WACKER NEUSON

Operator's Manual

Wheel loader

WL34

Machine model	**2070CX**
Date	**01/2015**
Document number	**1000332222**
Language	**[en]**

1.2 Warranty and liability

Information on warranty and liability

The CE mark shows that the machine has been manufactured in accordance with the applicable EC Directives.

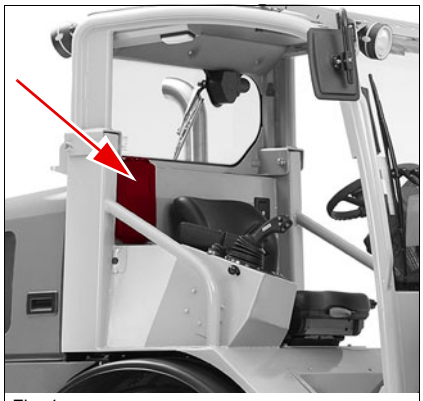


Fig. 1

Information

The manufacturer/supplier shall be not liable for damage resulting from use other than designated. Alone the user/owner shall bear the risk. The Operator's Manual must always be on the machine or at the place of use. Store the Operator's Manual in the place provided for it on the machine (*Fig. 1*).

Exemption from warranty and liability

Despite taking great care, we cannot rule out the possibility of deviations from drawings or dimensions, calculation errors, printing errors or incompleteness in this Operator's Manual. Therefore, we shall accept no liability for the correctness and completeness of the information we have provided in this Operator's Manual. We warrant our products to be in perfect running condition within the framework of our General Terms and Conditions of Business. We basically do not offer any further guarantees. Any further liability beyond the scope of our General Terms and Conditions of Business is excluded.

Observe the following:

- Do not perform any modifications on the machine.
- Use only attachments approved by the manufacturer for the machine.
- The machine must only be put into operation, operated and serviced as described in the Operator's Manual.
- Use only the machine if all safety and protection devices are intact.
- Observe the monitoring systems during operation
- Repairs may only be performed by authorized service centers.
- Follow the instructions given in the Operator's Manual carefully.

Lifting gear applications

- The machine must be certified for lifting gear applications.
- Observe the national regulations for lifting gear applications.
- Lifting gear applications are procedures involving raising, transporting and lowering loads with the help of lifting and fastening gear.
- The help of an accompanying person is necessary for fastening, guiding and removing the load.
- There must be nobody under the load.
- Stop the machine immediately and stop the engine if persons enter the danger zone.
- Use the machine for lifting gear applications ONLY if the mandatory lifting gear (for example a joint rod and load hook) and safety equipment (for example optical and acoustic warning devices, hose burst valve, stability table) is installed and functional.
- Use only lifting and fastening gear certified by a test/certification body, observe the inspection intervals (Use only chains and shackles. No belts, slings or cables).
- Do not use any lifting and fastening gear that is dirty, damaged or not of sufficient size.
- Do not interrupt the work process with a load attached.

Battery

- Batteries contain caustic substances (for example sulfuric acid). When handling the battery observe the specific safety instructions and regulations relevant to accident prevention.
- A volatile oxyhydrogen mixture forms in batteries during normal operation and especially during charging. Always wear gloves and eye protection when working with batteries.
- Do not perform battery maintenance near open flames.
- Perform battery maintenance only in well-ventilated areas (for example due to vapors harmful to health, explosion hazard).
- Starting the machine with battery jumper cables is dangerous if performed improperly. Observe the safety instructions regarding the battery.

Safety instructions regarding internal combustion engines

- Internal combustion engines present special hazards during operation and fueling.
- Failure to follow the warnings and safety instructions can cause serious injury or death.
- Keep the area around the exhaust system free of flammable materials.
- Check the engine and fuel system for leaks (for example for loose fuel lines). Do start or let the engine run in case of leaks.
- Breathing the exhaust fumes causes death very quickly.
- Engine exhaust contains gases you cannot see or smell (for example carbon monoxide and dioxide).
  - Never operate the machine in enclosed premises or areas (for example in pits), if there is no suitable ventilation (for example exhaust-gas filters, suction systems).
- Do not operate the machine in potentially explosive areas.
- Do not touch the engine, exhaust system and cooling system as long as the engine is still running or has not cooled down yet.
- Do not remove the radiator cap when the engine is running or hot.
- The coolant is hot, under pressure and can cause serious burns.

Bleeding the fuel system and refueling

- Do not bleed the fuel system or refuel near open flames.
- Bleed the fuel system and refuel only in well-ventilated areas (for example due to vapors harmful to health, explosion hazard).
- Wipe away fuel spills immediately (for example due to fire hazard, slipping hazard).
- Firmly close the fuel tank cap, replace a malfunctioning fuel tank cap.

Fields of application and use of attachments

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

Note that not all the indicated attachments comply with local traffic regulations.

