

☞ *We recommend using the first work position (Fig. 136) described above and to ensure that piston rod **A** does not touch stabiliser blade **B** under any circumstances.*

4 Troubleshooting

The information given in this chapter is provided for maintenance staff, for fast and reliable detection of malfunctions and their appropriate repair.

Repairs must be carried out by authorised staff.

4.1 Engine trouble

Problem	Possible causes	See
Engine does not start or is not easy to start	Wrong SAE grade of engine lubrication oil	*5-34*
	Fuel grade does not comply with specifications	*5-34*
	Defective or flat battery	*5-30*
	Loose or oxidised cable connections in starter circuit	
	Defective starter, or pinion does not engage	
	Wrong valve clearance	
	Defective injection nozzle	
	Defective cutoff solenoid	
	Defective fuse	
Engine starts, but does not run smoothly or faultless	Fuel grade does not comply with specifications	*5-34*
	Dirty fuel filter	
	Wrong valve clearance	
	Air in fuel system	
	Injection line leaks	
	Defective injection nozzle	
Engine overheats. Temperature warning system responds	Oil level too low	*5-6*
	Oil level too high	*5-6*
	Dirty air filter	*5-11*
	Dirty oil radiator fins	*5-8*
	Coolant level too low	
	Cooling system leaks	
	Defective fan, torn or loose V-belt	*5-15*
	Resistance in cooling system too high, flow capacity too low	
	Defective injection nozzle	
Insufficient engine output	Oil level too high	*5-6*
	Fuel grade does not comply with specifications	*5-34*
	Dirty air filter	*5-11*
	Wrong valve clearance	
	Injection line leaks	
	Defective injection nozzle	

Problem		Possible causes	See
Engine does not run on all cylinders		Defective fuel injection pump	
		Injection line leaks	
		Defective injection nozzle	
Insufficient or no engine oil pressure		Oil level too low	*5-6*
		Machine inclination too high (max. 15°)	
		Wrong SAE grade of engine lubrication oil	*5-34*
Engine oil consumption too high		Oil level too high	*5-6*
		Worn oil scraper rings	
		Machine inclination too high (max. 15°)	
		Wrong SAE grade	
Engine smoke	Blue	Oil level too high	*5-6*
		Machine inclination too high (max. 15°)	
		Wrong oil	
	White	Engine starting temperature too low	
		Fuel grade does not comply with specifications	*5-34*
		Wrong valve clearance	
		Defective injection nozzle	
		Defective cylinder-head gasket	
	Black	Dirty air filter	*5-11*
		Wrong valve clearance	
		Defective injection nozzle	

5 Maintenance

5.1 Introduction

Operational readiness and the service life of machines are heavily dependent on maintenance.

It is therefore in the interest of the machine owner to carry out the prescribed maintenance work.

Bear in mind the following points before carrying out service and maintenance work:

- Chapter 2 “SAFETY INSTRUCTIONS” of this Operator's Manual
- The Operator's Manuals of the attachments.

Carry out the prescribed inspections and rectify any disorders before putting the machine into operation.

Secure the open engine cover and other open covers appropriately. Do not open the engine cover and other covers on slopes or in strong wind.

When using compressed air, dirt and debris can be blown into your face. Therefore, wear protective goggles, masks and clothing when using compressed air.

Daily service and maintenance work, and maintenance according to maintenance plan **“A”** must be carried out by a specifically trained driver. All other maintenance work must be carried out by trained and qualified staff only.

The following maintenance plans indicate the maintenance work to be carried out.

This is necessary to ensure optimal functioning.
– *see* ***Maintenance plan (overview)*** on page 5-39.

Immediately repair or replace parts that are already damaged or not working properly before they are due for replacement.

Notice!

Safety-relevant parts may only be repaired or replaced by a Wacker Neuson dealer or a Wacker Neuson workshop.

Parts	Interval
Hydraulic hoses	Replace hydraulic hoses every 6 years from the date of manufacture, even if they do not seem to be damaged.
Seat belt	No replacement necessary. Replace the seat belt after an accident.

5.2 Fuel system

Specific safety instructions

- Extreme caution is essential when handling fuel – high risk of fire!
- Never carry out work on the fuel system in the vicinity of naked flames or sparks!
- Do not smoke when working on the fuel system or when refuelling!
- Before refuelling, stop the engine, raise the lock lever and remove the ignition key!
- Do not refuel in closed rooms!
- Wipe away fuel spills immediately!
- Keep the machine clean to reduce the risk of fire!

Refuelling

Fig. 137: Fuel filler inlet

Filler inlet **A** for the fuel tank is located in the engine compartment, on the left in driving direction.

Danger!

All work involving fuel carries an increased

Danger of fire and poisoning!

☞ *Do not refuel in closed rooms*

☞ *Never carry out work on the fuel system in the vicinity of naked flames or sparks*

☞ *No smoking, no fire*

Environment!

Use a suitable container to collect the fuel as it drains and dispose of it in an environmentally friendly manner!

Notice!

Do not run the fuel tank completely dry. Otherwise, air is drawn into the fuel system. This requires bleeding the fuel system – *see* ***Bleeding the fuel system*** on page 5-4.

Notice!

Fill up the tank with the correct fuel type at the end of each working day. This prevents condensation water from forming in the fuel tank over night. Do not fill the tank completely but leave some space for the fuel to expand.

Draining the fuel

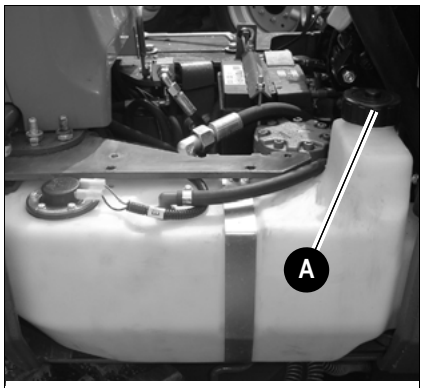


Fig. 138: Fuel tank

Danger!

All work involving fuel carries an increased

Danger of fire and poisoning!

☞ *Do not work in closed rooms*

☞ *Never carry out work on the fuel system in the vicinity of naked flames or sparks*

☞ *No smoking, no fire*

Environment!

Use a suitable container to collect the fuel as it drains and dispose of it in an environmentally friendly manner!

Filler inlet **A** for the fuel tank is located in the engine compartment, on the left in driving direction.

Proceed as follows:

☞ Open filler inlet **A**

☞ Pump out the fuel with a suitable pump

☞ Collect the fuel in a suitable container

Stationary fuel pumps

General

Only refuel from stationary fuel pumps. Fuel from barrels or cans is usually dirty.

Even the smallest particles of dirt can cause

- Increased engine wear
- Malfunctions in the fuel system
- Reduced effectiveness of the fuel filters

Refuelling from barrels

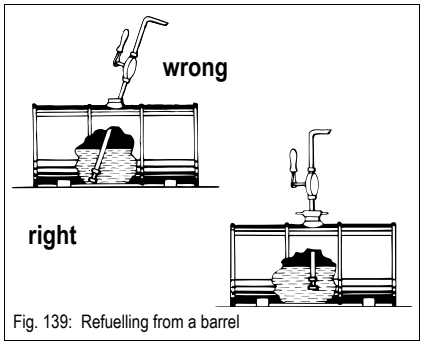


Fig. 139: Refuelling from a barrel

If refuelling from barrels cannot be avoided, note the following points (see fig. 139):

- Barrels must neither be rolled nor tilted before refuelling
- Protect the suction pipe opening of the barrel pump with a fine-mesh screen
- Immerse it down to a max. 15 cm above the floor of the barrel
- Only fill the tank using refuelling aids (funnels or filler pipes) with integral microfilter
- Keep all refuelling containers clean at all times

Diesel fuel specification

Use only high-grade fuels!

Grade	Use
• EN 590 : 96	EU
• BS 2869 – A1	England
• BS 2869 – A2	
• 2-D ASTM D975 – 94	USA
• 1-D ASTM D975 – 94	
• ISO 8217 DMX	International

- Sulphur content below 0.05 %
- Cetane number over 45

Bleeding the fuel system

Danger!

If the fuel, as it drains, comes into contact with hot engine parts or the exhaust system, there is an increased

Danger of burns!

☞ *Never bleed the fuel system if the engine is hot!*

Bleed the fuel system in the following cases:

- After removing and fitting the fuel filter, prefilter or the fuel lines back on again
- After running the fuel tank empty
- After running the engine again, after it has been out of service for a longer period of time

Bleed the fuel system as follows:

- Fill the fuel tank
- Turn the ignition key to the first position
- Wait about 5 minutes while the feed pump bleeds the fuel system automatically
- Start the engine
- Check for leaks after starting the engine
- Let the fuel system run by carrying out a test run of 5 minutes at idling speed

If the engine runs smoothly for a while and then stops, or if it does not run smoothly:

- Stop the engine
- Raise the lock lever
- Remove the ignition key
- Bleed the fuel system again as described above
- Have this checked by authorised staff if necessary

Fuel prefilter with water separator

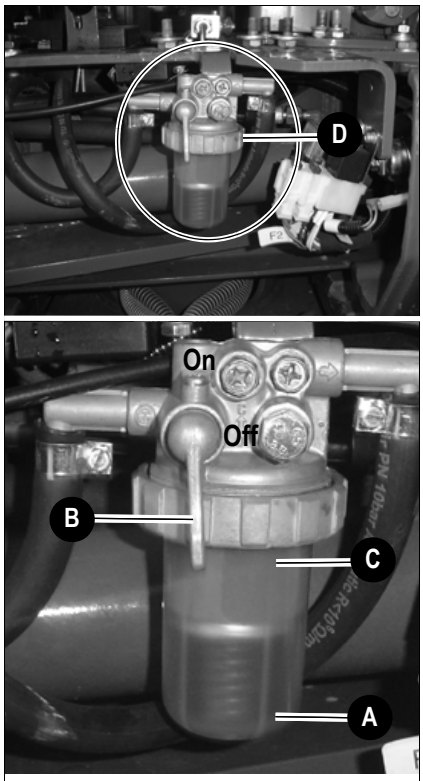


Fig. 140: Fuel prefilter

Check the fuel prefilter as follows:

☞ *If the red indicator ring **A** rises to position **C***

☞ *Unscrew screw connection **D***

☞ *Collect the fuel/water mixture in a suitable container.*

➥ Fuel/water mixture drains

➥ Wait until the indicator ring returns to the bottom of the water separator

☞ *Screw screw connection **D** back on again*

Interrupt the fuel supply as follows:

☞ *Turn ball-type cock **B** to the **OFF** mark*

➥ Fuel supply is interrupted

☞ *Turn ball-type cock **B** to the **ON** mark*

➥ Fuel supply is open

Environment!

Collect the fuel/water mixture as it drains with a suitable container and dispose of it in an environmentally friendly manner.

5.3 Engine lubrication system

Caution!

If the engine oil level is too low or if an oil change is overdue, this can cause

Engine damage or loss of output!

☞ *Have the oil changed by an authorised workshop*
– see chapter 5.17 ***Maintenance plan (overview)*** *on page 5-39*

Checking the oil level

Notice!

Check the oil level once a day.
We recommend checking it before starting the engine. After stopping a warm engine, wait at least 5 minutes before checking.

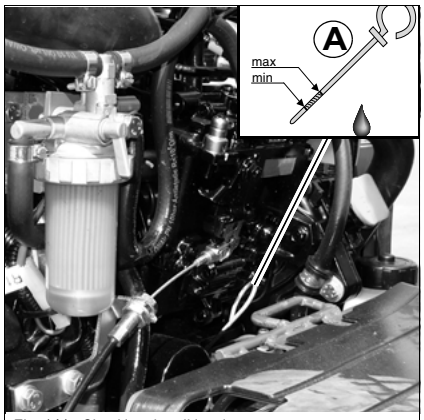


Fig. 141: Checking the oil level

- Park the machine on level ground
- Stop the engine
- Raise the lock lever
- Remove the ignition key
- Let the engine cool down
- Open the engine cover
- Clean the area around the oil dipstick with a lint-free cloth
- Oil dipstick **A**:

☞ Pull it out
☞ Wipe it with a lint-free cloth
☞ Push it back in as far as possible
☞ Withdraw it and read off the oil level

- Close and lock the engine cover

Notice!

The oil level must be between the MAX and MIN marks. However if necessary, fill up oil at the latest when the oil reaches the MIN mark on the oil dipstick **A**.

Filling up engine oil

Caution!

Too much, not enough or incorrect engine oil can result in engine damage! For this reason:

☞ *Do not add engine oil above the MAX mark of oil dipstick 142/**A***

☞ *Use only the specified engine oil*

Environment!

Use a suitable container to collect the engine oil as it drains and dispose of it in an environmentally friendly manner!

Caution!

Filling in the engine oil too fast via filler inlet **B** in the valve cover can cause engine damage.

