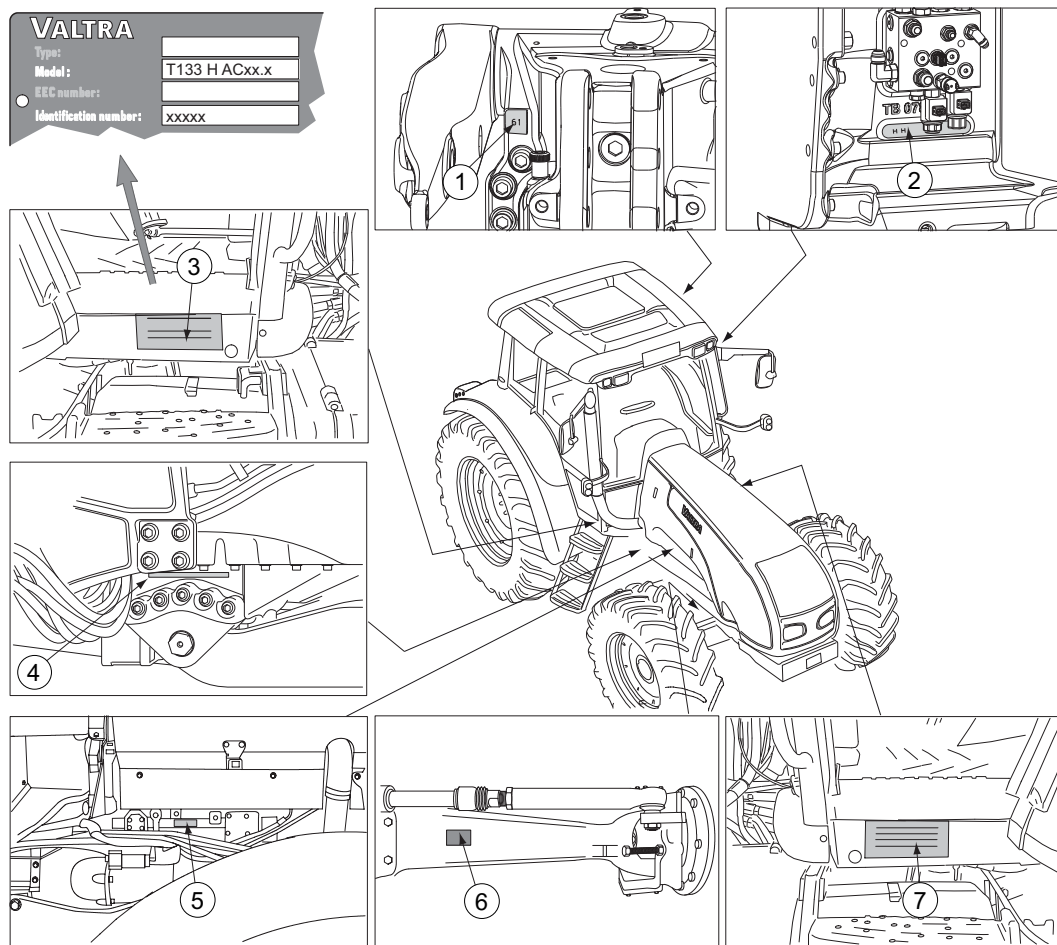


# Tractor serial numbers

When ordering spare parts or service, give the model indication and serial numbers and, in some cases, the engine, front axle, cab and transmission numbers.



1. Power take-off identification number
2. Transmission Identification number
3. Type plate EEC
  - Model = model indication used by service/spare part department
  - Identification number = tractor serial number
4. Tractor serial number
5. Engine number
6. Front axle number
7. Cab number

### 1.2.4 Safe operation

#### 1.2.4.1 Following safe operating practices

To operate the tractor safely, follow all the safety precautions and instructions.

- **Avoid operating the tractor near ditches, embankments and holes.**
- **Stay off slopes too steep for safe operation.**
- **When using chemicals, carefully follow the chemical manufacturer's instructions for use, storage and disposal.**

Also follow the chemical application equipment manufacturer's instructions.

- **Protect yourself against motor noise.**

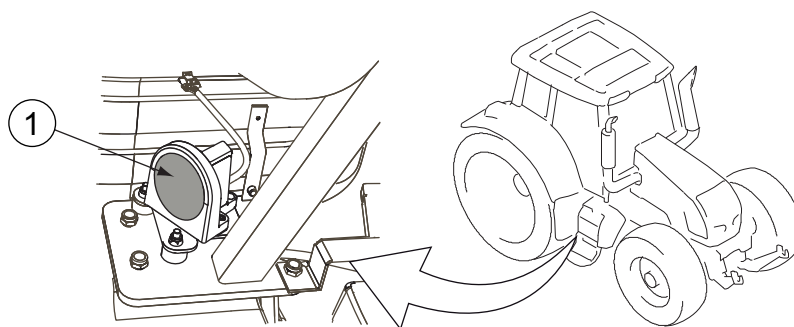
Use hearing protectors to avoid noise injuries when you are working outside the cab near the engine.

- **Avoid carbon monoxide poisoning.**



**WARNING:** To avoid carbon monoxide poisoning, do not start the engine or run it indoors with the doors closed unless the exhaust is vented to the outside.

