

Operator's manual

Track dumper

DT10



Vehicle model	DT10
Edition	1.5
Language	en
Article number	1000312270



**WACKER
NEUSON**



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The vehicle shown on the title page can be equipped with optional fittings (options).

Original Operator's Manual



Wacker Neuson Linz GmbH
Flughafenstr. 7
A-4063 Hörsching
Phone (+43) 7221 63000 - 0
Email: office.linz@wackerneuson.com
www.wackerneuson.com

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1 Introduction

1.1 Important information on this Operator's Manual

Please store the Operator's Manual in the storage bin under the engine cover.

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 operators, but it also serves as a reference for experienced ones. 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.**

The safety of the operator and other persons heavily depends on how safely the machine is used. Therefore, carefully read and understand this Operator's Manual prior to the first drive. This Operator's Manual will help to familiarize yourself more easily with the machine, thereby enabling you to use it more safely and efficiently.

Prior to the first drive, carefully read chapter "Safety Instructions" as well, in order to be prepared for possible hazardous situations, as it will be too late for it during operation. 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 vehicle do not only depend on your skill, but also on maintenance and servicing of the vehicle. This is why regular maintenance and servicing is absolutely necessary.

Extensive maintenance and repair work must always be performed by a technician with appropriate training. Insist on using original spare parts when performing maintenance and repair work. This ensures operational safety and readiness of your machine, and maintains its value.

Your Neuson dealer will be happy 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

s. fig. (w/o. fig.) = without figure

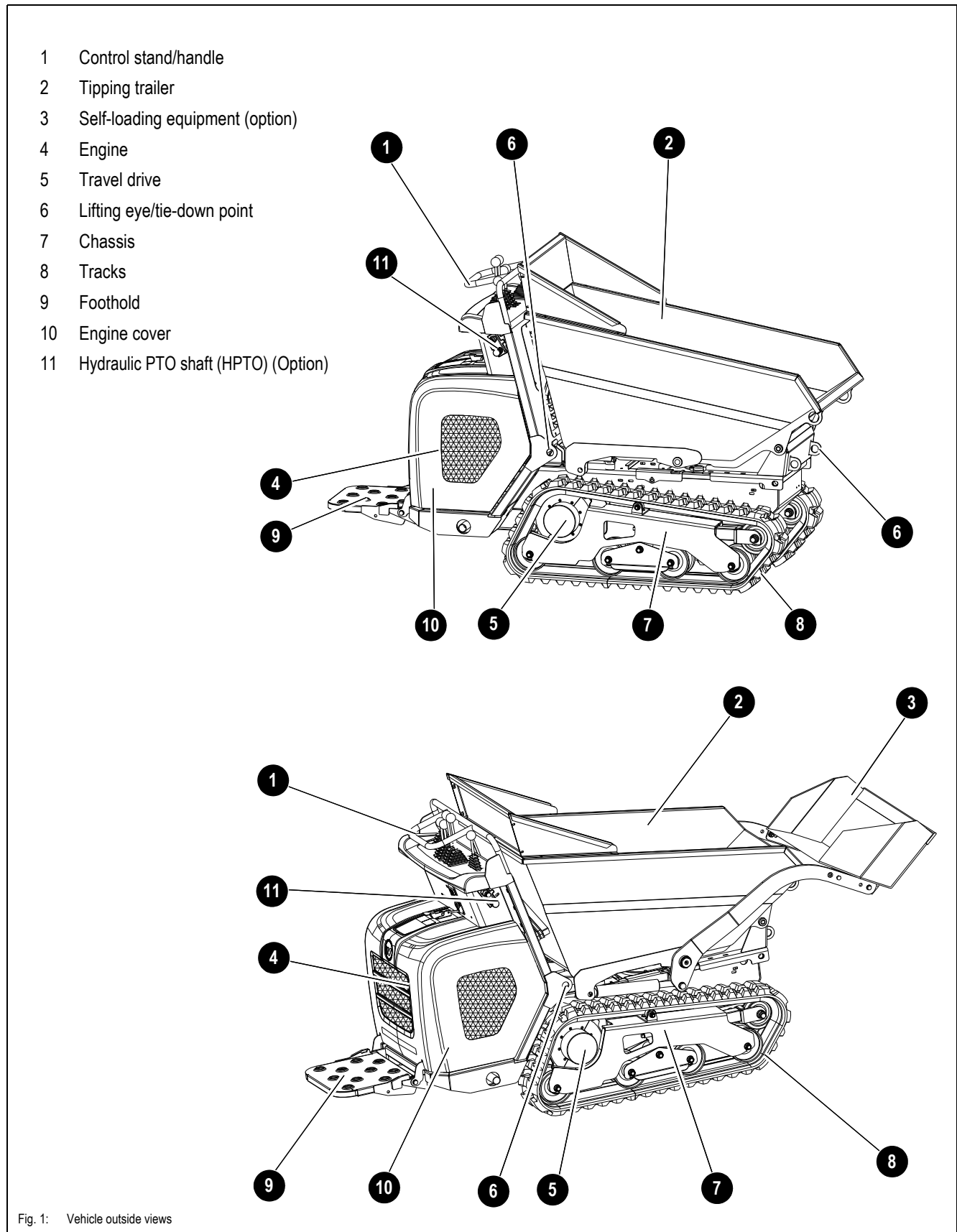
"Opt." = Optional

The abbreviation "Opt." indicates control elements or other groups of the machine that can be installed as an option.



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

1.2 Machine overview



- 1 Control stand/handle
- 2 Tipping trailer
- 3 Engine
- 4 Travel drive
- 5 Lifting eye/tie-down point
- 6 Chassis
- 7 Tracks
- 8 Foothold
- 9 Engine cover

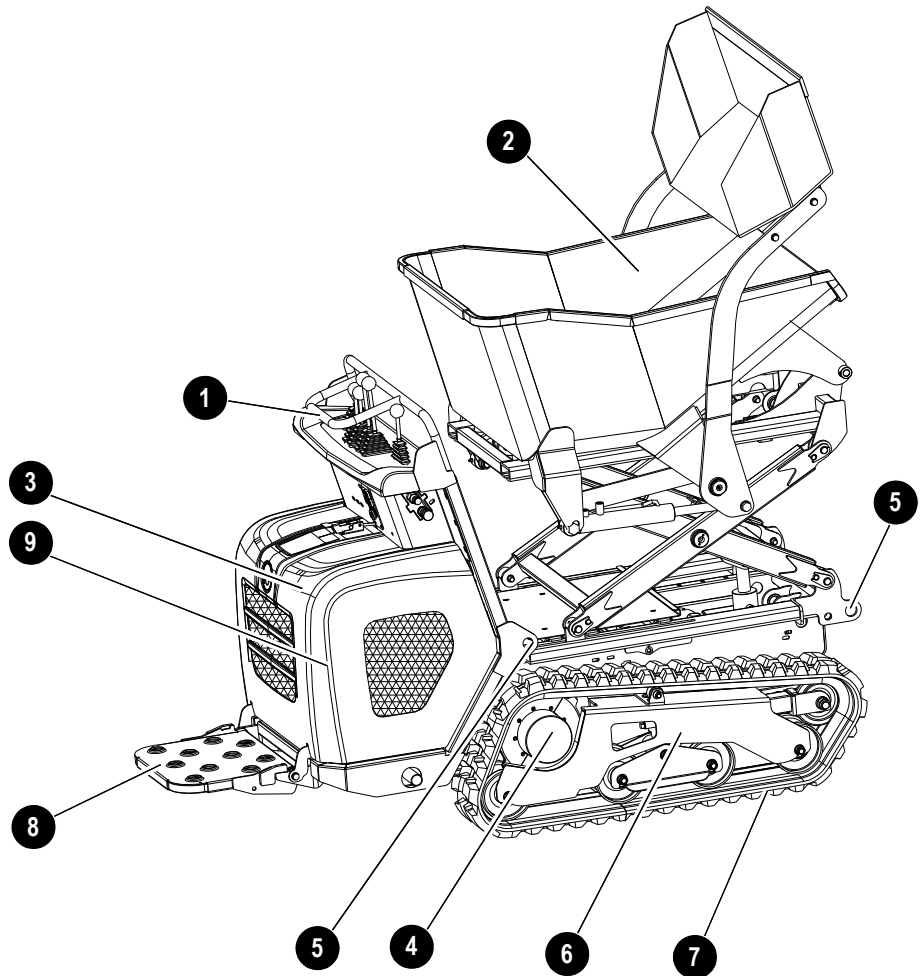
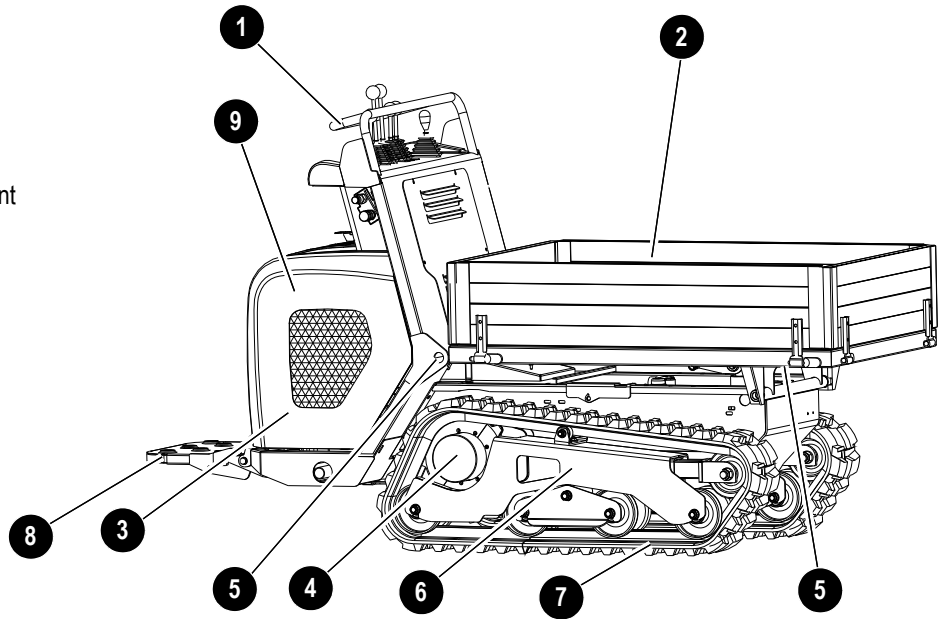


Fig. 2: Vehicle outside views

- 1 Control stand/handle
- 2 Tipping trailer
- 3 Engine
- 4 Travel drive
- 5 Lifting eye/tie-down point
- 6 Chassis
- 7 Tracks
- 8 Foothold
- 9 Engine cover

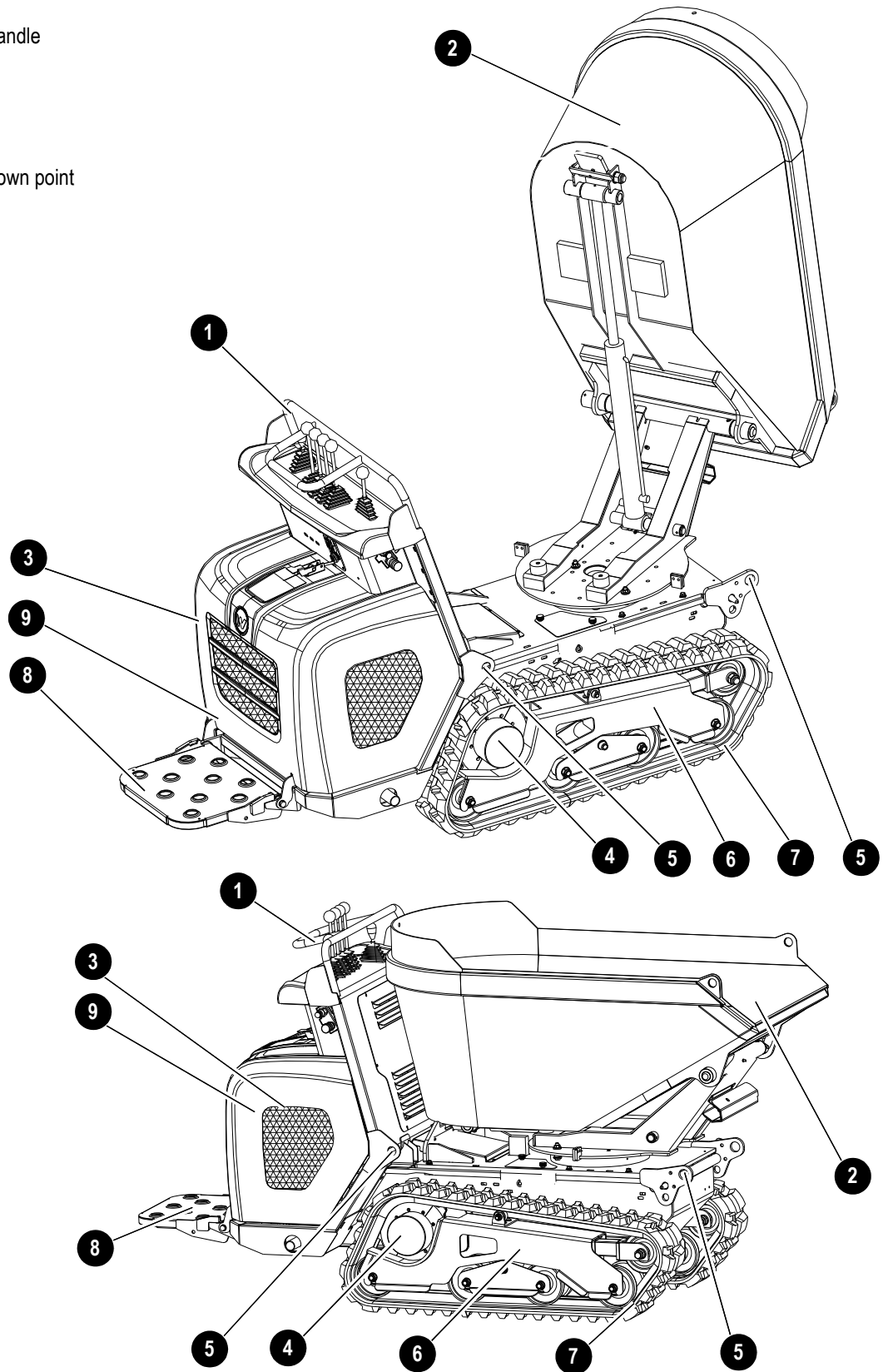


Fig. 3: Vehicle outside views

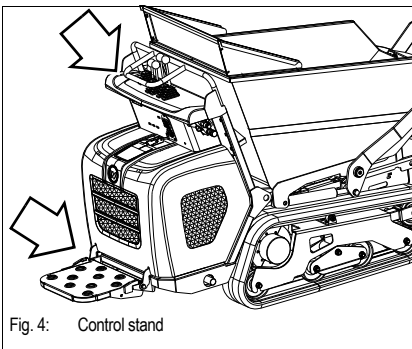
1.3 Brief description

The DT10 dumper is a self-propelled work machine.
Get informed on and follow the legal regulations of your country.

The main components of the vehicle are:

- Tracked travel gear
- Control stand with integrated oil and fuel tanks
- Internal combustion engine
 - Model DT10: two-cylinder diesel engine
 - Model DT10: two-cylinder diesel engine that corresponds to the EPA tier-4 regulations (optional)
- Tipping trailer
- High-tip skip (option)
- Self-loading equipment (option)
- Front skip (option)
- Swivel skip (option)
- Skip for lightweight load (optional)

Definition of operator's control stand



The dumper's control stand is the:

- Foothold
- Control stand

The vehicle may only be operated from the running board and control stand.



Danger!

The operator must not lean or reach outside the dimensions of the vehicle.
This applies in particular to their feet! Otherwise –

Accident hazard!

Stand on the foothold ensuring that neither your feet nor other limbs protrude beyond the dimensions of the vehicle!



Danger!

The operator must always firmly hold onto the handle of the control stand with both hands! Otherwise –

Accident hazard!

The operator is subject to high acceleration forces in particular when starting vehicle travel!

1.4 Regulations

Requirements to be met by the operator

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 perform work reliably.

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

Observe the legal regulations of your country.

1.5 EC Declaration of Conformity for vehicles with a CE mark on the type label

EC Compliance Statement

Manufacturer

Wacker Neuson Linz GmbH, Flughafenstr. 7, 4063 Hörsching, Austria


Product

Machine designation	Compact Dumper
Machine model	D19-01
Trade name	DT10
Serial number	xxxxxxx
Engine / output kW	Z482/9.7
Measured sound power level dB(A)	101
Guaranteed sound power level dB(A)	101

Conformity assessment procedure

-

Notified body involved in procedure

-

Directives and standards

With this document we declare that this product corresponds to the applicable regulations of the following directives and standards:

2014/30/EG, 2000/14/EU, 97/68/EU, EN ISO 12100:210;
EN 474-1:2006 (up to 5.5.8.1, 5.8.2, 5.9, 5.19.1), EN 474-6:2010 (up to 5.7.3.3),

Authorized representative for the compilation of technical documentation

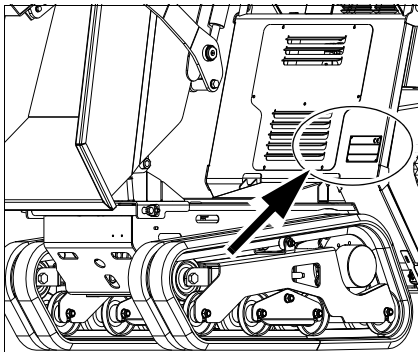
Annette Ortmayr, Team Leader Technical Documentation
Flughafenstr. 7
4063 Hörsching
Austria

Johannes Mahringer,
Managing director

The indications specified above correspond to the existing information at time of going to press. They have possibly changed in the meantime (refer to the original declaration of conformity supplied with the vehicle). Applies to EU countries, and countries with legislation similar to that of the EU. Applies to all vehicles with CE marks that have not been modified without authorization since the product was placed on the market.



1.6 Type labels and component numbers



Serial number

The number is located on the type label.

The type label is located at the front on the control stand.

Type label information (example):

Machine designation:	COMPACT DUMPER
Model:	-----
Model year:	-----
CEE no. (EEC no.):	-----
Output:	-----
Serial no.:	-----
Max. payload:	-----
GWR:	-----
Operating weight:	-----
Front GAWR:	-----
Transport weight:	-----
Rear GAWR:	-----
Version:	-----

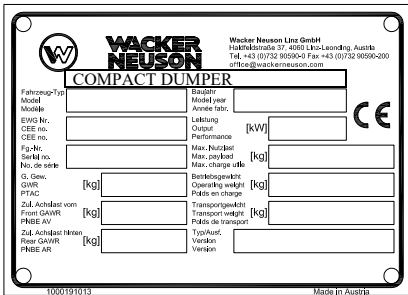
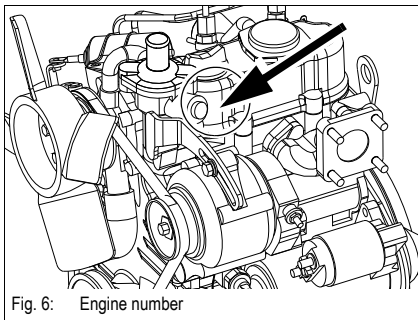


Fig. 5: Position of the type label



Engine number

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

Fig. 6: Engine number

1.7 Signs and symbols

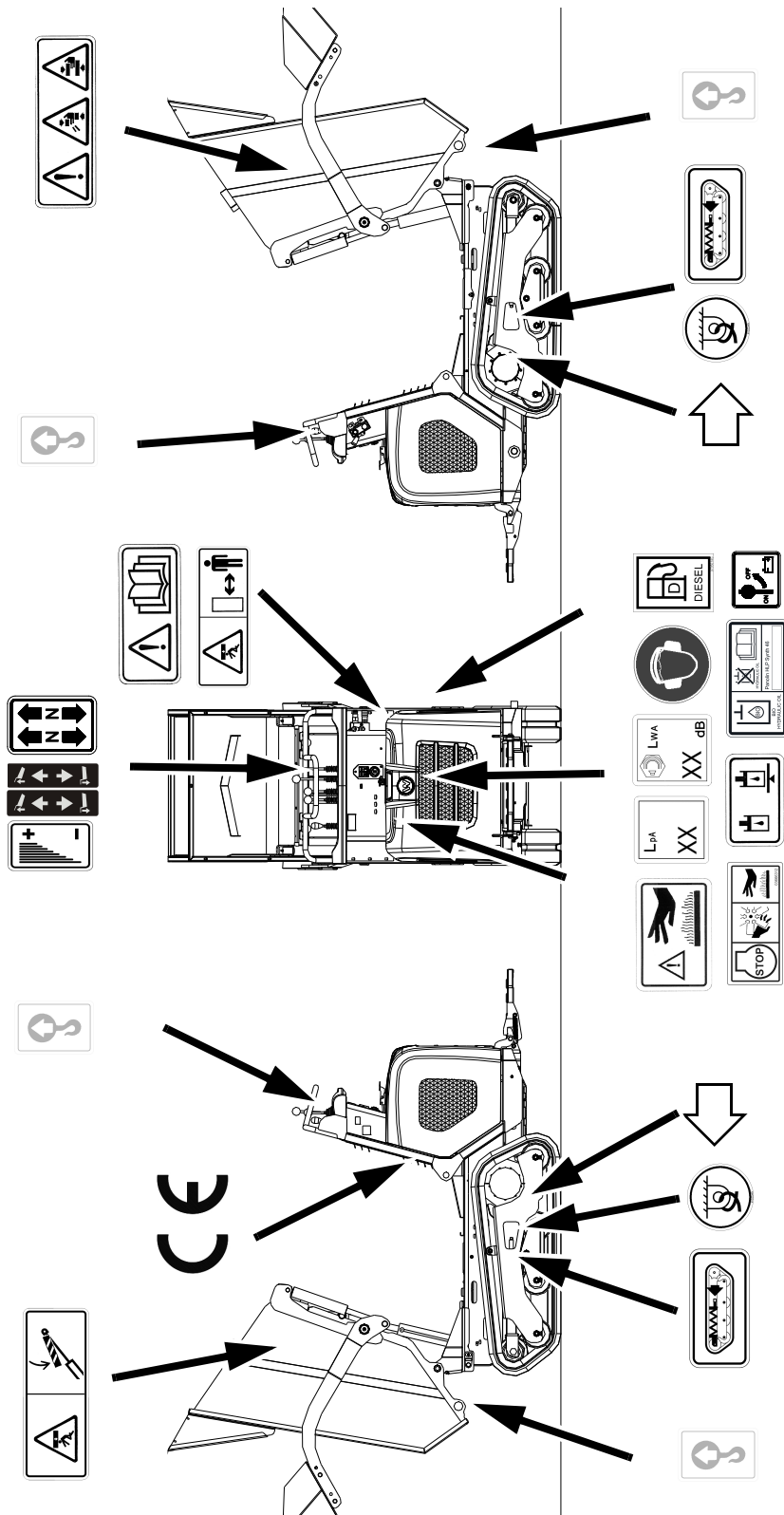




Fig. 7: Lifting eye label

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.

Meaning

Machine is raised by the lifting eyes

– see *chapter Crane handling the machine* on page 3-21

Application

On the chassis near the front and rear lifting eyes



Fig. 8: Label for points used for tying down the machine

Meaning

Tie-down points for tying down the machine for transport.

– see *chapter Tying down the machine* on page 3-23

Application

On the chassis at the front and rear anchoring points

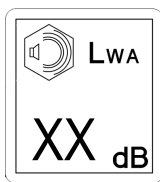


Fig. 9: Noise level label

Meaning

Noise levels produced by the machine.

L_{Wa} = sound power level

Other information – see *chapter 6.13 Noise levels* on page 6-5

Application

Protective plate on control stand

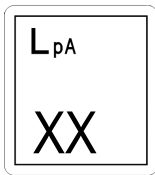


Fig. 10: Label with indication of sound pressure

Meaning

Indication of operator-perceived sound pressure level.

L_{Pa} = sound pressure level

Other information – see *chapter 6.13 Noise levels* on page 6-5

Application

Protective plate on control stand

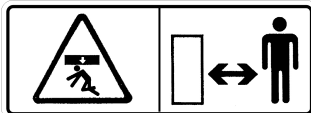


Fig. 11: Danger label

Meaning**General indication of danger**

This symbol alerts persons standing or working near the machine of an existing danger.

Application

On left and right of skip



Fig. 12: CE mark

Meaning

The CE mark means that the machine meets the requirements of the Machine Directive and that the conformity procedure has been performed. The machine meets all the health and safety requirements of the Machine Directive.

Application

On the type label



Fig. 13: Diesel

Meaning

Add diesel fuel only!

Application

On the control panel

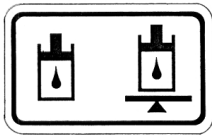


Fig. 14: Hydraulic oil

Meaning

The reservoir contains hydraulic oil.

