OPERATOR SAFETY GUIDE

Applicability

Model ranges : CHR - EUROLOHR - MULTILOHR - MAXILOHR - SHR - SRTC - TALE

In order to permit the improvement of the products, LOHR AUTOMOTIVE and the manufacturer of the vehicle reserve the right of modification of equipments which are described in this user's manual.

The "ORIGINAL" user's manual has been edited in FRENCH language.

The other languages are translations of the "ORIGINAL" language

You can get the "ORIGINAL" document on simple request.

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WARNING

This user's manual includes important safety instructions and safety rules for the use of this equipment for the transport of vehicles.

The operators who are charged with the operation of this equipment have to be trained in the operation, and they must observe the safety instructions.

This user's manual includes :

- **the general safety rules applying to all model ranges of equipments for the transport of vehicles.**
- **the operation of the equipments, accessories and options which may exist on several model ranges of vehicle transporters.**

Information of these first two sections is completed by two sections dealing with the equipments and specific platforms of :

- **the body.**
- **the trailer.**

SUMMARY

SYMBOLS USED :

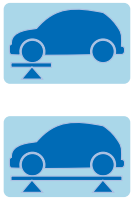
this symbol indicates the operation to be performed by the operator.

This symbol indicates a specific danger.

This symbol indicates a comment.

Shows the maximum weight applicable to a transportation unit.

Maximum permissible value on the unit. Refer to chapter "loading limits" for additional information on the vehicles loading dispatch and weight distribution.



Indicats a lifting capacity maximum.

Locked mechanical element

Unlocked mechanical element

Operation OK.

Operation not OK.

Travel direction of the rig (forward).

Travel direction of the rig (backward).

Special prescription for protection of environment.

Use and (or) load requirements as detailed in Part 3 "general instructions."

LEXICON

ABS / ABR / EBS :..... Anti-wheel locking device (braking).

Body : ..... Structure added to the lorry chassis.

Cap :..... Section located above the lorry cabin.

Rig :..... Assembly which is formed by a lorry, a body and a trailer.

Distributor : ..... Hydraulic control device.

Stacker : ..... Articulated platform with hydraulic and/or mechanical controls.

Complement :..... Set of accessories and tools provided with the rig.

Recess :..... Housing in the surface of a platform for equipment designed to lower the load.

Lifting gantry : ..... Sub-unit including the left and right parts of a hydraulic lifting system, using cable, screw or scissor system.

Power take-off : ..... Hydraulic pump mechanical jaw clutch system for pressurizing the hydraulic circuit.

Extension :..... Element fastened by hooks, used to further extend an extension or ramp.

Fifth wheel : ..... Articulated metal base including the coupling mechanism.

Loading ramps : ..... Removable access ramp for loading from ground level.

Valve : ..... Pneumatic or hydraulic control device.

Built-in extension :..... Sliding part located at the end of a platform.

Platform : ..... Surface (fixed or mobile) used for loading and moving vehicles.

Kingpin : ..... Metal bolt, built into the body, used for coupling the tractor.

Stacker ramp : ..... Inclined ramp resting on jacks. This is used to tilt part of a vehicle for stacking above the one in front of it.

OPERATOR SAFETY GUIDE

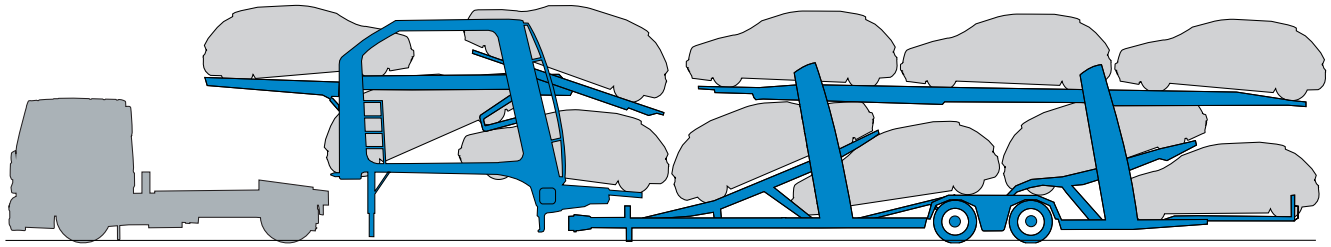
1.

THE RANGES OF VEHICLE TRANSPORTERS

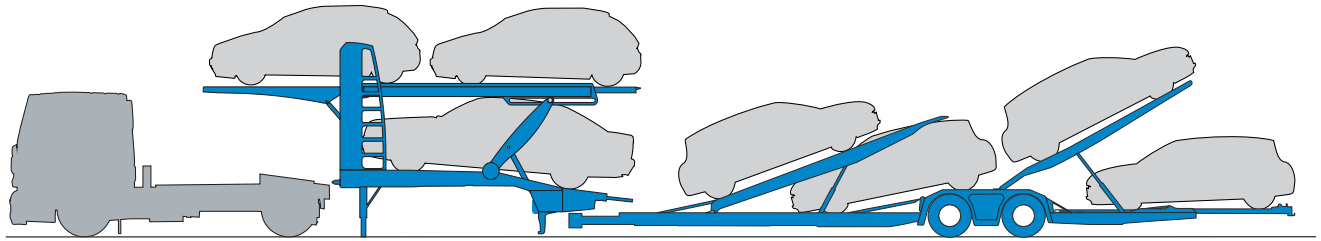
General instructions

1.1. THE RANGES OF LOHR VEHICLE TRANSPORTING EQUIPMENTS

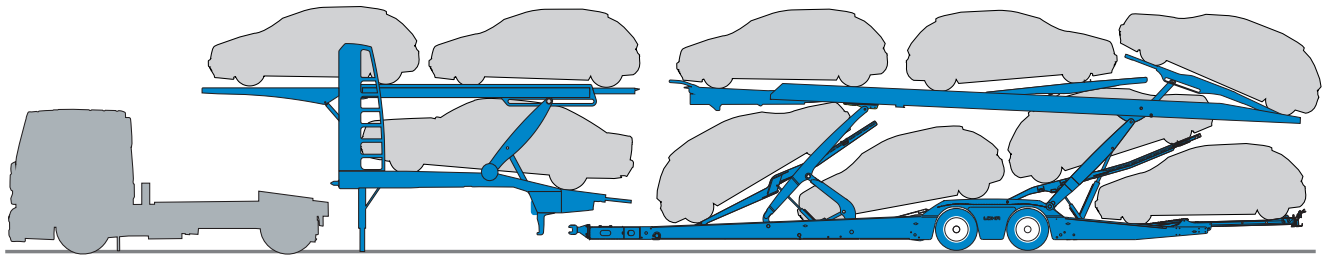
1.1.1. VEHICLE TRANSPORTER WITH REMOVABLE BODY EUROLOHR 100 / 200 / 300 / EUROTALE (EHR)



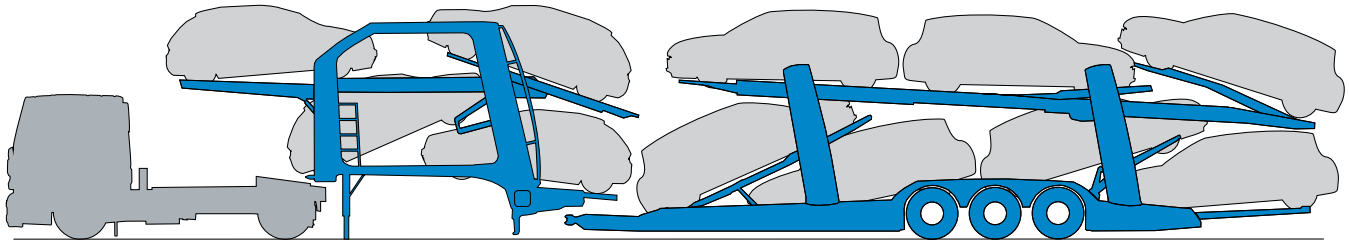
EUROLOHR 100



EUROTALE



EUROLOHR 200



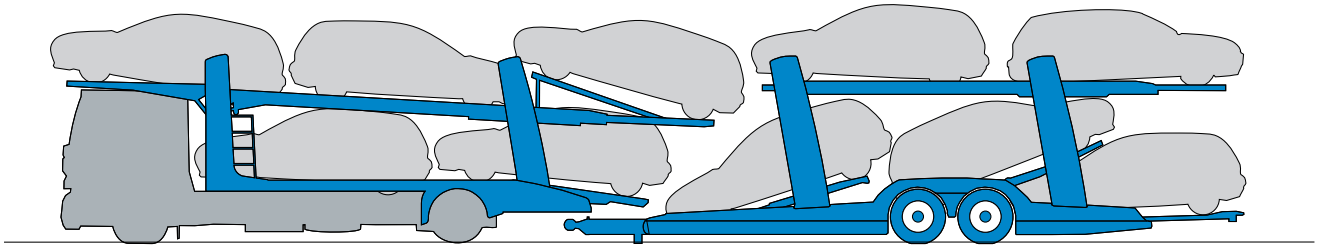
EUROLOHR 300

Rigs consist of a lorry which is equipped with a removable body and a trailer with central axles (2 or 3 axles), permitting an optimized loading of vehicles.

Vertical mobility of platforms is ensured by different types of lifting.

Rigs of the Eurolohr range are specially designed for transport of cars and light utility vehicles.

1.1.2. CAR TRANSPORTER WITH FIXED BODY CHR

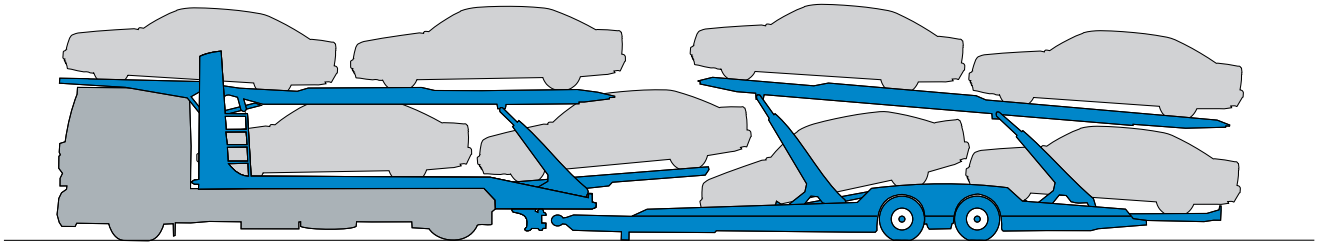


This rig is equipped with a non-removable body,towing a trailer with 2 central axles.

Vertical mobility of platforms is ensured by different types of lifting.

Rigs of the CHR range are specially designed for transport of cars and light utility vehicles.

1.1.3. CAR TRANSPORTER WITH FIXED BODY MULTILOHR (MHR)

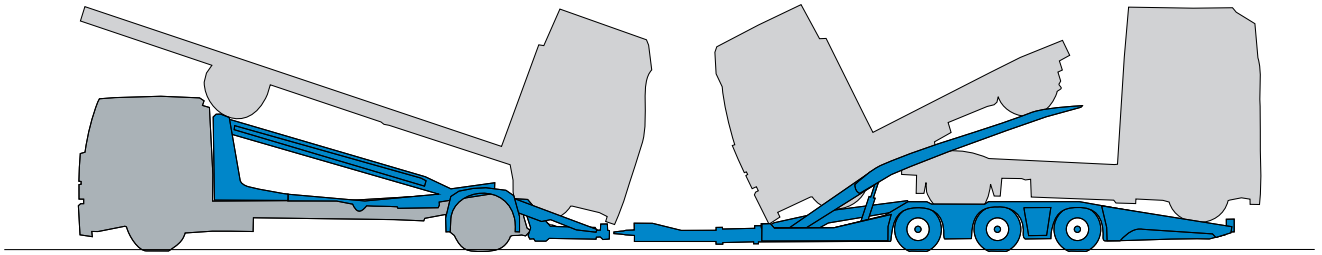


This rig is equipped with a non-removable body,towing a trailer with 2 central axles

Rigs of the MULTILOHR range are serving for multiple purposes, they are designed for transport of light vehicles, utilitary vehicles and of cab chassis.

Vertical mobility of platforms is ensured by different types of lifting.

1.1.4. HEAVY TRANSPORTS MAXILOHR

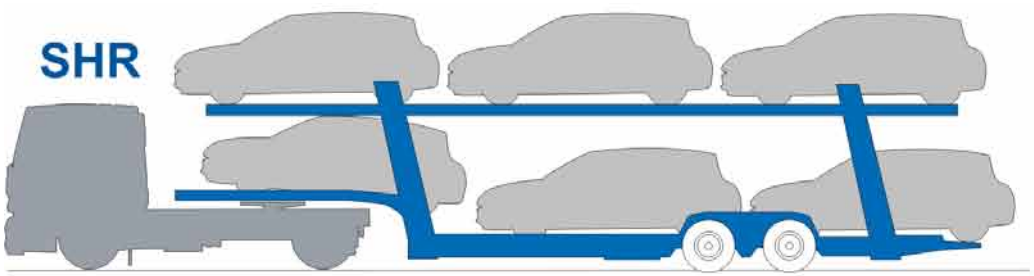


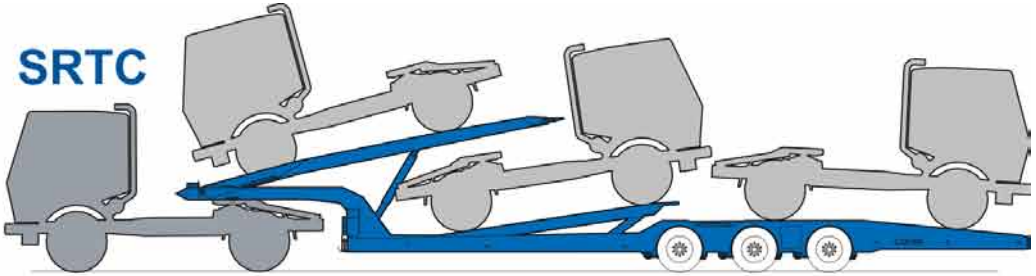
This rig is equipped with a non-removable body,towing a trailer with 3 central axles.

Rigs of the MAXILOHR range are sufficiently dimensioned for the transport of trucks, but they permit also the efficient transport of light vehicles.

1.1.5. SPECIFIC TRANSPORTS

The LOHR range is completed by specific vehicles for more specialized uses such as the semi-trailers SHR and SRTC, caravan transporters TALE, non removable bodies MHR300 SOLO and confidential tarp-covered trucks





OPERATOR SAFETY GUIDE

2.

ELEMENTS OF BODY AND LIMITS OF USE

General instructions

2.1. COMPONENTS OF THE BODY OF THE TRACTOR AND OF THE TRAILER

The composition of the transport equipment varies depending on the model and the type of rig.

In general, it includes (from the front side to the back side) :

- A cap.
- A lower platform of the tractor.
- An upper platform of the tractor.
- A lower platform of the trailer.
- An upper platform of the trailer.
- One or more extension(s).

2.1.1. CAP

This is the part of the body which is located upon the cab of the truck, the cap permits to position one vehicle partially upon the cab.

The cap may be lifted hydraulically by a manual pump, in order to permit the tilting of the tractor's cab, this function is only designed for the maintenance or repair works and must not be used during operation.

Depending on the version, the cap may be equipped with :

- fixed tracks in perforated plate.
- manual or hydraulic mobile elements.

The cap does not permit loading of a car when the upper platform of the tractor is in low position, except in the MULTILOHR range, equipped with a standard cap : ''VL'' kit (Option). The lifting of the "VL" kit is operated manually on the range "MULTILOHR 200", and it is connected to the main hydraulic generator on the range "MULTILOHR 300".

2.1.2. LOWER PLATFORM OF TRACTOR

The "low" loading level of the tractor's body; depending on the version it may include (manually or hydraulically) retractable cavities, manual or hydraulic extensions on the rear side, a hydraulic stacker on the rear side. Its loading capacity varies depending on the versions and equipments.

2.1.3. UPPER PLATFORM OF THE TRACTOR

The "upper" loading level of the tractor's body; depending on the version it may consist of mobile cavity blocks, with one or more stackers and manual or hydraulic rear extensions.

Depending on equipment, the vertical mobility may be ensured by different lifting systems (see chapter lifting systems).

2.1.4. LOWER PLATFORM OF THE TRAILER

The "low" loading level of the trailer; depending on the version it may be quite simple or consist of several mobile parts (stackers, extensions) which can be put in flat position for the passage of vehicles, or in other positions, depending on the different transport configurations.

The lower rear extension permits in general the housing of the loading tracks, except for the rigs MAXILOHR.

2.1.5. UPPER TRAILER PLATE

The "upper" loading level of the trailer; depending on the version it may be quite simple or consist of several mobile parts (stackers, extensions) which can be put in flat position for the passage of vehicles, or in other positions, depending on the different transport configurations.

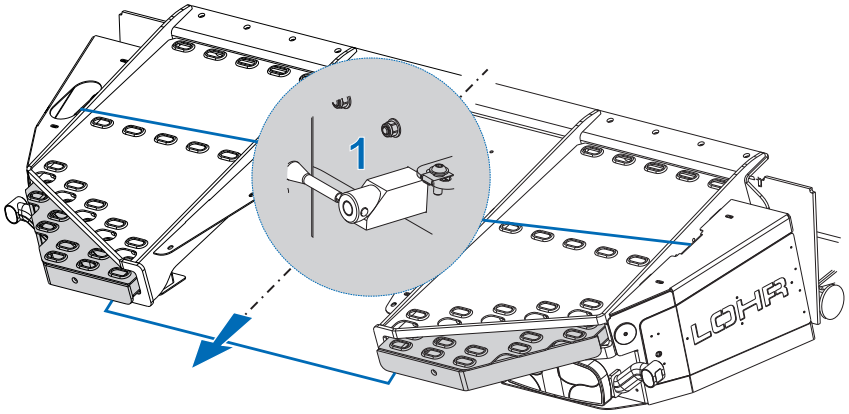
It may be equipped with manual and hydraulic front and rear extensions. On certain models, the whole platform can be translated forward or backward.

Before moving vehicles on the platforms, make sure that the mobile parts are placed and locked in a way that driving of vehicles is possible without risk.

Guardrails must be mounted in order to walk on the platforms

2.1.6. MANUAL EXTENSIONS

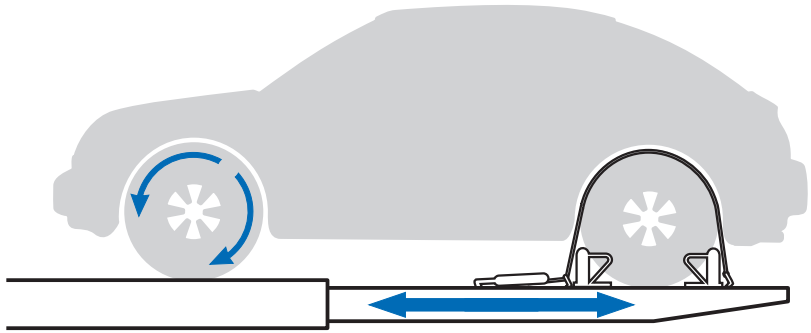
Manual extensions are maintained by locks(1).



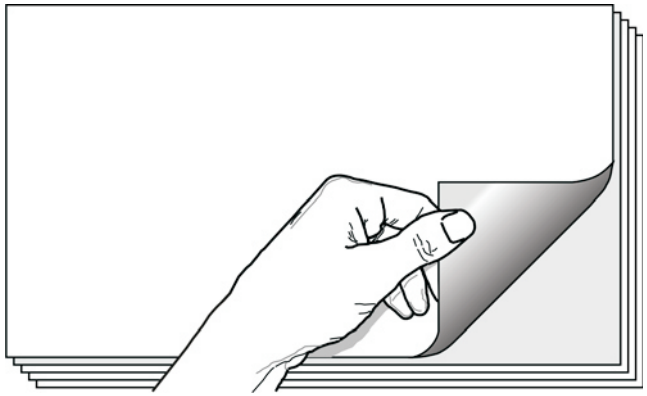
The locking of the manual extensions is obligatory for the passage and the transport of vehicles.

2.1.7. HYDRAULIC EXTENSIONS

The extensions are used for adjusting under load



In case of changing the position of extension under load, the axle located on the moving part must be rigged so that the axle located on the plate must be left free to rotate (neither handbrake, nor gear engaged).



2.2. LIMITS OF USE

The limits of use of your equipment are imposed, partly by legislation in the country where it is used (load, maximum height and width, speed, etc. ...), and partly by technical restrictions defining the positioning of loads on the platforms (for example).

The carrier alone is responsible for respecting traffic regulations defined in the highway code for the countries crossed. The equipment is adequate to ensure that these rules are kept and the manufacturer cannot be held responsible in the event of incorrect use.

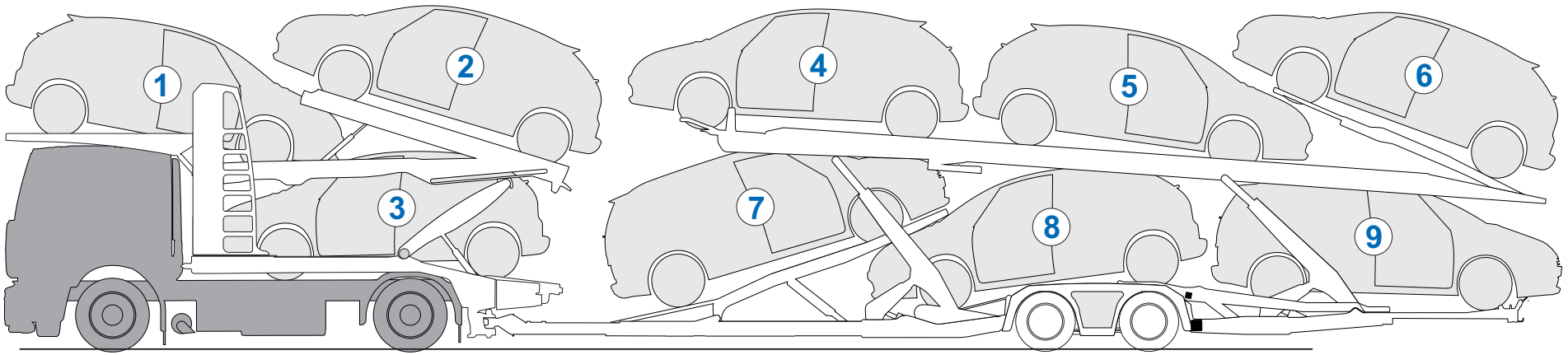
2.2.1. LIMITS AND DISTRIBUTION OF LOADS

For heavy localized loads, it may happen that the maximum payload for the equipment cannot be reached.

2.2.1.1. Payload

The payload is the maximum carrying capacity of your equipment. It varies with the type and version of rig and can only be reached if the maximum loads for each platform are respected. Please contact us for the positioning of loads which are more important than the weight indicated in the detailed charts in the chapters body and trailer.

Limits of load for a rig EUROLOHR 2.53 W XST (example)



1		**Load limits** -	**2000 kg**
2		**Load limits** -	**2200 kg**
3		**Load limits** -	**2200 kg**
4		**Load limits** -	**2600 kg**
5		**Load limits** -	**2600 kg**
6		**Load limits** -	**2200 kg**
7		**Load limits** -	**2200 kg**
8		**Load limits** -	**2600 kg**
9		**Load limits** -	**2600 kg**

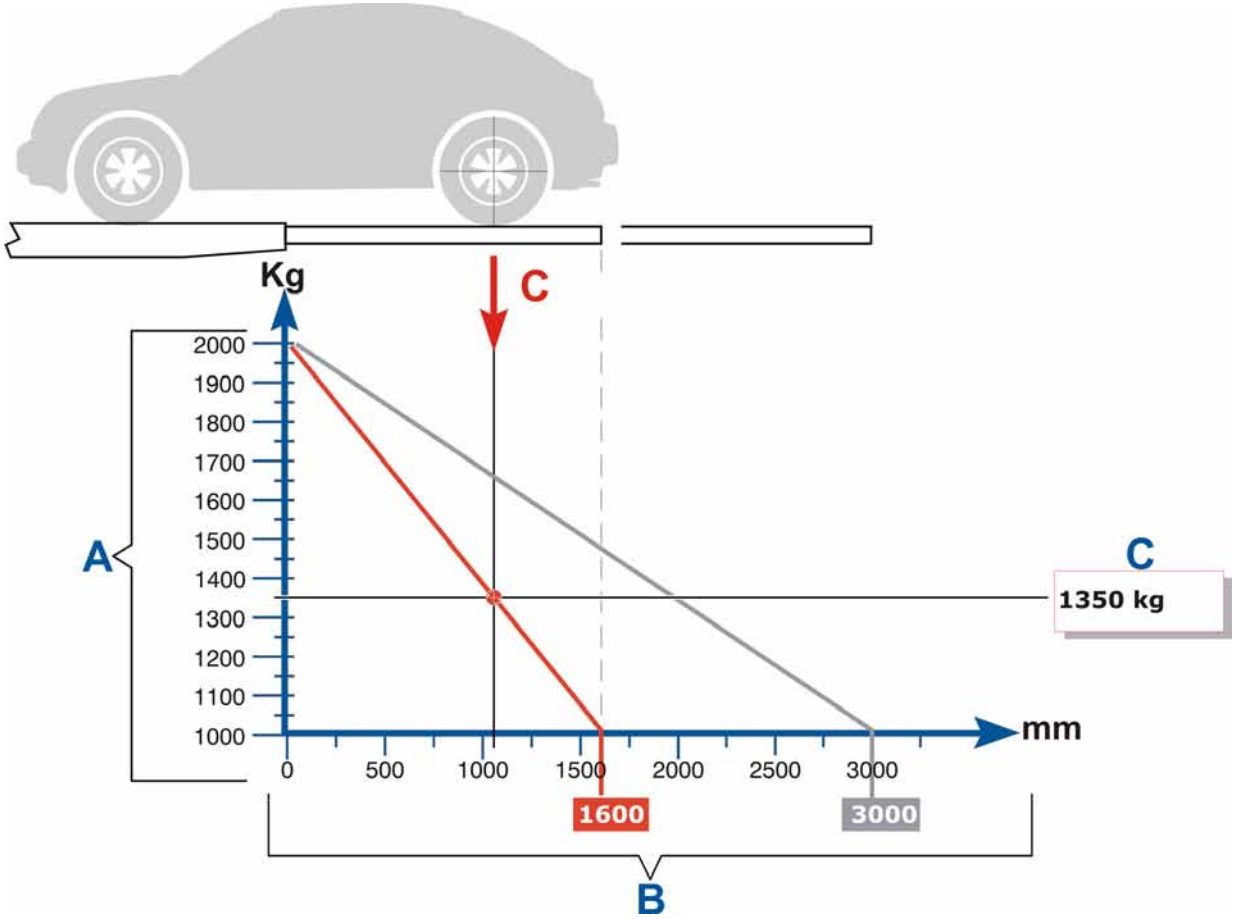
The maximum loads applying to your equipment are indicated on the operation labels of the hydraulic distributors and also in the chapters body and trailer.

2.2.2. POSITIONING OF LOADS

Better load balancing (comfort, road holding) will always be obtained by recentering and lowering the loads on the trailer and the lorry as much as possible, in order to obtain the lowest centre of gravity possible. This remark is particularly important for partial loads

The canopy should not be used alone if the rest of the vehicle is not loaded. Loading the trailer must not give rise to a negative load on the body. To guarantee optimal road-holding, it is strongly recommended to position the payload as far as possible on the body.

2.2.3. MANUAL AND HYDRAULIC EXTENSIONS



The extension travel varies according to versions and equipment. For all loads, the extensions and vehicles at either end of the rig must comply with the highway code for the country in which the equipment is used.

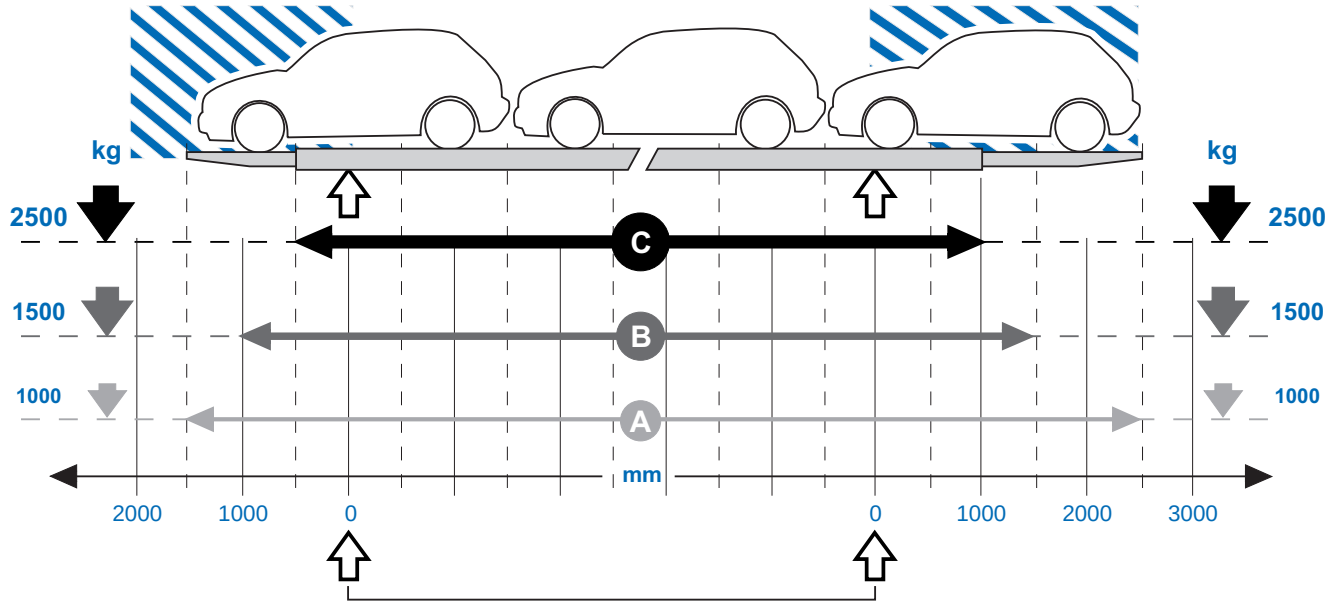
For a transport, the load may be placed at the end of the extension or on any other point, always it is important not to exceed the values of the chart above.

2.2.4. POSITIONING OF LOADS

To run a vehicle over a fully-deployed extension, the load per axle must not exceed 1500 kg (a load greater than 1500 kg is possible, contact us).

Always leave enough space between the vehicles and the body / trailer extensions for the rig to be able to turn freely.

2.2.5. POSITIONING OF LOADS ON THE UPPER PLATFORMS



C	Range for the positioning of loads up to 2500 kg per axle.
B	Range for the positioning of loads up to 1500 kg per axle.
A	Range for the positioning of loads up to 1000 kg per axle.
⇧	SUPPORT POINT OF THE LIFTING SYSTEM
▨	Zone not to be used for the single unit transport (rest of platform remaining empty).

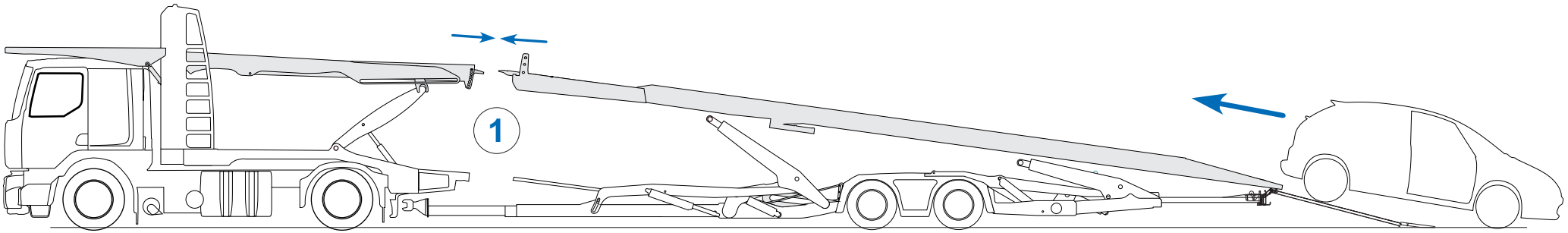
2.3. LOADING PRINCIPLES

It is imperative that the loading site safety rules be fully respected..

In the absence of particular rules with regard to the wearing of personal protective equipment and signaling, the loader must at least wear gloves and with safety shoes.

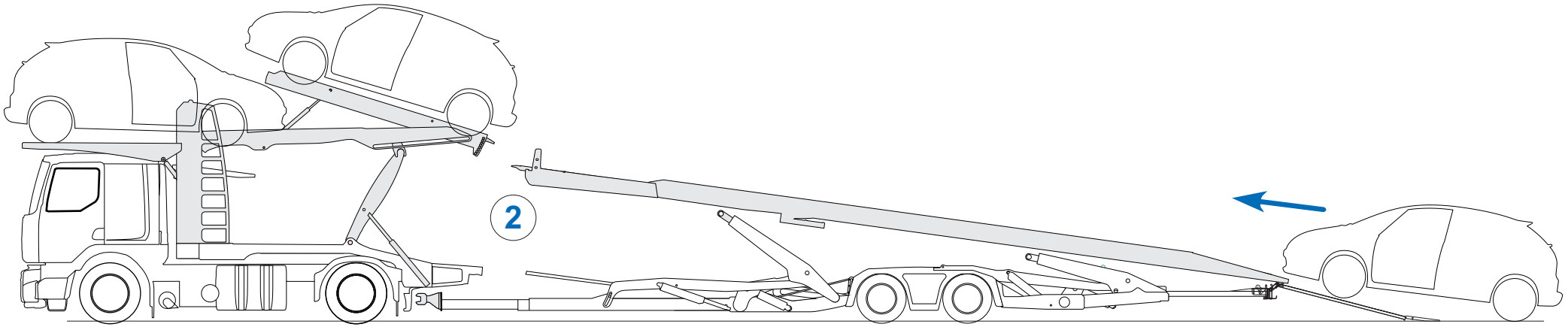
The loading area and the surrounding zone are prohibited to unauthorized persons, this zone must be supervised by the loader.

2.3.1. PREPARATION FIG.1



- Check the park brake of the lorry and the trailer.
- Deflate the suspension of the trailer.
- Deploy the lower rear extension Depending on the type of equipment, version and option.
- Place the loading tracks.
- Establish the upper and lower connection lorry/trailer.
- Make sure that there is no obstacle on the tracks (straps, wedges, extension etc.).

2.3.2. POSITIONING AND LOADING OF THE VEHICLE (UPPER PART) FIG.2



2.3.2.1. Loading on the cap. (Depending on the type of equipment, version and option).

- Position the vehicle against the wedge in front of the cap.
- Place a wedge at the back of the cap.

