



FRUEHAUF
Designed to last



USER MANUAL - MAINTENANCE LOGBOOK

READER GUIDE

This manual is intended for you “the professional road haulier”, keep it inside your vehicle.
It contains essential maintenance recommendations to use your vehicle in optimum safety and operating conditions.
This manual describes the normal conditions for use. If you require further explanations about the contents of the manual or on specific vehicle use conditions, please contact us.

By spending a few moments reading this document, you will be able to benefit from your vehicle’s main features.

Our technical departments wanted simple and fast equipment maintenance from the outset of design. By strictly following the use and maintenance instructions, you will guarantee your vehicle’s reliability and optimum operation.



The checks preceded by this symbol are to be carried out by the driver.



The maintenance operations and checks preceded by this symbol are to be carried out in the workshop.



Please refer to the relevant section.



Important instructions or indications to strictly follow.

Contact our network using the fruehauf.com web site if you require any further information

This manual covers the main possible options or variants, only take into account those fitted to your vehicle.

Keep this manual with the vehicle on-board documentation.

FIRST OWNER

Name:

Address:

.....

.....

Vehicle type:

Trailer

Semi-trailer

Specifications:

Serial n°:

First registration date:

Registration n°:

Empty weight:

Hitch height:

Authorised running gear load:

Width:

Gross vehicle weight rating:

Surface area:

Stamp:

SUCCESSIVE OWNERS

The vehicle with registration number:
.....
is the property of:
.....
Address:
.....
.....
.....
This vehicle is monitored by
.....
Distributor
.....
Customer advisor
.....

The vehicle with registration number:
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is the property of:
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Address:
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This vehicle is monitored by
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.....
Distributor
.....
Customer advisor
.....

FIRST USE



AFTER THE FIRST 50 KILOMETRES, THEN AFTER THE NEXT 100 KILOMETRES, CHECK:

- ⇒ wheel tightening (▶ REGULAR MAINTENANCE AND CHECKS - AXLES),
- ⇒ tyre pressure
- ⇒ in some cases, elements can be temporarily attached (for example: spare wheel support on spare wheel support delivered without a spare wheel); remove them and store in a suitable location.



AFTER THE FIRST 500 KILOMETRES OR THE FIRST TRIP WITH A LOAD, CHECK:

- ⇒ the self-steering axle geometry,
- ⇒ the tightening of all self-steering axle nuts,
- ⇒ the tightening of all mechanical suspension nuts,
- ⇒ the tightening of all pneumatic suspension nuts.

AFTER THE FIRST 5,000 KILOMETRES:

Carry out the recommended maintenance checks (▶ REGULAR MAINTENANCE AND CHECKS - B OPERATIONS)



For all work on components bearing another manufacturer brand (axles, stands, hitch plate, tailgate, etc.) please follow the equipment manufacturer recommendations

IDENTIFICATION

A FRUEHAUF identification plate as well as a cold heading are located on the vehicle chassis.

Reference to quote in all correspondence or communications concerning your vehicle



- GENERAL 6**
- Safety instructions 7
- Loading 7
- Hitching 9
- Before each trip 11
- Unhitching 11
- INSTRUCTIONS FOR USE 12**
- Equipment and common options 13
- Sliding curtains 20
- Box trucks 30
- Tippers 32
- Container beds 40
- City - Urban 44
- MAINTENANCE LOGBOOK 48**
- Health and safety 49
- Regular maintenance and checks 49
- Maintenance monitoring 58

GENERAL

| | |
|-------------------------------|----|
| Safety instructions | 7 |
| Loading | 7 |
| Hitching | 9 |
| Before each trip | 11 |
| Unhitching. | 11 |

SAFETY INSTRUCTIONS

Be attentive to bridges, underpasses or tree branches that could damage your vehicle.

Your vehicle is designed to be driven with the tarpaulin closed, the roof closed and the rear door closed. Any other use is the user's liability.

Any possible accumulation of water, ice or snow on the top must be eliminated before the departure or handling of the vehicle.

Use suitable equipment to climb on / off your vehicle (retractable stepladders, ladders, stirrups, etc.). Wear suitable Personal Protection Equipment when using the vehicle.

Do not stand inside or near the vehicle during manoeuvres.

All handling of bodywork should be manual.

For safety and maintenance instructions for equipment such as axles, stands and coupling plates, please refer to the manufacturer user manuals.

This vehicle is designed for professional use, it must be used by qualified staff. It is intended for goods transport, any other use is the user's liability.

In order to avoid the excessive heating of brake components, use the engine brake or deceleration systems as much as possible.

If your tractor is fitted with one, only use the trailer alignment brake in cases of absolute necessity.


Abusive and inappropriate use may result in:

- the very rapid wear of the brake linings on the towed vehicle,
- excess heating that may result in the tyres bursting or the vehicle catching fire



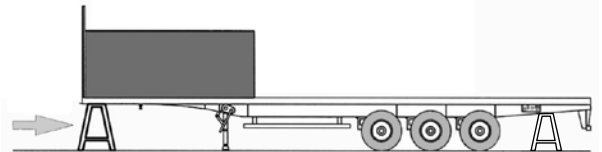
Transport of products for which the vehicle is not designed may result in damage to the bodywork, equipment or safety devices and may ultimately cause serious accidents.

LOADING

Respect the loading limits for the running gear and the coupling system (refer to the certificate of conformity and the vehicle manufacturer plate  Identification).

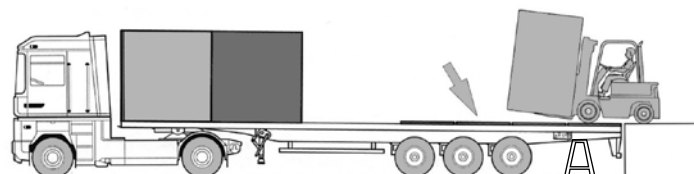
Loading/unloading must be carried out in compliance with the specific vehicle use directives. Regardless of the loading method, it is compulsory that the vehicle brakes be applied and the wheels chocked.

To avoid tipping risks, it is imperative to couple the tractor or place supports at the front of the semi-trailer. In the case of tandem vehicles or significant rear cantilevering, it is imperative to place supports at the rear of the semi-trailer if the tractor is not coupled.



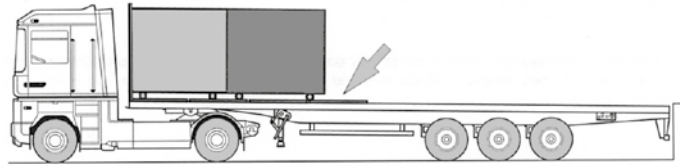
During loading or unloading, standard trailers and semi-trailers are designed to support fork lift trucks with a total GVW, Gross vehicle weight (fork lift + load) of a maximum of 4 tonnes.

In exceptional cases, if the GVW is higher than 4 tonnes, it is essential to place elements such as beams or metal plates on the floor perpendicular to the vehicle longitudinal axis and to place supports at the rear of the semi-trailer.

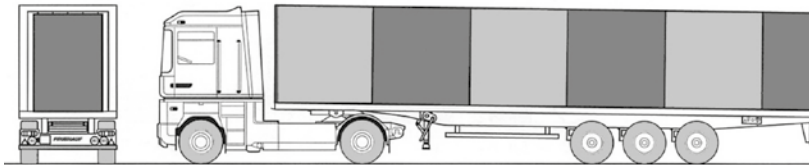


LOADING

To avoid pallet container or other packaging stands or rollers from piercing and breaking the floor, it is imperative to use spreader plates.



Check that the load is evenly spread and that it complies with the intended vehicle conditions.



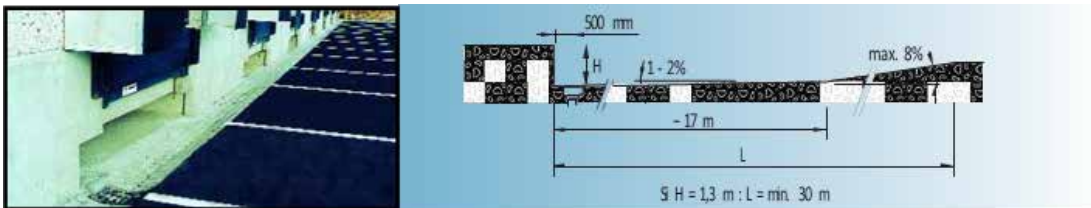
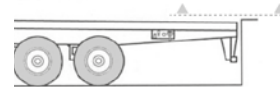
Loading / unloading on a dock:

Make sure the vehicle is horizontally aligned with the dock, if necessary, adjust using the Up and Down handle.

If necessary, repeat the operation during the manoeuvre.

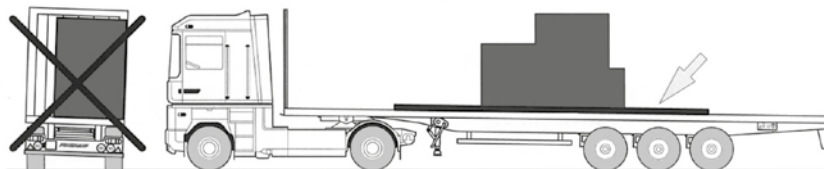
☛ equipment and common options - "Up and down" system

For specific loading: ☛ Curtains - tippers - container beds - city-urban



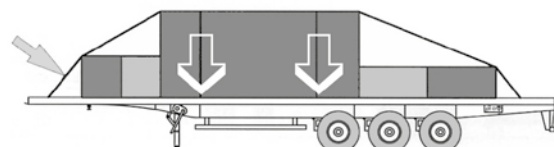
In the absence of special indications resulting in a special construction, the vehicles are designed to transport loads of a uniform weight on the entire floor surface. All concentrated loads must be placed on a rigid frame. The frame strength must fulfil the following conditions:

$$\frac{\text{Concentrated load weight}}{\text{Load surface area}} < \text{OR} = \frac{\text{Working load}}{\text{Total floor surface area}}$$



Load safety:

To prevent the load from moving during transport, check that it is correctly attached and blocked.



HITCHING

Respect the hitching height indicated on the vehicle order form.

A - BEFORE HITCHING, CHECK:

- **The hitching unit:**

- ⇒ hitch plate condition and fixing (no sheared metal, warping, depressions),
- ⇒ the hitch shaft condition and fixing,
- ⇒ the hitch plate and weight carrying hitch plate grease coat.
It must be sufficient and free of any foreign bodies so that the hitching of the tractor to the semi-trailer is perfect and causes no damage,
- ⇒ to lubricate the hitch plate and shaft and the weight carrying hitch plate.

▶ REGULAR MAINTENANCE AND CHECKS - HITCH SHAFT

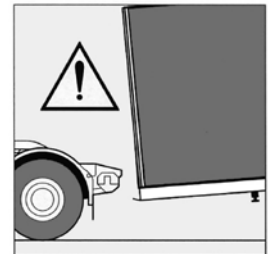
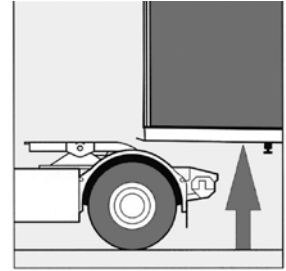
- **That the parking brake is applied**

▶ EQUIPMENT AND COMMON OPTIONS - PNEUMATIC BRAKE CONTROL

- **That the hitch plate is at the correct height relative to the weight carrying hitch plate**

If necessary, use the stands to achieve a correct position (▶ EQUIPMENT AND COMMON OPTIONS - STANDS) to raise or lower the front of the semi-trailer.

