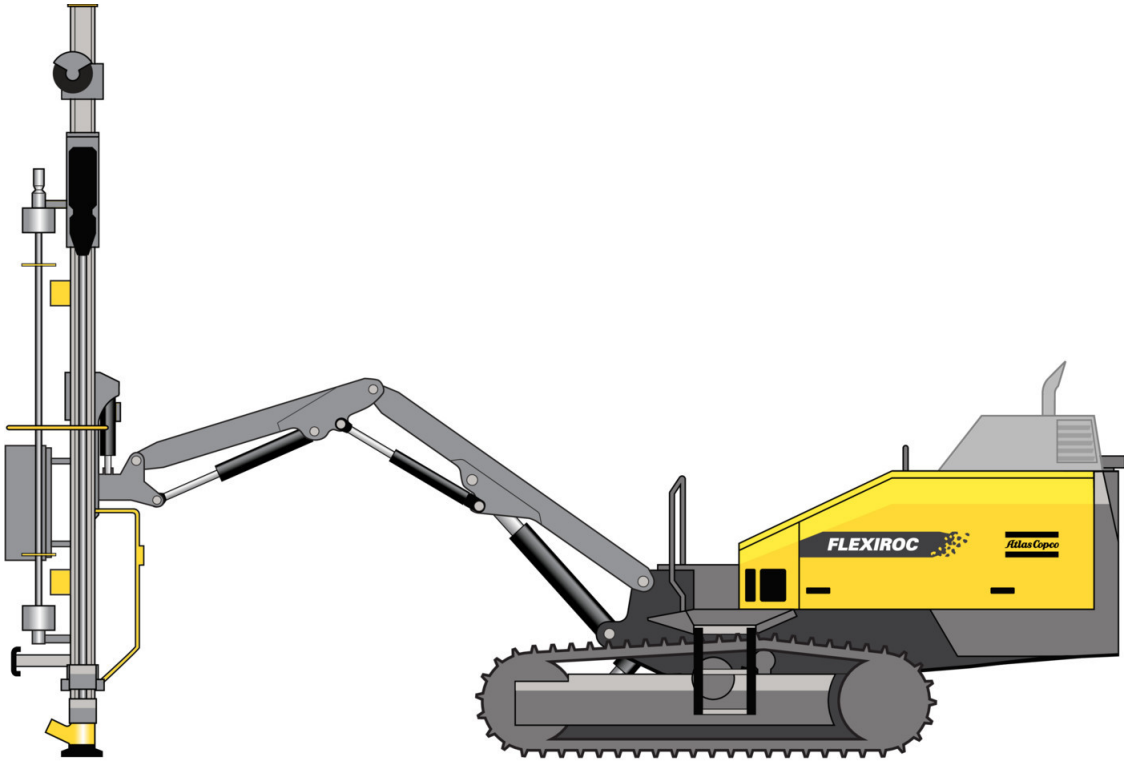
FLEXIROC T35 R/T40 R

Safety



Translation of the original instructions

2016-06-08 | No: 702531211.3 en

Table of Contents

1 Foreword

1.1 Rig documentation

The complete rig documentation comprises:

- a manual for the rig
- instructions for different components
- a spare parts catalogue for the rig
- spare parts lists for different components
- diagrams

1.2 The Manual

The complete manual covers:

- Safety
- Operator's instructions
- Maintenance instructions
- Maintenance schedules

The manual is part of the complete delivery of a drill rig and its peripheral equipment

The manual does not replace the necessary training for the drill rig or its peripheral equipment.

2 Contents

2.1 Contents, target group and objective

The Safety section contains safety-related information intended to be used by everyone operating the rig and its peripheral equipment.

The objective of the safety chapter is to prevent accidents by providing information on the safety aspects concerning the rig and its peripheral equipment.

3 Safety regulations

3.1 General safety regulations

- Read all instructions and follow them.
- Special attention must be paid to the Safety section and all the warnings in the manual.
- Only personnel trained for the equipment are permitted to use it.
- It is essential that personnel observe general and local safety, health and traffic regulations.
- The equipment may only be used for the purpose described in these instructions.
- Locate the fire extinguisher(s) and ensure they are filled.
- Always use a helmet, hearing protection and protective safety glasses during tramming and other work on the rig. Observe local regulations.
- Always check the safety equipment and emergency stop after tramming the rig and also before the start of each shift.
- Engine emissions are toxic. Good ventilation is essential when the engine is running.
- Switch off the engine before refuelling. Do not handle flammable liquids near hot surfaces, sparks or a naked flame.
- The drill rig must only be used, maintained and repaired by personnel well conversant with the equipment and the dangers involved.
- Never carry out service or maintenance work while the drill rig is running.
- Checks and adjustments that need to be made while the rig is running must be performed by the two people. One person must then be in the operating position and have a good overview of the work being carried out and be able to reach an emergency stop easily.
- Only step on designated areas when servicing the drill rig. Never stand on open service hatches.
- Ensure that pneumatic, water and hydraulic systems are depressurised before starting any maintenance work on the system.
- To prevent injury during service and maintenance work, components that could move or fall down must be securely supported or strapped in place.
- Do not use any equipment if a fault is indicated by the system, call for service personnel.
- Observe the drill rig warning signals whenever you are in the vicinity of the drill rig.
- Before starting to use the drill, make sure there is nobody inside the risk area of the drill rig, that the drill rig has been maintained in accordance with the maintenance schedule in force, that all control levers, emergency stops and fire extinguishers are working satisfactorily, that warning signs and safety labels are in place, clean and fully legible. Report any damage and defects immediately. Do not operate the system before all the faults have been rectified.
- All work performed with the drill rig involves impact on the surrounding environment, e.g. in the form of vibrations and landslide. Work must always be carried out with great caution and in accordance with safety regulations in force.
- When replacing hydraulic hoses, make sure the new ones are fitted with crimped couplings, are in the right quality category and are the correct dimension.
- When handling drill bits and drill steel on the rig the rotation must be off. Rock drill rotation must not be used during manual handling of bits and rods.

- All hatches must be closed during operation so that they do not disrupt the flow of cooling air or reduce noise suppression. A hatch may only be kept open for a short period of time, e.g. for inspection or adjustment.
- On rigs equipped with an exhaust cleaning unit, the exhaust gases have a very high temperature. Observe extra caution due to the risk of personal injury and fire.
- The electrical system must not be tampered with.

3.2 Special safety regulations during maintenance work

Normally the engine must be switched off and the main power contactor must be off during service and maintenance work on the rig.

- Parts of the rig, e.g. engine and compressor, may become very hot. Make sure that they have cooled to room temperature before carrying out service and maintenance work.

When the engine has to be running to enable the work to be performed, the following special safety requirements apply:

- The work must be performed by at least two people.
- One person must then be assigned to monitor the work. The monitoring person must be located at the operator's station and have immediate access to an emergency stop.
- The working area must be well illuminated.
- Communication between the two individuals must take place in a rapid and reliable manner.
- Observe the strictest cleanliness during maintenance and repair work.

