Vehicle Carrier Train

«All Vehicles of All Types »

User Manual

In order to improve its products, Kalepar reserves the right to change the materials defined in this manual
KALEPAR-2024

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PREAMBLE

The smooth and safe use of this transport equipment requires knowledge of operating instructions and safety rules.

It is forbidden to load or unload a trailer that is not in a tethered state.

This user manual contains instructions that are important for the operation of the equipment. Operators trained to work with this equipment are advised to follow the operating instructions and, in particular, the safety instructions.

Your equipment is manufactured in accordance with the technical conditions and applicable regulations. Improper use may be a source of bodily danger to the operator or third parties, and may cause damage to the equipment or its cargo.

TABLE OF

Disassembly / Installation

TENSION CONTROL OF DETACHABLE RAILINGS

ACCESS TO TOP PLATFORMS

LUBRICATION SCHEMES

SYMBOLS

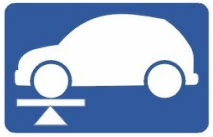
LUBRICATION OF BODY ELEMENTS

SYMBOLS USED:

Specifies the action to be taken by the operator.

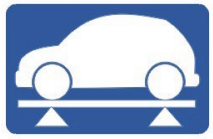
Indicates a hazard to be considered

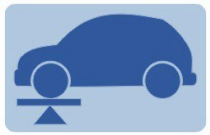
Indicates a comment or provides information

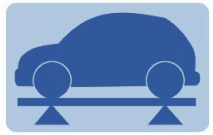


Specifies the maximum load that can be applied to a carrier element

The maximum acceptable value for one element. For additional information on load distributions and points of gravity See the section « LOAD LIMITS ».







Specifies the maximum lifting capacity.

GLOSSAR

ABS/APR/EBS: Anti-lock wheel lock system (brake system).

BODYWORK: Structure on tractor chassis.

CAULDRON PLATFORM: The part above the tow truck cab.

QATAR: Group consisting of a tow truck, a trailer and a trailer.

CONTROL BOX: Hydraulic control element.

LIFT: Hydraulic or (and) mechanically operated articulated platform.

AVADANLIK: A group of accessories and tools supplied with the train.

MOBILE PLATE: Slot formed on a platform surface, load equipment for mitigation.

CONSTRUCTION: Screw or scissor lift, subgroup covering the left and right sides of the hydraulic hoist.

PTO: The system that provides pressurization of the hydraulic circuit.

ADDITION: Element fixed with nails that serves to join a ramp or extension.

FIFTH WHEEL: Articulated mechanical bearing with coupling mechanism.

LOADING

RAMPALARI: Access ramp that allows vehicles to be loaded from the ground.

VALVE: Hydraulic or air control element.

EXTENSION: Slidable part at the end of a platform

PLATFORM: Surface (fixed or movable) that allows vehicle passage and loading.

KING PIN: Pin combined with the bodywork, which allows attachment to the tow truck.

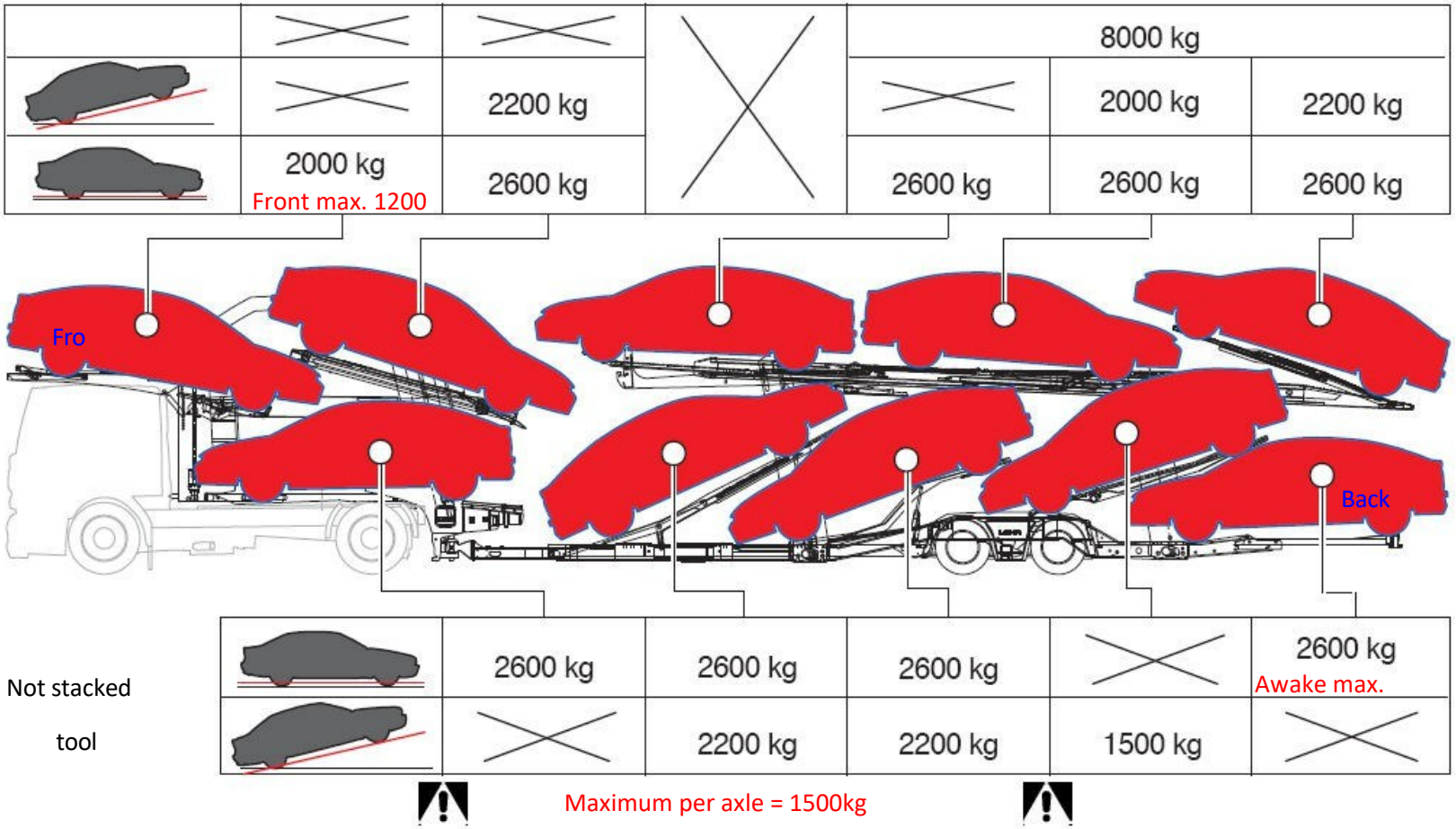
REMOVAL

RAMP: Inclined ramp that sits on support legs. This equipment allows part of the vehicle to stop on the next ramp.

1.

CONTROLS, CABINETS, CARRIERS AND CONNECTIONS

1.1. LOAD LIMITS

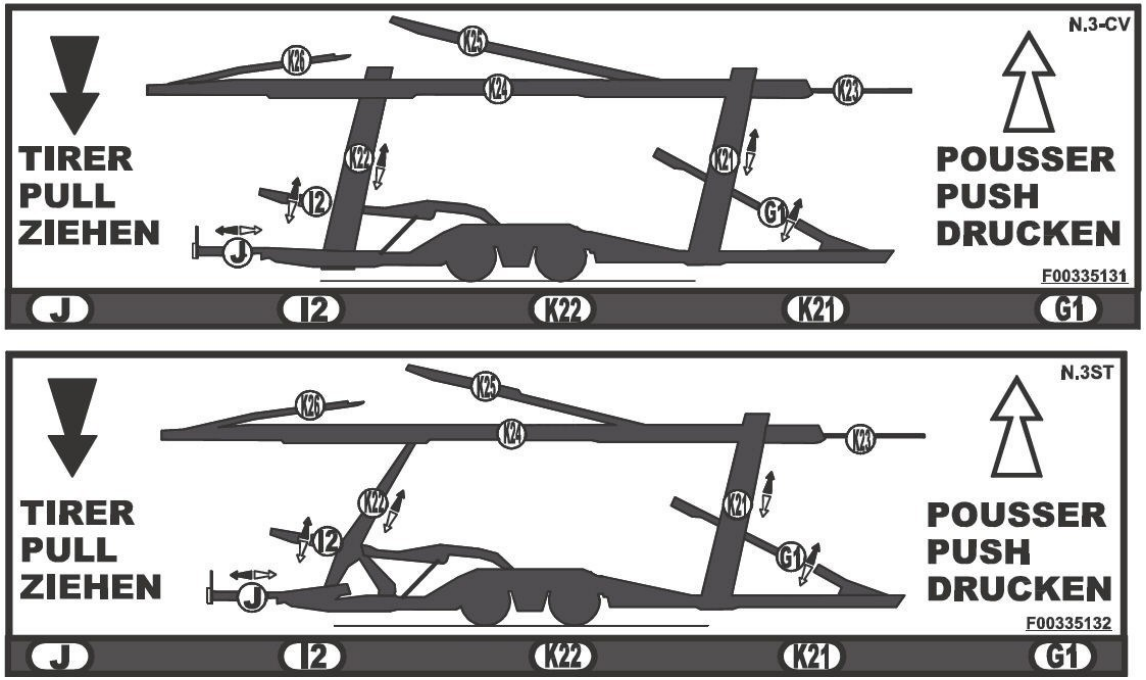


1.2. KUMANDA AKSAMI

There are various manual control organs on the Qatar, depending on the version, option and type of equipment.

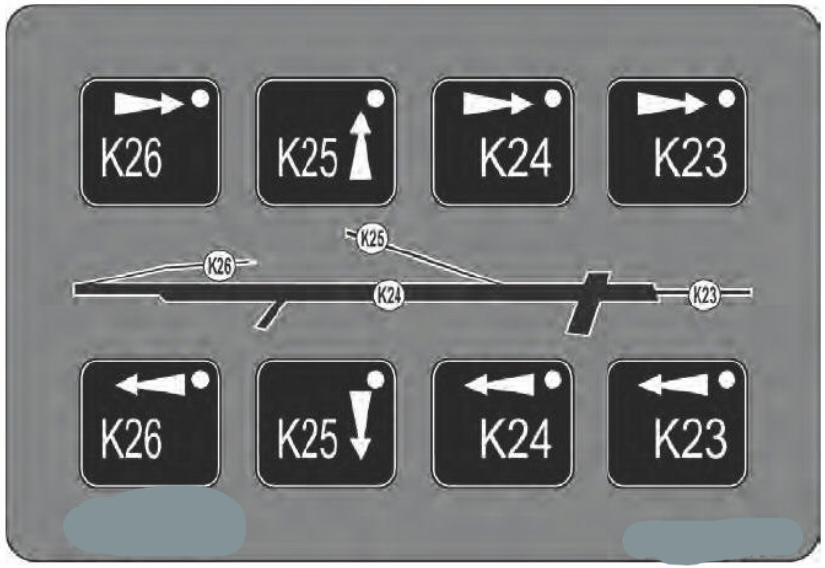
- Hydraulic controls (1, 2 and 3).
- Air suspension, height adjustment control (4) (see section 4.3.2)
- Parking and emergency safety brake control (6) (see section 4.3.1)
- Pneumatic control valve (9) H1 ramps (see section 13.3.1)

1.2.2. Hydraulic functions of the trailer control box



Hydraulic functions of trailer lower control box	
G1	Front lower platform moving
K21	Upper platform screw front lift
K22	Upper platform screw rear lift
K22	ST2000 upper platform rear lift (ST version)
I2	Rear lower platform moving
J	Moving the rear slider

1.2.3. Hydraulic functions of trailer top control box

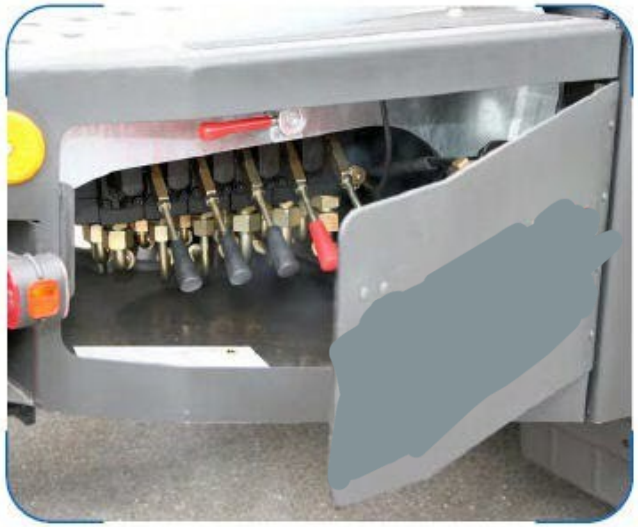


Hydraulic functions of trailer top control box	
K23	Moving the upper platform front slider
K24	Complete top platform moving
K25	Moving the middle platform
K26	Rear platform movement

Connect the following circuits:

- Hydraulics (see 3.3.3.1.),

1.4. STORAGE EQUIPMENT & CABINETS

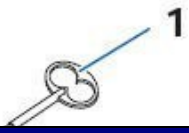


1.4.1. Body cabinet

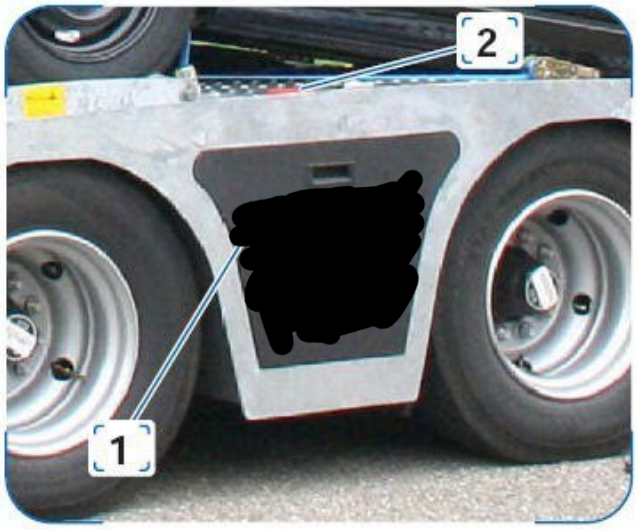
Two lockers, one on the right side and one on the left side, are located at the rear of the attractive bodywork, which are locked by a four-corner male key (1).

Equipment can be put in the right rear cabinet.

In the left rear cabinet is hydraulic equipment.



It must be ensured that the locker is properly closed, accidental opening during the journey may cause an accident.

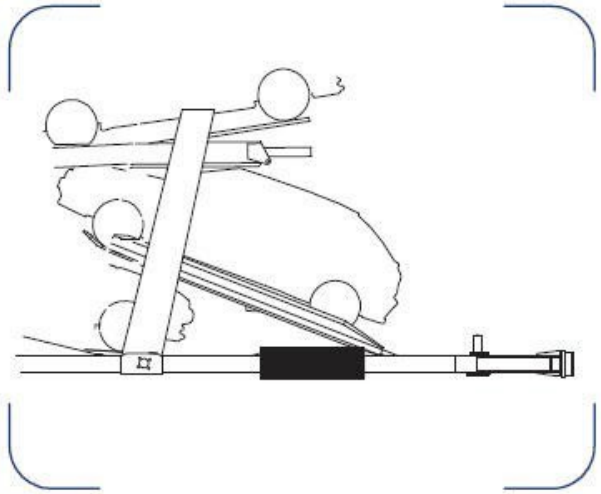


1.4.2. Trailer center locker

The lockers (1) are between the wheels of the trailer, they are with the lock on the top side

(2) they are locked from the top.

It must be ensured that the locker is properly closed, accidental opening during the journey may cause an accident.



1.4.3. Trailer front locker and spare wheel

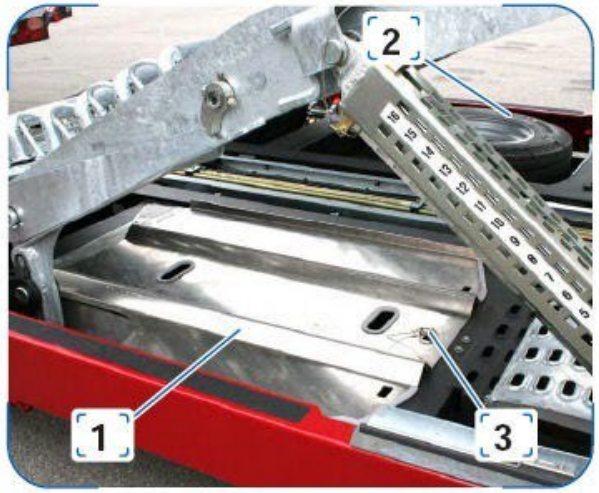
The front part of the trailer is arranged in such a way that the spare wheel (right side) and various accessories (cabinet on the left side) can be accommodated.

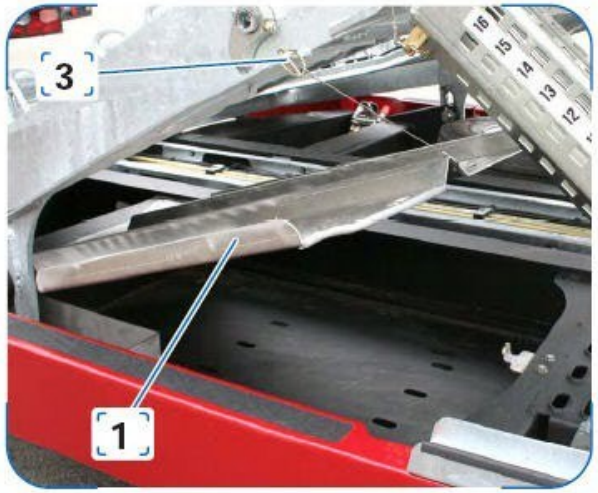
The front lift may need to be lifted to access the spare wheel or cabinet. In some cases, it may be necessary to partially unload the trailer.

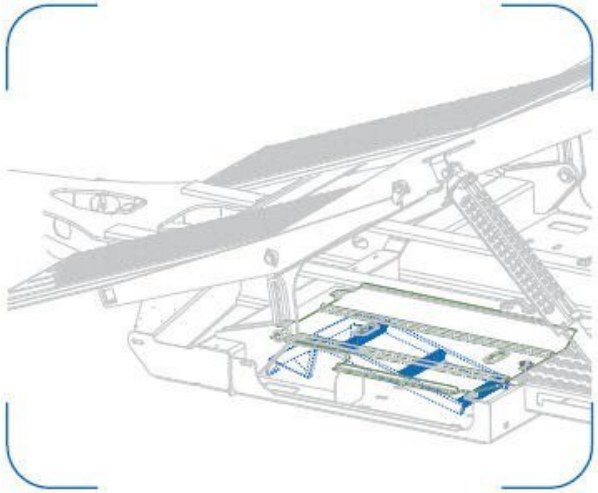
The spare wheel (2) is fixed to the (-) slot with a lever nut.

The closing plate of the accessory cabinet (1) is threaded into its slot (3) with a clip-on pin and secured.

Same In the accessory closet at the time Bodies There is a ladder to climb.







2.

LOAD LIMITS

2.1. GENERAL FEATURES

The limits for the use of your equipment are determined, on the one hand, according to the laws of the country in which it is used (load, maximum height and width, speed, etc.), and on the other hand (for example) by technical restrictions that determine the position of the load on the platforms.
In the case of significant load handling at a certain point, it is possible that the maximum equipment carrying capacity value will not be reached. It is the sole responsibility of the transporter to comply with the traffic rules established by the highway regulations of the countries through which he passes. While the equipment ensures compliance with these rules, the manufacturer will not be held responsible in case of misuse.

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2.2. CARRYING CAPACITY

Payload is the maximum load your equipment can carry. It varies according to the Qatar version and type, and this value can be reached when the maximum load rule applied to the tables is followed. Contact us for more load positioning than those on page U.2-2.

2.3. POSITIONING OF LOADS

A better load balance (comfort, handling) will be achieved by maximally reducing and re-centering body and trailer loads, keeping the centre of gravity to a minimum at all times. This is especially important for partial loads.

If the rest of the vehicle is not installed , it is not recommended to use the upper platform alone.

The load on the trailer must not cause a negative load on the bodywork. In order to guarantee optimal handling, it is highly recommended that the load be placed on the bodywork first.

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LOAD LIMITS

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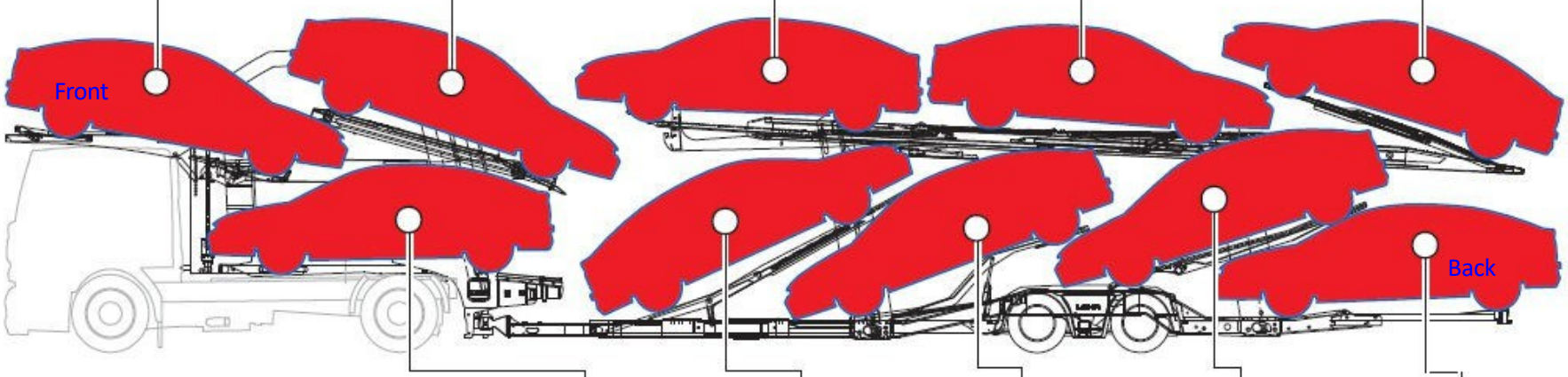
				8000 kg		
		2200 kg			2000 kg	2200 kg
	2000 kg Front max. 1200	2600 kg		2600 kg	2600 kg	2600 kg



Not stacked	2600 kg	2600 kg	2600 kg		2600 kg Awake max. 1200kg
tool		2200 kg	2200 kg	1500 kg	
Stacked		Maximum per axle = 1500kg			

2.4. MANUAL AND HYDRAULIC EXTENSIONS

The working distance of the extensions varies according to the version and equipment. In the event of any loading, the position of the vehicles at the front or rear ends of the extensions and train must comply with the road regulations of the respective country.

For transportation, whether the load is placed at the end of the extensions or at any point, it is important that the values in the table below are not exceeded.

2.4.1. Load positions per axle on extensions

The maximum load that makes possible the movement of a pair of hydraulic extensions is 1000 kg.

For the passage of a vehicle over an extension, a load weight of 1500 kg per axle must not be exceeded (there may be loads over 1500 kg, contact us).

Always make sure to leave enough space between the body/trailer extensions and the vehicles so that the train can rotate comfortably.

2.4. SPECIAL REGULATION ON VEHICLE TRANSPORT

	Regulation specific to vehicle transport	Maximum length without load (m)	Maximum length laden (m)	Maximum laden height (m)	Maximum frontal overflow of load (m)	Maximum rear overflow of load (m)
A Austria	There is	A 18.75	B 19.75	H 4.00	D No	And 1.00
B Belgium	Var	A 18.75	C 20.75	H 4.00	D 0.50	And 1.50
CH Switzerland	Var	A 18.75	C 20.35	H 4.00	F 3.00 20.35m limit dahilinde I 0.50 Extension	G 5.00 J 1.10
D Germany	Var	A 18.75	C 20.75	H 4.00	D 0.50	And 1.50
DK Denmark	No	A 18.75	C 20.75	H 4.00	D No clear limit* Within the 20.75 m limit	And 2.00* K 0.40
And Spain	Var	A 18.75	B 20.55	H 4.00	D No	And 1.80
F France	Var	A 18.75	B 20.35	H Not limited	D No	And 1.60
GB England	Var	A 18.75	C 22.75	H Not limited	D 2.00	And 2.00
GR Greece	No	A 18.75	A 18.75	H 4.00	D No	And No
I Italy	Var	A 18.75	C 21.00	H 4.20	D/E 2.25 21,00 m limit dahilinde	
AND Ireland	No	A 18.75	B 21.75	H Not limited	D No	And 3.00
L Luxembourg	No	A 18.75	C Permitted on a case-by-case basis	H 4.00	D No	And No
N Norway	Var	A 18.75	A 20.00	H Not limited	D 1.00 20,00 m limit dahilinde	And 1.00
NL Netherlands	Var	A 18.75	C 20.75	H 4.00	D 0.50 20,00 m limit dahilinde	And 2.00
P Portugal	Var	A 18.75	A 20.00	H 4.50	D No	And 1.25
S Sweden	No	A 22.25* * Modular system	B 22.25* * Modular system	H Not limited	D No	E No
SF Finland	There is	A 22.25* * Modular system	B 22.25* * Modular system	H 4.40	D No	E No

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LOAD LIMITS

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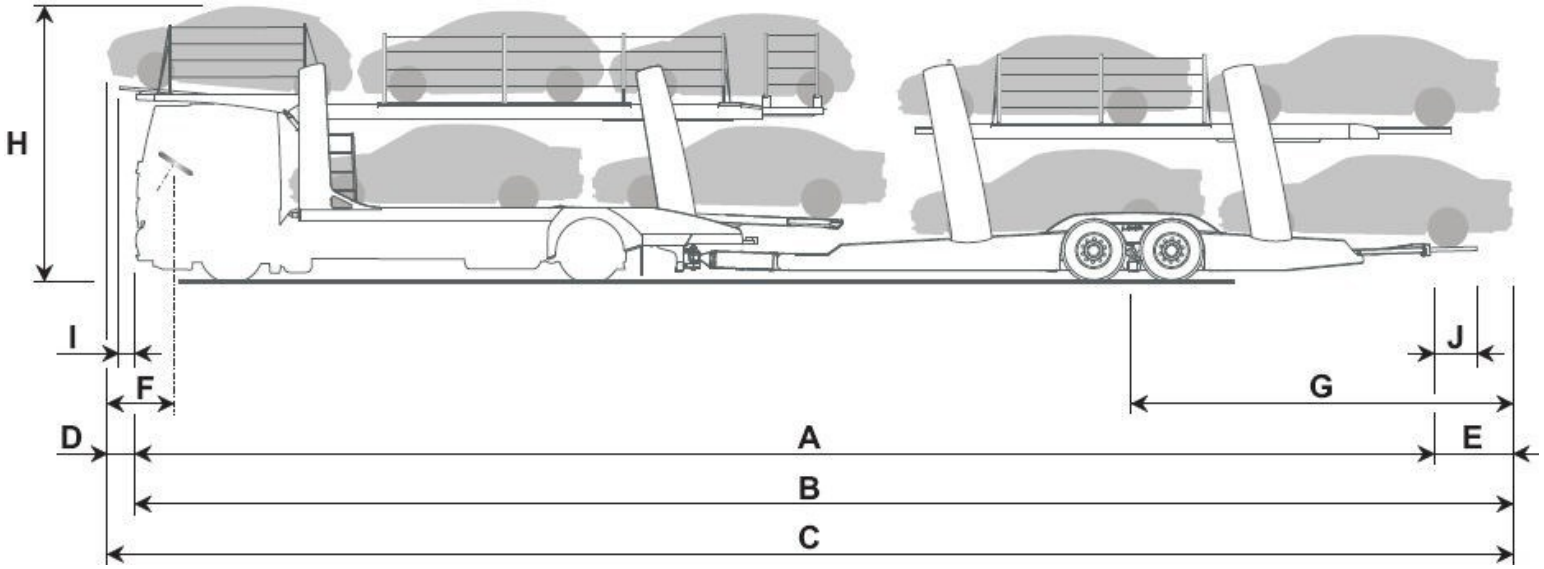


It is the sole responsibility of the transporter to comply with the traffic rules established by the highway regulations of the countries through which he passes. While the equipment ensures compliance with these rules, the manufacturer will not be held responsible in case of misuse.

3.

HYDRAULIC EQUIPMENT

3.1. GENERAL FEATURES

The job of the hydraulic circuit is to generate and distribute energy to move the train equipment. The engine of the tractor produces the energy required for the operation of the circuit.

In order to ensure effective corrosion protection of hydraulic piston rods, it is recommended that they be inspected over the entire travel distance.

When the equipment is started for the first time or after repair, the operator must perform a general check of the control circuits. This process is based on systematically testing each function and checking its compatibility with the corresponding symbols. In the event of a malfunction, the equipment must be

Never engage the PTO if the hydraulic hoses between the equipment and the tractor are not connected.

3.1.1 Special instructions for automatic locking pistons (depending on the type of equipment)

There are pistons in the train that lock automatically when the hydraulic feed stops.

Thanks to the automatic locking function of the hydraulic pistons, hydraulic oil is used with good cleaning. It is important to prevent foreign matter and dust from entering the circuit during level control, filling the tank or any intervention in the hydraulic circuit.

3.2. WORKING PRINCIPLE OF THE CIRCUIT

The power take-off (1), which is fixed to the tractor gearbox, provides the connection between the engine and the feed pump (2) of the circuit.

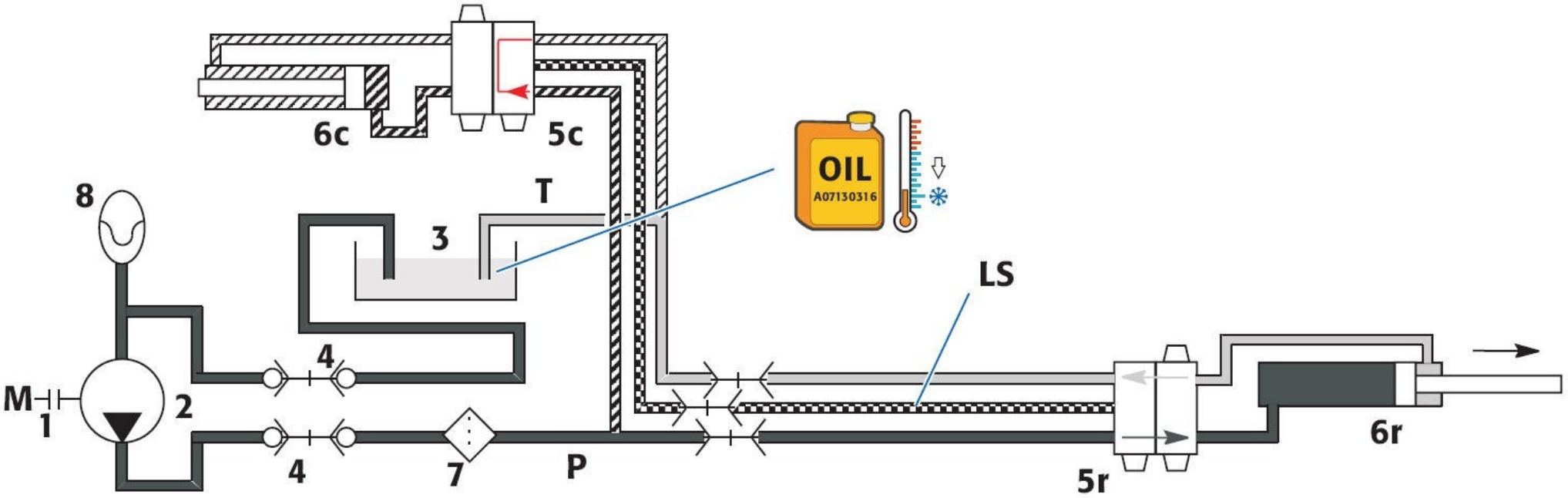
The hydraulic oil, which is held in a tank (3) connected to the carosere, is sucked in and pressurized by the pump (2). At the pump outlet,
The « pressurized » **"P"** oil passes through the filter (7) and feeds the bodywork and trailer distribution blocks (5 – example). If no function is used, the « return » hose "**T**" and the oil returns to the tank (3) through the filter.

