

2 Safety

2.1 Safety symbols and signal words

Explanation

The following symbol identifies safety instructions. It is used for warning against potential personal risk or danger.

DANGER

DANGER identifies a situation causing death or serious injury if it is not avoided.

Consequences in case of non-observance.

- ▶ Avoidance of injury or death.
-

WARNING

WARNING identifies a situation that can cause death or serious injury if it is not avoided.

Consequences in case of non-observance.

- ▶ Avoidance of injury or death.
-

CAUTION

CAUTION identifies a situation that can cause injury if it is not avoided.

Consequences in case of non-observance.

- ▶ Avoidance of injury.
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NOTICE

NOTICE identifies a situation that causes damage to the vehicle if it is not observed.

- ▶ Avoidance of damage to property.
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2.2 Qualification of operating personnel

Owner's duties

- Only allow specifically authorized, trained and experienced persons to operate, drive and perform maintenance on the vehicle.
- Do not allow persons to be trained or instructed by anyone other than an authorized and experienced person.
- Have persons to be trained or instructed practice under supervision until they are familiar with the machine and its behavior (for example with the steering and braking behavior).
- Access to the vehicle or vehicle operation is prohibited for children and persons under the influence of alcohol, drugs or medicine.
- Clearly and unequivocally define the responsibilities of the operating and maintenance personnel.
- Clearly and unequivocally define the responsibilities on the job site, also in view of traffic regulations.
- Give the operator the authority to refuse instructions by other persons that are contrary to safety.
- Have the vehicle serviced and repaired only by an authorized service center.

Required knowledge of operator

- The operator is responsible for other persons.
- Avoid any operational mode that might be prejudicial to safety.
- The specific national driving license is required.
- The vehicle may only be operated by authorized and safety-conscious persons who are fully aware of the risks involved in operating the vehicle.
- The operator and owner are obligated to operate the vehicle only in a safe and working condition.
- All persons working on or with the vehicle must have read and understood the safety instructions in this Operator's Manual before starting work.
- Follow, and instruct the operator in, legal and other mandatory regulations relevant to accident prevention.
- Observe and instruct the operator in regulations regarding road traffic and environmental protection.
- Use only the defined accesses for getting on and off the vehicle.
- Be familiar with the emergency exit of the vehicle.

Preparatory measures for the operator

- Before starting, check the vehicle whether it can be driven and operated safely.
- Tie back long hair and remove all jewelry.
- Wear close-fitting work clothes that do not hinder movement.

2.3 Conduct

Prerequisites for operation

- The vehicle has been designed and built in accordance with state-of-the-art standards and the recognized safety regulations. Nevertheless its use can cause danger to the operator or other persons, or damage to the vehicle.
- Store this Operator's Manual in the place provided for this in or on the vehicle. Immediately replace a damaged or illegible Operator's Manual and any supplements to it.
- The vehicle must only be operated in accordance with its designated use and the instructions set forth in this Operator's Manual.
- The operator and owner are obligated not to put into operation or operate a damaged or malfunctioning vehicle.
 - If a damage or malfunction occurs during operation, put the vehicle out of operation immediately and secure it against restart.
 - Have all malfunctions jeopardizing the safety of the operator or other persons immediately repaired by an authorized service center.
- Do not put the vehicle into operation or operate it after an accident; have it inspected for damage by an authorized service center.
 - Have the seat belt replaced by an authorized service center after an accident, even if there is no visible damage.
 - Cabin and protective structures
- Remove all dirt, snow and ice from climbing aids (for example from the handholds, footholds, handrails).
- The owner is responsible for requiring the operating and maintenance personnel to wear protective clothing and equipment as required by the circumstances.



2.4 Operation

Preparatory measures

- Operation is only allowed with correctly installed and intact protective structures.
- Keep the vehicle clean. This reduces injury, accident and fire hazards.
- Safely store objects you carry with you in the places provided for this (for example in the storage compartment, drinks holder).
- Do not carry objects with you that protrude into the operator's work space. They can create another danger in case of an accident.
- Observe all safety, warning and information labels.
- Start and operate the vehicle only with the seat belt fastened and only from the place provided for this.
- Check the condition and the fastening of the seat belt. Have malfunctioning seat belts and mounting hardware replaced by an authorized service center.
- Before starting work, adjust the seating position so that all control elements can be reached and fully operated.
- Perform the personal adjustment at machine standstill only (for example of the operator seat, steering column).
- Ensure that all safety devices are properly installed and functional before starting work.
- Before starting work or after interrupting work, ensure that the brake, steering, signaling and light systems are functional.
- Before putting the vehicle into operation, ensure that nobody is in the danger zone.

