FRUEHAUF TRAILERS

OPERATION AND MAINTENANCE MANUAL

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FRUEHAUF
ENGINEERING EXCELLENCE

Owner Details

Company Name: .....

Customer Name: .....

Chassis No: .....

Fleet No: .....

Date: .....

Please use the QR code above, or type the URL in your browser or click the address if this document is in a pdf format https://fruehauf.co.uk/survey/ to complete a short customer satisfaction survey.

FRUEHAUF®
Operation and Maintenance Manual
Version 1, 2023

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How To Use This Manual

This manual covers the general safety characteristics and operation instructions for trailer models manufactured by MV Fruehauf Ltd.

It has been compiled to give the driver and operator, essential information regarding operation, initial and ongoing maintenance.

It is not intended to cover repairs and detailed stripping of components, this information is generally contained in the relevant manufacturers documentation.

If in any doubt contact your Fruehauf representative.

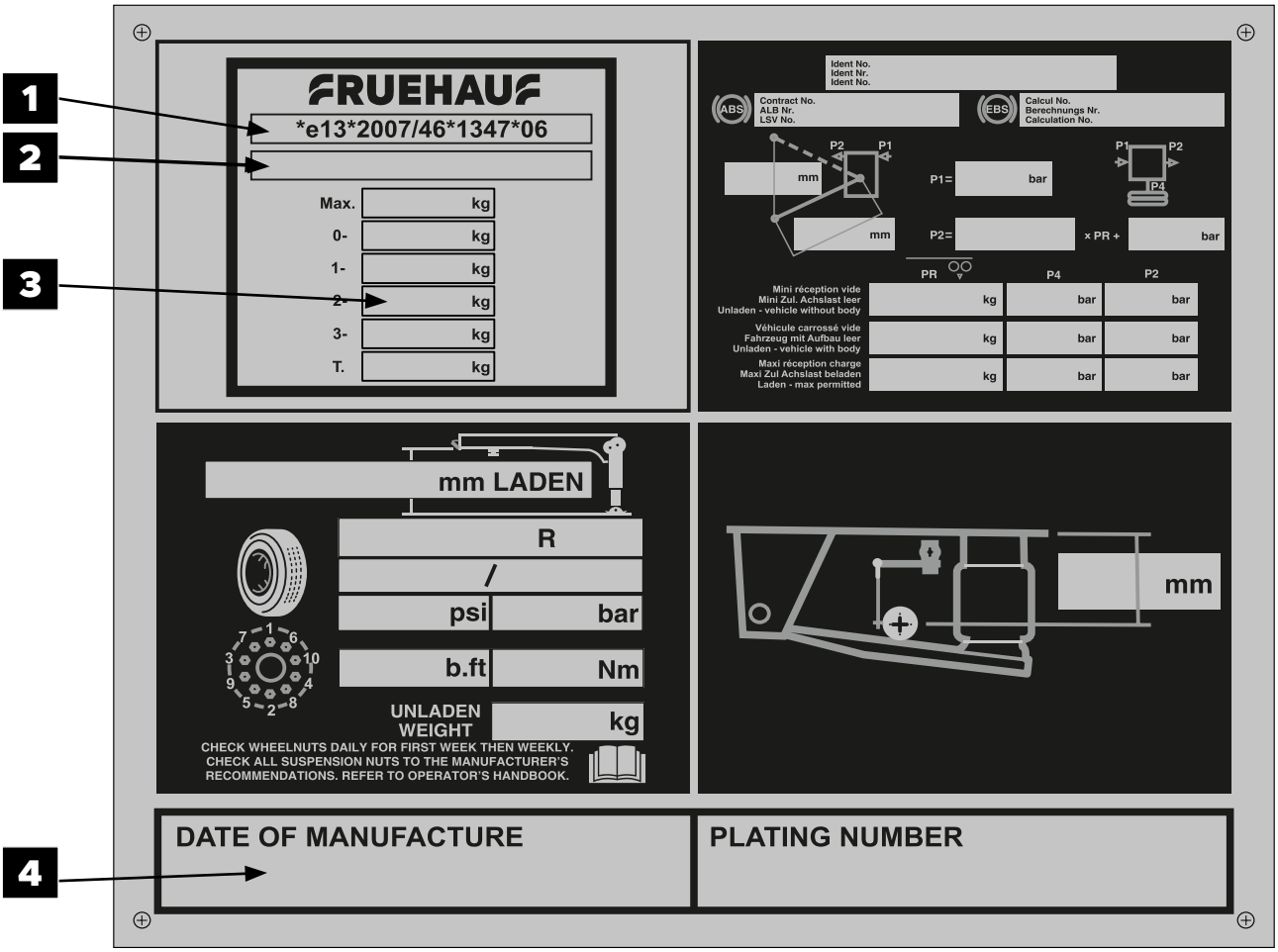
Safety

This manual or a copy of it should remain with the vehicle at all times.

The operator should refer to this manual at all times prior to use.

It is the responsibility of the operator to ensure that all the recommended checks are carried out prior to and after use.

Vehicle Identification



The vehicle identification plate shown above is fixed to the chassis of the trailer on the left side adjacent to the support legs.

It contains the following information:

1 European Whole Vehicle Type Approval (EWVTA) number.
2 Vehicle Identification Number (VIN).
3 Information about the trailers mass in kg.

Max	the maximum technically permissible laden mass.
0-	The maximum vertical mass at the coupler.
1-	The maximum vertical mass allowed on axle 1.
2-	The maximum vertical mass allowed on axle 2.
3-	The maximum vertical mass allowed on axle 3.
T-	The tare mass.

European Whole Vehicle Type Approval

The vehicle to which this handbook applies has been designed and manufactured to ensure compliance with European directives and regulations that are collectively known as Whole Vehicle Type Approval.

Operators and End users alike should be aware that any modifications to a part of the vehicle that is covered by the manufacturers type approval Certificate of Conformity is strictly forbidden.

Any additions/modifications carried out by the operator or end user will not be covered by the Certificate of Conformity and may require further testing to ensure their legality.

Particular attention should be given to the following areas:

Lighting

Modifications and Additions to lighting and reflective devices must conform to European and local regulations.

Lateral Protection Devices (LPD)

These devices, fitted to the side of a vehicle and used to protect other road users cannot be removed in any circumstances other than for maintenance. Always service these in accordance with the manufacturers recommendations and ensure they are replaced before use on the highway.

Rear Under-run Protective Devices (RUPD)

These devices, if fitted to the rear of a vehicle, are to prevent following vehicles from running under the chassis in the event of a rear end collision. They must not be removed during normal operation on the highway.

Under certain circumstances, where a vehicle may be supplied specifically to work with specialist equipment such as Road Pavers/ Rear material conveyors the RUPD will be omitted.

Other vehicles may remove the RUPD whilst working in this configuration, but it must be refitted prior to resuming normal on highway work.

Using This Manual

Identification of Warnings of Danger

All information within this manual related to the safety of the operator, and the safe operation of the trailer are marked with the following symbols. These, in some circumstances, may also be repeated on the trailer.

WARNING

This symbol identifies that a hazard exists. If proper precautions are not taken, it is highly probable that the operator (or others) could be killed or seriously injured.

CAUTION

This symbol gives a reminder of safety practices. Failure to observe these safety practices could result in injury to the operator (or others) and possible damage to the vehicle.

Warranty

Procedure

Should the trailer become unserviceable during the warranty period, please adhere to the following procedure.

Contact your nearest Fruehauf service or warranty agent with details of the problem. They will make an assessment and advise what further action is necessary.

Alternatively contact the authorised distributor through which the trailer was purchased. Major problems should be referred directly to the manufacturer's quality department.

MV Fruehauf Ltd
Houghton Road
Grantham
Lincs. UK
NG31 6JB.

+44 (0)1476 515 515

Or type the URL in your browser or click the address if this document is in a pdf format
https://fruehauf.co.uk/warranty/

The manufacturers warranty period is 12 months from the point of C- number and all ancillary items carry the warranty of the original manufacturer.

General Safety

Loading and Unloading - Stability

WARNING

*As a general rule trailers **should not** be loaded when the body is raised, and **never** be unloaded when **not** coupled to the prime mover (tractor).*

WARNING

***Only tip** when the suspension is operated at normal height.*

Loading and Unloading - Public Liability Considerations

Loading and unloading operations must be carried out with due consideration for the public, environment, and location.

Do not load or unload:

Without a 15 metre exclusion zone around the tipping vehicle.

Near pedestrians or moving traffic.

Near overhead cables..

Where this would cause an obstruction.

Where the vehicle may cause a sudden or unexpected hazard to other vehicles.

Where the lights of the vehicle are obscured.

Unless permission has been given and any site specific procedures have been adhered to.

On uneven or unstable ground.

General Safety

Asbestos Free Components

Asbestos Free brake linings produce dust. Air borne dust of any kind is hazardous.

Follow Company Health and Safety procedures when dust is present. Always wear adequate PPE (ie Gloves, Respirator, Glasses etc.).

General Safety

Pressure Systems

Avoid direct contact with exhausted air from Pneumatic systems and exposed skin. Wear appropriate PPE and release trapped pressure before working on any part of the system.

Fluoroelastic Polymers

Some components may contain synthetic rubber compounds such as Fluoro rubber (FKM) and Polytetrafluoroethylene (PTFE).

These can give off harmful fumes and be dangerous to handle if they have been burnt or heated above their normal operating range.
Components affected may include, Fuel lines, bearings, oil seals, wiring harnesses and gaskets.

Always use the correct PPE when handling any of these components or others you may suspect of containing these compounds.

Polyurethane Foam

Insulated vehicles may contain Polyurethane foam. This material is flammable and gives off harmful fumes if exposed to high temperatures. Take precautions to prevent accidental ignition of this material, and wear appropriate PPE when handling it.

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Tipping Trailers

1 Bathtub Bulk Tipper

2 Smoothside Bulk Tipper

3 Aggregate Bathtub Tipper

4 Aggregate Halfpipe Tipper

These vehicles consist of an end tipping body constructed in steel or aluminium, mounted on a semi-trailer chassis of stepped, sloped or straight configuration.

A single, telescopic hydraulic cylinder mounted at the front of the vehicle raises and lowers the body via a tractor controlled system.

The chassis incorporates specially designed beams with large box cross members creating a torsionally stiff construction for safer tipping.

The chassis also provides the support for the suspension, axles, running gear, and upper coupler connection via a king pin to the prime mover (tractor unit) fifth wheel.

Air suspension is fitted as standard and various makes of running gear are available with either disc or drum brakes. Typical air suspension comprises of a heavy duty forged steel trailing arm or fabricated beam pivoting on a rubber bushed mounting in a hanger bracket at the leading end.

An air spring assembly comprising of piston and rolling rubber diaphragm (air bag) provides support at the trailing end with shock absorbers to damp the ride. The air springs are supplied with variable air pressure from an automatic height control (levelling) valve which maintains a level and stable attitude.

Electronic Braking System (EBS) is fitted as standard, incorporating a two line air pressure system used in conjunction with asbestos-free brakes and spring brake actuators; automatic slack adjusters are fitted to drum brakes.

The trailer brakes are activated by the controls in the tractor unit cab utilising the tractor's air pressure system via flexible coiled tubes to the trailer system; the connectors being either "C" type couplings (UK) or Palm type couplings (Europe). Alternative types of coupling or a 3rd line may be fitted to customer requirements.

The electrical system conforms to the current EEC requirements utilising two ISO seven-pin connectors and a dedicated ISO connector to power the anti-lock braking system.

Two speed support legs are fitted to support the trailer in the uncoupled condition, operated by a winding handle on the left leg.

The hydraulic system is usually an integral part of the prime mover is connected via a hose to the lower end of the multi-stage ram (when the combination is coupled).

A top hung tailgate ensures maximum protection during tipping operations; release is via a simple lever operated from either side of the body or using an automated pneumatic system.

A rubber seal around the tailgate aperture allows the carriage of products with a high water content or products which have extremely 'free-running' properties. Barn doors, split tailgates or a combination of both may be also installed, together with internal doors or encapsulating roof structures.

The vehicle is suitable for transporting agricultural produce, animal feedstuffs, most common fuels (e.g. coal, coke) and lower density aggregates (e.g. sand, pea shingle, earth) - they are **not** suitable for high density aggregates {e.g. rock, large stone) or scrap metal (baled, crushed or loose). Other materials with high abrasive properties will also shorten the life of the body. Optional thicker floor material or additional overlay may be fitted.

Additional body materials and designs may be used for high density aggregate and scrap metals.

Before Use

WARNING

Legal

It is the operators responsibility to ensure that they comply with all regulations in force necessary for the operation of this type of vehicle.

Some of these conditions will vary from one country to another.
The trailer will carry where applicable plates, markings or information in its documentation where any restrictions apply.

Similarly, where provisions have been made for compliance with statutory regulations such as ADR (International carriage of dangerous goods by road), the trailer will carry the necessary markings and be supplied with the correct documentation.

Changes to the design of the vehicle, or modifications are not allowed unless by the express written permission of the manufacturer.

Before Use

Component Location (Trailers General)

The following pages identify some of the components typically used on these vehicles. Read the operating instructions before attempting to use them.