– see [chapter Adding hydraulic oil](#) on page 5-18

Application

Next to the filler inlet of the hydraulic oil reservoir



Fig. 15: Read and understand the Operator's Manual

Meaning

Read the Operator's Manual before using the machine.

Application

On left and right of skip



Fig. 16: Safety prop

Meaning

Use a safety prop before performing work under the skip.

Application

On left and right of skip



Fig. 17: Shearing hazard

Meaning

General indication of danger

This symbol alerts persons standing or working near the machine of an existing shearing hazard around the machine.

Application

On left and right of skip



Fig. 18: Hot surfaces

Meaning

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

Application

Near the exhaust system

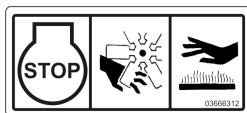


Fig. 19: Engine stop

Meaning

Danger of burns, and danger due to rotating fan! Stop the engine before opening the engine cover.

Application

On the engine cover

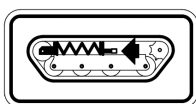


Fig. 20: Track tension adjustment

Meaning

Danger due to components under spring tension! Indicates the device for adjusting track tension.

Application

Right and left side of chassis

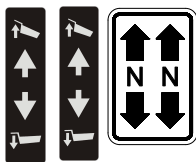


Fig. 21: Main label

Meaning

This label explains the machine's control elements

– see [chapter 3.1 Overview of the operator's cab \(front tip skip model, front tip skip for lightweight material\)](#) on page 3-1

Application

On the control stand



Fig. 22: Accelerator

Meaning

Indication of throttle.

Application

On the control stand



Fig. 23: Ear protection

Meaning

The machine's control stand is not enclosed, therefore always carry an ear protection.

Application

On the control stand

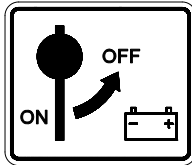


Fig. 24: Battery master switch

Meaning

Battery master switch – *see chapter Battery master switch* on page 3-20

Application

Protective plate on control stand

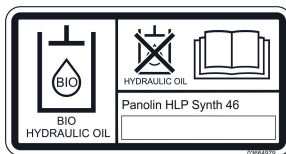


Fig. 25: Biodegradable hydraulic oil

Importance (optional)

The reservoir contains biodegradable hydraulic oil.

– *see chapter Dirty hydraulic oil, lack of oil or wrong hydraulic oil* – on page 5-17

Application

On the hydraulic oil reservoir



2 Safety instructions


2.1 Identification of warnings and dangers

Important indications regarding the safety of the personnel and the machine are identified in this Operator's Manual with the following terms and symbols:



Danger!

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

 *Measures for avoiding danger*



Caution!

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

 *Measures for avoiding danger for the vehicle*



Notice!

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



Environment!

Failure to observe the instructions identified by this symbol can cause damage to the environment. These types of dangers may be due to improper disposal of environmentally hazardous substances (e.g. waste oil).

2.2 Warranty

Warranty claims can be brought forward to your Wacker Neuson dealer only. Furthermore, the 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 only be performed by a Wacker Neuson dealer. Also observe the national regulations regarding disposal!



Environment!

Avoid environmental damage! 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 vehicle is intended for:
 - Moving earth, gravel, coarse gravel or ballast and rubble
 - Every other application is regarded as not designated. Wacker Neuson shall not be liable for damage resulting from this and the risk shall be fully borne by the user. 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 vehicle can be negatively affected by performing vehicle modifications without proper authority and by using spare parts, accessories and special equipment that have not been tested and released by Wacker Neuson. Wacker Neuson will not be liable for damage resulting from this.
- Wacker Neuson Linz 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
 - Operation
 - servicing and performing maintenance 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 vehicle. Observe all safety instructions!
- The vehicle may not be used for transport jobs on public roads.



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 commissioning the machine, inspect the machine for safety on the road and operational safety!

- Careful and prudent working is the best way to avoid accidents!
- The manual must always be available at the place of use of the machine. This is why it must be stored in the compartment provided for it.
Immediately replace an incomplete or illegible operator's manual by a new one.
- 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 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 (for example safety shoes, hard hat).
- 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 example control stand, loading platform, etc.), 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 malfunctions have been detected



- Before working on or with the machine, remove jewelry, such as rings, wristwatches, bracelets, etc., and 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, for example due to oil-soaked rags lying around
 - Injury hazard, for example due to a dirty foothold that can cause falls and
 - accident hazard, for example due to dirty control elements.
- 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!
- For service, inspection, maintenance or repair work, tools and service center equipment adapted to the task on hand are absolutely indispensable

Selection and qualification of personnel, basic responsibilities

- Any work on or with the machine must be performed by reliable personnel only. Do not let unauthorized persons perform machine travel or operation! Observe statutory minimum age limits!
- The machine may be used by correctly trained or competent personnel only. The personnel's authorities for operating, equipping and performing maintenance and repair of the machine must be defined clearly and distinctly!
- Define the machine operator's responsibilities – also with regard to observing traffic regulations. Give the operator the authority to refuse instructions by other persons 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 travel gear and the steering and braking systems may only be performed by technical personnel that has been specially trained for such work.
Work on the hydraulic system of the machine must only be performed by personnel with special knowledge and experience in hydraulic equipment!
- Seal off the danger zone should it not be possible to keep a safe distance.
Stop work if persons access or do not leave the danger zone in spite of warning! Keep out of the danger zone!

Danger zone:

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

- vehicle
- work equipment
- additional equipment or
- material
- this also includes the area affected by falling material, equipment or by debris that is thrown out.
The danger zone 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

- Avoid any operational mode that might be prejudicial to safety!
- Before beginning work, familiarize yourself with the surroundings and circumstances of the job site. These are, for example, obstacles in the job site and travel area, the soil bearing capacity and any necessary barriers separating the job site from public roads
- 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, for example removable safety devices, soundproofing elements and mufflers, etc., are in place and fully functional!
- Check the machine at least once a day/per work shift for visible damage and malfunctions! Report any changes (incl. changes in working behavior) to the competent organization/person immediately! If necessary, stop the Easy Lock offset bucket immediately and lock it!
- In the event of malfunctions, stop the machine immediately and lock it! Have any malfunctions rectified immediately!
- Start and operate the machine only from the operator seat!
- Perform 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 operating the machine, and also after interrupting work, check whether all control levers are functional!
- Before starting machine travel always check whether the supplementary equipment has safely stowed away or attached!
- Before operating the machine on public roads, ways and places for purposes of construction work, observe the traffic regulations in force and, if necessary, ensure beforehand that the machine is in a condition perfectly compatible with these regulations!
- Ensure good illumination of the job site in conditions of poor visibility or after dark!
 - Stop machine operation if this is not possible to a reasonable degree!
- Since the machine has no acoustic warning system, stop the machine or interrupt work immediately if a person is likely to approach the working range of the machine!
- No lifting, lowering or carrying persons!
- 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 – poisoning hazard!
- Avoid any operation that might be a risk to machine stability!
- During operation on slopes, perform machine travel or operation uphill or downhill. If performing machine travel across a slope cannot be avoided, bear in mind the tilting limit of the machine! Always keep the work equipment close to the ground! This also applies to downhill machine travel! During machine travel across a slope, the load must be on the uphill side of the machine.
- If the skip is **less** than half full, drive backward uphill or forward downhill.
- If the skip is **more** than half full, drive forward uphill or backward downhill.
- On sloping terrain always adapt the travel speed to the prevailing ground conditions!



- The machine has no FOPS protection. Therefore, do not use the machine in areas with danger of falling objects!
- Before leaving the operator seat always secure the machine against unintentional movement and unauthorized use!
Lower the work equipment to the ground
- Before starting work check whether
 - all safety devices are properly installed and functional
- Before starting machine travel or before taking up work:
 - Ensure that visibility is sufficient
 - Inspect the immediate area (children!)
 - On the job site the operator is responsible for third parties!
- Extreme caution is essential when handling fuel – increased fire hazard!
 - Ensure that fuel does not come into contact with hot parts!
Do not smoke during refueling, and avoid fire and sparks. Stop the engine during refueling and do not smoke!
- Operation in potentially explosive areas is prohibited.
- Never get on or off a moving machine! Never jump off the machine!
- The drive levers take time getting used to them. Adjust the drive speed to your abilities and the circumstances.

Applications with lifting gear

Definition:

Applications with lifting gear are understood as procedures involving raising, transporting and lowering loads with the help of slings and load-securing devices (for example 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.

- No applications with lifting gear!

Trailer

- Hitching and towing other vehicles is prohibited!

Transportation

- The machine must be loaded and transported only in accordance with the Operator's Manual!
- Use only suitable means of transport of appropriate capacity/payload!
- Safely secure the machine on means of transport! Use suitable tie-down points and load-securing devices
- The recommissioning procedure must be strictly in accordance with the Operator's Manual!

Temperature ranges

The machine can be operated at a maximum temperature of +45°C and a minimum temperature of -15°C; If the machine is to be used in other temperature ranges (e.g. in tropical temperatures etc.), you must contact the Wacker Neuson distributor.

Carry out all maintenance and inspection work before storing the machine for the winter. Then store the machine in a dry place at ambient temperature (about +15 °C). Observe these temperature ranges so as not to affect the machine's service life.



2.7 Safety instructions for maintenance

- Avoid any operational mode that might be prejudicial to safety!
- 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 must be performed by technical personnel only.
- The machine may not be serviced, repaired or test-driven by unauthorized personnel
- Brief the personnel/the operator before beginning special operations and maintenance!
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.
- If required, secure the maintenance area appropriately!
- Prior to performing service, maintenance and repair work, attach a warning label, such as "Repair work – do not start machine!", to the starter/steering wheel or to the control elements.
Remove the starting key!
- Perform service, maintenance and repair work only if the following conditions are met:
 - the vehicle is positioned on firm and level ground
 - the forward-reverse lever is in neutral
 - all hydraulically movable attachments and working equipment have been lowered to the ground
 - the engine is stopped
 - the starting key is removed and
 - the machine has been secured against unintentional movement
 - the maintenance prop is installed – see [chapter Maintenance prop](#) on page 5-1
- If servicing or repairs are essential, you must observe the following rules:
 - Only work in groups of two
 - Both persons must be authorized for the operation of the machine
 - Observe the specific safety instructions in the work manual
 - Keep the required distance from all rotating and moving parts, such as fan blades, belt drives, power take-offs, fans etc.
- Prior to performing assembly work on the machine, ensure that no movable parts will roll away or start moving
- To avoid accident hazard, 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 appropriate load-bearing capacity!
Stay clear of suspended loads!



- Have loads fastened and crane operators guided by experienced persons only!
The person guiding the crane operator must be within sight or sound of him.
- Always use specially designed or otherwise safety-oriented ladders and working platforms to perform overhead assembly work.
Never use machine parts or attachments/superstructures as a climbing aid!
Wear a safety harness when performing maintenance at greater heights!
Keep all handholds, 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 performing 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 malfunctions without delay!
- Always tighten any threaded fittings 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.
- Perform 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 cylinders, jacks, etc. does not sufficiently secure raised machines or equipment/attachments).
- During operation and for a certain time after using the machine, do not touch hot parts such as the engine block and the exhaust system - risk of burns!
- Retainer pins can fly out or splinter when struck with force – injury hazard!
- Do not use starting aids (for example start pilot)! This especially applies to those cases in which a heater plug (intake-air preheating) is used at the same time – explosion hazard!
- Apply special care when working on the fuel system – increased fire hazard!



2.8 Warning of special hazards

Electrical energy

- Use only original fuses with the specified current rating!
Switch off the machine immediately and rectify the malfunction if trouble occurs in the electrical system!
- During machine operation, maintain a safe distance from overhead electric lines! If work must be performed close to overhead lines, the equipment/attachments must be kept well away from them. Caution, danger! Get informed on the prescribed safety distances!
- If your machine comes into contact with a live wire
 - Warn others against approaching and touching the machine
 - Have the live wire de-energized
 - Do not leave the machine until the line that has been touched or damaged has been safely de-energized!
- Work on the electrical system may only be performed 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. Deficiencies such as loose connections or worn cables must be rectified immediately.
- Observe the machine's operating voltage!
- Always remove the grounding strap from the battery when working on the electrical system or when performing welding work!
- Starting with battery jumper cables can be hazardous if performed improperly. Observe the safety instructions regarding the battery!

Gas, dust, steam, smoke

- Operate the machine only on appropriately ventilated premises! Before starting the internal combustion engine on enclosed premises, 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 performed by a Wacker Neuson dealer. Risk of fire and explosion!
- Before performing welding, flame-cutting and grinding work, clean the machine and its surroundings from dust and other flammable substances, and ensure that the premises are appropriately ventilated – explosion hazard!
- In areas with special hazards (for example toxic gases, caustic vapors, toxic environments), wear appropriate protective equipment (breathing filters, protective clothing)!

Hydraulic

- Work on the hydraulic equipment of the Easy Lock offset bucket must be performed 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 performing any implementing/repair work!
- Hydraulic and compressed-air lines must be laid and fitted properly. Ensure that no connections are interchanged. The fittings, lengths and quality of the hoses must comply with the technical requirements



Noise

- During operation all sound baffles must be closed.
- Wear ear protectors if necessary!

Oil, grease and other chemical substances

- When handling oil, grease and other chemical substances (for example battery electrolyte – sulfuric acid), observe the product-related safety regulations (safety data sheet)!
- Be careful when handling hot operating and ancillary materials; there is a risk of scalding and burning from hot liquids!

Battery

- When handling the battery observe the specific safety instructions and regulations relevant to accident prevention. Batteries contain sulfuric acid – caustic!
 - When charging batteries in particular, as well as during normal operation of batteries, an oxyhydrogen mixture is formed in the battery cells. Explosion hazard!
 - Do not attempt to jump-start the machine if the battery is frozen or if the acid level is low; the battery can burst or explode.
- ☠ Discard immediately

Tracks

- Repair work on the tracks must be performed by technical personnel or by a Wacker Neuson service center only!
- Malfunctioning tracks reduce the machine's operational safety. Therefore perform regular checks of the tracks for
 - Cracks, cuts or other damage
- Check track tension at regular intervals.

3 Operation

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

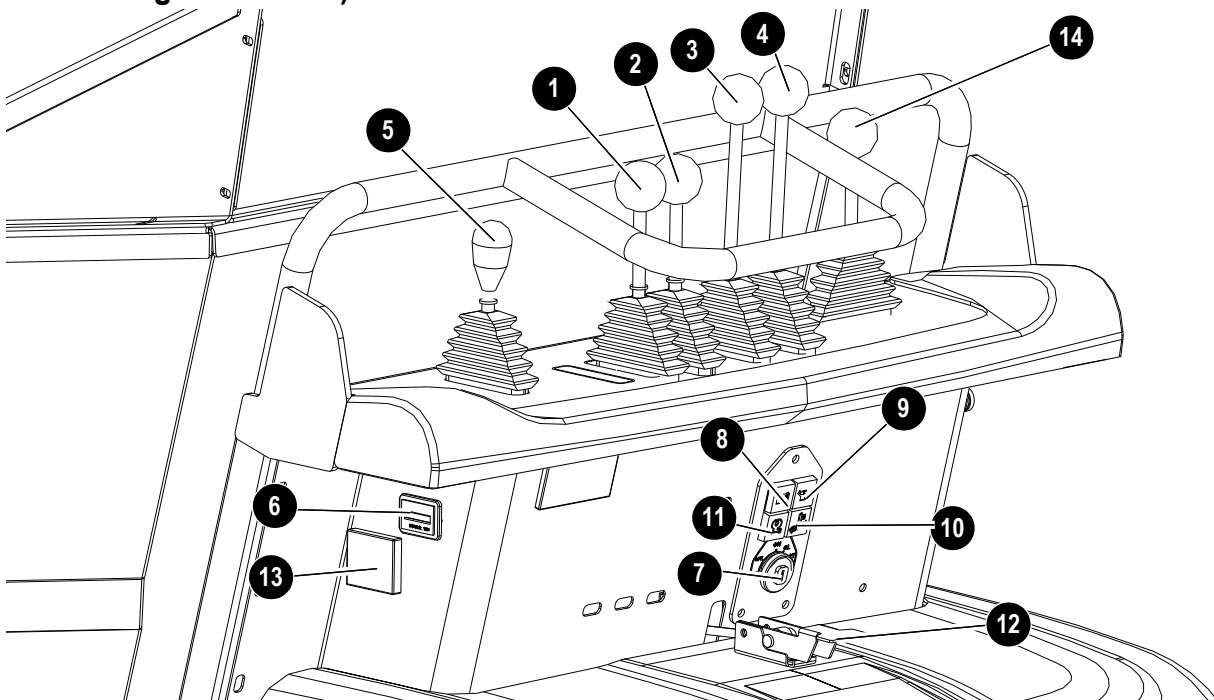
The pages stated in the table refer to the description of the controls.

Numeric or alphanumeric combinations (for example 40/18 or 40/A) used for identifying control elements, mean:

figure no. 40/control element no. 18, or position **A** in figure no. 40

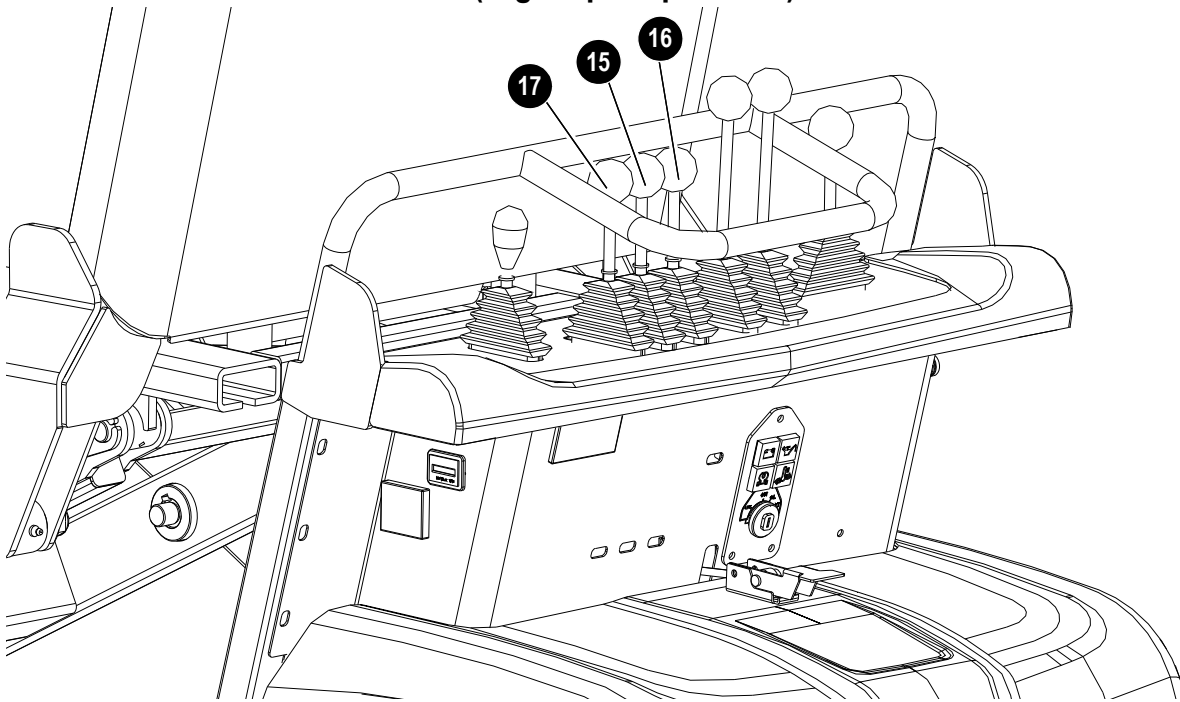
Figures carry no numbers if they are placed to the left of the text.

3.1 Overview of the operator's cab (front tip skip model, front tip skip for light-weight material)



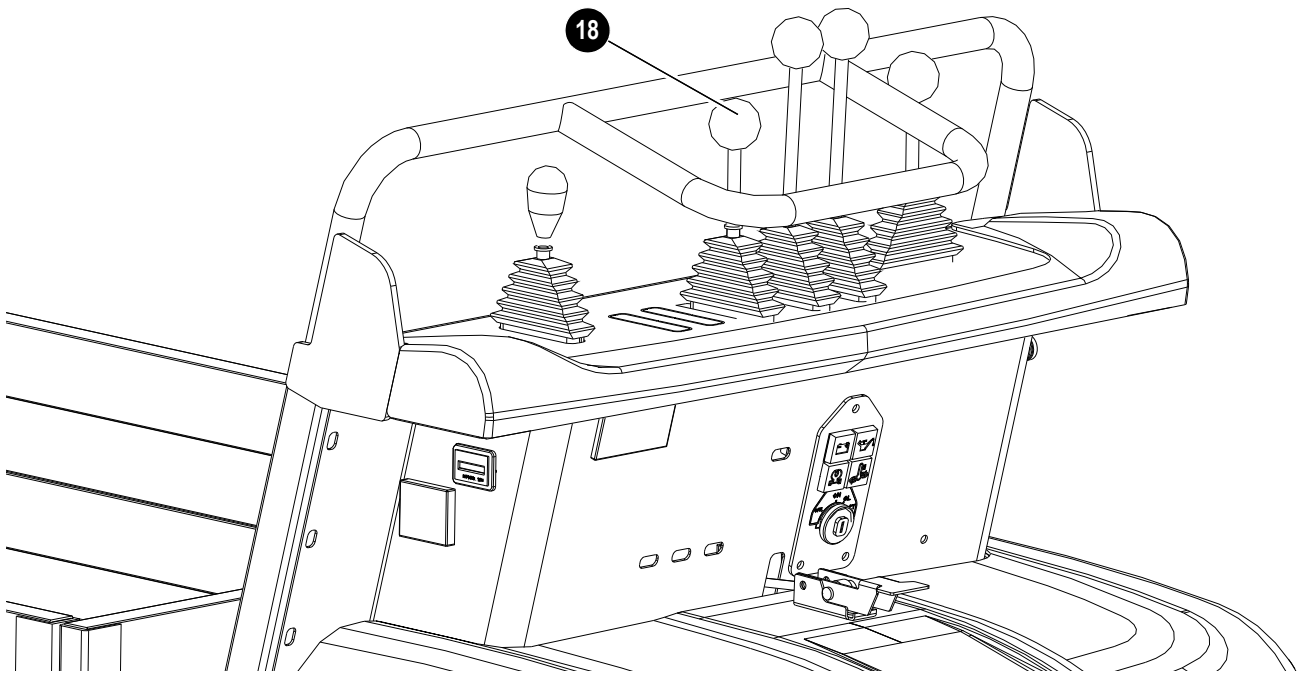
Item	Description	For more information see page
1	Self-loading equipment operation	3-17
2	Skip operation	3-17
3	Drive lever (left)	3-13
4	Drive lever (right)	3-13
5	Throttle	
6	Hour meter	
7	Ignition lock	3-10
8	Charge function indicator light	3-5
9	Engine oil pressure indicator light	3-5
10	Water temperature indicator light	3-5
11	Indicator light – diesel engine glow plug preheating	3-5
12	Lock for cover	
13	Fuse box	6-12
14	Actuation of the hydraulic PTO shaft (H.P.T.O.) (optional)	3-30

3.2 Control stand overview (high-tip skip model)



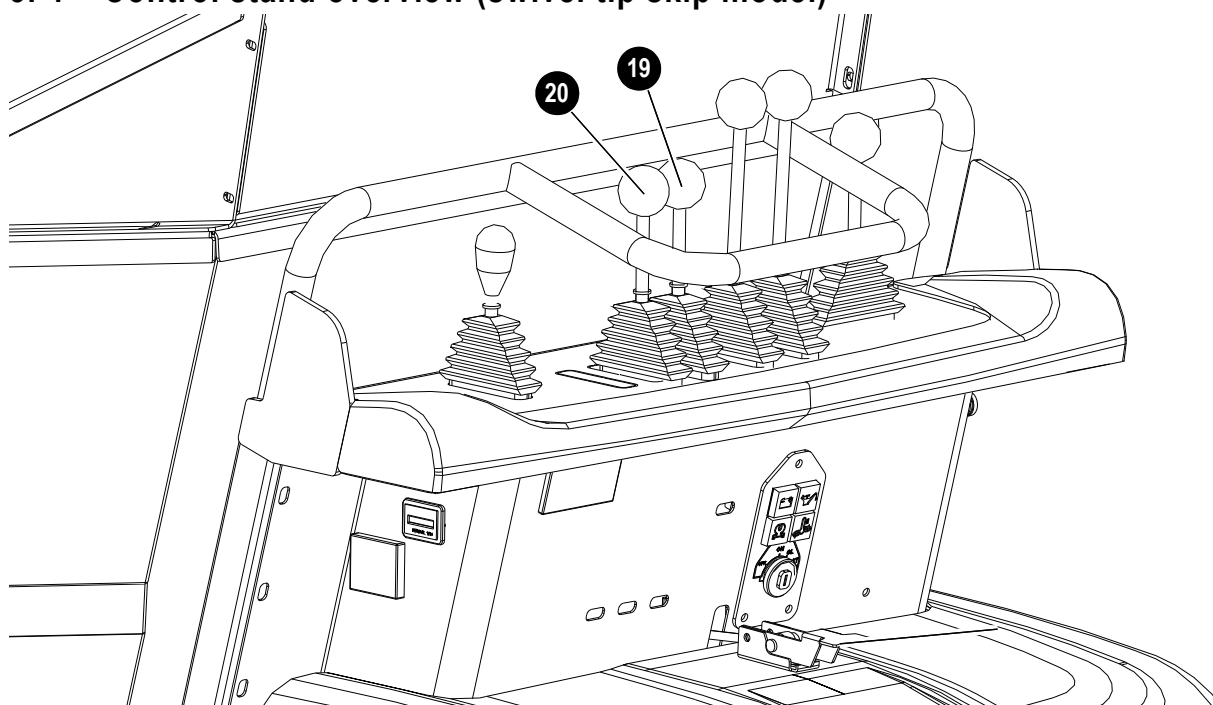
Item	Description	For more information see page
15	Skip operation	3-18
16	Raise skip	3-18
17	Loader unit operation (option).....	3-17

3.3 Control stand overview (model with front tip skip)



Item	Description	For more information see page
18	Skip operation	3-17

3.4 Control stand overview (swivel tip skip model)



Item	Description	For more information see page
19	Skip operation	3-18
20	Pivot front tip skip	3-18

8 Alternator charge function indicator light

**Caution!**

If the indicator light illuminates with the engine running:

- ☞ *Stop the engine immediately and*
- ☞ *Have the cause repaired by an authorized workshop.*

The alternator 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.

