Operator’s Manual Q-series

60018754 A2
2017-06
EN

NSL: | Q3 | Q4 | Q5 | Q6

MSL: | $Q3^{S}$ | $Q3^{M}$ | $Q3^{L}$ | $Q4^{S}$ | $Q4^{M}$ | $Q4^{L}$ | $Q5^{S}$ | $Q5^{M}$ | $Q5^{L}$ | $Q6^{S}$ | $Q6^{M}$ | $Q6^{L}$ | $Q7^{S}$ | $Q7^{M}$ | $Q8^{S}$ | $Q8^{M}$

Quicke®

Original instructions

Caution!
Read through the entire instruction manual before you start to use the product.

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1. PREFACE

1.1. General information

Warning!
Careless or incorrect use of the loader/implement may result in serious injury or fatality for the driver or others. Observe the safety instructions.

This user manual describes the commissioning, operation and maintenance of agricultural loaders. The information in the user manual was correct when this manual went to press. Please visit your dealer if there is anything you do not understand in the manual.

One user manual is supplied with every machine in order to show the driver how it should be operated and maintained. Read and use the information so that you can use the machine in a safe manner, in combination with short stoppages. This machine is designed with simple service in mind, and it can be maintained with normal hand tools.

Read and study the text in the user manual thoroughly before you start to use the machine. If you are not an experienced driver, study the user manual and ask an experienced driver to explain things to you. Your dealer can help you by teaching you about operation and suitable work methods. Keep this user manual readily available, preferably inside the tractor. Get a new user manual if the old one is damaged or lost.

Warning!
Read through the entire user manual before you start to use the product.

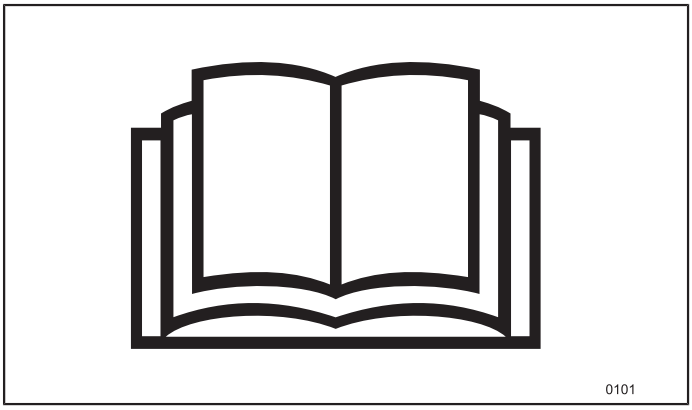


Fig.1 Read through the entire user manual before you start to use the product.

We reserve the right to introduce changes to design and specification, or improvements at any time, without prior notice or commitment.

Important! The loader and loader subframe combination is designed for a specific tractor model. Contact your dealer for the correct combination for a specific tractor model Do not fit incorrect combinations.

Installation and operation instructions for implements and accessories are not included in this user manual. Use the publications supplied with each implement.

1.2. Identification

1.2.1. Model and serial number

Each loader has a machine sign (A) with an identification number. The sign is located on the inside of the left arm.

The sign specifies:

- Product: Machine name
- Type: Type/model
- Made by: Manufacturer's full address and country of manufacture
- Ref. No.: Loader reference number
- Serial No: Loader serial number
- Date: Date of manufacture

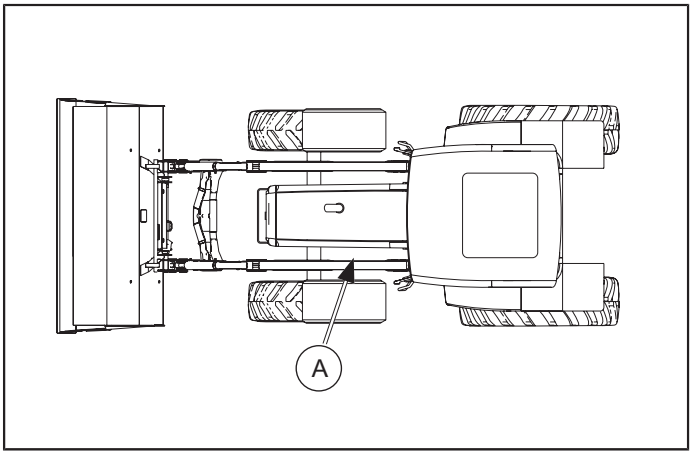


Fig.2 Position of machine sign.

- Weight: Loader weight without implements, according to the factory delivery specification.

Always state: the type (A), serial number (B) and date of manufacture (C) during service questions or when spare parts are needed.

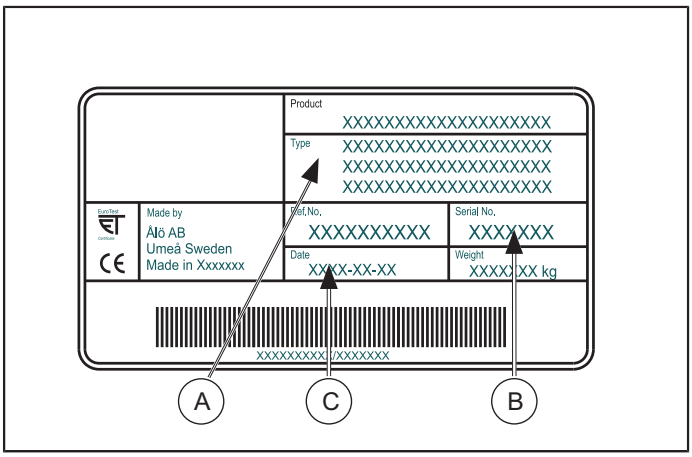


Fig.3 Machine sign.

Cylinders, valves, control cables and hoses are equipped with machine signs or punched/printed order numbers.

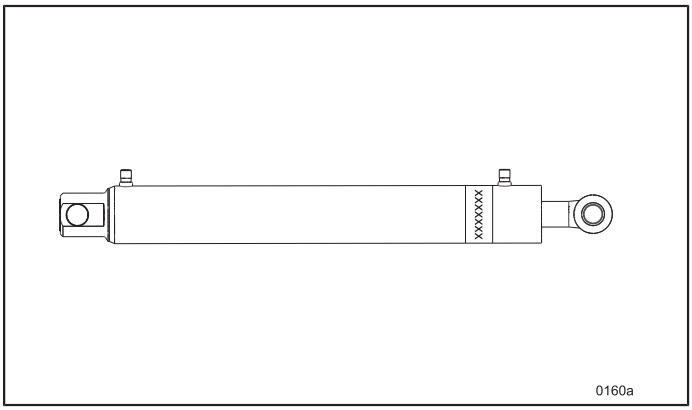


Fig.4 Marking of components, e.g., cylinders.

1.3. Alignment reference

Throughout this user manual, references to the right (RH) and left (LH) are seen from the operator's seat in forward direction, with the operating control fitted to the right of the operator.

Note. Some illustrations in this user manual may show a different model of tractor or loader, compared with your loader. The same information applies to your equipment unless otherwise specified, however.

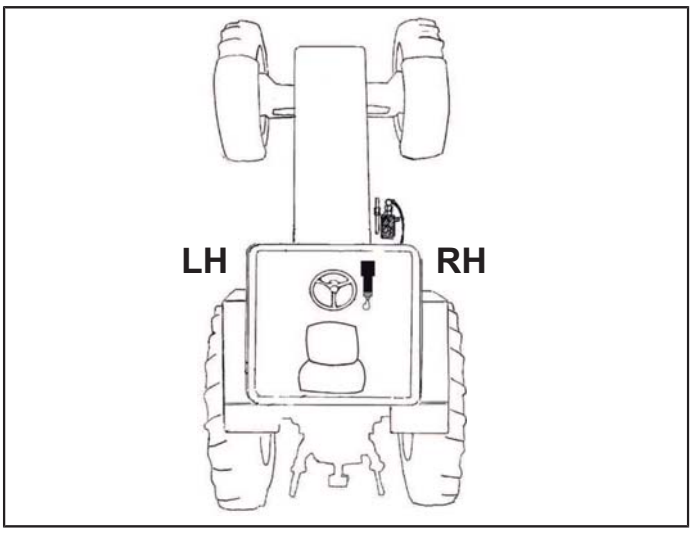


Fig.5 Alignment reference

1.4. Setting joystick position

Important! Adjust the joystick to achieve an ergonomic location.

1.4.1. EasyDrive LCS/Electro Drive LCS

Normally, the vertical, longitudinal and lateral positions and the angle of the joystick are adjustable.

Vertical adjustment: Loosen the handle on the control plate, adjust the height, tighten again.

Angle, longitudinal and lateral adjustment: The control is placed on a “gooseneck”, which allows adjustment to be made in all directions.

1.4.2. ErgoDrive/ErgoDrive LCS

Normally, the joystick angular and longitudinal positions can be adjusted.

Adjusting the angle and longitudinal positions: Undo the knobs/bolts on the joystick bracket, adjust forwards/backwards; adjust the angle, tighten.

Depending on the type of joystick bracket, it may be possible to adjust the height.

Height adjustment: Undo the knobs/bolts on the joystick bracket; adjust the height, tighten.

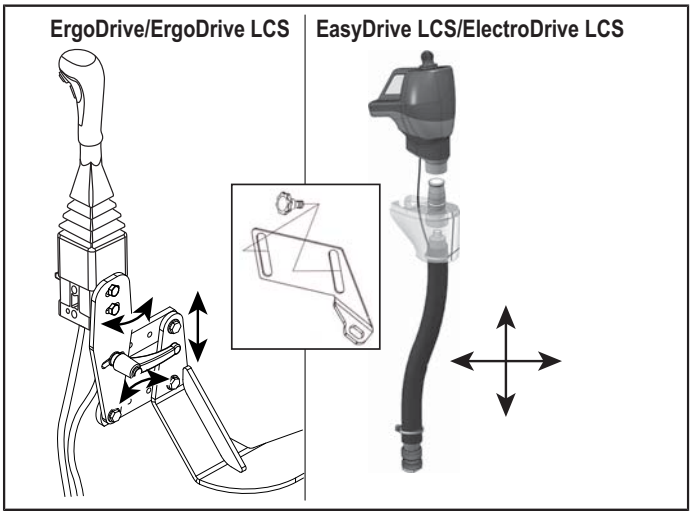


Fig.6 Adjusting the joystick

2. DESCRIPTION AND DEFINITIONS

Not all options fit all loaders. Please contact your dealer to ask about suitable options which are just right for your loader.

Not all accessories are available in all markets.

2.1. Description

The front loader is designed to:

- Be fitted to wheeled agricultural and forestry tractors.
- Handle various certified implements for lifting, carrying, cutting, scraping, grading, sweeping and ploughing.

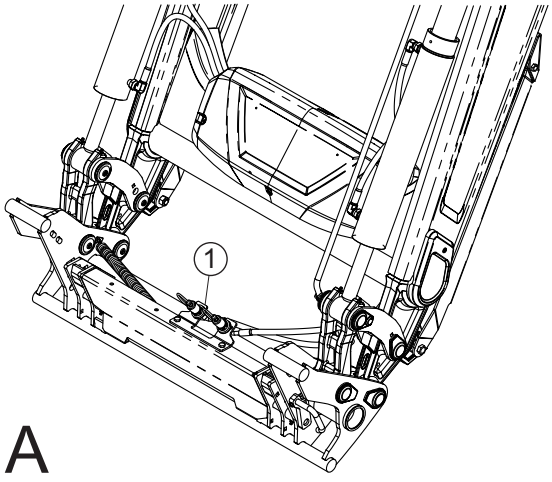
Warning!
Risk of crushing, jamming and tipping. If any of a loader's hoses break, the loader/implement/load may fall uncontrolled. If a hose does break, remedy the issue immediately as per section *5. Maintenance*. When changing parts, only use original spare parts to restore the machine to its original quality standard. Decontaminate the land in accordance with applicable requirements/legislation in the country or region you are in.

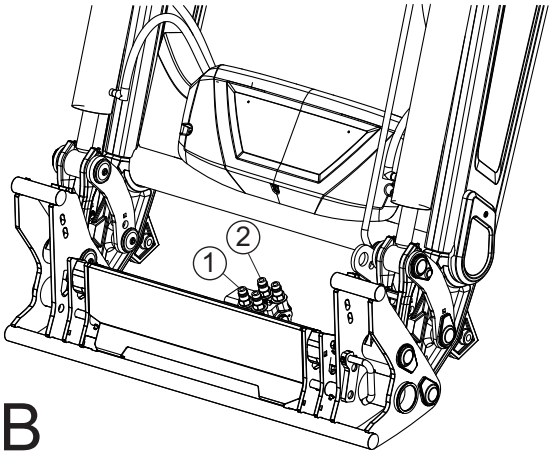
Important! Faults in the power supply to the loader's electrical and/or hydraulic systems may mean that certain functions cannot be activated. E.g: raising the loader, opening the implement, third and fourth hydraulic functions etc.

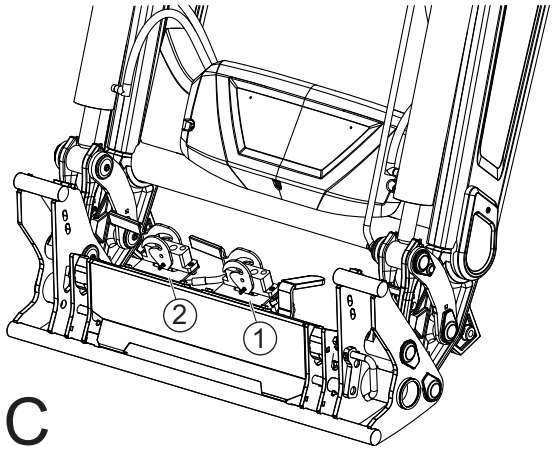
2.2. Definitions

2.2.1. Third/fourth hydraulic function

The loader can be equipped with the third hydraulic function (1) and the fourth hydraulic function (2) for operating hydraulic implements.







A Example: Third hydraulic function

B Example: Third and fourth hydraulic function

C Example: Third and fourth hydraulic functions with Selectofix

2.2.2. Live3 (active third hydraulic function)

The loader can be equipped with Live3.

Live3is an active third hydraulic function which allows operation of the loader and the hydraulic implement simultaneously.

Note. When the loader is equipped with Live3 and an Ergodrive joystick, the fourth hydraulic function cannot be used.

Note. When the loader is equipped with Live3 and an EasyDrive or ElectroDrive joystick, the fourth hydraulic function can be used.

Fig.7 Live3

2.2.3. Implement lock

The loader is equipped with a mechanical or hydraulic implement lock.

2.2.3.1. Mechanical implement lock type Click-on

Automatic implement locking upon connection.

Manual implement unlocking upon disconnection.

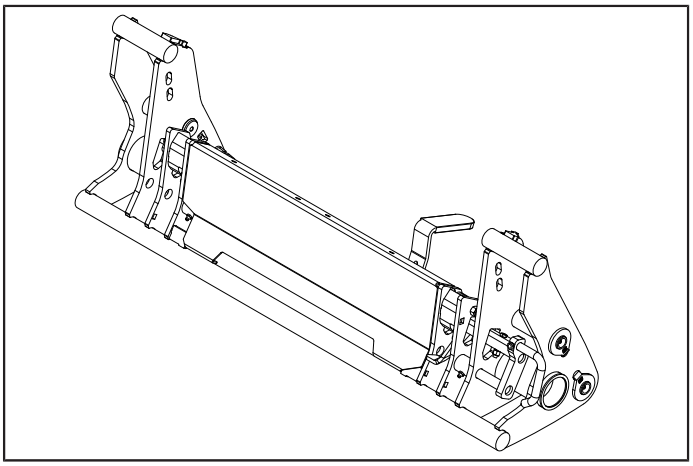


Fig.8 Mechanical implement lock type Click-on

2.2.3.2. Hydraulic tool locking, Q Lock

Hydraulic implement locking upon connection.

Hydraulic implement unlocking upon disconnection.

Locking and unlocking via a joystick in the operator's position.

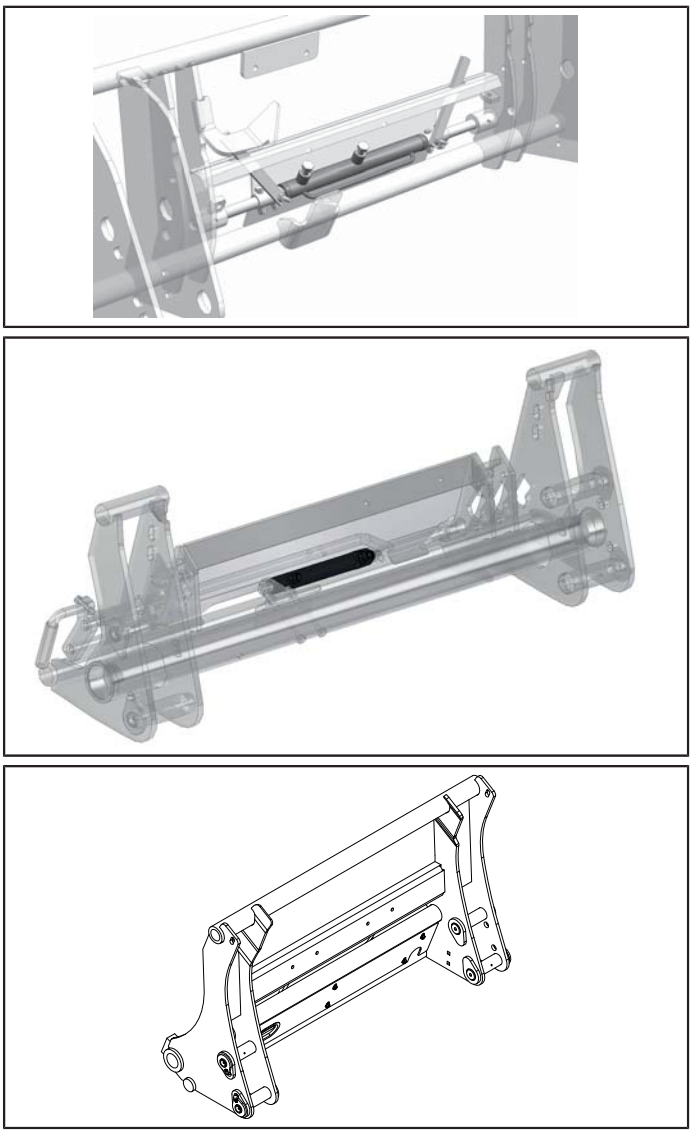


Fig.9 Illustrations: Hydraulic implement locking

2.2.4. Hydro Quick / Multi-coupler MC4

Multi-couplers facilitate connection and disconnection of the loader hydraulics to the control valve. The risk of incorrect connection and oil spills is eliminated.

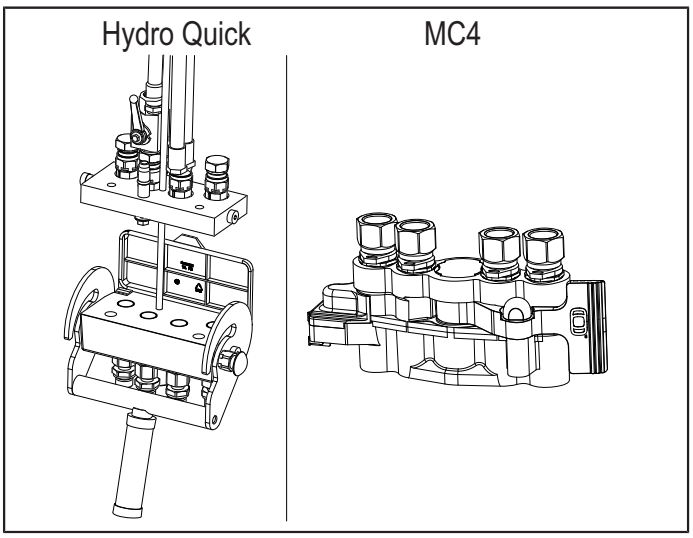


Fig.10 Multikoppling: Hydro Quick / Multikoppling MC4

2.2.5. Single couplers

Connection and disconnection of the loader's hydraulics to the control valve using single ISO-A couplers (ISO7241 1/2") or flat face couplers (ISO16028 3/8").

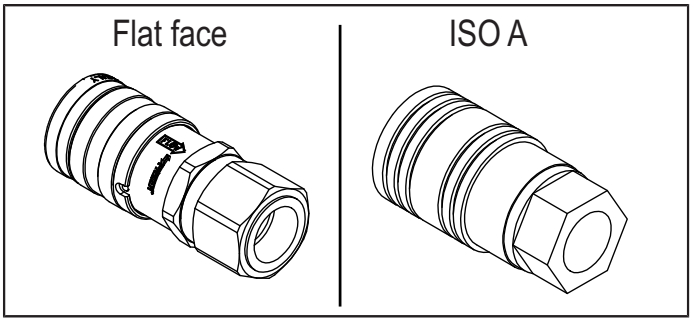


Fig.11 Single couplers: Flat face / ISO A

2.2.6. Loader Control System

The Loader Control System consists of:

- Alt 1: Mechanical control valve and mechanical joystick with button functions
- Alt 2: Electro-hydraulic control valve and mechanical joystick with button functions.
- Alt 3: Hose kit for the tractor's own control valve/ joystick.
- Installation kit containing hydraulic hoses for the specific tractor model.

2.2.6.1. ErgoDrive / ErgoDrive LCS

The loader is operated using:

- Mechanical control valve.
- Mechanical joystick with button functions.

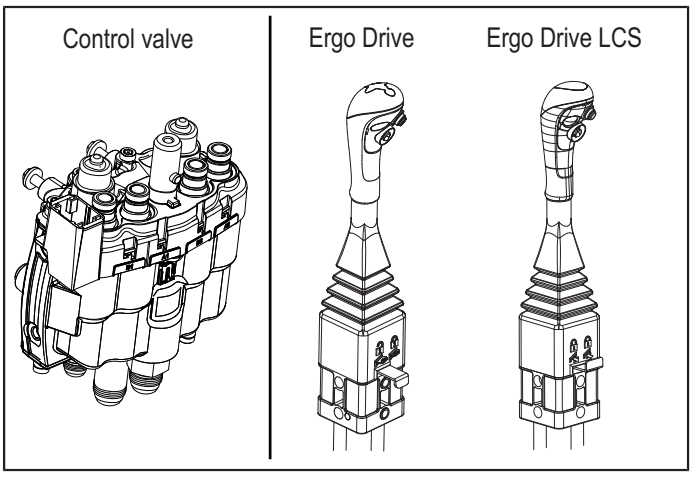


Fig.12 JoystickErgoDrive/ErgoDrive LCS

2.2.6.2. ElectroDrive LCS / EasyDrive LCS

The loader is operated using:

- Electro-hydraulic control valve.
- Electrical joystick with button functions.

Electrical controls (LCS) are equipped with:

- Joystick – easily operated using the thumb or thumb/ index finger.
- Display – facilitates operation of the extra functions and provides information.
- Function button

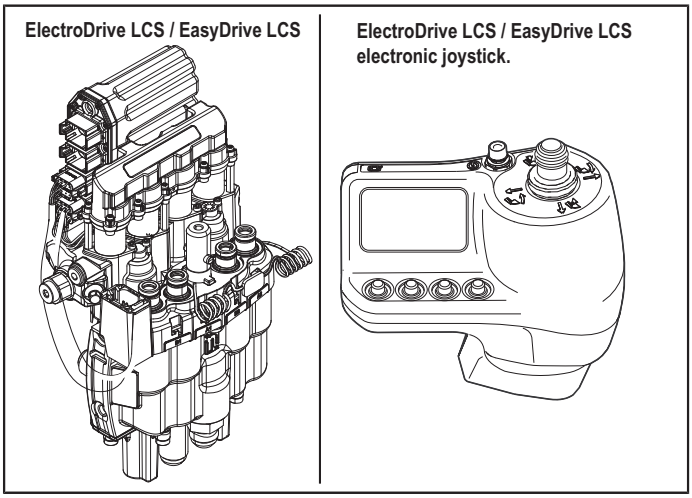


Fig.13 ElectroDrive control valve unit (valve and master unit) and ElectroDrive joystick

2.2.7. Lock & Go

Automatic coupling between loader and subframe.

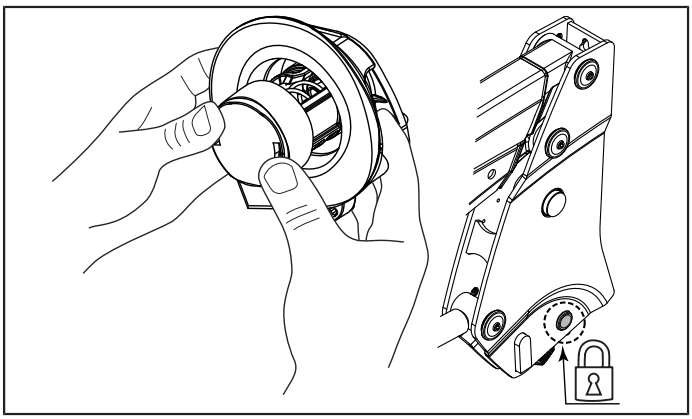


Fig.14 Lock & Go, green indicator shows loader is locked to subframe.

2.2.8. Position indicator

The indicator shows the implement angle relative to the ground.

The indicator can be adjusted as necessary depending on the implement in use or the desired indication angle.

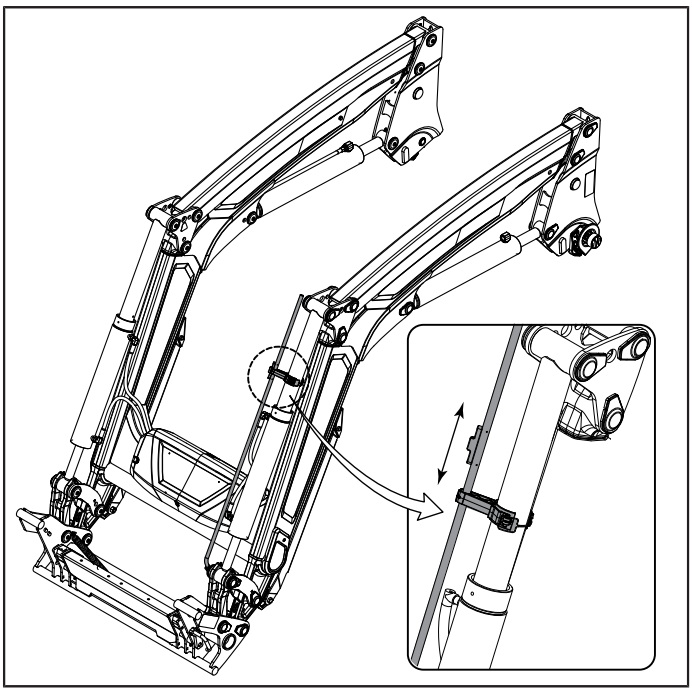


Fig.15 Position indicator

2.2.9. Compact Valve Unit (CVU)

Loader diverting valve. The valve distributes hydraulic fluid for raising/lowering, opening/emptying, 3rd/4th hydraulic functions, boom suspension and the hydraulic implement lock.

Note. A third hydraulic function or Live3 is necessary for operating hydraulic implement locks.

Fig.16 Diverting valve, Compact Valve Unit (CVU)

2.2.10. Hydraulic implement connection, Selecto Fix

Facilitates connection and disconnection of implement hydraulics to the third and fourth hydraulic functions. Selecto Fix eliminates the risk of incorrect connection and oil spill.

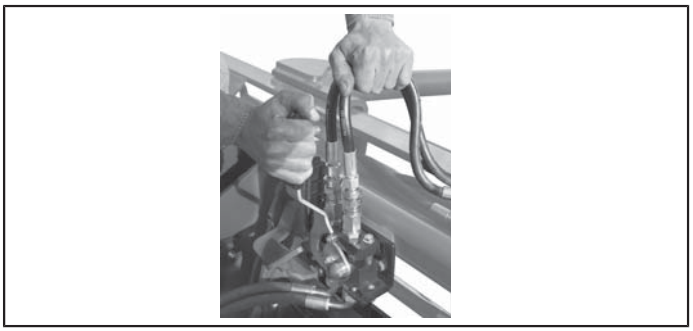


Fig.17 Hydraulic implement connection

2.2.11. Hose kit

Hoses and hydraulic components for connecting the loader to the tractor's own control valve.

2.2.12. Boom suspension, SoftDrive

Improves operator comfort.

Secures the load; reduces the risk of the load falling from the implement.

Reduces stress on the tractor and loader when driving on rough surfaces.

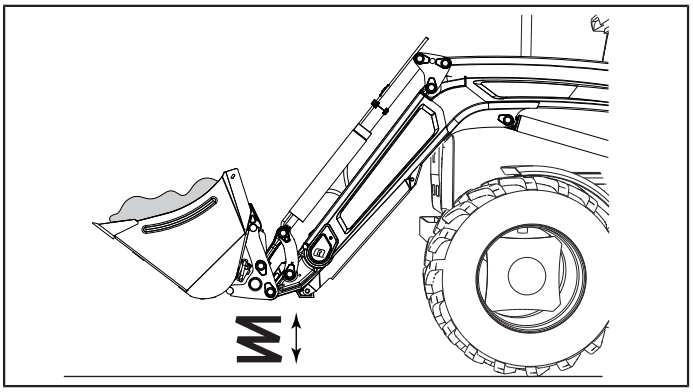


Fig.18 Boom suspension.

2.2.12.1. Electric shut-off, boom suspension

Joystick button to activate or deactivate the loader's boom suspension function.

If the loader is controlled using the tractor's own joystick, there may be a separate button that activates/deactivates the boom suspension function.

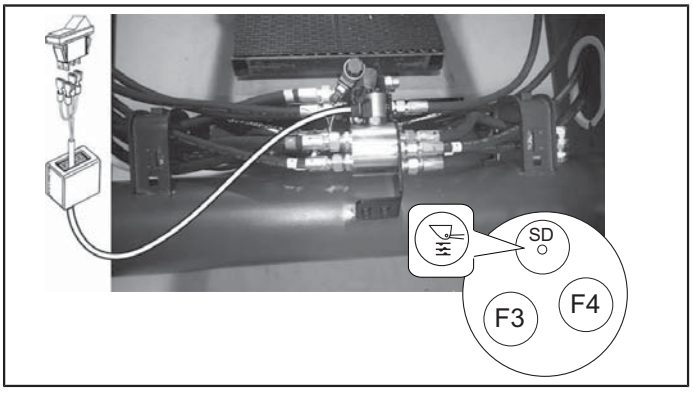


Fig.19 Electrical shut-off of load dampening function.

2.2.13. Hose protection

Important! Loader installation on tractors without cabs: Make sure no hoses are closer than 1 metre from the operator in the normal operating position. If there are hoses closer than 1 metre, the Hose Protection accessory must be used. Contact your dealer for more information.

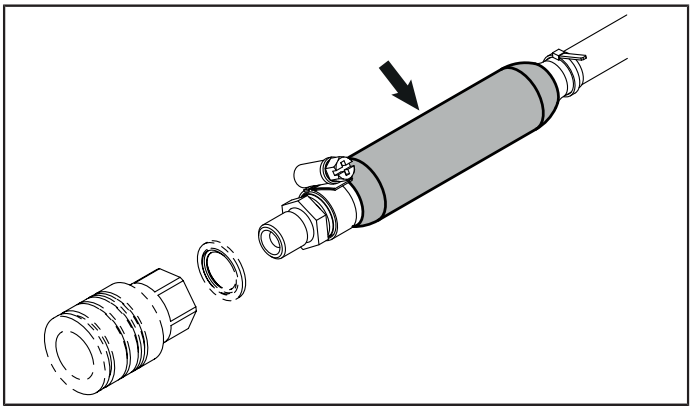


Fig.20 Hose protection

2.2.14. Hose Burst Protection

If the loader has supplementary Hose Burst Protection fitted, individuals are permitted to work close to a raised load if essential. Hose Burst Protection protects against energy losses/pressure drops in the system. In the event of a hose burst, the loader will be locked in order to protect, as much as possible, any individual near the raised load.

For more information, contact the dealer.

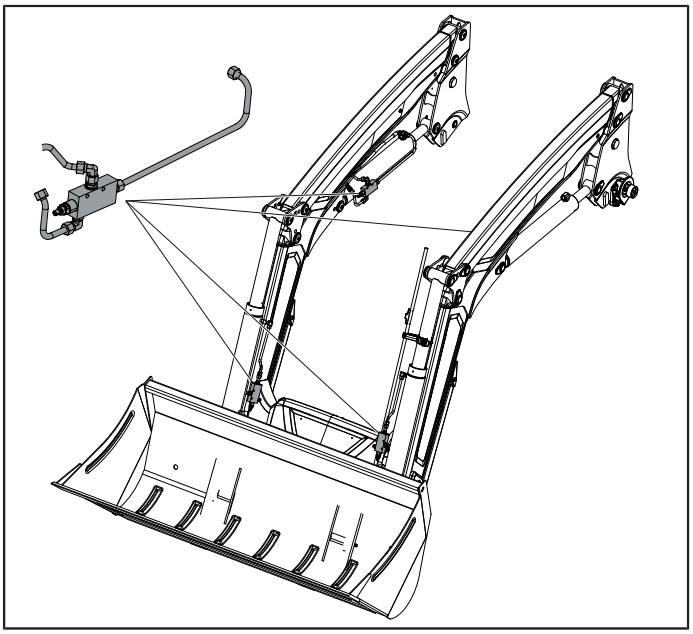


Fig.21 Hose Burst Protection

2.2.15. Counterweight

To increase tractor stability, a counterweight can be mounted on the back of the tractor.

Counterweights are available in two different models:

- **Fillable:** the counterweight must be filled to the required weight to achieve the correct axle loads on the tractor.

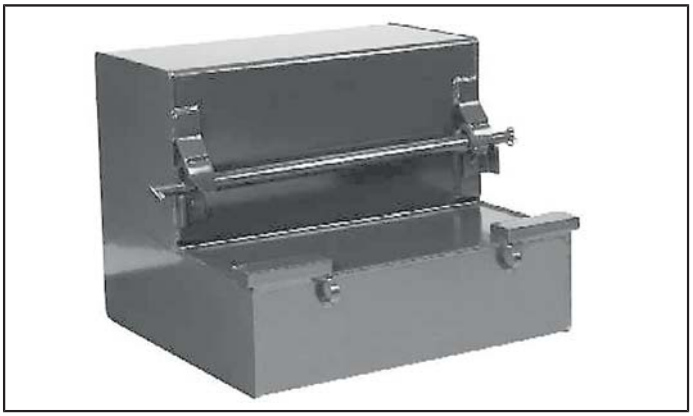


Fig.22 Example: Counterweight - fillable

- **Q-Bloq:** Available in three different sizes; 600 kg, 900 kg and 1800 kg. Select the appropriate weight to achieve the correct axle loads on the tractor. Q-Bloq can be equipped with an additional weight of 600 kg.

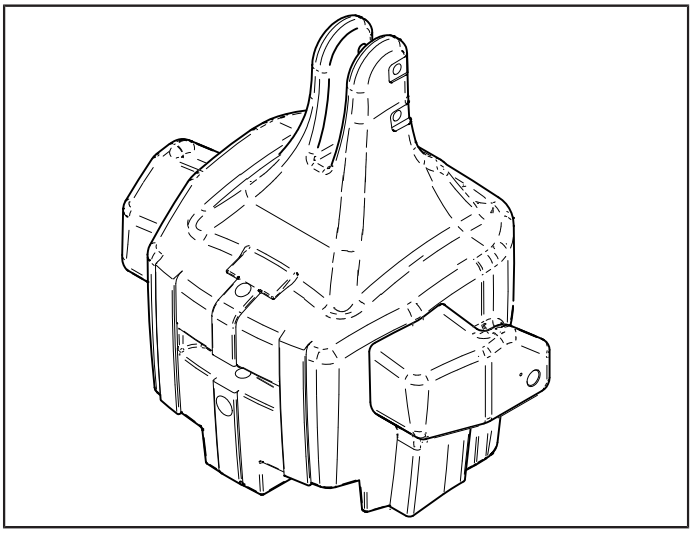


Fig.23 Example: Counterweight - Q-bloq

2.2.16. Systems DM, DL and DXL

C/C distance between loader arms. Available in the following widths:

DM - c/c distance = 1040 mm.