☞ *Fill in the engine oil slowly so it can go down without entering the intake system.*

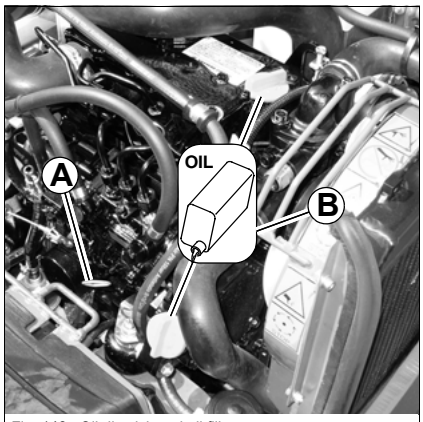


Fig. 142: Oil dipstick and oil filler cap

- Clean the area around oil filler cap **B** with a lint-free cloth
- Open filler cap **B**
- Pull out oil dipstick **A** and wipe it with a lint-free cloth
- Fill in engine oil
- Wait about 3 minutes until all the oil has run into the oil sump
- Check the oil level – *see* ***Checking the oil level*** on page 5-6
- Fill up if necessary and check the oil level again
- Close filler cap **B**
- Push oil dipstick **A** back in as far as possible
- Completely remove all oil spills
- Close and lock the engine cover

5.4 Engine cooling system

The radiator is located in the engine compartment, on the right-hand side of the engine, and cools the diesel engine.

The expansion tank for the coolant is also located in the engine compartment, behind the engine.

Specific safety instructions

- Dirt on the radiator fins reduces the cooler's heat dissipation capacity!
  To avoid this:
  - ☞ Clean the outside of the radiator at regular intervals. Use oil-free compressed air (2 bar max.) to clean. Maintain a certain distance from the radiator to avoid damage to the radiator fins. Refer to the maintenance plans in the appendix for the cleaning intervals.
  - ☞ In dusty or dirty work conditions, clean more frequently than indicated in the maintenance plans.
- An insufficient coolant level reduces the heat dissipation capacity as well and can lead to engine damage! Therefore:
  - ☞ Check the coolant level at regular intervals. Refer to the maintenance plans in the appendix for the intervals
  - ☞ If coolant must be added frequently, check the cooling system for leaks and/or contact a Wacker Neuson workshop!
  - ☞ Never fill in cold water/coolant if the engine is warm!
- The use of the wrong coolant can destroy the engine and the cooler. Therefore:
  - ☞ Add enough antifreeze compound to the coolant – but never more than 50 %. If possible use brand-name antifreeze compounds with anticorrosion additives!
  - ☞ Observe the coolant compound table *– see chapter 6.10* ***Coolant compound table*** on page 6-4.
  - ☞ Do not use radiator cleaning compounds if an antifreeze compound has been added to the coolant – otherwise this causes sludge to form that can damage the engine.
- Once you have filled the expansion tank:
  - ☞ Test run the engine.
  - ☞ Stop the engine.
  - ☞ Raise the lock lever.
  - ☞ Remove the ignition key.
  - ☞ Let the engine cool down.
  - ☞ Check the coolant level again.
  - ☞ Close and lock the engine cover

Environment!

Use a suitable container to collect the coolant as it drains and dispose of it in an environmentally friendly manner!

Checking/filling up coolant

Danger!

Never open the coolant tank and never drain coolant if the engine is warm since the cooling system is under high pressure –

Danger of burns!

☞ *Wait at least 15 minutes after stopping the engine!*

☞ *Wear protective gloves and clothing.*

☞ *Open filler cap **B** to the first notch and release the pressure.*

☞ *Ensure that the coolant temperature is sufficiently low so you can touch the radiator with your hands.*

Danger!

Antifreeze is flammable and poisonous –

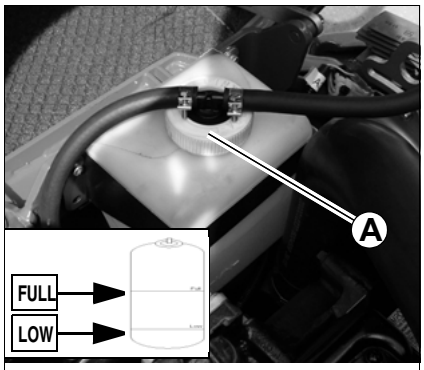
Danger of accidents!

☞ *Keep away from flames!*

☞ *Avoid eye contact with antifreeze*

- If antifreeze does come into contact with the eyes:

➥ Immediately rinse with clean water and seek medical assistance!



Expansion tank for coolant

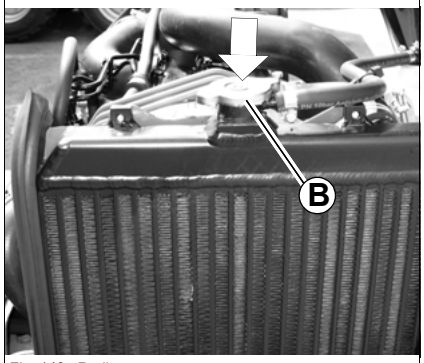


Fig. 143: Radiator

Checking the coolant level

- Park the machine on level ground
- Stop the engine
- Raise the lock lever
- Remove the ignition key and carry it with you.
- Let the engine and the coolant cool down
- Open the engine cover
- Check the coolant level on the transparent coolant tank **A** and on the radiator **B**

☞ If the coolant level is below the **LOW** seam or if there is no coolant at the radiator's filler inlet:

➥ Fill up coolant

Notice!

Check the coolant level once a day.
We recommend checking it before starting the engine.

Filling up coolant

After the engine has cooled down:

☞ *Release overpressure in the radiator*

☞ *Carefully open cap **B** to the first notch and fully release the pressure*

☞ *Open filler cap **B***

☞ *Fill in coolant up to the lower edge of the filler inlet (radiator)*

☞ *Close filler cap **B***

☞ *Start the engine and let it warm up for about 5 – 10 minutes*

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key and carry it with you.*

☞ *Let the engine cool down*

☞ *Check the coolant level again*

➥ The coolant level must be between the **LOW and FULL** tank seams

☞ *If necessary, fill up coolant and repeat the procedure until the coolant level remains constant*

☞ *Close and lock the engine cover*

Caution!

Do not add a different coolant to the one in the tank.

☞ *Only use the coolant recommended by Wacker Neuson – see chapter 6.3 **Kühlmittel-Mischtabelle** on page 6-3.*

Notice!

Check the antifreeze every year before the cold season sets in

5.5 Air filter (up to serial no. AI00875)

Caution!

The air filter element will be damaged if it is washed or brushed out!
Bear in mind the following to avoid premature engine wear or damage:

☞ *Do not clean the air filter element.*

☞ *Replace the air filter element according to the indicator or maintenance plan.*

☞ *Never reuse damaged air filter elements.*

☞ *Ensure cleanliness when replacing the air filter element!*

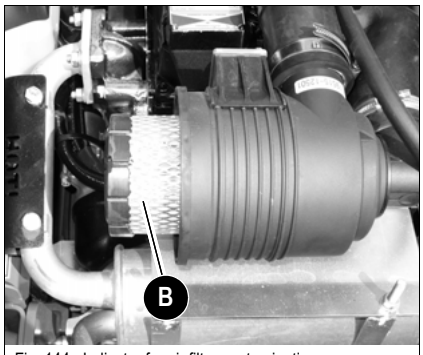


Fig. 144: Indicator for air filter contamination

Replace air filter element ***B*** as indicated in the maintenance plan!

Caution!

Air filter elements degrade prematurely when in service in acidic air for longer periods of time. This risk is present for example in acid production facilities, steel and aluminium mills, chemical plants and other nonferrous-metal plants.

☞ *Replace air filter element **B** after 50 service hours at the latest!*

General instructions for maintenance of the air filter element:

- Store air filter elements in their original packaging and in a dry place!
- Do not knock the air filter element against other objects as you install it!
- Check air filter attachments, air intake hoses and the air filter element for damage, and immediately repair or replace if necessary!
- Check the screws at the induction manifold and the clamps for tightness!
- Check the function of the dust valve, replace if necessary!
- Compress the discharge slot of the dust valve
- Clean the discharge slot if necessary
- Close and lock the engine cover

Replacing air filter elements

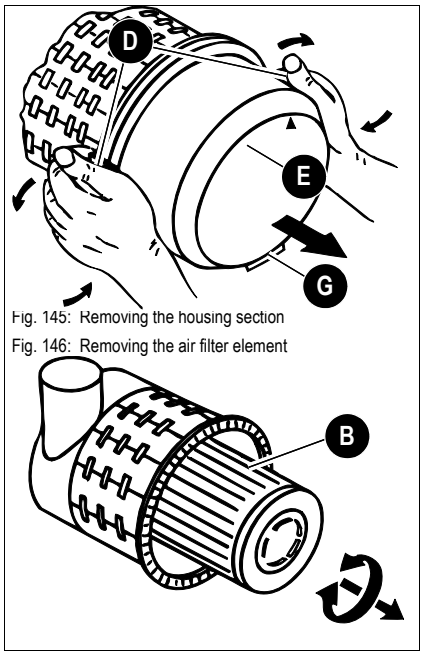


Fig. 145: Removing the housing section

Fig. 146: Removing the air filter element

- Replace the outside air filter element ***B*** as follows:

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key and carry it with you.*

☞ *Let the engine cool down*

☞ *Open the engine cover*

☞ *Remove dirt and dust from the air filter element and the area around the air filter*

☞ *Open bow clips* **D** *on housing section* **E**

☞ *Remove housing section* **E**

☞ *Carefully remove air filter element* **B** *with slightly turning movements*

☞ **Ensure that** *all contamination (dust) inside the housing section and dust valve has been removed*

☞ Clean the parts with a clean lint-free cloth, do not use compressed air

☞ *Check the air filter element for damage, only install intact air filter elements*

☞ *Carefully insert a new air filter element* ***B*** in housing section **F**

☞ *Position housing section* **E** *(ensure that it is properly seated)*

☞ *Close bow clips* **D**

Notice!

Ensure that dust valve **G** shows downwards once it is installed!

5.6 Air filter (from serial no. AI00876)

Caution!

The air filter element will be damaged if it is washed or brushed out!
Bear in mind the following to avoid premature engine wear or damage:

☞ *Do not clean the air filter element.*

☞ *Replace the air filter element according to the indicator or maintenance plan.*

☞ *Never reuse damaged air filter elements.*

☞ *Ensure cleanliness when replacing the air filter element!*

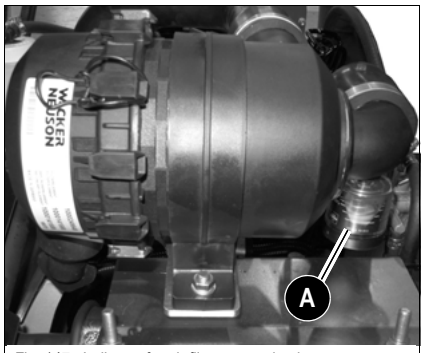


Fig. 147: Indicator for air filter contamination

The air filter elements must be replaced:

- If “Service” (red mark) is displayed on fouling indicator **A**
- According to the maintenance plan

Caution!

Air filter elements degrade prematurely when in service in acidic air for longer periods of time. This risk is present for example in acid production facilities, steel and aluminium mills, chemical plants and other nonferrous-metal plants.

☞ *Check air filter elements every 50 service hours at the latest, and replace it if necessary!*

General instructions for air filter maintenance:

- Store air filter elements in their original packaging and in a dry place!
- Do not knock the air filter element against other objects as you install it!
- Check air filter attachments, air intake hoses and air filter elements for damage, and immediately repair or replace if necessary!
- Check the screws at the induction manifold and the clamps for tightness!
- Check the function of the discharge slot of the dust valve **D**, clean it and replace it if necessary.

  ☞ Squeeze the discharge slot of dust valve **D**.

  ☞ Clean the discharge slot if necessary.

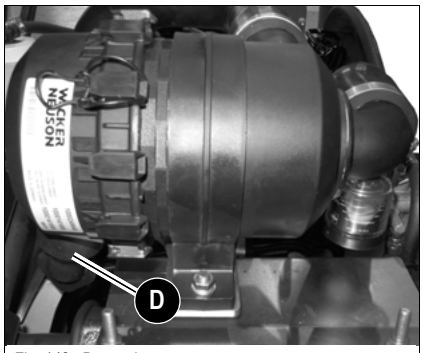


Fig. 148: Dust valve

Replacing air filter elements

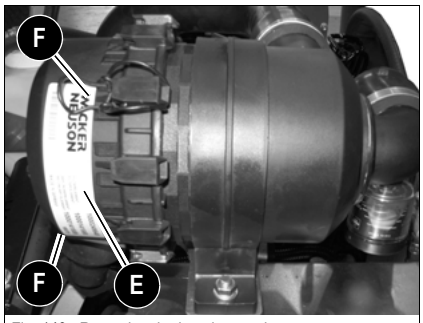


Fig. 149: Removing the housing section

Fig. 150: Removing the outside air filter

Replace the outside air filter element *B* as follows:

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key and carry it with you.*

☞ *Let the engine cool down*

☞ *Open the engine cover*

☞ *Remove dirt and dust from the air filter element and the area around the air filter*

☞ *Open bow clips* **F** *on housing section* **E**

☞ *Remove housing section* **E**

☞ *Carefully remove air filter element* **B** *with slightly turning movements*

☞ **Ensure that** *all dirt (dust) inside the housing section and cover* **E**, *including dust valve* **D**, *has been removed*

  ☞ Clean the parts with a clean lint-free cloth, do not use compressed air

☞ *Check the new outside air filter **B*** for damage and carefully insert it in the housing section *(install only intact air filter elements)*

☞ *Position housing section* **E** *(ensure that it is properly seated)*

☞ *Close bow clips* **F** *on housing section* **E**

Notice!

