

**VALTRA**

Individually Yours

Operator's Manual

T3 Series

HiTech

## About this manual

This operator's manual is for Valtra T3 Series HiTech tractors. The T3 HiTech models are T133 H, T153 H, T173 H and T193 H.

The manual is meant for agricultural tractors only. If the tractor is used for other applications, it is the owner's responsibility to ensure compliance with local regulations. In this case, always contact your dealer first.

The purpose of this manual is to enable the owner and operator to use the tractor in a proper manner. Providing that the instructions are followed carefully, the tractor will provide years of service in the tradition of Valtra.



**WARNING:** Before using the tractor, read and understand all the instructions in this manual. They must then be strictly followed when operating and maintaining the tractor.

**IMPORTANT:** When using the tractor, always follow all valid laws and regulations even if they are not specifically pointed out in this manual.

The manual contains detailed instructions for operating, servicing and maintaining the tractor.

Alternative equipment in the manual refers to equipment that can be selected when ordering the tractor.

Extra equipment refers to equipment which can be bought and installed on the tractor later.

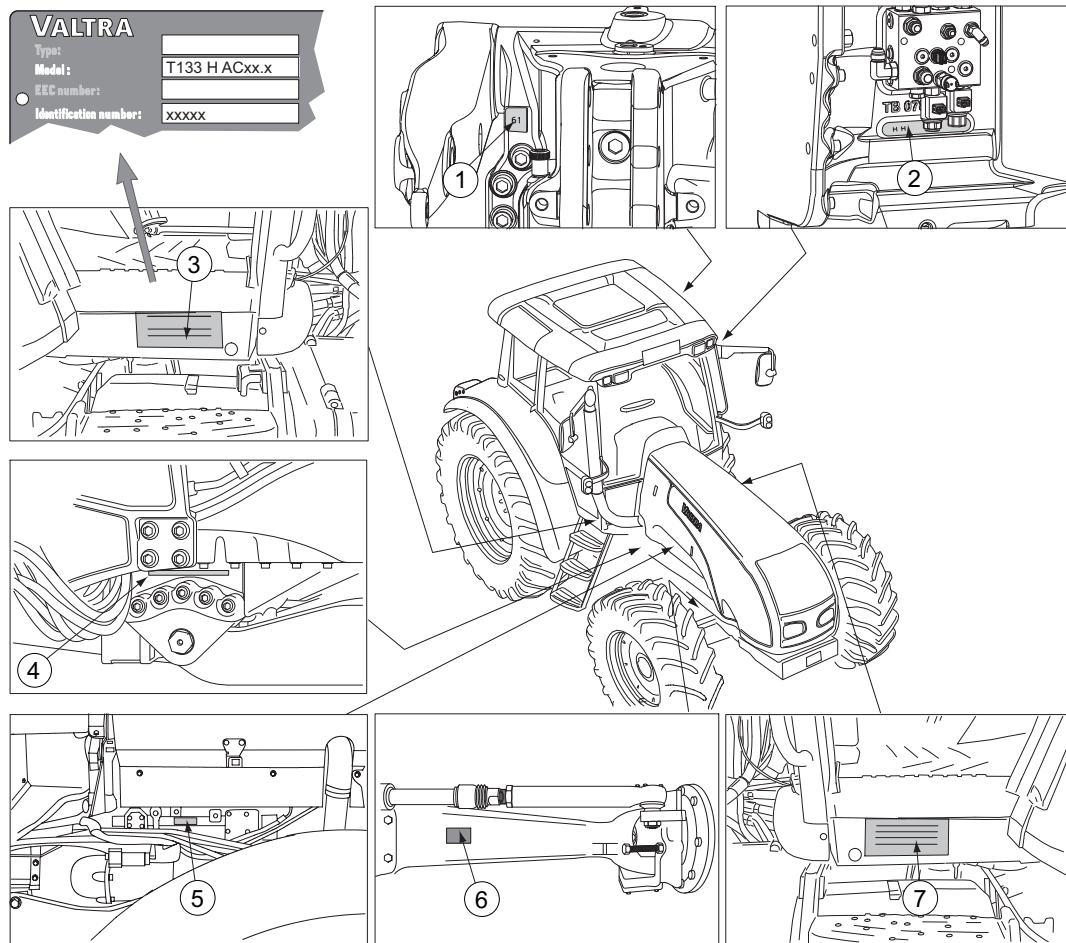
Due to the continual development of the products, the content of this manual may not always correspond to the new product. Therefore, we retain the right to make alterations without prior notification.

Maintenance, repairs and adjustments which are not described in this manual require special tools and exact technical data. For such work contact your dealer who has specially trained personnel to help you.

Valtra Inc.

# 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

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## 1 Safety precautions

Always follow the safety precautions given when working with the tractor.

The regulations given do not release the operator from statutory and other national regulations as regards traffic safety and occupational health and safety.

In addition to the precautions given in this manual, always follow the safety regulations applicable to different types of working sites and existing road traffic laws.

### 1.1 Hazard statements

Five symbols are used in the documentation.