It is strictly prohibited to move the semi-trailer when supported on the stands, even if the stands are on wheels.



B - TO HITCH:

- **Slowly reverse the tractor**, in line, until the hitch plate comes into contact with the weight carrying hitch plate,

- **Gently and progressively accelerate while engaging the gears** to:

- ⇒ smoothly slide the weight carrying hitch plate under the hitch plate,
- ⇒ gently strike the jaws using the hitch shaft. The impact automatically locks them.

- **Carry out the traction test**

With the parking brake applied, put into 1st gear and slightly accelerate; the driver must be able to feel significant resistance to moving the vehicle forward.

- **Check that the weight carrying hitch plate is properly locked**

in compliance with the sticker applied on the vehicle



All these checks must be carried out. Incorrect locking may result in unexpected unhitching during use, which would cause serious damage or even very serious accidents.

HITCHING (CONTINUED)

- **Fully raise the stands**

➤ EQUIPMENT AND COMMON OPTIONS - STANDS

- **Connect the brake lines**

Check the brake line connections.

(1) Supply head.

RED (automatic)

The pressure must be 8.5b

(2) Control head.

YELLOW (direct)

- **Connect all the electric circuits**

Check the tractor and semi-trailer cable and socket condition

(3) ISO 1185 (24N) socket

+ (4) ISO 3731 (24S) socket

+ (5) ISO 7638 socket: 5 or 7 pin

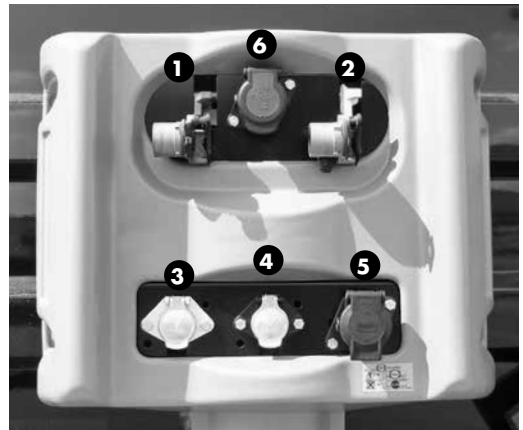
or

(5) ISO 7638 socket: 5 or 7 pin

+ (6) 15 pin electric socket - ISO 12098

- **Connect the hydraulic circuits, making sure that:**

- ⇒ the tractor hoses are in perfect condition,
- ⇒ that there are no foreign bodies in the connection,
- ⇒ that the supply hose connection tightening is full and locked.



BEFORE EACH TRIP

Vehicle hitched, the checks to carry out are the following:

On-board documents inside the vehicle

Compliance of the **king pin** with **the tractor axis**

Hitching system **locked**

All pneumatic and hydraulic hoses and electric cables connected

Stands raised (🔍 EQUIPMENTS AND COMMON OPTIONS - STANDS)

Tyre pressure

Wheel nuts tightened (🔍 MAINTENANCE RECOMMENDATIONS - AXLES)

Working order and cleanliness of the **safety and signage systems**

Lashing, fixing, locking and closure of all bodywork or accessory elements.

Pneumatic suspension in **road position** (🔍 EQUIPMENT AND COMMON OPTIONS - "UP AND DOWN" SYSTEM)

Parking brake released (🔍 COMMON EQUIPMENT AND OPTIONS - PNEUMATIC BRAKE CONTROL)

If the vehicle is fitted with an **extinguisher locker**, its presence inside

Note: before reaching a speed of more than 30km/h, check braking effectiveness.

UNHITCHING



Align the tractor with the semi-trailer axis. Unhitch on flat ground.

- **Apply the parking brake**
(🔍 COMMON EQUIPMENT AND OPTIONS - PNEUMATIC BRAKE CONTROL)
- **Disconnect the electric circuits**
- **Disconnect the brake lines**
- **Uncouple the hydraulic circuits, making sure that:**
 - ⇒ the hydraulic circuit is not pressurised
 - ⇒ for a tipper, that it rests on the chassis
- **Lower the stands**
(🔍 COMMON EQUIPMENT AND OPTIONS - STANDS)
- **Unlock the weight carrying hitch plate to release the hitch shaft**
- **Clear the tractor from the semi-trailer**

INSTRUCTIONS FOR USE

| | |
|---|-----------|
| COMMON EQUIPMENT AND OPTIONS | 13 |
| U&D system | 14 |
| Axles | 14 |
| Axle raising | 15 |
| Pneumatic brake control | 15 |
| Stands | 16 |
| Spare wheel support | 16 |
| Electricity, lighting and signage | 17 |
| RCP® | 19 |
| SLIDING CURTAIN SEMI-TRAILER | 20 |
| Use | 21 |
| Loading | 24 |
| Equipment and options | 25 |
| BOX TRUCKS | 30 |
| Loading | 31 |
| Equipment and options | 31 |
| TIPPERS | 32 |
| Fields of use | 33 |
| Safety instructions | 33 |
| Hitching | 34 |
| Loading | 34 |
| Tipping | 35 |
| Equipment and options | 37 |
| Storage conditions | 39 |
| CONTAINER BEDS | 40 |
| Subframe sliding | 41 |
| Loading/unloading | 41 |
| Twin axle system | 42 |
| Twin trailer | 43 |
| CITY - URBAN | 44 |
| Loading/unloading | 45 |
| Load distribution | 46 |
| Equipment and options | 47 |

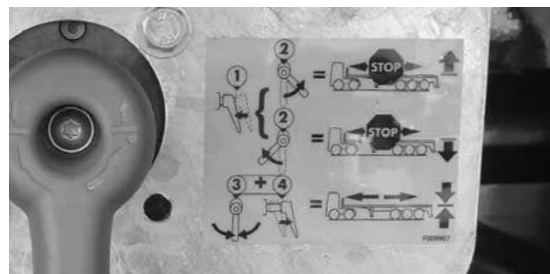
COMMON EQUIPMENT AND OPTIONS

U&D system 14
Axles 14
Axle raising 15
Pneumatic brake control 15
Stands 16
Spare wheel support 16
Electricity, lighting and signage 17
RCP® 19

COMMON EQUIPMENT AND OPTIONS > "UP AND DOWN" SYSTEM

The manifold located on the sides of vehicles with pneumatic suspension is used to level the vehicle to make dock loading and unloading operations easier.

The use of the Up and Down system is not recommended when the vehicle is fitted with fixed pad stands if they are in contact with the ground.



- 1 Manoeuvre position (push the handle)
- 2 Up / Down position
- 3 STOP manoeuvre position
- 4 Road position



Only use the U&D system when the vehicle is hitched, the brakes released and the stands raised. Before driving or carrying out any manoeuvres, it is essential to make sure the U&D system handle is in the road position

RTR system (Return To Road)

In excess of 15km/h, the control system automatically returns to the road position (subject to the EBS system being in working order)

COMMON EQUIPMENT AND OPTIONS > AXLES

The axle is composed of a special steel body of which the spindles have been machined to house a bearing unit. The rotating hub-bearing-drum or hub-bearing-disk unit is held to the spindle by a nut (**See manufacturer documentation**).



Never weld, drill, grind or connect an earth socket to an axle

Self-steering:

The self-steering axle allows its wheels to move without skidding during a circular vehicle trajectory in a turning (**see manufacturer documentation**).

The user instructions feature on a plate (identical to the model shown opposite)



Note: to monitor vehicle maintenance, a mileage meter can be fitted into the hub cap.

COMMON EQUIPMENT AND OPTIONS > AXLE RAISING

This optional equipment that complements the pneumatic suspension is used to automatically raise an axle when the vehicle is travelling empty or partially loaded.

- **Automatic function:** enabled on ignition
 - ⇒ the axle is automatically raised/lowered depending on the weight on the running gear,
 - ⇒ automatic management by the EBS.
- **Manual axle raising:** short press on the control button
 - ⇒ raises the axle (subject to not exceeding 130% on the maximum authorised load on the axles remaining on the ground),
 - ⇒ TA+: Allows to offload the front axle (without raising it), in order to transfer the load to the tractor axle while respecting the 130% load on the axles remaining on the ground,
 - ⇒ in excess of 25 km/h, the axle automatically lowers to the ground (if the axle load on the ground is greater than 100% of the max. authorised load).
- **Manual axle lowering:** Long press on the control button
 - ⇒ lowers the axle regardless of the load,
 - ⇒ disables automatic operation (a short press on the control button re-enables the automatic function).

Depending on the equipment, when the system does not have an electricity supply, the axle rests on the ground.



COMMON EQUIPMENT AND OPTIONS > - PNEUMATIC BRAKE CONTROL

A pressure in excess of 4 bars in the pneumatic circuits is required for the following operations.

- **Apply parking brake:** pull the red button
- **Release parking brake:** push the red button



The user is liable for this operation. Never release the parking brake without making sure it is safe to do so (risk of the vehicle moving)

- **Handling on a parking area:**
 - ⇒ to release the brake: push the black and red buttons
 - ⇒ to apply the brake: pull the black and red buttons

Apply the vehicle brakes once the manoeuvre complete

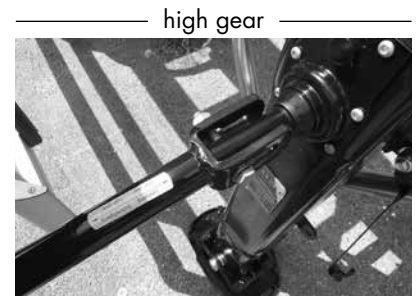


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COMMON EQUIPMENT AND OPTIONS > STANDS

Before manoeuvring the vehicle, make sure the stands have been raised to the maximum position.

- **High gear:** handle pulled to the maximum
 - ⇒ rapidly lower the stands until they are in contact with the ground when uncoupling,
 - ⇒ raise the stands, vehicle coupled.



**Never lift the vehicle (even when empty)
Risk of damaging the stand mechanism**

- **Low gear:** handle pushed to the maximum
 - ⇒ slightly raise the semi-trailer as soon as the wheels or pads have touched the ground to facilitate unhitching by relieving the tractor springs.



When the stands are raised, a gear must be engaged for safety locking

Note: For further information, comply with the manufacturer user manual.

COMMON EQUIPMENT AND OPTIONS > SPARE WHEEL SUPPORT

Depending on the type of vehicle, the spare wheel support type may vary (basic basket support, hoist support, between stands, lateral, etc.).



The support should only be used for tyres of the sizes defined in the following tables. Its use is incompatible with all other tyre sizes. FRUEHAUF declines any liability for the resulting consequences. The rear band must always be adjusted to the positions defined below to push the wheel against the front band.