DL - c/c distance = 1200 mm.

DXL - c/c distance = 1420 mm.

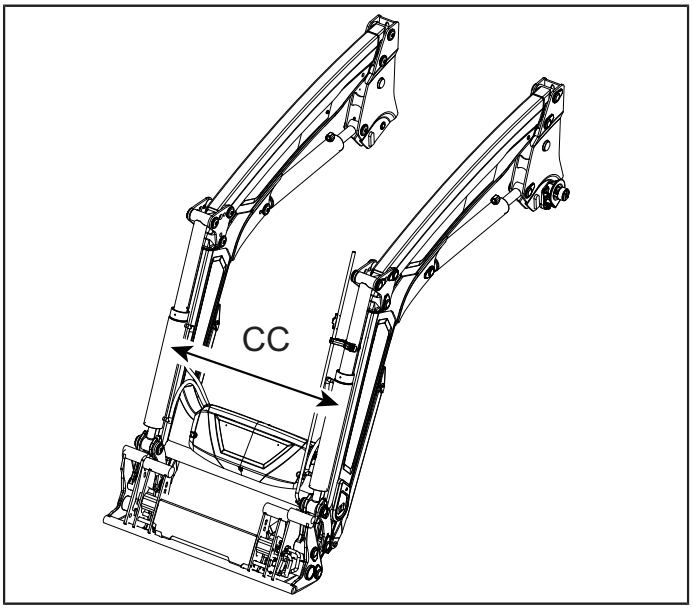


Fig.24 C/C distance

2.2.17. Mechanical Self Levelling loader, MSL

Mechanical Self Levelling loaders improve safety, precision and operating speed. The parallel links keep the implement at the same angle relative to the ground throughout raising and lowering.

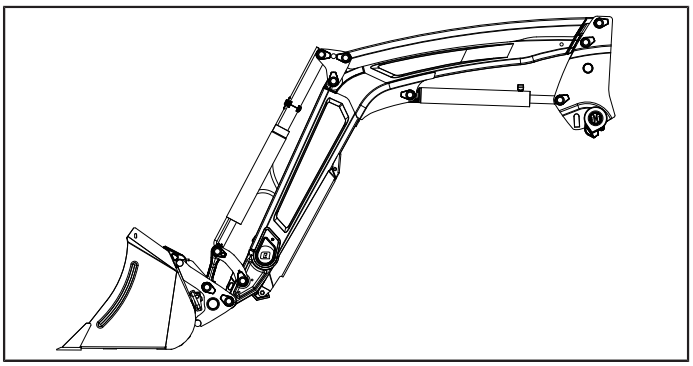


Fig.25 Mechanical Self Levelling loader, MSL - overhead P-link (Mechanical Self Levelling)

2.2.18. Non-Self Levelling loader, NSL

The Implement changes its angle in relation to the ground throughout raising and lowering.

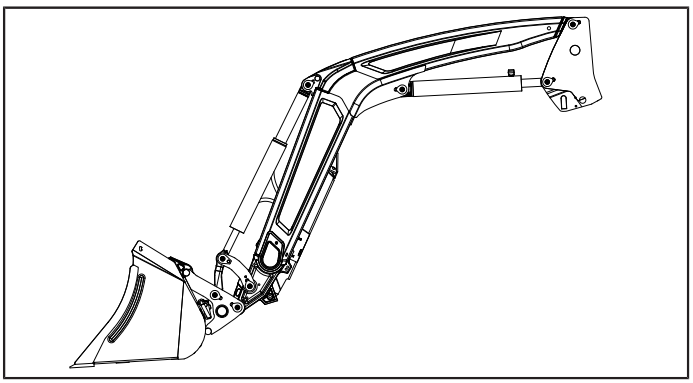


Fig.26 Non-Self Levelling loader, NSL (Non Self Levelling)

2.2.19. Tool carrier

The loader can be equipped with various types of tool carrier (X) to fit your existing tool mountings.

The most common tool carrier is the Euro (8), designed according to Euro standard ISO 23206.

The implement can be locked automatically (Click on) or manually when attaching.

Hydraulic implement locking is available as an accessory.

The COMBI tool carrier fits two different types of implement hooks; see the list of possible combinations below. Contact your dealer to see which COMBI tool carriers will fit your loader model.

Only use implements that are suitable for the loader and its tool carrier.

1 = Skidsteer

8 = EURO

8+2 = EURO+MX (Combi)

8+3 = EURO+ÅLÖ (Combi)

8+4 = EURO+FX (Combi)

8+5 = EURO+SMS (Combi)

8+6 = EURO+VALTRA (Combi)

8+7 = EURO+ÅLÖ HD (Combi)

9=Volvo BM (large)

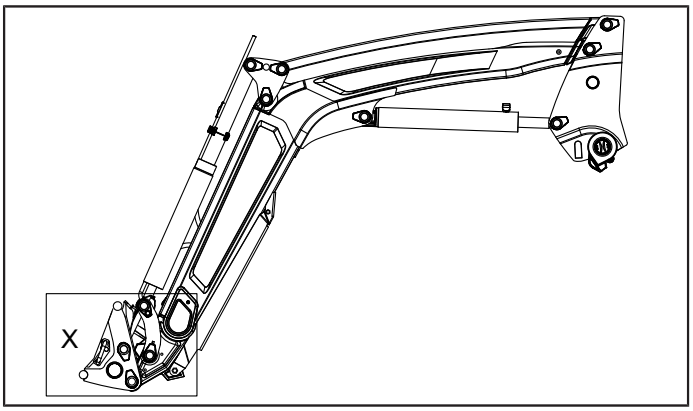


Fig.27 The loader can be equipped with different tool carriers.

2.2.20. Implement hooks

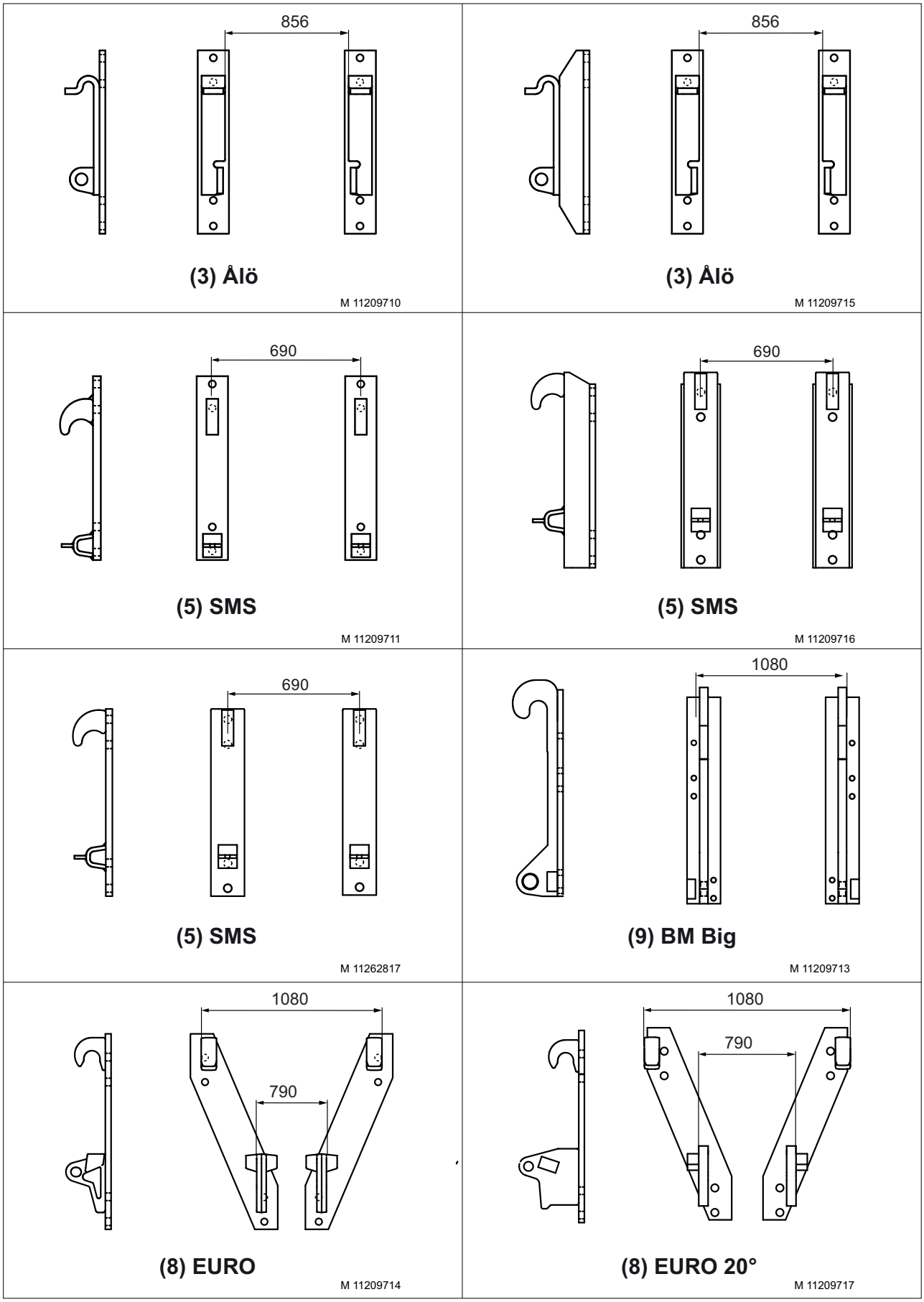


Fig.28 Implement hooks, examples

3. SAFETY INSTRUCTIONS

3.1. General information

Driver safety is one of the most important matters when a new loader is designed. The design incorporates as many safety functions as possible. Several accidents occur every year which could have been avoided by taking a few seconds to think more carefully about the task in hand and through more careful operation of the loader/tractor.

Avoid personal injury. Read the following personal safety instructions and insist that everybody who works with you, or for you, also complies with the instructions.

Incorrectly designed implements may cause personal injury and damage to the loader. For this reason, do not install third party implements without making sure they have been approved by the loader manufacturer.

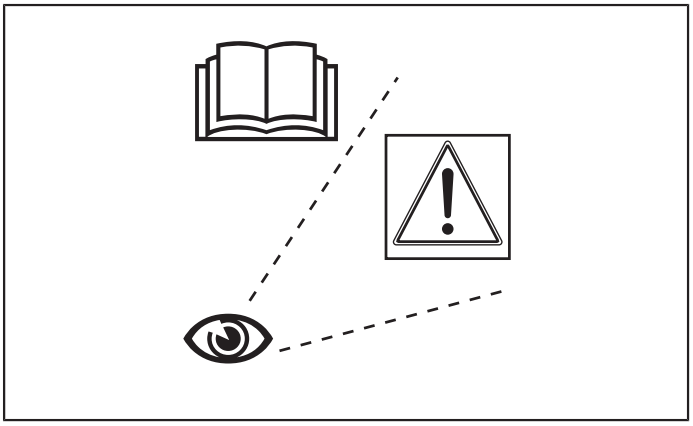


Fig.29 Locate, read and find out what the decals mean before the loader and implement are used.

3.1.1. Guards

This user manual contains a number of illustrations which show the guards removed, to give a better picture. Never use the machine with the guards removed. If a guard has been removed for service/repairs, re-install the guard before the machine is taken back into service.

3.1.2. Warning, prohibition and information decals.

Warning, prohibition and information decals are located in various places on the loader. Locate, read and ascertain what the decals mean before using the loader and tools. See section *3.8. Location of warning, prohibition and information decals*.

Do not cover or remove any of the decals. If a decal is missing or illegible, replace it with a new decal. New decals are available from your dealer.

3.1.3. Explanation of warning levels

When you see the safety symbol and the signal word on decals or in the user manual, the instructions MUST be followed since they concerns your own and others' personal safety.

Warning!
Means an accident may occur if the instruction is not followed. The accident might lead to serious personal injury or fatality.

Caution!
Means an accident may occur if the instruction is not followed. An accident could lead to personal injury.

Fig.30 Safety symbol.

The following texts and instructions do not refer to personal safety, but are used consistently in the user manual, to provide tips about operation or service of the machine.

Important! Means that an accident could occur if the instruction is not followed. The accident might lead to damage to the property or to the process, or personal injury.

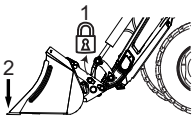
Note. Refers to extra information which could facilitate the understanding or implementation of a certain task.

3.1.4. Explanation of symbols

A User manual. Read the user manual; it contains important information for your safety.

B Warning symbol. Information in combination with this symbol must be complied with. It concerns your personal safety and that of others present in the vicinity of the tractor.

C Implement lock. ALWAYS make sure connected tools are locked in place.

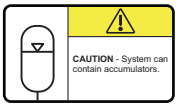


D Pinch risk. Never stand between the front of the tractor and the loader.

E Risk of falling. Do NOT use the loader to lift or transport people.

F Fall risk. Do not use the loader or the implement/bucket as a working platform.

H Pressurized accumulators may be present in the hydraulic system.



3.1.5. Responsibility

Caution!
Always stow the loader's user manual as well as the tractor's own user manual in the tractor.

- If there is no user manual included with the tractor then obtain one from the dealer before fitting and using the loader.
- Read through all material carefully and learn how to use the equipment in a safe and correct manner.
- Only qualified individuals may use the tractor/loader/implement.

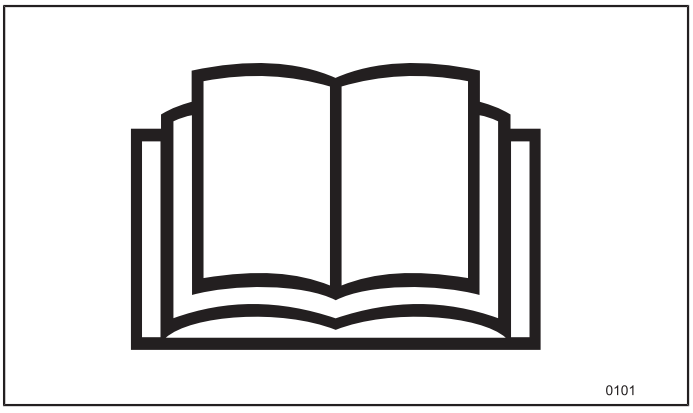


Fig.31 Always stow the loader's user manual as well as the tractor's own user manual in the tractor.

Warning!
Only use the loader and implement for their intended use.

Any accompanying passenger in the tractor must sit in the passenger seat as indicated by the manufacturer.

3.2. Installing the loader

Warning!
The loader must not be connected in series with any of the tractor's functions. Working with the loader requires the operator's full attention.

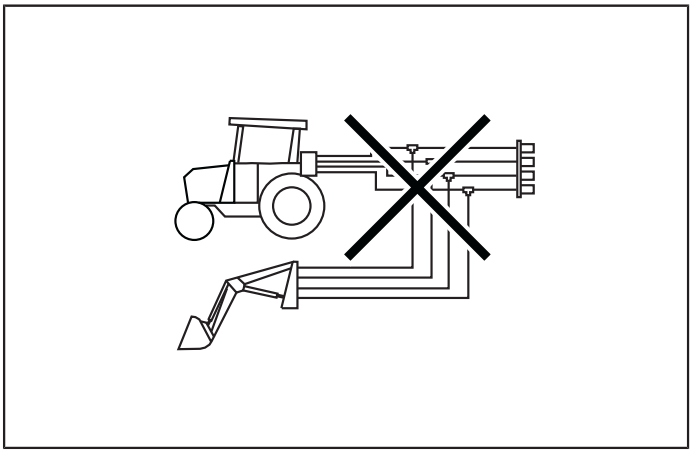


Fig.32 The loader must not be connected in series with any of the tractor's functions.

Warning!
Pressurised hydraulic fluid.

Hydraulic fluid at high pressure can be injected into the body in the event of leakage and cause serious injury, blindness or fatality. Leakage may be invisible.

Use approved protective safety glasses and protect the skin using strong leather gloves for example. Use cardboard or similar materials for leakage detection. If hydraulic fluid has penetrated the skin, it MUST be removed immediately by a doctor who can treat this type of injury. Seek medical attention immediately if hydraulic fluid penetrates your skin. Serious reactions and/or infections can rapidly occur if the hydraulic fluid is not surgically removed at once.

Fig.33 NEVER use fingers or hands for leakage detection.

Connecting/locking the loader in place on the subframe; see *4.10. Loader coupling and uncoupling*.

Checklist - Loader installation:

When the loader has been installed - check carefully that everything works before it is taken into service. Check the following and take the necessary measures.

1. Check that everything has been installed in accordance with the installation instructions.
2. Check that the necessary counterweight is fitted with regard to the implements and intended area of application.
3. Check that all screws are tightened.
4. Make sure that the front wheels clear the loader and the subframe when there is full wheel lock and oscillation — if this is not the case, the tractor's track width must be adjusted and/or oscillation stops or limitation of steering lock must be installed.
5. Make sure the loader is locked in place in the subframe. The green end of the Lock & Go locking pin must be visible on the inboard sides of the right and left bearing boxes.
6. Check that no oil leakage occurs.

7. Operate all loader functions several times to remove air from the system.
8. If the loader is equipped with a hydraulic implement lock, the lock must be continuously operated to its end positions (locked/open) for 3 minutes to remove all air from the lock cylinder. At the end position, allow the hydraulic pressure to build up to max system pressure; hold for around 1 second. **NOTE!** No implement may be connected when venting the lock cylinder.
9. Check the tractor hydraulic fluid level - top up as necessary.
10. Check that the implement lock pins engage when connecting an implement by pressing the front section of the implement against the ground.
11. Check that the loader does not have any visible defects.

Important! Loader installation on tractors without cabs: Make sure no hoses are closer than 1 metre from the operator in the normal operating position. If there are hoses closer than 1 metre, the Hose Protection accessory must be used. Contact your dealer for more information.

Important!
Unexpected movement when the loader's joysticks are actuated. It is not permitted for both the loader and other hydraulic equipment to move simultaneously.

Should this occur, you MUST immediately: Park the machine as described in section *4.10.3. Disconnecting the loader - LCS.* or deactivate the hydraulic function that is moving simultaneously with the loader.

3.3. Tether stop

Warning!
Automatic loader movements may only be performed using a dead man's handle. If the joystick's dead man's handle is not working, shut down the tractor immediately. Resolve the fault before using the tractor again.

The dead man's handle stops the activated loader function as soon as the joystick is released and returns to its neutral position.

Important! Activated float position does not automatically return to neutral, but must be deactivated.

If the loader is connected to a tractor valve with a programmable joystick without a dead man's handle, see the tractor's user manual for information on why the programmable function MUST be deactivated.

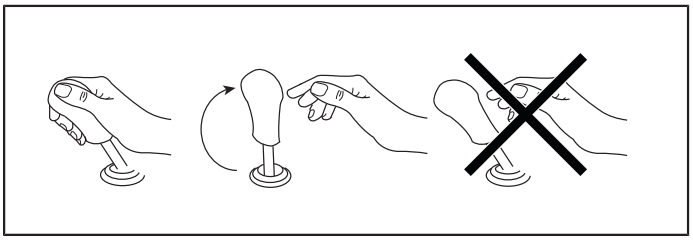


Fig.34 The joystick must return to the neutral position when released.

3.4. Protection equipment

3.4.1. Safety belt

Warning!
If the tractor is equipped with a seatbelt, it must be used and be correctly adjusted during work. Change damaged seat belts before the machine is used.

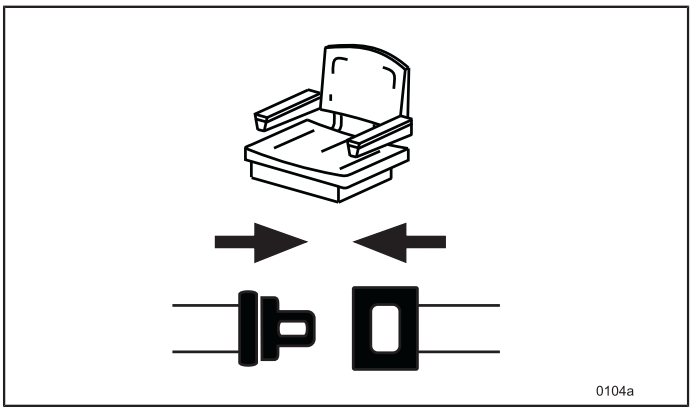


Fig.35 Wear the seatbelt when working.

3.4.2. ROPS, Rollover protection structure

The tractor must be fitted with ROPS, frame or cabin.

Warning!
Only use a loader on a tractor equipped with ROPS. If possible, use the tractor and loader with ROPS in the upright and locked position and with the safety belt fastened and correctly adjusted. When driving in areas with limited height clearance and ROPS lowered, never use the safety belt. ALWAYS reset ROPS to the upright and locked position as soon as circumstances allow.

Fig.36 Rollover risk - wear the seatbelt.

3.5. Operation

3.5.1. Before work

Familiarise yourself with the working area and terrain. ALWAYS inspect the site before starting work. Look out for holes in the ground, stones and other hidden dangers.

- Do NOT drive a machine that is damaged or missing components. Make sure that the recommended maintenance work has been done before the machine is used.
- Check all controls regularly and adjust as necessary. Ensure that the tractor's brakes are adjusted to pull evenly.
- Check all nuts and bolts regularly for tightening, especially tractor wheel and subframe fasteners. See section *5. Maintenance* for information regarding tightening torque for the loader and the loader's subframe.
- Ensure that the loader is correctly installed on the tractor, and that all pins are locked.

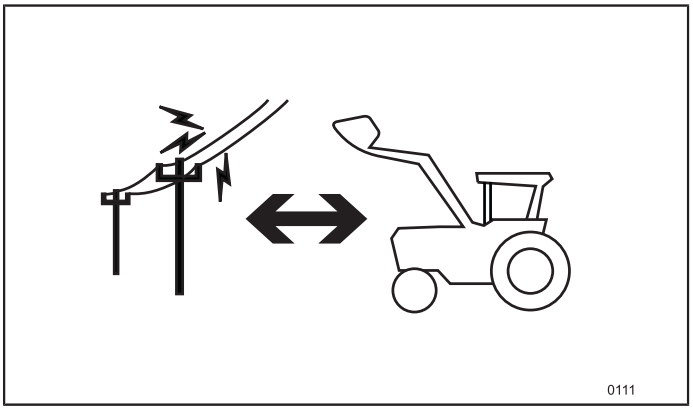


Fig.37 Learn to know the working area before starting. Keep a safe distance from electrical power lines and other obstacles.

- Make sure pivot points are greased.
- Change worn components before the machine is used.

3.5.2. Operator's/Driver's position

Caution!
Only operate the machine when sitting in the driver's seat.

Fig.38 Only operate the machine when sitting in the driver's seat.

- Drive carefully and think about safety.
- Always leave the brake pedals locked to each other. NEVER use parted brakes with a loader mounted to avoid the risk of losing control of the tractor and/or the tractor overturning.
- Always adjust the speed to the current conditions. Never drive so fast that you cannot stop quickly in an emergency situation.

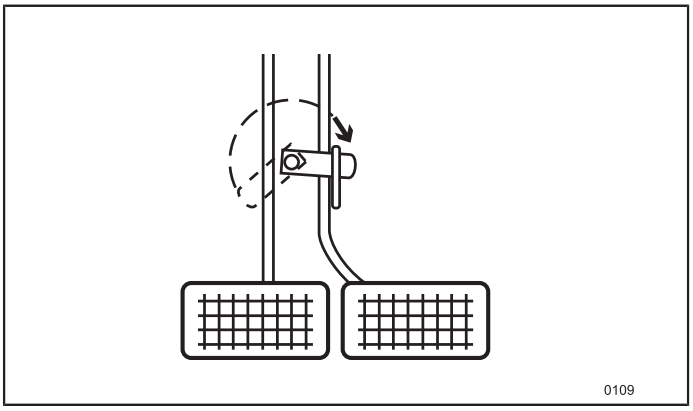


Fig.39 Always leave the brake pedals locked to each other.

3.5.3. Connecting implement

3.5.3.1. Manual implement lock

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose. The locking lever must be back in its locked position (1). ALWAYS make sure the connected implement is locked in place by pressing the front of the implement against the ground (2).

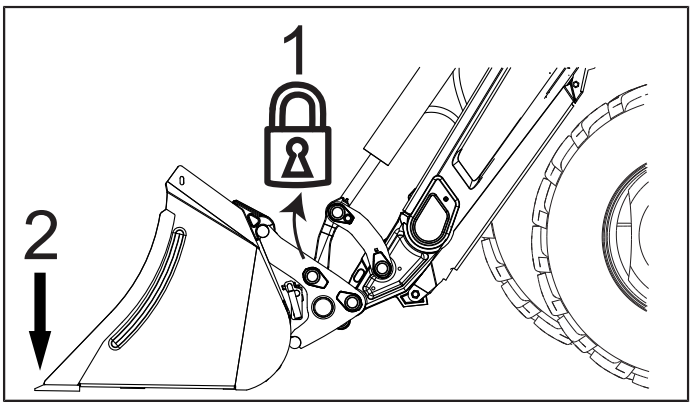


Fig.40 Check that the implement is secured by pressing its front end against the ground.

Tool carrier lock indicators look different depending on the type of tool carrier installed on the loader. Carefully check how YOUR tool carrier indicates a locked implement.

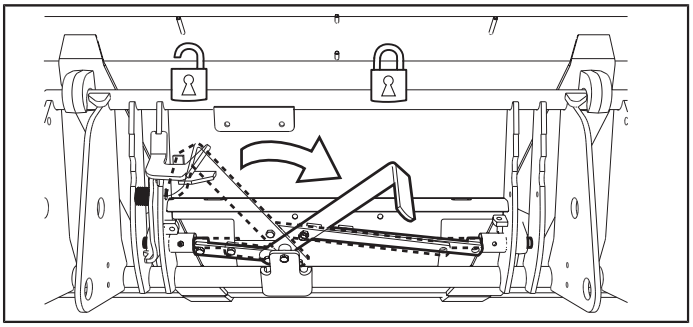


Fig.41 Example: The locking lever indicates locked implement (locked padlock symbol)

Use the following checklist to make sure the implement is correctly locked onto the loader's tool carrier:

- Visually check that the locking lever indicates locked implement.
- Visually check that the tool carrier locking pins are in the locked position.
- Make sure the implement is locked in place on the tool carrier by pressing the front of the implement against the ground.

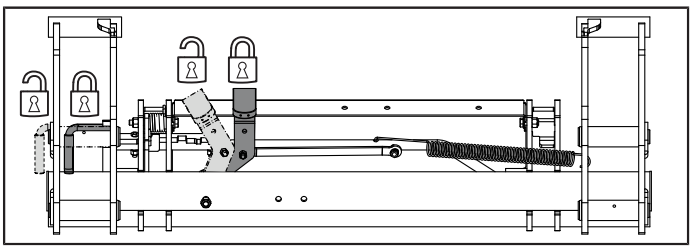


Fig.42 Example: The locking levers indicate locked implement (locked padlock symbol)

3.5.3.2. Hydraulic implement lock

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The lock indicator should return to locked position. Ensure AT ALL TIMES that the connected implement is locked in place by pressing the front section of the implement towards the ground.

Tool carrier lock indicators look different depending on the type of tool carrier installed on the loader. Carefully check how YOUR tool carrier indicates a locked implement.

Use the following checklist to make sure the implement is correctly locked onto the loader's tool carrier:

- Visually check that the lock indicator shows locked implement.
- Visually check that the tool carrier locking pins are in the locked position.
- Make sure the implement is locked in place on the tool carrier by pressing the front of the implement against the ground.

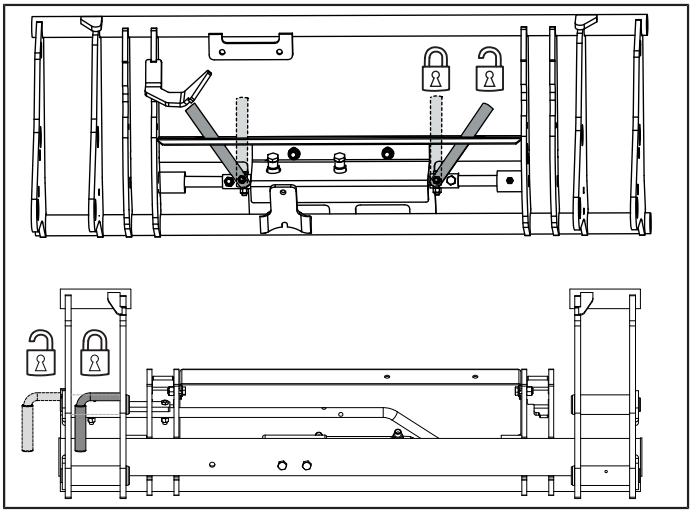


Fig.43 Lock indication

3.5.4. Workplace

Always check the machine's surroundings and ensure that all individuals, especially children, and animals have moved away before starting or driving the machine.

Warning!
Risk of crushing and jamming

People can be inside the working area.

Make sure that nobody is close to the tractor when work starts. Only operate the tractor when sitting in the intended place in the driver's seat.

Fig.44 Before starting, make sure that no individuals are within the vicinity of the machine.

Warning!
If work requires any individual to be near a raised load, the loader must be fitted with Hose Burst Protection and function checked as per section *4.4. Hose Burst Protection (optional extra)*.

You may not hear any shouting to attract your attention from individuals on the outside when you are sitting in the cab with the door closed.

Learn the working area and terrain before beginning work. Pay attention to vertical clearance and limitations that arise due to the increased reach.

Warning!
Electric shock, crushing and pinch risk. When driving with a raised loader, make sure that there is enough room between the loader/implement and e.g. power lines and barn roofs.

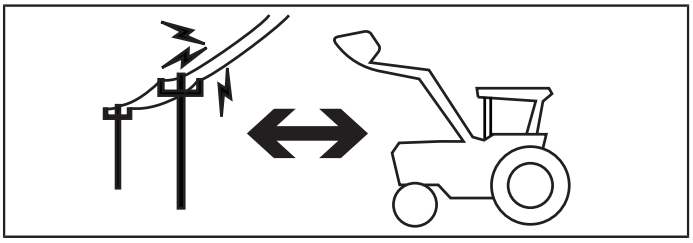


Fig.45 Learn to know the working area before starting. Keep a safe distance from electrical power lines and other obstacles.

Warning!
Electric shock. Before excavating, make sure there are no hidden electrical cables. To prevent bodily injury or death do NOT leave the driver's seat if any part of the loader is in contact with a cable. Back the tractor away from the cable before you get out.

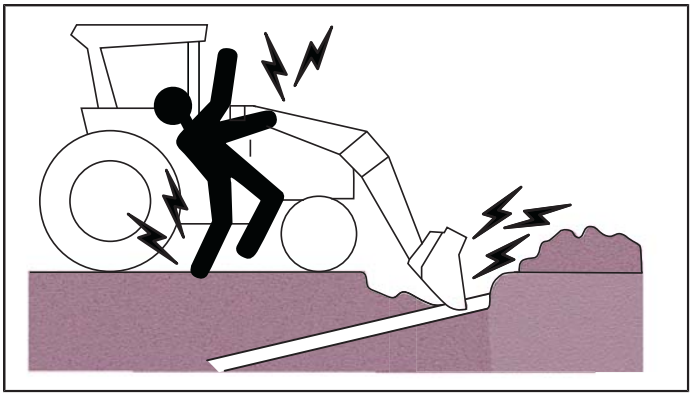


Fig.46 When excavating, make sure there are no hidden electrical cables

Warning!
Do NOT use the loader or the attachment as a working platform.

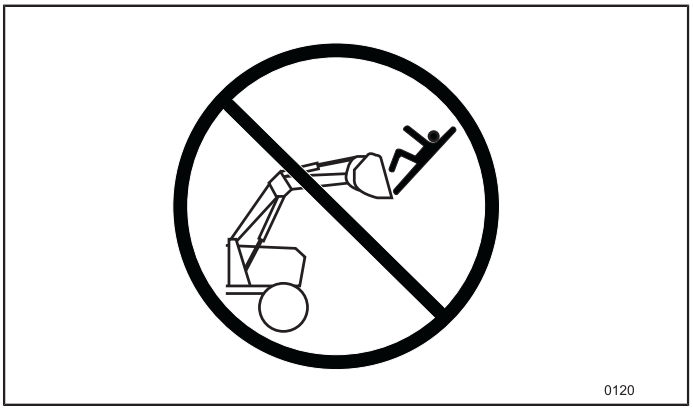


Fig.47 Do NOT use the loader or the attachment as a working platform.

Warning!
Do NOT use the loader or implement to lift or transport people.

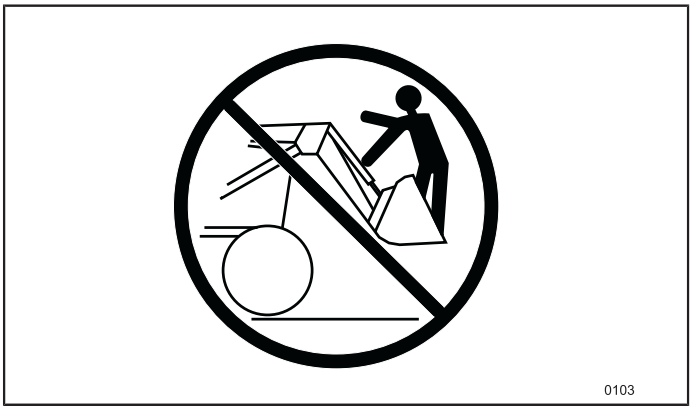


Fig.48 Do NOT use the loader or implement to lift or transport people.

With standard fittings, the loader is NOT intended for lifting where any individual is required to be near the raised load.

For this type of lifting, the loader must be fitted with Hose Burst Protection which prevents the load falling if the hydraulics should fail.

For more information, see section *2.2.14. Hose Burst Protection*.

Warning!
Do NOT stand, walk or work under a lifted loader. Make sure that you keep individuals, especially children and animals, away from the working area.

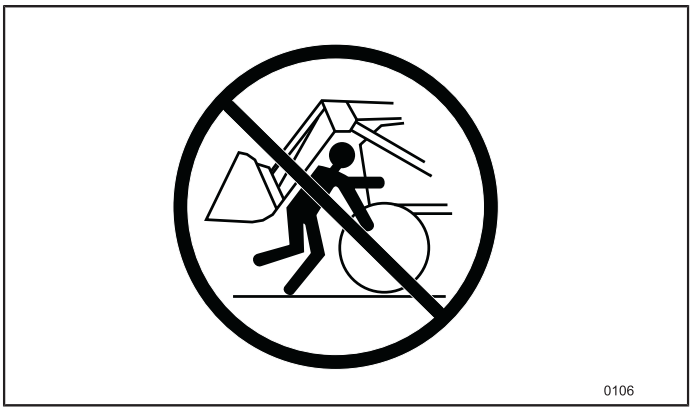


Fig.49 Do NOT stand, walk or work under a lifted loader.