3.3 Special safety regulations for the compressor

- If there is any indication or suspicion that an internal part of the compressor is overheated then the rig must be stopped, but do not open any inspection hatches until sufficient cooling time has elapsed. This is to avoid spontaneous combustion of oil mist when oxygen is added.
- Make sure that safety valves and other overpressure devices are not damaged. Avoid clogging with paint, carbonised oil or other dirt which could disrupt compressor function.
- Pressure and control gauges must be checked regularly with regard to their accuracy. They must be replaced when the permitted tolerances are exceeded.
- The safety devices must be tested in accordance with the description in the maintenance manual in order to ensure that they are in good condition.
- When operating in a dusty environment, position the rig so that dust is not blowing against it.
- Close the compressor's air outlet valve before connecting or disconnecting a hose. Make sure that the hose is fully vented before disconnection. Before blowing compressed air through a hose or air line, make sure that the open end is being held steady. Impact from a loose end could cause damage.
- Do not use any external force on the air outlet valves, e.g. by pulling hoses or installing auxiliary equipment directly onto a valve, e.g. a water separator or a lubricating device etc.
- Distribution lines and air hoses must be the correct dimension and be suitable for the working pressure. Never use broken, damaged or worn hoses. Only use hose couplings and clamps that are the correct type.
- Before removing the oil filler plug, make sure that the pressure is released by opening an air outlet valve.

3.4 Pressure vessel

- Observe local regulations regarding re-inspection.
- Vessel walls subject to pressure must not be exposed to welding or heat treatment.
- The vessel is equipped with, and must only be used with the required safety equipment, such as pressure gauges, overpressure control devices, safety valves etc.
- Installation, design and connections must not be changed.

3.5 Intended Use

The drill rig is only designed for drilling in surface applications, e.g. stone quarries and construction sites. All other use shall be considered as undesignated and forbidden.

Examples of undesignated and forbidden use:

- Lifting and transporting goods
- Lifting and transporting people
- Supporting objects
- Cleaning stopes and drill locations using the feeder
- Using the boom to help the drill rig climb inclines

The manufacturer is not responsible for damage caused thereby and warns against incorrect use. Correct use also involves following the operation, service and maintenance instructions prescribed by the manufacturer.

3.6 Guarantee

- Use only Atlas Copco original parts. Any damage or operational interruptions caused by using spare parts of other manufacture than Atlas Copco will not be covered by warranty or product liability.
- Atlas Copco renounces any responsibility for damage caused by unauthorised modification to the rig and its equipment.
- Overloading the rig can result in damage to machinery which is not noticed during normal usage. Such damage is not covered by the guarantee.
- The manufacturer is not liable for damage caused by inappropriate use.
- Damage that occurs as a result of substandard repairs, as well as injury to personnel or damage to equipment that is attributable to older unrepaired damage, is not covered by the guarantee.

3.7 Warnings

3.7.1 Description

The manuals contain warnings. The warnings are framed and contain a safety text preceded by a warning symbol and a heading (danger, warning and caution).

DANGER

Serious injury or death

(Safety text)

WARNING

Serious injury

(Safety text)

CAUTION

Risk of injury

(Safety text)

3.7.2 Heading

- The **Danger** heading indicates an imminent risk of serious or lethal injury if the warning is not heeded.
- The **Warning** heading indicates a risk or dangerous course of action that can lead to serious or lethal injury if the warning is not heeded.
- The **Caution** heading indicates a risk or dangerous course of action that can lead to personal injury or damage to property if the warning is not heeded.

4 Risk areas of the rig

4.1 Description

The risk areas of the rig are zones within or around the rig where a person is exposed to risk of injury and health hazards.

The following points must be observed for the risk areas of the factory delivered rig to apply:

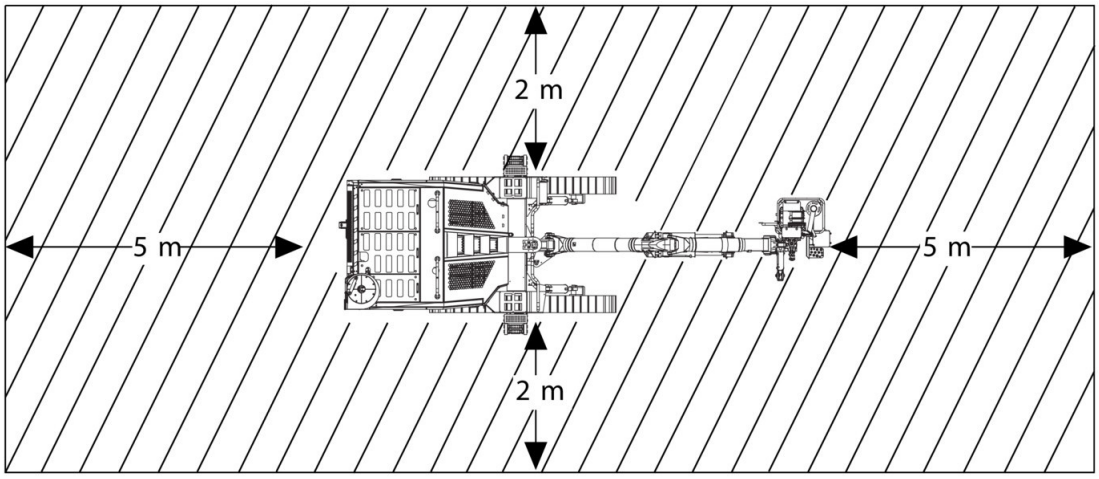
- good ventilation must be provided while the diesel engine is running.
- hearing protection, protective safety glasses and helmet must be used in the vicinity of the rig when the rig is operating.

4.2 Risk Areas

4.2.1 Tramming

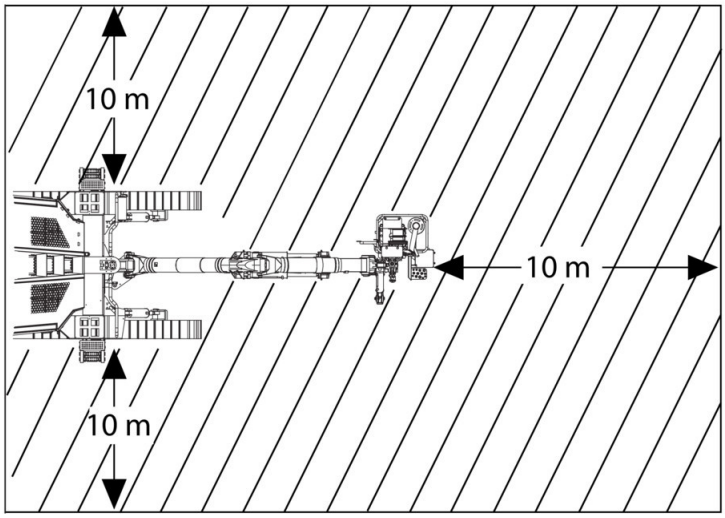
! ***NOTE:*** *Observe the following when tramming the drill rig:*