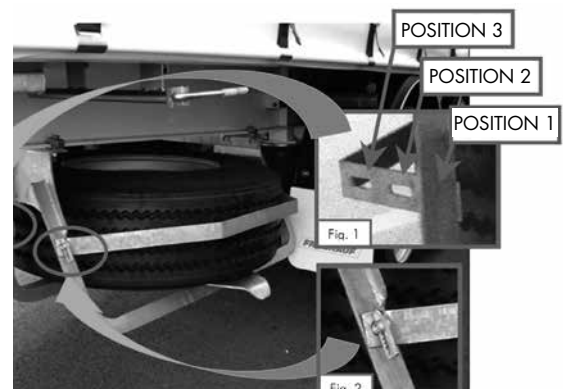


Regardless of the spare wheel support model, fitting a bare wheel trim to the support is prohibited

MULTI-WHEEL BAND SPARE WHEEL BASKET SUPPORT

- ⇒ use the openings in the band to adjust to your wheel size (fig. 1)
- ⇒ check that the rear band screws are locked (fig. 1)
- ⇒ fix the front band using the bolt (fig. 2)

| Position | Theoretical Ø ETRTO ranges | Standard tyre sizes |
|----------|----------------------------|--|
| 1 | from 1078 to 1114 mm | 385/65R22.5 - 315/80R22.5 - 12R22.5 |
| 2 | from 1000 to 1036 mm | 385/55R22.5 - 275/80R22.5 - 315/70R22.5 305/70R22.5 - 10 R22.5 |
| 3 | from 902 to 939 mm | 445/45R19.5 - 385/55R19.5 - 435/50R19.5 285/70R19.5 - 305/70R19.5 - 255/70R22.5 |



COMMON EQUIPMENT AND OPTIONS > SPARE WHEEL SUPPORT

3-POINT SPARE WHEEL SUPPORT

- USE:**

⇒ the length of the tyre fixing screw and clamp correspond to the original vehicle tyre fitting.

| Name | Len 326 / 22.5 | Len 366 / 22.5 | Len 366 / 19.5 |
|-------------------------|---|---|--|
| Steel wheels | 385/65R22,5 (120) - 385/55R22,5 (120) 11R22,5 (148) - 275/80R22,5 (148) 275/70R22,5 (148) - 295/80R22,5 (158) | 455/45R22,5 (120) | 445/45R19,5 (120) 435/50R19,5 (120) |
| Aluminium wheels | 11R22,5 (148) - 275/80R22,5 (148) 275/70R22,5 (148) - 295/80R22,5 (158) | 385/65R22,5 (120) 385/55R22,5 (120) 455/45R22,5 (120) | |

⇒ in the case of a vehicle fitted with a 2nd support, it is delivered with a 320 mm rod making it possible to house tractor tyres (315/60R22.5(175) - 315/70R22.5 (175) - 315/80R22.5 (175) - 295/60R22.5 (165))

- Fitting a wheel to the support:**

- ⇒ position the wheel. For an outset wheel, the outset wall should be positioned at the top,
- ⇒ engage the screw making sure the screw head is behind the holding stop,
- ⇒ engage the clamp onto the screw and position it in the 2 wheel trim holes,
- ⇒ screw the nut manually as far as it will go,
- ⇒ Lock the screw chain into one of the nut holes so that the chain is fully taut to prevent the nut from rotating.



COMMON EQUIPMENT AND OPTIONS > ELECTRICITY, LIGHTING AND SIGNAGE

All alterations to the electric equipment can put the proper operation of the original equipment in jeopardy. As a result, all alterations made to the electric equipment automatically void the warranty.

Unless otherwise requested, the voltage used is 24 volts



Never use an alternating current source when testing electric circuits.

Never carry out welding operations on the vehicle with the circuit connected to the chassis bodywork.

LIGHTING

The vehicle electric equipment is compliant with the highway code. The sockets and connections are compliant with standards applicable on the delivery date.

All connections or disconnections of sockets must be carried out with the tractor ignition cut to avoid damage to the electric systems.



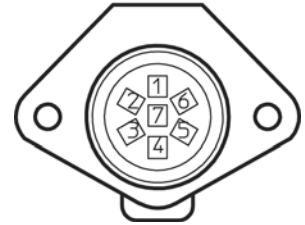
COMMON EQUIPMENT AND OPTIONS > ELECTRICITY, LIGHTING AND SIGNAGE

Note: the free connectors can be assigned depending on the vehicle equipment. The wire colour is given as an indication, it may vary depending on vehicle models: refer to the connector numbers.

ISO 1185 (24N) SOCKET

| Connector n° | colour | assignment |
|--------------|--------------|--|
| 1 | white | earth |
| 2 | black | left position, registration plate light |
| 3 | yellow | left indicator |
| 4 | red | brake |
| 5 | green | right indicator |
| 6 | brown | right position, registration plate light |
| 7 | yellow/black | free |

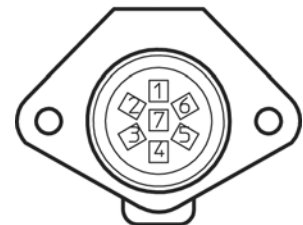
ISO 1185 : 24N
(Rear view)



ISO 3731 (24S) SOCKET

| Connector n° | colour | assignment |
|--------------|-------------|---------------------------|
| 1 | white/black | earth |
| 2 | purple | free or cabin contact |
| 3 | grey | reverse light |
| 4 | brown/blue | power supply (permanent+) |
| 5 | orange | free |
| 6 | pink | free or cabin contact |
| 7 | blue | fog lights |

ISO 3731 : 24S
(Rear view)



ISO 12098-15P SOCKET

| Connector n° | colour | assignment |
|--------------|--------------|--|
| 1 | yellow | left indicator |
| 2 | green | right indicator |
| 3 | blue | fog lights |
| 4 | white | earth |
| 5 | black | left position, registration plate light |
| 6 | brown | right position, registration plate light |
| 7 | red | brake |
| 8 | grey | reverse light |
| 9 | brown/blue | power supply (permanent+) |
| 10 | - | - |
| 11 | yellow/black | free |
| 12 | pink | cabin contact |
| 13 | white/black | earth |
| 14 | purple | free or cabin contact |
| 15 | orange | free |

ISO 12098 : 15P
(Rear view)



Replacement lamps must be of the same size and power as the original lamps.

COMMON EQUIPMENT AND OPTIONS > RCP® - COLLISION PROTECTION RESERVE

RCP is used to assist the driver during reverse and docking manoeuvres.

Using its ultrasound radars, this equipment helps to detect the presence of materials at the rear of the vehicle and informs a computer that receives distance data. The computer, along with the EBS, calculates the braking to apply automatically to fully stop at a distance of at least 20 cm from the obstacle, depending on the vehicle speed and load.

OPERATION

- ⇒ activation of the system by the reverse light with the issue of an audible buzzer,
- ⇒ the RCP® ultrasound radars help to detect obstacles starting from 3m,
- ⇒ 3m from the obstacle, the light and audible signals begin,
- ⇒ the signal frequency increases as the obstacle approaches,
- ⇒ At 1m from the obstacle, start of the braking phase,
- ⇒ At a minimum of 20cm from the obstacle, the semi-trailer fully stops,
- ⇒ after 2 seconds, the brakes are released to allow the manoeuvre to continue.

Note: the buzzer can be disabled by pushing reverse gear twice in 2 seconds



COMMON EQUIPMENT AND OPTIONS > RCP® - COLLISION PROTECTION RESERVE

NON-DETECTION RISKS

- ⇒ RCP® may not detect an obstacle if the vehicle is not in reverse,
- ⇒ the system neutralises itself in excess of 20km/h and if there is a power supply fault,
- ⇒ some materials, such as textiles, reduce the sensor ultrasound signal.



RCP® is basic driver assistance. Drivers remain liable for carrying out their manoeuvres safely and hazard-free in all circumstances.

It is their responsibility to check the system is in working order before use.

It requires the reverse gear to be engaged in order to operate, as well as the connection of the sockets compliant with instructions. The system only detects obstacles at an angle that sufficiently reflects ultrasounds.

Caution: RCP® will not systematically detect a person or obstacle in the entire rear area.

FRUEHAUF cannot be held liable for incidents linked to the use of RCP® or for its malfunction.

REMINDER

- ⇒ in order to prevent any damage to the buffers when docking, the vehicle should not be in contact with the dock.
- ⇒ the final dock approach phase after the brakes have been released must be carried out at a maximum speed of 1km/h.

SLIDING CURTAIN SEMI-TRAILER

| | |
|---------------------------------|----|
| Use | 21 |
| Loading | 24 |
| Equipment and options | 25 |

OPENING THE CURTAINS:

- **Front tensioning:**

The front tensioning system is located at the front or on the side of the front upright

- **Front face:**

- ⇒ release the curtain tension using the levers on both sides and by firmly pushing it if there is any resistance.
- ⇒ side face:
- ⇒ lift the locking latch then lower the handle.

- **Rear tensioning:**

- ⇒ the tensioning system is located in the rear upright.
- ⇒ release it by pushing the lever and locking latch towards the back,
- ⇒ pull the curtain towards the front of the vehicle.

- **Vertical tensioning:**

- ⇒ release the vertical tensioning straps by pulling their free end,
- ⇒ release the hook from the straps.

- **Opening:**

- ⇒ release the curtain attachment profile from the tensioning bracket or the winding guard,
- ⇒ fold the curtain back onto itself (towards the outside of the vehicle),
- ⇒ stand on the opposite side to the opening and pull the tarpaulin using the straps.



CLOSING THE CURTAINS:

- **Closure:**

- ⇒ pull the curtain using the attachment profile, guide it using the other hand to keep it vertical,
- ⇒ make sure the rail flap properly covers the curtain on the front face as well as at the top of the rear frame upright.

- **Front tensioning:**

- ⇒ front face:
 - put the ratchet in the locking position,
 - stretch the curtain then re-position the ratchet by pivoting it and return to its neutral position in its housing.
 - ⇒ side face:
 - position the handle at 90° to the upright when positioning the curtain profile,
 - pivot the handle towards the front and raise it to lock it.
- Lift the locking latch then lower the handle.



- **Rear tensioning:**

- ⇒ stretch the curtain then return the latch to its position.

- **Vertical tensioning:**

- ⇒ position each strap hook under the edge,
- ⇒ if necessary, adjust the strap length then lock the strap,
- ⇒ lock all the curtain straps.



**The vertical tension must be sufficient for the roof rails to rest against the side upright heads.
In this configuration, the side uprights should not be able to move.**

CURTAINS > USE

MOVING THE SIDE UPRIGHTS:

- **Releasing:**
 - ⇒ lift the upper latch,
 - ⇒ pull the handle towards yourself
 - ⇒ release the edge side upright,
 - ⇒ reposition the handle.
- **Movement:**
 - ⇒ move the uprights by hand, level and smoothly
- **Locking:**
 - ⇒ follow the release steps in reverse order,
 - ⇒ use the handle as a lever (less efforts due to its positioning),
 - ⇒ check that it is level before locking



If the vehicle is loaded, check that the freight is not pushing against the upright.

Never release an upright if it is supporting height extensions.

SLIDING ROOF:

- **Opening:**
 - ⇒ open the doors,
 - ⇒ place the handling bar in the middle of the roof cross beam,
 - ⇒ for vehicles that can be height adjusted, release the cross beam,
 - ⇒ raise the cross beam using the handling bar and push towards the front,
 - ⇒ grab the loop located on the side of the rear cross beam using the handling bar and pull towards the front of the vehicle,
 - ⇒ lock the handling bar using one of the curtain loops to keep the roof open.
- **Closure:**
 - ⇒ pull the roof from the front towards the back using the handling bar until the cross beam tips into its housing,
 - ⇒ close the back doors.