Job site

- The operator is responsible for other persons.
- Before starting work, familiarize yourself with the job site. This applies to, for example:
 - Obstacles in the job site and vehicle travel area
 - Any barriers separating the job site from public roads
 - Soil weight-bearing capacity
 - Existing overhead and underground lines
 - Special operating conditions (for example dust, steam, smoke, asbestos)
- The operator must know the maximum dimensions of the vehicle and the attachment – see “Technical data”.
- Maintain a safe distance (for example from buildings, edges of building pits).
- During work in buildings or in enclosed areas, look out for:
 - Height of the ceiling/clearances
 - Width of entries/passages
 - Maximum load of ceilings and floors
 - Sufficient room ventilation (for example risk of carbon monoxide poisoning)
- Use existing visual aids to stay aware of the danger zone.
- In conditions of darkness and poor visibility, switch on existing work lights and ensure that motorists are not blinded by these lights.
- If the existing lights of the vehicle are not sufficient for performing work safely, ensure additional lighting of the job site.
- Due to hot vehicle parts, maintain a safe distance from easily flammable material (for example from hay, dry leaves).

Danger zone

- The danger zone is the area in which persons are in danger due to the movements of the vehicle, attachment and/or load.
- The danger zone also includes the area that can be affected by falling material, equipment or by parts that are thrown out.
- Extend the danger zone sufficiently in the immediate vicinity of buildings, scaffolds or other elements of construction.
- Seal off the danger zone should it not be possible to keep a sufficient safety distance.
- Stop vehicle operation immediately if persons do not stay clear of the danger zone.



Carrying passengers

- Carrying passengers with the vehicle is PROHIBITED.
- Carrying passengers on/in attachments/tools is PROHIBITED.
- Carrying passengers on/in trailers is PROHIBITED.

Mechanical integrity

- The operator and owner are obligated to operate the vehicle only in a safe and working condition.
- Operate the machine only if all protective and safety-oriented equipment (for example protective structures such as a cabin or rollbar, removable safety devices) is installed and functional.
- Check the vehicle for visible damage and defects.
- In case of damage and/or unusual behavior, put the vehicle out of operation immediately and secure it against restart.
- Have all malfunctions jeopardizing the safety of the operator or other persons immediately repaired by an authorized service center.

Starting the engine of the vehicle

- Start the engine only according to the Operator's Manual.
- Observe all warning and indicator lights.
- Do not use any liquid or gaseous starting aids (for example, ether or starting fuel).

Machine operation

- Start and operate the vehicle only with the seat belt fastened and only from the place provided for this.
- Put the vehicle into operation only if visibility is sufficient (have another person guide you if necessary).
- Operation on slopes:
 - Travel/work only uphill or downhill.
 - Avoid vehicle travel across a slope, observe the vehicle's permissible inclination (and of the trailer if necessary).
 - Keep loads on the uphill side of the vehicle and as close as possible to it.
 - Keep attachments/work equipment close to the ground.
- Adapt the travel speed to the circumstances (for example the ground conditions, weather conditions).
- There is increased danger during backward vehicle travel. Persons in the blind spot of the vehicle cannot be seen by the operator.
 - Ensure that nobody is in the danger zone when you change the travel direction.
- Never get on a moving vehicle and never jump off the vehicle.

Machine travel on public roads/sites

- The specific national driving license is required.
- Observe the national regulations (for example the road traffic regulations) during machine travel on public roads/sites.
- Ensure that the vehicle is in compliance with the national regulations.
- In order not to blind other motorists, using the existing work lights during vehicle travel on public roads/site is prohibited.
- When crossing underpasses, bridges, tunnels, for example, ensure that the clearance height and width is sufficient.
- The attachment fitted onto the machine must be certified for travel on public roads/sites (see for example the registration documents).
- The attachment fitted onto the vehicle must be empty and in transport position.
- The attachment fitted onto the vehicle must be equipped with the mandatory lights and protective equipment.
- Take measures against unintentional operation of the operating hydraulics.
- If the vehicle has different steering modes, ensure that the mandatory steering mode is selected.