- Always keep an eye on your workplace.
- Never carry out work with an implement that requires another person to be in the vicinity of the loader, e.g. handling large sacks or pallets.
- If any individual is required to be near the lifted load, then Hose Burst Protection must be fitted (accessory), see section *2.2.14. Hose Burst Protection*.

3.5.5. Stability

3.5.5.1. Load stability

Warning!
Always look at the implement. Objects can fall or roll backwards onto the driver when the loader is raised.

Only lift loads that fit and are designed for that specific implement.

Some implements should be equipped with a collapse protector.

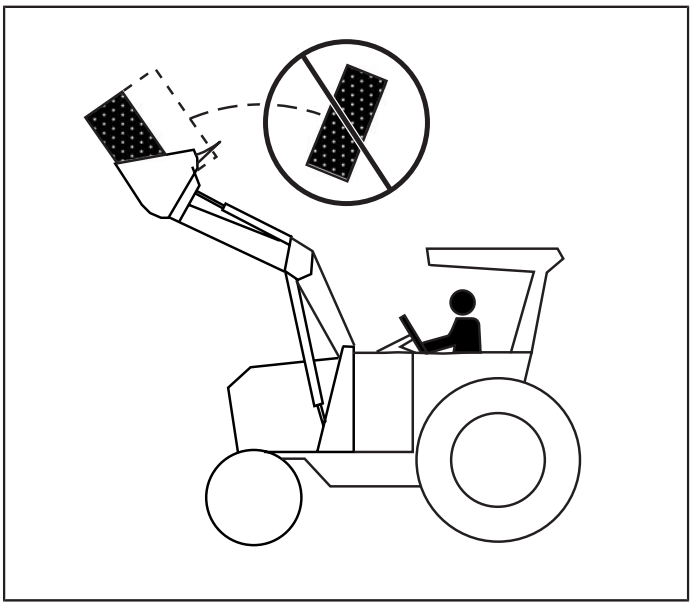


Fig.50 Keep your eye on the implement, objects may fall backwards onto the driver.

Warning!
If the tractor is only equipped with Roll Over Protective Structure (ROPS), and does not have a Falling Objects Protective Structure (FOPS), there is only limited protection against falling loads. The driver risks injury if the load falls when the loader is operated while raised.

FOPS is not designed to protect against all falling loads. It is therefore critical to use an implement that prevents the load from falling.

Exercise caution when working with raised loads.

The tractor may not be operated on public roads with a load in the implement.

- Only use implements that are approved for the relevant application.
- Check that the load is positioned stably in the implement. In terms of loose material, the implement must not be overfilled, and for solid material, the load must not stick up above the rear of the implement.

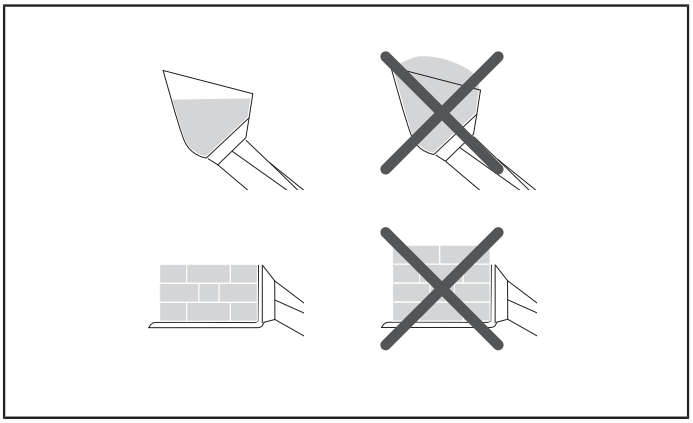


Fig.51 Only lift loads that fit and are designed for that specific implement.

- Adjust the tilt angle of the implement when the load is raised so that the load is not aimed at the driver.

Note. This applies mainly to loaders without parallel linkage.

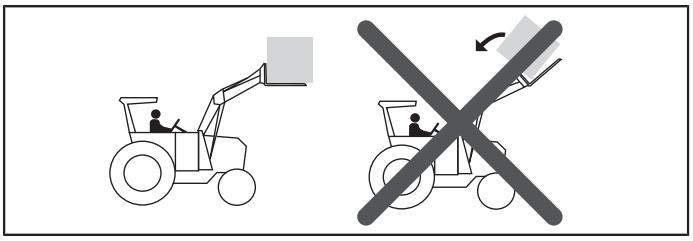


Fig.52 Exercise caution when working with raised loads.

3.5.6. The tractor's stability

To improve loader stability:

- Use a counterweight suitable for the tractor. See *4.1.1. Counterweight*.

- Move the wheels to the widest recommended setting, see *4.2. Track*.

Caution!
Check that the machine has sufficient counterweight at the rear to stabilise the machine's load-carrying ability. The counterweight is essential for maintaining control of the machine.

Caution!
Overturning risk. To increase lateral stability, the tractor's track must be as wide as possible.

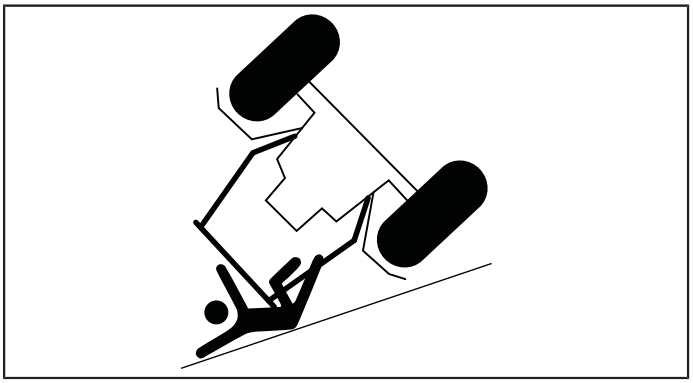


Fig.53 Overturning risk

Warning!
Do NOT work on or close to steep slopes.

The distance from a slope must be as far or further than the height of the slope.

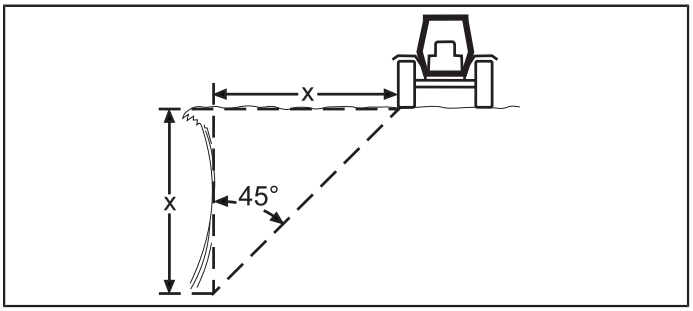


Fig.54 Keep at a distance when working near slopes.

- If you work with the loader on an uphill slope, drive straight upwards, fill the bucket and reverse downhill. Lower the loader as far as possible. Driving along the side of a slope can cause overturning.

Warning!
Reduce speed when cornering to avoid overturning the machine.

Avoid sudden turns when driving down steep slopes.

Caution!
Drive at low speeds - max 10 km/h - with a load in the implement. Speed should be adapted to the terrain and the weight and centre of gravity of the load.

- If the tractor so permits, always leave it in gear to provide engine braking when driving downhill. Do not allow the tractor to roll freely. Use the same gear when driving down a hill as when driving up.

Caution!
Overturning risk. Lower the loader as much as possible when travelling/working. Reduce speed for the prevailing conditions. When handling raised loads, there is increased risk of the tractor tipping. Be alert - if the tractor feels unstable, lower the load to increase stability.

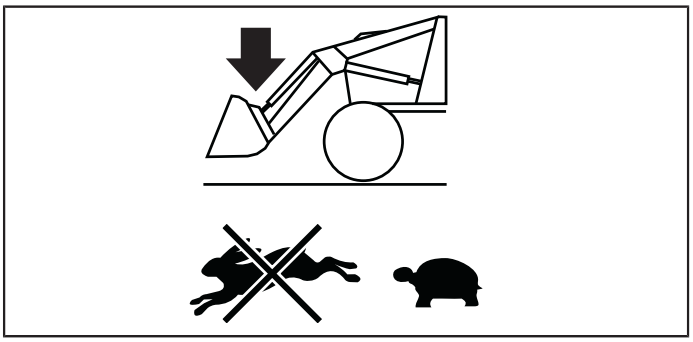


Fig.55 Lower the load and reduce the speed when cornering.

3.6. Factor, Risk

3.6.1. During transport and work

Important! Follow national road traffic regulations when driving on the road.

Caution!
When the machine is transporting goods on public roads or is carrying out work, ensure that the tractor's lamps, indicators and reflectors are visible.

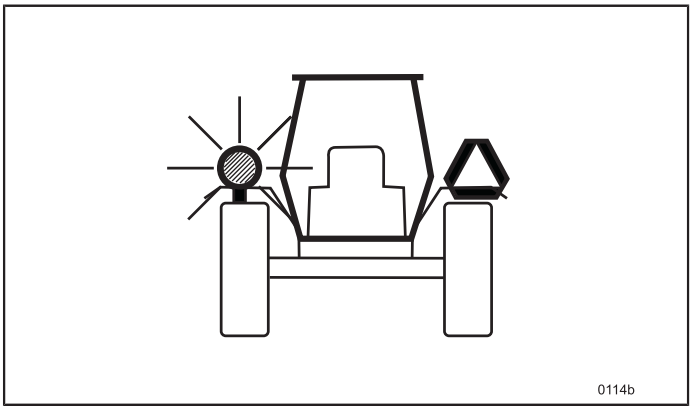


Fig.56 During transport

Check that signs and lighting aren't obscured. Use additional warnings if needed.

When driving either with or without a load, always lower the loader as far as possible to give maximum visibility and allow others to see you at all times.

Note. Remember that boom suspension/tractor suspension affects the loader's ground clearance.

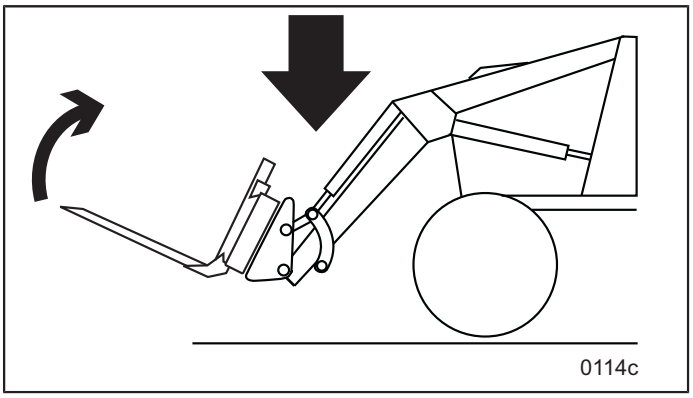


Fig.57 Lower the loader to obtain maximal visibility.

Caution!
Drive at low speeds - max 10 km/h - with a load in the implement. Speed should be adapted to the terrain and the weight and centre of gravity of the load.

- Disconnect or tilt up the implement to minimise the risk of damage in the event of collision.
- Leave a margin for the vehicle's extra length and weight when cornering, braking etc.
- Make sure that lamps and reflectors are visible during road transport and are not obscured by the implement.

Warning!
The loader must not be operated during transport. When driving on roads, the joystick must be locked mechanically in the neutral position, switched off or activated in transport mode. See section *4. Driving instructions*.

Warning!
Do not grip objects that significantly shift the centre of gravity outwards. This can lead to instability.

Warning!
Always look at the implement. Objects can fall or roll backwards onto the driver when the loader is raised. Only lift loads that fit and are intended for the specific implement. Certain implements should be fitted with back screens.

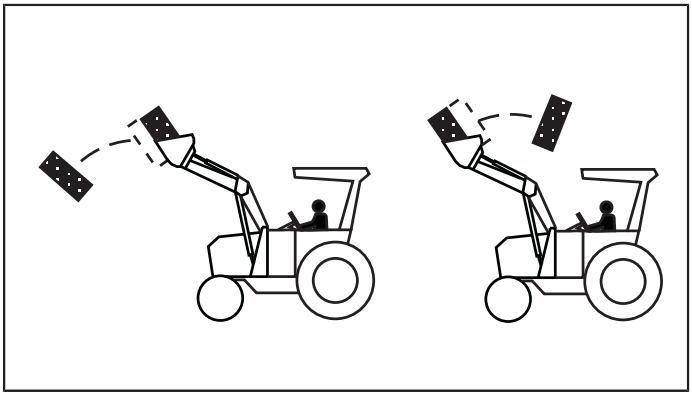


Fig.58 Always look at the implement. Objects can fall or roll backwards onto the driver.

Warning!
Always look at the implement. Objects can fall out during transport. Only transport loads that are designed for each specific implement.

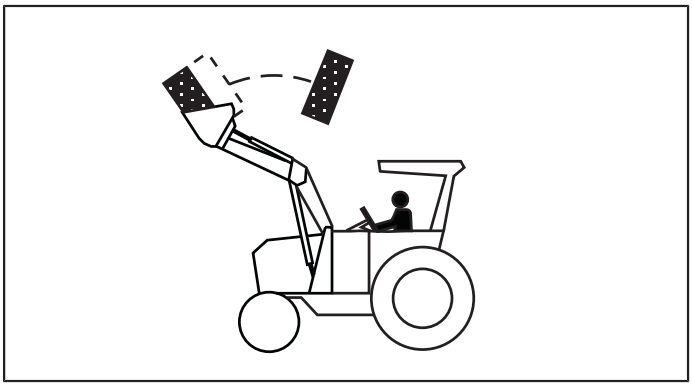


Fig.59 Only lift loads which fit inside the implements.

Caution!
Thermal shock. If the loader continues moving after the operating control is released:

- turn off the tractor ignition

- wait until the oil temperature has dropped

- start the tractor and perform a function check before use, to ensure the tractor behaves normally.

When outdoor temperatures are low, cold hydraulic fluid from the loader can meet hot hydraulic fluid from the tractor. In unfavourable conditions, thermal shock may occur in the loader's control valve. The loader may then continue to move after the joystick is released.

Caution!
Risk of crushing and jamming

If the loader valve is in a depressurised or float position then sudden and unforeseen actions may occur when the hydraulics are connected.

3.6.2. During service

Do NOT carry out any service on the loader when the tractor engine is running or hot, or when the machine is moving.

Caution!
Burn injuries. Valves, connections and hoses can get very hot when the tractor and loader have been used even for a short time. Switch off the tractor and allow the hydraulic components to cool before touching them.

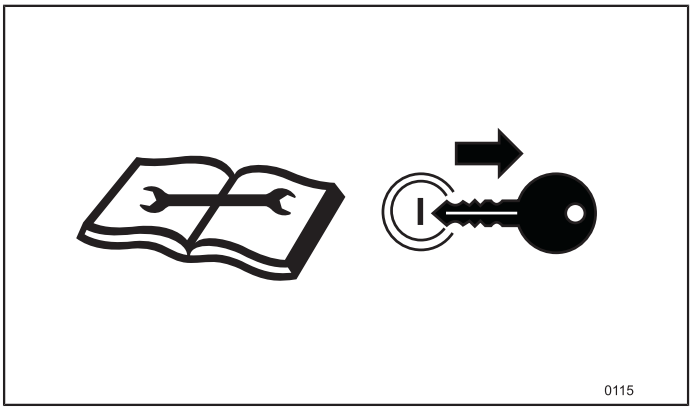


Fig.60 Before service, read the instructions and remove the ignition key.

The loader is equipped with a shut-off mechanism. The design can vary depending on the type of control valve.

Caution!
The loader's stop mechanism should be turned to the closed position during servicing.

The stop mechanism must be in the closed position during service work, or when the loader is left in the lifted position for any length of time for other reasons.

Warning!
This stop mechanism may NOT be used when working in the loader's hydraulics or associated lines. In such cases, the loader must be lowered to the ground. Turn off the tractor's engine, relieve the oil pressure using the joystick before disconnecting any couplings or doing any other work on the hydraulics - oil under high pressure can cause severe injuries.

- When working on the loader's hydraulic system, relieve hydraulic pressure. See sections:
  - *4.7. Joystick: EasyDrive LCS /ElectroDrive LCS Professional*
  - *4.8. Joystick: ErgoDrive LCS/ErgoDrive*
  - *4.9. Joystick: The tractor's own joystick*
  - The joystick's or tractor's user manual.
- Do NOT use the loader to lift the tractor during servicing of the tractor or the loader.

Warning!
Watch out for pressurised hydraulic fluid.

NEVER use fingers or hands for leakage detection. The fluid which flows out from small holes can be almost invisible. Use a piece of cardboard or similar when looking for leaks.

- Undo hydraulic couplings slowly. Keep your hands and fingers away from loosened couplings.
- Seek medical attention immediately if hydraulic fluid penetrates your skin. Serious reactions and/or infections can rapidly occur if the hydraulic fluid is not surgically removed at once.

3.6.3. After work

Warning!
Before you leave the operator's seat:

1. Lower the loader and implement to the ground.
2. Apply the park brake securely.
3. Move the gear lever to the neutral or park position.
4. Shut the engine off.
5. Remove the ignition key.
6. Relieve hydraulic pressure; see section Pressure Reduction for the joysticks concerned
7. Switch off the tractor's main power switch.

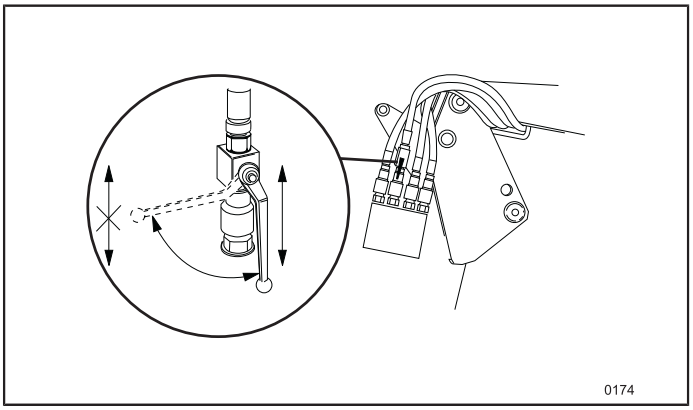


Fig.61 Turn the shut-off valve handle to the closed position during service work.

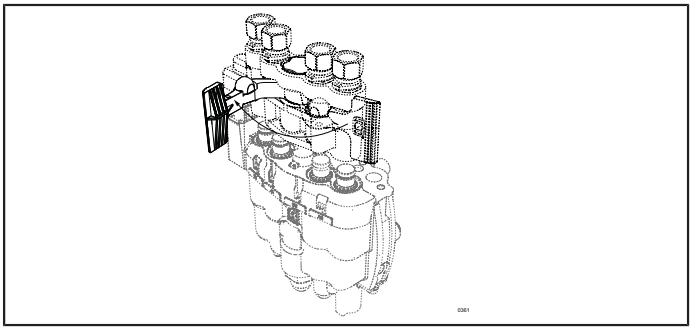


Fig.62 Open the multi-connection to the open position during service work.

Fig.63 NEVER use fingers or hands for leakage detection.

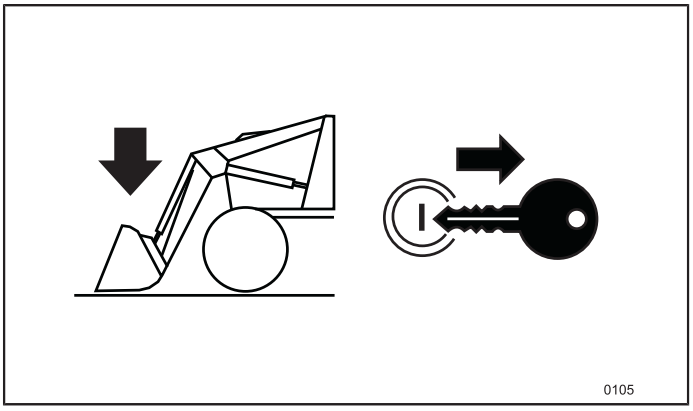


Fig.64 Lower the loader and remove the ignition key.

Warning!
To prevent accidental operation of the loader: Lock the joystick in neutral, turn off the operating control or activate Transport mode, see section *4. Driving instructions*.

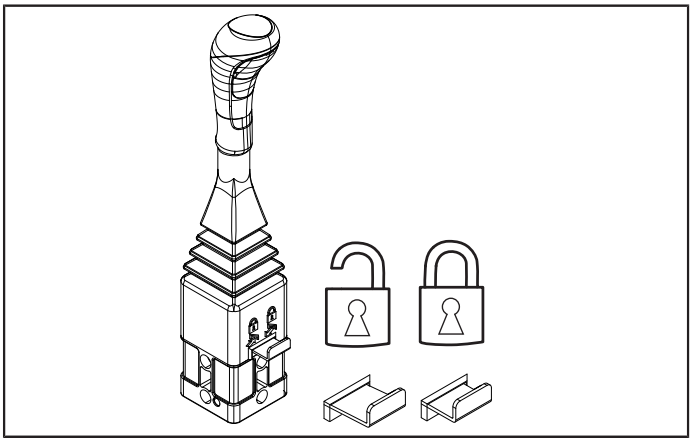


Fig.65 Leave the joystick in the neutral position.

Warning!
Never stand between the front of the tractor and the loader.

Fig.66 Never stand between the front of the tractor and the loader.

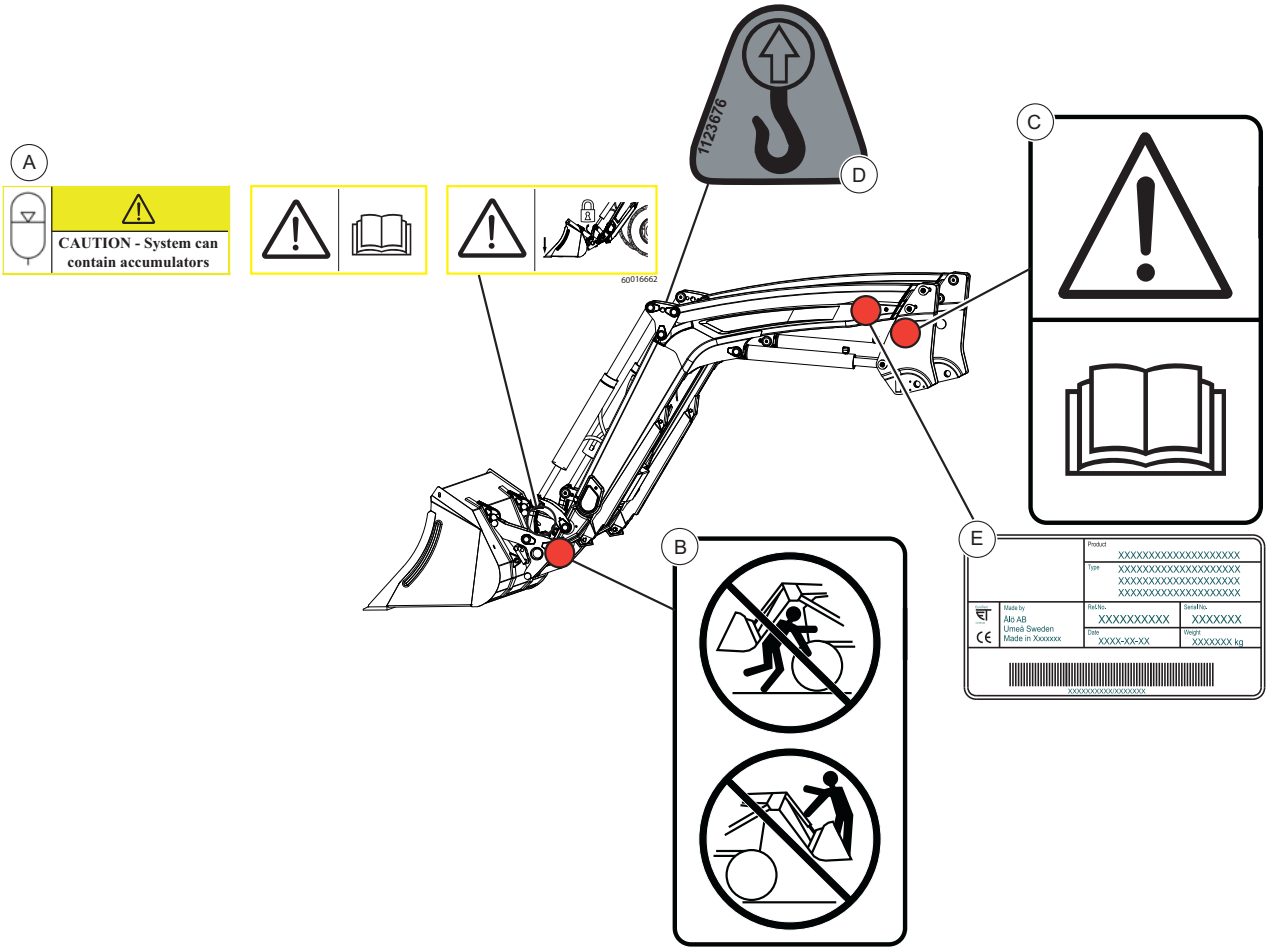
3.7. Spare parts

When a spare part is needed for periodic maintenance or service, use only genuine, original equipment spare parts to restore your equipment to original specifications

Applies especially to valves, hydraulic hoses, hydraulic pipes, adapters and boom suspension components. See the published spare parts sheets.

The manufacturer is not responsible for damages that may occur due to installation of non-approved parts and/or accessories.

3.8. Location of warning, prohibition and information decals



A. Warning decal, accumulator and implement lock, 1 pc.
   Part no. 60016662

B. Prohibition decal on tool carrier, 2 pcs.
   Part no. 1123673

C. Warning decal on bearing box, 2 pcs.
   (Part no. 1123674)

D. Information decal, lifting points on the inside of the loader arm, 2 pcs.
   (Art. no. 1123676)

E. Type plate on the inside of the left loader arm

4. DRIVING INSTRUCTIONS

4.1. General information

The front loader is designed to:

- Be fitted to wheeled agricultural and forestry tractors.
- Handle various certified implements for lifting, carrying, cutting, scraping, grading, sweeping and ploughing.

Warning!
Risk of crushing, jamming and tipping. If any of a loader's hoses break, the loader/implement/load may fall uncontrolled. If a hose does break, remedy the issue immediately as per section *5. Maintenance*. When changing parts, only use original spare parts to restore the machine to its original quality standard. Decontaminate the land in accordance with applicable requirements/legislation in the country or region you are in.

Important! Faults in the power supply to the loader's electrical and/or hydraulic systems may mean that certain functions cannot be activated. E.g: raising the loader, opening the implement, third and fourth hydraulic functions etc.

4.1.1. Counterweight

Caution!
Overturning risk. The tractor can overturn and thus cause personal injury. Make sure a counterweight is fitted, which is suitable for the implement and working range.

The size of the counterweight varies with its placement and the tractor's equipment (model, rim and tyre combination, etc.). Make sure the required counterweight is present to ensure the tractor does not lose traction, tip when brakes are applied or tip in the case of heavy, raised or displaced loads. Please read the tractor instruction manual or contact your dealer.

A 4-wheel drive tractor has the advantage of traction from the front axle. Use the counterweight at the rear to maintain the correct front/rear axle loading and avoid abnormally large stresses on the front axle when the loader is used.

Recommended allocation of gross weight (with empty implement) on the tractor's front and rear axles:

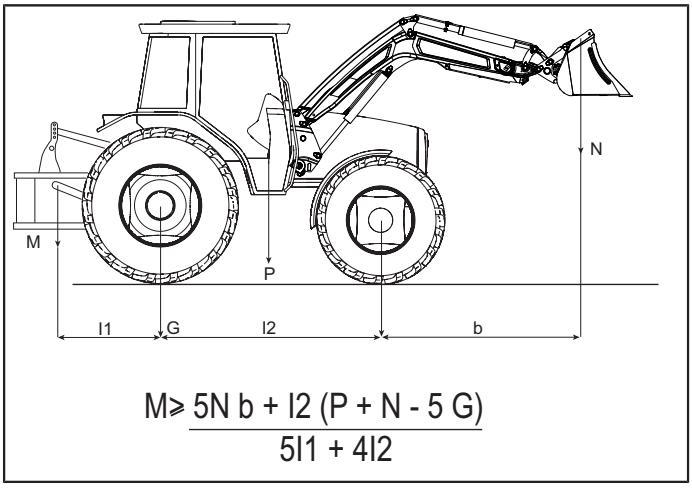


Fig.67 Calculating counterweight

Tractor	Front axle	Back axle
4WD	40%	60%

G:	Rear axle weight, without counterweight; loader without implement in its extended position (kg).	**N:**	Implement weight including maximum permissible load (centre of mass) (kg).
b:	The greatest horizontal distance from the centre of the front axle to the loaded implement's centre of gravity (mm).	**P:**	Tractor weight with loader and tool carrier installed on tractor. However, the counterweight must not be included in tractor weight (kg).

G:	Rear axle weight, without counterweight; loader without implement in its extended position (kg).	**N:**	Implement weight including maximum permissible load (centre of mass) (kg).
I1:	The horizontal distance from the centre of the rear axle to the counterweight's centre of gravity (mm).	**M:**	Weight Counter-Weight (kg).
I2:	Wheel base (mm).		

4.2. Track

Caution!
Overturning risk. To increase lateral stability, the tractor's track must be as wide as possible.

To increase lateral stability, the tractor's track must be as wide as possible. Maximum width (A) across front wheels.

Install the rear tyres and adjust the rear wheels to the maximum recommended track (B).

Study the tractor's instruction manual for information about recommended tyres, track and adjustment.

For tractors/loaders with a high centre of gravity or an unusual configuration, a wider minimum track width may be needed to achieve the same stability.

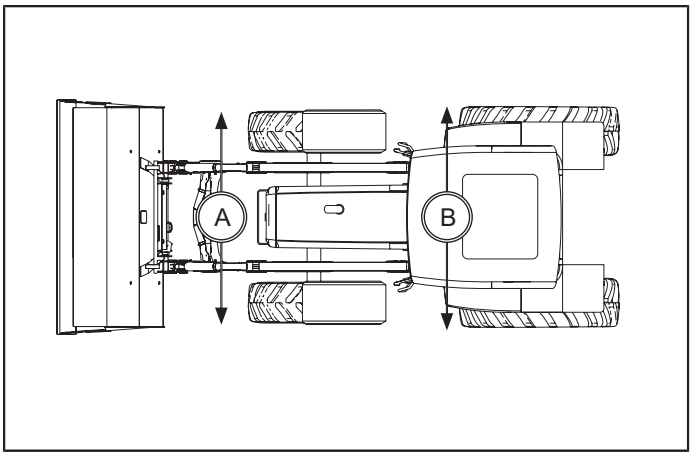


Fig.68 Increase to maximum track for best stability.

4.3. Tether stop

Warning!
Automatic loader movements may only be performed using a dead man's handle. If the joystick's dead man's handle is not working, shut down the tractor immediately. Resolve the fault before using the tractor again.

The dead man's handle stops the activated loader function as soon as the joystick is released and returns to its neutral position.

Important! Activated float position does not automatically return to neutral, but must be deactivated.

If the loader is connected to a tractor valve with a programmable joystick without a dead man's handle, see the tractor's user manual for information on why the programmable function MUST be deactivated.

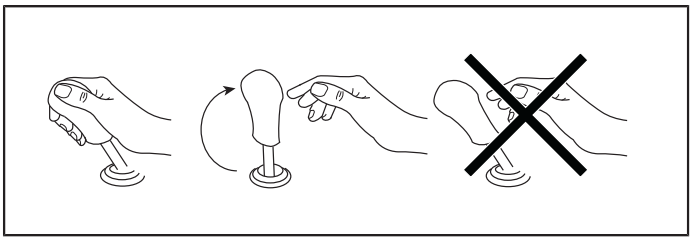


Fig.69 The joystick must return to the neutral position when released.

4.4. Hose Burst Protection (optional extra)

Warning!
If work requires any individual to be near a raised load, the loader must be fitted with Hose Burst Protection and function checked as per section *4.4. Hose Burst Protection (optional extra)*.

If the loader is fitted with Hose Burst Protection, float position and boom suspension will not function.

- Float position: When Float position is activated, Hose Burst Protection is activated and the loader is locked.

- Boom suspension: Will not function because Hose Burst Protection blocks the lift cylinders. Boom suspension will cease functioning.

Caution!
If the Hose Burst Protection option is installed, you MUST assume that pressure still remains in the system after relieving pressure. Remove hydraulic components/hoses with extreme care. (If the operator lacks knowledge on hydraulics, take advice from an authorised workshop for disassembly).

Simplified function check

A function check should be carried out after:

- Hose Burst Protection has been fitted.
- The machine has undergone maintenance and begun work that requires personnel to be near a raised load.
- With continuous operation, a function check should be carried out at least once every 30 days, if work requires personnel to be near a raised load.

If the simplified function check indicates any fault or if there is a suspicion that something is not right, the system **MUST** be inspected by an authorized workshop. The system must then be checked according to the same verification procedure performed for approving Hose Burst Protection.

1. **Check - Lifting**, fit a bucket, fill to half load.
   - Raise the loader to around 1.5 m above the ground.
   - Lower the loader to around 1 m above the ground.
   - Activate the float position for lifting. Note the result, i.e. the fall height.
   - The noted fall height may **not** exceed 300 mm in the first 10 seconds. Under 300 mm means the system is OK. (The fall height is always lower if the load is lowered. If the load is raised and float position is activated, the fall height reduces considerably.)
2. **Check - Tilt**, fit a bucket, fill to half load.

Note. This check can only be carried out if the loader's operating unit has the float position tilt function.

- Raise the loader to around 1 metre above ground and tilt the implement; the implement must be angled a little to the rear so that the load does not fall out.
- Activate the tilt float position, note the result. The change in angle on the bucket should be minimal. (There are no guidelines regarding maximum permissible tilt movement. The movement must be negligible).

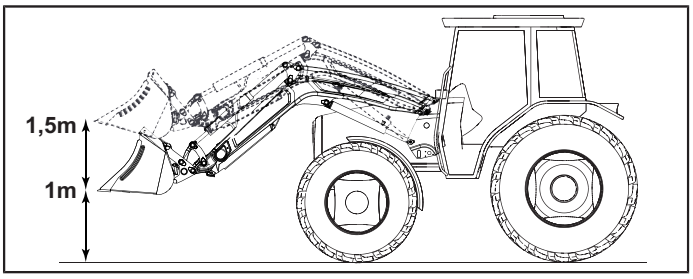


Fig.70 Raise the loader about 1.5 m above ground, then lower it to around 1 metre above ground.

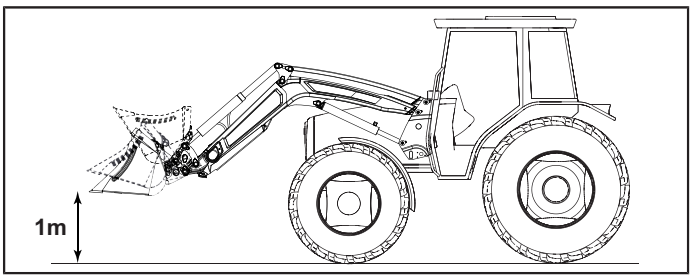


Fig.71 Raise the loader to around 1 metre above ground.

4.5. Front axle suspension

Important! Tractors with front axle suspension. The loader may cause increased wear on the components in the front suspension. Always lock out the front suspension if this option is available. Read the tractor's operator's manual.

4.6. Connecting loader hydraulics and joysticks

The loader's hydraulic system can be connected to the tractor hydraulic system in two ways.