Couplings (Located on the Front Chassis Cross Member)

1 **Electro Hydraulic Sheet Power Supply**
Push to fit the appropriate connection cable from the prime mover.

2 **Emergency Air Supply Connection**
Pull back the bayonet sleeve and push on the Red air brake connection line from the prime mover.

3 **Chassis Drill Hole For In Cab Weighing Equipment Cable**
When weighing equipment is connected lift the flap and insert the connection lead from the prime mover.

4 **ISO 3731 Supplementary Electrical Connection**
Lift the protective cap and locate the correct cable from the prime mover, push in to connect.

5 **ISO 7638 Dedicated Electronic Brake Connector**
Lift the protective cap and locate the correct cable from the prime mover, push in to connect.

6 **ISO 1185 Normal Electrical Connection**
Lift the protective cap and locate the correct cable from the prime mover, push in to connect.

7 **Service Air Supply Connection**
Pull back the bayonet sleeve and push on the Yellow air brake connection line from the prime mover. **Do not** attempt this operation when the trailer is raised.

8 **Hydraulic Tipping Connection (Various)**
Pull back the bayonet sleeve or turn the coupler as required to push on the Quick release connection from the hose connection of the prime mover.

WARNING

Ensure any trapped *hydraulic or pneumatic pressure is vented before coupling or decoupling.* ***Beware of*** *any potential prohibited movements of machinery.*

CAUTION

Always wear appropriate PPE *(ie gloves, glasses etc) when coupling or decoupling pneumatic and hydraulic devices.*

WARNING

Always ensure *parking brake is applied before coupling or decoupling from the prime mover.*
Do not *release the trailer parking brake unless coupled to the prime mover.*

Before Use

Controls

1 **Roll Over Sheet Remote Control Receiver**
Located on the front bulkhead of the tipping body. This device also contains an manually operated switch to operate the sheet in the event of loss or failure of the remote control.

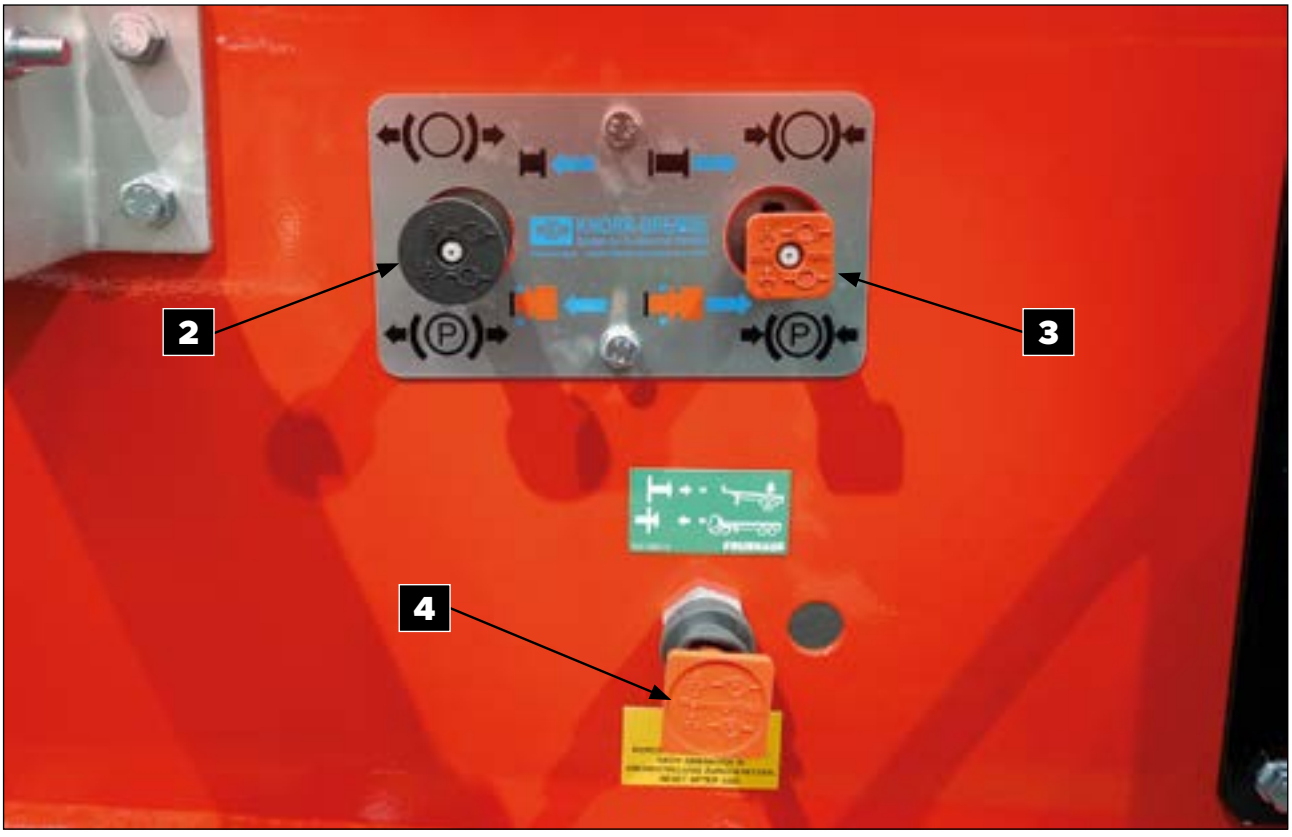
Brakes

2 **Shunt Valve**
Used to move the trailer when not connected to a prime mover.
Pull the Black handle out to apply the wheel brakes.
Push the Black handle in to release the wheel brakes.

3 **Parking Brake Valve**
Used to apply the trailer parking brake.
Pull the Red handle out to apply the parking brake.
Push the Red handle in to release the parking brake.

4 **Air Suspension Dump or Exhaust Valve**
Used to release air from the air suspension units.
Pull the Red handle out to release air from the system.
Push the Red handle in to reset the ride height.

1


2
3
4

Before Use

Controls

5 **Two Speed Landing Legs**
Used to support the trailer mass whilst decoupled from the prime mover. Push in for low speed, pull out for high speed operation and turn clockwise to lower legs.

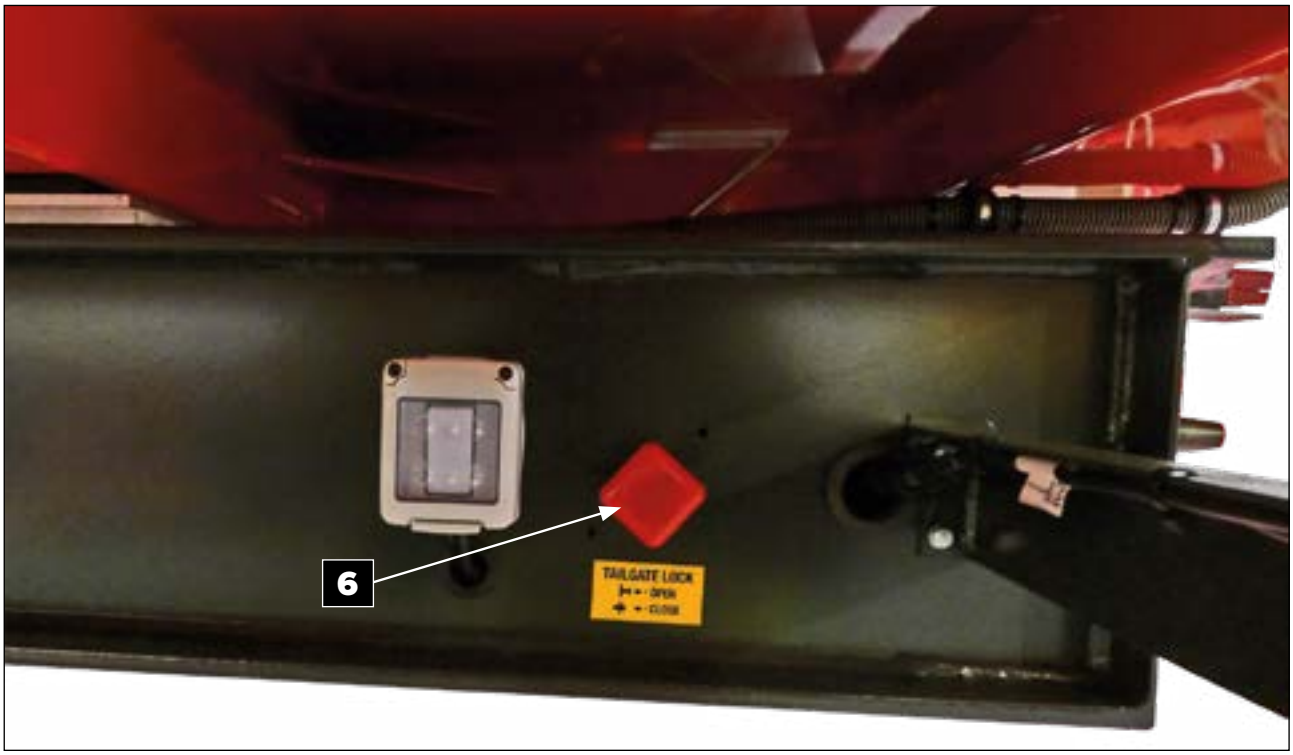
6 **Tailgate Lock Control Valve**
Located on the right or left side chassis of the trailer.
Pull the Red handle out to close the tailgate latches.
Push the Red handle in to open the tailgate latches

Weigher

7 **On Board Weighing System**
The system is normally mounted to the front right side of the trailer chassis. It receives inputs from the load cells located at the front and rear of the trailer body and provides a readout of the loaded mass of the trailer, (see manufacturers operating instructions).

Landing Legs

Tailgate Lock Control Valve



Weigher

Before Use

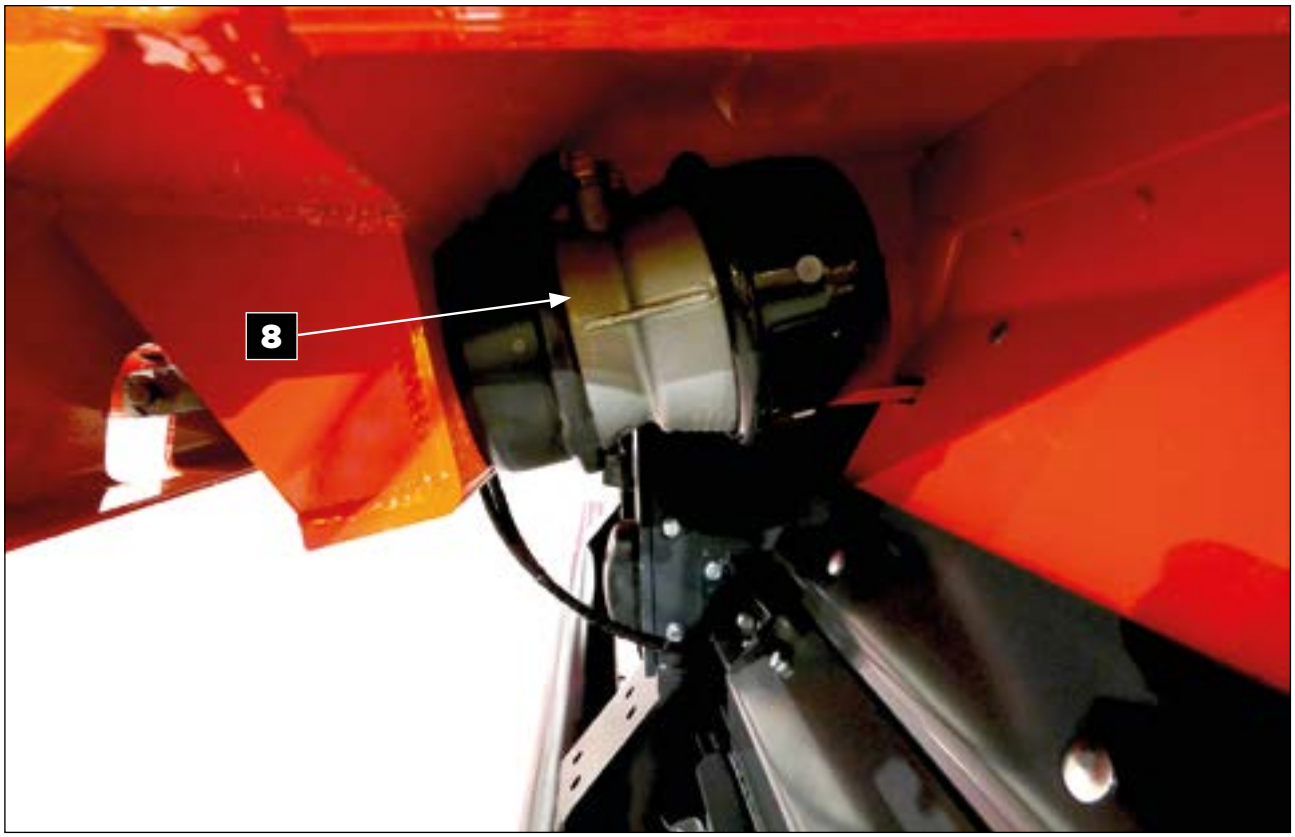
Controls

8 **Pneumatic Tailgate Lock Release Mechanism**
Located behind the rear bulkhead of the trailer body, pneumatic cylinders open or close the tailgate lock release mechanism.