Stopping the engine of the vehicle

- Stop the engine only according to the Operator's Manual.
- Before stopping the engine, lower the work equipment/attachment to the ground.

Stopping and securing the vehicle

- Unbuckle the seat belt only after stopping the engine.
- Before leaving the machine, secure it to prevent it from rolling away (for example with the parking brake, suitable wheel chocks).
- Remove the starting key and secure the vehicle against unauthorized operation.

2.5 Lifting gear applications

Requirements

- Have loads fastened and the operator guided by a qualified person having specific knowledge of lifting gear applications and the usual hand signals.
- The person giving instructions to the operator must stay in visual contact with the operator when fastening, guiding or removing the load (maintain visual contact).
- If this not be possible, ask one more person with the same qualifications to guide.
- The operator may not leave his seat as long as the load is raised.

Fastening, guiding and removing loads

- Follow the applicable specific regulations for fastening, guiding and removing a load.
- Wear protective clothing and equipment when fastening, guiding and removing loads (for example a hard hat, safety glasses, protective gloves, safety boots).
- Do not place lifting and fastening gear over sharp edges or rotating parts. Loads must be fastened so as to prevent them from slipping or falling.
- Move loads only on horizontal, level and firm ground.
- Move loads close to the ground.
- In order to avoid oscillating movements of loads:
 - Perform smooth, slow movements with the vehicle.
 - Use cables to guide the load (do not use hands to guide).
 - Bear in mind the weather conditions (for example the wind force).
 - Keep a minimum safety distance from objects.
- The operator may allow the load to be fastened and removed only if the vehicle and its work equipment are not being moved.
- Danger zones must not overlap with the work zones of other vehicles.



Lifting gear applications

- The vehicle 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 vehicle 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.

2.6 Trailer operation

Trailer operation

- The vehicle must be certified for trailer operation.
- Observe the national regulations for trailer operation.
- The specific national driving license is required.
- Carrying passengers on/in trailers is PROHIBITED.
- Observe the maximum permissible vertical and trailer load.
- Do not exceed the permissible trailer speed.
- Trailer operation with the towing gear of the vehicle is prohibited.
- Trailer operation changes the vehicle's operating behavior, the operator must be familiar with this and act accordingly.
- Bear in mind the vehicle's steering mode and the trailer's turning circle.
- Before hitching/unhitching the trailer, secure it to prevent it from rolling away (for example with the parking brake, suitable wheel chocks).
- There must be nobody between the vehicle and the trailer when hitching a trailer.
- Hitch the trailer onto the vehicle correctly.
- Ensure that all equipment works correctly (for example the brakes, lights).
- Before starting vehicle travel, ensure that nobody is between the vehicle and the trailer.

2.7 Attachment operation

Attachments

- Use only attachments that are certified for the machine or its protective equipment (for example a shatter protection).
- All other attachments require the vehicle manufacturer's release.
- The danger zone and the work zone depend on the attachment used – see the Operator's Manual of the attachment.
- Secure the load.
- Do not overload attachments.
- Check the correct position of the lock.



Operating

- Carrying persons on/in an attachment is prohibited.
- Installing a work platform is prohibited.
 - Exception: The vehicle is certified and equipped with the necessary safety equipment.
- Attachments and counterweights modify handling, as well as the steering and brake capability of the vehicle.
- The operator must be familiar with these modifications and act accordingly.
- Before starting work, operate the attachment to check that it works correctly.
- Before putting the attachment into operation, ensure that nobody is in danger.
- Lower the attachment to the ground before leaving the operator's seat.