Alternative 1: The loader's control valve is connected to the tractor's hydraulic system. The following types of control valves and joysticks are described in this user manual:

- EasyDrive LCS
- ElectroDrive LCS Professional
- ErgoDrive LCS
- ErgoDrive

Alternative 2: The loader is connected to the tractor's control valve. The tractor's joystick controls loader movements. Read the tractor's user manual to learn how to control the loader. Or contact your dealer.

4.7. Joystick: EasyDrive LCS / ElectroDrive LCS Professional

Note. The electronic joystick is available in two variants: ElectroDrive LCS Professional and EasyDrive LCS.

- EasyDrive LCS and ElectroDrive LCS Professional are electrical hydraulically-controlled control valves with an operating control. The operating control is available as EasyDrive LCS or Electrodrive LCS.
- ElectroDrive LCS Professional can be configured and adapted as required. For example, programmable quick select button, setting the third hydraulic function and adjusting the shake function. EasyDrive LCS is a simpler option without the additional setting options.
- The base functions for EasyDrive LCS and ElectroDrive LCS Professional are identical unless otherwise stated. For other functions, see the user manual for each control system.

Fig.72 EasyDrive LCS /ElectroDrive LCS Professional

4.7.1. Joystick/operating control

The joystick lever returns to the neutral position when released and the function ceases. The ‘float position-lower’ and ‘float position-emptying’ functions remain, as does the continuous third hydraulic function.

Note. Only ElectroDrive LCS Professional has the continuous third hydraulic function.

4.7.1.1. Error indication

If a fault occurs on the loader's control system, it will be indicated on the display and the master unit.

Fault indication on the display:

Display symbols

	Float position emptying
	Float position, lower
	Attention. Information in combination this symbol concerns your personal safety and must be complied with
	Warning. Information in combination with this symbol must be complied with. This concerns your personal safety and that of others present in the vicinity of the tractor

- Prohibition symbol (flashes on the whole display) System in fail-safe mode. The loader cannot be operated in this mode.
- ! + Fault code (switches between exclamation mark and the fault code)
- ! + Symbol (switches between exclamation mark and the symbol)
- ! (Exclamation mark lit constantly)

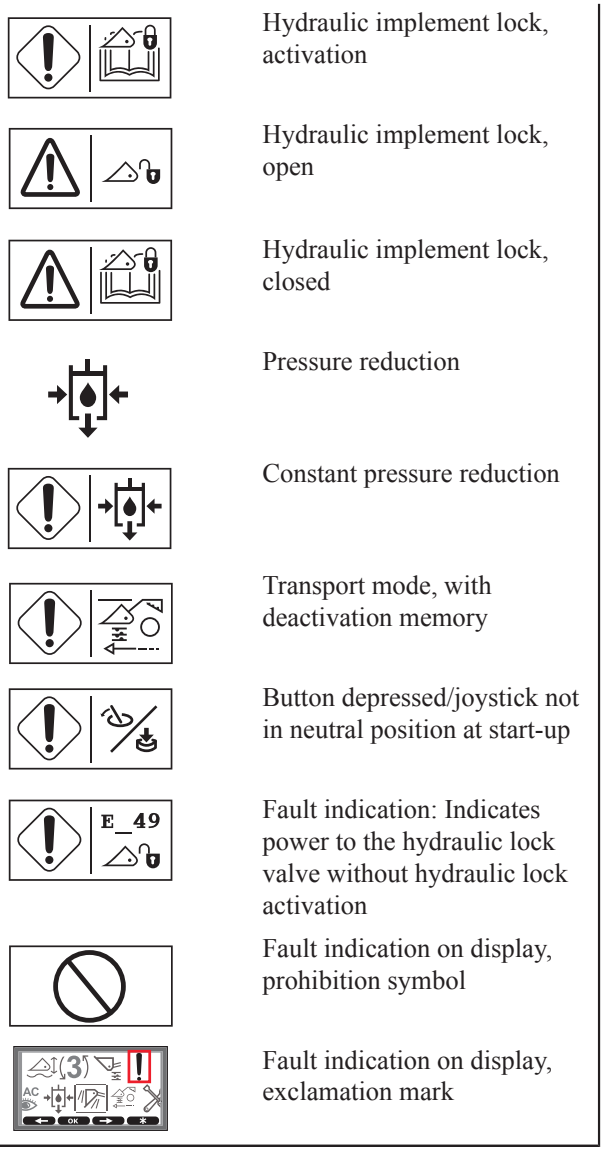


Fig.73 Display symbols; for additional symbols and functions, see the control system user manual concerned.

Fault indication E_49

- * The E_49 fault message indicates the presence of power to the hydraulic lock valve without the hydraulic lock having been intentionally activated. The E_49 and Hydraulic lock closed symbols are shown alternately.

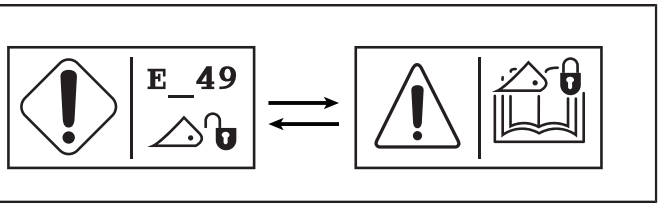


Fig.74 Fault indication E_49

Warning!
If an error message with the code E_49 is shown, the implement lock is able to open when the third hydraulic function is activated. Remedy this problem immediately.

When the fault is rectified and the system restarted, the Hydraulic lock open symbol will be shown.

Lock by simultaneously pressing F2 and moving the joystick to the left (3).

- The symbol for Hydraulic implement lock, closed is shown and the display flashes.
- Activating the hydraulic implement lock function:

- Press D8 or F4 for immediate deactivation.

Or

- The function deactivates automatically after 30 s.

Fig.75 'Hydraulic lock, open' symbol

Warning!
Risk of crushing and jamming

Incorrectly locked tools can come loose. Lock indicator must be back in locked mode .

ALWAYS make sure the connected implement is locked in place by pressing the front of the implement against the ground.

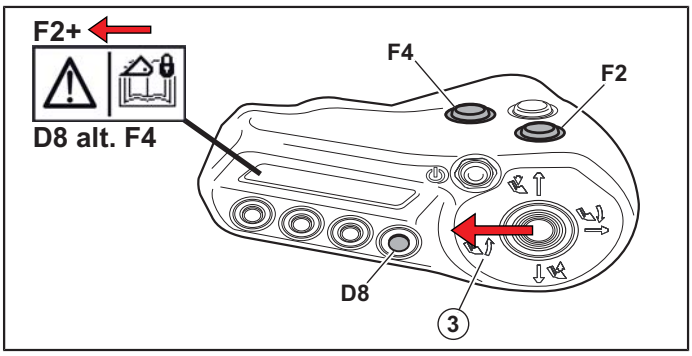


Fig.76 Hydraulic lock, open

Fault indication on the master unit:

- The number of LED flashes describes the fault.

For troubleshooting, refer to the user manual for the control system concerned, section *6. Troubleshooting*.

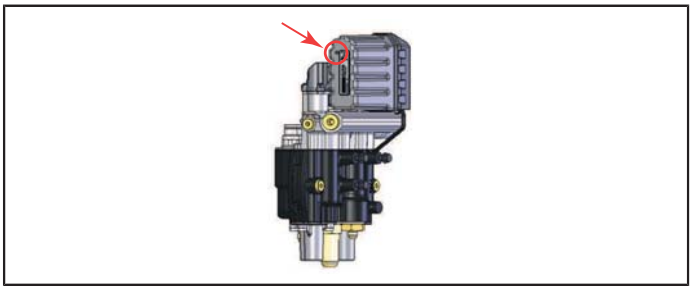


Fig.77 Fault indication on the master unit

4.7.1.2. Raise/lower the loader

- Move the joystick backwards (1) to raise the loader.
- Move the joystick forwards (2) to lower the loader.

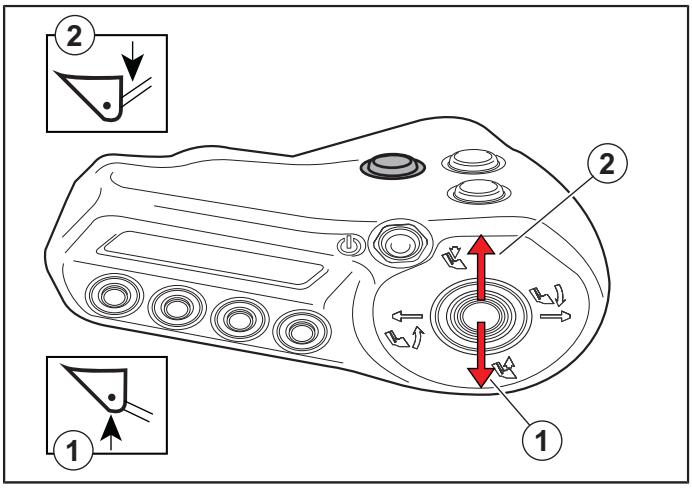


Fig.78 Raise (1)/Lower (2) the loader.

4.7.1.3. Dump/Roll back the implement

- Move the joystick to the left (3) to open the implement.
- Move the joystick to the right (4) to empty the implement.

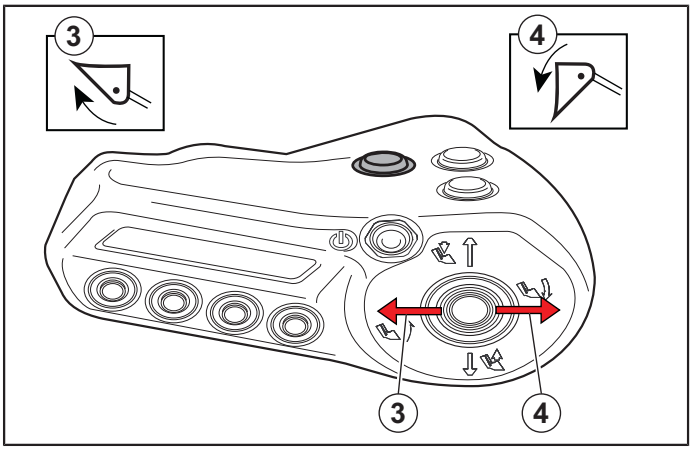


Fig.79 Open (3)/Empty (4).

4.7.2. Button functions

4.7.2.1. Float position, lower

Caution!
The lowering or emptying position combined with bucket work or implement work should only be used at low speeds.

Important! Activated float position does not automatically return to neutral, but must be deactivated.

Activate:

- Depress F4 and move the joystick forwards (5) to lower.
- Release F4 and the joystick.
- Float position active, the symbol on the display lights up.

Deactivate:

- Move the joystick backwards (lift).
- The symbol goes out.

Note. If the Hose Burst Protection option is fitted, the float position will not work. Hose Burst Protection will lock the loader when the float position is activated for lowering or emptying.

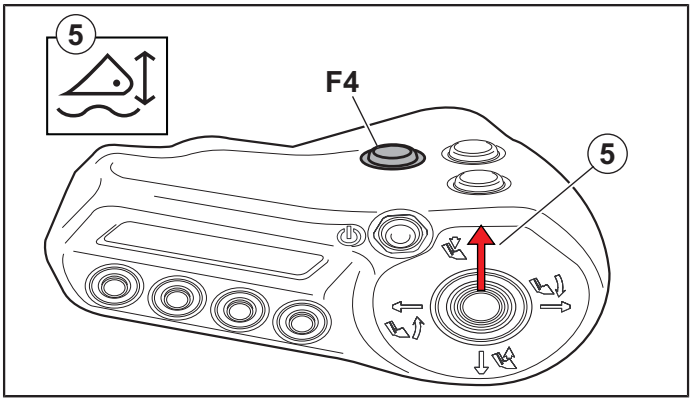


Fig.80 Float position lowering F4 + (5)

4.7.2.2. Float position emptying

Caution!
The lowering or emptying position combined with bucket work or implement work should only be used at low speeds.

Important! Activated float position does not automatically return to neutral, but must be deactivated.

Activate:

- Depress F4 and move the joystick to the right (6) (emptying).
- Release F4 and the joystick.
- Float position, active, symbol illuminates.

Deactivate:

- Move the joystick to the left (open).
- Symbol switches off.

Note. If the Hose Burst Protection option is fitted, the float position will not work. Hose Burst Protection will lock the loader when the float position is activated for lowering or emptying.

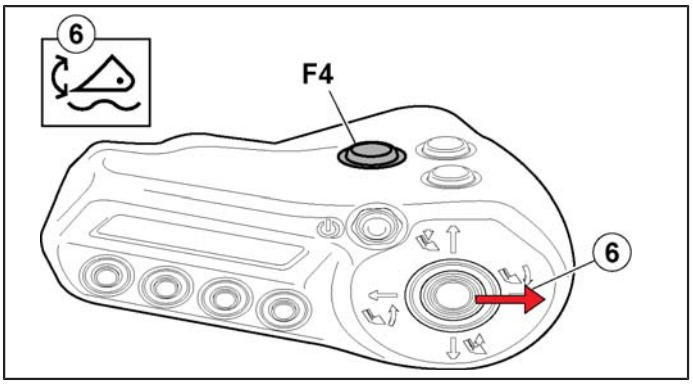


Fig.81 Button function, float position emptying F4 and (6).

4.7.2.3. Third hydraulic function

- The third hydraulic function is controlled by holding down button F2 while moving the joystick to the left (3) (closes the implement) or right (4) (opens the implement).

Note. When F2 is released, the third hydraulic function ceases immediately.

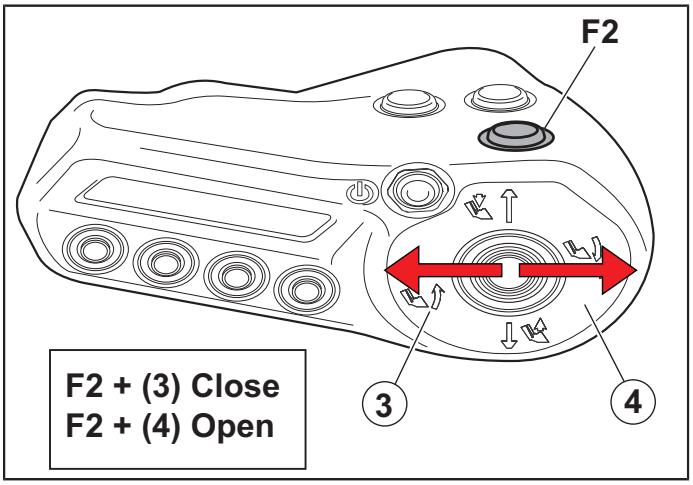


Fig.82 Button function, third hydraulic function.

4.7.2.4. Fourth hydraulic function

At the first activation of the fourth hydraulic function:

Activate:

- Highlight the fourth hydraulic functions symbol in the quick select menu and confirm with D6 for 1 second to activate the function.
- The fourth hydraulic function is controlled by holding down button F3 while moving the joystick to the left (3) (closes the implement) or right (4) (opens the implement).

Note. The 4th hydraulic function must be activated in order to function.

Note. When F3 is released, the fourth hydraulic function ceases immediately.

Note. If the 4th hydraulic function is activated without there being a 4th hydraulic function installed, an error message appears in the display.

Deactivate:

- Select the symbol in the quick select menu then press and hold D6 for one second to confirm.

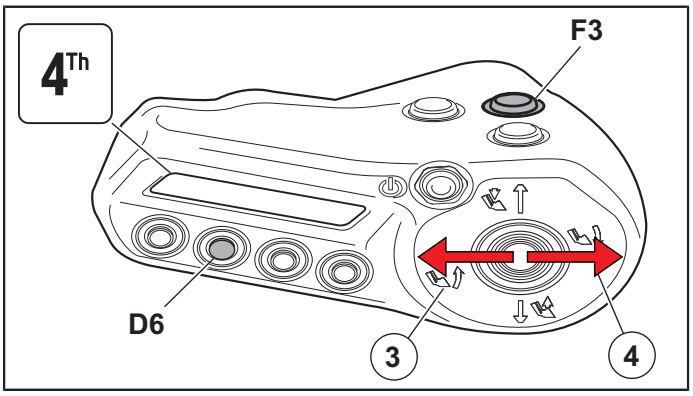


Fig.83 Button function, fourth function

4.7.2.5. Hydraulic implement lock, opening

Hydraulic implement lock, activation

- Simultaneously (within 1 second) press and hold down F4 and D8 until ‘Hydraulic implement lock, activation’ is shown and the display flashes.
- Open by simultaneously pressing F2 and moving the joystick to the right (4). The ‘Hydraulic implement lock, open' symbol is shown and the display flashes.

Note. To operate the loader, first confirm hydraulic implement lock open; press D8 or F4. The display will stop flashing.

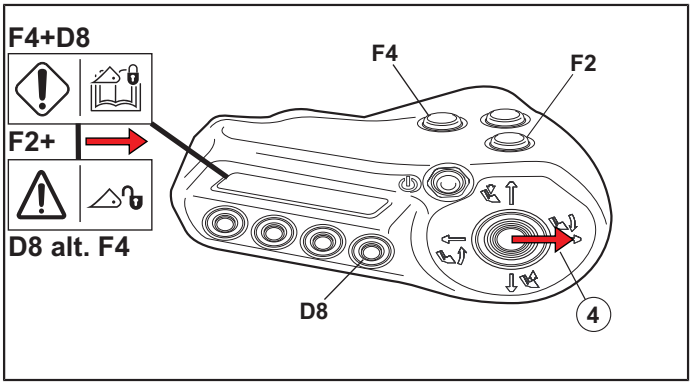


Fig.84 Button function, hydraulic lock

4.7.2.6. Hydraulic implement lock, close

- Lock by pressing F2 while moving the joystick to the left (3).
- The symbol for Hydraulic implement lock, closed is shown and the display flashes.
- Activating the hydraulic implement lock function:

- Press D8 or F4 for immediate deactivation.

Or

- The function deactivates automatically after 30 s.

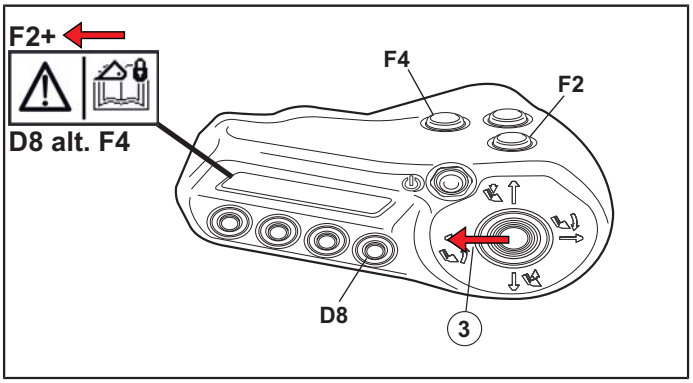


Fig.85 Hydraulic implement lock, close

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The lock indicator should return to locked position. Ensure AT ALL TIMES that the connected implement is locked in place by pressing the front section of the implement towards the ground.

Tool carrier lock indicators look different depending on the type of tool carrier installed on the loader. Carefully check how YOUR tool carrier indicates a locked implement.

Important! If the hoses to the hydraulic lock cylinder are switched, the locking pin will move in the opposite direction. Make sure the locking pin moves in the correct direction before use.

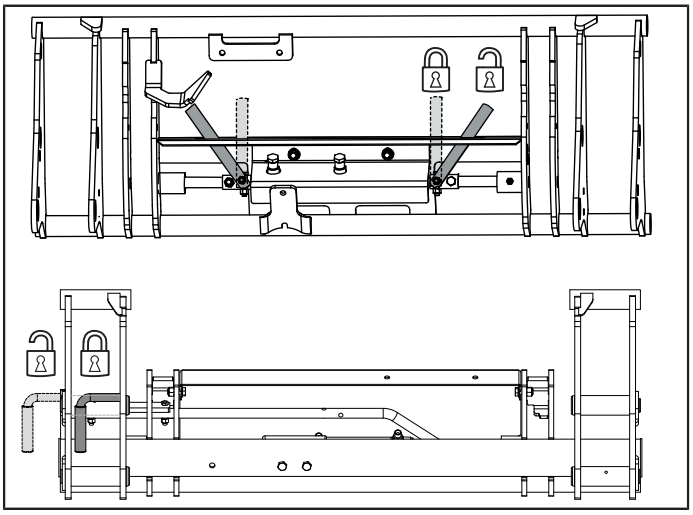


Fig.86 Lock indication

Warning!
If the hoses to the hydraulic lock cylinder are incorrectly connected, the implement lock can open when the third hydraulic function is activated. Run the third hydraulic function to its end positions according to *4.7.2.3. Third hydraulic function*. If the implement lock opens, the hoses are incorrectly connected; correct the fault immediately.

4.7.2.7. Boom suspension

Boom suspension activation/deactivation; press quick select button D8. The boom suspension symbol appears in the display when the boom suspension function is activated and disappears when the function is deactivated.

Note. The default configuration for quick select button D8 is boom suspension activation/deactivation.

Alternative boom suspension activation/deactivation (if quick select button D8 is not used).

Activate:

- Select the boom suspension symbol in the menu and use D6 to confirm.

Deactivate:

- Select the boom suspension symbol in the menu and use D6 to confirm.

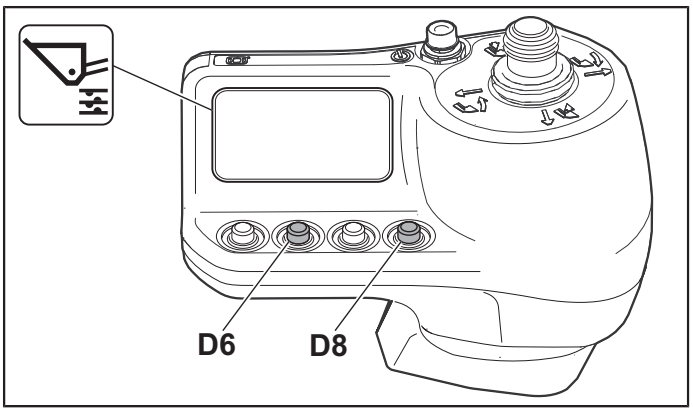


Fig.87 Button function, boom suspension

Note. If the Hose Burst Protection option is fitted, the boom suspension will not work. Hose Burst Protection blocks the lifting cylinders and therefore stops the boom suspension from working.

4.7.2.8. Transport mode

Warning!
To prevent accidental operation of the loader: Always activate transport mode during transport.

Activate:

- Highlight the transport function symbol and confirm with D6 for at least 2 seconds, the symbol lights up in the display.

Deactivate:

- Select the transport function symbol and confirm with D6 for at least 2 seconds.
- The symbol is turned off.

Transport mode means that the joystick functions are closed and boom suspension is activated automatically.

More functions are described in the separate manual. See the user manual for the respective system.

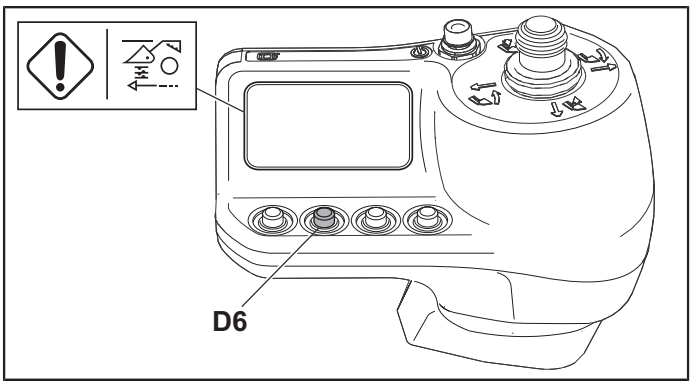


Fig.88 Button function, transport mode

4.7.2.9. Pressure reduction

When pressure is relieved, a raised loader/implement will sink to ground level.

Warning!
Risk of crushing and jamming
ALWAYS lower the loader to ground level before pressure is relieved.

Note. For total depressurisation, activate the boom suspension function according to *4.7.2.7. Boom suspension* before relieving pressure.

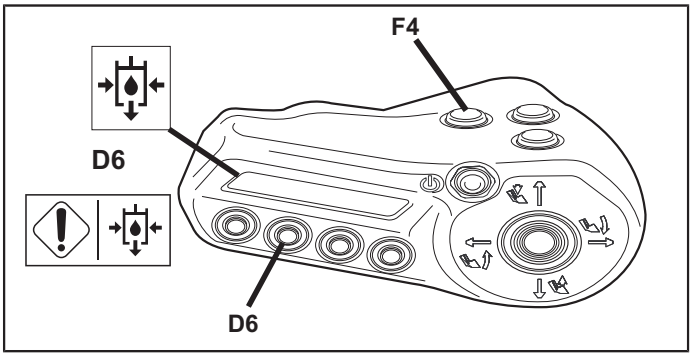


Fig.89 Button function, depressurisation

Activate:

- Select the pressure reduction symbol and confirm with D6.
- Pressure reduction; hold down the button F4 for around 3 seconds.
- Constant pressure reduction; depress and hold down F4 for at least 5 seconds. The constant pressure reduction symbol is shown in the display.

Deactivate:

- Press and hold F4 or move the lever.

4.8. Joystick: ErgoDrive LCS/ ErgoDrive

4.8.1. Mechanically-controlled control valve and joystick

The joystick lever returns to the neutral position when released and the function ceases. The ‘float position-lower’ and ‘float position-emptying’ functions remain.

The control valve is equipped with a control lever of joystick type, located by the operator's seat. The joystick is connected to the hydraulic control valve via two control cables.

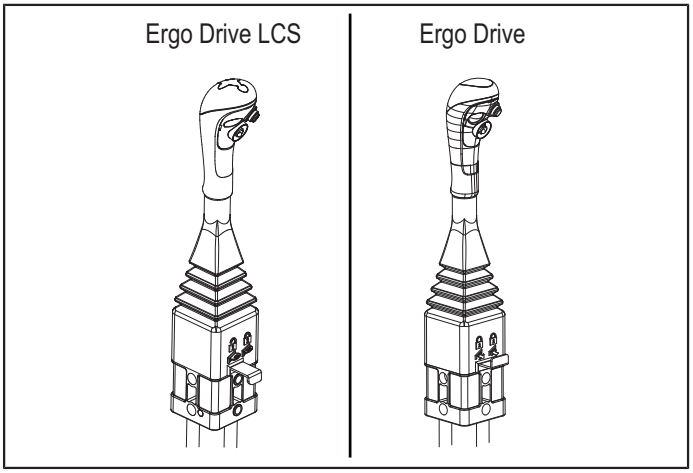


Fig.90 ErgoDrive LCS/ErgoDrive

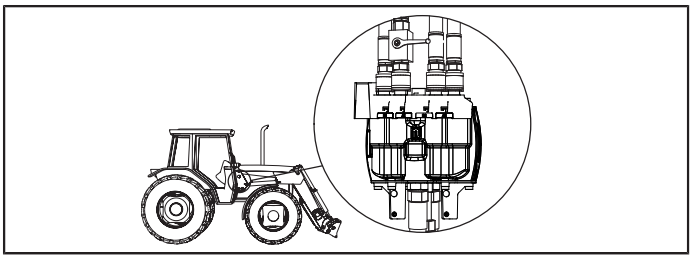


Fig.91 Control valve, mechanically operated.

4.8.1.1. Raise/lower the loader

Move the joystick backwards (1) to raise the loader arm.

Move the joystick forwards (2) to lower the loader arm with constant force.

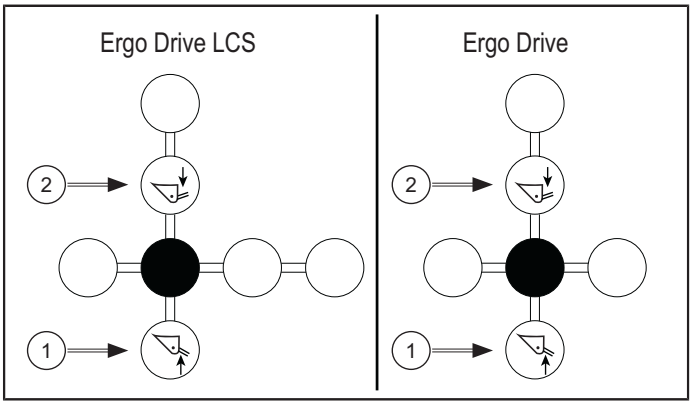


Fig.92 Raise/lower the loader.

4.8.1.2. Dump/Roll back the implement

Move the joystick to the left (3) , to open the implement.

Move the joystick to the right (4) to empty the implement.

Note. Joystick movements are reversed for left-hand fitting.

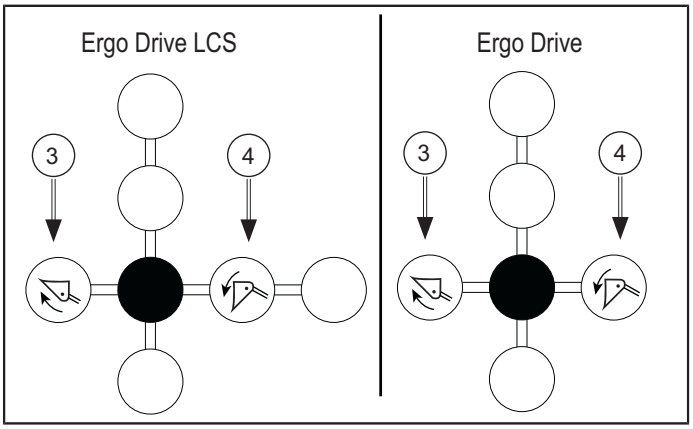


Fig.93 Empty/angle implement upwards.

4.8.1.3. Float position, lower

Caution!
The lowering or emptying position combined with bucket work or implement work should only be used at low speeds.

Important! Activated float position does not automatically return to neutral, but must be deactivated.

Activate:

Move the joystick to the float position (5) and release it to lower the loader arm without any downward force.

Deactivate:

To cancel the float function, move the joystick backwards a little (out of the float position) and release it.

Note. If the Hose Burst Protection option is fitted, the float position will not work. Hose Burst Protection will lock the loader when the float position is activated for lowering or emptying.

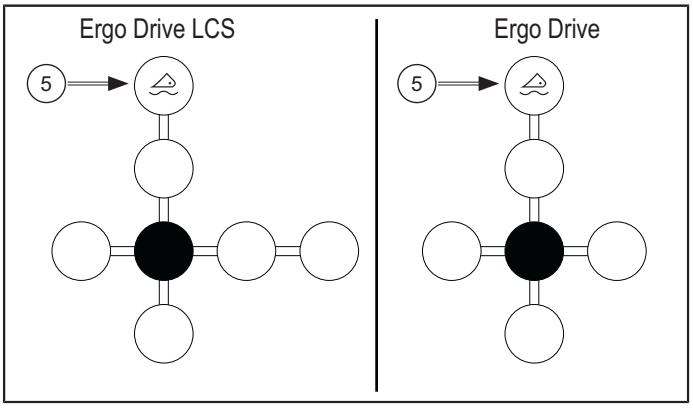


Fig.94 Float position, lower.

4.8.1.4. Float position emptying (ErgoDrive LCS)

Caution!
The lowering or emptying position combined with bucket work or implement work should only be used at low speeds.

Important! Activated float position does not automatically return to neutral, but must be deactivated.

Activate:

To empty the tool without a downward force, move the joystick to the right to the float position (6) and release it.

Deactivate:

To cancel the function, move the joystick to the left (out of the float position) and release it.

Warning!
Do not use the implement's float position function together with the third or fourth function. Risk of crushing injuries.

Note. If the Hose Burst Protection option is fitted, the float position will not work. Hose Burst Protection will lock the loader when the float position is activated for lowering or emptying.

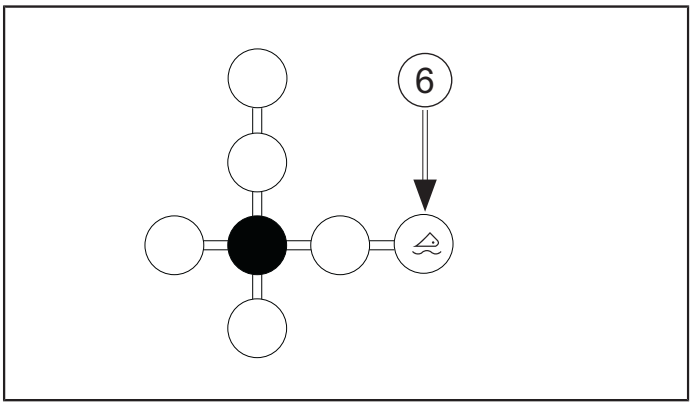


Fig.95 Float position emptying.

4.8.1.5. Transport mode

The joystick can be locked in neutral to prevent inadvertent operation of the loader.

Warning!
Lock the joystick in neutral to prevent inadvertent operation of the loader.

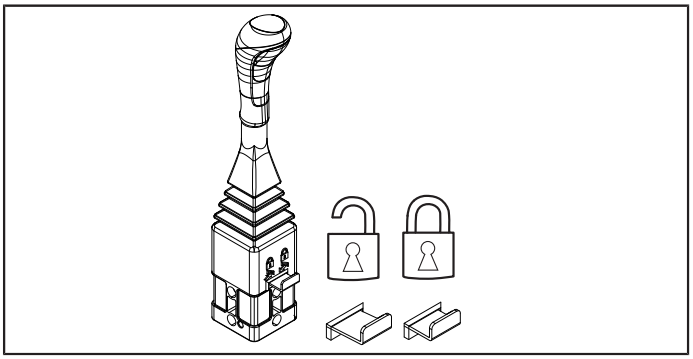


Fig.96 Control lever of joystick type, ErgoDrive.

4.8.1.6. Pressure reduction

Warning!
Risk of crushing and jamming

ALWAYS lower the loader to ground level before pressure is relieved.

Activate the boom suspension function according to *4.8.2.4. Boom suspension*.

Turn off the engine.

Move the joystick to all end positions.

Hold the joystick in place at each end position for around 3 seconds.

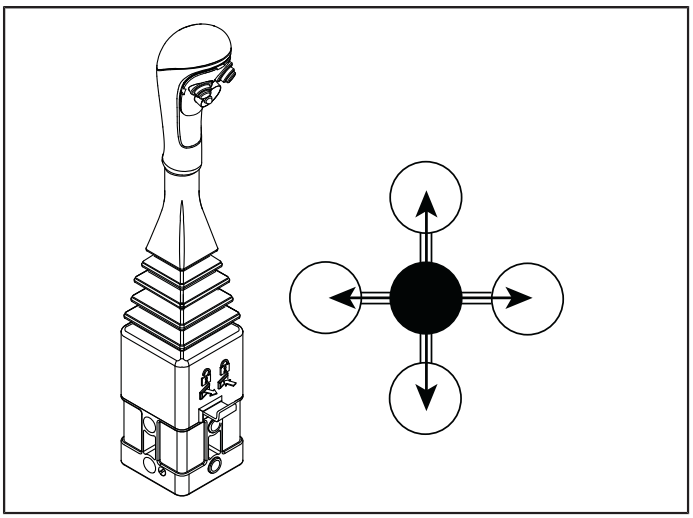


Fig.97 Move the joystick to all end positions.

4.8.2. Button functions

4.8.2.1. Third hydraulic function

The third hydraulic function is controlled by holding down button A while moving the joystick to the left (3) (closes the implement) or right (4) (opens the implement).

Note.

- When button A is released, the third hydraulic function ceases immediately.
- Joystick movements are reversed for left-hand fitting.