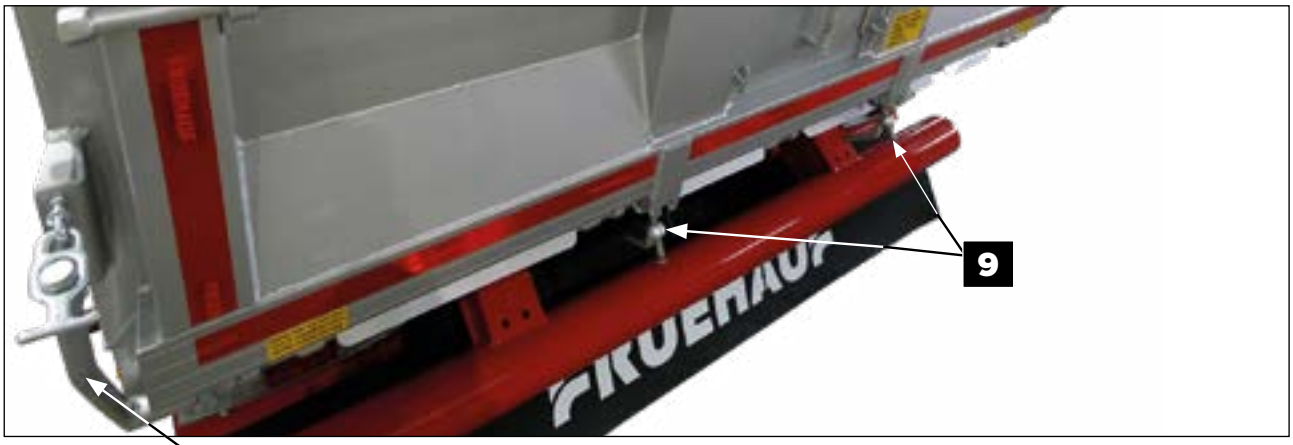
9 **Tailgate Clamps**
Located on the rear tailgate. Turn the handles anti-clockwise to release and lower the clamps. Raise the handles and turn them clockwise to engage the clamps.

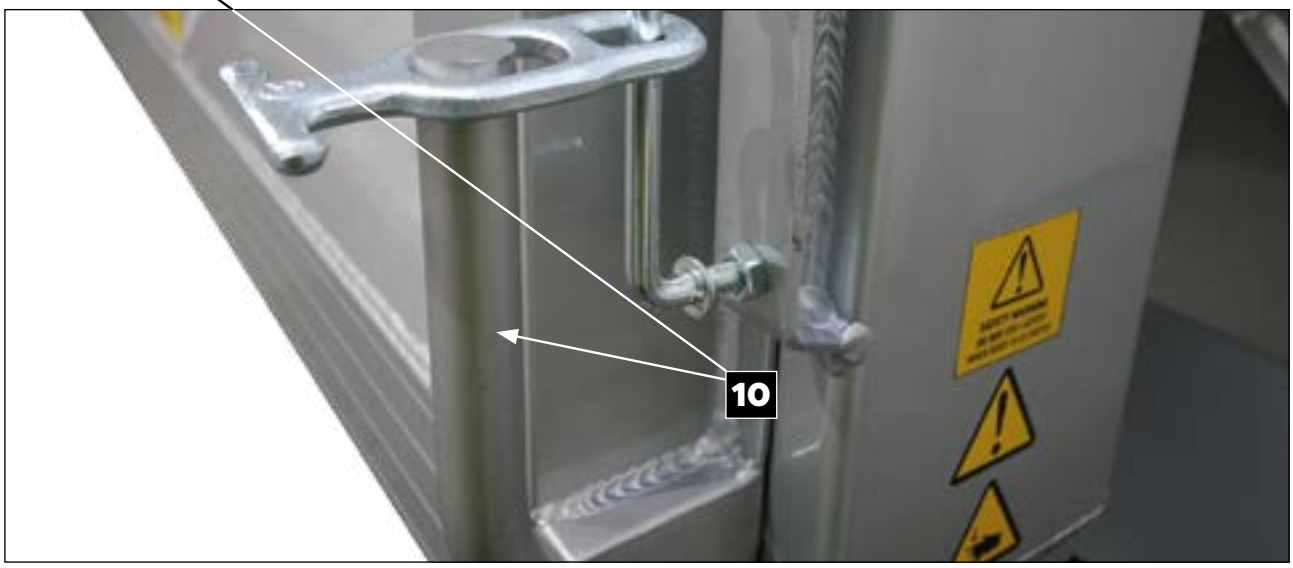
10 **Tailgate Manual Lock Release Mechanism**
Release from the loops and lower the levers to open the manual tail gate clamps.

11 **Grain Door Operating Mechanism**
Release from the loops and lower the levers to open the manual tail gate clamps.



Tailgate Mechanisms





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Safety Labels/Decals

CAUTION

The provision of safety and instructional labels/decals will not prevent accidents on their own.

Their purpose is to provide information that warns the operator of any area where a danger may be present, thereby allowing the operator to make a correct assessment of hazards.

It is therefore imperative that safety labels/decals are maintained in a legible condition, and where they become damaged that they are replaced.

The following pages list all of the main safety and instructional labels affixed to Fruehauf trailers.

For replacement contact the Fruehauf Parts team or browse at https://fruehauf.co.uk/fruehauf-spare-parts-shop/

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1

MANUAL LOCKS
MUST BE ENGAGED
BEFORE TIPPING
THROUGH
GRAINHATCH

Fitted with grain hatch (where equipped), may also be fitted either side at the rear of the trailer.

2

TAILGATE CLAMP
MUST BE LOCKED
WHEN OPENING
BARN DOOR

F119921-71

Fitted to tailgate or rear doors, may also be fitted either side at the rear of the trailer.

3

BARN DOOR CLAMP
MUST BE LOCKED
WHEN OPENING
TAILGATE

F119921-71

Fitted to tailgate or rear doors, may also be fitted either side at the rear of the trailer.

4

ENSURE THAT TAILGATE SEAL
FACE IS THOROUGHLY CLEAN
BEFORE CLOSING TAILGATE.

Fitted to tailgate.

5

SAFETY WARNING
DO NOT USE LADDER
WHEN BODY IS ELEVATED
F119921-71

Fitted to tailgate.

6

WARNING
DO NOT STAND BEHIND
TRAILER
TAILGATE IS OPERATED
REMOTELY.

F119921-09

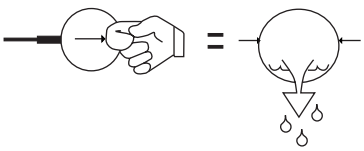
Fitted adjacent to the tailgate at the rear on at the rear of the trailer on each side.

7

WARNING
MX BOLT TORQUE SETTINGS
LARGE BOLTS - 1420Nm
SMALL BOLTS - 1140Nm
CHECK BOLTS ONCE A WEEK

Fitted adjacent to the MX load cells at the front and rear on each side.

8



Fitted in two positions on the right side of the trailer chassis adjacent to the air reservoirs.

9

Operation instructions for on-board weighing system. Fitted adjacent to control panel on right side of trailer chassis.

10

DANGER
KEEP CLEAR OF
UNPROPPED BODY

Fitted on each side of the trailer chassis in various locations on the tipping body..

11

CAUTION

WHEN LOADING:
ENSURE BODY IS FULLY DOWN AND SUPPORTED ON CHASSIS.
THE LOAD MUST BE EVENLY DISTRIBUTED DURING LOADING.
DO NOT LOAD IN EXCESS OF THE GROSS VEHICLE WEIGHT RATING SHOWN ON THE CERTIFICATION PLATE.
ENSURE LOAD IS SECURE AND UNABLE TO SHED CONTENTS EN ROUTE.

WHEN TIPPING:
TRACTOR AND TRAILER MUST BE COUPLED AND IN A STRAIGHT LINE ON FIRM LEVEL GROUND WITH ALL TRAILER WHEELS CONTACTING THE GROUND.
ENSURE NO ONE IS BEHIND OR NEAR THE REAR OF THE TRAILER DURING TIPPING OPERATIONS.
UNLOCK TAILGATE BEFORE TIPPING, UNLESS THE GRAIN HATCH IS USED.
IF GRAIN HATCH IS USED, FIT A GRAIN SOCK AND OPEN HATCH BEFORE TIPPING. ALSO
ENSURE THE LOAD IS A SUITABLE FREE-FLOWING COMMODITY.
DO NOT ATTEMPT TO DUMP ALL TIPPING OPERATIONS AND LOWER BODY IMMEDIATELY
IF IT LEANS OR SHIFTS TO ONE SIDE.
NEVER LOOSEN A WET OR STICKY LOAD BY SHUNTING AND HARD BRAKING; RETURN BODY TO LOWERED POSITION AND DISLODGE LOAD APPROPRIATELY.
ONLY MOVE TRAILER WHEN BODY IS COMPLETELY LOWERED.
NEVER WORK ON AN UNPROPPED BODY; MAKE SURE BODY IS SUPPORTED INDEPENDENTLY.

REFER TO OPERATOR'S HANDBOOK

FRUEHAUF

General operation instructions fitted on each side of the trailer chassis.

12

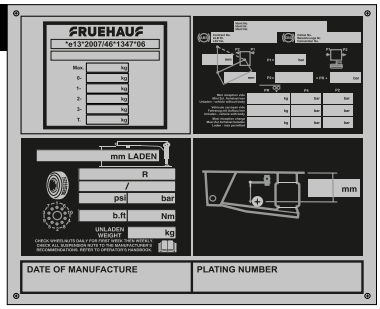
TAILGATE LOCK
= CLOSE
= OPEN

F119921-75

Operation instructions for tailgate latching mechanism control. Fitted adjacent to the tailgate latch valve(s) which may be located on either side of the trailer chassis.

Note
The locations of safety and instructional labels/decals shown may differ slightly depending on the model of vehicle or the options fitted. If in doubt contact Fruehauf for information.

13

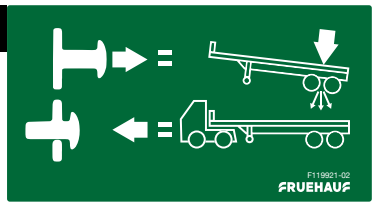


Manufacturers type plate fitted to the left side of the trailer chassis.

14

Fitted to the left side of the chassis adjacent to the parking brake control.

15



Fitted to the left side of the chassis adjacent to the “dump or exhaust” valve.

16

Fitted to the left side of the chassis adjacent to the “shunt” valve.

17

General caution label/decal. Fitted adjacent to the tailgate/ doors at the rear of the trailer, and on the ladder and platform. May also be fitted in other positions.

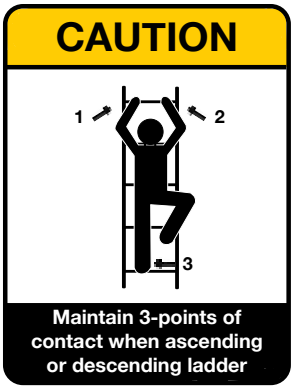
18

Trap hazard label/decal. Fitted adjacent to the tailgate/ doors at the rear of the trailer. May also be fitted in other positions.

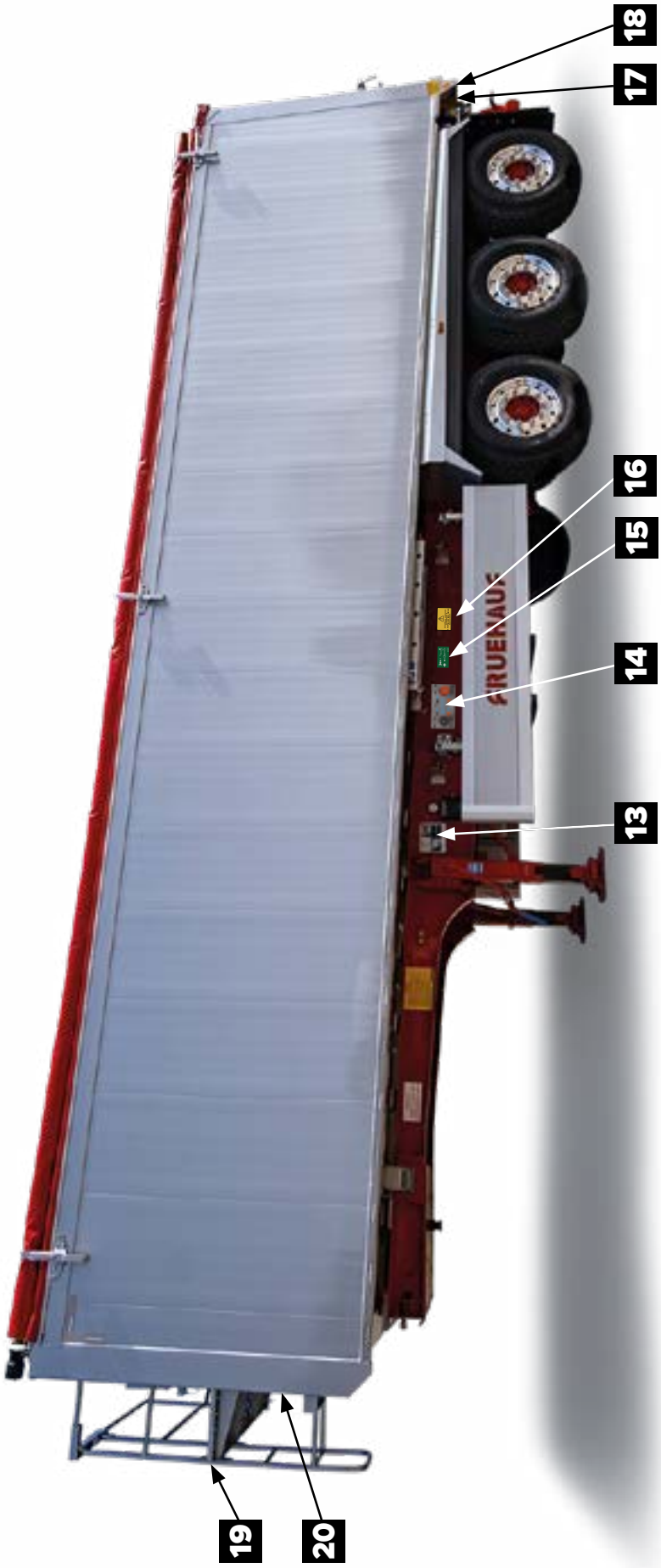
19

Slip hazard label/ decal. Fitted adjacent to the tailgate/doors at the rear of the trailer, and on the ladder and platform. May also be fitted in other positions.