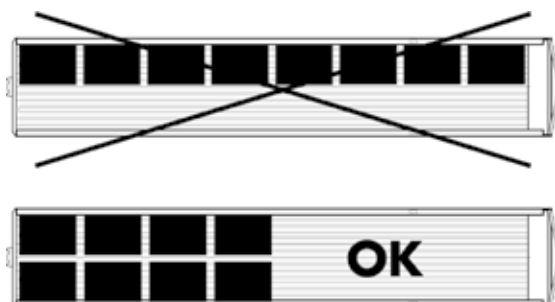
If there is resistance, make sure the load is not pushing on the tarpaulins. If necessary, re-position the goods.



CURTAINS > LOADING

When loading, make sure:

- ⇒ **NOT TO PUSH THE PALLETS**
- ⇒ **TO LOAD EVENLY**
- ⇒ **NOT TO PUSH AGAINST THE STAKES**
The stakes are never a pallet stop.



INTEGRAL OPEN TOP (IOT):

- **Opening:**

- ⇒ open the rear cross beam to release the roof tension,
- ⇒ at the front, using the handling bar, release the front cross beam on each side by pulling and turning the lock handles,
- ⇒ grip the front roof strap using the handling bar and pull the cross beam towards the front to release the locating studs (if the other side does not move at the same time, repeat the operation on the other side)
- ⇒ using the handling bar, lift the front cross beam while pushing under the tarpaulin support,
- ⇒ grip the front roof strap using the handling bar and pull to the rear to open it



- **Closure:**

- ⇒ grip the front roof strap using the handling bar and pull to the front to close it
- ⇒ pull the cross beam towards the back to engage the locator studs
- ⇒ release the locks,
- ⇒ close the rear cross beam,
- ⇒ grip the front roof strap using the handling bar and pull the cross beam towards the back until the lock fits into its housing then repeat the operation on the other side.



CURTAINS > EQUIPMENT AND OPTIONS

LIFTING BODYWORK DURING LOADING (LIFTOP)

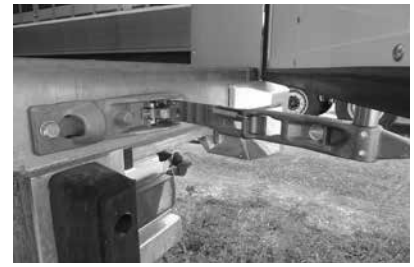
To make loading/unloading operations easier, the front and rear uprights are fitted with cylinders used to raise the roof.

- **Raising:**

- ⇒ open the rear doors and use the handles to keep them partially open,
- ⇒ raise the front and rear parts by releasing the handles and pumping using the mechanism lever,
- ⇒ release the mechanism handle, making sure not to relock it on its support
- ⇒ the side uprights can remain in position during the loading/unloading operations. If necessary, they can be slid to one end of the trailer.

- **Lowering:**

- ⇒ lower each end of the vehicle while locking the mechanism handle on its support,
- ⇒ reposition the side uprights if they were moved.



Lifting the front and rear parts on both sides of the bodywork at the same time is not recommended.

Lifting the roof when open, opening the roof when the bodywork has been raised on one side and driving with the roof raised are prohibited.

2-POSITION HEIGHT ADJUSTABLE BODYWORK DURING LOADING (LIFTOP 2)

The Liftop 2P bodywork is bodywork that can be lifted for loading, fitted with removable stops that make it possible to gain 50mm on the loading rolling height.

- **Raising:**

- ⇒ release the side uprights if they remain in position or move the stakes to the front or back of the vehicle making sure they are locked,
- ⇒ raise the front and rear parts by releasing the handles and pumping using the mechanism lever,
- ⇒ release the mechanism handle, making sure not to relock it on its support.

- **Lowering:**

- ⇒ validate the side upright locking position depending on the required rolling position (0 or +50mm),
- ⇒ validate the stop positions on the front and rear raising mechanisms depending on the required rolling position,
- ⇒ lower each end of the vehicle while locking the mechanism handle on its support,
- ⇒ reposition the side uprights if they were moved.



Position 0



Position +50

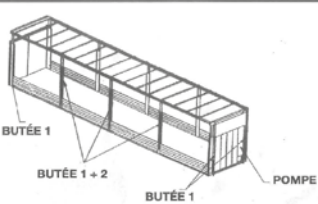


SLIDING BODYWORK (OPEN BOX C+) AND LIFTABLE FOR LOADING (EUROLIB).


- **Opening / Closure**

Refer to the instruction sticker on the rear door or the front face


LIBNER POTEAU MODULAIRE A BROCHES



BUTÉE 1



BUTÉE 2



RÉHAUSSEMENT DE LA CARROSSERIE

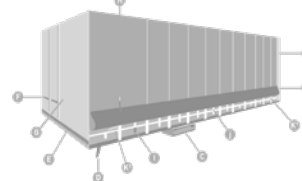
- Ouvrir les 2 rideaux
- Retirer les butées de la face avant (BUTÉE 1), des 2 poteaux AR et des poteaux INTER (BUTÉE 1 et 2)
- Pomper jusqu'à la hauteur souhaitée
- Remettre les butées dans les poteaux AR et INTER ainsi que dans la face avant
- Refermer le robinet de la pompe

DESCENTE DE LA CARROSSERIE

- Ouvrir les 2 rideaux
- Monter légèrement pour débloquer toutes les butées
- Retirer les butées de la face avant (BUTÉE 1), des 2 poteaux AR et des poteaux INTER (BUTÉE 1 et 2)
- Ouvrir le robinet de la pompe, laisser redescendre et fermer
- Remettre toutes les butées en place

BICOINTEC 128

NOTICE D'UTILISATION
USER'S MANUAL
BEDIENUNGSANLEITUNG
BEDIENINGS INSTRUCTIES



NOTICE D'ENTRETIEN
MAINTENANCE MANUAL
WARTUNGSANLEITUNG
ONDERHOUDS HANDLEIDING

TRANSFORMATION EN PLATEAU / CONVERSION INTO PLATFORM
OMWANDLING IN OPENES PLATFORM / OMZETTEN NAAR PLATFORM

1. Ouvrir les 2 rideaux
2. Retirer les butées de la face avant (BUTÉE 1), des 2 poteaux AR et des poteaux INTER (BUTÉE 1 et 2)
3. Pomper jusqu'à la hauteur souhaitée
4. Remettre les butées dans les poteaux AR et INTER ainsi que dans la face avant
5. Refermer le robinet de la pompe

TRANSFORMATION EN CARROSSERIE / CONVERSION INTO CURTAINCIDER
OMWANDLING NAAR CURTAINCIDER / OMZETTEN NAAR SCHUFTJE

1. Ouvrir les 2 rideaux
2. Monter légèrement pour débloquer toutes les butées
3. Retirer les butées de la face avant (BUTÉE 1), des 2 poteaux AR et des poteaux INTER (BUTÉE 1 et 2)
4. Ouvrir le robinet de la pompe, laisser redescendre et fermer
5. Remettre toutes les butées en place

ENTRETIEN DES RAILS & VERROU / RAILS & LOCK MAINTENANCE
WARTUNG DER LAUFSPURWEISEN & VERROESSELUNG
ONDERHOUD VAN RAILS EN SLUITING

1. Nettoyer les rails et les verrous
2. Vérifier le serrage des vis de serrage
3. Vérifier le serrage des vis de serrage
4. Vérifier le serrage des vis de serrage
5. Vérifier le serrage des vis de serrage

LIFTABLE BODYWORK FOR LOADING AND ROLLING (EASY)

- **Adjusting the bodywork height**

⇒ open the rear doors and use the handles to keep them partially open



⇒ open the curtain loops



⇒ release the curtains at the front and rear to remove the attachment profiles



⇒ Make sure the stakes are not in the locked position
(▶ CURTAINS - EQUIPMENT AND OPTIONS > • Loading/unloading).

⇒ close the pump hydraulic circuit valve.



⇒ Depending on the loading to be carried out, position the circuit detector in the raising position, 1 left or right side or 2 sides at the same time.



⇒ activate the pump to raise the bodywork.



- ⇒ position the front upright, rear and side pins to the required height.



- ⇒ open the pump circuit valve to lower the roof back onto the pins
- ⇒ close the curtains, lock the front and rear attachments, re-stretch the curtains and attach the loops.



• Loading/unloading



**IF NECESSARY, MOVE THE SIDE UPRIGHTS,
MAKE SURE THE PINS ARE LOCKED IN POSITION
TO AVOID STRETCHING THE STAKES.**

- ⇒ the pins must be positioned in the indexing on the right side.



BOX TRUCKS

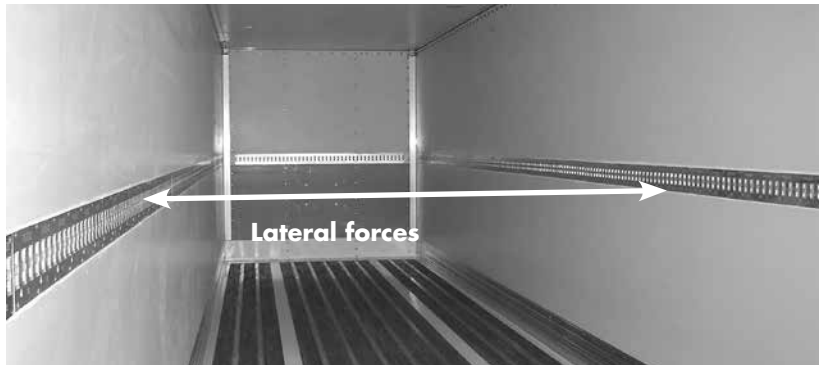
Loading31
Equipment and options31

BOX TRUCKS > LOADING

The walls are not designed to withstand shocks (for example fork lift forks).

This type of vehicle is designed for pack or pallet loads.

The walls not fitted with specific equipment must not be subjected to significant forces which would warp them.



Bulk loading is prohibited

BOX TRUCKS > EQUIPMENT AND OPTIONS

LASHING RAIL

Load lashing must comply with the instruction plate fixed inside the vehicle. The forces the rails are subjected to must never be perpendicular to the walls.

A technical diagram of a box truck's interior showing two different load lashing methods. The top diagram shows a load secured with diagonal strapping. The bottom diagram shows a load secured with side lashing rails. The door is labeled "PORTE / TÜR / DOOR".

ARRIMAGE DES CHARGES
LES RAILS D'ANCRAGE PERMETTENT L'ARRIMAGE DES CHARGES AU MOYEN DE BARRES TELESCOPIQUES OU DE SANGLES AVEC TENDEUR.
LES RAILS D'ANCRAGE NE DOIVENT PAS SUBIR D'EFFORTS TENDANT A LES ARRACHER.

LADUNGS - SICHERUNG
SPERR- ODER ZURRSCHIENEN ERMÖGLICHEN DIE BEFESTIGUNG DER LADUNG DURCH TELESKOPSTANGEN ODER ZURRGURTE.
SENKRECHTE ZUGKRAFTE AN DER SPERRSCHIENE VERBOTEN.