When the user operates one of the controls on the control blocks, the control circuit is switched on (**LS**) and the hydraulic pressure is directed towards one of the selected functions (rear extension outlet, 4 – example).

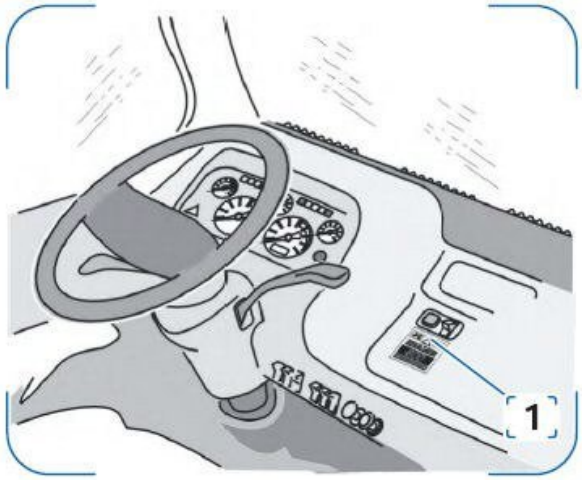
Hydraulic equipment (pistons or motors) are controlled by the limiters on the control box to «overpressure»
they are protected against. These elements are not adjustable.

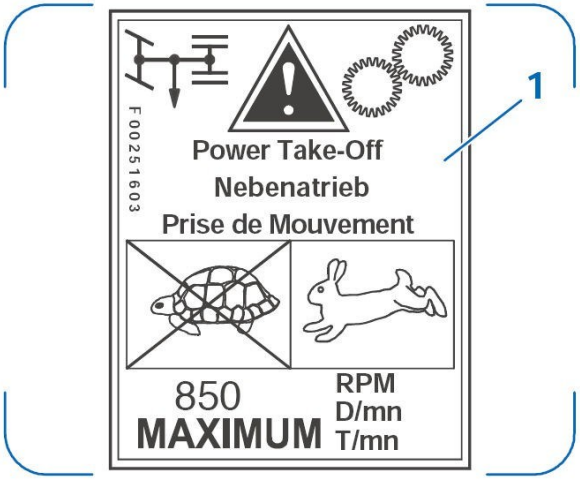
Couplings (4) equipped with shut-off flaps provide the connection between the tractor and the KLP219V1/V2 equipment. This assembly allows the tractor and equipment circuits to be isolated and the train to be separated without loss of hydraulic oil.

It is not possible to use only the bodywork hydraulic circuit (with the trailer hitch separated).


6c
5c
T
8
3
OIL
A07130316
LS
4
M
1
2
4
7
P
5r
6r

3.3. USE OF HYDRAULIC EQUIPMENT





3.3.1. PTO (optional)

The power take-off ensures that the hydraulic pump is operated by the power generated by the engine (pressurizing the circuit).

The PTO clutch mechanism is located inside the tractor cab.

If the original remote control is available, refer to the vehicle's manual. Otherwise, an electrical switch and a warning lamp are built into the instrument panel.

3.3.1.1. Use

The pump must be operated when the vehicle is parked, the engine is idling, the gear is in neutral:

- Depress the clutch and wait 5 seconds,
- Start the switch, the warning lamp comes on,
- Release the clutch, the circuit is now under pressure.
- Set the engine speed to the value indicated on the label(1). To neutralize the PTO:
- Depress the clutch, then turn off the switch, the warning light goes out.

Do not operate the PTO until the filling/pressure warning light of the towing air tanks has gone out!

Never move the train while the PTO warning lamp on the instrument panel is lit.

When the pump is running, the motor speed rate must not exceed the value indicated on the label.

3.3.2. Control blocks

Control blocks are components of hydraulic circuit control. Each part of the control blocks corresponds to a hydraulic function of the train. These functions are defined by manoeuvring plates that describe the controlled movement and function (see 1).

The hydraulic functions of the train are distributed over two or three control blocks.

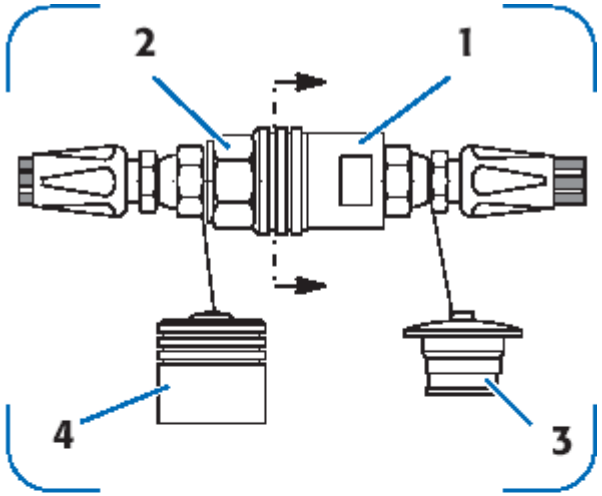
Move the levers of the controls gradually to avoid any sudden shifts of the part that risk damaging the load. In some equipment, hydraulic control blocks are controlled by electric controls (see section 5.3.3)

- Activate the PTO (see 3.3.1.1.),
- Move the joystick of the function to be operated as well.
- In all cases, a lever on the control box can be pulled or lifted to control the following:
  - removal of platforms,
  - Exit of extensions.

Distribution controls should be moved slowly to avoid vibrations in the circuit.

Never leave the distribution block arms in the operating position.

Always carefully follow the route of the moving parts.



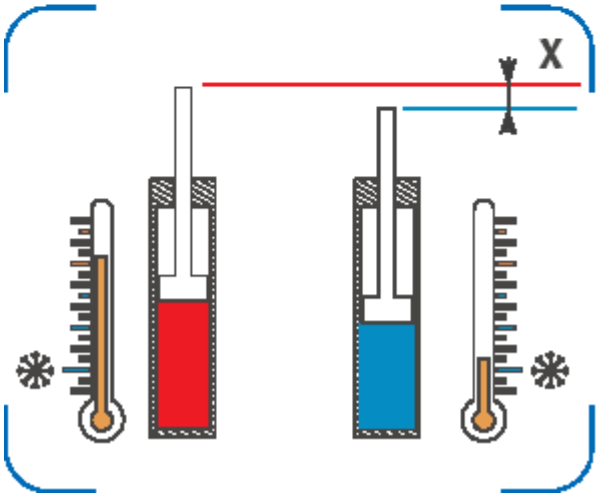
3.3.4.2. Disconnection of the circuit connection

Make sure that the hydraulic circuit is not under pressure (PTO is disabled).

Holding the end of the hose, pull the outer ring of the female gland (1) to release the male gland (2).

If the equipment needs to remain separate, the fittings must necessarily be maintained with plugs (3 and 4).

Be careful not to leave the fittings on the floor.



3.3.5 Pistons with automatic lock (according to equipment type)

During the use of hydraulic equipment, the temperature inside the circuit increases, which leads to an increase in the volume of oil.

At the end of the manoeuvre, the auto-lock device traps the hot oil inside the piston. When the temperature decreases, the volume of oil contained inside the piston decreases by changing its position, this phenomenon is especially pronounced in cold weather.

X is equivalent to a level difference of -30 mm.ye on the position of a platform.

Minimum protection between vehicles and moving elements 50 mm., this value should be checked and (if necessary) corrected after a few kilometers.

4.

PNEUMATIC EQUIPMENT

4.1. GENERAL FEATURES

The pneumatic equipment of the train is divided into two main circuits:

- A service brake circuit (tractor and trailer).
- Supply circuit that supplies compressed air to the following functions:
  - suspension (tractor and trailer),
  - locking control of various pneumatic components (depending on version),
  - Commissioning of the power take-off,
  - joint stabilizer.

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

The air circuit needs to be confirmed. Any kind of editing is prohibited without the permission of the manufacturer. Any modifications to the brakes or suspension may cause malfunction and lead to an accident.

4.2. WORKING PRINCIPLE OF TRAILER CIRCUIT WITH EBS

Its connection with the tractor circuit is made by two couplings; red (1) for the supply circuit and yellow (2) for the control circuit. After the compressed air is filtered, it is stored in (3) air tanks (9) equipped with discharge (8).

When the circuit is operating, the suspension bellows (7) are supplied. The pressure in the bellows varies according to the load carried. The EBS modulator (16) interprets the information given by the suspension pressure and electronically regulates the braking system.

The level control valve (11) keeps the suspension at a constant height regardless of the weight carried. Lowering lift valve (15) allows the suspension height to be adjusted for loading and unloading operations. As an option, the suspension height adjustment is controlled by the tractor's control.

The service brake circuit is separated from other functions by check valves

(10). During braking, the compressed air (8) in the tanks feeds:

- EBS röle valfi (14),
- EBS modulator (16).
- Brake chambers (12 and 13).

In the rear axle brake chambers (13), the springs are installed with compressed air in the circuit. When the parking brake control (5) is operated, the pressure in the circuit is reduced, and the springs and parking brakes (13) are operated.

When the pressure drops in the supply hose (1), the emergency shelters (12) activate the emergency safety brakes. When the deactivation control (6) is activated, the pressure in the circuit increases and the springs release the brakes (12), which only works if the air reserve in the tanks is sufficient.

Pressure outputs (4) allow the circuit to be controlled and adjusted.

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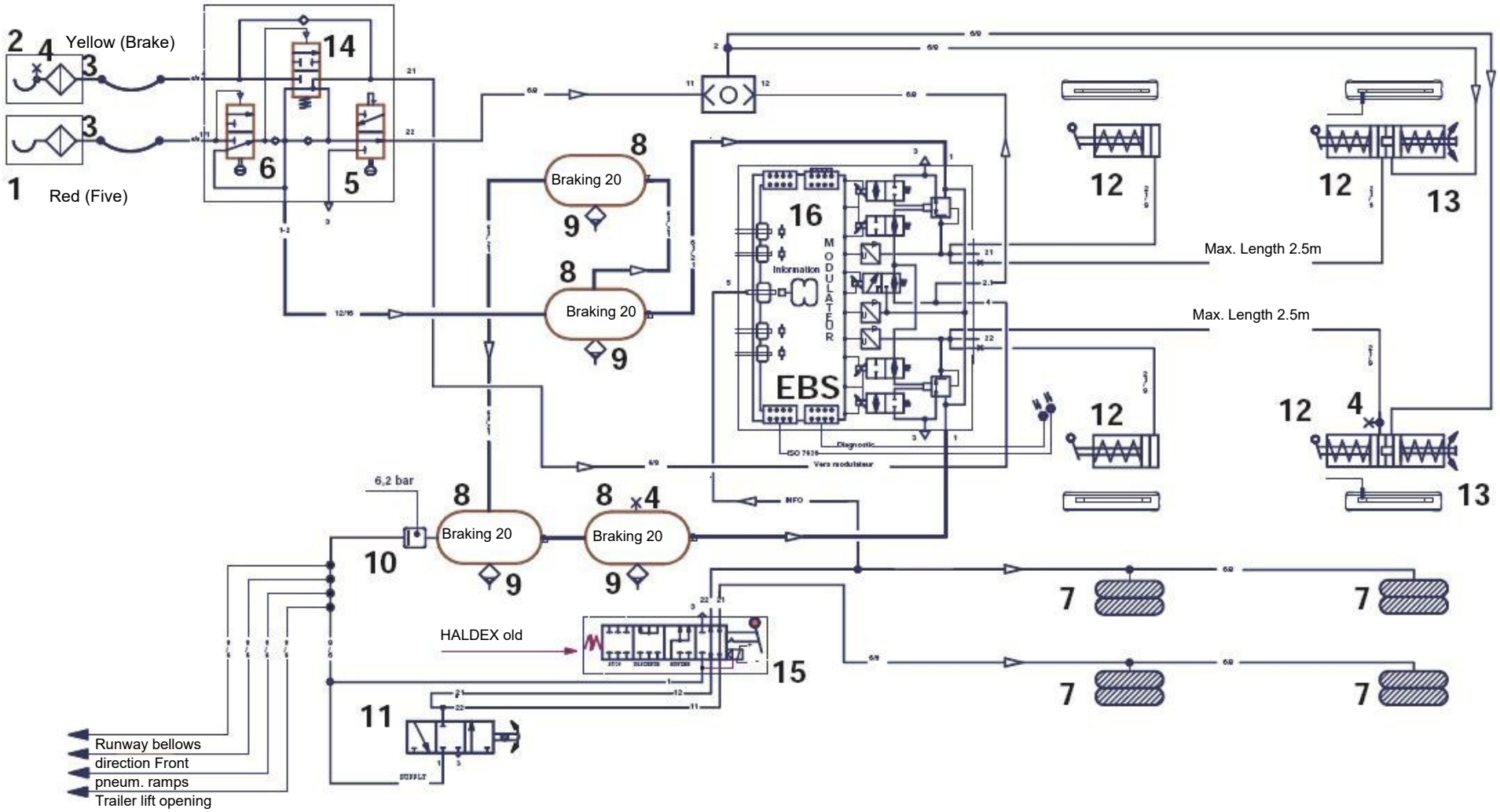
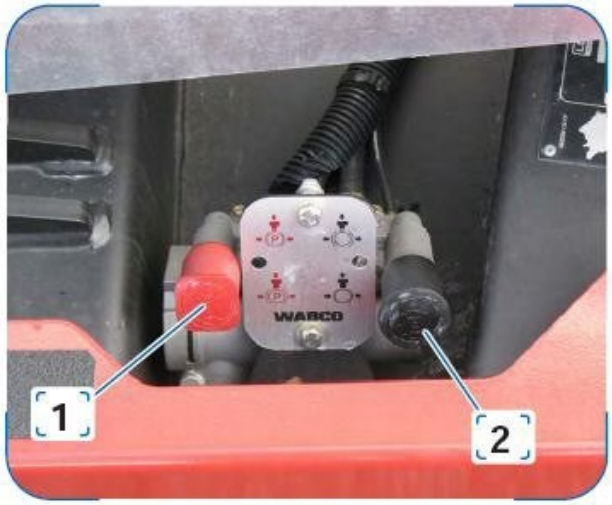


4.3. USE OF PNEUMATIC EQUIPMENT

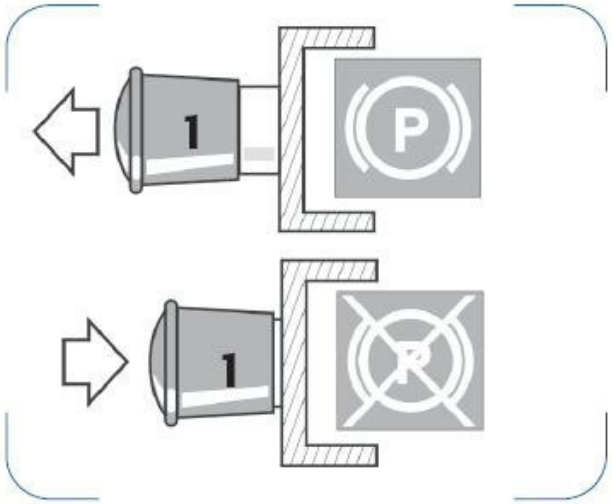


4.3.1. Pneumatic Brake Control

The dashboard is divided into two parts:

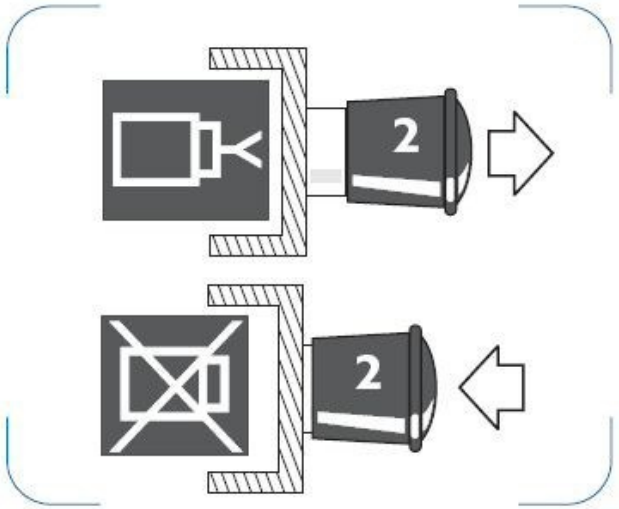
- Left side (red); Parking brake control (red).
- Right side (black); Emergency Safety Brake Control (Black).

4.3.1.1. Parking brake control



The parking brake is applied when the control valve (1) is pulled, the brake is released when the valve is pushed.

Before you set off, make sure that the trailer parking brake is released.

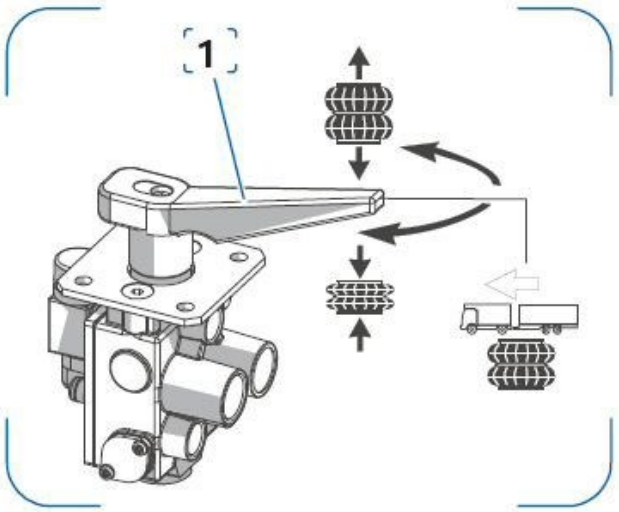


4.3.1.2. Emergency safety brake control

This control allows the trailer to be moved while the emergency safety brake is running (reserved red clutch). The control only works when the air reserves in the air tanks are sufficient.

The safety brake is applied when the control valve (2) is pulled, the brake is released when the valve is pushed.

For safety reasons, increasing the pressure in the "red" supply line causes the emergency safety brake to be released and the control to be lowered to the starting position.

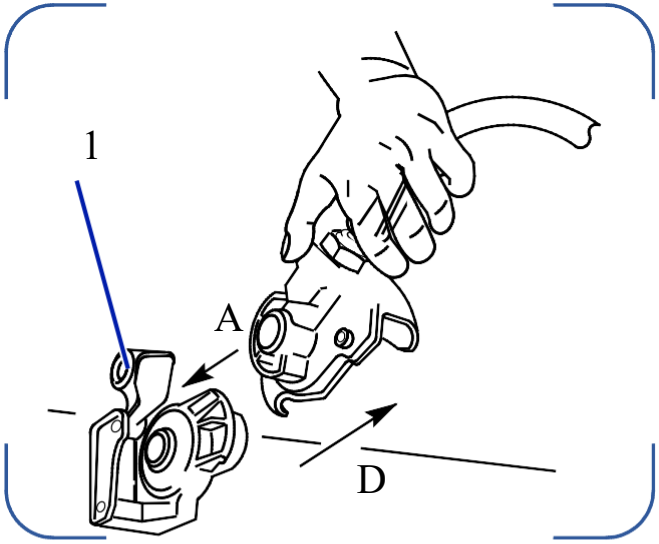


4.3.2. Height adjustment device

This device (1), loading and Unloading Maneuvers during It allows the height of the trailer to be adjusted.

Trailer Suspension "Path" Location Qatar Speed 10 km/h It automatically adjusts when it reaches speed.

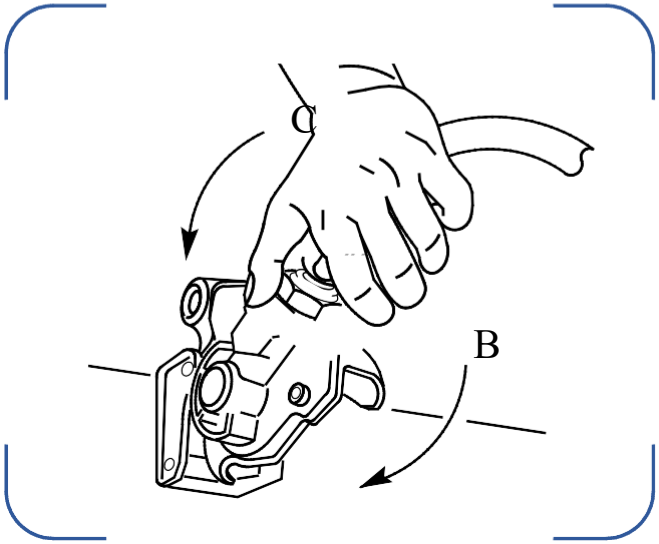
To use this device, the trailer must be connected to the tractor for the purpose of supplying the pneumatic circuit (engine running)
Rotate the handle to the left or right. When the trailer reaches the desired height, release the handle.



4.3.3. Connecting the air circuit

The connection of these circuits must be made by matching the colors. If necessary, clean the tractor and trailer couplings. When making hose connections, it is important to pay attention to prevent foreign substances from entering the circuit.

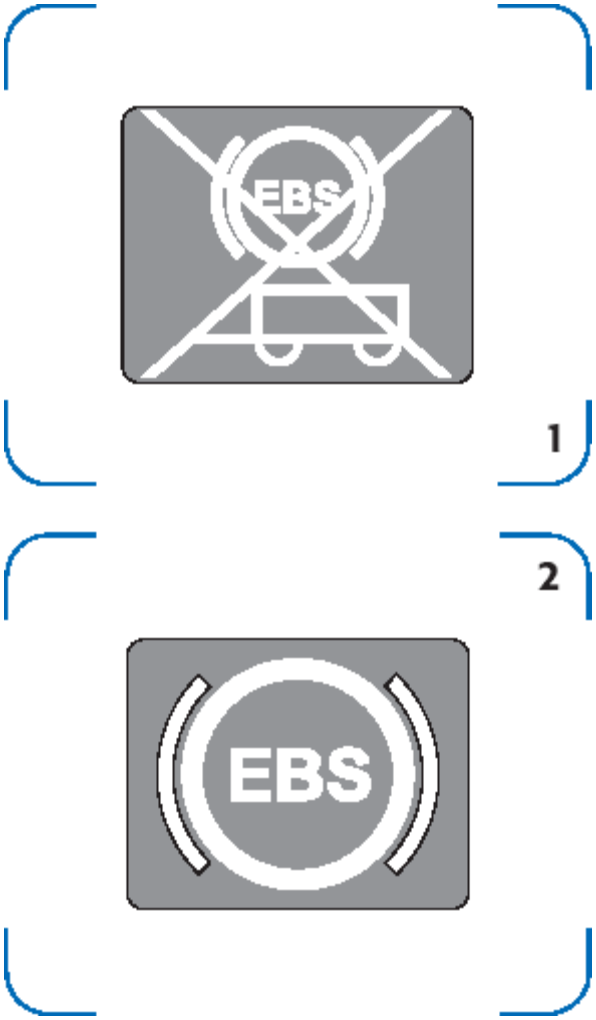
- Open the housing caps of the tractor and trailer fittings (1).
- Insert the movable fitting into the opposite fixed fitting, tilting the locking throats to match (A).
- Rotate the fitting until it locks (B). Repeat the
- same process for the second hose.



4.3.4. Disconnection of the air circuit connection

- To disassemble, rotate the fitting (C), then disconnect the hose (D).
- Keep the fittings with their caps (1).
- Repeat the same process for the second hose.

4.4. EBS "2S/2M"



In order to prevent the wheels from locking during braking, the trailer is equipped with EBS.

4.4.1. Principle of operation

At the moment of braking, sensors on the rear axle detect a tendency to stop on one or both wheels.

The electronic brain that controls the modulator valves determines the brake pressures to be applied to the wheels on both sides in order to achieve the maximum deceleration according to the vehicle's grip coefficient.

4. 4.2. Operating faults

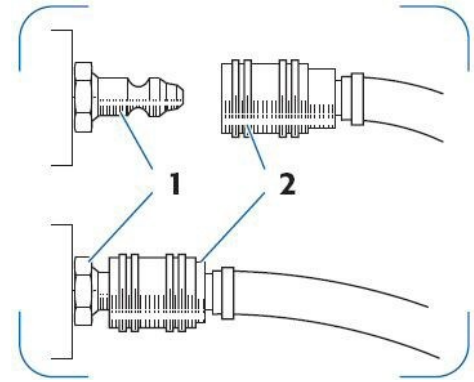
Two warning lights warn of possible operating malfunctions.

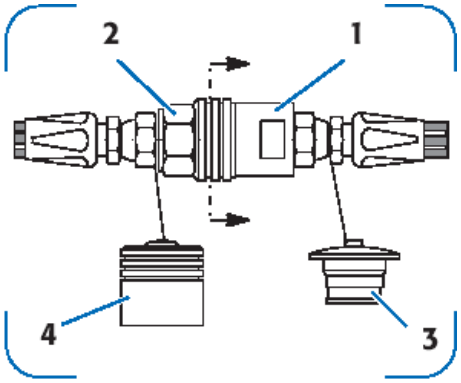
Warning lamp (1) signals a connection failure (e.g. tractor / or body socket)

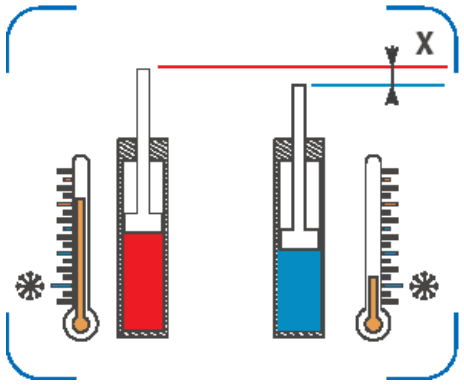
The warning lamp (2) signals the operation failure of the

electronic system. In the event of a fault, the brake circuit works

Any malfunction (even temporary) should be checked and repaired by a specialist.







4.5. CONNECTING THE STABILIZER CIRCUIT

When connecting or disconnecting, this connection must be connected or detached as follows:

- The connection is made by applying pressure to the coupling (1) on the opposite side and the coupling (2).
- Pull the sliding bushing of the coupling to disconnect the connection.

When making hose connections, it is important to pay attention to prevent foreign substances from entering the circuit.

Make sure that the hydraulic circuit is not under pressure (PTO is disabled).

- Holding the end of the hose, pull the outer ring of the female gland (1) to release the male gland (2).

If the equipment needs to remain separate, the fittings must necessarily be maintained with plugs (3 and 4).

Be careful not to leave the fittings on the floor.

5.

ELECTRICAL EQUIPMENT

5.1. GENERAL FEATURES

Electrical equipment (voltage of 24 volts) is divided into many functions:

- A «lighting» circuit in accordance with Regulation EC 76/756.
- «EBS» circuit for wheel anti-lock system.
- Installing a lighting circuit.
- A «pressure control» circuit for the joint stabilizer.
- Control blocks lighting circuit.

Lamps, warning plates and reflectors for your safety proper functioning. Always pay attention to their cleanliness and

5.1.1. «Lighting» circuit

The circuit of trailer lighting lamps (voltage 24 volts) is connected to the body via a 17-prong socket. The circuit of lighting lamps is connected to the tractor chassis by a 15-prong socket. The connections of the sockets are made in accordance with the following norms:

- ISO 12098 for 15-prong socket.

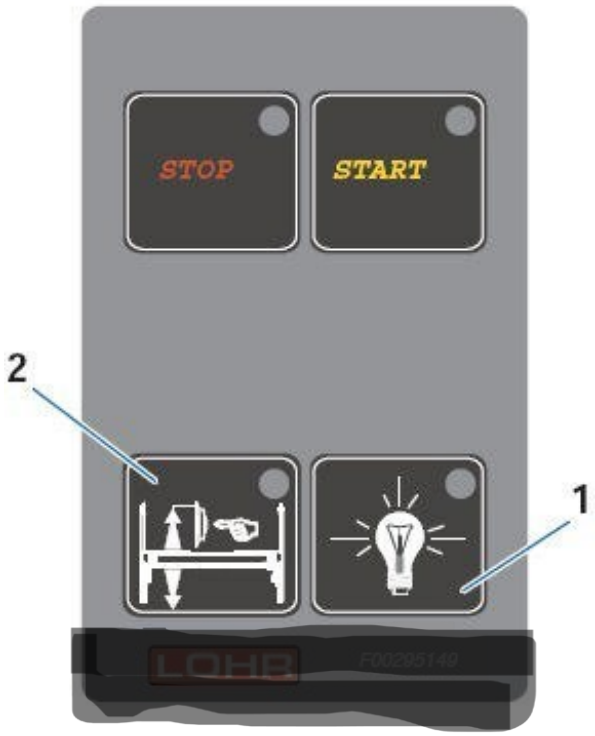
A 4-prong socket can be located at the rear of the trailer, allowing for additional lighting ramp connection (not supplied).

5.1.2. «EBS» Circuit

The EBS circuit is connected to the tractor by a 7-prong socket in accordance with ISO 7638.

5.1.3 «Lighting» circuit

This circuit feeds the loading lights.



5.2. USE OF ELECTRICAL EQUIPMENT

5.2.1. Loading lamps

Qatar loading lights work with a work projector. The trailer (1) is controlled by the push button in the centre control box block.

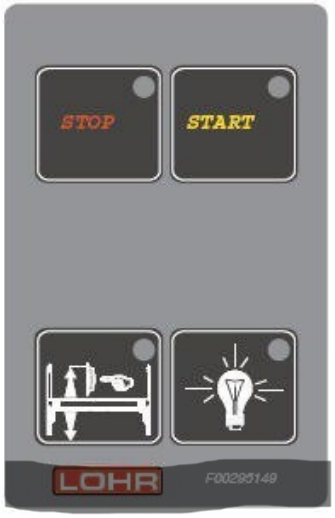
When the speed of the train reaches 10 km/h, it automatically goes off.

5.2.2. Control for realignment of lifting screws

Control button for realignment of lifting screws (2). At the push of the button, one of the two electrovalves of a screw lifting system can be deactivated, allowing the platform to be realigned (see section 7.1.3.1).

5.2.3. Engine start stop (Optional)

This system allows the tractor engine to be started or stopped from the trailer control box:



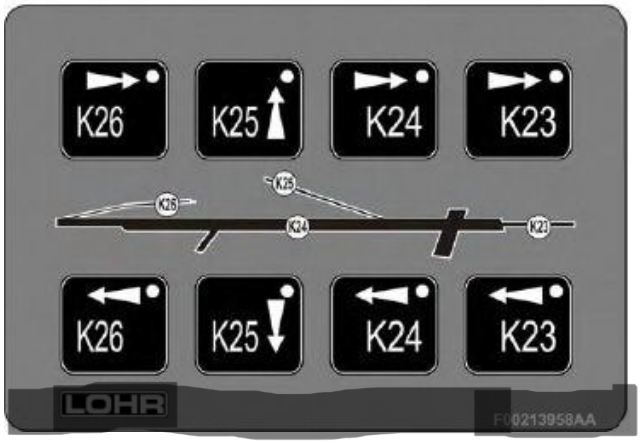
Before starting the tow engine from the trailer:
- that the gearbox is idle,
- Make sure that the switch in the cabinet is in the «ignition» position.

