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2010-08
EN

Operator's manual

QD-Series

Q25 | Q35 | Q45 | Q55 | Q65 | Q75 | Q85x | Q20 | Q30 | Q40 | Q50 | Q60

Original instructions

Caution!
Read through the entire operator's manual before you start to use the loader.

TABLE OF CONTENTS

PREFACE

General information

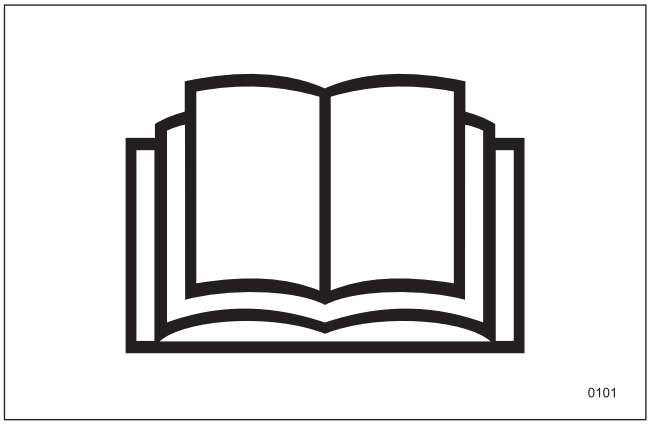
Warning!
Careless or incorrect use may result in serious injuries or death of the operator or others. Observe the safety instructions.

This instruction manual describes the operation and maintenance of an agricultural loader. The information in the instruction 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 instruction manual is supplied with every machine, to show the driver how the machine should be handled 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 has been designed with simple servicing in mind, and can be maintained with normal hand tools.

Read and study the text in the instruction manual thoroughly before you start to use the machine. If you are not an experienced driver, study the instruction 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 instruction manual readily available, preferably inside the tractor. Get a new instruction manual if the old one is damaged or gets lost.

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



Read and study the text in the instruction manual thoroughly before you start to use the machine.

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

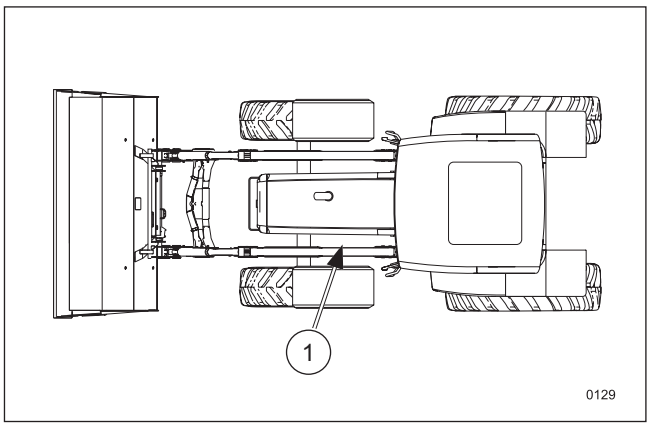
Important! The loader base is designed to suit specific models of tractor. Do not install a loader base on another model of tractor without prior permission from the manufacturer.

Installation and operation instructions for tools and accessories are not included in this instruction manual. Use the publications supplied with each tool.

Identification

Model and serial number

Each loader has a machine sign (1) with an identification number. The sign is located on the inside of the left arm.



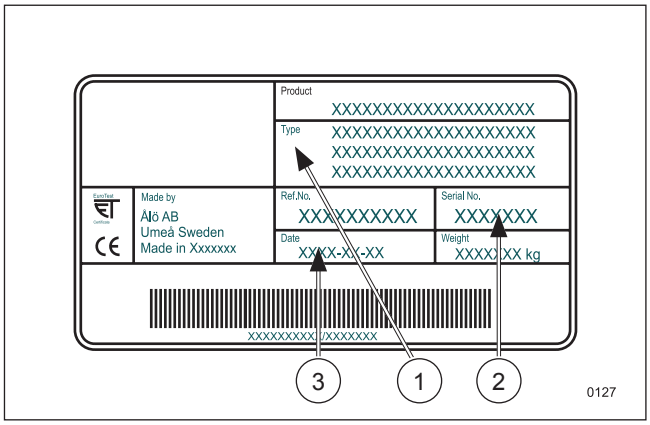
Position of machine sign.

The sign specifies:

Product, type, date of manufacture, weight, reference and serial number.

The type (1), serial number (2) and date of manufacture (3) must always be quoted during service questions or when spare parts are needed.

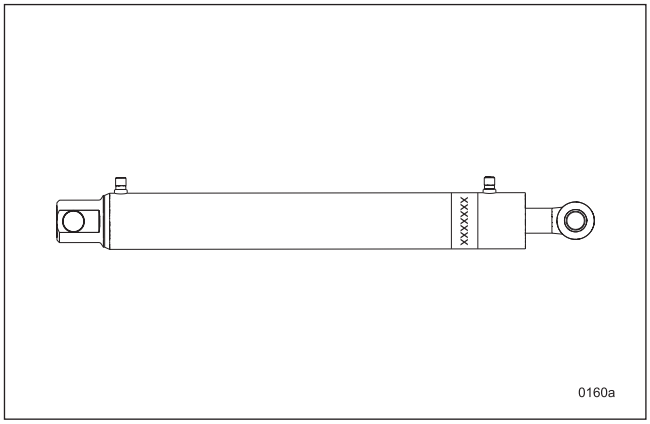
1. Type - model
2. Serial number
3. Date of manufacture



Machine sign.

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

When control cables are ordered, please specify the length (L) and make of valve (control valve).

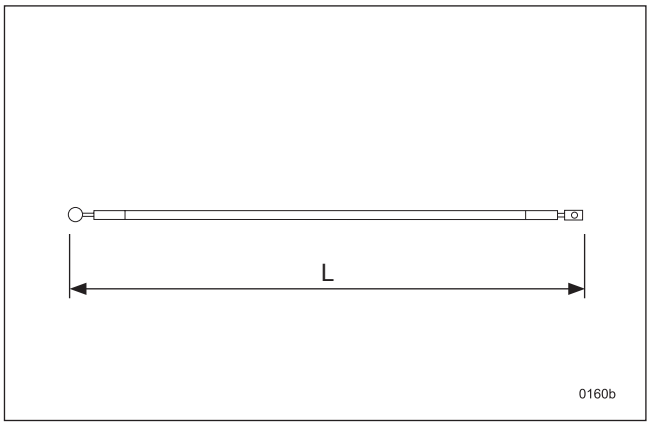


Marking of components, e.g., cylinder.

Alignment reference

Throughout this instruction manual, references to the right and left are seen from the operator's seat in forward direction.

Note. Some illustrations in this instruction 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.



Indicate length when ordering control cable.

SAFETY INSTRUCTIONS

General information

Driver safety is one of the most important matters when a new loader is designed. The designer builds in as many safety functions as possible. However, several accidents occur every year which could have been avoided by a few seconds of reflection and more careful operation of the machine.

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.

Only use tools which have been approved by the manufacturer for use with the loader.

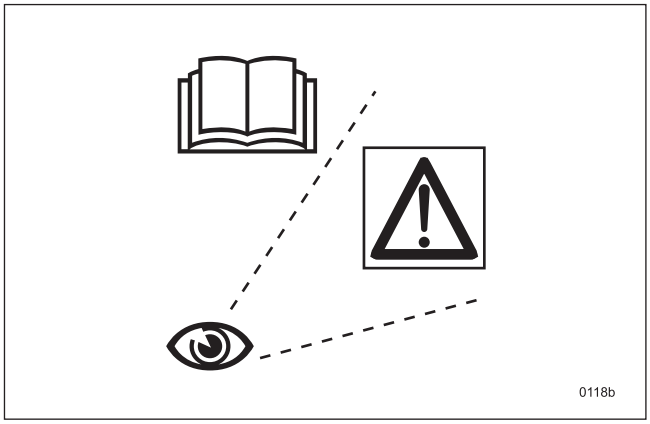
Guards

- This instruction manuals 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.

Warning decals

Warning decals are installed at various places on the loader and the tools. Localise, read and find out what the decals mean before the loader and the tools are used. See the section *"Location of warning decals"*.

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



Localise, read and find out what the decals mean before the loader and the tools are used

Explanation of warning levels

When you see the safety symbol and the signal word on decals or in the instruction manual, the instructions MUST be followed since they are related to your own personal safety.

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

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

The following texts and instructions do not refer to personal safety, but are used consistently in the instruction 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 property or the process, or personal injury.

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

Explanation of symbols

A Instruction manual Read the instruction manual, it contains important information for your safety.

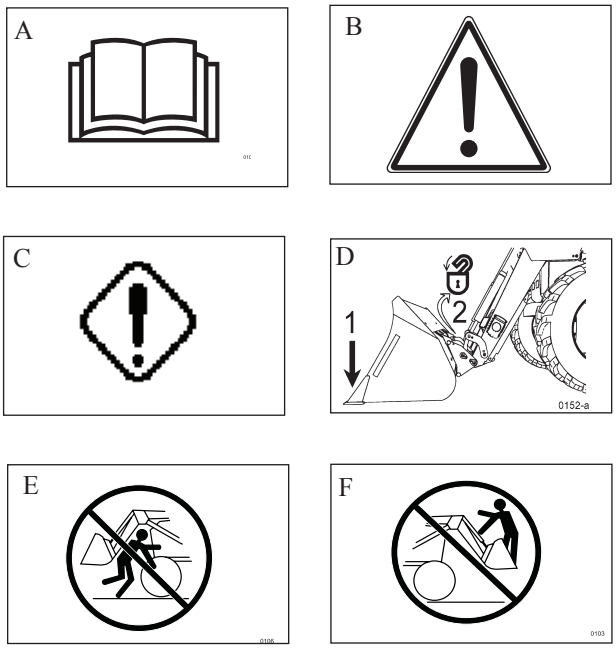
B Safety symbol. Information adjacent to this symbol refers to your personal safety and must be observed.

C Attention. Information adjacent to this symbol refers to your personal safety and refers to a section in the instruction manual.

D Tool locking. Check that coupled tools are locked in place.

E Pinch risk. Never stand between the front of the loader and the cross-tube on the loader.

F Fall risk. Do not use the loader to lift or transport people.



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Supervision and users

Responsibility

Caution!
Always store this instruction manual as well as the tractor's own instruction manual in the tractor.

- If there is no instruction manual included with the tractor then obtain one from the reseller before fitting and using the loader.
- Read through all material carefully and learn how to use the equipment in a safe and correct manner.

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

Do NOT use the loader or the bucket as a working platform.

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

- DO NOT ALLOW people who are not trained or qualified in other ways to drive the machine.

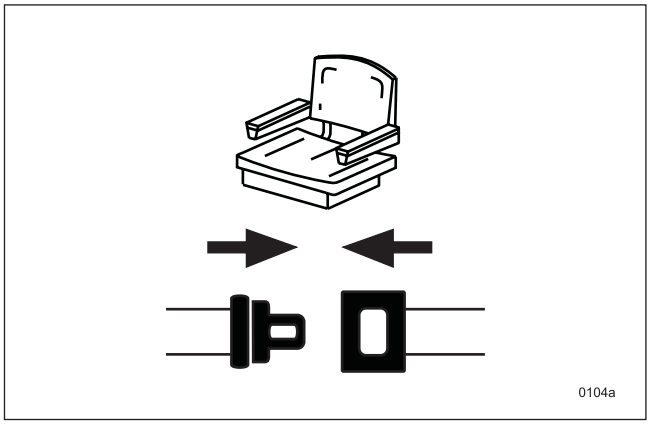
Do NOT use the loader to lift or transport people.

Caution!
The tractor and loader use fluids under high pressure when working. Check all components and keep them in good condition.
Make sure that no hydraulic components, especially hoses, are damaged in contact with moving components.

NEVER use fingers or hands for leakage detection.

Protection equipment

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.



Wear the seatbelt when working.

Risk factors during work

During transport

Caution!
When the machine is used for carrying or transporting a load on a public road, in the daytime or at night, the warning signs may not be visible. When this occurs, make sure that extra warning material is used.

When operating with or without load, always lower the loader as far as possible to give maximum visibility and allow others to see you all the time.

- Disconnect or tilt up the tool to minimise the risk of damage in the event of collision.
- Maximum speed with load in the tool is 10 km/h.
- 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 tool.

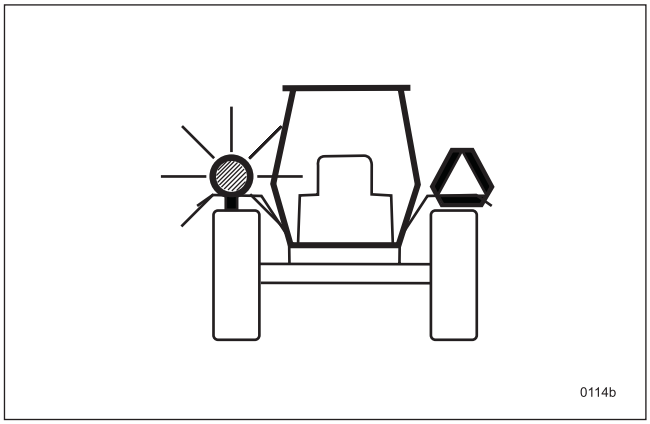
Warning!
The loader must not be operated during transport. During transport on roads the ErgoDrive control lever must be locked in neutral position. In EasyDrive LCS and ElectroDrive Professional LCS transport mode is activated in the menu, and in ElectroDrive CDC the lever is switched off. See the section, Tractor / Loader hydraulic controls.

Workplace

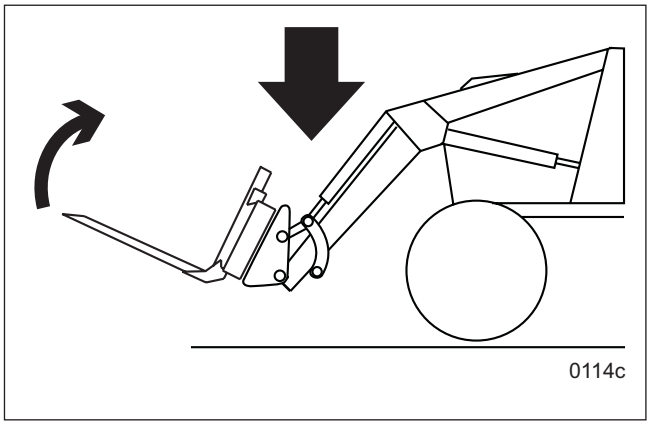
Warning!
Always check the machine's surroundings and ensure that all individuals, above all children, and animals have moved away before starting or driving the machine.

You may not hear warning cries from individuals on the outside when you are sitting in the cab with the door closed.

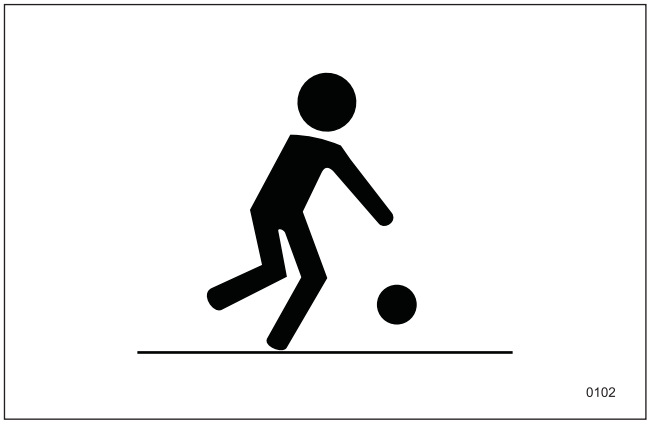
Learn to know the working area and terrain. Pay attention to vertical clearance and limitations that arise due to the increased reach.



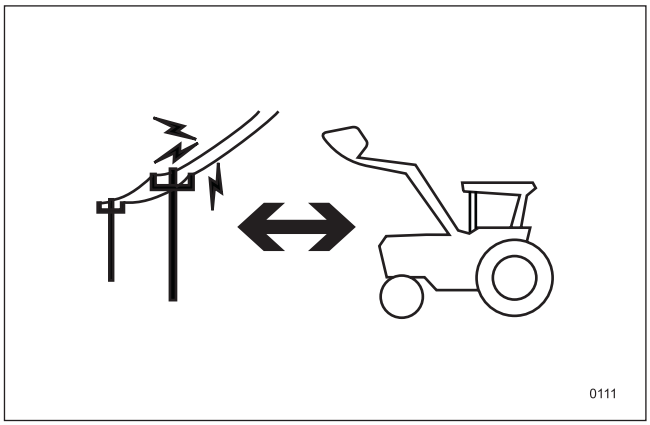
Use extra warning signs when transporting on public roads.



Lower the loader to obtain maximal visibility.



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

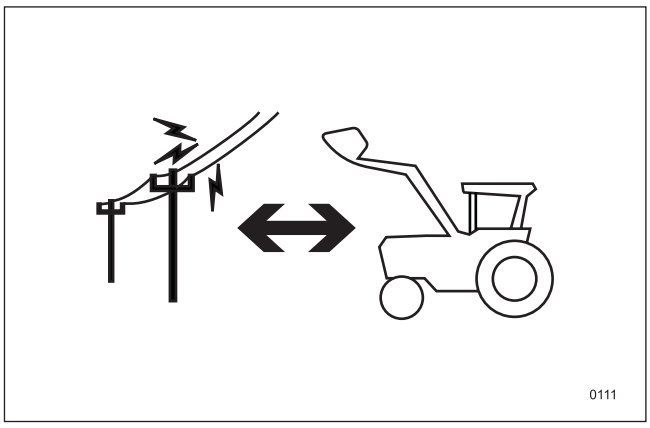


Learn to know the working area before starting. Maintain a distance from electrical cables.

Before work

Learn to know 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 which is damaged or lacks any component. 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 screws and nuts regularly for tightening, especially those that fix the tractor wheels. See section "Lubrication and maintenance" for information about tightening torques.
- Ensure that the loader is correctly installed on the tractor, and that all pins are locked.
- Change worn components before the machine is used.



Learn to know the working area before starting. Maintain a distance from electrical cables.

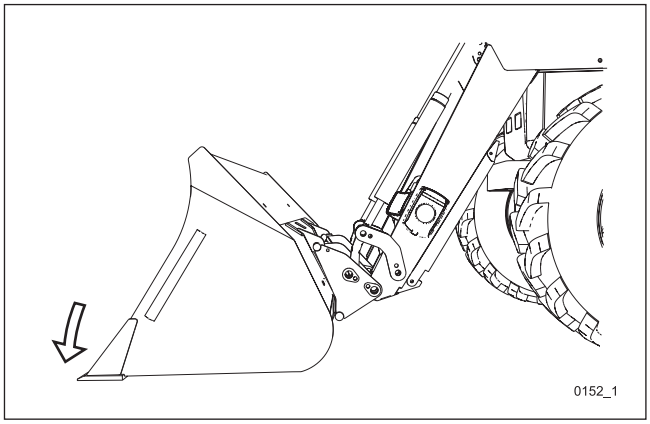
Counterweight and track

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

- Read section "Operating instructions" of the instruction manual for information about the counterweight and track width. Also read the tractor instruction manual for further information.

Important! Incorrectly designed tools can damage the loader. For this reason, do not install third party tools without ensuring that the tool in question has been approved by the manufacturer.

Check that the bucket or other tools are correctly installed on the tool attachment and that the pins are in the locked position. Press the tip of the tool against the ground to check that the tool is firmly fixed.

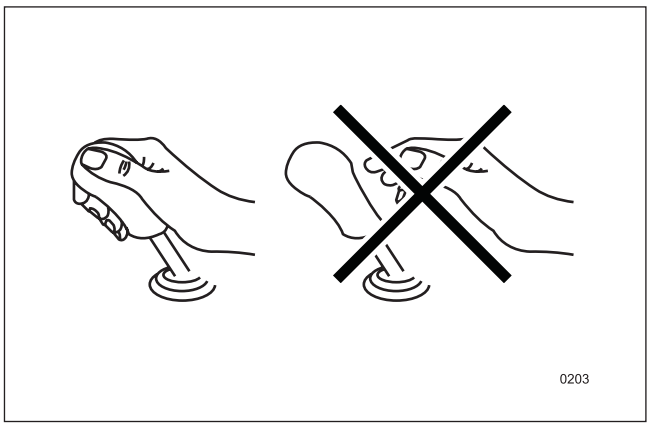


Check that the tool is secured by pressing its front end against the ground.

Dead man's handle

Warning!
According to the applicable standard, the loader must not be combined with a programmable joystick or other equipment that enables automatic loader movements.

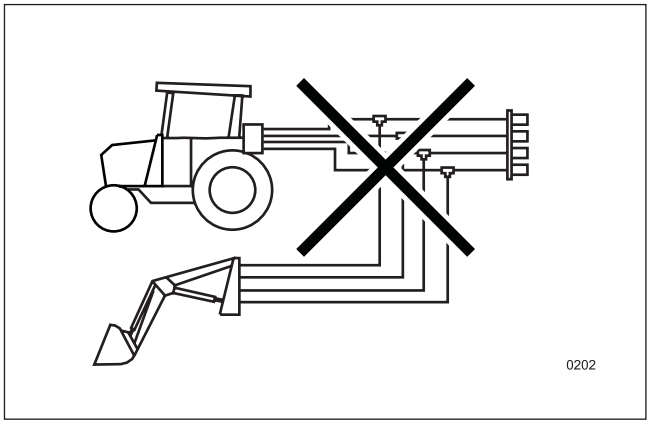
To prevent unintentional loader movements the loader's joystick shall be equipped with a so-called dead man's handle, which means that all loader movements stop when the lever is released. The loader may have control systems with functions on the loader that are not covered by the "dead man's handle", e.g. 3rd function continuously.



The loader must not be combined with a programmable joystick or other equipment that enables automatic loader movements when the lever is released.

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.



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

During work

User's position

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

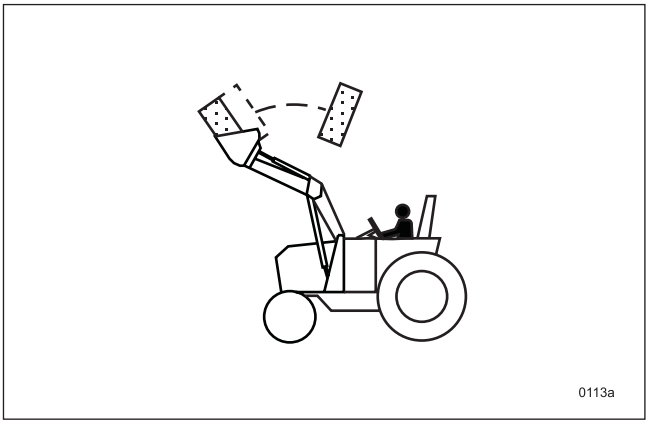
Only operate the machine when sitting in the driver's seat.

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

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

Machine stability

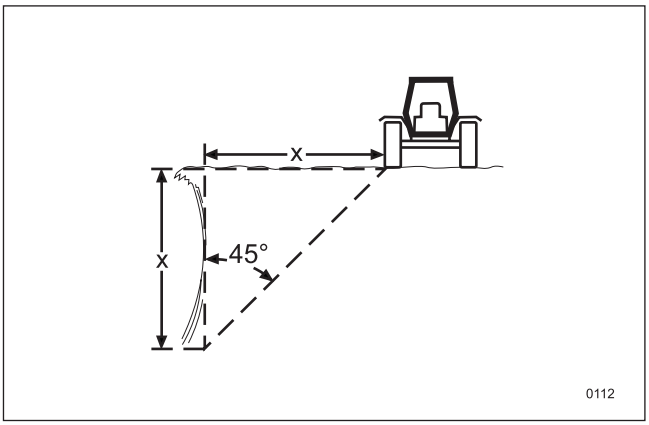
Warning!
Always watch the bucket. Objects can fall or roll backwards when the loader is raised.
Only lift loads which fit inside the tools.