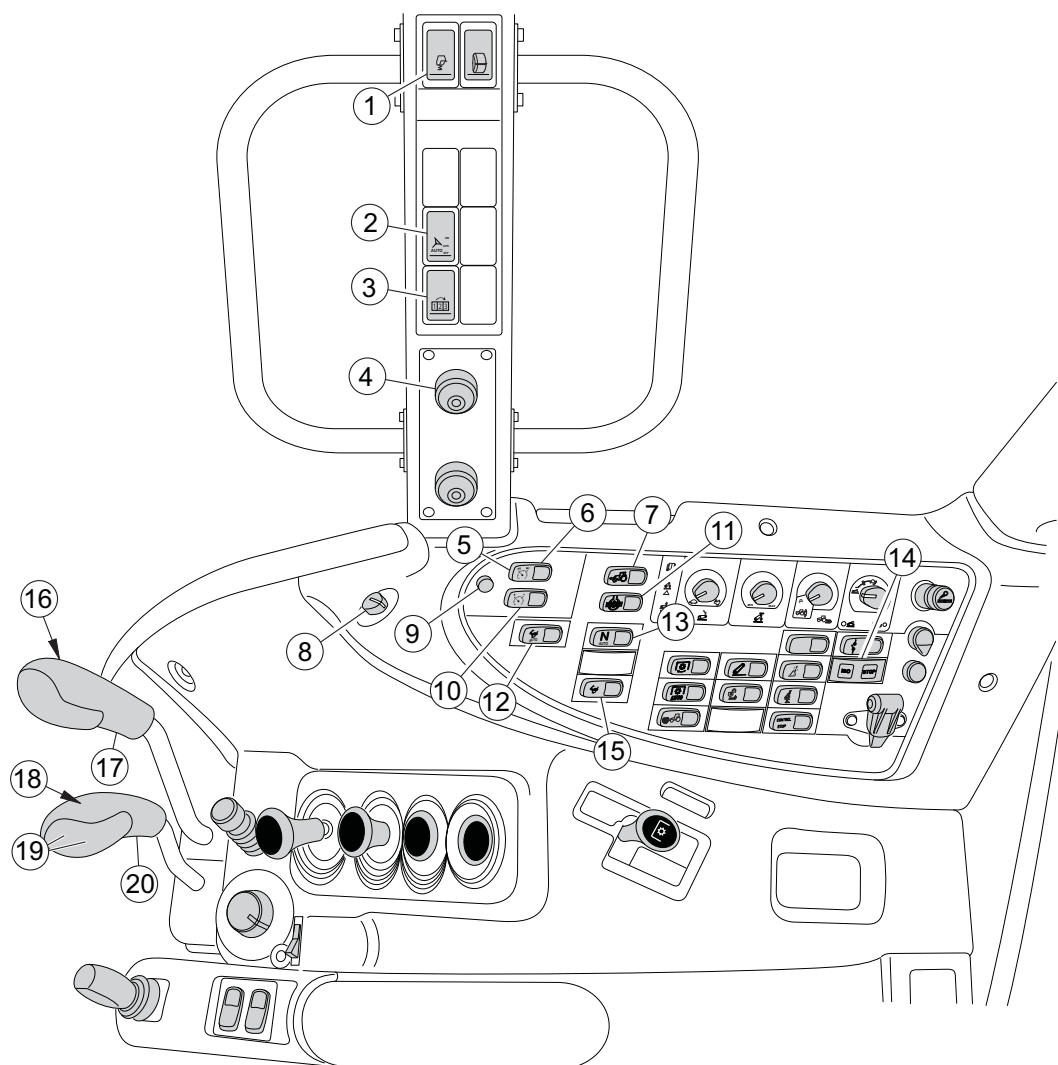
- **Restarting after engine stop**
  - If the engine has stalled, for example due to too heavy loading, turn the ignition key to the STOP position.
  - Restart the engine.Keep an eye on the indicator lights on the instrument panel.
- **Do not go under the tractor.**