9 Engine oil pressure indicator light

**Caution!**

If the indicator light illuminates with the engine running:

- ☞ *Stop the engine immediately and*
- ☞ *Fill up oil to the correct level.*

The oil pressure in the sump is possibly too low if the indicator light comes on when the engine is running. Continued running of the engine with low oil pressure could cause damage.

10 Water temperature indicator light

**Caution!**

If the indicator light illuminates with the engine running:

- ☞ *Let diesel engine cool down; let the engine run briefly*
- ☞ *stop the engine, wait at least 10 minutes and*
- ☞ *check the cooling system.*

The water in the cooling system is possibly overheated, or the cooling system has a malfunction if the indicator light comes on when the engine is running.

11 Indicator light – diesel engine glow plug preheating

This indicator light indicates whether the glow plugs have the correct preheating temperature for starting the diesel engine – see [chapter Electric starter](#) on page 3-10.

The indicator light goes out as soon as the preheating temperature is reached (10 to 15 sec)



3.5 Putting into operation

Safety instructions

- Use the foothold to get onto or off the machine
- Never use the controls or movable lines and cables as handholds.
- Never get on a moving machine. Never jump off the machine

Putting into operation for the first time

Important information

- The vehicle may only be put into operation by authorized personnel
– see [chapter Selection and qualification of personnel, basic responsibilities](#) on page 2-4 and the "
" in this operator's manual – see [chapter 2 Safety instructions](#) on page 2-1
- The personnel must have read and understood this Operator's Manual before putting the machine into operation.
- The machine may only be operated in technically perfect condition in accordance with its designated use and the instructions set forth in the Operator's Manual, and only by 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.

The future performance and service life of the machine are heavily dependent on the observance of the following recommendations during the running-in period.

- Do not overload the machine, but at the same time do not drive too cautiously either, as the machine will never reach its proper operating temperature.
- Do not allow the engine to run for a long period at maximum speed.
- Increase the load gradually while varying the engine speed
- Strictly observe the maintenance plans in the schedule.
– see [chapter 5.10 Maintenance plan DT10](#) on page 5-37

**Check lists**

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

These checklists are not intended to be exhaustive; they are only intended to help you to fulfill your obligation to exercise due care.

The checking and monitoring work listed below is 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 starting or continuing work.

"Starting" check list

Check the following points before putting the machine into operation or starting the engine:

No.	Question	✓
1	Enough fuel in the tank? (☛ 5-7)	
2	Engine oil level OK? (☛ 5-12)	
3	Hydraulic oil level OK? (☛ 5-18)	
4	Starter cable pull OK?	
5	Lubrication points greased? (☛ 5-39)	
6	Tracks checked for cracks, cuts, etc.? (☛ 5-28)	
7	Especially after cleaning, maintenance or repair work: ☛ Rags, tools and other loose objects removed?	

Operation checklist

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

No.	Question	✓
1	Anyone in the danger zone of the machine?	
2	Drive levers working correctly? (☛ 3-13)	

"Parking the vehicle" checklist

Check and observe the following points when parking the vehicle:

No.	Question	✓
1	Loader unit (option) lowered to the ground? (☛ 3-17)	
When parking on public roads:		
2	Machine appropriately secured?	
When parking on slopes:		
3	Machine also secured with chocks under the tracks to prevent it from rolling away?	



Before starting the engine

☞ Run through the “Start-up” checklist

General information on starting the diesel engine**Caution!**

Never start the diesel engine without diesel fuel – the injection pump is fuel-lubricated! Otherwise you run the

Danger of engine damage!

☞ Always check the fuel level before starting!

- The engine will not start unless the fuel cock is open
- Do not run the starter for more than 5 seconds if the engine does not start
- Repeat the start attempt only after about 1 minute

Procedure

After you have completed the starting preparations:

☞ Turn fuel cock **A** clockwise to position **O**

➔ The fuel cock is open

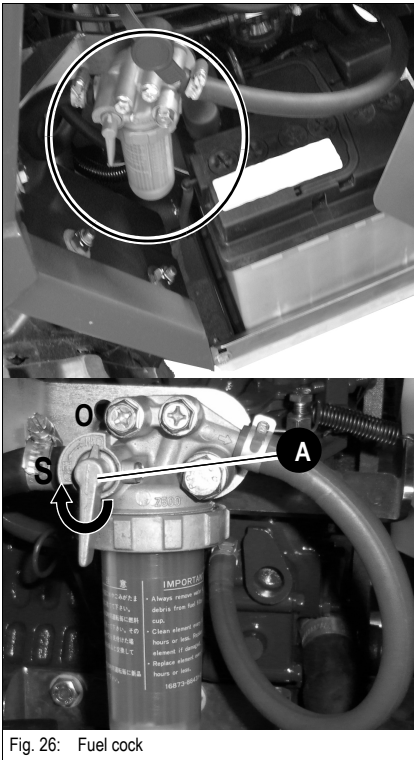


Fig. 26: Fuel cock

☞ Push throttle **5** fully to the front

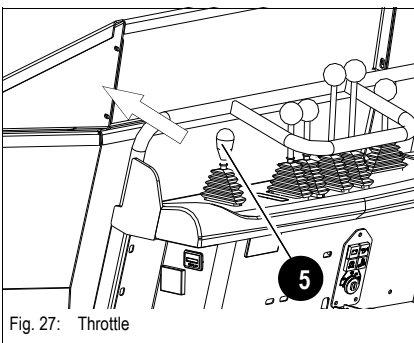
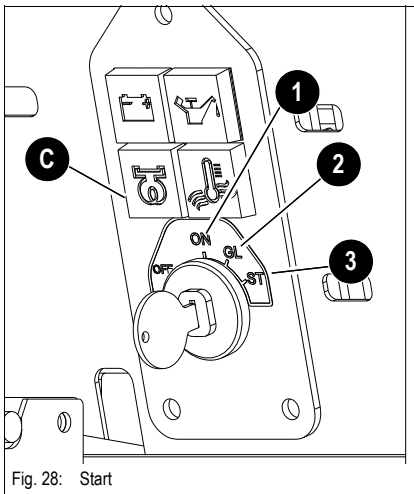


Fig. 27: Throttle

Electric starter



- Turn the starting key to position **1**
- Turn and hold the starting key in position **2** until the indicator light for glow plug preheating **C** goes out
- Turn and hold the starting key in position **3** until the engine starts
 - ➔ If the engine does not start after 5 seconds:
 - Stop starting the engine and try again after 10 seconds
 - ➔ If the engine still does not start after the second try:
 - Contact a Wacker Neuson service center for troubleshooting
- ➔ As soon as the engine runs:
 - Release the starting key.

i Notice!

Do not actuate the electric starter for more than 5 seconds.

Starting at low temperatures

When the engine runs smoothly (increased engine speed):

i 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 run warm
- At cold temperatures:
- Increase the engine speed slowly
 - Do not run the engine at full load until it has reached its operating temperature

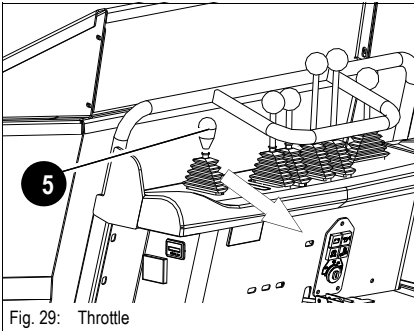
Stopping the diesel engine

Fig. 29: Throttle

➤ Push throttle **5** fully backward

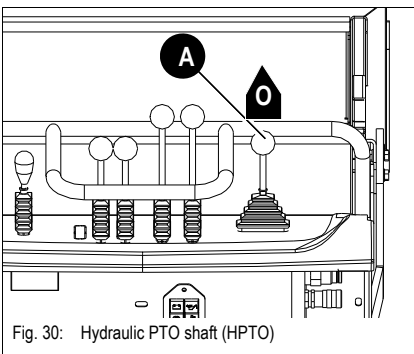


Fig. 30: Hydraulic PTO shaft (HPTO)

➤ Check whether the control lever for releasing PTO shaft **A** is in position **O**

➡ The PTO shaft is switched off

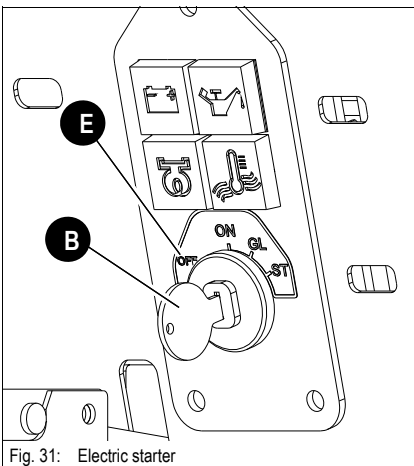


Fig. 31: Electric starter

➤ Turn starter **B** to position **E**

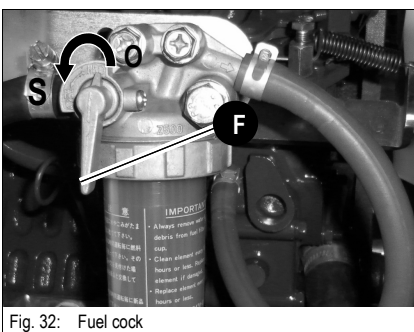


Fig. 32: Fuel cock

➤ Turn fuel cock **F** anticlockwise to position **S**

➡ The fuel cock is closed

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 dumper must not touch the jump-starting vehicle when connected with jump leads – sparking hazard!
- The voltage of the auxiliary power supply must be 12 V; higher supply voltage will damage the vehicles' electrical system!
- Use only authorized jump leads which conform to the safety requirements and which are in perfect condition!
- The jump lead connected to the positive + terminal of the starter battery must never be brought into connection with electrically conductive vehicle parts – **danger of short circuit!**
- Route the battery jumper cables so they cannot catch on rotating components in the engine compartment!

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 jumper cable (–) to the – terminal of the starting battery
- ☞ Connect the other end of the black cable (–) onto a solid metal component firmly screwed on the engine block or onto the engine block itself. Do not connect it to the negative terminal of the empty battery, as otherwise explosive gas emerging from the battery can ignite if sparks are formed!
- ☞ Start the engine of the machine with the empty 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 near the battery!

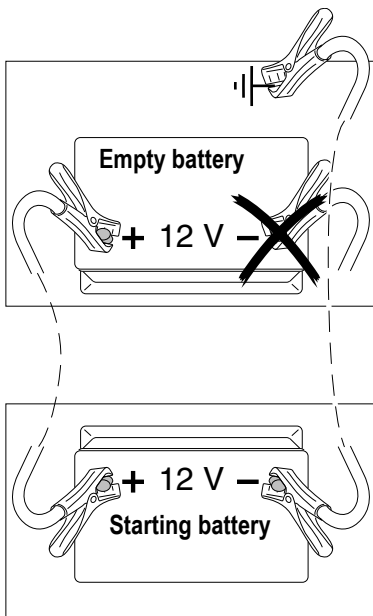


Fig. 33: Starting aid with battery jumper cables

Special instructions for driving on public roads

The machine is subject to the:

- Applicable legal regulations of your country (for example road traffic regulations)



Notice!

Operation of electric consumers (for example the lighting equipment) is prohibited. This is why the vehicle has no socket.

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

Starting vehicle travel

After starting the engine:

☞ Slowly actuate the drive lever

➔ Machine travel starts


Danger!

Never move control levers too fast:

Accident hazard, the machine can tip over!

☞ Perform precise and smooth movements with the control levers.


Danger!

The machine has no rearview mirrors –

Accident hazard when reversing!

☞ The operator must be guided by another person if he does not have sufficient visibility to the rear.

Drive levers

Caution!

Never operate the machine with the skip tilted out and with the loader unit lowered.

☞ Tilt in the skip.

☞ Raise the loader unit.

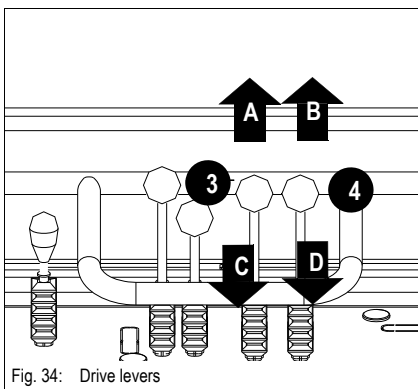


Fig. 34: Drive levers

The drive movements of the machine are controlled with drive levers **3** and **4**.

Position	Function	
• A	3 Push forwards	Track dumper moves forward
• B	4 Push forwards	
• C	3 Pull backward	Track dumper moves backward
• D	4 Pull backward	
• C	3 Pull backward	Track dumper turns to the left
• B	4 Push forward	
• A	3 Push forward	Track dumper turns to the right
• D	4 Pull backward	

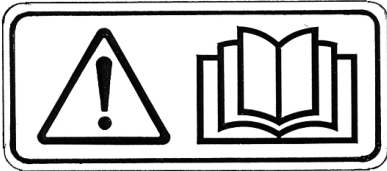

Notice!

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

Machine travel on slopes

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

Specific safety instructions



- ☞ *Tilt in the skip during machine operation.*
- ☞ *Always drive in low speed on slopes!*
 - ➔ This also ensures more precise and smooth movements of the steering system.
- During machine travel and operation on slopes or across obstacles,
 - Do not steer or drive across slopes.
 - ☞ If possible, avoid changing direction during machine travel and operation on slopes
- ☞ *During machine operation, ensure that you can stop safely any time if the machine starts to slip or if it becomes unstable.*
 - Tilting, swiveling or using the skip on slopes can cause the machine to lose its balance and to tip over.
 - ☞ Therefore avoid these activities.
- ☞ *Do not drive on slopes steeper than 15°, otherwise the machine can tip over.*
- ☞ *Do not drive across slopes steeper than 10° otherwise the machine can tip over laterally.*
 - If the tracks slip when driving uphill and it is no longer possible to move on with the force of the tracks alone.
 - ☞ Do not use any auxiliary means to move the machine otherwise it can tip over.
- ☞ *Always move straight ahead when performing uphill or downhill machine travel. Performing machine travel diagonally or at an angle to the slope is very hazardous.*
- ☞ *Avoid changing direction on slopes or driving across a slope.*
- ☞ *Perform machine travel slowly in meadows, on leaves or wet steel plates. 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.*

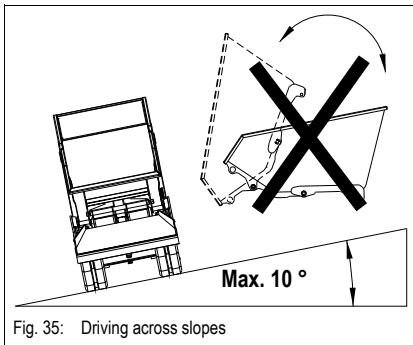
Driving across slopes


Fig. 35: Driving across slopes

The dumper may be driven on firm ground across a slope of up to 10°.


Danger!

Do not exceed the maximum slope.

Accident hazard!

- ☞ *The angle must be smaller in the case of soft and uneven ground!*
- ☞ *Do not actuate the skip as you drive on slopes*
- ☞ *Always tilt in the skip before driving on slopes*
- ☞ *Always keep the loader unit 30 – 40 cm above the ground during machine operation.*
- ☞ *Always reduce your speed as you drive on slopes – see **Drive levers** on page 3-13*
- ☞ *Always move straight ahead when performing uphill or downhill machine travel. Avoid driving diagonally or at an angle.*
- ☞ *Due to the reduced width, proceed with extreme care during machine travel on slopes, and on soft and uneven ground.*
- ☞ *Drive with extreme care on slopes in rain or if the ground is wet or slippery.*

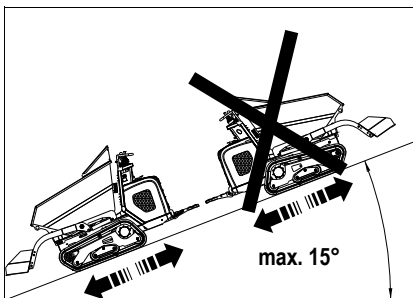
Driving on slopes


Fig. 36: Machine travel with an empty machine on slopes

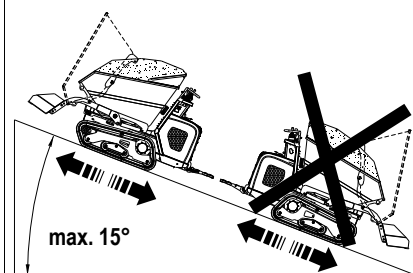


Fig. 36: Machine travel with a load on slopes

Machine travel is allowed on firm ground on a slope of up to 15°.


Danger!

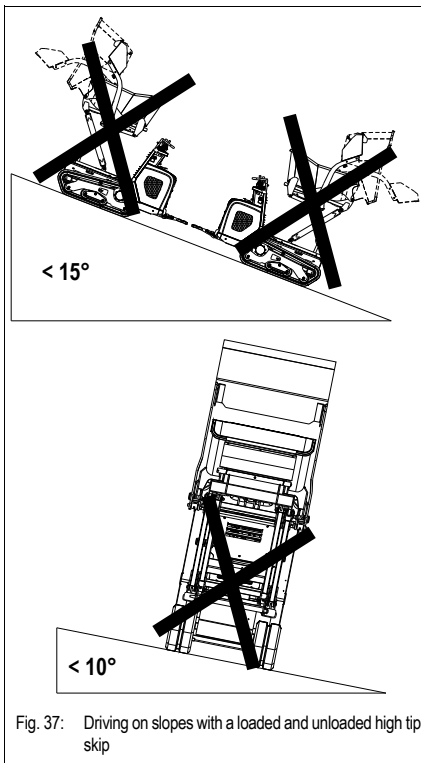
Do not exceed the maximum slope.

Accident hazard!

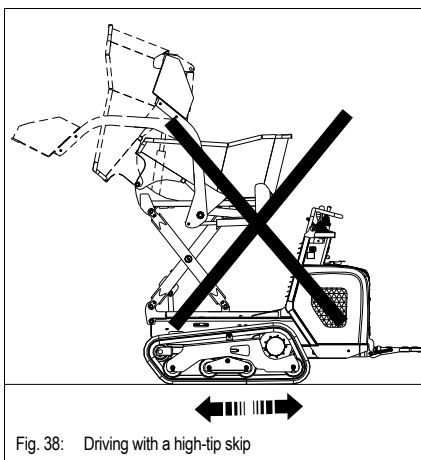
- ☞ *The operator is not allowed to stand on the foothold during machine travel and operation on slopes with a loaded machine!*
- ☞ *If the skip is **less** than half full, drive backward uphill or forward downhill.*
- ☞ *If the skip is **more** than half full, drive forward uphill or backward downhill.*
- ☞ *The angle must be smaller in the case of soft and uneven ground!*
- ☞ *Before driving on a slope, lower the skip and do not operate it on the slope!*
- ☞ *Always keep the loader unit 30 – 40 cm above the ground.*
- ☞ *Always reduce your speed as you drive on slopes – see **Drive levers** on page 3-13*
- ☞ *Always move straight ahead when performing uphill or downhill machine travel. Avoid driving diagonally or at an angle.*
- ☞ *Due to the reduced width, proceed with extreme care during machine travel on slopes, and on soft and uneven ground.*
- ☞ *Drive with extreme care on slopes in rain or if the ground is wet or slippery.*

Driving on slopes with a high-tip skip

- ⚠ Do not raise or dump out the skip on slopes, otherwise the machine can tip forwards.
- ⚠ Unloading on slopes is not allowed.



- ⚠ Driving with a raised and tilted skip is forbidden.
- ⚠ Raise and dump out the skip only if the machine is at a standstill.



Skip

Danger!

Do not operate the skip during machine travel and operation on slopes, otherwise –

Accident hazard!

- ☞ Do not actuate the skip when driving across slopes
- ☞ Do not actuate the skip when driving up or down slopes

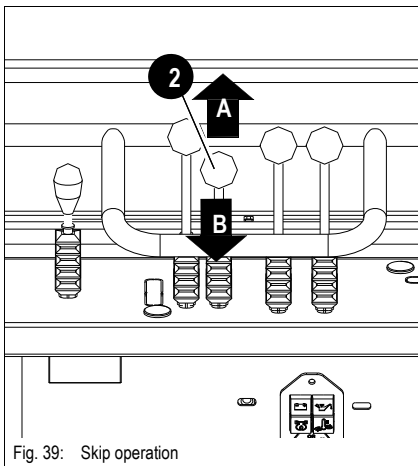


Fig. 39: Skip operation

Position	Function	
• A	2 Push forward	Skip is tilted out
• B	2 pulled backwards	Skip is tilted in


Notice!

The loader unit also moves as the skip is tilted in and out.

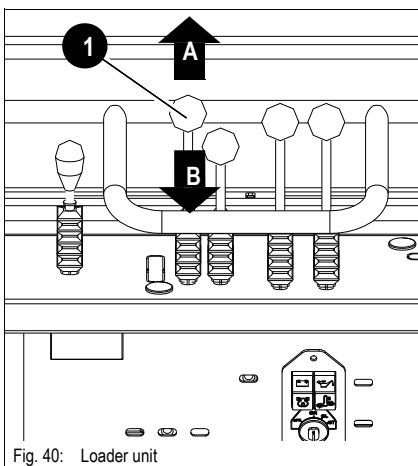
Loader unit operation (option)


Fig. 40: Loader unit

Position	Function	
• A	1 Push forward	Loader unit is lowered
• B	1 pulled backwards	Loader unit is raised


Notice!

Always keep the loader unit 30 – 40 cm above the ground during machine operation.

High-tip skip (option)

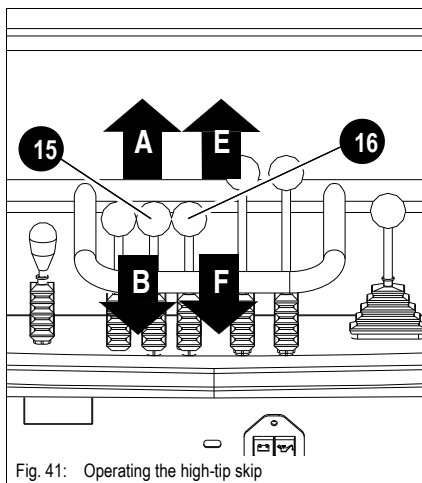


Fig. 41: Operating the high-tip skip



Danger!

Do not operate the skip during machine travel and operation on slopes, otherwise –

Accident hazard!

- ⚠ Do not actuate the skip when driving across slopes
- ⚠ Do not actuate the skip when driving up or down slopes

Position	Function	
• A	15 Pushed forward	Skip is tilted out
• B	15 Pulled to the rear	Skip is tilted in
• E	16 Pushed forward	Skip is lowered
• F	16 Pulled to the rear	Skip is raised



Notice!

The loader unit also moves as the skip is tilted in and out.