Pay attention to the bucket, objects may fall off.

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.

- Drive straight up / or down slopes (not obliquely). Avoid braking / driving away hastily. Lower the loader as far as possible.
- Drive the tractor forwards up slopes with an empty bucket. Fill the bucket and then reverse slowly down the slope.



Keep at a distance when working near slopes.

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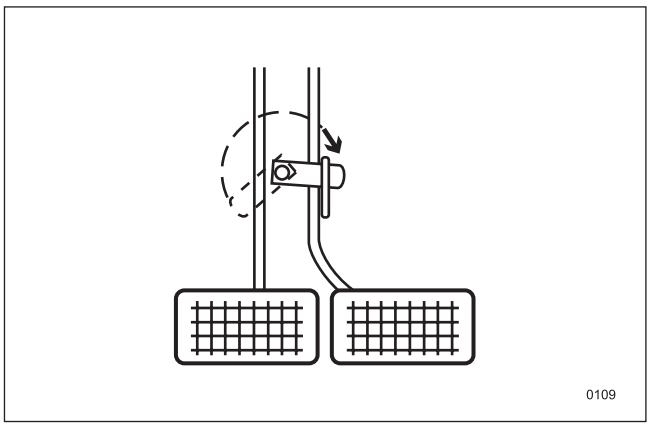
Operation

- Drive carefully, think about safety.

Always Leave the brake pedals locked to each other. NEVER use parted brakes with a loader mounted, thus avoiding the risk of losing control of the tractor and/or the tractor overturning.

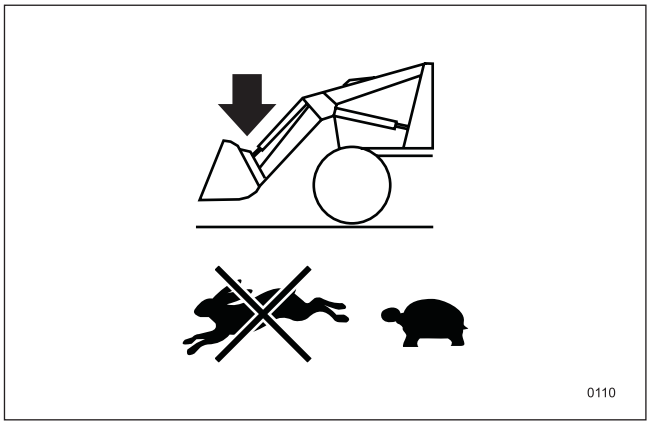
- Always adjust speed to current conditions. Never drive so fast that you can not stop quickly in an emergency situation.



Always Leave the brake pedals locked to each other.

Warning!
Reduce speed when cornering, to avoid overturning the machine.
Avoid sudden turns when driving down steep slopes.

- Always leave the engine in gear to obtain 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.
- Lower the loader as far as possible when travelling. Keep in mind that the higher you lift the loader, the higher the centre of gravity, resulting in increased risk of the tractor overturning.

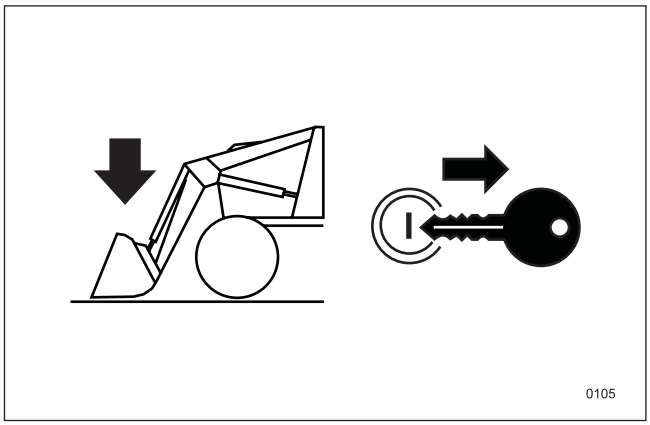


Lower the load, reduce the speed when cornering.

After work

Caution!
When alighting, or when you leave the driver's seat FOR ANY REASON, always do the following:

a. Lower the loader and tool to the ground.
b. Apply the handbrake securely.
c. Move the gear lever to the neutral or park position.
d. Shut the engine off.

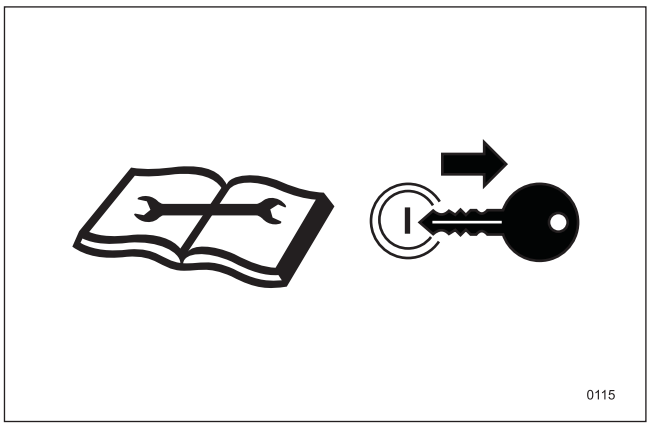


Before you leave the operator's seat, lower the loader and remove the ignition key.

Risk factors during service

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

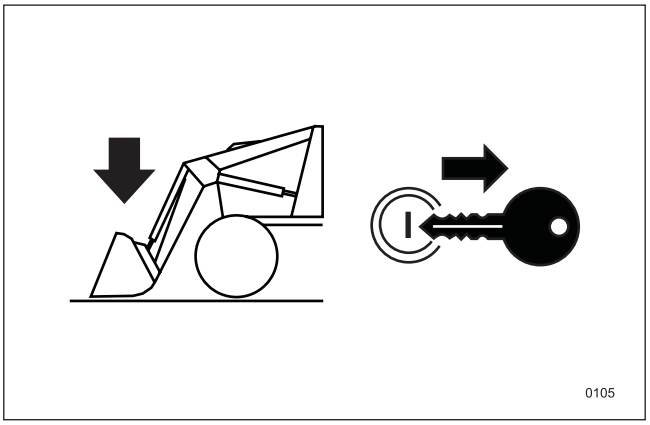
- When the loader is parked, a tool (bucket, back hoe) must always be coupled. Also make sure that the ground is reasonably firm and flat.



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

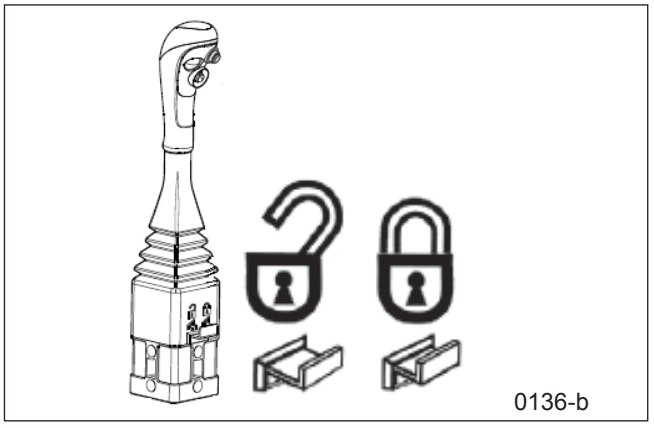
Warning!
Always lower the loader to the ground.

a. Lower the loader and tool to the ground.
b. Apply the handbrake securely.
c. Move the gear lever to the neutral or park position.
d. Shut the engine off.
e. Remove the ignition key.
f. Move the control handle through all positions, and then return the control handle to the centre position to unload the hydraulic pressure.



Lower the load, remove the ignition key.

Warning!
To prevent inadvertent operation of the loader: Lock the joystick in neutral position.



Leave the joystick in the neutral position.

Warning!
Never stand between the front of the tractor and the loader's cross tubes.

Never stand between the front of the tractor and the loader's cross tubes.

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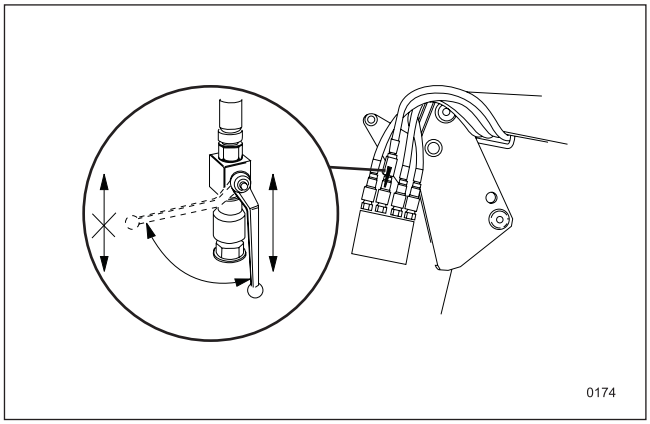
The loader's control valve is equipped with a stop mechanism. The version may vary depending on valve type.

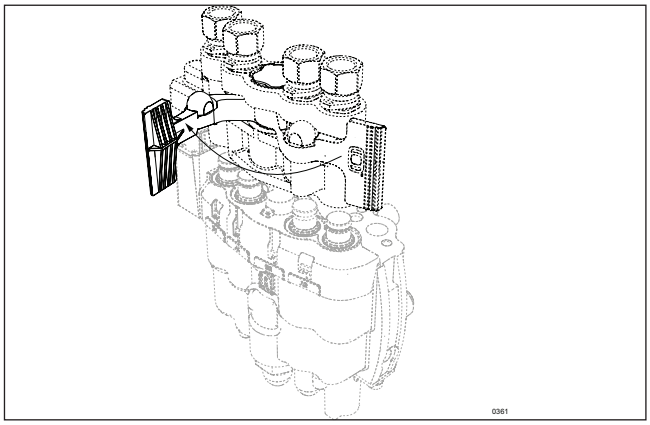
The stop mechanism is set to closed "position" during service work, or when the loader is left in the lifted position for any length of time for other reasons.

Warning!
This mechanism must NOT be used when working in the loader's lift cylinders or associated lines. In these cases, the loader must be lowered to ground level. Shut off the tractor engine and unload the hydraulic pressure by using the control handle before disassembling couplings or doing other work on the hydraulics - oil under high pressure can cause serious injury.

- When working on the loader's hydraulic system, unload hydraulic pressure by moving all hydraulic controls to all positions a number of times once the engine has been shut off.
- Do NOT use the loader to lift the tractor during service on the tractor or the loader.



Turn the stop tap to closed position during service work.



Open the multi-coupling to open position during service work.

Caution!
Be on your guard against 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 wood or cardboard instead.

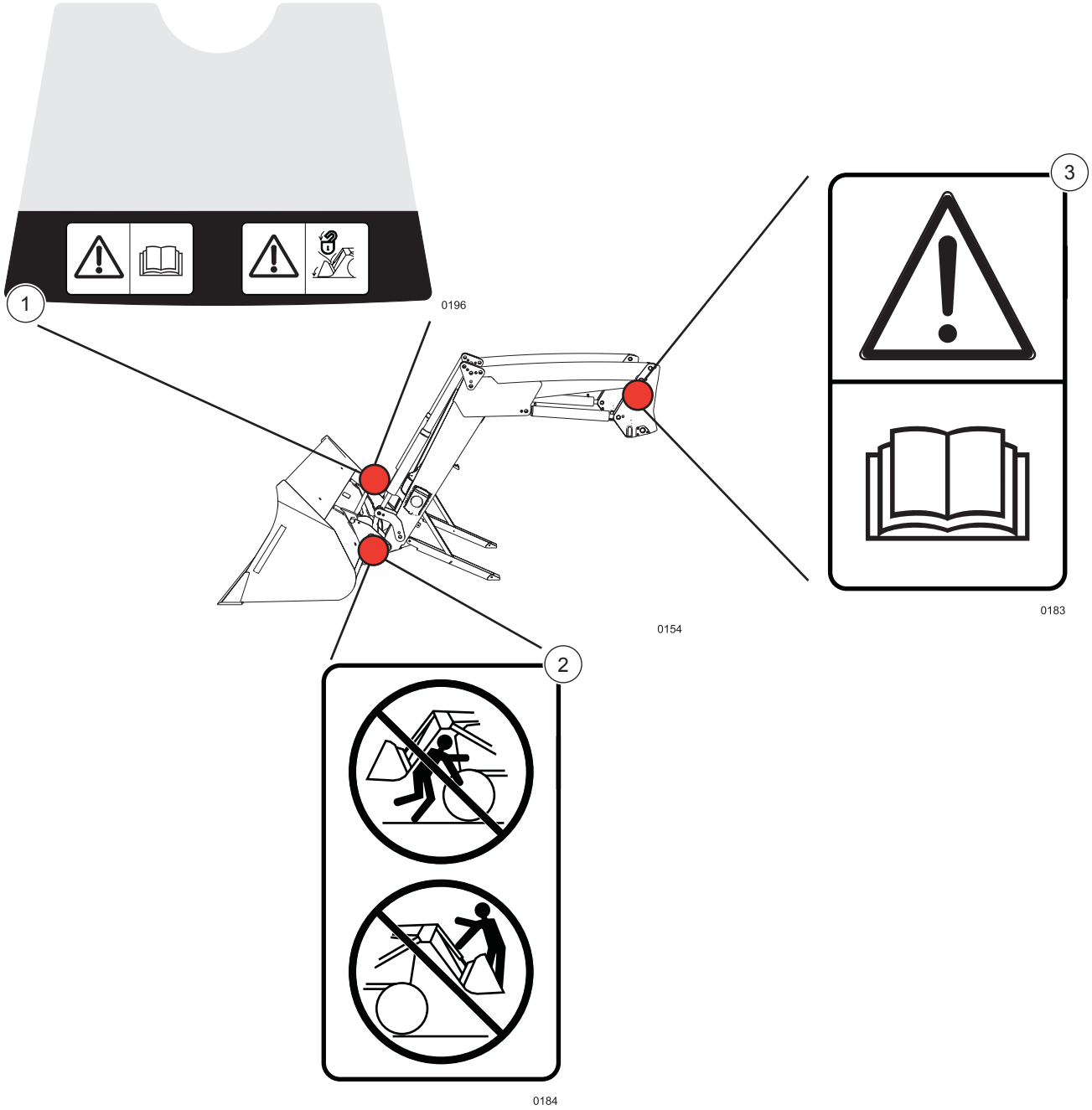
- Undo hydraulic couplings slowly. Keep your hands and fingers away from loosened couplings.
- Get medical attention at once if fluid penetrates your skin. Serious reactions and/or infections can rapidly occur if the oil is not removed at once by surgical operation.

NEVER use fingers or hands for leakage detection.

Spare parts

- When spare parts are needed for service and maintenance work, only use original spare parts to restore the machine to its original quality standard.
- The manufacturer declines all responsibility if non-approved spare parts or tools are installed, and for the damage which might occur if such non-original spares are used.

Location of warning decals (EU)



1. Warning decal tool lock, 1 pc. (Part no. 11133835)
2. Warning decal on tool attachment, 2 pcs. (Part no. 1123673)
3. Warning decal on bearing box, 2 pcs. (Part no. 1123674)

DESCRIPTION

Definitions

3rd function

Extra hydraulic function for operating the tool's hydraulics and tool lock.

4th function

Extra hydraulic function for operation of tools with more than one hydraulic function.

Clic on

Automatic connection of tools.

Q Lock

Hydraulic locking of a tool.

Hydro Quick / Multi-coupling MC 4

Equipment for coupling and uncoupling the loader's hydraulics.

ErgoDrive / ErgoDrive LCS

Installation kit contains control valve with Joystick control as well as hydraulic connection for indicated tractor model.

ElectroDrive CDC / ElectroDrive LCS / EasyDrive LCS

Assembly kit as above, but with an electrically operated valve.

Lock & Go

Automatic coupling between loader and base.

Position indicator

Equipment which shows the inclination of the tool during lifting and lowering movements.

Control valve

Valve intended for lifting and tool operation on the loader.

Tool attachments

8	=	EURO
9	=	Volvo BM (large)
8+3	=	EURO-ÅLÖ (Combi)
8+5	=	EURO-SMS (Combi)
8+6	=	EURO-VALTRA (Combi)

Q Compact Valve

(3:rd and 4:th function)

Electric valve installed on the front of the loader, intended for tools which have hydraulic functions and for loaders equipped with a hydraulic tool lock.

Operation is with the ONE lever control, which can control all functions.

Selecto Fix

Equipment for coupling and uncoupling the tool's hydraulics.

Hose kit

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

SoftDrive

Load damper, improves driver comfort and reduces stress on the tractor and loader when driving on rough surfaces.

System US/DS, UM/DM, DL

Loader and base versions:

US/DS base - c/c mast = 900 mm.

UM/DM base - c/c mast = 1040 mm.

DL base - c/c mast = 1200 mm.

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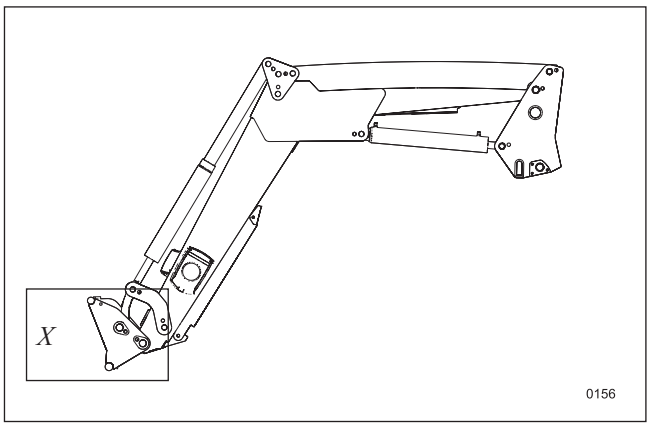
Tool attachments

The loader can be equipped with various types of tool attachments (X), depending on the tool anchorage. See section "*Definitions*".

Tools are locked automatically when coupled (Clic on).

Optional equipment for hydraulic coupling and uncoupling is available.

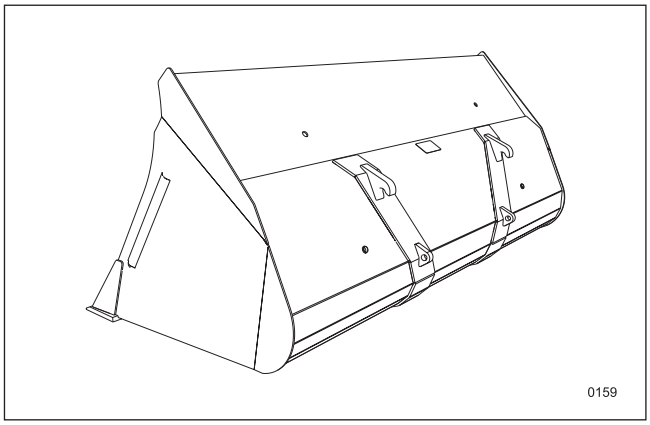


The loader can be equipped with different tool attachments.

Standard is a tool bracket for tool hooks EURO (8).

Depending on loader model there are alternative COMBI brackets, which fit tools with tool hooks of a different variant, e.g. Euro (8), ÅLÖ (3), SMS (5), Valtra (6), etc.

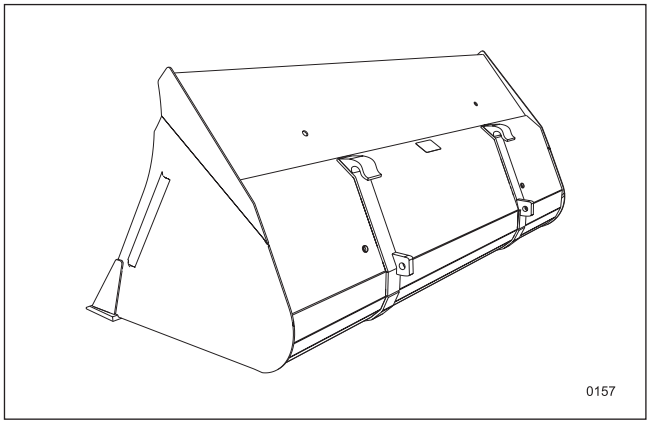
The tool should, of course, be suitable for the loader and the type of work it is used for.



Tool hooks EURO (8).

Tool hooks ÅLÖ (3).

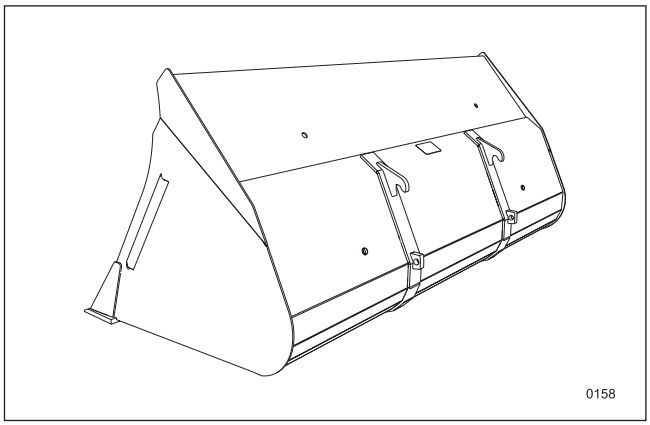
For tool bracket type 3.



Tool hooks ÅLÖ (3).

Tool hooks SMS (5).

For tool bracket type 5.



Tool hooks SMS (5).

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DRIVING INSTRUCTIONS

General information

Counterweight

Caution!
Overturning and slipping risk. The tractor can overturn or start slipping and thus cause personal injury. Check that a counterweight is fitted, which is suitable for the tool and working range.

The size of the counterweight varies with its placement and the tractor's equipment (model, rim and tyre combination, etc.). Check that the required counterweight is in place so that the tractor does not overturn and lose rimpull when the brakes are suddenly applied with fully loaded tool. Please read the tractor's 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 tool) on the tractor's front and rear axles:

Tractor	Front axle	Rear axle
4WD	40%	60%

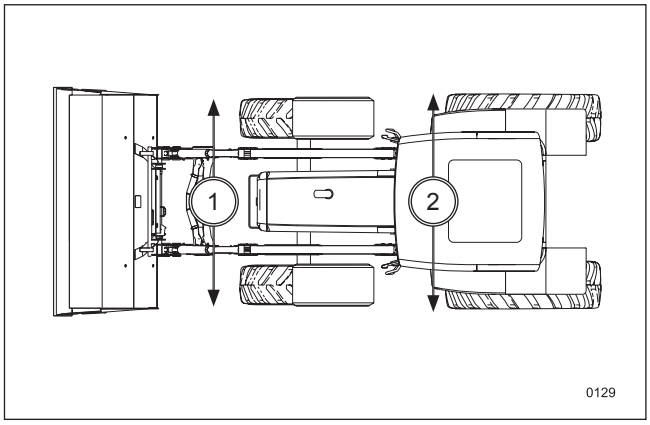
Track

Caution!
Overturning risk. The tractor can overturn if its track is too narrow. Increase to maximum track for best stability.

To increase stability, the tractor's track must be as wide as possible. Maximum width (1) across front wheels.

Install the rear tyres and adjust the rear wheels to the maximum recommended track (2).

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

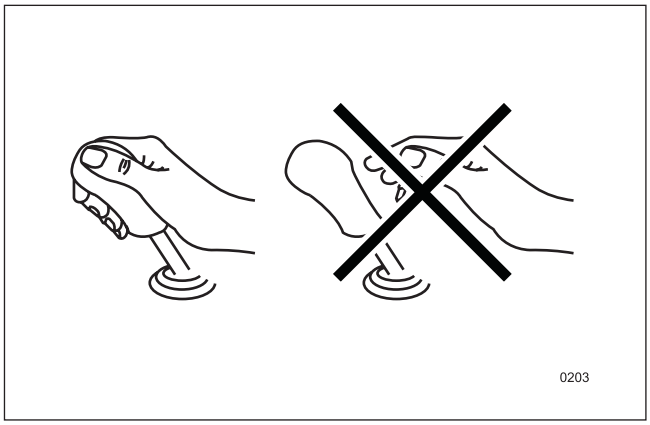


Increase to maximum track for best stability.