LOAD SECURING
SIDE LASHING RAILS ENAB(LE) TO RESTRAIN THE LOAD BY EITHER STRAPS OR TRANSVERSE BARS
PULLING THE RAILS OFF IS FORBIDDEN

TIPPERS

| | |
|---------------------------------|----|
| Fields of use | 33 |
| Safety instructions | 33 |
| Hitching | 34 |
| Loading | 34 |
| Tipping | 35 |
| Equipment and options | 37 |
| Storage conditions | 39 |

TIPPERS > FIELDS OF USE

• PUBLIC WORKS TIPPERS

| USE PRODUCTS | RIP-RAPPING | DEMOLITION | SMALL DEMOLITION | EARTHWORKS | SAND | HOT MIX |
|-------------------|-------------|------------|---------------------|------------|----------|----------|
| <i>Extreme</i> | X | X | X | X | X | X |
| <i>Intensive</i> | | | X | X | X | X |
| <i>OptiSteel</i> | | | | X | X | X |
| <i>OptiStrong</i> | | | | X | X | X |
| <i>OptiMum</i> | | | | X | X | |
| <i>OptiMax</i> | | | | X | X | X |

• LARGE VOLUME TIPPERS

AgroMax Agri-food products, cereals and beets, low density bulk (vegetables, pulp, chips), light public works (sand, gravel)

Scrap Recycling products (scrap metal, crushed materials, punching waste), light public works (sand, gravel), low density bulk (vegetables, pulp, chips)

TIPPERS > SAFETY INSTRUCTIONS

GENERAL:

Tipping operations are the operator's responsibility who, as a trained professional, must follow the safety rules of which the essential instructions are laid out below as a reminder:

- ⇒ prior to any maintenance work it is **ESSENTIAL** to install a safety stand.
- ⇒ to not tip during strong winds that could compromise the stability of the articulated unit,
- ⇒ all articulated and running gear elements must be in good working order,
- ⇒ the tyres must be inflated to the working pressure recommended by the manufacturer,
- ⇒ never leave the tipping location without completely lowering the tipper.
- ⇒ an excerpt from this manual is featured on the plate or sticker on the front of the tipper body.
- ⇒ all work requiring work under a raised tipper body must be carried out by qualified personnel

It is strictly prohibited to stand under or near a raised tipper body, whether empty or loaded. If, for exceptional maintenance reasons, work must be carried out between the raised tipper body and the chassis or under an open hydraulic door, the work must be carried out:

- by qualified staff,
- with the tipper empty
- with a block placed between the body and the chassis or between the door and its frame



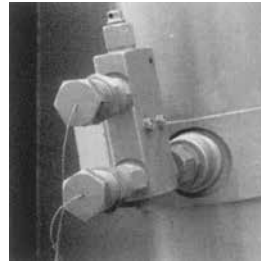
TIPPERS > HITCHING

Hydraulic connection:

Refer to the sticker on the cylinder to find out the maximum working pressure for our tipper equipment.

Some hydraulic systems deliver higher pressure, in which case:

- ⇒ a sealed pressure limiter must be fitted to the circuit to deliver the maximum authorised pressure,
- ⇒ the tractor must be fitted with a direct return,
- ⇒ it is essential to connect:
 - the "supply" hose
 - the booster pressure oil return" hose



TIPPERS > LOADING

Before loading, make sure the tipper is resting on the chassis. If not, switch the body manifold control to the lowering position to avoid excess pressure in the hydraulic circuit.

The diversity of transported materials have slipping characteristics that could cause an imbalance during tipping (sticking phenomenon,...) that could result in tipping over.

It is essential to consult the loader to define the product to place between the tipper body and the load to favour its flow for risk-free tipping.

The load must always be:

- ⇒ evenly spread along the length and the width,
- ⇒ within the authorised gross weight,
- ⇒ not concentrated at the front or rear on or a same side.

SPECIFICITY OF VEHICLES FITTED WITH PNEUMATIC SUSPENSION:

- **Quick exhaust valve**

As standard, all tipping vehicles are fitted with a quick exhaust valve on the air suspension circuit.

The purpose of this system is to accelerate the deflation of the air cushions during tipping in order to keep the vehicle in the road position and not damage the shock absorbers.

- **Tipping suspension deflation option when tipping**

If the vehicle is fitted with a tipping deflation system, the suspension will fully deflate at the start of tipping. A pneumatic solenoid controlled by the raising of the body (rear manual underride prevention system) or by a magnetic detector (underride prevention system coupled to tipping) deflates the air cushions.

- ⇒ make sure all instructions prior to tipping are followed before starting the operation
- ⇒ make sure no interference at the rear of the vehicle is possible caused by the deflation of the suspension that could lead to the unit dropping by 200mm at the rear (walls, ditches, finisher, etc.)
- ⇒ a switch located near the stands on the left of the vehicle can be used to neutralise this function.



At the end of the tipping operation, before returning the vehicle to traffic, make sure the suspension has returned to the road position

INSTRUCTIONS BEFORE TIPPING:

before tipping, make sure:

- ⇒ that the semi-trailer is hitched to its tractor,
- ⇒ that the ground is flat, stable and hard,
- ⇒ that the tyres on the articulated unit are all borne by the ground,
- ⇒ that the tractor and its drive wheels are aligned with the semi-trailer lengthways axis,
- ⇒ that no infrastructure obstructs the tipping,
- ⇒ that the operation is carried out in the framework of works authorisations and checks it is subject to (carried out under electric power lines and railway catenaries) representing a danger of death,
- ⇒ that the articulated unit brakes are applied,
- ⇒ that the hydraulic couplings are fully screwed,
- ⇒ that the rear underride prevention system is raised (for manual rear underride prevention systems, the operator must carry out this operation)
- ⇒ the tarpaulins are open and the doors open to their maximum (except for hatch tipping)

INSTRUCTIONS DURING TIPPING:

During tipping, the operator must:

- ⇒ remain at the controls to control the correct tipping cycle and adapt it to all circumstances (cylinder raising speed, normal product movement, vehicle stability),
- ⇒ assess the possibilities of unloading without risk of tipping over (considering the varying properties of transported products) in particular making sure of the best possible material flow.



Before, during and after tipping, make sure that there is no human presence in the immediate environment of the vehicle

RAISING THE TIPPER BODY:

- ⇒ idle the engine and engage neutral gear. Before any manoeuvres, make sure the air pressure is at least 6 bars.
- ⇒ press the clutch for 3 to 4 seconds, engage the power take off, the light indicator should turn on,
- ⇒ move the control handle from the neutral position to the raise position,
- ⇒ engage the gears and gradually accelerate the tractor engine to reach a speed of around 1000 rpm.
- ⇒ Raise the body regularly **without jolting**,
- ⇒ monitor the tipper body rise, if the product is not flowing when the cylinder is at **mid stroke** (materials sticking to the tipper body sides and bottom):
 - immediately stop tipping,
 - slowly lower the tipper body using the control lever
 - use another method to unload.
- ⇒ at the end of the stroke, stop the rise: manifold in the neutral position, the cylinder stops automatically.

Raising position



Neutral position



Lowering position



For vehicles fitted with a rear underride prevention system coupled to the tipping, the body can only be raised if the prevention system is in the raised position. Control is electric using the proximity sensor on the rear cross beam. If the tractor 24S connectors are not ISO 3731 standard compliant, the vehicle side marker lights will need to be switched on.

Regardless of the tipper body height, it is **PROHIBITED**:

- ⇒ to jolt it using the cylinder by quickly handling the hydraulic manifold,
- ⇒ to attempt to release the load using forward and back movements. These manoeuvres can damage the hydraulic system and/or cause the tipper to overturn.

Make sure the rear tailgate is not against the tipped pile of materials or any other obstacle (risk of the vehicle tipping over or of damage to the rear frame and its articulations).

Only a slow movement limited to a few dozen centimetres towards the front is authorised to clear the tipper tailgate.

LOWERING THE TIPPER BODY:

- ⇒ place the hydraulic manifold handle in the lowering position. As the cylinder and the tank are connected, the tipper body will lower freely under the effect of its own weight. This operation uncouples the power take off and the light indicator turns off.
- ⇒ close the doors:
 - oscillating function: check and lock the frame in the hooks if necessary,
 - hydraulic tailgate: close the tailgate by moving the control lever to the close position.
- ⇒ **Make sure the rear underride prevention system is in the road position before moving into traffic.**

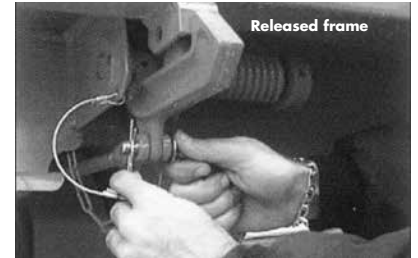
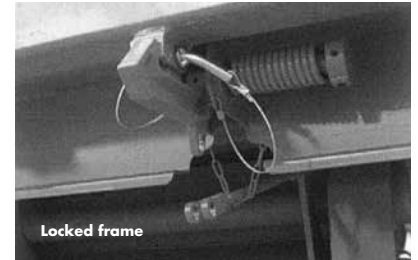


When the tipper body is resting on the chassis beams with the underride bar in the road position, return the control lever to the neutral position, which will prevent any unexpected raising of the tipper body on the road, the introduction of air and damage to the cylinder seals.

TIPPERS > EQUIPMENT AND OPTIONS

DOUBLE ARTICULATION REAR DOOR

- **Door frame:**
 - ⇒ **locked position:** position the pin in the frame axis (fig.)
 - ⇒ **released position:** position the pin in the shaft connecting the bottom of the hook to the shaft (fig.)
- **Oscillating function (tailgate or universal door):**
 - ⇒ make sure the door frame is released
 - ⇒ opening should occur when the cylinder reaches 1.5 expansion maximum
 - ⇒ if the rear frame does not open, stop tipping immediately without any jolts, lower the tipper body and have the rear frame hook opening adjusted.
- **2 leaf function (universal door only):**
 - ⇒ make sure the door frame is locked
 - ⇒ release the doors,
 - ⇒ fold back the doors and hook them to the tipper body sides before tipping



When releasing the doors, and before opening them, make sure to stand away from possible falling materials. Beware of the sudden opening of the handling components or the doors that may be the result of materials pushing against the doors.



HYDRAULIC REAR DOOR

- **Single action**

The tractor does not require any specific hydraulic installation.

A sequence valve gives the opening of the door priority before tipping.

Door frame locking: position the quarter turn valve on locking.

- **Double action**

The tractor needs a double action hydraulic manifold for the door.

The opening of the door is separate from the raising of the tipper.

Door frame locking: do not operate the door opening control



If there are difficulties locking the door, make sure the assistance circuit is set to 40 bars.

(REGULAR MAINTENANCE AND CHECKS - TIPPER SUPPLEMENT)

Before any tipping operations, make sure the door is raised.

TIPPERS > EQUIPMENT AND OPTIONS

USING THE GATE

When the rear door is fitted with one or two gates, these can be opened to partially evacuate the materials against the doors before they are opened.