Observe the legal regulations of your country.

Information

In order to avoid damage to the machine, only the attachments listed in the table have been authorized for installation on the machine. Installing attachments that are not listed requires a release by the manufacturer of the machine, and an EBE (separate certification for vehicles, Germany) made out by the competent authority!

Permissible attachments

Description of attachment	Type	Dimensions	Capacity	Use
Lightweight material bucket	1000227290	1400 mm (55.12 in)	0.72 m³ (25.43 ft³)	Loosening, picking up, transporting and loading loose or solid material
	1000227362	1500 mm (59.06 in)	0.77 m³ (27.19 ft³)	
	1000227533	1600 mm (62.99 in)	0.82 m³ (28.96 ft³)	
	1000287633	1650 mm (64.96 in)	0.62 m³ (21.90 ft³)	
	1000227581	1700 mm (66.93 in)	0.87 m³ (30.72 ft³)	
	1000227673	1800 mm (70.87 in)	0.92 m³ (32.49 ft³)	
	1000227794	1900 mm (74.80 in)	0.97 m³ (34.26 ft³)	
	1000227884	2000 mm (78.74 in)	1.03 m³ (36.37 ft³)	
	1000227484	1500 mm (59.06 in)	0.77 m³ (27.19 ft³)	
	1000227365	1500 mm (59.06 in)	0.86 m³ (30.37 ft³)	
	1000227559	1600 mm (62.99 in)	0.65 m³ (22.95 ft³)	
	1000227535	1600 mm (62.99 in)	0.92 m³ (32.49 ft³)	
	1000227584	1700 mm (66.93 in)	0.98 m³ (34.61 ft³)	
	1000227680	1800 mm (70.87 in)	1.05 m³ (37.08 ft³)	
	1000227797	1900 mm (74.80 in)	1.11 m³ (39.20 ft³)	
	1000227792	1900 mm (74.80 in)	1.45 m³ (51.21 ft³)	
	1000227888	2000 mm (78.74 in)	1.18 m³ (41.67 ft³)	
Earth bucket	1000227372	1500 mm (59.06 in)	0.43 m³ (15.19 ft³)	Loosening, picking up, transporting and loading loose or solid material
	1000227373	1500 mm (59.06 in)	0.51 m³ (18.01 ft³)	
	1000227570	1650 mm (64.96 in)	0.60 m³ (21.19 ft³)	
	1000227379	1500 mm (59.06 in)	0.43 m³ (15.19 ft³)	
	1000227380	1500 mm (59.06 in)	0.51 m³ (18.01 ft³)	
	1000227564	1650 mm (64.96 in)	0.60 m³ (21.19 ft³)	

Description of labels

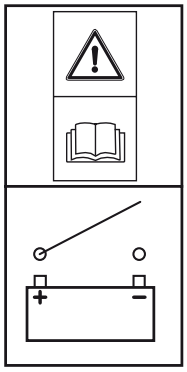


Fig. 19

Information label H1: Battery master switch

The battery disconnect switch is located here.

➥ *Battery master switch on page 5-9*

Located in the cabin at the right behind the operator seat.

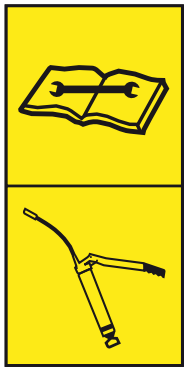


Fig. 20

Information label H2: Lubrication

Lubricate all lubrication points every 20 operating hours.

➥ *Lubrication plan on page 7-12*

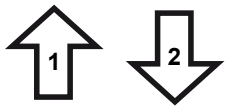
Located on the front chassis section near the oscillating articulation.

4.2 Overview of control elements

Description of control elements

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.

59 

Travel direction indication

A symbol illuminates depending on the travel direction selected.

- No symbol appears in the display when the starter is switched on.
- The display shows the travel direction selected when actuating scroll wheel **33**.

➥ Symbol 1 is displayed during forward machine travel.

➥ Symbol 2 is displayed during backward machine travel.

➥ No symbol is displayed in neutral position.

➥ *Selecting a travel direction on page 5-4*

The display flashes if the parking brake is applied and a travel direction is selected. The selected travel direction is enabled again as soon as the parking brake is released.

60 

Travel mode indication

A symbol illuminates depending on the travel mode selected.

- The travel mode last selected appears in the display when the starter is switched on.
- The display shows the travel mode selected when actuating button **35**.

➥ Symbol 1 appears if the high speed travel mode is selected.

➥ Symbol 2 appears if the creep gear travel mode is selected.

➥ *Travel mode on page 5-5*

Indication of electrical connection (option)

61 

Information

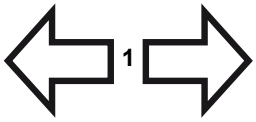
This position is assigned to the “Loader unit socket” option.

