

# Operator's Manual

Track excavator

# 1404



Machine model	E09-01 (1404)
Edition	2.7
Order no.	1000164553
Language	en



**WACKER  
NEUSON**

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# 1 Introduction

## 1.1 Important information on this 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 personnel, but it also serves as a reference for experienced personnel. It helps to avoid hazardous 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 familiarize 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 servicing is absolutely necessary.

Extensive maintenance and repair work must always be performed by a Wacker Neuson service center. 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 authorization, 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**

- Identifies a list
  - Subdivision within lists or an activity. Follow the steps in the recommended order

 *Identifies an activity*

 Description of the effects or results of an activity

w/o. Fig. = without figure

„Opt.“ = Option

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



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

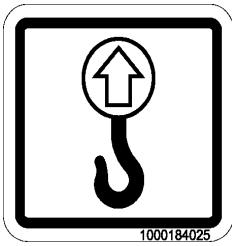


Abb. 11: Lifting eyes

**Meaning**

Machine is raised by the lifting eyes

– see [chapter 3.28 Crane-lifting the machine](#) on page 3-48

**Location**

On the left and right of the stabilizer blade, on the chassis.

On both eye hooks of the cab (option).



Abb. 12: Machine tied down at the slinging points

**Meaning**

Indicates the tie-down points for tying down the machine.

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

– see [chapter Tying down the machine](#) on page 3-53

**Location**

On either side of the stabilizer blade, and on either side of the travel gear.

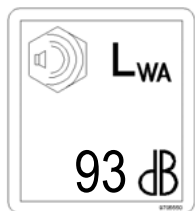


Abb. 13: Noise level indication

**Meaning**

Noise levels produced by the machine.

L<sub>WA</sub> = sound power level

Other information – see [chapter 6.8 Noise levels](#) on page 6-5

**Location**

At the front on the chassis.

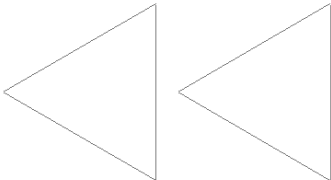


Abb. 14: Direction indicator

**Meaning**

This label shows the forward travel direction.

**Location**

On either side of the travel gear.



Abb. 15: Hydraulic oil

**Meaning**

The reservoir contains hydraulic oil.

– see [chapter 5.4 Engine cooling system](#) on page 5-8

**Location**

Under the valve cover on the hydraulic oil tank.

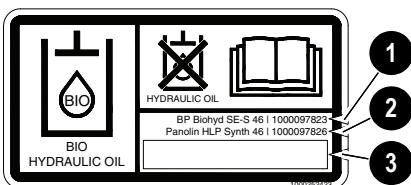


Abb. 16: Biodegradable hydraulic oil

**Meaning (option)**

The reservoir contains biodegradable hydraulic oil.

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

- 1 BP Biohyd SE-S 46 | 1000097823
- 2 Panolin HLP Synth 46 | 1000097826
- 3 Other producer of biodegradable hydraulic oil

– see [chapter Important notices on the use of biodegradable oil](#) on page 5-22

**Location**

Under the valve cover on the hydraulic oil tank.



## 2.5 General conduct and safety instructions

### Organizational measures

- The machine has been designed and built in accordance with state-of-the-art standards and the recognized safety regulations. Nevertheless, its use can pose 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 malfunctions, especially those affecting safety, must therefore be rectified immediately!  
**Basic rule:**  
Before putting the machine into operation, inspect the machine for safety in work and road 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 its storage bin.  
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, for example those relevant to job organization, 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, for example for set-up or maintenance.
- The user/owner must check – at least from time to time – whether the persons entrusted with operation or maintenance 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 behavior, 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 (for instance cab etc.), as well as to the attachments, which might affect safety without the approval of Wacker Neuson GmbH! 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 malfunctions have been detected.