#### 1. Radar



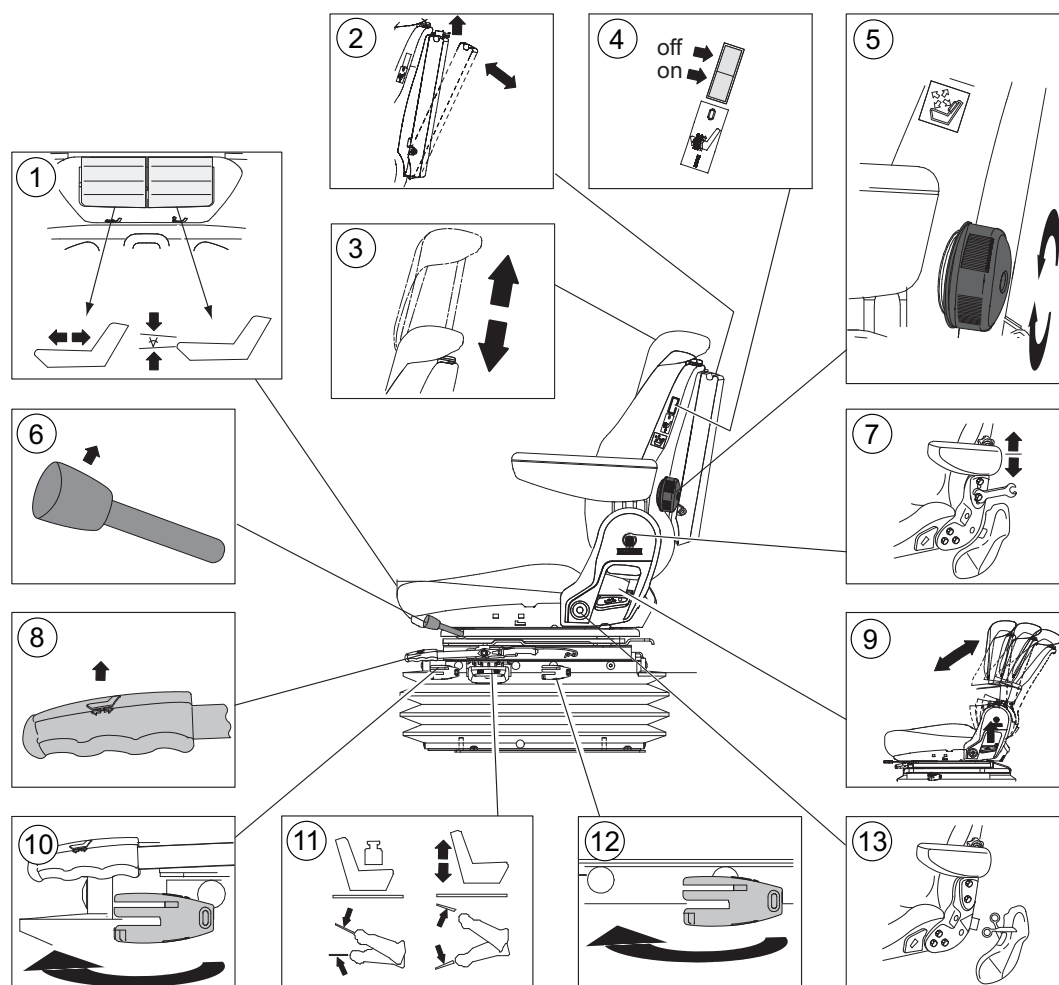
**WARNING:** Do not go under the tractor until the ignition key has been turned to the STOP position. The tractor is equipped with radar which presents a hazard to your eyes.



1. AutoComfort cabin suspension system (extra equipment)
2. Activation switch for Auto-Steering (extra equipment)
3. Change switch for A-pillar display views
4. Auto-Steering terminal connector
5. Cruise control (Cruise panel) (extra equipment)
6. Cruise control setting switch; the constant driving speed/engine revs (extra equipment)
7. Switch for four wheel drive (4WD)
8. Hand throttle
9. Cruise control off-switch (extra equipment)
10. Cruise control setting switch (extra equipment)
11. Switch for differential lock
12. Switch for Powershift-automatics
13. Switch for automatic traction control
14. STOP indicator light (red)
15. Powershift rocker switch for reverse drive tractor (extra equipment)
16. Switch for HiShift (extra equipment)
17. Range gear lever
18. Switch for HiShift (extra equipment)
19. Push buttons for Powershift operation
20. Speed gear lever

## 2.14 Air suspended driver's seat

Air suspended driver's seat is extra equipment.

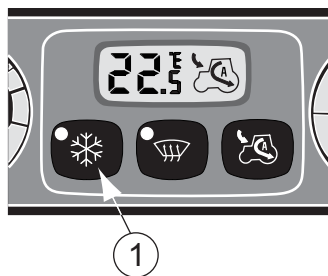


1. Seat depth and cushion angle adjustment
2. Storage compartment for manuals
3. Headrest height adjustment and removal
4. Seat heating
5. Lumbar support adjustment
6. Seat turning lock/release
7. Armrest adjustment
8. Forward/backward adjustment
9. Backrest inclination adjustment
10. Longitudinal suspension adjustment
11. Height and vertical suspension adjustment
12. Suspension stiffness adjustment
13. Seat belt anchor point

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#### 3.6.4.5 Automatic air conditioning system on/off button

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##### 1. Automatic air conditioning system on/off button

- When the automatic air conditioning is on, the amber indicator LED is lit.
- When the automatic air conditioning is off, the compressor and the indicator LED are off.
- When the indoor-air recirculation is activated, the automatic air conditioning is normally on. Switching off the air conditioning by pressing the automatic air conditioning system on/off button turns off the compressor and activates the ECO mode.

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#### 3.6.4.6 Temperature view

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The selected temperature is displayed on the display.

- Within the range of 20–24°C, the temperature is displayed with an accuracy of 0.5°C.
- Outside the range of 20–24°C, the temperature is displayed with an accuracy of 1°C.
- If adjusted below 18°C, LO is displayed.
- If adjusted over 28°C, HI is displayed.

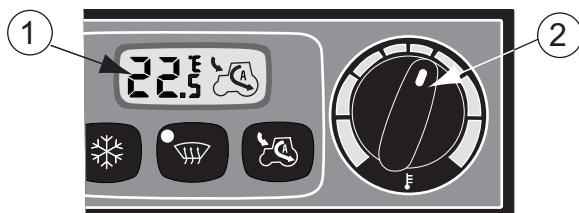
When the recirculation of the indoor air is active, the display shows HI, LO or the tractor symbol depending on the situation.