- No symbol appears in the display when the starter is switched on.
- The symbol is displayed when pressing buttons **32** or **36**.

➥ The symbol is displayed together with the figure 1 when pressing button **36**.

➥ The symbol is displayed together with the figure 2 when pressing button **32**.

Trailer turn indicators (option)

62 

- No symbol appears in the display when the starter is switched on.
- The symbol flashes in the display when turn indicator **2** is operated.

Indication of continuous operation of 3rd control circuit (option)

63 

This symbol indicates that continuous operation of the 3rd control circuit is enabled. Switch off continuous operation when it is not required.

➥ *Continuous operation of the hydraulic connections with the switch (option) on page 5-26*

Machine travel on public roads

WARNING

Accident hazard due to pallet fork arms!

Pallet fork arms can cause serious injury or death during machine travel on public roads.

► Remove pallet fork arms before performing machine travel on public roads and transport them separately.

► Install additional safety equipment (for example a front-edge protection for buckets with teeth) on other attachments.

WARNING

Accident hazard due to blinded motorists!

During machine travel on public roads, the working lights can blind other motorists. This can cause serious injury or death.

► Always switch off the working lights during machine travel on public roads.

► Pay attention to national regulations on construction site lighting.

Preparations before performing machine travel on public roads

1. Secure the attachment.
   - Ensue that the bucket is empty and lowered to the transport position.
   - Install a front-edge protection on the bucket.
   - Secure other attachments in compliance with the regulations on machine travel on public roads.
2. Check the light system and the function of the rotating beacon if necessary.
3. Switch off the working lights.
4. Set all hydraulic control levers to the zero position.
5. Switch on the lock for the loader unit control levers.
6. Fasten your seat belt.
7. Start machine travel ensuring safety.

Information

Before starting machine travel, ensure that the machine complies with the relevant local regulations and that it has a valid operation license/ registration.

5.4 Travel operation

Machine travel

WARNING

Crushing hazard due to tipping over of machine!

A tipping machine can cause serious injury or death.

- ► Keep the loader unit lowered during machine travel.
- ► Adapt the travel speed to the prevailing conditions.
- ► Adapt the travel speed to the material loaded.
- ► Pay attention to persons and obstacles.
- ► Pay attention to the machine's tilting limit.
- ► Reduce travel speed before downhill machine travel.
- ► Always fasten your seat belt.
- ► Ensure that no parts of the body protrude outside the machine.
- ► Carefully steer the machine if the loader unit is raised.
- ► Do not exceed the permissible payloads.

CAUTION

Caution during machine travel on snow and ice!

Inappropriate speed on snowy and/or icy roads can cause accidents and injury.

- ► Adapt your travel speed to the road conditions.

NOTICE

Damage to machine due to malfunctions.

- ► Stop machine operation immediately if a malfunction of the traveling drive, steering system and/or brakes is detected.
- ► Put the machine back into operation only after correcting the malfunction.

Information

The operator seat is equipped with an operator presence switch that prevents activating the drive if the operator is not seated on the operator seat!

The traveling drive and electro-hydraulic functions are switched off after 5 seconds if the load on the seat is removed while the engine is running.

This also applies to machine travel!

Rotating beacon (option)

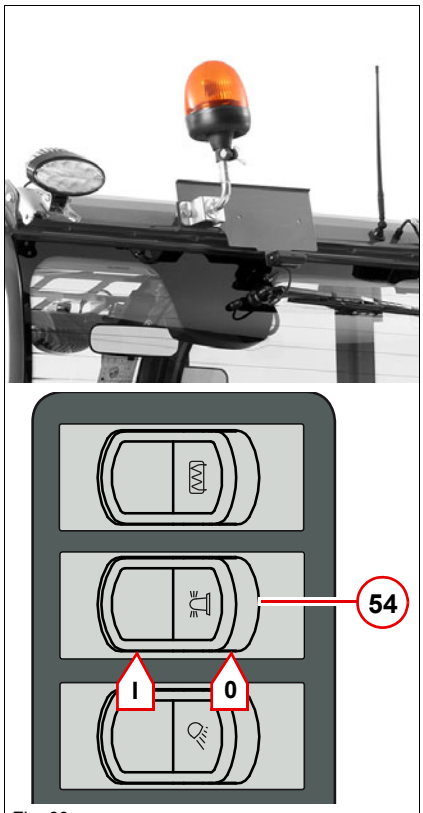


Fig. 60

The rotating beacon is installed in the fixture provided for this (*Fig. 60*).

Information

Only use the rotating beacon is accordance with the legal regulations!

Operating the rotating beacon

Switch **54** for switching on the rotating beacon is located in Switch panel 3 (on the right on the cabin roof).

- Press switch **54** to position I.
  ➥ The rotating beacon is switched on.
- Press switch **54** to position 0
  ➥ The rotating beacon is switched off.