## 2.16 Hammer operation

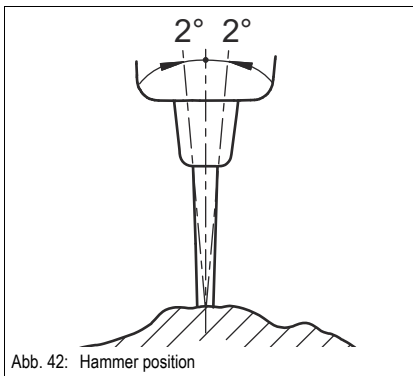
### Safety instructions

#### Important information regarding hammer operation

Use the canopy version only with a shatter protection during hammer operation.

- – see chapter 2.5 General conduct and safety instructions on page 2-3
- 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 perform any demolition work under the machine, danger of tipping over!
- The machine can lose its balance and tip over if a hammer or other heavy attachment is used. Proceed as follows to perform 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 perform demolition work. Demolished parts can cause injury or damage to property or the equipment.
- Stop work immediately if a hydraulic hose moves back and forth. This could be a cause for a pressure accumulator malfunction. Contact your Wacker Neuson dealer and have the error repaired immediately.
- Close the windows and doors.
- Use the canopy version only with appropriate protective structures.

### Working with a hammer



#### 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 cylinder is fully extended or retracted.
- Never use the hammer horizontally or upward.
- 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..

### 3.7 Driving the excavator



#### Danger!

When crossing water fords or similar, ensure that the engine air intake slits are always above water level –

#### Danger of engine damage!

– see [chapter Air intake](#) on page 5-11

#### Preheating start switch (overview)

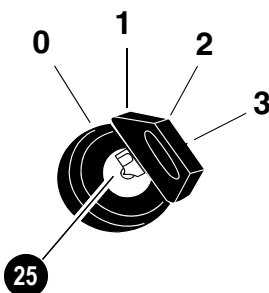


Abb. 43: Preheating start switch

Position	Function	Power consumer
0	Insert or remove the starting key	None
1	ON/machine travel position	Feed pump switched on <ul style="list-style-type: none"> <li>➤ Indicator lights illuminate</li> </ul> All functions are operational <ul style="list-style-type: none"> <li>➤ Indicator lights illuminate</li> <li>➤ Shriill sound</li> </ul>
2	Preheats the engine (10 – 15 seconds)	Glow plugs
3	Starts the engine	<ul style="list-style-type: none"> <li>➤ Starter is actuated</li> <li>➤ Indicator lights must go out</li> </ul>

#### Throttle lever overview

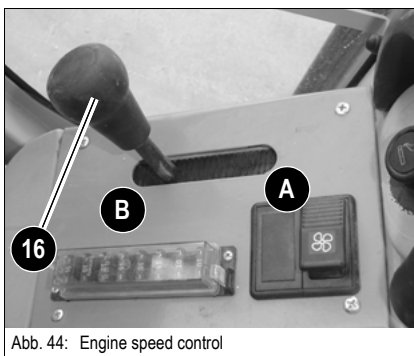


Abb. 44: Engine speed control

With the gas lever **16** the speed is set to be continuous.

- Position **A**: idling speed
- Position **B**: max. engine speed



**Hydraulic brake**

Releasing the drive levers/accelerator pedals brakes the machine.  
During downhill machine travel, the automatic hydraulic brake valves prevent the machine from moving faster than the permissible travel speed.



**Notice!**

Reduce travel speed with the drive levers/accelerator pedals, and *not* with the engine speed control of the engine.

---

**Stabilizer blade as a parking brake**

The stabilizer blade is used as a parking brake. Press the stabilizer blade against the ground.

**Operating temperature range**

The following operating conditions must be fulfilled in order to ensure optimal output and a long service life of the machine.

Do not operate the machine at ambient temperatures above +45 °C (+104 °F) or below -15 °C (-5 °F).