Removing and fitting attachments

- Before uncoupling or coupling hydraulic connections:
 - Stop the engine
 - Release the pressure in the operating hydraulics
- Picking up and lowering attachments to the ground requires special care:
 - Pick up and safely lock the attachment in accordance with the Operator's Manual.
 - Lower the attachment only to firm, level ground and secure it to prevent it from tipping over or rolling away.
- Put the vehicle and the attachment into operation only if:
 - The protective equipment has been installed and is functional.
 - The connections for the lights and the hydraulic system have been established and are functional.
- Perform a visual check of the lock after locking the attachment.
- There must be nobody between the vehicle and the equipment when picking up or lowering an attachment to the ground.

2.8 Towing, loading and transporting

Towing

- Seal off the danger zone.
- Ensure that no one is near the towing bar or cable. The safety distance is equal to 1.5 times the length of the towing equipment.
Use a towing cable for vehicles with a total weight of up to 4.0 tons.
Use a towing bar for vehicles with a total weight of over 4.0 tons.
- Observe the mandatory transport position, permissible speed and itinerary.
- A tractor vehicle of the same weight category must be used as a minimum. Furthermore, the tractor vehicle must be equipped with a safe braking system and sufficient tractive power.
- Use only towing bars or cables certified by a test/certification body, observe the inspection intervals.
- Do not use any towing bars or cables that are dirty, damaged or not of sufficient size.
- Fasten towing bars or cables only at the defined points.
- Tow away only in accordance with this Operator's Manual to avoid damage to the vehicle.
- Observe the national regulations (for example the light regulations) when towing on public roads/sites.



Crane-lifting

- Seal off the danger zone.
- The crane and the lifting gear must have suitable dimensions.
- Observe the vehicle's overall weight – see "Technical data".
- Wear protective clothing and equipment when fastening, guiding and removing the machine (for example a hard hat, safety glasses, safety boots).
- Use only lifting and fastening gear certified by a test/certification body (for example cables, belts, hooks, shackles), observe the inspection intervals.
- Do not use any lifting and fastening gear that is dirty, damaged or not of sufficient size.
- Perform a visual check to ensure that all slinging points are neither damaged nor worn (no widening, no sharp edges, no cracks).
- Have loads fastened and crane operators only guided by experienced persons.
- The person guiding the crane operator must be within sight or sound of him.
- Observe all movements of the vehicle and lifting gear.
- Secure the vehicle against unintentional movement.
- Raise the vehicle only after it is safely attached and the person attaching the vehicle has given his approval.
- Use only the slinging points provided for fastening the lifting gear (for example cables, belts).
- Do not attach the machine by twining the lifting gear (for example cables, belts) around it.
- Ensure an even load distribution (center of gravity!) when fastening the lifting gear.
- Ensure that no one is in, on or under the vehicle when loading the vehicle.
- Observe the national regulations (for example "Merkheft Erdbau-maschinen", leaflet on earth moving machines of the German employers' liability insurance association for construction engineering).
- Load the vehicle only in accordance with this Operator's Manual to avoid damage to the vehicle.
- Do not raise a machine that is stuck or frozen onto the ground, for example.
- Bear in mind the weather conditions (for example the wind force, visibility conditions).

Transportation

- For the safe transportation of the vehicle:
 - The transport vehicle must have a sufficient load capacity and platform – see “Technical data”
 - The maximum weight rating of the transport vehicle must not be exceeded.
- Use only lifting and fastening gear certified by a test/certification body, observe the inspection intervals.
- Do not use any lifting and fastening gear that is dirty, damaged or not of sufficient size.
- In order to secure the vehicle on the platform, use only the fastening points provided for this purpose.
- Ensure that nobody is in or on the vehicle during transportation.
- Observe the national regulations (for example “Merkheft Erdbau-maschinen”, leaflet on earth moving machines of the German employers’ liability insurance association for construction engineering).
- Bear in mind the weather conditions (for example ice, snow).
- Ensure the minimum load on the steering axle(s) of the transport vehicle, and ensure an even load distribution.

2.9 Maintenance

Maintenance

- Observe the intervals prescribed by law and those specified in this Operator’s Manual for routine checks/inspections and maintenance.
- For inspection and maintenance, ensure that all tools and service center equipment are adapted to the performance of the task described in this Operator’s Manual.
- Do not use any damaged or malfunctioning tools.
- Have hydraulic hoses replaced within stipulated intervals even if no visual defects can be detected.
- The vehicle and the engine must be stopped during maintenance.
- Once maintenance is over, correctly install safety equipment again that has been removed.
- Wait for the vehicle to cool down before touching components.



