



Operation & Maintenance Manual

NR14K

NR14KE

NR14XE

NR16K

NR16KN

NR20K

NR25KH

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2. Safety instructions

Instructions for site supervisor

- Familiarise yourself with the operating instructions and its contents.
- Train the operator on the use, safety, and maintenance aspects of the truck.
- Control that the operating and maintenance instructions, and safety regulations are observed.

Occupational safety

- Keep the truck clean and in good working order. Carry out the daily and weekly maintenance checks in accordance with the maintenance schedule and instructions to avoid faults and operational errors.
- If you notice any faults or deficiencies that may effect the safe operation of the truck, take the truck out of operation until the faults or deficiencies have been remedied.
- Do not repair anything on the truck without permission from the site supervisor.
- In the event of a malfunction, switch off the power and notify the site supervisor.
- When using the truck, you are responsible for both your own safety and the safety of your environment.
- Immediately notify the site supervision of any accidents or injuries. In such a case, leave the truck at the place of the accident.
- The truck can only be used for purposes corresponding with its equipment.

Truck operator

Requirements:

- At least 18 years old
- Sufficient physical (e.g. good hearing and sight) and mental abilities for operating the truck without risks
- Appropriately trained; familiar with operating, safety and maintenance instructions
- Has permission from the site supervision to operate the truck
- Knows and masters the drive and operational features of the truck

Emergency procedures

If the truck falls over, hold onto the steering wheel and warn others. If the machine malfunctions, brake and switch off the power. The truck must not be used again, until a person appointed by the work supervisor has repaired the truck.

Noise

The maximum noise level that the driver may be subjected to is 76 dB (A).

Work at dangerous premises

Trucks used for working at premises susceptible to fire or explosion or other hazards must be specially equipped. A standard truck is not suitable for the above-mentioned work. Contact your truck dealer for specially designed and equipped trucks for hazardous conditions.

Repairs and structural modifications

Do not modify the truck without the manufacturer's express permission. Do not add, remove, weld, or bend any parts, as the modifications could affect the operation of the truck and weaken its construction.

Overhead guard and load support

Trucks driven sitting or standing and that are capable of lifting a load higher than 1.8 m must be equipped with an overhead guard. Modifications to the overhead guard that could possibly weaken its structure are not allowed. If it is possible for objects to fall through the openings in the overhead guard, the size of the openings must be reduced.

Trucks used for transporting small objects or unstable loads must be equipped with a load support.

3. Operating environment

Use the truck in dry, indoor facilities with hard, even and level floors. The temperature range in which the truck can continuously operate is +5 to +25°C, and for short periods +0 to +45°C. If the operating temperatures differ from the above mentioned, contact your truck dealer to obtain a separate machine designed for cold and freezing temperatures. A special machine for freezing conditions can be used in temperatures down to -35°C.

This truck conforms to all the relevant requirements of the EU machine directive and thus has a CE marking.

Never use the truck:

- To transport and lift people
- At premises with risk of fire
- At premises with risk of explosion
- At premises with insufficient floor load capacity
- If it is damaged
- As a mounting surface
- To tow another truck
- Under the influence of intoxicating substances

Free space

Make sure that the truck has sufficient moving space with respect to overhead structures. Before driving through aisles or door openings, ensure that there is enough space for the truck, the load and yourself.

NOTE: Always drive at a safe distance from the edge of loading platforms or bridges.

Bearing capacity of the floor

Make sure that the combined weight of the truck and the load does not exceed the bearing capacity of the floor.

Using elevators

You need permission from the site supervisor to use an elevator to transport the truck between floors. Make sure that the combined weight of the truck, the load and yourself does not exceed the maximum load capacity of the elevator. Always drive the truck into elevators and any other narrow spaces with the load in front.

NOTE: Make sure that there are no people in the elevator when driving the truck in or out. The parking brake of the truck must be on before the elevator moves.

Working on ramps

You need permission from the site supervision to drive on a slope or ramp. When the truck is loaded, travel with the load pointing uphill. Without a load, you can travel with the forks pointing downhill.