2.3.2.2. Loading on the upper platform. (Body)

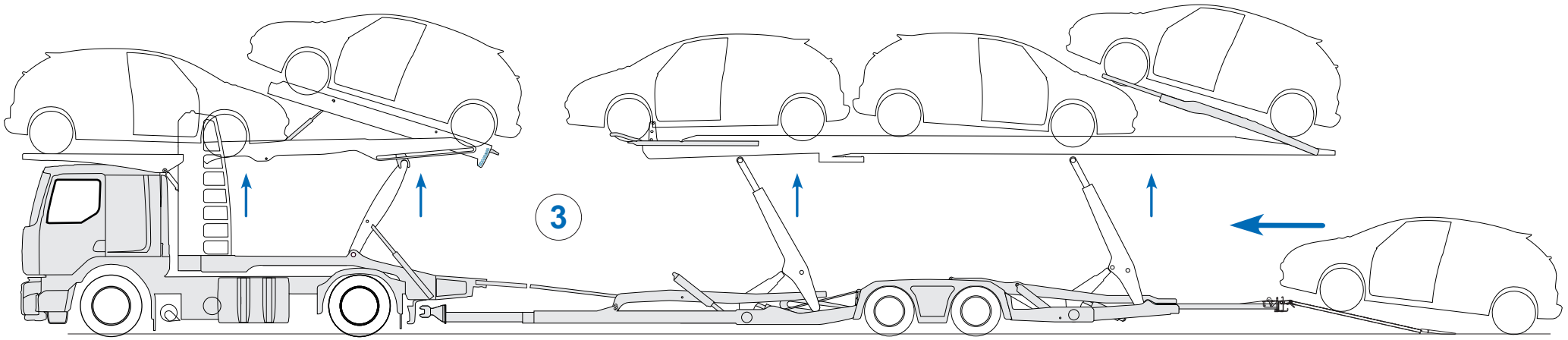
- Slide back the sliding platform in case of need. (Depending on the type of equipment, version and option)
- Loading of 1 or 2 cars Depending on the type of equipment, version and option.
- Place the wedges in order to block the vehicles.
- Lower the upper platform at man height, wedge and strap the vehicles.
- Vehicles to be wedged and strapped in compliance with the manufacturers standards and current regulations.
- Accede to the upper part of the body using the ladder and fasten the vehicle on the cap.
- Lift the upper platform.

2.3.2.3. Loading on the upper platform. (Trailer)

- Loading of 3 or 4 cars Depending on the type of equipment, version and option.
- Place the wedges in order to block the vehicles.
- Lower the upper platform at man height, wedge and strap the vehicles.

2.3.3. POSITIONING AND LOADING OF THE VEHICLE LOWER PART FIG.3

Lift the upper platform for the loading on the lower platform.



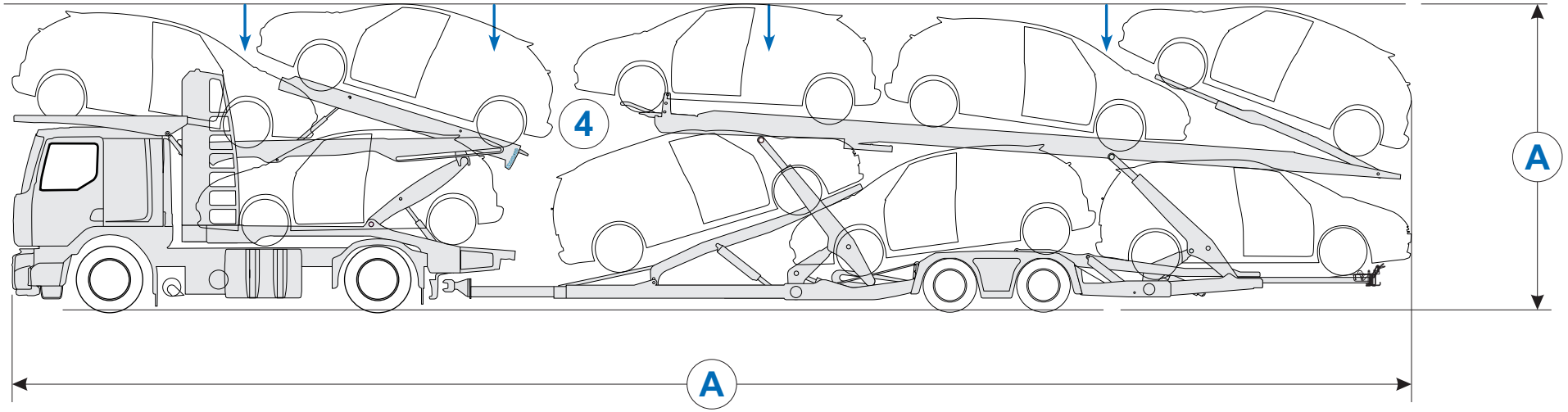
2.3.3.1. Body

- Loading of 1 or 2 cars Depending on the type of equipment, version and option.
- Place the wedges in order to block the vehicles.

2.3.3.2. Trailer (Depending on the type of equipment, version and option)

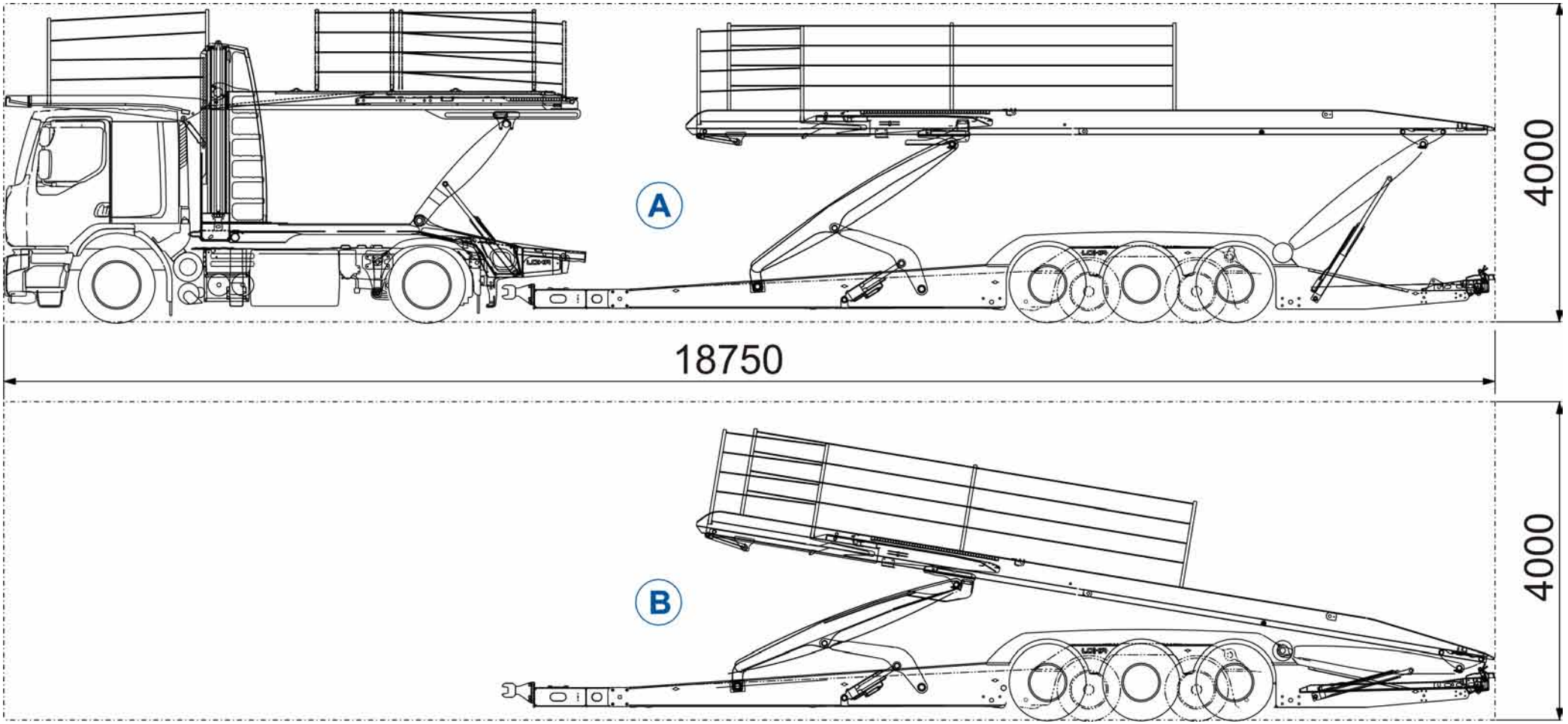
- Loading with the front stacker.
- Vehicles to be wedged and strapped in compliance with the manufacturers standards and current regulations.
- Lifting of the vehicle.
- Loading of the rear stackers Depending on the type of equipment, version and option.
- Place the wedges in order to block the vehicles.
- Loading on the rear extension Depending on the type of equipment, version and option.
- Place the wedges in order to block the vehicles.
- Vehicles to be wedged and strapped in compliance with the manufacturers standards and current regulations.

2.3.4. ADJUSTMENT AND CHECK BEFORE TRANSPORT (FIG.4)



- adjust the final loading and check the securing points before departure.

2.3.5. DRIVING WITHOUT A LOAD (EUROLOHR)



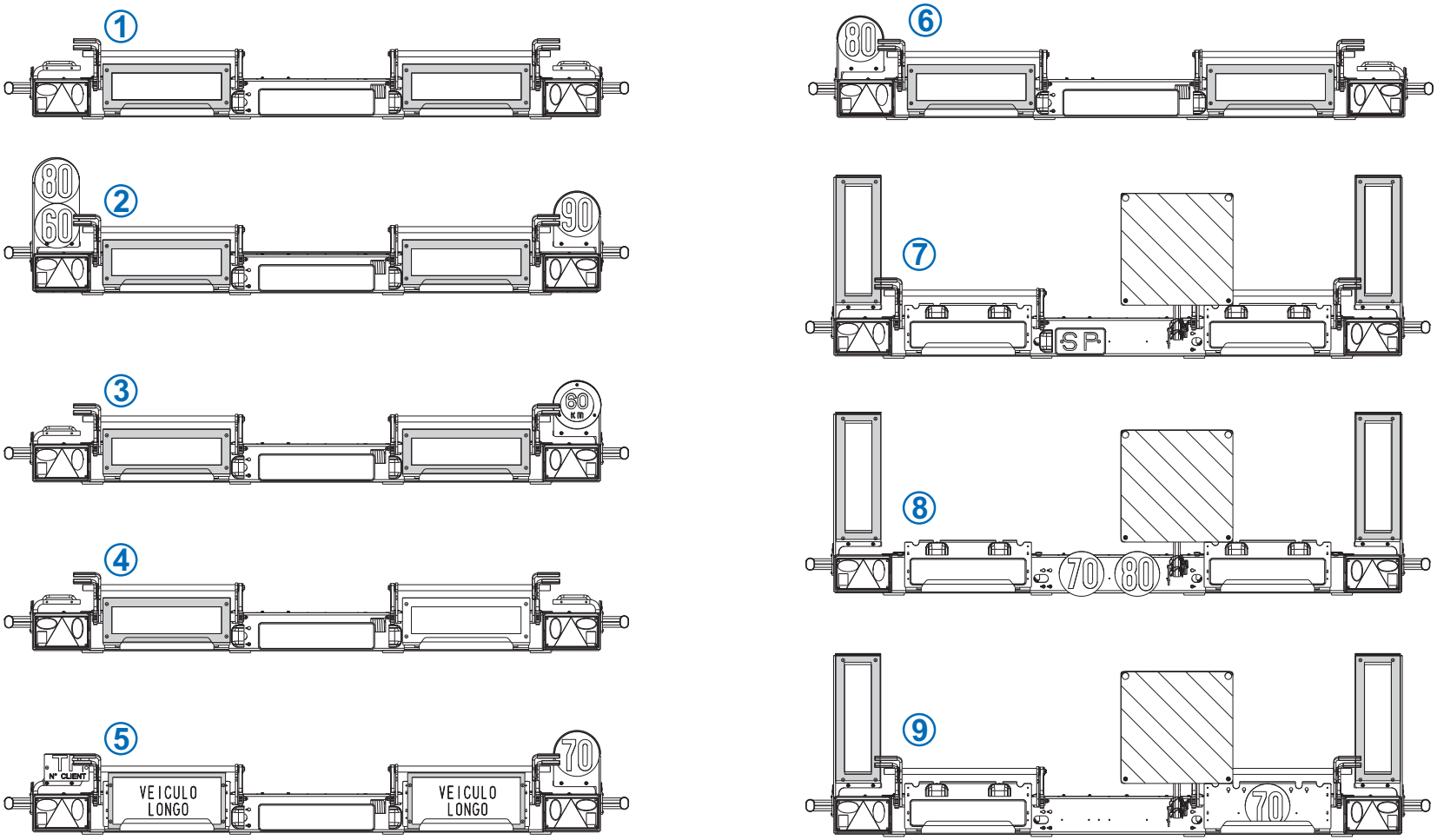
A : maximum size allowed when driving without a load.

B : suggested unloaded driving position.

2.4. REGULATION SPECIFIC TO VEHICLE TRANSPORT

2.4.1. SPECIFIC SIGNALING OF THE RIGS

Rigs are equipped with a specific signaling board which is complying with the national regulations of the country



Country code	
1	Germany ;Norway ;Estonia ;Hungary ;Latvia ;Lithuania ;Poland ;Romania ; Russia ;Slovakia ;Ukraine ;Bulgaria
2	France
3	Belgium
4	UK
5	Portugal
6	Czech
7	Spain
8	Italy
9	Slovenia

2.4.2. LENGTH OF LOAD

Check if length and height(A)of load is complying with national regulations of the country.
Certain dimensions are subject to special authorizations.

Check if the masses (GVWR of tractor, GVWR of trailer, maximum load on axles, GCWR) of the load are complying with national laws of the country.
Certain masses are subject to special authorizations.

see document in annex

OPERATOR SAFETY GUIDE

3.

MARKING OF THE EQUIPMENT

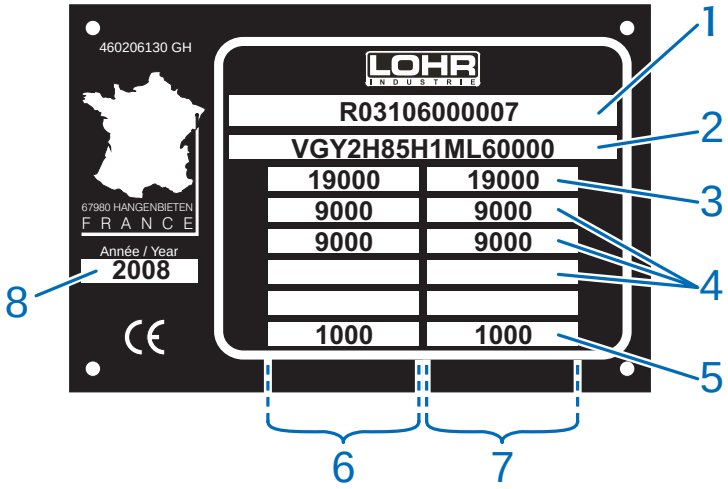
General instructions

3.1. MARKING OF THE EQUIPMENT

3.1.1. Identification of the vehicle

The identification of the vehicle is shown on the identification plate of the manufacturer. This marking must always be legible and in good condition.

Details of marking below.



Ind	Definition of marking
1	Acceptance n°
2	N° ID of the vehicle
3	Maximum mass with authorized load
4	Maximum mass with authorized load for each axle
5	Maximum mass on coupling
6	Technically permissible masses
7	Authorized masses in the country of acceptance of the vehicle
8	Year of manufacture of the vehicle

3.1.2. Operator's marking

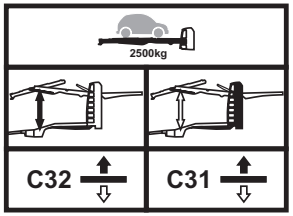
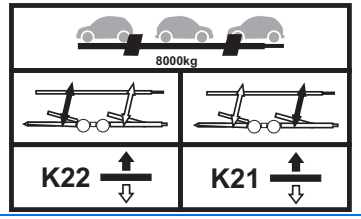
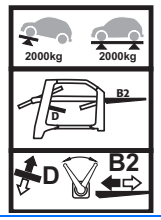
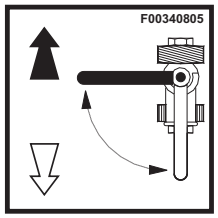
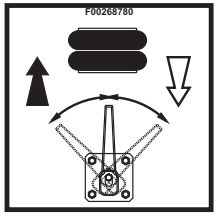
The markings of the operator are pictographs or marks placed on the rig in order to permit its use. This marking must always be legible and in good condition.

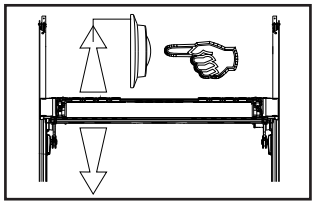
These pictographs indicate :

- prohibitions (do not walk in this zone).
- dangers, safety of operator (electric danger, risk of falling).
- hydraulic, pneumatic and electric functions.
- products to be used for the correct functioning of the equipment.

A few examples in the chart below (list not exhaustive).

Marking	Definition of marking	Marking	Definition of marking
Prohibiting labels			
	Risk of hand injuries (movement of platforms and extensions).		Prohibition to walk on the zone where the label is placed.
Labels of dangers and safety			
	Reminds to observe the maximum steering angle.		Risk of falling. Certain rigs are equipped with removable elements on the platform, generating the risk of falling. Zones are delimited by yellow and black stripes

	Risk of crushing injuries of hand.		Clamping of fastening devices and safety devices (wheel nuts, towing hook and coupling end). A periodical control of clamping is necessary.
Labels of hydraulic, pneumatic and electric functions			
	Label for the operation of hydraulic functions of the truck.		Label for the operation of hydraulic functions of the trailer or semi-trailer.
	Label of hydraulic operation with selection valve. For operating one of the functions, the operator has to switch the selection valve, in this case to the left for the platform D and to the right for the front fairing B2.		Use the hydraulic manual pump in order to operate the front fairing.
	Pneumatic valve for the inflation of bellows.		Pneumatic valve for the adjustment of the trailer's suspensions.

	Electric control Readjustment of the transversal level of the platform		
Product labels			
	Biodegradable oil		Very cold weather hydraulic oil

OPERATOR SAFETY GUIDE

4.

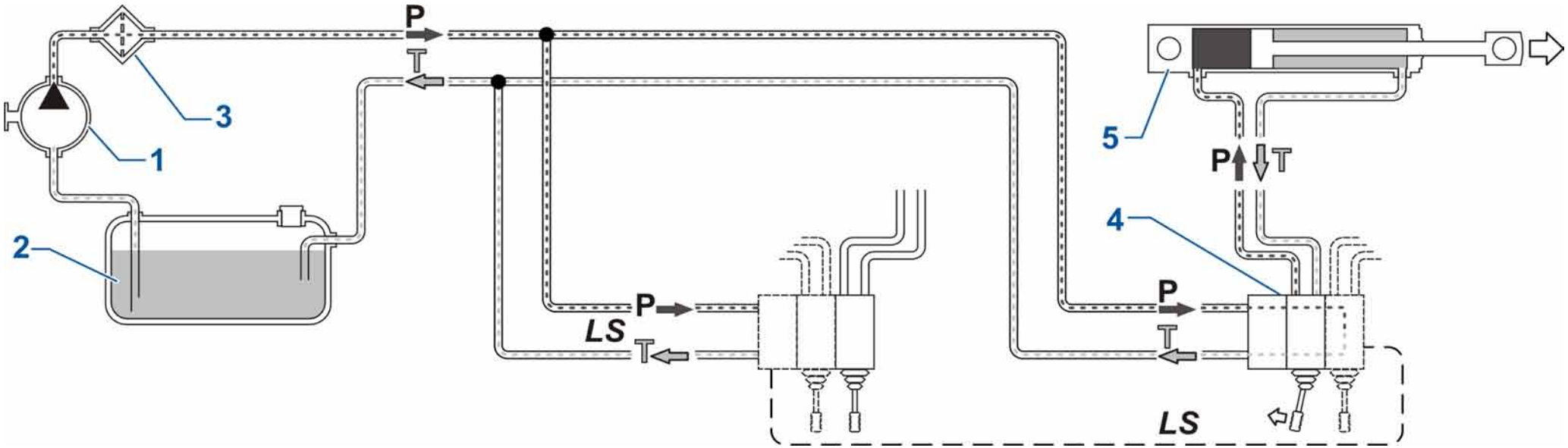
HYDRAULIC EQUIPMENT

General instructions

4.1. HYDRAULIC EQUIPMENT

Recover the oil which may be spread during the connection or disconnection of hydraulic lines, by appropriate means (clothes or others)and ensure disposal complying with the rules of environmental protection.

4.1.1. OPERATING MODE OF THE HYDRAULIC CIRCUIT



4.1.1.1. General information

Depending on the rig, the energy which is needed for the operation of the hydraulic pump (1) is supplied by :

- The motor of the truck via a power take-off
- An electro-hydraulic unit, supplied by the truck, or by an external supply from type battery carriage.

4.1.1.2. Hydraulic generator

The hydraulic oil required for the operation of the circuit is stored in a tank (2). The oil is sucked up and pressurized by a pump (1), supplying the "P" circuit and passing by a replacable cartridge filter (3).

The circuit forms a loop, starting and ending in the hydraulic tank (1). While the pressurized oil is circulating, the distributors (4) permit to direct the supplied pressure to the elements to be moved, the cylinder (5) or the hydraulic motor, depending on the needs. If no function is activated, the oil returns to the tank (2) via the line T.

Protection of hydraulic elements (cylinders, motors)is ensured by pressure limiters, located on the distributors. Pressure limiters are not adjustable.

The running of the hydraulic circuit in loop consumes energy, For this reason, do not run the installation needlessly without using it.

The running of the hydraulic circuit in loop consumes energy. .

4.1.1.3. Particularities of the hydraulic circuit of the Eurolohr rigs

The circuit of the Eurolohr lorry is not designed for operation while the lorry is uncoupled. The start of the hydraulic pump (activation of power take-off) generates a rapid increase of pressure which may damage the circuit.

4.2. REMINDER ON SAFETY RULES FOR USING HYDRAULIC EQUIPMENT

If used wrongly, or in a poor condition, the hydraulic circuit can cause equipment to fail, but also damage the payload, or even bodily accidents. In this respect, compliance with certain rules is required.

4.2.1. STARTING THE FACILITY

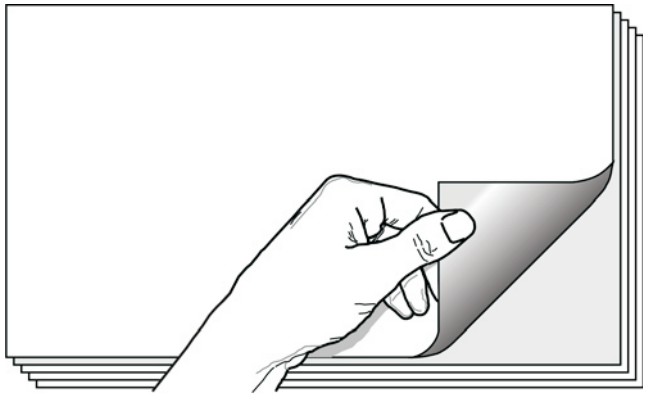
Before triggering the power take-off, always check the hydraulic controls.

Check that :

- The distributor levers are in the neutral position.
- Nothing interferes with hydraulic controls (distribution levers).
- No object in contact with the levers can cause the rig to move when starting the facility.

4.2.2. OPERATION

- Never block the distribution levers.
- Handle controls gently to prevent jolting in circuits likely to cause damage.
- When moving platforms or extensions, ensure nobody is located in the path of the moving elements or under the platforms.
- Always follow the path of moving elements to be able to stop the current move at any time.
- Check periodically (every 2 months or 25,000 km) the fastening of hydraulic elements, and more particularly those of the hydraulic distributor.



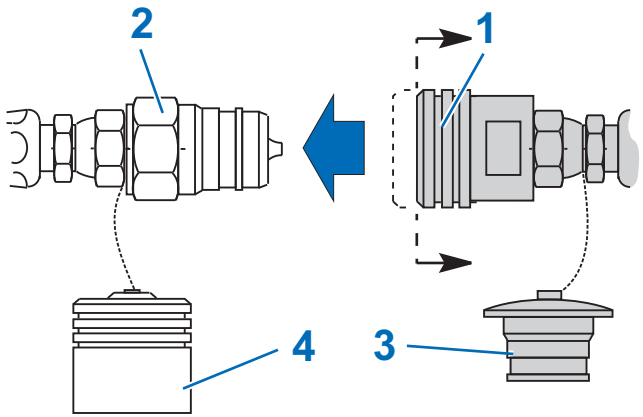
4.3. USING HYDRAULIC EQUIPMENT

4.3.1. HYDRAULIC COUPLERS

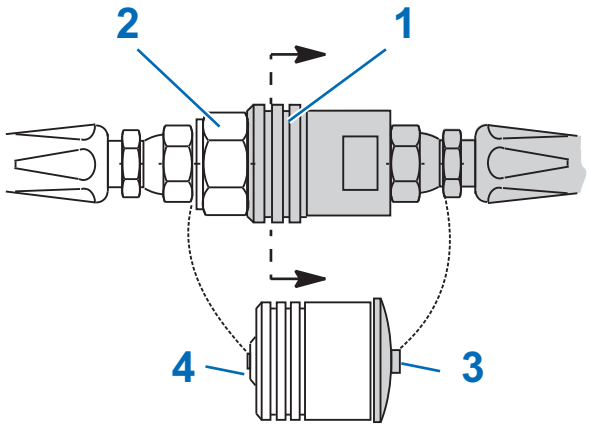
The couplers ensure the connection between the lorry and the body of the rig (or semi-trailer) and from the body to the trailer.

Before connecting the hydraulic couplers, make sure they are clean, to avoid getting dirt into the circuit, which would damage the equipment.

Coupling the circuit



Uncoupling the circuit



1	Female coupling	3	Closing plug of the female coupling
2	Male coupling	4	Closing plug of the male coupling

The positioning of the hoses must permit the steering of the trailer (or semi-trailer) without tension on the hoses and without risk of jamming.

4.3.1.1. Coupling the circuit

Before any work on the hydraulic circuit and mechanisms, it is essential to make sure there is no remaining pressure in the system.

To engage the coupling, pull the outer ring (1) and press the coupler into the opposing coupler

Once the hydraulic coupling is done, pull hard on all the couplers to make sure they are properly engaged.

Link the closing plugs to each other, in order to avoid to damage them and to keep them clean.

4.3.1.2. Uncoupling the circuit

Before any work on the hydraulic circuit and mechanisms, it is essential to make sure there is no remaining pressure in the system

While holding the end of the hose, pull the outer ring on the female coupler (1) to release the male coupler (2)

If the equipment has to remain uncoupled, the couplers must be protected by their caps (3 and 4)

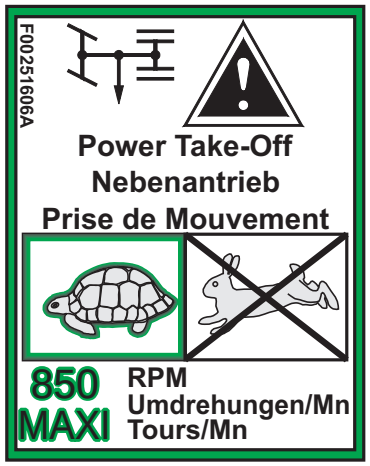
Make sure you don't leave the couplers on the ground.

Recover the oil which may be spread during the connection or disconnection of hydraulic lines, by appropriate means (clothes or others)and ensure disposal complying with the rules of environmental protection.

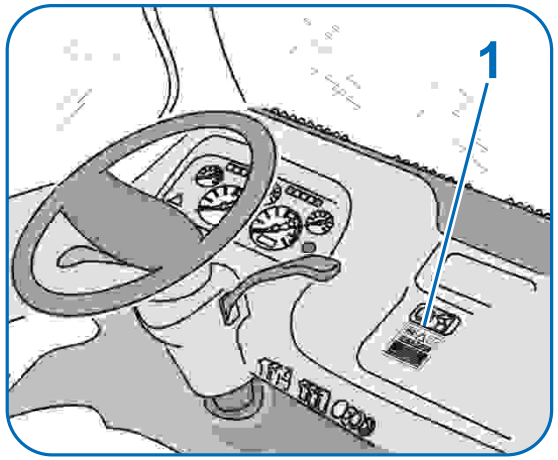
4.3.2. POWER TAKE-OFF

The power take off is used to drive the hydraulic pump via the motor (circuit pressurized). The control of the power take-off device is located in the cab of the lorry. If the control is provided, see the vehicle operating instructions. Otherwise, an electric switch and visual indicator are mounted on the dashboard.

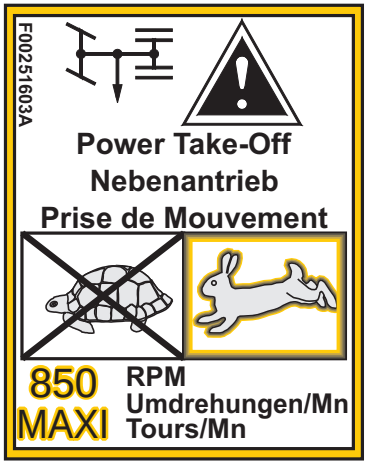
An auto-adhesive label which is placed near the switch, indicates the n° of RPM to be adjusted and also the model range(fast or slow)to be used.



Take-off ratio on slow range



Switch and label (1)



Takeup ratio on fast range

4.3.2.1. Operation

The pump must only be used when the vehicle is stationary, the engine idling and the gearbox set to neutral.

Make sure that the circuit of the trailer is activated

- Declutch and wait for 5 seconds.
- Switch the interrupter, the light is going on.
- Engage the clutch, the circuit is now under pressure.
- Adjust the motor speed to the value indicated on the label.

To reset the power take off to neutral.

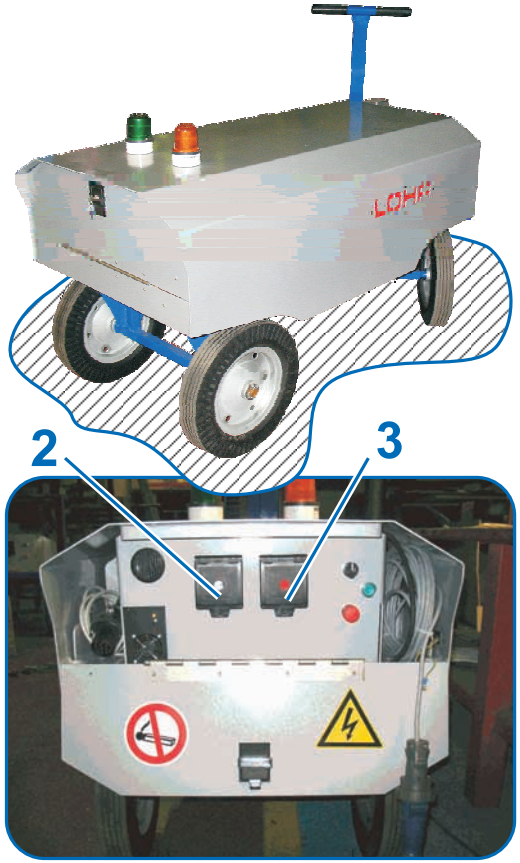
- Declutch, then switch off; the indicator goes out.

Do not engage the power take off before the lorry pneumatic tanks filling/pressure indicator light is off.

4.3.3. ELECTROHYDRAULIC ONBOARD UNIT

If pressure of the hydraulic circuit is supplied by an electro-hydraulic unit (depending on the equipment), power is supplied by two power connectors from the lorry or from an external battery carriage.

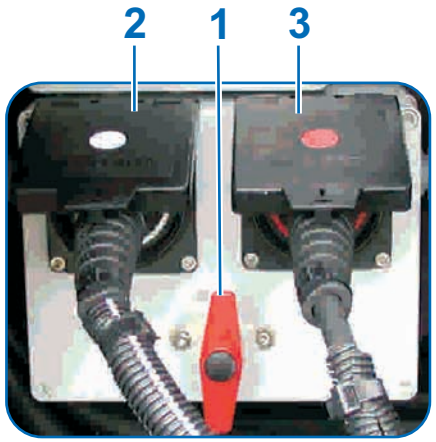
Electric supply by a battery carriage.



Electrohydraulic onboard unit

7 pin plugs

Power supply by the batteries of the lorry.



4.3.4. ELECTRIC SUPPLY OF THE ELECTRO-HYDRAULIC UNIT

The manipulation of electric cables must be done while power is switched off.

To connect the circuit :

- Place the battery off switch in the horizontal position (electric circuit powered off).
- Connect the supply cables of the bodies complying with the colors (white/red).
- Place the battery off switch in the vertical position (electric circuit powered off).
- Connect the 7 prongs outlet of the lorry to the body.

To disconnect the circuit :

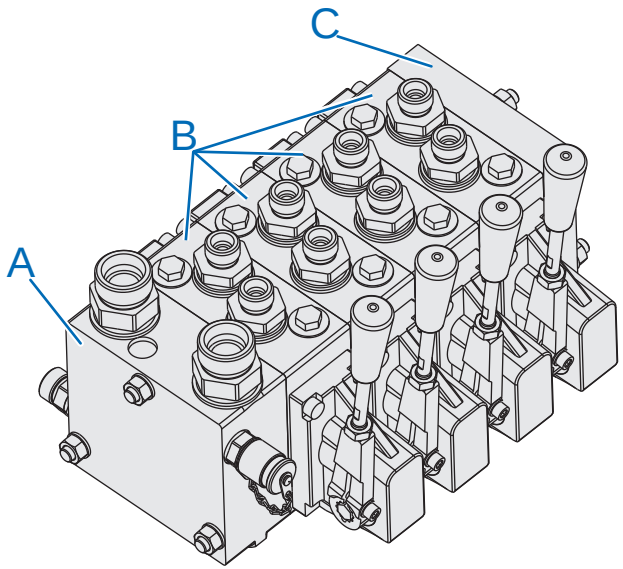
- Place the battery off switch in the horizontal position (electric circuit powered off).
- Lift slightly the lid of the outlet (2) or (3), push the connector for unlocking, then disconnect the cable. Proceed in the same way for the disconnection of the second outlet.
- Disconnect the 7 prongs outlet.

The pressurization of the circuit is controlled by a button in the control box of the trailer, and indicated by a pictograph.

4.4. HYDRAULIC DISTRIBUTORS

The distributors are the hydraulic circuit control mechanisms. Each distributor component corresponds to a hydraulic function of the rig.

Example of a 4 elements distributor



A distributor consists of: :

- one input element (A).
- distribution elements (number depending on equipment) towards the hydraulic functions of the body or of the trailer (B).
- an element for the closing of the distributor (C).

Some distributors may be equipped with a selection valve, permitting to drive two functions from only one element (see chapter 3-6).

The use of hydraulic distributors is only possible when there is hydraulic service pressure in the circuit, supplied by :

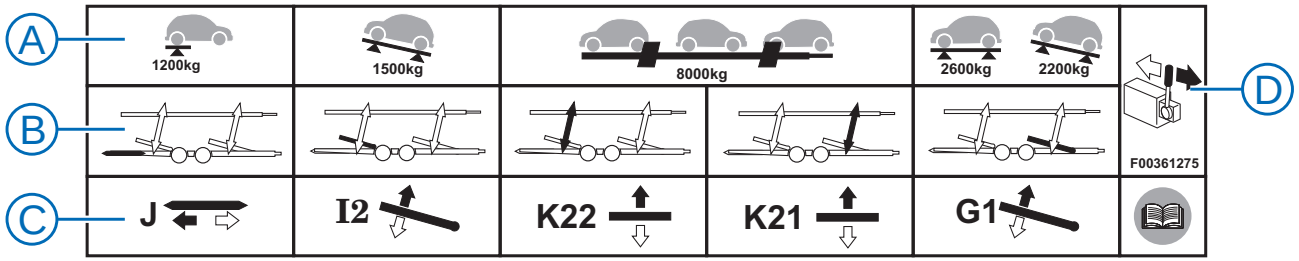
- activation of the power take-off, or.
- activation of the electro-hydraulic unit.