Swivel skip (optional)

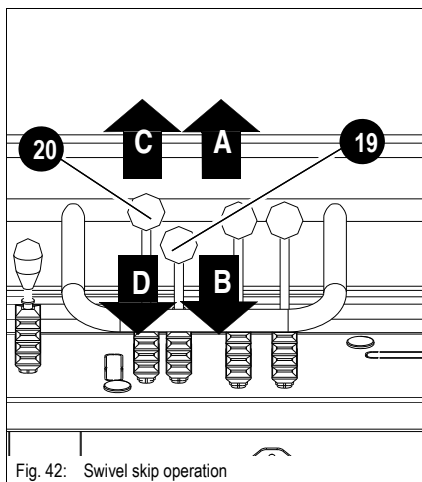


Fig. 42: Swivel skip operation



Danger!

Do not operate the skip during machine travel and operation on slopes, otherwise –

Accident hazard!

- ⚠ Do not actuate the skip when driving across slopes
- ⚠ Do not actuate the skip when driving up or down slopes

Position	Function	
• A	19 Pushed forward	Skip is tilted out
• B	19 Pulled to the rear	Skip is tilted in
• C	20 Pushed forward	Skip swivels to the left
• D	20 Pulled to the rear	Skip swivels to the right

Parking the machine



Danger!

Always park the machine on firm ground.

Accident hazard!

- ☞ Lower and tilt in the skip
- ☞ Park the machine on level ground
- ☞ Fasten the tracks with fastening elements (for example chocks)

- ☞ Stopping the machine
- ☞ Tilt in the skip
- ☞ Lower the loader unit to the ground
- ☞ Reduce engine speed completely
- ☞ Disengage the starter
- ☞ Remove the starting key.



Caution!

Never stop the engine under full load.

- ☞ Let the engine run at idling speed for at least 5 minutes before switching it off.

Foothold

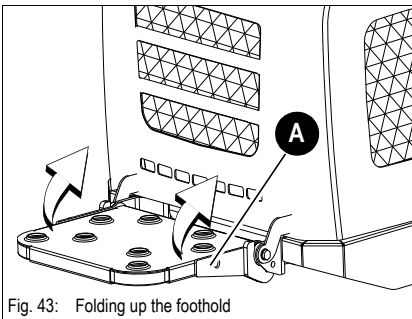


Fig. 43: Folding up the foothold

Folding up the foothold:

- ☞ Fold up foothold **A** with both hands to the upright position.

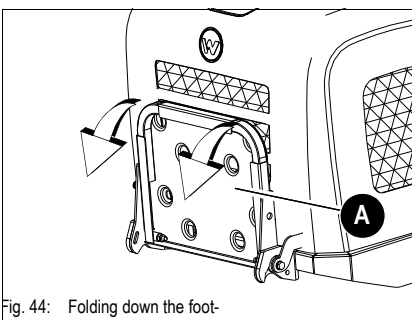


Fig. 44: Folding down the foot-

Folding down the foothold:

- ☞ Grab the foothold **A** with both hands.
- ☞ Fold it down to the horizontal position.

Battery master switch

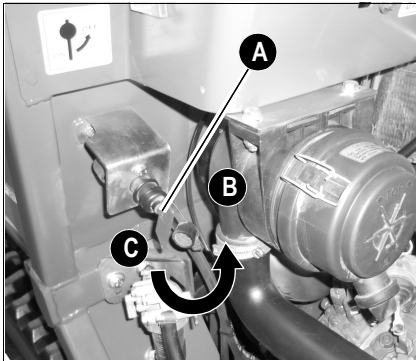


Fig. 45: Battery master switch

i Notice!

Do not disconnect the battery while the engine is running!

i Notice!

Power supply is interrupted directly after the battery, by means of a key

- Before working on the electrical system
- As an antitheft precaution

Interrupting power supply:

- ☞ Open the engine cover
- ☞ Turn key **A** of the battery master switch to position **B** and remove it

Establishing power supply:

- ☞ Insert key **A** in the battery master switch.
- ☞ Turn the key downwards to the notched position **C**

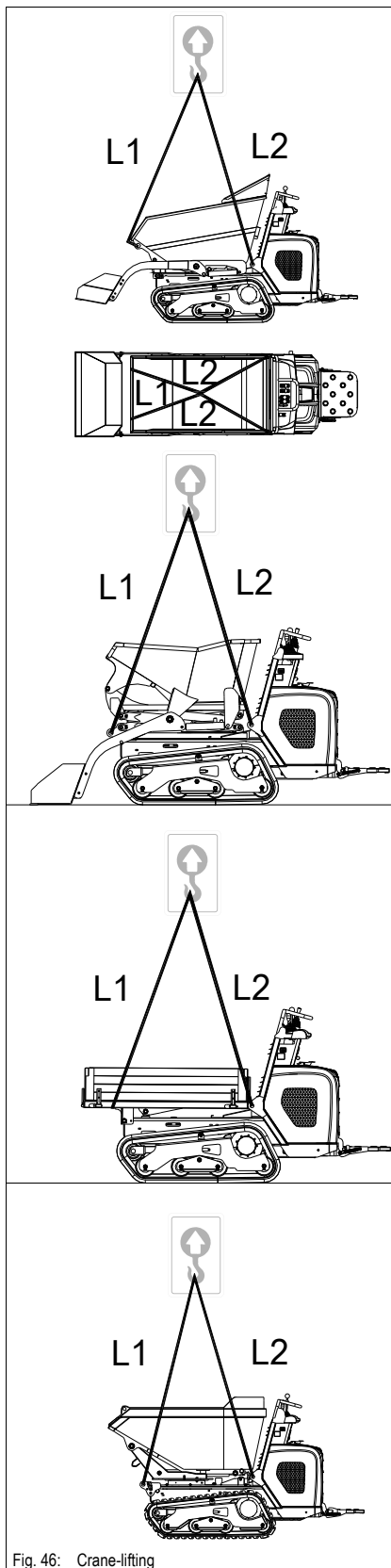
Crane handling the machine


Fig. 46: Crane-lifting

Safety instructions

- The crane and the lifting gear must have suitable dimensions
- Crane-lifting the machine requires suitable lifting gear
- Secure the machine against unintentional movement!


Danger!

Incorrect crane-lifting of the machine –

Accident hazard!

- ☞ *Ensure that no one is near the machine!*
- ☞ *Have loads fastened and crane operators guided by experienced persons only! The person guiding 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!*
- ☞ *Only raise the machine with an empty loader unit and skip*
- ☞ *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!*

☞ Load the machine as follows:

- Empty the skip and the loader unit
- Lower tipping trailer
- Stop the engine
- Remove the starting key.
- Use suitable lifting gear, chains, etc.
- ☞ Length L1 of the lifting gear on the skip must be at least 2.0 m long
- ☞ Length L2 of the lifting gear (two cables or chains) on the control stand must be at least 2.0 m long
- Slowly raise the machine

Loading and transporting the machine

Safety instructions

- The transport vehicle must be of sufficient size. See [Chapter 6 “Technical data”](#) for the dimensions and the weight of the machine!
- Remove any mud, snow or ice from the tracks so that the machine can be safely driven onto the ramps
- Secure the machine against unintentional movement!
– see [Parking the machine](#) on page 3-19



Danger!

The machine must be loaded and transported properly –

Accident hazard!

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!

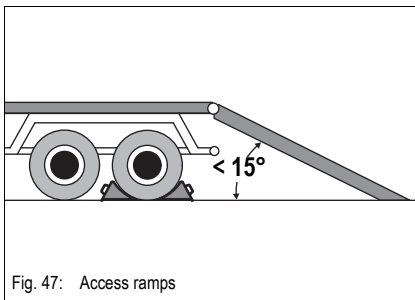


Fig. 47: Access ramps

Load as follows:

- ☞ Secure the transportation vehicle with chocks to prevent it from rolling
- ☞ Place the access ramps at the smallest possible angle. Ensure that the grade does not exceed 15° (26%). Use access ramps with an anti-skid surface only.
- ☞ Ensure that the loading area is clear and access to it is not obstructed – for example by superstructures
- ☞ Ensure that the ramps and the tracks of the dumper are free of oil, grease and ice
- ☞ Start the engine of the dumper
- ☞ Lower tipping trailer
- ☞ Raise the loader unit enough so that it will not touch the access ramps
- ☞ Carefully drive the dumper onto the middle of the transport vehicle
- ☞ Lower the loader unit to the loading area
- ☞ Stop the engine
- ☞ Remove the starting key



Notice!

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

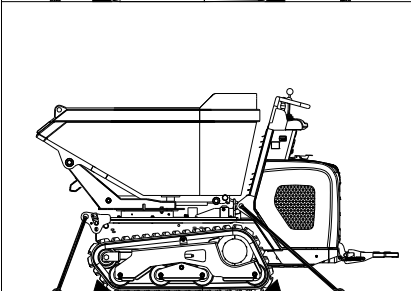
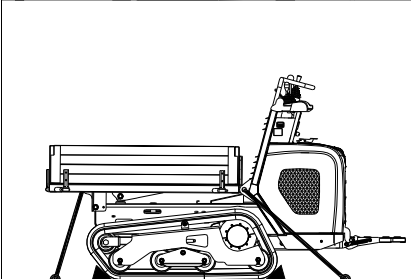
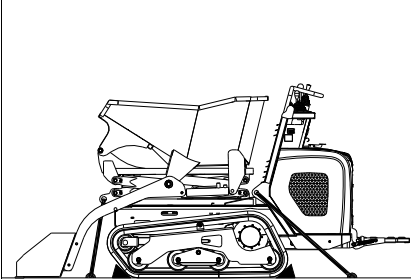
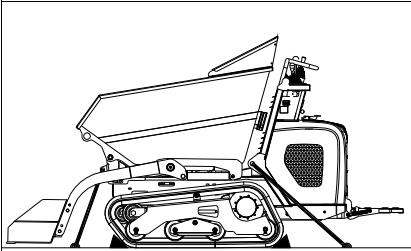
Tying down the machine


Fig. 48: Tying down the dumper


Danger!

The machine must be loaded and transported properly –

Accident hazard!

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 authorized maximum height is not exceeded
- ☞ Secure the tracks of the dumper on the sides.
- ☞ Lower the skip and the loader unit.
- ☞ Firmly fasten the dumper onto the platform. To this end, use straps and chains of sufficient size to pass the cables through the lugs provided.
- ☞ Protect the engine with a simple cover before transporting the machine through heavy rain.
- ☞ Ensure that the operator of the transport vehicle knows the overall height, overall width and overall weight of the vehicle (including the dumper) as well as the applicable statutory provisions for this type of transport in the country in which the transport is occurring before driving! Tie down the machine.

Towing the machine

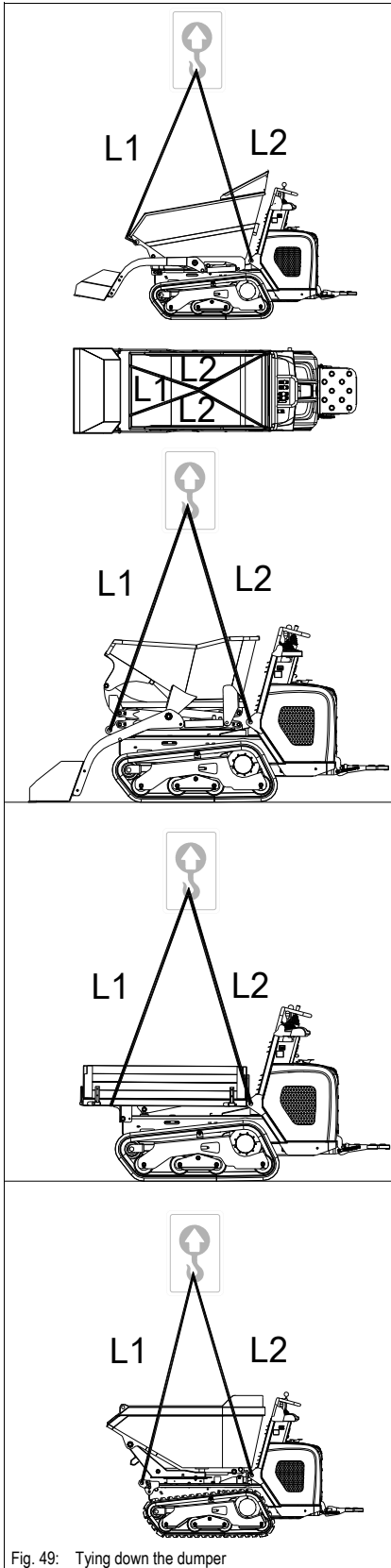


Fig. 49: Tying down the dumper



Danger!

Keep out of the danger zone of the machine –

Accident hazard!

☞ Ensure that no one is in the danger zone of the dumper.



Notice!

The manufacturer's warranty shall not apply to accidents or damage caused by towing. No towing away other machines with the eye hook. The machine can also be salvaged with a crane.

3.6 Machine operation

General safety instructions

- Never drive up to the edge of a pit from outside – risk of cave-in!
- Do not operate the machine under projecting earth. Stones or the projecting earth can fall onto the machine.
- When working on roofs of buildings or other structures, these are to be checked for stability before starting work; The building can collapse, causing serious injury and damage.
- Do not position the machine directly underneath the workplace during demolition, otherwise demolished parts can fall onto the machine or the building can collapse, causing serious injury or damage.
- Operation of the machine by unauthorized personnel is prohibited!
- The hydraulic system of the machine is still pressurized even when the engine is not running! 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 with hydraulic functions.
- Before tilting out the skip next to an excavation, secure the machine with suitable wheel chocks or other auxiliary means.
- Always watch the material as you tilt out the skip: ensure that the material is dumped out evenly and does not remain stuck in the skip, otherwise the machine could tip over.
- Do not dump the load when working on sloping ground.
- Transporting persons or animals in the skip is prohibited.
- When transporting material, actuating the skip and/or the loader unit (option) is prohibited!
- Always perform precise and smooth control movements, do not perform abrupt movements.
- Do not get off the machine when it is moving.
- Avoid hazardous work conditions on the job site, do not work in severe weather and ensure that no one is at risk.
- Transporting persons is prohibited.

Loader unit operation

The following section describes work operations with the machine equipped with the loader unit. The loader unit is mainly used for earth-moving applications, and for loosening, picking up and loading loose material.

Transporting with a full bucket



Caution!

No transport of material: the loader unit is designed for loading loose material only.

☞ *Loading loose material is described below*

☞ *Only load material with the skip tilted in*

Loading loose material



Caution!

Do not perform any steering movements once the bucket has penetrated the material.

Lower the loader unit only when the machine is at a standstill and if there is enough room to the front.

The loader unit is not designed for loading compacted material (hard to penetrate), serious loader unit damage can occur.

☞ Only load loose material

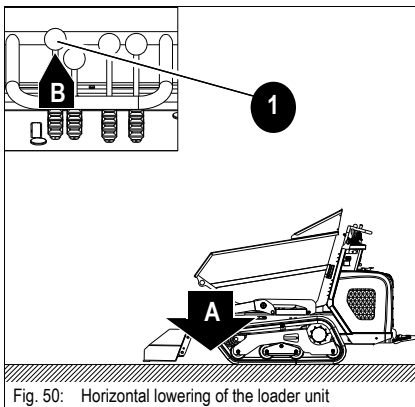


Fig. 50: Horizontal lowering of the loader unit

☞ Lower the loader unit to the ground **A**

☞ Slide the control lever **1 B** forward



Caution!

Do not perform any steering movements once the bucket has penetrated the material.



Caution!

Load the machine only on firm and level ground!

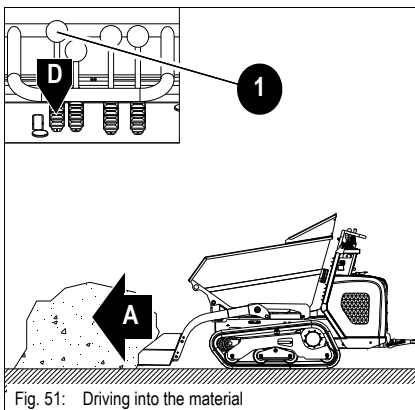


Fig. 51: Driving into the material

☞ Drive forward into the material **A**

If the engine speed decreases due to too much material:

☞ Raise the loader unit a little

☞ Move the control lever **1 D** to the rear



Notice!

If the loader unit cannot be raised in the material

- Reduce the load on the loader unit by reversing

Ending loading

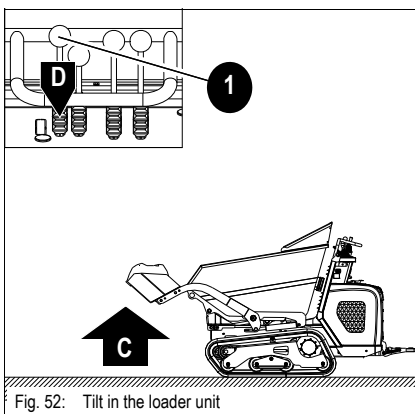


Fig. 52: Tilt in the loader unit

☞ Set the loader unit to position **C**

☞ Move the control lever **1 D** to the rear

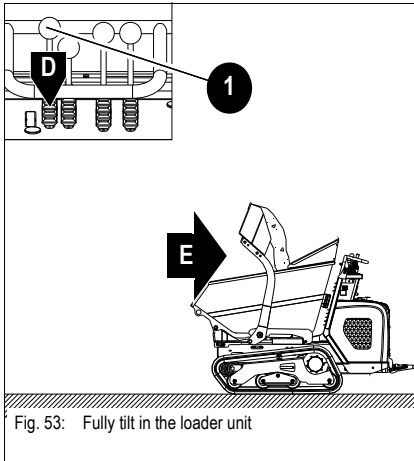


Fig. 53: Fully tilt in the loader unit

- ☞ Tilt in the loader unit fully **E**
- ☞ Pull control lever **1 D** backwards


Notice!

Perform slow movements of the loader unit. This distributes the material evenly in the skip.

Transporting with a full skip

Danger!

Careful when driving in rough terrain with a full skip –

Accident hazard!

Pay particular attention to this when turning or performing machine travel on slopes. To avoid accidents:

- ☞ Fully tilt in the skip
- ☞ Bear in mind the tilting limit during machine travel and operation on slopes

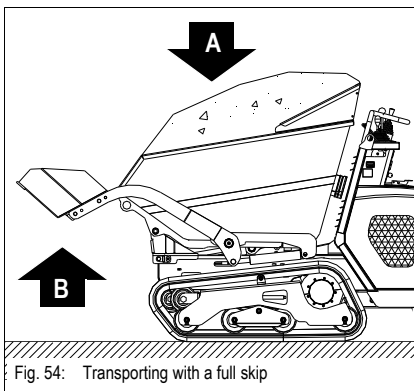


Fig. 54: Transporting with a full skip

- ☞ Fully tilt in the skip **A**
- ☞ Lower the loader unit (option) to transport position **B**
- ☞ Always reverse up a slope at low speed with a full skip

Tilt out the skip



Danger!

Tilting out the skip alongside a pit is dangerous –

Accident hazard!

- ☞ *Ensure sufficient stability*
- ☞ *Do not drive too closely to the pit*
 - *Secure the machine with chocks if necessary*
- ☞ *Slowly tilt out the skip*
- ☞ *Always watch the material as you tilt out the skip: ensure that the material is dumped out evenly and does not remain stuck in the skip, otherwise the machine could tip over*

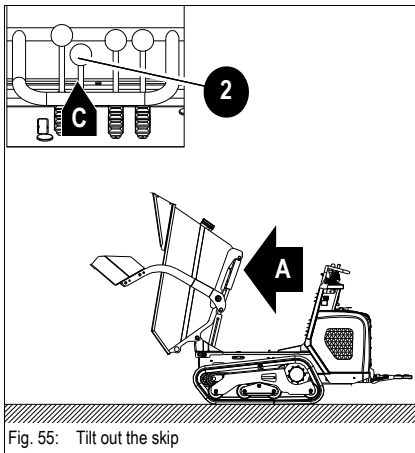


Fig. 55: Tilt out the skip

- ☞ *Tilt out the skip A*
 - ☞ *Slide the control lever 2 C forward*
 - ➔ *Raise the loader unit*



Caution!

As you tilt out the skip, ensure that the loader unit does not touch the ground or the material transported in the skip, otherwise the loader unit can be damaged.

- ☞ *Raise the loader unit completely*

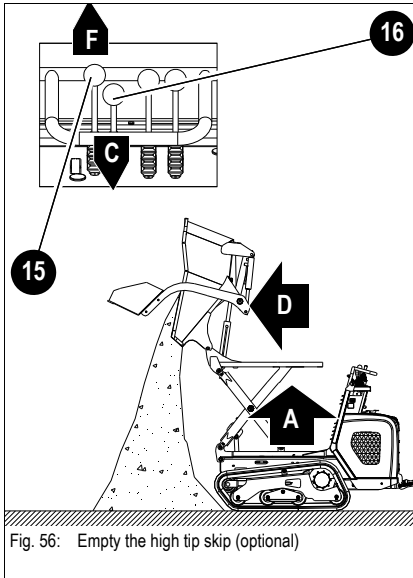
Empty the high tip skip (optional)

Danger!

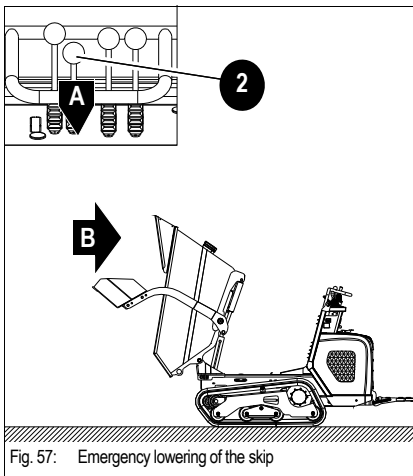
Careful when handling the high-tip skip –

Accident hazard!

- ☞ Do not raise or dump out the skip when driving
- ☞ Do not raise or dump out the skip on slopes or in an inclined position



- ☞ Park the vehicle on level and horizontal ground
- ☞ Dump out skip **A** upwards
 - ☞ Move the control lever **16 C** to the rear
 - ➔ Skip is raised
- ☞ Dump out skip **D**
 - ☞ Move the control lever **15 F** to the front.
 - ➔ Skip dumps out

Emergency lowering of the skip

Danger!

Emergency lowering of the skip –

Crushing hazard and injury!

- ☞ Stay clear of the skip

Emergency lowering of the skip is only possible with the help of two persons.

- ☞ Pull lever **2 A** backward during emergency lowering and hold it in this position
 - Once the skip is fully tilted out
 - ☞ Press the front tip skip by hand downwards to over the pivot point **B** and at the same time pull the lever **2 A** to the rear.
 - ☞ The skip is lowered by its own weight once it is beyond the pivot point

Hydraulic PTO shaft (HPTO) (Opt.)

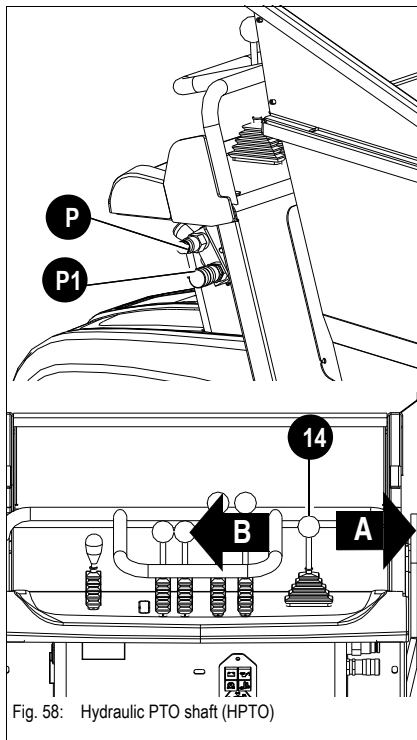


Fig. 58: Hydraulic PTO shaft (HPTO)

The hydraulic PTO shaft has an operating pressure of 155 bar and an output of 28 l/min.

- ⚠ Stop the engine
- ⚠ Check whether the control lever for releasing the PTO shaft **14** is in the neutral position
 - ➡ The PTO shaft is switched off
- ⚠ Insert the quick couplers of the accessories into the corresponding connections **P** and **P1** of the PTO shaft of the machine.
- ⚠ Connect PTO shaft; in the process, bring the control lever **14** into position **A** or **B**, depending on what line is to be pressurized.
- ⚠ Regulate the throttle of the dumper until reaching the output required for correct operation of the work equipment

Position	Function	
• A	1 pushed to the right	Additional upper connection P
• B	1 pushed to the left	Additional lower connection P1



Caution!

Release the hydraulic PTO shaft only with the quickcouplers used for the work equipment. Switching on the PTO shaft with no work equipment connected can be the cause of starting failure or output loss of the dumper, or of oil overheating in the hydraulic system



4 Malfunctions

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

Repairs must only be performed by authorized personnel.