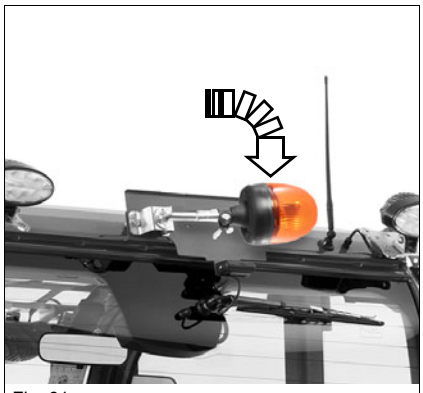


Fig. 61

Folding down the rotating beacon

The rotating beacon can be folded down for low passages (*Fig. 61*).

Hydraulic connections on loader unit

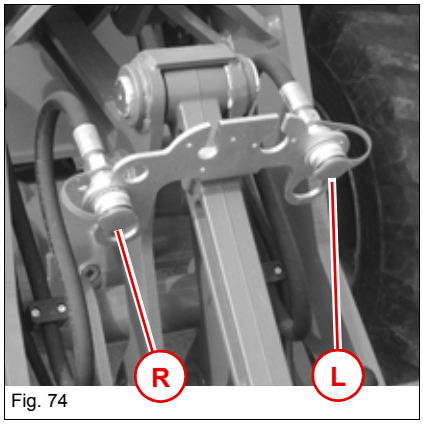


Fig. 74

NOTICE

Dirty hydraulic connections can cause dirt to penetrate into the hydraulic system and to cause damage.

► Avoid dirt.

► Ensure that the hydraulic connections are clean.

The hydraulic connections on the loader unit can be operated in three different ways:

1. Operation with the additional control lever.
2. Operation with the scroll wheel (option)
   ➥ *Operating hydraulic connections on the loader unit with the scroll wheel on page 5-47*
3. Operation with the changeover valve (option)
   ➥ *Operating hydraulic connections on the loader unit via the “Tilt-in” and “Tilt-out” functions on page 5-47*

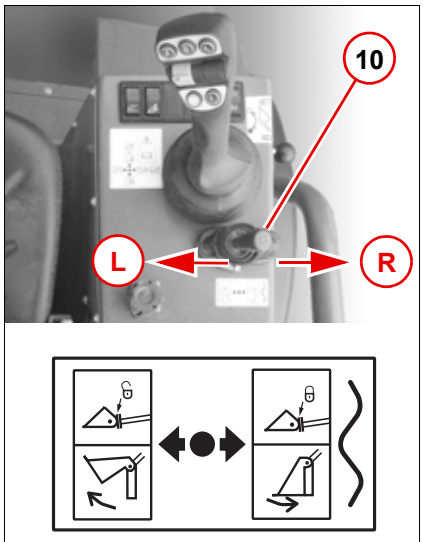


Fig. 75

Operating hydraulic connections on the loader unit with the additional control lever

The hydraulic connections on the loader unit (*Fig. 74*) are operated with the additional control lever **10**.

- Move the additional control lever toward L.
  ➥ Connection L = pressure side, connection R = return.
- Move the additional control lever toward R.
  ➥ Connection L = return, connection R = pressure side.

Information

The additional control lever **10** automatically returns to the middle position as soon as it is released, provided that the lock function is not switched on.

Float position for additional control lever

This function is required for coupling hydraulic attachments. The pressure on the hydraulic connections on the loader unit can be released for coupling and uncoupling attachments with the engine running.

- Move the additional control lever **10** toward R beyond the resistance.
  ➥ The float position at the hydraulic connections is switched on.
- Move the additional control lever **10** back the middle position, beyond the resistance.
  ➥ The float position at the hydraulic connections is switched off.

This Operator's Manual only describes the use of the following attachments:

- Lightweight material bucket
- Earth bucket
- Earth bucket with digging teeth
- Universal bucket
- Manure forks
- Fork-and-grab attachment
- Pallet forks

Observe the following if additional attachments are used for the machine:

If other attachments are to be used, always follow the Operator's Manuals of these attachments. Specific Operator's Manuals can be ordered from your Wacker Neuson dealer.

Level indicator for attachments

The machine operator can see the tilt position of the attachment more easily with the level indicator.

Adjust the level indicator:

1. Slightly raise the attachment and align the lower side parallel with the ground.
2. On the tilt cylinder, mark the position where the level indicator is with paint or a colored tape.
   ➥ If the level indicator is at the marking on the tilt cylinder, the lower side of the attachment is parallel with the ground in any position of the loader unit.

When using different attachments, a marking can be made on the tilt cylinder for each attachment.