Distributors must be manipulated softly, in order to master the sudden moves of elements, and in order to avoid jerks in the circuit.

Never lock the distributor levers in working position.
Monitor the trajectory of the platforms at both front and rear during movement.

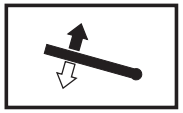
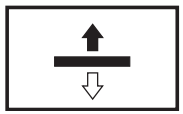
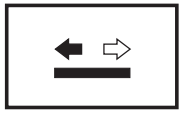
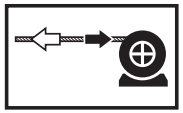
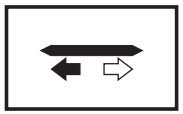
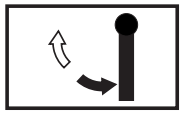
4.4.1. DISTRIBUTOR WITH MANUAL CONTROLS

Hydraulic functions are identified by the adhesive labels showing the function and the action to be controlled.



Zone (A)	Zone indicating the maximum load capacity by element. In case that load varies, depending on the position of the element, both values are indicated (example : G1 flat 2600 Kg, G1 lifted 2200 Kg)
Zone (B)	Zone localizing schematically the function on the rig.
Zone (C)	Zone showing the possible moving directions for each function.
In all cases, the lifting of the platforms or the deployment of extensions is controlled by drawing or by lifting the lever of the distributor D	

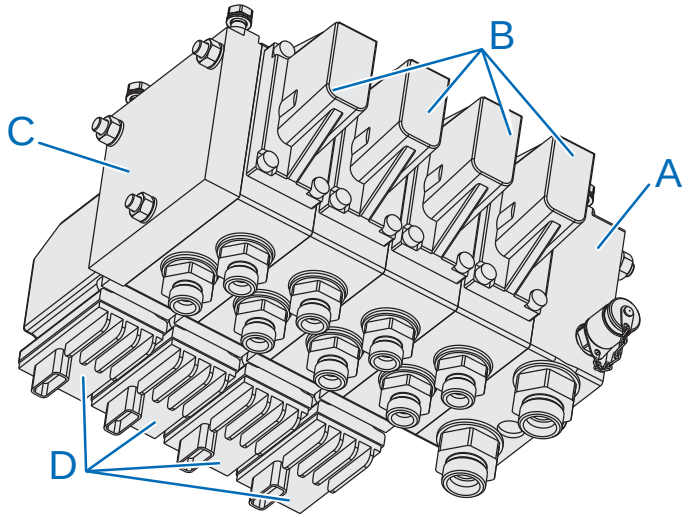
4.4.2. DEFINITION OF THE MOVEMENTS

Symbols	Definition of movement	Symbols	Definition of movement
	Swiveling movement (stacker up/down)		Lifting movement (mobile platform up/down)
	Sliding movement (deployment/retraction of extension)		Reeling movement (unreel, reel winch)
	Sliding movement (drawbar in/out)		Swiveling movement (landing gear up/down)

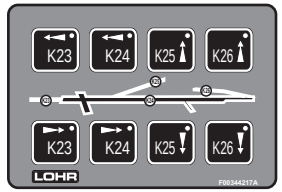
4.4.3. DISTRIBUTORS WITH ELECTRIC CONTROLS

A distributor with electric commands consists of :

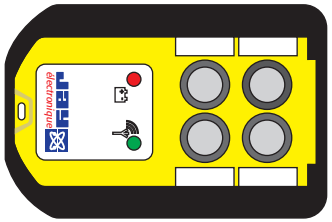
- one input element (A).
- distribution elements (number depending on equipment) towards the hydraulic functions of the body or of the trailer (B).
- an element for the closing of the distributor (C).
- electric controls, mounted on every distribution element.



Driving the hydraulic functions by a control box. Only press the button corresponding to the moving function.



If the rig is equipped with a remote control, functions are indicated by the pictographs on the front side of the remote control.



In case of malfunction of the electric control of the distributor or of the (remote) control box, the distributors can be operated directly with an emergency lever in the board kit. (Depending on the type of equipment)

4.5. AUTOMATICALLY LOCKING CYLINDERS

(Depending on the type of equipment)

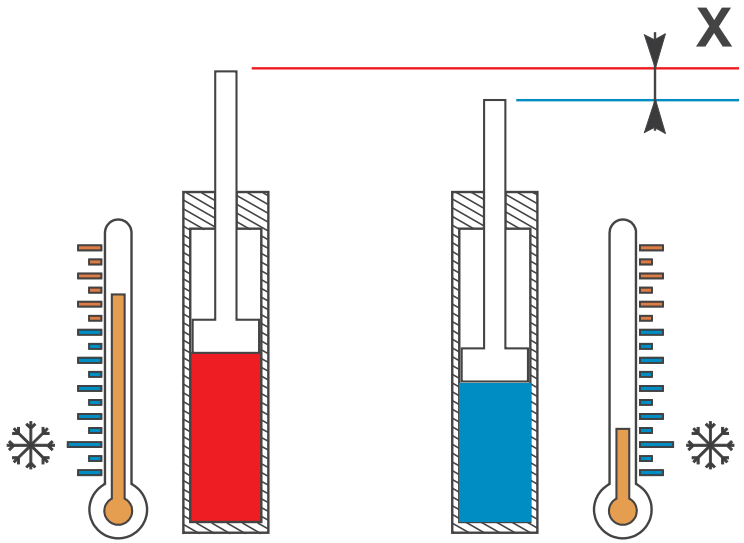
4.5.1. SPECIAL PRECAUTIONS

When using the hydraulic equipment, the temperature in the circuit rises and causes an increase in the volume of oil.

At the end of operations, the automatic locking mechanism traps the hot oil in the cylinder.

When the temperature falls, the volume of oil in the cylinder is reduced, causing a change in its position. This is particularly sensitive during cold weather.

X is the difference in level which may be as much as -30mm in the position of a platform.

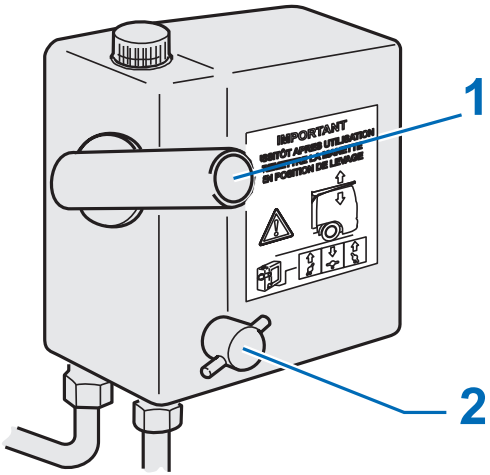


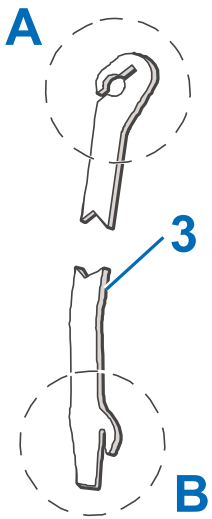
Clearance between vehicles and mobile elements must be 80 mm minimum. This must be checked and adjusted (if necessary) after a few kilometres.

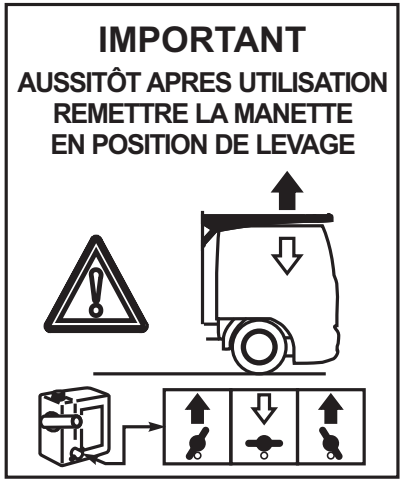
4.6. TIPPING THE CAP

The tilting of the cap is carried out by an independent circuit, operated with a manual pump. This circuit permits to tilt the cab and to accede to the lorry's engine.

The raised position must be used only when the vehicle is at rest.







In case the lifting of the cap must be performed on the loaded vehicle, make sure that this operation does not generate any risk for the load.

4.6.1. RAISING THE CAP

- Using the side (A) of the lever (3), put the valve (2) in lifted position as indicated on the label.
- Position the side (B) of the control lever (3) on the piston (1).
- Work the pump until the cap is in high position.

4.6.2. LOWERING THE CAP

- Using the side A of the lever, stored in the board kit3, put the valve 2 in lowering position as indicated on the label.
- Lower it by gravity (braking if necessary with the valve (2))
- It is absolutely necessary to reset the valve (2) in lifting position

4.7. SELECTION VALVE

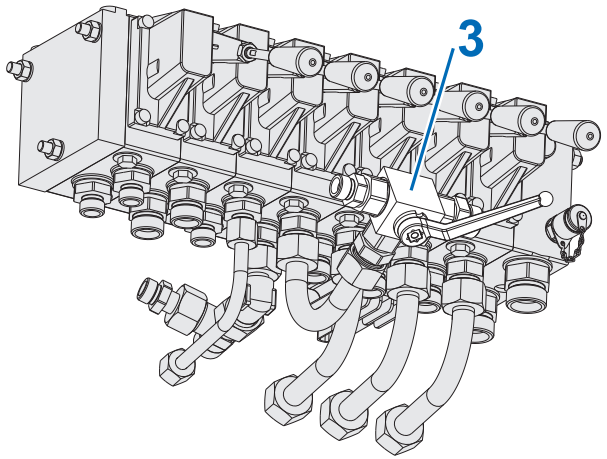
(Depending on the type of equipment)

This valve is used when one distributor element permits the control of two hydraulic functions.

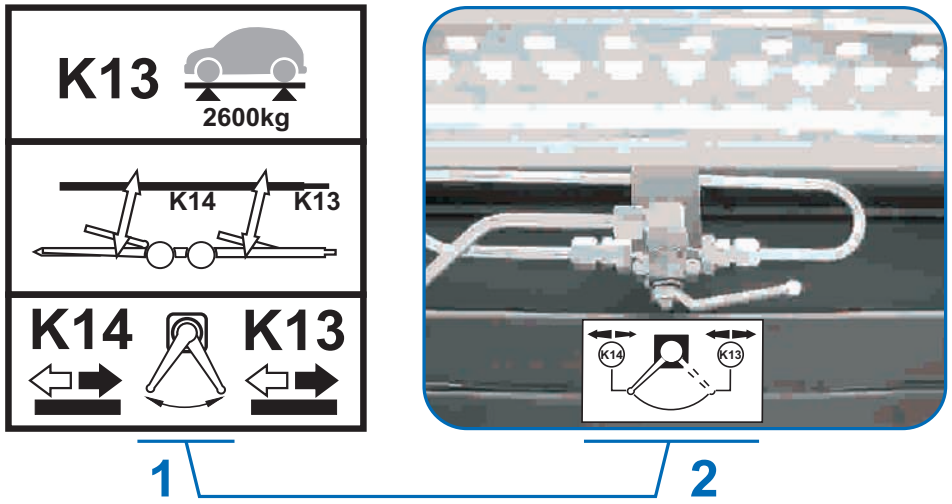
According to the type of equipment, the place of the selection valve may vary, for example: :

- beside the distributor block.
- on the edge of the upper platform.

Distributor block



Edge of the upper platform



The selection of the operating function may only be done while the circuit is not under pressure (distributor's lever in rest position).

OPERATOR SAFETY GUIDE

5.

PNEUMATIC EQUIPMENT

General instructions

5.1. PNEUMATIC EQUIPMENT

The pneumatic installation of the rig is divided in two main circuits :

- A service brake system (lorry and trailer).
- A utilities circuit which powers the following functions :
  - Suspension (lorry and trailer).
  - Control of various pneumatic locks (depending on version),.
  - Engaging the power take off,.
  - The coupling stabiliser (depending on assembly).

Pneumatic energy (compressed air) is supplied by the lorry compressor.

The pneumatic circuit is officially approved. Any change not authorized by the manufacturer is forbidden.
Any change may lead to brake or suspension dysfunction and could cause an accident.

5.1.1. CIRCUIT ELEMENT

The pneumatic circuit is an essential safety element of the rig, all interventions on the circuit, beside the connection and control elements must be confided to a specialist.

In practice, the driver accedes only to the coupling and control elements.

5.1.2. COUPLING THE PNEUMATIC CIRCUIT

The coupling hands are the connecting elements of the pneumatic system between :

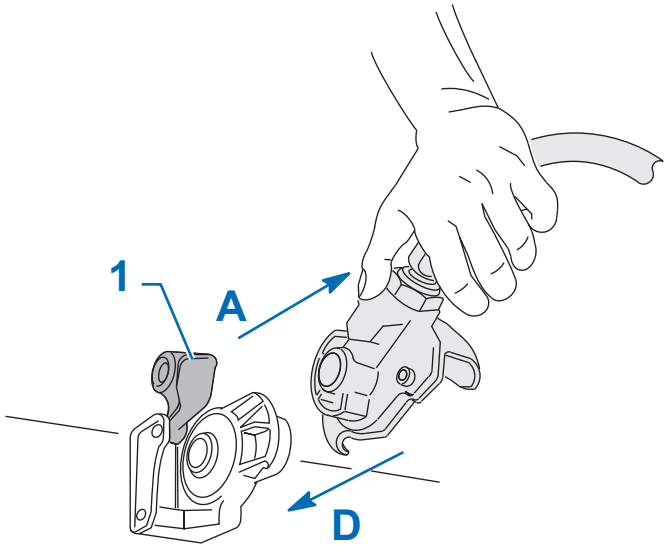
- the lorry and the trailer, for a rig with non-removable body.
- the lorry and a semi-trailer.
- the lorry and the removable body for a rig of the EUROLOHR range.

5.1.2.1. Coupling hands

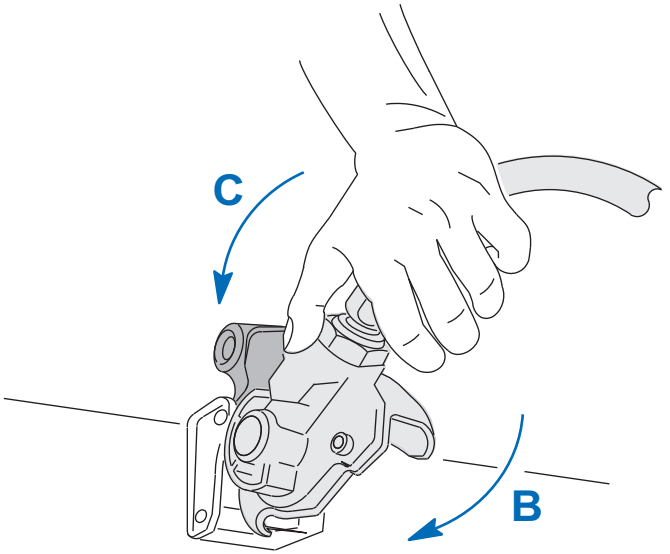
The RED coupling hand corresponds to the supply circuit of the rig.

The YELLOW coupling hand corresponds to the control circuit of the rig.

Coupling the circuit



Uncoupling the circuit



These circuits must be coupled by matching the colors.
Clean the lorry and trailer couplers as needed.
It is important to make sure that no impurities get into the braking circuit when the hoses are being coupled.

Coupling :

- Open the protective caps of the coupling hands (1)
- Introduce the mobile part into the opposite fixed part, tilting it so that the two grooves are coinciding, permitting the locking (A).
- Twist the coupler until it locks (B).
- Repeat these operations for the second hose.

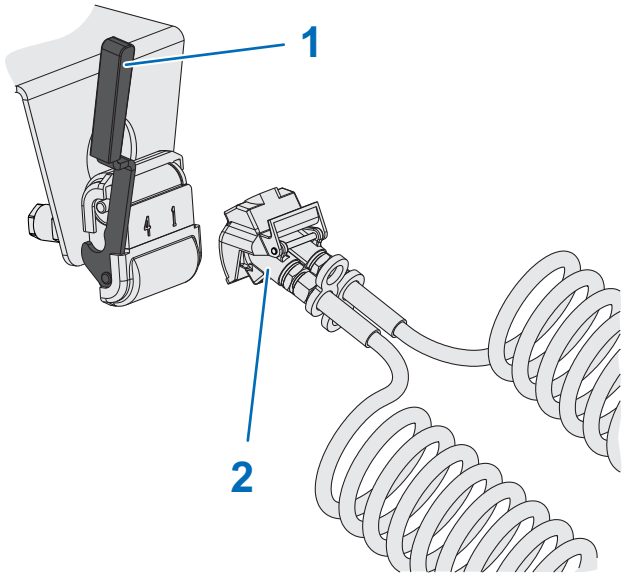
Uncoupling :

- Twist coupler (C) to release the fitting then disconnect hose (D).
- Protect the couplers with the caps (1).
- Repeat these operations for the second hose.

5.1.2.2. Coupling head "DUOMATIC" (optional)

(Depending on the type of equipment)

Clean the lorry and trailer couplers as needed.
It is important to make sure that no impurities get into the braking circuit when the hoses are being coupled.



Coupling / uncoupling :

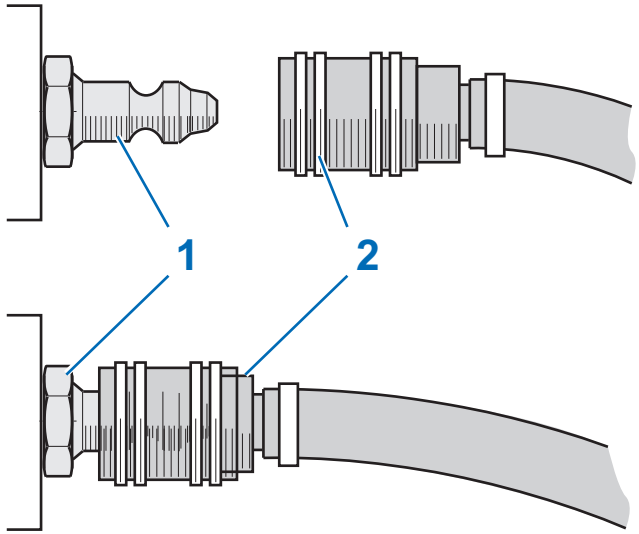
- Swivel the lever (1) and introduce the mobile coupler (2) into the opposite fixed coupler.
- Reset the lever in position to lock the whole unit.

5.1.2.3. Coupler of the circuit of the coupling stabilizer

(Depending on the type of equipment)

Clean the lorry and trailer couplers as needed.
It is important to make sure that no impurities get into the braking circuit when the hoses are being coupled.

The connection of this function is ensured by a quick pneumatic coupler.



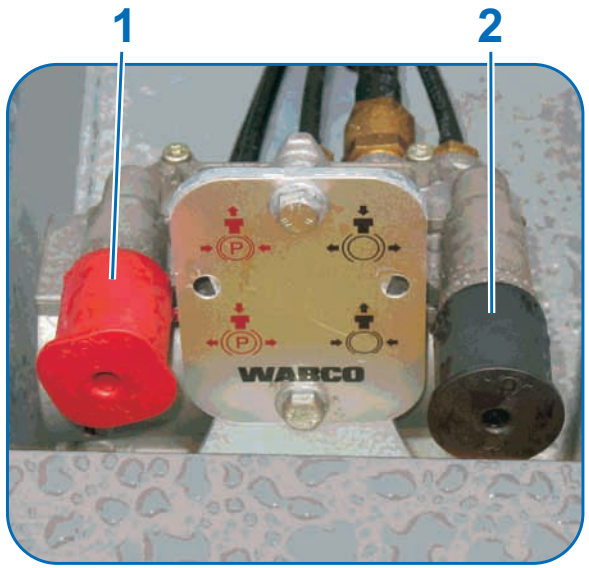
To engage the coupling, pull the outer ring (2) and press the coupler into the opposing coupler (1).

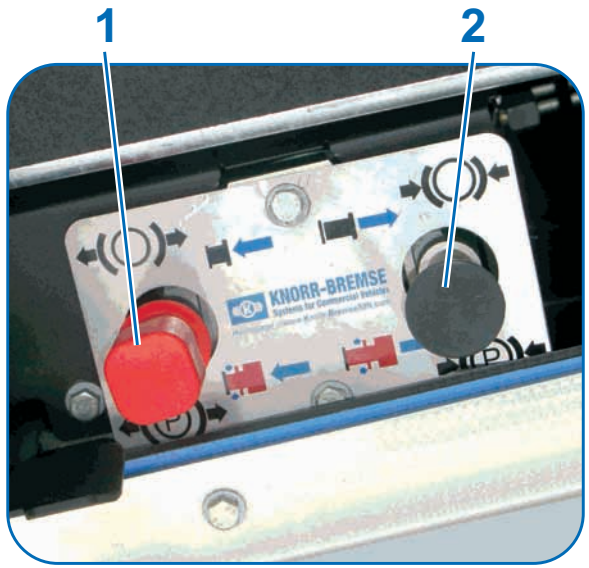
In order to uncouple the circuit, exert traction on the ring (2).

5.2. ELEMENTS OF THE PNEUMATIC CONTROL

5.2.1. PNEUMATIC BRAKE CONTROL

Depending on the type of the equipment, two types of installation are possible.





Independent of the practiced installation type, two brake controls are available :

- the red control (square section), acting on the park braking system (1).
- the black control (round section), permitting the neutralizing of the breakaway braking (2).

Before moving off, make sure the parking brake is released.

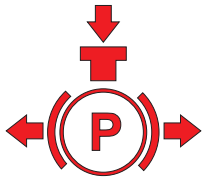
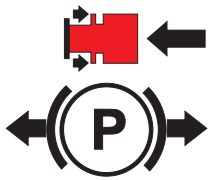
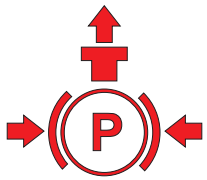
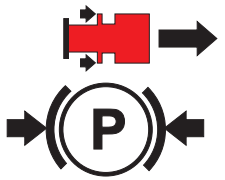
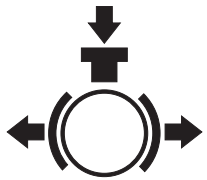
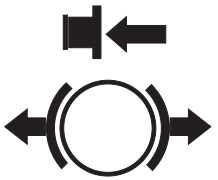
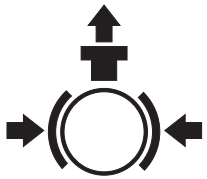
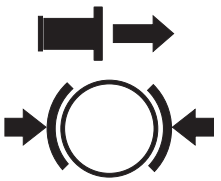
5.2.2. EMERGENCY BRAKE NEUTRALIZATION CONTROL

During the uncoupling of the trailer, the uncoupling of the red hand releases the safety device for the case of breaking of the coupling, detecting pneumatic cut-off and activating the emergency braking of the trailer.

The neutralizing control permits to move the trailer when the break-away braking is activated.The control only works if there is enough air in the tanks.

When this control is activated, the braking system of the trailer does not work anymore, thus its use may generate a risk.
Its use must be limited to parking or stabling maneuvers on horizontal ground at slow speed.

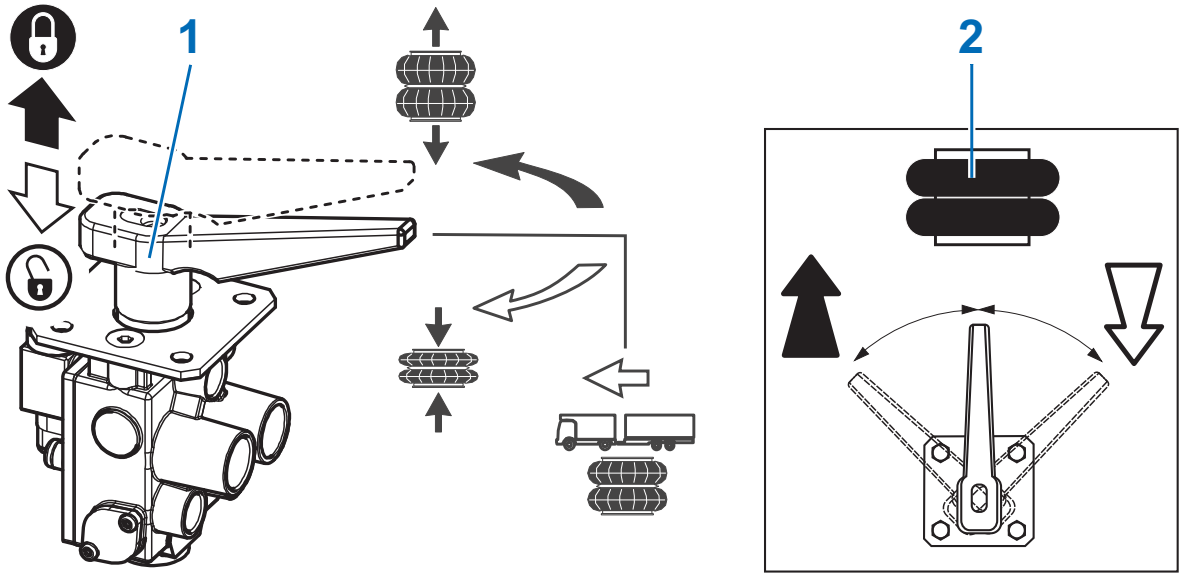
For safety reasons, pressurizing the "red" conduit automatically releases the emergency brake and switches the control to its initial position.

Command	Function	Command
	While the control is pressed, the parking brake is released.	
	While the control is drawn, the parking brake is activated. For changing position of the KNORR control, activate the locking ring.	
	While the control is pressed, the break-away braking is deactivated.	
	While the control is drawn, the break-away braking is activated.	

5.2.3. ADJUSTMENT CONTROL AT THE HEIGHT OF THE SUSPENSION

This device (1) is used to adjust the height of the trailer during loading and unloading operations. A function label (2) is placed near the control.

The "road" position of the trailer suspension is set automatically when the speed reaches 10 km/h or 6 mph.



To use the device, the trailer must be coupled and the tractor engine running so that the pneumatic circuit can be powered.

Press the lever for unlocking and swiveling to the left or to the right.

When the trailer is at the required height, release the lever.

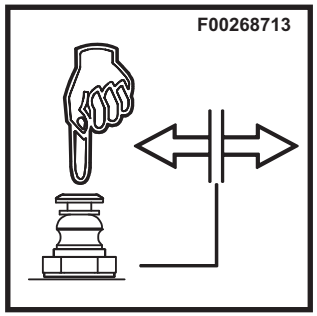
5.2.4. INFLATION / DEFLATION OF SUSPENSION FROM THE CAB. (OPTION)

Depending on the type of equipment and on the version, two buttons permit the inflation / deflation of the trailer's suspension from the lorry's cab.

If one of the two functions (up/down) is activated while the truck is rolling, there is an acoustic signal after thirty seconds.

5.2.5. PNEUMATIC LOCKING CONTROL

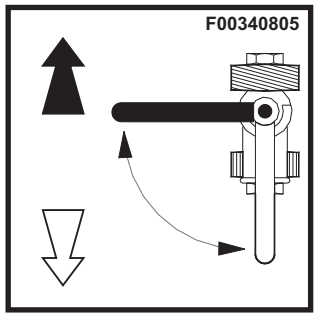
Certain lockings, for example the cable lifting systems, may be controlled by a pneumatic remote control.



In any case, when a locking control has to be activated, an adhesive label signals its presence and indicates the operation mode..

5.2.6. CONTROL OF THE PNEUMATIC LIFTING (DEPENDING ON THE TYPE OF EQUIPMENT)

In case the rig is equipped with a mobile lifting device with pneumatic bellows (ramp, stacker etc...), a control valve permits to activate inflation or deflation of bellows.



Bellows are not designed to support a load. For the passage and the transport, the elements moved by bellows must be imperatively locked, or supported on stands for example.

OPERATOR SAFETY GUIDE

6.

ELECTRIC EQUIPMENT

General instructions

6.1. ELECTRICAL EQUIPMENT

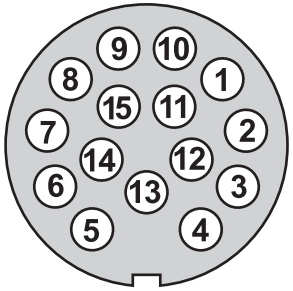
The electrical equipment (24 volts) is split into several functions :

- 1 Signaling complying with traffic regulations.
- 2 "ABS" or "EBS" for the anti lock brake systems (Depending on the type of equipment).
- 3 Lighting of the load.
- 4 Pressure control of the coupling stabilizer (Depending on the type of equipment).
- 5 A distributor control circuit (Depending on the type of equipment).
- 6 Supply of the electrohydraulic unit (Depending on the type of equipment).

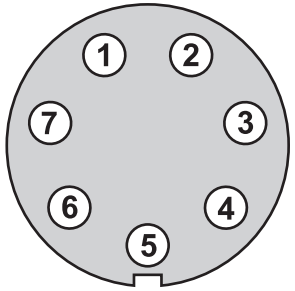
6.1.1. ELECTRIC OUTLETS

Circuit connections are realized by electric outlets :

- 15 prongs ISO 12098 for signaling.
- 7 prongs ISO 7638 for EBS.



ISO 12098



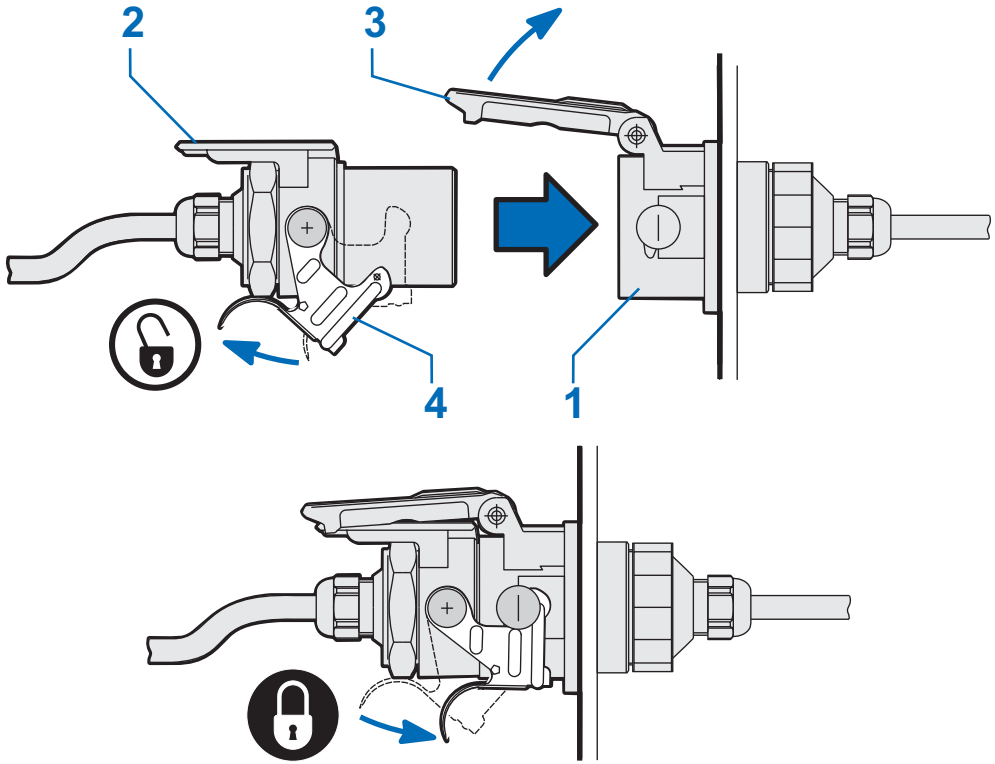
ISO 7638

6.1.2. CHART FOR THE ASSIGNMENT OF THE NORMALIZED FUNCTIONS

Contact	Function ISO 12098	Function ISO 7638
1	Directional indicator left	(+) Battery
2	Directional indicator right	(+ 24V) after contact
3	Rear fog lamp	Earth
4	Earth	Earth
5	Side marker light left	Information from EBS
6	Side marker light right	CAN (H) bus (EBS)
7	Brake lights	CAN (L) bus (EBS)
8	Reversing lights	
9	Starting the engine	
10	Electrohydraulic onboard unit	
11	Rotating light	
12	Power (+) after contact	
13	Earth	
14	Working lights	
15	Switching off the engine	

6.1.3. COUPLING OF THE ELECTRIC CIRCUITS

The outlets of the signaling and EBS circuits are protected by articulated lids.



- Lift the lid (3) of the outlet (1).
- Insert the plug (2) and lock the assembly using the hook (4).
- To unplug the connection, lift the hinged lid (3) slightly and release the hook (4).

Please do not leave electric plugs on the ground.

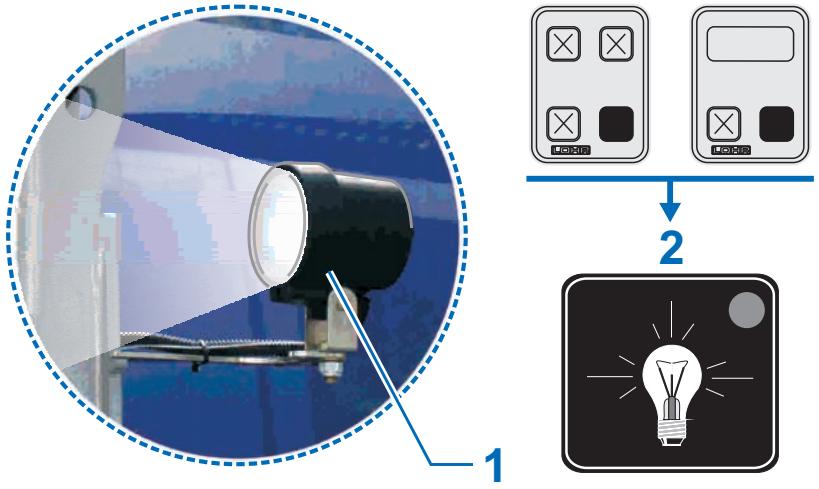
6.1.4. SIGNALING LIGHTS

The quantity and the position of signaling lights vary depending on the type of the rig and local national regulations.

The correct functioning of signaling lights must be regularly controlled, and the defective parts must be repaired or replaced.

6.1.5. WORKING LIGHTS

The workplace lighting may be realized by projectors (1) which are distributed over the rig. The control of workplace lighting 2 is on the electric control box beside the distributor block.



Quantity and position of workplace lights vary depending on the type of the rig and the options.

The lights go out automatically as soon as the rig reaches a speed of 10 Km/h or 6.5 mph

6.1.6. STOP/START ENGINE (OPTION DEPENDING ON EQUIPMENT)

This device permits to stop or to start the motor of the lorry from the control box of the trailer.

Before starting the motor of the lorry from the trailer, make sure :

- **that the gearbox is in neutral position**
- **that the key in the cab is in "contact" position**

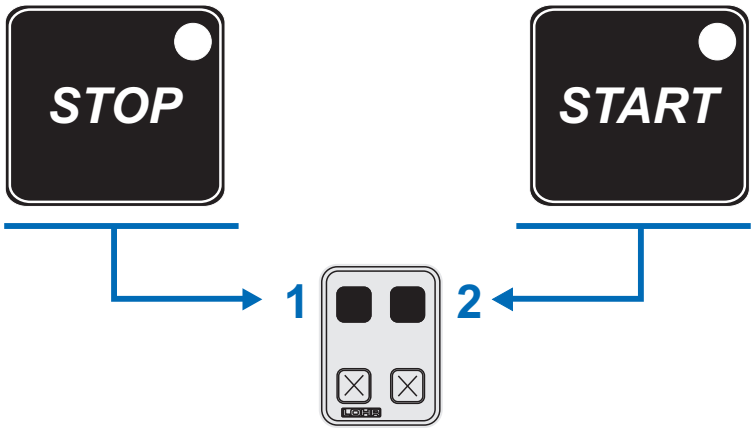
6.1.6.1. Start and stop of motor

Starting the engine (2) :

- Press and hold "START" until the engine starts.