Starting the engine:

Press « Start » and hold it in the same position until the engine starts.

Stopping the engine:

Press « Stop » until the engine stops.

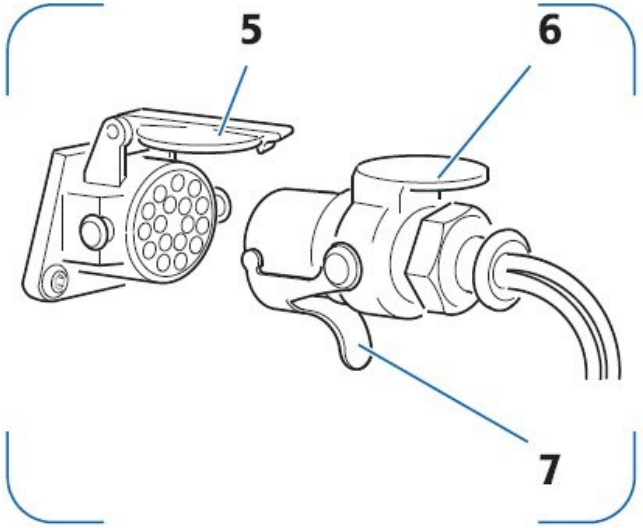


5.2.4 Upper platform hydraulic functions management panel (K2)

Management panel that allows to operate the hydraulic functions of the trailer top platform.

Press the desired function and release it to stop the process.

Movement Will Slicer Route every time Watch carefully.



5.2.5. Connecting the circuit of attractive lighting lamps

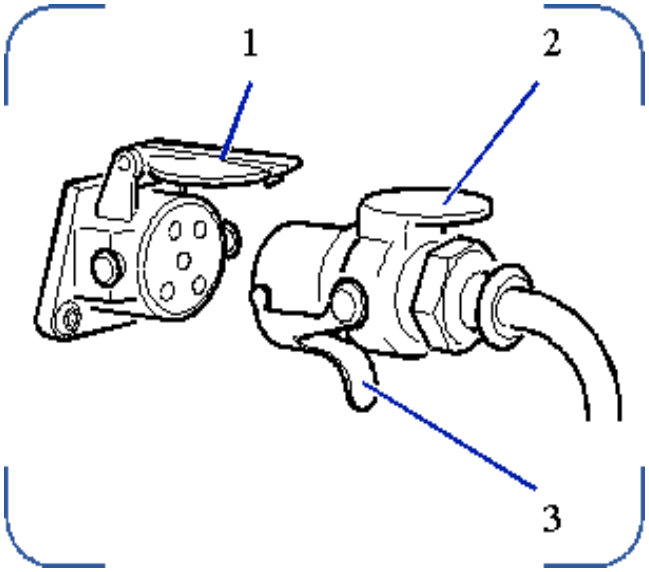
The sockets are protected by hinged covers (5). Lift the body socket housing cover (5).

Connect the trailer socket (6) and lock the group with the hook (7). Lift the hinged cover slightly to disconnect the socket, unlock the hook (7)

Turn it on.

Be careful not to leave electrical outlets on the floor.

5.2.6. Connecting the EBS Circuit

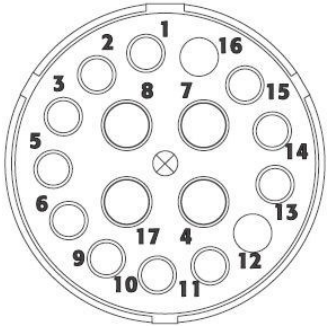


The socket is protected by a hinged cover (1).

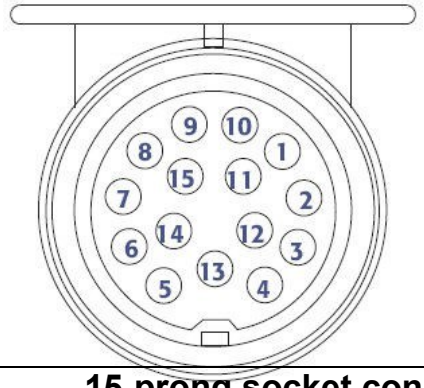
- Lift the cover (1)
- Connect the socket (2) and lock the group with the hook (3)
- To remove the socket, lift the hinged cover slightly (1) and open the hook lock (3).

Be careful not to leave electrical outlets on the floor.

5.3. SOCKET CONNECTIONS

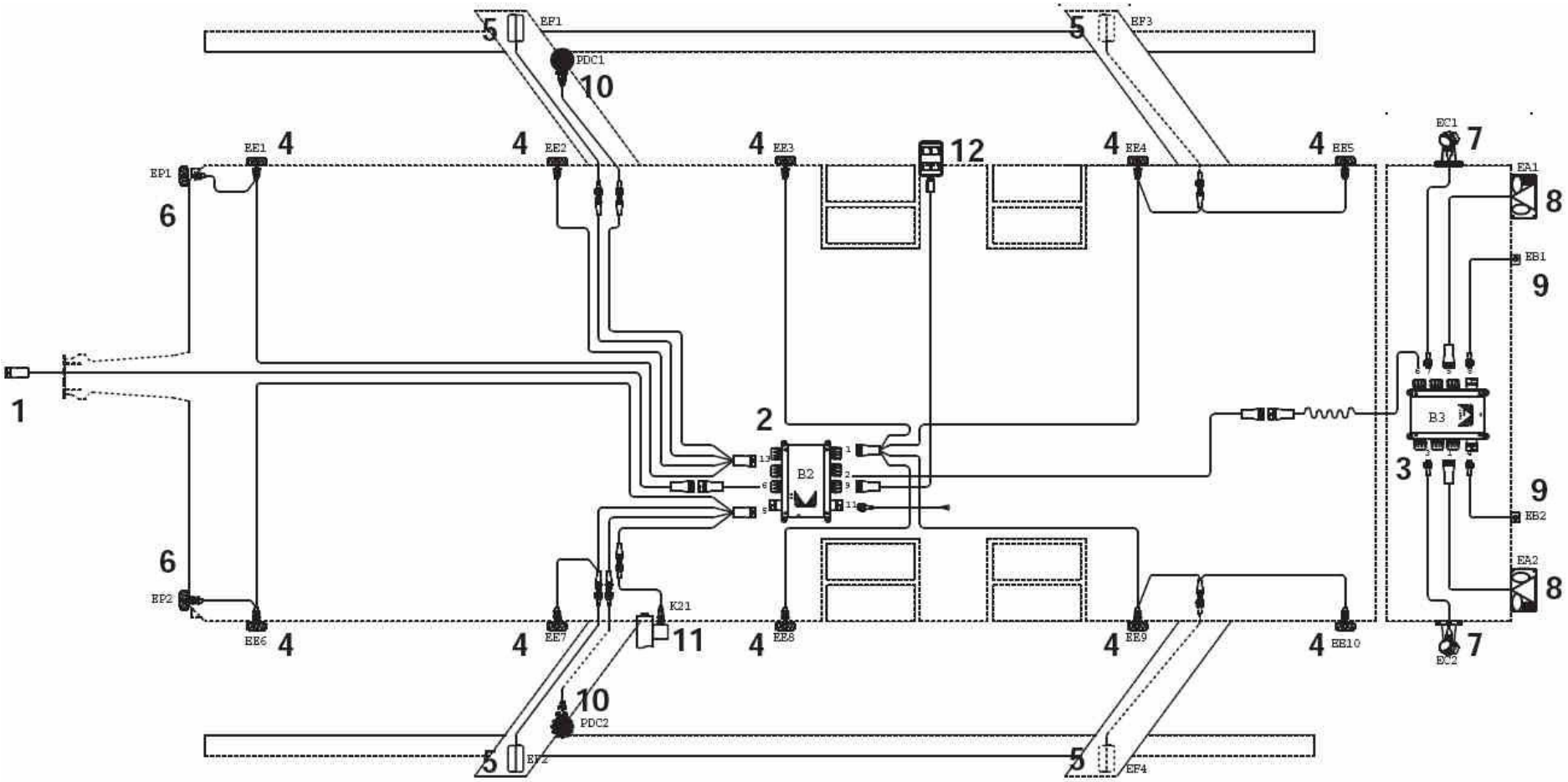


17-prong socket connection					
n°	**Function*1**	**Cable Color**	**n°**	**Function*1**	**Cable Color**
1	Left turn signal lamp	Yellow	10	Independent group	K.color/Crim.
2	Right turn signal lamp	Green	11	Beacon	Yellow/Black
3	Rear fog lamp	Blue	12	Empty	-
4	Chassis	White	13	Chassis	White/Black
5	Rear parking and left-hand clearance light, and license plate illumination	Black	14	PDC return	Purple
6	Rear parking and right clearance light, and license plate illumination	Brown	15	Engine stop	Orange
7	Tail lamp	Red	16	Empty	-
8	Reversing light	Pink	17	Post-contact (+) current additional power supply	Gray
9	Engine start	K.color/Blue			



15-prong socket connection					
n°	**Function*1**	**Cable Color**	**n°**	**Function*1**	**Cable Color**
1	Left turn signal lamp	Yellow	10	Independent group	K.color/Crim.
2	Right turn signal lamp	Green	11	Beacon	Yellow/Black
3	Rear fog lamp	Blue	12	Post-contact (+) current additional power supply	Gray
4	Chassis	White	13	Chassis	White/Black
5	Rear parking and left-hand clearance light, and license plate illumination	Black	14	Empty	Purple
6	Rear parking and right clearance light, and license plate illumination	Brown	15	Engine stop	Orange
7	Tail lamp	Red	16		
8	Reversing light	Pink	17		
9	Engine start	K.color/Blue			

5.6. TRAILER SIGNAL LAMPS EQUIPMENT



Equipment by version and option

SIGN	DONANIM TANIMI
1	17-prong socket
2	B2 Box
3	B3 Box
4	Side clearance lamp (orange)
5	Side strut clearance lamp (red/white)
6	Front clearance lamp (white)
7	Rear clearance light (red/white)
8	Multi-function tail light
9	License plate lamp
10	Loading lamp
11	Upper platform front lifting solenoid
12	Electronic brain, engine start-stop, screw locking and loading lights.

6.

CONNECTION

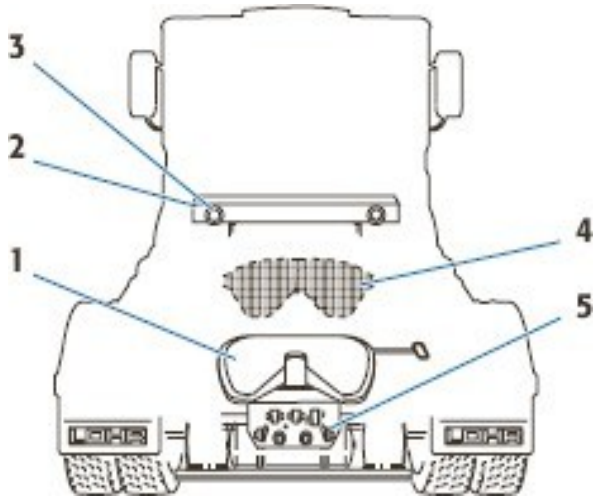
6.1. TRACTOR CONNECTION

6.1.1. General introduction of the connection interface

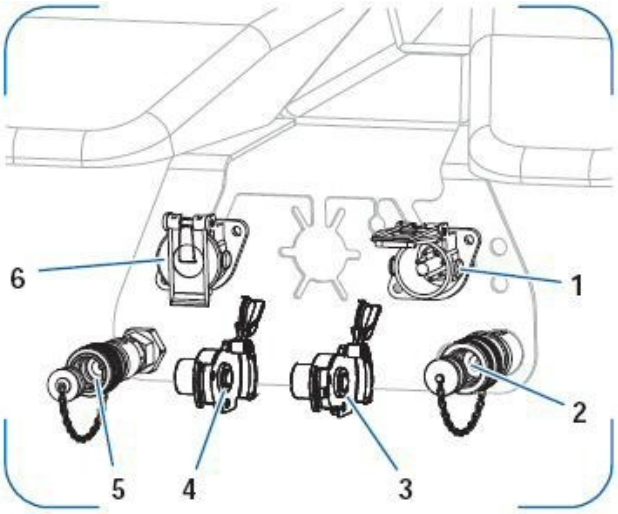
The connection of the gamut transport equipment requires a special interface on the tractor.

This equipment consists of:

- Good looking of the chassis back In the section location area circuit Connections together one connection (1) Plant (5, see 6.1.2.).
- A two-slot crossbar (2) located at the rear of the cab for the centering of the bodywork.



Its special equipment can be complemented by a second fifth wheel (4), which makes a semi-trailer hitch possible.



6.1.2. Connections of circuits

(1) : 15-prong lighting lamp power outlet (on).

(2) : Hydraulic coupling (T).

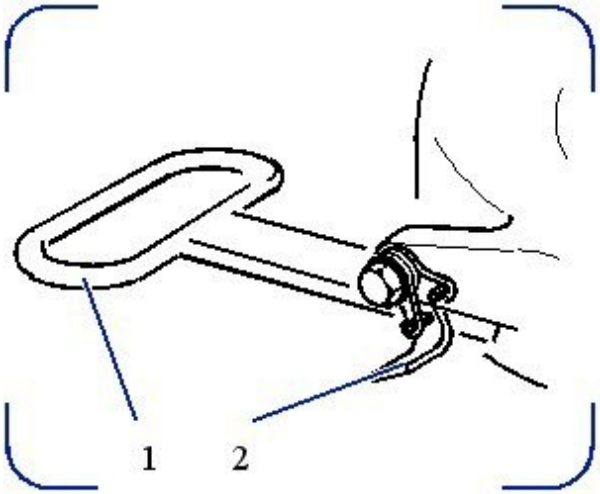
(3) : Red line pneumatic coupling.

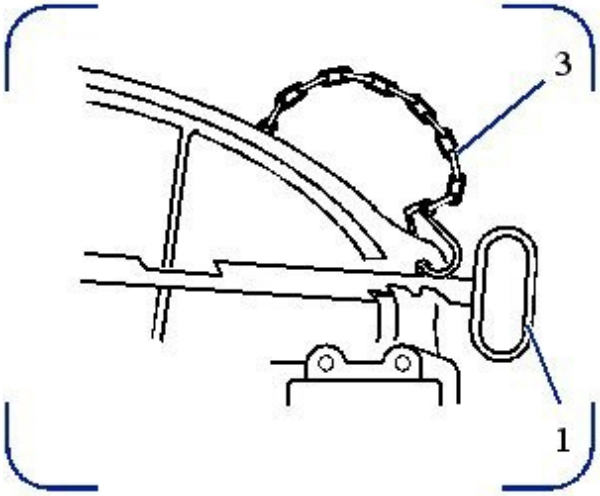
(4) : Yellow line pneumatic coupling.

(5) : Hydraulic coupling (P).

(6) : EBS power outlet

6.2. TRACTOR FIFTH WHEEL





The lever (1) serves to control the fifth wheel mechanism.

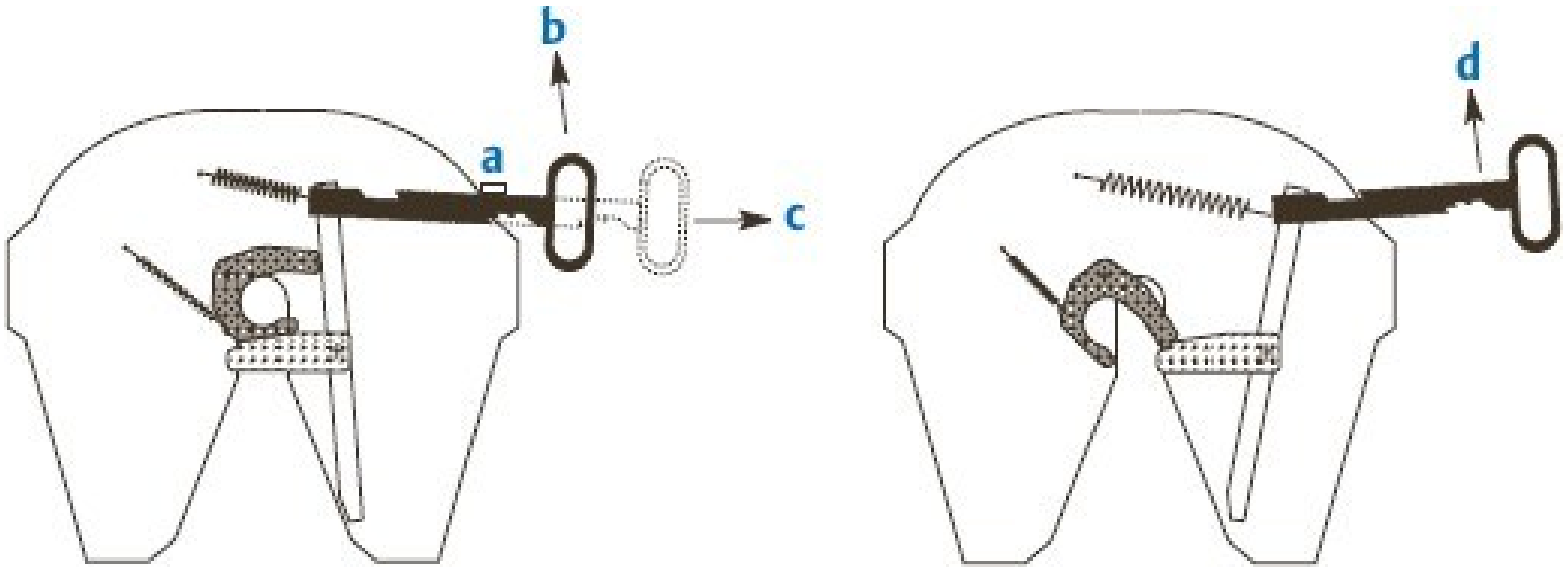
Depending on the mount, the mechanism is locked at the handle by means of a spring-loaded lock (2) or a safety lock (3).

Another purpose of the locking device (2 or 3) is to visually ensure that the kingpin fits snugly on the fifth wheel. If the spring-loaded lock (2) is not in the closed position or it is not possible to install a safety lock, do not apply force to the handle (1), but start the fastening procedure again.

It is important to make sure that the fifth wheel is properly locked before each take-off.

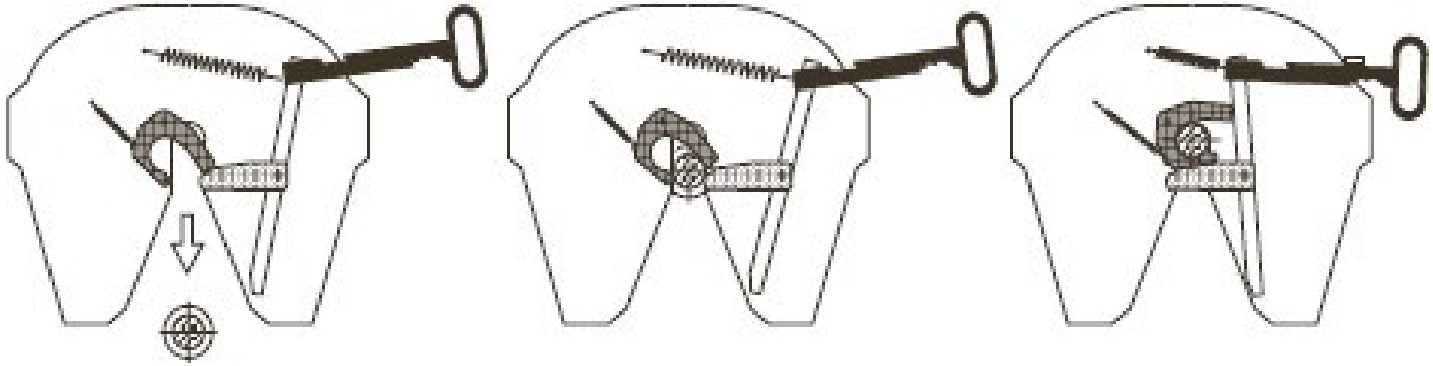
To open the connection mechanism:

- rotate the spring-loaded lock (2),
- Push the handle forward to release the handle from the first stop notch, then pull
- the handle all the way,
- Push the handle forward and insert the handle into the second notch. The mechanism is ready for the connection or disconnection process.



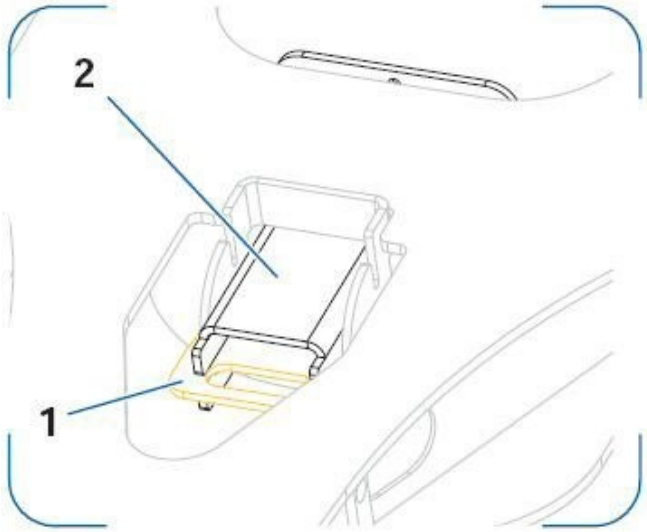
To connect the tow truck:

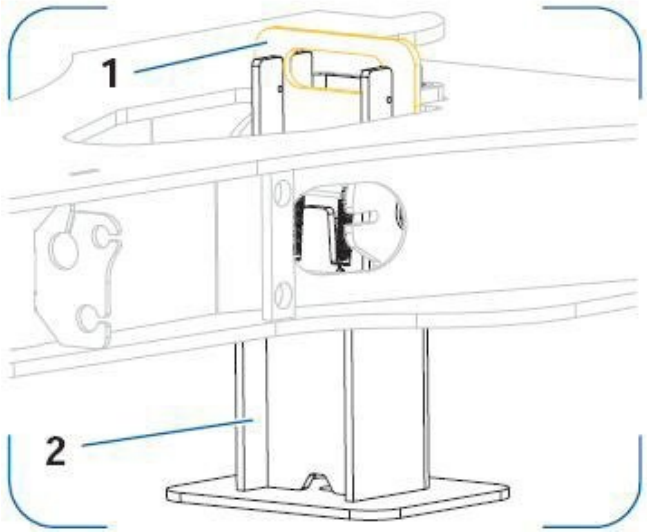
- Make sure that the fifth wheel is in the «ready to connect» position (the handle is attached to the exit position),
- Make sure that the tie plate is 5 cm lower than the fifth wheel, adjust the body support legs or tractor suspension if necessary,
- Bring the tractor back at the kingpin level,
- When the kingpin enters the fifth wheel, it releases the connection and lock mechanism.
- Make sure it is properly locked (the lever is blocked with a spring lock), make electrical, hydraulic and air connections and release the parking brake before setting off.
- Secure the body side support legs (see 6.5.1.) and the middle support leg of the trailer arm assembly (see 6.5.2.).



To detach the tow truck:

- Before switching on the fifth wheel mechanism, apply the parking brake, rest the body and trailer on the support legs,
- After disconnecting the air, hydraulic, and electrical connections, move the tractor forward.





6.5.2. Drawbar outrigger support leg

This two-position support leg is located on the trailer hitch arrow.

A lock tongue (1) allows the support leg (2) to be fixed in one of its two positions.

To fix the kickstand in the lower position:

To lift the lock in such a way as to free it from the tongue (1), make sure that the support leg is
(2) Press on the body.

Pull out the lock tongue (1) with your other hand and rotate the support leg.

Release the tongue and check that the kickstand is properly locked.

Lower the tractor suspensions before disconnecting the equipment.

Especially when the equipment is separated while there is a load, the load on the ground will increase at the same rate. If the floor durability is insufficient, it is advisable to place a plate with a more pressure-resistant surface (e.g. wood, not supplied).

It is not possible to use the hydraulic system when the tractor is not

6.6.2. Binding

- With the help of the tractor suspension, adjust the height of the fasteners (fifth wheel and kingpin) (if necessary).
- Make sure that the fifth wheel is ready for connection (open).
- Move the tractor back on the kingpin axis until the fifth wheel locks.

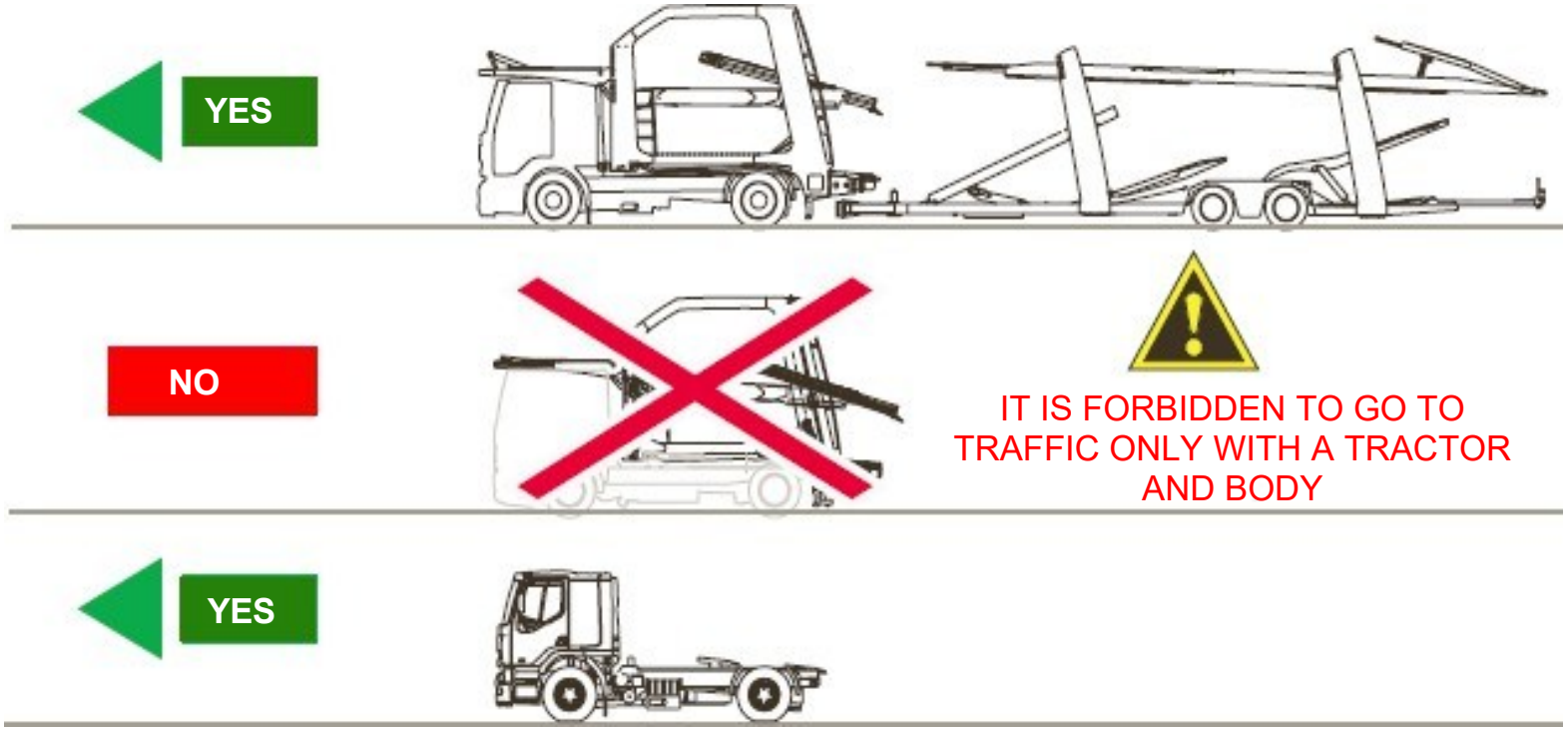
During the process, make sure that the tractor wheels do not come into contact with the side support legs (maneuver with slow movements).

- Stop the engine of the tow truck. Connect
- the following circuits:
  - Hydraulics (see 3.3.4.1.),
  - Weather (see 4.3.3.),
  - Signaling (see 5.2.3.),
  - EBS (see 5.2.5.),

- Move the roof platform to the road position (see
- Move the tractor and trailer suspension to the upper position.
- Move the side support legs and the drawbar support leg to the driving position.
- Release the trailer parking brakes before moving.

When the speed of the train reaches 10 km/h, the trailer automatically switches to the "road" position and the loading light goes out.

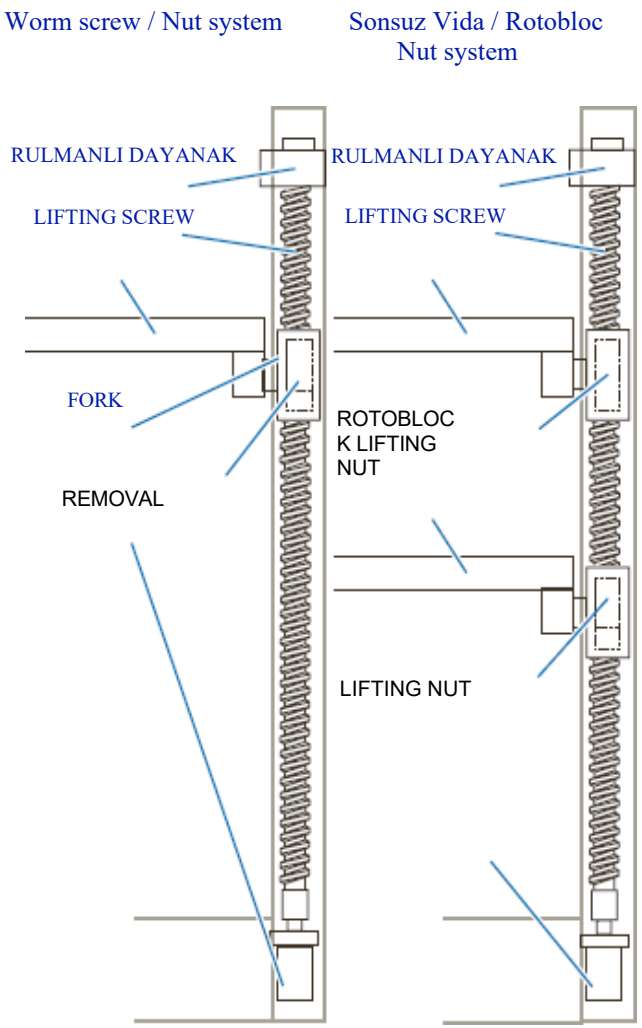
Move the roof platform to the road position (see



7.

LIFTING DEVICE

7.1. «V» TYPE SCREW LIFTING DEVICE



7.1.1. PRINCIPLE

On the bodywork, each strut has two screw/nut hoists, each powered by a hydraulic motor.

On the body rear strut type "C5", the rear lifting screws are with classic nuts. They are "ROTOBLOC" nuts with pneumatic unlocking that allow the "C3" upper platform to be lowered using the C32 hydraulic function.

On the trailer, there are two screw/nut hoists on each strut, powered by a hydraulic motor, operated by a knuckle mechanism.

A fork with a lifting nut inside each strut allows the upper platform to be raised.

A bearing abutment at the top of each strut allows the weight to be carried and guides the screw.

Lifting Capacity: ..... **5 000 kgs**

The lifting screws cannot be reversed; that is, the load transferred by the lifting nuts fails to rotate them.