- Make sure nobody is in front of the drill rig's direction of travel
- Make sure nobody is within the risk area of the drill rig



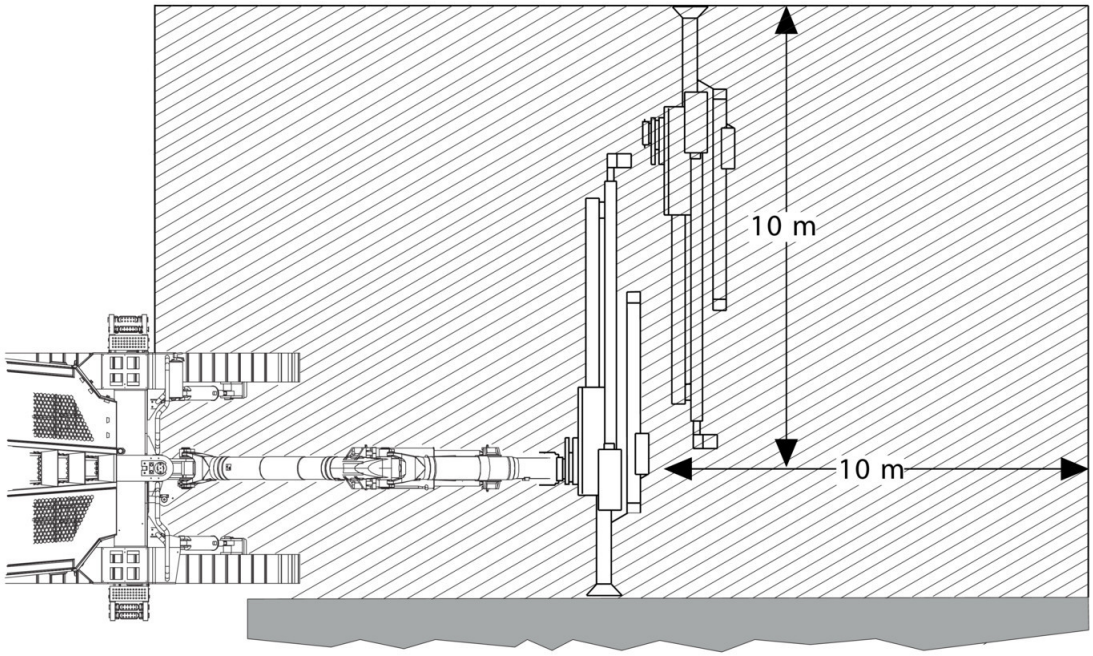
Risk area during tramming.

4.2.2 Floor drilling



Risk area during floor drilling.

4.2.3 Toe-hole drilling



Risk area during toe-hole drilling.

4.3 Working in the risk areas of the rig

4.3.1 Description

Fault finding or working in the rig's risk area involves risk. Accordingly, always carry out the fault finding or the work with great care and accuracy. For further safety regulations, see Safety, Safety regulations.

> ! ***NOTE:*** *Pay attention to the rig's warning signals when you are in the vicinity of the rig, see Safety, Warning signals.*

4.3.2 Specific expertise

Specific expertise is required for:

- **the electrical system**
  - Diagnosis of and work on the electrical system must only be performed by appropriately authorised electricians.
- **air and hydraulic systems**
  - Maintenance and repair work must only be performed by specially trained personnel.

4.3.3 Special procedures

Exercise extra caution and accuracy when diagnosis or work is to be performed at the same time as one or more of the following points are applicable:

- the diesel is engine started
- the hydraulic pumps are running
- the hydraulic system is pressurised
- the pneumatic system is pressurised

Special measures must be taken in cases where one or more of the above criteria must be fulfilled in order to conduct troubleshooting or complete a certain task:

- The work must be carried out by at least two people, one of which must be at the operating station and have a good view of the work.

4.4 General risks with hydraulic systems

A rock drill/drill rig has many components and implementations that are controlled by a hydraulic system, either directly or indirectly. Before working with, or inspecting, any part it is important that the individual has good knowledge of how components move and are controlled by the hydraulic system components including the related control circuits.

Before working on, or inspecting, any component it must be physically prevented from moving in a way that could cause injury to the mechanic, injury to individuals in the vicinity or damage to property. The mechanic must ensure that no part of his/her body is in a position where component movement could cause injury if the component is not physically prevented from moving in the event that the hydraulic system should fail, be disengaged or receive a control signal that results in movement.

Attention must also be drawn to the possibility of situations where component or vehicle movement could react to the release of potential energy. Wherever appropriate there must be confirmation that all measures have been taken to ensure that all sources of potential energy have been relieved and/or that movement has been physically prevented.

It is also the responsibility of those involved to ensure that all applicable safety regulations have been, and are being observed both before and during any work or inspection is carried out.

5 Warning signals

5.1 Acoustic warning

5.1.1 Reversing alarm

The drill rig has a reversing alarm that sounds loudly when the drill rig is reversing. This is to ensure the attention of bystanders that the drill rig is reversing.