Dead man's handle

Warning!
According to the applicable standard, the loader must not be combined with a programmable joystick or other equipment that enables automatic loader movements.

To prevent unintentional loader movements the loader's joystick shall be equipped with a so-called dead man's handle, which means that all loader movements stop when the lever is released.



The loader must not be combined with a programmable joystick or other equipment that enables automatic loader movements when the lever is released.

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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.

Caution!
Risk of crushing and trapping.
Air in hydraulic hoses and cylinders can cause jerky, unexpected movement.
Use all controls carefully at low engine speed.

Caution!
Risk of crushing and trapping.
Keep hands and feet away from moving components. Do not use your fingers to check components or the fit of holes/pins, use a mandrel or a steel rod.

System DS, DM and DL

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

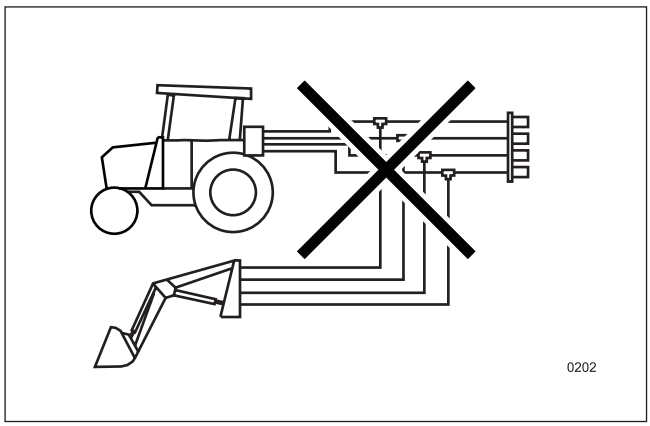
Caution!
Pinch risk.
The lock handle is spring loaded. The lock handle must be loosened in the parked position. Handle the lock handle carefully.

Install LOCK & GO on the left and right storage boxes. Install a base stop on the left and right base.

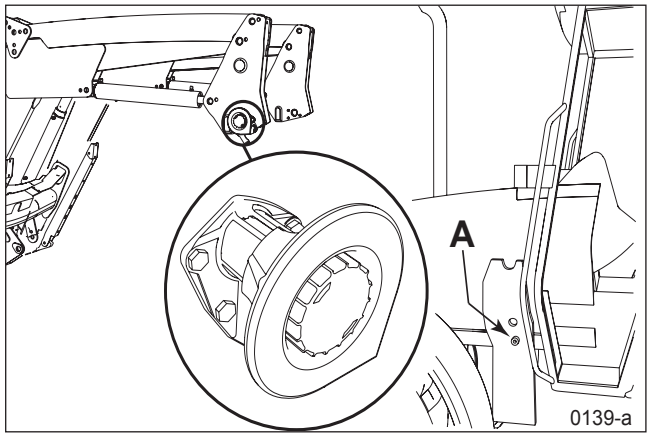
Note. The lock handle shall be in locked position if the loader is laid on the ground.

Lift the loader up onto the base. Holes for attaching the lifting hooks are found on the inside of the tie plates.

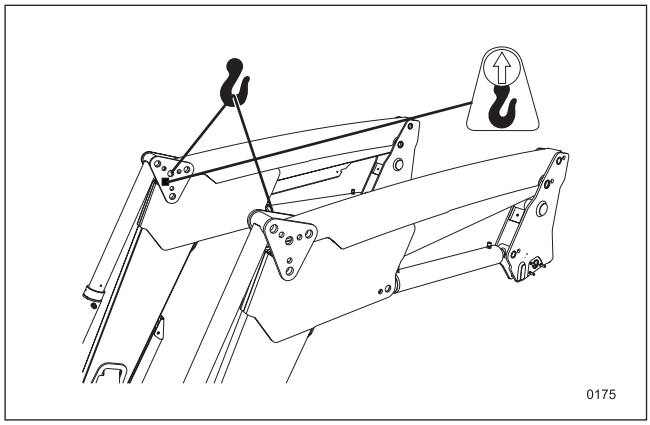
Note. Make sure that the lock handle on LOCK & GO is pulled out and rests on the heel. When the bearing housing passes the mast, the LOCK & GO system will lock the loader to the base. Make sure that the green end of the lock pin is visible on the inside of both the right and left bearing boxes.



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



Install LOCK & GO as well as base stop.



Hole for attachment of lift hooks.

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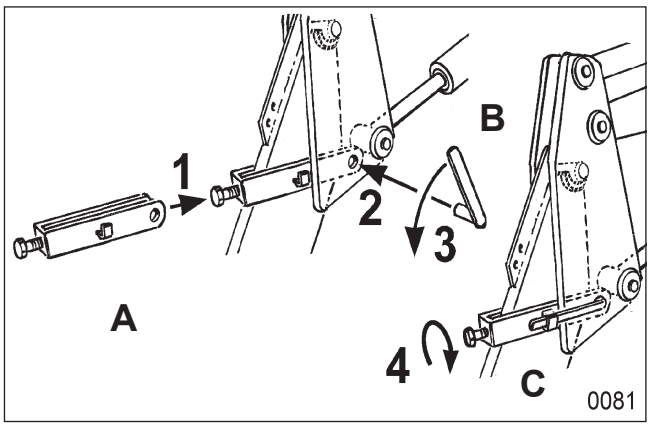
System US and UM

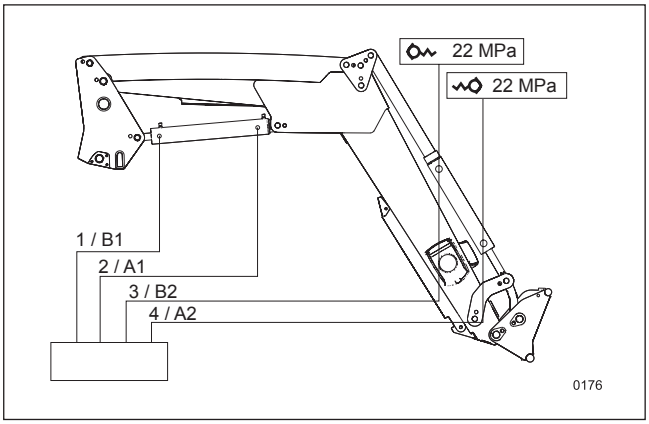
Install the tensioning forks (A) and pins (B) and tighten the bolts (C).



Install the tensioning forks and pins.

Connect the hoses to the valve, if one is installed, in accordance with the marking.

Before installation, depressurise the hydraulic system.



Connect hoses to valve.

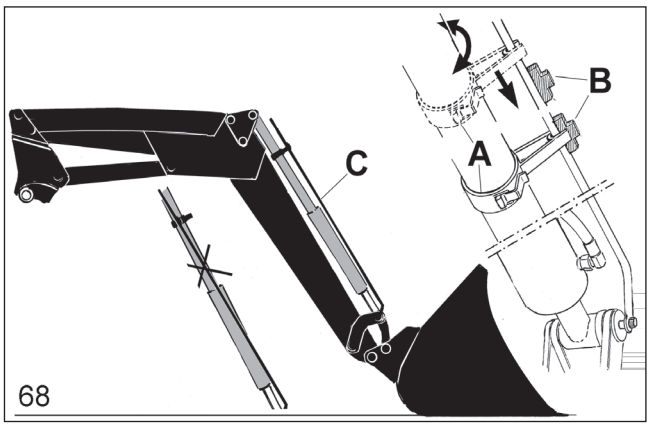
Warning!
The loader valve must always be connected with a return pipe to the tank. If this pipe is connected so that pressure builds up, the valve will be damaged.

The valve's joystick control shall be connected to the valve, so that the loader arm is lifted when the lever is moved backwards.

Install the position indicator

Install the position indicator on the tilt cylinder. Adjusting is done with each tool installed. The indicator can be installed on the right or left sides. Indicator (B) is installed for left installation and must be moved for right installation.

Set the tool in level position, adjust the reference indicator (A) directly opposite the indicator (B). Check that the indicator runs freely, adjust if needed. The indicator hose (C) should be parallel to the tilt cylinder. Incorrect adjustment can cause the device to self-destruct. When adjusting after a tool change, set the tool level, move the reference indicator (A) centrally against the indicator (B).



Install the position indicator on the tilt cylinder

Check list

When the loader has been installed - check carefully that everything works before it is taken into service. The following points must always be checked. Mark them off and do the necessary adjustments if necessary.

1. Check that everything has been installed in accordance with the installation instructions.
2. Check that a counterweight is fitted, which is required for the tool and application.
3. Check that all screws are tightened.
4. Check that the front wheels clear the loader and base during full wheel lock and oscillation of the front axle - if this is not the case, oscillation stops or limitation of steering lock must be installed.
5. Check that the green end of the lock pin for Lock & Go is visible on the inside of both the right and left bearing boxes. Test loader operation.
6. Check that no oil leakage occurs.
7. Operate all loader functions several times to remove air from the system.
8. Check the tractor oil level - top up as necessary.
9. Check that the tool lock pins engage when connecting a tool by pressing the front section of the tool against the ground.
10. Check that the loader does not have any visible defects.

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Disconnecting the loader

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

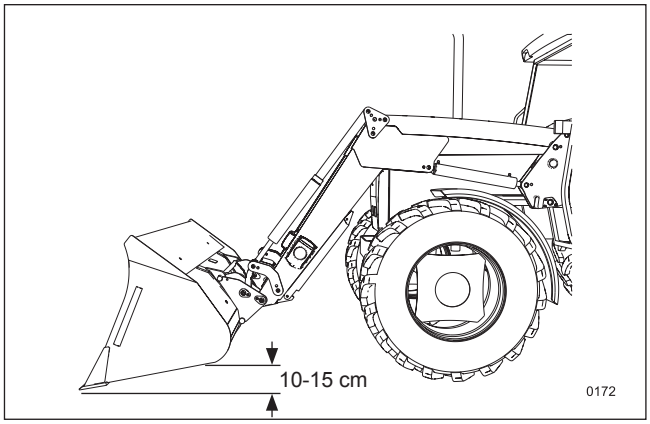
Caution!
Risk of crushing and trapping.
If the loader valve is in a depressurised or float position then sudden and unforeseen movements may occur when the hydraulics are connected.

Park the tractor and the loader on flat, firm ground.

Shut off Softdrive before disconnecting the loader.

Tip the tool forwards and lower the loading arm so that the rear of the tool is 10 - 15 cm above the ground.

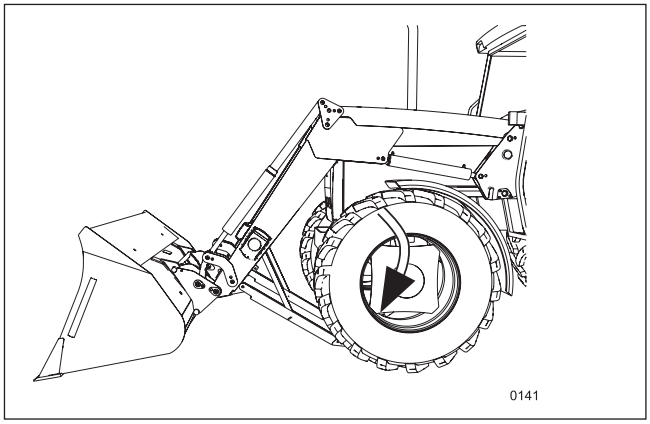
Caution!
If the rear section of the tool is more that 15 cm above the ground then there is risk that hoses may become worn during uncoupling.



Tilt the tool forward.

Lower the outriggers, which are installed under the front part of the loading arms, down to the ground.

Fix the stay in each outrigger.

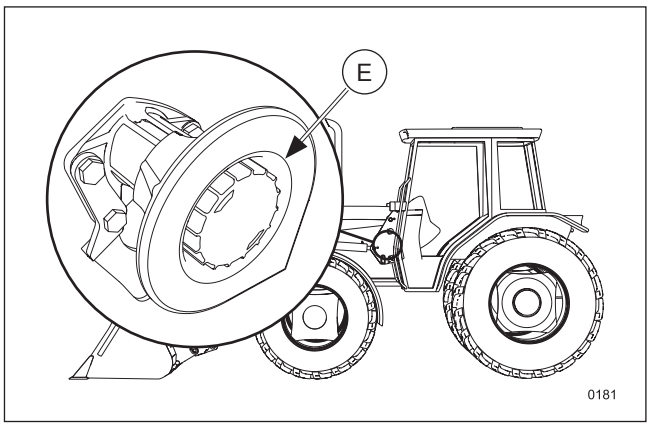


Lower the outriggers.

System DS, DM and DL

Pull out lock handle (E) to unlock the lock pin and turn until the lock handle rests against the base stop (one on each side).

Caution!
Pinch risk.
The lock handle is spring loaded. The lock handle must be relieved in parked position. (Locked position) Handle the lock handle with care.

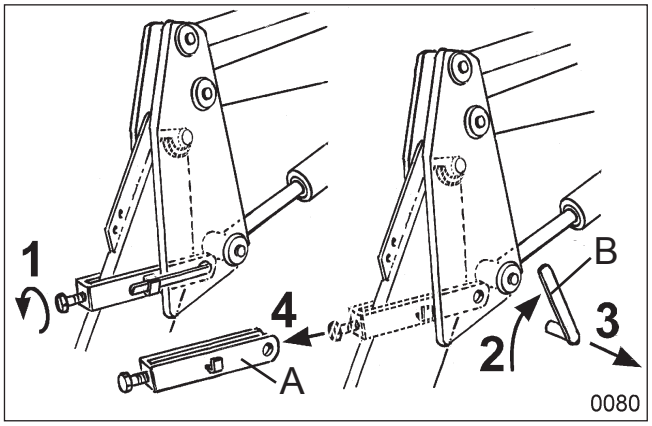


Pull out the lock handle

System US and UM

Loosen the tensioning forks (A) and remove the pins (B), one on each side.

- Move the control handle to the lowering position, so that the lifting cylinders are completely compressed.
- Release the brakes.

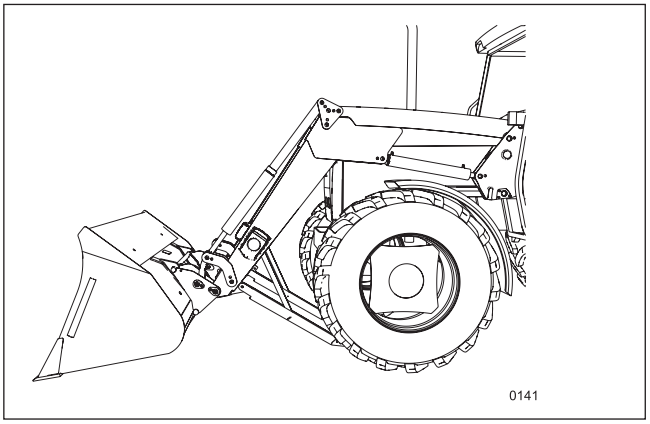


Loosen the tensioning forks.

Fold the tool in carefully. This will make the rear of the loader lift, and come loose from the base. Allow the tool to rest against the surface below.

- Stop the tractor and eliminate the oil pressure to the loader cylinders, using the control valve. It may be possible to engage the float position.
- Disconnect the hoses and fit them into the hose holders or in parking position. In addition, fit dust cover(s) onto the quick release couplings.
- Reverse the tractor carefully until it is completely free from the loader.

Important! Make sure that you position the hoses so that they do not catch on the tractor.



Fold the tool in carefully.

Coupling the loader.

Caution!
Risk of crushing and trapping.
Air in hydraulic hoses and cylinders can cause jerky, unexpected movement.
Use all controls carefully at low engine speed.

Caution!
Risk of crushing and trapping.
Keep hands and feet away from moving components. Do not use your fingers to check components or the fit of holes/pins, use a mandrel or a steel rod.

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

Caution!
Risk of crushing and trapping.
The loader may fall downwards.

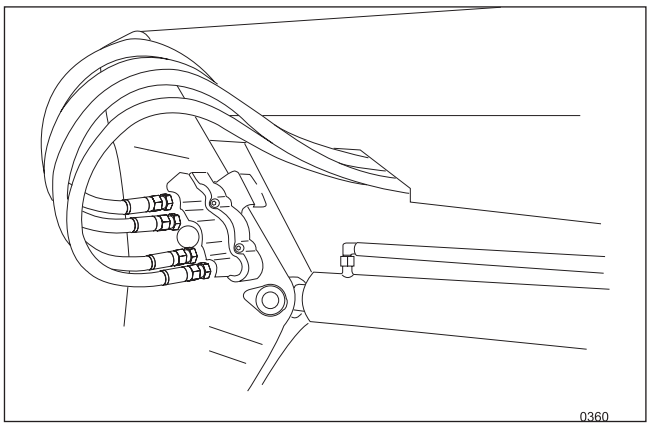
Important! Make sure that the hoses are positioned on the hose holder so that they do not catch on the tractor. Make sure that LOCK & GO is in the unlocked position.

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

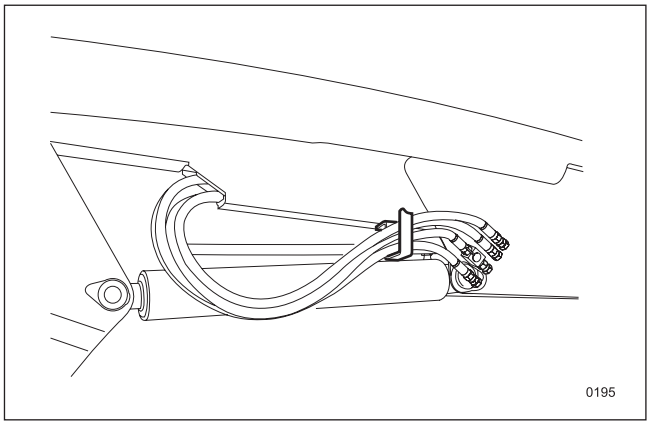
Connect the hydraulics. If there is any difficulty in coupling the quick release couplings, this will be because the oil pressure has not been eliminated. Depressurise the system.

Important! Never use force on quick release couplings by striking the valve ball. This may mean that it is damaged in such a way that the coupling does not open when compressed (the oil can only pass in one direction). Pay attention so that none of the hoses is mixed up - follow the marking for the hoses 1-4, or B1, A1, B2, A2 which are also marked on the valve.

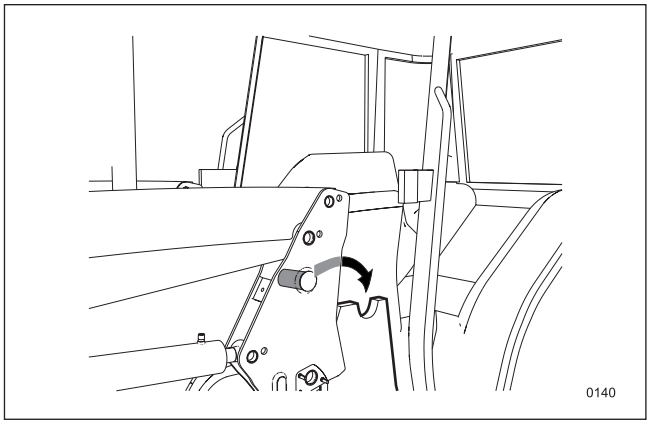
Tilt the tilt cylinder out (empty) so that the bearing housing comes firmly into contact with the mast.



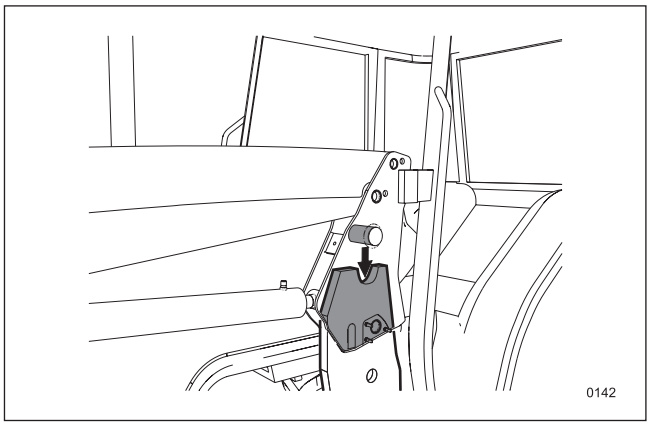
Hoses positioned in parking position.



Hoses positioned in parking position.



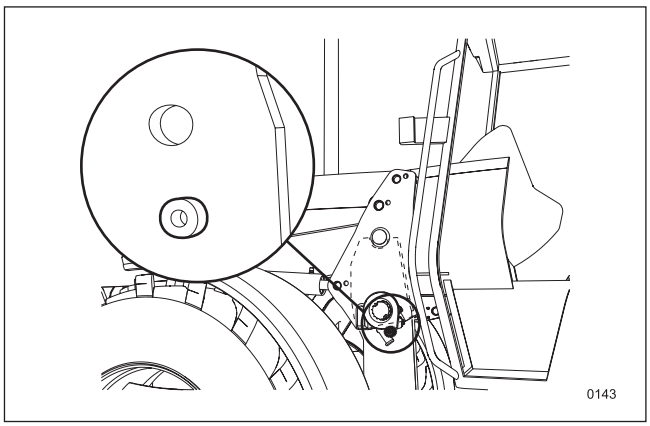
The base's mast goes into bearing box.



Bearing box fixed against mast.

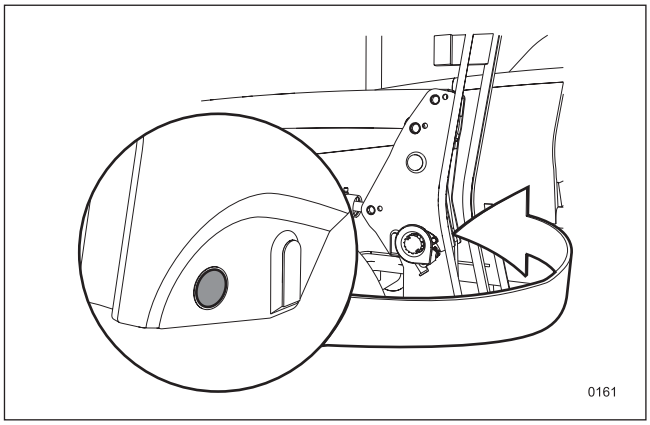
System DS, DM and DL

Lift the loader, the LOCK & GO system will then automatically lock the loader base, using the lock pins.



Lock pin locks loader in the base.

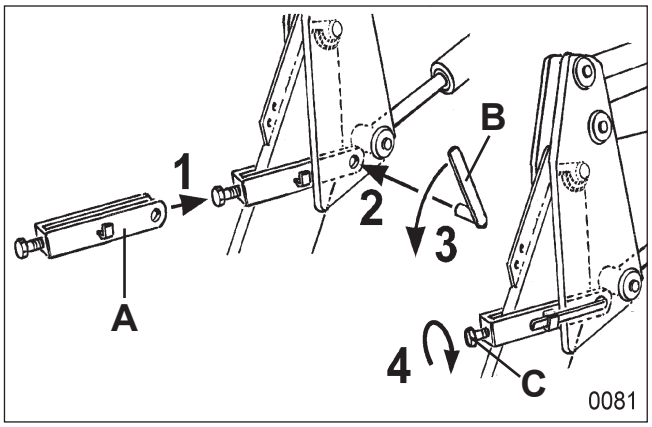
Caution!
Risk of crushing and trapping.
The loader can come loose from the tractor.
Check that the green end of the lock pin is visible on the inside of both the right and left bearing boxes.



The lock pin's green end is visible.