In the event of a slip in the level of the left and right lifting nuts, an electric control cuts off the hydraulic supply of one of the hydraulic motors to correct the platform level. (see 7.1.3.1.).

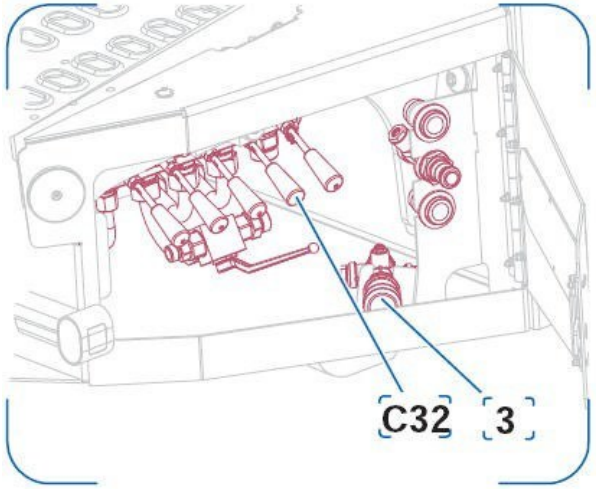
7.1.2. Use

Caution is required during platform maneuvers.
- Make sure that the manoeuvre can be carried out safely.
- No one should be under or on the platforms during maneuvers.
- During maneuvers, follow the platform route from the front and rear.

Activate the PTO (see 3.3.1.1.). Run the desired uninstall function:

- The lever on the distribution block is pulled up and the rise of the platform is controlled,
- The lever on the distribution block is pushed down and the platform is controlled to descend.

During maneuvering, the nuts may come to the lower or upper abutments, causing the uprights to be blocked. Closer to the end, it is necessary to carefully move the platform. If the platform is blocked, see the section «preventive maintenance».



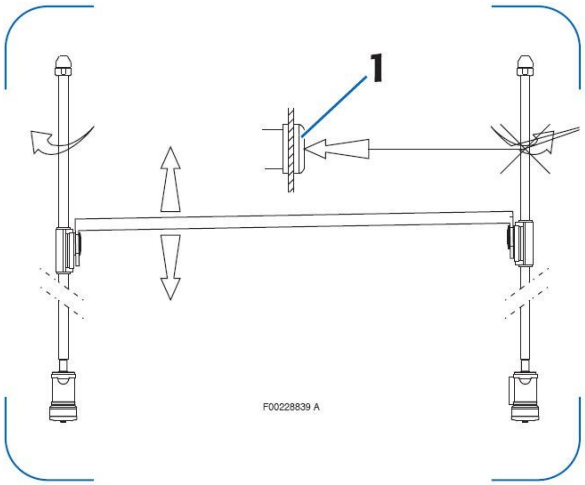
7.1.3. Use of the lifting system with ROTOBLOC

Caution is required during platform maneuvers.
- Make sure that the manoeuvre can be carried out safely.
- No one should be under or on the platforms during maneuvers.
- During maneuvers, follow the platform route from the front and rear.

☞ Activate the PTO (if necessary - see 3.3.1.1.).

☞ Activate the pneumatic unlocking control (3) then the hydraulic function C32:
- The lever on the distribution box is pulled up to control the rise of the platform,
- The lever on the distribution box is pushed down and the platform is controlled to descend.

☞ Release the pneumatic control so that ROTOBLOC locks on the bolt.



7.1.3.1. Horizontal plane adjustment

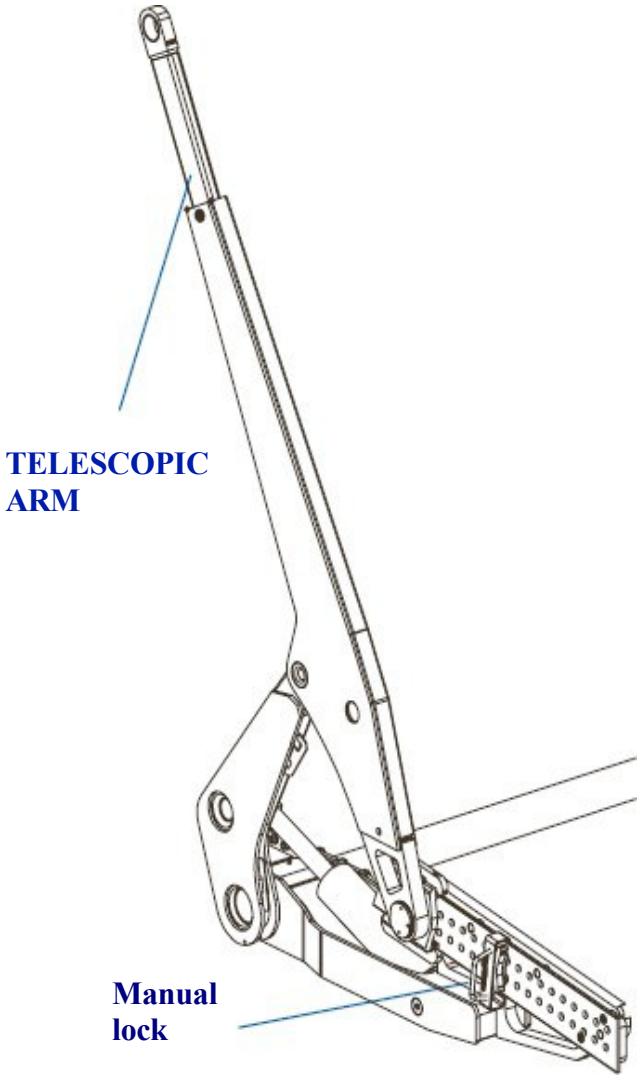
To adjust the horizontal plane of the body top platform:

- Raise or lower the button (1) and **simultaneously use the function** «C31» **or** «C32» to raise or lower it as needed.
- Stop the manoeuvre and visually check the plane from the back of the train.
- Correct the setting if necessary.

Horizontal adjustment of the upper platform front or trailer strut:

- By pressing the button (1), operate the K21 or G12 function at the same time as desired.
- Stop the movement and check the horizontality with the eye from the back of
- the train. Adjust if necessary.

7.2. «ST» TRAILER REAR LIFT SYSTEM



This system is driven by two hydraulic pistons.

This equipment provides for the transportation of large vehicles with the upper platform in the lower position.

This system is locked manually (see 7.2.4.).

Lifting Capacity: ..... **5 000 kgs**

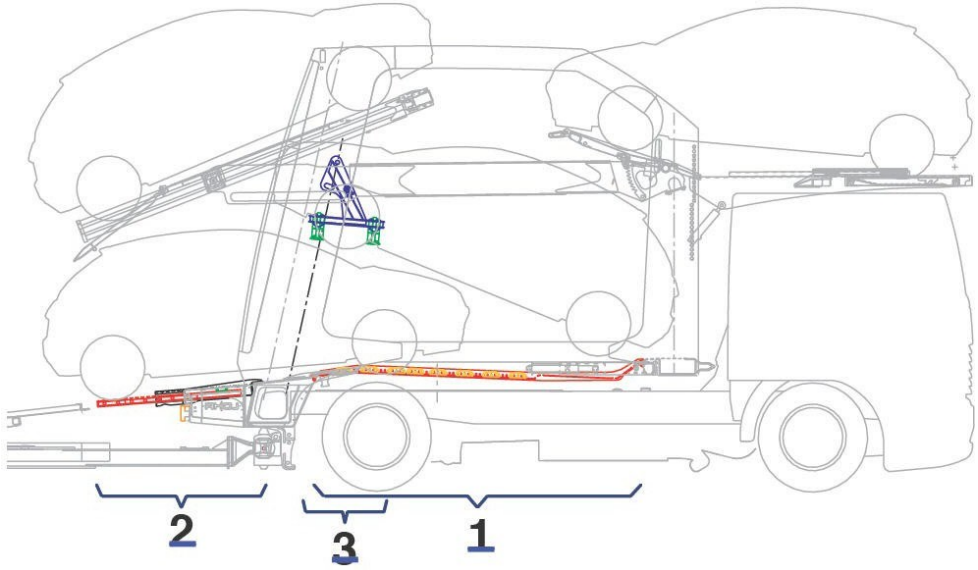
8.

«A» + «D» TYPE BODY SUBPLATFORM

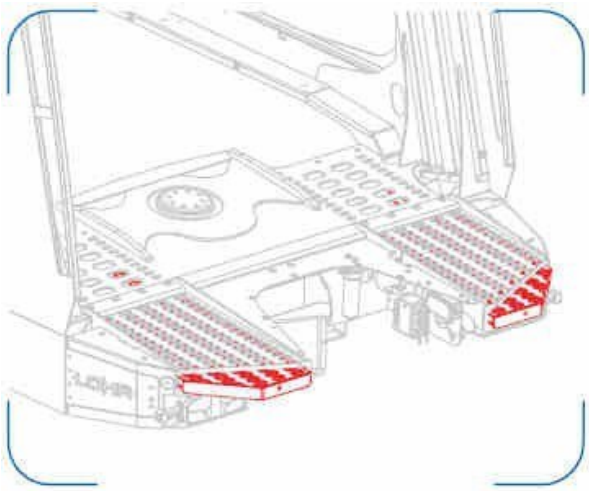
8.1. GENERAL FEATURES

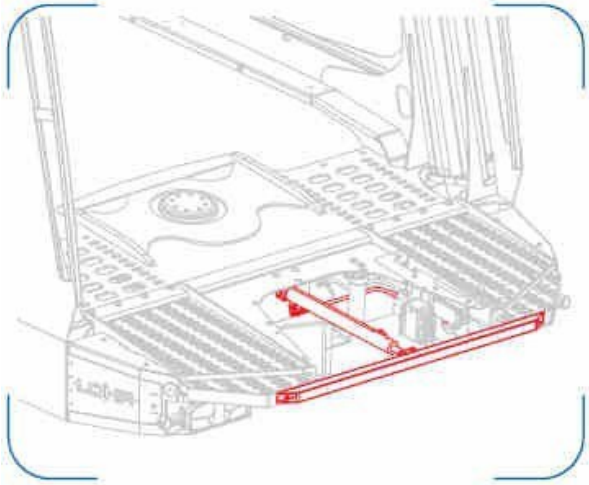
The lower level of the bodywork allows the transport of two vehicles and consists of:

- Optionally fixed platform on the back side of the plates or on all surfaces (1).
- A pair of manual extensions (2). As an option, these rear ramps can be hydraulically controlled.
- An intermediate platform (3) allows the half-sleepers carrying the wheel to be attached. Can be lifted with a screw hoist (function D).



8.2. MANUAL REAR EXTENSIONS





In addition to transport functions, the rear extensions also allow vehicles to pass between the trailer and the lower part of the bodywork during loading.

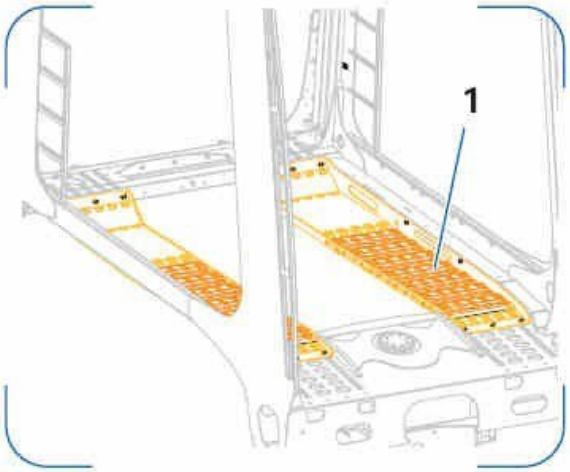
☛ Release the rear ramps using locks accessible from side cabinets.

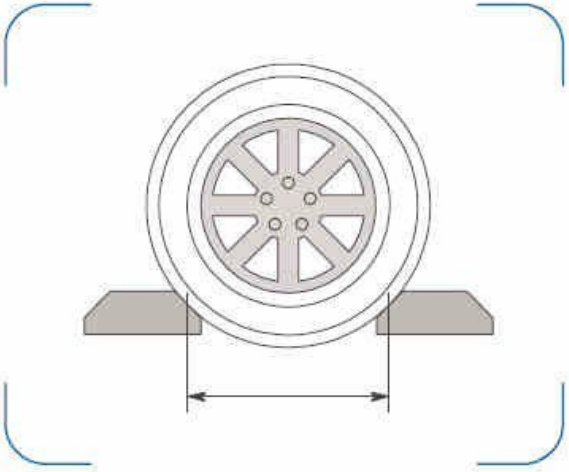
☛ Move the extension until you bring it to the desired locking position, lock the

☛ ramps.

Be careful to leave enough space for the trailer to turn. Be sure to observe the load limits (see section 2). If the extensions are not locked, it is forbidden to move the train.

As an option, these rear ramps can be hydraulically controlled. A2 function.





8.3. DETACHABLE CLOSURE WEDGES (OPTIONAL)

Detachable closing mounts on the wheel well, which make it possible to arrange the plates intended to lower the vehicle placed in this area (1) is found.

When loading and unloading vehicles, these elements must be in place to ensure the continuity of the driving surface.

To save on height, it is possible to install license plates in the placement of a vehicle. For this operation, it is necessary to slide the removable elements.

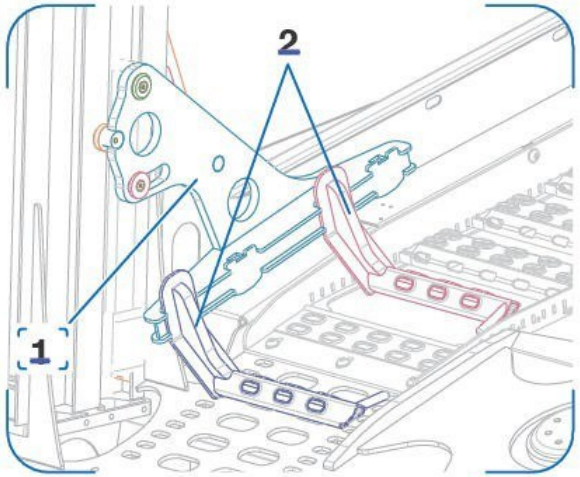
Load capacity: (see 2) ..... **1200 kgs**

Unlock it according to the vehicle to be transported (from the bottom) and place it in the appropriate position.

The clearance between the sleepers must be compatible with the tire size of the transported vehicle.

(See section 13.1.)

8.4. "D" TYPE INTERMEDIATE PLATFORM (ACCORDING TO EQUIPMENT TYPE)

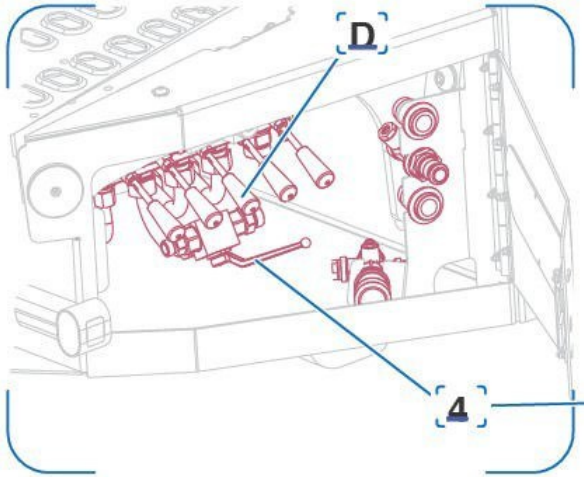


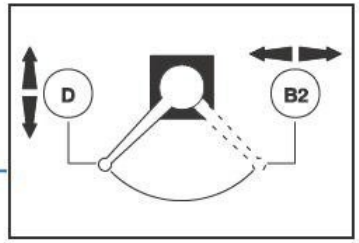
This equipment consists of two side supports (1), which move vertically by means of a lifting screw. These supports allow the connection of wheel crossmembers (2) (see Wheel Crossbars). Sec. 13.5). This equipment allows the vehicle to be lifted behind the cab and increase the usable space under the upper platform.

The lifting process is controlled from the control panel with function D:

Load capacity: (see 2) ..... **2000 kgs**

8.4.1. Use





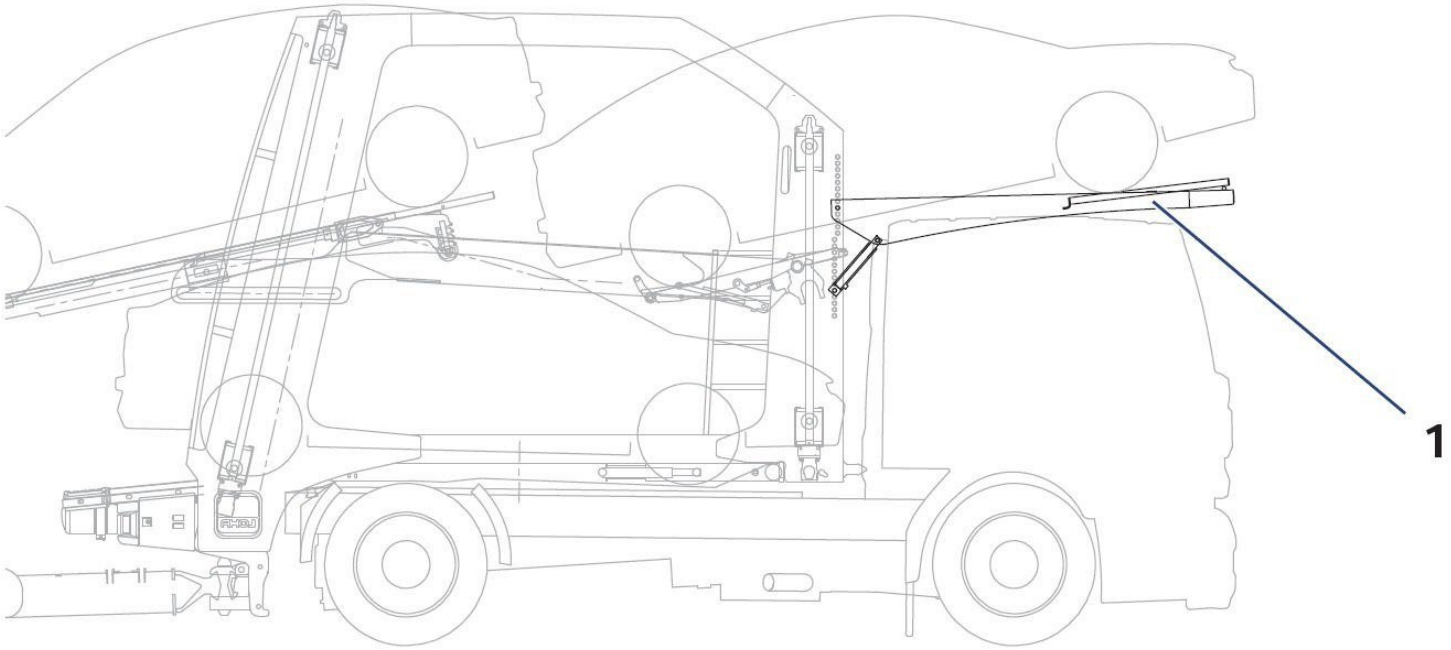
- Move the control valve (4) to the right location and select the supply of platform "D".
- Engage the PTO. (See section 3.3.1.1.) D
- operate the hydraulic function:

9.

«B1» TYPE ROOF PLATFORM

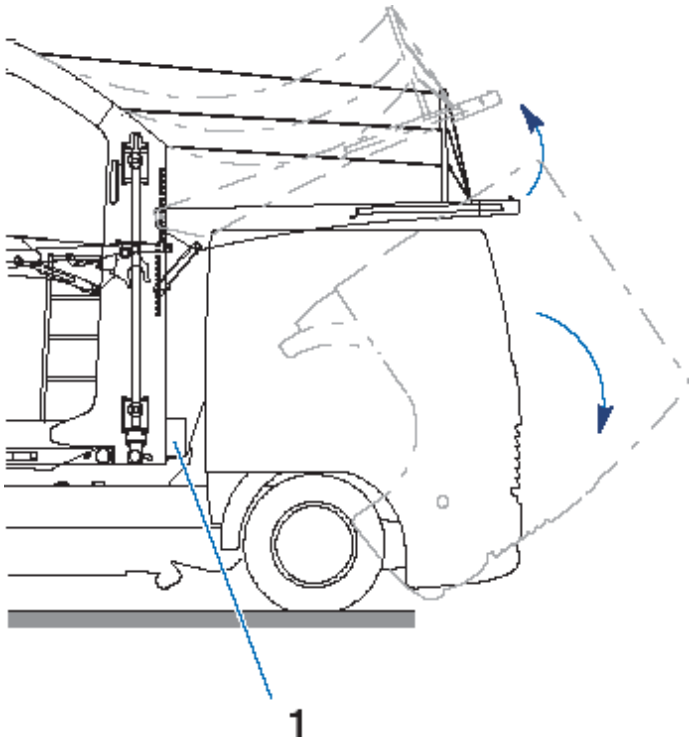
9.1. EQUIPMENT

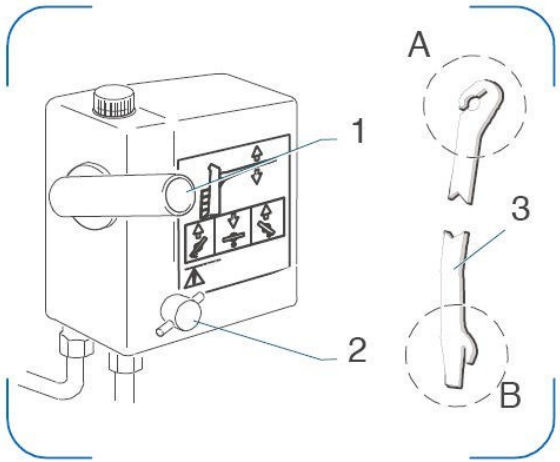
« Roof platform » (1) is the upper front platform of the bodywork above the tractor cab.
The roof platform can be lifted hydraulically with 2 pistons fed by a manual pump. Roof platform equipment does not allow vehicle transport when the upper platform is in the lower position.

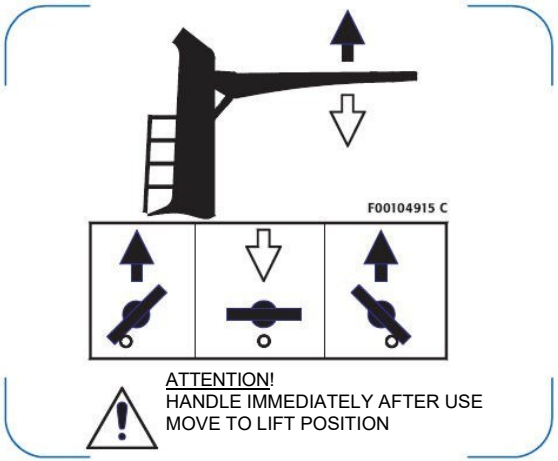


9.2. LIFTING THE ROOF PLATFORM

It is hydraulically driven by 2 pistons fed by a manual pump (1) to allow the cab to tip over and access the tow engine, this can be done while the vehicle is loaded.







9.2.1. Removal of the ceiling platform

It should only be used in the raised position when the vehicle is stationary.

9.2.1.1. Removal of the ceiling platform

- Using the end (A) of the lever (3), turn the valve (2) to the «Lift» position.
- Insert the joystick (B) side (3) into the piston (1).
- Pump until the roof platform is in the upper position.

9.2.1.2. Lowering the roof platform

- Using the end (A) of the lever (3), turn the valve (1) to the «Lowering»
- position. Leave it to descend with its own weight (braking with valve (2)
- if necessary). Be sure to turn the valve (2) back to the « Lift » position.

10.

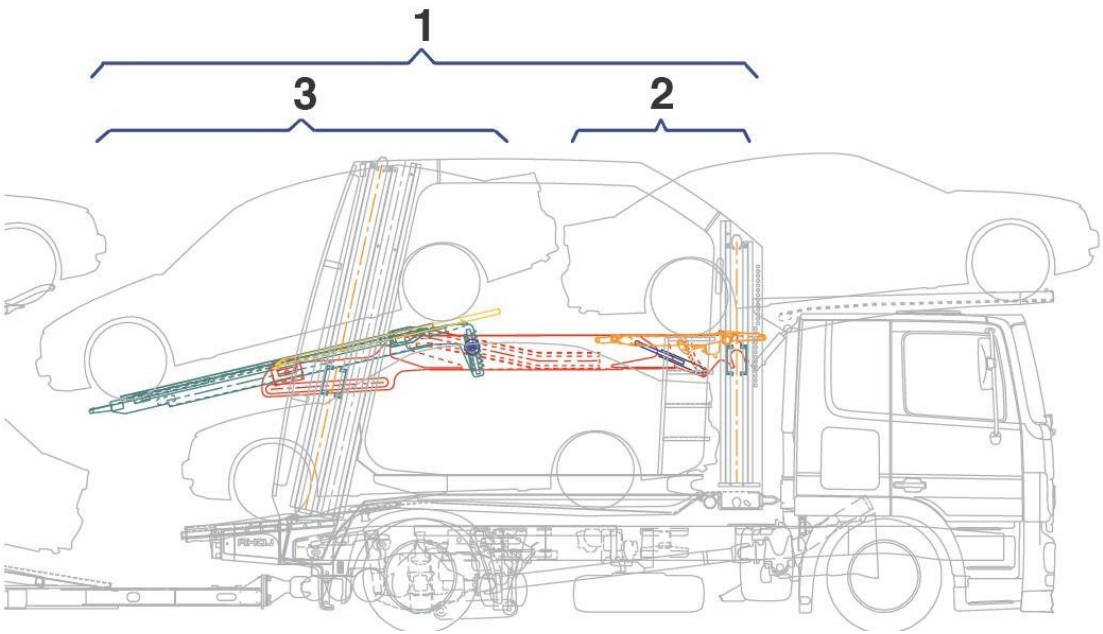
«C2» TYPE BODY TOP PLATFORM

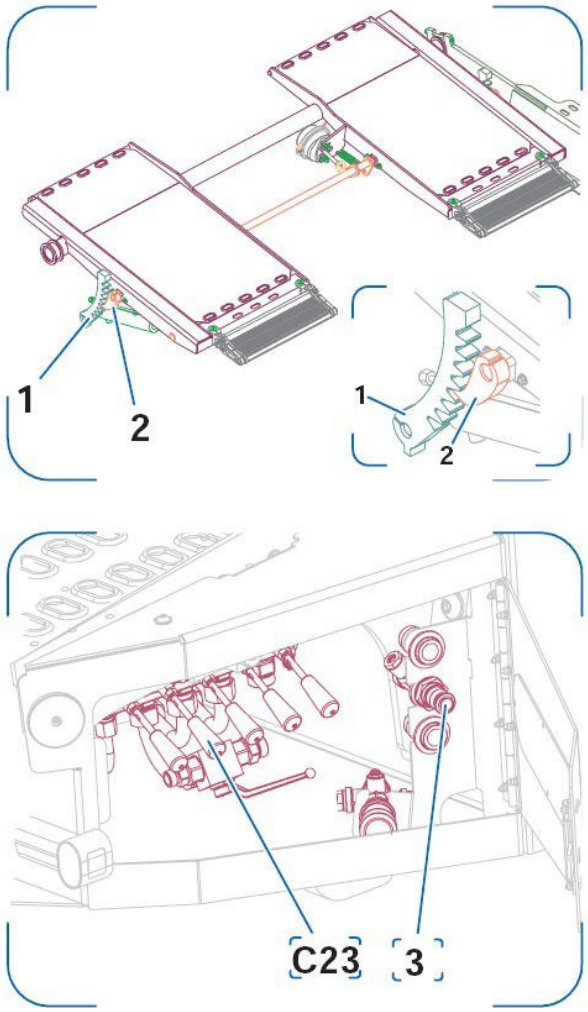
10.1. EQUIPMENT

The upper body platform (1) **C23** and **C24** have two hydraulic functions, consisting of two parts (2 and 3). The platform **is lifted by two independent screw lonjerons, the** C21 at the front and **the C22** at the rear.

The front part (2) can be positioned horizontally with hydraulic pistons, inclined upwards or downwards. Locking It is supplied pneumatically from the side rack and pinion gears.

The rear part (3) is shifted by a central screw mechanism (distance 1 600), which is driven by a hydraulic motor, and the range of motion is tilted at the end, in addition, the initial tilt can be adjusted manually.

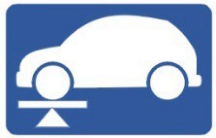




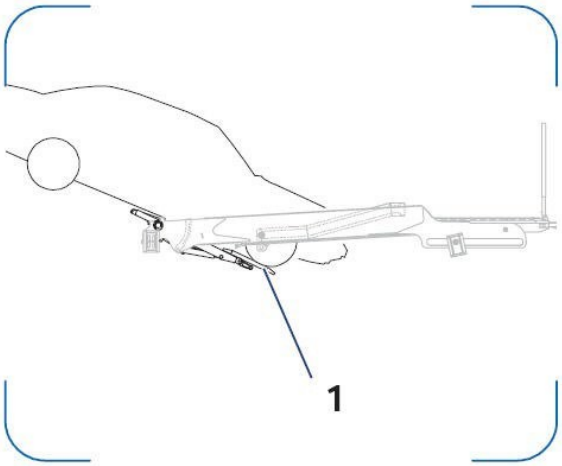
10.1.1. C2 platform front

It is possible to move the height-adjustable front of the platform when loaded or unloaded.

- Engage the PTO (see 3.3.1.1.)
- **Start the hydraulic function C23.**
- Slowly lift the platform so that you release the locks (1) from the side rack and pinion gears (2).
- Operate the pneumatic release control (3).
- Adjust the platform tilt with the lever on the C23 control block.
- Release the unlock control and lower it slowly so that the platform is blocked in the rack and pinion gear.



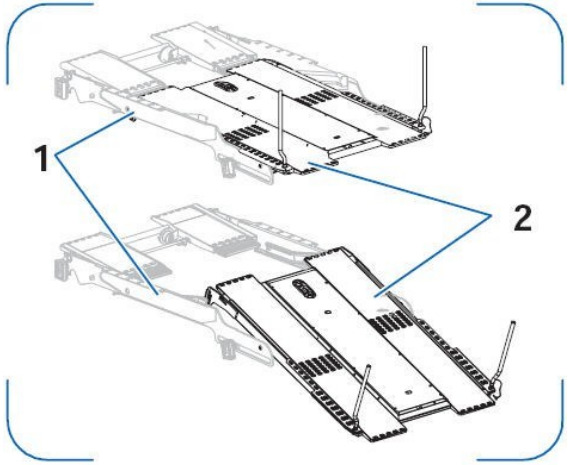
Load capacity: (see 2.)..... 1200 kgs



In some loading situations, it may be necessary to use a larger loading surface on top of the platform.

In this case, it is important to note that the aluminum additions supplied with the equipment (1)
It is possible to use it.

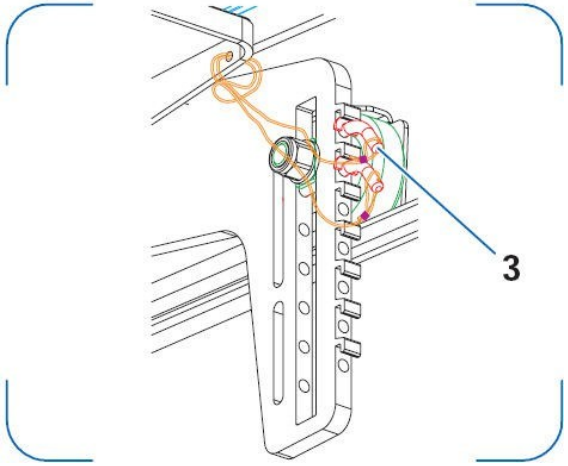
10.1.2. Rear part of the C2 platform



The rear part of the platform (1) (2) is driven by a central screw mechanism driven by a hydraulic motor, and the initial tilt can be manually adjusted from the front.