Switching off the engine (1) :

- Press "STOP" until the engine stops.



6.1.7. EBS ANTI-LOCK SYSTEM

The trailer is equipped with an electronic EBS anti-lock with two channels.

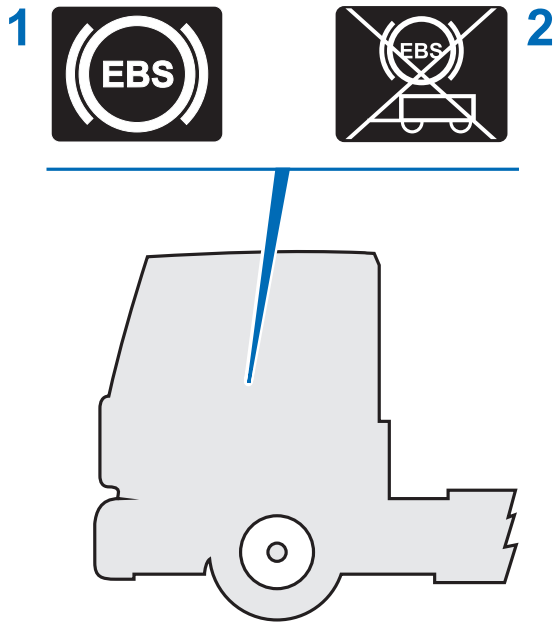
Operating principle :

On braking, the sensors in the hubs detect any tendency to lock on one or more wheels. The electronic calculator which controls the system regulation valves determines the pressure delivered to each wheel to obtain maximum deceleration according to the coefficient of adhesion.

6.1.7.1. Operational fault

Two indicators report possible functional faults :

- The light (1)signals a connection defect (e.g. lorry outlet, body outlet).
- This indicator reports a fault in the electronic system.



In the event of a fault, the braking circuit behaves like a conventional system, without EBS.

Any fault (even temporary) must be checked and the repair done by a specialist.

OPERATOR SAFETY GUIDE

7.

SMARTBOARD

General instructions


WABCO
SmartBoard
OK
SmartBoard
WABCO

Easy access to trailer information to ensure perfectly safe operation..

- Control and monitoring of the trailer functions and parameters..
- Replacement and, therefore, reduction of the number of sub-systems..
- Support for the new braking system by providing complete trailer information..

7.1. OPERATIONAL RESTRICTIONS

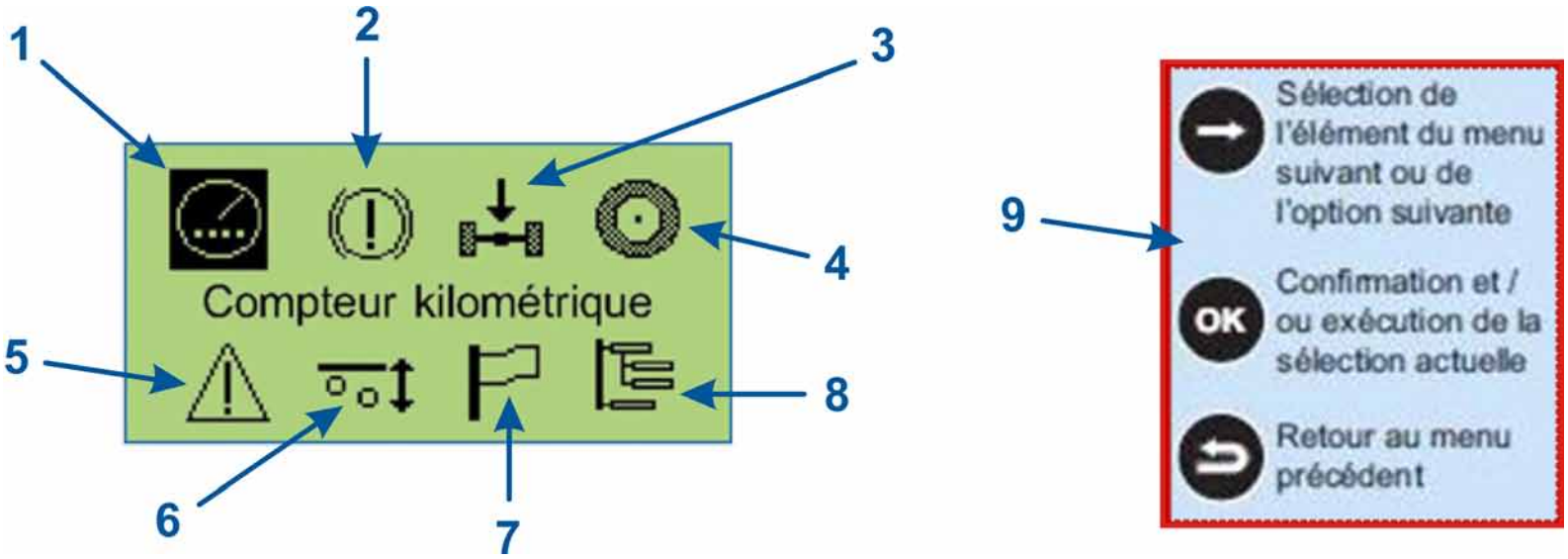
NB
- The menu items will display in accordance with the systems that have been installed.. - All data is provided for information purposes only.. - The displayed information and alarms correspond to the current or previous operational mode.. - You will ifnd a detailed explanation of the fault codes in the Smarboard system description which is in the INFORM product database at www.wabco-auto.com. - The battery can only be replaced in authorised, dedicated workshops (except for version ADR 444 192 111 0)

7.2. SMARTBOARD OPERATIONSMARTBOARD

The icons changes in accodance with the trailer options.

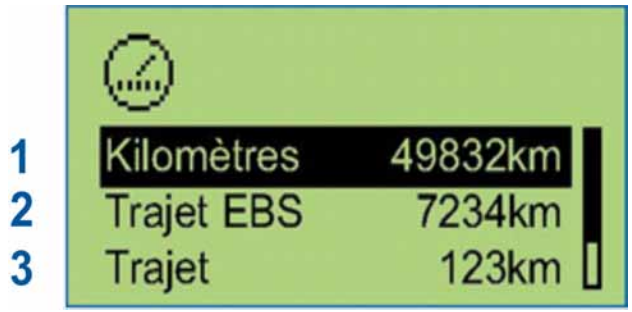
The menus consists of the following: :

7.2.1. MAIN MENU1



1	Distance Meter Menu	6	Air Suspension Menu
2	Disk brake wear	7	Language Menu
3	Load	8	"Extras" Menu
4	Tire Pressure Monitor	9	Use these buttons to navigate through the menus
5	Messages		

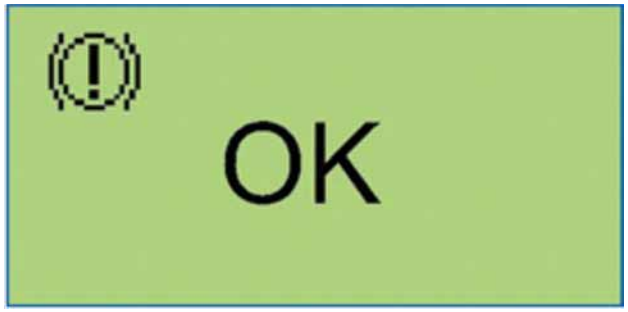
7.2.2. DISTANCE METER MENU :



The total kilometres from the EBS is displayed in this function group. (total km/daily km)

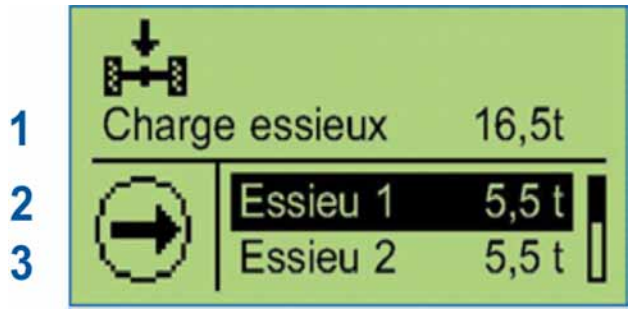
1	Kilometres
2	Trip EBS
3	Trip

7.2.3. DISK BRAKE WEAR MENU :



The wear of the brake bushings is displayed in this function group.. If a brake bushing has reached the wear threshold (remaining thickness of 2 mm) the indicator light and the menu symbol will blink for the functional group in the main menu..

7.2.4. LOAD MENU :



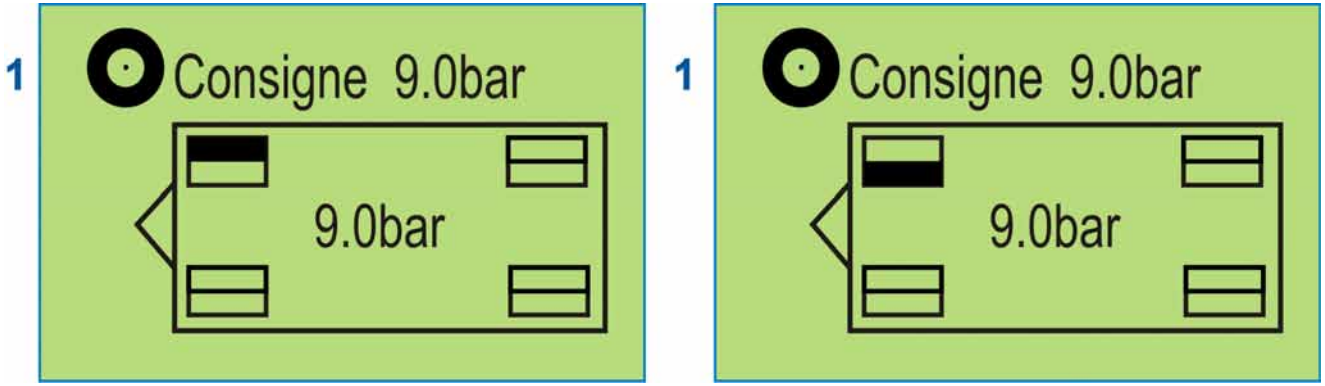
Information concerning the loads per axle are displayed in this functional group..

1	Axle load
2	Axle 1
3	Axle 2

The indicated values represent (the suspended masses) (axle mass and wheels not included)..

The indicated masses represent the masses supported by each axle.

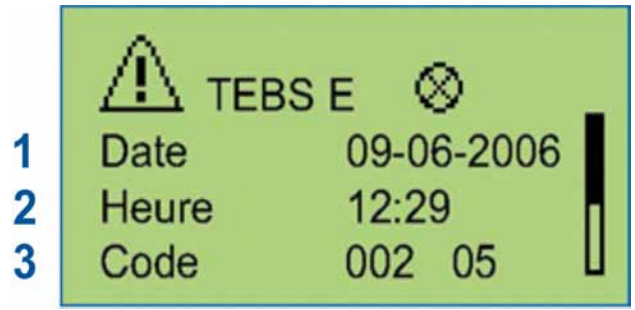
7.2.5. TIRE PRESSURE MONITORING MENU :



In this functional group, you can see the pressure of each tire, the tire pressure setting and the configuration.. You can move to a different tire using the button.. A blinking tire symbol means that the pressure is insufficient in a tire.. If a tire is defective, the indicator light and the menu symbol will blink for this group in the main menu..

1	Settings

7.2.6. MESSAGES MENU :

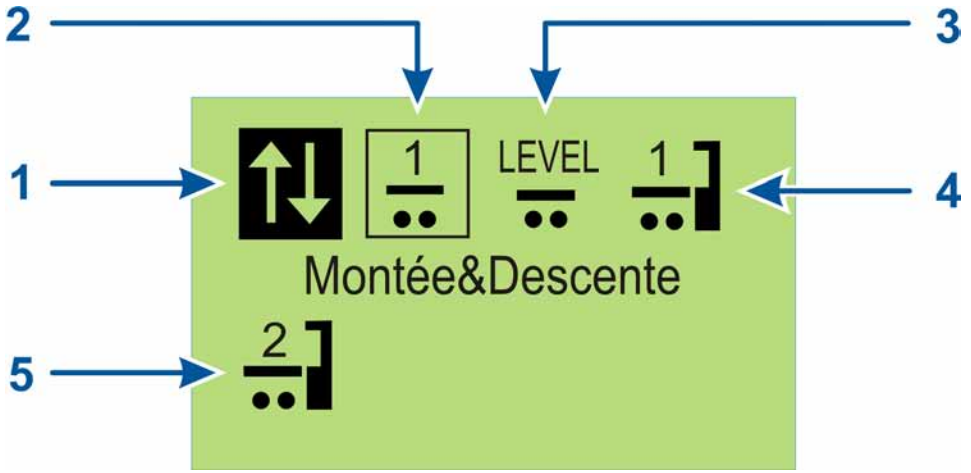


In this functional group, you can see the available system messages.. The display presents the current messages first, then those which are no longer current.. If a message is present, the indicator light and the menu symbol for this functional group will blink..

1	Date
2	Time
3	Code

7.2.7. AIR SUSPENSION MENU :

The functions available in this functional group are used to control the pneumatic suspension system..



1	Manual	4	Adjustment and recording of the rolling level Memory1
2	Rolling position	5	Adjustment and recording of the rolling level Memory2
3	Selection of rolling position 1 or 2		

Manual mode is used to raise or lower the trailer under the speed threshold of 30 km/hr beyond which the trailer returns to the rolling position..

To avoid all degradation of the hardware :

Before returning to the road after loading or unloading, return the trailer to the "road" position or verify this by using the up arrow of menu2

The rolling position1 is the "road" position.

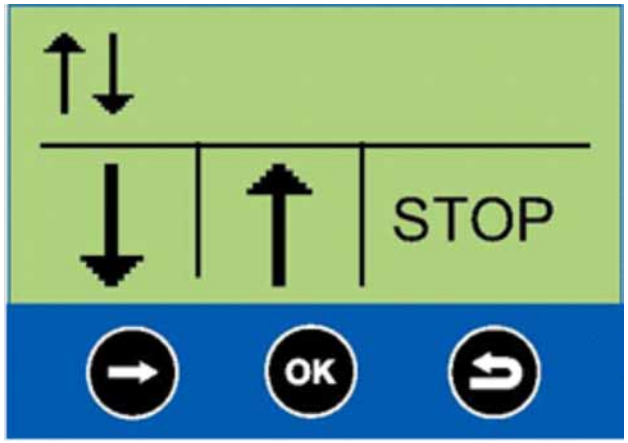
The rolling position2 is the "road" position **+ 40 mm.**

Selection of one or the other rolling position is made using the (LEVEL) menu even when moving.

7.2.7.1. Possible programming of rolling positions 1 and 2

Programmable rolling positions 1 & 2 record a desired position.

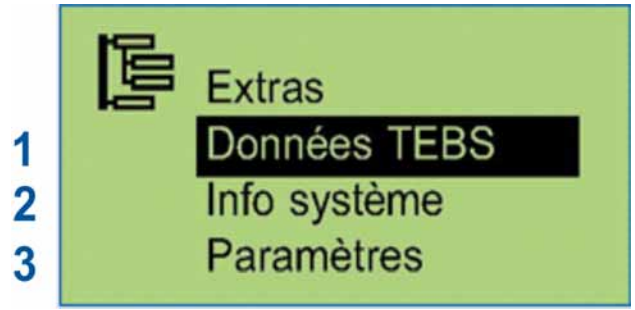
- Place the trailer into position using the arrows.
- Go to the programmable rolling position icon.
- If you hold down the "OK" button for a few seconds, SmartBoard will ask you if you want to record the position.



7.2.8. LANGUAGE MENU :

In this functional group, you can set the Smartboard language.

7.2.9. "EXTRAS" MENU :



In this functional group, you can select other data and modify the SmartBoard settings.

1	DataTEBS
2	System Info
3	Parameters

7.2.9.1. TEBS Data :

Service and function information as measured and given values **ORD.**

1	DataTEBS	3	Measured Values
2	DataORD	4	Parameter Memory

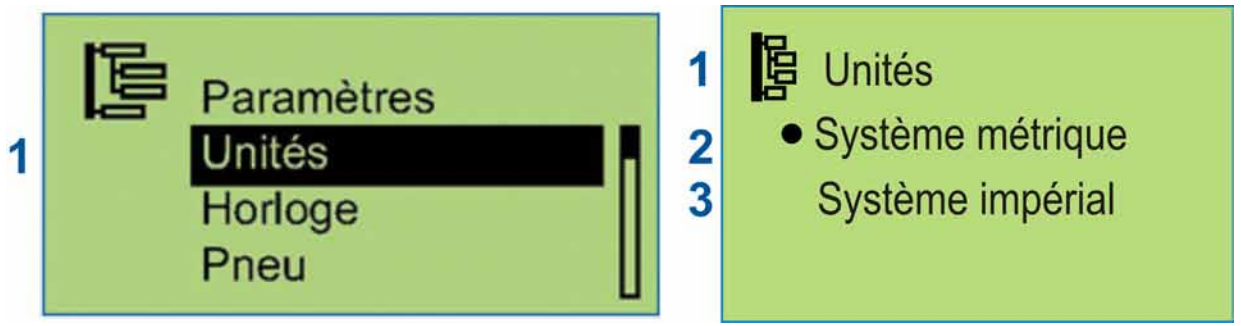
7.2.9.2. System Info :

Information on the various systems present.

1	System Info	2	System

7.2.9.3. Units

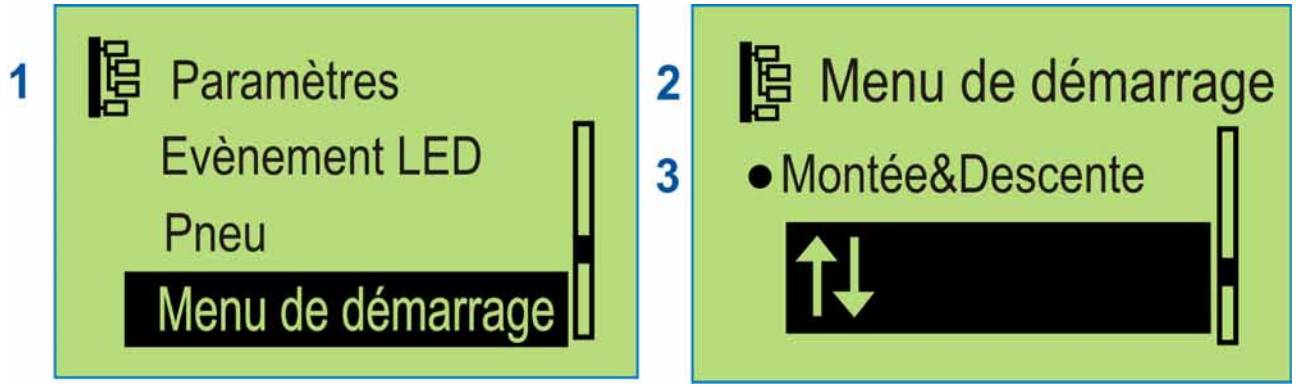
You can select metric or imperial units in this menu.



1	Units	3	Imperial System
2	Metric System		

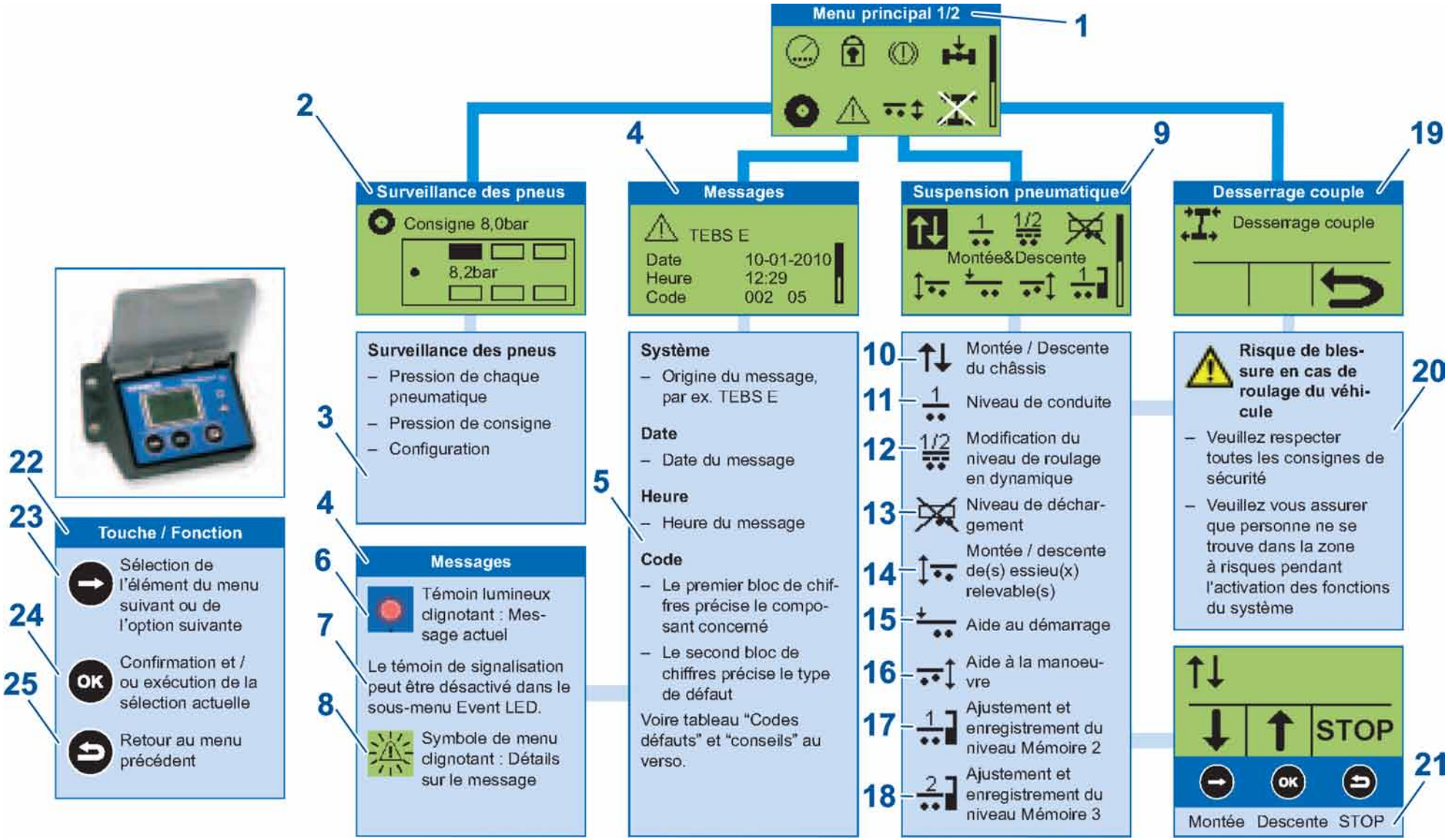
Other menus : Units, Clock, Image splash, Eventled, Tire, Start Menu, Load, Sensor calibration, IVTM.

The Smartboard Start Menu can be configured in this menu :



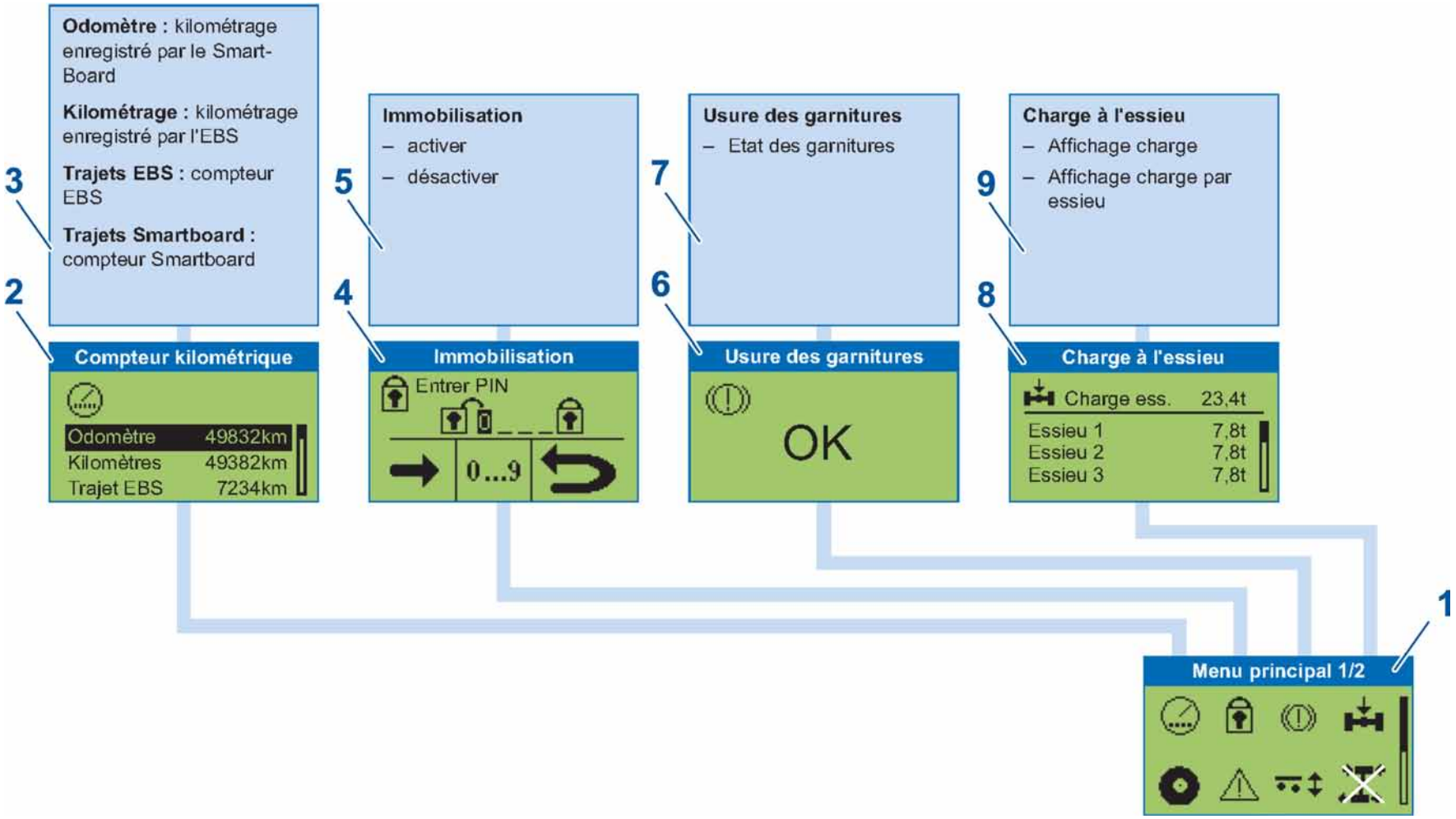
1	Parameters
2	Start Menu
3	Raising and Lowering

7.3. GENERAL DESCRIPTION

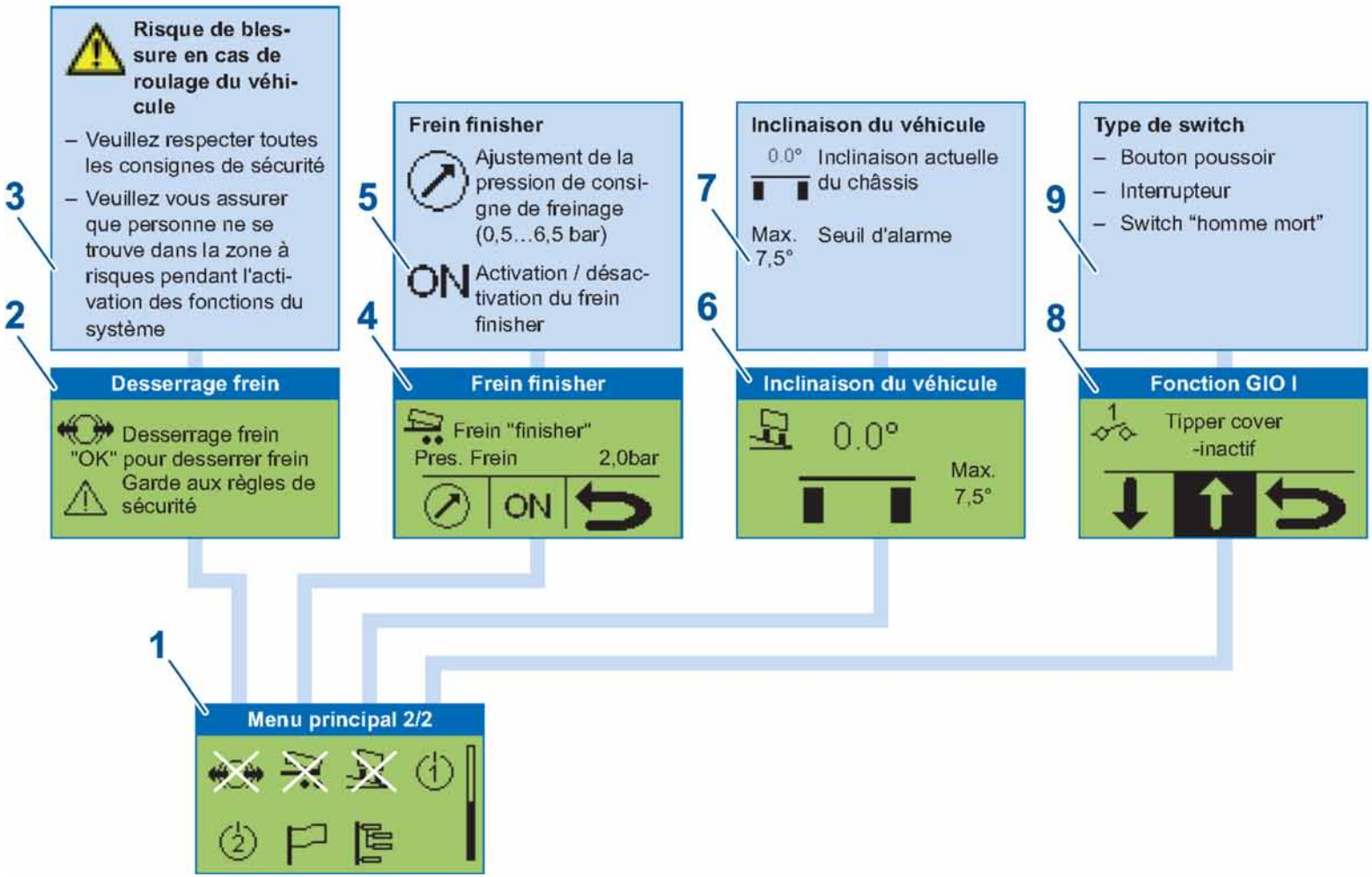


1	MAIN MENU1/2.	
2	Tire Monitoring	Option
3	**Tire Monitoring** -Pressure of each tire -Pressure setting -Configuration	
4	Messages	
5	**System** -Message Source, e.g., TEBS E **Date** -Message Date **Time** -Message Time **Code** -The first block of digits specifies the concerned item -The second block of digits specifies the item and type of fault See the Fault Code Table and recommendations on the back side	
6	Blinking indicator light: Current message	
7	The indicator can be de-activated in the LED Event Menu	
8	Blinking menu symbol: Message details	
9	Pneumatic suspension	
10	Raising/lowering the chassis	
11	Driving level	
12	Modification of the rolling level while moving	Not useable
13	Unloading level	
14	Raising/lowering the adjustable axles	

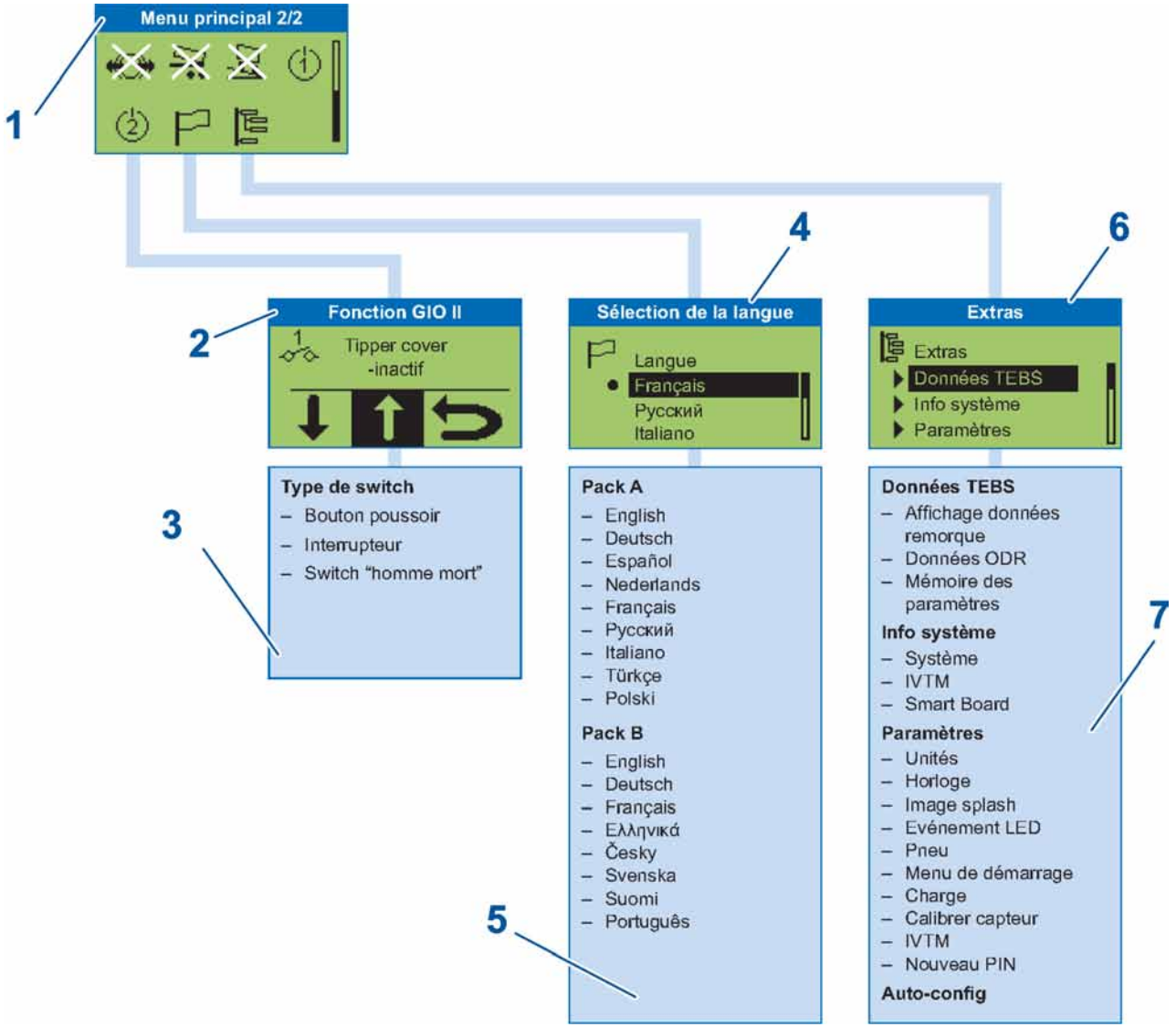
15	Start-up Help	
16	Adjustment Help	
17	Adjustment and recording of the rolling level Memory2	
18	Adjustment and recording of the rolling level Memory3	
19	De-coupling	
20	**Risk of injury in the case of a moving vehicle**	**Not useable**
21	Rise/Lower/STOP	
22	Button/Function	
23	Selection of the following menu item or the following option	
24	Confirmation and/or execution of the current selection	
25	Return to the previous menu	


Odomètre : kilométrage enregistré par le Smart-Board
Kilométrage : kilométrage enregistré par l'EBS
Trajets EBS : compteur EBS
Trajets Smartboard : compteur Smartboard
3
2
Immobilisation
– activer
– désactiver
5
4
Usure des garnitures
– Etat des garnitures
7
6
Charge à l'essieu
– Affichage charge
– Affichage charge par essieu
9
8
Compteur kilométrique
Odomètre 49832km
Kilomètres 49382km
Trajet EBS 7234km
Immobilisation
Entrer PIN
0...9
Usure des garnitures
OK
Charge à l'essieu
Charge ess. 23,4t
Essieu 1 7,8t
Essieu 2 7,8t
Essieu 3 7,8t
1
Menu principal 1/2

1	MAIN MENU1/2.	
2	Distance meter	
3	**Odometer** : distance recorded by SmartBoard **Distance** : distance recorded by EBS **Smartboard Trips** : Smartboard computer	
4	Immobilisation	**Option**
5	**Immobilisation** -Activate - de-activate	
6	Bushing wear	**Option**
7	**Bushing wear** -Bushing status	
8	axle load	
9	**axle load** -Load display -Load display per axle	


Risque de blessure en cas de roulage du véhicule
– Veuillez respecter toutes les consignes de sécurité
– Veuillez vous assurer que personne ne se trouve dans la zone à risques pendant l'activation des fonctions du système
Frein finisher
Ajustement de la pression de consigne de freinage (0,5…6,5 bar)
ON Activation / désactivation du frein finisher
Inclinaison du véhicule
0.0° Inclinaison actuelle du châssis
Max. 7,5° Seuil d'alarme
Type de switch
– Bouton poussoir
– Interrupteur
– Switch “homme mort”
3
5
7
9
2
4
6
8
Desserrage frein
Desserrage frein "OK" pour desserrer frein
Garde aux règles de sécurité
Frein finisher
Frein "finisher"
Pres. Frein 2,0bar
ON
Inclinaison du véhicule
0.0°
Max. 7,5°
Fonction GIO I
1
Tipper cover -inactif
1
Menu principal 2/2
1
2

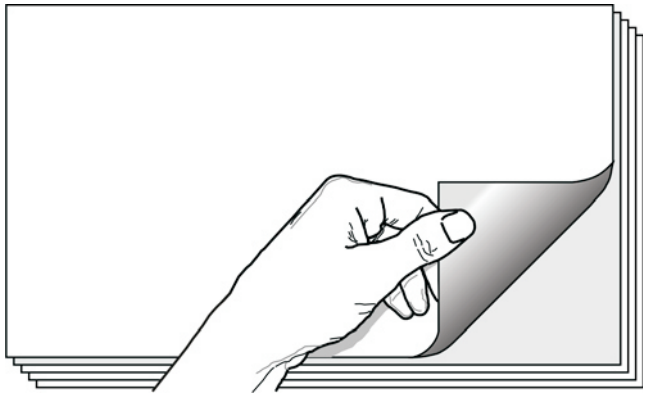
1	MAIN MENU2/2	
2	Brake release	**Not useable**
3	**Risk of injury in the case of a moving vehicle**	
4	Finisher brake	**Not useable**
5	**Finisher brake**	
6	Vehicle inclination	**Not useable**
7	**Vehicle inclination**	
8	Function GIO I	**Option**
9	**Type of switch** -Push-button -Switch -Dead-man switch	



1	MAIN MENU2/2	

2	Function GIO II		**Option**
3	**Type of switch** -Push-button -Switch -Dead-man switch		
4	Language selection		
5	**Pack A** English German Spanish Dutch French Russian Italian Turkish Polish	**Pack B** English German French Greek Czech Swedish Finnish Portuguese	

6	Extras		
7	**DataTEBS** -Trailer Data Display -DataORD -Parameter Memory **System Info** -System -IVTM -SmartBoard	**Parameters** Units Clock Image splash EventLED Tire Start Menu Load Sensor calibration IVTM NewPIN	



OPERATOR SAFETY GUIDE

8.