Ensure that dust valve **D** shows downwards once it is installed!

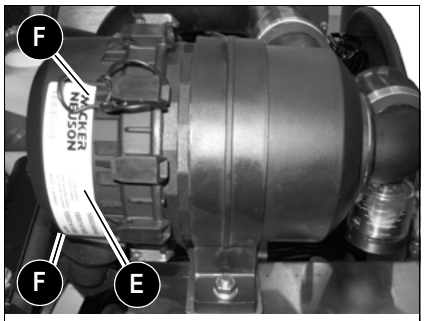


Fig. 151: Removing the housing section

Replace the inside air filter element *C* as follows:

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key and carry it with you.*

☞ *Let the engine cool down*

☞ *Open the engine cover*

☞ *Remove dirt and dust from the air filter element and the area around the air filter*

☞ *Open bow clips* **F** *on housing section* **E**

☞ *Remove housing section* **E**

Fig. 152: Removing the outside air filter

☞ *Carefully remove outside air filter* **B** *with slightly turning movements*

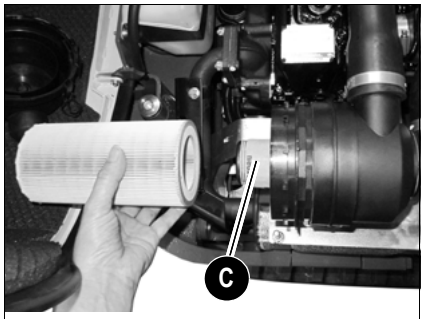


Fig. 153: Inside air filter

☞ *Carefully pull out inside air filter* **A** *with slightly turning movements*

☞ Cover the air supply at the end of the filter with a clean lint-free cloth to prevent dust from entering the engine

☞ **Ensure that** *all dirt (dust) inside the housing section and cover* **E***, including dust valve* **D***, has been removed*

☞ Clean the parts with a clean lint-free cloth, do not use compressed air

☞ Remove the cloth from the air supply

☞ *Check the new inside air filter* ***C*** for damage and carefully insert it in the housing section *(install only intact air filter elements)*

☞ *Carefully insert outside air filter* **B** *in the housing section*

☞ *Position housing section* **E** *(ensure that it is properly seated)*

☞ *Close bow clips* **F** *on housing section* ***E***

☞ *Close and lock the engine cover*

Notice!

Ensure that dust valve **D** shows downwards once it is installed!

5.7 V-belt

Danger!

Only check or retighten/replace the V-belt when the engine is stopped–

Danger of personal injury!

☞ *Stop the engine before carrying out inspection work in the engine compartment*

☞ *Raise the lock lever*

☞ *Remove the ignition key*

☞ *Disconnect the battery*

☞ *Let the engine cool down*

Caution!

Cracked and stretched V-belts cause engine damage

☞ *Have the V-belt replaced by an authorised workshop*

Check the V-belt once a day, and retighten if necessary!

Retighten new V-belts after about 15 minutes of running time.

Checking V-belt tension

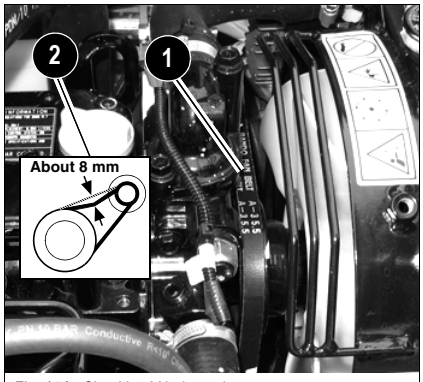


Fig. 154: Checking V-belt tension

☞ Stop the engine

☞ Raise the lock lever

☞ Remove the ignition key and carry it with you.

☞ Disconnect the battery

☞ Let the engine cool down

☞ Open the engine cover

☞ Carefully check V-belt **1** for damage, cracks or cuts

➥ Replace the V-belt if it touches the base of the V-belt groove or if the pulleys are damaged.

☞ Press with your thumb about 100 N to check the deflection of the V-belt between the crankshaft disc and the fan wheel. A new V-belt should have a deflection of 6 to 8 mm, a used V-belt (after about 5 minutes running time) should have a deflection of 7 to 9 mm (see fig. **2**).

☞ Retighten the V-belt if necessary

- If the V-belt is damaged:

☞ Have the V-belt replaced by authorised staff

☞ Close and lock the engine cover

Retightening the V-belt

Caution!

Overtightening the V-belt can damage the V-belt, the V-belt guide and the water pump bearing.
Avoid contact of oil, grease or similar substances with the V-belt.

☞ *Check V-belt tension – see* ***Checking V-belt tension*** *on page 5-15*

☞ *Replace V-belts with damage, cracks, cuts etc.*

☞ *Avoid contact of oil, grease or similar substances with the V-belt*

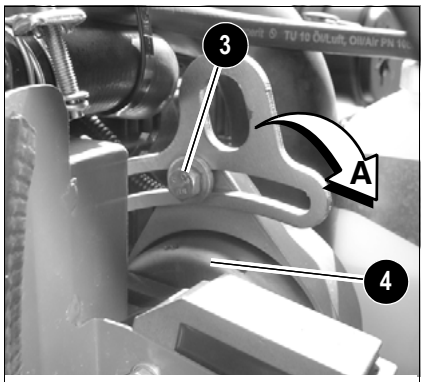


Fig. 155: Retightening the V-belt

☞ Stop the engine

☞ Raise the lock lever

☞ Remove the ignition key and carry it with you.

☞ Disconnect the battery

☞ Let the engine cool down

☞ Open the engine cover

☞ Slacken fastening screws **3** of alternator **4**

☞ Use a suitable tool to push the alternator in the direction of arrow **A** until reaching the correct V-belt tension (fig. 155)

☞ Keep the alternator in this position, and at the same time retighten fastening screws **3**

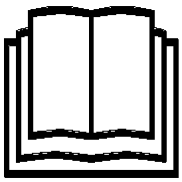
☞ Check V-belt tension again and adjust it if necessary

☞ Connect the battery

☞ Close and lock the engine cover

5.8 Hydraulic system

Specific safety instructions



- Release the pressure in all lines carrying hydraulic oil prior to any maintenance and repair work. To do this:
  - Lower the boom or the attachment to the ground.
  - Move all control levers of the hydraulic control valves several times.
- Raise the lock lever.
- Hydraulic oil escaping under high pressure can penetrate the skin and cause serious injuries. Always consult a doctor immediately even if the wound seems insignificant – otherwise serious infections could set in!
- If the hydraulic oil in the sight glass is cloudy, this indicates that water or air has penetrated the hydraulic system. This can cause damage to the hydraulic pump!
- Oil or fuel flowing out of high pressure lines can cause fire or malfunctions, and severe injuries or damage to property. Interrupt work immediately if slack nuts or damaged hoses and lines are detected.

  ☞ Contact a Wacker Neuson dealer immediately.
- Have a line replaced if one of the following problems is detected:

  ☞ Damaged or leaky hydraulic seals.

  ☞ Worn or torn shells or uncovered reinforcement branches.

  ☞ Expanded shells in several positions.

  ☞ Entangled or crushed movable parts.

  ☞ Foreign bodies jammed or stuck in protective layers.

Caution!

Dirty hydraulic oil, lack of oil or wrong hydraulic oil –

Danger of severe damage to the hydraulic system!

☞ *Take care to avoid contamination when working!*

☞ *Always fill in hydraulic oil using the filling screen!*

☞ *Only use authorised oils of the same type*
– see chapter 5.16 ***Fluids and lubricants*** *on page 5-34*

☞ *Always fill up hydraulic oil before the level gets too low*
– see ***Filling up hydraulic oil*** *on page 5-19*

☞ *If the hydraulic system is filled with biodegradable oil, then only use biodegradable oil of the same type for filling up – observe the sticker on the hydraulic oil tank!*

☞ *Contact your dealer immediately if the hydraulic system filter is contaminated with metal chippings. Otherwise, follow-on damage can result!*

Environment!

Collect drained hydraulic oil and biodegradable oil in a suitable container!
Dispose of drained oil and used filters by an ecologically safe method.
Always contact the relevant authorities or commercial establishments in charge of oil disposal before disposing of biodegradable oil.

Checking the hydraulic oil level

Caution!

Do not fill up oil if the oil level is above the **MAX** position, otherwise the hydraulic system can be damaged and escaping oil can cause serious injuries.

☞ *Check the hydraulic oil level each time the machine is put into operation or once a day*

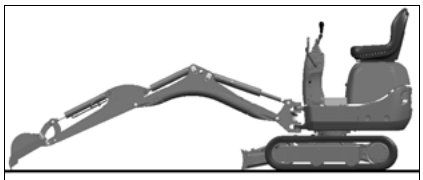


Fig. 156: Parking the excavator

- If the boom is not positioned as shown:
  - Start the engine and let it run at idling speed.
  - Position the boom straight ahead.
  - Lower the boom and the attachment to the ground.
  - Lower the stabiliser blade to the ground.
  - Stop the engine.

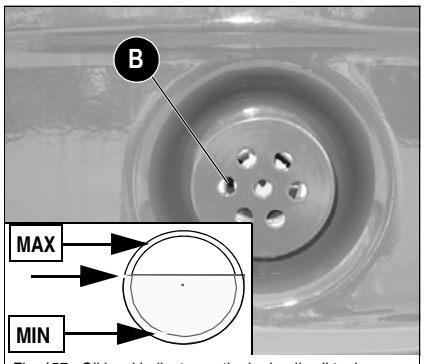


Fig. 157: Oil level indicator on the hydraulic oil tank

- Sight glass **B** is located at the rear of the machine.
- Check the oil level on sight glass **B**
- The oil level must be about 1 cm over the centre, between positions **MIN** and **MAX**, as shown by the arrows in fig. 157.

➥ The **MIN** position indicates the minimum level

➥ The **MAX** position indicates the maximum level

If the oil level is lower

- Fill up hydraulic oil

Notice!

Read off/check the oil level of the hydraulic system only after the machine reaches its operating temperature.

Filling up hydraulic oil

Danger!

Removing the filler plug can cause oil to escape –

Danger of accidents!

☞ *Carefully unscrew the plug to slowly reduce the pressure inside the oil tank.*

Do not fill up the hydraulic oil unless the engine is stopped. Otherwise, hydraulic oil will overflow at the filler opening on the hydraulic tank.

- Park the machine on level ground
- Lower the boom and the attachment to the ground.
- Lower the stabiliser blade to the ground
- Position the boom straight ahead
- Stop the engine
- Raise the lock lever
- Remove the ignition key and carry it with you.
- Let the engine cool down
- Slowly open plug **C** with tool **D** included in the tool kit
- Close and lock the engine cover

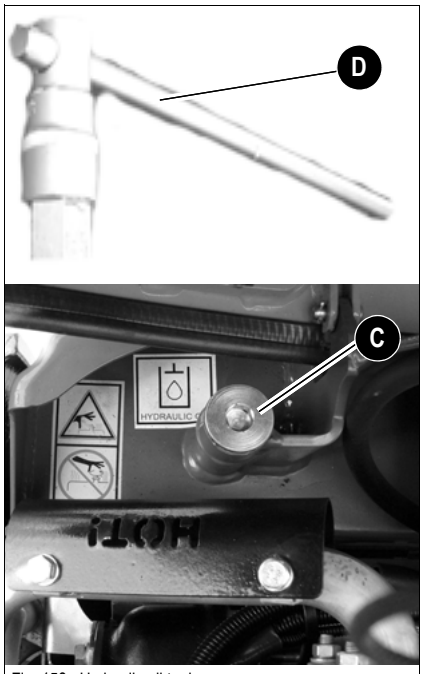


Fig. 158: Hydraulic oil tank

Notice!

The tool kit is on the machine!

Important information for the use of biodegradable oil

- Use only the biodegradable hydraulic fluids which have been tested and released by Wacker Neuson. Always contact a Wacker Neuson dealer before using other products which have not been recommended. In addition, ask the oil supplier for a written declaration of guarantee. This guarantee is applicable to damage occurring on the hydraulic components, which can be proved to be due to the hydraulic fluid.
- Use only biodegradable oil of the same type for filling up. In order to avoid misunderstandings, a label providing clear information is located on the hydraulic oil tank (next to the filler inlet) regarding the type of oil currently used!
  The joint use of two different biodegradable oils can severely affect the quality of one of the oil types. Therefore when using a different kind of biodegradable oil, ensure that the remaining amount of initial biodegradable oil does not exceed the indications of the manufacturer of biodegradable oil.
- Do not fill up with mineral oil – the content of mineral oil should not exceed 2 % in order to avoid foaming problems and to ensure biological degradability.
- When running the machine with biodegradable oil, the same oil and filter replacement intervals are valid as for mineral oil – *see chapter 5.17* ***Maintenance plan (overview)*** on page 5-39.
- Always have the condensation water in the hydraulic oil tank drained by an authorised workshop before the cold season. The water content may not exceed 0.1 % by weight.
- The instructions in this Operator's Manual concerning environmental protection are also valid for the use of biodegradable oil.
- If additional hydraulic attachments are mounted or operated, use the same type of biodegradable oil for these attachments to avoid mixtures in the hydraulic system.