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#### 3.6.4.7 Temperature control

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You can adjust the cab temperature with the temperature control knob.



1. Display
2. Temperature control knob

Adjust the cab temperature with the temperature control knob. The selected target temperature is shown on the display. Note that the selected temperature is a target value that may not be reached in extreme cold/heat conditions.

2. Fill the tank.
3. Close the fuel tank cap.

**IMPORTANT:** Never put AdBlue/DEF in the fuel tank, as the engine and fuel system may become damaged.

**IMPORTANT:** Never put fuel in the AdBlue/DEF tank. Even small amounts of fuel in the AdBlue/DEF tank may damage the gaskets of the selective catalytic reduction (SCR) system.

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### 3.8.13.2 Filling the AdBlue/DEF tank

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**WARNING:** Always turn off the power before filling up.



**WARNING:** Do not smoke while refuelling the tractor.

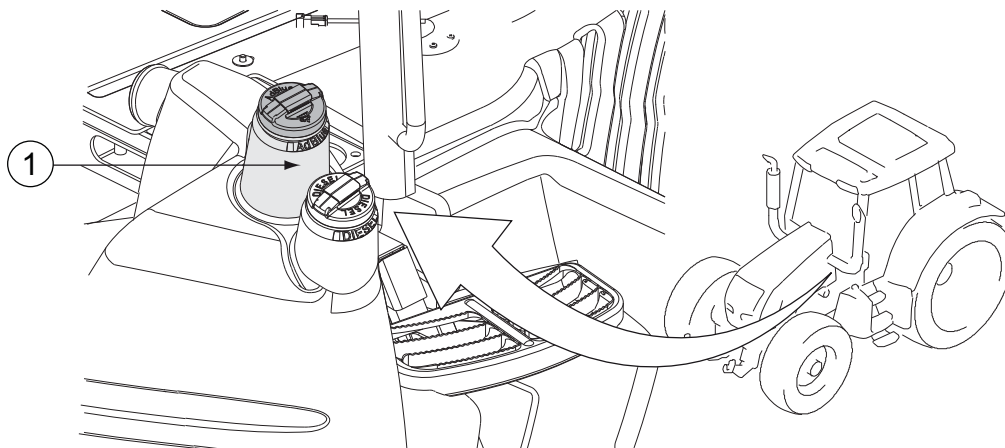


**WARNING:** Keep away from naked flames.



**WARNING:** Wear suitable gloves when filling up.

1. Open the AdBlue/DEF tank cap.



1. AdBlue/DEF tank cap


2. Fill the tank.
3. Close the AdBlue/DEF tank cap.

#### 3.8.20 Differential lock

The differential lock is used to ensure an even grip for the wheels. The differential lock can be engaged while driving.

The differential lock has three positions: ON, AUTO and OFF

Position	Description
ON	<p>The differential lock is always engaged except when:</p> <ul style="list-style-type: none"> <li>• One or both brake pedals are pressed (the lock re-engages when one or both pedals are released).</li> <li>• When engaging the parking brake.</li> </ul>
AUTO	<p>The differential lock engages when the following conditions are fulfilled:</p> <ul style="list-style-type: none"> <li>• The speed difference between the right and left rear wheel is sufficient.</li> <li>• The driving speed is over 1.5 km/h and under 15 km/h.</li> <li>• The wheels are in the middle position.</li> </ul> <p>The differential lock disengages:</p> <ul style="list-style-type: none"> <li>• When the wheel slip is less than 6%. The disengaging delay is 5 seconds.</li> <li>• When the driving speed rises to over 15 km/h.</li> <li>• When the wheels are turned more than 20% from the middle position.</li> <li>• When pressing one of the brake pedals or both.</li> <li>• When pressing the lift/stop/lower switch to the lift position.</li> </ul>
OFF	The differential lock is continuously disengaged.

When the differential lock is engaged, the indicator light  is lit on the instrument panel.

If the indicator light on the instrument panel flashes in the automatic position, there is an error, and the differential lock disengages for safety reasons. The reason for the error may be one of the following:

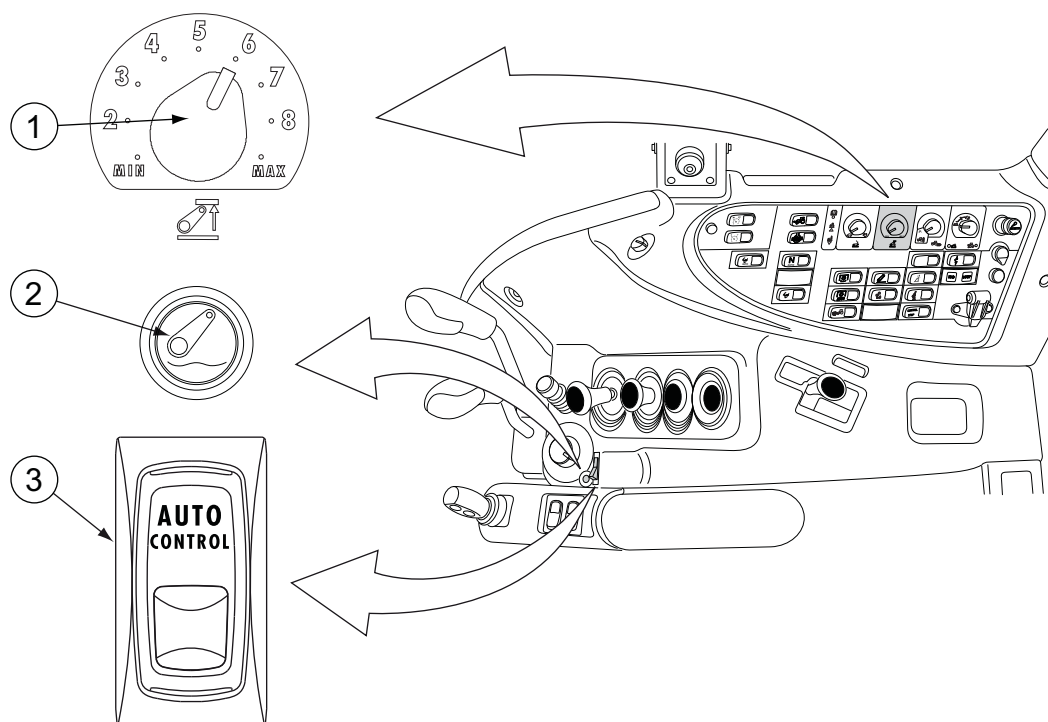
- The speed sensors are not calibrated.
- The turning angle sensor is not calibrated (contact an authorised Valtra workshop).
- There is a fault in the switch (the service code is displayed).
- There is a fault in the speed sensors (the service code is displayed).

#### 3.8.21 Engaging and disengaging the differential lock

You can control the engagement of the differential lock with the differential lock switch. The switch has three positions (ON, AUTO, OFF).

If a wheel starts to slip, engage the differential lock. If a wheel is slipping heavily, reduce the engine speed before engaging the lock. If possible, disengage the lock while driving on public roads.

**NOTE:** For optimum performance, engage the differential lock before a wheel slips.



1. Lifting height selector
2. Passing switch for position control knob
3. Lift/stop/lower switch

1. Turn the lifting height selector to the MAX position.
2. Set the lift/stop/lower switch to the lift (transport) position.
3. Press down the passing switch for position control knob.  
The lower links pass the limit set by the lifting height selector.
4. Release the passing switch for position control knob.  
The lower links return to the value set by the lifting height selector.

### 3.12.14 Using the drive balance control

The control system makes driving the tractor more even and stable. The drive balance control can also be used in the field.

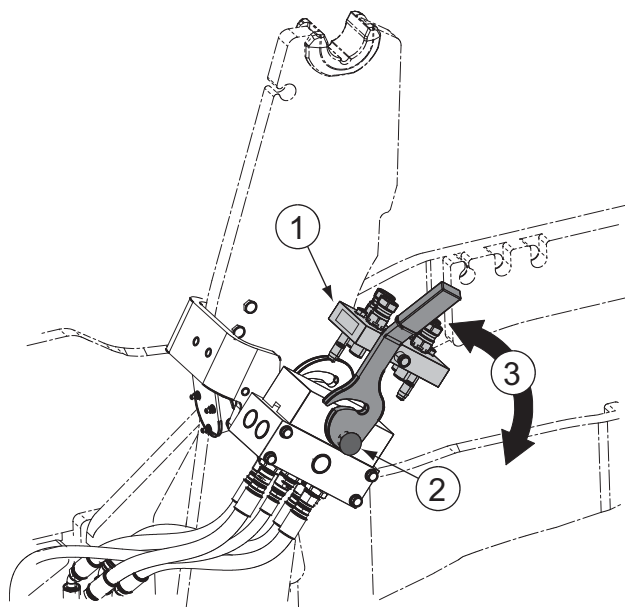
The drive balance control system is used for balancing the tractor when transporting heavy implements on the linkage. The linkage lowers and lifts slightly, if needed. When the drive balance control is in use the transport height is a bit lower than the one set by the lifting height selector and can vary a bit.

The drive balance control operates only with the transport mode, that is, when the lift/stop/lower switch is in the lift (transport) position.



### 3.16.1 Using the Valtra Quick front loader coupling plate

The quick coupling plate is extra equipment.



- 1. Hose multicoupler
- 2. Lock button
- 3. Lever



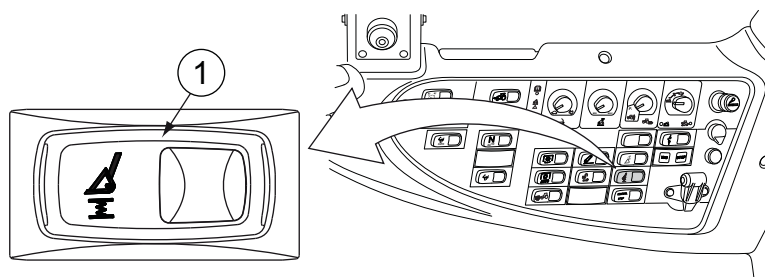
**CAUTION:** Hold on to the lever firmly as the pressure may cause the coupler to hit your hand.

- To release the hose multicoupler, press down the lock button and turn the lever to the open position.
- To attach the multicoupler, turn the lever to the closed position.

The lock button pops up.