20



Safety label/ decal. Fitted to the front of the body behind the ladder.



Note
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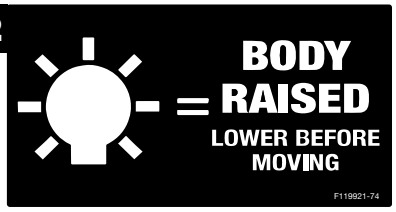
21

HYVA RAM
MAX 170 BAR

EDBRO RAM
MAX 150 BAR

Type and pressure of hydraulic cylinder.

22



Body raised warning, fitted adjacent to the body raised warning lamp.

23

EMERGENCY

Brake line connection (RED).

24

ATTENTION!
While tipping it is prohibited to stand next to and behind the vehicle! The vehicle should be on stable and level terrain.

General tipping warning label/ decal.

25

General warning label/decal. Read manual.

26

General warning label/decal. Wear hand protection (gloves) when coupling and uncoupling.

27

General warning label/decal. No chassis modifications.

28

General warning label/decal. Wear eye protection when coupling and uncoupling.

29

General warning label/decal. Prohibition.

30

Mandatory trailer ISO 7638 connection protocol.

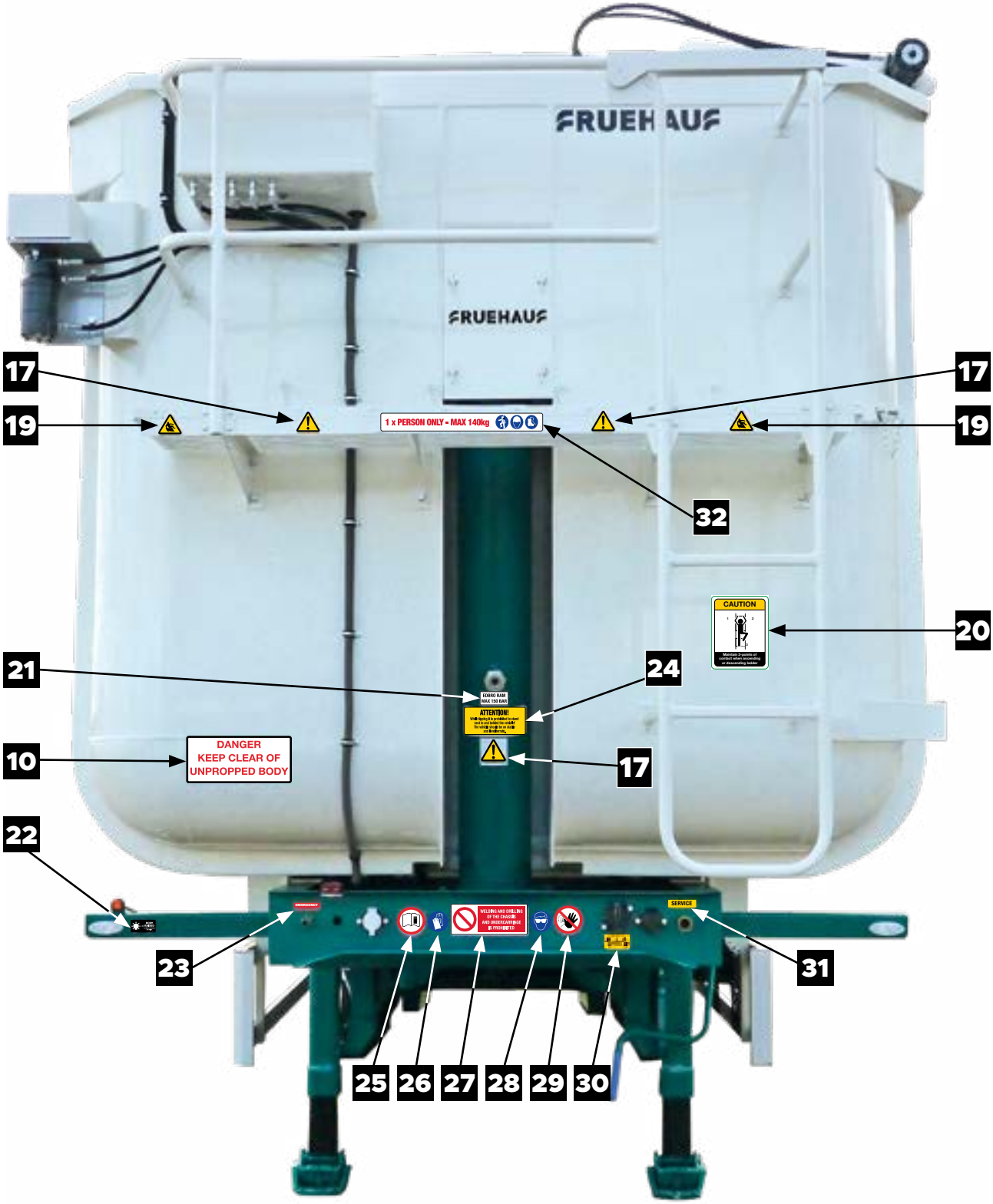
31

SERVICE

Brake line connection (YELLOW).

32

General safety warning label/decal. Prohibition. Mass on platform and PPE.



Note

The locations of safety and instructional labels/decals shown may differ slightly depending on the model of vehicle or the options fitted.

If in doubt contact Fruehauf for information.

Operation

CAUTION

This section provides details of the general operation of equipment that may be fitted to the trailer.

The information given is generalised and may not take into account customers special requirements or specialist equipment.

Where fitted this equipment may be supplied with separate operating instructions which should always be referred to.

If in doubt contact your Fruehauf representative.

Support Legs

WARNING

Always *uncouple the trailer on firm level ground. Where ground may become soft, ensure the legs are positioned on suitable footplates to prevent sinking.*

CAUTION

Always *lower the legs before uncoupling. Beware of backlash from the winding handle if released suddenly.*

The support legs are used only for supporting the trailer when uncoupled in the lowered position, and for setting the coupling height prior to coupling.

Lowering the Legs When Uncoupling

Unclip the winding handle **1** until the legs reach the ground, then **stop**. Push the shaft **2** inwards to select low gear and rotate the handle until the trailer is supported.

Do not raise the trailer. Secure the handle and uncouple the trailer.

Setting Legs for Uncoupling

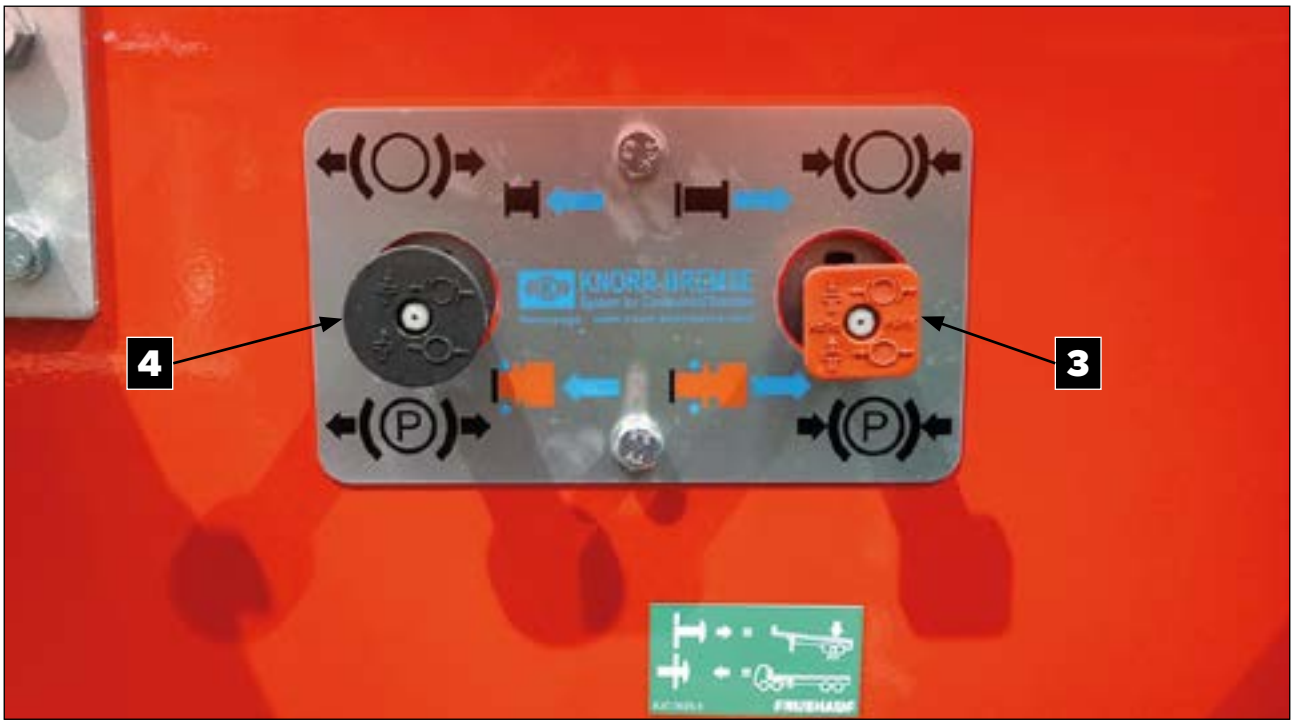
Unclip the winding handle **1** and push the shaft **2** inwards to select Low gear.

Rotate the handle **1** to adjust the trailer height so that the coupler is level or slightly lower than the fifth wheel. Couple the trailer.

Raising the Legs When Coupled

Pull the shaft **2** outwards to select high gear. Rotate the handle **1** until the legs are fully raised then **stop**. Do not force beyond this position. **Do not** leave the support leg gearbox in neutral. Secure the handle in the stowage position.

Parking



Apply the Parking Brake

The Parking brake **must** be applied at all times **before** disconnecting the trailer from the prime mover. When the prime mover is removed from the trailer and the **red (Emergency)** line is disconnected, the trailer brakes are automatically applied by spring force as air is exhausted from the brake cylinders.

Pull the Red knob **3** out to apply the brakes.

When coupled to the Prime mover and before moving off ensure the knob **3** is pushed in to release the brakes.