Subsequent change from mineral oil to biodegradable oil must be carried out by a Wacker Neuson workshop or your Wacker Neuson dealer.

Checking hydraulic pressure lines

Specific safety instructions

Danger!

Caution when checking hydraulic lines, especially when searching for leaks. Hydraulic oil escaping under high pressure can penetrate the skin and cause serious injuries.

Danger of personal injury!

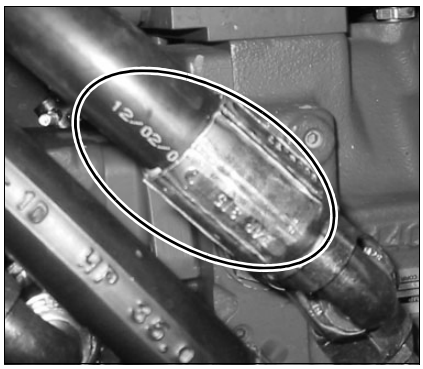
☞ *Always consult a doctor immediately, even if the wound seems insignificant – otherwise serious infections could set in!*

☞ *Always observe the following instructions:*

- Retighten leaking screwed fittings and hose connections only when the system is not under pressure; i.e. release the pressure before working on pressurised lines!
- Never weld or solder damaged or leaking pressure lines and screw connections. Replace damaged parts (or have them replaced) with new ones!
- Never search for leaks with your bare hands, but wear protective gloves!
- Never use an unprotected light or naked flame to check for minor leaks!
- Have damaged flexible lines replaced by authorised workshops only!

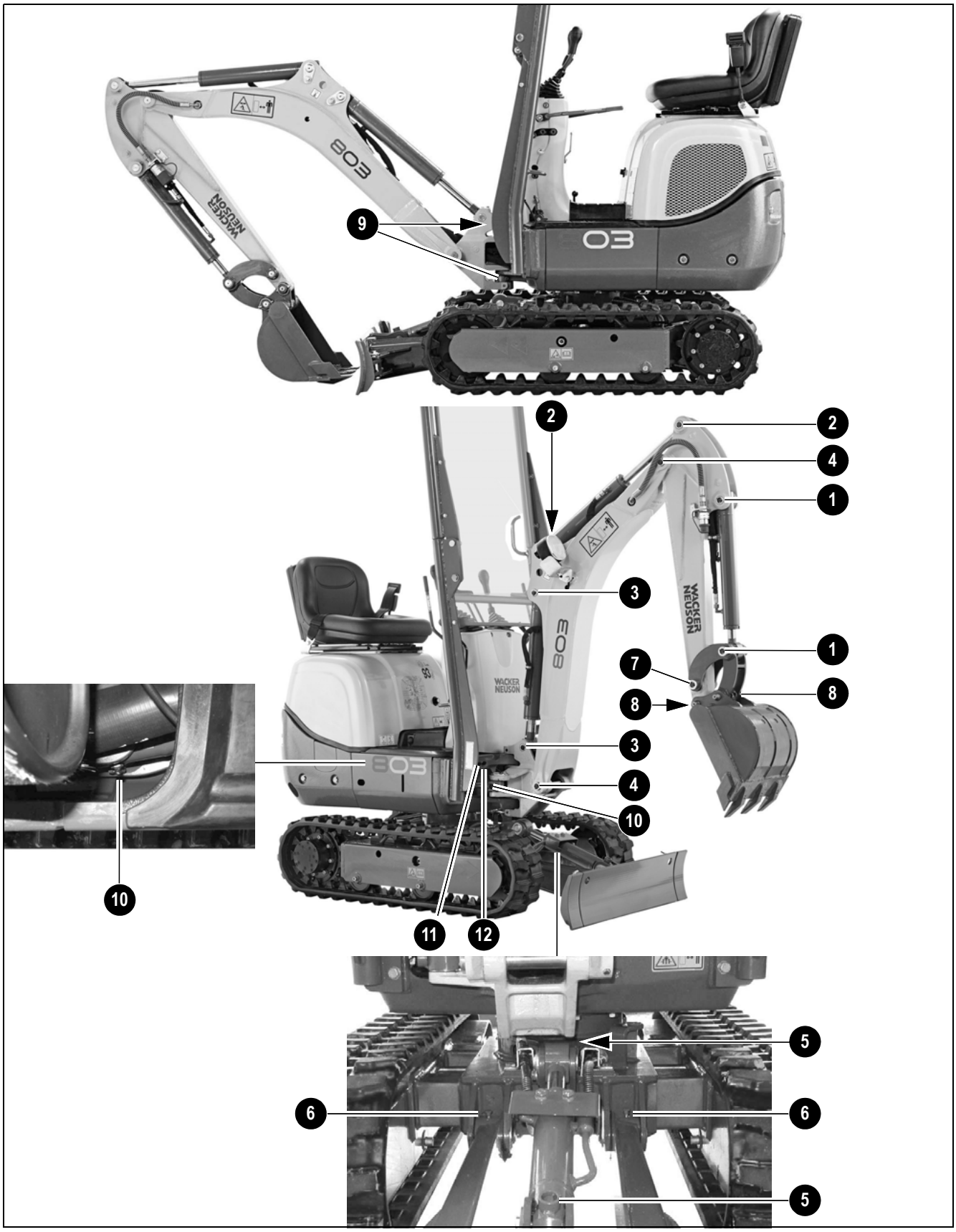
- Leaks and damaged pressure lines must be immediately repaired or replaced by an authorised workshop or after-sales staff. This not only increases the operating safety of the machine but also helps to protect the environment.
- Replace hydraulic hoses every 6 years from the date of manufacture, even if they do not seem to be damaged.

In this respect, we recommend that you observe all the relevant safety regulations for hydraulic lines, as well as the safety regulations regarding accident prevention and occupational health and safety in your country. Also observe DIN 20066, part 5.



The article number is marked on the clamping section, and the date of manufacture is indicated on the hose of each hose connection.

5.9 Overview of lubrication points



Pos.	Lubrication point	No
1	Bucket ram	2
2	Stick ram	2
3	Boom ram	2
4	Boom	2
5	Stabiliser blade ram	2
6	Stabiliser blade	2
7	Stick	1
8	Bucket	2
9	Swivelling console	2
10	Offset ram	2
11	Ball bearing race of live ring *– see chapter* ***Lubricating the ball bearing race of the live ring*** on page 5-24	1
12	Teeth of live ring *– see chapter* ***Lubricating the teeth of the live ring*** on page 5-25	1

Notice!

Keep the lubrication points clean and remove ejected grease.

Parking the machine

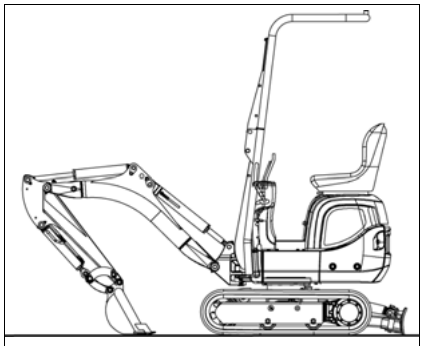


Fig. 159: Parking the excavator

☞ Park the machine on level and horizontal ground.
☞ Lower the boom and the attachment to the ground.
☞ Lower the stabiliser blade to the ground.
☞ Stop the engine.
☞ Remove the ignition key and carry it with you.
☞ Move control levers **15** and **16** in all directions repeatedly.
☞ Raise the lock lever.
☞ Get off the machine, lock the engine cover.

Offset ram lubrication points

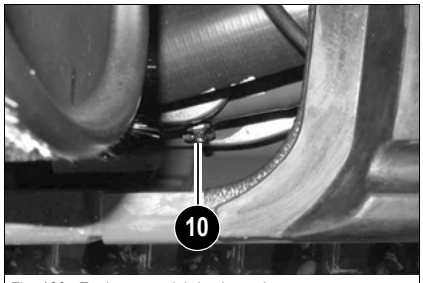


Fig. 160: Engine cover lubrication point

☞ Stop and park the machine.
☞ Open the engine cover.
☞ The lubrication point is located on the right under the engine cover.
☞ Apply grease to lubrication point **10** with a grease gun.
☞ Remove ejected grease.

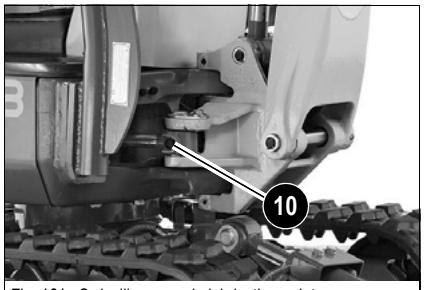


Fig. 161: Swivelling console lubrication point

☞ A further lubrication point is located on the right on the swivelling console.
☞ Apply grease to lubrication point **10** with a grease gun.
☞ Remove ejected grease.

Lubricating the ball bearing race of the live ring

Danger!

Do not rotate the machine during lubrication!

Danger of severe crushing that can cause death or severe injury!

☞ Stop and park the machine – *see chapter* ***Parking the machine*** *on page 5-23.*

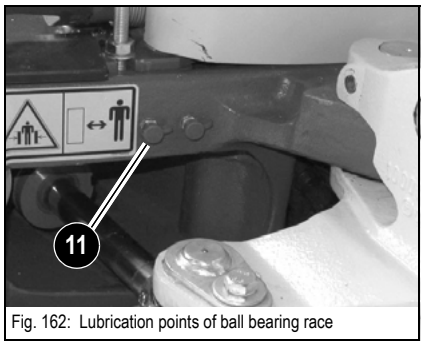


Fig. 162: Lubrication points of ball bearing race

☞ Stop and park the machine.
☞ The lubrication point is located at the front right on the upper carriage.
☞ Apply grease to lubrication point **11** with one stroke of the grease gun.
☞ Remove ejected grease.

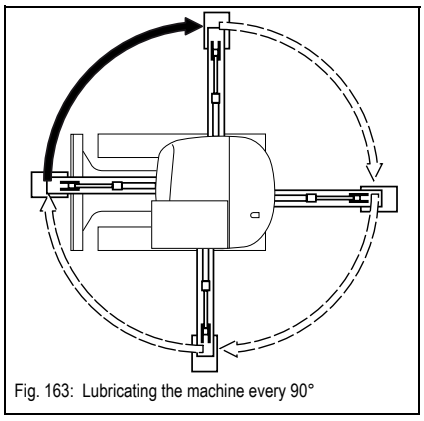


Fig. 163: Lubricating the machine every 90°

☞ Turn the machine 90° three more times and apply grease to lubrication point **11** with one stroke of the grease gun in the following three positions.
☞ Remove ejected grease.
☞ Turn the machine 360° a few times.

Lubricating the teeth of the live ring

Danger!

Do not rotate the machine during lubrication!

Danger of severe crushing that can cause death or severe injury!

☞ *Stop and park the machine – see chapter* ***Parking the machine*** *on page 5-23.*

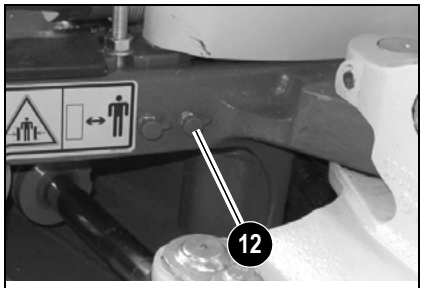


Fig. 164: Teeth lubrication point

☞ Stop and park the machine.

☞ The lubrication point is located at the front right on the upper carriage.

☞ Apply grease to lubrication point **12** with one stroke of the grease gun.

☞ Remove ejected grease.

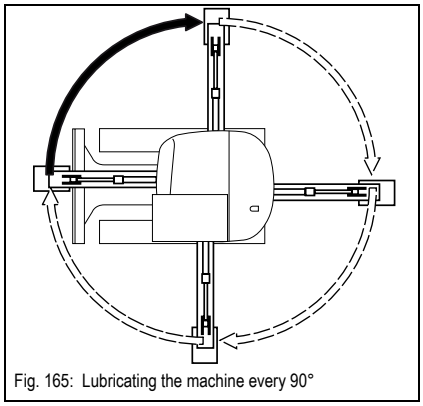


Fig. 165: Lubricating the machine every 90°

☞ Turn the machine 90° three more times and apply grease to lubrication point **12** with one stroke of the grease gun in the following three positions.

☞ Remove ejected grease.

☞ Turn the machine 360° twice.

5.10 Tracks

- Track wear can vary according to work and ground conditions.

☞ We recommend checking track wear and tension once a day.

☞ Park the machine on firm and level ground to check and carry out maintenance.

Checking track tension

Danger!

Working under the machine with the tracks off the ground and only supported by the attachment is extremely dangerous.

Caution, danger!