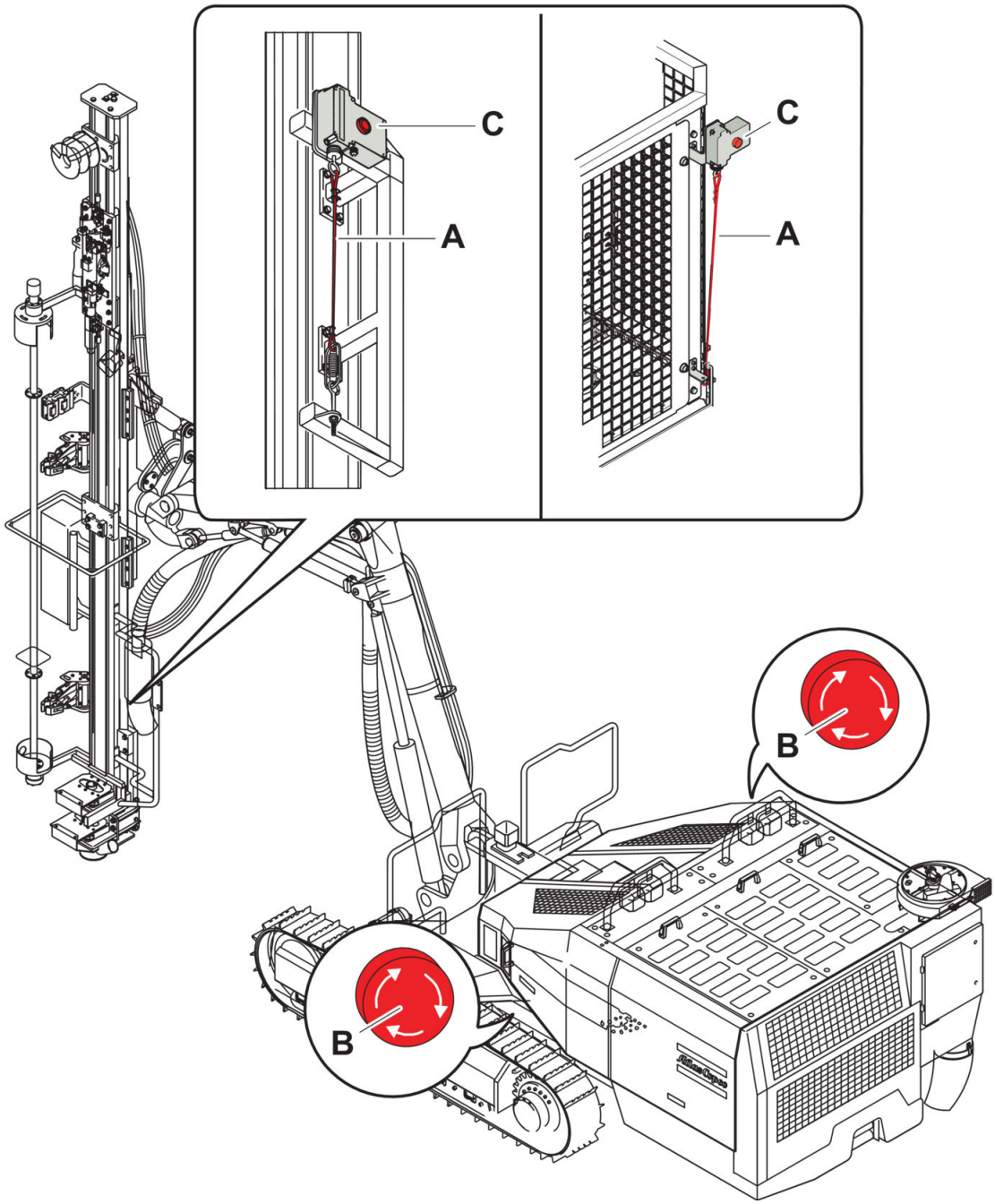
6 Emergency stop

6.1 Function

In the event of a hose fracture, accident or other emergency situation the diesel engine, and thus the hydraulic pump, can be stopped immediately by pressing one of the drill rig's emergency stops.

6.2 Emergency stop location

6.2.1 Drill rig



Emergency stop location.

A	Emergency stop cable
B	Emergency stop button
C	Reset button emergency stop cable

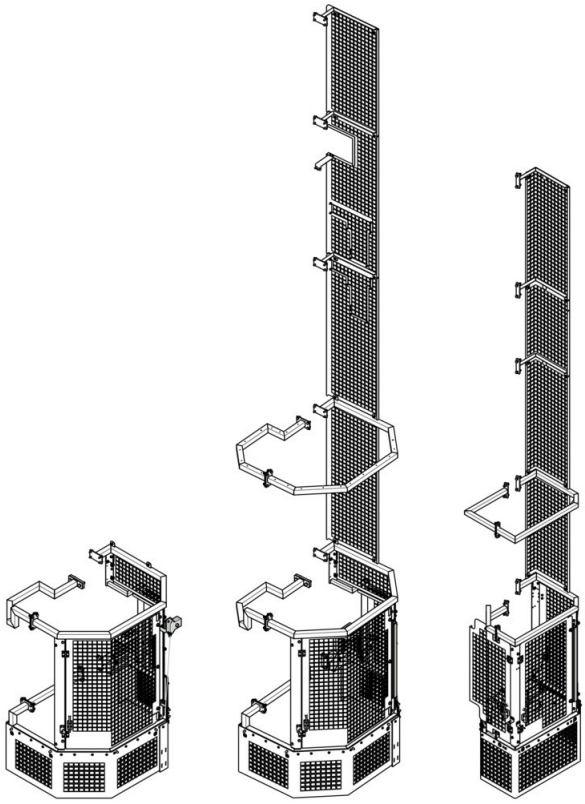
7 Protection of moving parts

7.1 Description

Protection of moving parts is a steel structure fitted on the feeder. The protection provides increased safety when the machine is operating.

The following applies for rigs equipped with protection of moving parts:

- The protective guard must be closed during drilling.
- The rig must be switched off before the protective guard is opened for maintenance work or for any other type of work.



Protection of moving parts

8 Fire fighting

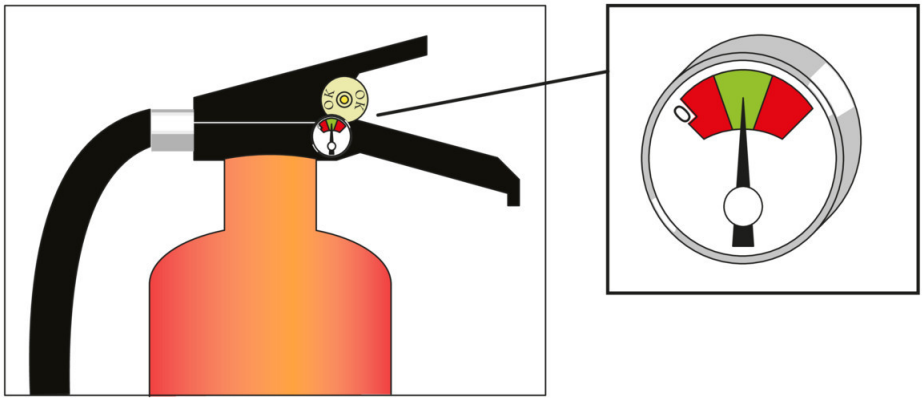
8.1 Fire extinguishers

8.1.1 Description

Ensure that the machine is fitted with an approved manual fire extinguisher in accordance with the relevant local laws and regulations.