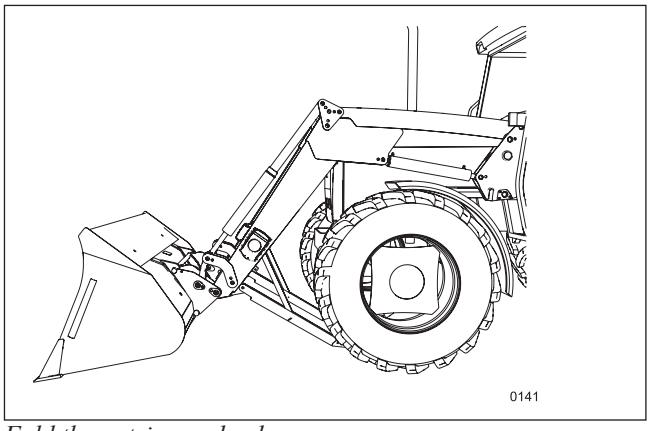
System US and UM

Lift the loader, install the tensioning forks (A) and pins (B) and tighten the bolts (C).



Install tensioning forks, pins, tighten bolts.

Fold the outriggers back.



Fold the outriggers back.

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Tractor / Loader hydraulic controls

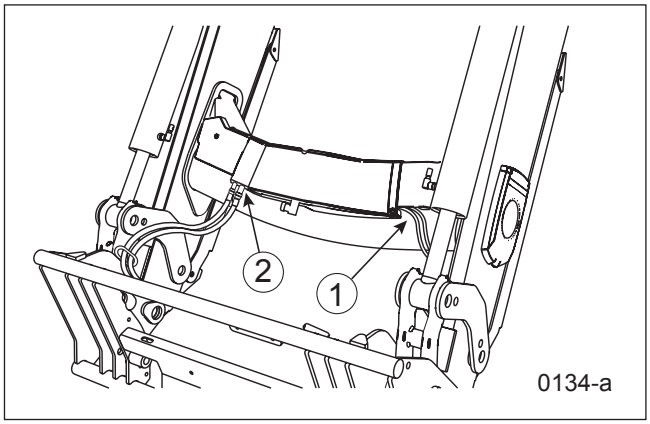
The loader's hydraulic system can be connected to the tractor hydraulic system in two ways.

With alternative 1 the tractor hydraulic system is connected to the loader control valve. With this alternative there are the following variants:

- EasyDrive LCS
- ElectroDrive LCS
- ErgoDrive LCS
- ElectroDrive CDC
- ErgoDrive

Alternative 2 is to use the tractor's original joystick to control the movements of the loader.

The loader may be equipped with a third (1) and a fourth hydraulic function (2) for tools. Two solenoid valves are then installed on the cross tube.



Extra hydraulic functions for tools.

Operation of the loader

Important! Tractors with front axle suspension. The loader causes increased wear on the components in the front suspension. Always disconnect the front suspension if this facility is available. Read the tractor's instruction manual.

Variant EasyDrive LCS
Variant ElectroDrive LCS
(see also separate user manuals)

If the joystick is released when the float positions for lowering or emptying are selected, the function continues to be active. In all other positions, if the joystick is released it returns to the neutral position and the functions are inactivated.

Variant ErgoDrive LCS

If the joystick is released when the float positions for lowering or emptying are selected, the joystick retains its position and the function continues to be active. In all other positions, if the joystick is released it returns to the neutral position and the functions are inactivated.

Variant ElectroDrive CDC
(see also separate user manual)

If the joystick is released when the float position for lowering is selected, the joystick retains its position and the function continues to be active. In all other positions, if the joystick is released, it returns to the neutral position and the functions are inactivated.

Variant ErgoDrive
(see also separate user manual)

If the joystick is released when the float position for lowering is selected, the function continues to be active. In all other positions, if the joystick is released, it returns to the neutral position and the functions are inactivated.

Loader with parallel movement

The loaders are equipped with mechanical parallel movement. Parallel links keep the tool in the same relative position during the entire lift/lowering movement.

Loader without parallel movement

The tool changes its angle in relation to the ground during the entire lift/lowering movement. See section *Data*.

Hydraulic tool lock

This equipment allows the tool to be coupled both ON and OFF by using the loader's control valve.

Important! If the hoses are connected the wrong way, locking will not function.

The hoses from the tool lock cylinder are connected to the 3rd function.

Important! Incorrectly designed tools can damage the loader. For this reason, do not install third party tools without ensuring that the tool in question has been approved by the manufacturer.

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SoftDrive (load damper)

SoftDrive can be engaged during most tasks, but can be disengaged when precision driving with exact control of the loader is required.

Note. When working with tools that require double-acting function, for example Silosplit, use position I or II for mechanical deactivation and position I for electrical deactivation.

Caution!
Pinch risk.
Accident risk when the system is coupled.
Lower the bucket to the ground, shut the engine off and remove the pressure in the hydraulic system by moving the control lever to all control positions before connecting or disconnecting the system.

Description

This equipment damps the vertical movements of the loader when driving on uneven ground. It consists of one or two dampers, depending on loader model.

Note. The accumulators (1) used with the Softdrive system are pre-charged and cannot be recharged. Contact your dealer for service.

Caution!
The accumulators (1) are pressurised. Repair, maintenance and commissioning must only be done by authorised personnel.

Warning!
Do not open the accumulator before the gas and oil side is 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.

If required, the function of the dampers can be switched off (position I) on mechanical deactivation, or engaged in two working positions (position II and III) using a handle (2).

On electrical deactivation the function of the dampers can, if required, be disabled (position I) or put into a working mode (position III).

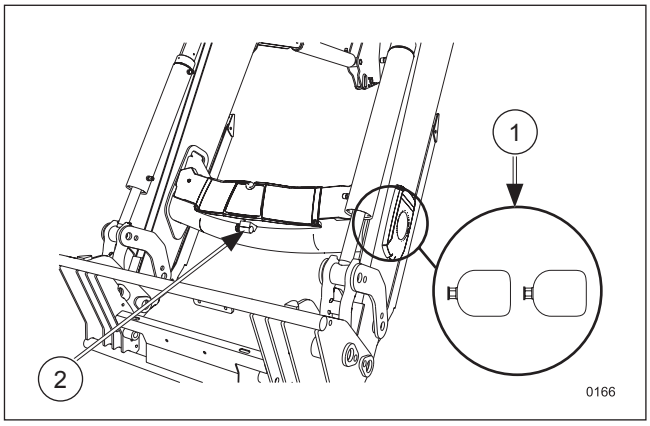
Position I = Closed

Position II = Dampers open to lift cylinders' (+)side.

Position III = Dampers open to the lift cylinders' (+)side and a drain to the lift cylinders' (-)side.

In position III, a drain takes place from the (-)side to the (+) side on the lift cylinders. This means reduced force downwards, which ceases when the control lever is moved to the neutral position.

Positions I, II and III can only be selected when the system has been de-pressurised. Lower the loader to the ground and move the control lever to float position, lift.



Mechanical deactivation of load damping.

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ALTERNATIVE 1

Variant EasyDrive LCS and ElectroDrive LCS

Joystick

The joystick control functions return from all control positions to neutral position – except for the lift and emptying float positions, and the continuous 3rd function – when the control is released.

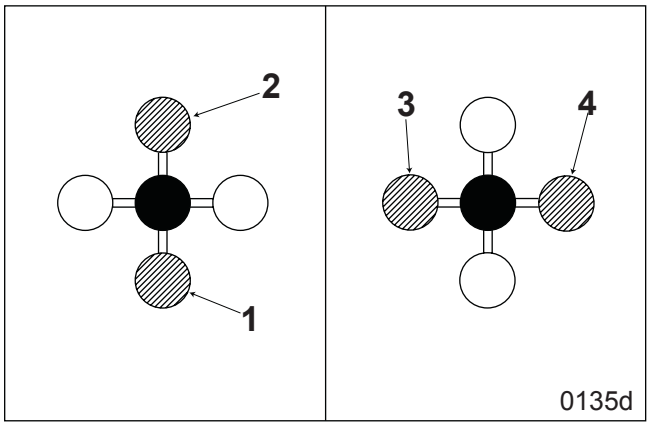
Raise/lower the loader

- Move the control backwards (1) to lift the loader.
- Move the control forwards (2) to lower the loader.

Emptying/opening up the attachment

Move the lever to the left (3) to open up the attachment.

- Move the lever to the right (4) to empty the attachment.
- .



Raise/lower the loader *Emptying/opening up the attachment*

Button functions

Caution!
The tilt position or lift position, together with bucket work or working with tools, may only be used at low speeds.

Float position, tilt

Activate:

- Press and hold F4 and move the control outwards (6) (emptying).
- Release F4 and the control. Float position, active, symbol is illuminated

Deactivate:

- Move the control inwards (opening).
- Symbol switches off.

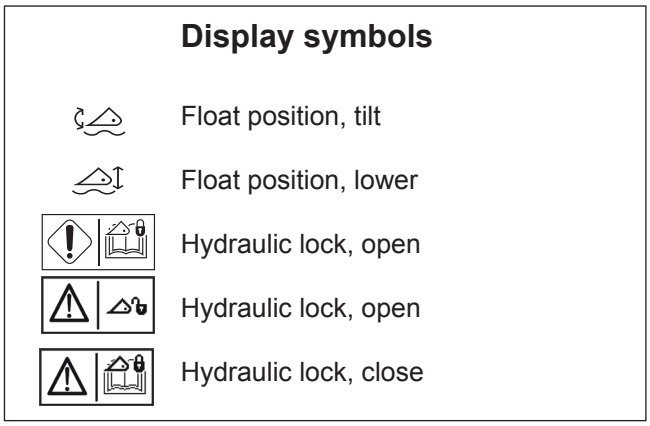
Float position, lower

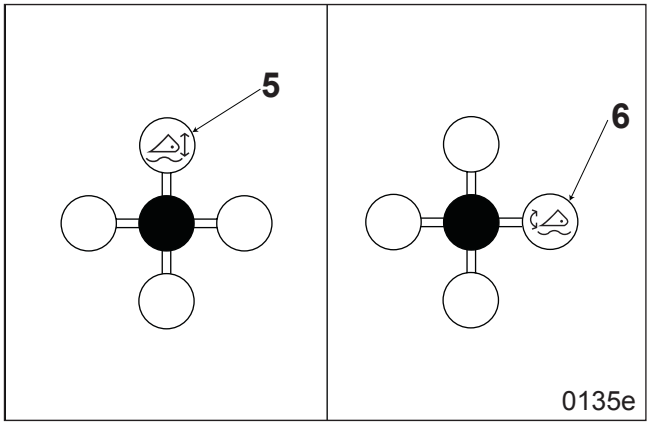
Activate:

- Press and hold F4 and move the control forwards (5) to lower.
- Release F4 and the control. Float position, active, symbol is illuminated

Deactivate:

- Move the control backwards (lifting).
- Symbol switches off





Float position, lower *Float position, tilt*

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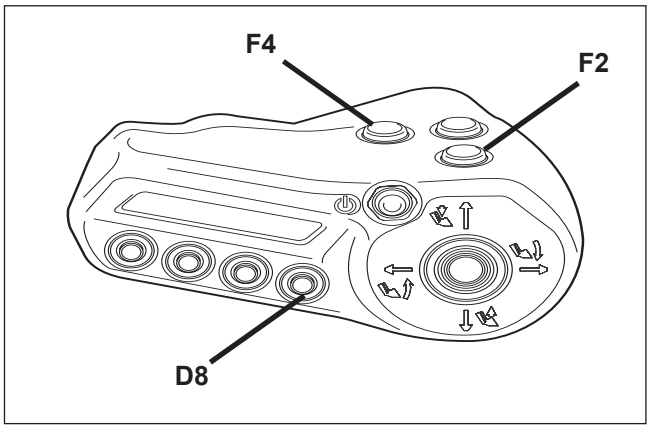
Hydraulic lock, open

- Simultaneously press F4 and D8 until the symbol ”Hydraulic lock, open” is flashing.
- Open by simultaneously pressing F2 and moving the control outwards. The symbol ”Hydraulic lock, open” is shown on the display.
- Confirm the opening is complete by pressing D8. The display stops flashing.

Hydraulic lock, close

- Lock by simultaneously pressing F2 and moving the control inwards.
- The symbol for ”Hydraulic lock, close” is shown on the display.
- The system is locked within 30 seconds if no confirmation is given by pressing F4 or D8.



Warning
Crushing and jamming risk.
Incorrectly locked implements can become loose. Always check that coupled implements are locked in place. Press the front of the tool against the ground and make a visual check that the locking lever on the tool anchorage has returned to the locked position

Load damper

Load damping (on/off) is, as standard, configured with quick select button D8.

The symbol is visible in the information section when the load damping function is activated, and disappears when the function is deactivated.

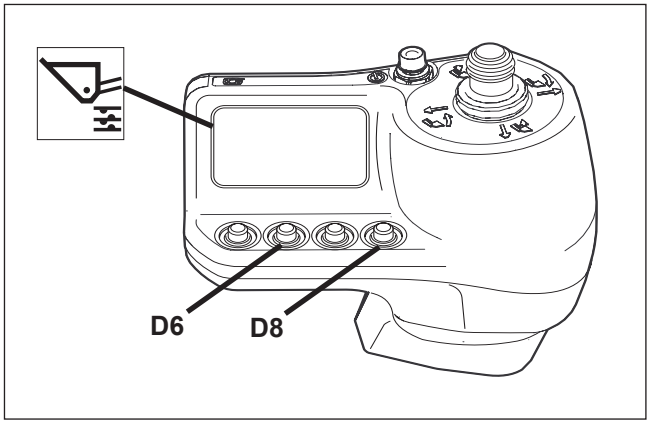
Alternatively:

Activate:

- Select the load damping symbol in the menu and confirm with D6.

Deactivate:

- Select the load damping symbol in the menu and confirm with D6.



Tortoise function

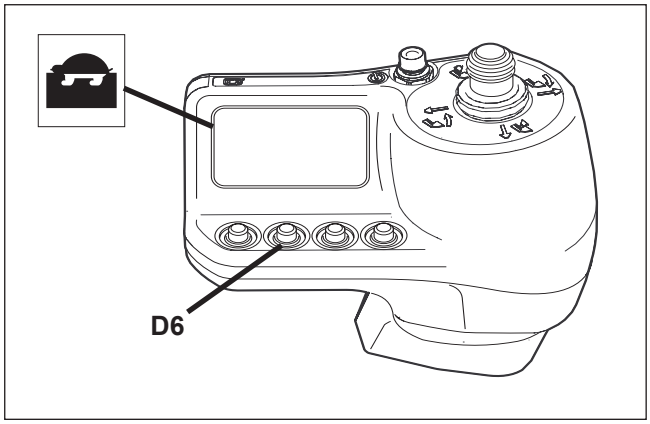
Activate:

- Select the Tortoise function symbol in the quick select menu and confirm with D6.

By default it is set in 2 steps. Press the button once to give half Tortoise power and press again to give full Tortoise power. Can be configured to between 1 and 3 steps - see configuration menu.

Deactivate:

- Select the Tortoise function symbol and press D6 until the Tortoise symbol (empty) is activated.



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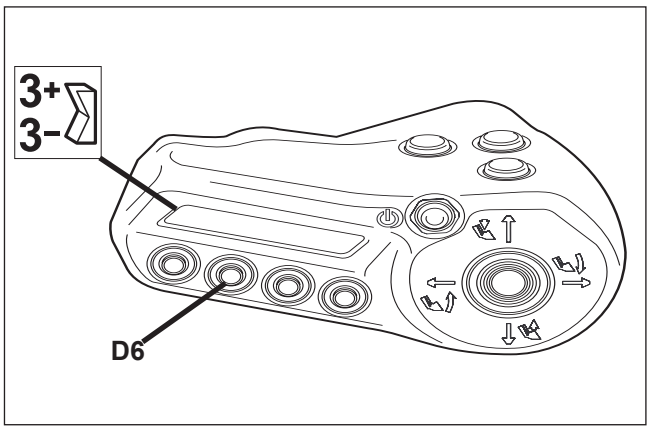
3rd function On/Off

- Select the 3rd function symbol in the quick select menu.
- Press and hold F2 or F3 to obtain the desired direction of movement.
- F2 to close (+)
- F3 to open (+)



4th function

Activate:

- Select the symbol in the quick select menu and confirm with D6.
- Press and hold F3 and hold the control sideways in the desired direction of movement.

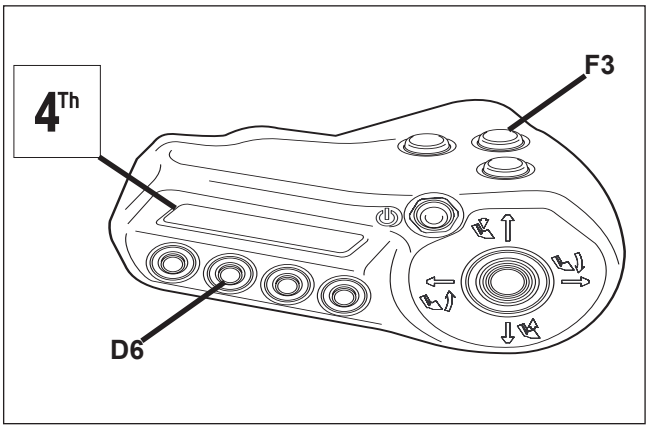
Deactivate:

- Select the symbol in the quick select menu and confirm with D6.

4th function must be activated in order to function.

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

Note! When ESV is installed and not used, the 4th function must be de-selected in the quick select menu.



Transport mode

Activate:

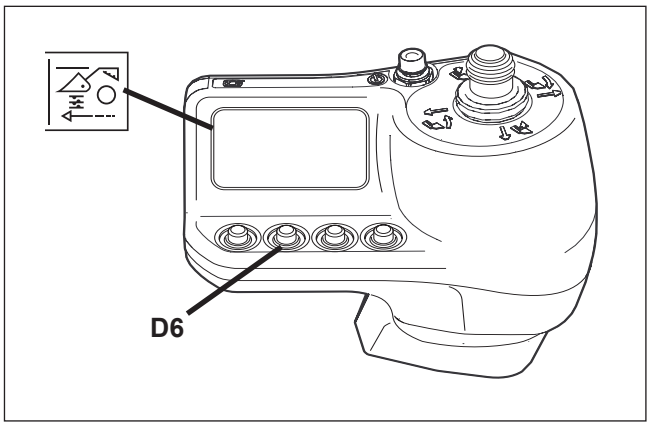
- Select the transport function symbol and confirm with D6 for at least 2 seconds; the symbol is illuminated.

Deactivate:

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

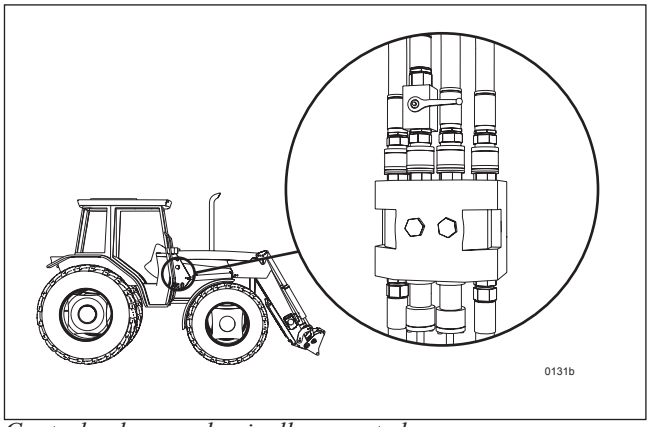
Transport mode means that the control functions are closed except the load damper that is activated.

A number of functions are described in separate manuals - see each system's user manual.



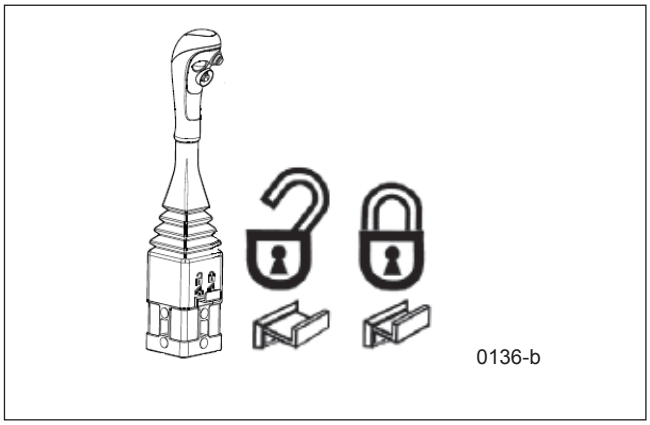
Variant ErgoDrive LCS

Control valve, mechanically operated



Control valve, mechanically operated.

The control valve is equipped with a control lever of joystick type, located by the operator's seat. The lever is connected to the hydraulic control valve via two control cables. The joystick can be locked in neutral to prevent inadvertent operation of the loader.



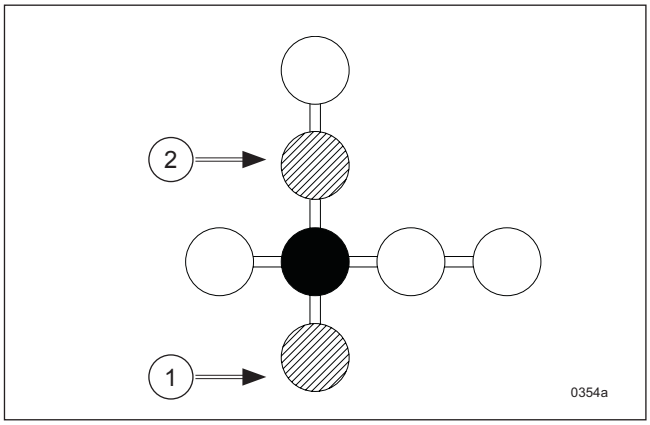
Control lever of joystick type, ErgoDrive

Operation of the loader

Raise/lower the loader

Move the lever backwards (1) to lift the loader arm.

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



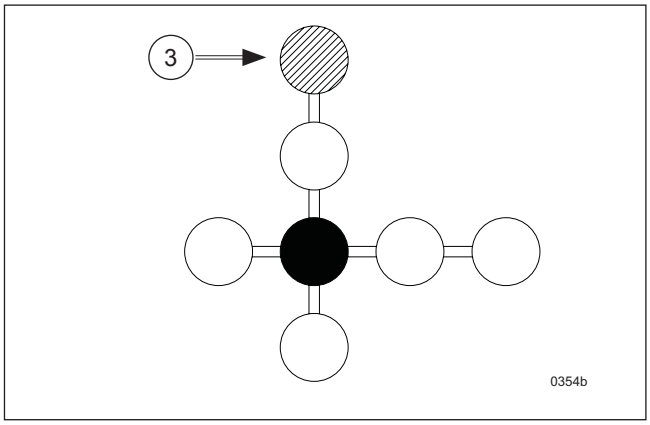
Lift/lower the load.

Float position lowering

Caution!
Float position tilt, or float position lift, in combination with work with the bucket or tool, must only be used at low speeds.

Move the lever to the float position (3) and release the lever to lower the loader arm without any downward force.

To cancel the float function, move the lever backwards somewhat (out of the float position) and release it.



Float position lowering.

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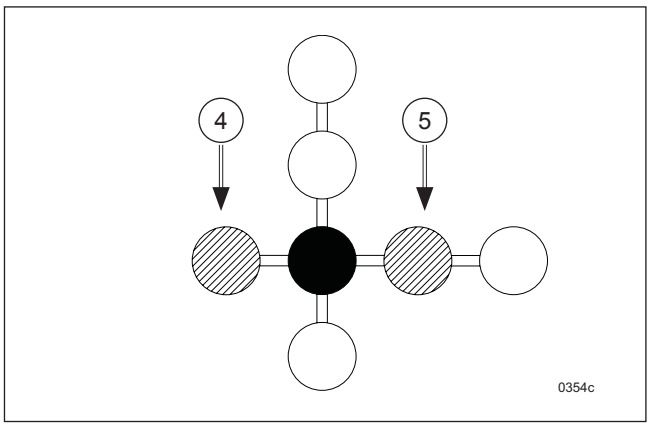
Emptying/opening up the tool

Right-hand fitting: Move the lever to the left (4) to open up the tool.