**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.

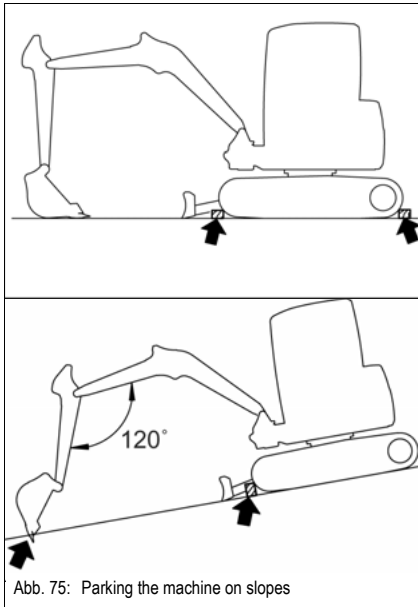
☞ *Let the engine run at idling speed with no load for at least 5 minutes before you switch it off.*

**Notice!**

Secure the machine against unauthorized operation.

- Raise the control lever base.
- Remove the starting key and carry it with you.
- Lock the cab (option)

### 3.13 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, stable ground. Never park on slopes. If you cannot avoid parking the machine on a slope:
  - ☞ *Place chocks under the tracks and lower the attachment into the ground to prevent the machine from moving.*
  - Severe accidents can be caused by unintentionally actuating the control levers, and hence moving the attachment or the entire machine.
    - ☞ *Raise the control lever base before leaving the seat.*
    - ☞ *Place the stabilizer blade downhill and lower it to the ground.*

**Front window (from serial number AG02423)****Danger!**

Opening and closing the front window:

**Crushing hazard!**

- ☞ *Stay clear (extremities, clothing) of the window run and of the window.*
- ☞ *Always open and close the front window by means of both handles!*
- ☞ *Always make the window lock into the recesses as you open and close it!*
- ☞ *Raise the control lever base before opening or closing the front window, in order to avoid any unintentional operation or movement of the machine!*

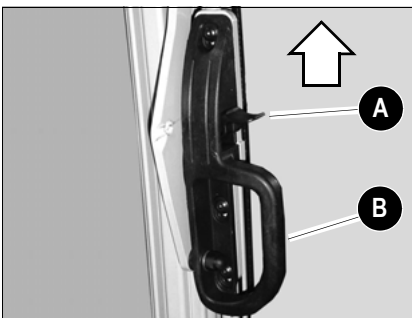
**Opening/closing the front window**

Abb. 95: Opening the front window

- ☞ *Keep levers **A** pressed on the left and right, and pull the front window upward with both handles **B**.*



Abb. 96: Front window

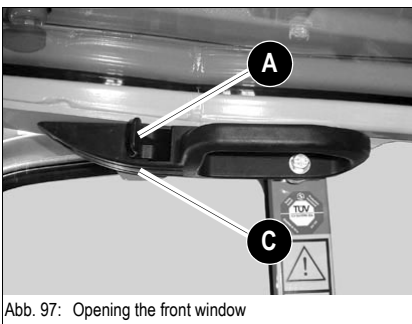


Abb. 97: Opening the front window

- ☞ *Release levers **A** and make them lock into place in both recesses **C**.*

**Close the front window in the reverse order.**

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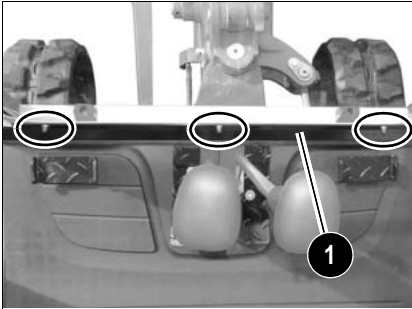


Abb. 114: Left and right-hand cab attachment

☞ Slacken and remove the screws of cover **1**.

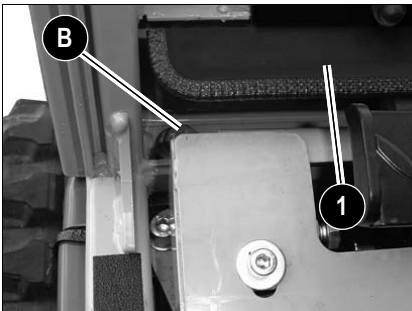


Abb. 115: Left and right-hand cab attachment

☞ Raise the floor mat on either side.