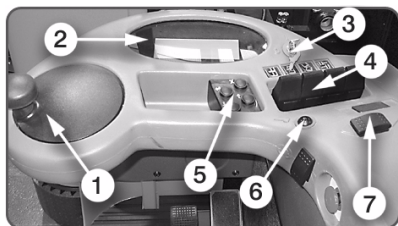
NOTE: Do not turn the steering wheel abruptly on a ramp; the truck might overturn.

Working on loading bridges

Always check the bearing capacity and the fastening of the bridge before loading or unloading. If you need to drive the truck onto another vehicle, ensure that the vehicle cannot move during this procedure. Do not drive to the edges of a loading bridge because there is always a risk of overturning.

- In an accident

Release the emergency stop button by turning it clockwise.



devices)

1 = Power on

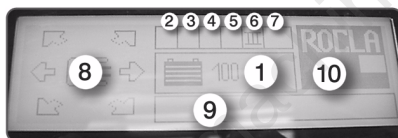
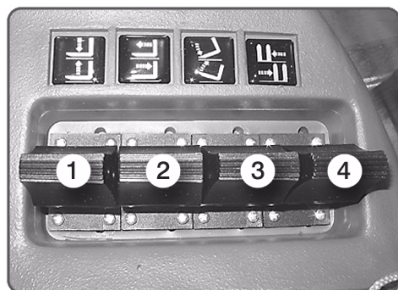
Valve levers (4)

Keypad (5)

Horn button (6)

Fork adjustment switch (7)

The fork adjustment device is an optional feature.



Steering system fault indicator (2)

Faults in the steering system are displayed with an "S" indicator. When the indicator is lit, the truck stops automatically. For more information, see Section "Electronic steering system" in Chapter 5.

Parking brake indicator (3)

When you switch on the parking brake, the parking brake indicator is lit.

Speed control fault indicator (4)

Faults in the speed control are displayed with a "T" indicator and an explanation in the Message field (9). The truck cannot be driven before the problem is corrected. When the fault indicator is lit, switch off the power from the key switch. Then wait at least 5 seconds and switch the power on again. If the fault is not corrected, contact maintenance personnel.

The indicator is also lit if you do not press the safety pedal down before pressing the accelerator. In that case lift your feet from the pedals, wait a few seconds, and then press the pedals in the correct order.

Pump control fault indicator (5)

Faults in the pump speed control are displayed with a "P" indicator and an explanation in the Message field (9). The truck cannot be driven before the problem is corrected. When the fault indicator is lit, switch off the power from the key switch. Then wait at least 5 seconds and switch the power on again. If the fault is not corrected, contact maintenance personnel.

Control panel

Steering wheel (1)

The truck is equipped with an electronic steering system; see Section "Electronic steering system" in Chapter 5.

Display (2)

Key switch (3)

The key switch connects the truck's electrical equipment to the battery circuit.

0 = Power off (the power is still connected to certain electronic

Valve levers

Reach trucks usually have 4 valve levers for:

- Lifting and lowering the forks (1)
- Moving the mast forwards and backwards (2)
- Tilting the mast or carriage (3)
- Side-shifting the carriage or forks (4)

Familiarise yourself with the operation of the levers.

Display

When you switch on the power, the display will show you the operation hours of the truck for a few seconds, and then the charge level of the battery (1). Whenever you are driving, the speed is displayed in the same place. If the truck is equipped with a lifting height display, the lifting height is also displayed in the centre.

Problems in electronic steering or in the control system are indicated by the “S” indicator on the Problem monitoring display. The “S” indicator also shows if the power is switched off and on again too quickly. The truck does not drive if the indicator is on.

NOTE: *Wait for at least 3 seconds before you switch on the power again after it has been switched off.*

Maintenance of the electronic steering system

The system has been designed to be as maintenance free as possible. The quarterly maintenance check (300 h) includes the fastening of the steering control unit terminals.

NOTE: *The control unit is configured at the factory. Do not attempt to adjust it. An authorised service person can tune the steering, e.g. the number of rotations for the steering wheel, if necessary.*

General driving instructions

Practice steering and controlling the truck carefully in a safe area.