At the end of the range of motion, the platform automatically tilts, so it's important to be careful by thinking about this

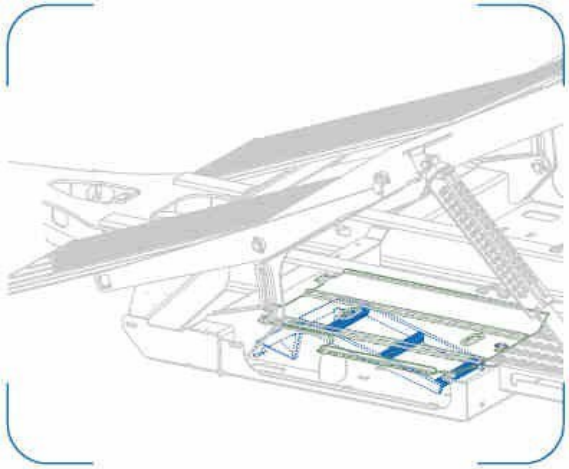
Load capacity: (see 2.) 2200 kgs

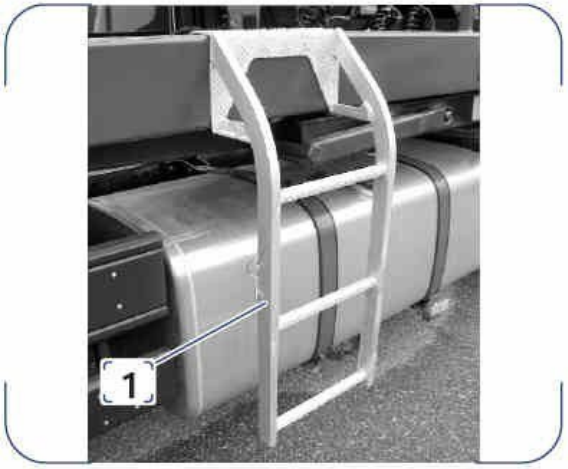


Shifting the platform

- Engage the PTO (see 3.3.1.1.)
- Activate the hydraulic function C24 **for the desired movement**. The initial slope of the platform can be adjusted manually with the help of two ends (3).

This tilt change can only be done when empty.





10.2. LADDER OF CLIMBING TO THE BODY

The folding ladder (1) is used to climb to the bodywork from the side. The ladder is stored in the locker on the front left side of the trailer.

10.2.1. Use

☞ Remove the ladder from its slot.

☞ Snap the ladder into the side edge frame of the bodywork.

ⓘ It is necessary to keep the ladder in place while driving.

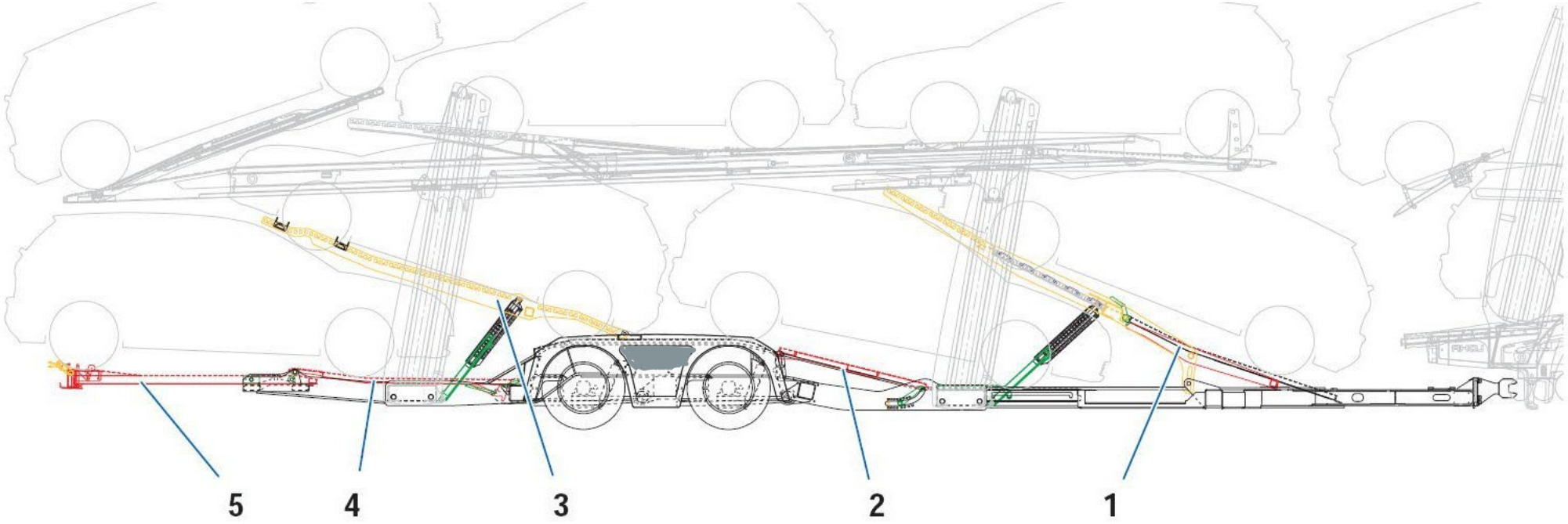
11.

TRAILER SUBPLATFORM

11.1. GENERAL FEATURES

The lower level of the trailer allows the transport of up to 3 vehicles, it consists of:

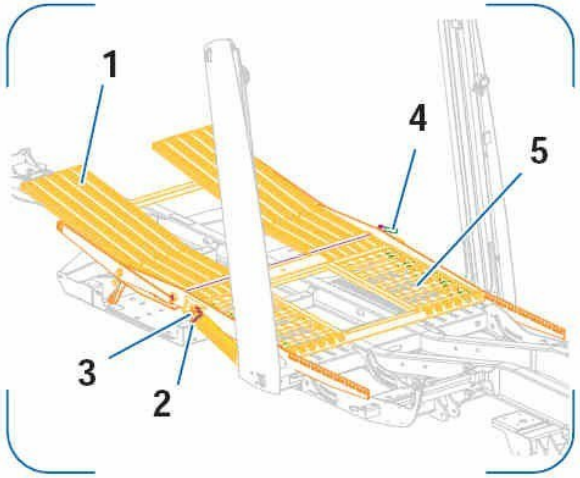
- A **G** hydraulic front lift (1).
- A pair of **H1** pneumatic front ramps (2),
- An **I2** hydraulic rear lift (3)
- A pair of **I1** toll ramps (4).
- A **J** hydraulic rear extension (5).

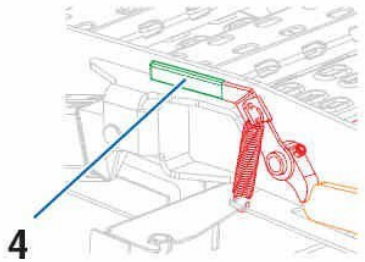


11.2. «G1» HYDRAULIC FRONT LIFT

In addition to a vehicle transport function, the front lift (1) is also used as a ramp that provides access to the trailer and bodywork. In a single vehicle loading, the front platform is moved to rest on the drawbar when the lift is in the lower position. The rear platform can optionally be replaced with mobile plates (5).

Wheel suspension crossmembers or a cradle hanger crossmember are fixed to the rear end of the lift (see 13.).





Load capacity: (see 2) ..... 2000 kgs

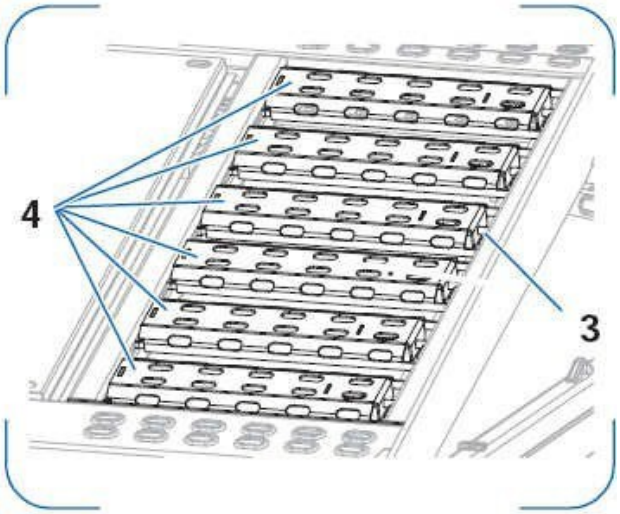
11.2.1. Use

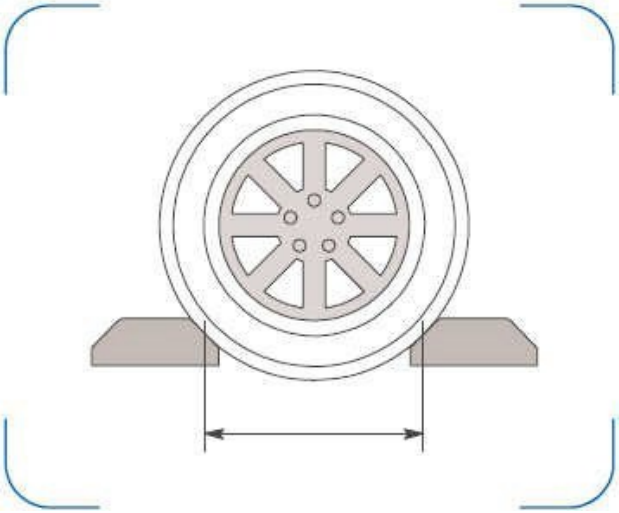
- Remove the copias (2) and pins (3).
- Activate the power take-off (see 3.3.1.1.)
- Activate the corresponding hydraulic function: **G1**
- Reinstall the pins (3) and cotters (2). Put the pistons so that they rest against the pins.

Pin heights should be symmetrical.

- The front platform slope is always locked when empty. Rest the front platform of the lift on the drawstring, Lift the handle (4) to unlock,
- Then move the lift to the loading position.

Always leave enough space for the trailer to rotate.





11.2.2. Detachable Closure Wedges

Each part that makes up the detachable closure wedges is placed in a rack with tabs and swivel locks.

Closure wedges Between aperture Carried Vehicle It must be compatible with tire sizes.

(See Section 13.1.)

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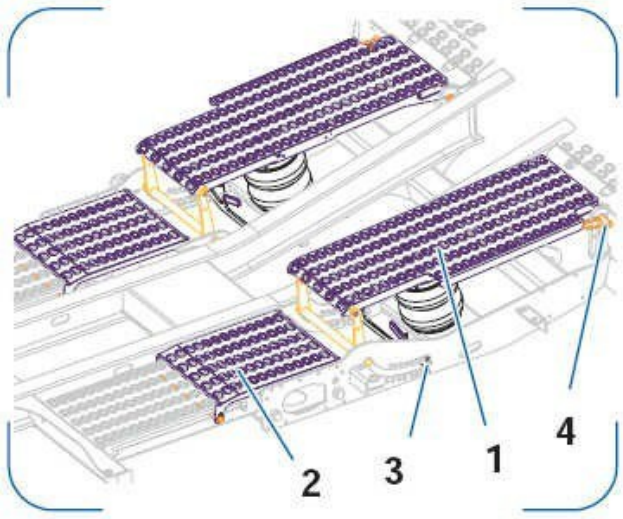
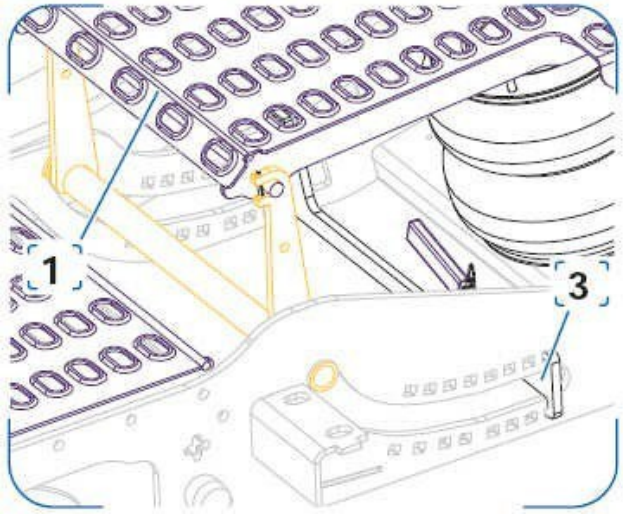




11.3. «H1» WHEEL GAP FRONT RAMP

The ramps in front of the trailer wheel well can be lifted with air bellows, which makes it possible to adjust while the mount is loaded. Position locking is done with a pair of straight pins (1) on the rack and pinion gears. The positions of the plates must be symmetrical.

The small hand-sliding ramps (1) at the front of the H1 ramps (2) can be used as a support for the vehicle being transported under the front lift.

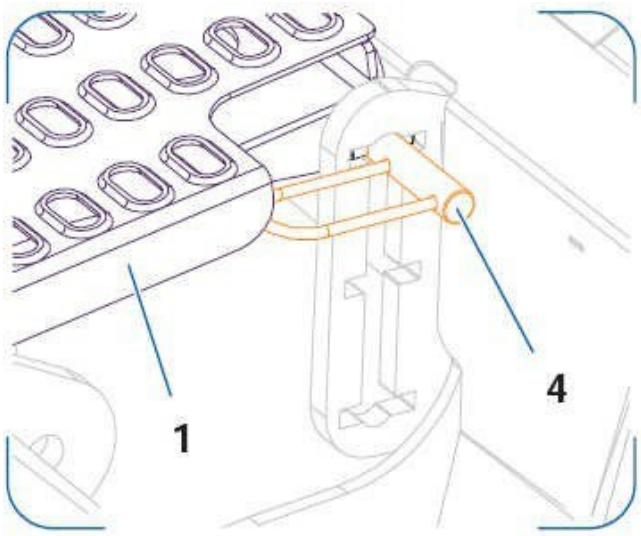
Load capacity: (see 2)..... 2000 kgs

11.3.1. Use

- Trailer Control Closet Located Remote (H1) Inflate the bellows by operating them.
- Lock the group with pins (3).
- Use the control control (H1) to deflate the bellows.

It is possible to pass vehicles through pressurized ramps. For loaded driving, the ramps must necessarily be rested on the pins.

11.3.2. Rear settings

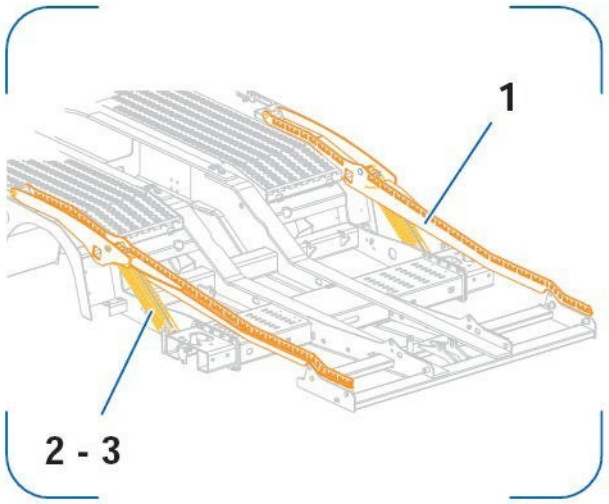


The rear parts of the ramps can be lowered to achieve a better loading position.

To lower the back of the ramps (1) :

- Pull the lock pin (4) and rotate it 1/4 turn. Place
- the ramp in one of the 3 positions.
- Insert the lock pin horizontally into place to secure it.

This operation must be carried out while empty.



11.4. «I2» HYDRAULIC REAR LIFT

This lift (1) is hydraulically operated, it is used for vehicle transport and for vehicles to pass between the rear extension and the wheel well.

Wheel suspension crossmembers or a cradle suspension crossmember are installed at the rear end of the lift (see section 13).

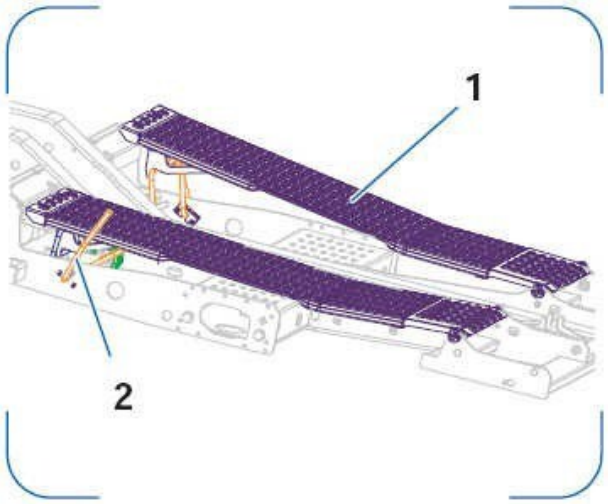
Load capacity: (see 2) .....2000 kgs

11.4.1. Use

- Activate the PTO (see 3.3.1.1.). Remove
- the coplia (2) and pins (3).
- Start the hydraulic function **I2.**
- Replace the coplia (2) and pins (3). Put the pistons so that they rest against the pins.

Pin heights should be symmetrical.

11.5. «I1» WHEEL CAVITY REAR RAMP



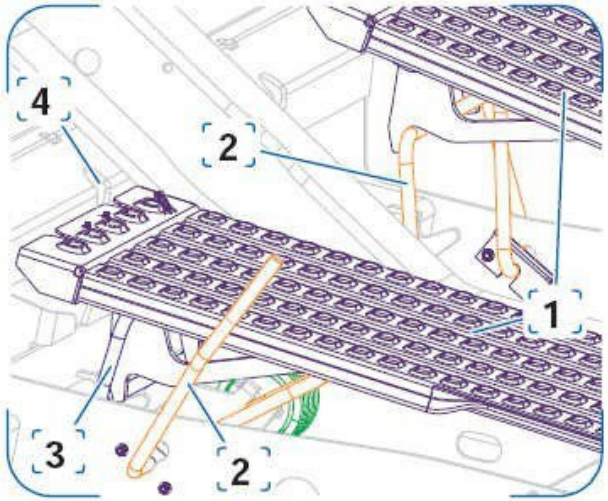
In addition to transport, the rear ramps (1) are also used as passage ramps during loading.

Ramps (1) can be lifted manually using the lever (2):

- They can be used as an entrance or lifting ramp when at height.
- Support Feet (3 or 4) dayanarak removal They form the ramps.

Load capacity: (see 2) .....1500 kgs

11.5.1. Use



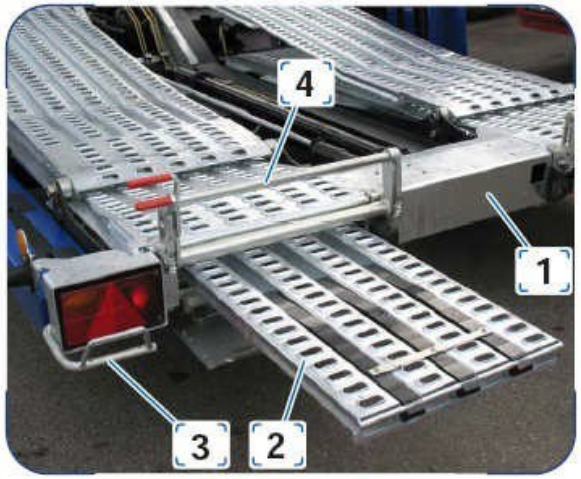
☛ Lift the ramp (1) using the lever (2).

☛ With the guide foot (3) the ramp can be supported in the desired position. To put the ramps in an intermediate position:

☛ Move the ramps to a high position and lean on the foot (3).

☛ Release the feet (4).

☛ Using the lever (2), lower the ramps until you are leaning on the feet (4).



11.6. «J» REAR LOWER EXTENSION

1 Hydraulic extension with a distance of 650 mm (1) also supports loading ramps
(2) It is also used for preservation.

Load capacity: (see 2)..... 2000 kgs

The slots of the loading ramps are opened with the locking handle (3).

11.6.1. Use

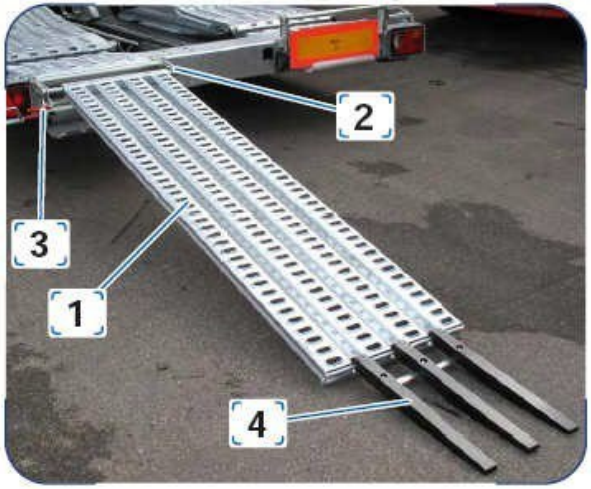
Open the lock handle (3), lower the rear wedges (4). Turn

on the PTO (see section 3.3.1.1.).

Start the hydraulic function «J».

At the end of the movement, the extension bends on its own, so it is important to be careful with this movement in mind.

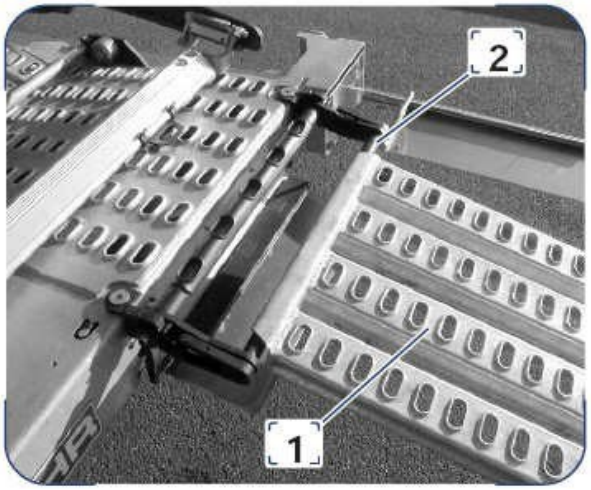
11.7. LOADING RAMPS



Loading Ramp (1), loading and Unloading Operations for It is connected to the end of the wheel chocks (2).

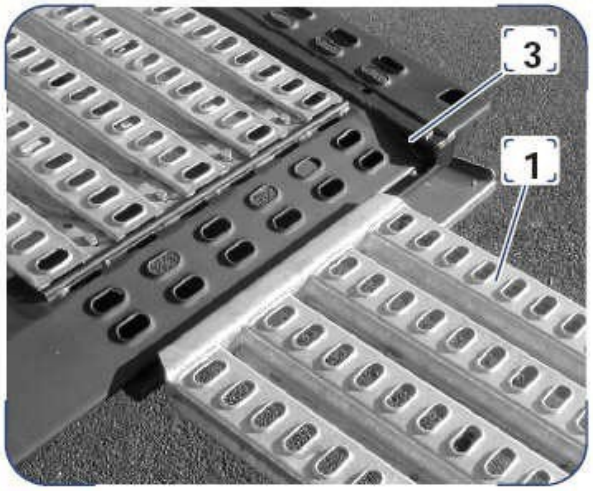
Load capacity: (see 2).....1500 kgs

- Insert the lock pins to insert the wheel chocks (2) into the last lock slot (3) Tighten.
- Remove the ramps from their slots by rolling them in the wheel chocks and fix them at the ends.
- Open the extensions (4).



For the passage of vehicles up to 1500 kg/axle (loading and unloading):

- Hang the ramps (1) on the overhangs (2) placed at the end of the rear extension



For the passage of vehicles up to 1500 kg/axle (loading and unloading):

In this case, the ramps should be hung behind the upper platform (3).

When driving, the ramps must be located in their slots within the rear extension. Before you set off, check the cabinet doors, even if the ramps are not used.

12.

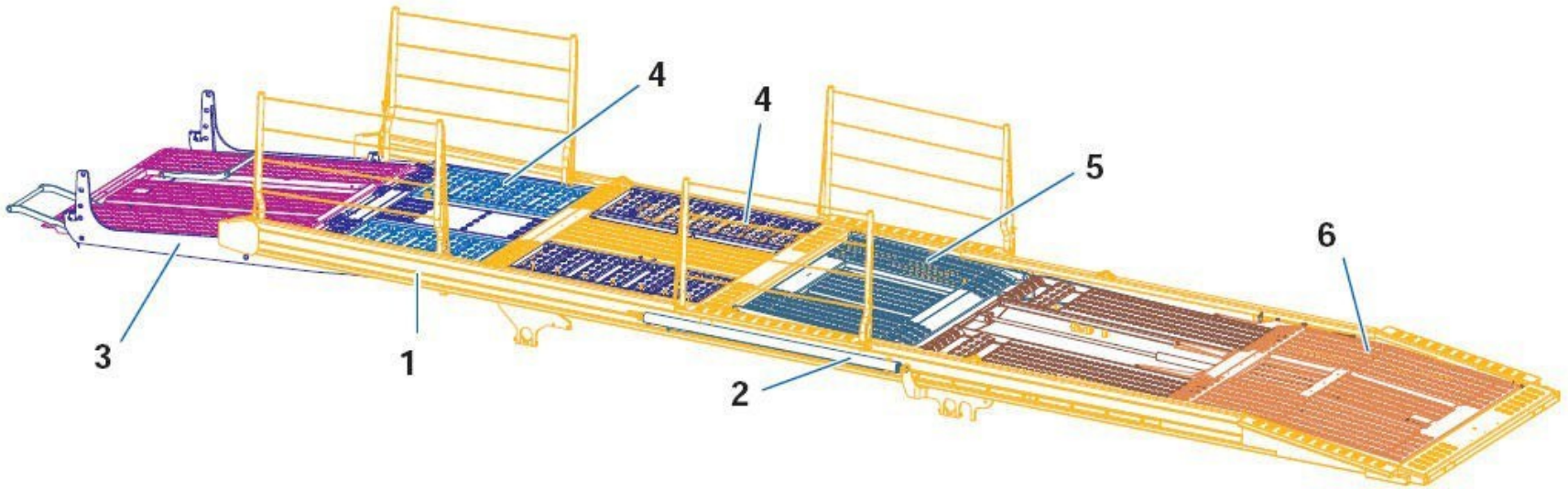
«K2» TYPE TRAILER TOP PLATFORM

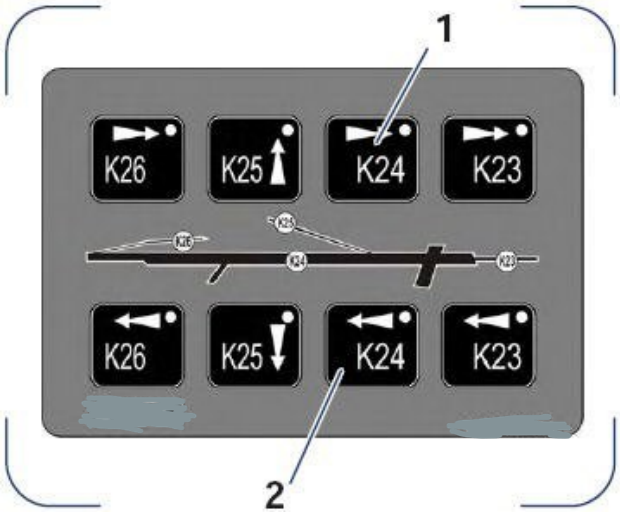
12.1. EQUIPMENT

On the upper platform type "K2" (1) there are hydraulic functions that are controlled from a control located in the trailer hydraulic control cabinet. The first k24 function allows the platform to be shifted within a travel distance of 2 000 mm (2).

Platform "K2" consists of:

- Hydraulic front extension k 23 (3), travel distance 1 600 mm, bending at the end of the travel, with articulated plate for lifting.
- A hydraulic central lift k25 (5), with pneumatic lock.
- A rear lift k26 (6) can be tilted up or down. The front part slides hydraulically at a distance of 1 250 mm.
- Optionally, instead of the fixed platform (4), detachable closing wedges can be used in the middle of the platform.





12.2. MOVING THE «K2» PLATFORM

This K24 function allows the platform position to be adapted to:

- according to the maneuver to be performed, (loading, unloading of equipment),
- according to the position of the vehicles on the trailer subplatform.

12.2.1. Use

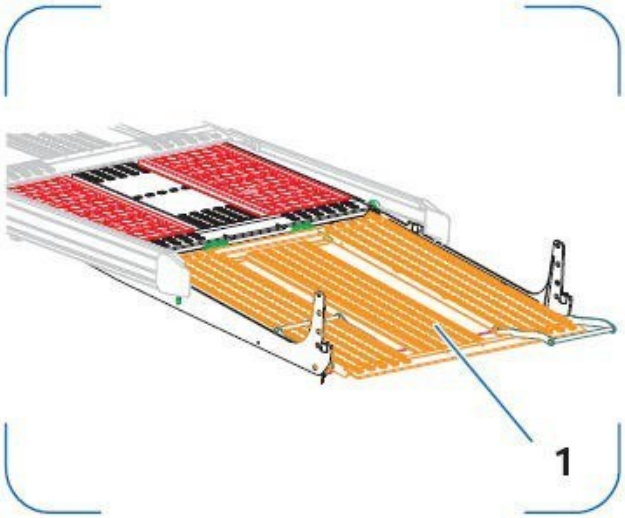
Load capacity: (see 2.)..... 8000 kgs

☞ Engage the PTO (see Circuit Duty Take-Off). 3.3.1.1.).

☞ Platform Advanced (1) or back (2) To scroll K24 function.

For driving, the position of the platform should be such that it does not impede the movement of the train (between the body and the trailer) and the best load distribution is achieved.

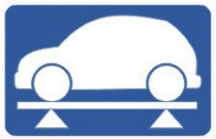
12.3. «K2» PLATFORM FRONT EXTENSION



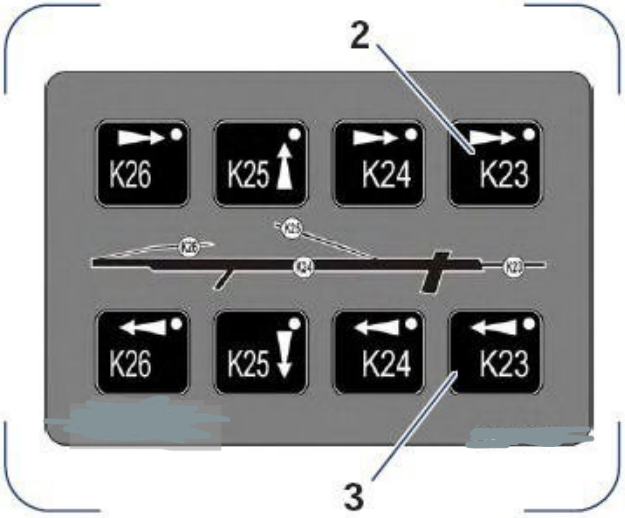
The upper platform (K2) is equipped with a hydraulic extension (1) with a distance of 1,600 mm at the front.

At the end of the range of motion, the extension tilts downwards, which allows a more favorable angle for the transition to the upper level of the bodywork or a slight lowering of the load.

The travel bearings of the extension also allow the vehicle to be lifted up.