WARNING

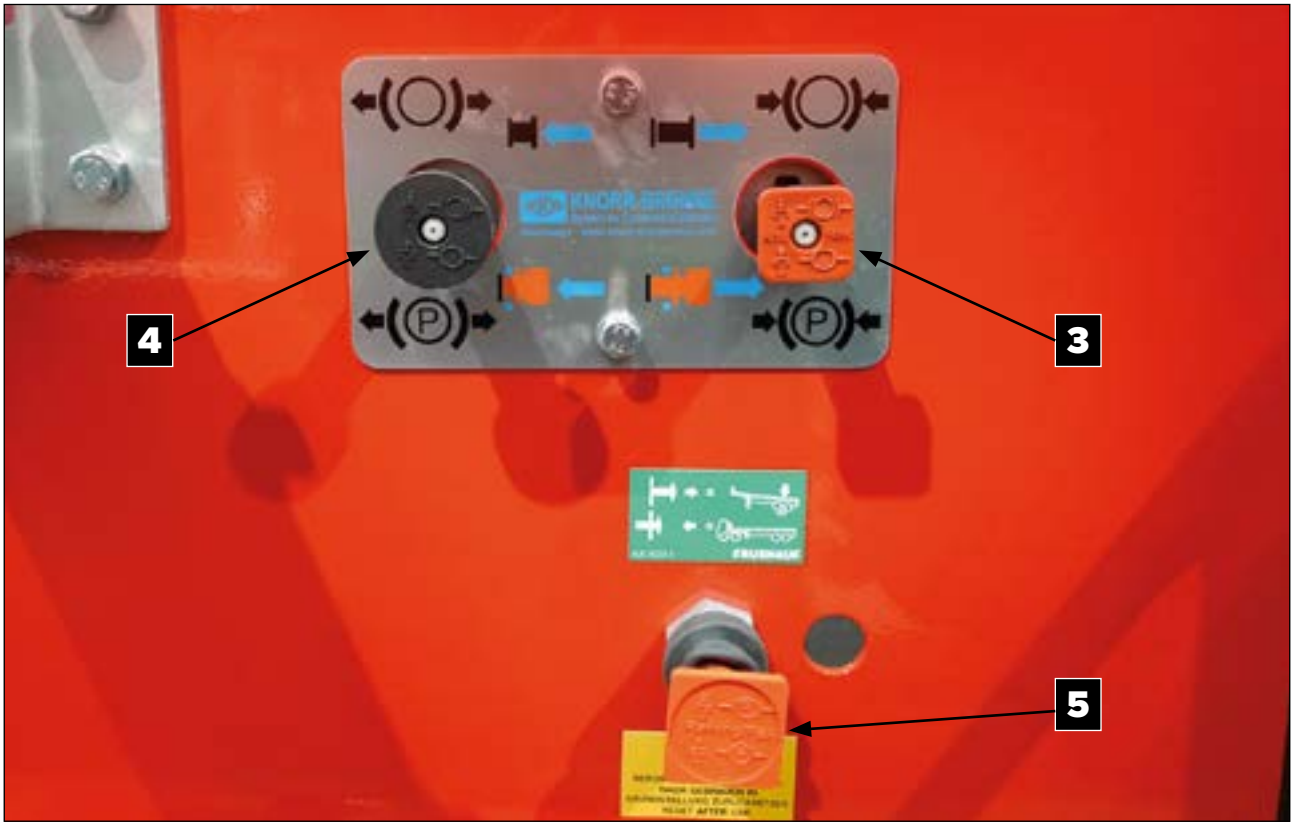
Always *ensure parking brake is applied before coupling or decoupling from the prime mover.*

WARNING

Do not *release the trailer parking brake unless coupled to the prime mover.*

WARNING

Do not *use the trailer brake release valve unless in an emergency.*



Trailer Brake Release Valve

When the prime mover is removed from the trailer pulling the black knob **4** out releases the brakes so that the trailer can be "shunted" in an emergency situation by a suitable vehicle. Ensure the knob **4** is pushed in to reset after use.

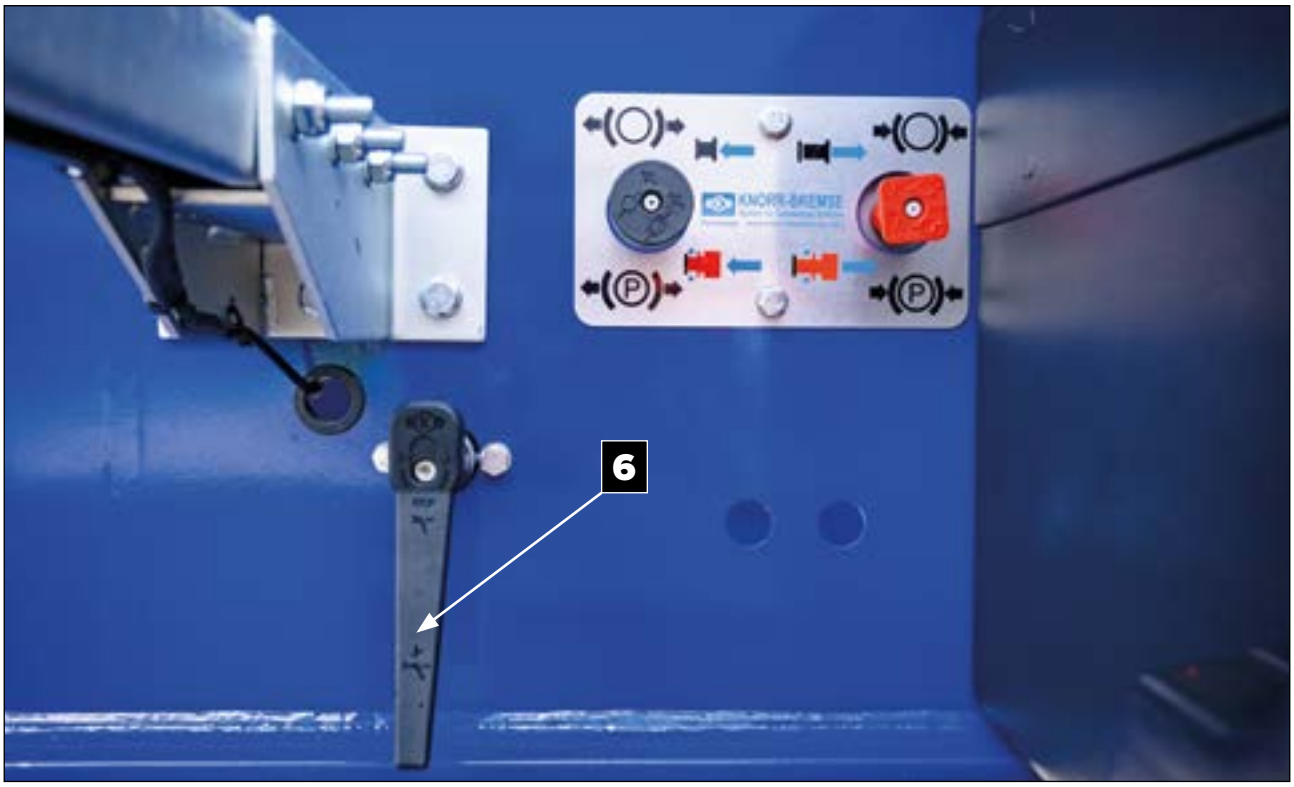
WARNING

Do not use *except in emergency*.
Always use a suitable prime mover that is capable of handling the mass of the trailer.

Air Suspension Exhaust Valve

Pull the **red knob** **5** out to exhaust air from the suspension and lower the trailer height. Push the knob in to reset.

Parking



Air Suspension Variable Height Control

Push the control handle **6** in and turn to either Raise or Lower the suspension. On reaching the required level (or max allowable) set the handle back to the mid position.

Before use, reset the suspension to the running or ride height, ensure the control handle is in the mid position and pull the handle out.

WARNING

Do not exhaust air from the suspension if a lift axle is in the raised position.

WARNING

Do not exhaust suspension before tipping trailer body.

WARNING

Do not exhaust suspension before moving trailer.

Auto-Lift / Lower Axles

This option allows an axle to lift clear of the road automatically when the laden condition allows it.

The raised axle automatically lowers when the imposed load increases to a level that requires all trailer wheels to be in contact with the road.

Traction Assist

The traction assist option allows an operator to lift the axle whilst in a fully laden condition. This is achieved either by operation from the cab of the prime mover or via a control on the trailer.

Lifting an axle in the laden condition increases the imposed load through the Kingpost thereby increasing the load on the drive axle. It is useful on inclines and off road conditions. The axle lowers automatically above 25km/h (15mph).

Holding the traction assist control for 5 seconds will override the auto lift system and lower the axle in an unladen condition to shorten the wheelbase and improve low speed manoeuvrability.

WARNING

Raising an axle in the fully laden condition will exceed the maximum rated loads and is only possible for low speed operation.

EBS - Electronic Braking System

Fruehauf trailers are equipped with full EBS Electronic Brake Systems featuring load sensing equipment via an on-board electronic control unit (ECU) with self-diagnostic capabilities and full communication links to the EBS system of the prime mover.

EBS power supply is via an ISO7638 connector; emergency backup (without load sensing facility) is available from the brake light circuit via the ISO1185 (24N) connector. The dedicated ISO7638 supply must be used if the prime mover has this facility.

Roll stability, auto-lift/lower axle, traction assist and suspension ride control are optional EBS functions only powered via the ISO7638 connector.

CAUTION

***Do not** operate EBS system without a dedicated ISO 7638 supply.*

Axles and Brakes

A 7 Pin ISO 7638 connector fitted to the prime mover indicates full EBS communication links.

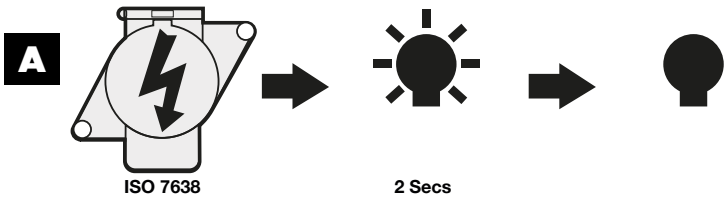
A 5 Pin ISO 7638 connector fitted to the prime mover indicates ABS only.

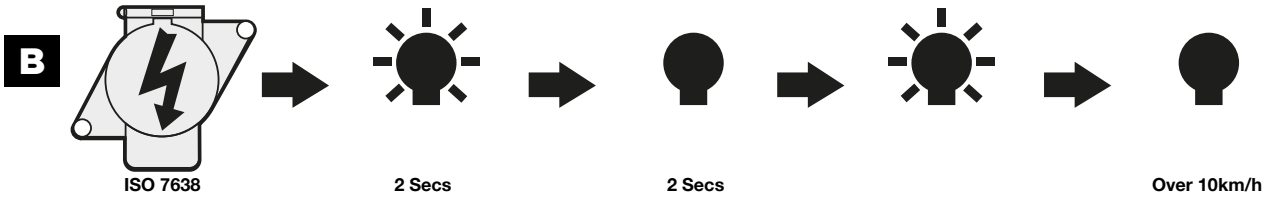
A lamp on the control panel of the prime mover will indicate the trailer EBS function and is the only indicator present for the trailer system.

Checking the Anti Lock braking system

Two systems are fitted (**A** or **B** below) and the following lamp sequences indicate correct operation for each method of power supply.

Tractor with ISO7638 supply- on initial power-up (ignition ON) - use cab lamp in prime mover:

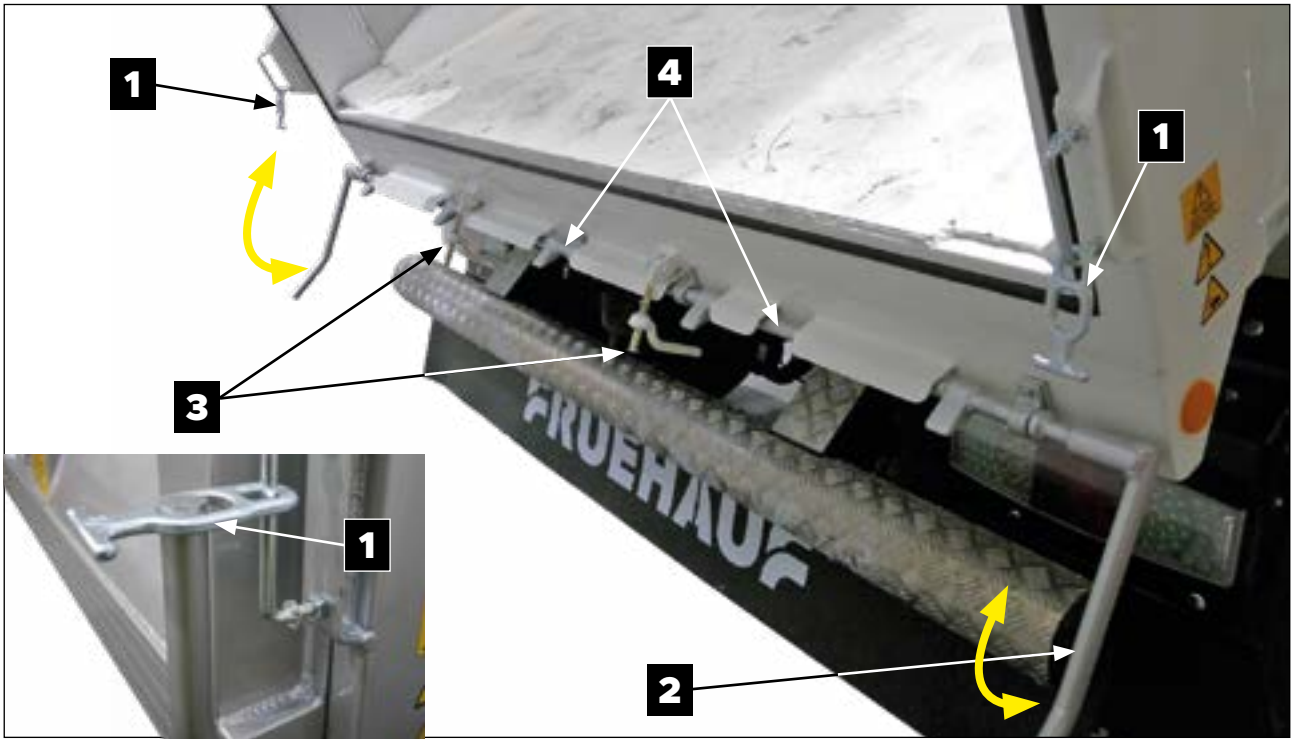




A malfunction is indicated either by:

No light or a continuous light on power-up and/or a continuous light above 10 km/h.