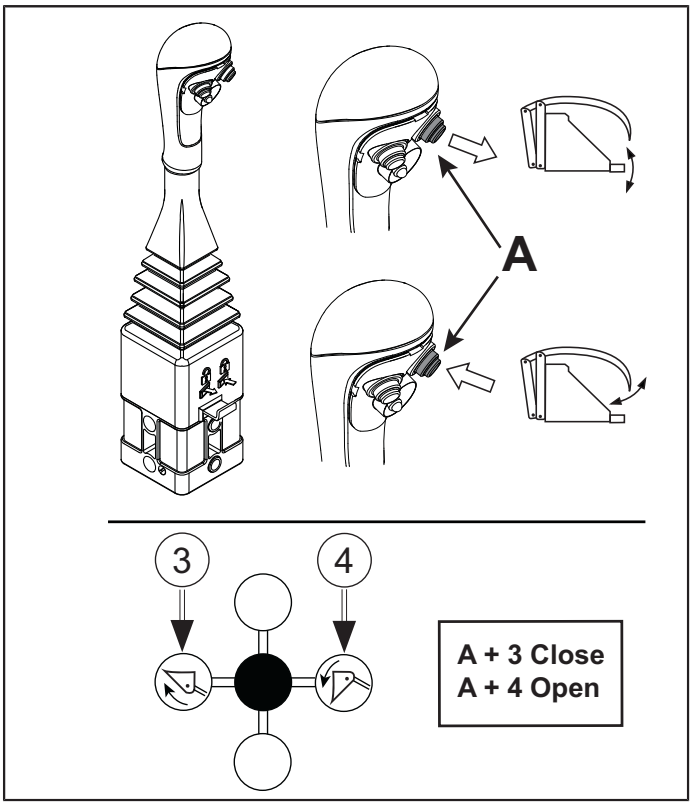


Fig.98 Button function, third hydraulic function.

4.8.2.2. Fourth hydraulic function

The fourth hydraulic function is controlled by holding down button B while moving the joystick to the left (3) (closes the implement) or right (4) (opens the implement).

Note.

- When button B is released, the fourth hydraulic function ceases immediately.
- Joystick movements are reversed for left-hand fitting.

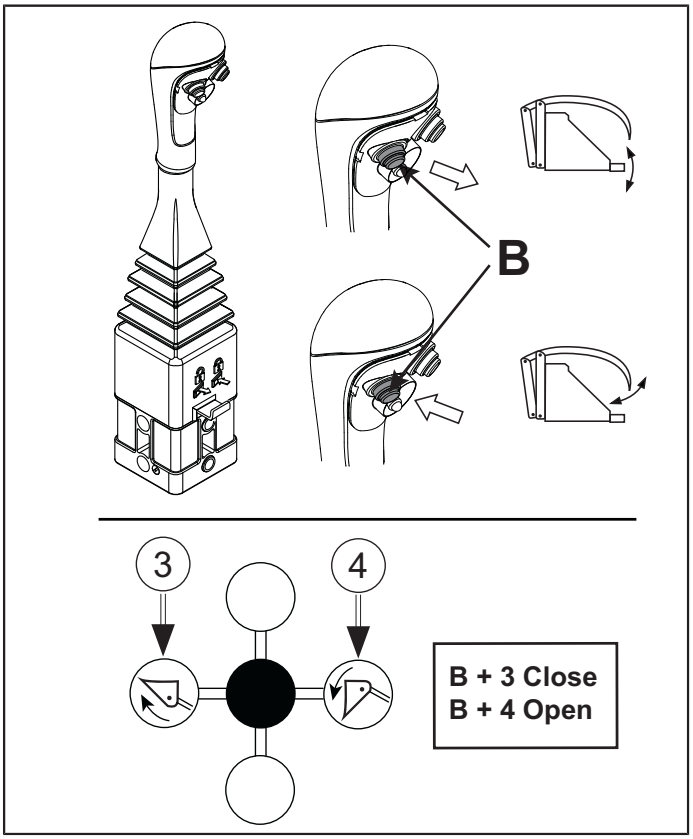


Fig.99 Button function, fourth hydraulic function.

4.8.2.3. Hydraulic implement lock

Hydraulic implement lock, open

Open by pressing rocker switch (D) and the third hydraulic function button (A) while moving the joystick to the right (4).

Note.

- Rocker switch (D) and the third hydraulic function button (A) must be held down throughout in order to close and open the hydraulic lock.
- Joystick movements are reversed for left-hand fitting.

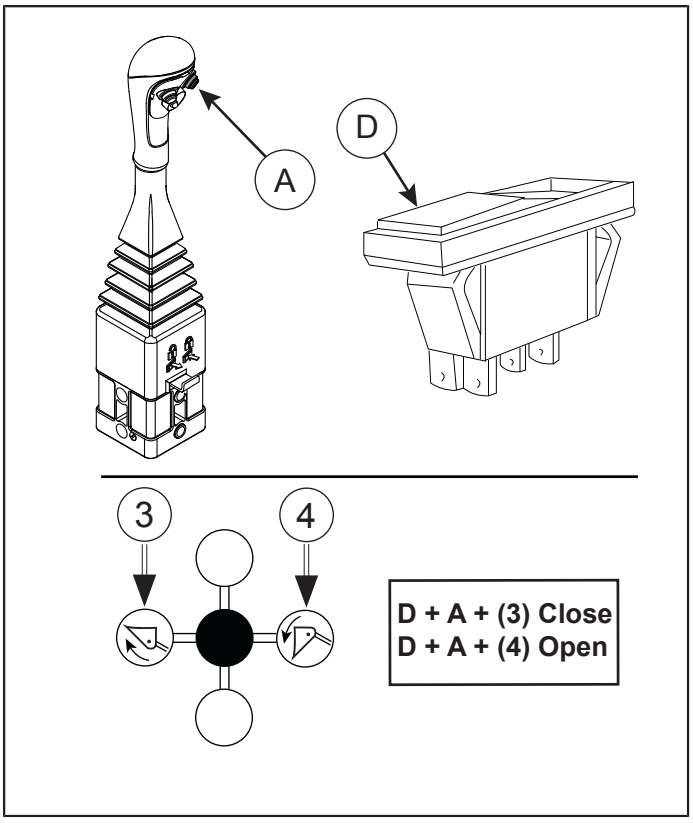


Fig.100 Button function, hydraulic tool lock.

Hydraulic tool lock, close:

Close by pressing rocker switch (D) and the third hydraulic function button (A) while moving the joystick to the left (3).

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The lock indicator should return to locked position. Ensure AT ALL TIMES that the connected implement is locked in place by pressing the front section of the implement towards the ground.

Tool carrier lock indicators look different depending on the type of tool carrier installed on the loader. Carefully check how YOUR tool carrier indicates a locked implement.

Important! If the hoses to the hydraulic lock cylinder are switched, the locking pin will move in the opposite direction. Make sure the locking pin moves in the correct direction before use.

Warning!
If the hoses to the hydraulic lock cylinder are incorrectly connected, the implement lock can open when the third hydraulic function is activated. Run the third hydraulic function to its end positions according to *4.8.2.1. Third hydraulic function*. If the implement lock opens, the hoses are incorrectly connected; correct the fault immediately.

The rocker switch (D) is located at the joystick control, or on the tractor's instrument panel.

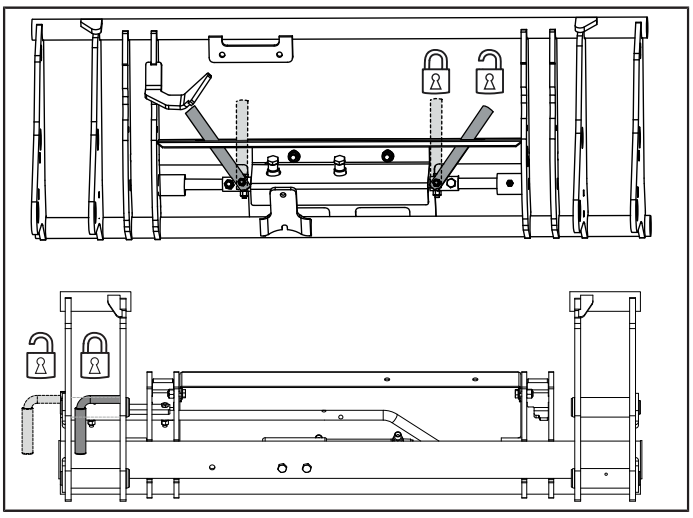


Fig.101 Lock indication

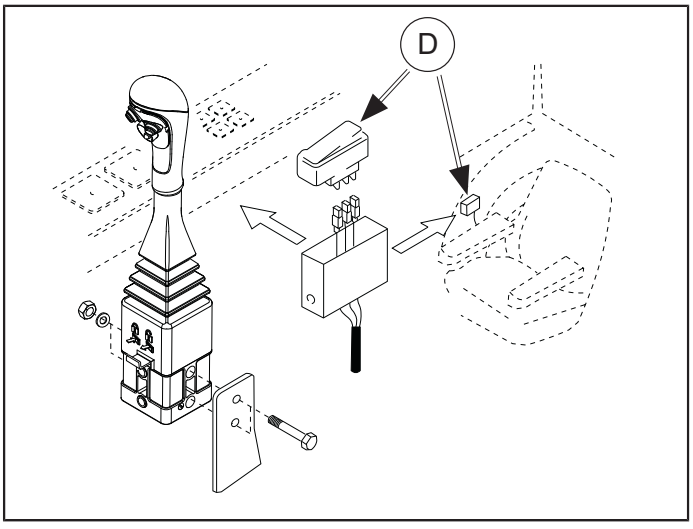


Fig.102 Rocker switch for hydraulic tool lock.

4.8.2.4. Boom suspension

The boom suspension function can be controlled electronically with switch (C). Boom suspension is activated in the ON position and deactivated in the OFF position.

See also section *4.13. Boom suspension, SoftDrive*

Note. If the Hose Burst Protection option is fitted, the boom suspension will not work. Hose Burst Protection blocks the lifting cylinders and therefore stops the boom suspension from working.

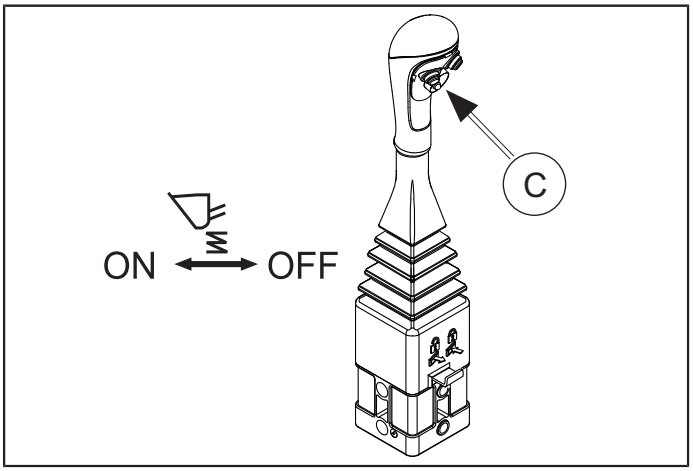


Fig.103 Rocker switch for load damper

4.9. Joystick: The tractor's own joystick

The loader is connected to the tractor's control valve and is controlled via the tractor's own joystick. Read the tractor's user manual or contact your dealer to learn how to control the loader.

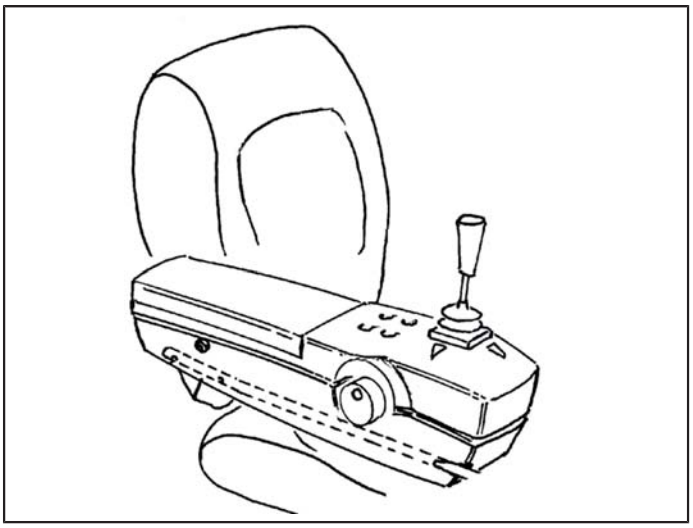


Fig.104 Joystick

Four hoses are connected directly between the tractor's hydraulic system and the loader.

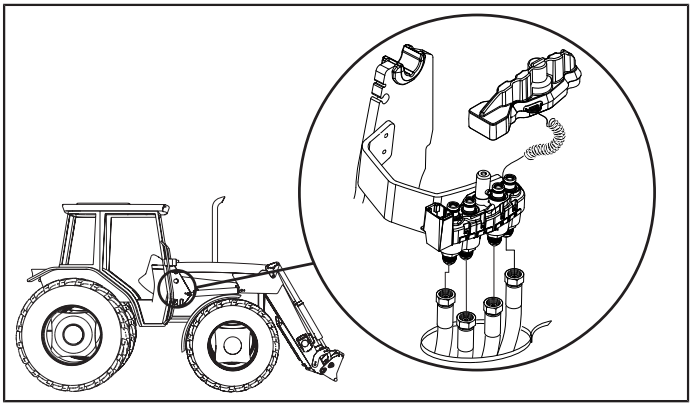


Fig.105 Connection, tractor to loader.

4.9.1. Joystick

Expected movement pattern when connecting the tractor's own joystick and control valve.

4.9.1.1. Raise/lower the loader

1. Move the joystick backwards (1) to raise the loader arm.
2. Move the joystick forwards (2) to lower the loader arm with constant force.

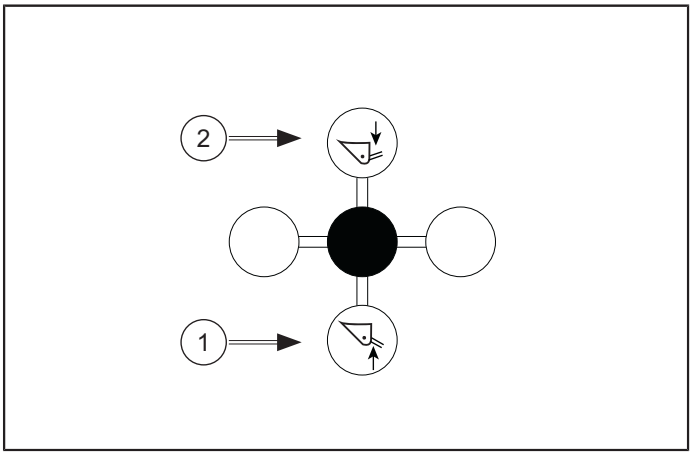


Fig.106 Raise/lower the loader.

4.9.1.2. Dump/Roll back the implement

1. Move the joystick to the left (3) to open the implement.
2. Move the joystick to the right (4) to empty the implement.

Note. Joystick movements are reversed for left-hand fitting.

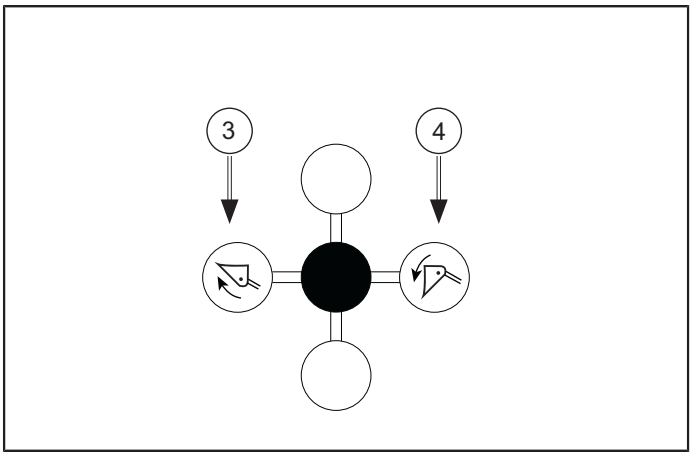


Fig.107 Open (3)/Empty (4) the implement

4.9.1.3. Pressure reduction

Warning!
Risk of crushing and jamming
ALWAYS lower the loader to ground level before pressure is relieved.

See tractor's user manual.

Note. For total pressure relief, boom suspension must be activated.

4.9.2. Button functions

4.9.2.1. Third and fourth hydraulic function

The third and fourth hydraulic functions are used to control the implement hydraulics and the hydraulic tool lock. Requires customised hose kit and the tractor joystick to operate the functions. Refer to the tractor user manual for operation.

4.9.2.2. Hydraulic implement lock

Hydraulic implement lock, open

Open by pressing rocker switch (D) and the third hydraulic function button (X) while moving the joystick to the right (4).

- Rocker switch (D) and the third hydraulic function button (X) must be held down throughout in order to close and open the hydraulic lock.
- (X) is the tractor manufacturer's button for activating the third function.
- Joystick movements are reversed for left-hand fitting.

Hydraulic tool lock, close:

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The lock indicator should return to locked position. Ensure AT ALL TIMES that the connected implement is locked in place by pressing the front section of the implement towards the ground.

Close by pressing rocker switch (D) and the third hydraulic function button (X) while moving the joystick to the left (3).

Tool carrier lock indicators look different depending on the type of tool carrier installed on the loader. Carefully check how YOUR tool carrier indicates a locked implement.

Important! If the hoses to the hydraulic lock cylinder are switched, the locking pin will move in the opposite direction. Make sure the locking pin moves in the correct direction before use.

Warning!
If the hoses to the hydraulic lock cylinder are incorrectly connected, the implement lock can open when the third hydraulic function is activated. Run the third hydraulic function in both directions according to *4.9.2.1. Third and fourth hydraulic function*. If the implement lock opens, the hoses are incorrectly connected; correct the fault immediately.

4.9.2.3. Boom suspension

See tractor's user manual.

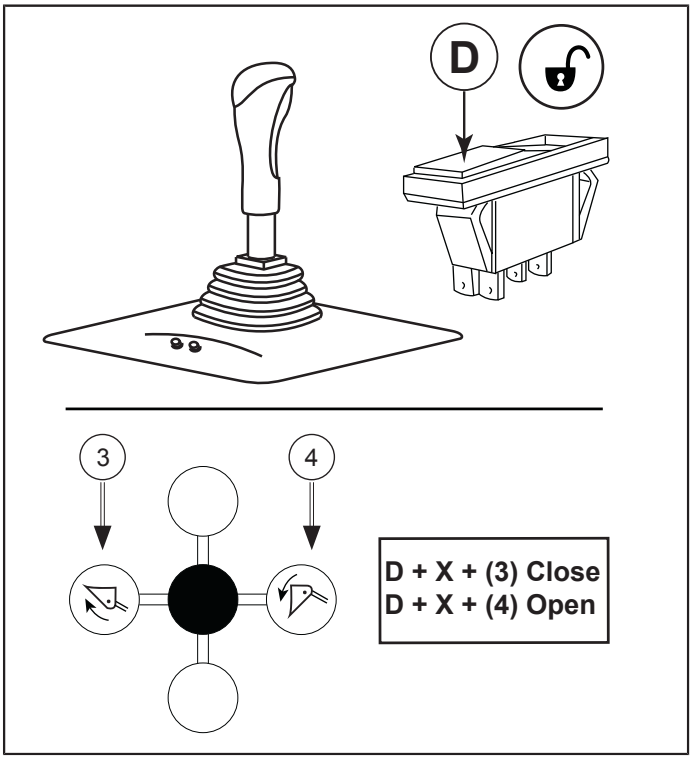


Fig.108 Button function, hydraulic tool lock

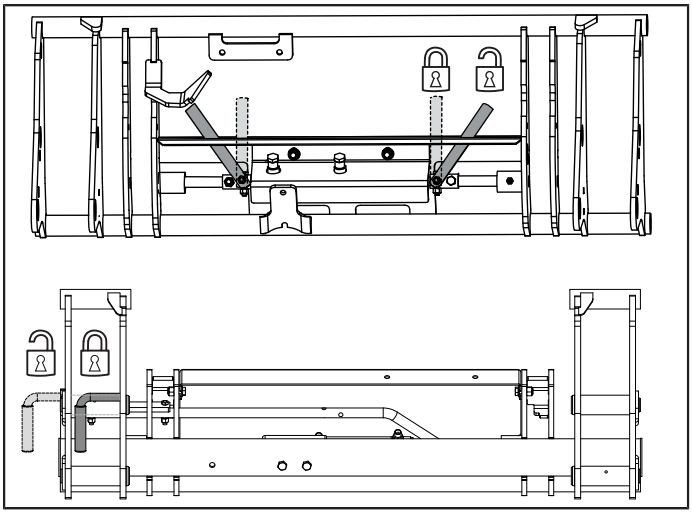
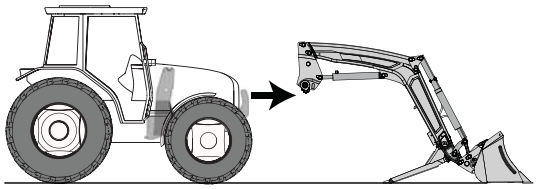


Fig.109 Lock indication

4.10. Loader coupling and uncoupling

4.10.1. Coupling a parked loader - LCS



Caution!
Risk of crushing and jamming
Air in hydraulic hoses and cylinders can cause jerky, unexpected movement.
Run the engine at low speed and make slow movements with the joystick to purge any air from the hydraulic system.

Caution!
Risk of crushing and jamming
Keep hands and feet away from moving components. Do NOT use your fingers to check the alignment of holes or pins — use a mandrel or a steel rod.

Caution!
Risk of crushing and jamming
If the loader valve is in a depressurised or float position then sudden and unforeseen movements may occur when the hydraulics are connected.

Caution!
The loader may fall. It is essential to ensure the hoses are placed in the hose clamps as shown in the manual so that they do not get caught in the tractor.

Coupling a loader subframe (Steps 1-3)

1. **Important!** Make sure the hoses are placed on the hose holders as illustrated so that they do not snag on the tractor.

2. Make sure that Lock & Go is in the unlocked position.

3. Drive the tractor forwards carefully until the base mast slowly enters the bearing box.

Connect the hydraulics (steps 4-6)

Caution!
Make sure the loader's control valve is correctly connected to the loader. The hose markings must be connected as per each valve marking.

Important! If the loader is standing in direct sunlight and the hydraulic fluid is heated, connection of the loader's single or multi-couplers may be more difficult. To facilitate coupling, park the loader with hydraulic fluid at operating temperature.

4. Depressurise the system. If there is any difficulty in connecting the single or multi-couplers it is because the oil pressure has not been eliminated. Relieve hydraulic pressure; see section *4.7.2.9. Pressure reduction*, *4.8.1.6. Pressure reduction* and *4.9.1.3. Pressure reduction* for each joystick.

5. Connect to the single couplers as illustrated; note the markings on the hoses and on the valve. In the case of single couplers, proceed to Step 7. In the case of multi-couplers, proceed to Step 6.

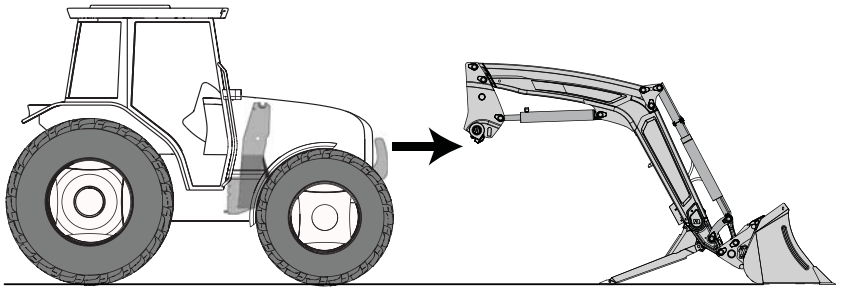
6. Open the handle on the female multi-coupler. Place the female coupling on the central post so that the couplings meet. Connect by moving the handle to the end position. Never use brute force; only connect by hand. Do not back away or pump the handle in this position; the seals may be damaged.

7. Angle the implement down so that the bearing box docks into the subframe upright. (Move the joystick to the right, empty implement).

8. Raise the loader. The lock system will then automatically lock the loader in the upright with the locking pin. Make sure the loader is locked in place in the subframe. The green end of the Lock & Go locking pin must be visible on the inboard sides of the right and left bearing boxes. (Move the joystick backwards, raise the loader).

9. Fold the support legs back to the loader beam and secure them.

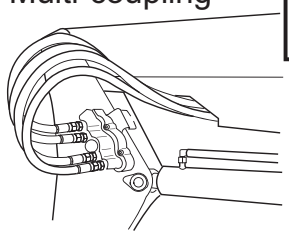
Important! After commissioning/connecting a new loader, use the checklist 'Commissioning the loader' according to *3.2. Installing the loader*.

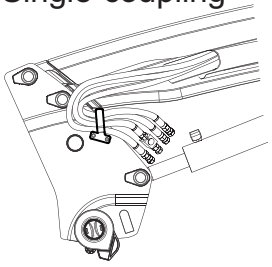


Multi-coupling

1

Single-coupling





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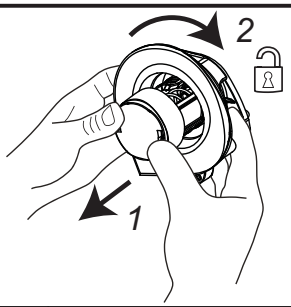

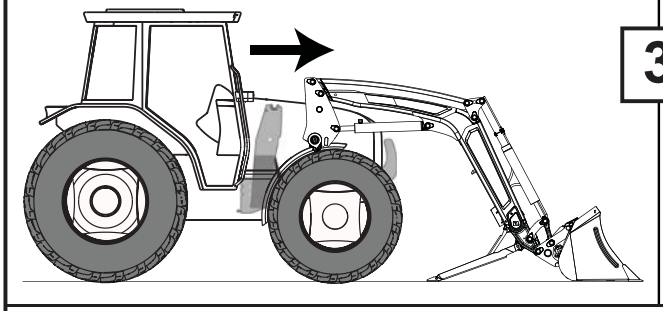

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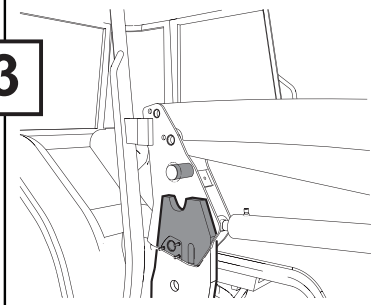

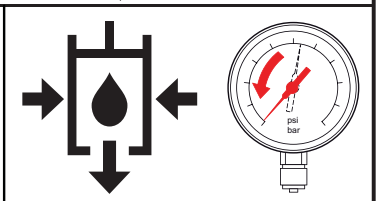

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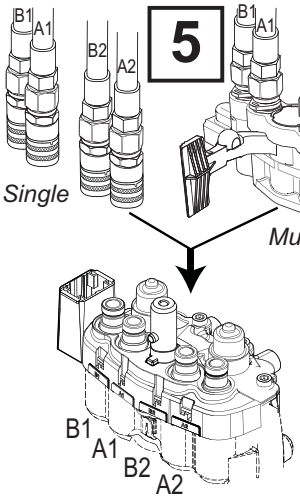

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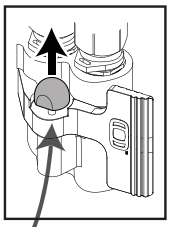

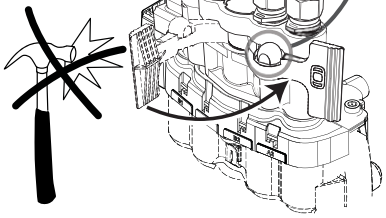

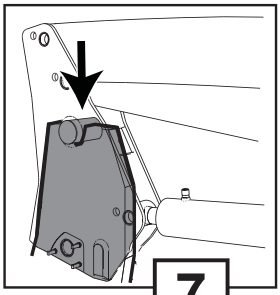

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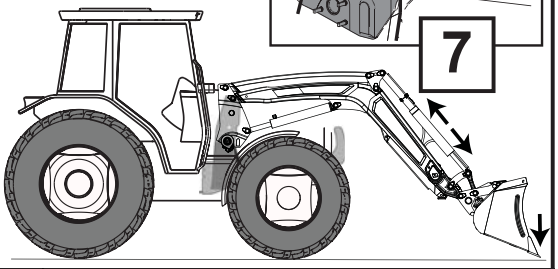

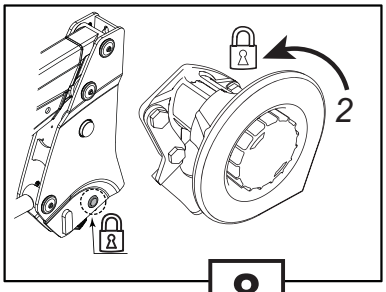

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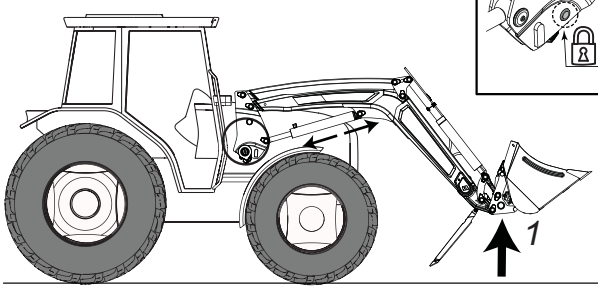

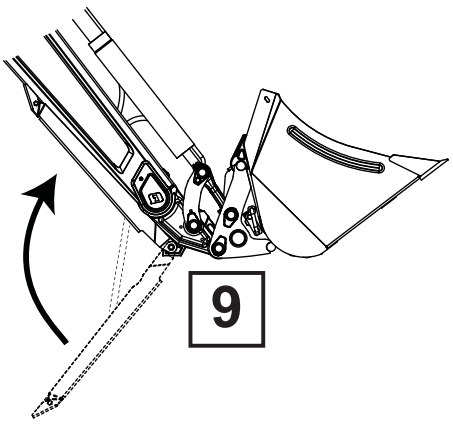

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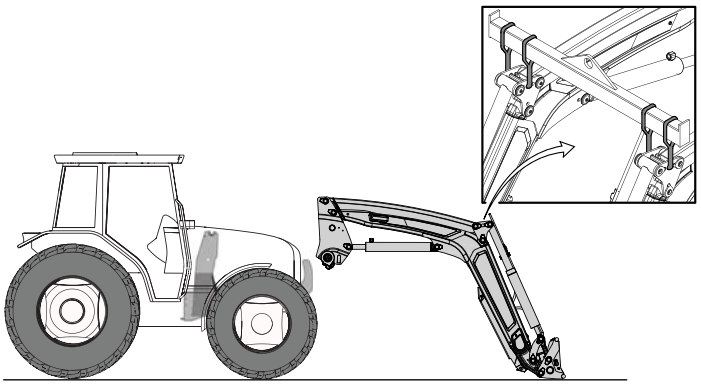
4.10.2. Connecting the loader using lifting equipment



Caution!
Risk of crushing and jamming
Air in hydraulic hoses and cylinders can cause jerky, unexpected movement.
Run the engine at low speed and make slow movements with the joystick to purge any air from the hydraulic system.

Caution!
Risk of crushing and jamming
Keep hands and feet away from moving components. Do NOT use your fingers to check the alignment of holes or pins — use a mandrel or a steel rod.

Caution!
Risk of crushing and jamming
If the loader valve is in a depressurised or float position then sudden and unforeseen movements may occur when the hydraulics are connected.

Caution!
The loader may fall. It is essential to ensure the hoses are placed in the hose clamps as shown in the manual so that they do not get caught in the tractor.

Coupling a loader subframe (Steps 1-4)

1. **Important!** Make sure the hoses are placed on the hose holders as illustrated so that they do not snag on the tractor.

2. Make sure that Lock & Go is in the unlocked position.

3. Raise the loader. Use the lifting holes marked with decals on the inboard sides of the arm. Depending on the loader model and how much extra equipment the loader has, it may be preferable to lift according to alternative 3B.

4. Lower the loader until the bearing boxes dock in the subframe uprights. Lower further until the locking system automatically locks the loader in position in the subframe uprights. Make sure the loader is locked in place in the subframe. The green end of the Lock & Go locking pin must be visible on the inboard sides of the right and left bearing boxes.

Connecting hydraulics (Step 5-7)

Caution!
Make sure the loader's control valve is correctly connected to the loader. The hose markings must be connected as per each valve marking.

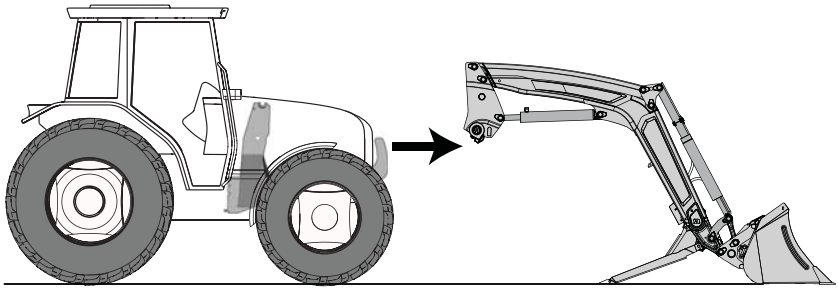
5. Depressurise the system. If there is any difficulty in coupling the quick release couplings, this will be because the oil pressure has not been eliminated. Relieve hydraulic pressure; see section *4.7.2.9. Pressure reduction*, *4.8.1.6. Pressure reduction* and *4.9.1.3. Pressure reduction* for each joystick.

6 A) Connect the single couplers; note the markings on the hoses and the valve.

6 B) Open the handle on the female multi-coupler. Place the female coupling on the central post so that the couplings meet.

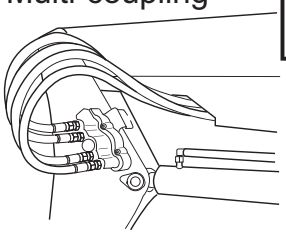
7. Connect by moving the handle to the end position. Never use brute force; only connect by hand. Do not back away or pump the handle in this position; the seals may be damaged.

Important! After commissioning/connecting a new loader, use the checklist 'Commissioning the loader' according to *3.2. Installing the loader*.