Load capacity: (see 2.)..... 2600 kgs

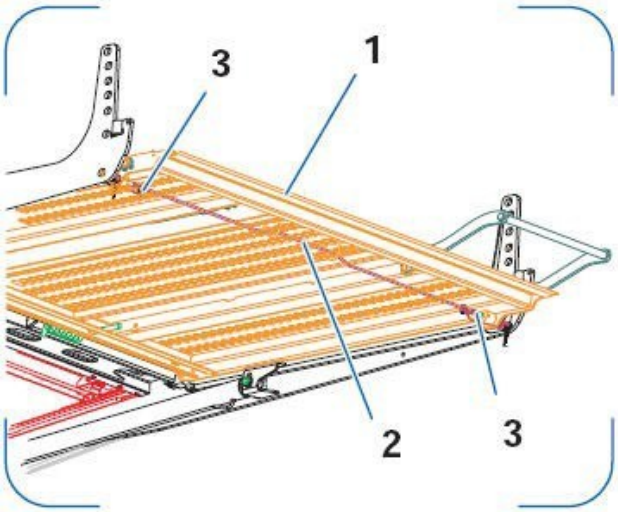


12.3.1. Use

☛ Engage the PTO (see Circuit Duty Take-Off). 3.3.1.1.).

☛ Platform Advanced (1) or back (3) To scroll K23 function.

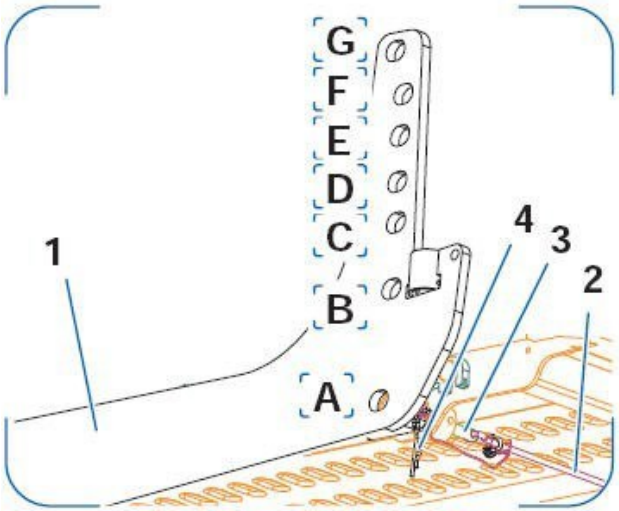
For driving, the position of the platform must be such that it does not impede the movement of the train (between the body



At the end of the range of motion, the extension tides downward. Extension this Location When operator Movement He should foresee it.

Always make sure to leave a sufficient amount of space between the body and trailer extensions.

The wheel bearings of the extension can be lifted by hand to form a lift ramp. It is possible to adjust 7 slope settings: {A}, {B}, {C}, {D}, {E}, {F} and {G}:

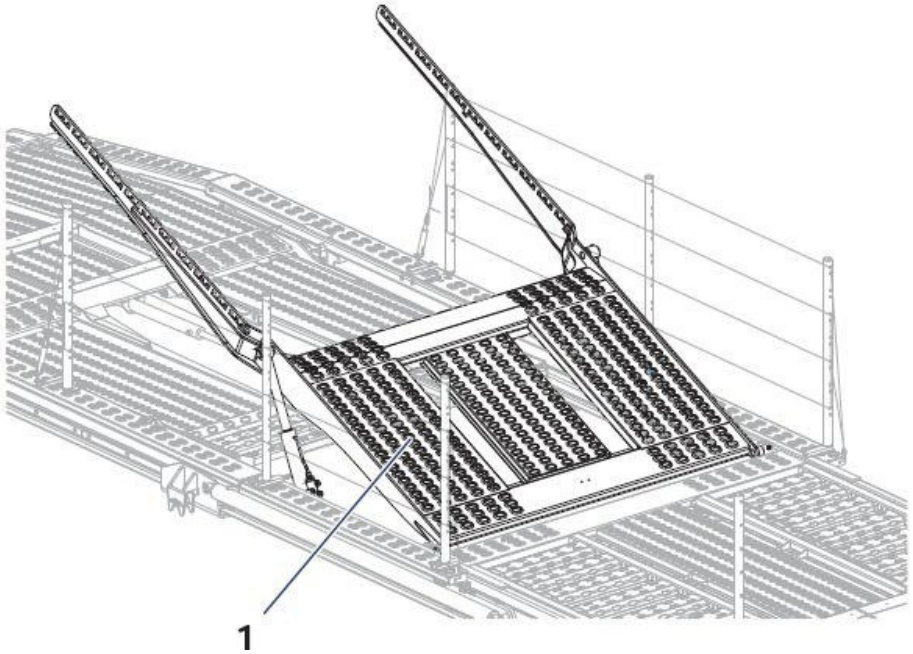


- Holding the ramp (1) stationary, pull the rope (2) attached to the two locks (3).
- Adjust the slope of the ramp (1) and release the rope (2) so that it is locked (3).
- Secure the locks with the help of pins (4).

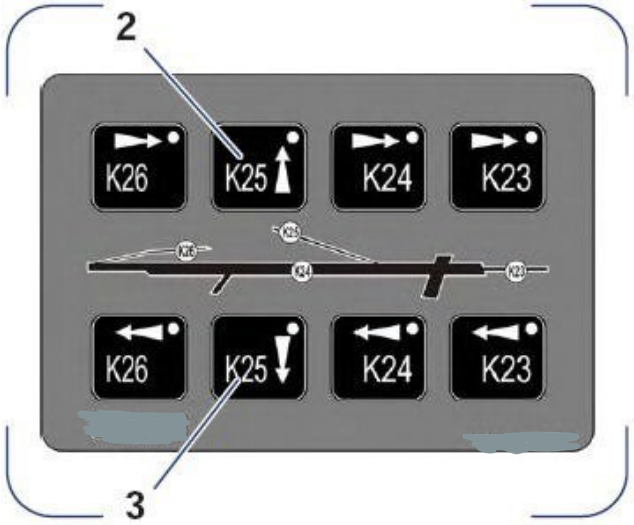
When empty, move the ramps to the lower position and secure them with pins (4).

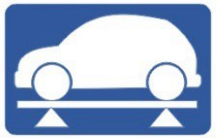
12.4. «K2» PLATFORM MEDIUM LIFT

On the upper platform there is a hydraulic central lift (1) operated by self-locking pistons.
This lift is used for vehicle transport and for vehicles to pass between the rear extension and the front extension. Wheel suspension crossmembers or a cradle suspension crossmember are installed at the rear end of the lift (see section 13).



12.4.1. Use



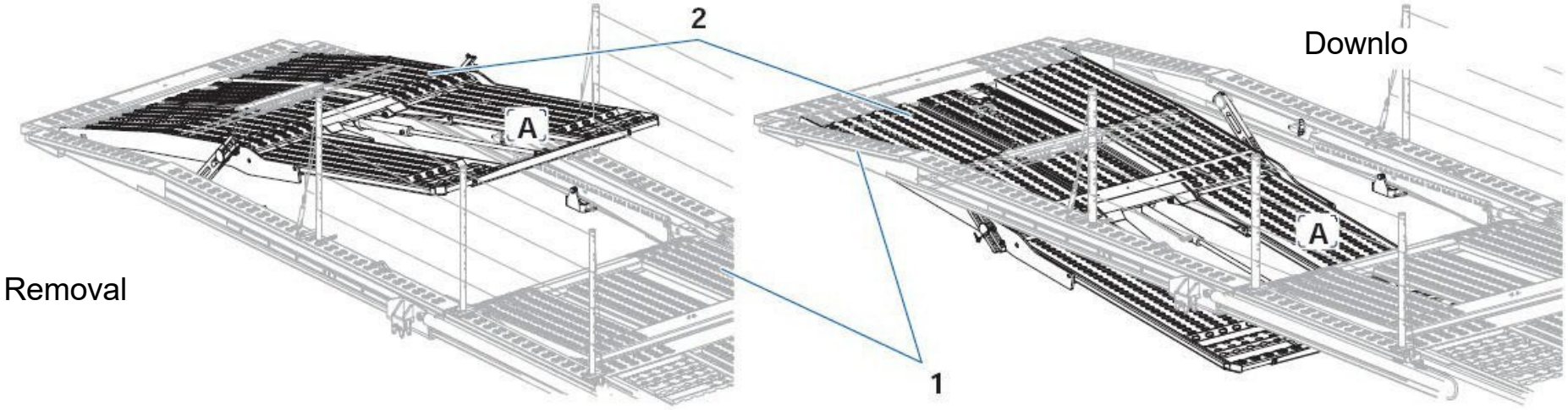


Load capacity: (see 2.)..... 2000 kgs

- Engage the PTO (see Circuit Duty Take-Off). 3.3.1.1.).
- Use the K25 controls to raise (2) or lower (3) the slope of the lift.

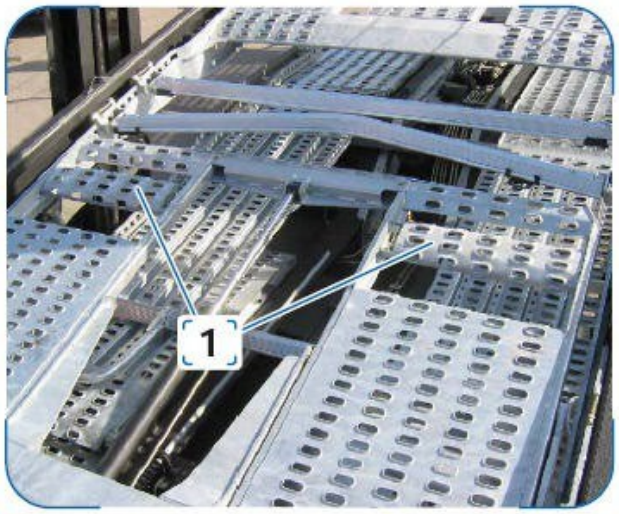
12.5. «K2» PLATFORM REAR LIFT

On the upper platform, there is a (1) that can be lifted (for 10 medium class vehicle loads) or downloaded (for 9 large class vehicle loads)
There is a rear lift (2). The front part "A" 1 is hydraulically shifted within a travel distance of 250 mm. This rear lift is used for vehicle transport and for the passage of vehicles to the top row of the train.



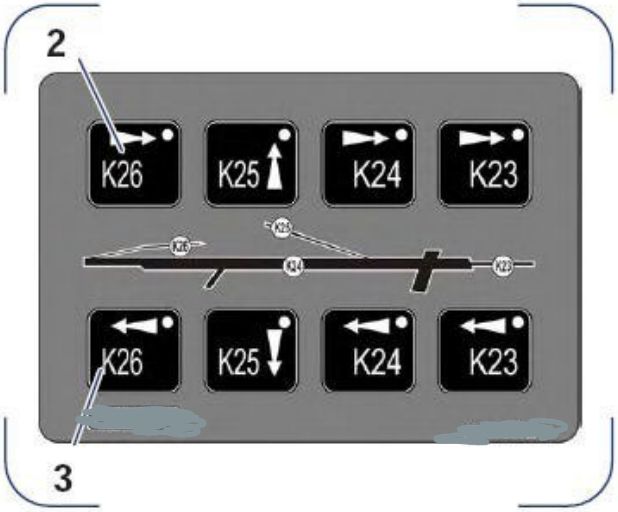
Removal

12.5.1. Using the sliding part "A"



A pair of panels (1) at the front of the sliding part are used to lower the vehicles placed in this area.

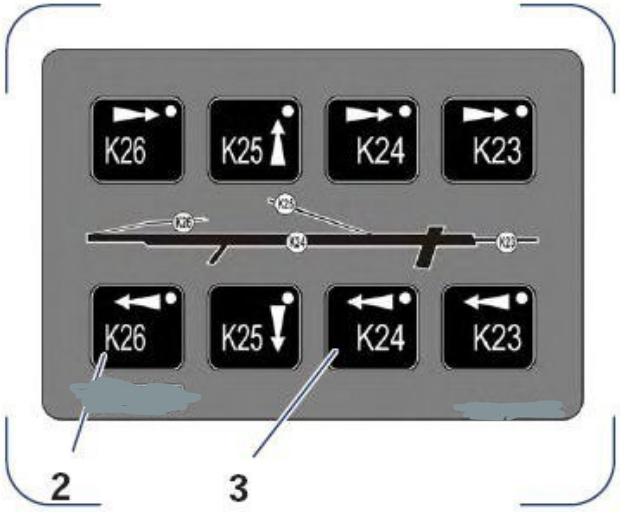
Load capacity: (see 2.)..... 1500 kgs

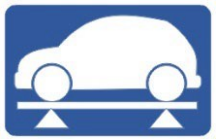


☛ Engage the PTO (see Circuit Duty Take-Off). 3.3.1.1.).

☛ Use the K26 function to extend (1) or retract (3) the sliding part.

12.5.2. Crane use (lifting)

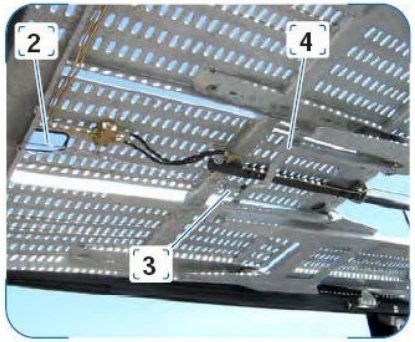


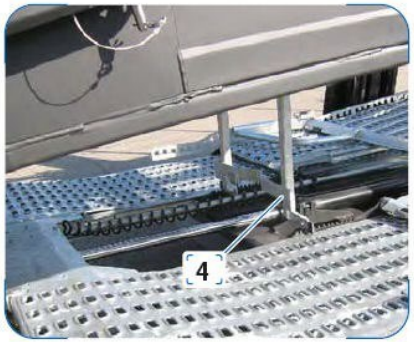


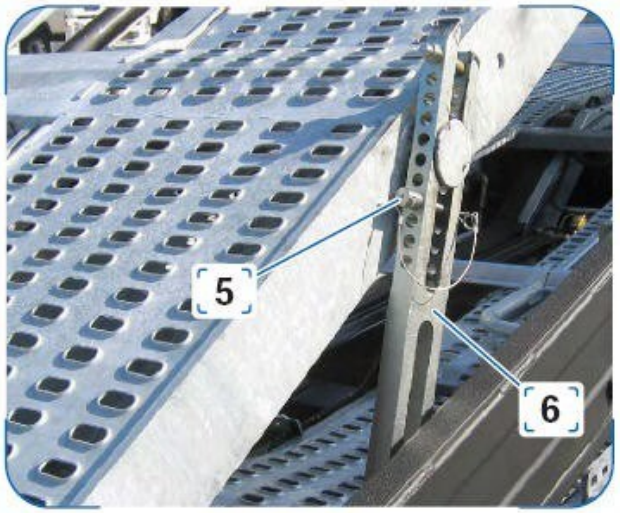
Load capacity: (see 2.)..... 2200 kgs

- Engage the PTO (see Circuit Duty Take-Off). 3.3.1.1.).
- Use the K24 function (3) to move the "K2" platform to the maximum rear position:
- Slightly remove the lower rear extension (approx. 50 cm).
- Using function K26 (2), retract the sliding part "A" completely.
- When you pull the lever (2) to unlock through the gap between the plates (1), the middle leg (4) under the lift is released.
- Using the K22 and K21 functions, lower the upper platform so that the foot (4) rests on the rack.

Do not rest the support leg on the rack when the lower rear extension is fully out.







The support leg should be upright, balanced and fully opened, and should fit on the rack teeth from both the right and left.

Lower the upper platform so that you can place the pins (5) between the 4th and 8th holes of the levers (6).

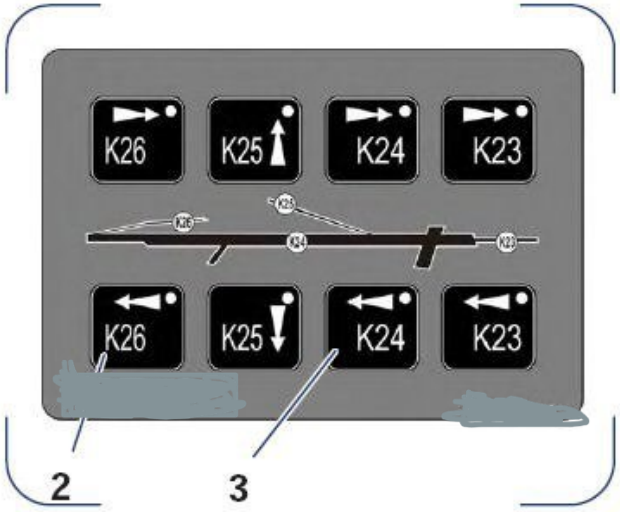
Do not leave the platform only on the support leg. The platform must be fully secured by inserting 2 pins from both the right and left sides.

Lift the platform to release the support leg (4) and lock it under the lift.

Then move the lift to the loading position.

Do not go under the platform, do not put your arms and do not put your head under the platform.

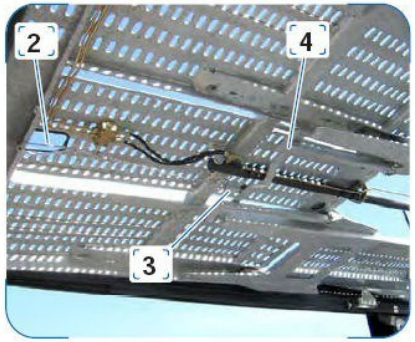
12.5.3. Crane use (lowering)

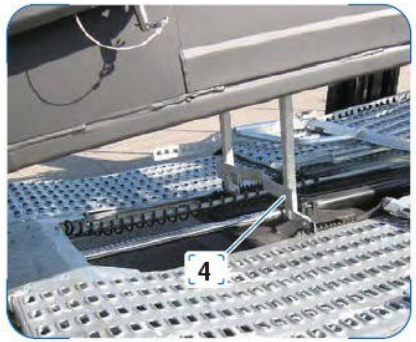


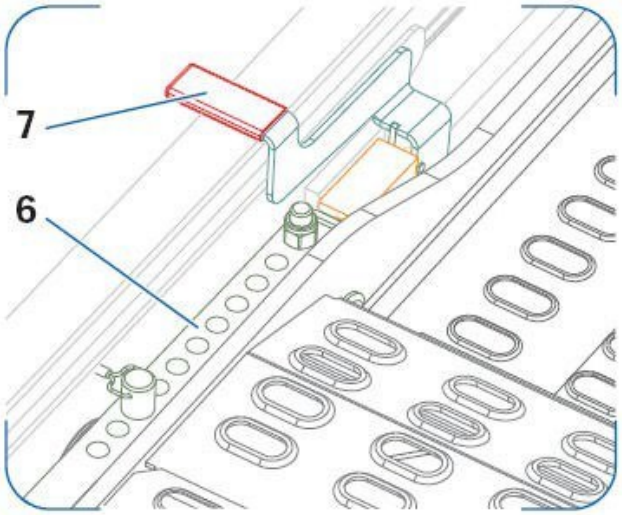
Load capacity: (see 2.)..... 2200 kgs

- Engage the PTO (see Circuit Duty Take-Off). 3.3.1.1.).
- Use the K24 function (3) to set the "K2" platform to the maximum rear position.
- Slightly remove the lower rear extension (approx. 50 cm).
- Using function K26 (2), retract the sliding part "A" completely.
- When you pull the lever (2) to unlock through the gap between the plates (1), the middle leg (4) under the lift is released.
- Using the K22 and K21 functions, lower the upper platform so that the foot (4) rests on the rack.

Do not rest the support leg on the rack when the lower rear extension is fully out.



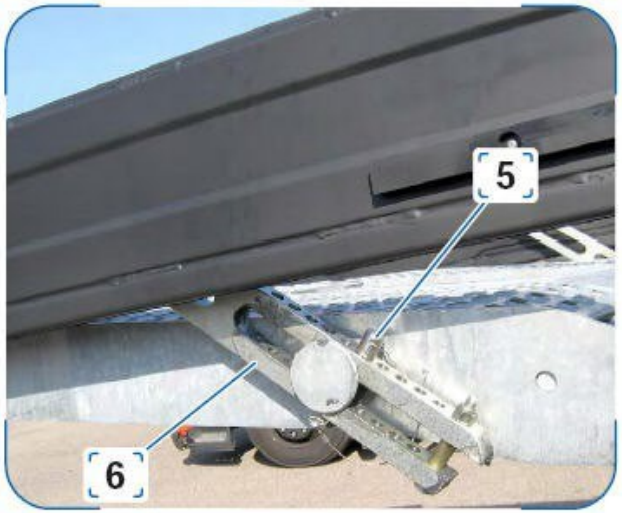




The support leg should be upright, balanced and fully opened, and should fit on the rack teeth from both the right and left.

Do not leave the platform only on the support leg. In this position, secure the pins (5) by attaching them to the nearest arm joint on the platform.

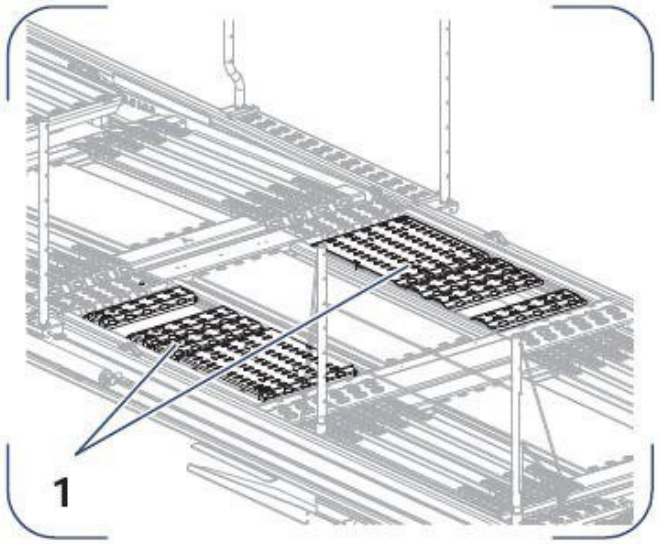
Open the locks (6) to release the handles (7).



Do not go under the platform, do not put your arms and do not put your head under the platform.

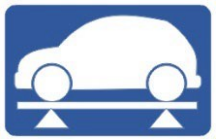
- Remove the pins (5).
- Raise the upper platform and place the pins (5) between the 5th and 7th holes of the arms (6).
- Install the locks (7) in the closed position.
- Lift the platform to release the support leg (4) and lock it under the lift.
- Then move the lift to the loading position.

12.6. DETACHABLE CLOSURE WEDGES (OPTIONAL)

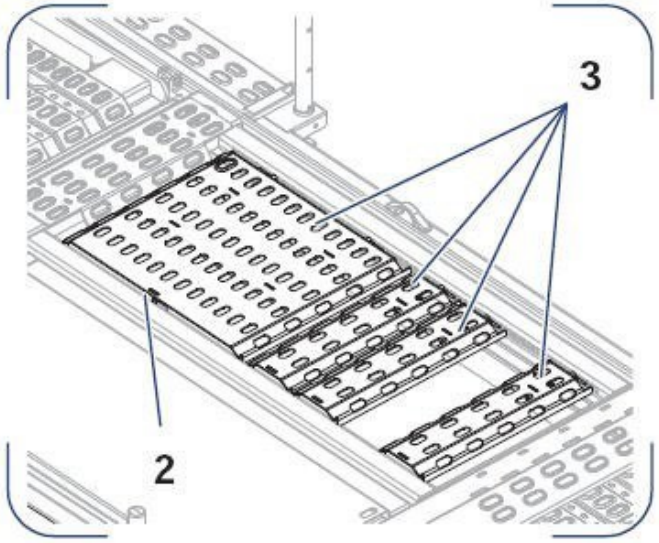


Optionally, instead of a fixed platform, detachable closing wedges (1) can be used in the middle of the platform.

Each part that makes up the wedges is placed in a rack with tabs (4) and spring-loaded locks (3).

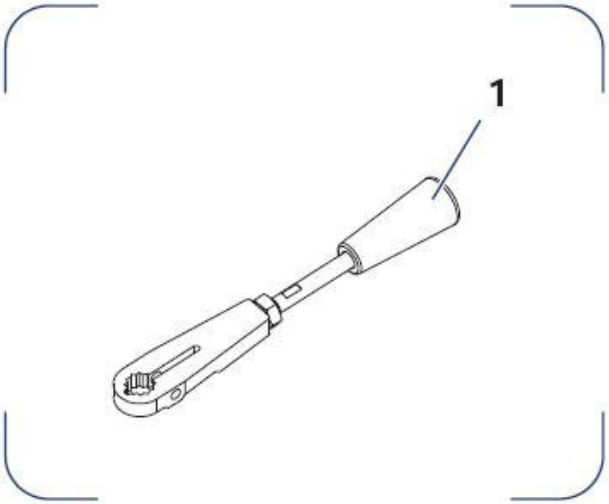


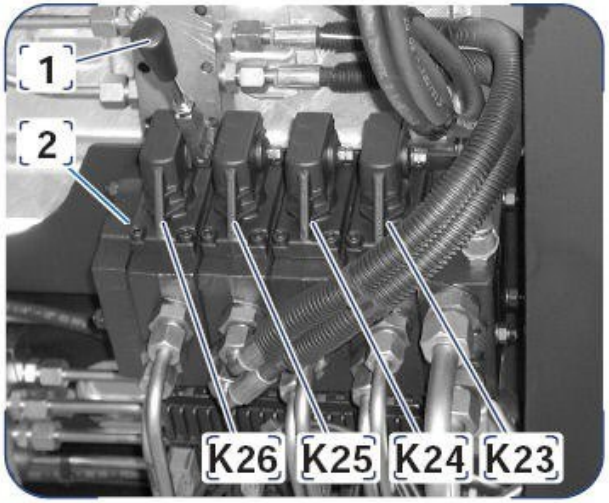
Load capacity: (see 2.)..... 1500 kgs



(See Section 13.1)

12.7. HYDRAULIC SAFETY CONTROLS





If the controls are not operational, it is possible to manually control the hydraulic functions of the upper platform "K2" from the platform's control unit (2).

- Attach the emergency lever in the cabin to the element of the function you want to use.
- Engage the PTO (see Circuit Duty Take-Off). 3.3.1.1.).
- Use the emergency crowbar.
- The following is controlled by pulling or lifting the lever on the control block
  * Removal of platforms,
  * Taking out the extensions.

- By pushing or lowering the lever, the following is controlled:
  * Downloading of platforms,
  * Withdrawal of extensions.

Control Units circuit in the concussions It should be moved slowly, avoiding it.

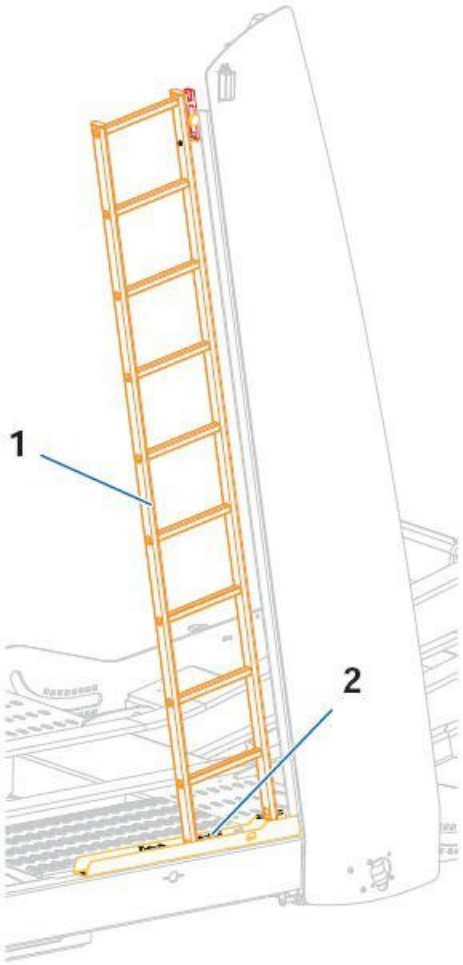
Never block the joysticks in operation.

Movement Will Slicer Route every time Watch carefully.

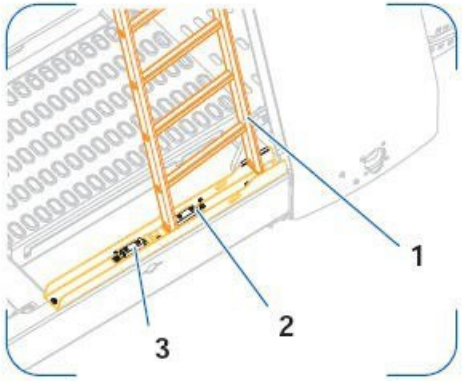
12.7. HYDRAULIC SAFETY CONTROLS

To get to the upper platform, take the ladder on the left side of the bodywork (1) can be used (the second on the right side is optional). The ladder folds while cruising.

Stairs « Driving » When you are in the position It Using It is forbidden to go to the upper platform.



- To use the ladder:
- Open the lock (2).
- Lift the ladder slightly and put your left foot on the lock (3) and bring it to a vertical position.
- Lock the ladder in this position (3).
- Make sure that the foot of the ladder is well secured.

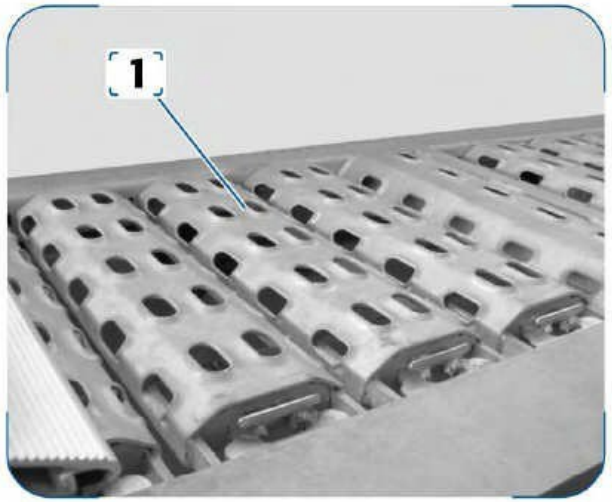


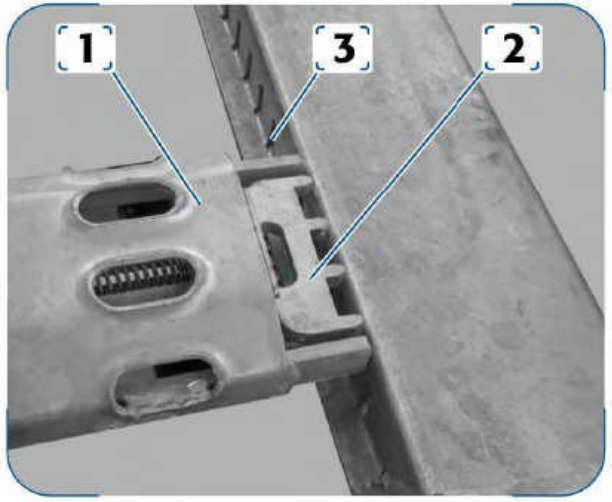
13.

FASTENING ELEMENTS &

TRANSPORT ACCESSORIES

13.1. DETACHABLE CLOSURE WEDGES





On some parts of the platform surface, it consists of mobile elements that allow to form plates (1) designed to keep the wheels of the vehicles in the appropriate position in terms of loading height.