Switch the ignition ON, depress the brake pedal and check above lamp sequence with pedal depressed. If sequence is incorrect, check the dedicated ISO7638 supply is connected.
If dedicated ISO7638 supply is connected a fault exists with the supply and the trailer is operating on brake light power only. Check out any fault immediately and before proceeding.



CAUTION

Never *stand immediately behind the trailer when opening the discharge doors. Always be aware that the load within the trailer may force open the door when released and discharge the load onto the operator.*

CAUTION

Never *stand behind the trailer when tipping a load, or when operating a cargo floor discharge system. Never stand under a raised/open tailgate.*

Tailgate

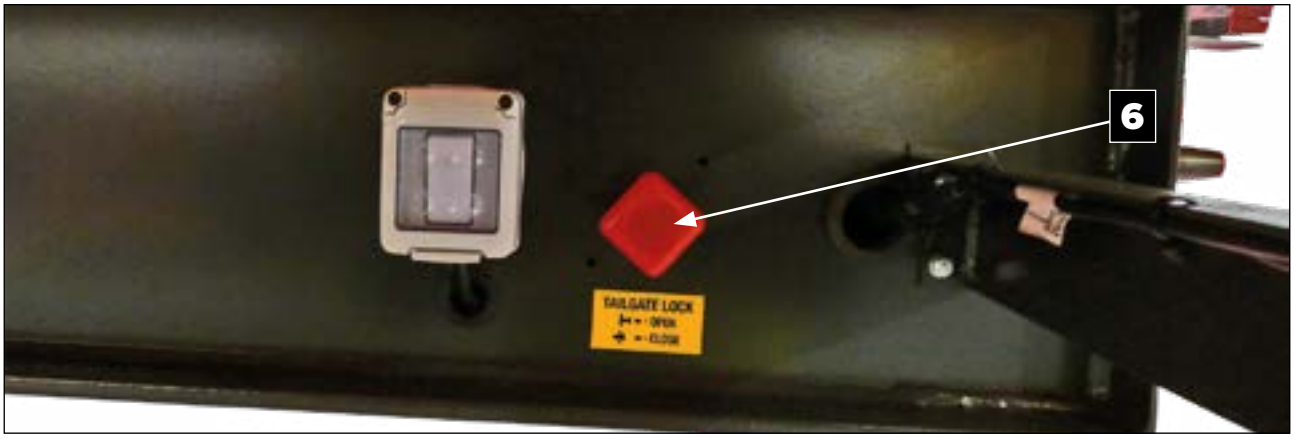
The standard tailgate is a single door arrangement hinged at the top and secured (in the closed position) with a full width lock bar **4** located on the bottom rear cross member of the body.

Operation - Manual Lock bar

Release each of the screw-down swing bolts (cattle clamps) **3**. Standing to the side of the trailer release the Lock bar handles **2** from the retaining rings **1** and push down the handle to release the lock bar. Tip the trailer to discharge the load.

When discharge is completed, ensure the tailgate is fully closed and that the seal is clear of debris. Raise the locking bar handle **2** and secure with retaining ring **1**. Tighten screw-down swing bolts at the bottom of the Tailgate (cattle clamps) **3**.

Operation



Operation - Remote Operation Lock Bar

WARNING

*The sheet **must be** opened before discharging load.*

Release each of the cattle clamps (refer to page 35) **3**. Operate the remote lock bar cylinder **5** by pushing in the remote control valve **6**.

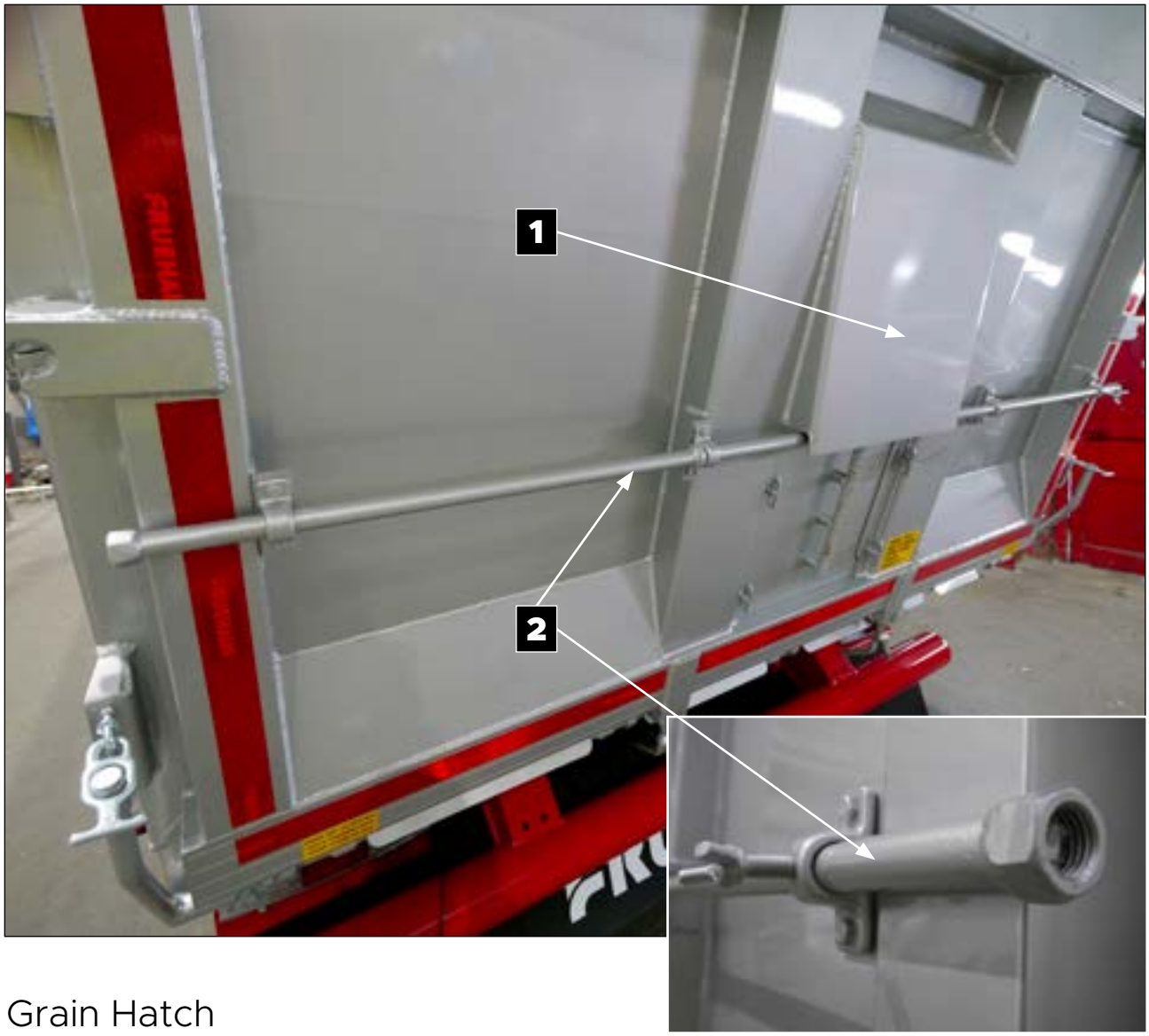
With the locks disengaged the trailer can be tipped, the discharging load will force open the tailgate. When discharge is completed, ensure the tailgate is fully closed and that the seal is clear of debris.

Pull the remote control valve **6** to close the tail gate latches, check the tailgate is fully closed and latched, and the cattle clamps **3** have been tightened before moving off.

CAUTION

This system is designed for single person operation. Always ensure all personnel are out of the danger area and away from the tailgate before operation. Entrapment in the tailgate mechanism can result in serious injury.

Discharge



Grain Hatch

If fitted, the grain hatch may be used for the discharge of ‘free-flowing’ loads. These are used in conjunction with a grain sock which is attached to the hatch surround by the ‘anti-luce’ fasteners provided.

Operation

Fit the Grain Sock to the Grain door **1**. Progressively raise the body during tipping to avoid overloading the tailgate/doors.

Attach the handle provided to the door lifting mechanism **2** and rotate to open or close door to regulate flow.

Tipping

Tipping Control

Trailers configured for tipping are equipped with a single, multi-staged telescopic hydraulic cylinder located at the front. A single high pressure hose connects the trailer quick release coupler **1** to the hydraulic system of the prime mover.

Tipping Sequence

The hydraulic cylinder operating valve will usually have **3** positions.

1 **Raise** - hydraulic fluid is supplied from the prime mover to the cylinder. The cylinder extends raising the tipping body.

2 **Lower** - When the control in the prime mover is moved to lower, hydraulic fluid is released from the cylinder and the cylinder retracts under the weight of the tipping body.

3 **Hold** - In this position the valve of the prime mover is in the central position, trapping hydraulic fluid within the cylinder and holding its position.

CAUTION

Never *reach or work in the area beneath the unsupported raised tipping body*

CAUTION

Never *tip the trailer or leave it in a raised condition when it is disconnected from the Prime mover.*

Tipping Sequence contd.

Before tipping ensure the Trailer and Prime mover and are in the straight ahead position, on firm level ground and with all wheels on the ground, and that no persons are within 15m of the tipping trailer.

Disengage the tailgate or door latches before tipping.

Engage the PTO of the prime mover and select Raise, and commence tipping.

Raise the tipping body progressively and observe the load as it is discharged.

To maintain the Tipping body at any position select Hold, and disengage the PTO of the prime mover.

To return the Tipping body to the travel position select Lower. If a load is only partially discharged ensure the body is lowered carefully to prevent damage to the Cylinder or Chassis.

When Raising or Lowering ensure all movements are smooth to minimise the risk of instability or damage.

WARNING

*The sheet **must be** opened before discharging load.*

CAUTION

***Always check** around the vehicle before tipping and lowering. Use the vehicles audible warning devices if necessary to warn bystanders of your intention to tip.*

CAUTION

***Only tip** with the Prime mover and trailer in the straight ahead position and on firm level ground, and with the brakes applied.*

CAUTION

***Never** tip with the Air suspension deflated.*

Tipping

Body Raised Warning

When in the raised position a lamp **1** fitted to the front right side of the trailer will illuminate warning the operator not to move or load the trailer with the body raised or partially raised.

On start up when the prime mover ignition is energised the lamp will flash for approximately 15 seconds and then extinguish if the body is fully lowered. The lamp will only flash if the body is raised and the trailer ISO 1185 (24N) socket is connected.

Tipping - General warnings

Do not attempt to tip in high winds.

Do not tip in the vicinity of high tension overhead electric cables.

Do not tip near to any overhead obstructions or doorways.

Always stay at the tipping control whilst tipping and be prepared to Stop or lower the tipping body immediately at the first sign of instability or if a load being discharged sticks.

Loading

Before Loading

Ensure the sheet is open.

Ensure the rear doors or tailgate are all closed and secured.

Ensure any intermediate doors are closed and locked.

Ensure the tipping body is fully lowered and supported by the chassis.

Check the trailers identification plate to determine the allowable weights before loading.

Loading

Load the trailer evenly starting at the front where possible.

If the trailer is equipped with an on board weighing system raise the tipping body only to check the load, do not load the trailer with the body raised off the chassis.

Ensure the load is secure and properly sheeted before moving away.

Weighing

Some trailers are equipped with an on-board weighing system **1**.

To complete the on-board weighing system calibration procedure, use the manufacturer's user guide provided in the customer handover pack provided by Fruehauf when you receive your new trailer or refer to manufacturer's website.

Load Data

Approximate Material Weights

Commodity	Tonne/m³	m³/Tonne
Ashes-dry	0.8–1.03	1.0–1.25
Ashes-moist	0.8–1.03	1.0–1.25
Ashes-wet	1.01–1.33	0.75–1.0
Asphalt	1.59	0.6
Asphalt-mastic	2.39	0.4
Asphalt-bitumen	2.13	0.5
Asphalt-macadam	1.88–2.51	0.4–0.5
Ballast-dry	1.53–1.73	0.6–0.7
Ballast-wet	1.73–1.93	0.5–0.6
Barley	0.63	1.6
Bricks/1000	3.05–4.46	–
Bricks-stacked	1.48–1.99	0.6
Bricks-tipped	1.26–1.66	0.6–0.8
Cement-natural	0.9	1.1
Cement-portland	1.45	0.7
Clay-dry	1.01	1.0
Clay-wet	1.76	0.6
Coal-anthracite	0.9	1.1
Coal-bituminous	0.76	1.3
Coal-pulverised	0.55	1.8
Coke-loose	0.6	1.7
Coke-breeze	0.4–0.55	1.8–2.5
Concrete-dry	1.25	0.8
Concrete-wet	2.38	0.4
Corn	0.76	1.3
Earth-dry	1.11	0.9

Approximate Material Weights contd.