☞ *Ensure that no-one is in the danger area!*

☞ *Support the machine so as to allow the tracks to sag freely.*

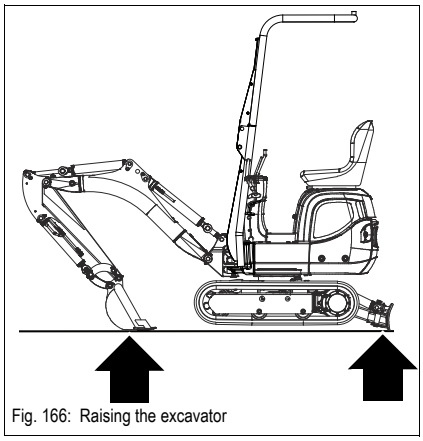


Fig. 166: Raising the excavator

Check track tension as follows:

☞ *Stop the machine on firm, level and horizontal ground*

☞ *Raise the machine evenly and horizontally*

☞ *Raise the machine by means of the boom and the stabiliser blade*

☞ *Slowly and carefully actuate the control levers*

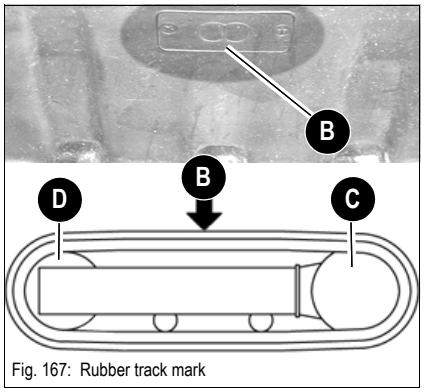


Fig. 167: Rubber track mark

- The rubber track has a mark **B** as shown in *Fig. 167*

☞ *Position the machine* so that mark **B** on the rubber track is on top between drive pinion **C** and track tension roller **D**

☞ *Stop the engine*

☞ *Raise the lock lever*

☞ *Remove the ignition key and carry it with you.*

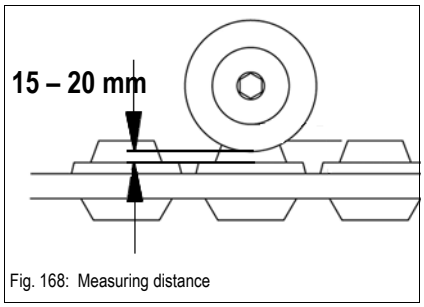


Fig. 168: Measuring distance

- Tolerance between the track roller and the track is 15 – 20 mm (0.6” – 0.8”).

☞ Set the tension as follows if it is not in accordance with the rated value.

Tightening the tracks

Danger!

The lubricating valve can be squeezed out due to the high grease pressure in the hydraulic ram.

Danger of personal injury!

☞ *Open the lubricating valve only very carefully and do not unscrew it more than a revolution.*

☞ *Slacken no other component except the lubricating valve.*

☞ *Keep your face away from the lubricating valve connection.*

➥ Contact your Wacker Neuson dealer if this does not reduce track tension.

☞ *Release grease only as described below.*

➥ *Observe the safety instructions!*

Caution!

Excessive tension of the tracks causes severe damage to the ram and the track.

☞ *Tighten the tracks only up to the prescribed measuring distance*

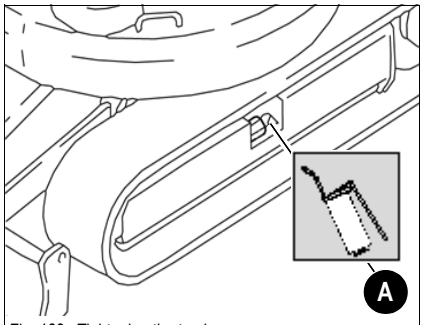


Fig. 169: Tightening the tracks

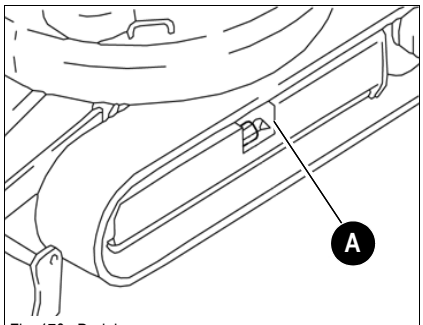


Fig. 170: Draining grease

Tightening the tracks

☞ *Inject grease with a grease gun through lubricating valve **A***

☞ *Check the tension is correct by lowering the machine to the ground, starting the engine, letting it run at idling speed without any load and slowly moving the machine forwards and reverse and switching it off again. Raise the machine again with the boom.*

☞ *Check the tension of the tracks again.*

➥ If it is not correct:

☞ Adjust again.

☞ *Should the tracks still be slack after injecting more grease, replace the tracks or the seals in the rams. Contact a Wacker Neuson dealer in this case.*

Reducing tension

☞ *Place a suitable container underneath to collect the grease.*

☞ *Slowly turn lubricating valve **B** one revolution counterclockwise to release the grease.*

☞ *Retighten the lubricating valve **B**.*

➥ The grease flows out of the groove of the lubricating valve.

☞ *Check the tension is correct by lowering the machine to the ground, starting the engine, letting it run at idling speed without any load and slowly moving the machine forwards and reverse and switching it off again. Raise the machine again with the boom.*

☞ *Check the tension of the tracks again.*

Environment!

Use a suitable container to collect the grease and dispose of it in an environmentally friendly manner.

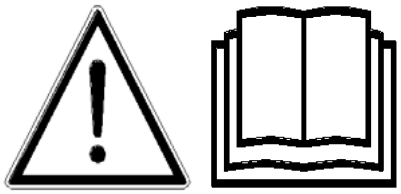
5.11 Travelling drive

Notice!

The travelling drive is designed as a **maintenance-free gerotor motor**. The hydraulic oil that flows through it lubricates and cools all moving components, therefore an oil change is not necessary.

5.12 Electrical system

Specific safety instructions



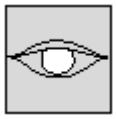
- Use only 12 V power sources. Higher voltages will damage the electric components.
- When connecting the battery leads, ensure that the poles +/– are not inverted, otherwise sensitive electric components will be damaged.
- Do not interrupt voltage-carrying circuits at the battery terminals – danger of sparking!
- Never place tools or other conductive articles on the battery – danger of short circuit!
- Disconnect the negative (**–**) battery terminal from the battery before starting repair work on the electrical system.
- Dispose of used batteries properly.

Service and maintenance work at regular intervals

Before driving the machine

☞ *Check every time before driving the machine:*

- Is the light system OK?
- Do the lights and the acoustic warning system work?



Every week

☞ *Check once a week:*

- Electric fuses
  – *see chapter* ***Fuses behind the right-hand trim*** on page 6-3
- Cable and earth connections
- Battery charge condition – *see* ***Battery*** on page 5-30
- Condition of battery terminals

Instructions concerning specific components

Cables, lamps and fuses

Always observe the following instructions:

- Defective components of the electrical system must always be replaced by an authorised expert. Lamps and fuses may be replaced by by unqualified persons.
- When carrying out maintenance work on the electrical system, pay particular attention to ensuring good contact in leads and fuses.
- Blown fuses indicate overloading or short circuits. The electrical system must therefore be checked before installing a new fuse.
- Only use fuses with the specified load capacity (amperage)
  – *see chapter* ***Fuses behind the right-hand trim*** on page 6-3

Alternator

Observe the following instructions:

- Start the engine only if the battery is connected.
- When connecting the battery, ensure that the poles (+/–) are not inverted
- Always disconnect the battery before carrying out welding work or connecting a quick battery charger!
- Replace defective charge indicator lights immediately – *see chapter* ***Alternator charge function indicator light (red)*** on page 3-10.

Battery

Danger!

Battery acid is highly caustic!

Danger of caustic injury!

Therefore when recharging and/or working near the battery:

☞ *Always wear goggles and protective clothing with long sleeves.*

If acid is spilt:

☞ *Thoroughly rinse all affected surfaces immediately with plenty of water.*

☞ *Thoroughly wash any part of the body touched by the acid immediately with plenty of water and seek medical attention at once!*

Especially when charging batteries, as well as during normal operation of batteries, an oxyhydrogen mixture is formed in the battery cells – danger of explosion!

Danger of explosion!

The battery contains sulphuric acid! This acid must not be allowed to come into contact with the skin, the eyes, clothing or the machine.

☞ *Do not use naked flames near open battery cells, avoid sparks close by and do not smoke – otherwise the gas that is also produced during normal battery operation (not only during battery charging) could ignite!*

☞ *Do not attempt to jump-start the machine if the battery is frozen or if the acid level is low. The battery can rupture or explode!*

- Replace the battery immediately

☞ *Always disconnect the negative terminal (–) from the battery before starting repair work on the electrical system!*

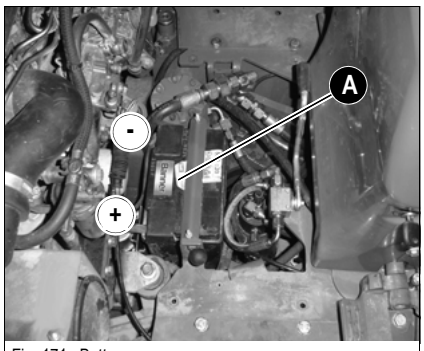


Fig. 171: Battery

Battery **A** is located under the floor panel directly in front of the control stand. The battery is “maintenance-free”. However check the battery at regular intervals to ensure that the electrolyte level is between the MIN and MAX marks.

Checking the battery requires it to be removed and must be carried out by an authorised workshop.

Always follow the specific battery safety instructions!

Notice!

Do not disconnect the battery while the engine is running.

5.13 General maintenance work

Cleaning

Cleaning the machine is divided into 2 separate areas:

- Exterior of the machine
- Engine compartment

The wrong choice of cleaning equipment and agents can impair the operating safety of the machine on the one hand, and on the other undermine the health of the persons in charge of cleaning the machine. It is therefore essential to observe the following instructions.

General instructions for all areas of the machine

Cleaning with washing solvents

- Ensure adequate room ventilation
- Wear suitable protective clothing
- Do not use flammable liquids, such as petrol or diesel

Cleaning with compressed air

- Work carefully
- Wear goggles and protective clothing
- Do not aim the compressed air at the skin or at other people
- Do not use compressed air for cleaning your clothing

Cleaning with a high-pressure cleaner or steam jet

- Electric components and damping material must be covered and not directly exposed to the jet
- Cover the hydraulic oil tank and the covers of the fuel tank, the hydraulic oil tank etc.
- Protect the following components from moisture:
  - Engine
  - Electric components such as the alternator etc.
  - Control devices and seals
  - Air intake filters etc.

Cleaning with volatile and easily flammable anticorrosion agents and sprays:

- Ensure adequate room ventilation
- Do not use unprotected lights or naked flames
- Do not smoke

Control stand

Caution!

Never use high-pressure cleaners, steam jets or high-pressure water to clean the control stand. Water under high pressure can
- penetrate into the electrical system and cause short circuits and
- damage seals and disable the controls!

We recommend using the following aids to clean the control stand:
- Damp cloth
- Brush
- Water with mild soap solution

Cleaning the seat belt:

- Clean the seat belt (which remains fitted in the machine) with a mild soap solution only. Do not use chemical agents as they can destroy the fabric!

Exterior of the machine

The following articles are generally suitable:
- High-pressure cleaner
- Steam jet

Engine compartment

Danger!

Clean the engine at engine standstill only –

Danger of personal injury!

☞ *Stop the engine before cleaning*

Caution!

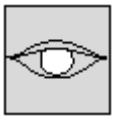
When cleaning the engine with a water or steam jet

☞ *The engine must be cold*

☞ *and do not point the jet directly at electric sensors such as the oil pressure switch.*

The humidity penetrating any such sensors causes them to fail and possibly leads to engine damage!

Screw connections and attachments



All screw connections must be checked regularly for tightness, even if they are not listed in the maintenance schedules. This applies in particular to:

☞ *Engine fastening screws*

☞ *Fastening screws on the hydraulic system*

☞ *Bucket teeth and pin fastenings on the attachment*

☞ *Rollbar fastening screws*

Retighten loose connections immediately. Contact an authorised workshop if necessary.

Pivots and hinges

All mechanical pivot points on the machine (e.g. door hinges, joints) and fittings (e.g. door arresters) must be lubricated regularly, even if they are not listed in the lubrication plan.

5.14 Preparatory work before taking the machine out of service

The measures indicated below refer to putting the machine out of operation for 30 days or longer.

- – *see chapter 2.7* ***Sicherheitshinweise für Wartung und Pflege*** on page 2-11
- Store the machine indoors if possible.
- If the machine is stored outdoors, place it on a wooden base and cover it with a watertight tarpaulin to protect it against humidity.
- Check whether oil or other fluids leak from the machine.
- Lower the boom and the stabiliser blade to the ground.
- Clean the engine with a high-pressure cleaner in a suitable place.
  Observe the following chapter – *see chapter* ***Cleaning with a high-pressure cleaner or steam jet*** on page 5-31.
- Carefully clean and dry the entire machine.
- Spray an anticorrosion agent onto bare metal parts of the machine (e.g. piston rods of hydraulic rams).
- Apply grease to all lubrication points.
- Change engine oil.
- Check the oil levels in all units and fill up oil if necessary.
- Check and if necessary, fill up the hydraulic oil.
- Fill up the fuel tank to the maximum level.
- Check the coolant, change as required
- Remove the earthing strap from the battery, or remove the battery and store it in a safe place. Charge the battery and carry out battery maintenance at regular intervals.
- Close the exhaust pipe and the air intake opening of the air filter system.

5.15 Maintenance if the machine is out of service for a longer period of time

The following measures must be taken if the machine is out of service for more than 30 days.