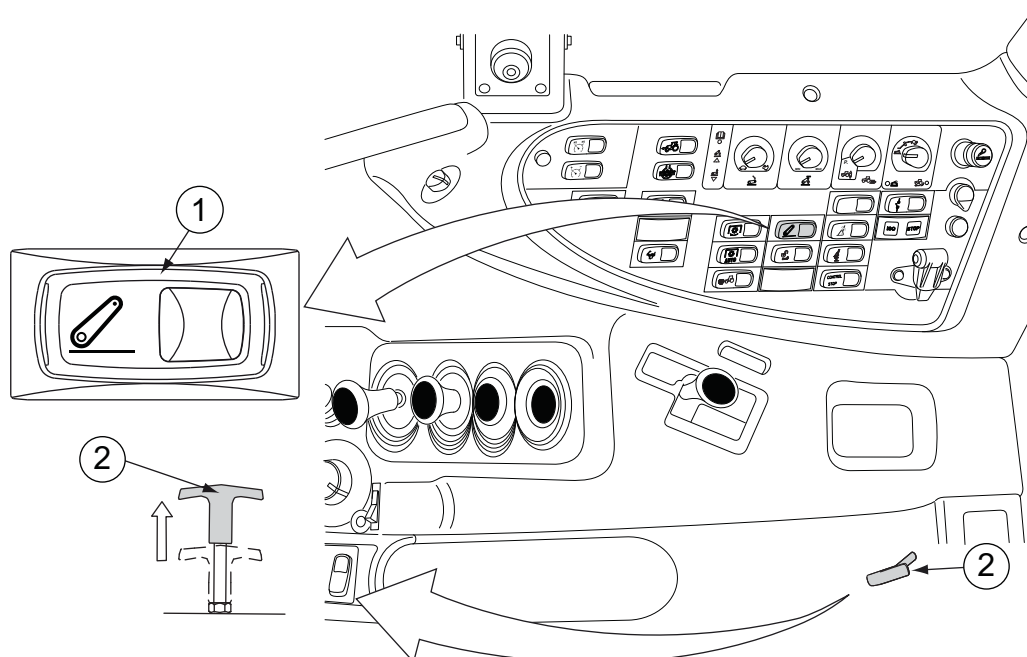
### 3.16.2 Softdrive

The Softdrive function is extra equipment.



- 1. Switch for Softdrive

With the Softdrive function, you can connect the pressure accumulators to the cylinder circuits of the loader barrier. This means that when you drive, the



- 1. Lift/lower switch
- 2. Hitch latch lever

1. Press the symbol side of the lift/lower switch to fully raise the linkage.
2. Pull the hitch latch lever to unlatch the hitch.  
Keep the lever pulled up.
3. Press the switch side opposite to the symbol side of the lift/lower switch to lower the linkage.
4. Release the hitch latch lever.

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#### 3.20.1.2 Unlatching the pick-up hitch equipped with hydraulic unlatching system

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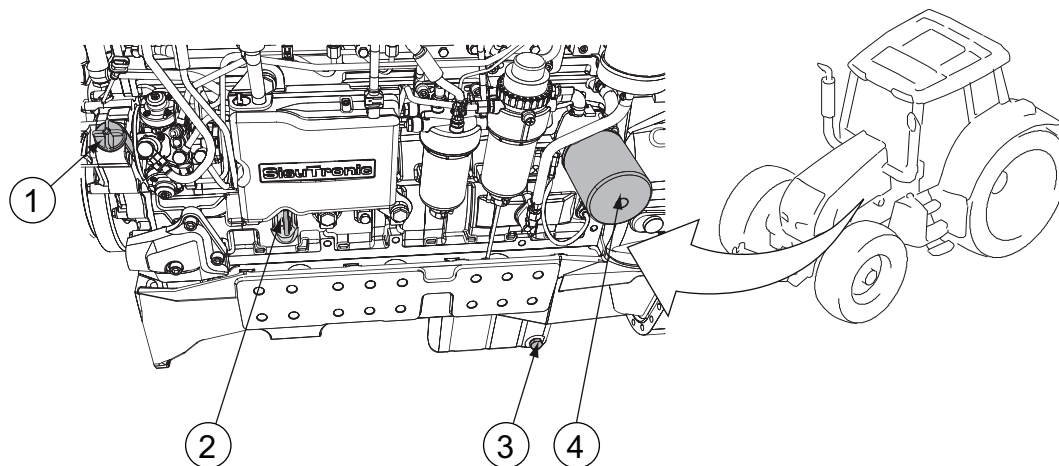
The hydraulic pick-up hitch unlatching system is extra equipment.

These instructions apply to both the Nordic pick-up hitch (extra equipment) and the Euro pick-up hitch (extra equipment) but not to the hydraulically extended Euro pick-up hitch (extra equipment).