Move the lever to the right (5) to empty the tool.

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



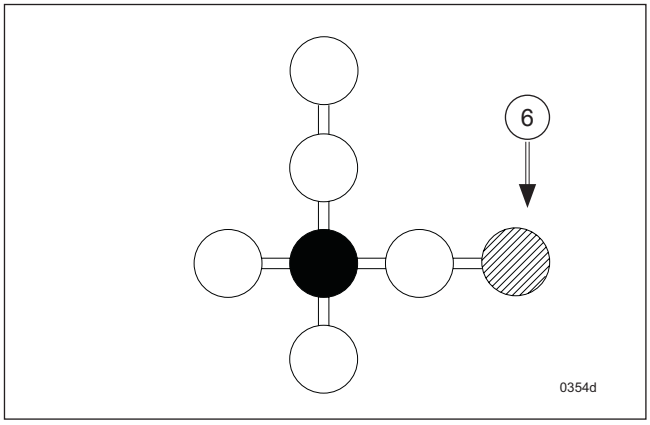
Emptying/opening up the tool.

Float position emptying

Caution!
Float position tilt, or float position lift, in combination with work with the bucket or tool, must only be used at low speeds.

To empty the tool without a downward force, move the joystick to the right to the float position (6) and release the joystick. To cancel the function, move the lever to the left (out of the float position) and release it.

Warning!
Do not use the tool's float position function together with the 3rd or 4th function. Risk for crushing and pinching injuries.

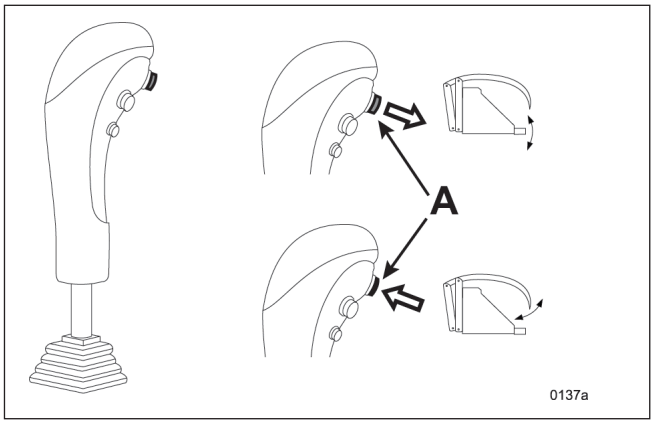


Float position emptying.

Third hydraulic function

The third hydraulic function is controlled with a switch (A) on the front of the joystick control.

Note. When the switch for the third hydraulic function is released, the control returns immediately to controlling the tool.

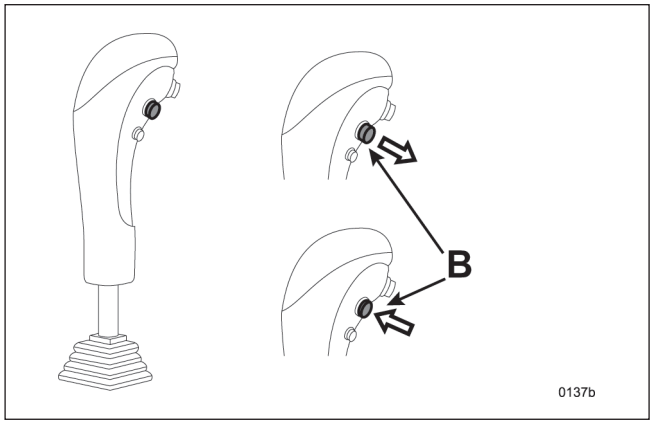


Switch for third hydraulic function.

Fourth hydraulic function

The fourth hydraulic function is controlled with a switch (B) on the front of the joystick control.

Note. When the switch for the fourth hydraulic function is released, the control returns immediately to controlling the tool.



Switch for fourth hydraulic function.

Hydraulic tool lock

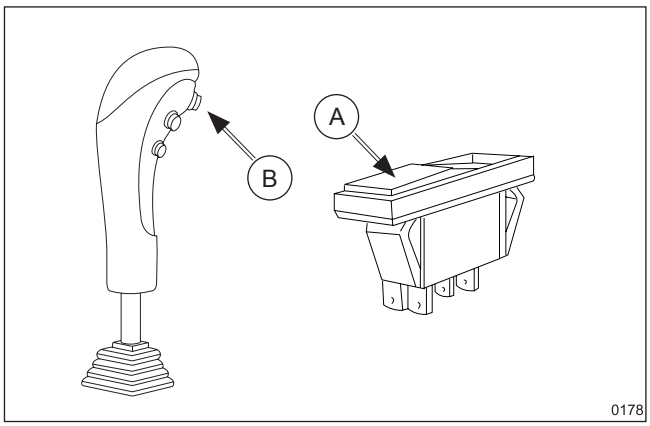
Coupling and uncoupling

Caution!
Pinch risk. The tool can come loose. Always check when a tool is changed that the tool really is locked, by pressing the front of the tool against the ground.

Operating the hydraulic tool lock.

1. Press in rocker switch (A).
2. Press in switch (B)
3. Move the joystick to the left (4) to close the hydraulic lock.
4. Move the lever to the right (5) to open the hydraulic lock.
5. See "*Emptying/opening up the tool*".

When button (A) is released it returns to off-position.



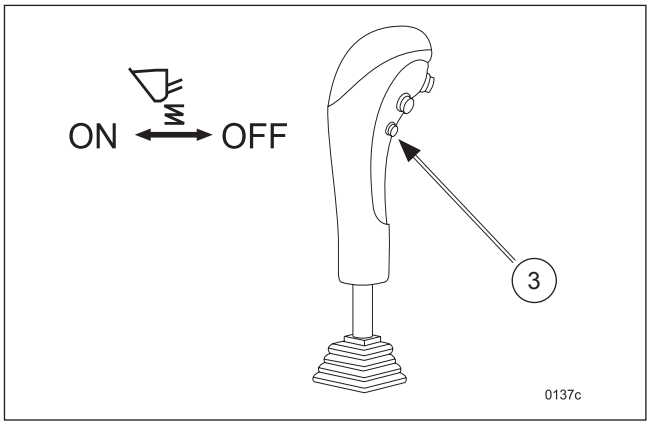
Operating the hydraulic tool lock.

Load damping

Note. When working with tools that require double-acting function, for example Silo-split, use position I on electrical deactivation.

On electrical deactivation the function of the dampers can, if required, be disabled (position I) or put into a working mode (position III) using the rocker switch (3) on the joystick.

See also the section "*SoftDrive (load damper)*".



Rocker switch for ErgoDrive.

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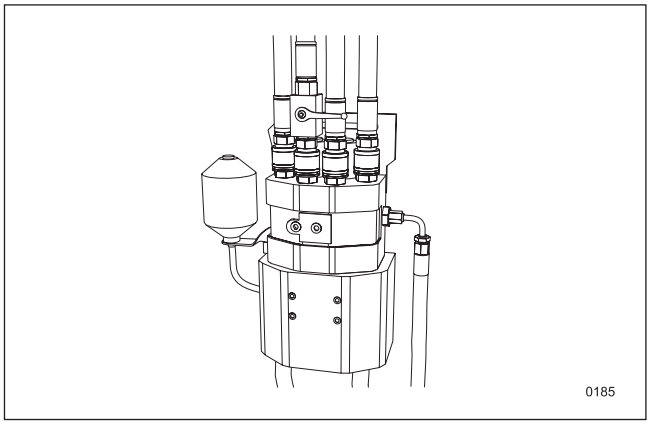
Variant ElectroDrive CDC

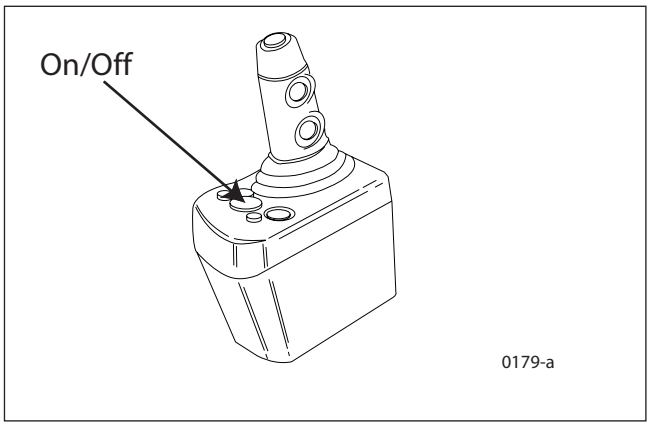
CDC control valve, electro-hydraulically operated



Control valve, el-hydraulically operated.

CDC is an electro-hydraulic control valve with a joystick-type control handle located beside the driver's seat or on its armrest. The lever is connected to the hydraulic control valve via electric cables.

The joystick can be removed to prevent inadvertent operation of the loader.



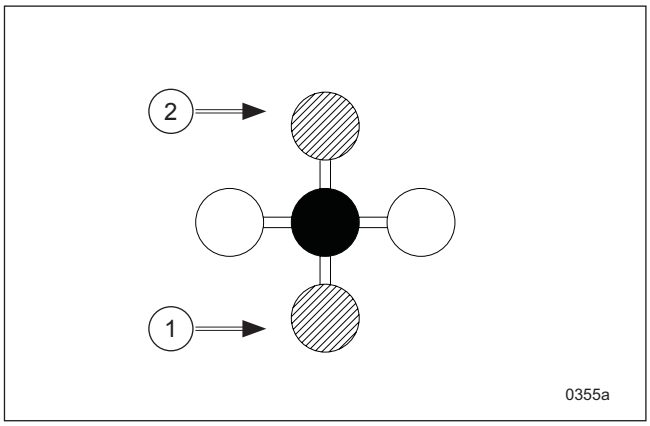
Lever of joystick-type, ElectroDrive CDC.

Operation of the loader

Raise/lower the loader

Move the lever backwards (1) to lift the loader arm.

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

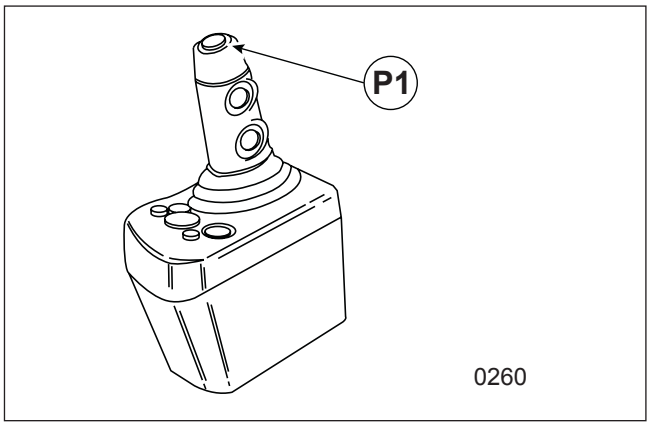


Lift/lower the load.

Loader's float position

Caution!
Float position tilt, or float position lift, in combination with work with the bucket or tool, must only be used at low speeds.

Move the lever forward to the end position and press switch P1. The float position is engaged even when the lever is in neutral. To stop the float function, move the lever backwards. The lowering movement then starts immediately.



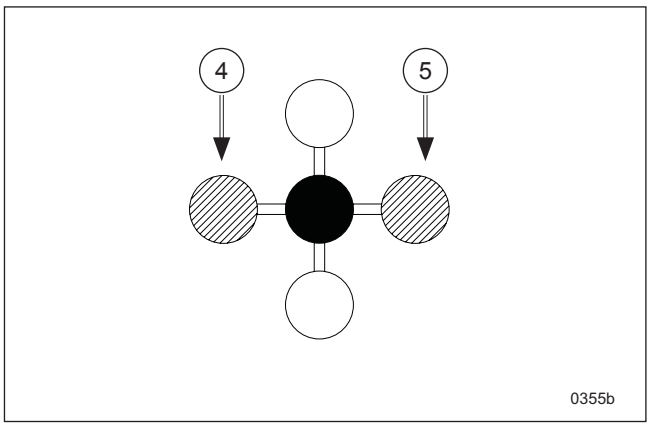
Loader's float position.

Emptying/opening up the tool

Right-hand fitting: Move the lever to the left (4) to open up the tool.

Move the lever to the right (5) to empty the tool.

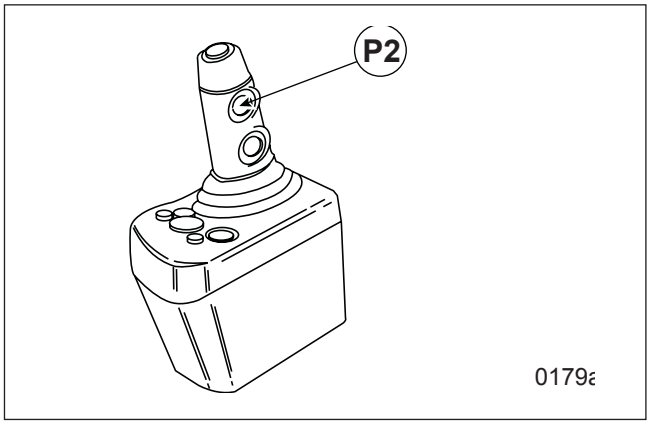
Note. The movements are reversed for left-hand fitting.



Emptying/opening up the tool.

Third hydraulic function

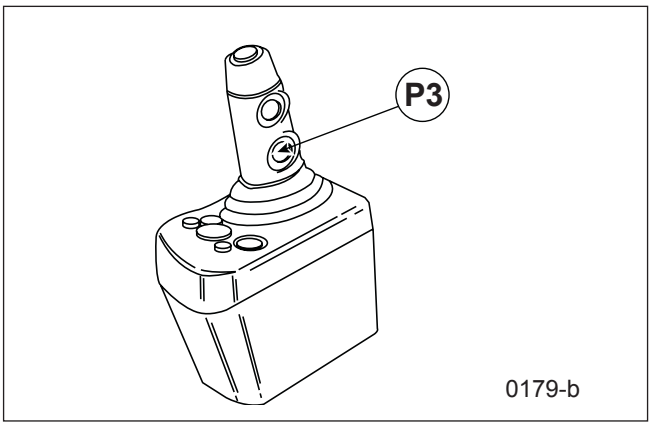
The third hydraulic function is controlled by keeping P2 pressed in/down.



Switch for third hydraulic function.

Fourth hydraulic function

The fourth hydraulic function is controlled by switch P3.



Switch for third hydraulic function.

Hydraulic tool lock

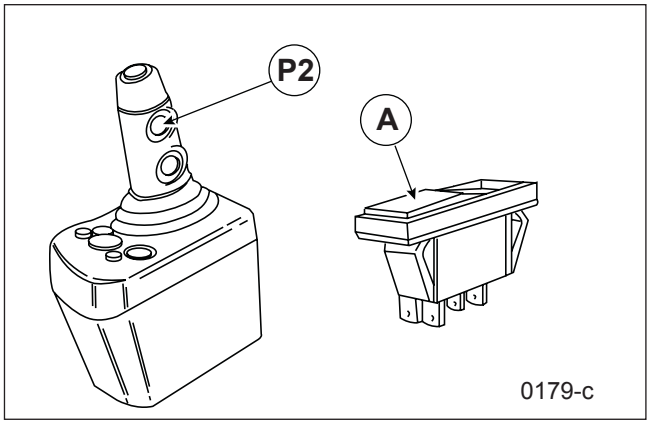
Coupling and uncoupling

Caution!
Pinch risk. The tool can come loose. Always check when a tool is changed that the tool really is locked, by pressing the front of the tool against the ground.

Operating the hydraulic tool lock.

1. Press in rocker switch (A).
2. Press in switch (P2)
3. Move the joystick to the left (4) to close the hydraulic lock.
4. Move the lever to the right (5) to open the hydraulic lock.
   See "*Emptying/opening up the tool*".

When button (A) is released, it returns to the off position and the hydraulic locking locks automatically.



Operating the hydraulic tool lock.

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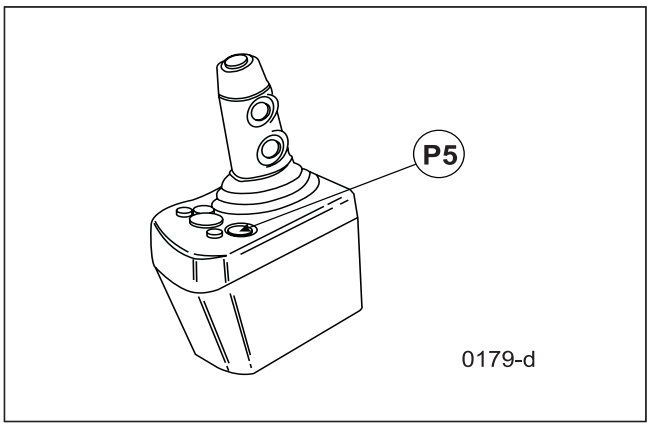
Load damping

Note. When working with tools that require double-acting function, for example Silo-split, use position I on electrical deactivation.

On electrical deactivation the function of the dampers can, if required, be disabled (position I) or put into a working mode (position III) using the rocker switch (3) on the joystick.

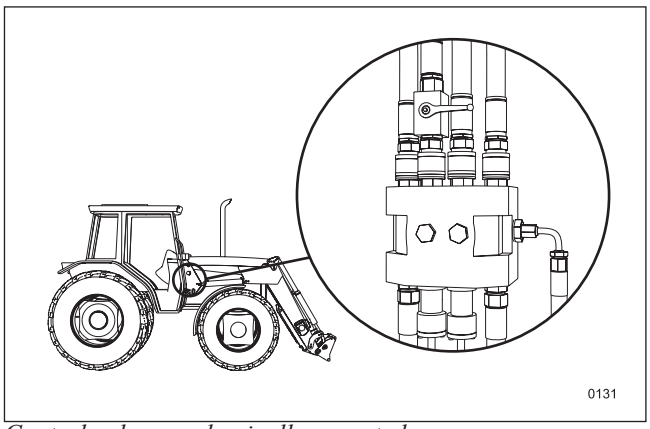
See also the section "*SoftDrive (load damper)*".



Switch for ElectroDrive CDC.

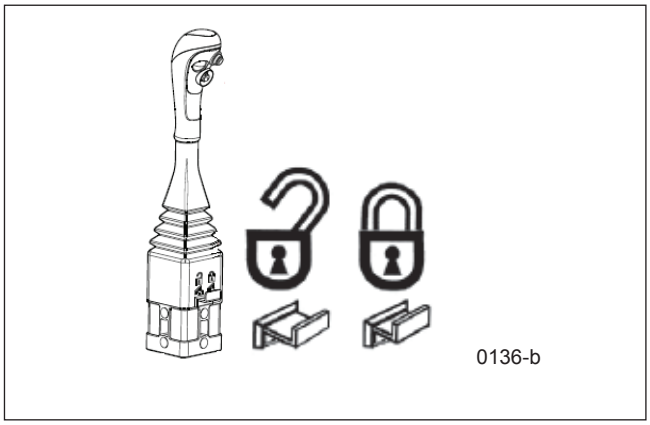
Variant ErgoDrive

Control valve, mechanically operated



Control valve, mechanically operated.

The control valve is equipped with a control lever of joystick type, located by the operator's seat. The lever is connected to the hydraulic control valve via two control cables. The joystick can be locked in neutral to prevent inadvertent operation of the loader.



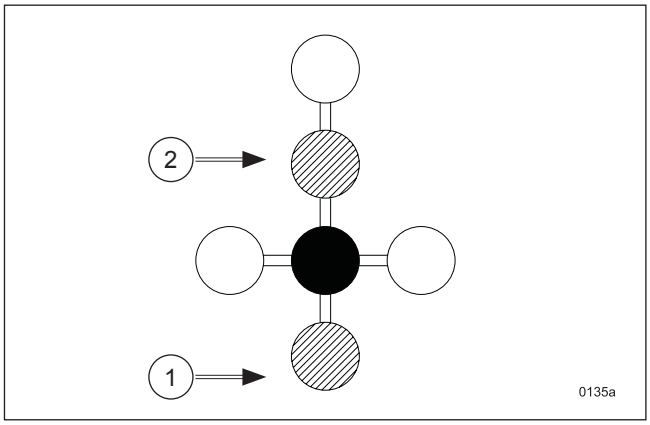
Control lever of joystick type, ErgoDrive

Operation of the loader

Raise/lower the loader

Move the lever backwards (1) to lift the loader arm.

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

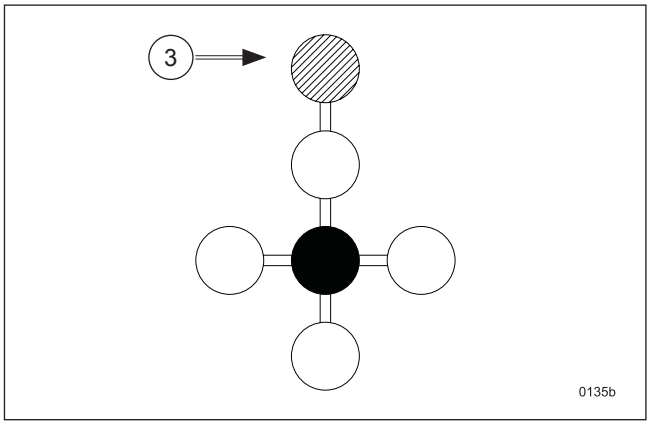


Lift/lower the load.

Loader's float position

Move the lever to the float position (3) and release the lever to lower the loader arm without any downward force.

To cancel the float function, move the lever backwards somewhat (out of the float position) and release it.



Loader's float position.

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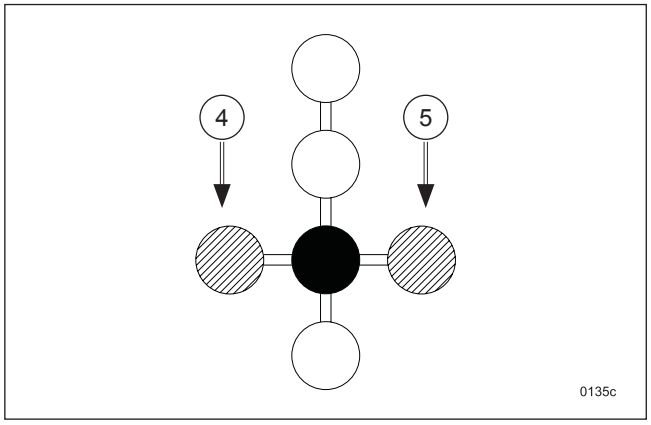
Emptying/opening up the tool

Right-hand fitting: Move the lever to the left (4) to open up the tool.

Move the lever to the right (5) to empty the tool.

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

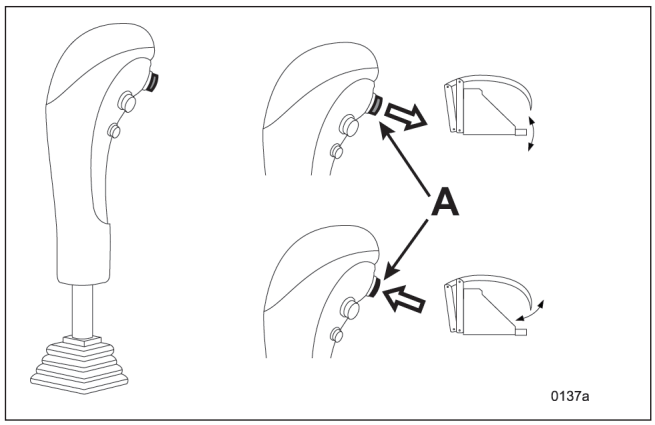


Emptying/opening up the tool.

Third hydraulic function

The third hydraulic function is controlled with a switch (A) on the front of the joystick control.