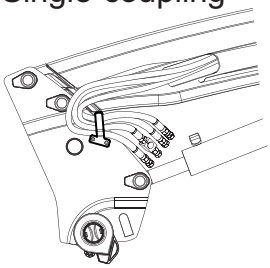


Multi-coupling

1



Single-coupling



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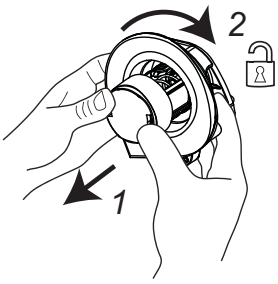
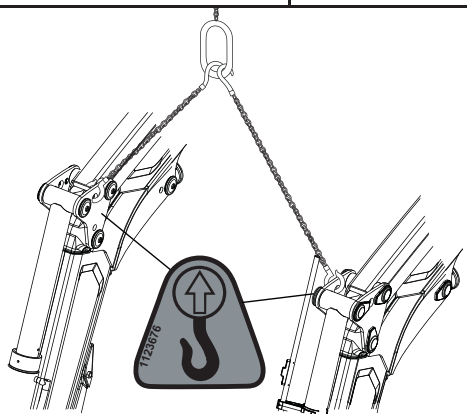
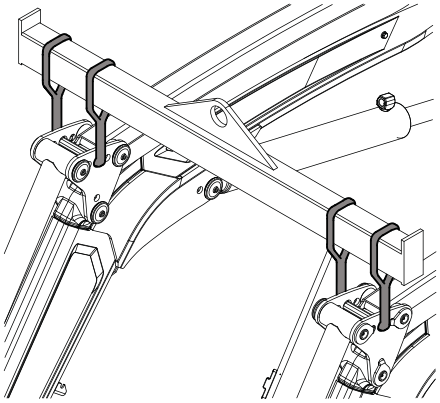


3A



3B



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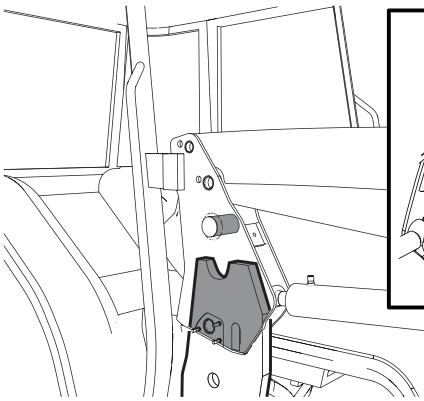

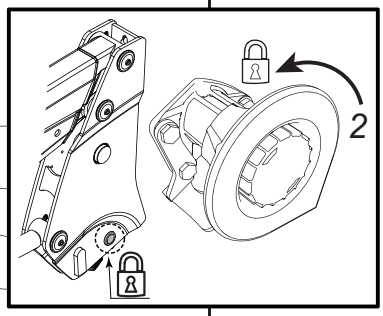

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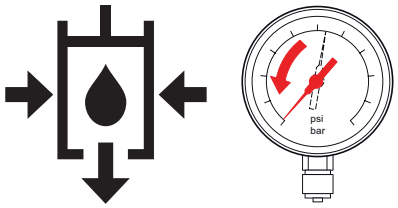

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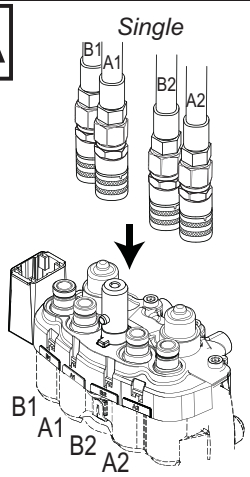
6A



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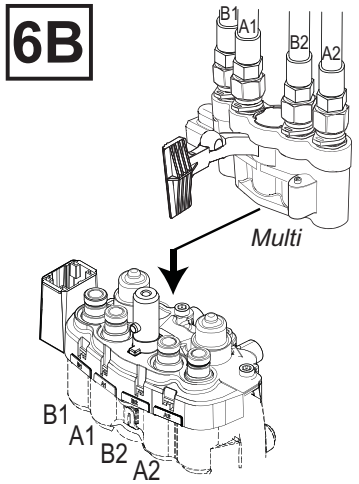

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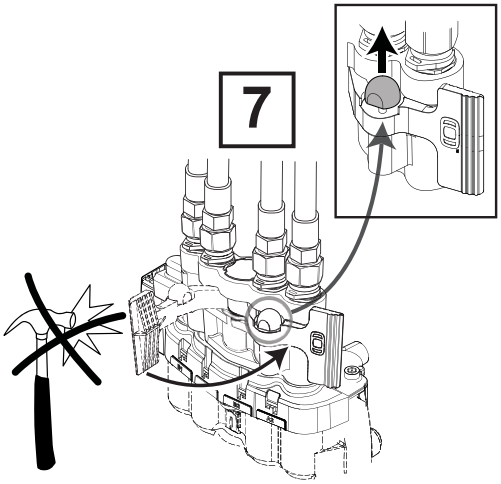
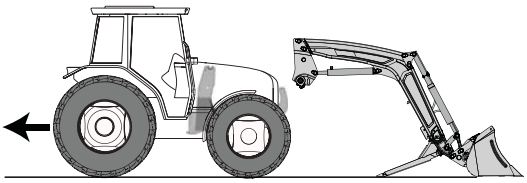


4.10.3. Disconnecting the loader - LCS.



Caution!
Risk of crushing and jamming
The loader may fall downwards.
Always install a bucket or other suitable implement on the loader before the loader is disconnected from the tractor.

Caution!
If the back of the implement is more that 20-30 cm above the ground there is risk that hoses may become worn during disconnection.

Caution!
Risk of jamming.
The lock handle is sprung; when the loader is parked, the lock handle should be put into the lock position. Handle the lock handle carefully.

Caution!
Burn injuries. Valves, connections and hoses can get very hot when the tractor and loader have been used even for a short time. Switch off the tractor and allow the hydraulic components to cool before touching them.

Caution!
Risk of crushing and jamming
If the loader valve is in a depressurised or float position then sudden and unforeseen actions may occur when the hydraulics are connected.

Important! If the loader is standing in direct sunlight and the hydraulic fluid is heated, connection of the loader's single or multi-couplers may be more difficult. To facilitate coupling, park the loader with hydraulic fluid at operating temperature.

1. **Important!** Position the tractor on a flat and firm surface. Tilt the implement forwards and lower the loader beam so that the rear of the implement is around 20-30 cm above the ground while the front part is touching the ground.

If the loader is equipped with boom suspension, activate the boom suspension before uncoupling the loader.

2. Release the support legs by pulling the street pads up. Fold down the support legs and fix the stay in each support leg. Note that there are two alternative holes for securing the attachment. Adjust support leg height so that the support leg pads are around 5 cm above the ground.

3. Unlock Lock & Go by pulling the handle and turning it to the open position (both sides).

4. Release the brakes and lower the loader beam so that the lift cylinders are fully retracted. (Move the joystick forwards, lower the loader).

Carefully tilt the implement upwards; the rear of the loader is raised and released from the subframe. (Move the joystick to the left, open the implement). Allow the tool to rest flat on the ground/surface.

Disconnect the hydraulics (steps 5-8)

5 A) **ErgoDrive LCS:** Stop the tractor's engine. Depressurise the lift cylinders by moving the joystick to the raise and lower end positions. Hold in place for three seconds.

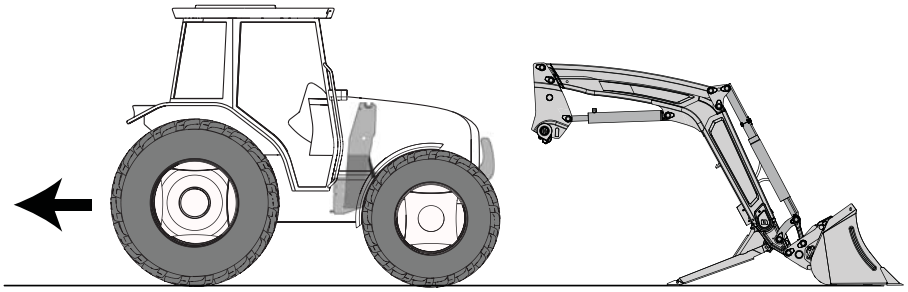
5 B) **ElectroDrive LCS:** See section *4.7.2.9. Pressure reduction*.

6. Disconnect the single couplers from the control valve. Proceed to step 8. In the case of multi-couplers, proceed to Step 7.

7. Unlock the multi-coupler by depressing the lock button and turning the handle to the left. Disconnect the multi-coupler.

8. **Single coupler**: Place the hoses in the hose holder.
Multi-coupler: Place the multi-coupler in the holder. Place the dust cover on the control valve.

9. Reverse the tractor carefully until it is completely free from the loader.



1
20-30 cm

2
1
2
3
5 cm
20-30 cm

3
2
1

4
4
1
2
3

5
psi
bar
P=0

6
B1
A1
B2
A2
Single
B1
A1
B2
A2

7
B1
A1
B2
A2
Multi

Multi-coupling
8

Single-coupling

8

9

4.11. Connecting and disconnecting implements

4.11.1. Disconnecting implements, mechanical implement lock

Raise the loader about 1 meter off the ground and position the implement level to the ground.

Shut the engine off and lock the loader's joystick in neutral.

Apply the parking brake.

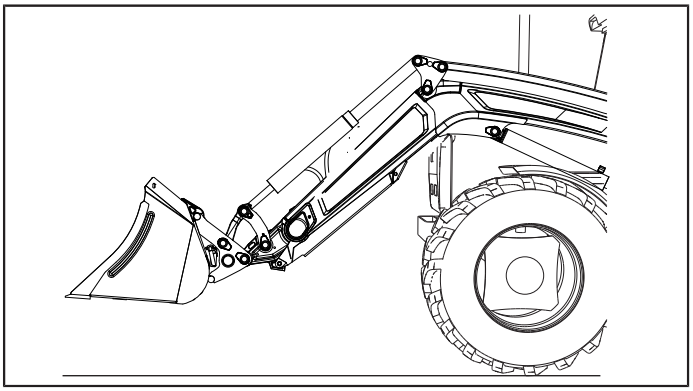
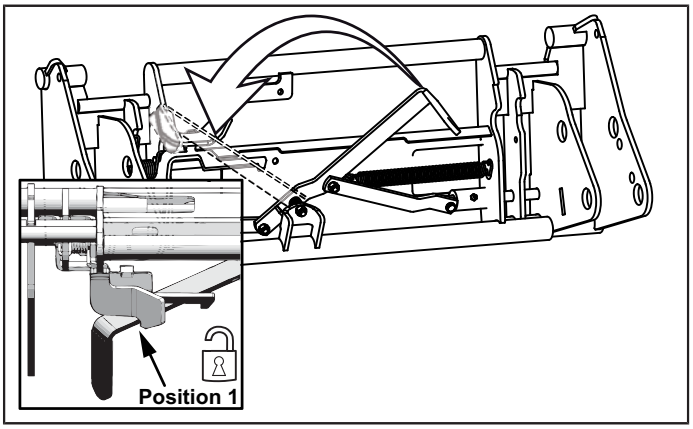


Fig.110 Uncoupling tools

Opening the implement lock:

Move the locking lever to the open position, position 1.



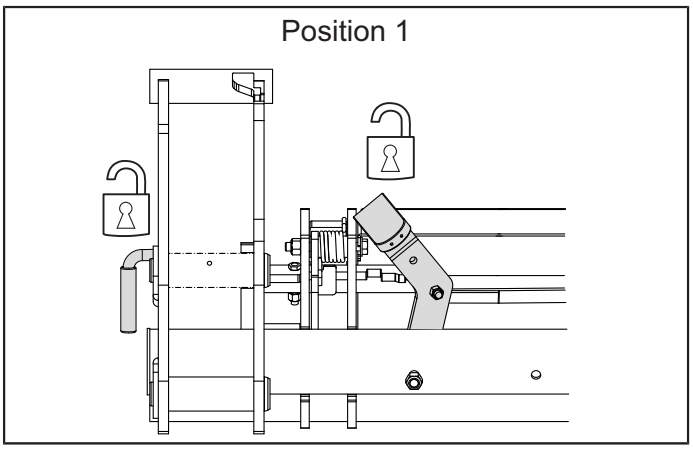


Fig.111 Opening the implement lock

Start the engine and lower the loader to the ground until the tool can be disconnected from the loader tool carrier. The lock lever is now released from position 1 and moves to position 2.

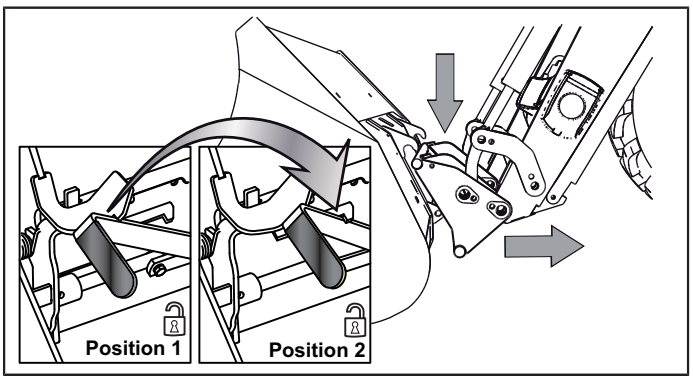
Reverse away from the implement.

Caution!
Risk of jamming.

The lock lever is spring loaded in position 1 and 2.

Caution!
Risk of jamming.

Keep hands and feet away from moving components. Do NOT use your fingers to check the fit of holes/pins, use a mandrel or a steel rod.



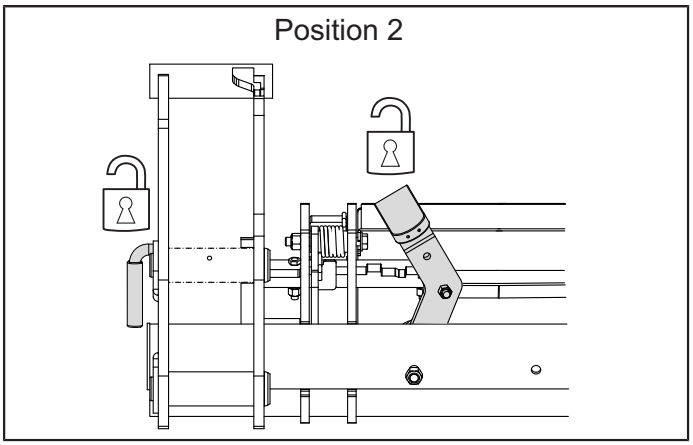


Fig.112 Lower the loader to the ground until the implement is disconnected

4.11.2. Connecting implements, mechanical implement lock

Important! When connecting the implement to the tractor/ loader for the first time, make sure no collisions can occur between the implement and the loader. Both when connecting and operating the implement.

Angle the tool carrier toward 'empty bucket' as shown in *Fig.113* and position the tool carrier 5-10 cm beneath the implement hooks.

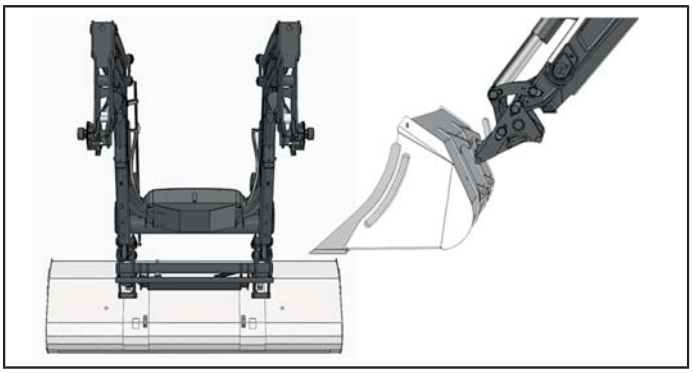


Fig.113 Tilt the tool carrier forward.

Drive the tractor forwards slowly to position the tool carrier under the hooks on the implement.

The position of the implement hooks in relation to the tool carrier during disconnection can be observed from the operator's seat.

1. When the tool carrier contacts the implement, raise the loader to “hook” the implement on the tool carrier.

2. Angle up the tool carrier.

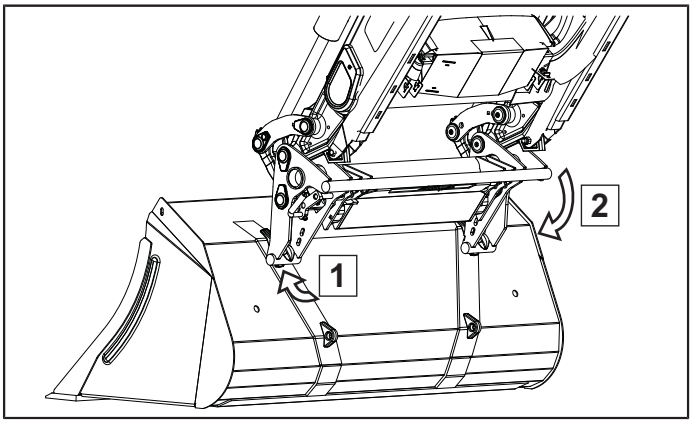


Fig.114 Position the tool carrier under the implement hooks, raise the loader and opened the tool carrier.

3. When the implement's locking lug (A) impacts/pushes aside the Click-on system on the tool carrier, the implement will be automatically locked in position. The lock lever is released and moves to position 3, locked implement .

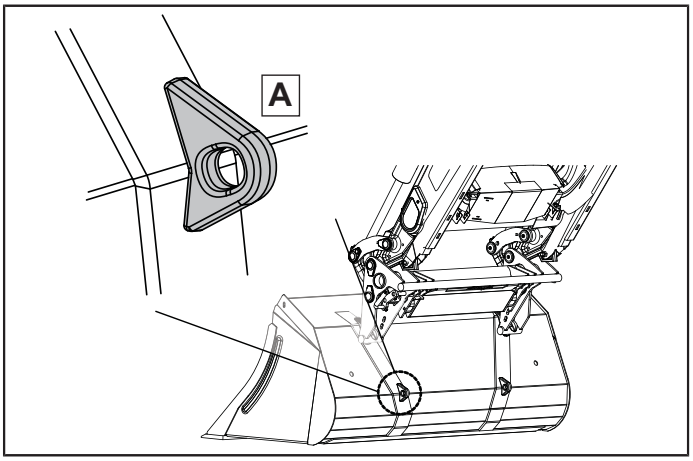


Fig.115 Implement locking lug

4. Raise the loader until the tool carrier is clearly visible from the driver's cab. Place the implement horizontally on the ground.

Tool carrier lock indicators look different depending on the type of tool carrier installed on the loader. Carefully check how YOUR tool carrier indicates a locked implement.

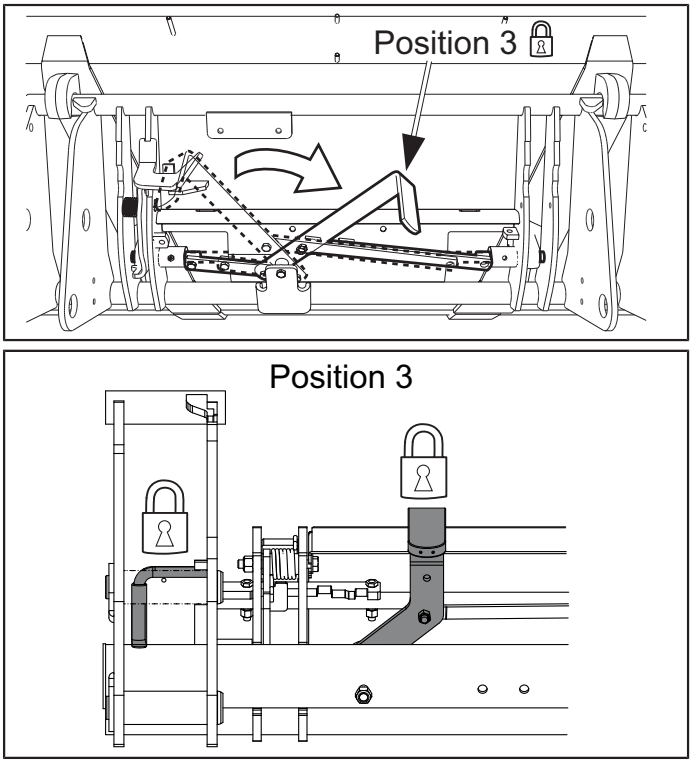


Fig.116 Carefully check how YOUR tool carrier indicates a locked implement

Read this before you start to work with the loader/ implement.

Use the following checklist to make sure the implement is correctly locked onto the loader's tool carrier:

- Visually check that the locking lever indicates locked implement.
- Visually check that the tool carrier locking pins are in the locked position.
- Make sure the implement is locked in place on the tool carrier by pressing the front of the implement against the ground.

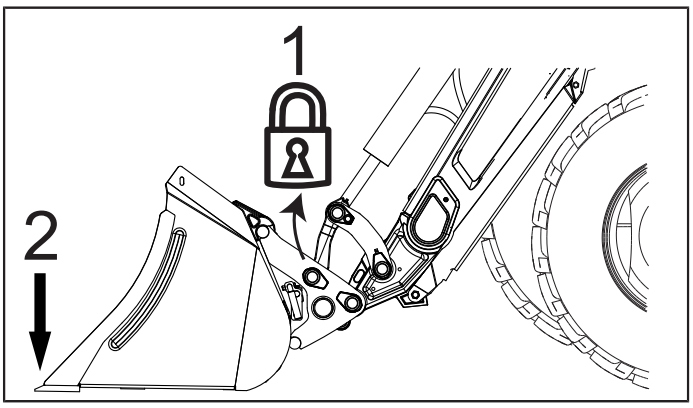


Fig.117 Check that the implement is secured by pressing its front end against the ground.

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The locking lever must be back in its locked position (1). ALWAYS make sure the connected implement is locked in place by pressing the front of the implement against the ground (2).

Caution!
When connecting hydraulic implements that use the third and/or fourth function, make sure implement movements take place according to the following movement patterns:

- Close the implement = Activate 3rd/4th hydraulic functions; move joystick sideways towards the driver.

- Open the implement = Activate 3rd/4th hydraulic functions; move joystick sideways away from the driver.

Incorrect movement patterns may mean the load is lost. Remedy this problem immediately.

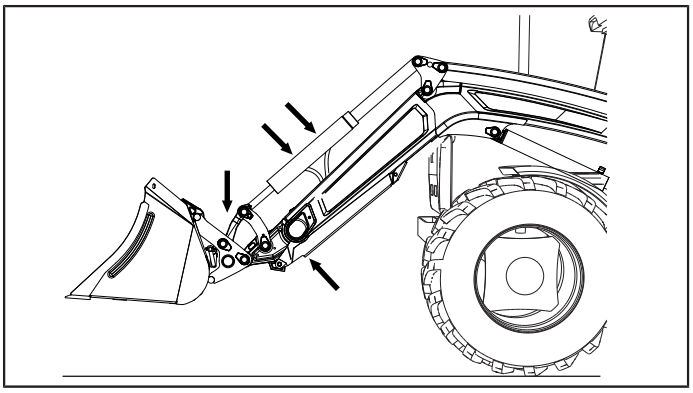


Fig.118 Check carefully that there is no risk of collision between loader and implement.

4.11.3. Disconnecting implements, hydraulic implement lock

Raise the loader until the tool carrier is clearly visible from the driver's cab; place the implement horizontally on the ground.

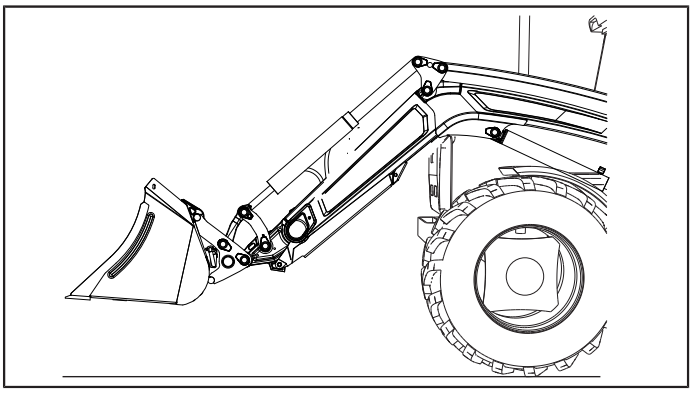


Fig.119 Raise the loader about 1 meter off the ground and position the implement level to the ground.

Opening the implement lock, see section *4.6. Connecting loader hydraulics and joysticks*.

The lock indicator must be in the open position .

Lower the loader to the ground until the implement can be disconnected from the loader tool carrier.

Important! Position the implement on a level and solid surface.

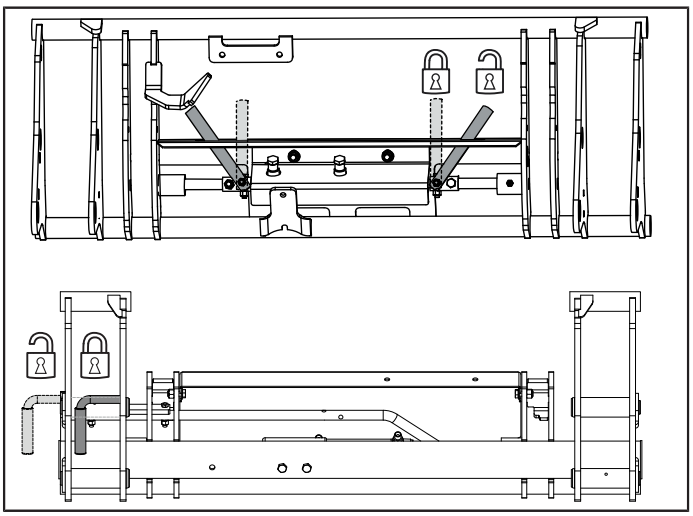


Fig.120 Open/locked tool carrier

Reverse away from the implement.

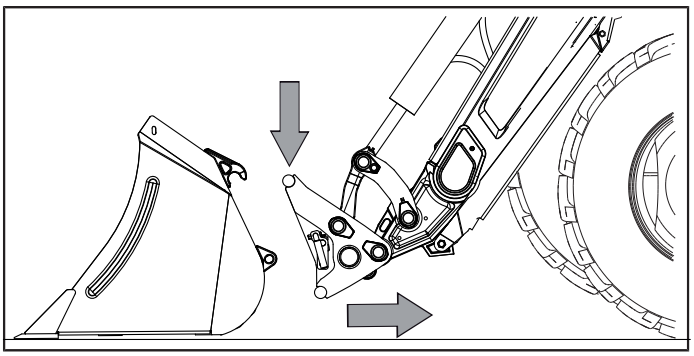


Fig.121 Lower the implement and back away from it

4.11.4. Connecting implements, hydraulic implement lock

Important! When connecting the implement to the tractor/ loader for the first time, make sure no collisions can occur between the implement and the loader. Both when connecting and operating the implement.

Angle the tool carrier toward 'empty bucket' as shown in *Fig.122* and position the tool carrier 5-10 cm beneath the implement hooks.

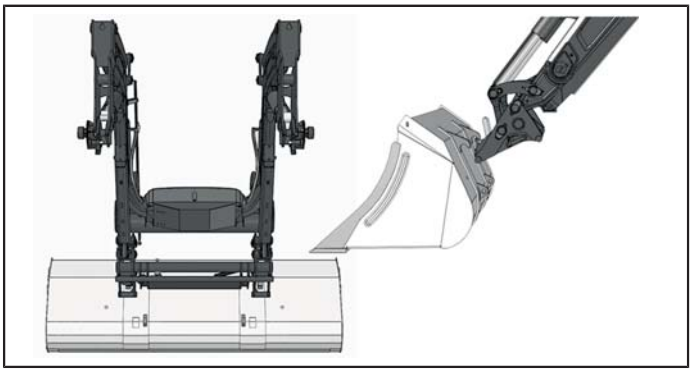


Fig.122 Tilt the tool carrier forward.

Drive the tractor forwards slowly to position the tool carrier under the hooks on the implement.

The position of the implement hooks in relation to the tool carrier during disconnection can be observed from the operator's seat.

1. When the tool carrier contacts the implement, raise the loader to “hook” the implement on the tool carrier.
2. Angle up the tool carrier.

   Raise the loader until the tool carrier is clearly visible from the driver's cab; place the implement horizontally on the ground.
3. Closing the hydraulic implement lock, see section *4.6. Connecting loader hydraulics and joysticks*.

The lock indicator must be in the locked position .

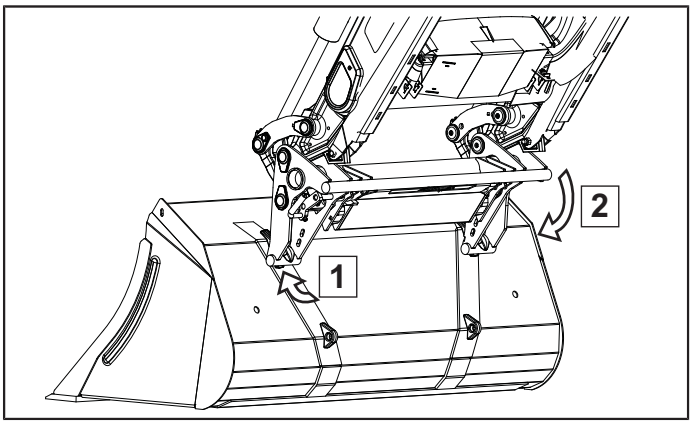


Fig.123 Position the tool carrier under the implement hooks, raise the loader and roll back the tool carrier.

Tool carrier lock indicators look different depending on the type of tool carrier installed on the loader. Carefully check how YOUR tool carrier indicates a locked implement.

Read this before you start to work with the loader/ implement.

Use the following checklist to make sure the implement is correctly locked onto the loader's tool carrier:

- Visually check that the lock indicator shows locked implement.
- Visually check that the tool carrier locking pins are in the locked position.
- Make sure the implement is locked in place on the tool carrier by pressing the front of the implement against the ground.

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The lock indicator must be back the locked position (1). ALWAYS make sure the connected implement is locked in place by pressing the front of the implement against the ground (2).

Important! If the hoses to the hydraulic lock cylinder are switched, the locking pin will move in the opposite direction. Make sure the locking pin moves in the correct direction according to *4.6. Connecting loader hydraulics and joysticks*.

Warning!
If the hoses to the hydraulic lock cylinder are incorrectly connected, the implement lock can open when the third hydraulic function is activated. Run the third hydraulic function to its end positions according to *4.6. Connecting loader hydraulics and joysticks*, if the implement lock opens, the hoses are incorrectly connected; correct the fault immediately.

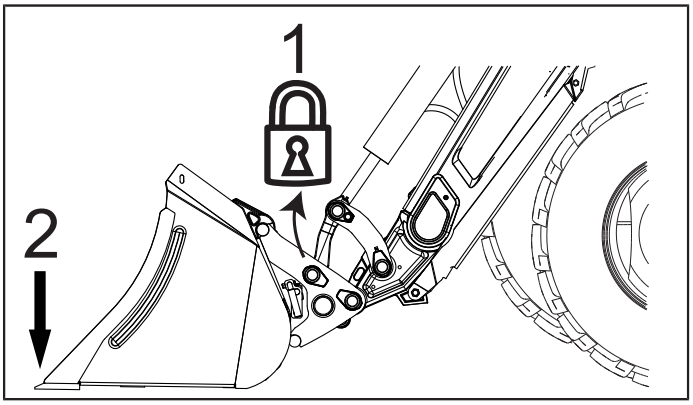


Fig.124 Check that the implement is secured by pressing its front end against the ground.

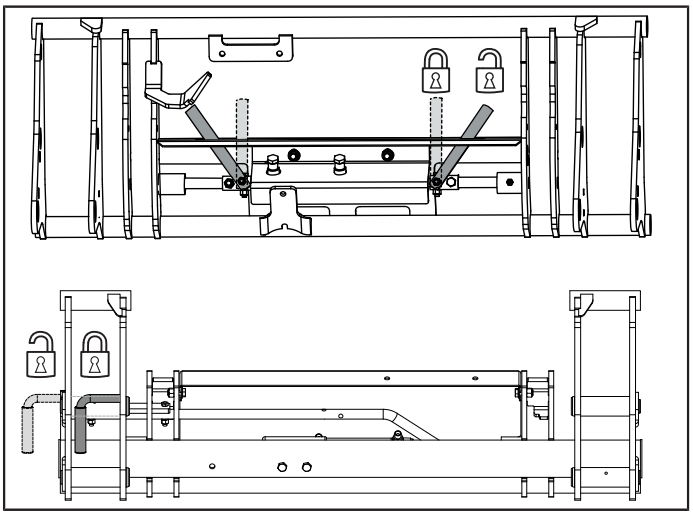


Fig.125 Hydraulic implement lock, lock indication

Note. Check carefully that there is no risk of collision between loader and implement.

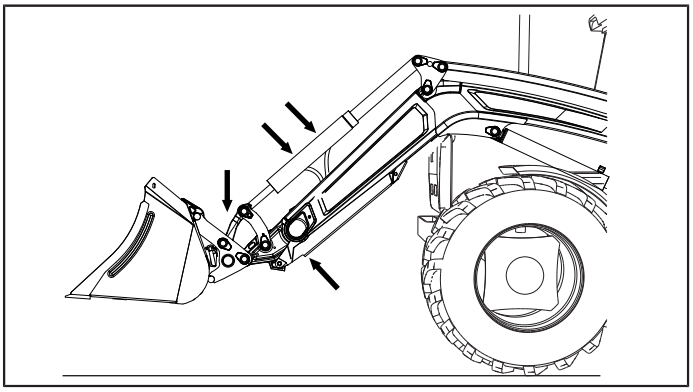


Fig.126 Check carefully that there is no risk of collision between loader and implement.

4.12. Working with the loader

Only qualified individuals may use the tractor/loader/implement.

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The lock indicator must be back the locked position (1). ALWAYS make sure the connected implement is locked in place by pressing the front of the implement against the ground (2).

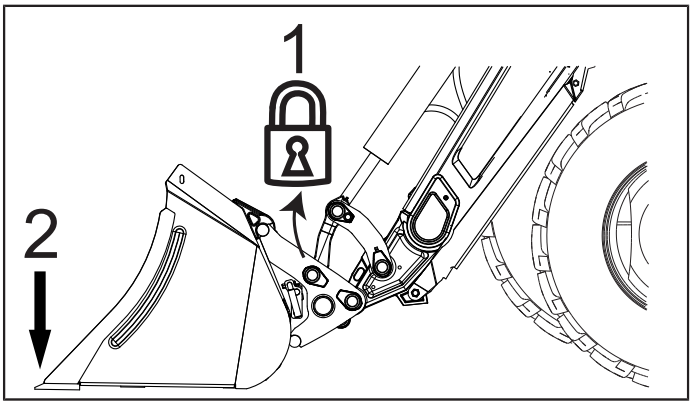


Fig.127 Check that the implement is secured by pressing its front end against the ground.

Warning!
Electric shock, crushing and pinch risk. When driving with a raised loader, make sure that there is enough room between the loader/implement and e.g. power lines and barn roofs.

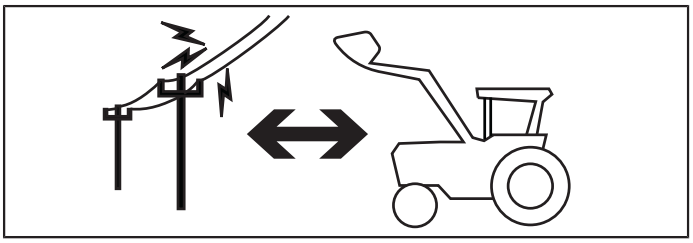


Fig.128 Keep a safe distance from electrical power lines and other obstacles.

Warning!
Electric shock. Before excavating, make sure there are no hidden electrical cables. To prevent bodily injury or death do NOT leave the driver's seat if any part of the loader is in contact with a cable. Back the tractor away from the cable before you get out.

Warning!
Risk of crushing and jamming

People can be inside the working area.

Make sure that nobody is close to the tractor when work starts. Only operate the tractor when sitting in the intended place in the driver's seat.

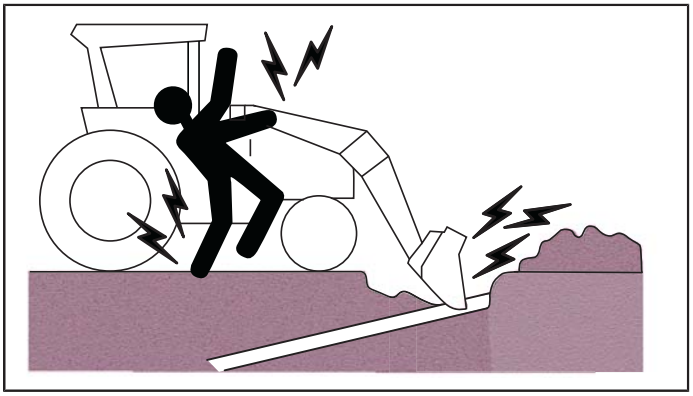


Fig.129 When excavating, make sure there are no hidden electrical cables

Warning!
If work requires any individual to be near a raised load, the loader must be fitted with Hose Burst Protection and function checked as per section *4.4. Hose Burst Protection (optional extra)*.

Warning!
Do NOT use the loader or the attachment as a working platform.