4.1 Engine malfunctions

Problem	Possible causes	See
Engine does not start or is not easy to start	Wrong SAE grade of engine lubrication oil	5-35
	Fuel grade does not comply with specifications	5-35
	Malfunctioning or empty battery	5-32
	Loose or oxidized cable connections in starter circuit	
	Malfunctioning starter, or pinion does not engage	
	Wrong valve clearance	
	Malfunctioning fuel injector	
Engine starts, but does not run smoothly or faultless	Malfunctioning fuse	
	Fuel grade does not comply with specifications	5-35
	Wrong valve clearance	
	Injection line leaks	
Engine overheats	Malfunctioning fuel injector	
	Oil level too low	5-12
	Oil level too high	5-12
	Polluted air filter	5-15
	Dirty radiator fins	5-21
Insufficient engine power	Malfunctioning fuel injector	
	Oil level too high	5-12
	Fuel grade does not comply with specifications	5-35
	Polluted air filter	5-15
	Wrong valve clearance	
	Injection line leaks	
Insufficient or no engine oil pressure	Malfunctioning fuel injector	
	Oil level too low	5-12
	Excessive machine inclination (max. 15°)	
Engine has excessively high	Wrong SAE grade of engine lubrication oil	5-35
	Oil level too high	5-12
	Excessive machine inclination (max. 15°)	



Problem		Possible causes	See
Engine smoke	Blue	Oil level too high	5-12
		Excessive machine inclination (max. 15°)	
	White	Engine starting temperature too low	
		Fuel grade does not comply with specifications	5-35
		Wrong valve clearance	
	Black	Malfunctioning fuel injector	
		Polluted air filter	5-15
		Wrong valve clearance	
		Malfunctioning fuel injector	

5 Maintenance

5.1 Introduction

The working order and the service life of vehicles are heavily dependent on maintenance. It is therefore in the interest of the machine owner to perform the mandatory maintenance. Before performing servicing and maintenance, always read, understand, and follow the instructions given in:

- **Chapter 2 “Safety instructions”** of this Operator’s Manual and
- The Operator’s Manuals of the attachments.

Daily maintenance specified in maintenance plan “A” has to be performed by an appropriately trained machine operator. All other maintenance may only be performed by trained and qualified technical personnel.

The maintenance plans indicate when the maintenance mentioned below must be performed.

Maintenance prop

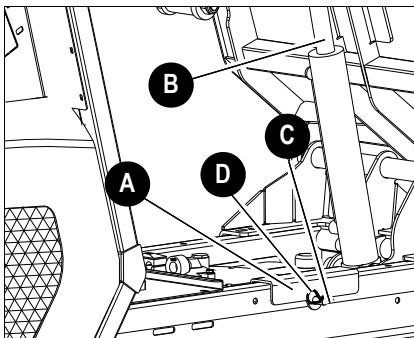


Fig. 59: Transport bracket

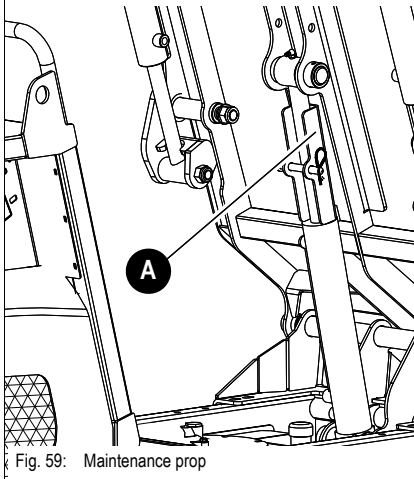


Fig. 59: Maintenance prop



Danger!

Careful when performing maintenance on or under the skip, and in general when performing maintenance with the skip tilted out –

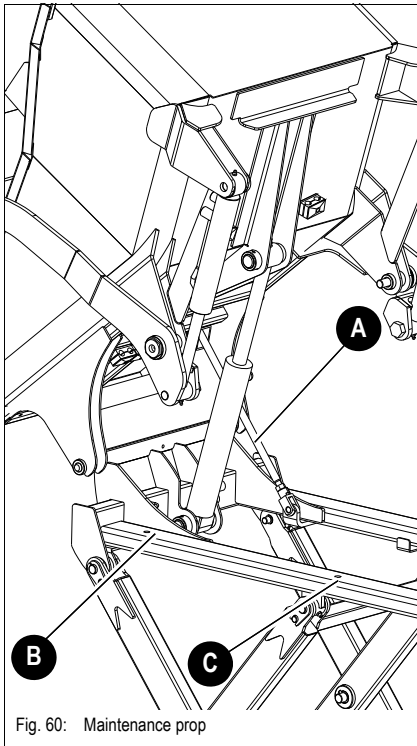
Accident hazard!

☞ Use the maintenance prop

Proceed as follows to attach the maintenance prop:

- ☞ Remove the maintenance prop **A** from the transport bracket
 - ☞ The maintenance prop is fastened with lock pin **C** and pin **D**
 - ☞ Insert the maintenance prop **A** on the tipping cylinder **B**
 - ☞ Secure the maintenance prop **A** with the locating pin **C** and the pin **D**
- During transport fit maintenance point **A** in the seat as shown in [Fig. 59](#).

Maintenance strut for high-tip skip



Danger!

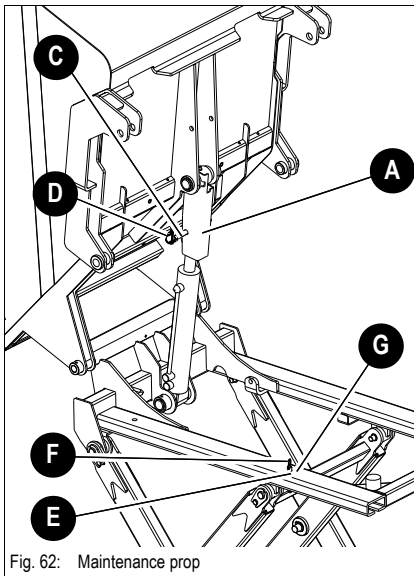
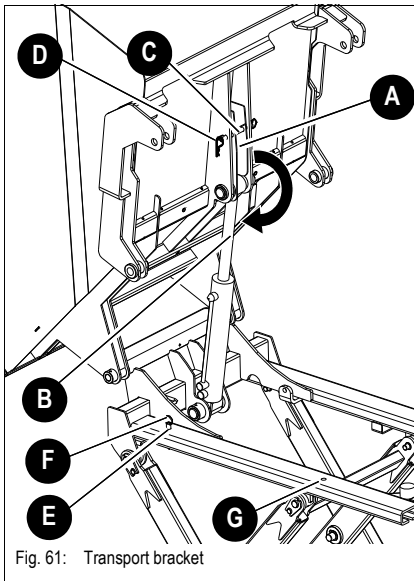
Careful when performing maintenance on or under the skip, and in general when performing maintenance with the skip tilted out –

Accident hazard!

☞ Use the maintenance prop

Proceed as follows to attach the maintenance prop:

- ☞ Raise tipping trailer
- ☞ Empty front tip skip
- ☞ Raise safety rod **A**
 - ➔ The skip is blocked in the raised position
- ☞ Remove the safety pin and the stud from opening **B** and insert them in opening **C**
 - ➔ The skip is blocked in the raised position

Maintenance strut for high-tip skip**Danger!**

Careful when performing maintenance on or under the skip, and in general when performing maintenance with the skip tilted out –

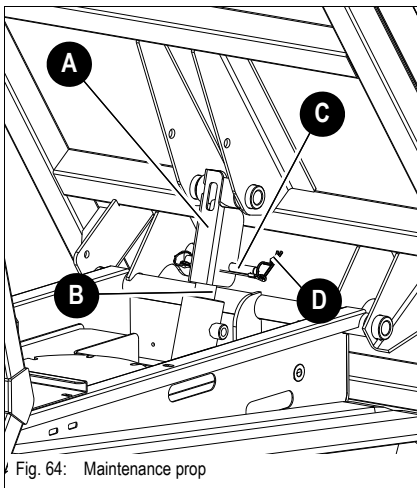
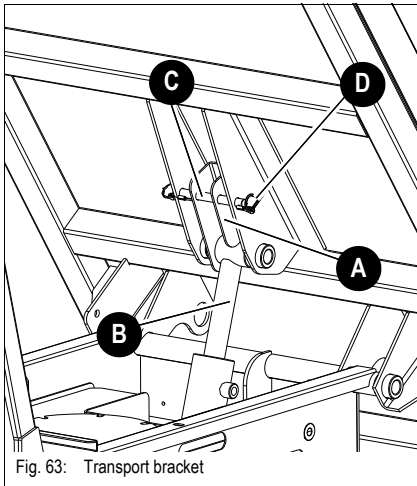
Accident hazard!

☞ Use the maintenance prop

Proceed as follows to attach the maintenance prop:

- ☞ Empty front tip skip
 - ☞ Remove lock pin **C** and splint **D**
 - ☞ Turn maintenance prop **A** around tilt cylinder **B**
 - ☞ Secure the maintenance prop **A** with the locating pin **C** and the pin **D**
 - ➔ The skip is blocked in the raised position
 - ☞ Remove safety pin **E** and pin **F** and insert into the opening **G**
 - ➔ The skip is blocked in the raised position
- During transport fit maintenance point **A** in the seat as shown in [Fig. 61](#).

Maintenance prop for front skip



Danger!

Careful when performing maintenance on or under the skip, and in general when performing maintenance with the skip tilted out –

Accident hazard!

☞ Use the maintenance prop

Proceed as follows to attach the maintenance prop:

- ☞ Empty front tip skip
- ☞ Remove lock pin **C** and splint **D**
- ☞ Turn maintenance prop **A** around tilt cylinder **B**
- ☞ Secure the maintenance prop **A** with the locating pin **C** and the pin **D**

During transport fit maintenance point **A** in the seat as shown in [Fig. 63](#).

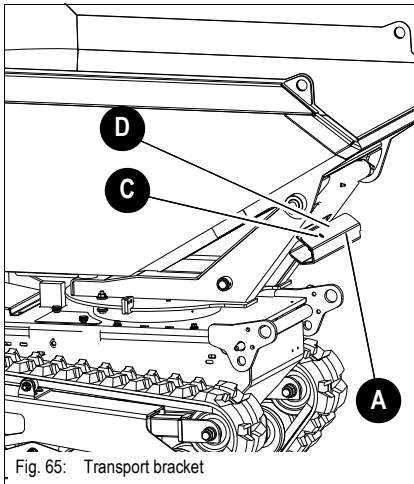
Maintenance strut for swivel skip

Fig. 65: Transport bracket

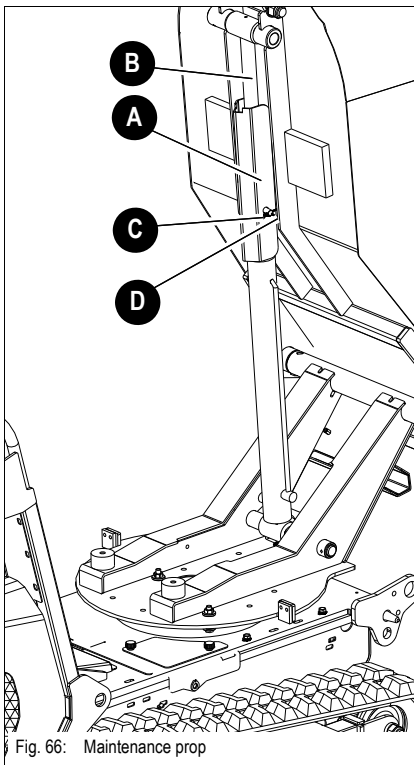


Fig. 66: Maintenance prop

**Danger!**

Careful when performing maintenance on or under the skip, and in general when performing maintenance with the skip tilted out –

Accident hazard!

☞ Use the maintenance prop

Proceed as follows to attach the maintenance prop:

- ☞ Remove the maintenance prop **A** from the transport bracket
 - ☞ The maintenance prop is fastened with lock pin **C** and pin **D**
- ☞ Insert the maintenance prop **A** on the tipping cylinder **B**
- ☞ Secure the maintenance prop **A** with the locating pin **C** and the pin **D**

During transport fit maintenance point **A** in the seat as shown in [Fig. 65](#).

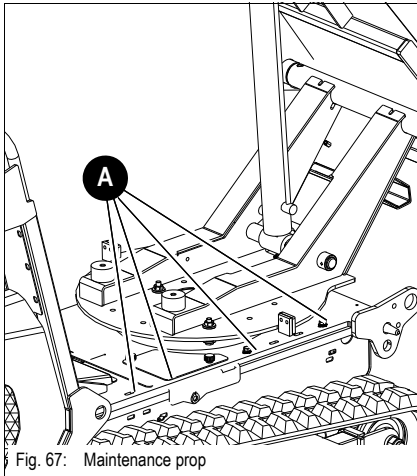


Fig. 67: Maintenance prop

The substructure must be raised and the maintenance prop installed for maintenance and service work. Perform the starting aid as follows:

- ▣ Unscrew screws **A**

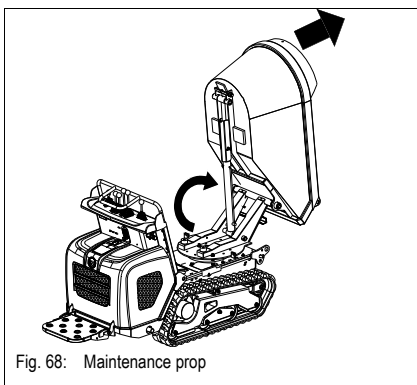


Fig. 68: Maintenance prop

- ▣ With the skip fully tilted, raise the substructure by pressing on the upper edge of the skip

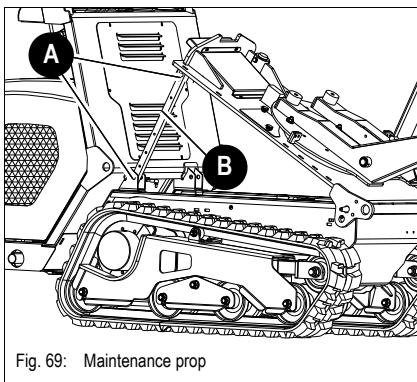


Fig. 69: Maintenance prop

- ▣ Remove the maintenance prop **B** from the transport bracket
- ▣ Insert the maintenance prop **B** in the corresponding bracket
- ▣ Secure the maintenance prop **B** with the screws **A**

5.2 Fuel system

Specific safety instructions

- Extreme caution is essential when handling fuel – increased fire hazard!
- Never perform work on the fuel system near open flames or sparks!
- Do not smoke when working on the fuel system or when refueling!
- Before refueling, stop the engine and remove the starting key!
- Do not refuel in closed rooms!
- Wipe away fuel spills immediately!
- Keep the vehicle clean to reduce the fire hazard!

Checking the fuel level

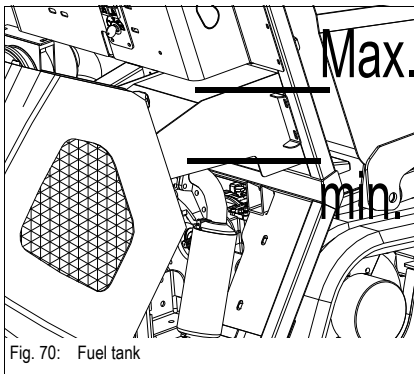


Fig. 70: Fuel tank

Check the fuel level as follows:

- ☞ The fuel level must be between the *min.* and *max.* levels
- ☞ If the fuel level is below *min.*
- ☞ Refueling

Notice!

The vehicle has no filling level indicator, therefore always check the fuel level before putting the vehicle into operation.

Refueling

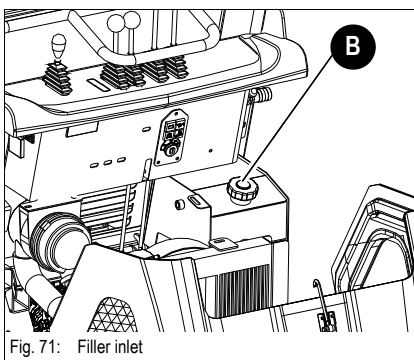


Fig. 71: Filler inlet

Filler inlet **B** is located on top of the fuel tank.



Danger!

All work involving fuel carries an increased
fire and poisoning risk!

- ☞ Do not refuel in closed rooms.
- ☞ Never perform work on the fuel system near open flames or sparks.

Notice!

Ensure that you refuel with the correct fuel. It is indicated on the label beside the filler inlet.



Environment!

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

Drain fuel

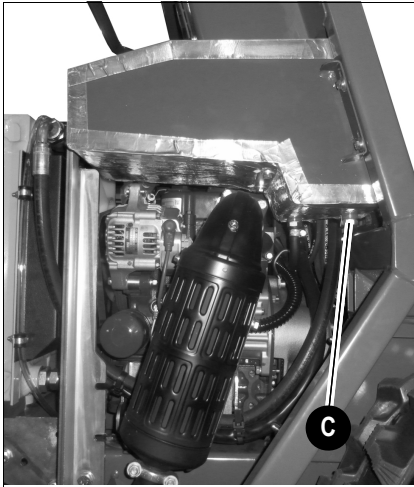


Fig. 72: Drain fuel

The filler inlet of tank **C** is located under the fuel tank.

☞ *Perform the starting aid as follows:*

- Clean the area around filler cap **C** with a lint-free cloth
- Place a sufficiently large container under the place where the fuel is drained
- Open filler cap **C**
- Wait for a moment (about 3 minutes) until the oil has been completely drained from the tank.
- Close filler cap **C**



Environment!

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



Danger!

All work involving fuel carries an increased

fire and poisoning risk!

- ☞ *Do not refuel in closed rooms.*
- ☞ *Never perform work on the fuel system near open flames or sparks.*



Environment!

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

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 refueling from barrels is unavoidable, please note the following (see Fig. 73):

- Barrels must neither be rolled nor tilted before refueling
- 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 refueling aids (funnels or filler pipes) with integral micro-filter
- Keep all refueling containers clean at all times.

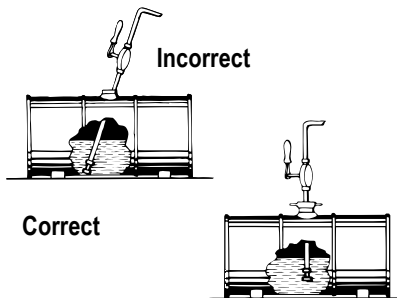


Fig. 73: Refuelling from a barrel

Diesel fuel specification

Use only high-grade fuels

Grade	Cetane number	Usage:
• No. 2-D according to DIN 51601	Min. 45	-15 °C to 45 °C
• No. 1-D according to DIN 51601		For outside temperatures below 4 °C or for operation above 1500 m altitude

Cleaning the filter cup/replacing the filter cartridge



Danger!

Fuel is extremely flammable, and explosive under certain circumstances.

Accident hazard!

- ☞ No smoking in the job site, no open flames or sparks.
- ☞ Once the filter cup is back in position, check for leaks and ensure that all gasoline spills have been wiped away before starting the engine.

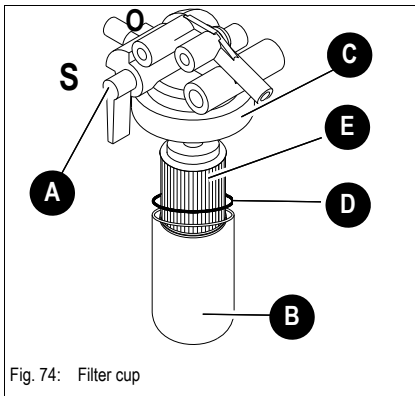


Fig. 74: Filter cup

- ☞ Set fuel cock **A** to **S** (OFF)
- ☞ Unscrew filter cup **B** with a suitable tool by loosening ring **C**
- ☞ Remove filter cup **B** and O-ring **D**, and wash with a nonflammable solvent.
- ☞ Allow filter cup **B** to dry thoroughly
- ☞ Take out filter element **E** and rinse it with diesel fuel or replace it
- ☞ Screw filter cup **B** back on again with a suitable tool by tightening ring **C**
- ☞ Set fuel cock **A** to **O** (ON) and check for leaks



Environment!

Dispose of the drained fuel in an environmentally friendly manner.

Bleeding the fuel system

Danger!

If fuel comes into contact with hot engine parts or the muffler, there is an increased

Fire hazard!

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

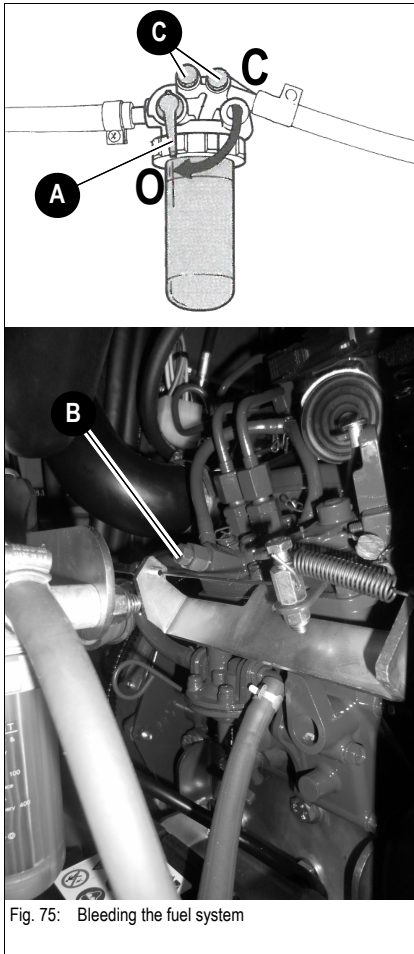


Fig. 75: Bleeding the fuel system

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:*

- ☞ Park the vehicle on level and horizontal ground
- ☞ Stop the engine
- ☞ Fill the fuel tank
- ☞ Open fuel filter valve **A** by turning the lever to the bottom onto **O**
- ☞ Loosen the drain plugs of fuel filter **C**
- ☞ Retighten drain plugs **C** as soon as there is no more air
- ☞ Actuate manual pump **B** of the fuel feed line
 - ➔ until fuel comes out of the filter without any air
- ☞ Tighten screw **C** again with a suitable tool
- ☞ Loosen drain plug **B** above the fuel injection pump with a suitable tool
- ☞ Retighten drain plug **B** as soon as there is no more air
- ☞ Starts the engine

5.3 Engine lubrication system



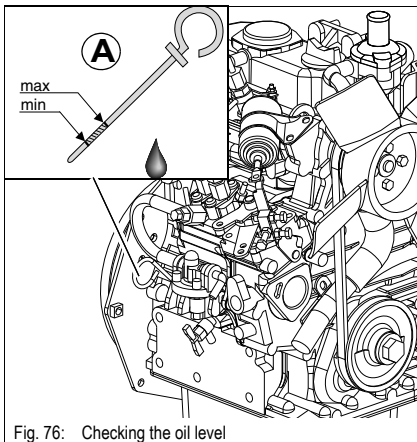
Caution!

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

Engine damage and loss of output!

- ☞ Have the oil changed by an authorized service center
– see chapter 5.10 **Maintenance plan DT10** on page 5-37

Checking the oil level



The oil dipstick is located on the left side of the engine.



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.

Checking the oil level

- ☞ Perform the starting aid as follows:
 - Park the vehicle on level ground
 - ➔ Max. inclination about 5°
 - Stop the engine!
 - Let the engine cool down
 - Open the engine cover
 - 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
- ☞ However, if need be add oil when the oil level has reached the MIN mark on the oil dipstick **A**

Top off the engine oil

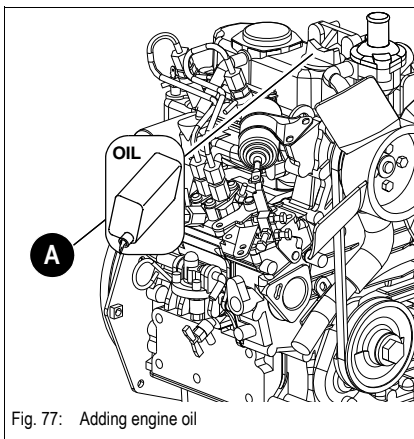


Fig. 77: Adding engine oil



Caution!

Too much or incorrect engine oil can cause engine damage! Therefore:

- ☞ Do not add engine oil above the MAX mark of oil dipstick 77/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!

Perform the starting aid as follows:

- ☞ Clean the area around filler cap **A** with a clean lint-free cloth
- ☞ Open filler cap **A**
- ☞ Adding engine oil
- ☞ Wait a moment until all the oil has run into the oil sump
- ☞ Check the oil level
- ☞ Add oil if necessary and check the oil level again
- ☞ Close filler cap **A**
- ☞ Completely remove all oil spills from the engine.