Note. When the switch for the third hydraulic function is released, the control returns immediately to controlling the tool.

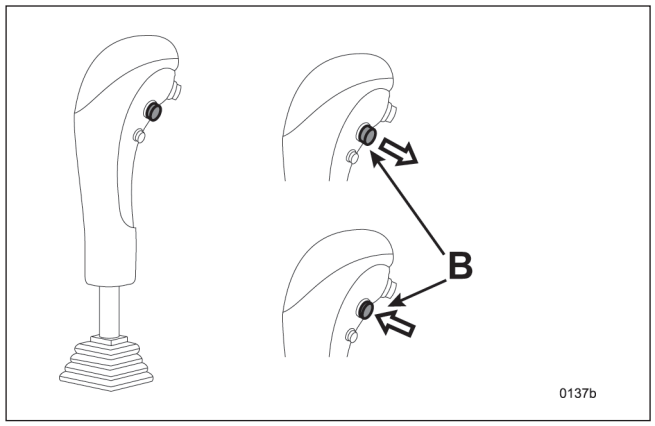


Switch for third hydraulic function.

Fourth hydraulic function

The fourth hydraulic function is controlled with a switch (B) on the front of the joystick control.

Note. When the switch for the fourth hydraulic function is released, the control returns immediately to controlling the tool.



Switch for fourth hydraulic function.

Hydraulic tool lock

Coupling and uncoupling

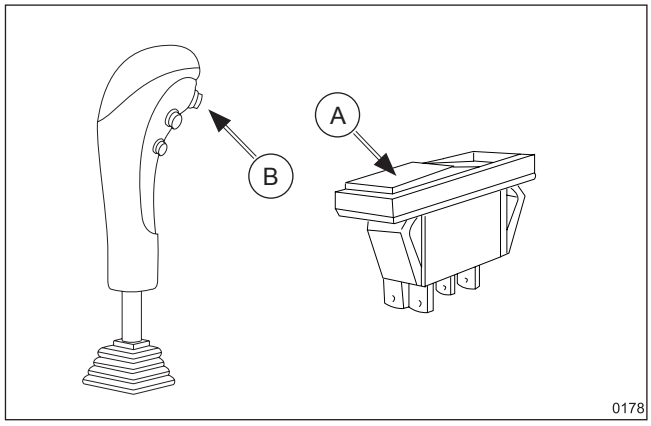
Caution!
Pinch risk. The tool can come loose. Always check when a tool is changed that the tool really is locked, by pressing the front of the tool against the ground.

Operating the hydraulic tool lock.

1. Press in rocker switch (A).
2. Press in switch (B)
3. Move the joystick to the left (4) to close the hydraulic lock.
4. Move the lever to the right (5) to open the hydraulic lock.

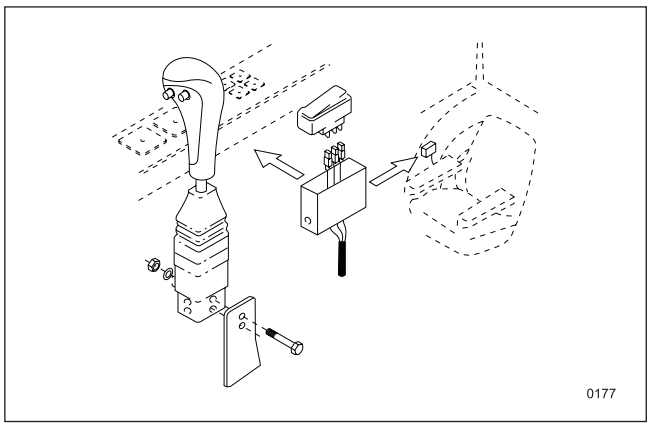
See "*Emptying/opening up the tool*".

When button (A) is released it returns to off-position.



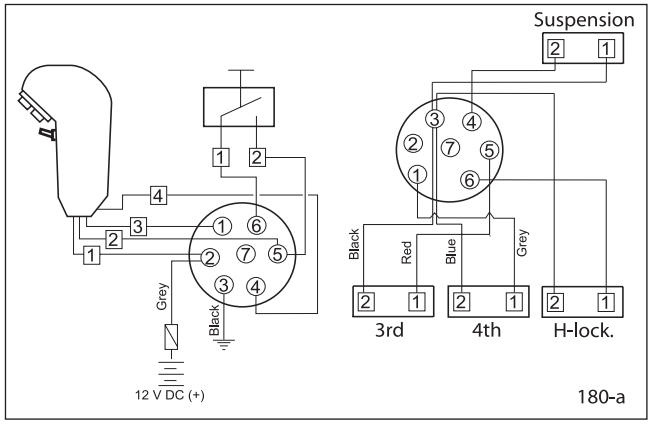
Operating the hydraulic tool lock.

A switch is located at the joystick control, or on the tractor's instrument panel.



Switch for hydraulic tool lock.

The switch is connected to the fixed connector, between pin 5 and 6, on the base in front of the cab.



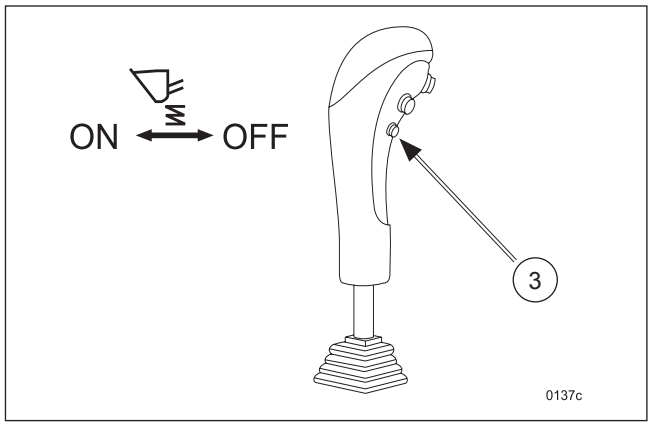
Switch connection.

Load damping

Note. When working with tools that require double-acting function, for example Silo-split, use position I on electrical deactivation.

On electrical deactivation the function of the dampers can, if required, be disabled (position I) or put into a working mode (position III) using the rocker switch (3) on the joystick.

See also the section "*SoftDrive (load damper)*".

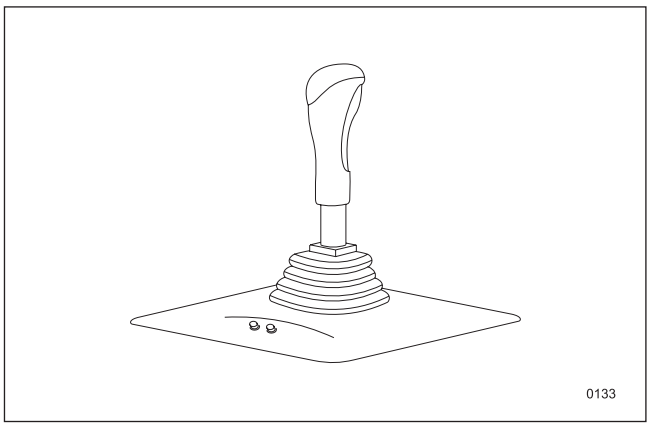


Rocker switch for ErgoDrive.

ALTERNATIVE 2

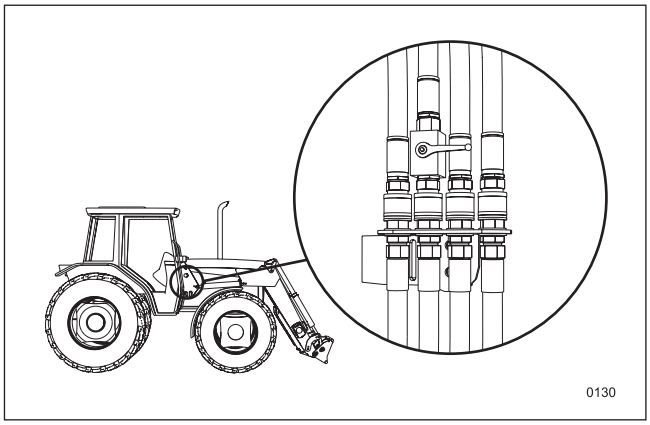
The tractor's joystick

On tractors with electronic control of the hydraulics, the control lever is located by the driver's seat. The loader is controlled by the tractor's hydraulic functions.



Control lever.

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



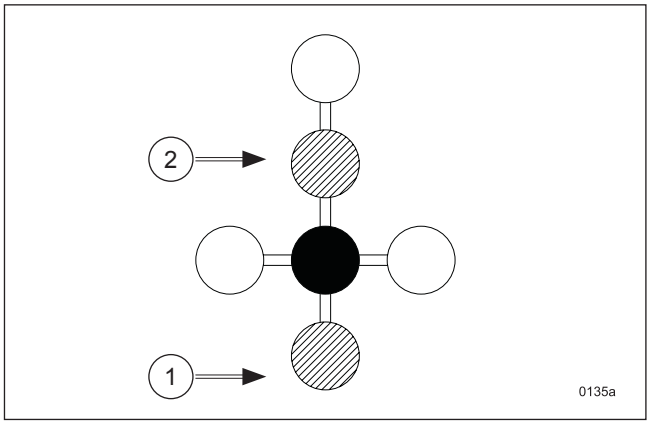
Connection, tractor to loader.

Operation of the loader

Raise/lower the loader

Move the lever backwards (1) to lift the loader arm.

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



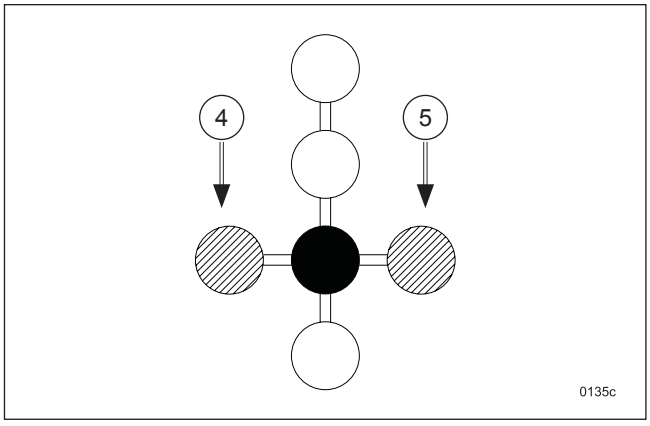
Lift/lower the load.

Emptying/opening up the tool

Right-hand fitting: Move the lever to the left (4) to open up the tool.

Move the lever to the right (5) to empty the tool.

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



Emptying/opening up the tool.

Third and fourth hydraulic function

Hose kit - tractor joystick, see the instruction manual for the tractor.

Hydraulic tool lock

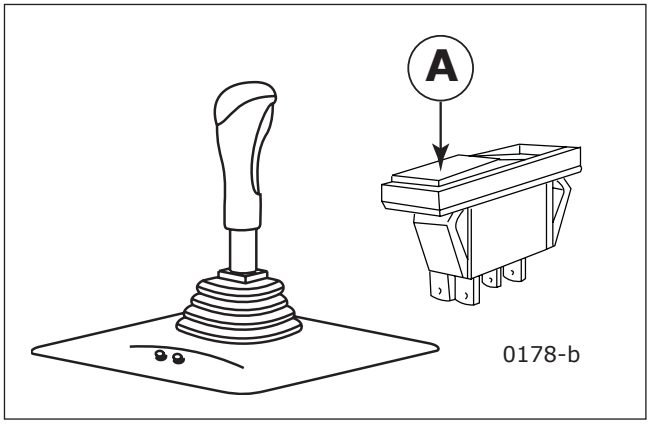
Coupling and uncoupling

Caution!
Pinch risk. The tool can come loose. Always check when a tool is changed that the tool really is locked, by pressing the front of the tool against the ground.

Operating the hydraulic tool lock.

1. Press the spring-biased button (A).
2. Activating the third function, please refer to the tractor manual.

Right-hand fitting: Move the lever to the left to close the tool lock. Move the lever to the right to open the tool lock.



Operating the hydraulic tool lock.

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Working with the loader

Warning!
Electric shock, crushing and pinch risk.
When driving with the loader lifted, make sure that there is enough room between the loader and power lines, barn roofs etc.

Caution!
Risk of crushing and trapping.
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.

Caution!
Risk of crushing and trapping.
Lower the tool to the ground, lock the brakes and shut the engine off before you climb out of the tractor. Remove the ignition key if the machine is left without supervision.

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

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

Do NOT use the loader or the bucket as a working platform.

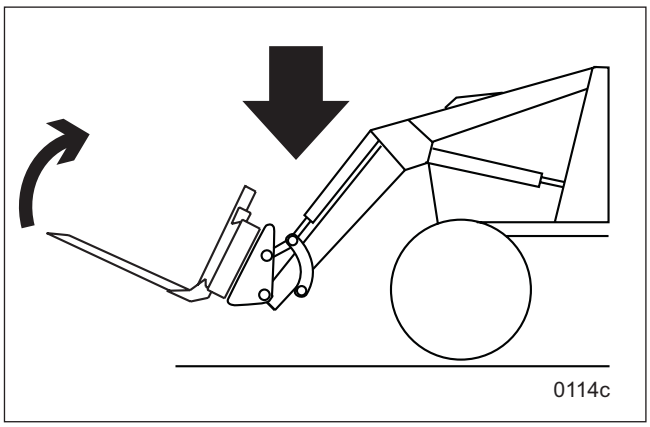
Warning!
Do NOT use the loader to lift or transport people.

- DO NOT ALLOW people who are not trained or qualified in other ways to drive the machine.

Do NOT use the loader to lift or transport people.

Always lower the loader as far as possible to give maximum visibility and allow others to see you all the time.

- Disconnect or tilt up the tool to minimise the risk of damage in the event of collision.
- Maximum speed with load in the tool is 10 km/h.
- 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 tool.



Lower the loader to obtain maximal visibility.

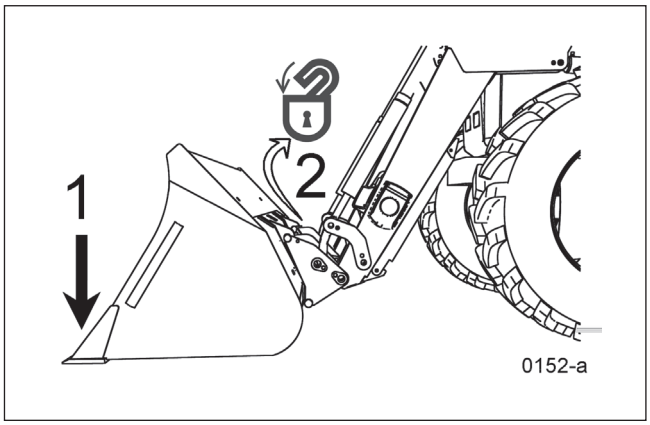
Counterweight and track

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

- Move the tyres to the widest recommended setting to increase stability.
- Read section "Operating instructions" of the instruction manual for information about the counterweight and track width. Also read the tractor instruction manual for further information.

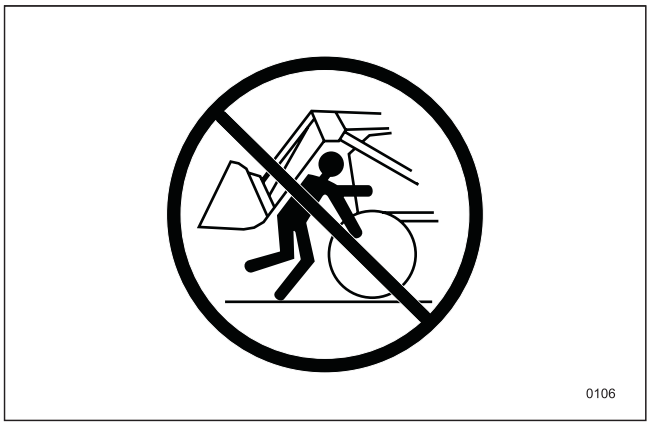
Important! Incorrectly designed tools can damage the loader. For this reason, do not install third party tools without ensuring that the tool in question has been approved by the manufacturer.

Check that the bucket or other tools are correctly installed on the tool attachment and that the pins are in the locked position. Press the tip of the tool against the ground (1) to check that the tool is firmly fixed (2).



Check that the tool is secured by pressing its front end against the ground.

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



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

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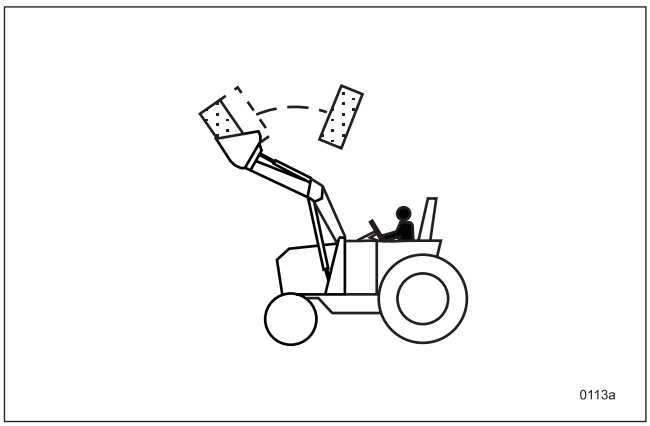
Machine stability

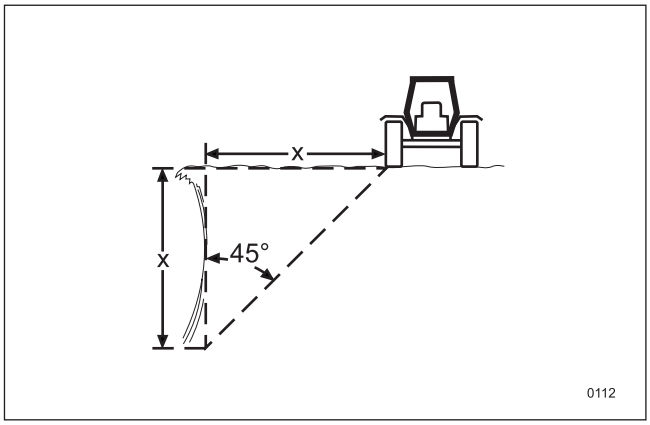
Warning!
Always look at the attachment. Objects can fall or roll backwards when the loader is raised.
Only lift loads which fit inside the tools.



Pay attention to the tool, objects may fall off.

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.

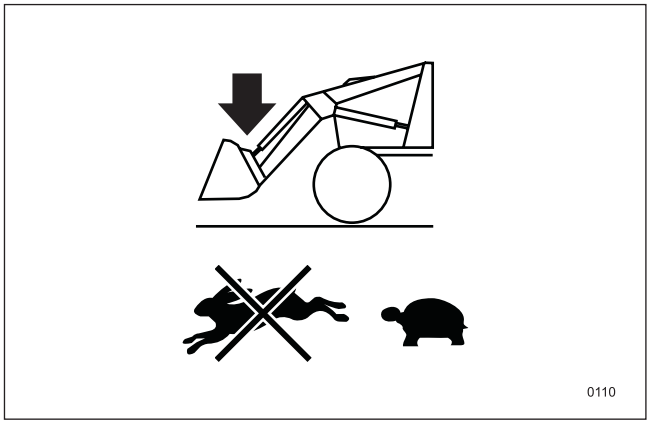
- Drive straight up / or down slopes (not obliquely). Avoid braking / driving away hastily. Lower the loader as far as possible.
- Drive the tractor forwards up slopes with an empty bucket. Fill the bucket and then reverse slowly down the slope.



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.

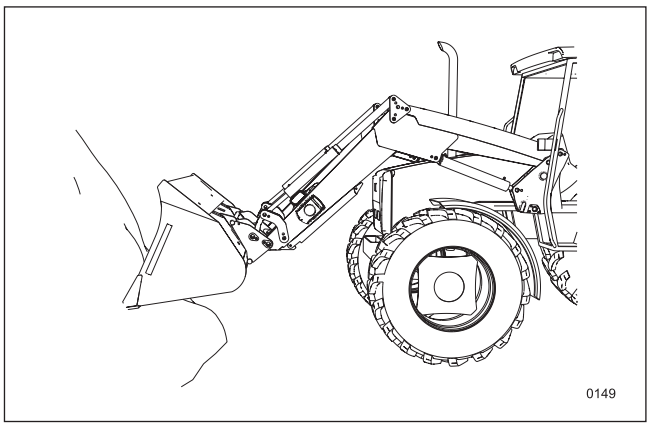
- Always leave the engine in gear to obtain engine braking when driving downhill. Do not allow the tractor to roll freely. Use the same gear when driving down a hill as when driving up.
- Lower the loader as far as possible when travelling. Keep in mind that the higher you lift the loader, the higher the centre of gravity, resulting in increased risk of the tractor overturning.



Lower the load, reduce the speed when cornering.

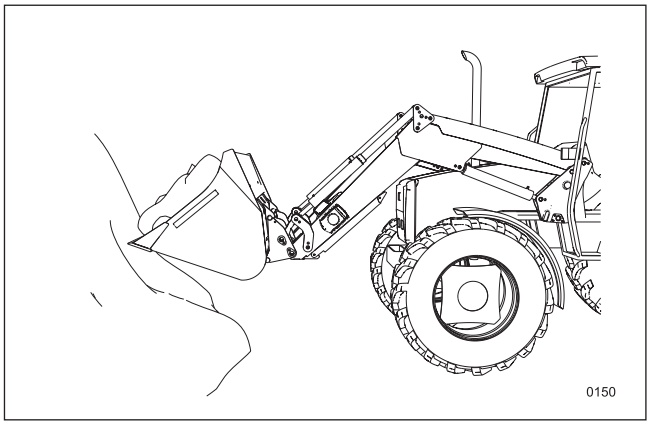
The most efficient way to fill the bucket is to drive straight into the heap with the bucket horizontal. Raise the loader somewhat when the bucket is forced into the heap, to facilitate filling. Then angle the bucket backwards to retain the load in the bucket.

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



Run straight in, lift the load and tilt back the bucket.

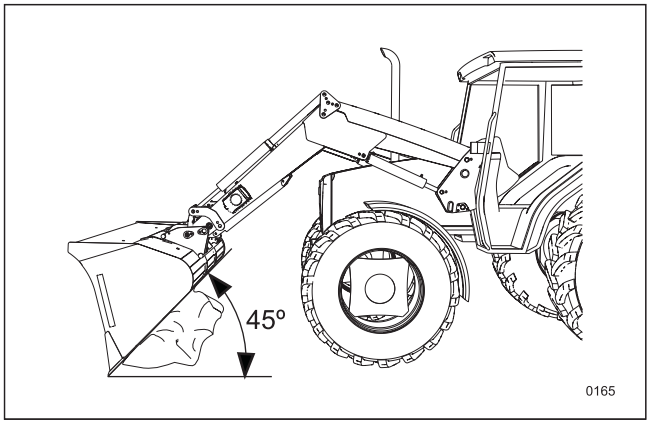
Reverse away from the heap. Lower the bucket slowly. Rapid stops in the lowering movement can damage the loader's and/or tractor's hydraulic systems.



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.



Operating technique when grading

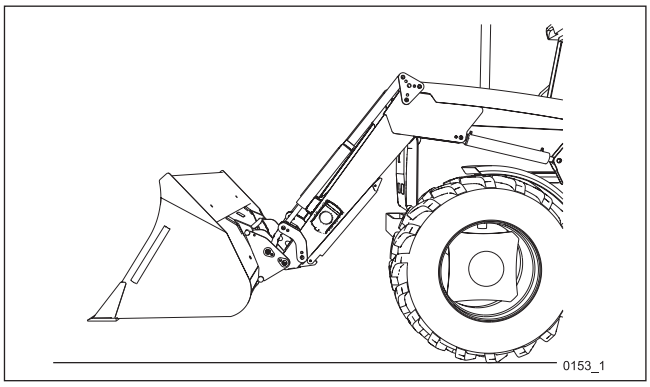
Coupling and uncoupling tools

Uncoupling tools, mechanical tool lock

Raise the loader from the ground and position the tool horizontal in relation to the ground.