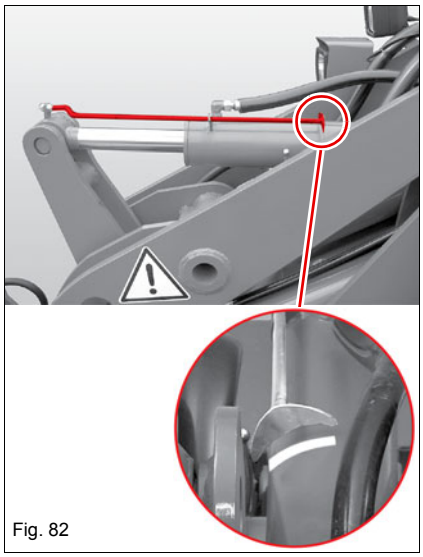


Fig. 82

Working with the pallet forks

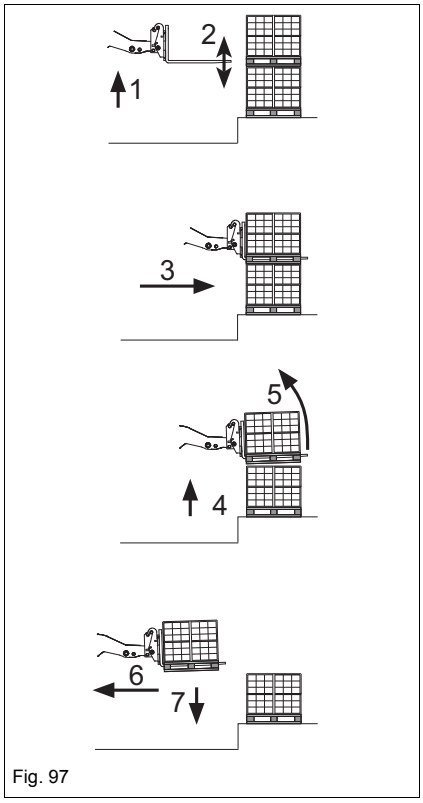


Fig. 97

Picking up a load (*Fig. 97*)

1. Check whether the permissible load-carrying capacity of the machine and pallet forks is appropriate for the weight of the load.
2. Adjust the fork spacing and lock the forks.
3. Approach the material in a straight line.
4. Set the pallet forks to the required height (1) in a horizontal position (2).
5. Travel forward until the load touches the fork frame (3).
6. Slightly raise (4) and tilt back (5) the pallet forks.
7. Reverse the machine (6) and set the load to transport height (7).

Transporting a load

1. Transport the load as close a possible to the ground.
   - Adjust a transport height that allows moving the pallet forks across uneven ground without touching it
   - Adjust the height during transportation.
2. During machine travel up or down a slope the load must always be on the uphill side.
   - Secure the load with ratchet straps if necessary.
3. If necessary, transport large, bulky loads in reverse to ensure sufficient visibility.

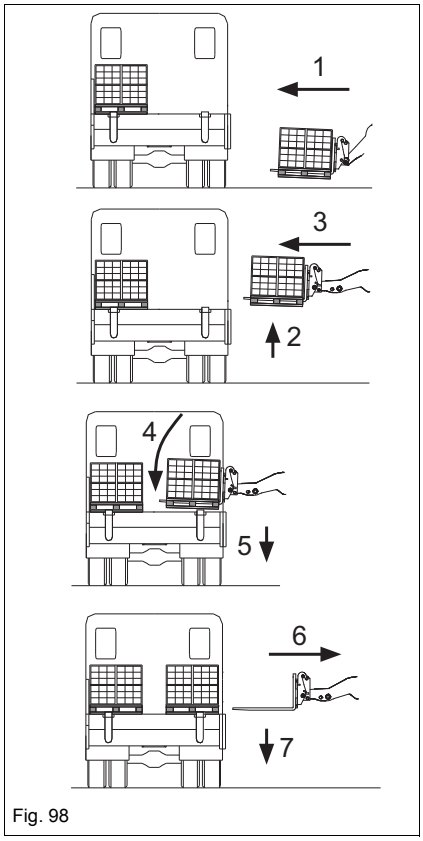


Fig. 98

Setting down a load (*Fig. 98*)

1. Travel to the unloading position in a straight line (1).
2. Do not raise the load to the required height before reaching the unloading position (2).
3. Travel forward until the load is above the unloading position (3).
4. Set the pallet forks horizontally (4), lower the loader unit and set down the load (5).
5. Reverse the machine away until the pallet forks can be lowered without touching the load (6).
   ➥ Lower the pallet forks (7).
6. Reverse away from the unloading position.