### 4.7.2.2 Checking the oil level in the transmission system

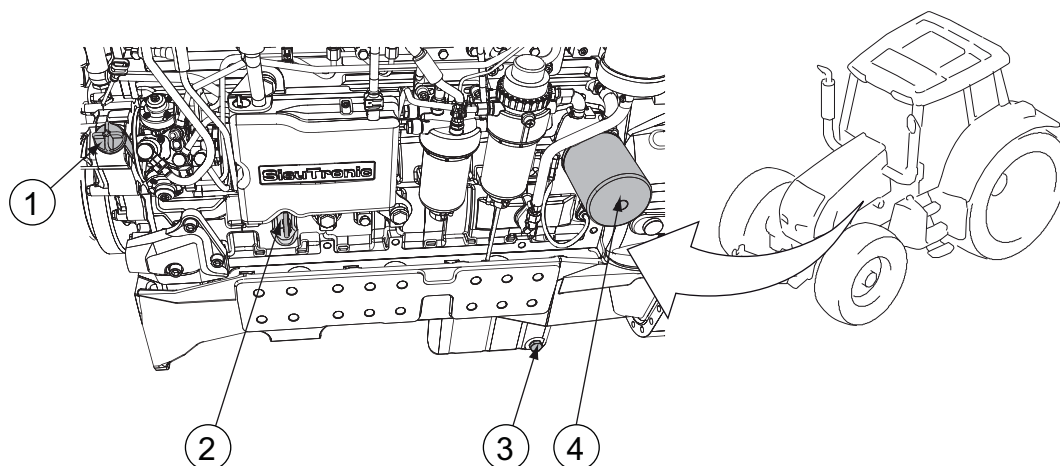
Check the oil level in the transmission system periodically.

Steering and transmission share the same oil system.



1. Filler hole
2. Dipstick
3. Drain plug
4. Oil filter

1. **Stop the engine and let it stand for a few minutes.**
2. **Pull out the dipstick.**  
The oil level must be between the minimum and maximum lines on the dipstick.
3. **Add oil if necessary.**



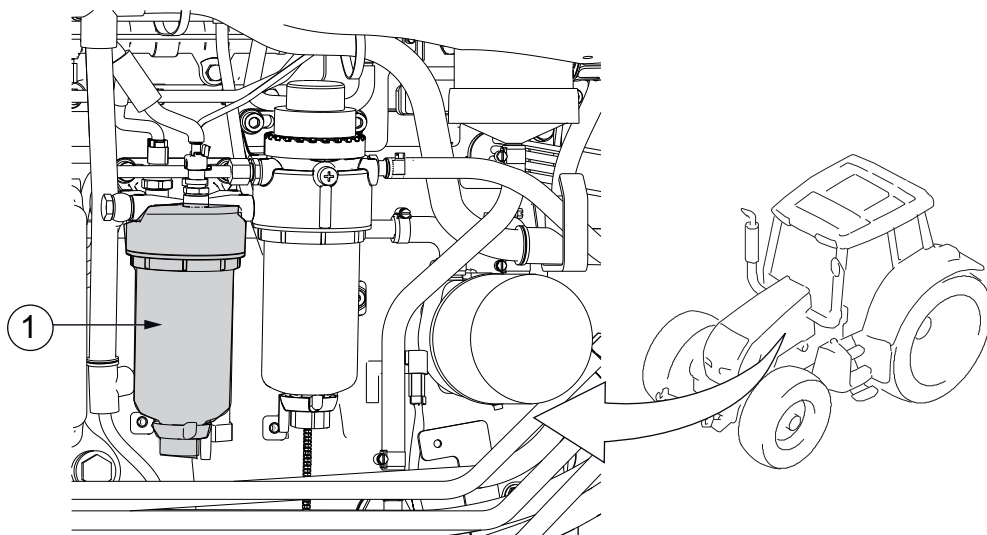
1. Filler hole
2. Dipstick
3. Drain plug
4. Oil filter



**DANGER:**

1. Check that the tractor is standing on level ground.
2. Stop the engine and let it stand for a few minutes.
3. Remove the drain plug from the engine sump.
4. Drain the oil from the engine to a separate container.  
If the engine is warm, the oil runs better.
5. Clean, refit and tighten the drain plug.
6. Release the oil filter.
7. Wipe off any oil which has run out onto the chassis.
8. Lubricate the new gasket.
9. Attach the new filter.  
Tighten the new filter by hand (not too tight).
10. Fill the recommended oil in the filler hole.
11. Check the oil level from the dipstick.  
The oil is filled until the upper mark on the dipstick is reached.
12. Start the engine.
13. Run the engine and check for possible leaks.
14. Run the engine for a while and check the oil level.

1. Clean the filter and its surroundings.



1. Fuel filter

2. Remove the fuel filter.

Turn the filter anticlockwise and remove it from the mounting bracket.

**IMPORTANT:** Unscrew the filter by hand, do not use a filter wrench.

3. Lubricate the O-rings with fuel.

4. Fill the new filter with fuel.

Pour the fuel into the filter outer shell.

5. Attach the filter.

Bleed the fuel system.

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#### 4.7.5.7 Changing the fuel prefilter

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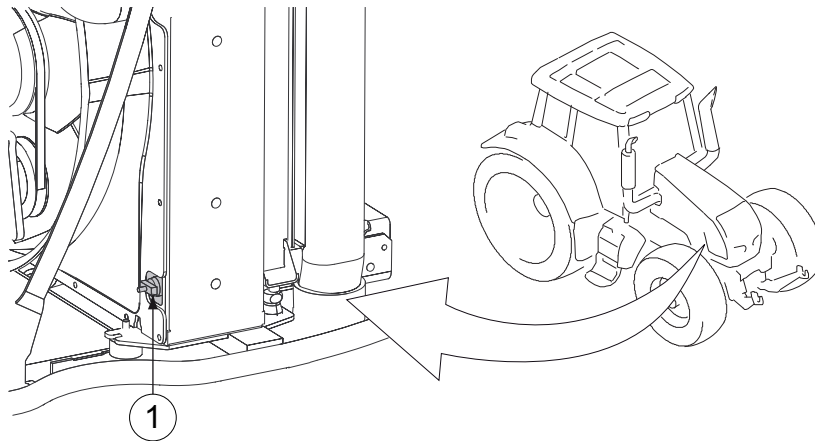
Change the fuel prefilter periodically.