Shut the engine off and lock the loader control lever in neutral.

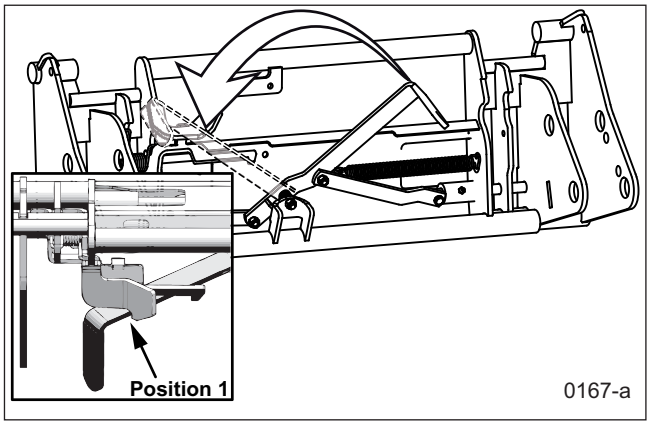
Apply the handbrake.



Lift the load horizontal to the ground, turn off the engine, lock control lever in neutral position.

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

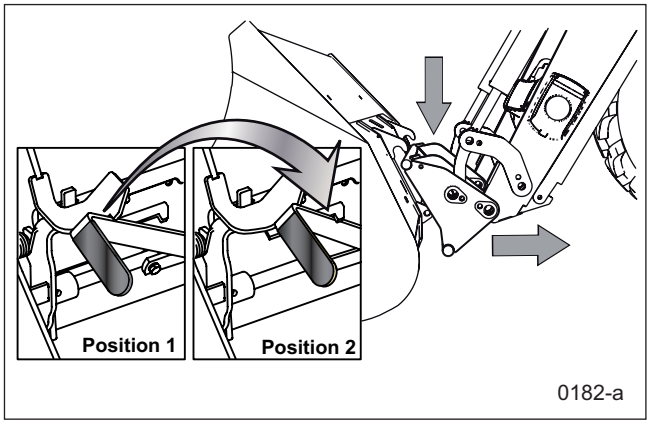
Note. It is easiest to move the lock lever to the open position if the loader has been lifted about 1 metre.



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

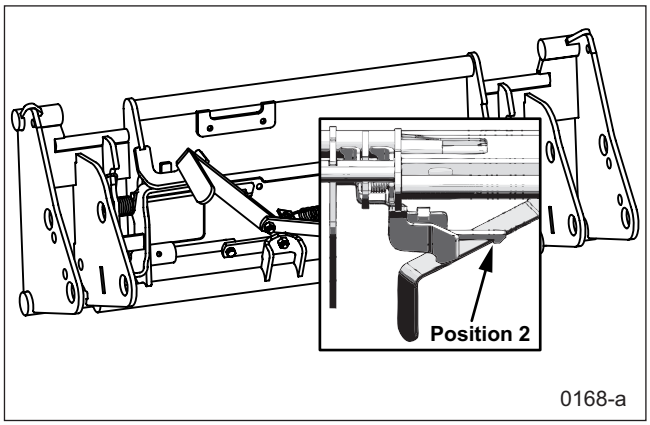
Start the engine and lower the loader to the ground until the tool can be disconnected from the loader tool attachment. The lock lever is now released and moves to position 2.

Reverse away from the tool.



Lower the loader until the tool is loose.

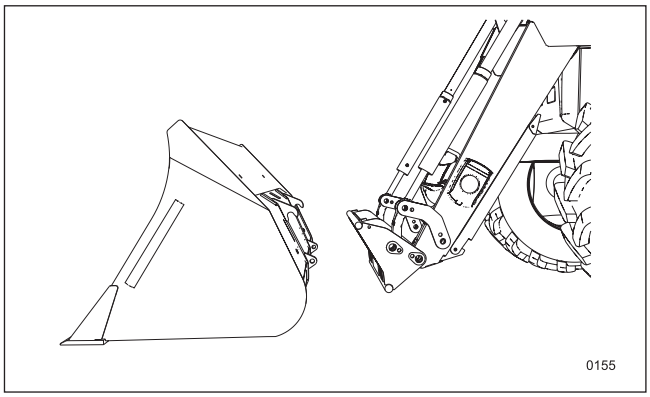
Caution!
Pinch risk.
The lock lever is spring loaded in position 2.



The lock lever is spring loaded in position 2.

Coupling tools, mechanical tool lock

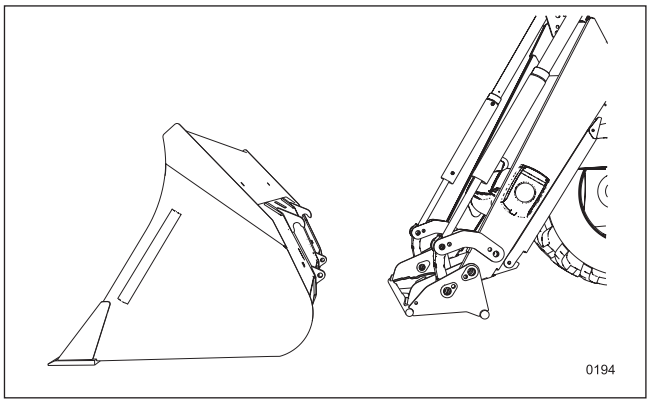
Raise/lower the loader to make the base of the tool attachment about 5 cm from the ground. Angle the tool attachment forwards slightly (use the tool position indicator as a reference).



Angle the tool attachment forwards slightly.

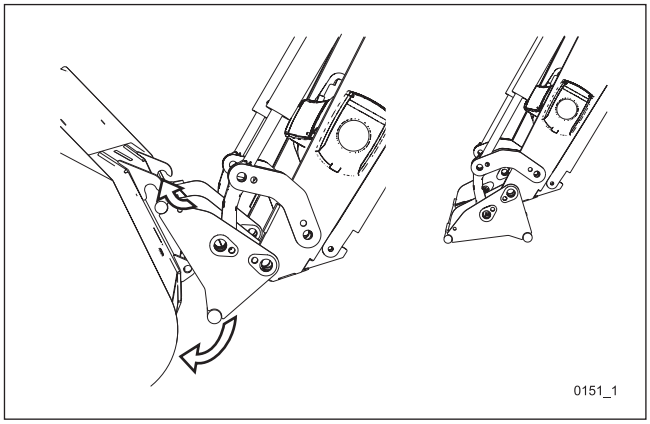
Tool frame Euro. Angle the tool attachment horizontal to improve sight.

Note. This coupling procedure must be tested in each case, depending on the combination of tool and accessory, to make sure that nothing catches.



Tool frame: Euro.

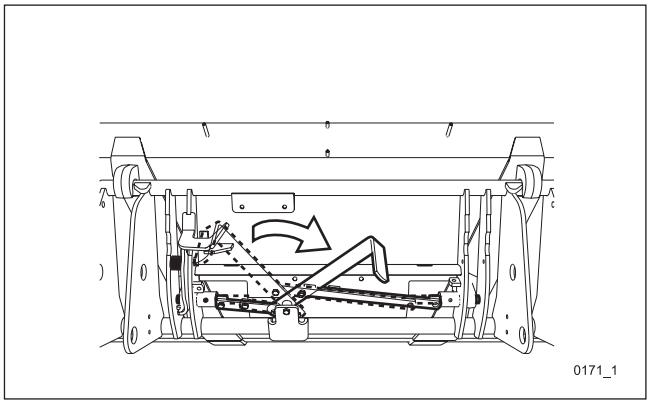
Drive the tractor forwards slowly to position the tool attachment under the hooks on the tool.



Position the tool attachment under the tool's hooks.

When the tool attachment comes into contact with the tool, lift the loader to "hook on" the tool on the attachment.

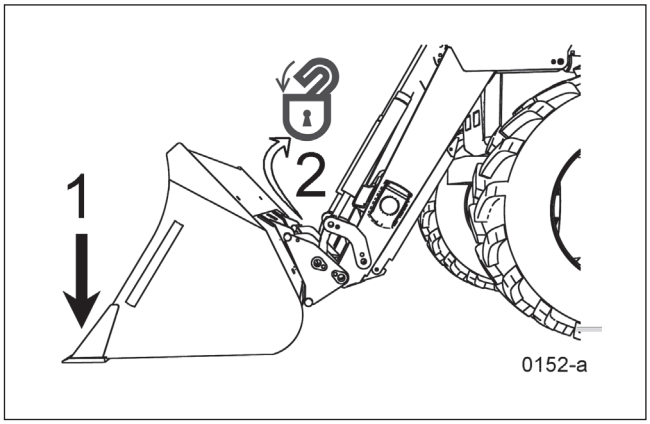
The tool attachment eye then triggers Clic-On and the tool is automatically coupled to the loader tool attachment.



Lift the loader to "hook on" the tool on the attachment.

Read this before you start to work with the tool.

Warning!
Risk of crushing and trapping.
Incorrectly locked tools can come loose.
Always check that coupled tools are locked in place. Press the front of the tool against the ground and make a visual check that the locking lever on the tool attachment has returned to the locked position.



Check that the tool is secured by pressing its front end against the ground.

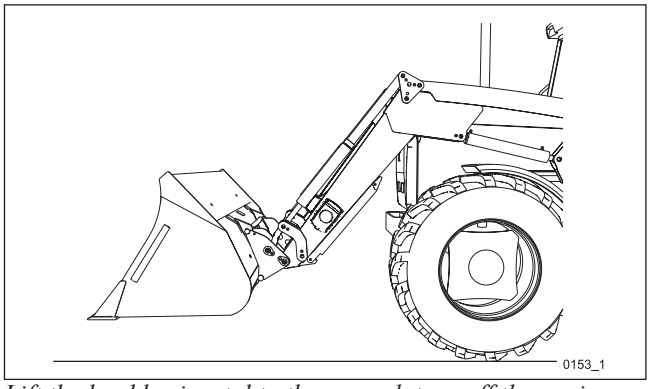
Uncoupling tools, hydraulic tool lock

Raise the loader from the ground and position the tool horizontal in relation to the ground.

Open the tool lock as described in the section "*Hydraulic tool lock*".

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

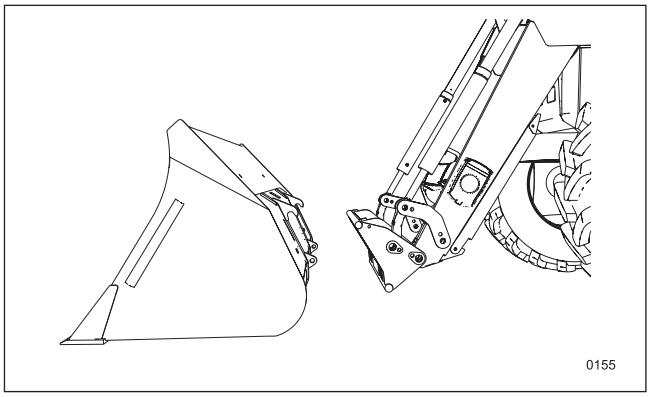
Reverse away from the tool.



Lift the load horizontal to the ground, turn off the engine, lock control lever in neutral position.

Coupling tools, hydraulic tool lock

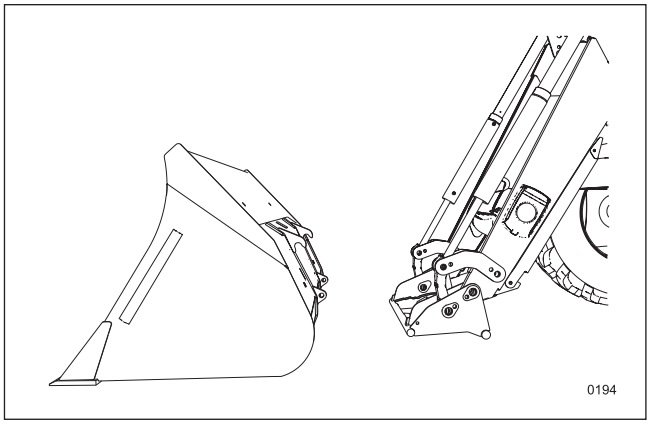
Raise/lower the loader to make the base of the tool attachment about 5 cm from the ground. Angle the tool attachment forwards slightly (use the tool position indicator as a reference).



Angle the tool attachment forwards slightly.

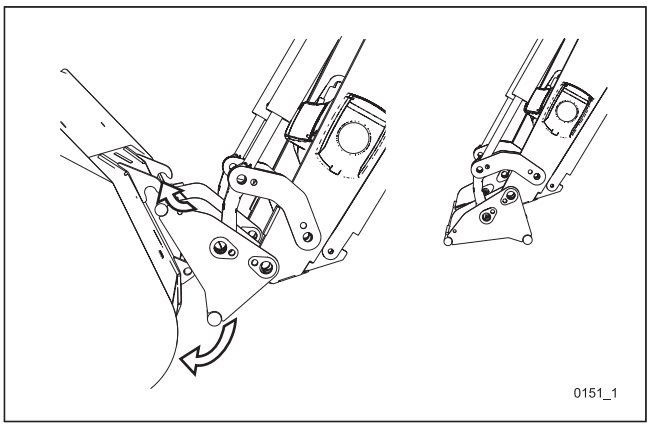
Tool frame Euro. Angle the tool attachment horizontal to improve sight.

Note. This coupling procedure must be tested in each case, depending on the combination of tool and accessory, to make sure that nothing catches.



Tool frame: Euro.

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



Position the tool attachment under the tool's hooks.

When the tool attachment comes into contact with the tool, lift the loader to "hook on" the tool on the attachment. Close the tool lock in accordance with the description in the section "*Hydraulic lock close*" for each respective control system alternative.

LUBRICATION AND MAINTENANCE

Warning!
Never stand between the front of the tractor and the loader's cross tubes.

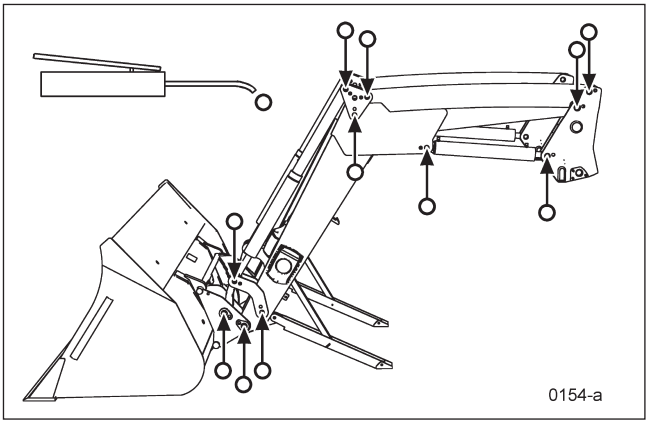
Never stand between the front of the tractor and the loader's cross tubes.

Lubrication points

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

Warning!
Risk of crushing and trapping.
The loader may fall downwards.
Lower the loader to the ground before you start greasing.

Grease nipples on every pivot pin on each side of the loader.



Grease nipples on every pivot pin on each side of the loader.

Storage

Apply a thin layer of grease on visible piston rods in order to protect them.

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 instruction book.

Hoses and cylinders

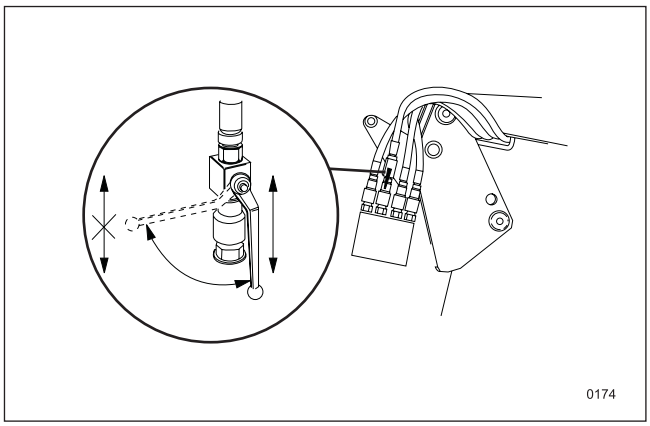
Read this before checking the hydraulic system for leakage:

Warning!
Pressurised oil.
Hydraulic oil 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 wood for leakage detection. If fluid has entered the skin then it MUST be removed within a couple of hours by a doctor who can treat this type of injury.

NEVER use fingers or hands for leakage detection.

The loader's control valve is equipped with a stop mechanism. The version may vary depending on valve type.

Warning!
This mechanism must NOT be used when working in the loader's lift cylinders or associated lines. In these cases, the loader must be lowered to ground level. Shut off the tractor engine and unload the hydraulic pressure by using the control handle before disassembling couplings or doing other work on the hydraulics - oil under high pressure can cause serious injury.

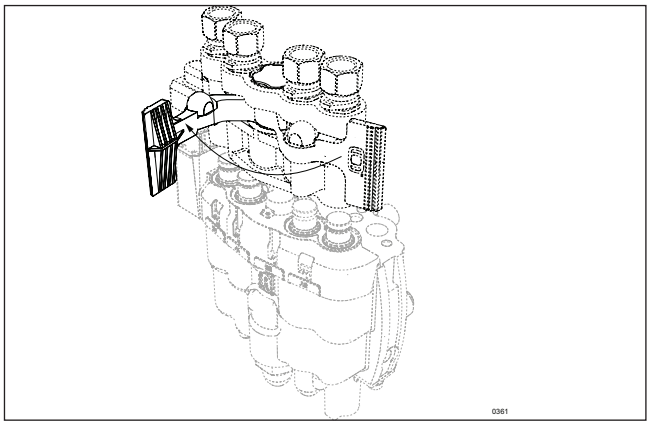


Turn the stop tap to closed position during service work.

Check hoses and connections at regular intervals with regard to wear and leakage. 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.



Open the multi-coupling to open position during service work.

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Checking the hydraulic connections

Check that all hoses and adapters are tightened and that they do not leak.

NEVER use fingers or hands for leakage detection.

Repairing the hydraulic cylinders

The removal, repair and fitting of the hydraulic cylinders require special tools in order to prevent damage to internal components. We recommend that a cylinder that needs repair should be sent to an authorised dealer for repair.

Checking the base screws

Check that all screws are tightened to the specified torque, first time after 10 hours of operation and then every 50 hours of operation. Please refer to the table below for torque values.

Tightening torques - Screws

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

The torques specified below apply to clean, dry threads. Lubricated threads can mean that the fastener is tightened too hard. Damaged or dirty thread can cause torque values which are too low.

A torque amplifier can 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.

Grade 5 (Class 8.8) Screw	
Diameter	Incident
1 /4"	10 lb-ft (13.6 Nm)
5/16"	20 lb-ft (27.1 Nm)
3/8"	35 lb-ft (47.5 Nm)
7/16"	55 lb-ft (75 Nm)
1/2"	85 lb-ft (100 Nm)
5/8"	170 lb-ft (230 Nm)
3/4"	300 lb-ft (405 Nm)
M8	27.1 Nm (20 lb-ft)
M10	54.2 Nm (40 lb-ft)
M12	94.9 Nm (70 lb-ft)
M14	119.3 Nm (88 lb-ft)
M16	189.8 Nm (140 lb-ft)
M20	385 Nm (284 lb-ft)

Grade 8 (Class 10.9) Screw	
Diameter	Incident
1 /4"	11 lb-ft (14.9 Nm)
5/16"	24 lb-ft (32.5 Nm)
3/8"	44 lb-ft (59.7 Nm)
7/16"	71 lb-ft (96.3 Nm)
1/2"	114 lb-ft (154.6 Nm)
5/8"	222 lb-ft (301 Nm)
3/4"	325 lb-ft (440.6 Nm)
M8	32.5 Nm (24 lb-ft)
M10	63.7 Nm (47 lb-ft)
M12	108.4 Nm (80 lb-ft)
M14	176.3 Nm (130 lb-ft)
M16	271.2 Nm (200 lb-ft)
M20	542.3 Nm (400 lb-ft)

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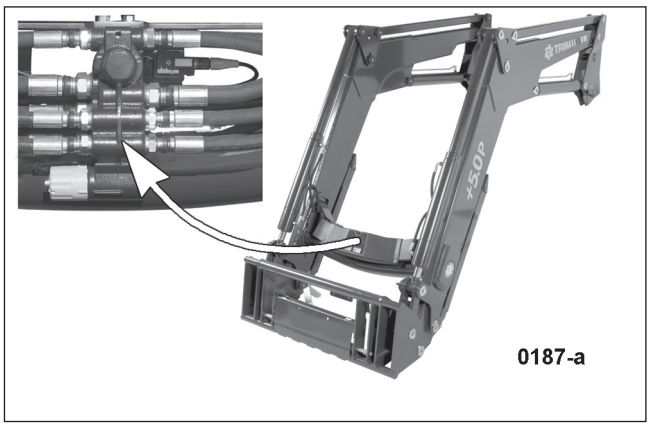
Compact Valve

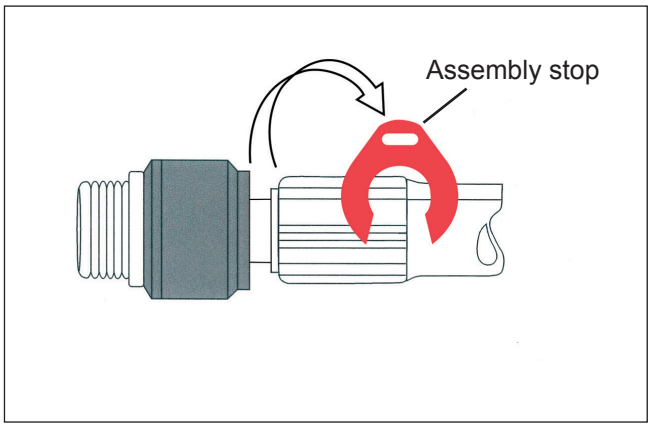
Connect and Disconnect “plug in coupling”

Q Compact Valve receives and distributes the hydraulic oil equally to each side of the loader. The quick couple connectors allows for quick hydraulic hose change in case of failure.



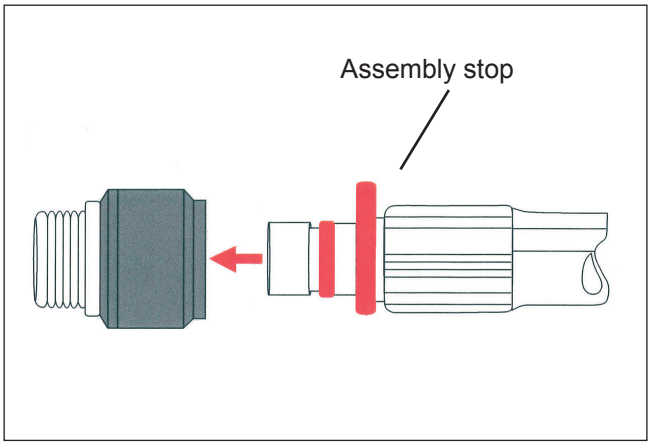
Disconnection

1. Remove the assembly stop.
2. Push the hose all the way in.
3. The coupling is now ready to disconnect.
4. Pull the hose back for disconnection.



Connection

1. Make sure that the assembly stop is in place.
2. DO NOT connect the plug without the assembly stop.
3. Push the hose all the way in until the assembly stop touches the socket.
4. Make sure that there is no space between the assembly stop and the socket.
5. Try to pull apart the coupling in order to make sure that the hose is locked.



FAULT TRACING

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 instruction book. Incorrect 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 may cause slow movements and/or that the loader does not work in a normal way until normal operating temperature has been reached. Check that the oil is at normal operating temperature before the loader is tested.
- When a hose kit is used, make sure that the tractor valve has been adjusted for double action. Check that flow control has been set to maximum value.
- Operate the loader cylinders to their end positions several times to remove air from hoses and cylinders.