Drain engine oil

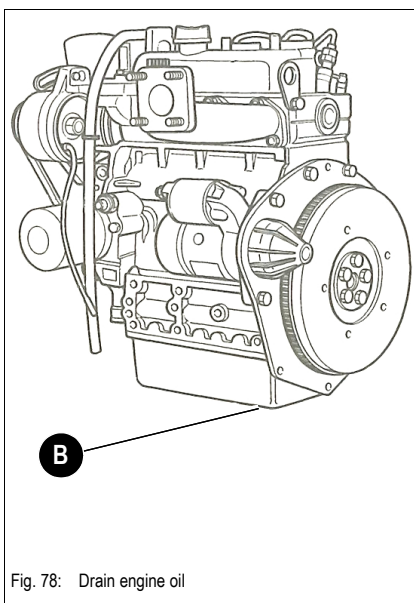


Fig. 78: Drain engine oil

Perform the starting aid as follows:

- ☞ Clean the area around oil filler cap **B** with a lint-free cloth
- ☞ Place a sufficiently large container under the place where the oil is drained
- ☞ Open filler cap **B**
- ☞ Wait for a short while (appr. 3 minutes), until the oil has drained completely from the sump
- ☞ Close filler cap **B**



Environment!

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

Replacing the oil filter cartridge



Danger!

Replace the oil filter cartridge only if the engine is stopped.

Caustic injury hazard!

- ☞ *Wait at least 15 minutes after stopping the engine!*
- ☞ *Wear protective gloves and clothing*

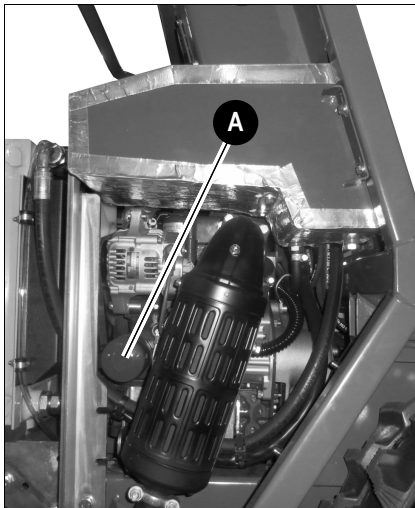


Fig. 79: Engine oil filter cartridge

- ☞ *Remove filter cartridge **A** with a key*
- ☞ *Apply a thin coat of oil to the seal of the new cartridge*
- ☞ *Tighten the new filter cartridge **A** by hand*
- ☞ *Do not tighten the cartridge too much! Do not use a key!*
- ☞ *Check the engine oil level and add oil if necessary*



Environment!

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

5.4 Air filter

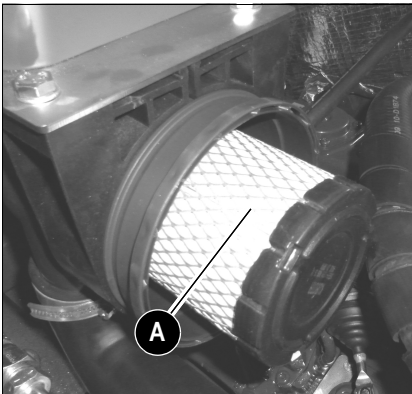


Fig. 80: Air filter



Caution!

The filter elements will be damaged if they are washed or brushed out! Bear in mind the following to avoid premature engine wear or damage:

- ☞ *Never let the engine run without the air filter installed.*
- ☞ *Do not clean the filter elements.*
- ☞ *Replace the filter elements according to the maintenance plan.*
- ☞ *Never reuse damaged filter elements.*
- ☞ *Ensure cleanliness when replacing the filter elements!*

☞ *The filter cartridge **A** must be replaced as specified in the maintenance plan:*



Caution!

Filter cartridges 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

- ☞ *Replace the filter cartridge **A** after 50 hours run at the latest!*



Notice!

For **applications in especially dusty environment**, replace or clean the air filter more frequently.

General instructions for air filter maintenance:

- Store filters in their original packaging and in a dry place.
- Do not knock the filter against other objects as you install it
- Check air filter attachments, air intake hoses and air filters 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

Replacing the filters

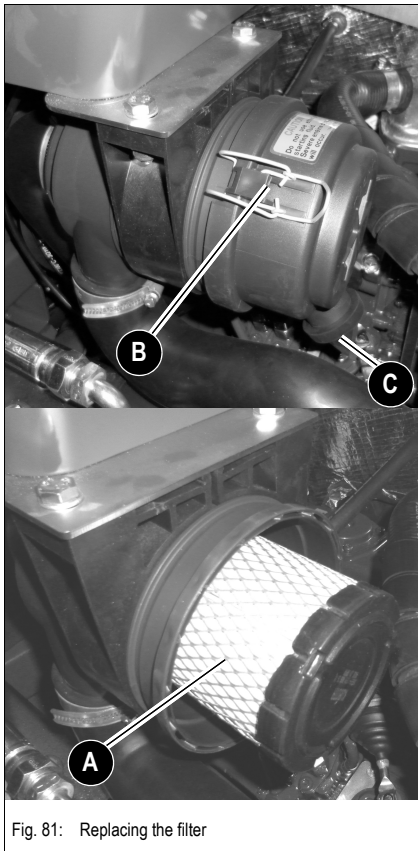


Fig. 81: Replacing the filter

Exchange filter cartridge **A** as follows:

- ☞ Stop the engine
- ☞ Remove the key and carry it with you
- ☞ Let the engine cool down
- ☞ Switch off the vehicle
- ☞ Remove dirt and dust from the air filter and the area around the air filter
- ☞ Remove cover **B**
- ☞ Carefully remove filter cartridge **A** with slightly turning movements
- ☞ **Ensure that all dirt (dust) inside cover **B**, including dust valve **C**, has been removed**
- ☞ Clean the parts with a clean lint-free cloth, do not use compressed air
- ☞ Check the air filter cartridges for damage. **DO NOT CLEAN** the cartridges! Install only intact and clean filters.
- ☞ Insert the new filter cartridge **A** carefully
- ☞ **Ensure that all dirt (dust) inside cover **B** has been removed**
- ☞ Position cover **B** (ensure that it is properly seated)

**Notice!**

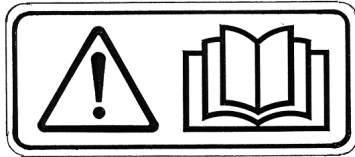
Ensure that dust valve **C** shows downward as you install it!

**Environment!**

Dispose of filter cartridge **A** in an environmentally friendly manner.

5.5 Hydraulic system

Specific safety instructions



- Release the pressure in all lines carrying hydraulic oil prior to any maintenance and repair work. To do this:
 - Set down all hydraulically activated work equipment on the ground and
 - actuate all control levers of the hydraulic controllers several times.
- Hydraulic oil escaping under high pressure can penetrate the skin and cause serious injury. 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 system!
 - ☞ Contact your Wacker Neuson dealer immediately
- Oil or fuel flowing out of high pressure lines can cause fire or malfunctions, and serious injury or damage to property. Interrupt work immediately in case of loose nuts or damaged lines.
 - ☞ Contact your Wacker Neuson dealer immediately
- Replace the hose or line if one of the problems mentioned below 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 –

Risk of serious damage to the hydraulic system!

- ☞ *Take care to avoid dirt when working!*
- ☞ *Always add hydraulic oil using the filling screen!*
- ☞ *Only use authorized oils of the same type*
– see chapter 5.9 Fluids and lubricants on page 5-35
- ☞ *Always add hydraulic oil before the level gets too low – see **Adding hydraulic oil** on page 5-18*
- ☞ *If the hydraulic system is filled with biodegradable oil, then use only biodegradable oil of the same type for adding oil – observe the sticker on the hydraulic oil reservoir!*
- ☞ *Contact customer service if the hydraulic system filter is contaminated with metal shavings. 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

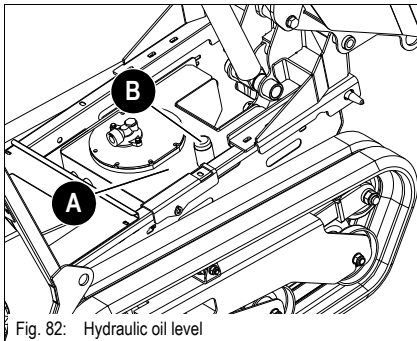


Fig. 82: Hydraulic oil level

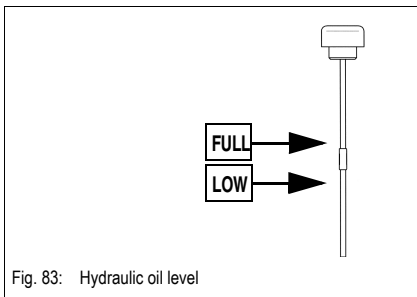


Fig. 83: Hydraulic oil level



Caution!

Do not add oil if the oil level is above the **FULL** mark, otherwise the hydraulic system can be damaged and escaping oil can cause serious injury.

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

Perform the starting aid as follows:

- ☞ Park the vehicle on level ground
- ☞ Raise the platform and lock it in the safety position [See Maintenance prop on page 5-1.](#)
- ☞ Stop the engine
- ☞ The dipstick is integrated in the filler cap **B** of hydraulic oil reservoir **A**
- ☞ Check whether the oil level is between **MIN** and **MAX**
- ☞ Add hydraulic oil if the oil level is lower



Notice!

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

Adding hydraulic oil

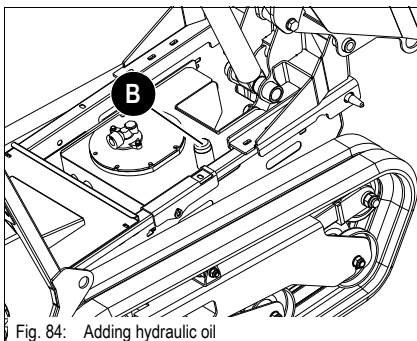


Fig. 84: Adding hydraulic oil



Danger!

Removing the filler plug can cause oil to escape –

Accident hazard!

- ☞ Carefully unscrew the plug to slowly reduce the pressure inside the reservoir.

Refill hydraulic oil only with the engine stopped otherwise hydraulic oil will overflow at the filler opening on the hydraulic oil reservoir.

Add as follows:

- ☞ Park the vehicle on level ground
- ☞ Raise the platform and lock it in the safety position [See Maintenance prop on page 5-1.](#)
- ☞ Stop the engine
- ☞ Unscrew filler cap **B**
- ☞ Use an oil funnel with micro-filter to fill in oil

With the filter insert in place:

- ☞ Adding hydraulic oil
- ☞ Check the hydraulic oil level with the dipstick integrated in filler cap **B**
- ☞ Add if necessary and check again
- ☞ Firmly tighten filler cap **B** by hand.

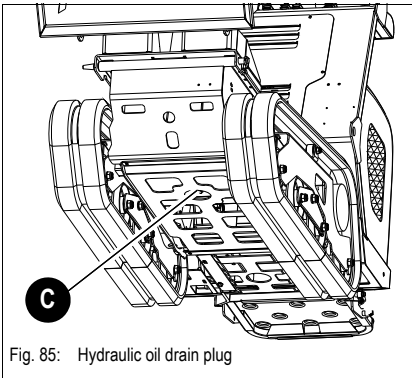
Drain hydraulic oil


Fig. 85: Hydraulic oil drain plug

☞ Perform the starting aid as follows:

- Retract all hydraulic cylinders
- Clean the area around filler cap **C** with a lint-free cloth
- Place a sufficiently large container under the place where the oil is drained
- Open filler cap **C**
- Wait for a moment (about 3 minutes) until the oil has been completely drained from the tank.
- Close filler cap **C**


Environment!

Collect the drained oil in a suitable container and dispose of it by an environmentally safe manner!

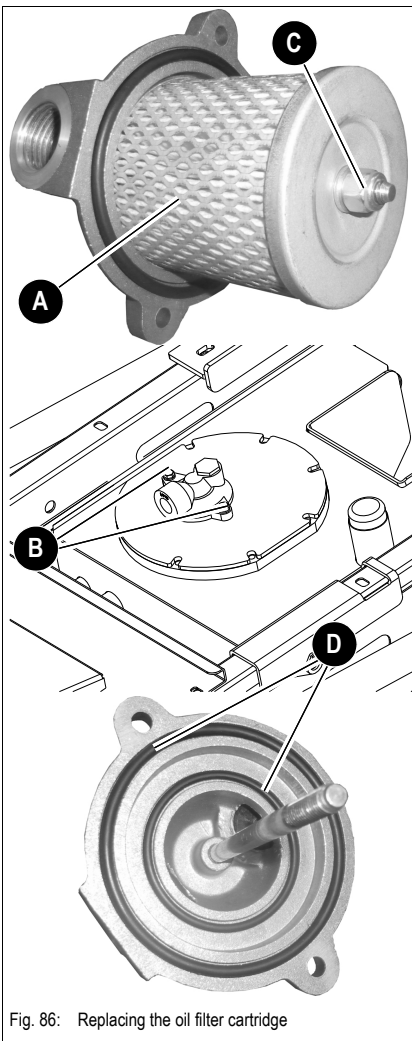
Replacing the hydraulic oil filter cartridge


Fig. 86: Replacing the oil filter cartridge

Exchange filter cartridge **A** as follows:

- ☞ Stop the engine
- ☞ Unscrew screws **B** to take the filter out of the mount
- ☞ Unscrew the nut **C** on the filter element **A**
- ☞ Insert the new filter cartridge **A**
- ☞ Ensure that seals **D** are properly seated
- ☞ Tighten nut **C** on filter cartridge **A**
- ☞ Ensure that all dirt (dust) has been removed
- ☞ Insert the filter in its mount
- ☞ Tighten screws **B** again


Environment!

Collect the drained oil in a suitable container and dispose of it by an environmentally safe manner!


Environment!

Dispose of filter cartridge **A** in an environmentally friendly manner.

Replacing the cartridge of hydraulic oil intake filter

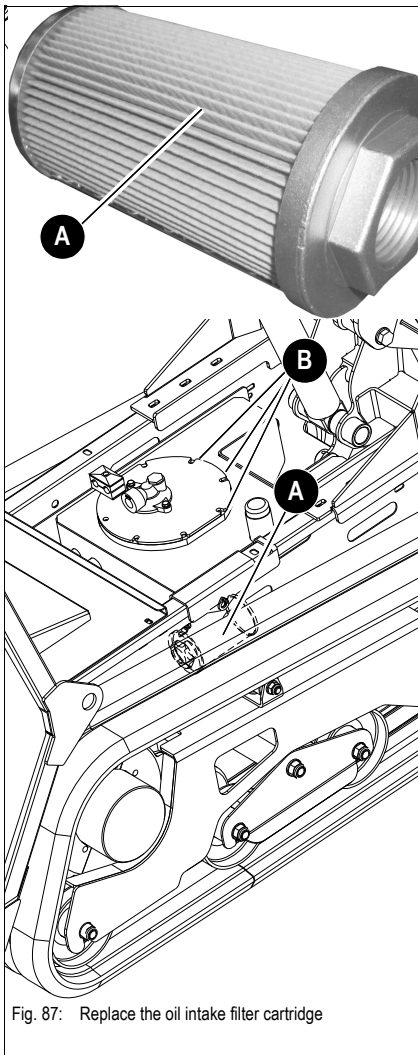


Fig. 87: Replace the oil intake filter cartridge

Exchange filter cartridge **A** as follows:

- ☞ Stop the engine
- ☞ Remove the inspection flange by unscrewing screws **B**
- ☞ **Ensure that all dirt (dust) has been removed**
- ☞ Remove filter **A** by unscrewing it
- ☞ Insert the new filter cartridge **A**
- ☞ Retighten the inspection flange by screwing screws **B**



Environment!

Collect the drained oil in a suitable container and dispose of it by an environmentally safe manner!



Environment!

Dispose of filter cartridge **A** in an environmentally friendly manner.

Hydraulics cooling system

Specific safety instructions



The hydraulic oil radiator is located under the engine cover. It cools the hydraulic oil of the drive and operating hydraulics.

- Dirt on the radiator fins reduces the radiator's cooling capacity! To avoid this:
 - ☞ Clean the outside of the radiator at regular intervals. 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 (hydraulic oil) reduces the heat dissipation capacity as well and can lead to engine damage! Therefore:
 - ☞ Check the oil 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 your dealer!
 - ☞ Never add cold water/coolant if the engine is warm!
- The use of the wrong coolant can destroy the engine and the radiator. Therefore:
 - ☞ Add enough antifreeze compound to the coolant – but never more than 50 %. If possible, use brand-name antifreeze agents since they already contain anti-corrosion agents.
 - ☞ Observe the coolant compound table
– see [chapter 5.9 Fluids and lubricants](#) on page 5-35
 - ☞ 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.



Environment!

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

Cleaning the oil/water radiator



Danger!

Warm engine –

Burn hazard!

- ☞ Wait at least 10 minutes after stopping the engine!
- ☞ Wear safety glasses, protective gloves and clothing!

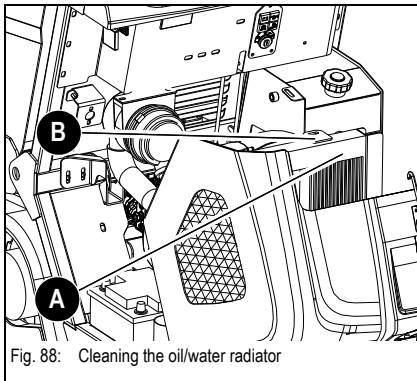


Fig. 88: Cleaning the oil/water radiator

Perform the starting aid as follows:

- ☞ Park the vehicle on level ground
- ☞ Stop the engine and let it cool down
- ☞ Disengage the starter
- ☞ Open the engine cover
- ☞ Blow compressed air through radiator fins **A** to remove dirt

Check coolant level/top off coolant



Danger!

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

–

Burn hazard!

- ☞ Wait at least 15 minutes after stopping the engine!
- ☞ Wear protective gloves and clothing
- ☞ Open filler cap **B** to the first catch and release the pressure
- ☞ Ensure that the coolant temperature is sufficiently low so you can touch the radiator plug with your hands



Danger!

Antifreeze is flammable and toxic.

Accident hazard!

- ☞ Keep away from flames
- ☞ Avoid eye contact with antifreeze
 - If antifreeze comes into contact with the eyes:
 - ➔ Immediately rinse with clean water and seek medical assistance

Checking the coolant level

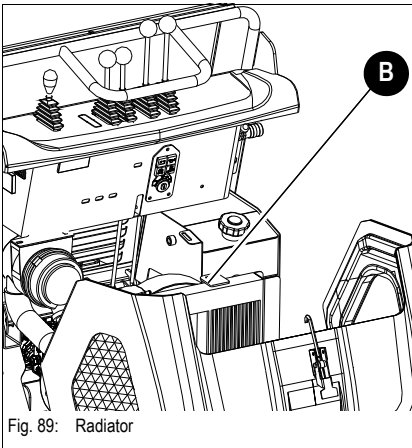


Fig. 89: Radiator

☞ Perform the starting aid as follows:

- Park the vehicle on level ground
- Stop the engine!
- Remove the key and carry it with you
- Let the engine and the coolant cool down
- Open the engine cover
- Check whether the coolant level reaches filler inlet **B**

☞ If the coolant level does not reach the filler inlet of the radiator:

- Adding coolant



Notice!

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

Adding coolant

After the engine has cooled down:

- ☞ Release overpressure in the radiator
- ☞ Carefully open the cap to the first notch and fully release the pressure
- ☞ Open filler cap **B**
- ☞ Add coolant 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
- ☞ Remove the key and carry it with you
- ☞ Let the engine cool down
- ☞ Check the coolant level again
 - ➔ The coolant level must be in the lower corner of the filler inlet (radiator)
- ☞ If necessary, add coolant and repeat the procedure until the coolant level remains constant



Notice!

Check the antifreeze every year before the cold season sets in

Draining coolant

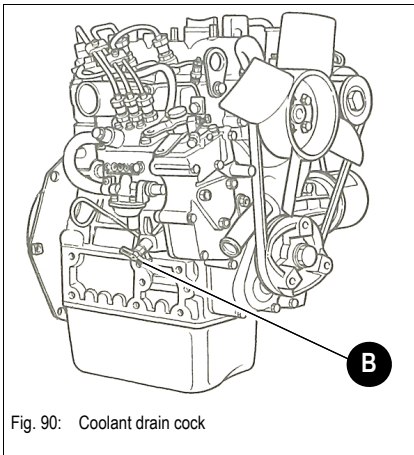


Fig. 90: Coolant drain cock

Coolant drain cock **B** is located on one side of the engine.

☞ *Perform the starting aid as follows:*

- Clean the area around cock **B** with a lint-free cloth
- Place a sufficiently large container under the place where the coolant is drained
- Open cock **B**
- Wait a moment (approx. 3 minutes) until the coolant from the radiator and engine has drained off
- Close cock **B**



Environment!

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



Important information on the use of biodegradable oil

- Use only the biodegradable hydraulic fluids which have been tested and approved by Wacker Neuson. Always contact Wacker Neuson for the use of other products that 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 that can be proved to be due to the hydraulic fluid
- Use only biodegradable oil of the same type for adding oil. In order to avoid misunderstandings, a label providing clear information is located on the hydraulic oil reservoir (next to the filler inlet) regarding the type of oil currently used! Replace missing labels! Mixing two different biodegradable oils can worsen the quality of one of the oil types. Therefore, ensure that the remaining amount of initial hydraulic fluid in the hydraulic system does not exceed 8 % when changing biodegradable oil (manufacturer indications)
- Do not add mineral oil – the content of mineral oil should not exceed 2% by weight in order to avoid foaming problems and to ensure biological degradability
- When operating the vehicle with biodegradable oil, the same oil and filter replacement intervals are valid as for mineral oil
– see **Maintenance plan DT10** on page 5-37
- Always have the condensation water in the hydraulic oil reservoir drained by a Wacker Neuson service center before the cold season. The water content must 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 installed 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 performed by a Wacker Neuson service center or by your Wacker Neuson distributor.

Checking hydraulic pressure lines

Specific safety instructions



Danger!

Use caution when checking the hydraulic lines; Especially when searching for leaks.

Hydraulic oil escaping under high pressure can penetrate the skin and cause serious injury.

Risk of 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 screw connections 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 damaged or leaking pressure lines and screw connections. Have damaged parts replaced with new ones!
- Never search for leaks with your bare hands, but wear protective gloves!
- Use paper or wood to check for minor leaks. Never use an unprotected light or open flame!
- Have damaged flexible lines replaced by service centers only!

- 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 the vehicle but also helps to protect the environment.

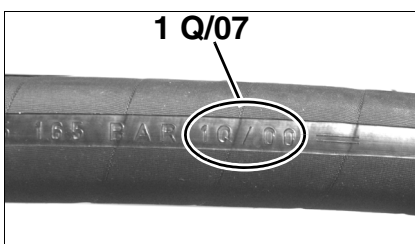
- Replace hydraulic hoses every 6 years from the date of manufacture, even if they do not seem to be damaged

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 TI. 5.

The date of manufacture (month or quarter and year) is indicated on the flexible line.

Example:

The indication "1 Q/07" means manufactured in the 1st quarter of 2007.





5.6 Tracks



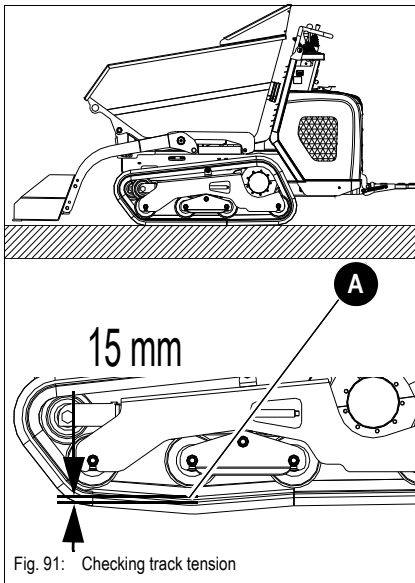
Danger!

Careful when working on the tracks –

Accident hazard!

- ☞ Use suitable means to support and secure the vehicle
- ☞ In addition, ensure that the vehicle cannot overturn

Check track tension



Check track tension as follows:

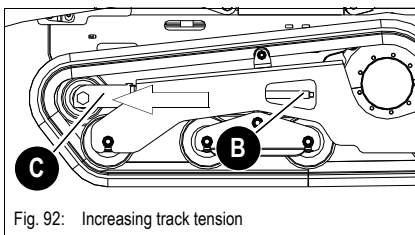
- ☞ Park the dumper on firm and level ground
- ☞ Raise the dumper with suitable means
- ☞ Tracks should be raised off the ground
- ☞ Stop the engine
- ☞ Use additional supports for the dumper and ensure that it cannot overturn
- ☞ Measure the clearance at the middle track roller **A**
 - ➔ The rubber track should not sag more than 15 mm when tight



Notice!

If possible, the distance from the rollers should be the same for both tracks.