☞ Tighten screws **B** on either side to 110 Nm (81 ft.lbs).

☞ Place the floor mat on either side and install cover **1**.

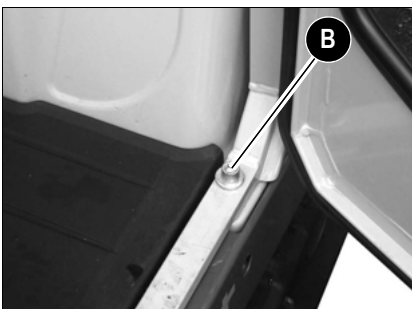


Abb. 116: Rear left cab attachment

☞ Tighten screws **B** on either side to 110 Nm (81 ft.lbs).

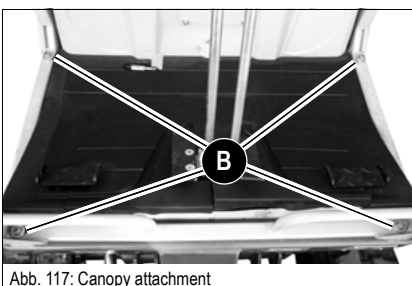


Abb. 117: Canopy attachment

### Canopy attachment

☞ Tighten screws **B** at all four corners to 110 Nm (81 ft.lbs).

**Shatter protection for canopy (option)****Danger!****Danger of piercing/penetration by objects from the front!**

Causes serious injury or death.

- ☞ *A shatter protection must be installed on a canopy version if an attachment (for example a hammer) causes fragments to fly around. This shatter protection takes over the function of a front window. If the machine is equipped with a cabin, the front window must be closed during hammer operation.*
- ☞ *Pay attention to the restricted work range (see Fig. 130).*
- ☞ *Machine operation is prohibited without a shatter protection.*

**Danger!****Accident hazard in conditions of restricted visibility due to rain, snow-fall, dust, etc.!**

Causes serious injury or death.

- ☞ *Stop machine operation immediately.*

**Notice!**

The shatter protection (canopy option) protects the driver against fragments from the front.

- The machine owner must ensure that the hazard situation is evaluated and that the national regulations are observed.
- The machine owner must ensure that only work is performed that does not require any higher protection.
- Accidents cannot be fully avoided despite equipping a machine with protective structures.

**Notice!**

Do not use brushes, steel wool or other abrasive cleaners for cleaning the polycarbonate disk. Do not wipe dust in a dry state.

**Notice!**

Only an authorized workshop may install the protective structures for the first time.

### 3.34 Release the pressure in the operating 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 in the danger zone of the machine



#### Notice!

The hydraulic system of the machine is still pressurized 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 that are to be opened before starting setup or repair work, for example fitting/removing an attachment!

#### Releasing pressure

Release the pressure as follows:

- ☞ *Park the machine on level ground.*
- ☞ *Lower the boom and the attachment completely to the ground.*
- ☞ *Stop the engine.*
- ☞ *Fold the control lever base down.*
- ☞ *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!