Putting the machine into operation again

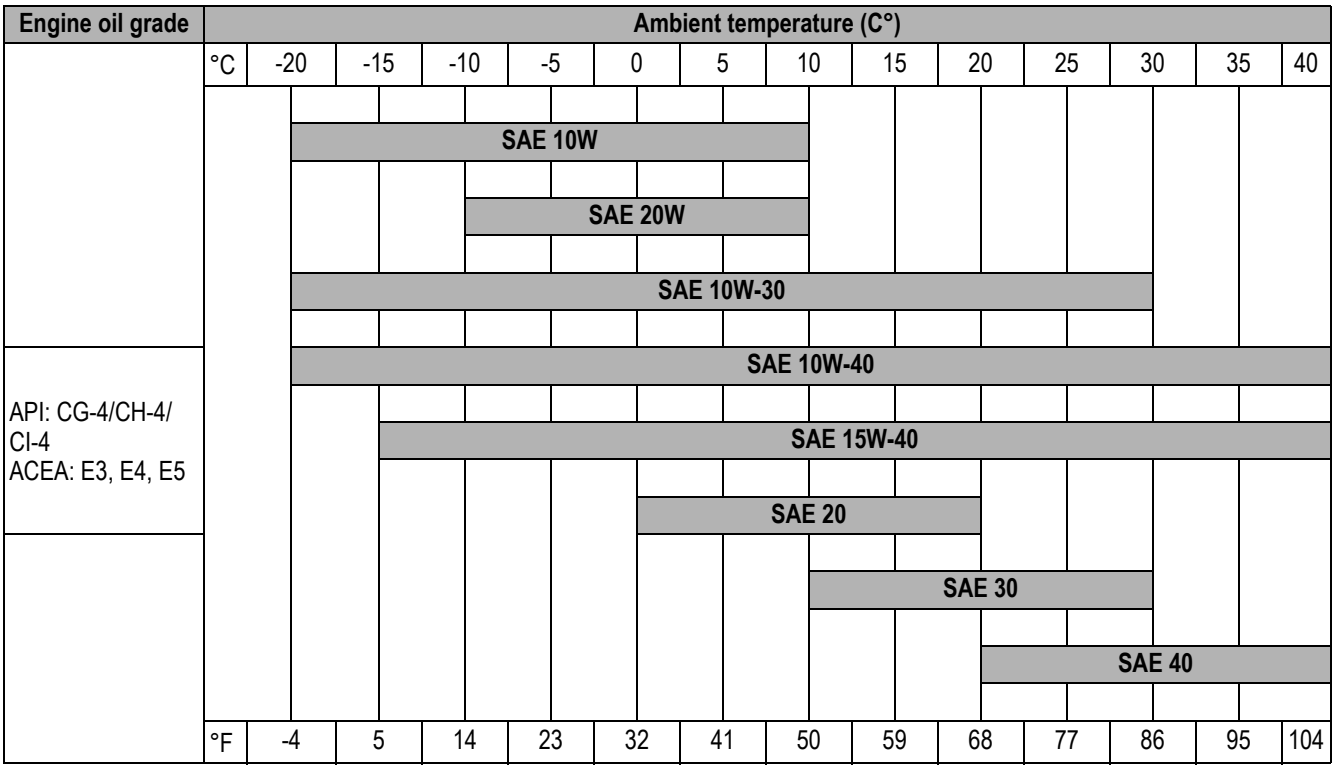
- Remove anticorrosion agent from the piston rods.
- Charge, install and connect the battery.
- Remove the seals from the exhaust pipe and the air filter intake.
- Check the condition of the air filter element and replace the element if necessary.
- Check the dust valve.
- Refuel.
- Switch on the fuel prefilter on the upper carriage and the fuel filter on the engine (turn to ON).
- Turn the ignition to position 1 for 2 minutes (to supply the engine with fuel).
- If the machine was out of service for over 6 months, change the oil in the gearbox, engine, etc. and the hydraulic oil tank.
- Check the engine oil
- Also replace hydraulic oil filters (return and breather filters) if the machine has been out of service for over 6 months.
- Lubricate the machine according to the lubrication plan.
- Check the levels.
- Check the coolant, change as required
- Remove the ignition key, remove fuse F2 on the right-hand cover.
- Let the engine run 15 seconds.
- Wait 15 seconds.
- Let the engine run 1 minute again.
- Remove the ignition key, put fuse F2 back in.
- Start the diesel engine.
- Let the engine run at idling speed at least 15 minutes without load.
- Check the oil levels in all units and fill up oil if necessary.

5.16 Fluids and lubricants

Component/ application	Engine/machine fluid	Specification	Season/tempera-ture	Capacities[1]
Diesel engine	Engine oil	API: CG-4/CH-4/CI-4 ACEA: E3, E4, E5	–15 °C +45 °C	2.5 l
		ACEA E3, E4, E5 (SAE10 W 40)[2]		
Hydraulic oil tank	Hydraulic oil	HVLP46[3]	Year-round[4]	13.8 l
		HVLP46[5]		
	Biodegradable oil[6]	PANOLIN HLP Synth 46		
		BP BIOHYD SE-46		
Grease	Roller and friction bearings	KPF2N-20[7]	Year-round	As required
	Live ring gears			
	Live ring (ball bearing race)			
	Grease nipples			
Battery terminals	Acid-proof grease[8]	FINA Marson L2	Year-round	As required
Fuel tank	Diesel fuel	2-D ASTM D975 – 94 (USA)	Depending on outside tempera-tures Summer or winter diesel fuel	7 l
		1-D ASTM D975 – 94 (USA)		
		EN 590 : 96 (EU)		
		ISO 8217 DMX (International)		
		BS 2869 – A1 (GB)		
		BS 2869 – A2 (GB)		
Radiator	Coolant	Soft water + antifreeze ASTM D4985	Year-round	2.9 l
		Distilled water + antifreeze ASTM D4985		

1. The capacities indicated are approximate values; the oil level check alone is relevant for the correct oil level
   Capacities indicated are no system fills
2. According to DIN 51511
3. According to DIN 51524 section 3
4. Depending on local conditions – *see* ***Hydraulics oil grade*** on page 5-36
5. According to DIN 51524 section 3
6. Hydraulic ester oils (HEES)
7. KPF2N-20 according to DIN 51502 EP multipurpose calcium sulphonate complex grease
8. Standard acid-proof grease

Oil grades for the diesel engine, depending on temperature



Oil change and filter replacement (hydraulics)

Caution!

An additional oil change and filter replacement can be required depending on how the machine is used. Failure to observe these replacement intervals can cause damage to hydraulic components.

☞ *Observe the following intervals*

Application		Hydraulic oil	Hydraulic oil filter insert
Normal work (excavation work)		Replace the first time after 500 s/h, then every 1000 s/h	Replace the first time after 50 s/h, then every 500 s/h
Percentage of hammer work	20 %	Every 800 s/h	300 s/h
	40 %	Every 400 s/h	
	60 %	Every 300 s/h	100 s/h
	Over 80 %	Every 200 s/h	

Notice!

Please refer to the maintenance plan on page 5-39 for additional maintenance work.

Oil grades for the hydraulic system, depending on temperature

Hydraulics oil grade	Ambient temperature													
HVLP[1]	°C	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	50
		ISO VG32													
					ISO VG46										
							ISO VG68								
	°F	-4	5	14	23	32	41	50	59	68	77	86	95	104	122

1. According to DIN 51524 section 3

5.17 Maintenance plan (overview)

Work description

For service and maintenance work on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer.

	Maintenance plan/service hours (s/h)							
	Maintenance work (once a day)	Every 50 s/h	Every 250 s/h	Every 500 s/h	Every 1000 s/h once a year	Every 2000 s/h	Customer	Authorised workshop
Fluid and filter changes ( ):								
Carry out the following oil and filter changes (check oil levels after test run):								
• Engine oil[1]		●	●					●
• Engine oil filter[2]		●	●					●
• Fuel filter[3]		●		●				●
• Water separator					●			●
• Coolant					●			●
• Hydraulic oil filter insert [4]		●		●				●
• Hydraulic oil[5]				●	●			●
• Drain condensation water from hydraulic oil tank				●				●
• Air filter element (up to serial no. AI00875)			●				●	
• Air filter element according to fouling indicator (from serial no. AI00876) [6]					●		●	
Inspection work ( ):								
Check the following material. Refill if necessary:								
• Engine oil	●						●	
• Engine coolant	●						●	
• Fuel	●						●	
• Hydraulic oil	●						●	
Check the function of the pedals (up to serial no. AI00975) • Clean, lubricate or repair the pedals	●						●	
Check the function of the pedals, they must flip back automatically (from serial no. AI00975) • Clean, lubricate or repair the pedals, check the torsion springs	●						●	
Clean water ducts [7]					●			●
Check radiator for engine and hydraulic oil for dirt. Clean if necessary	●						●	

5.17 Maintenance plan (overview)

Work description For service and maintenance work on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer.	Maintenance plan/service hours (s/h)							
	Maintenance work (once a day)	Every 50 s/h	Every 250 s/h	Every 500 s/h	Every 1000 s/h once a year	Every 2000 s/h	Customer	Authorised workshop
Check cooling systems and hoses for leaks and pressure (visual check)	●						●	
Air filter (damage)	●						●	
Remove dust from dust valve	●						●	
Prefilter with water separator: drain water	●						●	
• Clean			●				●	
Check V-belt condition and tension	●						●	
Check exhaust system for damage and condition	●						●	
Check the rollbar for damage	●						●	
Check valve clearance. Adjust if necessary					●			●
Clean and adjust the fuel injection pump [8]					●			●
Check and adjust the injection pressure of the injection nozzles, clean the injection needles/nozzles					●			●
Check and adjust injection time [9]					●			●
Empty the fuel tank and check for dirt				●				●
Check battery electrolyte. Fill up with distilled water if necessary		●		●			●	
Check alternator, starter and electric connections, bearing play and function				●				●
Check preheating system and electric connections				●				●
Pressure check of primary pressure limiting valves[10]		●		●				●
Check tracks for cracks and cuts	●						●	
Check track tension. Retighten if necessary	●						●	
Check bearing play of tread rollers, track carrier rollers, front idlers				●				●
Check piston rods for damage	●						●	
Check the screw connections of the safety devices (e.g. rollbar, etc.) for tightness	●						●	
Check the screw connections for tightness				●				●

5.17 Maintenance plan (overview)

Work description

For service and maintenance work on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer.

	Maintenance plan/service hours (s/h)							
	Maintenance work (once a day)	Every 50 s/h	Every 250 s/h	Every 500 s/h	Every 1000 s/h once a year	Every 2000 s/h	Customer	Authorised workshop
Check pin lock	●						●	
Check line fixtures	●						●	
Check indicator lights for correct function	●						●	
Couplings, dirt pile-up on hydraulic system dust caps	●						●	
Check insulating mats in the engine compartment for damage/condition		●					●	
Check labels and Operator's Manual for completeness and condition		●					●	
Lights and acoustic warning system[11]		●					●	
Check lubricant on live ring[12]		●		●	●			●
Check gearing of swivel unit pinion					●			●
Lubrication service ( ):								
Lubricate the following assemblies/components – *see Maintenance label* on page 5-43:								
• Stabiliser blade	●						●	
• Swivelling console	●						●	
• Boom	●						●	
• Stick	●						●	
• Attachments	●						●	
• Teeth of live ring					●	●[13]	●	
• Ball bearing race of live ring	●						●	
Functional check ( ):								
Check the function of the following assemblies/components. Rectify if necessary:								
• Lights and acoustic warning system	●						●	
• Check pedal function	●						●	
Leakage check ( ):								
Check for tightness, leaks and chafing: pipes, flexible lines and screw connections of the following assemblies and components. Rectify if necessary:								

5.17 Maintenance plan (overview)

Work description

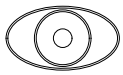
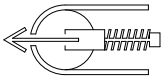
For service and maintenance work on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer.