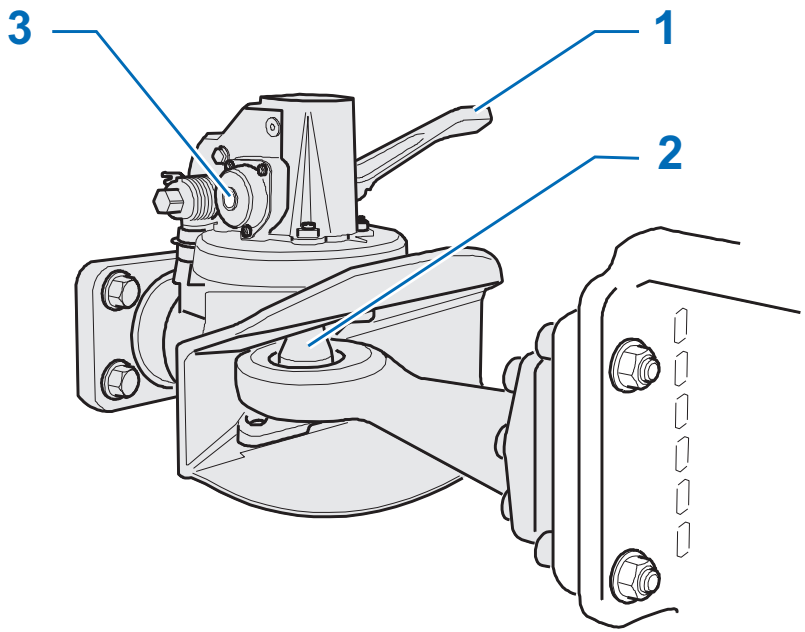
COUPLING SYSTEMS

General instructions

8.1. COUPLING SYSTEMS

8.1.1. AUTOMATIC HOOK (DEPENDING ON THE TYPE OF EQUIPMENT)

If the connection between the body and the trailer is realized by an automatic coupling system, the uncoupling may be carried out by the driver.



8.1.1.1. Uncoupling / Coupling

If the rig is equipped with a stabilizer of coupling, uncouple the stabilizer before the uncoupling of lorry and trailer. This operation requires tooling and technical skills that the driver does not have..

To release and open the coupling mechanism

☞ Raise the handle (1) fully and release it.

This raises the coupling axis (2), allowing to clear the coupling eye. When pulled, the coupling eye releases the mechanism, which closes and locks.

To open the mechanism and engage the coupling eye

☞ Raise the handle (1) fully and release it.

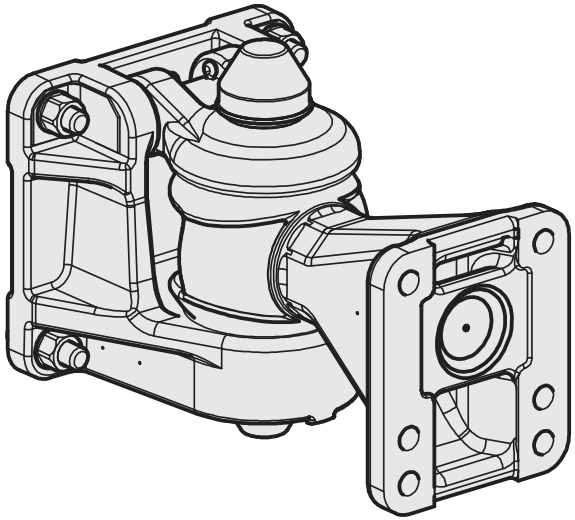
This raises the coupling axis (2), allowing to clear the coupling eye. When inserting the coupling eye, the mechanism is released, the coupling closes, and locks automatically.

A safety indicator (3) allows to check whether the coupling mechanism is locked properly. The safety indicator enters fully inside when the coupling mechanism is secured.

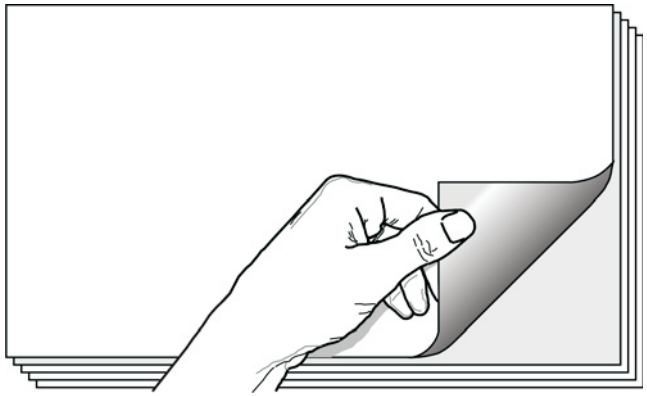
For the operations on the electric, pneumatic and hydraulic connections and on the stabilizer of coupling, please refer to the corresponding chapters.

8.1.2. BALL COUPLING HOOK LOHR TA2050

If the connection between lorry and trailer is realized by a ball coupling LOHR TA2050, the intervention of the driver is limited to the current checks and maintenance tasks which do not require any disassembly.



If uncoupling of the trailer is necessary, this operation must be imperatively realized in a workshop with specific tooling and in compliance with regulations.



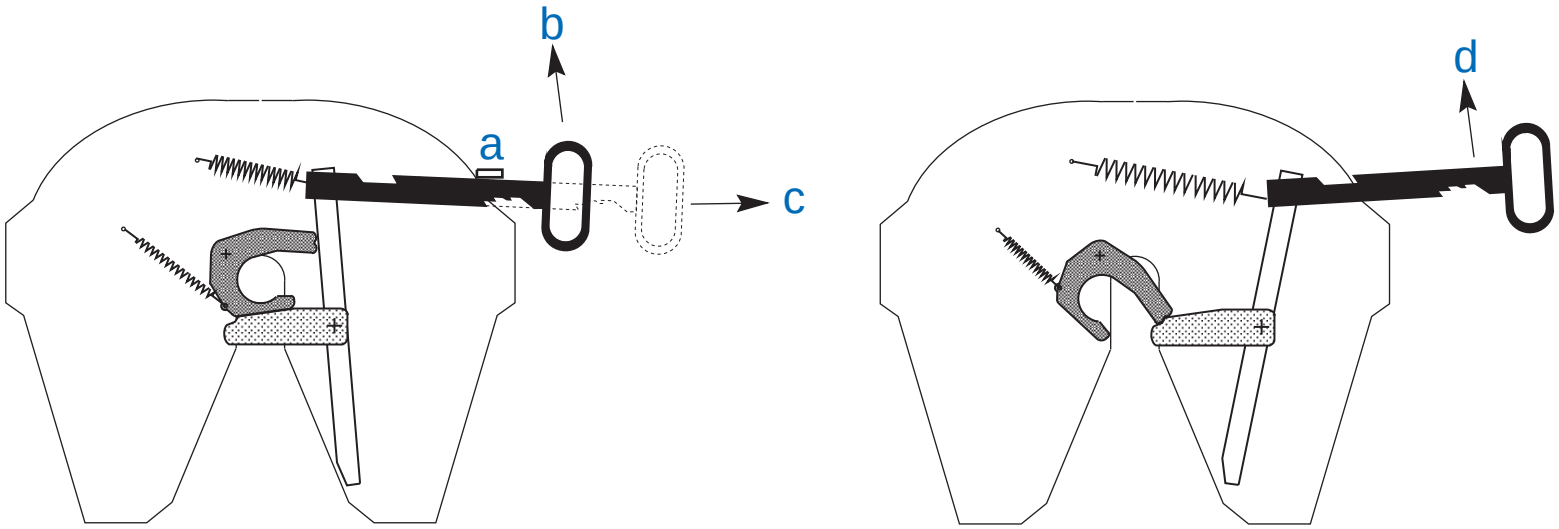
8.1.3. FIFTH WHEEL

The handle (1) is used to activate the fifth wheel mechanism.

The mechanism is locked at the control handle by a spring lock (2) or snap link (3) depending on the assembly.

The locking device (2 or 3) is also intended to provide visual assurance that the kingpin is properly engaged in the fifth wheel.
If the spring lock (2) is not closed or the snap link (3) cannot be closed, do not force the lever (1), but start the coupling manoeuvre again.
It is important to make sure the fifth wheel is locked before each departure.

8.1.3.1. Operation

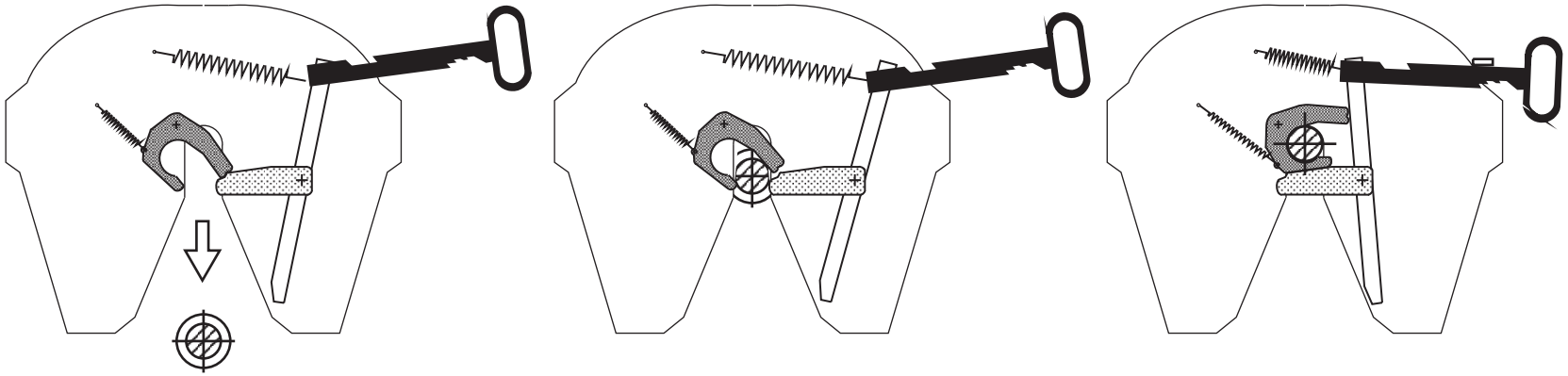


To release the coupling mechanism :

- twist the spring lock (a).
- push the handle towards the front to release the lever from the first stop notch (b).
- then pull the handle as far as it will go (c).
- click the lever into the second notch by pushing the handle forwards (d)

The mechanism is ready for coupling or uncoupling.

To couple the tractor :

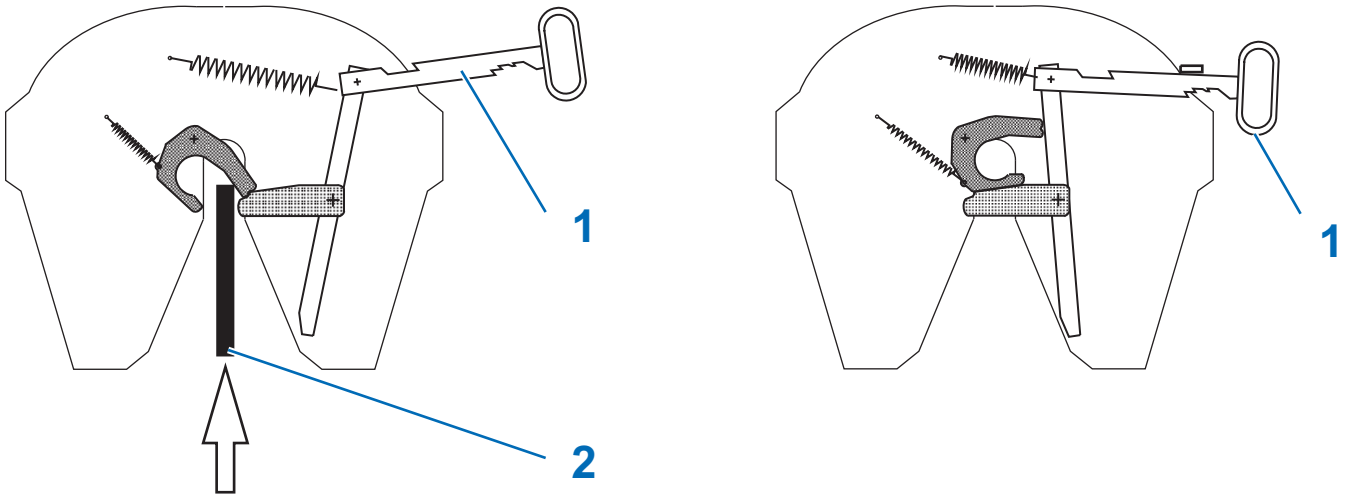


- sure the fifth wheel is in "coupling" position (handle hooked into out position).
- verify that the fifth wheel is slightly higher than the body coupling, changing the setting on the body landing gear or tractor suspension if necessary.
- reverse the tractor in line with the kingpin.
- when the kingpin penetrates the fifth wheel, it releases the coupling and locking mechanism.
- make sure it is properly locked (lever blocked by the spring lock), make the electrical, hydraulic and pneumatic connection and release the handbrake before moving off.
- Retract and store the body side jacks and the trailer drawbar central landing gear..

To uncouple the tractor :

- before activating the fifth wheel mechanism, put on the handbrake and rest the body and trailer on the landing gear.
- after disconnecting the pneumatic, hydraulic and electrical connections, move the tractor forwards.

8.1.4. DOUBLE EUROLOHR / SEMI TRACTOR



If the tractor is equipped with a central fifth wheel designed to pull a semi-trailer, the EUROLOHR body coupling can only be used if the fifth wheel is in locked position to allow the manoeuvring handle to go in (1).

The fifth wheel is locked by releasing the coupling mechanism with a lever (the wheel wrench lever or manual pump lever can be used, 2).

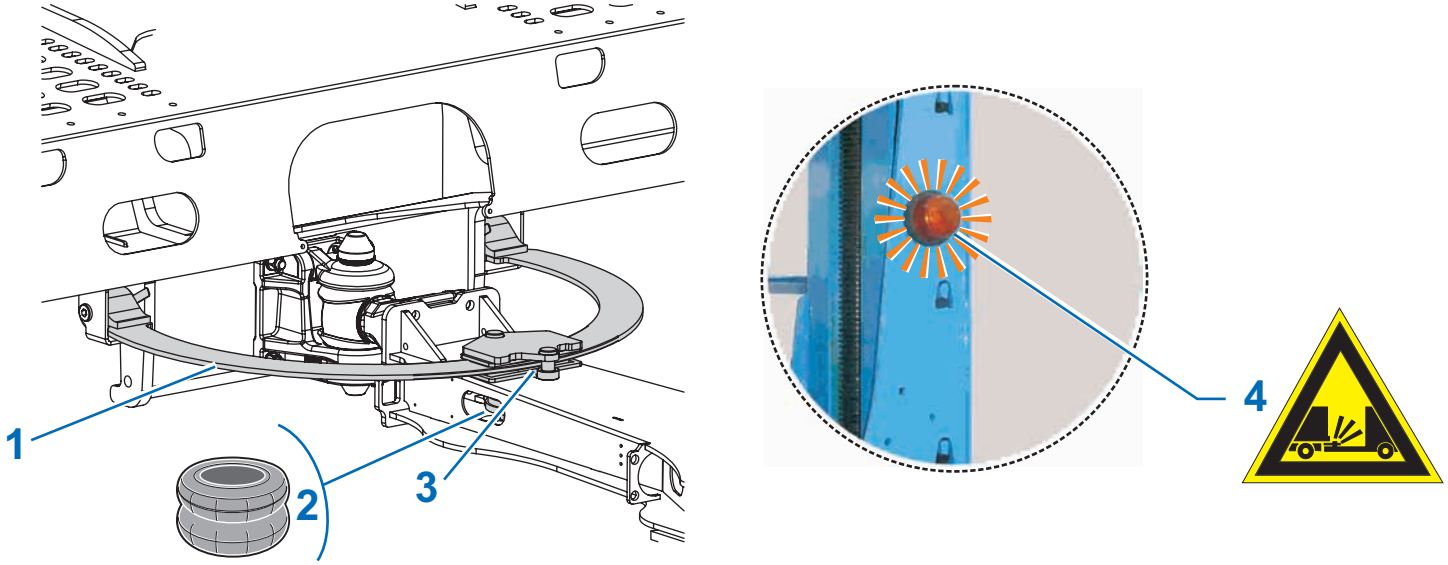
Before coupling the semi-trailer, the fifth wheel must be unlocked.

8.1.5. COUPLING STABILIZER (DEPENDING ON THE TYPE OF EQUIPMENT)

This device provides good driving comfort and can be mounted on most road rigs equipped with trailers with central axles. The improvement is clear on both straight and twisty roads where the trailer's reactions are attenuated without affecting the coupling's manoeuvrability.

In practice, the driver's job is limited to inspections and routine maintenance not requiring dismantling.

8.1.5.1. Operating principle (example)



The articulation between the lorry and the trailer is slowed down by a pneumatic device (with one or two bellows(2)), releasing the clamping of the brake pads (3) on the metal track (1).. The pressure for the operation of the stabilizer is supplied by the pneumatic circuit of the rig, a quick coupler (see chapter 5) realizing the connection with the pneumatic circuit.

Assembly is adapted to each rig type, but the operation principle remains the same.

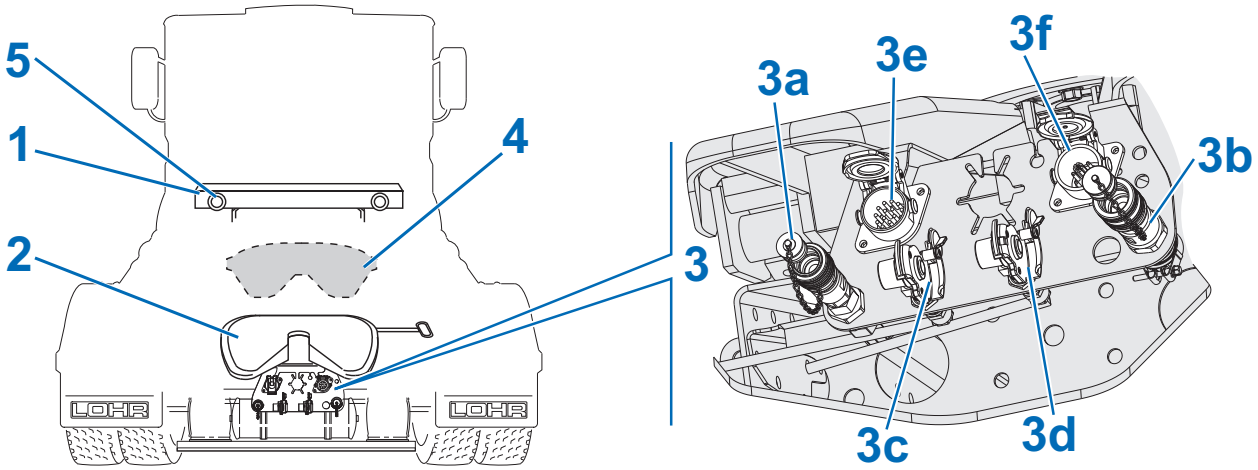
If there is a loss of pressure in the pneumatic bellows, the driver is alerted by a light indicator either on the front right post behind the cab or in the cab, combined with a sound alarm.

In case of malfunction (indicator lit), reduce speed and adapt your driving, while avoiding sudden changes in direction. The device must be repaired as soon as possible.

For the check and the uncoupling of the coupling stabilizer, refer to the chapter maintenance.

8.1.6. COUPLING SYSTEM OF THE TRACTOR EUROLOHR

The EUROLOHR tractor requires a special approval and a special equipment



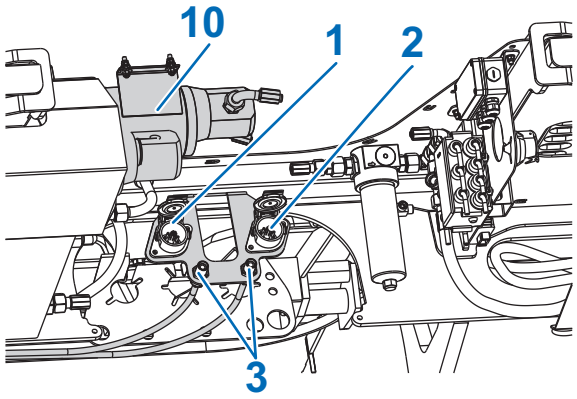
This equipment consists of :

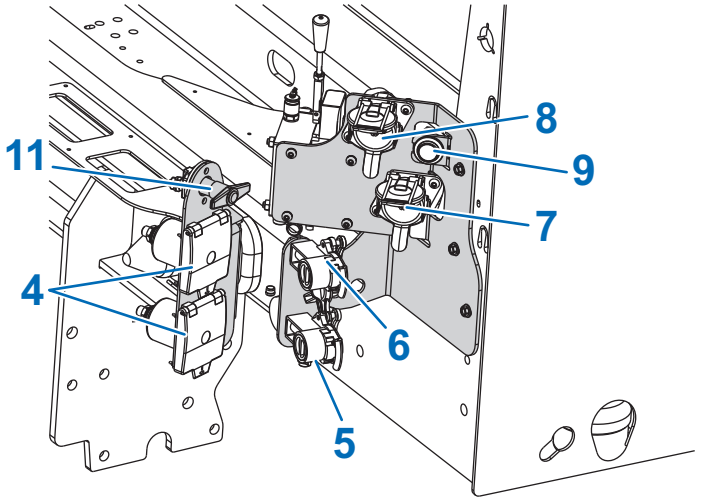
- A cross-piece (1) located behind the cab, with 2 holes (5), for centering the body.

- A coupling device (2) on the rear of the tractor chassis, with the circuit couplings (3).
- A circuit coupling support which includes (except EUROLOHR DISTRIBUTION).

  - 3a 1 Hydraulic coupler of the aspiration system.
  - 3b 1 Hydraulic coupler of the pressure circuit.
  - 3c 1 Yellow brake hose coupler.
  - 3d 1Red brake hose coupler.
  - 3e 1 Outlet 15 prongs for signaling.
  - 3f 1Outlet 7 prongs for the EBS.

8.1.7. COUPLING EUROLOHR DISTRIBUTION



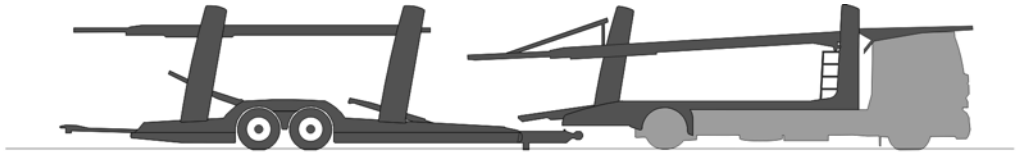


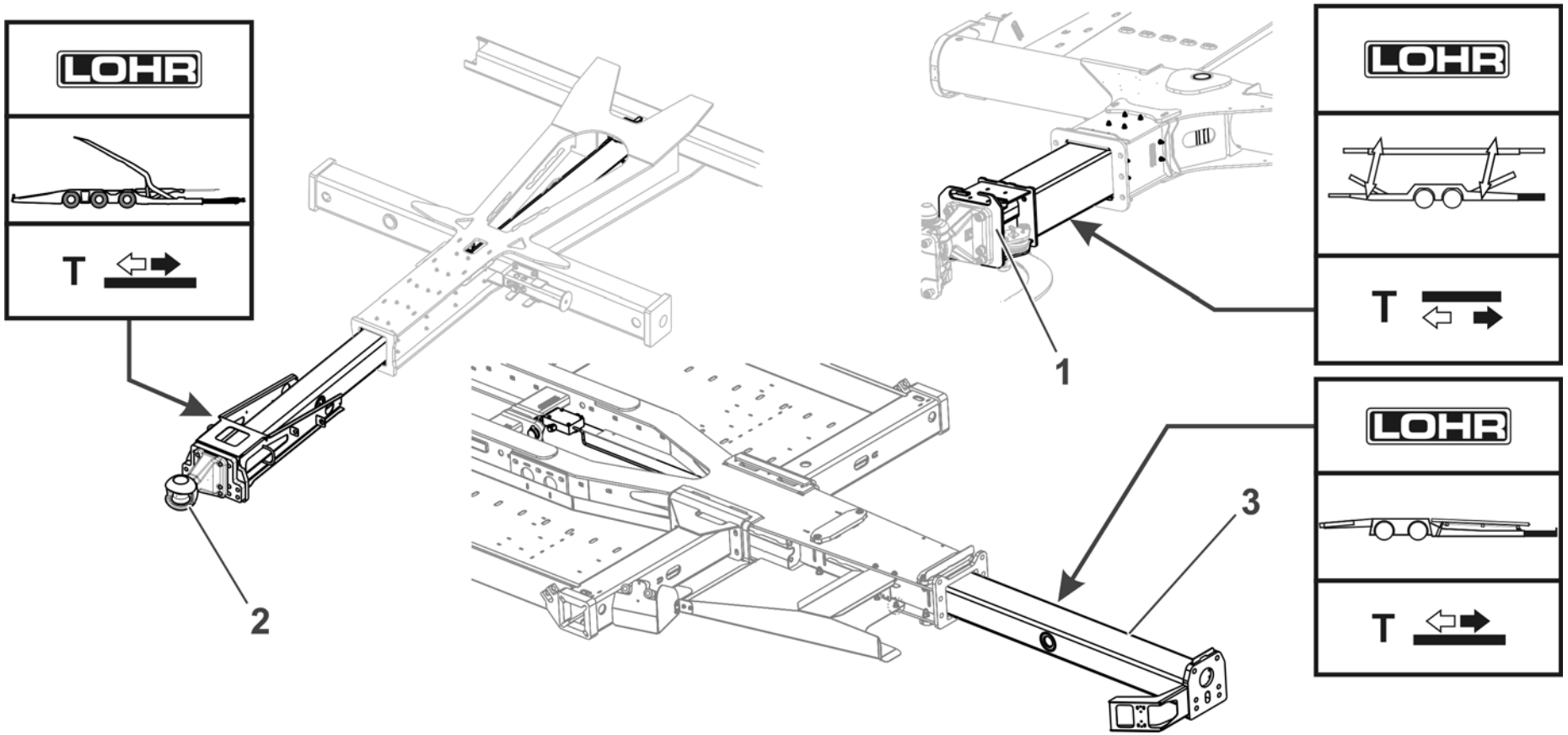
Coupling of the hydraulic / electric / pneumatic circuits :

1 Outlet 15 prongs for signaling (at the back of the body)
2 Outlet 7 prongs for the EBS (at the back of the body)

3 Supply of the pneumatic circuit
4 Sockets (power circuit) onboard hydraulic unit supply (10)
5 Yellow brake hose coupler
6 Red brake hose coupler
7 Outlet 7 prongs for the EBS (at the front of the body)
8 Outlet 15 prongs for signaling (at the front of the body)
9 Start of the electrohydraulic unit
10 Electrohydraulic onboard unit
11 Batteries cut-off (tractor's equipment)

8.1.8. TELESCOPIC DRAWBAR WITH HYDRAULIC CONTROL





In order to safely manoeuvre the telescopic draw-bar, it is imperative that the trailer be secured by means of the parking brake whereas the truck cab must be capable of freely moving in a straight line..

Manoeuvring the hydraulic draw-bar must, imperatively, be performed on a flat surface using the following procedure :

- Place the convoy in a straight line without blocking the wheels
- Lock the parking brake, separately if the vehicle is equipped with separate controls for the truck and trailer.
- When the truck and trailer are both braked, and if the truck does not have a separate trailer parking brake control in the cab, lower the cab in order to activate the trailer parking brake.
- Remove the safety that prohibits use of the PTO when the parking brake is removed.
- Engage the PTO.
- Activate the control to remove the truck parking brake (general control or separate truck control).
- When the truck is not braked and the trailer is braked, it is then possible to activate the hydraulic control to change the length of the draw-bar.

8.1.9. TYPE OF RIG :

(1) Car transporter with fixed body CHR et MULTILOHR stroke 800 mm. (Option)

(2) Heavy transports MAXILOHR stroke 1500 mm.

(3) Specific transports TALE stroke 1500 mm. (Option)

8.1.10. OPERATION :

Use of the extendable tongue must respect the highway code :

- **Maximum rig length**
- **Use in case of oversize transport**

OPERATOR SAFETY GUIDE

9.

LIFTING SYSTEMS

General instructions

9.1. SAFETY RULES

It is absolutely necessary to observe the safety rules mentioned below

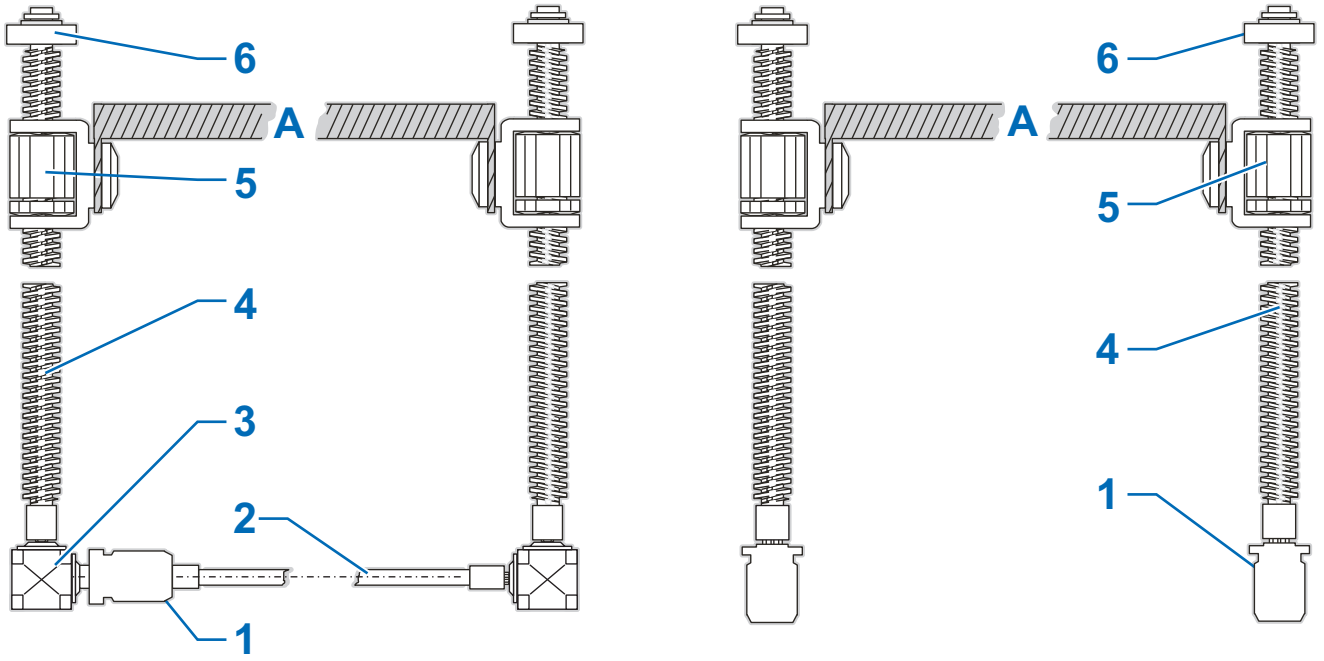
A minimum amount of attention must be paid when moving the platforms :

- **Make sure the movement can take place without danger.**
- **Nobody should be on or under the platforms during movement.**
- **Always follow the path of moving elements to be able to stop the current move at any time.**
- **Never place hands, head or other parts of body upon or under the trajectory of mobile parts in movement.**

9.2. LIFTING SYSTEMS

9.2.1. SCREW LIFTING SYSTEM

Lifting capacity . . . . . 5000 kg



Depending on the equipment, there are several types of screw lifting systems :

- Screw lifting system with mechanical connection by a transmission shaft to the hydraulic motor for a lifting crane.
- Independent screw lifting systems with hydraulic motor, by lifting screw.