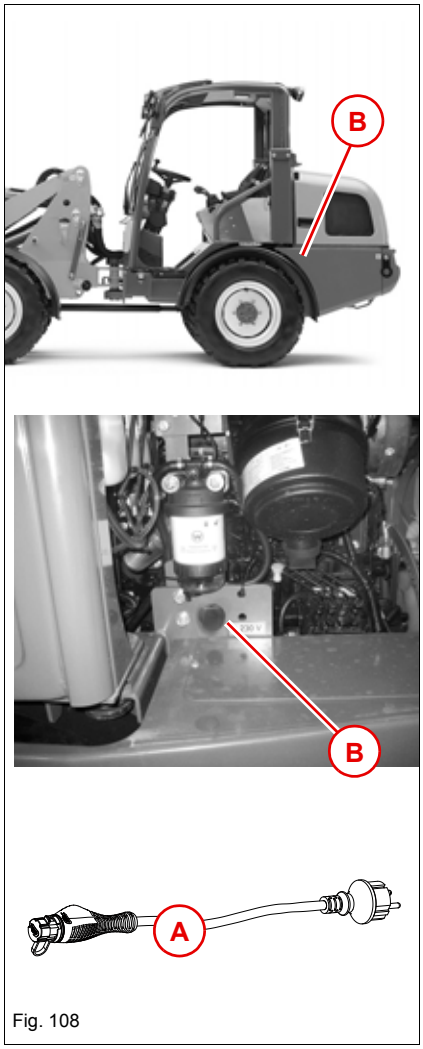


Fig. 108

Requirements for connecting the engine and hydraulic oil pre-heating

- 230 V mains supply.
- Maximum 16 ampere fuse protection.
- Residual current circuit breaker (FI switch).
- Socket with earthing contact.
- The machine body and the protective conductor of the socket must be conductively connected together under all circumstances.

Connecting the engine and hydraulic oil preheating:

1. Park the machine near a 230 V mains socket with a residual current circuit breaker.
2. Open the engine cover.
3. Connect special cable (A) supplied with the machine with machine socket (B).
4. Connect the plug to a 230 V mains socket.
   ➥ The engine and hydraulic oil is being preheated.

Before starting the engine:

1. Remove the plug from the 230 V mains socket.
2. Unplug special cable (A) from machine socket (B).
3. Close the engine cover.

6 Transportation

6.1 Towing the machine

Information on towing

WARNING

Accident hazard due to towing of machine!

Towing the machine can cause accidents in certain situations, and serious injury or death.

- ► Only tow the machine if the steering and braking systems are fully functional.
- ► Only tow the machine with towing gear of sufficient dimensions.
- ► No persons are allowed to stay in the range of action of the towing gear during towing.
- ► Secure the machine against unintentional movement and unauthorized use once towing is over.

WARNING

Accident hazard when pulling trailer loads!

Pulling trailer loads can cause accidents, and serious injury or death.

- ► Do not use the towing gear to tow trailer loads.
- ► Only hitch trailer loads if the machine is equipped with special towing gear.

NOTICE

Damage to hydraulic system due to overheating.

- ► Only tow the machine as far as required, and only **a maximum 500 meters** (0.3 miles).
- ► Do not exceed a maximum speed of **5 kph** (3.1 mph).
- ► Use a transport vehicle for longer stretches, or perform an on-site repair of the machine.

7 Maintenance

7.1 Information on maintenance

Responsibilities and prerequisites

- The maintenance and inspection personnel must have specialized knowledge about the maintenance and inspection work on the machine.
  ➥ The necessary expertise can be obtained at training sessions from Wacker Neuson Service.
- Perform maintenance and inspection work only with suitable protective equipment.
  ➥ Wear ear protectors in case of high noise levels.

Safety instructions

Information on maintenance

- Only perform maintenance and inspection work after having read and understood the Operator's Manual.
- Pay attention to the basic safety instructions and to all the warning labels affixed on the machine.
- The Operator's Manual describes the work to be performed.
  - However, the descriptions of the work processes provide the required information only to experienced personnel having appropriate knowledge.
- Always store the Operator's Manual in the place provided for it on the machine.
- The work that is not specified in this Operator's Manual may only be performed by an authorized service center.

Information on the machine and the attachment

- Only perform maintenance and inspection work if the machine is secured as described in chapter *Securing the machine on page 5-8*. .
- A raised loader unit can fall suddenly and cause serious injury.
- A raised loader unit must be secured with a suitable support if it is absolutely necessary to work underneath it.
- Lower attachments on the ground ensuring that no movements can occur when releasing mechanical or hydraulic connections.
- Secure equipment or components that are to be attached or removed, or whose installation position is to be changed, with the aid of suitable lifting gear or with mounting or support devices to prevent unintentional movement, slipping or falling.
- Remove dirt from steps and handholds to keep them safe and ready for use.