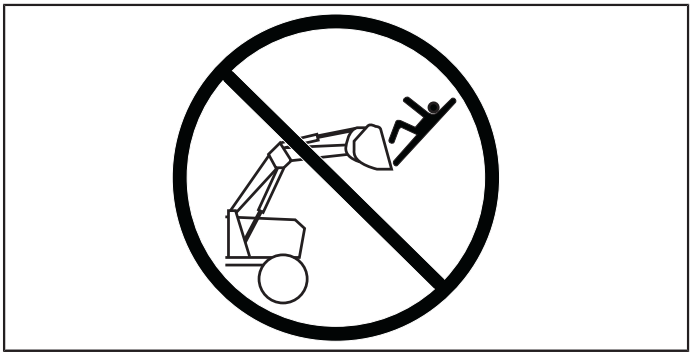


Fig.130 Do NOT use the loader or the attachment as a working platform.

Warning!
Do NOT use the loader or implement to lift or transport people.

Fig.131 Do NOT use the loader or implement to lift or transport people.

Warning!
Do NOT stand, walk or work under a lifted loader. Make sure that you keep individuals, especially children and animals, away from the working area.

Warning!
Risk of crushing and trapping.

Before leaving the driver's seat:

1. **Lower the loader and implement to the ground.**
2. **Apply the handbrake/park brake.**
3. **Shut the engine off.**
4. **Remove the ignition key if the machine is left unsupervised.**
5. **Relieve hydraulic pressure; see section Depressurising for the joysticks concerned.**

Fig.132 Do NOT stand, walk or work under a lifted loader.

4.12.1. Load stability

Warning!
Always look at the implement. Objects can fall or roll backwards onto the driver when the loader is raised.

Only lift loads that fit and are designed for that specific implement.

Some implements should be equipped with a collapse protector.

Warning!
If the tractor is only equipped with Roll Over Protective Structure (ROPS), and does not have a Falling Objects Protective Structure (FOPS), there is only limited protection against falling loads. The driver risks injury if the load falls when the loader is operated while raised.

FOPS is not designed to protect against all falling loads. It is therefore critical to use an implement with a collapse protector which prevents the load from falling.

Exercise caution when working with raised loads.

The tractor may not be operated on public roads with a load in the implement.

In order not to drop the load or implement, make sure the implement is correctly mounted on the tool carrier and that the lock pins are in the locked position, see:

4.11.2. Connecting implements, mechanical implement lock
or
4.11.4. Connecting implements, hydraulic implement lock.

Warning!
Risk of crushing and jamming

Incorrectly locked implements can come loose.

The lock indicator must be back the locked position (1). ALWAYS make sure the connected implement is locked in place by pressing the front of the implement against the ground (2).

Important!
Incorrectly designed tools can cause:

- Load instability.
- Tractor instability.
- Loader damage.

For this reason, do not install third party implements without making sure they have been approved for the application by the loader manufacturer.

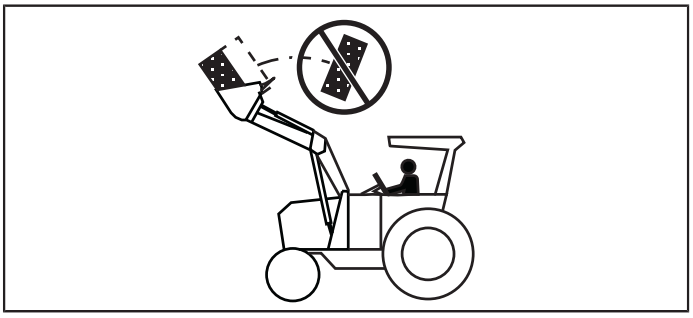


Fig.133 Keep your eye on the implement, objects may fall backwards onto the driver.

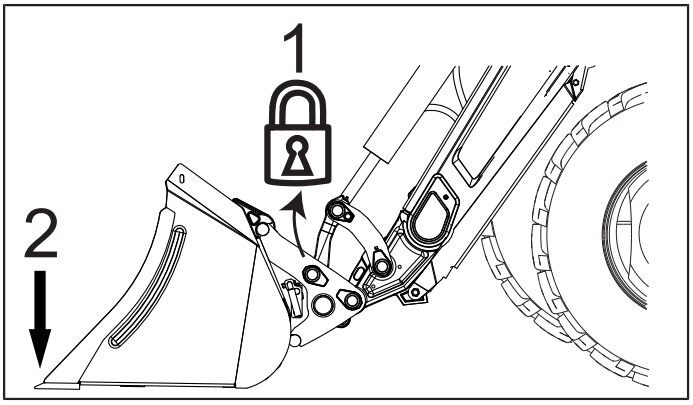


Fig.134 Check that the implement is secured by pressing its front end against the ground.

- Make sure the load is positioned stably in the implement. In terms of loose material, the implement must not be overfilled, and for solid material, the load must not stick up above the sides or the back of the implement.

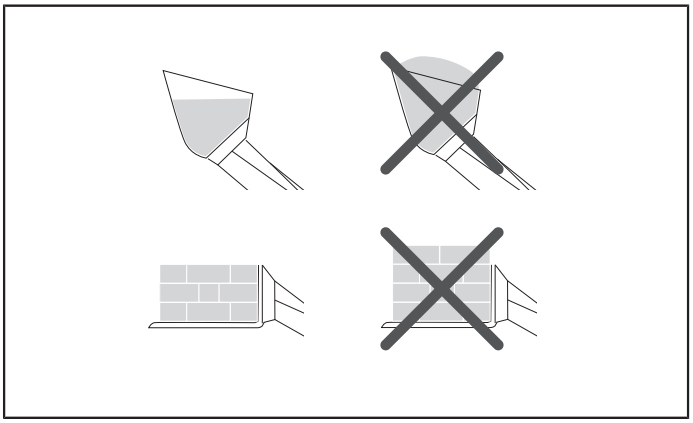


Fig.135 Only lift loads that fit and are designed for that specific implement.

- Adjust the tilt angle of the implement when the load is raised so that the load is not aimed at the driver.

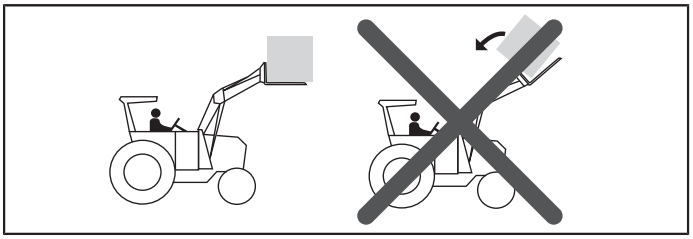


Fig.136 Exercise caution when working with raised loads.

4.12.2. The tractor's stability

To improve loader stability:

- Use a counterweight suitable for the tractor. See *4.1.1. Counterweight*.
- Move the wheels to the widest recommended setting, see *4.2. Track*.

Caution!
Check that the machine has sufficient counterweight at the rear to stabilise the machine's load-carrying ability. The counterweight is essential for maintaining control of the machine.

Caution!
Overturning risk. To increase lateral stability, the tractor's track must be as wide as possible.

Warning!
Do not grip objects that significantly shift the centre of gravity outwards. This can lead to instability.

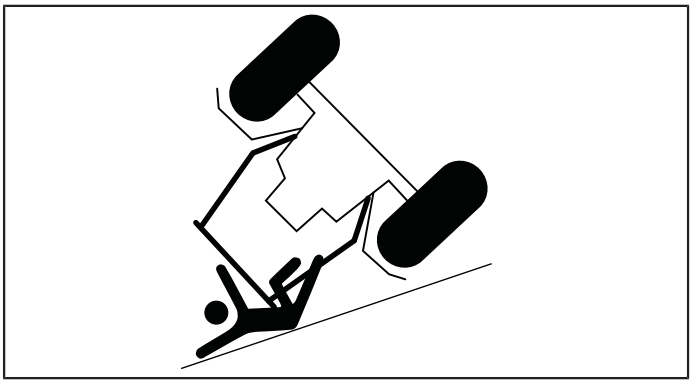


Fig.137 Overturning risk

Warning!
Do NOT work on or close to steep slopes.

The distance from a slope must be as far or further than the height of the slope.

- If you work with the loader on an uphill slope, drive straight upwards, fill the bucket and reverse downhill. Lower the loader as far as possible. Driving along the side of a slope can cause overturning.

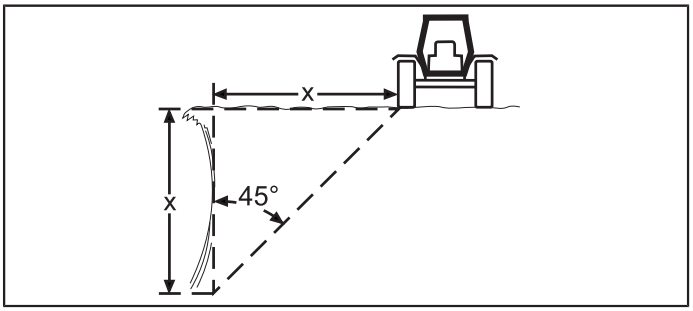


Fig.138 Keep at a distance when working near slopes.

Warning!
Reduce speed when cornering to avoid overturning the machine.

Avoid sudden turns when driving down steep slopes.

Caution!
Drive at low speeds - max 10 km/h - with a load in the implement. Speed should be adapted to the terrain and the weight and centre of gravity of the load.

- If the tractor so permits, always leave it in gear to provide engine braking when driving downhill. Do not allow the tractor to roll freely. Use the same gear when driving down a hill as when driving up.

Caution!
Overturning risk. Lower the loader as much as possible when travelling/working. Reduce speed for the prevailing conditions. When handling raised loads, there is increased risk of the tractor tipping. Be alert - if the tractor feels unstable, lower the load to increase stability.

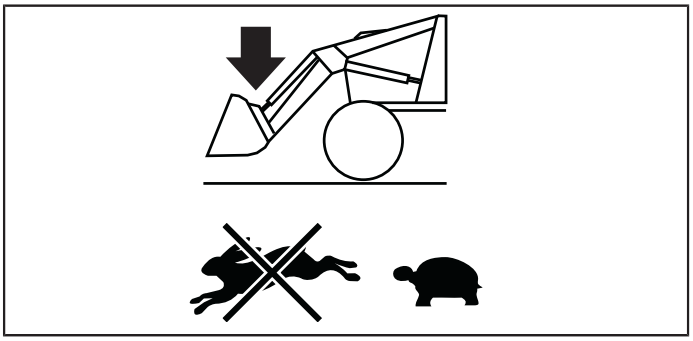


Fig.139 Lower the load and reduce the speed when cornering.

4.12.3. Driving technique

4.12.3.1. Bucket

The most efficient way to fill the bucket is to drive straight into the heap with the bucket horizontal. Raise the loader slightly once the bucket is forced into the heap, to facilitate filling. Then angle the bucket backwards to retain the load in the bucket.

Note. Remove material from the top first when working on a high heap.

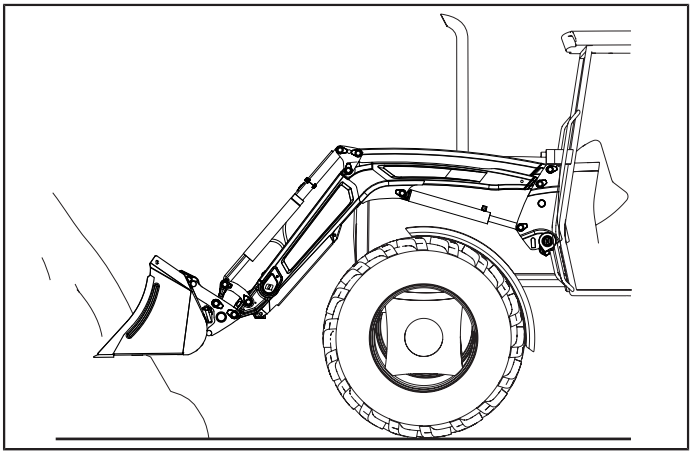


Fig.140 Drive straight in, lift the load and tilt the bucket backwards.

Reverse away from the heap. Lower the bucket slowly. Rapid stops in the lowering movement can damage the loader's and/or tractor's hydraulic systems.

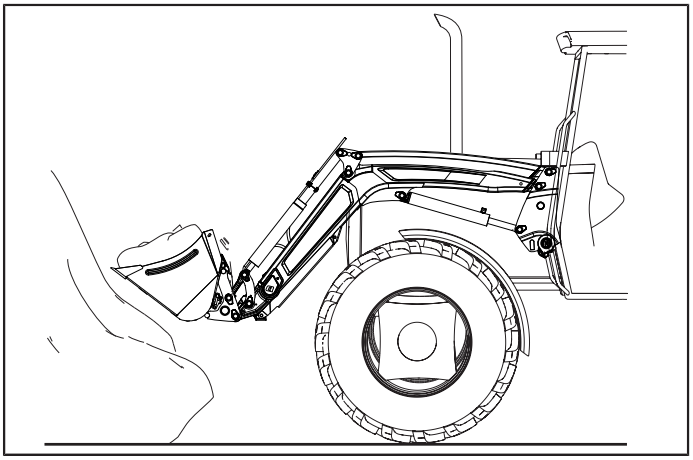


Fig.141 Reverse, lower slowly.

During grading work, angle the bucket downwards, so that the cutting edge on the bucket comes into contact with the ground, to avoid damage to the bottom of the bucket.

Important! To avoid damage to the loader, do not angle the bucket back fully when grading. The bucket floor should not be angled more than 45° from the ground.

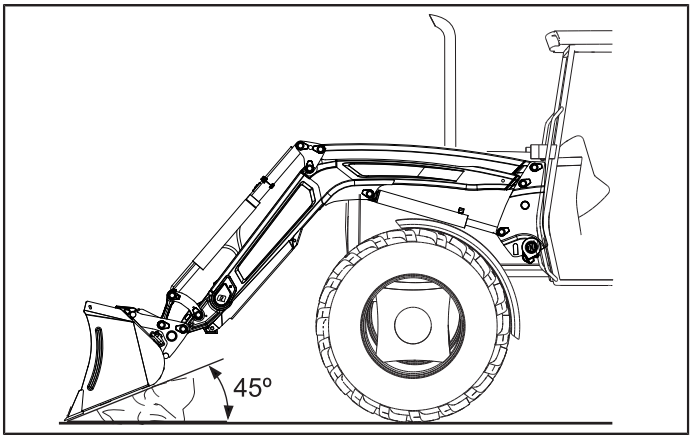


Fig.142 Operating technique when grading

4.13. Boom suspension, SoftDrive

4.13.1. Description

The boom suspension dampens the vertical movements of the loader when driving on uneven surfaces. It consists of two or three dampers/accumulators depending on the loader model. The dampers are located in the loader's cross tube.

- - (minus), one accumulator connected to the lift cylinder's minus side.
- + (plus), one or two accumulators connected to the lift cylinder's plus side.

Boom suspension is activated and deactivated electrically from the driver's position.

Boom suspension can be engaged during most applications, but can be disengaged for precision, when exact control of the loader is required.

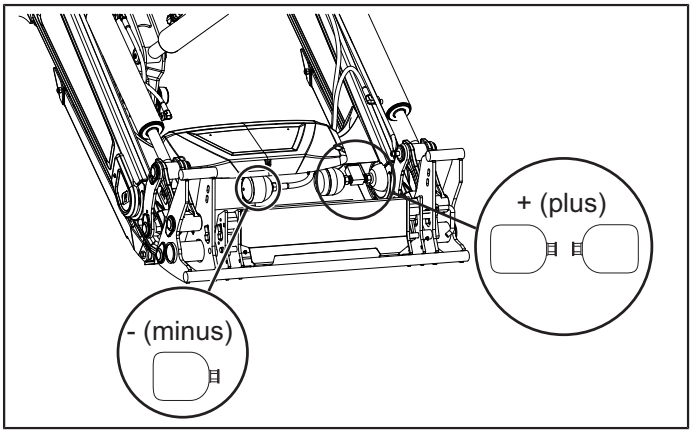


Fig.143 The boom suspension/accumulator + (plus) can be activated and deactivated electrically from the driver's position

Caution!
The accumulators are pressurised. Repair, maintenance and commissioning must only be done by authorised personnel.

Warning!
Do NOT open/remove the accumulator before the gas and oil sides are depressurised. The cylinder contains nitrogen, which can cause a risk of suffocation.

No work may be done on the pressure vessel. Welding, drilling or opening the tank by force is not allowed

Note. The accumulators (1) used with the SoftDrive system are pre-charged and can not be re-charged. Contact your dealer for service.

4.13.2. Activating and deactivating boom suspension.

To activate and deactivate boom suspension, see section:

- *4.7. Joystick: EasyDrive LCS /ElectroDrive LCS Professional*
- *4.8. Joystick: ErgoDrive LCS/ErgoDrive*
- *4.9. Joystick: The tractor's own joystick*

Caution!
Pinch risk. When activating boom suspension, unexpected/limited loader movement may occur.

The implement should be lowered to the ground.

Note. If the Hose Burst Protection accessory is installed, boom suspension will not function. Because Hose Burst Protection blocks the lift cylinders, boom suspension ceases to function.

5. MAINTENANCE

During maintenance/service, use personal protective gear such as protective clothing, gloves and goggles.

When a spare part is needed for periodic maintenance or service, use only genuine, original spare parts to restore your equipment to original specifications Applies especially to valves, hydraulic hoses, hydraulic pipes, adapters and boom suspension components. See the published spare parts sheets.

The manufacturer is not responsible for damages that may occur due to installation of non-approved parts and/or accessories.

Warning!
Never stand between the front of the tractor and the loader.

Caution!
Check the loader and subframe for cracks, loose screws or other damage that may negatively affect function and could lead to personal injury. When replacing parts, only use original spare parts to restore the machine to its original configuration. In continuous operation, check every 50 operating hours.

Caution!
The tractor and loader use fluids under high pressure when operating. Check all components and keep them in good condition. Ensure that no hydraulic components are damaged, especially hoses. If the loader is operated in difficult/tough terrain, the hydraulic components/hoses must be checked every 30 days.

Caution!
Burn injuries. Valves, connections and hoses can get very hot when the tractor and loader have been used even for a short time. Switch off the tractor and allow the hydraulic components to cool before touching them.

Fig.144 Never stand between the front of the tractor and the loader.

5.1. Lubrication

Operating hours = loader's time in movement.

Lubricate the following grease nipples with universal grease every 10 operating hours.

Warning!
Risk of crushing and jamming

The loader may fall downwards.

Lower the loader to the ground before you start greasing.

There is a grease nipple at each pivot point under a protective cap.

The number of lubrication nipples varies depending on the loader model.

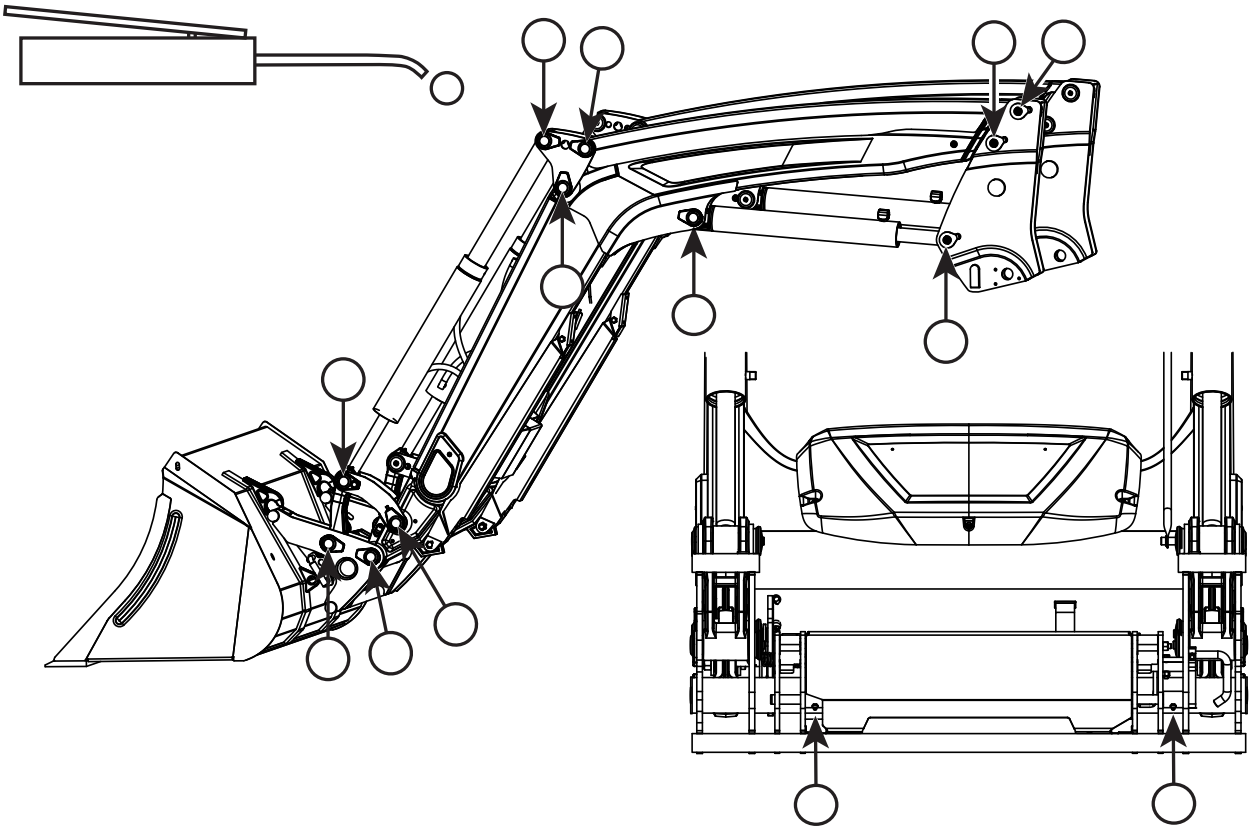


Fig.145 Grease nipples on every pivot pin on both sides of the loader.

5.2. Hydraulic system

Check the oil level in the tractor hydraulic oil tank regularly, with the loader lowered to the ground. Use the oil specified in the tractor's user manual.

Check the hydraulic components and hydraulic connections for leaks.

Fig.146 NEVER use fingers or hands for leakage detection.

Warning!
Pressurised hydraulic fluid.

Hydraulic fluid at high pressure can be injected into the body in the event of leakage and cause serious injury, blindness or fatality. Leakage may be invisible.

Use approved protective safety glasses and protect the skin using strong leather gloves for example. Use cardboard or similar materials for leakage detection. If hydraulic fluid has penetrated the skin, it MUST be removed immediately by a doctor who can treat this type of injury. Seek medical attention immediately if hydraulic fluid penetrates your skin. Serious reactions and/or infections can rapidly occur if the hydraulic fluid is not surgically removed at once.

Caution!
Burn injuries. Valves, connections and hoses can get very hot when the tractor and loader have been used even for a short time. Switch off the tractor and allow the hydraulic components to cool before touching them.

The loader is equipped with a shut-off mechanism. The design can vary depending on the type of control valve.

Caution!
The loader's stop mechanism should be turned to the closed position during servicing.

Warning!
This stop mechanism may NOT be used when working in the loader's hydraulics or associated lines. In such cases, the loader must be lowered to the ground. Turn off the tractor's engine, relieve the oil pressure using the joystick before disconnecting any couplings or doing any other work on the hydraulics - oil under high pressure can cause severe injuries.

Check hoses and connections for wear and leakage at regular intervals. Ensure that hoses have sufficient clearance and do not scrape against other components. Replace damaged hoses and tighten all connections.

The cylinders are double-acting. They must always be maintained in good condition for optimal function. Leaks, internal or external, affect performance and may be dangerous.

This loader requires a hydraulic system that works at high pressure. Only use spare parts approved by the manufacturer.

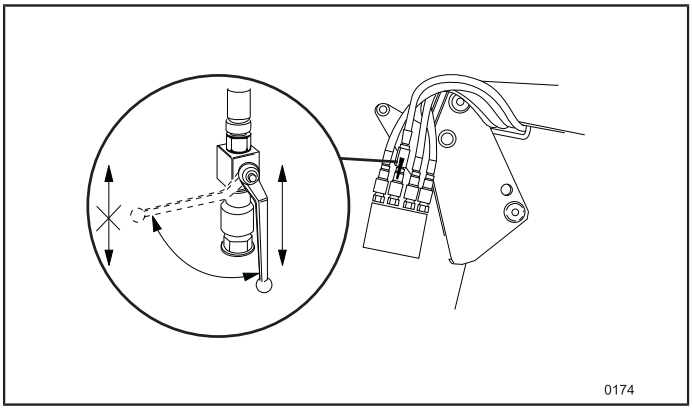


Fig.147 Turn the shut-off valve handle to the closed position during service work.

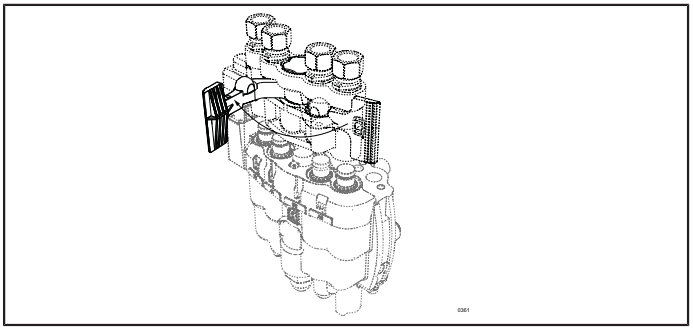


Fig.148 Open the multi-connection to the open position during service work.

5.2.1. Repairing/replacing hydraulic components

5.2.1.1. Hydraulic cylinders

When removing hydraulic cylinders, the loader's hydraulic system must be depressurised.

For depressurisation, see the joystick concerned:

- *4.7. Joystick: EasyDrive LCS /ElectroDrive LCS Professional*
- *4.8. Joystick: ErgoDrive LCS/ErgoDrive*
- *4.9. Joystick: The tractor's own joystick*
- and the separate user manuals.

The removal, repair and fitting of the hydraulic cylinders require special tools in order to prevent damage to internal components. We recommend that damaged cylinders be replaced with new ones or sent to an authorized dealer for repair/action.

Lift cylinder replacement must be carried out by an authorized workshop; contact your dealer.

Caution!
If the Hose Burst Protection option is fitted, it MUST be assumed that there is still some trapped pressure following depressurisation. Remove hydraulic components/hoses with extreme care. (If the operator lacks knowledge on hydraulics, take advice from an authorised workshop for disassembly).

5.2.1.2. Hydraulic hoses

If a hose does break, remedy the issue immediately. When replacing parts, only use original spare parts to restore the machine to its original configuration.

Important! If a hose **CANNOT** be safely replaced, the loader must be lowered to the ground and depressurised. Following hose replacement, a lifting and a lowering movement must be carried out. Operate all loader functions to their end positions several times to remove air from the system.

Important! Loader operation to the end positions can take up to 5 minutes before all air is removed.

Caution!
Hose Burst Protection. If a hose bursts and the loader is not in an ideal location, it can be driven down to ground level if the air cylinders' minus sides can be pressurised. Ensure that the loader can be lowered safely. Decontaminate the land in accordance with applicable requirements/ legislation in the country or region you are in.

5.2.1.3. Compact Valve Unit (CVU)

Repair/replacement of the Compact Valve Unit (CVU) must be carried out by an authorized workshop; contact your dealer.

Important! The system must be depressurised before repair/replacement.

Caution!
If the boom suspension option is installed, you MUST assume that pressure still remains in the system after depressurisation.

Fig.149 Compact Valve Unit (CVU)

5.2.1.4. Boom suspension, SoftDrive

Accumulators must be replaced by an authorised workshop; contact your dealer.

Caution!
If the boom suspension option is installed, you MUST assume that pressure still remains in the system after depressurisation.

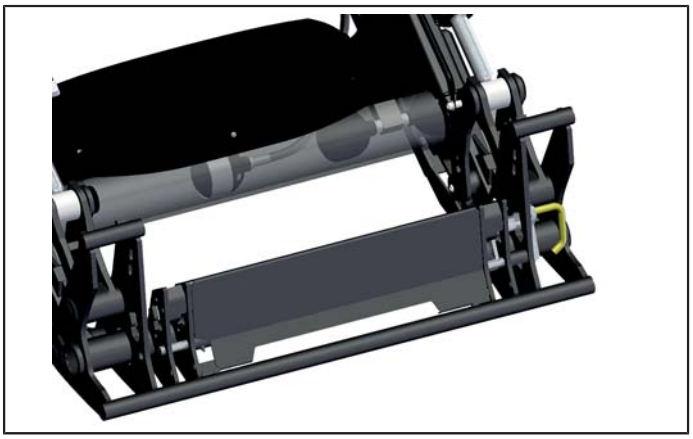


Fig.150 Boom suspension, SoftDrive

5.3. Checking the loader and subframe screw connections.

Operating hours = loader's time in movement.

Check that all screws are tightened to the specified torque, first after 10 hours of operation and then every 50 hours of operation.

5.3.1. Tightening torques

Tighten all screws on the loader and all fasteners in accordance with *5.3.1.1. Table - Tightening torque*.
If a different tightening torque is stated in the fitting instructions, it shall take precedence over the torque stated in the table.

Tighten all the screws on the loader and all fasteners, except in the cases where the tightening torque is specified in the assembly instructions.

The torques apply to clean, dry threads. Lubricated threads may mean that the fastener is tightened too hard. Damaged or dirty threads can cause torque values to be too low.

A torque amplifier may be needed when tightening screws to high torque values.

Tightening torques should be checked immediately after installation, and several times after a short period of use. Incorrect tightening can damage the structure of the loader and/or tractor.

5.3.1.1. Table - Tightening torque

Bolt, class 8.8		Bolt, class 10.9	
Screw thread	Tightening torque (Mv)	Screw thread	Tightening torque (Mv)
UNC 1 /4”	11 Nm (8 lb-ft)	UNC 1 /4”	15 Nm (11 lb-ft)
UNC 5/16”	22 Nm (16 lb-ft)	UNC 5/16”	31 Nm (23 lb-ft)
UNC 3/8”	38 Nm (28 lb-ft)	UNC 3/8”	54 Nm (40 lb-ft)
UNC 7/16”	61 Nm (45 lb-ft)	UNC 7/16”	87 Nm (65 lb-ft)
UNC 1/2”	93 Nm (68.5 lb-ft)	UNC 1/2”	131 Nm (97 lb-ft)
UNC 5/8”	183 Nm (135 lb-ft)	UNC 5/8”	259 Nm (191 lb-ft)
UNC 3/4”	322 Nm (237.5 lb-ft)	UNC 3/4”	455 Nm (366 lb-ft)
M8	23 Nm (17 lb-ft)	M8	31.5 Nm (23 lb-ft)
M10*	45 Nm (33.5 lb-ft)	M10	62.5 Nm (46 lb-ft)
M12	78 Nm (57.5 lb-ft)	M12	109.5 Nm (80 lb-ft)
M14	123 Nm (91 lb-ft)	M14	174 Nm (128 lb-ft)
M16	189 Nm (139.5 lb-ft)	M16	266 Nm (196 lb-ft)
M20	370 Nm (273 lb-ft)	M20	519.5 Nm (384 lb-ft)
M22	497 Nm (366.5 lb-ft)	M22	699 Nm (515.5 lb-ft)
M24	638 Nm (470.5 lb-ft)	M24	897.5 Nm (662 lb-ft)

*Tightening torque for the lock cover's M10 bolts is 37±2 Nm

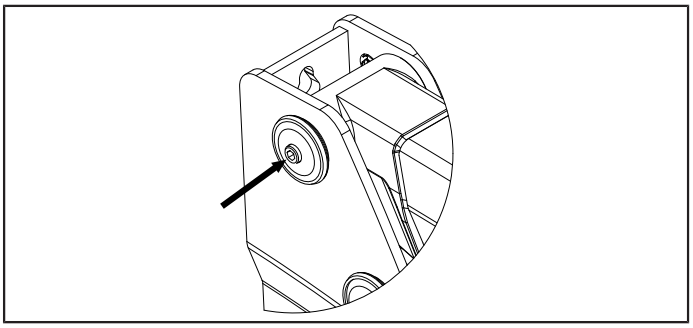


Fig.151 Lock cover, tightening torque 37±2 Nm

5.4. Storage

If the loader is not to be used for a long period of time, apply a thin layer of grease to visible piston rods in order to protect them.

5.5. Transporting the loader

If the loader needs to be transported, such as for repair, the loader must either:

1. Be transported fitted on a tractor.
2. Be transported without any implements, tied on a pallet and with retracted support legs.
3. be transported without any implements, just the loader with retracted support legs. When lifting the loader on to the transport vehicle, use the designated loader lifting points.

6. TROUBLESHOOTING

Faulty functioning of the loader is frequently caused by factors not related to the loader:

- Check the oil level in the tractor's hydraulic tank. Top up to the correct level.
- Check that the correct oil is used. Only use the oil specified in the tractor's instruction manual. The wrong oil can cause foaming, heating and internal leakage.
- Make sure that hoses and couplings are correctly installed and connected to the tractor. Hydraulic couplings must be fully inserted.
- Check that the oil is clean and free from moisture. Change the oil and filter as necessary.
- Check hoses and couplings for leakage, cuts and twists.
- Low temperatures can cause slow movements or cause the loader to function irregularly until the normal working temperature is reached. Check whether the oil is holding its normal working temperature before testing the loader.
- When using the tractor's own valve for operation of the loader, make sure that the tractor valve has been adjusted for double action. Check that the flow control has been set to the maximum value.
- Move the loader's cylinders to their end positions several times to remove air from the hoses and cylinders.

In case of problems, use *6.1. Troubleshooting table*.

Please contact your dealer if you need more help.

6.1. Troubleshooting table

Problem	Possible cause	Action
Lifting and implement cylinders do not function	Low hydraulic fluid level	Check and top up with hydraulic fluid.
	Hydraulic hoses connected incorrectly.	Check and connect the hoses correctly.
	Hydraulic hoses to/from control valve are “blocked”.	Check hoses for damage (kinks, twists etc.)
	Loader control valve or tractor's main reduction valve has got stuck in the open position.	Contact your dealer.
	Low system pressure from pump.	Contact your dealer.
Lift or implement cylinders not working.	Break in control cables for control valve.	Inspect. Change if necessary.
	Hydraulic quick-release couplings not fully inserted.	Check the connection. Change coupling(s) if necessary.
	Blocked hydraulic hose/pipe.	Look for damage to hose/pipe which could block oil flow between cylinder and control valve.
	Piston unit damaged (does not seal).	Contact your dealer.
	Blocked control valve.	Contact your dealer.
	Damaged quick-release coupling.	Change quick-release coupling.