A rig may be equipped with several types of screw lifting systems.

9.2.2. OPERATING PRINCIPLE

Depending on the system, the lifting power is transmitted to the lifting screws (4) by one or two hydraulic motors (1). In the system with only one lifting motor (1), power is retransmitted to a second screw (4) by an angle transmission system(3)and a transmission shaft(2).

The interface between the mobile platform (A) and the lifting screws is realized by the forks which are trapping the lifting nuts (5).

Ball stops (6) are fixing the screws at the top of the lifting posts.

The lifting screw cranes are not reversible, that means that the charge transmitted by the lifting nuts cannot make them turn. Optionally, certain rigs are equipped with manual locks at the bottom of the lifting screws (for roads with very strong vibrations).

On the cranes with independent screws (two motors), there may occur a height difference between the left and the right lifting nut. An electric control permits to close the hydraulic supply of one of the hydraulic motors in order to reset the platform level. The realignment control is located beside the distributor block.

9.2.2.1. Operation

- Engage the power take off (if necessary).
- Activate the control corresponding to the desired lift.

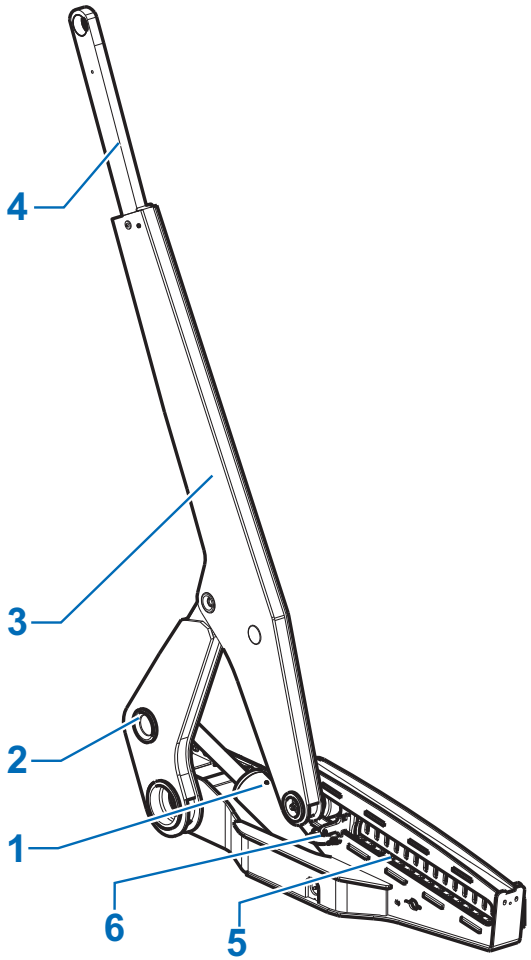
pulling the distributor lever to raise the platform.
pushing the distributor lever to lower the platform.

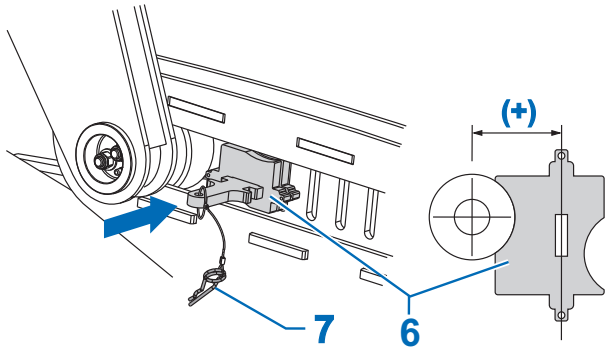
During movement, the nuts may reach the upper or lower stop, preventing the gantry from moving further. The platform must therefore be moved carefully when it is close to the limit of travel. In case of blocking of the crane, refer to chapter(6)maintenance.

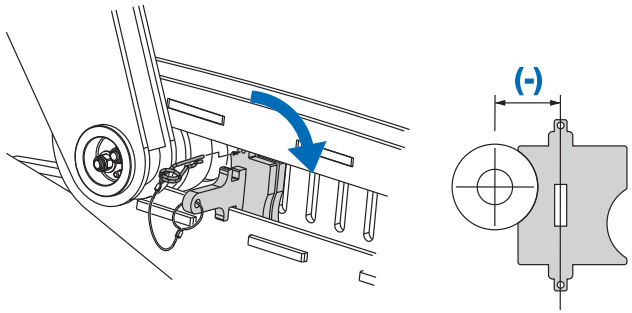
9.2.3. PIVOT-TYPE LIFTING SYSTEM

Lifting capacity . . . . . 5000 kg

Lifting systems "ST2007"







9.2.3.1. Operating principle

This equipment is used to carry large vehicles on the upper platform in low position. At each side, a hydraulic cylinder (1) is operating a strut (2) which is deploying the lifting post (3), the upper telescopic part (4) of the post being linked to the mobile platform.

The locking of the platform position is realized by the pressing of the rollers at the bottom of the posts (3) on the removable stops (6) which are placed symmetrically in the lower slides (5). Two adjustment positions are possible for the stop, depending on the orientation of the removable stops (6)

An electric control permits to close the hydraulic supply of one of the cylinders so that the platform level is synchronized again.

The realignment control is located beside the distributor block.

9.2.3.2. Operation

- Engage the power take off (if necessary).
- Lift slightly the platform in order to remove the removable stops 6.
- Activate the control corresponding to the desired lift.

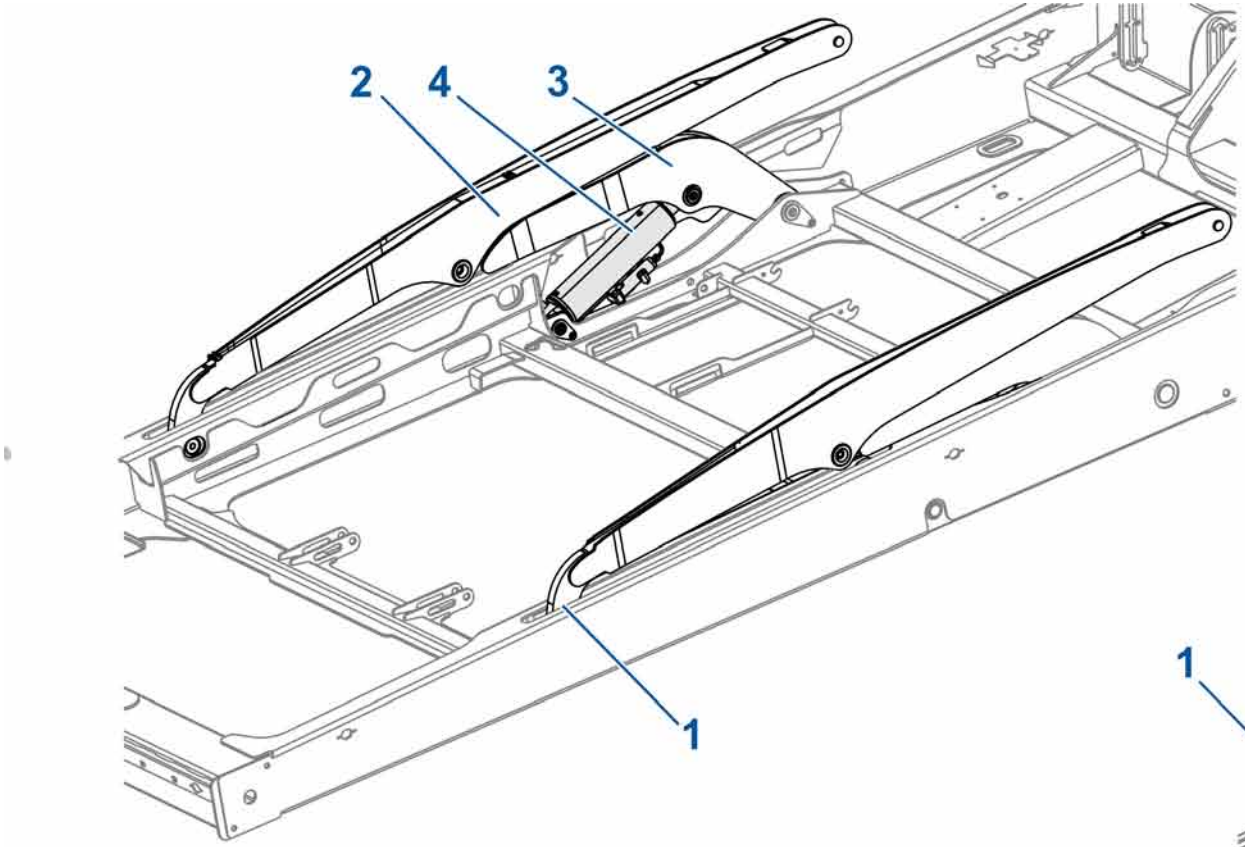
pulling the distributor lever to raise the platform.
pushing the distributor lever to lower the platform.

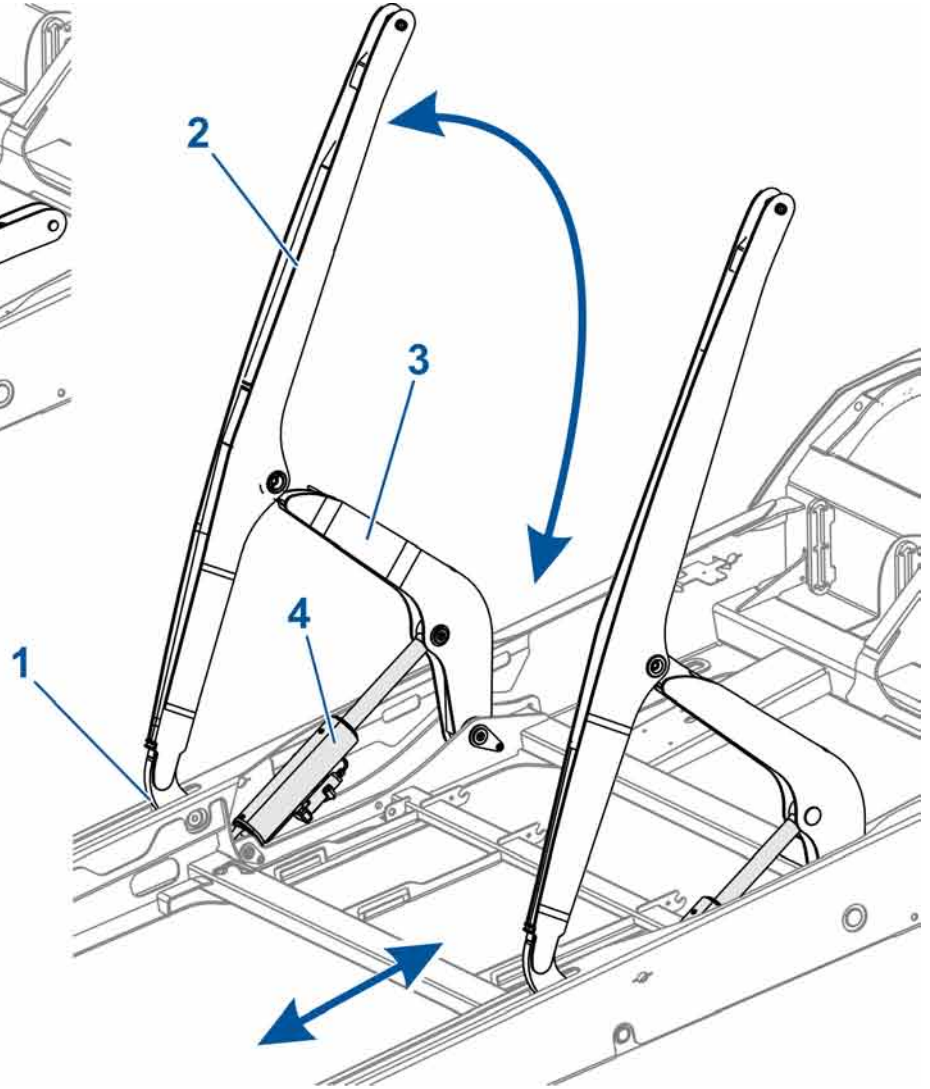
At the end of the operation, place the posts upon the removable stops (6) which are positioned symmetrically on the slides (5) and locked by the pins (7).

OPTION :

Locking in position by automatic locking cylinders (no bolt).

9.3. LIFTING SYSTEMS ”S”





Lifting capacity . . . . . 5000 kg

9.3.0.1. Operating principle

This equipment is used to carry large vehicles on the upper platform in low position. At each side, a hydraulic cylinder (4) is operating the post (2), the upper part of the post being linked to the mobile platform. The post is equipped with a strut(3)and with a system for horizontal guiding(1).

The platform is automatically locked when the hydraulic feed is cut.

Synchronization of posts is carried out hydraulically.

An electric control permits to close the hydraulic supply of one of the cylinders so that the platform level is synchronized again.

The realignment control is located beside the distributor block.

9.3.0.2. Operation

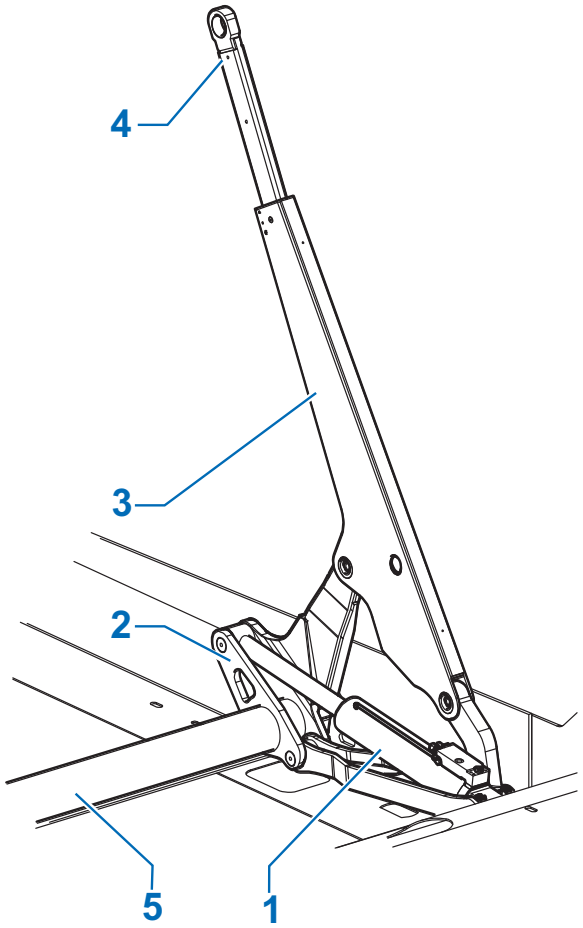
- Engage the power take off (if necessary).
- Activate the control corresponding to the desired lift.

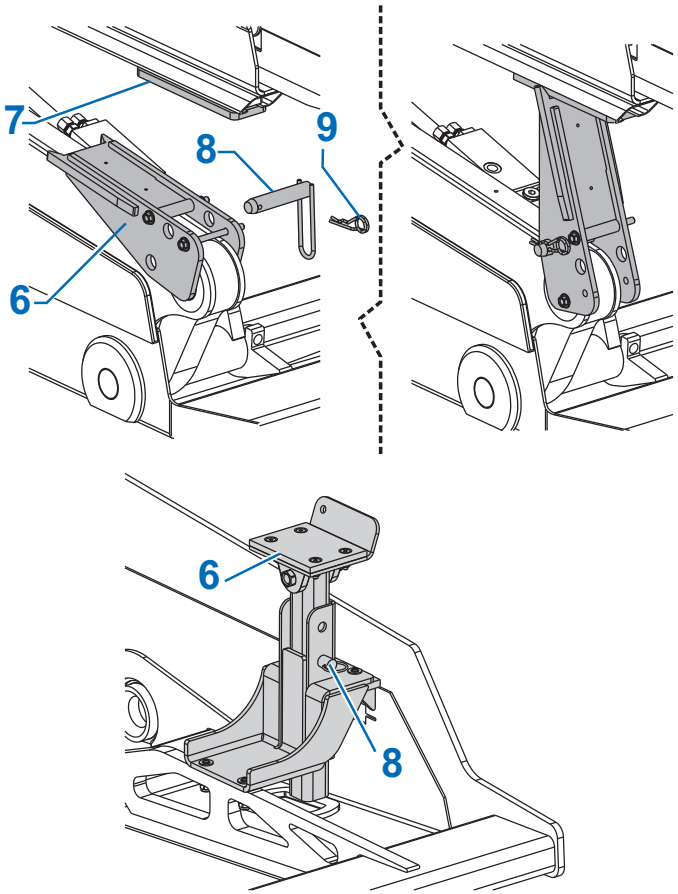
pulling the distributor lever to raise the platform.
pushing the distributor lever to lower the platform.

Warning! When the hydraulic oil in the lift jacks is cooled, there may be a settling of the upper platform by as much as 30 mm.

9.3.1. LIFTING SYSTEMS "MT"

Lifting capacity . . . . . 5000 kg





Supporting stands for the upper platform (option for trucks)

9.3.1.1. Operating principle

This equipment is used to carry large vehicles on the upper platform in low position. At each side, a hydraulic cylinder (1) is operating a strut (2) which is deploying the lifting post (3), the upper telescopic part (4) of the post being linked to the mobile platform. A connecting tube (5) is guaranteeing the synchronized movement of the left and of the right post (6).

Warning! When the hydraulic oil in the lift jacks is cooled, there may be a settling of the upper platform by as much as 30 mm.

9.3.1.2. Operation

- Engage the power take off (if necessary).
- .Activate the control corresponding to the desired lift.

pulling the distributor lever to raise the platform.
pushing the distributor lever to lower the platform.

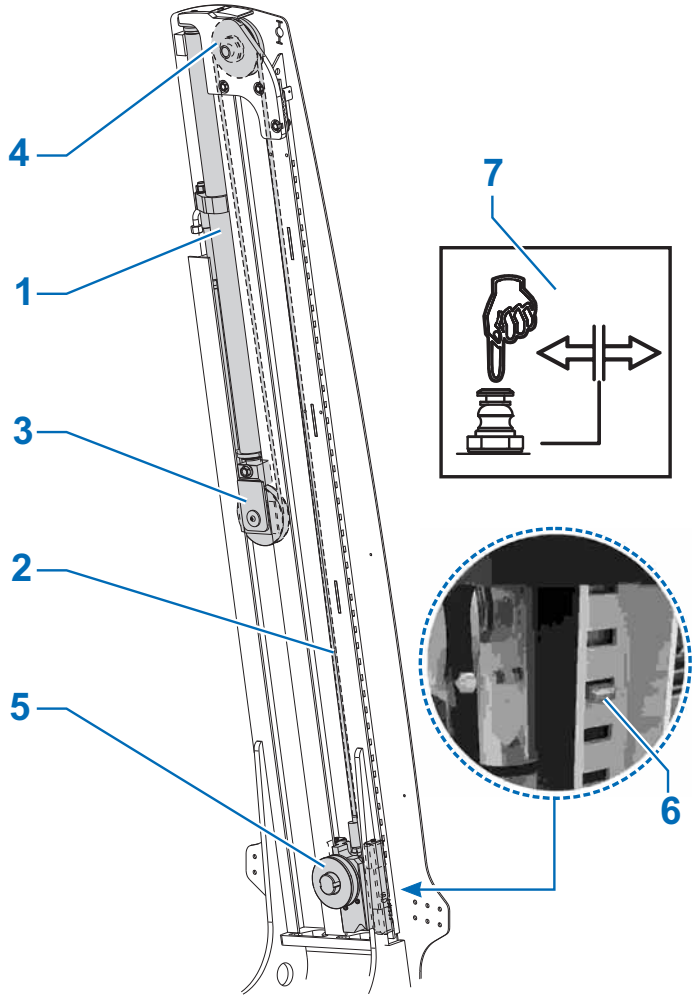
9.3.1.3. Supporting stands for the upper platform (option for trucks).

The stands 6 which are mounted on the back of the lifting arm of the tractor or on the chassis of the trailer can support the upper platform 7 horizontally in case of heavy load, in low position.

- Remove the pin (9) and the bolts (8).
- Tilt or pull the stand (6).
- Refit the rods (8) and pins (9) (Depending on the type of equipment).
- Lower the upper platform so that the platform is supported by the stands.

9.3.2. CABLE LIFTING SYSTEM

Lifting capacity . . . . . 5000 kg



9.3.2.1. Operating principle

This lifting system is moved by a pair of hydraulic cylinders (1) which are moving a system of cables (2) and pulleys 3/4); in each post, one fork (5), equipped with guiding pads, permits the take-over of the upper platform. The locking in position of the platform is realized by pneumatic locks (6) which are located in the forks (5).

The pneumatical unlocking is operated by the control (7).

9.3.2.2. Operation

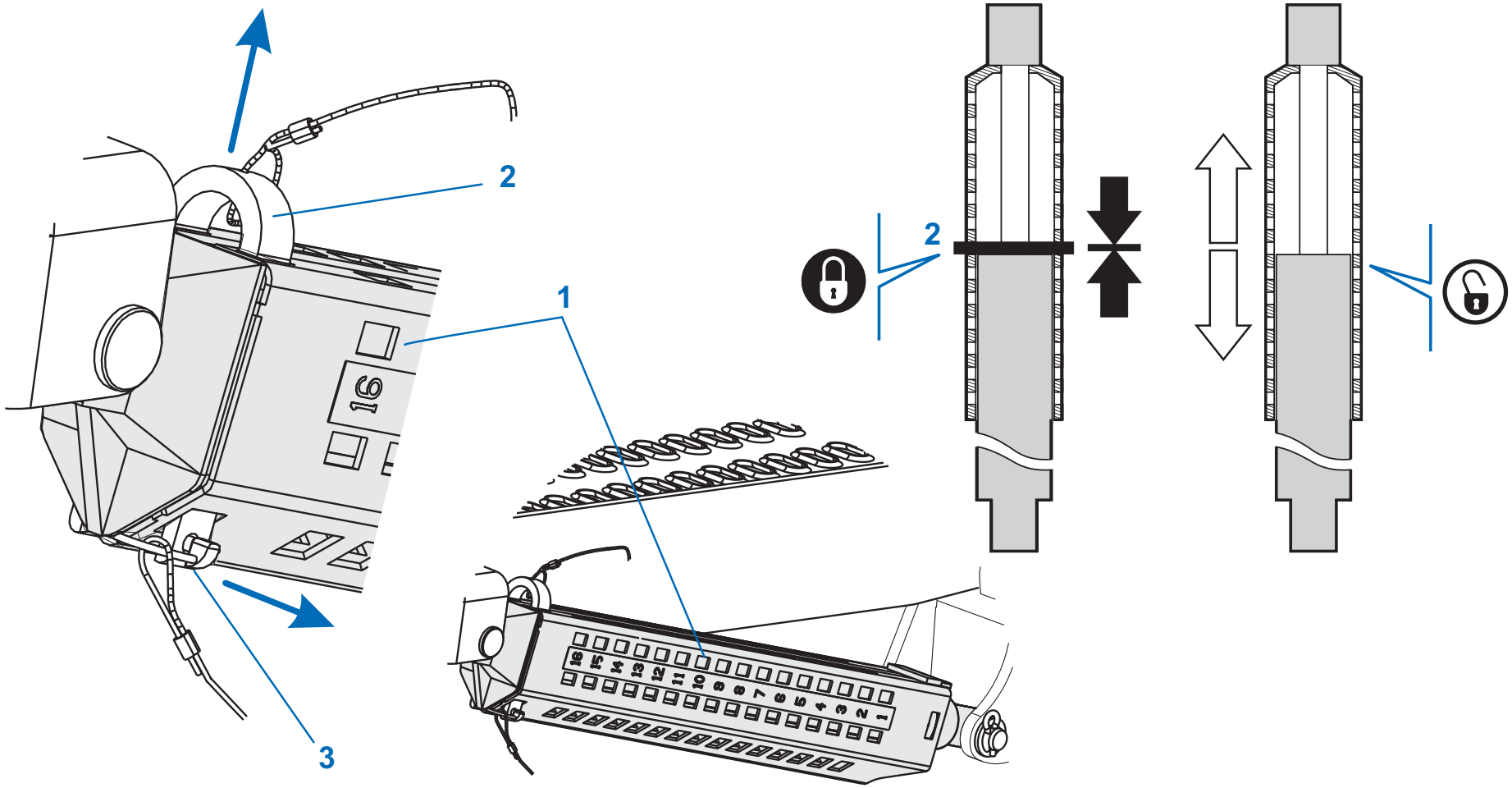
- Engage the power take off (if necessary).
- Activate the control corresponding to the desired lift.

pulling the distributor lever to raise the platform.
pushing the distributor lever to lower the platform.

On the cable lifting system, a height difference between the left and the right lifting may occur. In order to reset the platform level, the alignment of the height differences left/right is realized by maintaining the max. upper position for some seconds.

9.3.3. LIFTING SYSTEM BY JACKETED CYLINDERS

Lifting capacity . . . . . 5000 kg



9.3.3.1. Operating principle

This lifting system is moved by a pair of hydraulic cylinders (1), operating directly the platform to be lifted.

Cylinders are enveloped by perforated jackets, permitting the lock in position of the mobile element by positioning bolts (2) and pins (3).

9.3.3.2. Operation

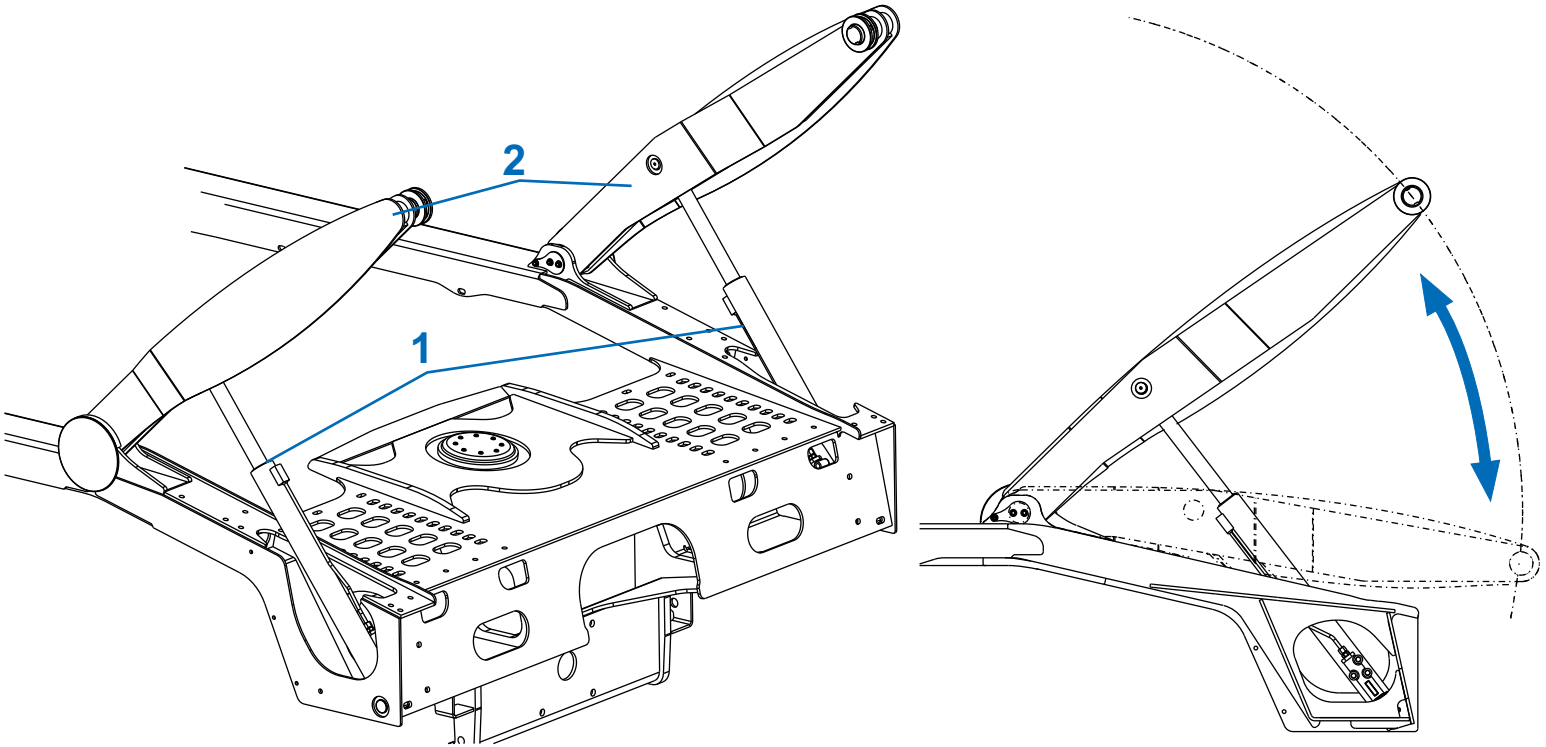
- Engage the power take off (if necessary).
- Remove the pins (3) and the bolts(2)
- Switch on one of the following functions.
- Lock the cylinder with the bolts and pins, position the pins (2)symmetrically in the cylinder linings.

pulling the distributor lever to raise the platform.
pushing the distributor lever to lower the platform.

Before starting the transport, check imperatively that the cylinder is locked correctly.

9.3.4. LIFTING SYSTEM WITH TILTING POST

Lifting capacity 5000kg



9.3.4.1. Operating principle

This equipment is used to carry large vehicles on the upper platform in low position. At each side, a hydraulic cylinder (1) is operating the post (2), the upper part of the post being linked to the mobile platform.

Synchronization of posts is carried out hydraulically.

Warning! When the hydraulic oil in the lift jacks is cooled, there may be a settling of the upper platform by as much as 30 mm.

An electric control permits to close the hydraulic supply of one of the cylinders so that the platform level is synchronized again.

The realignment control is located beside the distributor block.

9.3.4.2. Operation

- Engage the power take off (if necessary).
- Switch on one of the following functions.

pulling the distributor lever to raise the platform.
pushing the distributor lever to lower the platform.

OPERATOR SAFETY GUIDE

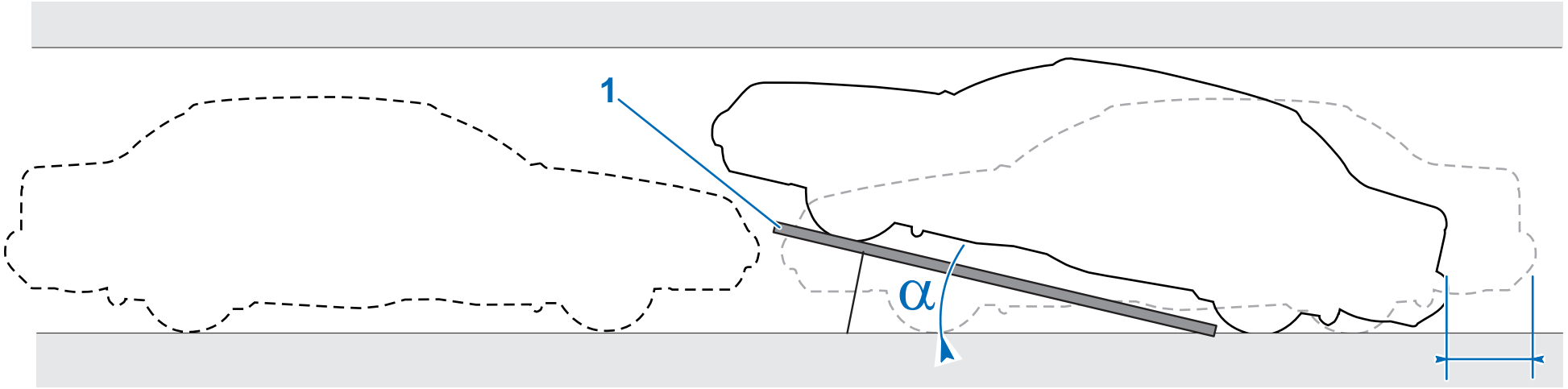
10.

TRANSPORT ACCESSORIES

General instructions

10.1. TRANSPORT ACCESSORIES

10.1.1. MOVABLE STACKING RAMPS



The stacking ramps (1) are used to provide a more favourable position for loading the platforms, by making better use of the space between the platforms., 20-25°° maximum.

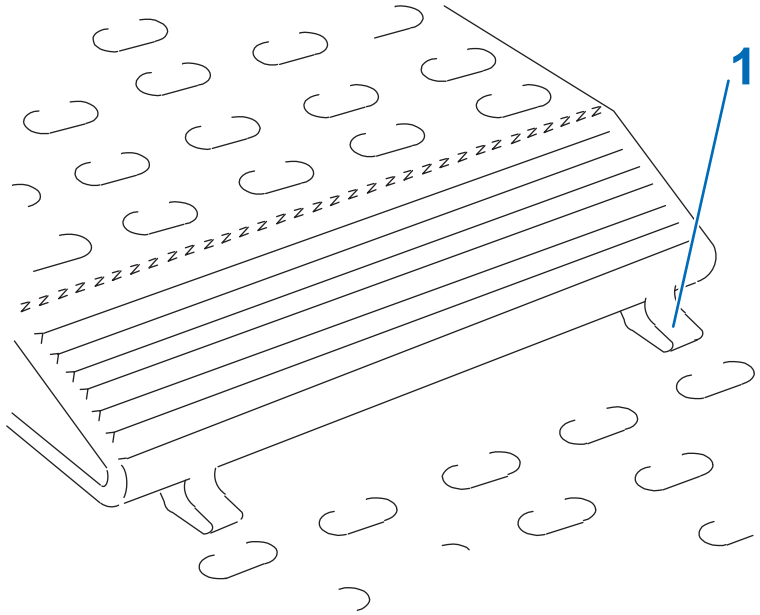
In any case, the maximum angle of vehicles to the horizontal is subject to the authorisation of the manufacturer of the vehicles being carried..

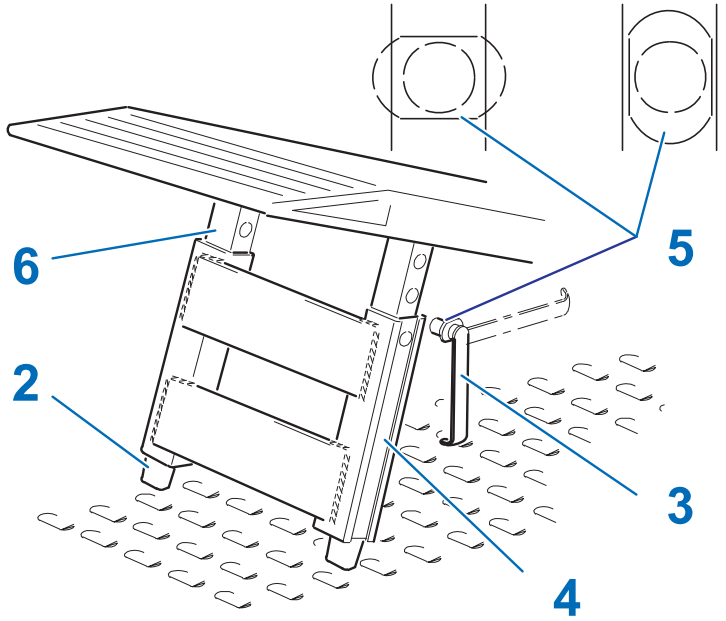
10.1.1.1. Positioning

The positions of the ramps in the floor perforations can be set every 50 mm.