Tightening the tracks



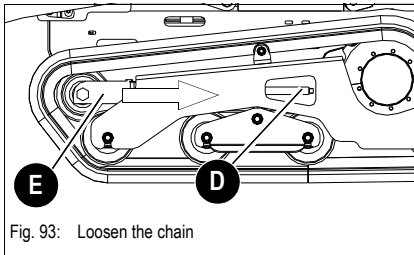
Perform the starting aid as follows:

- ☞ Park the dumper on firm and level ground
- ☞ Raise the dumper with suitable means
- ☞ Tracks should be raised off the ground
- ☞ Stop the engine
- ☞ Use additional supports for the dumper and ensure that it cannot overturn
- ☞ Screw in adjusting screw **B** with a suitable tool
 - ➔ Cylinder **C** is extended
 - ➔ The track is tensioned
- ☞ Check track tension
 - ➔ Repeat the procedure if the tracks are not tight enough



Notice!

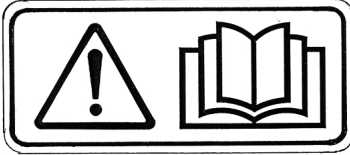
Check track tension once a day since excessive or insufficient track tension can damage the tracks and the components of the undercarriage.

Decreasing track tension

- Park the dumper on firm and level ground
- Raise the dumper with suitable means
- Tracks should be raised off the ground
- Stop the engine
- Use additional supports for the dumper and ensure that it cannot overturn
- Unscrew adjusting screw **D** with a suitable tool
 - Ram **E** is retracted
 - The track is loosened
- Check track tension
 - Repeat the procedure if the tracks are too tight

5.7 Electrical system

Specific safety instructions



- The battery contains sulphuric acid. This acid must not be allowed to come into contact with the skin, the eyes, clothing or the machine.

Therefore when recharging or working near the battery:

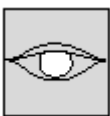
- ☞ Always wear safety glasses and protective clothing with long sleeves.

If acid is spilled:

- ☞ 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 – explosion hazard!
- Do not attempt to jump-start the machine if the battery is frozen or if the acid level is low. The battery can burst or explode!
 - ☞ Replace the battery immediately
- Never work with an open flame, avoid sparks and do not smoke near open battery cells. The gas that forms during normal battery operation can ignite!
- Use only 12 V power sources. Higher voltages will damage the electrical components
- When connecting the battery leads, ensure that the poles +/- are not inverted, otherwise sensitive electrical components will be damaged.
- Do not interrupt voltage-carrying circuits at the battery terminals because of the sparking hazard!
- Never place tools or other conductive articles on the battery – risk of short circuit!
- Disconnect the negative (-) battery terminal from the battery before starting repair work on the electrical system
- First remove the (-) terminal and then the (+) terminal as you disconnect the electrical system
- Dispose of used batteries properly.

Servicing and maintenance at regular intervals



Every week

- ☞ Check once a week:
 - Electric fuses
 - Cable and grounding connections
 - Battery state of charge – see **Battery** on page 5-32
 - Condition of battery terminals.



Instructions concerning specific components

Electric lines and fuses

Always observe the following instructions:

- Malfunctioning components of the electrical system must always be replaced by a Wacker Neuson service center. Fuses may be changed by unqualified persons
- When performing maintenance on the electrical system, pay particular attention to ensuring good contact in leads

Alternator

Always observe the following instructions:

- Only test run the engine with the battery connected.
- When connecting the battery, ensure that the poles (+/-) are not inverted.
- Always disconnect the battery before performing welding work or connecting a quick battery charger.



Notice!

Operation of electric consumers (for example the lighting equipment) is prohibited. This is why the vehicle has no socket.

Battery

**Danger!**

Battery acid is highly caustic!

Caustic injury hazard!

Therefore when recharging and/or working near the battery:

☞ *Always wear safety glasses and protective clothing with long sleeves*

If acid is spilled:

☞ *immediately flush all contaminated surfaces 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 –

Explosion hazard!

☞ *Avoid open lights and sparks near the battery and do not smoke!*

☞ *Do not attempt to jump-start the machine if the battery is frozen or if the acid level is low. The battery can burst or explode!*

- Replace the battery immediately

☞ *Always disconnect the negative terminal (-) from the battery before starting repair work on the electrical system!*

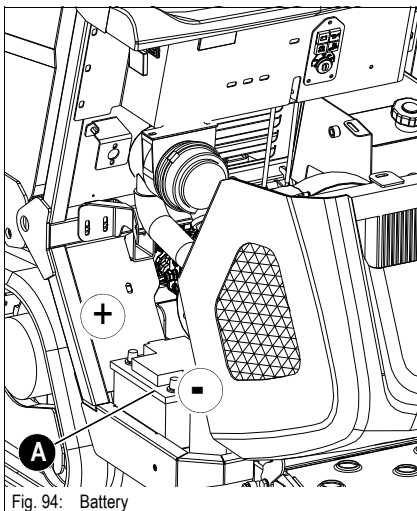


Fig. 94: Battery

Battery **A** is located under the cover. The battery is “maintenance-free”. However, have the battery checked 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 performed by a Wacker Neuson service center.

Always follow the specific battery safety instructions!

**Notice!**

Do not disconnect the battery while the engine is running!

Disconnecting the battery in an emergency

- – see [chapter Battery master switch](#) on page 3-20

5.8 General maintenance

Cleaning

Cleaning the vehicle is divided into two separate areas:

- Exterior of the vehicle
- 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 put the health of the persons in charge of cleaning the machine at risk. It is therefore essential to observe the following instructions.

General instructions for all areas of the vehicle

Cleaning with washing solvents

- Ensure sufficient room ventilation
- Wear suitable protective clothing
- Do not use flammable liquids, such as gasoline or diesel

Cleaning with compressed air

- Work carefully
- Wear safety glasses 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

- Electrical components and damping material must be covered and not directly exposed to the jet
- Cover the vent filter on the hydraulic oil reservoir and the filler caps for fuel, hydraulic oil, etc.
- Protect the following components from moisture:
 - Engine
 - Electrical 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 sufficient room ventilation
- Do not use unprotected lights or open flames
- Do not smoke!

Exterior of the vehicle



Caution!

Cleaning the vehicle can cause engine damage.

☞ *Protect the engine against humidity*

The following articles are generally suitable:

- High-pressure cleaner
- Steam jet

Engine compartment



Danger!

Clean the engine only when it is at a standstill –

Risk of injury!

☞ *Stop the engine before cleaning it.*



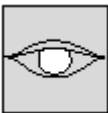
Caution!

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 plans.

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

Immediately tighten loosened connections; Contact an authorized workshop if necessary.

Pivots and hinges



Lubricate all mechanical pivots on the vehicle (such as joints) and fittings at regular intervals even if they are not listed in the lubrication plan.

**5.9 Fluids and lubricants**

Component/application	Fluid/lubricant	Specification	Season/temperature	Capacity ¹
Diesel engine	Engine oil	AGIP DIESEL SIGMA S 30 SAE ² 15W-40	Year-round	2.5 l
Hydraulic oil reservoir	Hydraulic oil	AGIP ARNICA 46 ³	Year-round	22.1 l
	Biodegradable oil ⁴	Panolin HLP Synth 46		
		FINA BIOHYDRAN SE 46		
Lubrication grease	Roller and friction bearings ⁵	AGIP GR SM	Year-round	As required
Grease zerks	Multi-purpose grease	AGIP GR SM	Year-round	As required
Fuel tank	Diesel fuel	No. 2-D, DIN 51601 grade	Over 4 °C	8.8 l
		No. 1-D, DIN 51601 grade	Below 4 °C	
Radiator	Coolant	Soft water + antifreeze ASTM D4985	Year-round	About 3 l
		Distilled water + antifreeze ASTM D4985		






1. Capacities indicated are no system fills
2. According to DIN 51511
3. According to DIN 51524 section 3
4. Biodegradable hydraulic oils based on saturated synthetic esters with an iodine value of < 10 according to DIN 51524, section 3, HVLP, HEES
5. KF2K-25 according to DIN 51502 multipurpose lithium grease with MoS² additive





5.10 Maintenance plan DT10 Work description	Maintenance plan/operating hours (o/h)						Service center service center	
	Service work (daily)	Once a month or after 50 o/h	Every 6 months or after 250 o/h	Every 12 months or after 500 o/h	Every 3 years and/or after 1000 o/h	Customer		
	Fluid and filter changes (↻): Perform the following oil and filter changes (check oil levels after test run):							
	• Engine oil ¹	●				●		
	• Engine oil filter ²	●				●		
	• Replace the fuel filter element ³	●				●		
	• Replace the air filter element	●		●		●		
• Hydraulic oil filter insert ⁴		●			●			
• Cartridge of hydraulic oil intake filter	●				●			
• Hydraulic oil				●	●			
• Coolant				●	●			
• Replacing fan belts				●	●	●		
Inspection work (👁): Check the following material. Refill if necessary:								
Check injection setting			●			●		
Check and adjust injection time ⁵				●		●		
Clean and adjust the fuel injection pump ⁶				●		●		
Check and adjust the injection pressure of the injection nozzles, clean the injection needles/nozzles				●		●		
Check/set the maximum engine speed				●		●		
Clean the filter cup			●					
Check condition and injection of fuel injection nozzle				●		●		
Check the fuel level, add fuel	●							
• Engine oil	●							
• Hydraulic oil	●							
Check hydraulic oil radiator for dirt, clean if necessary	●							
Check oil cooling systems and hoses for leaks and pressure (visual check)	●							
Air filter (damage)	●							
Check the exhaust system for damage and condition	●							
Intake and exhaust valve clearance	●							
Check battery electrolyte. Add distilled water if necessary		●				●		




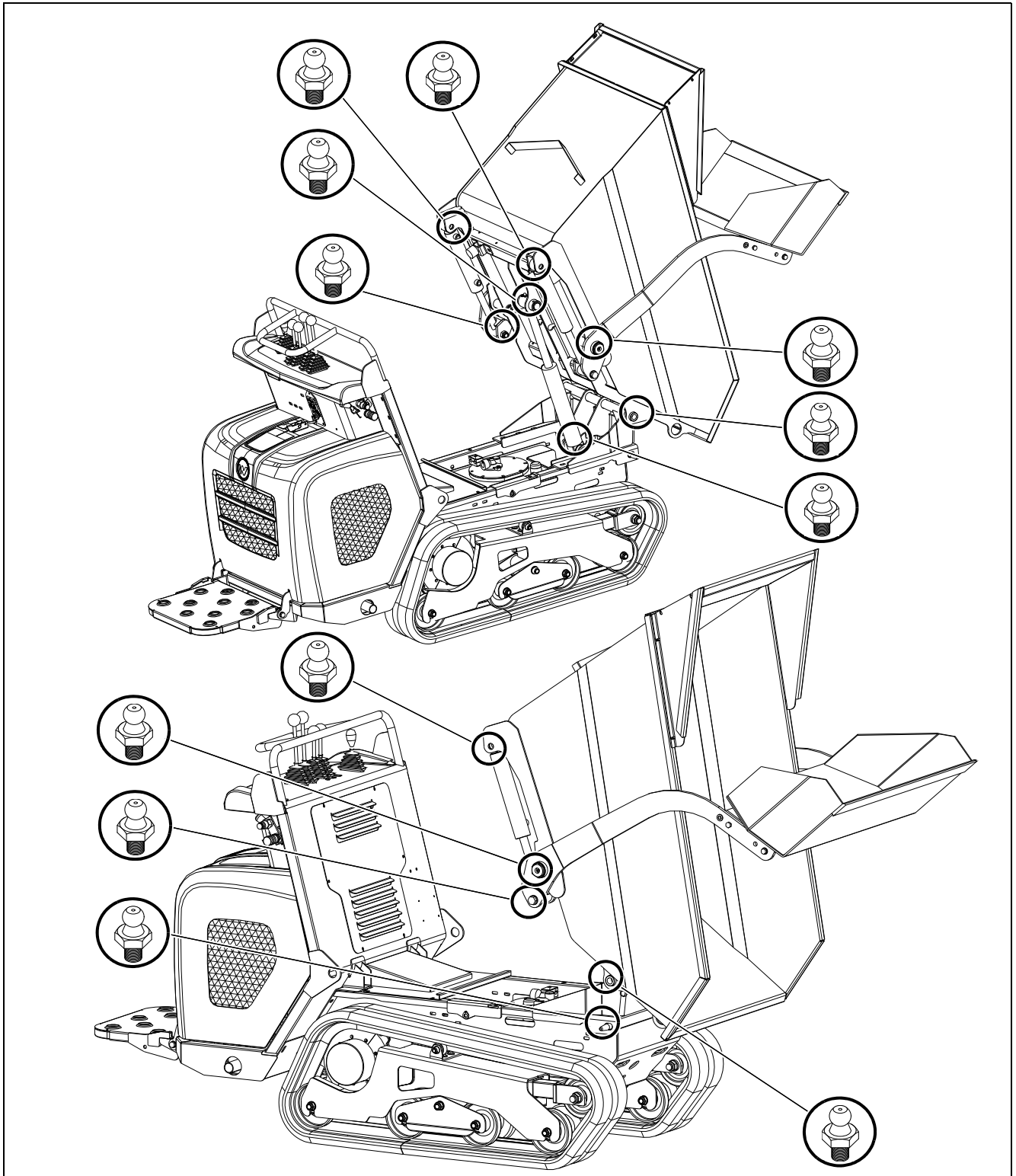
5.10 Maintenance plan DT10 Work description	Maintenance plan/operating hours (o/h)						Service center service center
	Service work (daily)	Once a month or after 50 o/h	Every 6 months or after 250 o/h	Every 12 months or after 500 o/h	Every 3 years and/or after 1000 o/h	Customer	
For servicing and maintenance on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer as well.							
Check alternator, starter and electric connections, bearing play and function		●		●		●	●
Pressure check of primary pressure limiting valves		●		●		●	●
Check tracks for cracks and cuts	●						
Check the track tension and retension the tracks if necessary	●						
Bearing play of tread rollers, track carrier rollers, front idlers				●		●	●
Check piston rods for damage	●						
Check screws for tightness				●		●	●
Pin lock	●					●	●
Line fixtures	●					●	●
Adhesive labels and Operator's Manual							●
Lubrication service ():							
Lubricate the following subassemblies/elements: – see Lubrication schedule DT10 with front tip skip, front tip skip for lightweight material (optional) on page 5-39:							
• Tipping trailer	●						●
• Tilt cylinder	●						●
• Self-loading equipment (option)	●						●
• Self-loading equipment cylinder (option)	●						●
• Rotary cylinder (option)	●						●
• Turntable (option)		●					●
• Track tension	●						●
• Track roller bearings	●						●
Leakage check ():							
Check for tightness, leaks and chafing: pipes, flexible lines and screw connections of the following assemblies and components. Repair if necessary:							
• Visual check	●						●
 Engine and hydraulic system	●						●
 Oil cooling circuit	●						●
 Travel drive	●						●

1. Replace the engine oil for the first time after 50 o/h or the first month, then every 250 o/h or after 6 months at the latest
2. Replace the engine oil filter for the first time after 50 o/h or the first month, then every 250 o/h or after 6 months at the latest
3. Replace the fuel filter for the first time after 50 o/h or the first month, then every 250 o/h or after 6 months at the latest
4. Replace the hydraulic oil filter for the first time after 50 hours run or the first month, then every 250 hours run or after 6 months at the latest
5. Check and adjust injection time every other 1000 o/h servicing
6. Clean and adjust the fuel injection pump every other 1000 o/h servicing




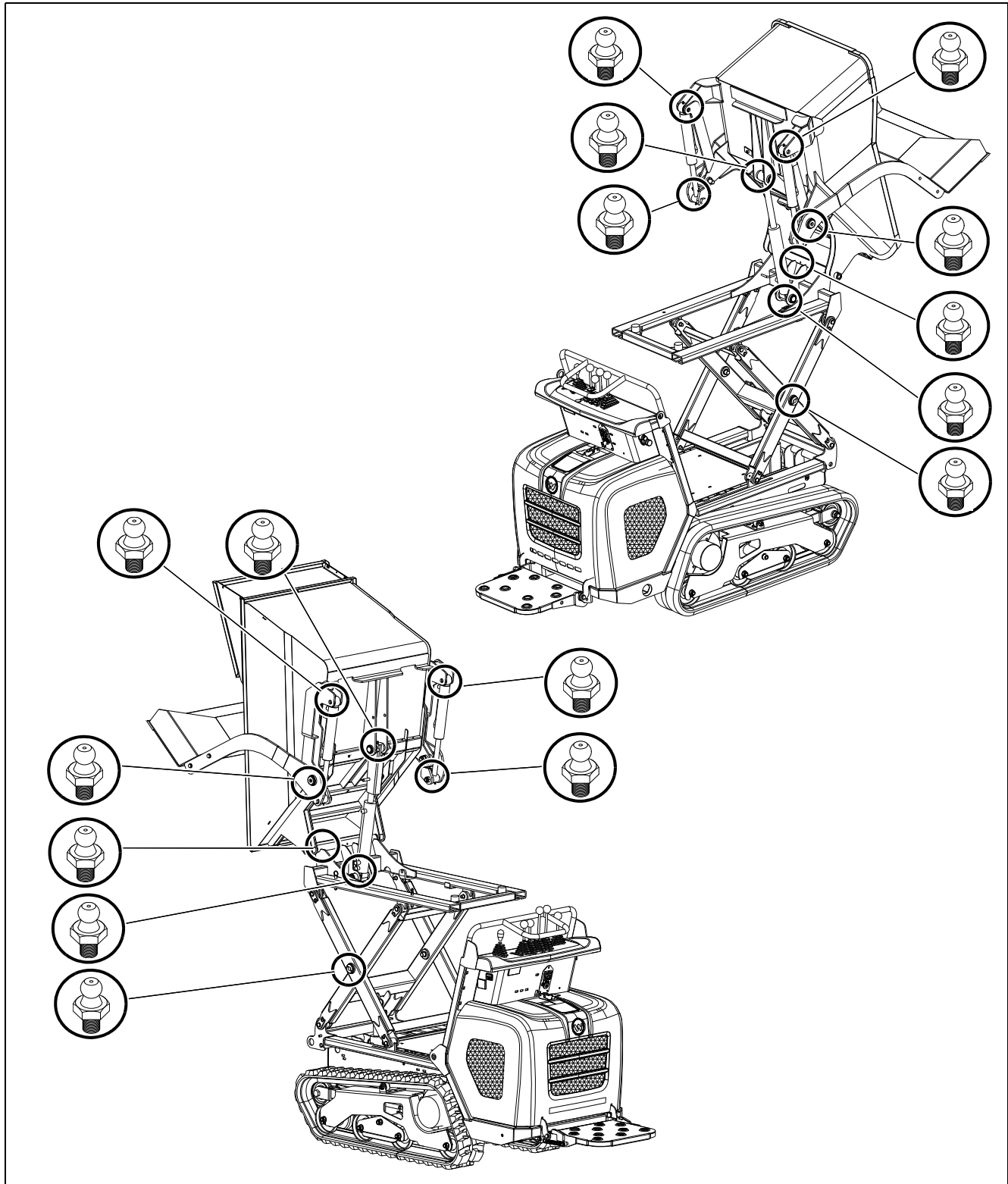
5.11 Lubrication schedule DT10 with front tip skip, front tip skip for lightweight material (optional)

Explanation	Symbol
Grease zerks	




5.12 Lubrication plan of DT10 with high tip skip (optional)

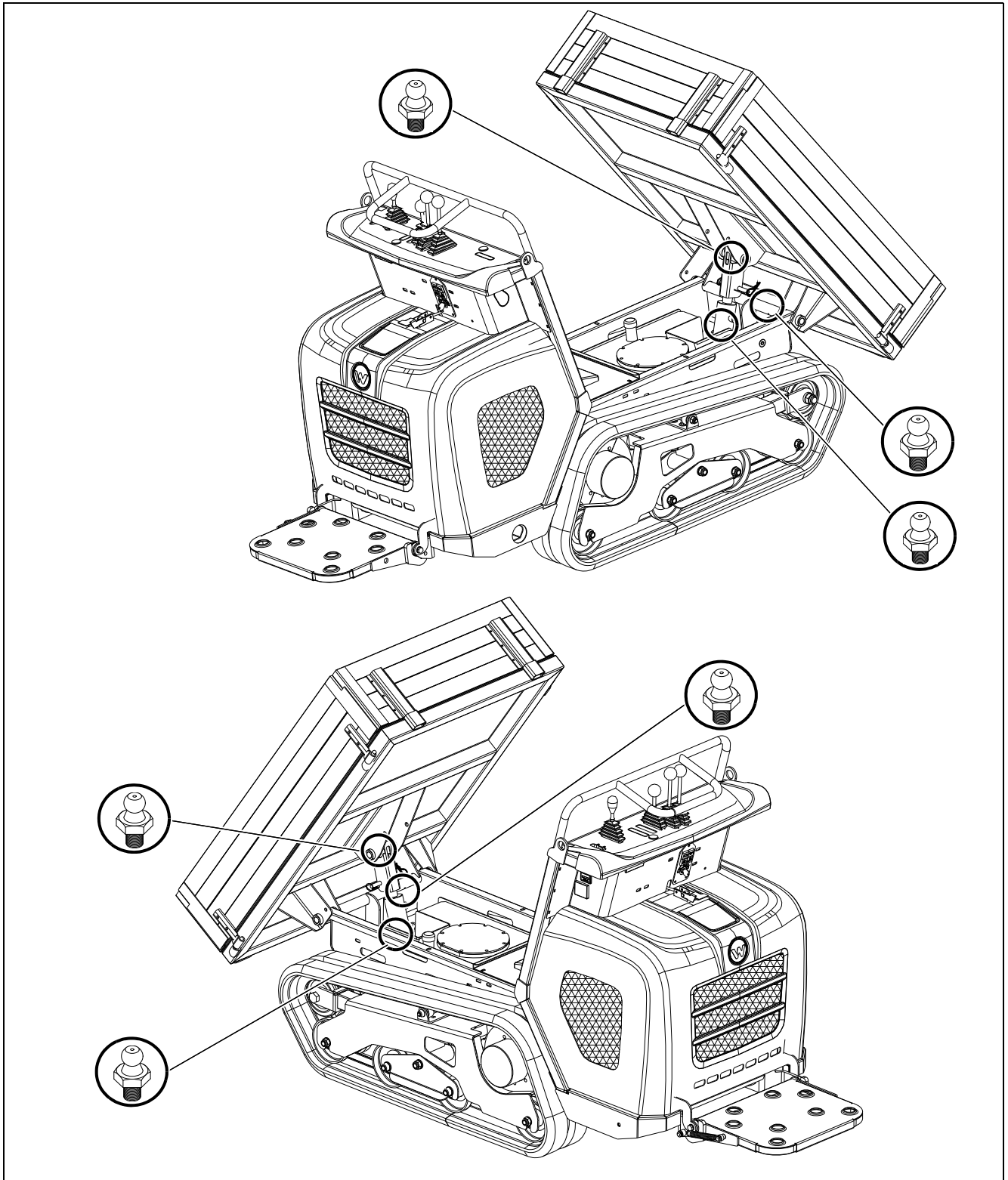
Explanation	Symbol
Grease zerks	






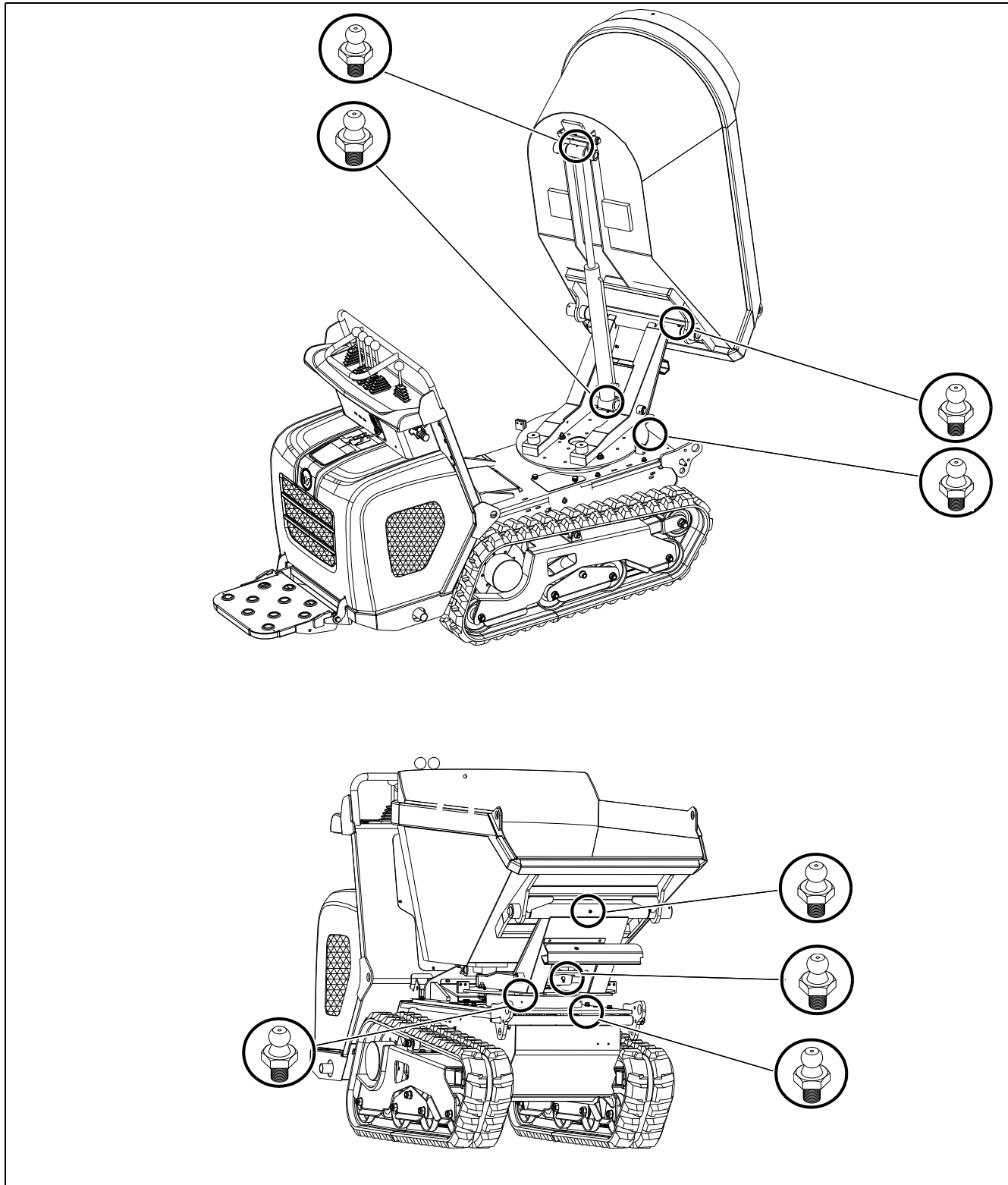
5.13 Lubrication plan DT10 with front skip (option)

Explanation	Symbol
Grease zerks	



5.14 Lubrication schedule DT10 with rotary tip skip (optional)

Explanation	Symbol
Grease zerks	





Maintenance opening

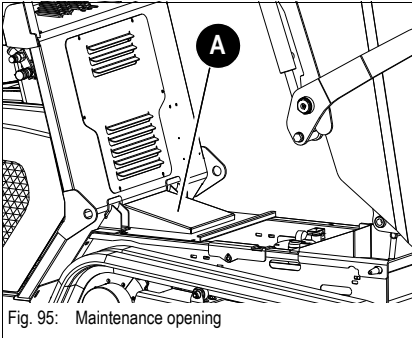


Fig. 95: Maintenance opening

Maintenance opening for cleaning the chassis.