During this operation , make sure that:

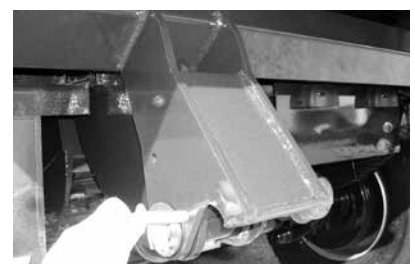
- ⇒ the door frame is locked,
- ⇒ the handle-bolts are locked if the doors are fitted with them.
- ⇒ on two-gate configurations **open the two gates symmetrically** to obtain a good product flow,



REAR UNDERRIDE PROTECTION SYSTEM

The vehicles are fitted with a regulatory rear underride protection system.

- **Manually foldable system:**
The operator moves the underride protection system to road position and raises it. It is locked using a pin that passes through the bars and must be secured using a beta pin.
- **Hydraulically foldable system:**
The movement of the underride protection system to road position and its raising is controlled by the tipping command. The control hydraulic circuit locks it. No human action is required.



TIPPERS > EQUIPMENT AND OPTIONS

SIDE ROLLING TARPULIN

Before loading, completely roll the tarpaulin and use stoppers to position the tarpaulin roller outside the body as the product could damage it.

To prevent the arches being damaged during loading, it is recommended to place them in the side or front position.

Tarpaulin removal:

- ⇒ release the tarpaulin removal slat (straps or bungees),
- ⇒ engage the handle in the tarpaulin slat,
- ⇒ roll up to its position on the stoppers

Installing the tarpaulin: proceed in reverse order to removal.

SLIDING TARPULIN: refer to the manufacturer manual.



In compliance with regulations, it is essential to use the protection and handling systems provided (ladder, walkway, operating handle, etc.)

TIPPERS > STORAGE CONDITIONS

STORAGE CONDITIONS:

The body must be resting on its chassis

- **Sliding tarpaulin:** the tarpaulin must be deployed with the rear flap folded,
- **Side tarpaulin:** to avoid any water retention, raise the stands to their maximum and deflate the suspension cushions.

CONTAINER BED

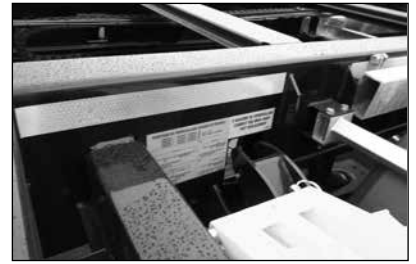
| | |
|-----------------------------|----|
| Subframe sliding | 41 |
| Loading/unloading | 41 |
| Twin axle system | 42 |
| Twin trailer | 43 |

CONTAINER CHASSIS > SLIDING OF SUBFRAMES / RUNNING GEAR

- **SLIDING OF THE CHASSIS IN SHORTEST AND LONGEST POSITIONS**

The extension of the subframe or undercarriage must be compliant with the instruction plates fixed to the chassis:

- ⇒ apply the semi-trailer parking brake
- ⇒ release the subframe using the pneumatic control
- ⇒ slide very slowly the chassis forward or backwards with the trucks until the required tock position.
- ⇒ re-lock the subframe,
- ⇒ release the semi-trailer parking brake



- **INTERMEDIATE POSITION LOCK (ONLY MULTIFLEX)**

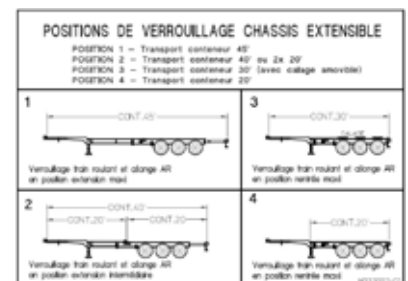
- ⇒ apply the semi-trailer parking brake
- ⇒ release the subframe using the pneumatic control
- ⇒ activate automatic indexing
- ⇒ slide very slowly the chassis forward or backwards with the trucks until the indexing pin stops the translation chassis
- ⇒ remove the parking brake to release the indexing and relock the chassis



CONTAINER CHASSIS > LOADING/UNLOADING

- **BEFORE LOADING:**

- ⇒ make sure that the sliding chassis is adjusted to the container model to be transported (see instruction plate on the chassis)



- ⇒ make sure that all the foldaway or swivelling locks on the chassis are in the position for the container model to be transported.

- **LOADING:**

- ⇒ make sure the container is locked onto the chassis at the four corner parts
- ⇒ make sure the twist-lock loosening prevention system is in position.
- ⇒ comply with the container position on the chassis in order not to exceed the maximum authorised loads on the running gear and the tractor drive axle.

- **UNLOADING:**

- ⇒ before removing the containers, make sure all the twist-locks have been released.



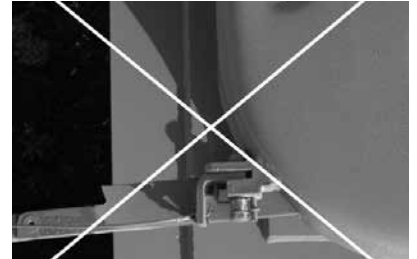
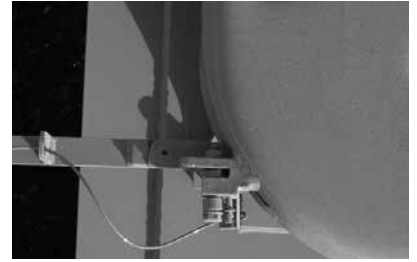
LOCKING THE WEIGHT CARRYING PLATE:

- **mechanical plate:**

- ⇒ make sure the plate is in the free release position and not the forced release position
- ⇒ lock the plate using the removable bar located along the hoses (do not hesitate to strike the jaw energetically)
- ⇒ position the control handle along the plate

- **pneumatic plate:**

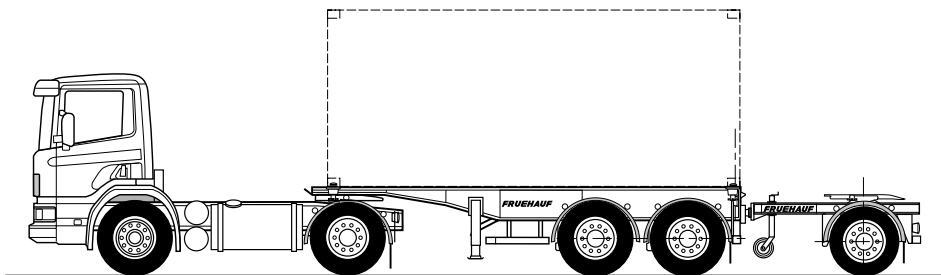
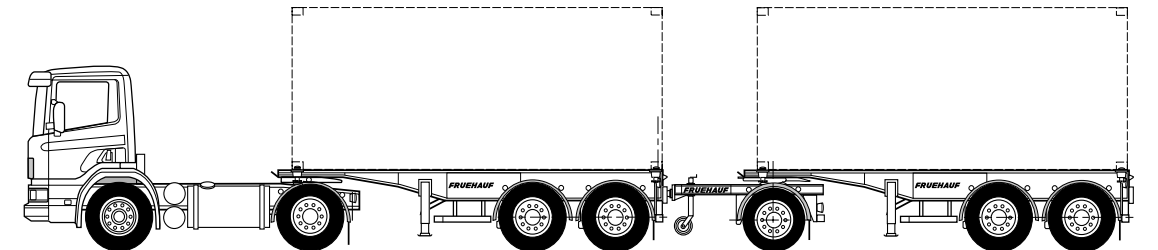
Lock the plate using the pneumatic control.



Driving with a load in solo mode with the sliding bogie extended is prohibited.

Before sliding the bogie, make sure the plate is locked and that nothing prevents the chassis movement.





To prevent its unexpected movement, it is not recommended to drive with a dolly hitched to a semi-trailer without it towing second semi-trailer.

CITY - URBAN

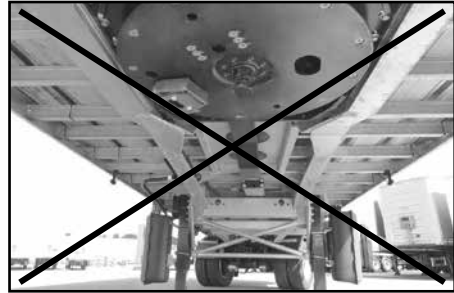
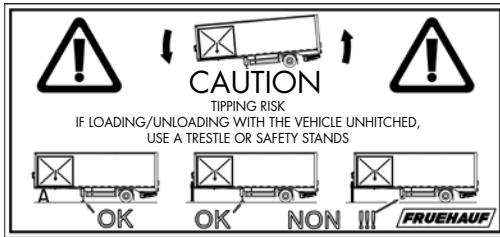
| | |
|---------------------------------|----|
| Loading/unloading | 45 |
| Load distribution | 46 |
| Equipment and options | 47 |

CITY > LOADING / UNLOADING

For vehicles fitted with a steering axle system, strictly comply with the specific TRIDEC user and maintenance manual.

STABILISER STANDS:

When unhitching, and before loading/unloading, it is essential to lower the stabiliser stands or to place a trestle. The front stabiliser stands cannot be a substitute for standard stands and must not be in contact with the ground.



When unhitching and hitching, check that the vehicle is perfectly aligned and that the axle is straight

WHEEL CHOCKING:

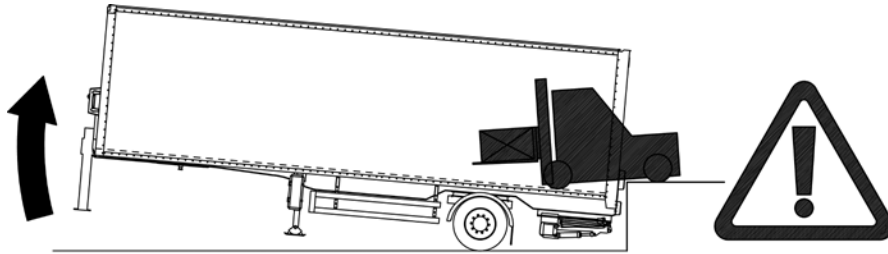
Once the vehicle is unhitched, to prevent the steering axle from rotating during dock loading/unloading operations, it is imperative to chock the 2 axle wheels.



CITY > LOAD DISTRIBUTION

MAXIMUM LOAD:

Due to the vehicle geometry, the weight entering the vehicle (fork lift+load) must not exceed 3.5T in order to prevent the vehicle swinging up when it is unhitched.