In retracted position, the legs are folded under the ramps, which rest on the flooring, thereby allowing vehicles to pass.

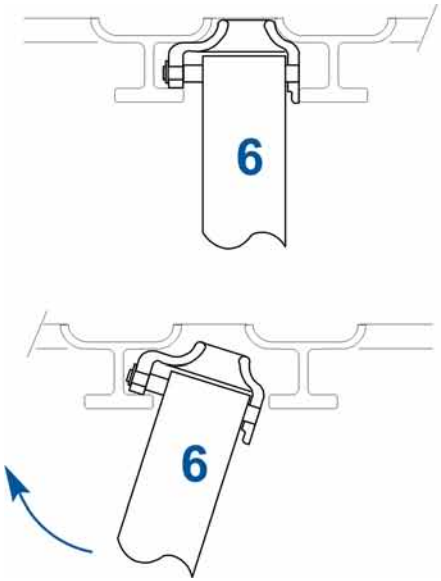
10.1.1.2. Installation

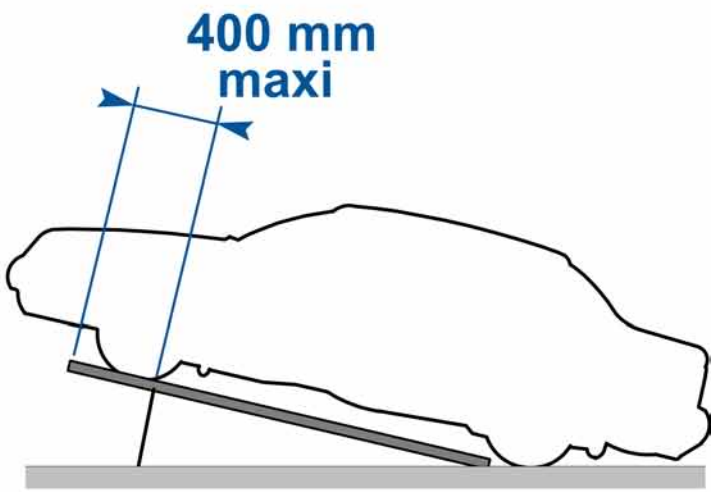




- Hook the ramp into the floor perforations using the grips (1).
- Raise the front of the ramp, insert the studs (2) into the holes in the perforated plates.
- The angle of tilt of the stacking ramps is set by changing the height of the legs.
- Turn the pins (3) by 90° to remove them.
- the pins (3) are locked when the plates (5) and handles are locked into the lateral grooves of the lower part of the leg (4).

The position in which the legs are fixed under the ramps can be changed.

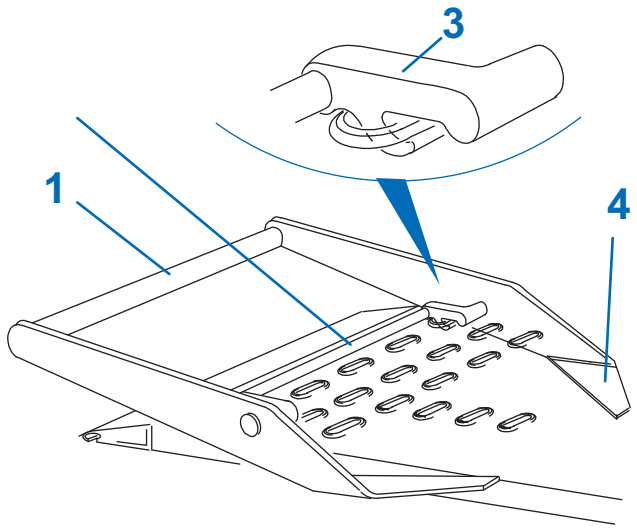


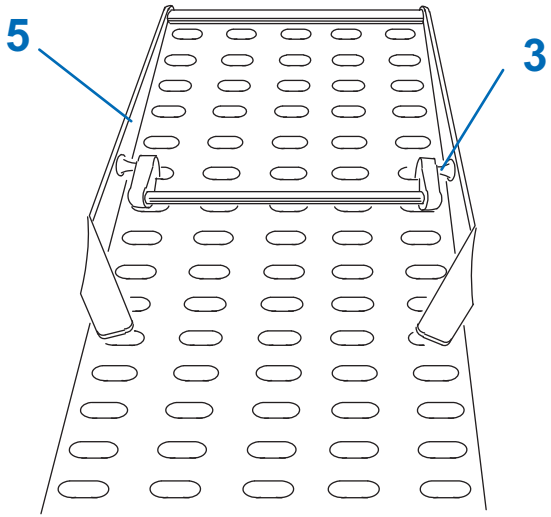


- remove the lower part of the leg.
- remove the uprights (6) as shown in the diagram.
- remount the parts (6) and the lower part of the leg
- locking the assembly with the pins (6)

The leg must be positioned not more than 400 mm from the end of the ramp.
The setting must always be symmetrical on the same pair of ramps.

10.1.2. RAMP CHOCKS





These are used to chock the vehicles on the stacking ramps, with one chock per pair of ramps.

Assembly :

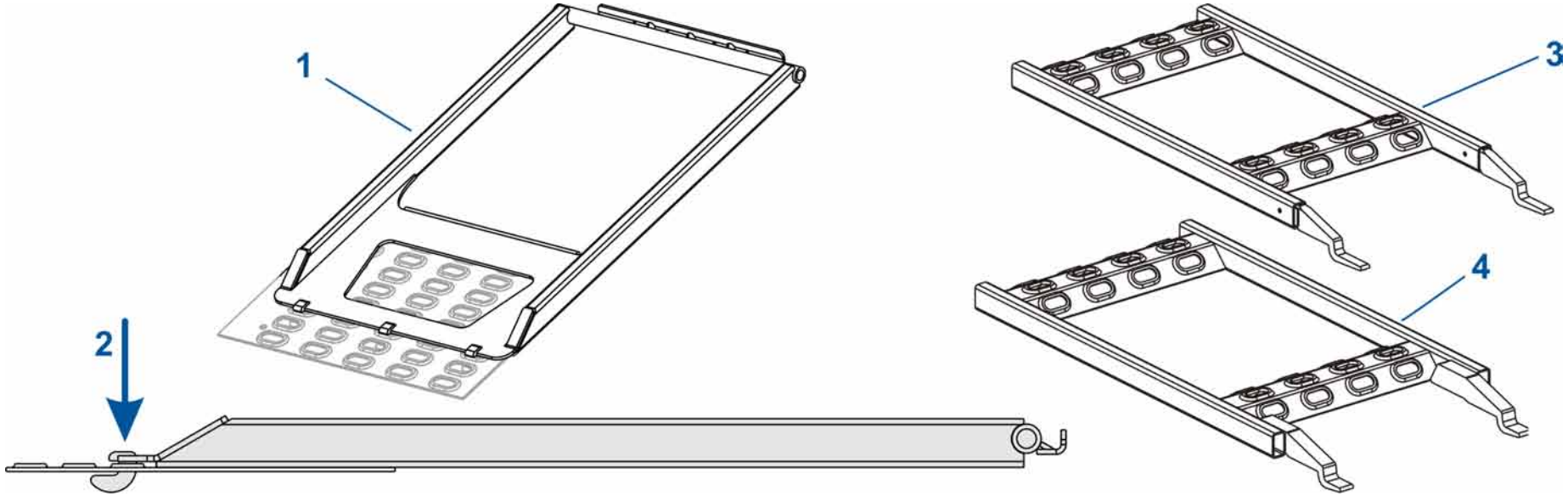
Slide the chock (1) onto the ramp so that the stops (4) are underneath.

They are fixed in place by inserting hooks (3) into the perforations in the ramp, by twisting the handle (2).

When a vehicle is loaded onto a pair of ramps, stopped against the chock, the wheel bears on the handle and locks the whole assembly.

If a ramp chock (5) is not used, it must be turned over and stored flat on one of the stacking ramps. In this case, it must also be locked using the hooks (3).

10.1.3. HOLLOW LOADING CHOCKS



The hollow loading chocks(1)are serving as prolongation for the stackers or for the extensions of the platforms. Their cavities are intended to block the wheels of vehicles in a position which is favoring the loading height.

There are two types of open blocks, with different widths and lengths. The smallest being designed for loading small and medium-sized sedans and the other being designed for loading minivan vehicles or 4X4.

Installation :

☛ Raise the front of the ramp, insert the studs (2) into the holes in the perforated plates

ⓘ Make sure to leave some free space beyond the steel decking for the positioning of the wheel in the cavity.

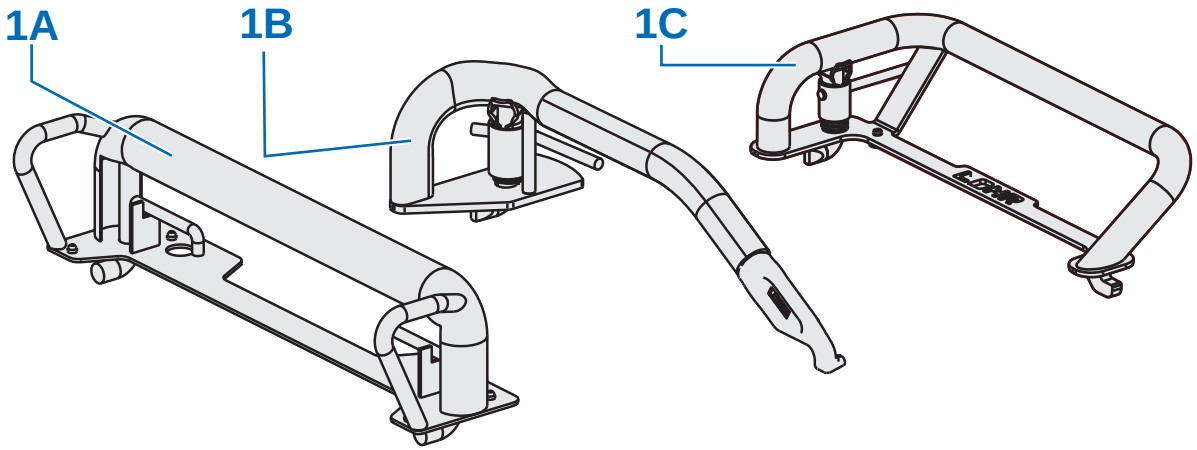
Depending on the vehicle, different types of hollow chocks may have the same functions :

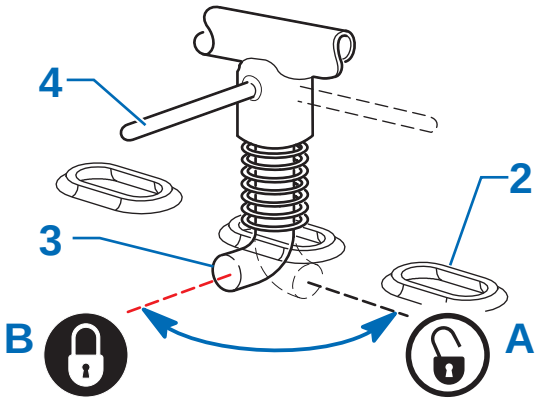
Special narrow(3)and hollow(4)loading chock.

10.1.4. WHEEL CHOCKS

Several chock types permit the blocking of vehicles on the platform.

10.1.4.1. Mobile wheel chocks





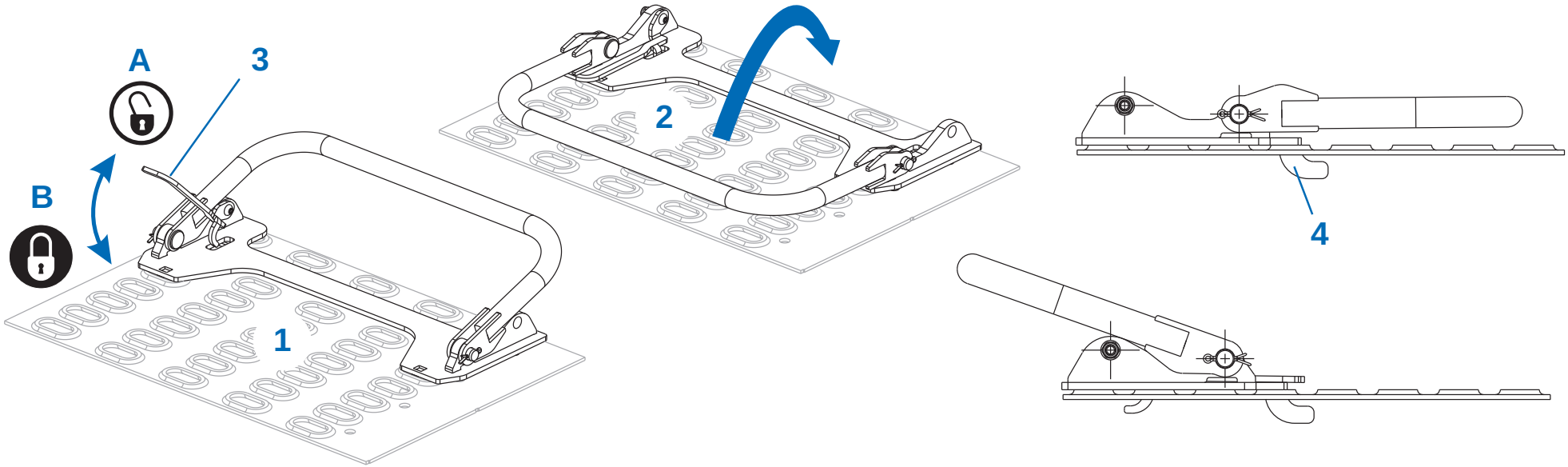
These fit into the flooring perforations.

The chocks (1A - 1B) are held in the flooring perforations (2) by rotating locks (3).

The chock is locked when the handles (4) are facing towards the front or back of the rig.

The vehicle is immoblised when there is contact between the tire and the block. The blocking must be performed in accordance with the recommendations specified in the "Vehicle Stowing" chapter.. .

10.1.4.2. Articulated wheel chocks



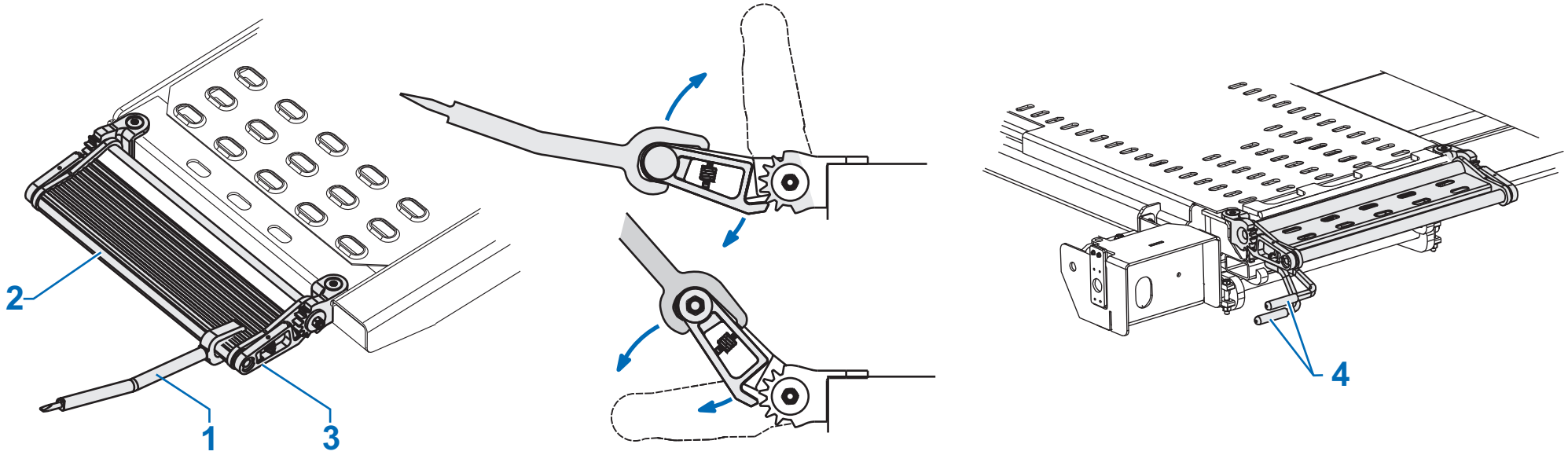
This type of chock permits the blocking of the vehicle when the stop is in high(1)position, and also the passage of vehicles in folded(2) position, without dismantling the chock from the platform or from the stacker.

The chock is locked when the lever(4)is in low position.

The vehicle is immoblised when there is contact between the tire and the block. The blocking must be performed in accordance with the recommendations specified in the "Vehicle Stowing" chapter.. .

10.1.4.3. Articulated wheel chocks

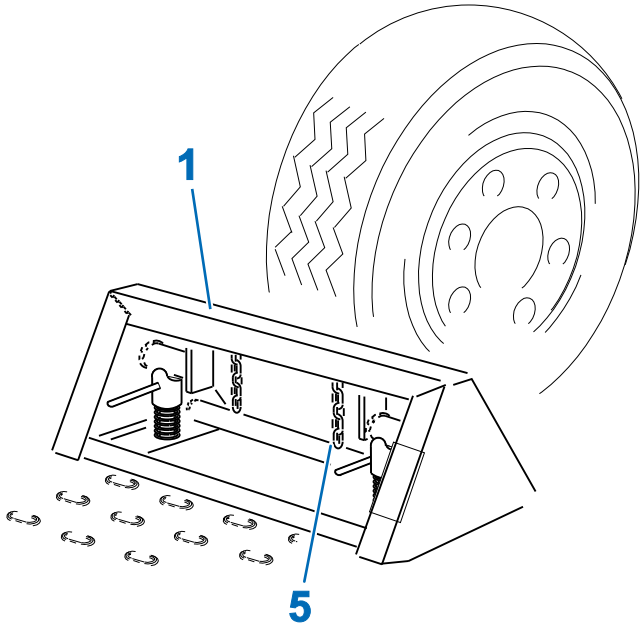
These are found at the ends of certain platforms (depending on the variant).

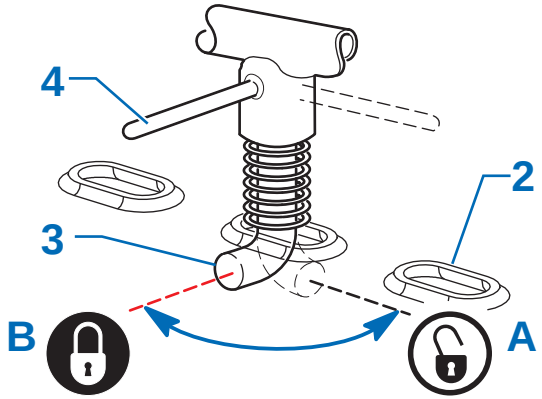


- For operating the articulated chocks, the tool (1) is required, which is supplied in the board kit.
- Position the lever on the chock plate and turn the unit (upwards) to the desired position. It automatically locks into position.
- For unlocking the chock, place the lever (1) on the lateral lock (3).
- First raise it gently to release the lock from the toothed wheel, then, while holding it in this position, swivel the whole chock downwards.
- On the rear extension of the trailer, the locking and unlocking does not require any tool, they are carried out by tightening the handles (4)

10.1.4.4. Wheel chocks for trucks

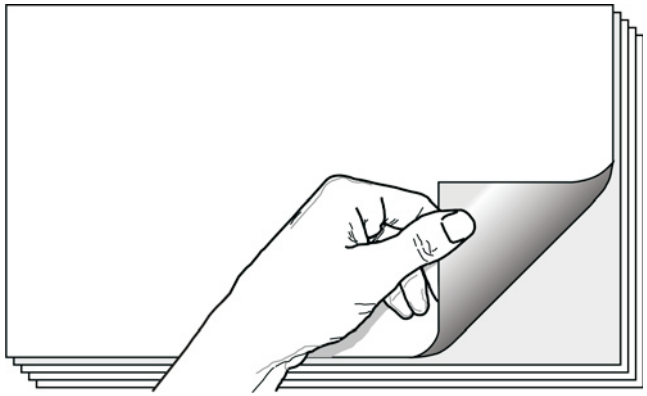
These fit into the flooring perforations.



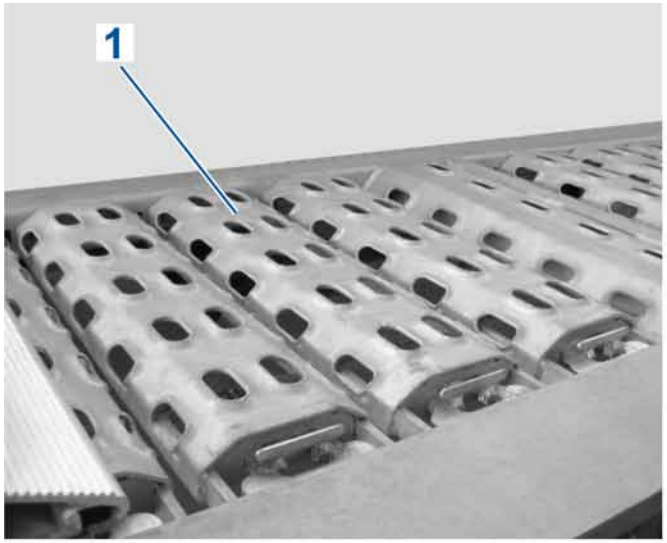


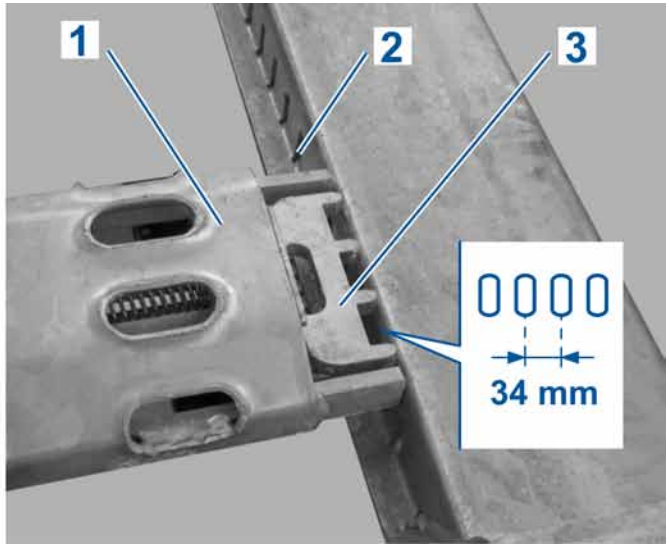
- The chocks (1) are held in the flooring perforations (2) by rotating locks (3).
- The chock is locked when the handles (4) are facing towards the front or back of the rig.
- Locking of the unit by connecting the levers(4)with the chains(5)

The vehicle is immoblised when there is contact between the tire and the block. The blocking must be performed in accordance with the recommendations specified in the "Vehicle Stowing" chapter..



10.1.5. MOBILE CAVITY BLOCKS





Depending on models and options, certain zones of the surface of the platforms may consist of removable sections (1), and their position permits :

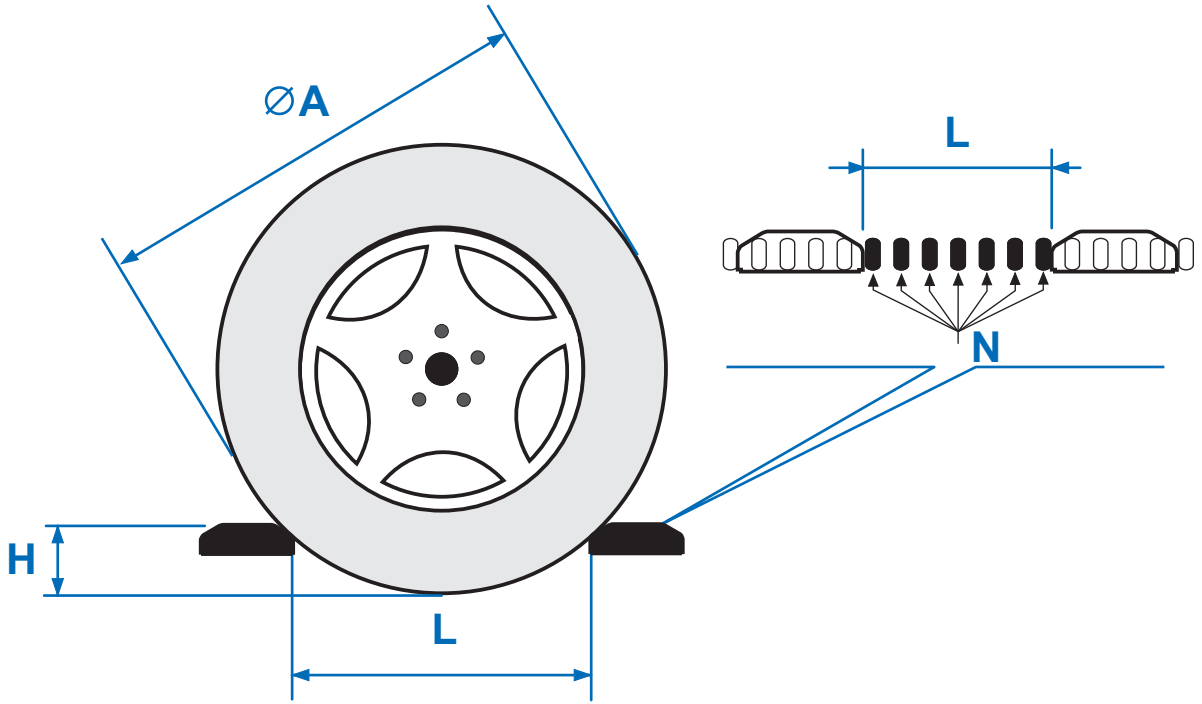
- to form cavities for blocking of wheels of the vehicles, in a position which is favoring the loading height.
- to close the driving surface, in order to permit the passage of vehicles.

The locking of the traverses (1) on the driving zone, or the storage in the center of the platform is realized by the fixing of fixed and mobile claws (2) in the perforations (3) of the platform (distance 34 mm).

Before the departure, check that the dismountable items are correctly attached as the loss of a rolling component may cause an accident.

Walking on the platforms which are equipped with removable cavities may be dangerous.

10.1.5.1. Conditions for shimming with removable blocks



The distance(L)between the blocks varies depending on the dimension of the tires of the vehicle to be transported, and the minimum and maximum adjustment values for different tire dimensions are given in the chart below.

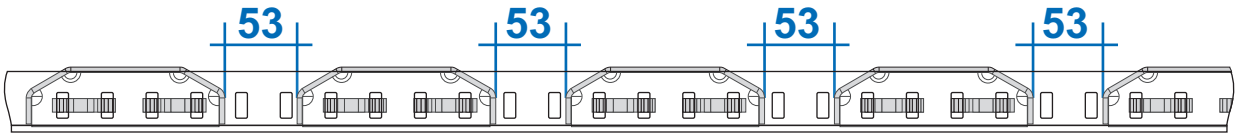
The removable blocks are positioned in a rack with receptacles every 34 mm.

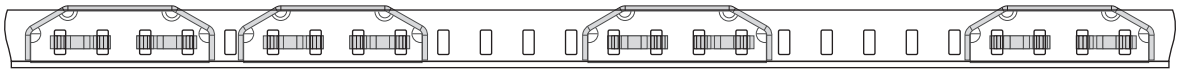
As specified in manufacturer instructions, adjust the dimension (L) in order to achieve a size (H) equal to 1/6 of the wheel diameter.

10.1.5.2. Chart of correspondences between distance of blocks and tire diameter.

Tire diameter	Min spacing (L)			Max spacing (L)			Type of tire
	L	H	N	L	H	N	
554 mm	398 mm	103 mm	13	471 mm	150 mm	15	135/80 R13
607 mm	432 mm	110 mm	14	502 mm	154 mm	16	165/ R13
614 mm	432 mm	110 mm	14	502 mm	154 mm	16	155/ R14
639 mm	466 mm	121 mm	15	502 mm	142 mm	16	255/55 R15
685 mm	466 mm	112 mm	15	537 mm	150 mm	17	225/65 ZR15
642 mm	466 mm	121 mm	15	501 mm	141 mm	16	205/55 ZR16
698 mm	466 mm	110 mm	15	537 mm	147 mm	17	215/65 R16
750 mm	500 mm	115 mm	16	570 mm	152 mm	18	235/65 R17

When the slots are not used, the blocks must be positioned regularly in the frames to prevent creating excessive void between two blocks.



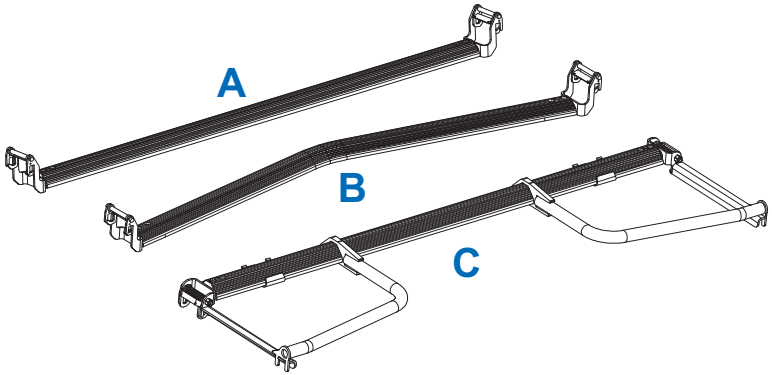


Maintain sufficient clearance between the rolling path of the rig and the lower parts of the vehicle (rocker panel; exhaust line).

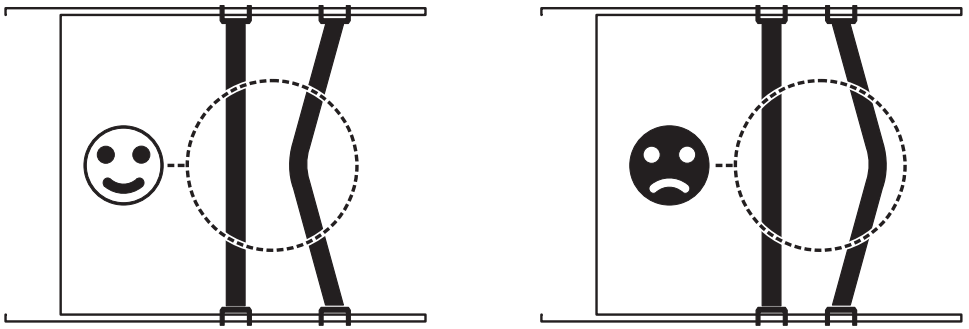
10.1.6. CROSSBARS FOR THE SUPPORT OF WHEELS

These parts are used to support one of the axles of the loaded vehicle. Depending on the type of rigs and the equipments and options, there are three types of crossbars :

- A : Normal crossbar, used pairwise with a second crossbar A or with a crossbar B.
- B : Arched crossbar, used pairwise with a crossbar A (make sure the right sense of installation).
- C : Basket crossbar, used separately.



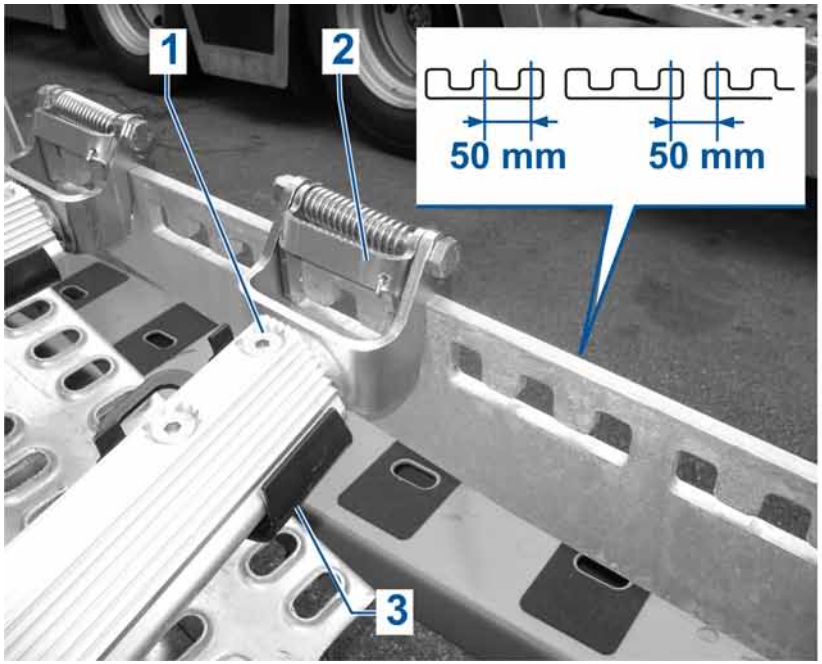
In case of the installation of an arched crossbar, make sure to observe the right sense of installation, the knee must be orientated towards the second crossbar. In all cases, the positioning in the perforations must be symmetric

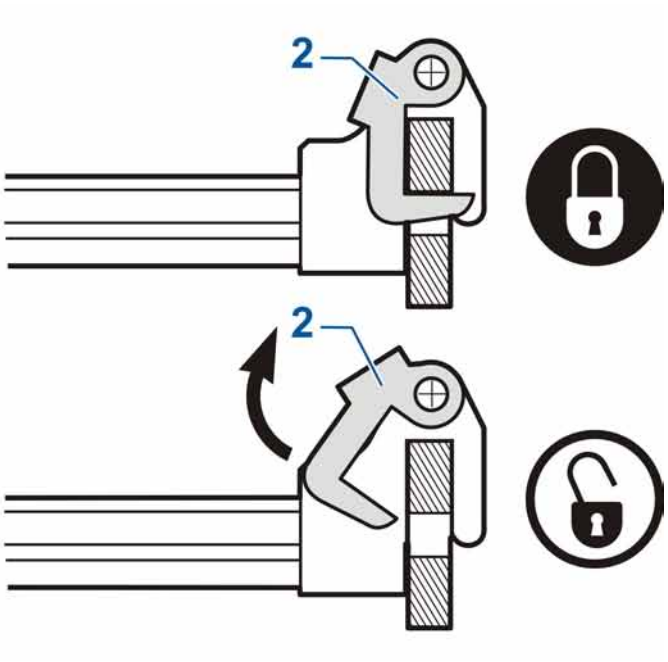


The positioning of the crossbars(1)on the side rail supports must be realized in accordance with the wheelbase of the vehicle.