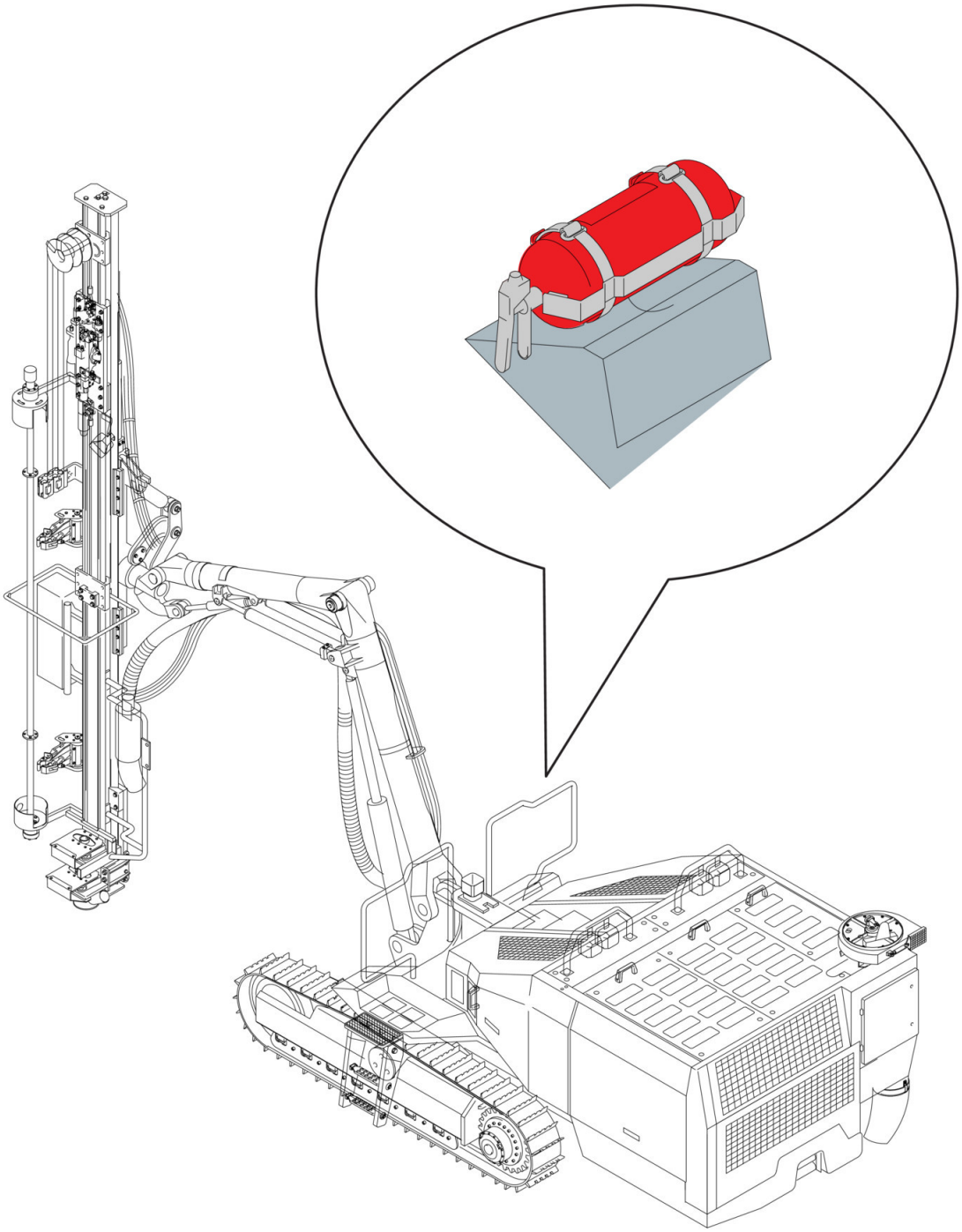
! ***NOTE:*** *If the fire extinguisher has been used then it must be replaced with a new one immediately.*

NOTE: *Check regularly that the needle on the gauge is within the green zone and make sure that the fire extinguisher is replaced as soon as the needle approaches the red zone.*



Fire extinguisher gauge

8.1.2 Location of fire extinguisher



Location of fire extinguisher.

The drill rig is equipped with a fire extinguisher (A-B-C powder).

The fire extinguisher is fitted horizontally along the left-hand side of the operator platform.

Class A-B-C fires can be put out.

> ! ***NOTE:*** *The variant of the fire extinguisher that is supplied depends on the different national regulations. It is therefore essential to follow the instructions on the fire extinguisher.*

> ***NOTE:*** *The fire extinguishers supplied with the drill rig should be considered as "Delivery fire extinguishers". If the fire extinguishers are not approved by local stipulations, they must be replaced with locally approved ones.*

8.2 In case of fire

8.2.1 Fire extinguishers

> ***NOTE:*** *Above all, follow local regulations, stipulations and legislation in case of fire.*

1. Activate the emergency stop by depressing the button. This is the quickest method of stopping the rig.
2. Use the handheld fire extinguisher to extinguish the fire, follow the manufacturer's instructions.
3. Switch off the rig's battery isolation switch if it is possible and without danger:
4. Do not restart the rig until the cause of the fire has been established and any faults rectified.
5. After extinguishing, replace the hand-held fire extinguisher with a new, approved hand-held fire extinguisher.

9 Signs

9.1 General

It is essential that all the rig signs are in the correct locations, are clean and are fully legible.

9.2 Prohibition signs

Symbol	Description	Symbol	Description
	**Prohibition sign** ■ No admittance. ■ No admittance to unauthorised personnel. ■ Violation can cause personal injury.		**Prohibition sign** ■ Don't step here.

Table 1: Prohibition signs

9.3 Warning signs

9.3.1 General warning signs

Symbol	Description	Symbol	Description
	**Warning sign** ■ High noise level. ■ Can cause permanent hearing impairment. ■ Use approved ear defenders.		**Warning sign** ■ Slip risk
	**Warning sign** ■ Risk for scalding and pressure. ■ Can cause serious injuries. ■ The pressure must be released before the cap can be removed.		**Warning sign** ■ Danger of air pressure. ■ Can cause serious injuries. ■ The pressure must be released before the cap is removed.
	**Warning sign** ■ Danger of moving and rotating parts. ■ Could cause severe injuries.		**Warning sign** ■ Danger of swinging and crushing parts. ■ Could cause severe injuries.

Symbol	Description	Symbol	Description
	■ Keep out of the machine's working area when it is in operation.		■ Keep out of the hazardous area during operation.
	**Warning sign** ■ Risk of scalding ■ Can cause serious personal injury		

Table 2: General warning signs

9.3.2 Service work

Symbol	Description
	**Warning sign** ■ In the event of a breakdown or during service work the boom falls diagonally. ■ Injuries and damage to machinery could occur. ■ During service work the boom must be secured in place with straps or supports.

Table 3: Warning sign, service work

9.3.3 Stability

Symbol	Description
	**Warning sign** ■ Stability

Table 4: Warning sign, stability

9.3.4 Laser

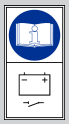
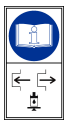
Symbol	Description	Symbol	Description
	**Warning sign** ■ Laser beam.		**Warning sign** ■ Laser beam. ■ Danger of injury to the eyes. ■ Do not look into the beam.
	**Warning sign** ■ Laser beam. ■ Danger of injury to the eyes.		**Warning sign** ■ Laser beam. ■ Risk of personal injury.

Symbol	Description	Symbol	Description
	■ Do not look into the beam. ■ Do not put optical instruments in the way of the beam.		■ Avoid exposure to radiation.

Table 5: Warning signs, laser

9.4 Regulatory signs

9.4.1 General regulatory signs

Symbol	Description	Symbol	Description
	**Regulatory sign** ■ Read the instructions. ■ Incorrect use of the machine may cause personal injury and damage to machinery. ■ Observe the indications given by the warning signs and follow given instructions in order to avoid serious injuries.		**Regulatory sign** ■ Read the instructions. ■ This drill rig is equipped with a battery isolation switch.
	**Regulatory sign** ■ Read the instructions. ■ The carrier's battery supplies the hydraulic oil level switch with current. ■ The battery isolation switch must be turned on when drilling is in progress. ■ Switch off the battery isolation switch when the drill rig is not in operation. If this is not done the battery will be discharged.		**Regulatory sign** ■ Read the instructions. ■ The hydraulic system must be filled with hydraulic oil.