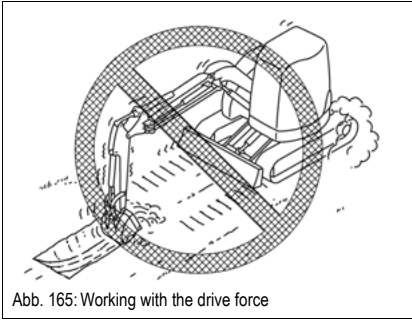


Abb. 165: Working with the drive force

**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.
- ➔ This can damage the machine or the work equipment.

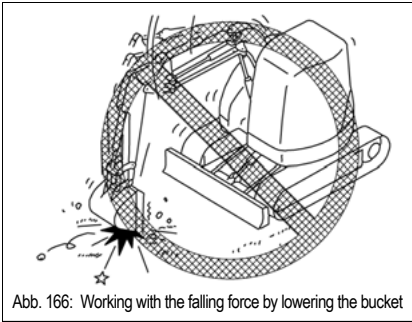


Abb. 166: Working with the falling force by lowering the bucket

**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.

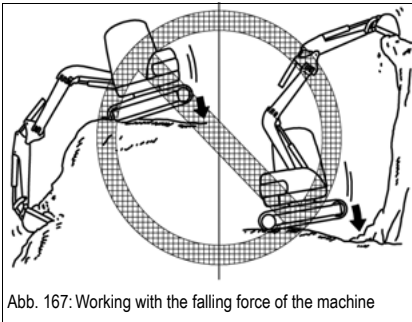


Abb. 167: Working with the falling force of the machine

**Working with the falling force by lowering the machine**

- ⚠ Do not use the machine's falling force for excavating.

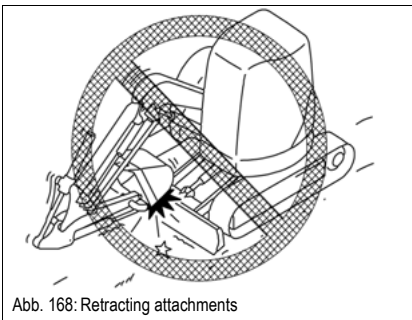


Abb. 168: Retracting attachments

**Retracting attachments**

- ⚠ Ensure that the bucket does not hit the stabilizer blade as you retract attachments for driving or transport.

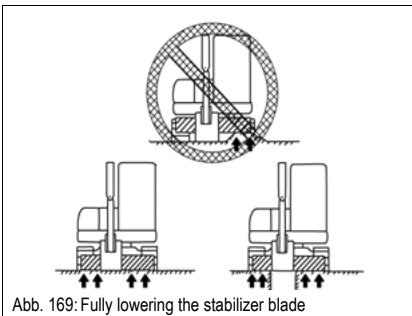


Abb. 169: Fully lowering the stabilizer blade

**No thrusting the stabilizer blade**

- ⚠ Do not thrust the stabilizer blade against rocks or blocks to avoid damage to the cylinders and the blade itself.

**Fully lowering the stabilizer blade**

- ⚠ Fully lower the stabilizer blade when using it on the side opposite the excavation side.

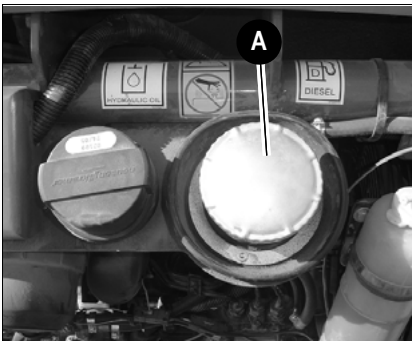
**Draining the fuel**


Abb. 181: Fuel tank


**Danger!**

All work involving fuel carries an increased

**Fire and poisoning hazard!**

- ☞ Do not work in closed rooms
- ☞ Never perform work on the fuel system near open 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 and
- Reduced effectiveness of the fuel filters

**Refueling from barrels**

If refuelling from barrels is unavoidable, please note the following (see Fig. 182):

- Barrels must neither be rolled nor tilted before refueling
- Protect the suction pipe opening of the barrel pump with a fine-mesh screen
- Immerse the suction pipe opening down to a max. of 15 cm (6 in) above the bottom of the barrel
- Only fill the tank using refueling aids (funnels or filler pipes) with an integral microfilter
- Keep all refueling containers clean at all times

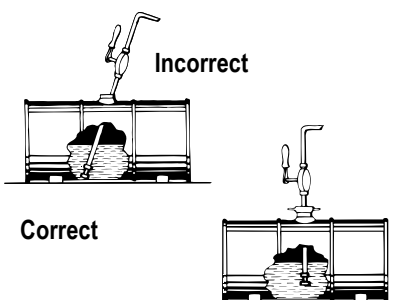


Abb. 182: Refueling from a barrel

## 5.6 Air filter (from serial no. AG03171)



### 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!

### Air intake



Abb. 190: Engine air intake



### Danger!

When crossing water fords or similar, ensure that the engine air intake slits are always above water level –

#### Danger of engine damage!

- ☞ – see [chapter Air intake](#) on page 5-11
- ☞ Check once a day for cleanliness before putting the machine into operation!