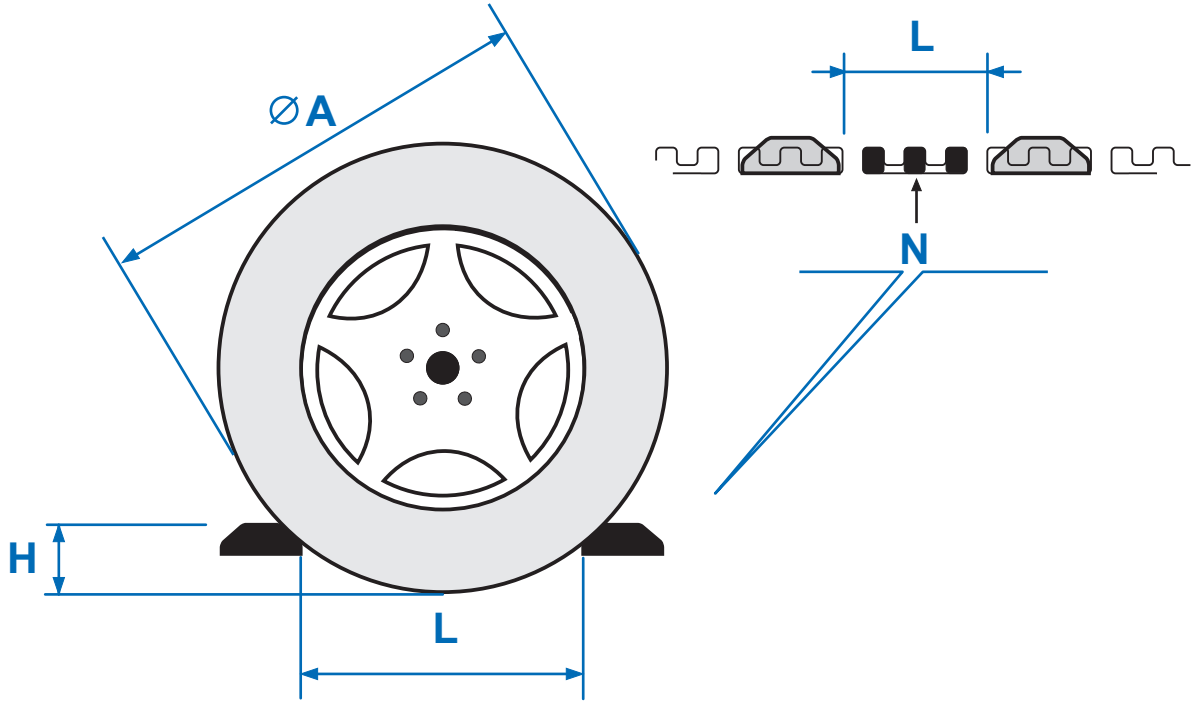
The crossbar is locked by the introduction of the claws(2)in the perforations of the side rail supports.

The supports(3)are serving for the strapping of the vehicle on the crossbars.





10.1.6.1. Blocking conditions on the crossbars



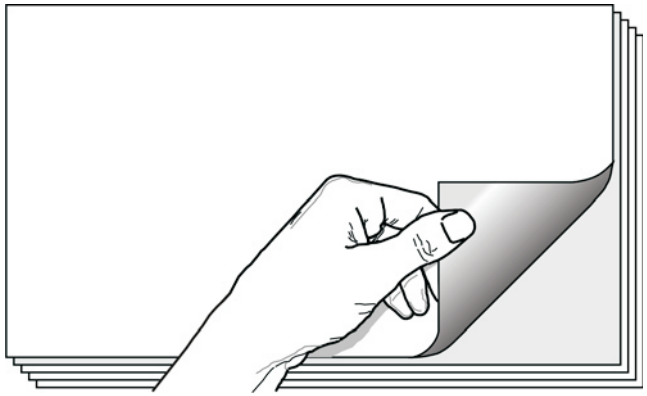
The spacing (L) of the transverse bars varies as a function of the size of the tires of the vehicle to be transported. The minimum and maximum adjustment values per tire size is given in the following table.

As specified in manufacturer instructions, adjust the dimension (L) in order to achieve a size (H) equal to 1/6 of the wheel diameter.

10.1.6.2. Chart of correspondences between distance of blocks and tire diameter

Tire diameter	Min spacing (l)			Max spacing (L)			Type of tire
	l	h	N	L	H	N	
554 mm	350 mm	100 mm	6	350 mm	100 mm	6	135/80 R13
607 mm	400 mm	120 mm	7	450 mm	140 mm	8	165/ R13
614 mm	400 mm	110 mm	7	450 mm	130 mm	8	155/ R14
639 mm	400 mm	105 mm	7	450 mm	125 mm	8	255/55 R15
685 mm	450 mm	120 mm	8	500 mm	145 mm	9	225/65 ZR15
642 mm	400 mm	105 mm	7	450 mm	125 mm	8	205/55 ZR16
698 mm	450 mm	115 mm	8	500 mm	140 mm	9	215/65 R16
750 mm	500 mm	135 mm	9	550 mm	160 mm	10	235/65 R17

The length of crossbars may vary depending on the place of the rig where they are used. Make sure to use the right crossbars corresponding to the needs.



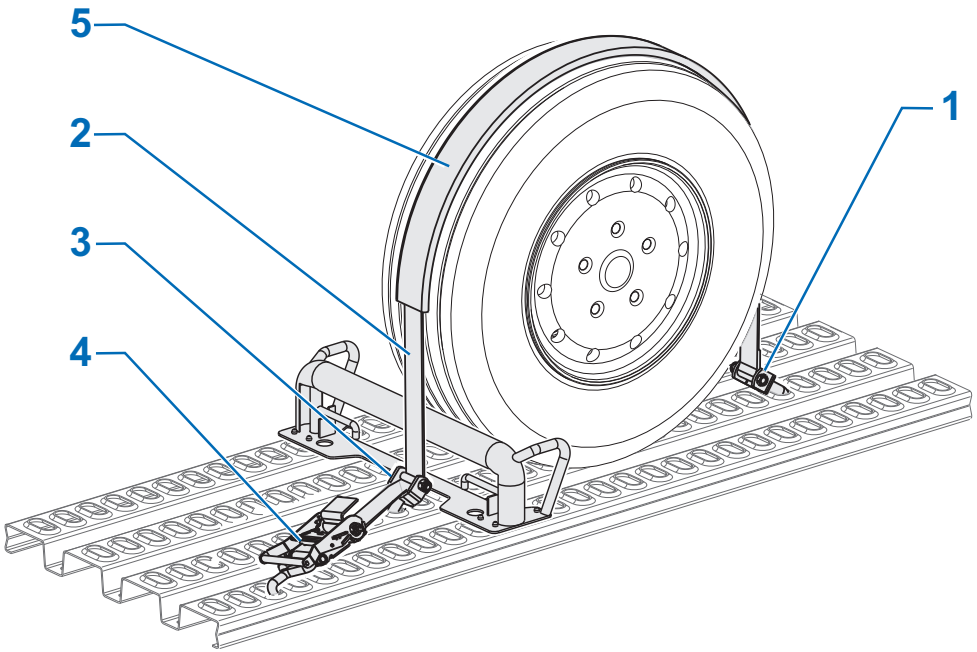
OPERATOR SAFETY GUIDE

11.

ANCHORING OF VEHICLES

11.1. STOWAGE BELTS

The blocking of vehicles must be completed by strapping, the LOHR device uses the vehicle tires as anchoring points.



- Hang the end of the strap (1) in the perforated plate, so as to orient the strand as close to vertical.
- Place the strap (2) equipped with a sleeve (5) onto the tyre tread.
- Fix the removal hook (3) in the perforated plate, so as to orient the strand as close to vertical.
- Fix the ratchet tightener (4) into the perforated plate.
- Tighten the strap using the ratchet (4).

The strap must be well tightened to hold the vehicle in place.

Check strap tension regularly during the trip.

Preferably, vehicles are loaded onto the transport equipment in the forward direction.. In some cases, due to the design of the transport equipment or the vehicle to be transported, it may be necessary to load the vehicle backwards..

As much as possible, the loaded vehicles must be centred on the longitudinal axis of the transport equipment.

An adequate safety distance must be maintained between loaded vehicles, taking the car manufacturer's specifications into account.

In the case of incomplete loading of the transport equipment, place the various vehicles such that the overall centre of gravity is as low as possible.

Vehicle stowage must, imperatively, be performed before the transport equipment can move even a short distance.

Some manufacturers impose specific anchoring norms for their vehicles and it is important to respect these instructions. The application of the rules of certain manufacturers of transported vehicles are obligatory for the anchoring of inclined vehicles.

To ensure the stowage safety, shims must be used for cars and trucks, and straps for cars and stock trucks LOHR.

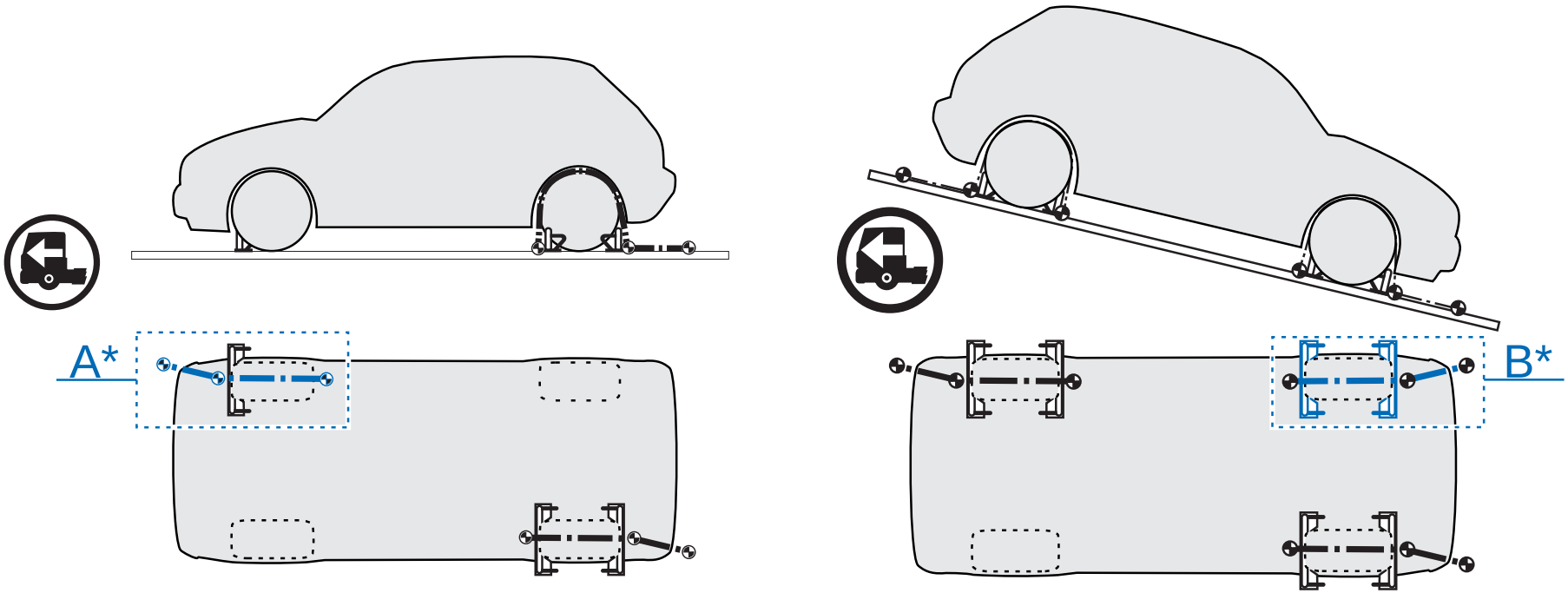
11.2. INSTRUCTIONS FOR SECURING LIGHT VEHICLES AND TRUCKS

11.2.0.1. Anchoring light vehicles

The anchoring rules to be observed must be complying with the guidelines VDI 2700.
Check anchorages regularly during the trip.

Anchoring is carried out with chocks and straps from type LV (light vehicle).

EXAMPLE : SEE SCHEME BELOW



A* : If the vehicle weight is greater than 2000 Kg add an additional strap.

B*: Add two blocks and one strap on the last stacked car of the upper and lower platform.

Vehicles loaded facing forwards :

- One wheel chock in front of and behind a rear wheel. Additional anchoring of this rear wheel by a three point strap and diagonally to this wheel, a wheel chock in front of the corresponding front wheel.

Vehicles loaded facing backwards or tilted :

- One wheel chock in front of and behind a rear wheel. Place a wheel chock in front of and behind the front wheel in question diagonally to this wheel. The two wheels are give extra anchorage by a three-way strap fitted to each one.

Last vehicle loaded tilted :

On the inclined loading levels or the stacking ramps, the last loaded vehicle must be anchored **in addition to the preceding devices** at the wheels of the last axle by two wheel chocks and a three point strap

Wheels must be chocked using :

- mobile cavity blocks.
- articulated chocks.
- wheel-supporting crossbars.
- straps.

The anchoring rules to be observed must be complying with the guidelines VDI 2700.

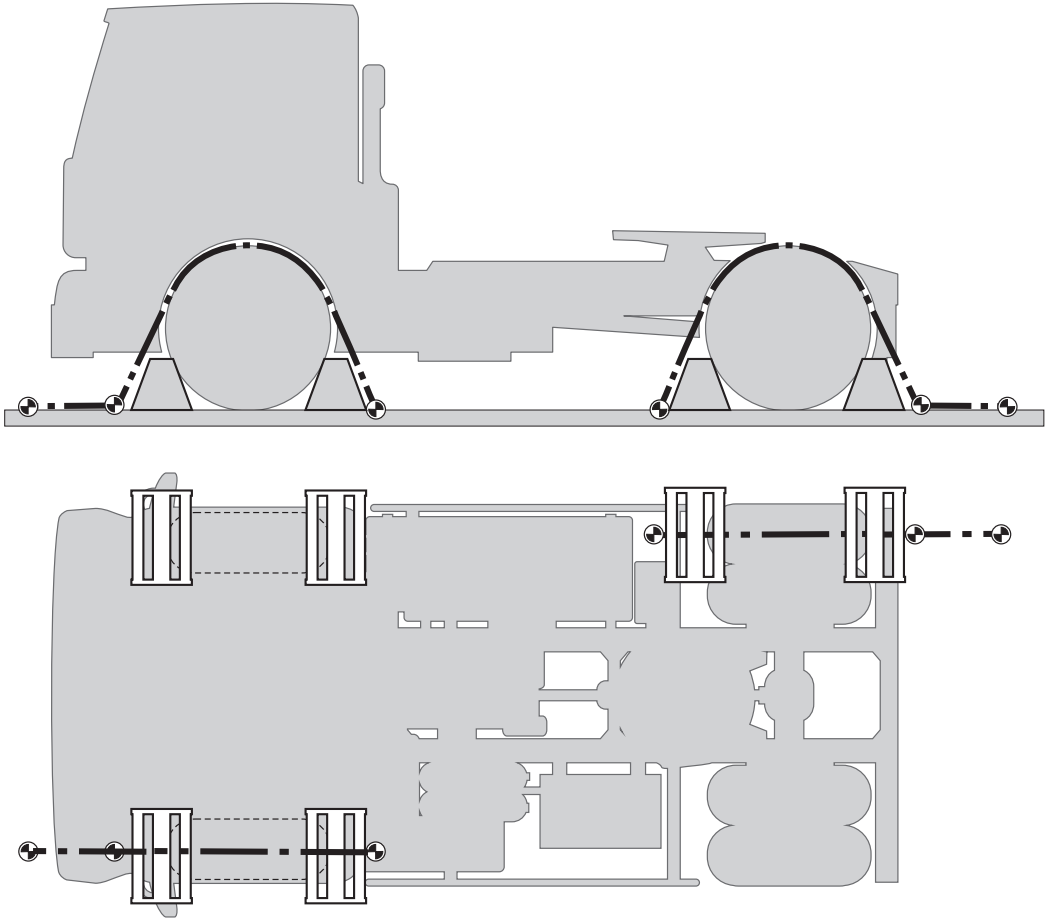
To ensure safe loading, anchoring the vehicles is indispensable. Even for a short distance, this operation must be performed carefully.

Check anchorages regularly during the trip.

11.3. HEAVY VEHICLE ANCHORAGE

Anchoring is realized with the chocks and straps from type "trucks"

EXAMPLE : TRUCK CHASSIS (4X2)



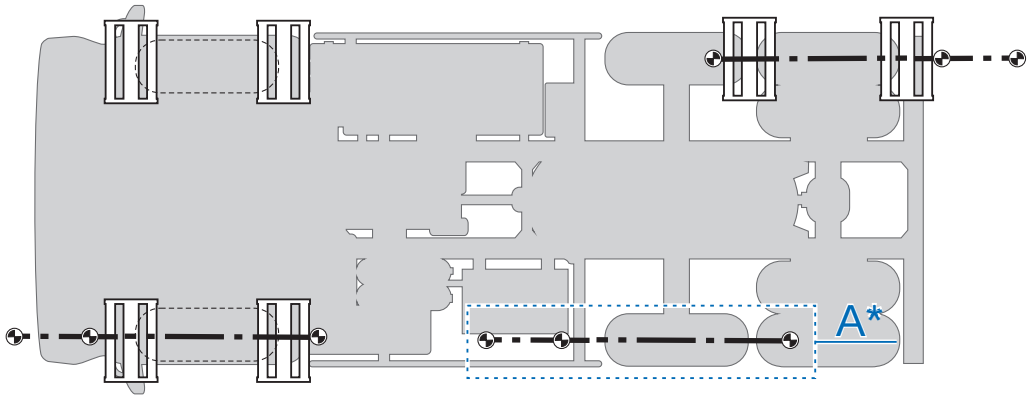
Number of blocks and straps according to the number of axles and the weight of the chassis.

Number of axles	Earth Kg	Number of straps	Number of blocks
2	< 9000 Kg	2	4
3	< 11500 Kg	3	4
4	< 15500 Kg	4	4
5	< 20000 Kg	4	4

Stowage and blocks (2 blocks and 1 straps per wheel) for two diagonally opposite wheels.

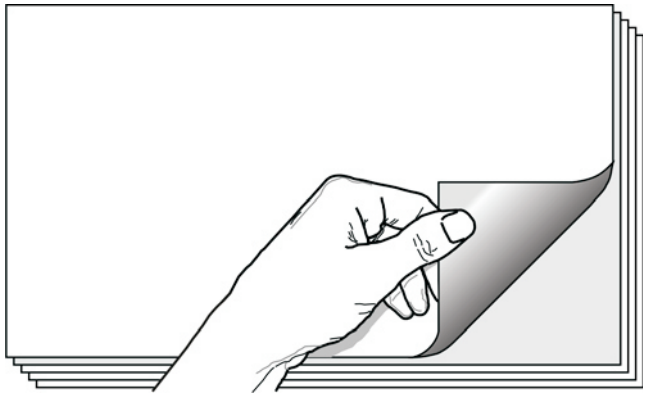
11.3.1. Additional axle

Add a strap on the additional axle's wheel on the opposite side to the wheel of the nearest secured axle.



A* : Strap only.

"VL" type blocks are not suitable to block heavy vehicles.



OPERATOR SAFETY GUIDE

12.

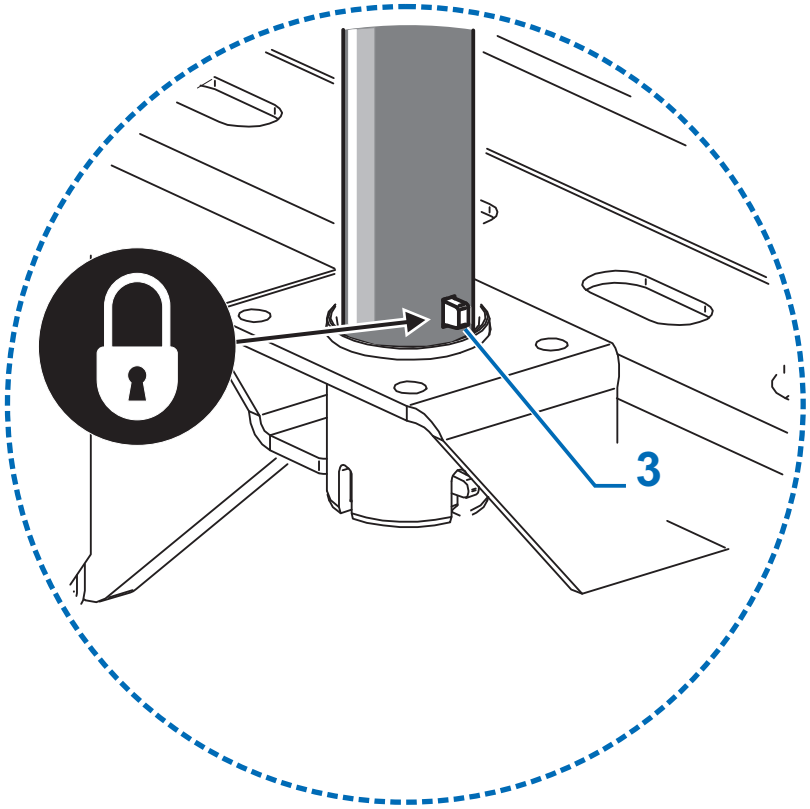
SAFETY EQUIPMENT

General instructions

12.1. GUARD RAIL

The installation of guard rails is generally recommended and obligatory for the access to the upper platform, if this platform is situated at a height of more than 2 meters.

12.1.1. Removable guard rail



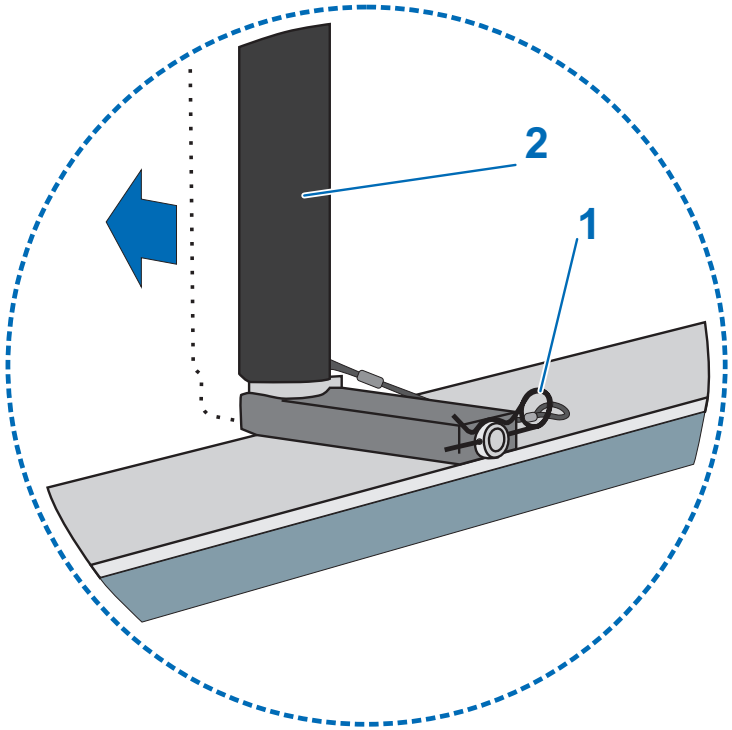
Removal and replacement of the railing must be performed when the platforms are in the low position

- Release the spring tensioners (2) located at the ends.
- Press on the leaf springs (3).
- Release the posts (1).
- Roll up the guard rails with the cables then fasten the whole unit to the lower platform (using Sandow fasteners, for example).

When the guard-rails have been dismantled, they must remain with the equipment.

On remounting, be sure to make sure the cables are properly positioned and tight.

12.1.2. Foldable handrail



Foldable railings must, imperatively, be locked during the loading and unloading phases.

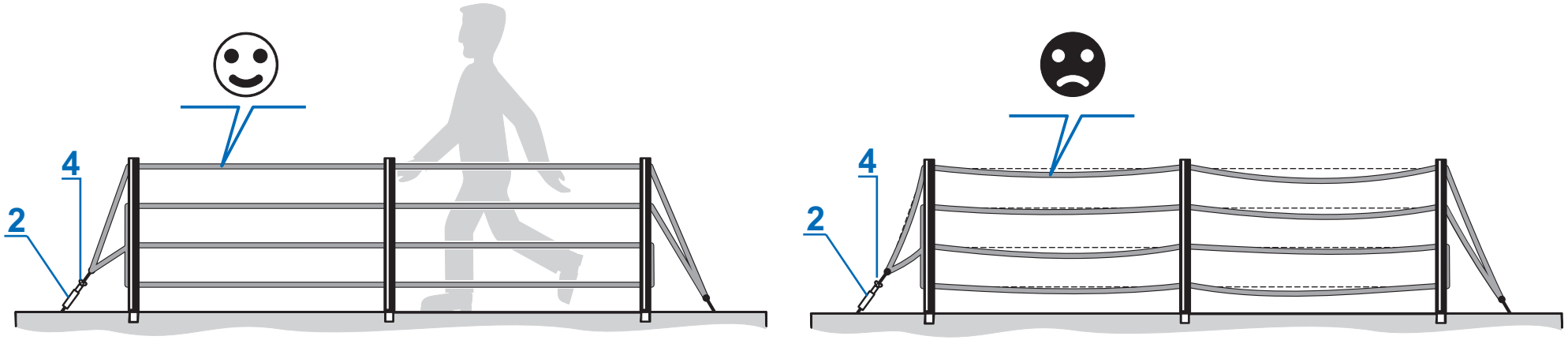
In extreme cases with very large vehicles, there is the possibility to fold down for loading, only on the opposite side of the movements of the driver.

12.1.2.1. Instructions for folding and then putting up of posts :

- Operation to be obligatorily carried out **from the ground**, (not to be operated from the platform).
- Remove the safety pin 1.
- Draw the post 2 outside **pushing the nearest possible from the bottom of the post**. **Do not pull on the middle or the upper part of the post** because it could cause jamming. Eventually oscillate the post slightly around the articulation in order to release the post.
- Once the post is freemoving, fold it lengthwise to the platform.
- Carry out the inverse movement in order to install the post again.
- **Don't forget to insert the safety pin 1**.

The handrails must be put up from the groundbefore rolling.

12.1.3. Check of guard rails



The operator must regularly inspect the protection cables to ensure that they are tight and in good condition. He must replace them if they are defective.

The modification of the assembly of the guard rails is prohibited.

Cables of the guard rail device are fixed by a spring tensioner(2)ensuring the maintaining and the tension of the device.

The tension of the cables is adjusted by the wing nut (4).

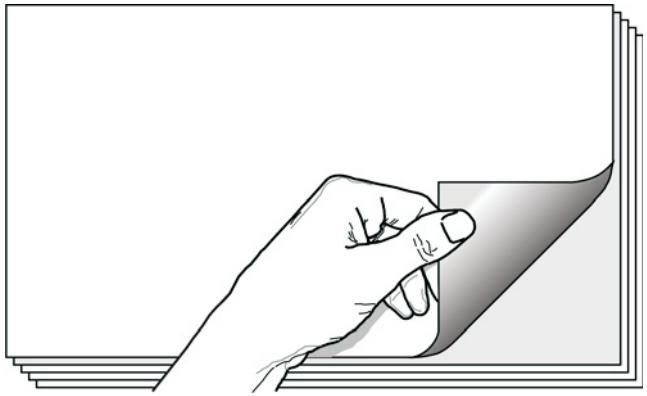
Tension is checked visually; the cable must be tight and not bend.

Every week :

- Visual control of the whole, general condition, cable tension, fastenings.
- Control of the presence of the safety pins and of the cable.
- Fold and unfold the posts. The posts must not jam, and it should not be difficult to operate them.

Every 2 months :

- Careful check of the condition of the posts, check the tightening, the absence of fissuring, the absence of abnormal play, the presence and the correct condition of safety pins and cables, of cable clamps and tensioning devices.
- Functional verification.
- Greasing of articulation axes at the bottom of the post.
- Check of the cable tension.



OPERATOR SAFETY GUIDE

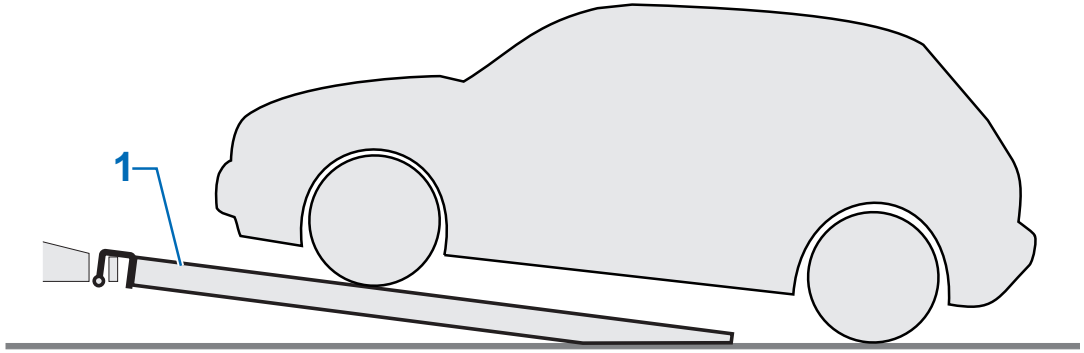
13.

EQUIPMENTS AND ACCESSORIES

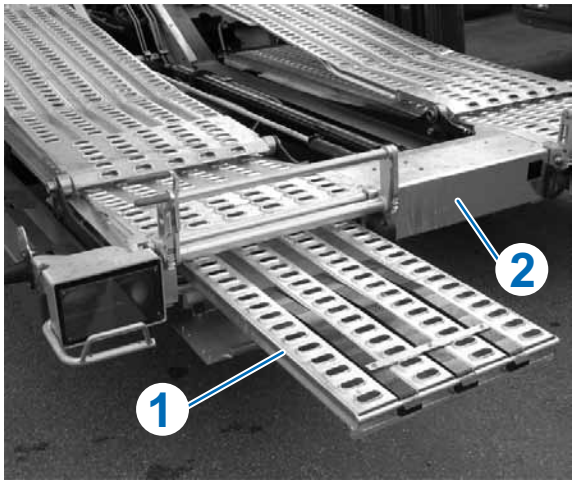
General instructions

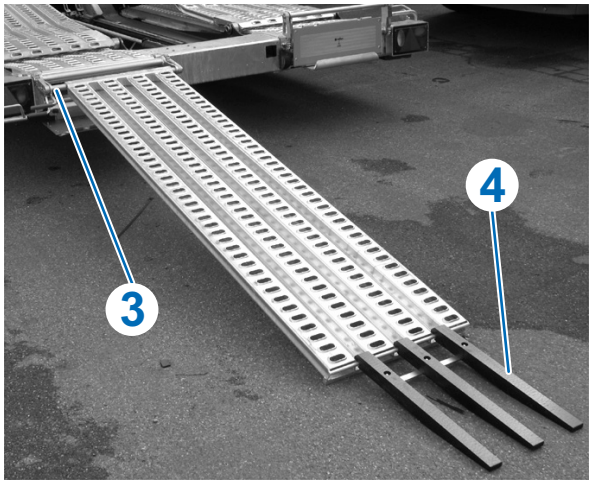
13.1. MISCELLANEOUS EQUIPMENTS AND ACCESSORIES

13.1.1. Loading ramps



The loading ramps (1) are stored in housings in the rear lower extension (2).





The ramps have to be fastened to the supports at the end of the platforms (3).

Unfold the flaps(4)in order to avoid the contact of the apron of the vehicle to be charged on the ramps

13.1.2. Storage trunk

The quantity and the position of storage space varies depending on the type of rig and the options.

Whatever is the type of trunk, it is important to ensure the correct locking of the front door before beginning the travel, its opening during the travel may cause the loss of objects or/and an accident.

- Plastic trunk, closing by turning and locking handle.
- Metal trunk, closing by square box lock.
- Metal trunk, closing by lever lock with blocking pin.

13.1.3. Spare wheel carrier

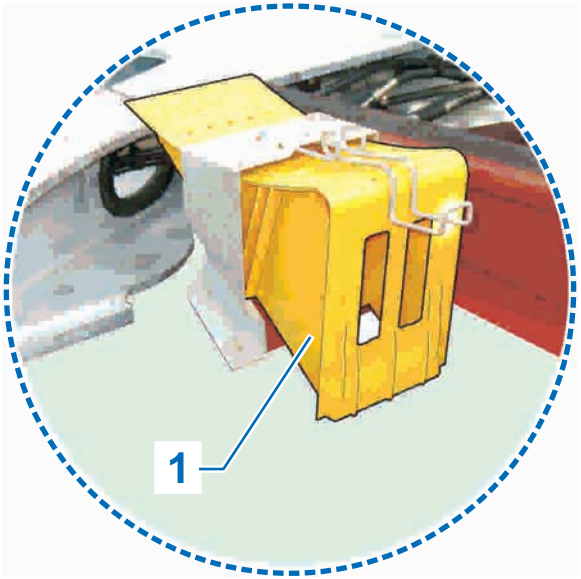
In case there is a spare wheel carrier, it is necessary to make sure before the travel that there is no risk of loss of the wheel or of opening of the carrier during the travel.

13.1.4. Access ladders

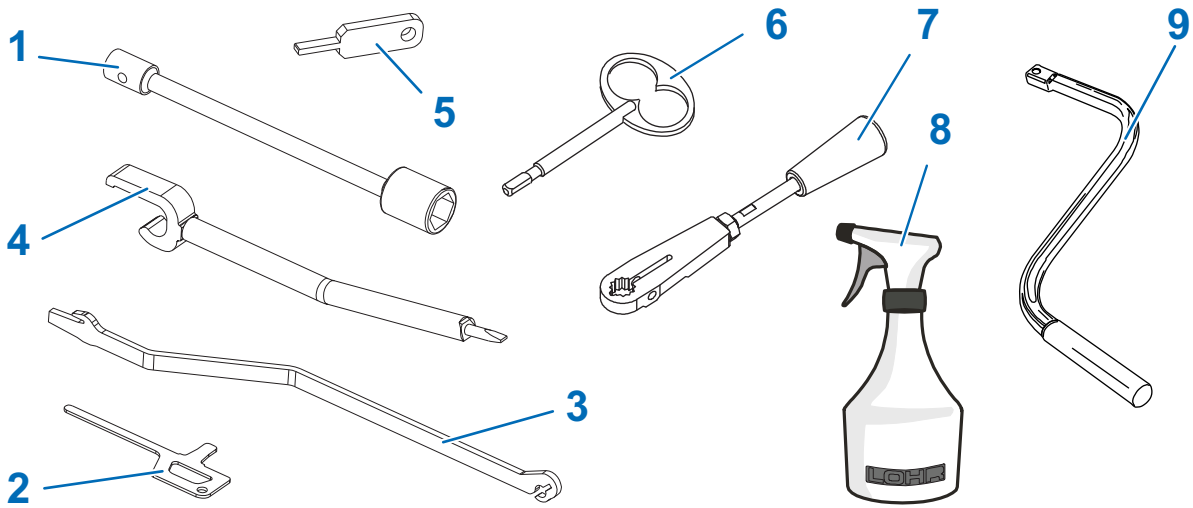
In case there are removable access ladders, they must be put away and locked at the intended storage place.

Before moving off it is important to make sure that the doors are locked properly; accidental opening when under way can cause an accident.

Rig wheel chock



Complement



13.1.5. Wheel Chock

Depending on the assembly version, the rig is supplied with chocks (1). The position of chocks varies depending on the type of equipment.

Always make sure the correct fastening of chocks, in order to avoid their loss during the travel.

13.1.6. Complement

The onboard lot is stored in a tool-box which includes, depending on the type of equipment :

- A wheel wrench.
- A thickness gauge(1,5 mm), permitting the control of wearing of the nuts of the screw lifting systems (2).
- A lever for working the hydraulic pump manually to lift the "front cap" (3).
- A tool for the manipulation of chocks of articulated wheels (depending on type of equipment) (4).

- A gauge for checking wear on the coupling stabiliser shoes (5).
- A square Allen key for opening the boxes (6).
- A distributor lever to activate the upper distributor components in failsafe mode (7).
- A sprayer (8)for the lubrication of the lifting screw, fixed inside the lateral left trunk of the truck.
- Maneuvering crank(9), body stand tilting, for the rigs of the range EUROLOHR 100 / 200 / 300.