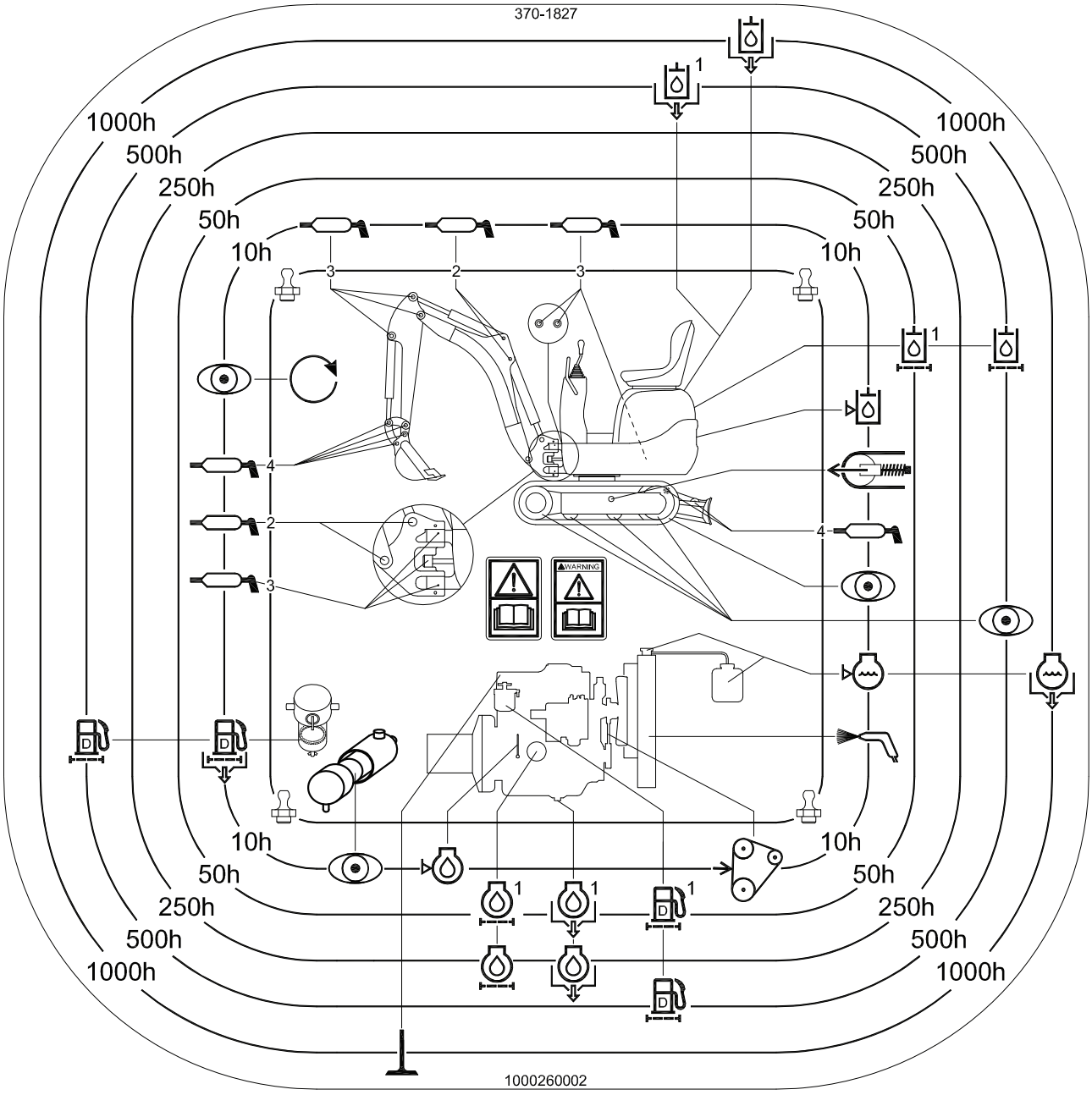
	Maintenance plan/service hours (s/h)							
	Maintenance work (once a day)	Every 50 s/h	Every 250 s/h	Every 500 s/h	Every 1000 s/h once a year	Every 2000 s/h	Customer	Authorised workshop
• Visual check	●						●	
☞ Engine, hydraulic system and hydraulic components	●						●	
☞ Cooling circuit	●						●	
☞ Travelling drive	●						●	

1. Drain engine oil the first time after 50 s/h, then every 250 s/h
2. Replace the engine oil filter the first time after 50 s/h, then every 250 s/h
3. Replace the fuel filter the first time after 50 s/h, then every 500 s/h
4. Replace the hydraulic oil filter insert the first time after 50 s/h, then every 500 s/h
5. Replace the hydraulic oil the first time after 500 s/h, then every 1000 s/h
6. According to the fouling indicator, every 1000 s/h or once a year at the latest (replace after 50 s/h when in extensive use in environments with acidic air, such as acid production facilities, steel and aluminium mills, chemical plants and other nonferrous-metal plants)
7. Clean the water ducts every other 1000 s/h servicing
8. Clean and adjust the fuel injection pump every other 1000 s/h servicing
9. Check and adjust injection time every other 1000 s/h servicing
10. Check the first time after 50 s/h, then every 500 s/h
11. Check once a week
12. Check the first time after 50 s/h, then every 500 s/h
13. Replace the gear lubricant every 2000 s/h

5.18 Maintenance label

Explanation of symbols on the maintenance label

Symbol	Assembly	Explanation
	General	Visual check
	General	Grease instructions
	Fuel system	Drain condensation water
	Fuel system	Replace the fuel filter, clean the fuel prefilter
	Radiator	Check the coolant level
	Radiator	Drain and fill in new coolant
	Engine	Check valve clearance. Adjust if necessary
	Engine	Check the engine oil level
	Engine	Change engine oil
	Engine	Replace the oil filter
	Engine	Check V-belt tension
	Hydraulic system	Check oil level
	Hydraulic system	Change hydraulic oil
	Hydraulic system	Replacing the hydraulic oil filter
	Undercarriage	Check track tension
	Radiator fins	Clean


370-1827
1000h
500h
250h
50h
10h
1
2
3
4
WARNING
1000260002

6 Specifications

6.1 Chassis

Sturdy steel sheet chassis, rubber-mounted engine

6.2 Engine

Engine	Model 803
Product	Yanmar diesel engine
Type	3TNV70-VNS
Design	Water-cooled 4 stroke diesel engine
No. of cylinders	3
Displacement	854 cm³
Nominal bore and stroke	70 x 74 mm
Output	9.6 kW at 2100 rpm
Max. torque	51.5 Nm at 1500 rpm
Max. engine speed without load	2270 +/- 25 rpm
Idling speed	1300 +/- 50 rpm
Fuel injection system	Indirect injection
Starting aid	Glow plug (preheating time 4 seconds)
Max. inclined position (engine no longer supplied with oil):	30° briefly in all directions Observe the machine's climbing ability (30°/ 58 %)!
Exhaust values according to	EPA – Tier 4

6.3 Hydraulic system

Hydraulics	Model 803
Pump	Twin gear pump 2 x 5 cm³
Flow rate	2 x 11.35 l/min at 2270 rpm
Operating pressure for work and drive hydraulics	170 bar
Swivel unit operating pressure	70 bar
Hydraulic tank capacity	13.8 l

6.4 Undercarriage and swivel unit

Undercarriage/swivel unit	Model 803
Drive speed	1.82 kph
Climbing ability	30°/58 %
Track width	180 mm
No. of track rollers on either side	2
Ground clearance	132 mm
Ground pressure	0.24 kg/cm²
Upper carriage swivel speed	8.0 rpm

6.5 Stabiliser blade

Stabiliser blade	Model 803
Width of stabiliser blade folded in/out	700/860 mm
Height	198 mm
Max. lift over/under subgrade	197/174 mm

6.6 Work hydraulics

Work hydraulics	Model 803
Hydraulic pump displacement	2 x 11.35 l/min at 2270 rpm
Control valve	9 sections
Max. operating pressure	$170^{\pm 3}$ bar
Main pressure restriction for boom/bucket/stick	$170^{\pm 3}$ bar
Main pressure restriction for stabiliser blade	$170^{\pm 3}$ bar
Main pressure restriction for swivel drive (hydraulic motor pressure restriction)	70 bar
Filter	Return filter
Hydraulic oil tank	13.8 l

6.7 Electrical system

Electrical system	
Dynamo	12 V 20 A
Starter	12 V 1.1 kW
Battery	12 V 30 Ah

Fuses behind the right-hand trim

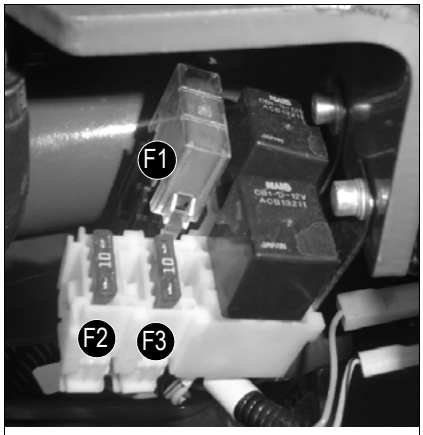


Fig. 172: Fuses

Fuse no.	Rated current (A)	Protected circuit
F1	40 A	– Main fuse
F2	10 A	– Fuse: relays, indicator, cutoff solenoid
F3	10 A	– Fuse: horn, working light

Relays behind the right-hand trim

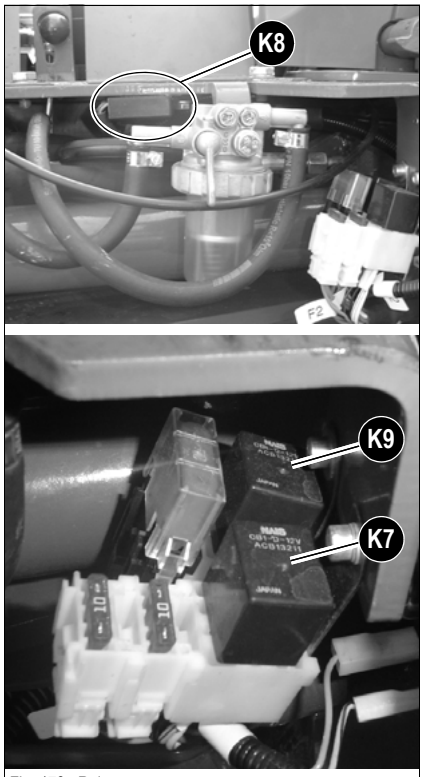


Fig. 173: Relays

Relay no.	Protected circuit
K 7	– Starting relay
K 8	– Cutoff solenoid time lag relay 1s
K 9	– Cutoff solenoid switching relay

6.8 Noise levels

Sound power level	
Sound power level (L_{WA})[1]	93 dB (A)
Sound pressure level (L_{PA}) at the driver's ear[2]	77 dB (A)
Uncertainty (K_{PA})[3]	1.2 dB (A)

1. According to ISO 6395
2. According to ISO 6396
3. According to EN ISO 4871

Notice!

Measurement of sound power level according to EC Directive 2000/14/EC and 2005/88/EC.
Noise level at the driver's ear measured according to EC Directives 84/532/EEC, 89/514/EEC and 95/27/EEC.
Measurements carried out on asphalted surface.

6.9 Vibration

Vibration	
Effective acceleration value for the upper extremities of the body[1]	< Trigger value < 2.5 $\frac{m}{s^2}$
Effective acceleration value for the body [1]	< 0.5 $\frac{m}{s^2}$

1. Measurements as per 2002/44/EC, ISO EN 20643 and ISO/TR 25398 (measured under the following conditions: excavating, driving and hammering with a Wacker Neuson hammer). Machine and attachment operation and maintenance as per Operator's Manual. Uncertainty of measurement: measurements as per EN 12096:1997

6.10 Coolant compound table

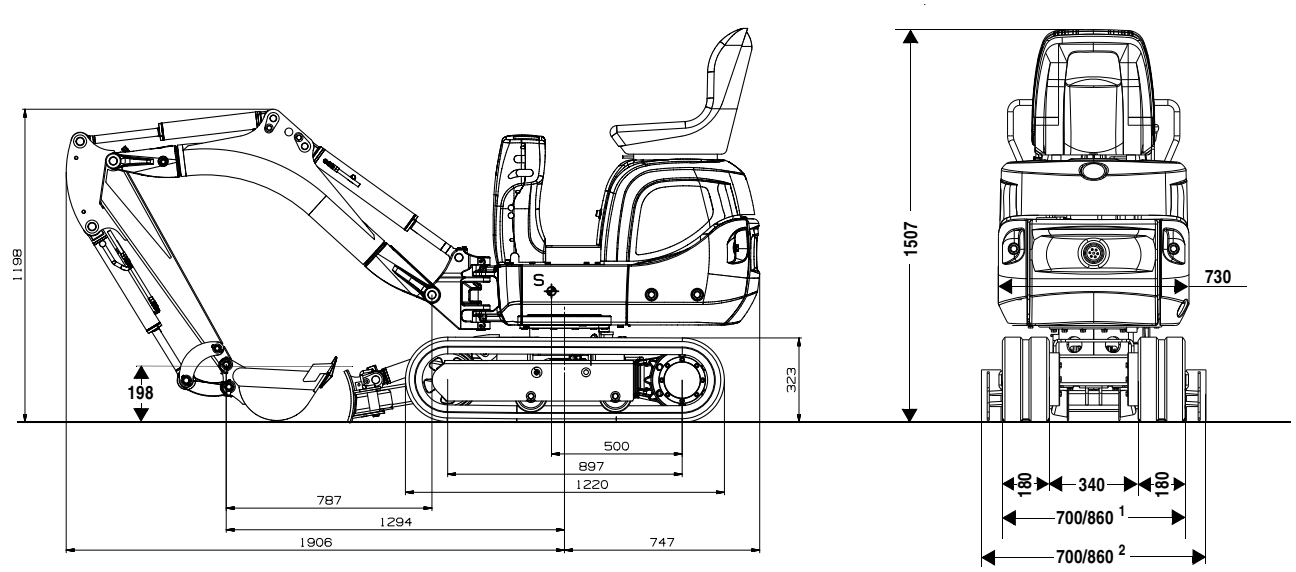
Outside temperature	Coolant			
	Water	Anticorrosion agent		Antifreeze agent
Up to °C (°F)	% by volume	cm³/l / (cu. in./ gal)	% by volume	% by volume
-37 (-34.6)	50	10 (2.6)	1	50

Use the 1:1 concentration for warm outside temperatures, too:

- Protection against corrosion, cavitation and deposits

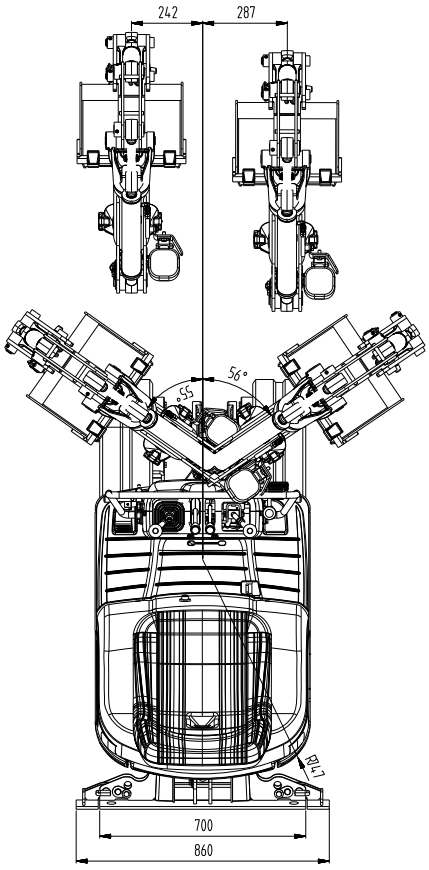
Do not mix the coolant with other coolants.
Machine filled at the factory with Eurolub SF D12 coolant (ethylene glycol basis).