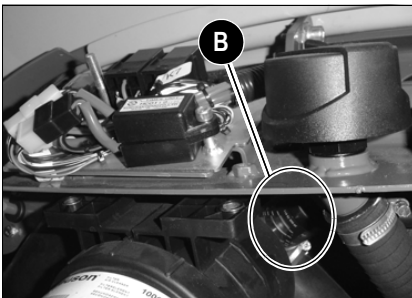


Abb. 191: Indicator for air filter contamination

The air filter elements must be replaced:

- If “Service” (red mark) is displayed on dirt 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 aluminum mills, chemical plants and other nonferrous-metal plants

- ☞ Check air filter elements every 50 operating 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!

**Checking hydraulic pressure lines****Specific safety instructions****Danger!****Injury hazard when checking hydraulic pressure lines!**

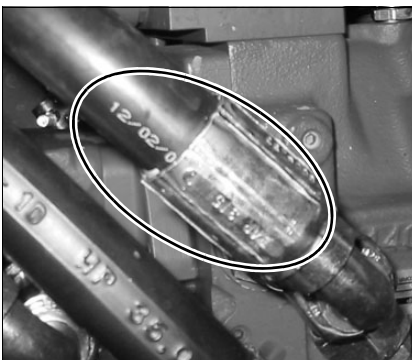
Can cause serious injury or death.

- ☞ *Wear protective gloves and safety glasses.*
- ☞ *Search for hydraulic leaks with a piece of paper, for example.*
- ☞ *Always consult a doctor immediately, even if the wound seems insignificant. Hydraulic oil causes blood poisoning.*
- ☞ *Observe the following instructions:*
  - Retighten leaking threaded fittings and hose connections only when the system is not under pressure. In other words, release the pressure before working on pressurized lines.
  - Never weld or solder defective or leaking pressure lines and threaded fittings, but replace the damaged parts or replace them (have them replaced) with new ones.
  - Never use an unprotected light or open flame to check for minor leaks.
  - Have damaged flexible lines replaced by a Wacker Neuson service center only.
  - Do not remove protective hoses from hydraulic hoses.

- Leaks and damaged pressure lines must be immediately repaired or replaced by a Wacker Neuson service center or after-sales personnel. This not only increases the operating safety of your 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

Against this background, we recommend that you observe all the "safety regulations for hydraulic lines" published by the head office for the prevention of accidents and occupational health and safety in your country. Also observe DIN 20066, TI. 5.

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





**Inside the cabin**



**Caution!**

Never use high-pressure cleaners, steam jets or high-pressure water to clean inside the cabin. 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 cabin:

- Damp cloth
- Brush
- Water with mild soap solution

**Cleaning the seat belt:**

- Clean the seat belt (which remains fitted in the machine) only with a mild soap solution; 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 only when it is at a standstill –

**Injury hazard!**

*☞ Stop the engine before cleaning it*



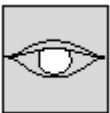
**Caution!**

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 leads to engine damage!