Problem	Possible cause	Action
Lift and/or implement cylinders working in the wrong direction compared to lever deflection.	Hydraulic hoses connected incorrectly.	Connect hydraulic hoses to correct socket.
	Control cables for single lever control connected incorrectly.	Contact your dealer.
Air in hydraulic fluid (generally indicated by foaming).	Low hydraulic fluid level	Check and top up with hydraulic fluid to correct level.
	Air leakage in hydraulic pump suction side.	Contact your dealer.
	Foaming due to use of wrong type of fluid.	Read the tractor's user manual and fill with hydraulic fluid of the type recommended.
Slow or jerky lifting movement.	Low hydraulic fluid level. Cold hydraulic fluid.	Check/fill hydraulic oil. Allow the hydraulic fluid to warm up to working temperature.
	Engine speed too low (hydraulic pump speed is then too low).	Increase engine speed to improve loader performance.
	Too heavy load in bucket. Material weight exceeds loader's specified capacity.	Reduce the load in the bucket.
	Control valve cable system binds or is damaged.	Contact your dealer.
	Air in the hydraulic fluid.	See “Air in the hydraulic fluid”.
	Hydraulic quick-release couplings not fully inserted.	Check the couplings. Repair or change.
	Restriction in hydraulic hose or pipe (hoses/pipes have become twisted or crushed).	Contact your dealer.
	Lifting cylinder piston unit leaks.	Contact your dealer.
	Pressure limiting valve working irregularly or set too low.	Contact your dealer.
	Internal leakage in control valve (bypass flow in valve).	Contact your dealer.
	Inadequate capacity in hydraulic pump.	See “Inadequate pump capacity”.
Noise from the system's pressure limiting valve (squeaking)	Cold hydraulic fluid.	Allow the hydraulic fluid to warm up to working temperature.
	Too heavy load in bucket. Material weight exceeds loader's specified capacity.	Reduce the load in the bucket.
	Pressure limiting valve set lower than specification.	Contact your dealer.
	Restriction in hydraulic hose, pipe or quick-release coupling.	Contact your dealer.
Insufficient lifting capacity.	Engine speed too low.	Increase engine speed.
	Too heavy load in bucket. Material weight exceeds loader's specified capacity.	Reduce load.
	Pressure limiting valve set lower than specification.	Contact your dealer.
	Piston in lifting cylinders leaks.	Contact your dealer.
	Internal leakage in control valve.	Contact your dealer.

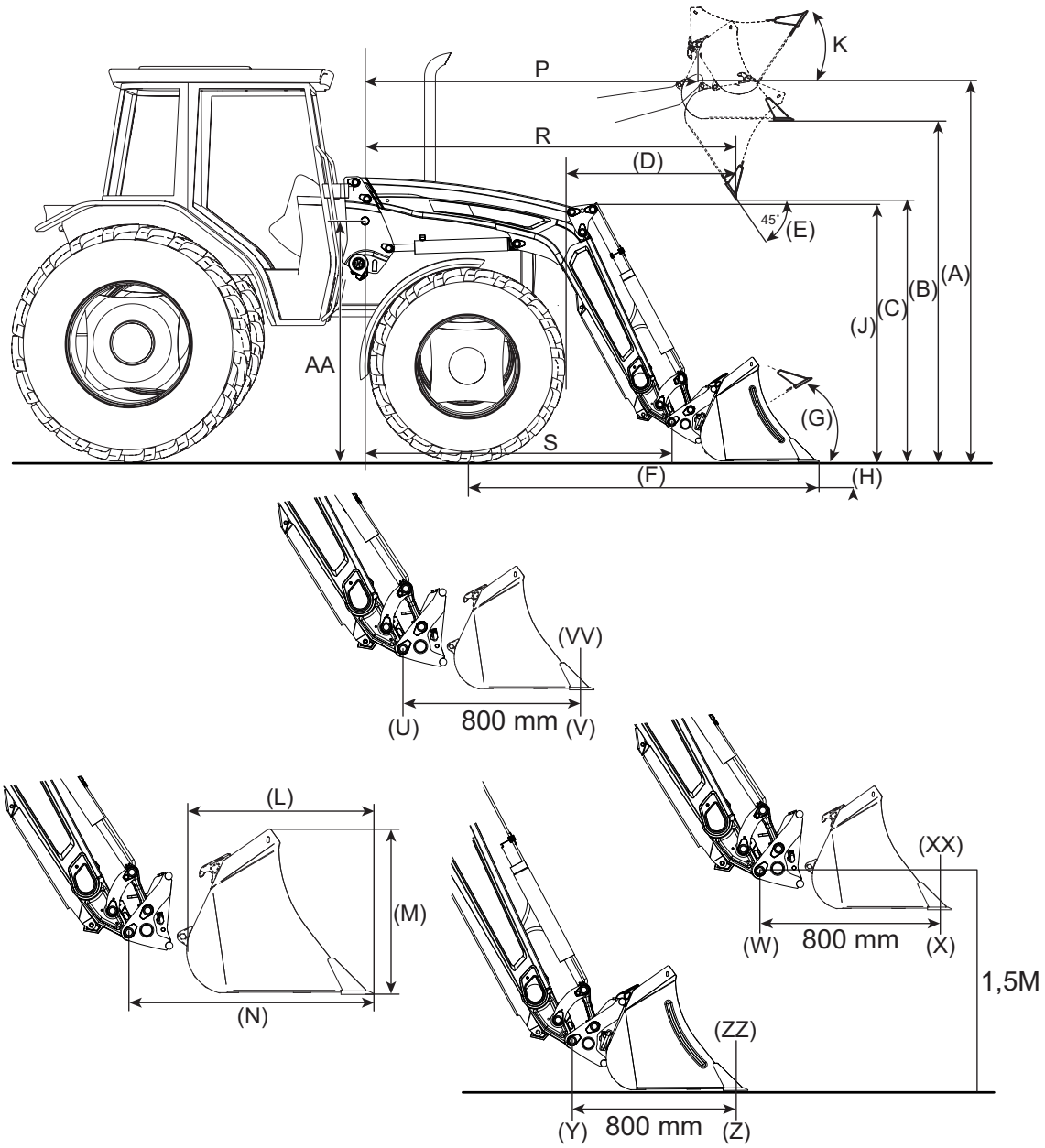
Problem	Possible cause	Action
	Damaged hydraulic pump.	Contact your dealer.
The load drops with the control valve's spool into neutral position. Note: Depending on the loader model, the value that the loader is allowed to sink by is between 0.5 and 1.5 mm/min, measured at the piston rod.	Piston in lifting cylinders leaks.	Contact your dealer.
	Internal leakage in control valve.	Contact your dealer.
	Control valve or cable system binds and prevents valve spool from returning to centre position.	Contact your dealer.
Solenoid valve spool(s) do not return to neutral position.	Control valve centring spring is damaged.	Contact your dealer.
	Control valve spool binds in its bore.	Contact your dealer.
	Control lever or cable system binds.	Find the reason for binding and repair it.
External hydraulic fluid leakage	Loose hydraulic unions.	Tighten loose connections.
	Damaged hydraulic hoses, pipes, couplings or O-rings in couplings.	Find the reason for the leakage and change the damaged component.
	Damaged O-ring in control valve.	Contact your dealer.
	Control valve spool or housing damaged and/or worn.	Contact your dealer.
	Piston rod seal in cylinder leaks.	Contact your dealer.
Inadequate pump capacity.	Low hydraulic fluid level. Cold hydraulic fluid.	Check/fill hydraulic oil. Allow the hydraulic fluid to warm up to working temperature.
	Engine speed too low.	Increase engine speed.
	Low hydraulic fluid flow.	Please refer to the tractor operator's manual for service recommendations.
	Restriction in hydraulic hose.	Contact your dealer.
	Fault in hydraulic pump.	Contact your dealer.
Lifting cylinder piston rods bent.	Abnormally high shock loading during lowering movement.	Contact your dealer.
Tilt cylinder piston rods bend when tilt cylinders are extended.	Grading or excavation work with bucket cylinders fully extended.	Contact your dealer.
Implement lock can not be locked.	**Important**! If the hoses to the hydraulic lock cylinder are switched, the locking pin will move in the opposite direction. Make sure the locking pin moves in the correct direction before use.	Contact your dealer.
Implement lock opens when using third hydraulic function	**Warning!**! If the hoses are incorrectly connected, the implement lock can open when the third hydraulic function is activated. Run the third hydraulic function in both directions. If the implement lock opens, the hoses are incorrectly connected; correct the fault immediately.	Connect the hoses correctly and verify that: - The lock pins move in the right direction when opening and closing the hydraulic lock. - The third hydraulic function cannot open the lock.
Boom suspension not working	The accumulator is defective The solenoid valve is defective or not energized.	Make sure the connector to the solenoid is connected and has 12V power. Contact your dealer if the problem persists.
Third hydraulic function not working	Valve problem Solenoid valve defective or not energized.	Make sure the connector to the solenoid is connected and has 12V power. Contact your dealer if the problem persists.
Fourth hydraulic function not working	Valve problem The solenoid valve is defective or not energized.	Make sure the connector to the solenoid is connected and has 12V power. Contact your dealer if the problem persists.

Problem	Possible cause	Action
Hydraulic implement lock not working	Valve problem The solenoid valve is defective or not energized.	Make sure the connector to the solenoid is connected and has 12V power. Contact your dealer if the problem persists.

Hose Burst Protection

Problem	Possible cause	Action
Float position does not work	The Hose Burst Protection option is fitted.	Uninstall Hose Burst Protection to regain the function.
Boom suspension does not work.	The Hose Burst Protection option is fitted.	Uninstall Hose Burst Protection to regain the function.

7. DATA


K
P
R
(D)
45°
(E)
(A)
(B)
(C)
(J)
AA
(G)
S
(F)
(H)
(VV)
(U)
800 mm
(V)
(L)
(M)
(N)
(XX)
(W)
800 mm
(X)
1,5M
(ZZ)
(Y)
800 mm
(Z)

7.1. Mechanical self levelling, MSL

Loader model		Q3^{S}	Q3^{M}	Q3^{L}	Q4^{S}	Q4^{M}	Q4^{L}	Q5^{S}	Q5^{M}	Q5^{L}	Q6^{S}	Q6^{M}	Q6^{L}	Q7^{S}	Q7^{M}	Q8^{S}	Q8^{M}
Lifting force (kg/lb): 800 mm / 31.5 inches in front of the pivot point at 195 bar / 19.5 MPa / 2830 psi																	
(V)	Lift height, max	1550/ 3420	1850/ 4080	1740/ 3840	1920/ 4230	2260/ 4980	1780/ 3920	1980/ 4370	2300/ 5070	1930/ 4250	2140/ 4720	2470/ 5450	1980/ 4370	2170/ 4780	2490/ 5490	2260/ 4980	2590/ 5710
(X)	Lift height, 1.5 m	1570/ 3460	1870/ 4120	1760/ 3880	1940/ 4280	2280/ 5030	1820/ 4010	2100/ 4630	2440/ 5380	2020/ 4450	2350/ 5180	2700/ 5950	2110/ 4650	2460/ 5420	2810/ 6190	2460/ 5420	2810/ 6190
(Z)	Lift height, ground line	1630/ 3590	1960/ 4320	1830/ 4030	1990/ 4390	2320/ 5110	1910/ 4210	2290/ 5050	2640/ 5820	2160/ 4760	2470/ 5450	2840/ 6260	2230/ 4920	2620/ 5780	2990/ 6590	3190/ 7030	3630/ 8000
Rollback force: 800 mm / 31.5 inch in front of the pivot pin at 195 bar / 19,5 MPa / 2830 psi (kg/lb)																	
(VV)	Lift height, max	1460/ 3220	1760/ 3880	1760/ 3880	2090/ 4610	2090/ 4610	1930/ 4250	2030/ 4480	2370/ 5220	1880/ 4140	2130/ 4700	2860/ 6310	2350/ 5180	2370/ 5220	2750/ 6060	2850/ 6280	2850/ 6280
(XX)	Lift height, 1.5 m	2400/ 5290	2890/ 6370	3360/ 7410	3420/ 7540	3420/ 7540	3400/ 7500	3430/ 7560	3980/ 8770	3420/ 7540	3430/ 7560	4580 / 10100	3990/ 8800	3980/ 8770	4620/ 10190	4640/ 10230	4640/ 10230
(ZZ)	Lift height, ground line	2390/ 5270	2870/ 6330	3430/ 7560	3360/ 7410	3360/ 7410	3400/ 7500	3370/ 7430	3910/ 8620	3420/ 7540	3400/ 7500	4540 / 10010	4000/ 8820	3970/ 8750	4600/ 10140	4510/ 9940	4510/ 9940
Lifting force (kg/lb): Pivot point 195 bar / 19.5 MPa / 2830 psi																	
(U)	Lift height, max	1370/ 3020	1660/ 3660	1540/ 3400	1710/ 3770	2020/ 4450	1570/ 3460	1720/ 3790	2010/ 4430	1650/ 3640	1980/ 4370	2310/ 5090	1800/ 3970	2050/ 4520	2360/ 5200	2170/ 4780	2510/ 5530
(W)	Lift height, 1.5 m	1540/ 3400	1850/ 4080	1690/ 3730	1930/ 4250	2270/ 5000	1780/ 3920	2090/ 4610	2430/ 5360	2000/ 4410	2310/ 5090	2680/ 5910	2070/ 4560	2420/ 5340	2780/ 6130	2860/ 6310	3270/ 7210
(Y)	Lift height, ground line	1810/ 3990	2160/ 4760	1970/ 4340	2220/ 4890	2600/ 5730	2040/ 4500	2460/ 5420	2850/ 6280	2350/ 5180	2640/ 5820	3040/ 6700	2340/ 5160	2760/ 6080	3150/ 6940	3380/ 7450	3860/ 8510

Loader model		Q3^{S}	Q3^{M}	Q3^{L}	Q4^{S}	Q4^{M}	Q4^{L}	Q5^{S}	Q5^{M}	Q5^{L}	Q6^{S}	Q6^{M}	Q6^{L}	Q7^{S}	Q7^{M}	Q8^{S}	Q8^{M}
Dimensions specification (mm/inch)																	
AA*	Subframe nominal height	1540/ 60,6	1540/ 60,6	1540/ 60,6	1640/ 64,6	1640/ 64,6	1640/ 64,6	1740/ 68,5	1740/ 68,5	1740/ 68,5	1820/ 71,7	1820/ 71,7	1820/ 71,7	1900/ 74,8	1900/ 74,8	2100/ 82,7	2100/ 82,7
(A)*	Max.lift height to pivot pin	3550/ 139,8	3550/ 139,8	3810/ 149,8	3790/ 149,3	3790/ 149,3	4020/ 158,2	4060/ 159,9	4060/ 159,9	4200/ 165,4	4250/ 167,3	4250/ 167,3	4550/ 179,2	4600/ 181,2	4600/ 181,2	4960/ 195,2	4960/ 195,2
(B)*	Max.lift height under level bucket	3250/ 128	3250/ 128	3510/ 138	3490/ 137,5	3490/ 137,5	3720/ 146,4	3760/ 148,1	3760/ 148,1	3900/ 153,6	3950/ 155,5	3950/ 155,5	4250/ 167,4	4300/ 169,4	4300/ 169,4	4660/ 183,4	4660/ 183,4
(C)*	Clearance with bucket dumped 45°	2580/ 101,7	2580/ 101,7	2840/ 111,7	2820/ 111,2	2820/ 111,2	3050/ 120,1	3090/ 121,8	3090/ 121,8	3230/ 127,3	3280/ 129,2	3280/ 129,2	3580/ 141,1	3630/ 143,1	3630/ 143,1	3990/ 157,1	3990/ 157,1
(D)*	Reach at max.lift height with bucket dumped 45°	Contact your dealer for more information.															
(E)*	Greatest tipping angle at max lift height	58°	58°	53°	58°	58°	54°	57°	57°	54°	57°	57°	53°	54°	54°	53°	53°
(F)*	Reach with bucket at ground	Contact your dealer for more information.															
(G)*	Max. rollback angle at ground	48°	48°	50°	48°	48°	49°	48°	48°	49°	48°	48°	52°	49°	49°	47°	47°
(H)*	Digging depth	160/6.3	160/6.3	156/6,1	160/6.3	160/6.3	180/7.1	160/6.3	160/6.3	170/6.7	160/6.3	160/6.3	200/7.9	160/6.3	160/6.3	170/6.7	170/6.7

Loader model		Q3^{S}	Q3^{M}	Q3^{L}	Q4^{S}	Q4^{M}	Q4^{L}	Q5^{S}	Q5^{M}	Q5^{L}	Q6^{S}	Q6^{M}	Q6^{L}	Q7^{S}	Q7^{M}	Q8^{S}	Q8^{M}
Dimensions specification (mm/inch)																	
(J)*	Overall height in carry position	1860/ 73,2	1860/ 73,2	1860/ 73,2	1960/ 77,2	1960/ 77,2	1960/ 77,2	2060/ 81,1	2060/ 81,1	2060/ 81,1	2200/ 86,6	2200/ 86,6	2210/ 87	2285/ 90	2285/ 90	2485/ 97,8	2490/ 100
K*	Max.rollback angle at max.lift height	48°	48°	50°	58°	58°	60°	48°	48°	61°	60°	60°	63°	62°	62°	60°	60°
(L)**	Bucket depth	810/31,9															
(M)**	Bucket height	750/29,5															
(N)**	Bucket length to pivot point	1060/41,7															
P*	Reach at max.lift height to pivot pin	1530/ 60,2	1530/ 60,2	1460/ 57,5	1615/ 63,6	1615/ 63,6	1575/ 62	1665/ 65,6	1665/ 65,6	1625/ 64	1935/ 76,2	1935/ 76,2	1925/ 75,8	1965/ 77,4	1965/ 77,4	2010/ 79,1	2010/ 80
R*	Reach at max.lift height with bucket dumped 45°	2060/ 81,1	2060/ 81,1	1990/ 78,3	2145/ 84,4	2145/ 84,4	2105/ 82,9	2195/ 86,4	2195/ 86,4	2155/ 84,8	2465/ 97	2465/ 97	2455/ 96,7	2495/ 98,2	2495/ 98,2	2540/ 100	2540/ 100
S*	Reach at max. digging depth to pivot pin	1835/ 72,2	1835/ 72,2	2040/ 80,3	1965/ 77,4	1965/ 77,4	2150/ 84,6	2095/ 82,5	2095/ 82,5	2200/ 86,6	2300/ 90,6	2300/ 90,6	2560/ 100,8	2535/ 99,8	2535/ 99,8	2560/ 100,8	2560/ 100,8

*The value may vary somewhat depending on the tractor model, subframe and bucket model.

**The value varies depending on the bucket model. The table value is based on the HD series buckets.

The value in ( ) refers to ASAE standard S301.

Max hydraulic pressure 210 bar / 21 Mpa/3050 psi.

Working temperature (ambient) -30/+50 (C°) / -22/+122 (°F).

NOTE! At low outdoor temperatures, the loader has reduced functionality until the tractor's hydraulic fluid reaches temperature. See the tractor's user handbook for further information.

7.2. Non self levelling, NSL

Loader model		Q3	Q4	Q5	Q6
Lifting force (kg/lb): 800 mm / 31.5 inches in front of the pivot point at 195 bar / 19.5 MPa / 2830 psi					
(V)	Lift height, max	1250/2760	1290/2840	1300/2870	1590/3510
(X)	Lift height, 1.5 m	1650/3640	1720/3790	1870/4120	2110/4650
(Z)	Breakout force (Bucket at ground line)	1790/3950	1850/4080	2070/4560	2270/5000
Rollback force: 800 mm / 31.5 inch in front of the pivot pin at 195 bar / 19,5 MPa / 2830 psi (kg/lb)					
(VV)	Lift height, max	1370/3020	1990/4390	1940/4280	2320/5110
(XX)	Lift height, 1.5 m	2340/5160	3340/7360	3380/7450	3940/8690
(ZZ)	Lift height, ground line	2430/5360	3420/7540	3420/7540	4030/8880
Lifting force (kg/lb): Pivot point 195 bar / 19.5 MPa / 2830 psi					
(U)	Lift height, max	2000/4410	2050/4520	2050/4520	2360/5200
(W)	Lift height, 1.5 m	2220/4890	2310/5090	2470/5450	2730/6020
(Y)	Lift height, ground line	2570/5670	2640/5820	2890/6370	3090/6810
Dimensions specification (mm/inch)					
AA*	Subframe nominal height	1540/60,6	1640/64,6	1740/68,5	1820/71,7
(A)*	Max.lift height to pivot pin	3550/139,8	3790/149,3	4060/159,9	4250/ 167,3

Loader model		Q3	Q4	Q5	Q6
(B)*	Max.lift height under level bucket	3250/128	3490/137,5	3760/148,1	3950/155,5
(C)*	Clearance with bucket dumped 45°	2580/101,7	2820/111,2	3090/121,8	3280/129,2
(D)*	Reach at max.lift height with bucket dumped 45°	Contact your dealer for more information.			
(E)*	Greatest tipping angle at max lift height	58°	58°	56°	57°
(F)*	Reach with bucket at ground	Contact your dealer for more information.			
(G)*	Max. rollback angle at ground	48°			
(H)*	Digging depth	160/6.3			
(J)*	Overall height in carry position	1760/69,3	1860/73,2	1960/77,2	2075/81,7
K*	Max.rollback angle at max.lift height	134	135	136	133
(L)**	Bucket depth	810/31,9			
(M)**	Bucket height	750/29,5			
(N)**	Bucket length to pivot point	1060/41,7			
P*	Reach at max.lift height to pivot pin	1530/60,2	1615/63,6	1665/65,6	1935/76,2
R*	Reach at max.lift height with bucket dumped 45°	2060/81,1	2145//84,4	2195/86,4	2465/97
S*	Reach at max. digging depth to pivot pin	1835/72,2	1965/77,4	2095/82,5	2300/90,6

*The value may vary somewhat depending on the tractor model, subframe and bucket model.

**The value varies depending on the bucket model. The table value is based on the HD series buckets.

The value in ( ) refers to ASAE standard S301.

Max hydraulic pressure 210 bar / 21 Mpa/3050 psi.

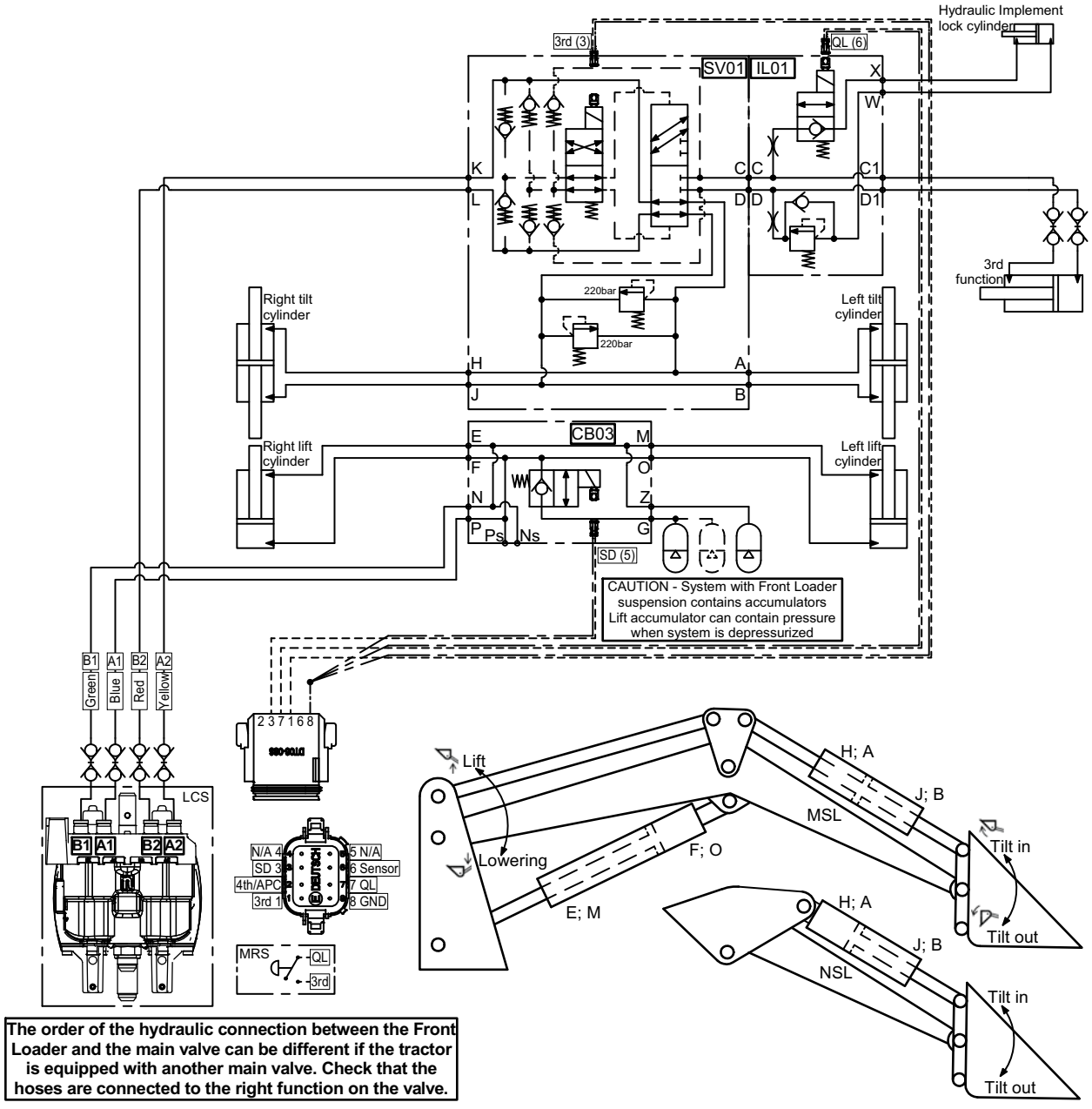
Working temperature (ambient) -30/+50 (C°) / -22/+122 (°F).

NOTE! At low outdoor temperatures, the loader has reduced functionality until the tractor's hydraulic fluid reaches temperature. See the tractor's user handbook for further information.

8. WIRING DIAGRAM

8.1. Wiring diagram - Loader

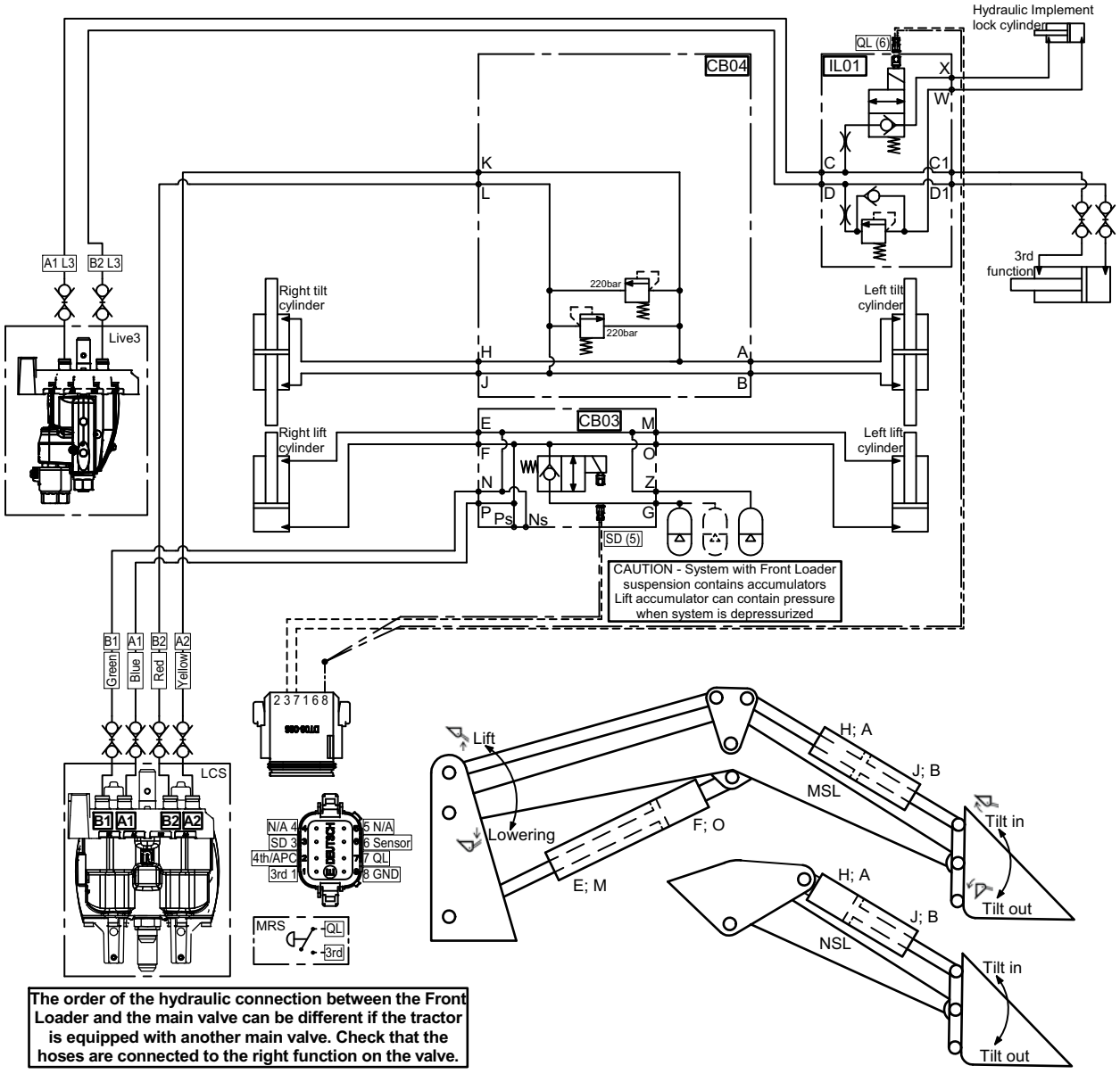
The wiring diagram shows a loader equipped with a third hydraulic function, boom suspension and a hydraulic implement lock.



The order of the hydraulic connection between the Front Loader and the main valve can be different if the tractor is equipped with another main valve. Check that the hoses are connected to the right function on the valve.

8.2. Wiring diagram -Loader with Live3

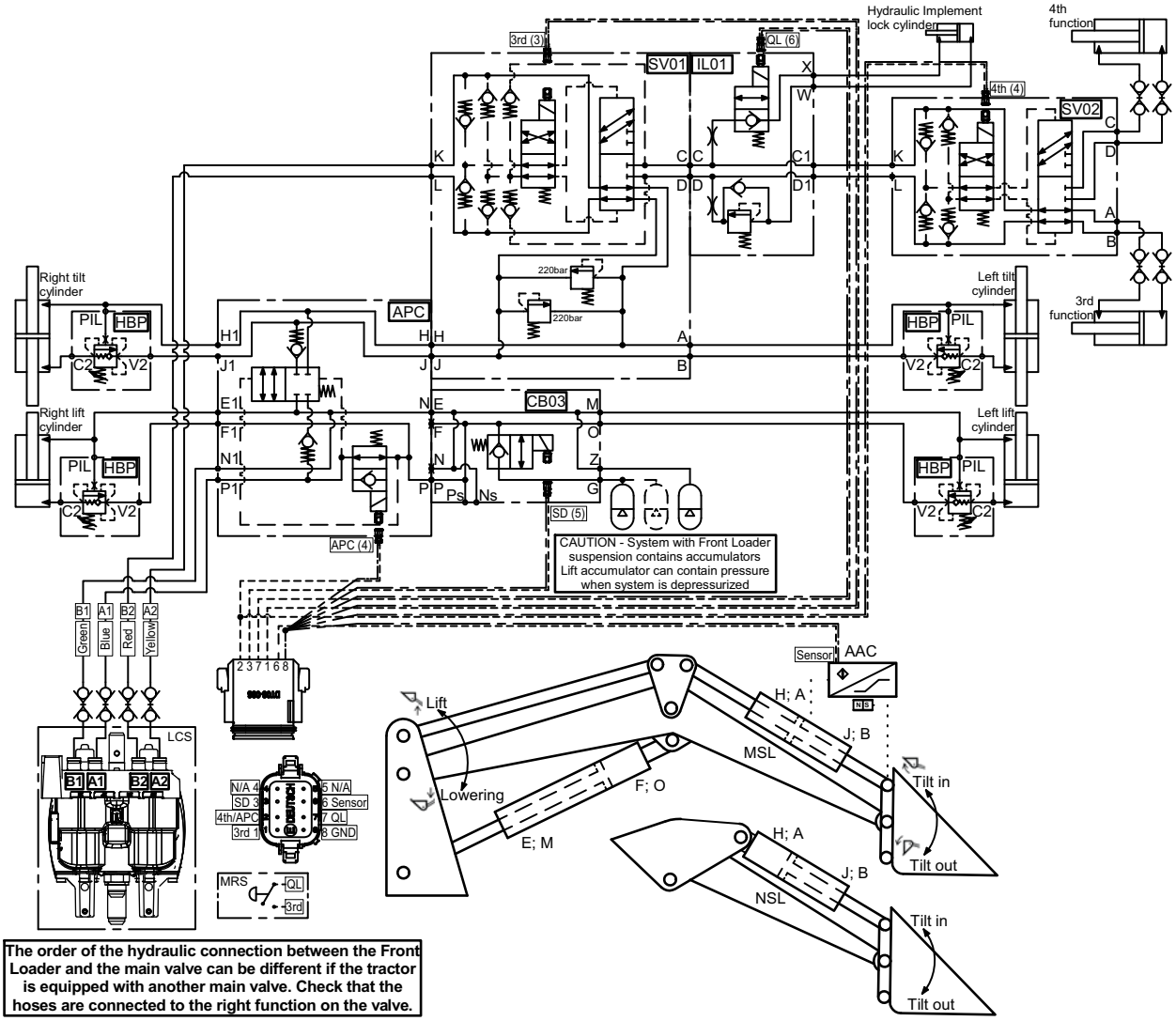
The wiring diagram shows a loader equipped with Live3, boom suspension and a hydraulic implement lock.



8.3. Wiring diagram - Loader with all hydraulic functions

The wiring diagram shows a loader that is equipped with all hydraulic functions except Live3.

Note. All hydraulic functions cannot be combined simultaneously.



9. WARRANTY CONDITIONS

ÅLÖ AB undertakes, for a period of 12 (twelve) months from the day that the loader/equipment was delivered to the purchaser, to replace or repair components which need to be rectified due to faults in the material or manufacturing. This is on condition that the fault is immediately notified to the supplier, and that the faulty loader/component is made freely available to the supplier.

For replaced components, the warranty is valid only for the remaining duration of the original warranty.

The warranty does not cover faults caused by accidents, inadequate maintenance, modification or incorrect installation by the purchaser. When heavily worn components are replaced under warranty, the purchaser shall be charged for the time that they have been used.

No compensation will be given for personal injury, stoppage, consequential damage or other losses.

Testing or fault diagnosis at the request of the purchaser will be carried out without charge to the purchaser if defects are established in that connection.

Otherwise the purchaser is charged for all costs.

Temporary repairs or extra costs incurred since work has been done outside ordinary working hours will not be compensated.

EU DECLARATION OF CONFORMITY

(Directive 2006/42/EC, Annex 2A)

ÅLÖ AB

Brännland 300

SE-901 37 Umeå, Sweden

Tel. +46 (0)90 17 05 00

Hereby certifies that:

The front loader models described in this user manual (see front page) date from manufacturing month November 2016

A. manufactured in conformity with the provisions in the COUNCIL DIRECTIVE

   - dated 17 May 2006 on mutual approximation of the laws of the Member States relating to machinery, 2006/42/EC, with special reference to Annex 1 of the Directive on essential health and safety requirements applicable to the construction and manufacture of machines.

   - dated 26 February 2014 on the harmonization of Member States' legislation on electromagnetic compatibility, 2014/30/EC

B. manufactured according to the following harmonised standards:

   EN ISO 12100:2010, EN ISO 4413:2010, EN ISO 14982:2009, EN 12525:2000+A2:2010, EN 60204-1:2006+A1:2009.

SMP Svensk Maskinprovning AB, Box 7035, SE-75007 Uppsala, Sweden, has carried out voluntary type control for ÅLÖ AB. The certificate has number: SEC/09/2050 – front loader.

The person authorized to compile technical documentation at ÅLÖ AB is Anders Lundgren, Executive Vice President R&D.

Umeå 2017-02-07

Leif Thorwaldsson

Managing Director

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