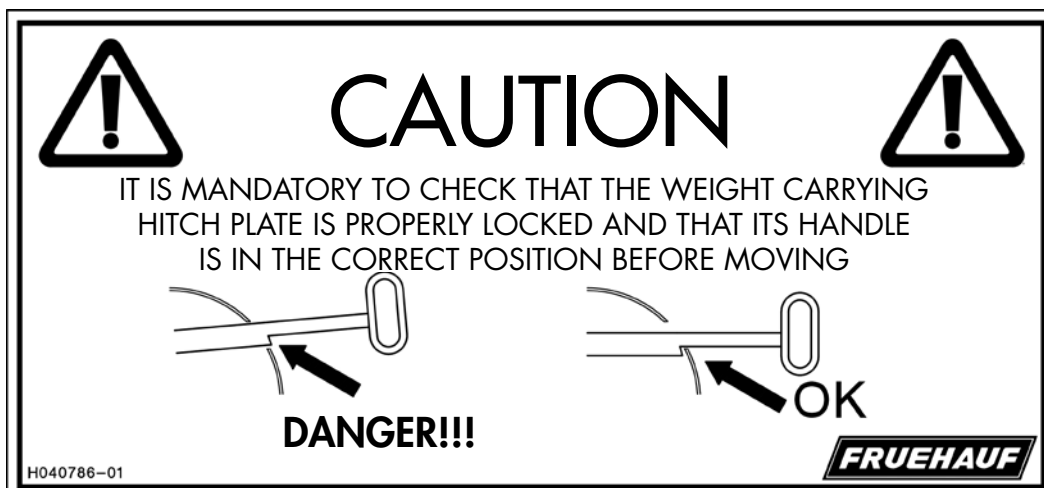
CAUTION

TIPPING RISK

(IF WEIGHT (FORK LIFT + LOAD) GREATER THAN 3.5 TONNES)

STEERING AXLE SYSTEM

A plate fixed to the vehicle reminds of the duty to check that the weight carrying plate is properly locked.

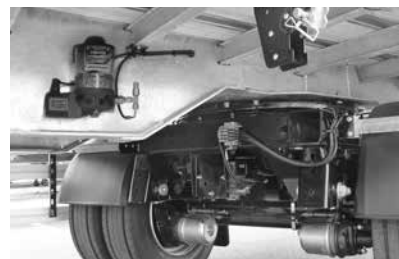


CENTRALISED LUBRICATION

Optional equipment composed of 8 greasers at the rear and 4 greasers at the front allowing optimised and easier lubrication.

Available with 2 systems:

- **manual centralised lubrication:**
 - ⇒ the axle and the hitch turret are lubricated in the strategic locations using a manual pump.
- **automatic centralised lubrication:**
 - ⇒ the axle and the hitch turret are lubricated in the strategic locations automatically,
 - ⇒ an indicator on the side of the vehicle shows an electric power supply fault, refer to the instructions on the sticker.



Indicator on = Centralised lubrication fault

**Permanent 24V power supply fault
on tractor 4/24S or 9/15 pin power supply
Backup: keep the position lights on permanently**

MAINTENANCE LOGBOOK

| | |
|---|-----------|
| HEALTH AND SAFETY | 49 |
| REGULAR MAINTENANCE AND CHECKS | 49 |
| A Operations | 50 |
| B Operations | 51 |
| C Operations | 52 |
| Additional tipper operations 53 | |
| Additional curtain operations 54 | |
| Additional city operations 55 | |
| Painted or galvanised elements | 55 |
| Axles | 56 |
| Hitch shaft 56 | |
| Ring | 57 |
| Vehicle alterations | 57 |
| MAINTENANCE MONITORING | 58 |

HEALTH AND SAFETY

Precautions to be taken:

- ⇒ work outdoors or in a well ventilated area,
- ⇒ wear the personal protection equipment suitable for the work to be carried out,
- ⇒ follow the equipment manufacturer instructions for the use, maintenance and cleaning of specialised equipment (tools, extraction systems, vacuums, specialised cleaning products, etc.),
- ⇒ prevent all movements, falls, pinching when working on the vehicle moving parts,
- ⇒ work on brake cylinders must be carried out by a qualified professional.



All work on pneumatic or hydraulic components or in contact with them must be carried out following a compulsory check that they are not pressurised

Systematically check the circuits before re-pressurising

REGULAR MAINTENANCE AND CHECKS

Regular maintenance and checks are grouped into three types of operation identified by a letter.

A operations are carried out by the driver, B and C operations are to be carried out at the workshop.

Vehicle operating modes are split into three families: motorway, mixed and severe.

The maintenance and check operation frequencies are given as an indication for normal road use. They can be modulated depending on vehicle operating condition severity.

- **Motorway use**

- ⇒ A Operations: every 5,000 km
- ⇒ B Operations: every 40,000 km or 4 months (the first to occur)
- ⇒ C Operations: every 120,000 km or 12 months (the first to occur)

- **Mixed use (road/motorway)**

- ⇒ A Operations: every 3,000 km
- ⇒ B Operations: every 30,000 km or 3 months (the first to occur)
- ⇒ C Operations: every 90,000 km or 9 months (the first to occur)

- **Severe use (public works, tracks)**

- ⇒ A Operations: every 2,000 km
- ⇒ B Operations: every 20,000 km or 2 months (the first to occur)
- ⇒ C Operations: every 40,000 km or 4 months (the first to occur)



**All maintenance and checking operations are to be borne by the user.
The vehicle service life is subject to complying with these conditions, as is the warranty**

Maintenance recommendations cannot be a substitute for use rules or safety instructions before each trip



For the following use:

- ⇒ on motorways, every 5000 km
- ⇒ mixed, every 3000 km
- ⇒ severe, every 2000 km

• Check:

- ⇒ the wear on the brake linings (refer to the manufacturer user manuals),
- ⇒ The brake effectiveness,
- ⇒ the parking brake effectiveness (▶ COMMON EQUIPMENT AND OPTIONS - PNEUMATIC BRAKE CONTROL),
- ⇒ the pad cushion and the correct suspension height,
- ⇒ the good condition of the running gear components (clean if necessary):
 - suspension springs,
 - spring u-bolts,
 - wheels or rims.
- ⇒ check that the hitching turret and axle lubrication is in working order


For all work on components bearing another manufacturer brand (axles, stands, hitch plate, tailgate, etc.) please follow the equipment manufacturer recommendations



For the following use:

- ⇒ on motorways, every 40,000 km or 4 months
- ⇒ mixed, every 30,000 km or 3 months
- ⇒ severe, every 20,000 km or 2 months

• Have the following checked:

- ⇒ The tractor /semi-trailer connection hoses,
- ⇒ tyre wear: tread depth (wear indicator),
- ⇒ that the braking and suspension pneumatic circuits are in working order,
- ⇒ the bodywork condition and the condition of the different vehicle equipment and components,
- ⇒ the hitch plate surface condition
- ⇒ the hitch shaft condition and dimensions (( REGULAR MAINTENANCE AND CHECKS - HITCH SHAFT))
- ⇒ the mechanical condition of the weight carrying plate, check that the jaw / hitch shaft is in working order and the gap adjusted,
- ⇒ the lining wear (position, indicators and sights),
- ⇒ the axle bearing tightness,
- ⇒ the self-steering axle geometry,
- ⇒ the spring u-bolt tightness (mechanical suspension, loaded vehicle),
- ⇒ the draw bar and equaliser bar nut tightness (mechanical suspension),
- ⇒ the draw blade u-bolt and equaliser nut tightness (pneumatic suspension),
- ⇒ the draw blade and equaliser shaft nut tightness (pneumatic suspension),
- ⇒ the air cushion fixing nut tightness (upper fixing - pneumatic suspension)
- ⇒ the air cushion fixing screw tightness (lower fixing - pneumatic suspension)
- ⇒ the shock absorber fixing nut tightness (pneumatic suspension),
- ⇒ the suspension arm fixing screw tightness,
- ⇒ the accessory fixing screw tightness (spare wheel support, tool locker, plank locker, pallet carrier, etc.)
- ⇒ the hitch shaft fixing screw tightness,
- ⇒ the ring fixing screw tightness
- ⇒ the axle alignment,
- ⇒ the pneumatic suspension road height,
- ⇒ the pneumatic suspension shock absorbers (traces of oil, rubber articulation),
- ⇒ the pneumatic suspension cushion membranes,
- ⇒ the braking corrector adjustment (mechanical suspension)

• Have the following lubricated:

- ⇒ the cylinder bearing blocks and all articulations,
- ⇒ the spring supports in the equaliser arms (mechanical suspension),
- ⇒ the hitch plate articulation shafts,
- ⇒ the self-steering axle articulations,
- ⇒ the stands, if they are fitted with a greaser,
- ⇒ the articulated bodywork components.

For all work on components bearing another manufacturer brand (axles, stands, hitch plate, tailgate, etc.) please follow the equipment manufacturer recommendations



For the following use:

- ⇒ on motorways, every 120,000 km or 12 months
- ⇒ mixed, every 90,000 km or 9 months
- ⇒ severe, every 40,000 km or 4 months

- **Carry out the recommended maintenance checks related to B OPERATIONS**

- **Have the following adjusted:**

- ⇒ Axle triangulation and parallelism,
- ⇒ the self-steering axle grip and bodywork.

- **Have the following tightened:**

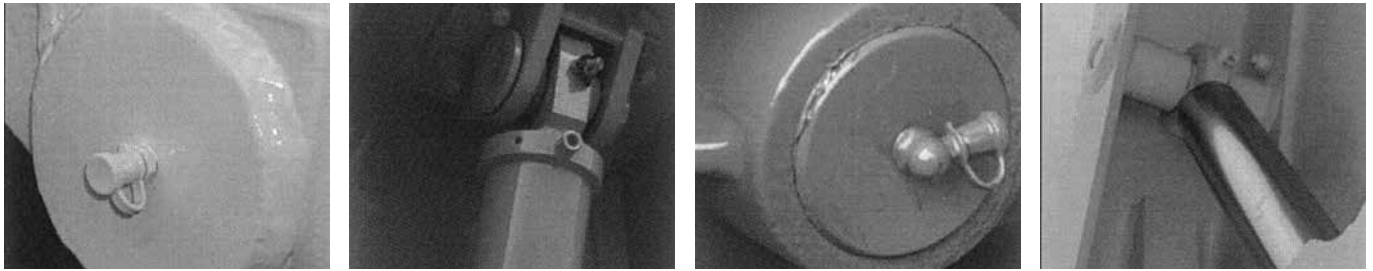
- ⇒ the electric box cable glands,
- ⇒ the electric box covers,
- ⇒ the lighting electric connections.

For all work on components bearing another manufacturer brand (axles, stands, hitch plate, tailgate, etc.) please follow the equipment manufacturer recommendations

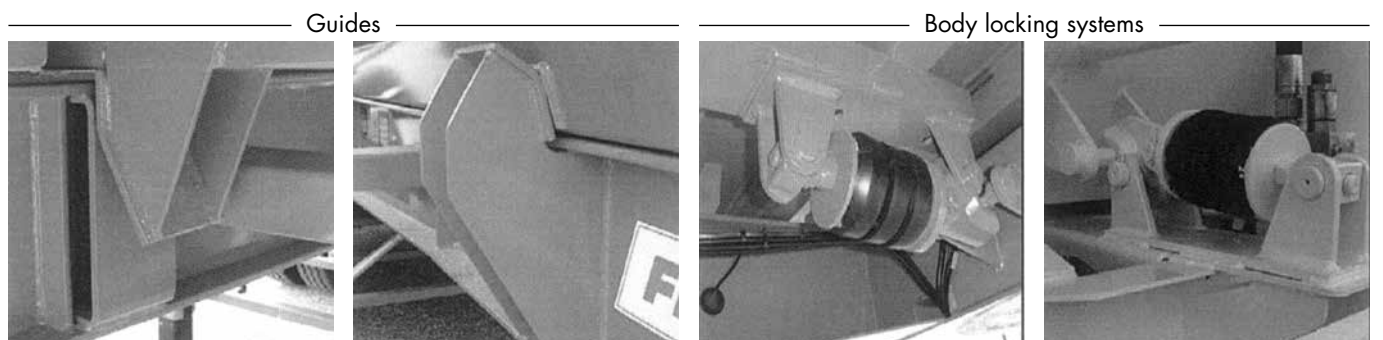


- **Recommended oil:** HVI 32 oil (high viscosity index oil). 23Mu filtration
- **Every 20,000 km or every 2 months in addition to the above mentioned operations:**
 - ⇒ have the condition and cleanliness of the hydraulic and air filters and screens checked if the installation has them (tractor and semi-trailer),
 - ⇒ have all the chassis and tipper body fastener tightening checked,
 - ⇒ grease the body articulation shafts, the upper and lower cylinder bearing blocks (depending on the cylinder brand) and the door cylinder bearing blocks using category 1 grease.