➤ Unscrew 4 screws to remove housing **A**.





6 Technical data

6.1 Diesel engine

Sturdy steel sheet frame, rubber-mounted engine

Engine	Model DT10
Product	Kubota diesel engine
Type	Z 482-E
Model	Water-cooled 4-stroke engine
Number of cylinders	2
Displacement	479 cm ³
Nominal bore and stroke	67 x 68mm
Power	9.7 kW at 3600 rpm
Max. torque	30.0 Nm at 2600 rpm
Max. engine speed without load	3600 +/- 50 rpm
Idling speed	850 +/- 50 min ⁻¹
fuel injection system	Mechanical regulator
Starting aid	Starter (with spark plug)
Battery	12 V/55 Ah
Max. inclined position (engine no longer supplied with oil):	20° continuously
Comply with the emission level	97/68 EC, EPA

6.2 Diesel engine EPA Tier 4 (Opt.)

Engine	Model DT10
Product	Kubota diesel engine
Type	Z 482-EF02
Model	Water-cooled 4-stroke engine
Number of cylinders	2
Displacement	479 cm ³
Nominal bore and stroke	67 x 68mm
Power	9.9 kW at 3600 rpm
Max. torque	30.0 Nm at 2600 rpm
Max. engine speed without load	3600 +/- 50 rpm
Idling speed	850 +/- 50 min ⁻¹
fuel injection system	Mechanical regulator
Starting aid	Starter (with spark plug)
Battery	12 V/55 Ah
Max. inclined position (engine no longer supplied with oil):	20° continuously
Comply with the emission level	97/68 EC, EPA Tier 4

6.3 Hydraulic system

Hydraulic		Model DT10
Pump	2 pumps with variable displacement + 1 gear pump 29 + 29 + 8 l/min	
Displacement	66 l/min at 3600 rpm	
Operating pressure for operating hydraulics	160 bar	
Operating pressure for drive hydraulics	235 bar	
Hydraulic reservoir capacity	22.1 liters	

6.4 Travel gear

Chassis		Model DT10
Max. travel speed	4.0 km/h	
Max. theoretical climbing ability	20°	
Track width	180 mm	
No. of track rollers on either side	4 pieces	
Ground clearance	175 mm	
Ground pressure	0.18 – 0.52 kg/cm ²	

6.5 Working hydraulics

Working hydraulics		Model DT10
Hydraulic pump flow rate	8 l/min at 3600 rpm	
Control valve	1 section/2 sections/3 sections	
Max. operating pressure	160 ^{±5} bar	
Filter	Return filter	
Hydraulic oil reservoir	22.1 liters	

6.6 Skip

Tipping trailer		Model DT10
Struck	334 liters	
Heaped	427 liters	
Liquid capacity	166 l	
Skip length	1320 mm	
Skip width	700 mm	
Skip height	390 mm	
Weight of work equipment with bucket	165 kg	



6.7 Front tip skip for lightweight load (optional)

Front tip skip (optional)	Model DT10
Struck	393 liters
Heaped	446 liters
Liquid capacity	173 liters
Skip length	1357 mm
Skip width	700 mm
Skip height	466 mm
Weight of work equipment with bucket	170 kg

6.8 High-tip skip (option)

Front tip skip (optional)	Model DT10
Struck	240 liters
Heaped	280 liters
Liquid capacity	195 liters
Skip length	1134 mm
Skip width	764 mm
Skip height	442 mm
Weight of work equipment with bucket	290 kg

6.9 High-tip skip (option)

Front tip skip (optional)	Model DT10
Struck	330 liters
Heaped	440 liters
Liquid capacity	250 liters
Skip length	1294 mm
Skip width	800 mm
Skip height	836 mm

6.10 Loader unit (option)

Self-loading equipment (option)	Model DT10
Width	830 mm
Scraping depth	15 mm
Capacity	65 liters



6.11 Front skip (option)

Tipping trailer	Model DT10
Struck	210 liters
Heaped	300 liters
Liquid capacity	210 liters
Skip length	1200 mm
Skip width	800 mm
Skip height	295 mm
Weight of work equipment	70 kg

6.12 Swivel skip (optional)

Tipping trailer	Model DT10
Struck	430 liters
Heaped	460 liters
Liquid capacity	240 liters
Skip length	1427 mm
Skip width	730 mm
Skip height	570 mm
Weight of work equipment	240 kg

6.13 Noise levels

Sound power level	Model DT10
Sound power level (L_{WA}) ¹	101 dB(A)
Operator-perceived sound pressure level (L_{PA}) ²	88 dB (A)
Uncertainty (K_{PA}) ³	0.8 dB (A)

1. According to ISO 6395
2. According to ISO 6396
3. According to EN ISO 4871



Notice!

Sound power level measurement based on Directive 2000/14/EC. Operator-perceived noise level measured in compliance with EU Directives 84/532/EEC, 89/514/EEC and 95/27/EEC. Measurements performed on asphalted surface.

6.14 Vibration

Vibration	
Effective acceleration value of the upper limbs ¹	$< 2.5 \frac{m}{s^2}$
Effective acceleration value for the body	$< 0.5 \frac{m}{s^2}$

1. Measurements as per 2002/44/EC, ISO EN 20643 and ISO/TR 25398 (measurement under the following conditions: excavating, driving). Vehicle and attachment operation and maintenance as per Operator's Manual. Uncertainty of measurement: measurements as per EN 12096:1997 standard
Value of vibrations transmitted to human body specified under special operational and ground conditions. Therefore it does not apply to a large number of applications. Therefore, the value of the vibrations transmitted to the human body (indicated by the vehicle manufacturer in accordance with European standards) must not be used as a reference for specifying vehicle operator exposure to vibrations

6.15 Dimensions model DT10 with skip

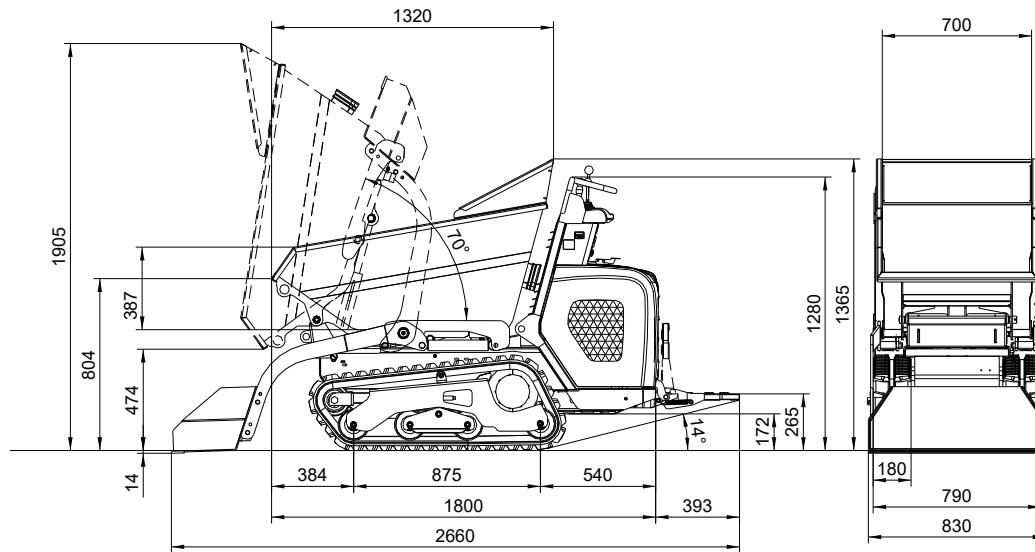


Fig. 96: Machine dimensions (model DT10 with skip)

Main data	Model DT10
Payload	1000 kg
Dead weight incl. skip and loader unit	700 kg
Length	1800 mm
Width	790 mm
Height	1365 mm
Foothold projection	393 mm
Track width	180 mm
Chain length	875 mm
Front skip projection	384 mm
Skip load height (front edge)	804 mm
Skip length	1320 mm
Skip width	700 mm
Skip depth	387 mm
Scraping depth	14 mm

6.16 Dimensions of model DT10 with front tip skip for lightweight material (optional)

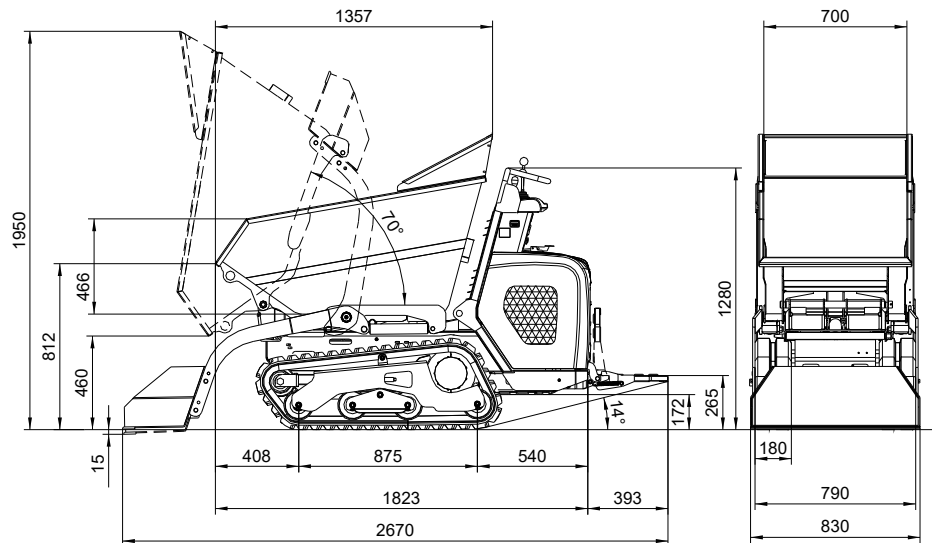


Fig. 97: Vehicle dimensions (model DT10 with front tip skip for lightweight material)

Main data	Model DT10
Payload	1000 kg
Dead weight incl. skip and loader unit	705 kg
Length	1823 mm
Width	790 mm
Height	1445 mm
Foothold projection	393 mm
Track width	180 mm
Chain length	875 mm
Front skip projection	408 mm
Skip load height (front edge)	812 mm
Skip length	1357 mm
Skip width	700 mm
Skip depth	466 mm
Scraping depth	15 mm

6.17 Dimensions model DT10 with high-tip skip (option)

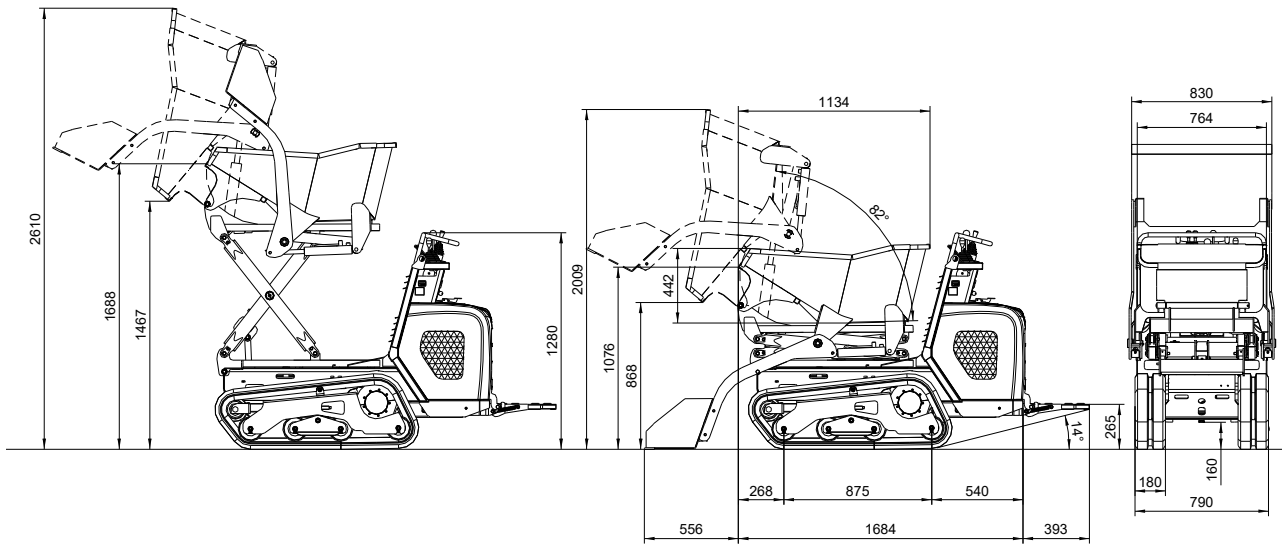


Fig. 98: Vehicle dimensions (model DT10 with high tip skip)

Main data	Model DT10
Payload	550 kg
Dead weight incl. skip and loader unit	825 kg
Length	1684 mm
Width	790 mm
Height	1280 mm
Foothold projection	393 mm
Track width	180 mm
Chain length	875 mm
Front skip projection	268 mm
Skip load height (front edge)	1076 mm
Skip length	1134 mm
Skip width	764 mm
Skip depth	442 mm
Scraping depth	15 mm

6.18 Dimensions model DT10 with high-tip skip (option)

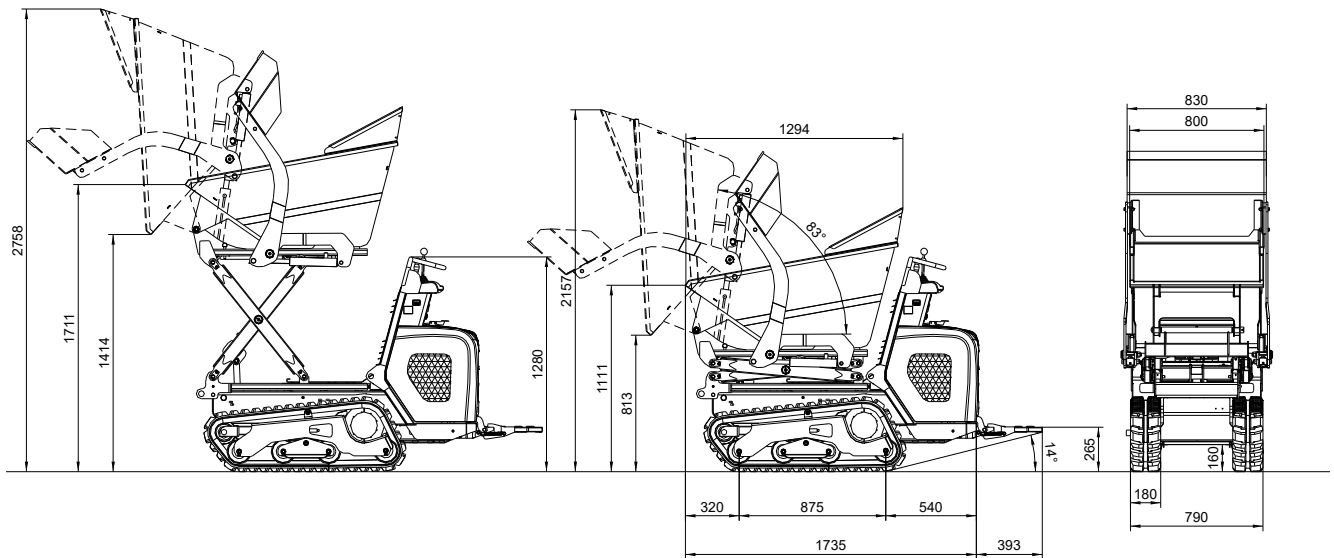


Fig. 99: Vehicle dimensions (model DT10 with high tip skip)

Main data	Model DT10
Payload	550 kg
Dead weight incl. skip and loader unit	845 kg
Length	1735 mm
Width	790 mm
Height	1280 mm
Foothold projection	393 mm
Track width	180 mm
Chain length	875 mm
Front skip projection	320 mm
Skip load height (front edge)	1111 mm
Skip length	1294 mm
Skip width	800 mm
Skip depth	836 mm
Scraping depth	15 mm

6.19 Dimensions model DT10 with front skip (option)

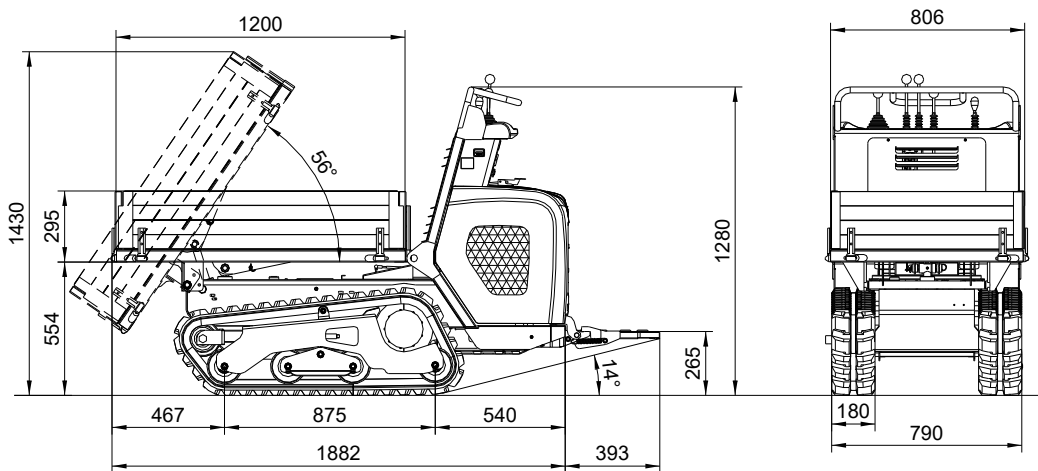


Fig. 100: Vehicle dimensions (model DT10 with front skip)

Main data	Model DT10
Payload	1000 kg
Dead weight incl. skip	590 kg
Length	1882 mm
Width	806 mm
Height	1280 mm
Foothold projection	393 mm
Track width	180 mm
Chain length	875 mm
Front skip projection	467 mm
Skip load height (front edge)	850 mm
Skip length	1200 mm
Skip width	800 mm
Skip depth	295 mm

6.20 Dimensions for model DT10 with swivel -tip skip (option)

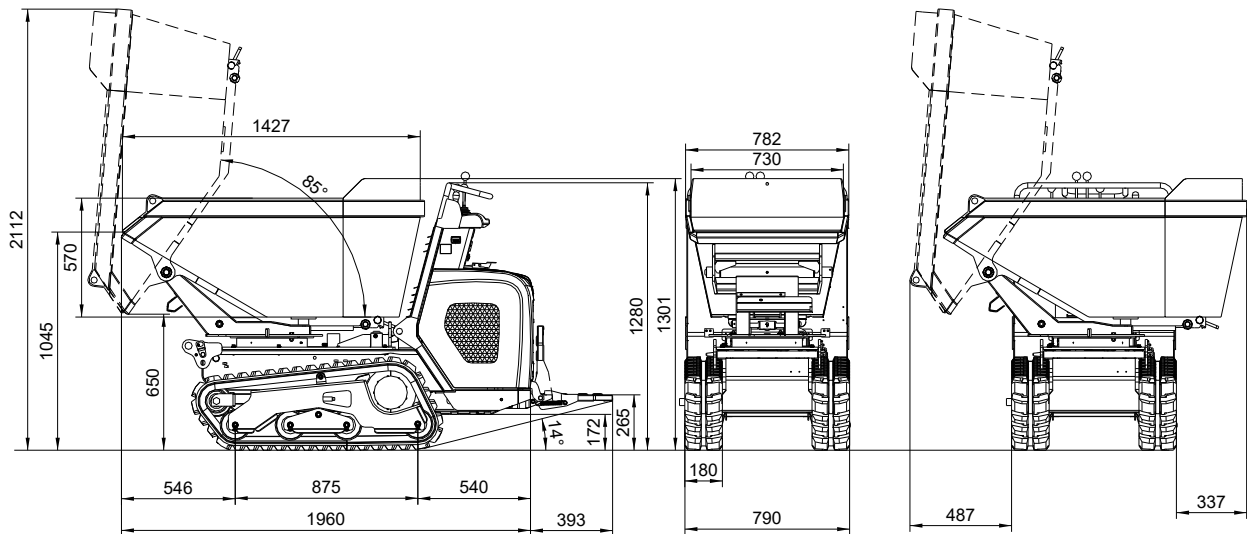


Fig. 101: Vehicle dimensions (model DT10 with swivel tip skip)

Main data	Model DT10
Payload	1000 kg
Dead weight incl. swivel tip skip	775 kg
Length	1960 mm
Width	790 mm
Height	1280 mm
Foothold projection	393 mm
Track width	180 mm
Chain length	875 mm
Front skip projection	546 mm
Skip load height (front edge)	1045 mm
Skip length	1427 mm
Skip width	730 mm
Skip depth	570 mm

6.21 Electrical system

Electrical system	Model DT10
Dynamo	12 V 150 W
Starter	12 V 0.8 kW
Battery	12 V 55 Ah

6.22 Fuses

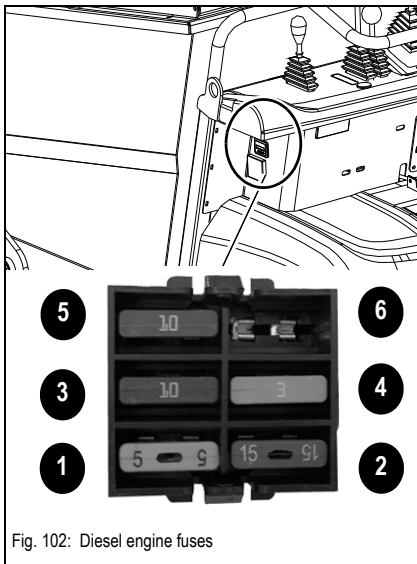


Fig. 102: Diesel engine fuses

Description	Fuse	Rated current (A)
1	Starter fuse	5 A
2	Engine stop fuse	15 A
3	Fuse excitation Alternator	10 A
4	Hour meter fuse	3 A
5	Preheating fuse	10 A
6	Not used	-

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Wacker Neuson Linz GmbH

Flughafenstr. 7

A-4063 Horsching

Austria



**WACKER
NEUSON**

Wacker Neuson Linz GmbH
Flughafenstr. 7
A-4063 HÖRSCHING
Austria
Tel. +43 (0) 7221 63000-0
Fax: +43 (0) 7221 63000-4000
E-mail office.linz@wackerneuson.com
www.wackerneuson.com

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