Commodity	Tonne/m³	m³/Tonne
Earth-damp	1.25	0.8
Fertiliser (bulk)	1.03	1.0
Flour (bulk)	0.45	2.2
Flue dust	1.76–1.99	0.5–0.6
Garbage	0.68	1.5
Gravel-dry	1.68	0.6
Gypsum	0.91–1.0	1.0–1.1
Hardcore-fine	1.66	0.6
Hardcore-rough	1.2–1.46	0.7–0.9
Iron ore	2.12–2.56	0.4–0.5
Limestone	1.53	0.7
Oats	0.42–0.51	1.9–2.4
Rubble	1.05	1.0
Sand and gravel-dry	1.46–1.73	0.6–0.7
Sand and gravel-wet	1.93	0.5
Sand-dry	1.33	0.75
Sand-wet	1.66	0.6
Sand-dry silica	1.45–1.59	0.6–0.7
Sand-foundry	1.45–1.59	0.6–0.7
Shale	1.43	0.7
Shingles-dry	1.73	0.6
Shingles-wet	1.93	0.5
Slag	1.36–1.66	0.6–0.8
Stone-crushed	1.59	0.6
Sugar	0.8–0.88	1.1–1.3
Urea	0.6–0.73	1.4–1.7
Wheat	0.76	1.3

Maintenance

Trailer Care

This section covers a wide variety of components that are used on Fruehauf trailers.

Not all components shown will appear on one vehicle, therefore, certain instructions contained herein will not apply.

Where special instruction beyond the scope of this section is required, this will be supplied as supplementary information.

WARNING

If in doubt ask!
Refer to a Fruehauf service representative for further information.

CAUTION

It is the responsibility of the operator to ensure that maintenance is undertaken at the proscribed intervals and by competent personnel.

Preventative Maintenance

Operation		Initially	Daily during first week	Weekly during first four weeks	First Month
Torque	Tighten wheel nuts	Prior to first journey	X	X	
	Suspension nuts	Intervals vary, refer to the relevant page in this section for the maintenance of the suspension fitted to your trailer.			
Check	Brakes	X		X	
Check	King post security		X		X

A conscientious driver has a direct contribution to make to preventive maintenance through their ability to recognise faults and inform maintenance personnel.

To assist with this, a list of routine checks is included in this section, it should be remembered that several different semi-trailers may be used with the same prime mover in the course of a working day all of which require checking.

The remainder of the section contains sufficient technical information to cover maintenance during the first four weeks of new trailer operation followed by preventive maintenance charts to assist workshop staff with future planned servicing.

Drivers routine checks and preventive maintenance schedules overlap on weekly tasks with daily tasks listed under the former, although it is recognised that the policy of individual operators may differ over responsibility for certain areas.

Both charts are purely for guidance and may be amended to cover operators' individual requirements or to comply with laid down procedures.

Maintenance

Drivers routine checks			
Weekly or 1600km (1000 miles)			
Daily			
Operation			
Inspection	Securing devices for damage or wear	X	X
	Tyres for damage	X	X
	Identification plates for security and corrosion	X	X
Check	Tyre pressures		X
	Hydraulic oil level	X	X
	Hydraulic hoses and connections	X	X
	King pin security	X	
	Wheel nut torque		X
	Operation of lights	X	
Drain	Air reservoir		X
	Air reservoir in freezing conditions	X	
Grease and inspection	King pin		X
	Rubbing plate		X

WARNING

These checks are to be carried out by the operator before moving off.

WARNING

Jacking of any vehicle should only be carried out by suitably qualified personnel and using suitable equipment.

WARNING

Ensure any jack used is suitable for the task and that the lifting pad is shaped to provide adequate support without slipping.

WARNING

Always provide additional support blocks etc beneath the vehicle hard points (axles etc) to adequately support the vehicle. ***Never work*** *beneath a vehicle only supported by the jack.*

WARNING

Always jack on firm level ground, with the parking brake applied and the wheels chocked.

When carrying out jacking operations always ensure consideration is given to the following:

Always *use jacking points where provided.*

Do not *jack beneath cast components.*

Do not *jack beneath springs or air suspension trailing arms.*

Do not *jack beneath radius arms or panhard rods or mounts.*

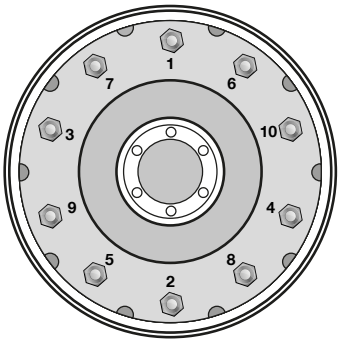
Do not *jack beneath spring hanger brackets.*

Do not *jack beneath the rear under run protection device.*

Do not *jack under the chassis/frame forward of the suspension.*

Do not *jack underneath the I-beams behind the suspension unless stiffeners are provided between the top and bottom flanges.*

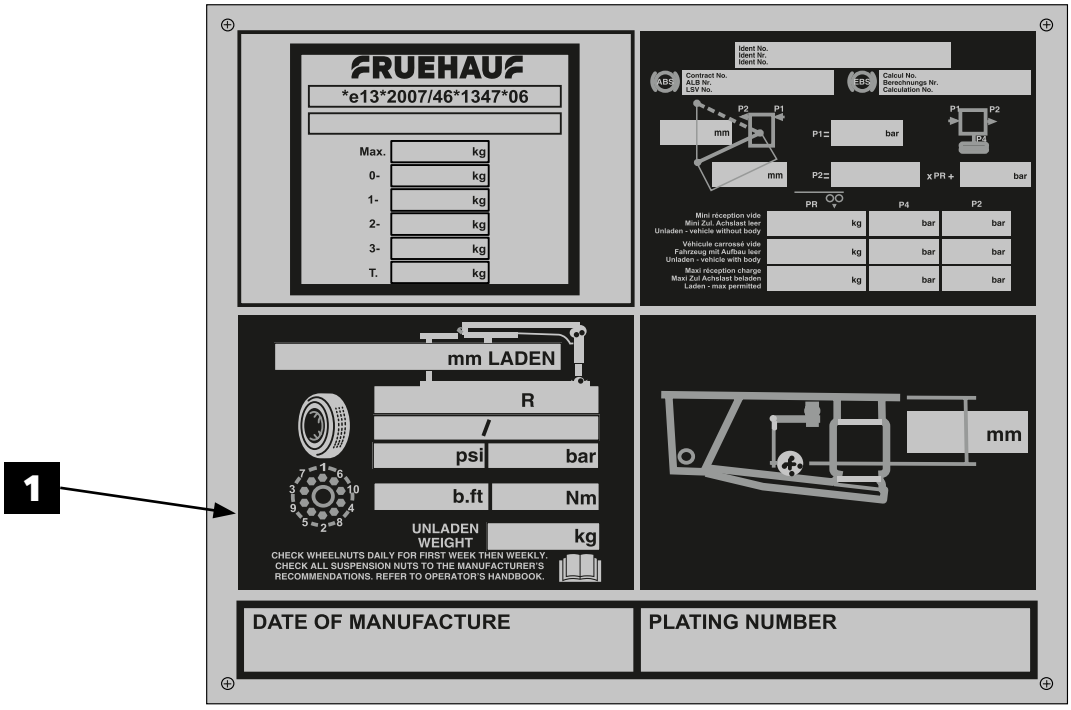
Tighten in sequence using a suitable tool. Remove jack and finally torque load the nuts in sequence.



Repeating the tightening sequence after the first 80km (50 miles) and daily for first week. Replace protective wheel nut covers and loose nut indicators (if applicable).

CAUTION

Ensure the wheel nuts are tightened using a suitable and correctly calibrated torque tool.



If in doubt refer to the detailed information about wheel nut torque and sequences given on the chassis plate **1** .

WARNING

It is essential that all wheel nuts are checked daily and torque tightened weekly or every 1600km.

Maintenance

Important Information Wheel Fixings

The plate detailing the recommended torque figures are applicable to the manufacturer's original equipment only and may not apply should wheel nuts ever be replaced with alternative items.

It is recommended that all wheel stud holes are checked periodically for ovality as an early indication of wheel problems.

Over-tightening of wheel nuts will cause the hole to distort radially, while fretting as a result of under-tightening causes circumferential distortion.

The mating surfaces on wheels between hubs, wheel or wheel nuts should be left in the manufacturer's original finish. It is **NOT** recommended that these areas be painted.

Care and Maintenance of Trailer Tyres

Refer to plate **1** positioned adjacent to the chassis plate for tyre pressures.

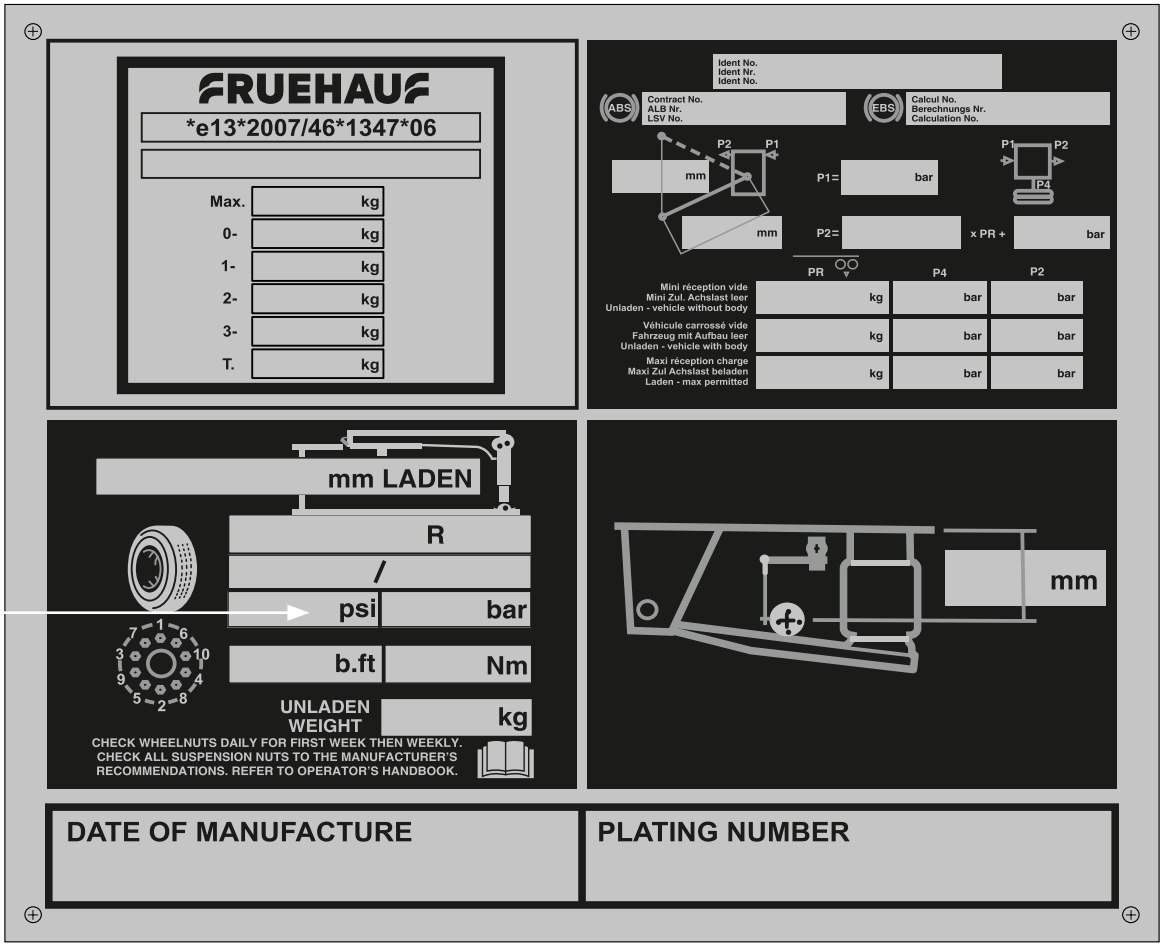
Neglect of inflation pressures is one of the principal causes of premature tyre failure and for this reason the importance of regular checks cannot be overstressed.

Although they are often overlooked the same priority should be given to trailer tyres as those of the tractor unit and this is of paramount importance if maximum tyre mileage is to be obtained.

Drivers and maintenance staff share the responsibility for ensuring that tyres are operated within the bounds of safety and efficiency.

It should be borne in mind that recommended inflation pressures are given for a ‘cold’ tyre. An increase in temperature as a result of running will cause pressure to rise giving a false indication. This pressure increase must never be reduced as the tyre is designed to safely withstand this condition.

Any reduction in pressure at this stage will cause the tyre to flex abnormally with subsequent heat generation and premature tyre failure.



1

Maintenance

The Following Checks are Recommended.

Checks by drivers prior to any journey:

- Visual signs of under inflation
- Wear to tyre crown or shoulders
- Cuts in tread or sidewall
- Bulges in sidewalls (inner and outer)
- Stones or other objects trapped in the tread pattern
- Objects trapped between tyres (twin wheel combinations).

Periodical checks by maintenance staff:

- Tyres are free from damage or defect
- Correct inflation pressures
- Leakage from inflation valves
- Missing valve caps
- Tread depth
- Tread wear and alignment
- Valve accessibility (ie twin wheels correctly positioned so that inner valve can be reached).