Symbol	Description	Symbol	Description
	**Regulatory sign** ■ Read the instructions. ■ Fill with engine oil.		**Regulatory sign** ■ Read the instructions. ■ Fill with brake fluid.
	**Regulatory sign** ■ Read the instructions. ■ Fill with lubricating oil.		**Regulatory sign** ■ Read the instructions. ■ Emergency stop.
	**Regulatory sign** ■ Information noise level.		

Table 6: General regulatory signs

9.4.2 Drill rig with PLC cabinet

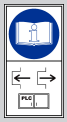
Symbol	Description
	**Regulatory sign** ■ Read the instructions. ■ This drill rig is equipped with data boxes. ■ Isolate or remove data boxes when giving the battery a booster charge or carrying out welding on the drill rig.

Table 7: Regulatory sign, drill rig with PLC cabinet

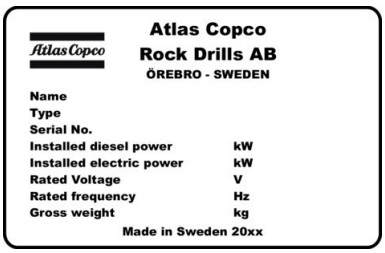
9.5 Information signs

Symbol	Description	Symbol	Description
	**Information** sign Fire extinguishers.		**Information sign** Activator instruction for fire fighting system.
	**Information** sign Emergency exit.		**Information** sign Lifting eye.
	**Information** sign Water inlet.		**Information** sign Air intake.
	**Information** sign Fuel.		**Information** sign Fuel cock.

Symbol	Description	Symbol	Description
	**Information** sign Battery isolation switch.		**Information** sign Draining.
	**Information** sign Washer fluid		**Information** sign Lubrication point.

Table 8: Information signs

9.6 ID plate



The drill rig's ID plate

The plate advises:

- Address
- Type of drill rig
- Serial number
- Installed power
- Total weight of drill rig
- CE marking
- Identity plates

All electrical components have their own sign with an identifying name.

Example of identity plate

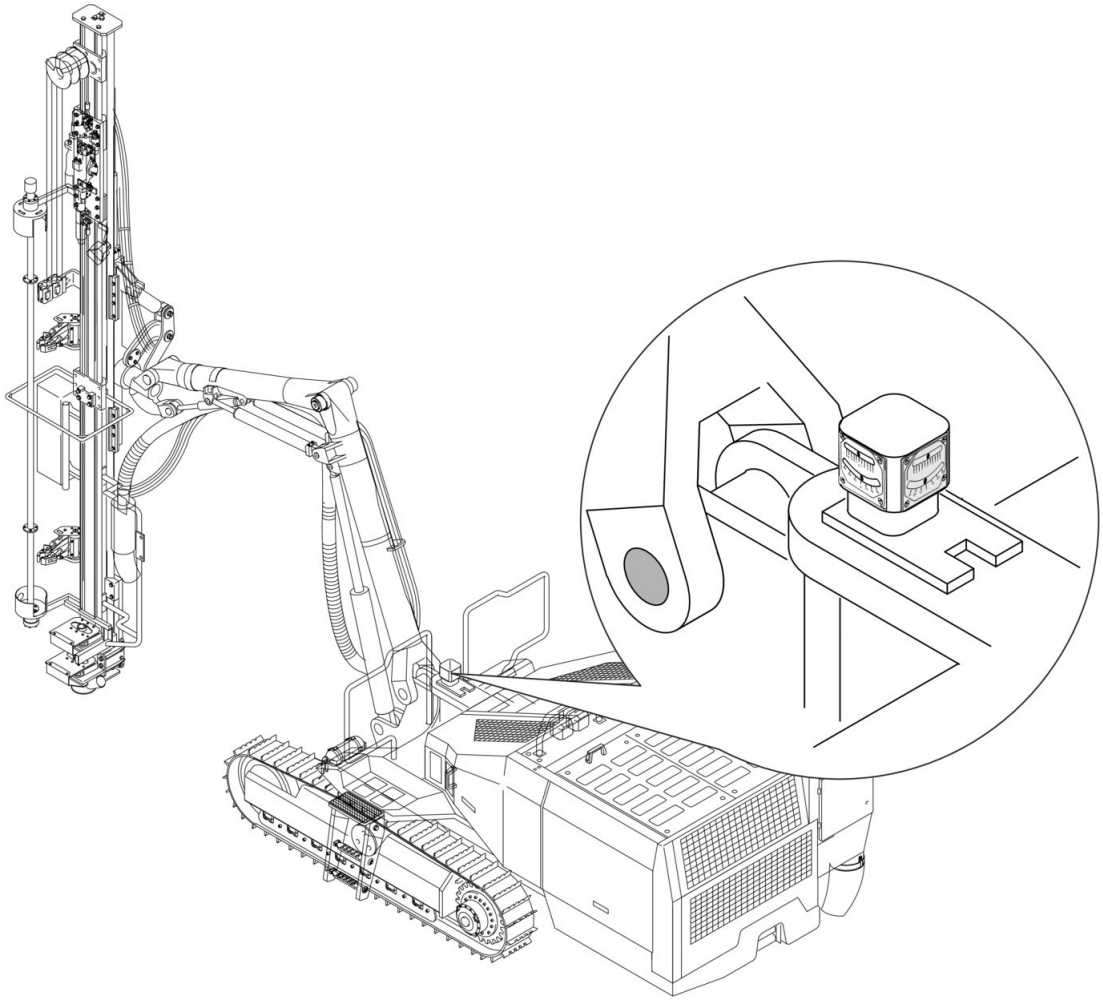
10 Rig stability

10.1 Drill rig spirit level

CAUTION

Risk of injury

The gradient meter shows the chassis frame inclination and not the actual ground inclination.



Location of drill rig spirit level.

The drill rig spirit level indicates the angle at which the drill rig is standing. The drill rig can dump if the specified inclination angles for the drill rig are exceeded. The inclination angles are described in the section on technical data.