Personal safety measures

- Avoid any operational mode that might be prejudicial to safety.
- Wear protective clothing and equipment (for example a hard hat, protective gloves, safety boots).
- Tie back long hair and remove all jewelry.
- If maintenance on a running engine cannot be avoided:
 - Only work in groups of two.
 - Both persons must be authorized and trained for the operation of the vehicle.
 - One person must be seated on the operator's seat and stay in contact with the second person.
 - Keep a safe distance from rotating parts (for example from fan blades, belts).
 - Keep a safe distance from hot parts (for example from the exhaust system).
 - Perform maintenance only in well-ventilated rooms or rooms with an exhaust-gas suction system.
- Safely lock/support vehicle components before starting work.
- Apply special care when working on the fuel system due to the increased fire hazard.

Preparatory measures

- Attach a warning label to the control elements (for example, “Machine being serviced, do not start”).
- Before performing assembly work on the vehicle, support the areas to be serviced and use suitable lifting and supporting equipment for the replacement of parts over 9 kg (20 lbs.).
- Perform maintenance only if:
 - the vehicle is positioned on firm and level ground
 - the machine is secured to prevent it from rolling away (for example with the parking brake, wheel chocks), and if all attachments/the work equipment is lowered to the ground
 - the engine is stopped
 - the starting key has been removed
 - the pressure in the operating hydraulics has been released
- If maintenance has to be performed under a raised machine/attachment, support the machine/attachment (for example with a lift platform, trestles) ensuring safety and stability.
- Hydraulic cylinders or jacks alone do not sufficiently secure a raised vehicle/attachment.

Measures for performing maintenance

- Perform only the maintenance described in this Operator’s Manual.
- All work that is not described in this Operator’s Manual must be performed by qualified and authorized technical personnel.
- Follow the maintenance plan – see “Maintenance plan”.
- Always use specially designed or otherwise safety-oriented ladders and working platforms to perform overhead maintenance. Do not use vehicle parts or attachments as a climbing aid.
- Do not use attachments/work equipment as a lift platform for persons.
- Remove all dirt, snow and ice from climbing aids (for example from the handholds, footholds, handrails).
- Disconnect the negative terminal of the battery before working on the electrical system.

Modifications and spare parts

- Do not modify the machine and the work equipment/attachment (for example the safety equipment, lights, tires, straightening and welding work).
- Modifications must be approved by the manufacturer and performed by an authorized service center.
- Use only original spare parts.

Protective structures

- The cabin, rollbar and protective screen are tested protective structures and may not be modified (for example no drilling, bending, welding).
- Perform a visual check according to the maintenance plan (for example check fastenings for damage).
- If damage or defects are detected, have them immediately checked and repaired by an authorized service center.
- Have retrofitting work only performed by an authorized service center.
- Replace self-locking fasteners (for example self-locking nuts) by new ones after removing them.

2.10 Measures for avoiding risks

Tires

- Have repair work on the tires only performed by trained technical personnel.
- Check the tires for correct pressure and visible damage (for example cracks, cuts).
- Tighten the wheel nuts to the specified tightening torque. (see chapter 7.18 Tires/tracks).
- Use only approved tires.
- The machine must have identical tires (for example profile, revolutions per mile).

Tracks

- Repair work on tracks may be performed only by trained technicians.
- Check the tracks for correct tension and visible damage (for example cracks, cuts).
- Proceed with extreme care on slippery ground (for example on steel plates, ice), increased slipping hazard.
- Use only approved tracks.

Hydraulic and compressed-air system

- Check all lines, hoses and screw connections regularly for leaks and visible damage.
- Splashed oil can cause injury and fire.
- Leaking hydraulic and compressed-air lines can cause the full loss of the brake effect.
- Have damage and leaks immediately repaired by an authorized service center.
- Have hydraulic hoses replaced by an authorized service center within stipulated intervals even if no visual defects can be detected.