Always use original Valtra fuel filters.

**IMPORTANT:** Using other fuel filters than the original ones, even for a short period of time, may cause lower performance and expensive damages.

## 4. Maintenance

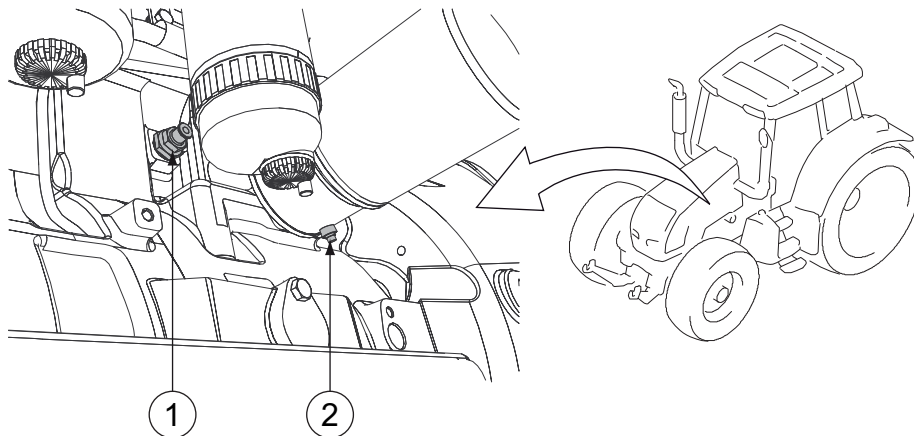
3. Connect a hose from the radiator draining cock to a clean container and open the plug.



1. Radiator draining cock

4. Open the drain cock on the cylinder block and open the drain plug on the oil cooler.

**IMPORTANT:** Do not drain coolant on the ground!



1. Drain cock on the cylinder block
2. Drain plug on the oil cooler

The cooler is located between the engine block and oil filter.

5. Turn the heater control in the cab clockwise.
6. Drain the water pump by cranking the engine a few revisions with the drain plugs removed.
7. Clean the cooling system with a special cleaning agent available from your dealer.  
Follow the manufacturer's instructions.
8. Close the radiator drain cock.
9. Close the drain cock of the cylinder group.

## 5. Faults and remedial actions

Service codes	Error meaning/measures
521001 — 03 — 000 521001 — 04 — 000 521001 — 31 — 000	There is an error in the exhaust SCR after-treatment system. Clear the reason for problem as soon as possible to avoid greater damage and blockages in the system.
521002 — 03 — 000 521002 — 04 — 000 521002 — 05 — 000 521002 — 31 — 000	There is an error in the exhaust SCR after-treatment system. The engine output can be reduced after a while. Clear the reason for problem and stop driving the tractor as soon as possible.
521003 — 03 — 000 521003 — 04 — 000	There is an error in the exhaust SCR after-treatment system. Clear the reason for problem as soon as possible to avoid greater damage and blockages in the system.
521004 — 02 — 000 521004 — 11 — 000 521004 — 12 — 000 521004 — 14 — 000 521005 — 02 — 000 521005 — 11 — 000 521005 — 12 — 000 521005 — 14 — 000	There is an error in the exhaust SCR after-treatment system. The engine output can be reduced after a while. Clear the reason for problem and stop driving the tractor as soon as possible.
521006 — 12 — 000	AdBlue/DEF tank contains an incorrect type of additive or there is an error in the exhaust SCR after-treatment system. The engine output can be reduced after a while. Check that the AdBlue/DEF tank is filled with correct additive. Clear the reason for problem and stop driving the tractor as soon as possible.
521007 — 10 — 000 521007 — 14 — 000 521007 — 31 — 000	There is an error in the exhaust SCR after-treatment system. The engine output can be reduced after a while. Clear the reason for problem and stop driving the tractor as soon as possible.
521008 — 00 — 000 521008 — 01 — 000	AdBlue/DEF tank is empty or there is an error in the exhaust SCR after-treatment system. The engine output can be reduced after a while. If the tank is empty or nearly empty, fill it with AdBlue additive. Clear the reason for problem and stop driving the tractor as soon as possible.

## 5.6 Steering system malfunctions



**CAUTION:** If a malfunction occurs in the steering system, stop the tractor and correct the malfunction before restarting.

If the oil supply from the hydraulic pump fails for any reason, the tractor can still be steered with the steering wheel. In this case the steering valve acts as a pump and provides oil pressure for the steering cylinder. The steering is heavy to use and it operates slowly.

## 5.7 Towing the tractor

### 5.7.1 Towing the tractor when the engine is running

1. Set the range gear lever to the neutral position.
2. Set the speed gear lever to the position 4.
3. Set the power shuttle lever to neutral (N) position.
4. Tow the tractor

The maximum allowed towing speed is 10 km/h.