- Drive slowly at intersections and when turning.
- Handle the truck responsibly and always keep it under control.
- Avoid sudden starts and stops.
- Steer and brake smoothly.
- Decrease the speed if the floor is slippery, for example, because of humidity.
- Take great care when driving on a slanted surface.
- Do not drive over any loose objects on the floor.

When driving, keep the load lowered and, if possible, tilted backwards. Do not lift the load except when stacking. This does not apply to trucks designed to be driven with the load raised.

Be especially careful:

- When there are other people or objects in the working area
- When the load reduces visibility
- When driving in narrow aisles make sure that there is enough space for the truck and the load

Driving position

Drive the truck always from the operator's seat, left foot on the safety pedal and the right on the accelerator. Keep your left hand on the steering wheel and the right on the valve levers. When driving, always keep your body completely within the outlines of the truck. Anticipate any dangers so that you can avoid risks of accident or injury.

Speed

Control the speed according to the situation. Take into consideration the load, visibility, and people in the working area and the working environment. Slow down at cross aisles and whenever the vision is obstructed. If the visibility is inadequate, use an assistant to help guide you.

Uncontrolled acceleration or braking, excessive speed at turning points, and fast and sudden turning may overturn the load and cause an accident. In all conditions, drive the truck at a speed that enables you to stop it safely.

Parking

Park the truck in a reserved parking place. When parking the truck, the forks must be lowered and the parking brake must be on. Ensure that the truck cannot move by itself or that an inexperienced person cannot start driving it under any circumstances.

NOTE: *Never park or stack goods in front of fire doors, fire extinguishers, emergency exits and the like. Do not park on a slanted surface.*

Traffic rules

Maintain good visibility in the driving direction and keep sufficient safety distances. Follow the traffic regulations and speed limits. Do not drive the truck outside a private area without an order or permission from the site supervisor. Outside a private area, the truck is subject to general traffic rules and regulations. If a door opening is so narrow that two trucks cannot possibly pass through it at the same time, drive in the middle of the opening. When two trucks meet in a narrow or cross aisle, the loaded truck has the right of way.

NOTE: *When driving, you should sound the horn when necessary to warn others in the same area.*

unloading heights to ease the operation. During the automatic sequence, you can exit to normal operation in any phase by pressing the Exit key.

NOTE: *The height selector operates only above the free lifting range.*

To stack with the height selector:

- Press Exit in the basic display to get to the Preselection menu.
- Make sure that the mast is all the way in.
- Select the correct height with the arrow keys and press Enter.
- Lift the forks until they stop automatically.
- Check that the fork height is correct and move the mast all the way forward.
- When the load is in the correct position over the shelf, lower the forks.
- Pull the mast all the way in to end the stacking sequence, and then lower the forks.

To unload with the height selector:

- Press Exit in the basic display to get to the Preselection menu.
- Make sure that the mast is all the way in.
- Select the correct unloading level with the arrow keys and press Enter.
- Lift the forks until they stop automatically.
- Check that the fork height is correct and move the mast all the way forward.
- When the load is completely on the forks, lift the load.
- Pull the mast all the way in to end the stacking sequence, and then lower the forks.

Programming the height selector

- Check that the forks are down and you are in the basic display.
- Go to the Main menu by pressing Enter.
- Select "Autoteaching" with the arrow keys and press Enter.
- Select the height number to be programmed with the arrow keys and press Enter.
- Lift the forks slowly to the correct level and press Enter.
- Lower the forks and program other levels, or exit the menu by pressing Exit twice.

Acquiring a new battery

When acquiring a battery for the truck, pay attention to the following sections of the standard EN 1175-1:

- 5.1 Traction batteries (includes the requirements for the protective cover of the battery case, ventilation and interior surface treatment)
- 7.4 Minimum markings (includes the requirements specified on the truck battery plate)

The battery plate should provide at least the following information:

- Manufacturer
- Type
- Serial number
- Rated voltage
- Capacity (Ah/5 h)
- Service weight

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Full Version Available

Caterpillar NR20K Reach Truck Operator Manual (WHOMM0029)

Caterpillar NR20K Reach Truck operator manual, covers safe operation, controls, inspections, and battery care in PDF. Instant PDF download.

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