Work to be performed	Operating hours: 250, 750, 1000, 1250, 1750, 2000, 2250, 2750, 3000, etc.	Operating hours: 1500, 2500, 3500, 4500, etc.	Once a month	Once a year
Check the tire condition and tire pressure	•	•	•	•
Replace the engine oil and engine oil filter (Perkins and Deutz engines: every 500 operating hours)				•
Replace the engine oil and engine oil filter (Yanmar engines: every 250 operating hours)	•	•		
Replace the fuel filter – clean the pre-filter		•		•
Clean the fuel feed pump (Deutz engines)		•		•
Clean the air filter, replace it if necessary	•	•	•	•
Replace the hydraulic oil		•		•
Replace the breather filter of the hydraulic oil reservoir		•		
Replace the hydraulic oil return filter		•		•
Pressure filter (initial replacement after 500 operating hours, further replacement as required*)				
Replace the oil in the transfer gearbox		•		•
Replace the oil in the axles		•		•
Replace the coolant – every 2 years				
All grease nipples lubricated? Lubricate if necessary	•	•	•	•
Lubricate the cardan shafts (universal joint and sliding joint)	•	•	•	•
Lubricate with oil: all levers, Bowden cables and hinges	•	•	•	•
Check all oil/fluid levels	•		•	
Clean the cabin breather filter, replace it if necessary				•
Check according to the Ordinance on Industrial Safety and Health		•		•
Replace the diesel particulate filter every 3,000 operating hours				

* Required if there is damage in the hydraulic system that is supposed to be caused by strong abrasive wear

Valve clearance Perkins Series 400: inlet and exhaust 0.2 mm on a cold engine

Valve clearance Perkins Series 1000: inlet 0.2 mm and exhaust 0.45 mm on a cold engine

Valve clearance Deutz Series 2011: inlet 0.3 mm and exhaust 0.5 mm on a cold engine

7.7 Fuel system

Information on the fuel system

WARNING

Burn hazard due to deflagrations!

Fuels develop explosive and flammable mixtures with air that can cause deflagrations.

- ► Do not smoke, avoid fire and open flames.
- ► Do not add gasoline to the diesel fuel.

CAUTION

Injury hazard due to hot and moving engine parts.

Hot and moving engine parts can cause injury.

- ► Do not open the engine cover if the engine is running.
- ► Let the engine cool down.
- ► Wear protective equipment.

NOTICE

Damage to machine due to low-grade diesel fuel.

- ► Perform maintenance on the fuel system in accordance with the intervals specified in this Operator's Manual.
- ► Use only clean, high-quality, low-sulfur diesel fuel (sulfur content below 0.0015 % = 15 mg/kg). Do not use heating oil.
- ► Do not add gasoline.
- ► After working on the fuel system, clean the engine and the engine mountings of any adhering fuel.
- ► Use a fine filter in the fueling line of the diesel fuel.

Environment

Avoid environmental damage!

- ► Collect escaping fuel, or absorb it with a binding agent.
- ► Dispose of fuel or binding agent in an environmentally friendly manner and separately from other waste.

7.10 Air filter

Information on the engine air filter system

CAUTION

Injury hazard due to hot and moving engine parts.

Hot and moving engine parts can cause injury.

- ► Do not open the engine cover if the engine is running.
- ► Let the engine cool down.
- ► Wear protective equipment.

NOTICE

Engine damage due to dirty air intake system. Engine damage can occur if the engine draws in dirty air.

- ► Perform maintenance on the air filter according to the maintenance intervals specified in this Operator's Manual.
- ► Do not let the engine run if parts of the air intake system are removed.
- ► Immediately replace damaged air filters.

The machine is equipped with an engine air filter for filtering the engine intake air. The engine air filter consists of a main engine air filter and a safety engine air filter. The engine air filter is accessed by opening the engine cover.

Environment

Avoid environmental damage.

Replace the main engine air filter in time. If it is allowed to get too dirty, exhaust gas emissions will increase.

Information

The engine air filter is located on the left side of the machine.

Information on the battery

Fig. 144

WARNING

Injury hazard due to malfunctioning batteries

Batteries give off explosive gases that can cause deflagrations if ignited.

- ► Do not smoke, avoid fire and open flames.
- ► Do not place any tools on the battery.

WARNING

Injury hazard due to chemicals!

Battery acid can cause serious caustic injury in case of skin contact.

- ► Avoid contact of the battery acid with the skin, eyes and mouth.
- ► In case of contact with battery acid, immediately rinse the affected parts of the body with plenty of clear water and seek medical attention at once.
- ► Wear protective equipment.

Battery

The battery has a rated voltage of 12 V and a capacity of 95 Ah. The battery is located on the left side of the machine, in the rear section, and is accessed by opening the engine cover and unscrewing the cover plate.

Removing the battery

CAUTION

Injury hazard due to hot and moving engine parts.

Hot and moving engine parts can cause injury.

- ► Do not open the engine cover if the engine is running.
- ► Let the engine cool down.
- ► Wear protective equipment.

NOTICE

Short circuit due to wrong order when disconnecting the battery.

- ► To disconnect: First the negative terminal, and then the positive terminal.
- ► To connect: First the positive terminal, and then the negative terminal.