Electrical system

- Use only fuses with the specified current rating.
- In case of damage or malfunction in the electrical system:
 - Put the vehicle out of operation immediately and secure it against restart
 - Disconnect the battery or operate the battery master switch
 - Have the malfunction repaired
- Ensure that work on the electrical system is only performed by trained technical personnel.
- Have the electrical system checked regularly and malfunctions repaired immediately (for example loose connections, scorched cables).
- The operating voltage of machine, the attachment and the trailer must be the same (for example 12 V).



Battery

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Proposition 65 Warning

Battery terminals, battery clamps, and related accessories contain lead and lead compounds. These chemicals are classified in the state of California as a cause for cancer and a reduction of fertility. Wash hands after handling.

- 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 vehicle with battery jumper cables is dangerous if performed improperly. Observe the safety instructions regarding the battery.

Safety instructions regarding internal combustion engines

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Proposition 65 Warning

Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

- 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 loose fuel lines). Do not 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 vehicle 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.



Handling oil, grease and other substances

- When handling oil, grease and other chemical substances (for example the battery acid, coolant), observe the safety data sheets.
- Wear appropriate protective equipment (for example protective gloves, safety glasses).
- Be careful when handling hot consumables – burn hazard.
- In polluted environment (dust, vapors, smoke, asbestos), work only with appropriate personal protective equipment (for example with a breathing mask).
- Do not operate the vehicle in radioactively, biologically or chemically contaminated areas.

Fire hazard

- Fuel, lubricants and coolants are flammable.
- Do not put the vehicle into operation if there is a fire hazard.
- Do not use flammable detergents.
- Keep the area around the exhaust system free of flammable materials.
- Due to hot vehicle parts, maintain a safe distance from easily flammable material (for example from hay, dry leaves).
 - Stop and park the vehicle only in fire-protected areas.
- If the vehicle is equipped with a fire extinguisher, have it installed in its specific location.
- Keep the vehicle clean to reduce the fire hazard.

Working near electric supply lines

- Before performing any work, the operator must check whether there are any electric supply lines in the job site.
- If there are electric supply lines, only a vehicle with cabin may be used (Faraday cage).
- Keep a safe distance from existing electric supply lines.
- If this is not possible, the operator must take other safety measures (for example switching off the current) in agreement with the operating company or owner of the supply lines.
- If supply lines are exposed, they must be fastened, supported and secured accordingly.
- If live supply lines are touched nevertheless:
 - Do not leave/touch the cabin (Faraday cage)
 - If possible, drive the vehicle out of the danger zone
 - Warn others against approaching and touching the vehicle
 - Have the live wire de-energized
 - Do not leave the vehicle until the supply lines that have been touched or damaged have been safely de-energized.

Working near non-electric supply lines

- Before performing any work, the operator must check whether there are any non-electric supply lines in the job site.
- If there are non-electric supply lines, the operator must take safety measures (for example switching off the supply line) in agreement with the operating company or owner of the supply lines.
- If supply lines are exposed, they must be fastened, supported and secured accordingly.



Behavior during thunderstorm

- Stop machine operation if a thunderstorm is gathering, stop the machine, secure and leave it, and avoid being near it.

Noise

- Observe the noise regulations (for example, during applications in enclosed premises).
- Bear in mind external sources of noise (compressed-air hammer, concrete saw).
- Do not remove the sound baffles of the machine/attachment.
- Have damaged sound baffles immediately replaced (for example, an insulating mat, muffler).
- Before starting work, get informed on the noise level of the machine/attachment (for example on the adhesive label) – wear ear protectors.
- Do not wear ear protectors during machine travel on public roads/sites.

Cleaning

- Risk of injury from compressed air and high-pressure cleaners.
 - Wear appropriate protective clothes.
- Do not use any dangerous and aggressive detergents.
 - Wear appropriate protective clothes.
- Operate the machine only in a clean condition.
 - Remove all dirt, snow and ice from climbing aids (for example, handholds, footholds, handrails).
 - Keep the cabin glazing and visual aids clean.
 - Keep the light system and reflectors clean.
 - Keep the control elements and indicators clean.
 - Keep the safety, warning and information labels clean, and replace damaged and missing labels by new ones.
- Perform cleaning work only if the engine is stopped and cooled down.
- Bear in mind sensitive components and protect them accordingly (for example electronic control units, relays).