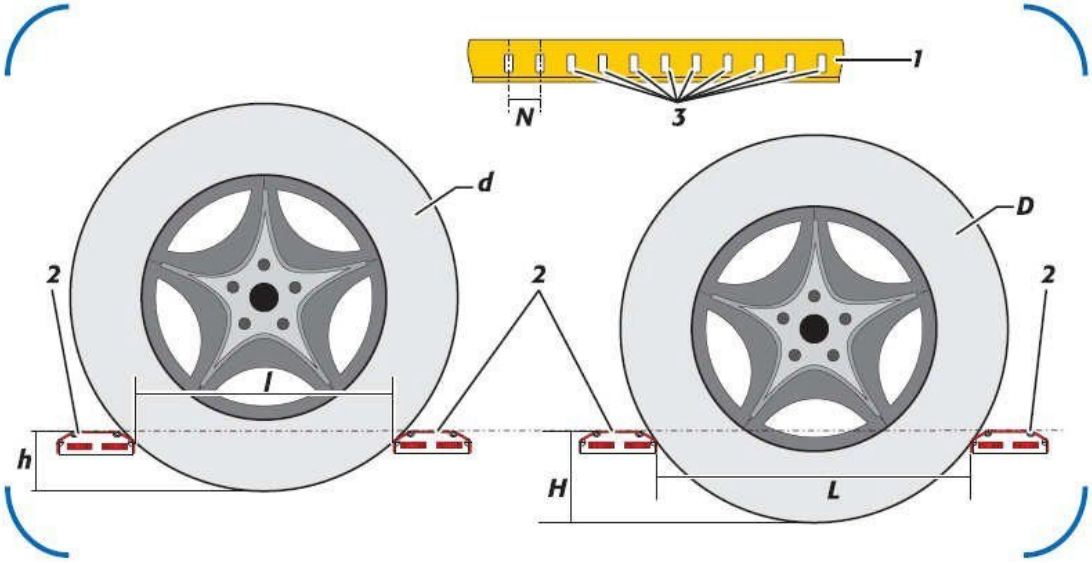
The mounts consist of detachable crossbars (1) that can be replaced, so that a surface suitable for the dimensions of the vehicle being transported and its tyres can be left empty.

Fixed and movable (2) lugs are inserted into the holes on the platform to lock the closing chocks (1) on the wheel track or to store them in the middle of the platform.

Before setting off, it should be checked that the mobile elements are seated correctly, as falling while traveling can lead to an accident.

13.1.1. Terms of fastening with detachable wedges

When loading vehicles into vehicle carrier equipment with detachable closing mounts, certain conditions must be observed for good fastening (see diagram).



1. The clearance (l) (L) between the detachable closing mounts (2) must match the tire dimensions (d) (D) of the vehicle being transported.
2. The detachable closing wedges (2) are seated in a rack with slots (3) with clearance spacing N = 34 mm.
3. In accordance with the manufacturers' instructions, a seat height equal to 1/6 of the wheel diameter for the tire seating spacing (l)
   (h) is set to be obtained:

In the table below, the height (h) and the minimum and maximum range (l) dimensions to be followed in line with the wheel diameter are given.

Always maintain sufficient clearance between the surface of the wheel and the lower points of the vehicle (under the body; exhaust pipe).

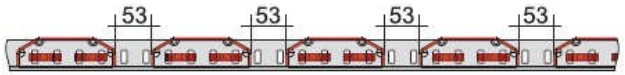
The following table provides some examples

Wheel diameter	Minimum range (I)			Maximum range (L)			Tire type
	I	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

(*) = number of slots N between wedges

Safety rule to be followed:

In cases where detachable closing wedges are not used, it is necessary to place the wedges in an orderly manner between the frames so as not to create an excessive gap between the two wedges.

Correct	
Incorrect	

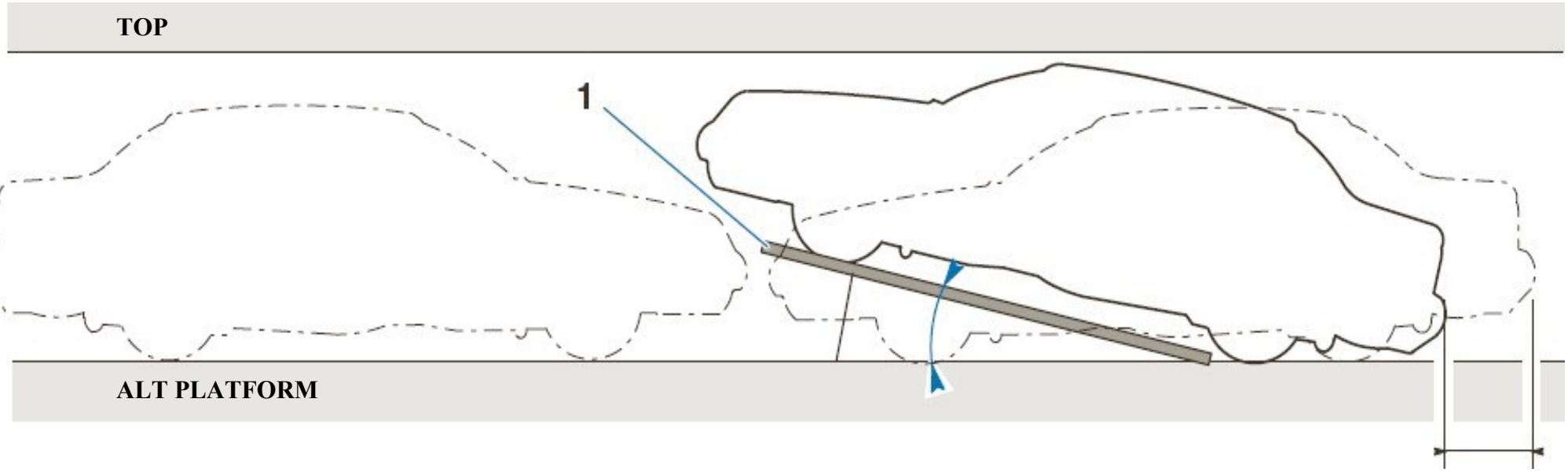
13.2. MOBILE LIFT RAMPS

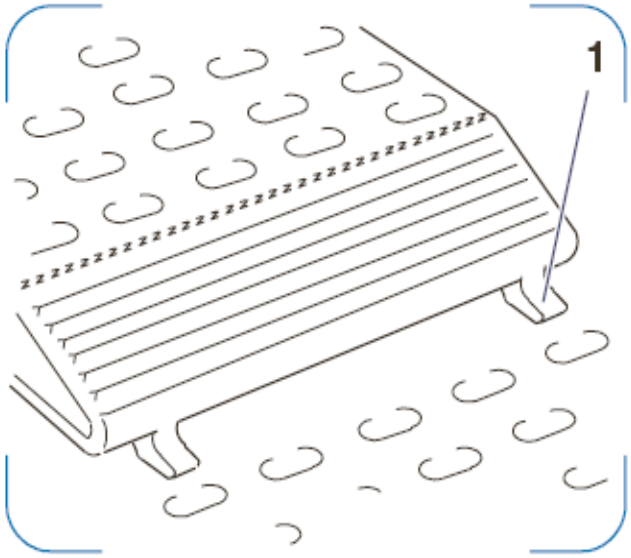
Lifting ramps provide a more convenient loading thanks to better use of the space between the platforms.

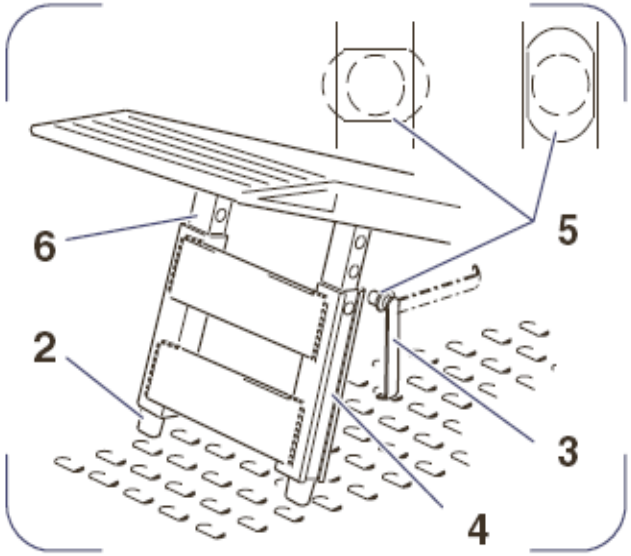
IN ANY CASE, THE MAXIMUM ANGLE OF THE VEHICLES RELATIVE TO THE HORIZONTAL PLANE DEPENDS ON THE PERMISSION OF THE MANUFACTURER OF THE VEHICLES TO BE TRANSPORTED.

13.2.1. Positioning

It is possible to position ramps in holes of every 50 mm on the platform.
When folded, the support legs are folded under the ramps placed on the platform, thus allowing the passage of vehicles.







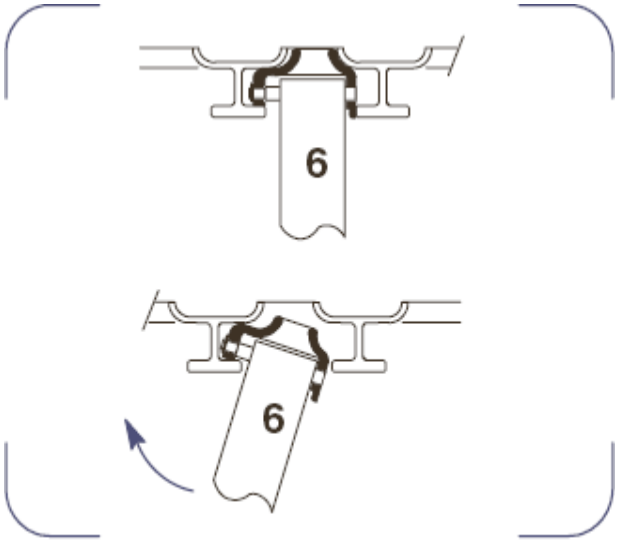
13.2.2. Placement

With the help of tabs (1), insert the ramp into the holes on the platform Lift the front of the ramp, fit the heads (2) into the holes on the perforated sheet.

The slope of the lifting ramps is adjusted by changing the heights of the support bars:

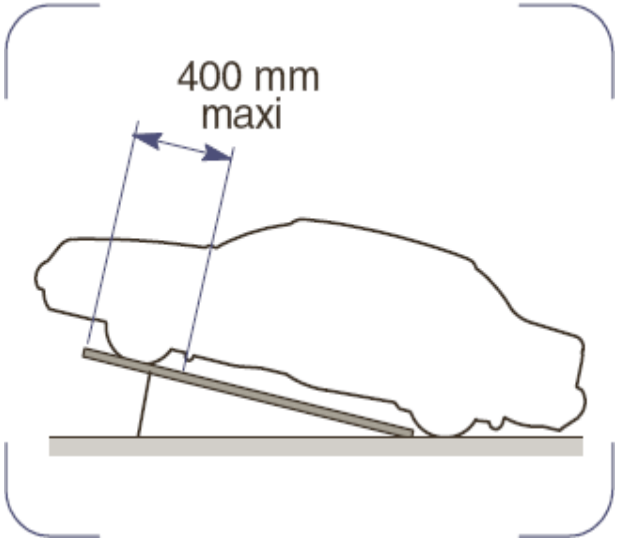
rotate the pins (3) 90° and unscrew them,

The pins (5) are locked when the plates (4) and handles are blocked into the side slots at the bottom of the support bar (3).

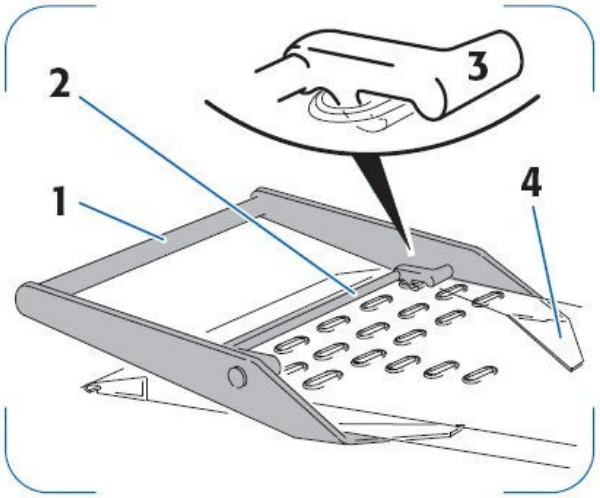


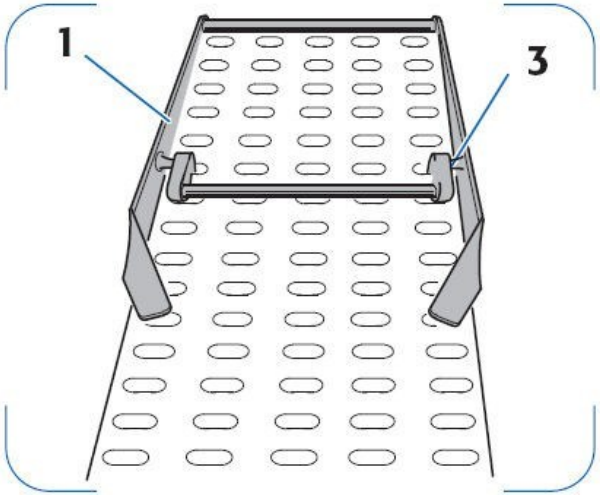
Ramps Under support Rods connection It is possible to change their position:

- unscrew the lower part of the support leg,
- Remove the uprights (6) as shown in the illustration,
- reinstall the parts (6) and the lower part of the support leg,
- Lock the group with pins (3).



The support leg should be positioned at a distance of no more than 400 mm from the end of the ramp. For the same pair of ramps, the adjustment should always be symmetrical.





13.3. RAMPA TAKOZLARI

These elements were used to fix vehicles on lifting ramps, one chock per pair of ramps.

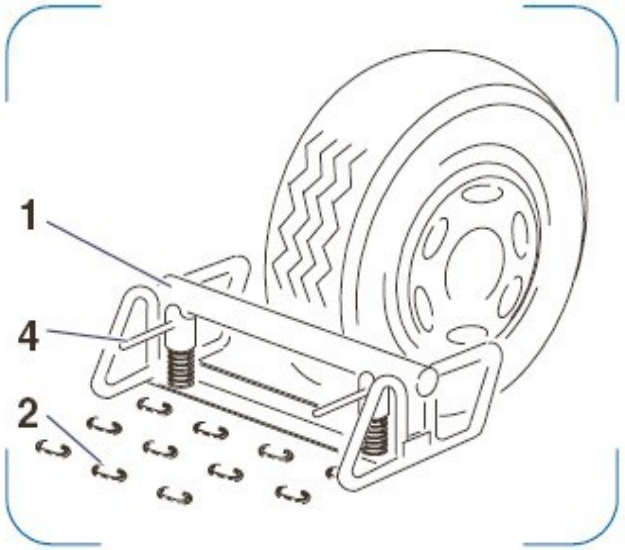
Assemblage:

Slide the wedge (1) on the ramp with the fulcrums (4) down.

The connection is made by the hooks (3) going into the holes on the ramp and the handle
(2) It is provided by rotating.

When the vehicle is loaded onto a pair of ramps and rests on the chock, the wheel rests on the handle, allowing the group to stay locked.

If a ramp wedge (1) has not been used, it must be taken back and placed flat on a lift ramp. In this case, it must be locked with hooks (3).



13.4. WHEEL CHOCKS

Two types of wedges allow vehicles to stand still on platforms.

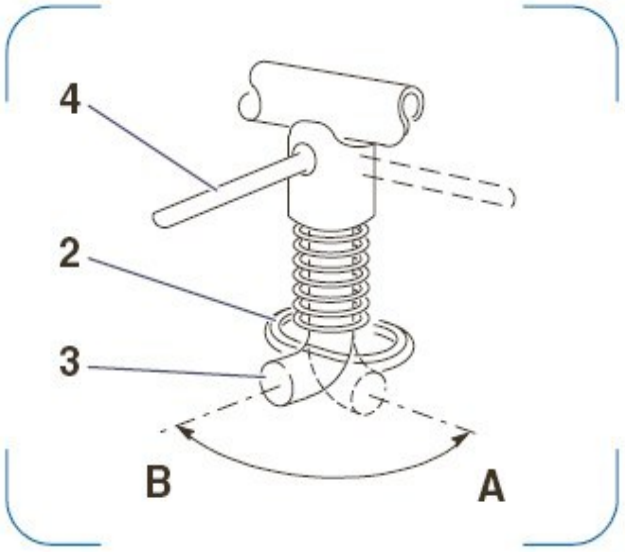
13.4.1. Portable wedges

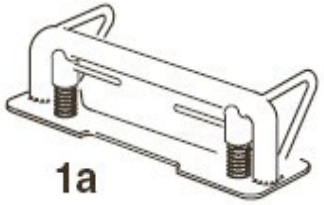
These elements are fixed in the holes on the platform.

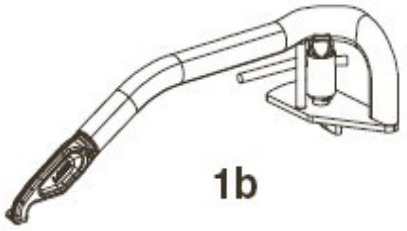
Holding the wedges (1a or 1b) in the platform holes (2) with swivel locks (3) is provided.

Arms (4) Katar Front of the or Behind true
When translated The wedge is locked.

Wedges To be fixed Vehicle To tires Will endure It should be positioned in the way.







13.5. ARTICULATED WEDGES (DEPENDING ON THE ASSEMBLY)

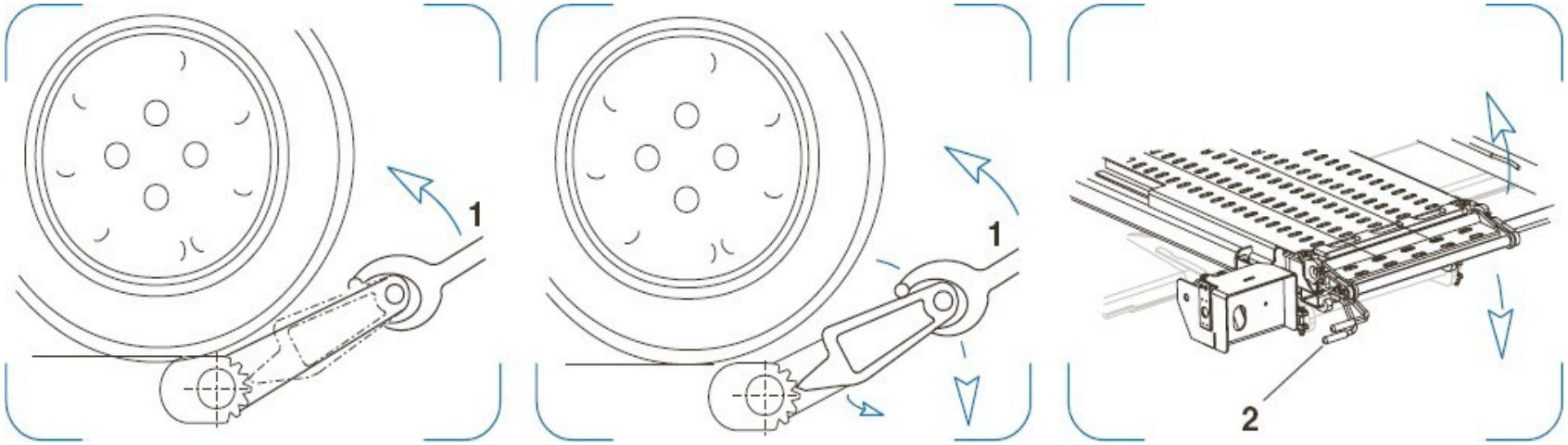
These elements are located at the end of some platforms (depending on the type). On the bodywork:

⚠ Place the crowbar on the wedge plate and rotate the group until it reaches the desired position (upwards). Locking in position occurs automatically.

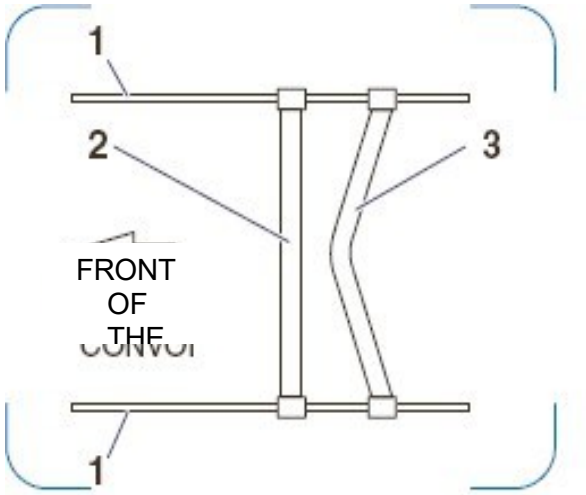
⚠ Insert the crowbar into the side lock (1). First, gently lift the lock so that it is removed from the thread, then rotate the wedge group downwards, holding it in the same position.

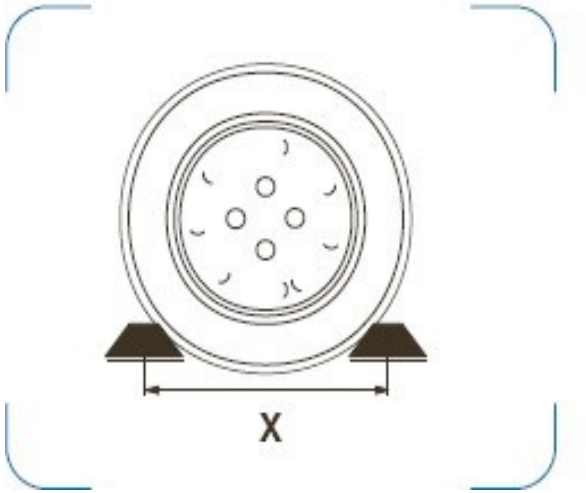
On the trailer rear extension:

Locking and unlocking is done by tightening the handles (2).



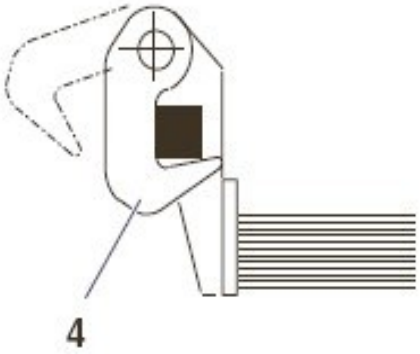
13.6. WHEEL SUPPORT CROSSBARS (ACCORDING TO INSTALLATION)

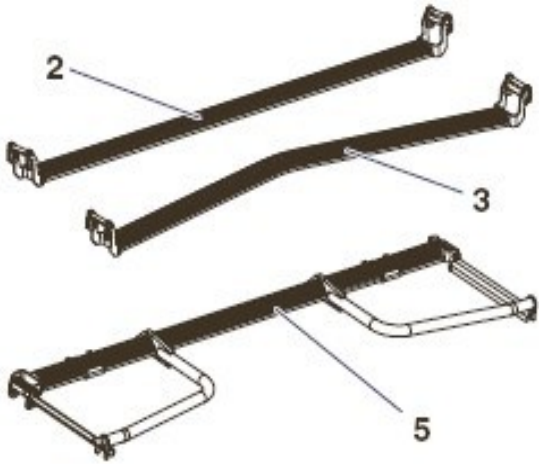


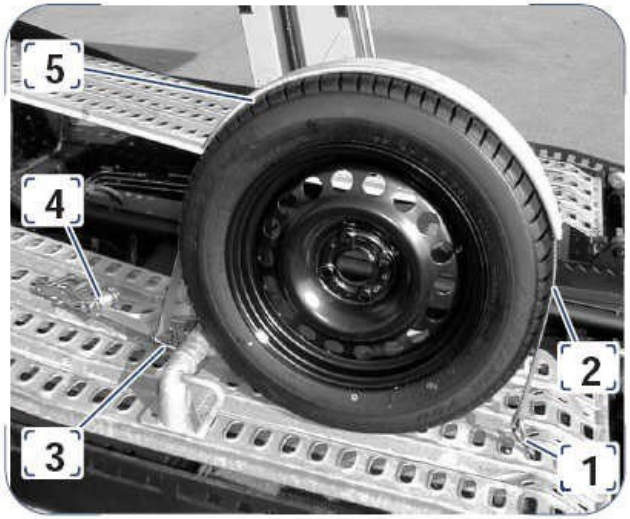


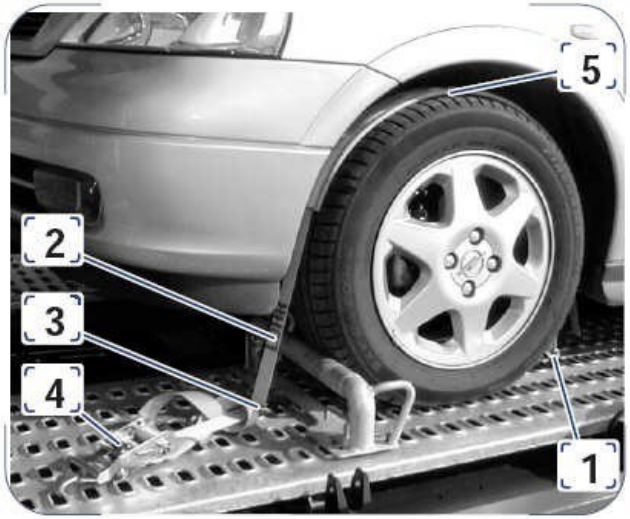
These elements are used to support one of the axles of a loaded vehicle.
Attach the crossmembers (2 and 3, or 5) by placing them on the lift arms (1).

The sleepers (2 and 3) must be positioned according to the wheelbase of the vehicle, **X**
Its clearance must be adapted to the tire dimensions of the loaded vehicle.
Locking is achieved by inserting the tabs (4) into the holes in the lift arms (1).









13.7. SPECIAL LASHING STRAPS

Some manufacturers stipulate that their vehicles will be secured with special belts, apart from the classic wedges. LOHR uses the vehicle's tyres as anchor points.

Insert the end of the strap (1) into the hole of the perforated sheet. Thread the sheath (5) attached strap (2) onto the tread.

Attach the tension hook (3) to the perforated plate. Fasten the ratchet tensioner (4) to the perforated plate. Tighten the strap with the help of the latch (4).

The belt must be well stretched to fix the car.

Check the belt tensioners regularly throughout the journey.

13.7.1. Connecting light vehicles (in accordance with VDI 2700 directives)

Vehicles are loaded on the vehicle carrier, preferably in the same direction as the direction of movement. In some cases, vehicles may need to be restored due to the design of the vehicle carrier or the vehicle to be transported.

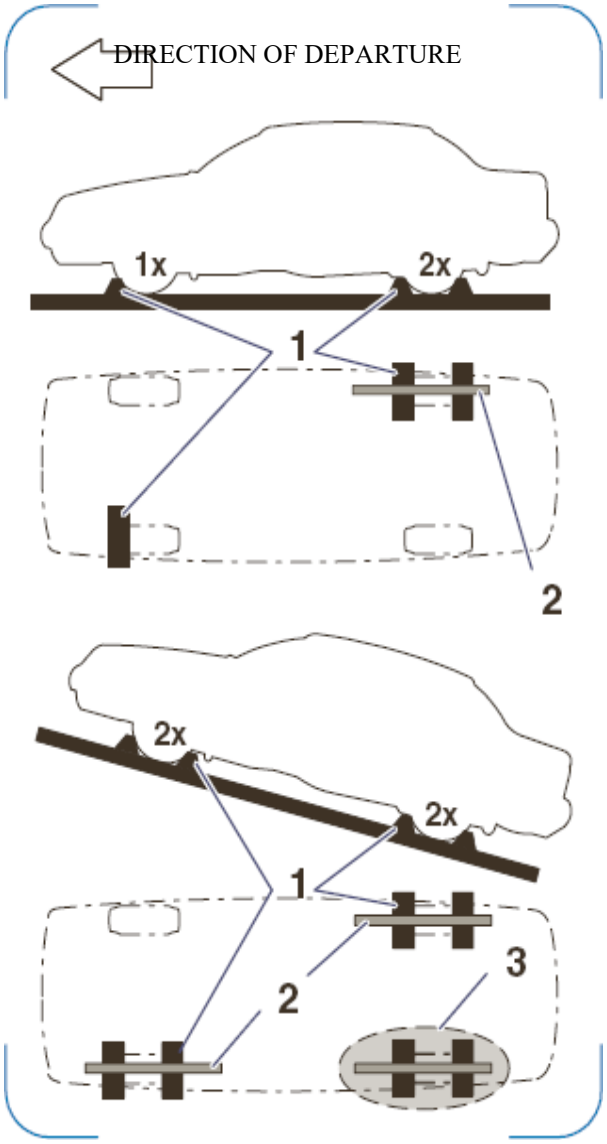
Within the framework of possibilities, the loaded vehicles must be centered on the longitudinal axis of the vehicle carrier. According to the car manufacturer's specifications, a safety distance must be maintained between the loaded vehicles.

If the vehicle carrier is not fully loaded, place the vehicles so that the total center of gravity is as low as possible.

It is imperative to connect vehicles to move the train even over short distances.

Some manufacturers set special fastening norms for their products, it is important to comply with these norms.

In order to guarantee the safety of the lashing, KALEPAR wedges and belts should be used for light vehicles (HA).



In the absence of instructions given by the manufacturer of the vehicles to be transported, the rules to apply are as follows:

- **Vehicles loaded in the direction of travel**:

  a chock to the front and rear of the rear wheel. This is an additional binding to the rear wheel with a three-point belt and a chock in front of the front wheel diagonally.

- **Vehicles loaded against the direction of movement:**

  a chock to the front and rear of the rear wheel. This is a chock diagonally across the wheel, in front of and behind the front wheel. Additional clamping with a belt for both wheels, each with three points.

- **The last vehicle loaded with the incline**:

  In vehicles loaded with inclined and lifting ramps, the last loaded vehicle **It should be connected** with more assemblies.

  Those behind the last axle wheels must be connected by two wheel chocks and a three-point belt (3).

Wedges to use:

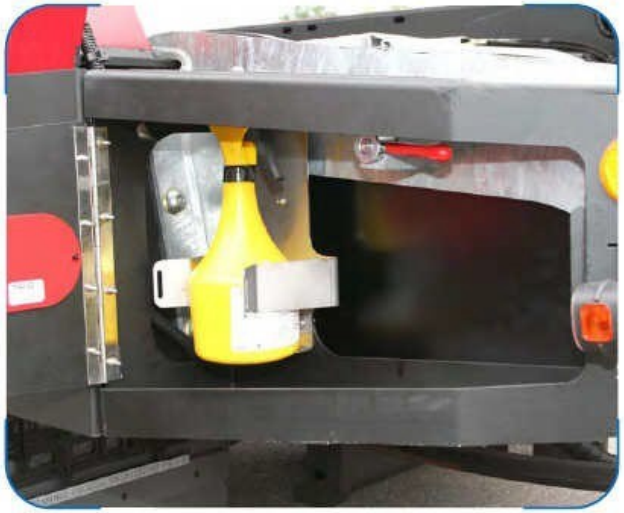
- mobile wheel chocks (see Wheel Chocks). 13.4.1.),
- articulated wedges (see Articulated Wedges). 13.5.),
- wheel support crossmembers (see Wheel Support Cross Members). 13.6.),
- The wedge process must be secured by attaching a strap (see Strap Mount). 13.7.).

Check the detection regularly throughout the journey.

14.

CABINETS & STORAGE EQUIPMENT

14.1. KAROSER DOLAPLARI

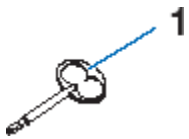


Bodywork Behind someone Right someone Left be in order to two The cabinet is placed, the cabinets are closed with four corner male keys (1).