**Threaded fittings and attachments**



All threaded fittings must be checked regularly for tightness, even if they are not listed in the maintenance schedules. This applies in particular to:

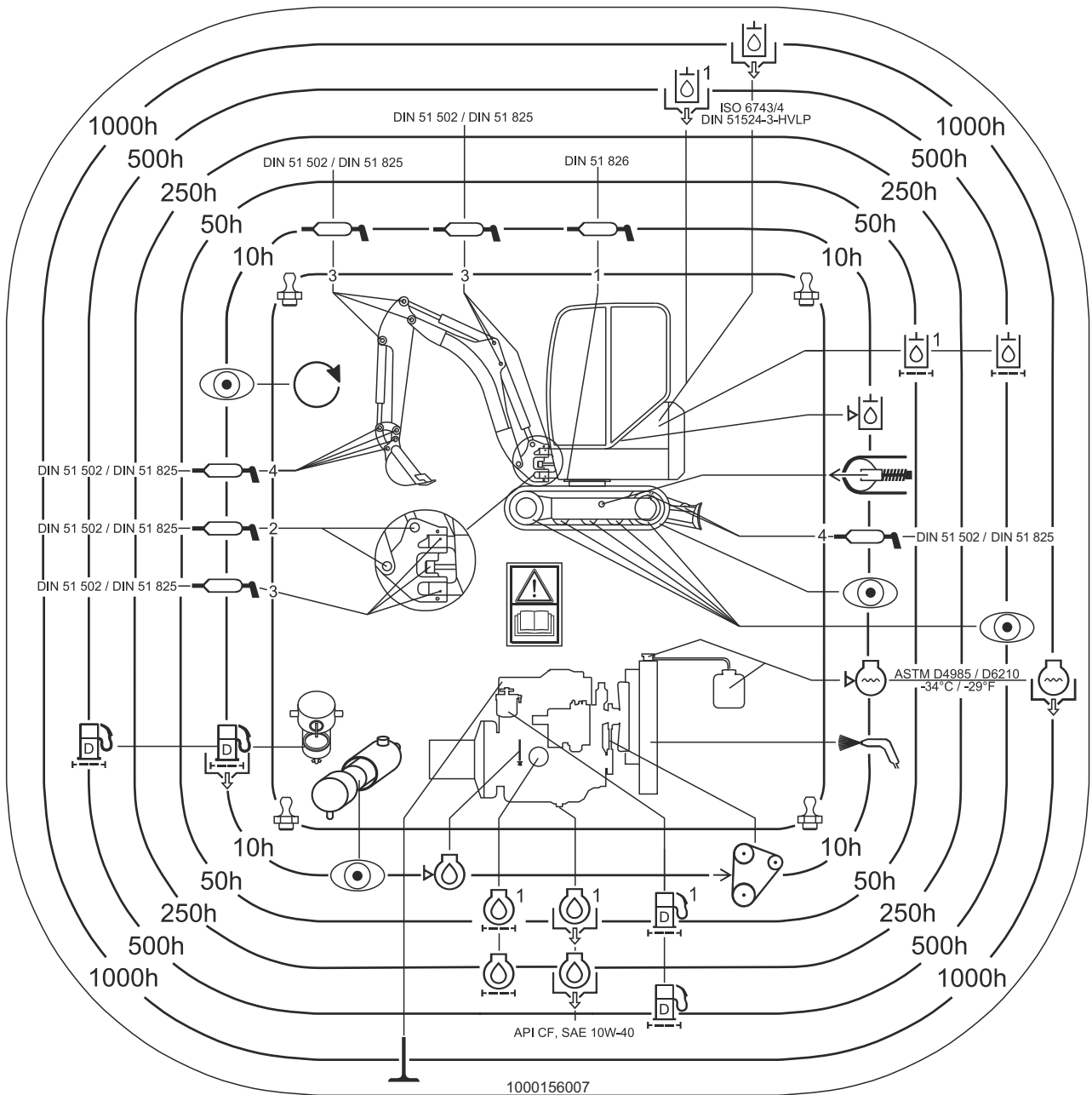
- ☞ *Engine fastening screws*
- ☞ *Fastening screws on the hydraulic system*
- ☞ *Bucket teeth and pin fastenings on the attachment*

Retighten loose connections immediately. Contact a Wacker Neuson service center if necessary.

**Pivots and hinges**



All mechanical pivot points on the machine (for example door hinges, joints) and fittings (for example door arresters) must be lubricated regularly, even if they are not listed in the lubrication schedule.



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