Wheel change

Preparations

1. Park the machine on firm, level and dry ground.
2. Apply the parking brake.
3. Lower the loader unit to the ground.
4. Stop the engine.

Duct

1. Position the jack underneath the axle, next to the wheel to be changed.
   - Ensure that the machine cannot slip off the jack. Secure the machine with additional supports if necessary.
2. Loosen the wheel bolts.
3. Raise the jack until the wheel is barely off the ground.
4. Unscrew the wheel bolts.
   ➥ The wheel can be removed.
5. Position a new wheel.
   ➥ Tighten the wheel bolts hand-tight.
6. Lower the jack.
7. Tighten the wheel bolts alternately on the opposite sides to the prescribed torque.
   - After a wheel change, retighten the wheel bolts after 2 operating hours. If necessary, repeat until the tightening torque remains constant.

Tightening torques

Tightening torques – *see “Specific tightening torques” on page 9-9*.

Malfunctions of the machine electronics

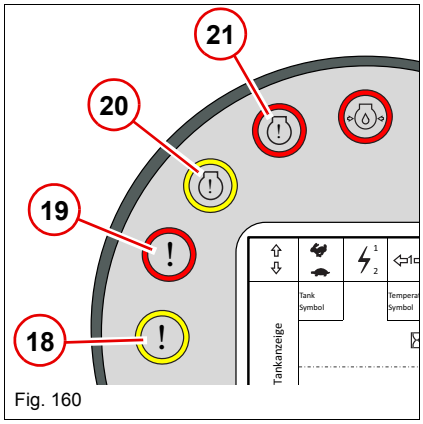


Fig. 160

Indicator lights (*Fig. 160*) indicate control unit errors. These indicator lights illuminate during engine start and go out again. If one of the indicator lights flashes or illuminates during machine operation, an error code is issued at the same time in the machine display.

Error codes

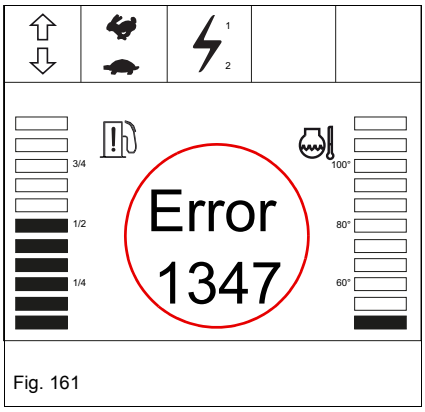


Fig. 161

An error code is issued in the display if there is an error in the machine electronics. Make a note of the error code before stopping the engine. Some error codes do not appear any more after switching off the starter, even though the error may still be present. Contact a service center immediately if an error code appears that is not listed in the table.

NOTICE

Failure to observe the error codes can cause serious technical damage!

- ► Proceed as specified in the error code table.
- ► Get in touch with a service center if the error persists in spite of proceeding as specified.
- ► Make a note of error codes that are not listed and inform the service center of them.

Error code	Error description	Remedy
0107	Dirty engine air filter	*Checking/cleaning/replacing the main engine air filter on page 7-32*
0110	Coolant temperature too high	*Stopping the engine on page 4-36* *Checking the coolant level on page 7-29* *Cleaning the cooling system on page 7-30*
5319	Incomplete regeneration of diesel particulate filter	*Manual regeneration on page 7-58* Take the machine to a service center

9.9 Tightening torques

General tightening torques

Screw dimensions	Tightening torques in Nm (ft.lbs.)		
	8.8	10.9	12.9
M4	3 (2.21)	4 (2.95)	5 (3.68)
M5	5.5 (4.06)	8 (5.90)	10 (7.37)
M6	10 (7.37)	14 (10.32)	16 (11.80)
M8	23 (16.96)	34 (25.07)	40 (29.50)
M10	46 (33.92)	67 (49.41)	79 (58.26)
M12	79 (58.26)	115 (84.81)	135 (99.57)
M14	125 (92.19)	185 (136.44)	220 (162.26)
M16	195 (143.82)	290 (213.89)	340 (250.77)
M18	280 (206.51)	400 (295.02)	470 (346.65)
M20	395 (291.33)	560 (413.03)	660 (486.79)
M22	540 (398.28)	760 (560.54)	890 (656.43)
M24	680 (501.54)	970 (715.43)	1150 (848.19)
M27	1000 (737.56)	1450 (1069.46)	1700 (1253.85)
M30	1350 (995.70)	1950 (1438.24)	2300 (1696.39)

Specific tightening torques

Designation		Tightening torques	
		Nm	(ft. lbs.)
Wheel nut	M18 x 1.5	285	(210)
	M20 x 1.5	400	(295)
	M22 x 1.5	500	(365)
High-pressure relief valve	M8	10	(7)