Most problems which occur with the loader are simple in nature and can be easily rectified. Use the "Troubleshooting table" on the following pages to help you localise and solve problems.

Please contact your dealer if you need more help.

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Problem	Possible cause	Action
Lifting and tool cylinders do not function	Low hydraulic oil level.	Check and top up with hydraulic oil.
	Hydraulic hoses wrongly connected.	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 main reduction valve has stuck open.	Contact your dealer
	Low system pressure from pump.	Contact your dealer
Lift or tool cylinders not working	Break in control cable for control valve.	Inspect. Change if necessary.
	Hydraulic quick-release couplings not fully inserted.	Check coupling. Change coupling(s) as 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.
Lift and/or tool cylinders working in the wrong direction compared to lever deflection	Hydraulic hoses wrongly connected.	Connect hydraulic hoses to correct union.
	Control cables for single lever control wrongly connected.	Contact your dealer.
Air in hydraulic oil (generally shown by foaming)	Low hydraulic oil level.	Check and top up with hydraulic oil to correct level.
	Air leakage in hydraulic pump suction side	Contact your dealer.
	Foaming due to use of wrong type of oil.	Read the tractor instruction manual and use the recommended type of hydraulic oil.
Slow or jerky lifting movement	Low hydraulic oil level. Cold hydraulic oil.	Check/top up the hydraulic oil. Let the hydraulic oil 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 oil.	See ”Air in hydraulic oil”.
	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.
	Low capacity in hydraulic pump.	See ”Low pump capacity”.

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Problem	Possible cause	Action
Noise from the system's pressure limiting valve (squeaking)	Cold hydraulic oil.	Let the hydraulic oil 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.
	Pistons in lifting cylinders leak.	Contact your dealer
	Internal leakage in control valve.	Contact your dealer.
	Damaged hydraulic pump.	Contact your dealer.
The loader lowers when the control valve coil is in neutral position. Note: The value at which the loader is allowed to lower varies between 0.5-1.5 mm / min. measured on the piston rod, depending on loader model.	Pistons in lifting cylinders leak.	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. (Centering of lever)	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 oil 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.
Low pump capacity	Cold hydraulic oil.	Let the hydraulic oil warm up to working temperature. Increase engine speed.
	Engine speed too low.	Increase engine speed.
	Low hydraulic oil flow.	Please refer to the tractor instruction 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.
Bucket cylinder piston rods are bent when bucket cylinders are extended.	Grading or excavation work with bucket cylinders fully extended.	Contact your dealer.

ACCESSORIES

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

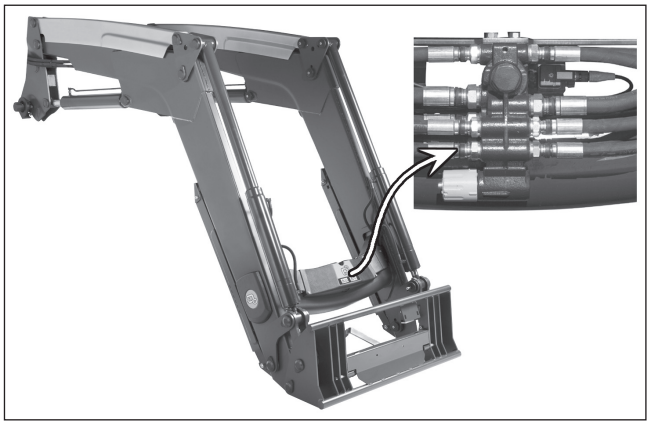
ElectroDrive CDC

Electro-hydraulic control system which offers proportional and precise control. Can be installed at any location in the driver's cab and contributes to better, ergonomic work allocation.

ElectroDrive CDC.

Extra hydraulic function, Q Compact Valve

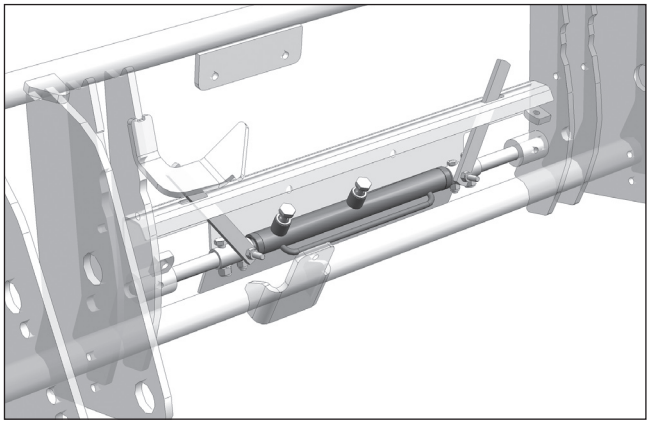
3:rd and 4:th hydraulic function. The electric valves are used for hydraulic tools. 3rd function is required for hydraulic tool lock.



Extra hydraulic function.

Hydraulic tool locking, Q Lock

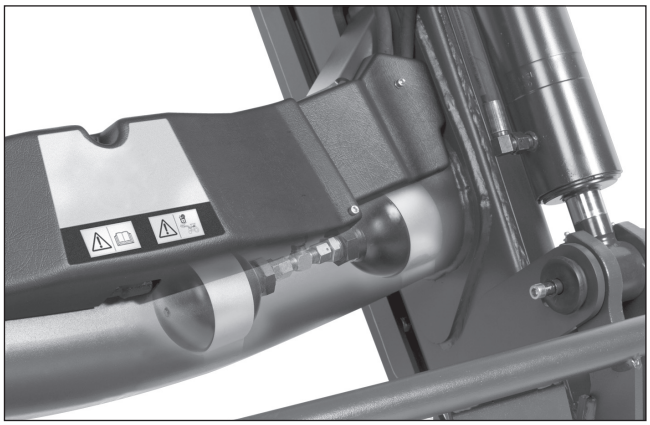
Allows tools to be locked and unlocked without leaving the driver's seat. Requires the 3:rd hydraulic function.



Hydraulic tool locking.

Load damper, SoftDrive

Reduces stresses on tractor and loader, and improves operator comfort.



Load damper.

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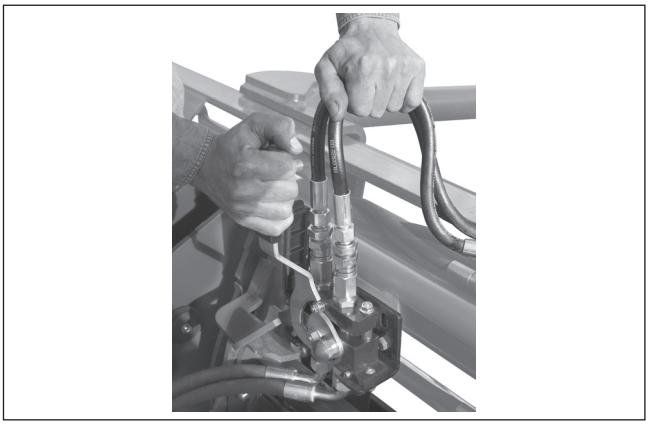
Electric shut-off load damping function

Closes and opens load damping function. Position I (closed) and position III (open).

Electric shut-off of load damping function.

Hydraulic connection tool, Selecto Fix

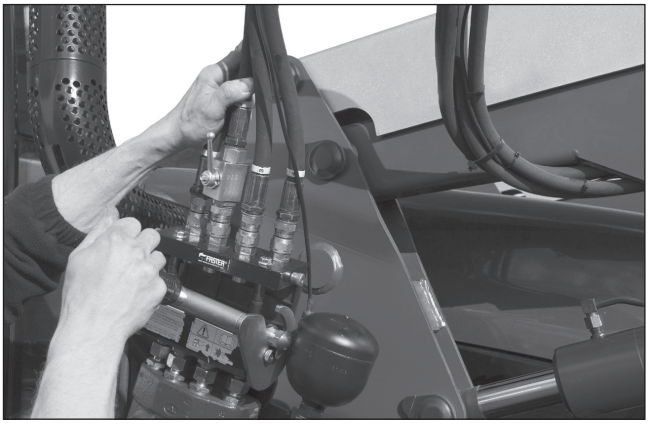
Function for connecting and disconnecting hydraulics for hydraulic tools. Eliminates the risk of incorrect connection and oil spill.



Hydraulic connection to tool.

Hydraulic connection loader, Hydro Quick

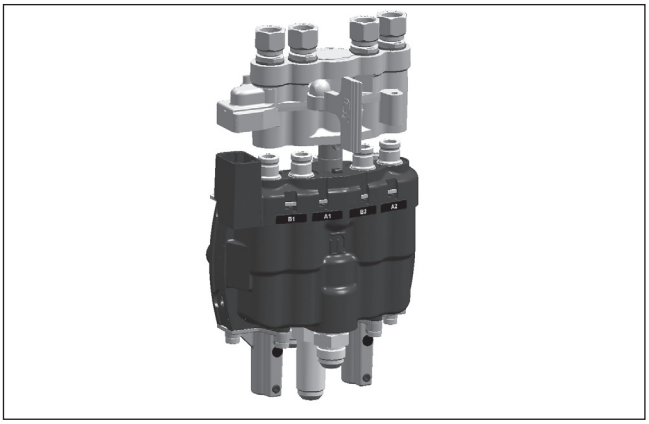
Function for connecting and disconnecting hydraulics for the loader. Eliminates the risk of incorrect connection and oil spill.



Hydraulic connection to loader.

Hydraulic connection, loader, MC 4

Function for connecting and disconnecting hydraulics for the loader. Eliminates the risk of incorrect connection and oil spill.



Hydraulic connection to loader.

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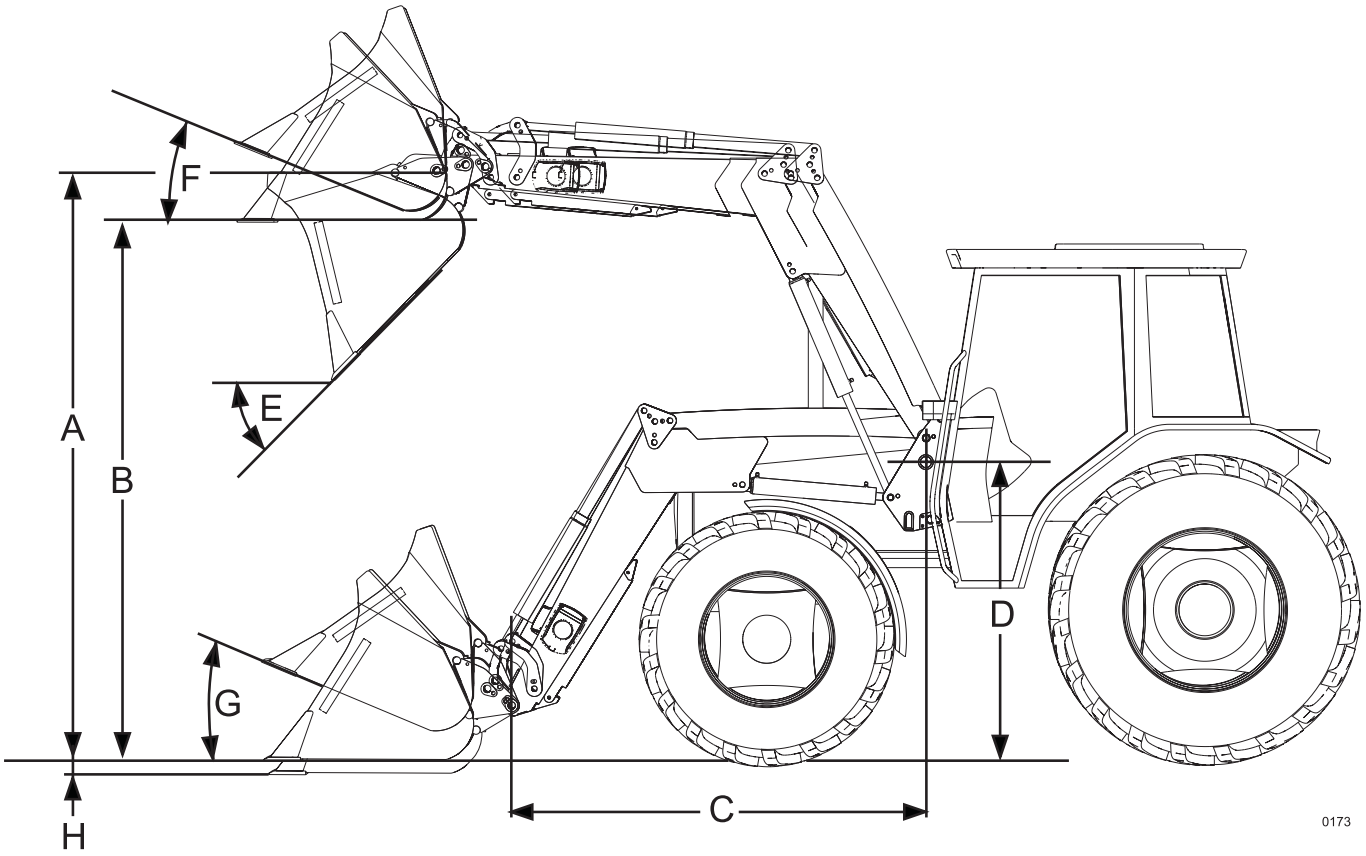
DATA



		Parallel movement							Not parallel movement				
		Q25	**Q35**	**Q45**	**Q55**	**Q65**	**Q75**	**Q85x**	**Q20**	**Q30**	**Q40**	**Q50**	**Q60**
A	Lifting height to pivot point (B+250)	3.20	3.50	3.75	4.00	4.25	4.50	4.95	3.20	3.50	3.75	4.00	4.25
B	Lifting height below flat tool	2.95	3.25	3.50	3.75	4.00	4.25	4.70	2.95	3.25	3.50	3.75	4.00
C	Dimension to pivot point	1.52	1.71	1.91	2.13	2.38	2.57	2.70	1.52	1.74	1.91	2.13	2.38
D	Calculated height to pivot point	1.53	1.57	1.65	1.70	1.72	1.81	1.93	1.53	1.57	1.65	1.70	1.73
E	Tipping angle on top	55	58	59	55	53	52	49	55	58	59	55	52
F	Breaking up angle on top	45	55	54	57	57	59	60	125	132	131	133	132
G.	Breaking up angle at ground level	41	45	43	44	44	43	44	41	45	43	44	44
H	Calculated undermining	0.1-0.15											
	Max lifting force kg (80 cm from arm centre at ground level).	1450	1500	1900	2050	2300	2500	3700	1200	1400	1750	1900	2150

Technical data can vary, depending on tractor model and tool.

Max hydraulic pressure 21 MPa / 3045 psi

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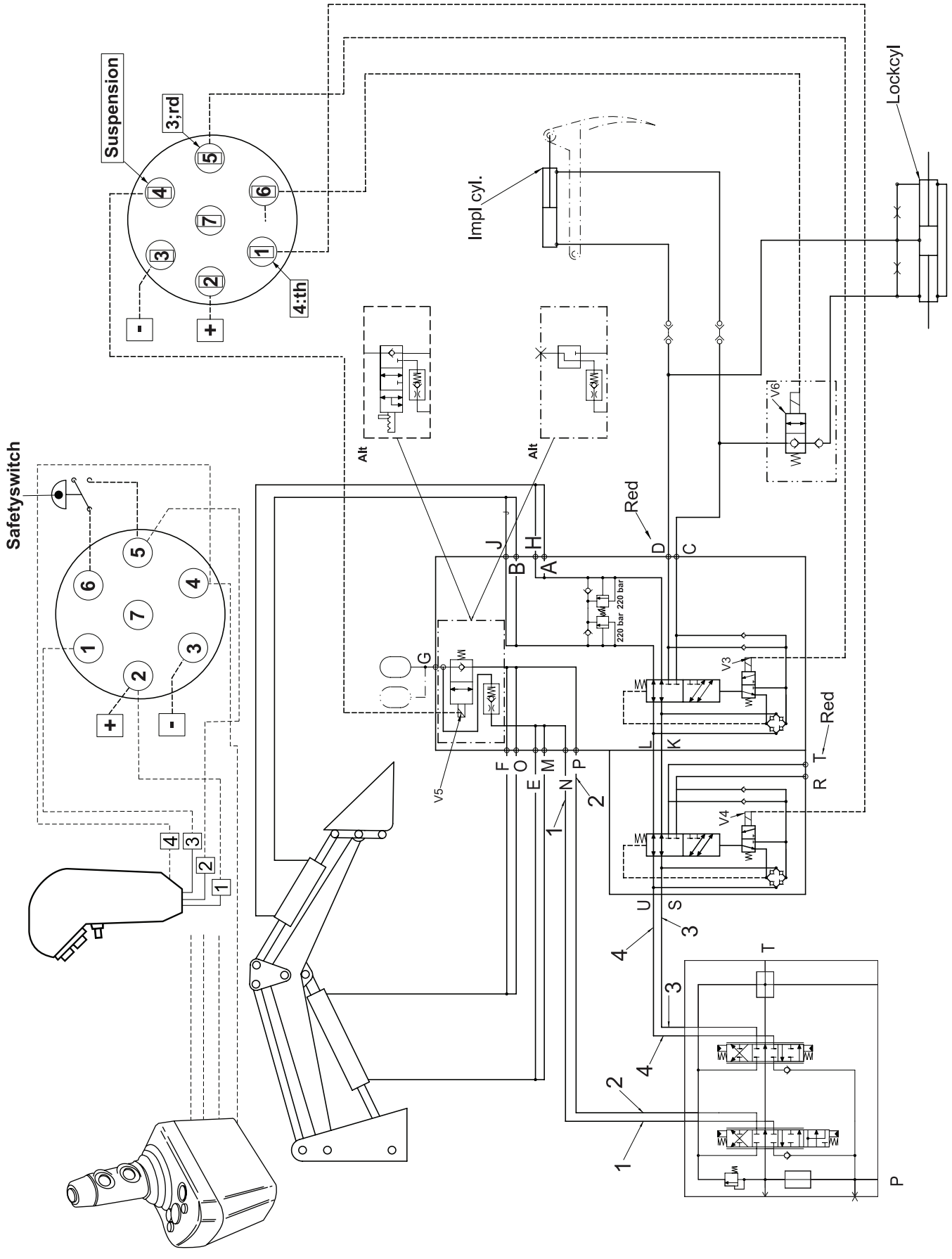

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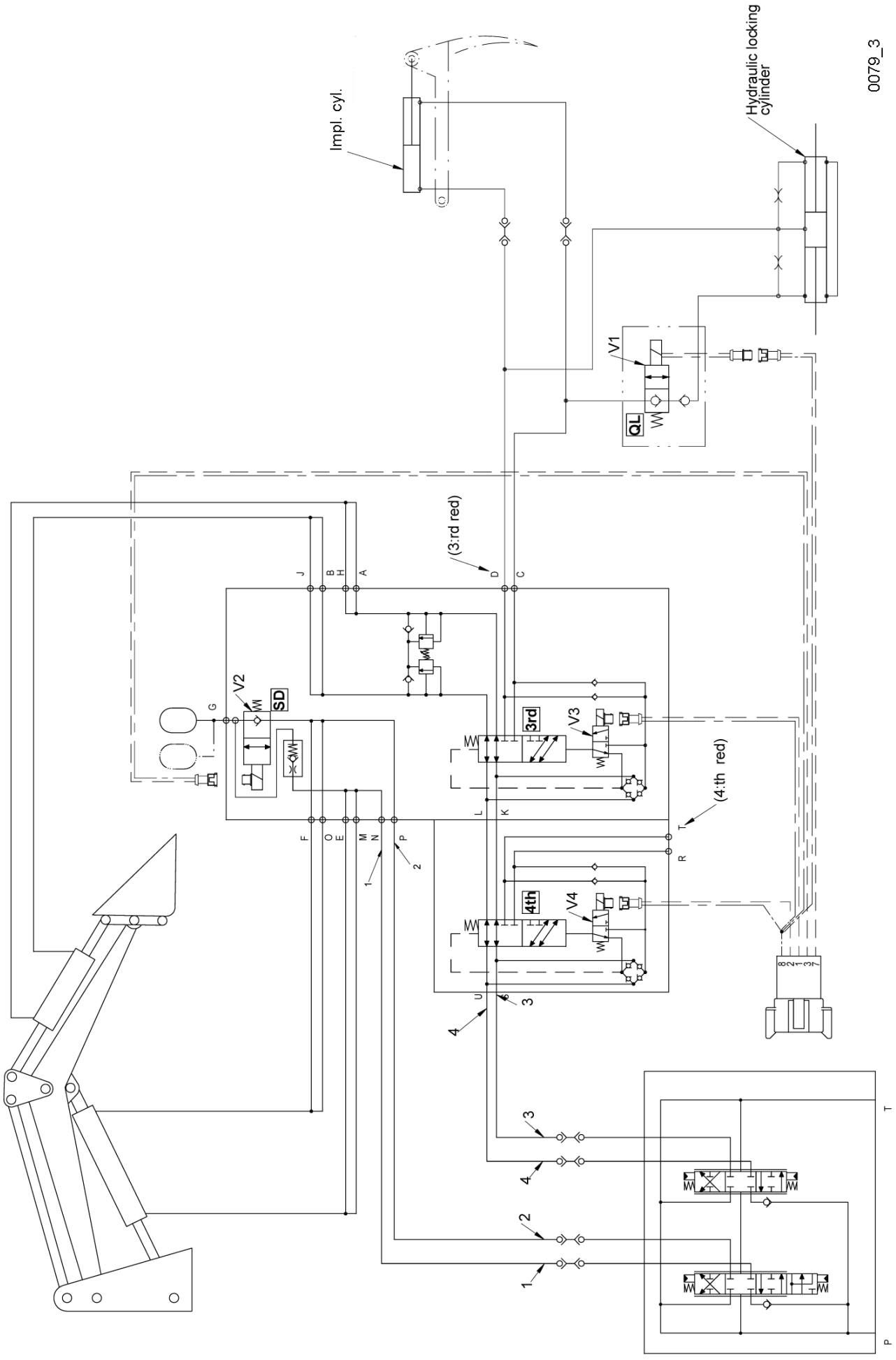

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WARRANTY CONDITIONS

ÅLÖ AB undertakes, for a period of 12 (twelve) months from the date that the loader / equipment is delivered to the purchaser, to exchange or repair parts which require repair due to faults in the material or manufacturing. This is on condition that the fault is reported immediately to the supplier, and that the defective loader / part is placed at the supplier's disposal without restriction.

For parts that are exchanged the warranty only applies for the remainder of the warranty period.

The warranty does not cover faults caused by accidents, deficient maintenance, modifications or incorrect fitting on the part of the purchaser. In the event of warranty exchange for parts which have been subject to particularly significant wear the purchaser shall pay compensation for the time that they were in use

Compensation is not paid for personal injury, downtime, consequential damage or other losses.

Testing or fault diagnosis at the request of the purchaser is carried out without charge to the purchaser if deficiencies are established in that connection. Otherwise the purchaser is charged for all costs.

Temporary repairs or additional costs due to work being carried out outside of normal working hours are not compensated.

EC 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 declares that:

From January 2010, the front loader models described in this Instruction manual, see front page,

a. are 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 safety and health requirements in relation to the construction and manufacture of machines.
   - dated 15 December 2004 on the approximation of the laws of the Member States on electromagnetic compatibility, 2004/108/EC.
b. are manufactured according to the following harmonised standards:
   EN ISO 12100-1, -2, EN 982, EN ISO 14892, EN 12525:2000, EN 954-1, EN 60204-1.

SMP Svensk Maskinprovning AB, Fyrisborgsgatan 3, SE-754 50 Uppsala, Sweden, has carried out voluntary type control for ÅLÖ AB. The certificate has number: SEC/09/2050 – front loader.

The person authorised to compile technical documentation at ÅLÖ AB is Tomas Nygren, Product Development Director.

Umeå 2010-01-01

Olle Pehrsson

CEO

9100012100b

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