10.2 Tramming

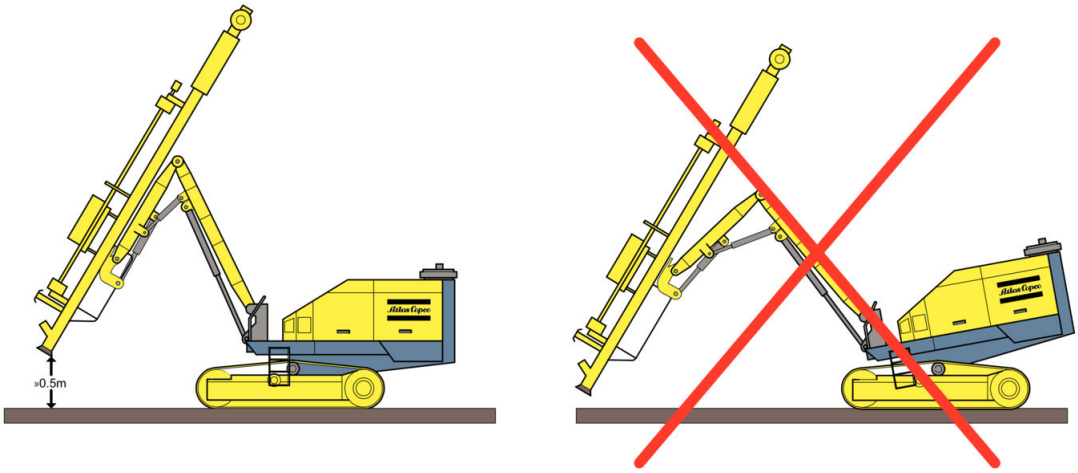
10.2.1 Rigs with articulated boom

General tramming

Direct the boom system straight ahead **before** opening the track oscillation lock.

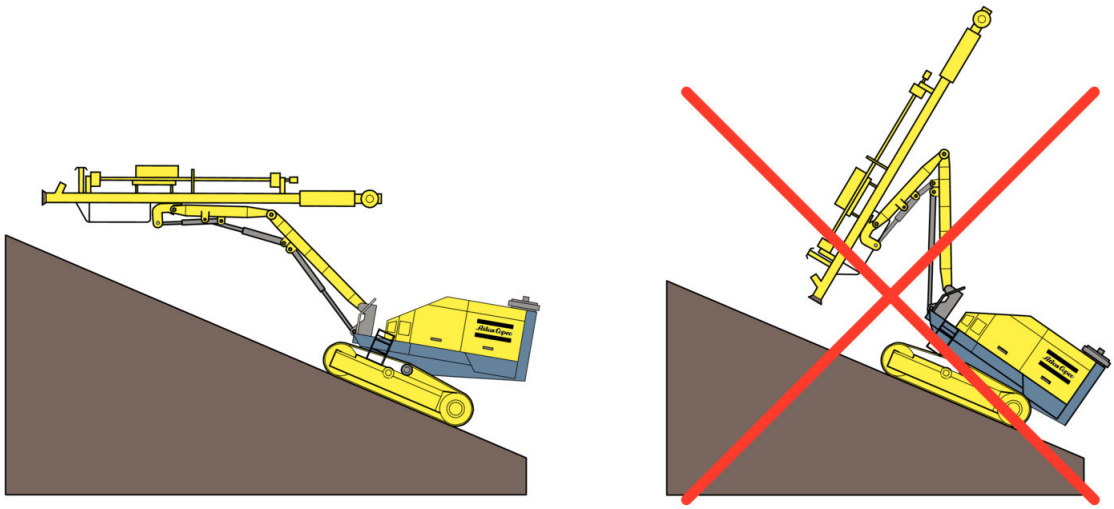
While tramming, the track oscillation lock must be open so that the caterpillar tracks can move freely whenever there is a change in terrain. Use track oscillation to keep the chassis frame as horizontal as possible.

Adapt the speed to the terrain. Always check the terrain where the drill rig will be manoeuvred.



Left: Correct position for general tramming. Right: Wrong position.

Tramming uphill

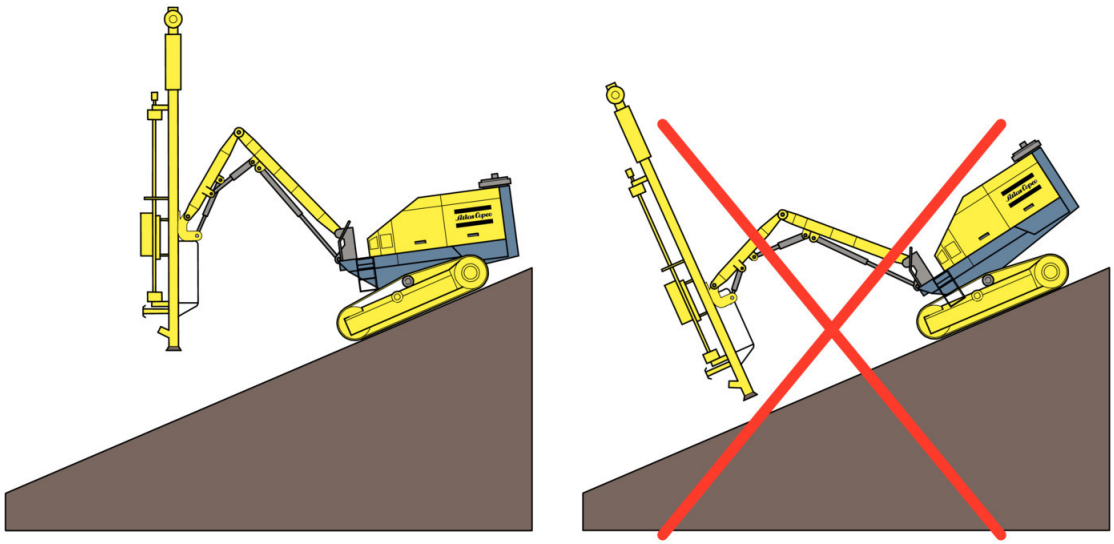


Left: Correct position for tramming uphill. Right: Wrong position.

Extend the boom system and use it as a counterweight when tramming uphill.

Tramming downhill

The boom and rock drill/rotation unit must be as far back as possible.



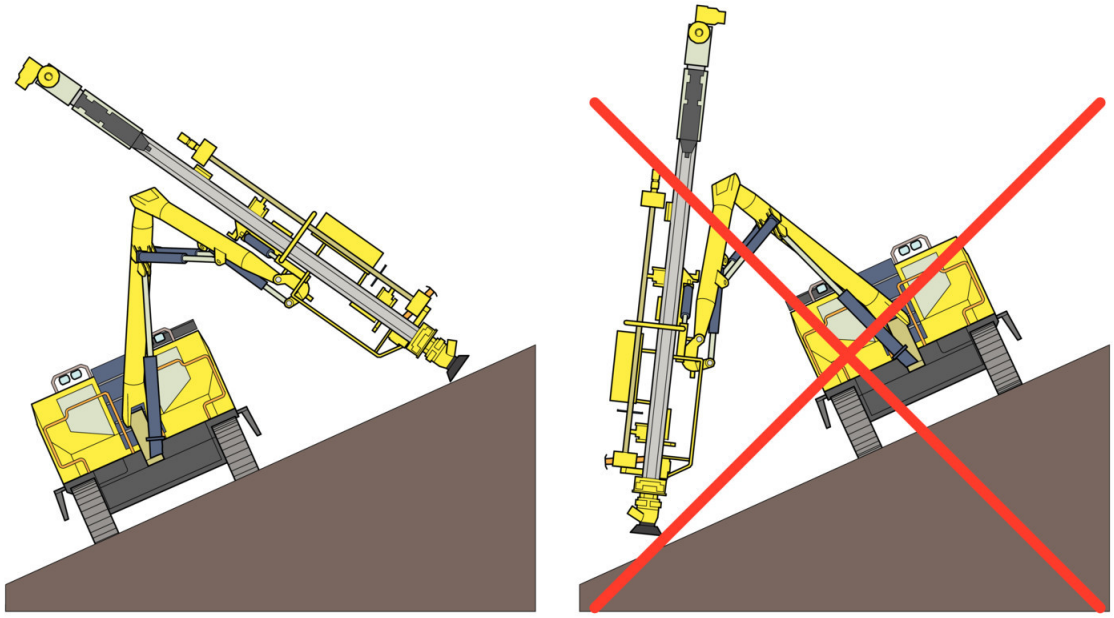
Left: Correct position for tramming downhill. Right: Wrong position.