6.11 Dimensions model 803 (up to serial no. AI00966)



1 Retracted/extended telescopic undercarriage
2 folded/unfolded stabiliser blade

Fig. 174: Machine dimensions (model 803)



Main data	Model 803
Service weight	935 kg
Height (transport position)	1507 mm
Upper carriage width	730 mm
Width of retracted/extended telescopic undercarriage	700/860 mm
Width of stabiliser blade folded in/out	700/860 mm
Transport length	2747 mm
Max. digging depth	1731 mm
Stick length	890 mm
Max. vertical digging depth	1349 mm
Max. digging height	2863 mm
Max. dump height	2035 mm
Max. digging radius	3074 mm
Max. reach at ground level	3028 mm
Max. breakout force at bucket tooth	899 daN
Max. tearout force	451 daN
Min. tail end slewing radius	747 mm
Max. tail end lateral projection of upper carriage, 90° rotation With retracted/extended telescopic undercarriage With stabiliser blade folded in/out	397 mm/317 mm 397 mm/317 mm
Max. boom displacement to bucket centre (right-hand side)	287 mm
Max. boom displacement to bucket centre (left-hand side)	242 mm

6.12 Dimensions model 803 with rollbar (from serial no. AI00967)

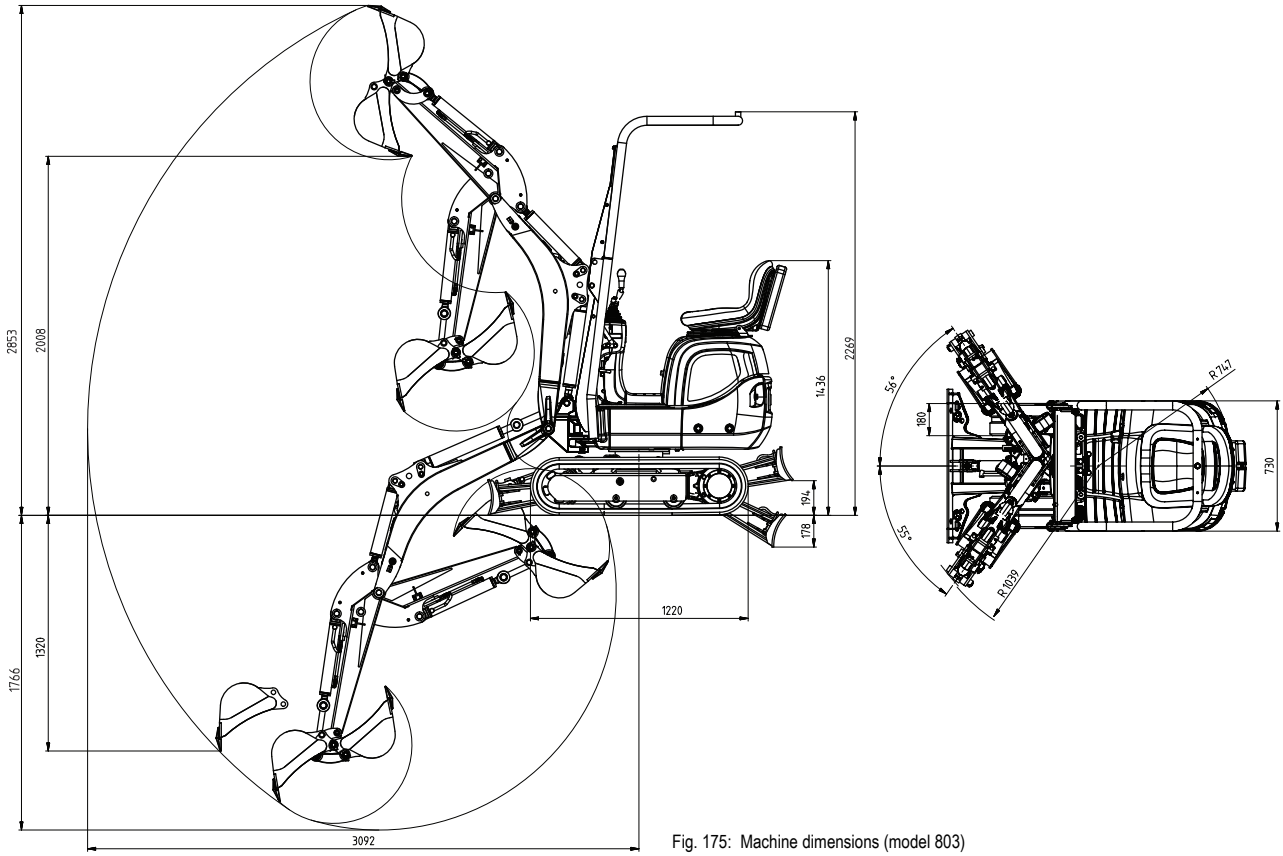


Fig. 175: Machine dimensions (model 803)

Main data	Model 803
Service weight	1087 kg
Transport weight	990 kg
Height	2269 mm
Upper carriage width	730 mm
Width of retracted/extended telescopic undercarriage	700/860 mm
Width of stabiliser blade folded in/out	700/860 mm
Transport length	2747 mm
Max. digging depth	1766 mm
Stick length	890 mm
Max. vertical digging depth	1320 mm
Max. digging height	2853 mm
Max. dump height	2008 mm
Max. digging radius	3092 mm
Max. reach at ground level	3046 mm
Max. breakout force at bucket tooth	899 daN
Max. tearout force	451 daN
Min. tail end slewing radius	747 mm
Max. tail end lateral projection of upper carriage, 90° rotation With retracted/extended telescopic undercarriage With stabiliser blade folded in/out	397 mm/317 mm 397 mm/317 mm
Max. boom displacement to bucket centre (right-hand side)	287 mm
Max. boom displacement to bucket centre (left-hand side)	242 mm

6.13 Dimensions model 803 without rollbar (from serial no. AI00967)

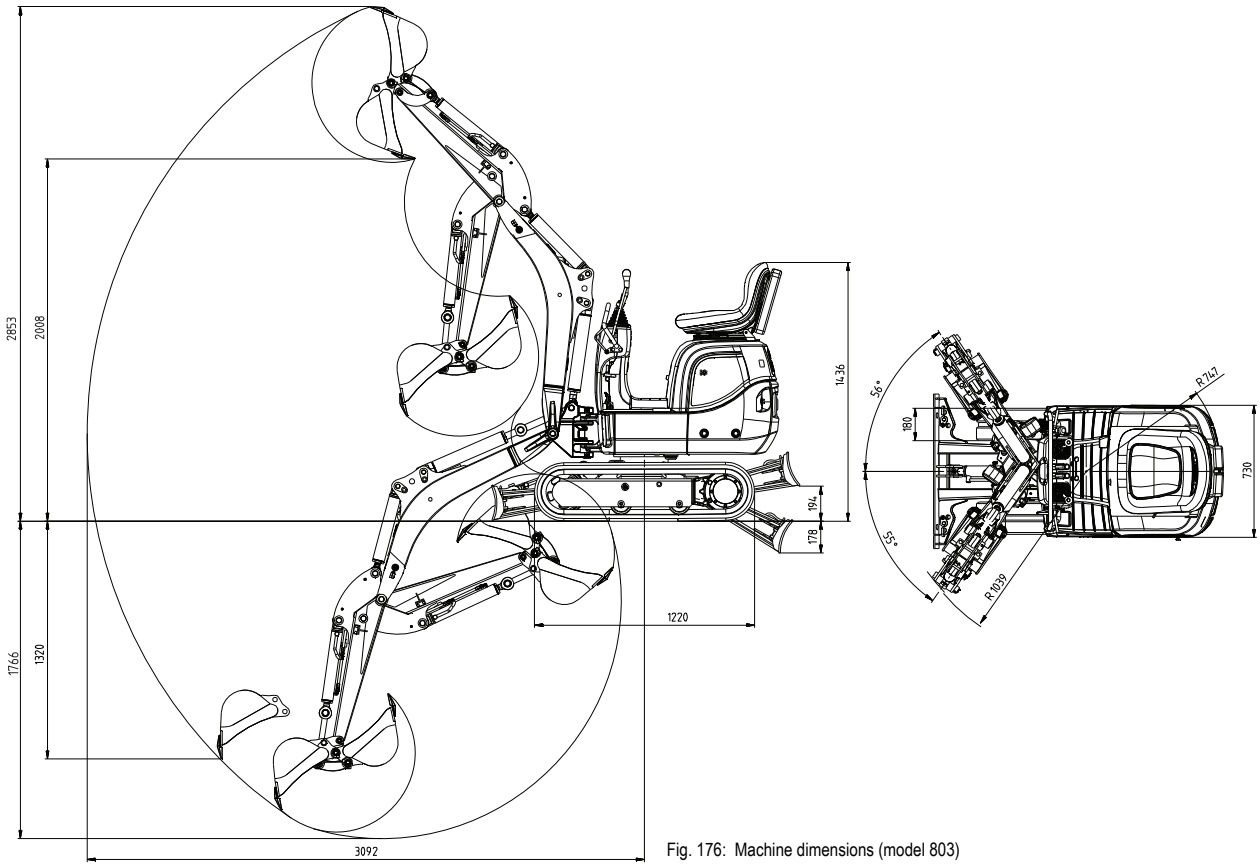


Fig. 176: Machine dimensions (model 803)

Main data	Model 803
Service weight	1029 kg
Transport weight	932 kg
Height	1436 mm
Upper carriage width	730 mm
Width of retracted/extended telescopic undercarriage	700/860 mm
Width of stabiliser blade folded in/out	700/860 mm
Transport length	2747 mm
Max. digging depth	1766 mm
Stick length	890 mm
Max. vertical digging depth	1320 mm
Max. digging height	2853 mm
Max. dump height	2008 mm
Max. digging radius	3092 mm
Max. reach at ground level	3046 mm
Max. breakout force at bucket tooth	899 daN
Max. tearout force	451 daN
Min. tail end slewing radius	747 mm
Max. tail end lateral projection of upper carriage, 90° rotation With retracted/extended telescopic undercarriage With stabiliser blade folded in/out	397 mm/317 mm 397 mm/317 mm
Max. boom displacement to bucket centre (right-hand side)	287 mm
Max. boom displacement to bucket centre (left-hand side)	242 mm

6.14 Lift capacity table 803

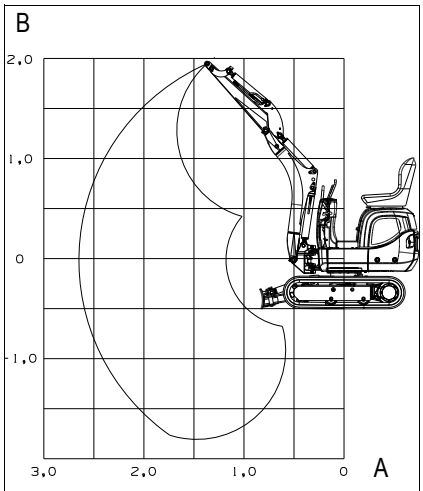
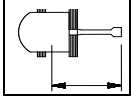


Fig. 177: Lift capacity table (model 803)

A / B	2.0 m		2.5 m	
				
1.0 m	242	176	204	125
0.5 m	272	169	203	122

A	Reach from live ring centre
B	Height

All table indications in kg and horizontal position on firm ground without bucket.

	With the stabiliser blade in driving direction
	Without the stabiliser blade, 90° to driving direction

If equipped with a bucket or other attachments, lift capacity or tilt load is reduced by bucket or attachment dead weight.

Calculation basis: according to ISO 10567

The compact excavator's lift capacity is restricted by the pressure settings and the hydraulic system's stabilising features.

Neither 75 % of the static tilt load nor 87 % of the hydraulic lift capacity is exceeded.

Wacker Neuson Linz GmbH keep abreast of the latest technical developments and constantly improve their products. For this reason, we may from time to time need to make changes to diagrams and descriptions in this documentation which do not reflect products which have already been delivered and which will not be implemented on these machines.

Technical data, dimensions and weights are given as an indication only. Responsibility for errors or omissions not accepted.

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