Troubleshooting Trailer Tyres

Symptoms	Cause	Result
Uneven tread wear	Under inflation	Fire risk Fracture or rupture ply separation
Excessive heat build up		
Wear concentrated in centre of tread	Over inflation or worn shock absorbers	More susceptible to damage. Fracture of cords
Inconsistent (spotty) tread wear	Grabbing brakes Slack or worn wheel bearings Deformed brake Drums/discs	Reduction in overall tyre life
Scrubbing	Axle misalignment	
Tread cuts	Stone, gravel, sharp metal debris etc.	Damage to tyre cords
Irregular wear on tyre shoulders	Overloading	Bursting
Rapid wear	Excessive deflection due to mismatched tyres	Premature failure

Maintenance

Preventative maintenance schedule - brakes					
Annually or 80000km (50000 miles)					
6 Monthly or 40000km (25000 miles)					
3 Monthly or 20000km (12000 miles)					
Monthly or 6400km (4000 miles)					
Weekly or 1600km (1000 miles)					
Operation					
Check brakes for correct function	X	X	X	X	X
Check linings for wear and adjust if required			X	X	X
Check disc brake pad and rotor wear			X	X	X
Check caliper operation (disc brakes)			X	X	X
Lubricate anchor pins and if necessary linish* the brake linings and drum surfaces					X
Inspect brake hoses for damage			X	X	X
Drain air reservoir (daily when < 0 deg C)	X	X	X	X	X
Check camshaft bearings and lubricate			X	X	X
Check slack adjusters where applicable			X	X	X
Grease parking brake cables where applicable and check for damage.			X	X	X
Test anti lock brake system			X	X	X
Check brake system pressures					X

** Linishing is a pattern of 'very' fine lines. This is achieved by abrading the surfaces by hand, using a suitable production paper on brake linings and emery cloth on the drum. The pattern should be in two directions, each at 45' across the surface to give a cross hatch effect. Observe Health and Safety guidelines;* ***Do not*** *use hand or power tools.* ***Do not*** *linish disc brakes.*

Preventative maintenance schedule - Tyres and Wheels etc					
Annually or 80000km (50000 miles)					
6 Monthly or 40000km (25000 miles)					
3 Monthly or 20000km (12000 miles)					
Monthly or 6400km (4000 miles)					
Weekly or 1600km (1000 miles)					
Operation					
Inspect tyres for damage	X	X	X	X	X
Check tyre pressures	X	X	X	X	X
Check wheel nut torque	X	X	X	X	X
Check hub bearing adjustment *				X	X
Clean and grease hub bearings*					X
Check axle and suspension nut torque			X	X	X
Inspect axle and suspension components for wear and damage)			X	X	X
Crack detect axles (after 5 years then annually)					X
Check axle alignment				X	X
Check air suspension for leaks			X	X	X
Clean in line air filter (if fitted)			X	X	X
Check ride height			X	X	X
Check lift axle components and function			X	X	X
Check shock absorbers				X	X
Check electrical system	X	X	X	X	X
Inspect electrical cables for damage and security				X	X

** Refer to axle manufacturer's' information*

Preventative Maintenance Schedule - General					
Annually or 80000km (50000 miles)					
6 Monthly or 40000km (25000 miles)					
3 Monthly or 20000km (12000 miles)					
Monthly or 6400km (4000 miles)					
Weekly or 1600km (1000 miles)					
Operation					
Grease and inspect support legs				X	X
Grease and inspect fifth wheel		X	X	X	X
Grease and inspect rubbing plate	X			X	X
Grease and inspect king pin		X	X	X	X
Check and lubricate doors, tailgates and locking devices				X	X
Inspect steelwork and finished surfaces for security and corrosion	X	X	X	X	X
Inspect identification plates for security and corrosion	X	X	X	X	X
Inspect tire fastenings for security			X	X	X
Check and replenish automatic lubrication systems (where applicable)					
Check hydraulic oil reservoir	X	X	X	X	X
Check hydraulic components for leaks	X	X	X	X	X
Check hydraulic components for security				X	X
Check hydraulic cylinder mounting for security				X	X
Check body hinge brackets for security				X	X

Preventative Maintenance Schedule - General contd.					
Annually or 80000km (50000 miles)					
6 Monthly or 40000km (25000 miles)					
3 Monthly or 20000km (12000 miles)					
Monthly or 6400km (4000 miles)					
Weekly or 1600km (1000 miles)					
Operation					
Grease hydraulic cylinder pivots				X	X
Check condition of roll over sheet (where applicable)				X	X
Check condition of pull back straps		X	X	X	X
Check, clean and lubricate ratchet tensioners		X	X	X	X
Check and lubricate winding handle joints		X	X	X	X
Check mechanically operated covers **		X	X	X	X
Check and lubricate rear tipping bar	X	X	X	X	X

*** Refer to manufacturer's' information*

Fault Finding

CAUTION

This section provides some details of commonly occurring faults and has been prepared to minimise delay in repair and maintenance by endeavouring to locate the cause.

It is not designed to allow unqualified personnel to attempt repairs.

Where problems persist always refer to qualified personnel and/or refer to your nearest Fruehauf agent.

If in doubt ask!

Brakes		
Symptoms	**Cause**	**Result**
Brakes will not release	Park valve applied	Release and reset park
	Insufficient air supply	Check emergency line is connected and that the prime mover is supplying sufficient air Check for restricted or damaged pipe work Check for leaks Discharge water from reservoir drain valve
	Brakes rolled over camshaft (drum brakes)	Check brake lining wear and replace as required
	Caliper seized (disc brakes)	Check callipers for free movement
	Hub bearing failure or misalignment	Replace bearing
	Faulty control valve	Check system for correct pressures and check function
	Frozen valves	
Binding or grabbing brakes	Contaminated linings or pads	Replace
	Drum brakes out of adjustment	Readjust brakes. Check operation of slack adjusters where fitted
	Disc pad to rotor clearance incorrect	Setup callipers and check slide pins

Brakes		
Symptoms	**Cause**	**Result**
Binding or grabbing brakes	Brakes not releasing fully	Lubricate camshaft bushes (drum brakes). If auto-slack adjusters check for correct operation and rectify if required
	Check caliper slide pins	Strip and lubricate slide pins. Replace as required
	Oval brake drums	Ovality should not exceed 0.12mm (0.005”). Consult axle supplier
Uneven braking	Contaminated linings or pads	Replace
	Drum brakes out of adjustment	Readjust brakes. Check operation of slack adjusters where fitted
	Disc pad to rotor clearance incorrect	Setup callipers and check slide pins
	Brakes not releasing fully	Lubricate camshaft bushes (drum brakes). If auto-slack adjusters check for correct operation and rectify if required
Inefficient braking	Contaminated linings or pads	Replace
	Drum brakes out of adjustment	Readjust brakes. Check operation of slack adjusters where fitted
	Disc pad to rotor clearance incorrect	Setup callipers and check slide pins

Brakes		
Symptoms	**Cause**	**Result**
Inefficient braking	Brakes need overhaul	Strip down and replace brake components as required
		Check actuators for correct function
		Check for leaks and rectify as required
	Linings glazed	Linish* lining and brake drum surfaces
	Inadequate linings/ pads fitted	Fit new replacement components. Contact your Fruehauf agent for details
	Low brake (service) line pressure	Check for leaks in service line and at valves with brakes applied replace as required
	Load sensing valve incorrectly set	Check valve for laden and unladen setting, if in doubt contact your Fruehauf service agent
Slow brake application	Drum brakes out of adjustment	Readjust brakes. Check operation of slack adjusters where fitted
	Disc pad to rotor clearance incorrect	Setup callipers and check slide pins

Brakes		
Symptoms	**Cause**	**Result**
Slow brake application	Brakes need overhaul	Strip down and replace brake components as required
		Check for leaks and rectify as required
		Check actuators for correct function
	Leak in system when brakes applied	Check for leaks with brakes applied. Rectify and replace components as required contact your Fruehauf agent for details
	Low brake (service) line pressure	Check for leaks in service line and at valves with brakes applied replace as required
Noise and vibration	Incorrectly assemble components	Check brake components and rectify as required
	Oval brake drums	Ovality should not exceed 0.12mm (0.005”). Consult axle supplier
	Excessive cracking and grooving of disc	Replace disc rotor
	Disc run out not within tolerance	

Brakes		
Symptoms	**Cause**	**Result**
Anti lock system fault	Continuous ABS warning above 10Km/h agent for advice (6mph)	Contact your Fruehauf agent for advice
	Incorrect ABS warning lamp sequence on start up	
	No ABS warning lamp on start up	Check Bulb. Use the dedicated ISO supply. Contact your Fruehauf agent for advice
Excessive water in reservoirs	Reservoirs not drained often enough	Drain as per preventative maintenance schedule
	Prime mover air drier faulty	Check and rectify
Excessive oil in air system	Prime mover compressor faulty	Service compressor

Under Carriage (Running Gear)		
Symptoms	**Cause**	**Result**
Running out of alignment	Axles alignment incorrect	Realign axles. Check all suspension and axle components for damage. (U bolts, pivot pins and bushes, shock absorbers etc. Replace as required. Torque tighten all fittings
	Broken road spring/ trailing arm	Replace
	Air suspension down on one side	Contact your Fruehauf agent for advice
Lift axle will not lift	Insufficient air supply	Build up prime mover pressure to at least 5.8 Bar (85psi)
	Leak in system	Inspect for damage, leaks and rectify
	Faulty valve(s)	Check hand control and regulating valves
	Electrical fault	Check wiring and for cable damage on 24s connector
Lift axle will not lower	Faulty valve(s)	Check hand control and regulating valves
Air suspension - air bags flat	Insufficient air supply	Build up prime mover pressure to at least 5.8 Bar (85psi)
	Pressure protection/ charging valve	Check and reset to 5 bar (72psi)
	Blocked in line filter	Clean or replace element

Under Carriage (Running Gear)		
Symptoms	**Cause**	**Result**
Air suspension - air bags flat	Leak in system	Inspect for damage, leaks and rectify
	Faulty levelling valve	Inspect test and replace Contact your Fruehauf agent for advice
	Faulty air load sensing valve	
	Faulty exhaust valve (where fitted)	
	Faulty raise/lower valve (where fitted)	
Suspension deflates rapidly when parked	Leak in system	Inspect for damage, leaks and rectify
Excessively worn air bags	Bags contacting the frame tyres or rims	Check for correct tyre sizes and inflation pressures. Contact your Fruehauf agent for advice
	Over extension of air bags	Check variable height control (raise/lower) valve and set to “ride” position.
	Operating with insufficient air pressure	Check items listed under air bags flat
	Worn shock absorbers	Replace
Trailer rides too high or low	Levelling valve linkage disconnected or broken	Replace
	Incorrectly set levelling valve	Adjust
	Incorrectly set variable height valve (if fitted)	Set to “ride” position

Under Carriage (Running Gear) contd.		
Symptoms	**Cause**	**Result**
Trailer rides too low	Incorrectly set exhaust valve	Reset, push knob in
Excessive shock absorber wear	Levelling valve (over active suspension)	Check and replace
	Off road operation	Contact your Fruehauf agent for advice
Support legs difficult to operate	Legs set in high gear	Push shaft in for low gear. If this cannot be selected, strip gearbox and repair as required
	Lack of lubrication	Remove covers, inspect, lubricate and repair as necessary
	Bent legs	Replace as required
	Gears or components damaged	Overhaul legs

Electrical		
Symptoms	**Cause**	**Result**
Lights or other components not working	Poor connection or broken wire	Check wiring connections, junction boxes etc. For corrosion or water ingress. Check continuity and ground connections. Replace as required.
	Damaged	Inspect test and replace Contact your Fruehauf agent for advice

WARNING

It is an offence *to allow a vehicle to operate if any of the statutory lamps fitted are not functioning correctly, are damaged or are obscured in any way.*

CAUTION

Checking that the lamps are functioning correctly is the ***drivers responsibility*** *and should be undertaken before each journey*

Hydraulic		
Symptoms	**Cause**	**Result**
Pump fails to operate	Low Oil level in reservoir	Check and fill reservoir to correct level. (Single acting cylinders must be retracted when filling). Check for leaks.
	Air locked in system	Bleed system
	Blockage	Check for restricted or damaged pipe work
		Check filter
		Check control valve
Tip cylinder fails to extend	Overload valve incorrectly set	Reset valve to a minimum of 150 Bar (2175psi). Contact your Fruehauf agent for advice
Tip Cylinder creeps down slowly	Contamination in control valve	Service valve Contact your Fruehauf agent for advice

Always *release trapped residual Hydraulic pressure before dismantling any part of the Hydraulic system.*

Never *work beneath any unsupported load, when servicing the hydraulic system.*

Always *wear suitable Personal Protective Equipment (PPE).*

Emergencies

CAUTION

This Section is included for guidance only, it is not intended to over-rule any emergency procedures the driver already knows but to assist where uncertainty may exist.

If you are conveying hazardous or dangerous substances you must display the correct Emergency cards or markers.

If in doubt, ask!

Notes

FRUEHAUF
ENGINEERING EXCELLENCE

Notes

Notes

FRUEHAUF®

Operation and Maintenance Manual
Version 1, 2023

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