Tramming inclines

Use the boom system as a counterweight when traversing inclines.

NOTICE! The risk of slipping is greatest when tramming inclines.

NOTICE! Always observe ground conditions.



Left: Correct position for traversing inclines. Right: Wrong position.

11 Noise and vibrations

11.1 Noise and vibration declaration

DECLARED NOISE EMISSION VALUES	Drilling , free field
A-weighted sound power, L_{WAd} (reference 1 pW) in decibels **(declaration for single values)** Uncertainty, KpA 6 decibels	130
A-weighted emission sound pressure level L_{pA} (reference 20 µPa), measured in decibels at 1 m distance. **(dual-number declaration)**	105 ± 6

The values were determined in accordance with the sound test code in EN 16228 based on the basic standards ISO 3744, ISO 11201 and ISO 11203 (at 1 metre distance, free field, remote control, service) and ISO 2631-1.

Dual-number

The declared noise emission values are, when they are combined, the sum of measured values and uncertainty. They represent an upper limit of the range, in which measured values are likely to be included.

Single values

The sum of a measured value and of the associated uncertainty represents an upper limit of the range, in which measured values are likely to be included.

! ***NOTE:*** *The sound power is equivalent to the guaranteed sound power level referred to in 2000/14/EC for drill rigs intended for surface applications. Acoustics - Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

11.2 Declared Values

These declared values were obtained by testing in accordance with the stated standards and are suitable for comparison with the declared values of other machines tested in accordance with the same standards. These declared values are not adequate for use in risk assessments and values measured in individual work places may be higher. The actual exposure values and risk of harm experienced by an individual user are unique and depend upon the way the user works, reflections from walls, road conditions, as well upon the exposure time and the physical condition of the user.

Atlas Copco cannot be held liable for the consequences of using the declared values, instead of values reflecting the actual exposure, in an individual risk assessment in a work place situation over which Atlas Copco has no control.

This machine can affect health adversely due to whole-body vibration and noise if its use is not handled correctly. An EU Guide on the management of vibration is available in ISO/TR 25398 and hearing protectors in EN 458.

Atlas Copco recommend a programme of health surveillance to detect early symptoms which may relate to vibration and noise exposure, so that management procedures can be modified to help prevent future impairment.

11.3 Risk assessment, noise

Factors that could reduce the risk from the noise levels:

- Select correct ear protectors or plugs see EN 458.
- Carry out maintenance on the ear protectors regularly (half yearly replacement of seals)
- Goggles and spectacles will reduce effect of the ear protectors use helmet goggles or ear plugs instead.
- Insert the ear plugs properly (wrong size or incorrect insertion can reduce the damping effect).
- Take into account the higher noise level due to acoustic reflections from walls and roof in the calculation. This can be between 1 to 12 dB higher, depending on:
  - if the machine has cabin or canopy
  - the size (height and width) of the mine drift/tunnel
  - The characteristics of the noise source
  - the rock's acoustic absorption factor in the mine/tunnel
  - low-frequency noise levels during the tramming of machines with canopy underground
- Working hours.
- Breaks and quiet areas

Higher levels of noise than stated in this manual are likely to occur:

- when working underground
- during drilling in harder rock compared to the test site.
- during the removal of drill steel or drill bit by means of percussion drilling.
- during the use of compressed air to clean rock surfaces etc.

Noise can result in:

- permanent hearing loss
- tinnitus
- fatigue and stress
- balance problems
- poor attention
- impaired ability to communicate
- impaired ability to perceive acoustic signals

Notes on the combination of noise and other factors:

- Vibration and noise in combination can cause higher health risks.
- Exposure outside working hours could increase the risk of noise injury.
- Sensitive (e.g. pregnant) people and those already with impaired hearing may need protection at lower levels.
- Exposure to ototoxic substances and noise may increase the risk of hearing damage (even under 80 dB). For example; styrene, toluene and xylene, and certain solvent mixtures are ototoxic. Certain fuels such as kerosene and certain metals such as mercury and lead, have also been proven to be potentially ototoxic.

11.4 Risk assessment, vibration

Factors that affect whole-body vibration primarily consist of hardness in the rock, machine anchorage and vibration-related conditions at the local worksite.

For more information about how to combat the vibration levels at your worksite, see ISO/TR 25398.

Guideline for reducing vibration levels during use:

- Use the proper type, size of machine with optional equipment and attachment/tools for the task.
- Drill rigs are not intended for the transport of personnel, use appropriate vehicles for this purpose.
- Keep the ground in good condition:
  - Remove larger stones and obstacles.
  - Fill holes and ditches.
  - Provide machines and schedules time in order to maintaining the condition of the terrain.
- Adjust speed and operation, and chose suitable routes to minimise vibration levels.
  - Reduce speed in rough terrain.
  - Drive around obstacles and uneven ground.
- Minimise vibration during long work shifts:
  - Follow the instructions for drilling method and work area.
  - Adapt the power and rotation energy in order to avoid unnecessary wear on the drill bit.
- Other risk factors may also be cause back pain. They can be reduced by;
  - Make sure there are good seating options and sitting positions at the control station.
  - Provide breaks to reduce long periods of sitting.
  - Avoid jumping from down from the machine.
  - Minimise repeated handling and lifting of heavy objects.

12 Declaration

12.1 EC - Declaration of conformity

! ***NOTE:*** *Only applies to rigs delivered within the EU.*

12.1.1 Individual machine and safety components

We, Atlas Copco Rock Drills AB, Örebro, Sweden, declare that the machine to which this declaration relates is in conformity with demands specified in the Council of the European Union Directive 2006/42/EC of 17 May 2006.

12.1.2 Other applicable directives

- 2004/108/EC Electromagnetic Compatibility (EMC)
- 2000/14/EC, Annex V Noise emission in the environment by equipment for use outdoors

12.1.3 Harmonised standards which have been applied

- EN 16228 Drill rigs - Safety

12.1.4 Issuer

The issuer's signature, position, place and date of issuance will be found on the original.

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