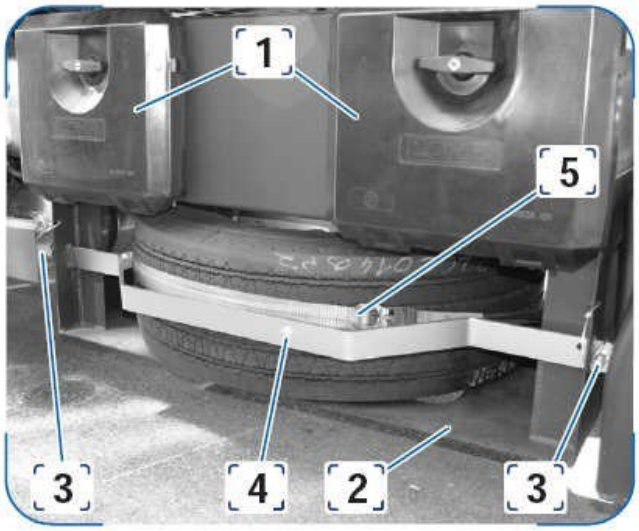
In the cabinet on the right, there are controls for hydraulic, pneumatic and electrical equipment.

A spray bottle is placed in the left rear cabinet, which can be used for various materials, to lubricate the lifting screws.

Closet every time neatly Since it is closed sure Accidental opening during the journey may cause



14.2. TRACTOR SPARE WHEEL BRACKET



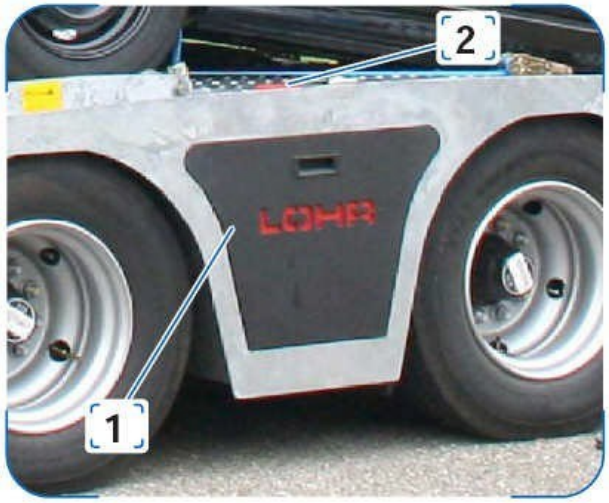
Cabinets (1) and a spare wheel carrier (2) can be placed in the available section on the tractor side

Lift the two pins (3) to release the safety support (4). Loosen the

retaining strap (5).

Slide the spare wheel out of its housing.

14.3. RÖMORK DOLAPLARI



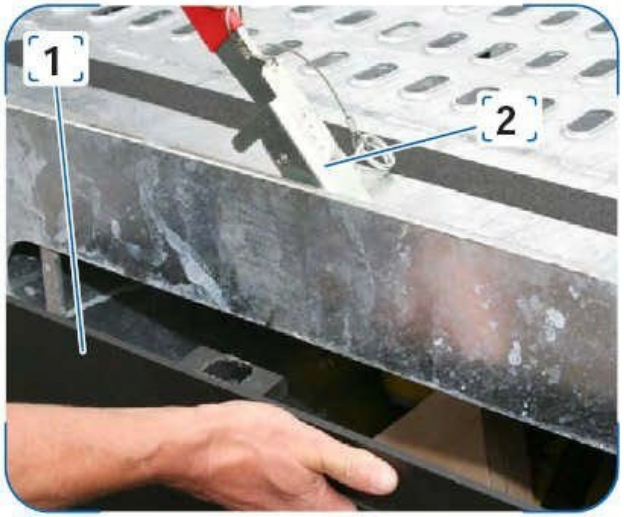
The lockers (1) are between the wheels of the trailer, they are with the lock on the top side
(2) they are locked from the top.

Pull the safety pin, hold the cabinet door (1) and lift the lock (2).

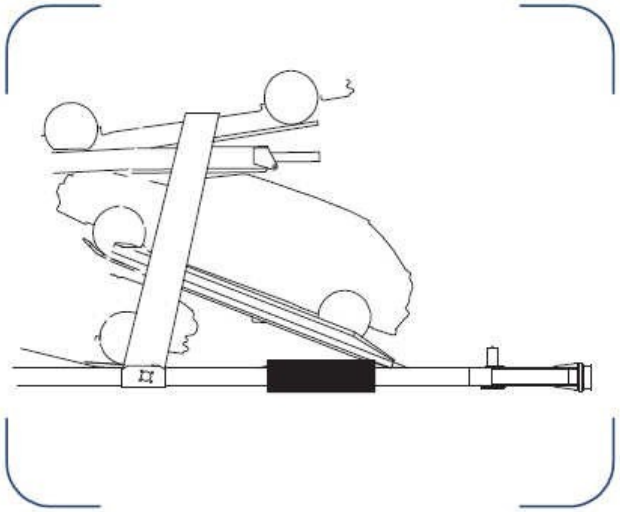
In the cabinet on the right, there are controls for hydraulic, pneumatic and electrical equipment.

The cabinet on the left side is reserved for storing accessories.

Closet every time neatly Since it is closed sure Accidental opening during the journey may cause



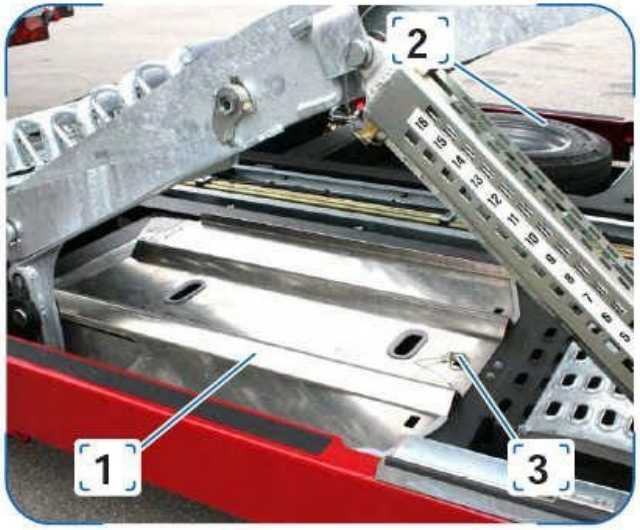
14.4. TRAILER FRONT LOCKER AND SPARE WHEEL

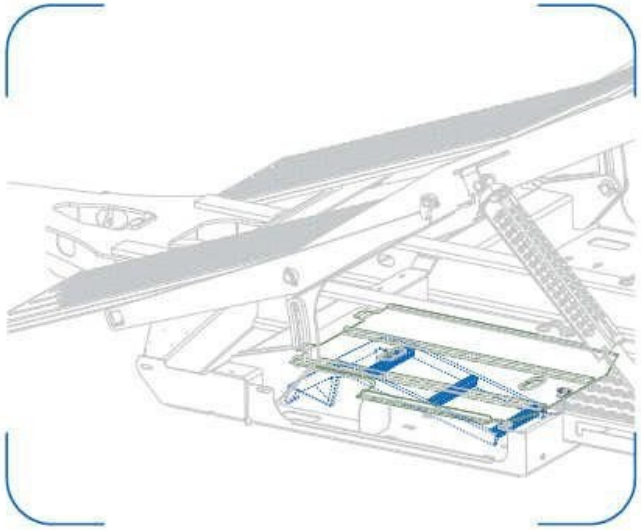


mbing ladders to the bodywork

The front part of the trailer is arranged in such a way that the spare wheel (right side) and various accessories (cabinet on the left side) can be accommodated.

The front lift may need to be removed to access the spare wheel or cabinet. In some cases, it may be necessary to partially unload the trailer.
The spare wheel (2) is fixed to the (-) seat with a lever wing nut. The closing plate of the accessory cabinet (1) is threaded into its slot (3) with a clip-on pin and secured.



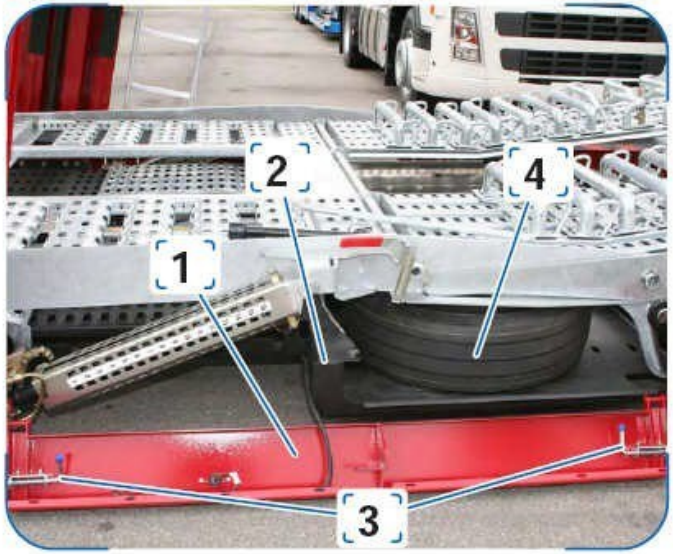


14.4.1. To get to the spare wheel

The front edge frames of the trailer can be tilted, making it easily accessible to the lockers under the lift.

- Using the wheel wrench (2), unscrew the safety bolt (2a).
- Open the two locks (3).
- Tilt the edge frame (*1).

Make sure that the locker is closed properly, if it is opened accidentally during the journey, it may cause an accident.



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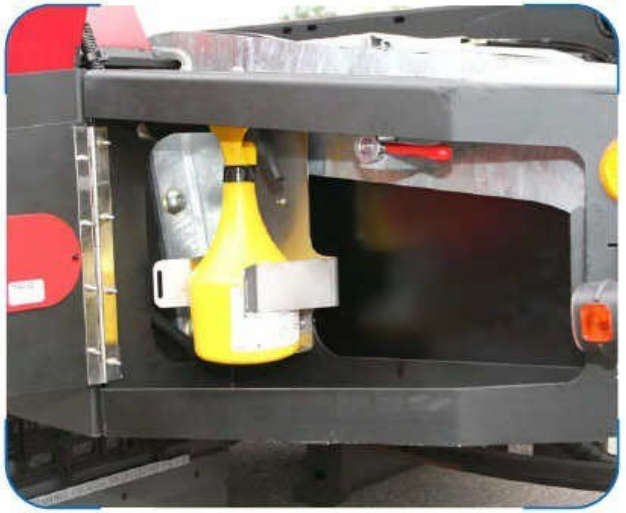

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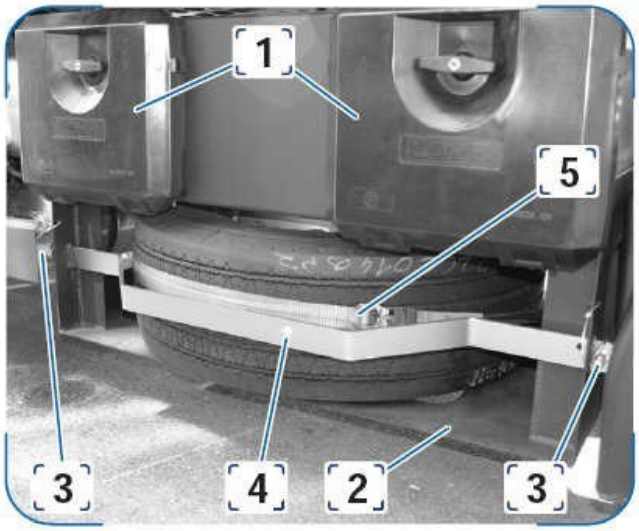

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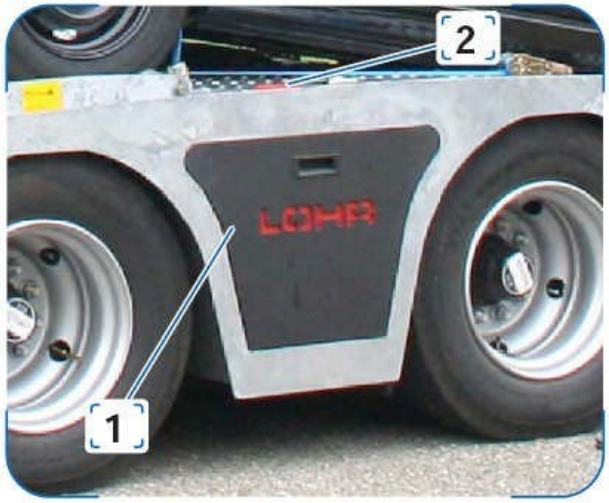

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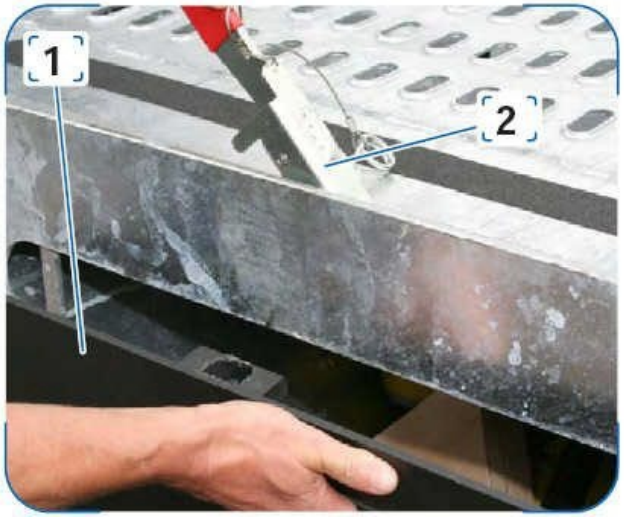

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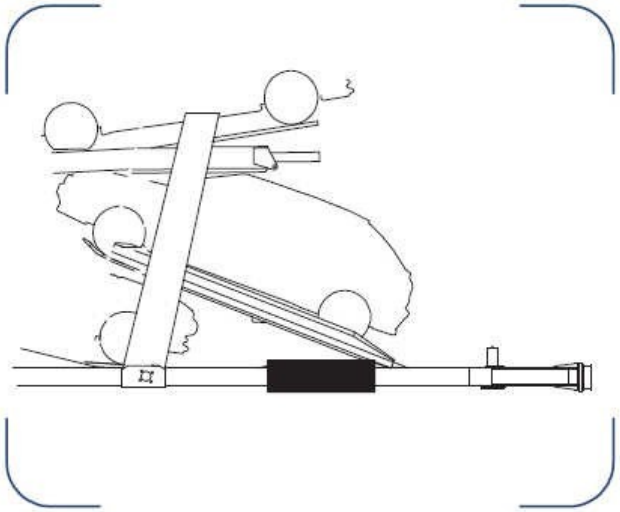
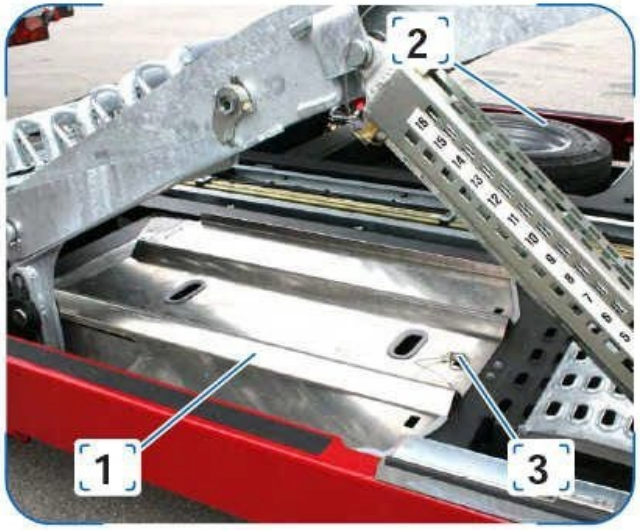
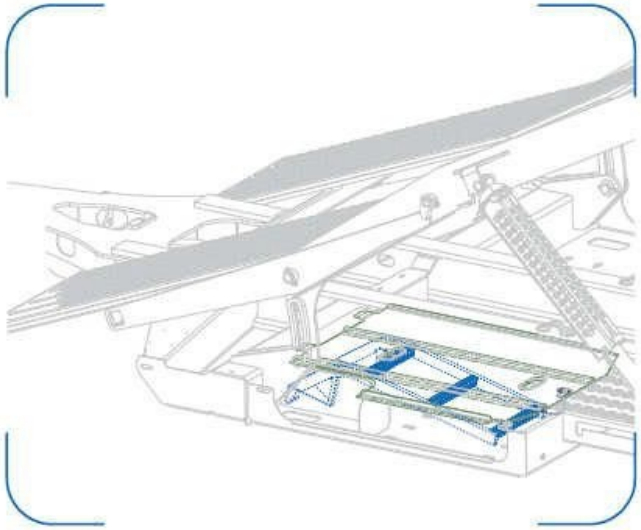


The front part of the trailer is arranged in such a way that the spare wheel (right side) and various accessories (cabinet on the left side) can be accommodated.

The front lift may need to be removed to access the spare wheel or cabinet. In some cases, it may be necessary to partially unload the trailer.
The spare wheel (2) is fixed to the (-) seat with a lever wing nut. The closing plate of the accessory cabinet (1) is threaded into its slot (3) with a clip-on pin and secured.

The accessory cabinet also includes a ladder for climbing the bodywork.





14.4.1. To get to the spare wheel

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- Using the wheel wrench (2), unscrew the safety bolt (2a).
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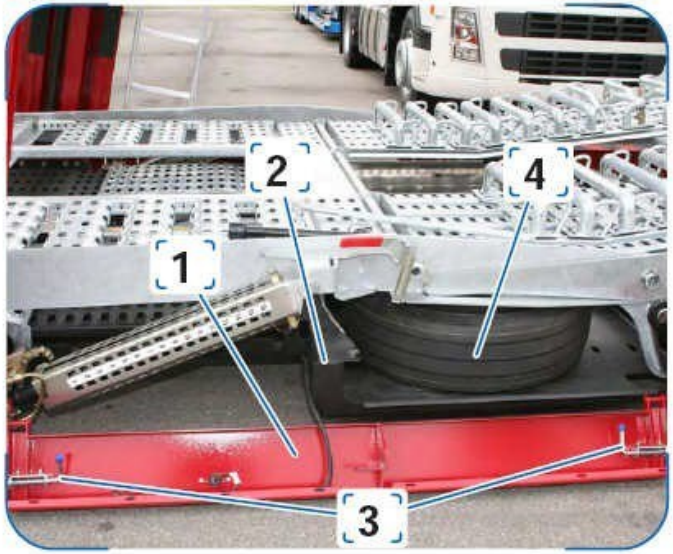
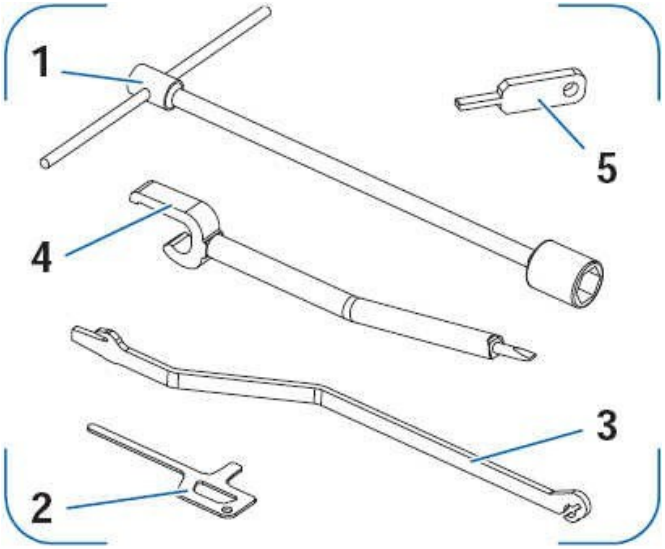
- Tilt the edge frame (*1).

Make sure that the locker is closed properly, if it is opened accidentally during the journey, it may cause an accident.

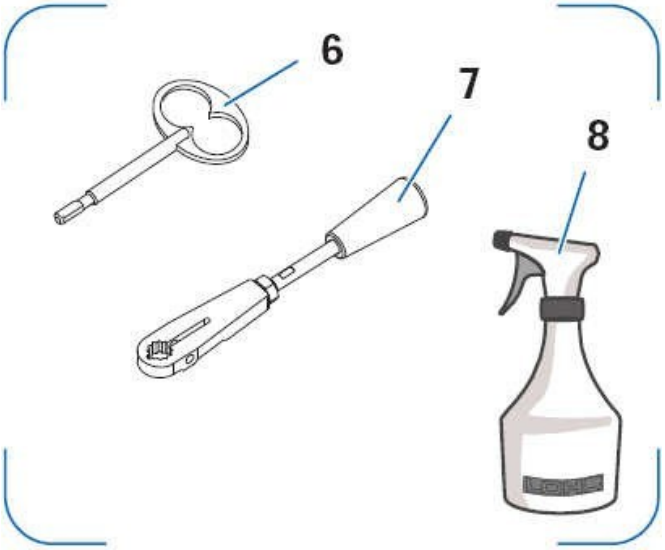


14.5. AVADANLIK



The tool is located in the superstructure tool cabinet, which contains the following materials:

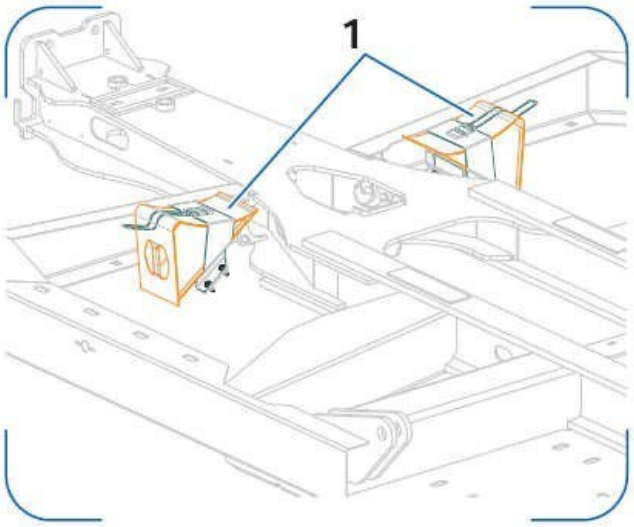
- A 32 mm wheel wrench (1).
- A thickness bar (1.5 mm) (2) that allows the screw hoist to be checked for wear.
- Control lever for the manual hydraulic lift pump of the « roof platform » (3).
- A crowbar for articulated wheel chocks (4 if necessary).
- A thickness bar for wear control of the joint stabilizer plates (5)
- Four corner male keys (5) to open cabinets.



Covers closed Necessarily neatly Since it is sure However, accidental opening during the

- A joystick (7) for operating the safety mode of the upper control elements (depending on the type of equipment).
- A special oil spray for the maintenance of lifting bolts (8)

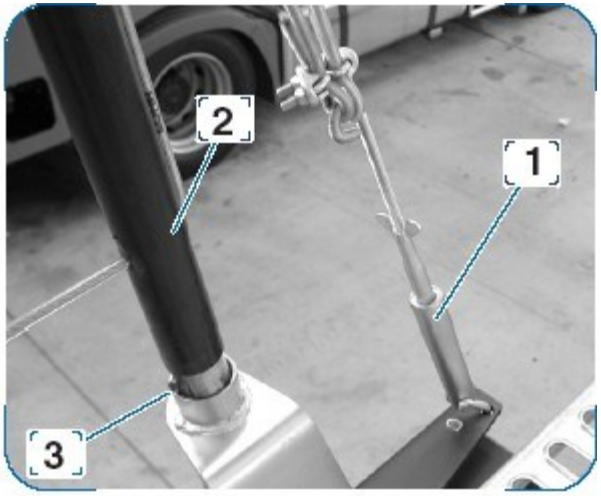
14.6. QATAR WHEEL CHOCKS (ACCORDING TO LEGAL REGULATION)

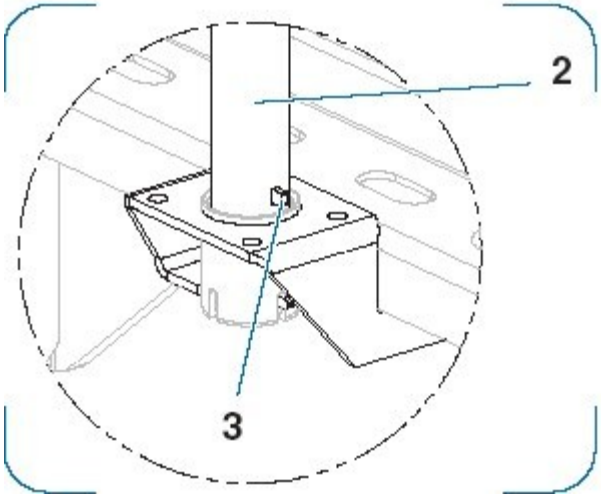


The Qatar is delivered with one wheel chock (2).

15.

SAFETY EQUIPMENT





15.1. DETACHABLE RAILINGS

Handrails can be removed when platforms are used at a height of less than 2 meters. In any other configuration, these elements must necessarily be in place.

Operator Ropes good Case To be attention
Should and He should replace them if they are damaged.

15.1.1. Disassembly / Installation

This should be done in the platform sub-location:

- Remove the spring tensioners (1) at the ends.
- Remove the uprights (2) from their places.
- Wrap the handrails with ropes, then fasten the group on the lower platform (e.g. with luggage tires).

Railings When they are Necess Equipment dismantled, they must be left.

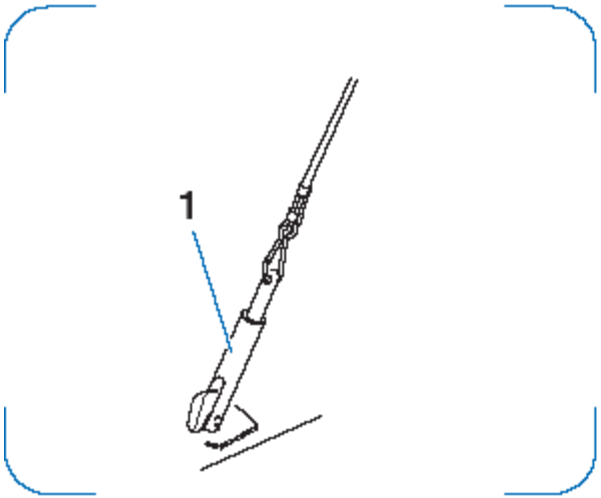
- When reinstalling, pay attention to the position and tension of the cables.
- Press down on the spring-loaded pins (3).

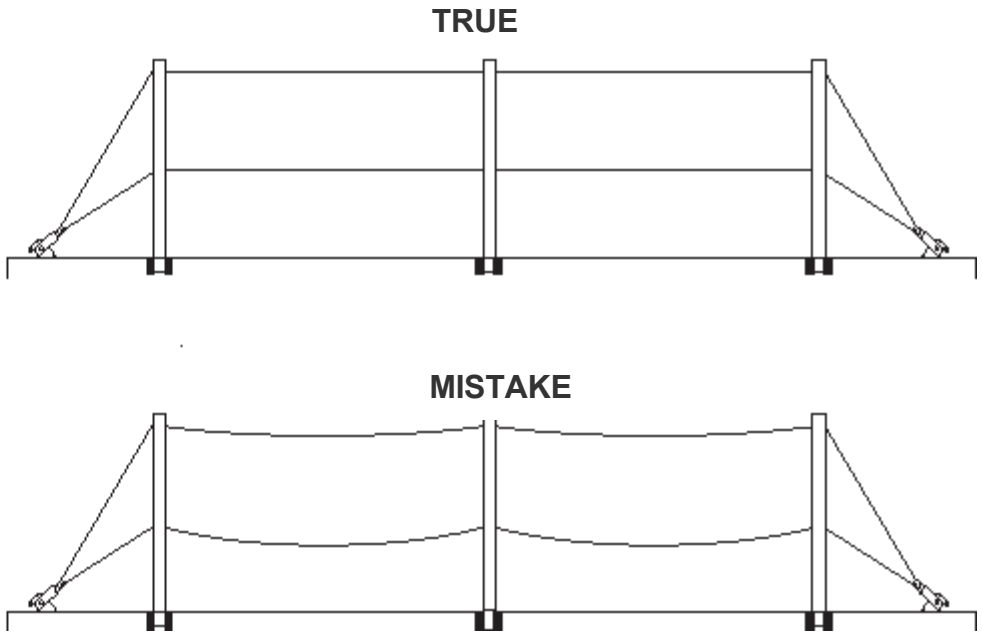
15.2. TENSION CONTROL OF DETACHABLE RAILINGS

The operator should regularly check the tensioner and condition of the guardrail. It is forbidden to make changes to the installation of railings.

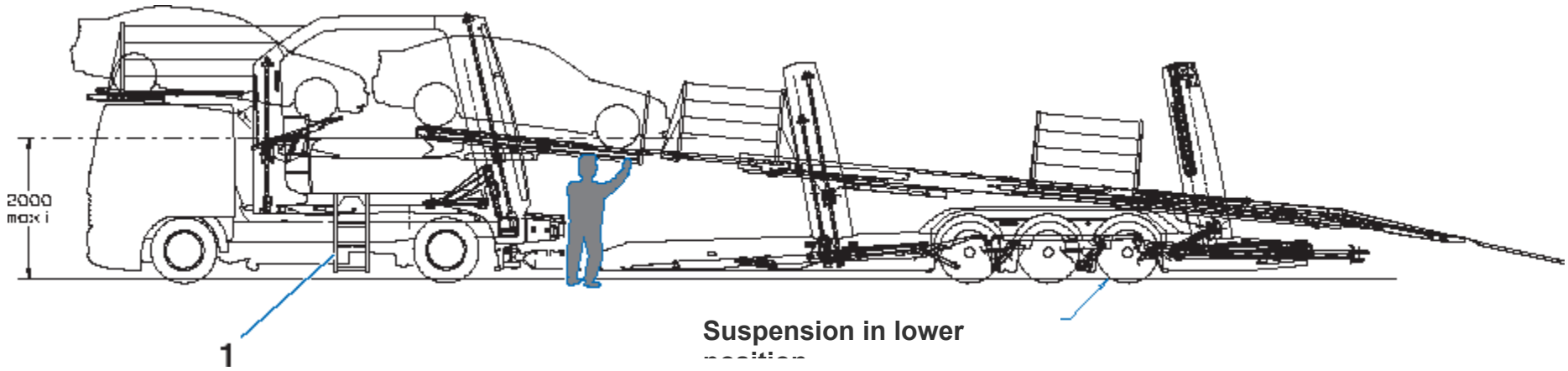
The railing ropes are secured by two spring-loaded tensioners (1) that provide connection and tension. The tension check is carried out visually, the ropes must be taut and not sagging.

Re-tension the ropes if necessary.





15.3. ACCESS TO TOP PLATFORMS



In terms of security:

- Access to the upper platforms (superstructure and trailer) is allowed, provided that the height of the platforms does not exceed 2 meters.
- Access to the body top platform is provided using the small ladder (1) in the trailer hitch group, which is located on the side of the bodywork.
- The installation of chocks and belts for the vehicle loaded on the upper platform of the body should be done standing next to the train.

16.

LUBRICATION SCHEMES

16.1. SYMBOLS

TRADING SYMBOLS		GREASING POINT SYMBOLS			
	With pump (greaser) Lubrication		Mile (Mafsal, VB.)		Lock
	Grease with a brush		Bed (bushing or		Fifth wheel
	Grease with an oiler		bearing) Mechanism		ORLANDI spherical connection knob
	Oil change (oil) Regeneration (grease)		Hydraulic tank		
	Level control (oil)		Sliders		
	Spray lubrication		Lifting screw		
			Lifting cable		

16.2. LUBRICATION OF BODY ELEMENTS