—— Body articulation —— Upper and lower cylinder bearing block —— Door cylinder bearing block ——



- **Every 40,000 km or every 4 months and in addition to the above mentioned operations check:**
 - ⇒ the tightening of all hose couplings,
 - ⇒ the tractor or semi-trailer pressure limiter calibration,
 - ⇒ the wear on the cylinder articulations and the tipper body bearing blocks,
 - ⇒ the tipper body bottom wear,
 - ⇒ the guide condition, have them replaced if necessary,
 - ⇒ the correct body locking system adjustment

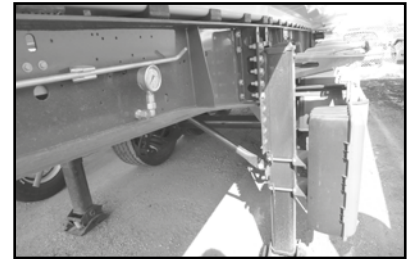
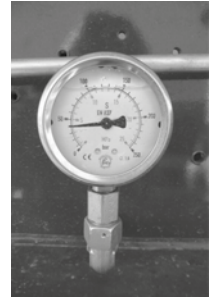




Assistance circuit adjustment - Hydraulic rear door on aluminium tipper

In order to guarantee the correct locking of the rear door, the pressure gauge must be set to 40 bars.

- ⇒ before carrying out the adjustment, make sure the body and door are lowered
- ⇒ open the quarter turn valve located inside the chassis behind the pressure gauge
- ⇒ put the tractor control lever in the raise position for 10 seconds
- ⇒ return the control lever to the neutral position
- ⇒ close the quarter turn valve (the pressure should be about 80 bars)
- ⇒ move the control lever to the lower position
- ⇒ slightly open the quarter turn valve until the pressure on the pressure gauge is at 40 bars
- ⇒ close the quarter turn valve
- ⇒ return the control lever to the neutral position



REGULAR MAINTENANCE AND CHECKS - CURTAIN SUPPLEMENT



• **Every 6 months and in addition to the above mentioned operations lubricate:**

- ⇒ The curtain horizontal tension system using category 1 grease,
- ⇒ the closure bar bearing blocks and the door hinges and anti-rack bar bearing blocks if the bolting system is external,
- ⇒ the articulation shafts on the side upright handles.

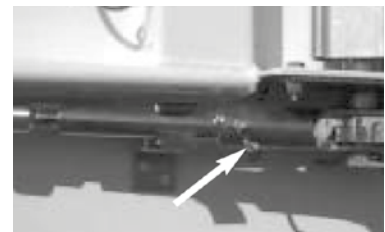
The horizontal tension system



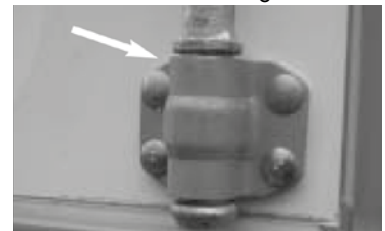
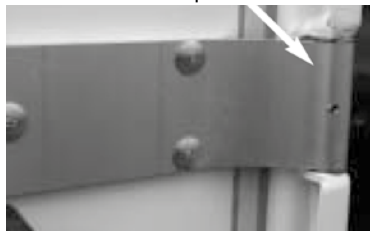
— The side upright handles —



— Door paint —



— Closure bar bearing block —



• **Every year and in addition to the above mentioned operations check:**

- ⇒ that the vehicle condition is still XL compliant.

REGULAR MAINTENANCE AND CHECKS - CITY SUPPLEMENT

- **With no centralised lubrication: follow the instructions in the Tridex manual**
- **Manual centralised lubrication:**
 - ⇒ *frequency*: activate the pump 20 times every 40 hours of use
 - ⇒ *grease reserve refill threshold*: the grease level must be within the limits shown on the container. When refilling, make sure to use the type of grease recommended on the label fixed to the container.
 - ⇒ *clogged greaser warning*: if the pump will not activate, one of the 12 greasers is blocked

- **Automatic centralised lubrication:**
 - ⇒ *frequency*: lubrication is automatic,
 - ⇒ *grease reserve refill threshold*: the grease level must be within the limits shown on the container. When refilling, make sure to use the type of grease recommended on the label fixed to the container.

- Bekalube

- ⇒ *clogged greaser warning*: if grease comes out of the pressure safety valve, one of the 12 greasers is blocked
- ⇒ *timer setting*:
 - lubrication time: 1 minute,
 - pause time: 2h30

- Pompe Groeneveld

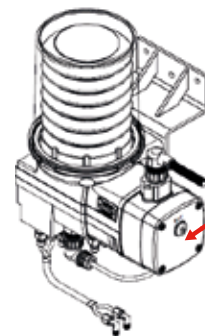
- ⇒ *Temporisateur* : running every hour for 2 minutes



Pressure safety valve



- Timer setting Bekalube -



Timer setting Groenevelde

REGULAR MAINTENANCE AND CHECKS - PAINTED OR GALVANISED ELEMENTS

- ⇒ Regularly remove all external pollution,
- ⇒ use detergents with a pH of between 6 and 10,
- ⇒ automatic cleaners: check the detergent solutions used (ph),
- ⇒ high pressure cleaners: check that the temperature is below 50°C, the pressure below 60 bars, use the lance at a distance of over 60cm,
- ⇒ systematically rinse using cold, clean water, no detergent should dry on the coating.

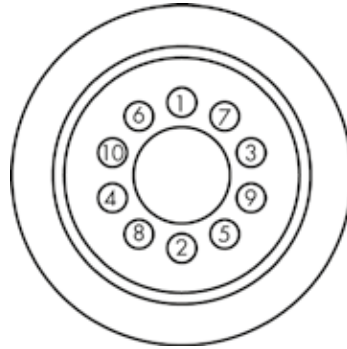


To avoid the appearance or spread of corrosion patches, any element damaged by an impact or a scrape must be repaired as soon as possible.

REGULAR MAINTENANCE AND CHECKS - AXLES

Tighten the nuts diagonally, following the

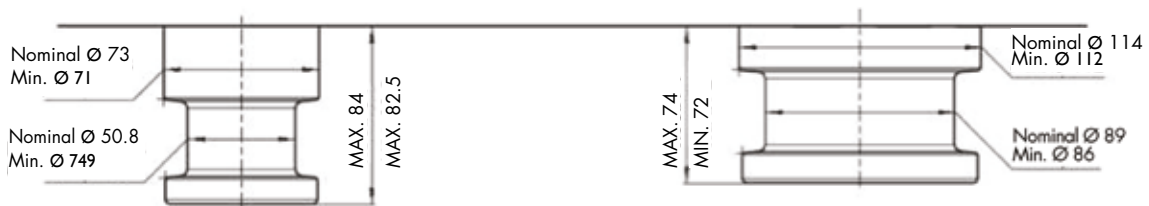
- ⇒ tightening order
- ⇒ the nut tightening torque recommended by the equipment manufacturer



REGULAR MAINTENANCE AND CHECKS- HITCH SHAFT

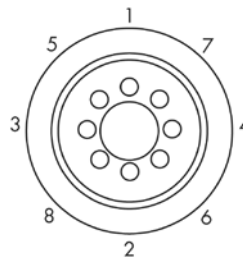
This part's major safety role imposes its very careful manufacture: use of special steel, heat treatments, severe checks.

When the maximum wear diameter is reached anywhere on the shaft, replace the shaft with a shaft of identical brand and model.



Every time the shaft is removed or replaced, replace all the screws using strictly identical brand and model screws:

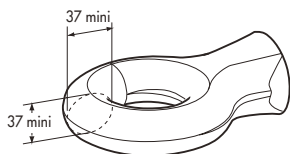
- ⇒ respecting the tightening order
- ⇒ the tightening torque: 190 Nm



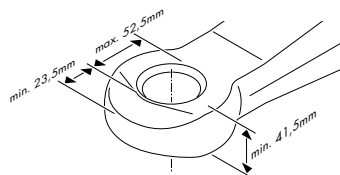
REGULAR MAINTENANCE AND CHECKS - RING

When the maximum wear diameter is reached anywhere on the ring, replace the boom head (strictly identical brand and model).

———— BNA 68 ring ————



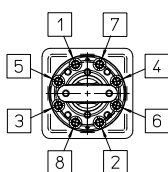
———— DIN 50 ring ————



Every time the boom head is removed or replaced, replace all the screws using strictly identical brand and model screws, respecting:

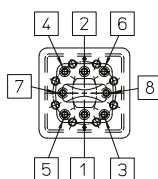
⇒ the -w tightening order

———— BNA 68 ring ————



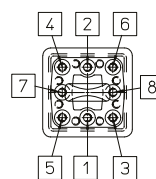
Tightening torque: 410 Nm

———— Tandem DIN 50 ring ————



Tightening torque: 280 Nm

———— Tridem DIN 50 ring ————



Tightening torque: 410 Nm

REGULAR MAINTENANCE AND CHECKS- VEHICLE ALTERATIONS

FRUEHAUF vehicles are designed and manufactured in compliance with applicable regulations on their date of manufacture.

Anticipating regulations using open technical choices in some cases makes it possible to facilitate future alterations of your vehicle to adapt to new regulations.

Before carrying out any major alterations to your vehicle, contact the FRUEHAUF network, which will give you information on the alteration possibilities, the administrative procedures and will advise you on the best technical choices to fully benefit from the most recent legislative measures.

Only the manufacturer is authorised to communicate the authorisations essential to upgrade to compliance with regulations in the case of major alterations you wish to make to your vehicles.

MAINTENANCE MONITORING

| Inspection dates | Mileage | Service centre | Operation: | | | | Work details Comments |
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| Inspection dates | Mileage | Service centre | Operation: | | | | Work details Comments | | | |
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| Inspection dates | Mileage | Service centre | Operation: | | | | Work details Comments |
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You will find all necessary assistance for the maintenance and repair of your vehicles on the www.fruehauf.com web site

Vous pouvez télécharger le fichier complet de notre notice d'utilisation et carnet d'entretien en allant sur la page www.fruehauf.com/notices-dutilisation ou en scannant le QR code ci-dessus.

The complet instructions for user manual can be downloaded on www.fruehauf.com/notices-dutilisation or by clicking the QR code.

For the warranty terms and conditions, please refer to the general sales terms and conditions

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