**DANGER:** Indicates an imminently hazardous situation that, if not avoided, results in death or very serious injury.



**WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.



**CAUTION:** Indicates a potentially hazardous situation that, if not avoided, may result in minor injury.

**IMPORTANT:** Indicates special instructions or procedures which, if not strictly observed, could result in damage to, or destruction of the machine, process or its surroundings.

**NOTE:** Indicates points of particular interest for more efficient and convenient repair or operation.

### 1.2 Safety rules

#### 1.2.1 Replacing safety and information signs

Replacement signs are available from your dealer in the event of loss or damage.

- Replace any danger, warning, caution or instruction signs that are not readable or are missing.



**WARNING:** Do not remove or obscure danger, warning, caution or instruction signs.

### 1.2.2 Maintaining hardware safety

To ensure maximum safety for the operator, maintain tractor hardware safety.

The owner is responsible for repairing any damage or wear which might endanger the safety of the tractor.

- **Cab**

Damages on the cab must be repaired without delay to ensure the cab's protective capability.



**WARNING: If damage occurs to the cab, replace all parts affected with new ones. Do not attempt any repair work (welding, drilling, cutting, or grinding) without first consulting the manufacturer.**

- **Tractor construction**

Do not change the tractor construction, such as maximum driving speed or maximum power.

The tractor is type approved to comply with construction and use regulations. Any changes to the tractor construction may reduce safety and durability and affect the warranty terms.

- **Brakes**

- Always check that the brakes are working before driving.
- Lock the brake pedals together whenever individual wheel brakes are not required and always when driving on the road.
- Extensive repairs to the braking system should be undertaken only by an authorised Valtra workshop.
- When implements or ballast weights are front-end mounted, the rear axle loading is decreased:
  - Check that the rear brakes are still effective.
  - Use appropriate ballast weights at rear as required.

- **Cleaning**

Keep the tractor clean to minimise risk of fire.

- **Lights**

- Make sure that lights and reflectors are clean and in working order.
- Make sure that the headlights are correctly adjusted.

- **Steps**

Keep the steps clean. Dirty steps can lead to falls and personal injury.

- **Quick couplings**



**DANGER: Clean the quick couplings and ball joints before attaching an implement. There is risk that the implement is not attached properly.**

- **Maintenance**
  - Follow the maintenance instructions and safety precautions applicable to the tractor.
  - Stop the engine and lower the implement before carrying out any maintenance work on the tractor or implement.
  - Support the tractor from the correct support points on the frame and use suitable blocks or stands when carrying out maintenance tasks that require supporting the tractor.

### 1.2.3 Using tractor safety features

The tractor has several features that contribute to the operator's safety.

- **Steering wheel and safety handles**



**WARNING:** Hold on to the steering wheel or safety handles in the cab if the tractor tips over. Never try to jump out.

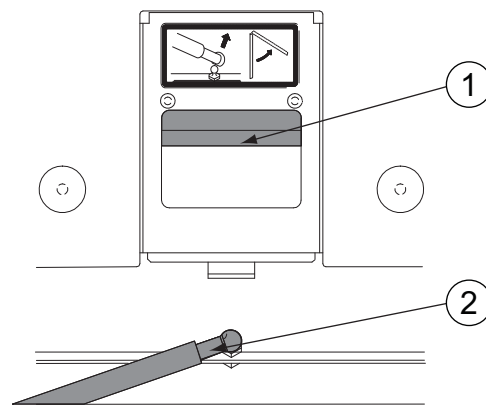
- **Safety belt**

Always use the safety belt when using the tractor.

- **Emergency exits**

Familiarise yourself with the four emergency exits of the tractor cab, that is, the doors, the rear window and the roof hatch (extra equipment).

- **Roof hatch (extra equipment)**



1. Handle
2. Gas spring

- Open the hatch by pushing the handle forward and pushing the hatch upward.
- To open the hatch fully (for emergency exit), detach the upper end of the gas spring from its fastener and push the hatch fully open.



**WARNING:** When driving on ice, keep the roof hatch open.



## 1. Safety precautions

### 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.**



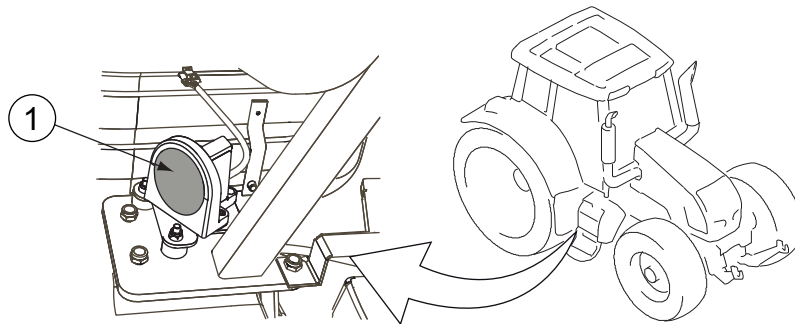
**WARNING:** To avoid carbon monoxide poisoning, do not start the engine or run it indoors with the doors closed unless the exhaust is vented to the outside.

- **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.

- Front loader



**WARNING:** The programmable features of the joystick or other controls **MUST NOT** be used to operate a loader. In order to prevent involuntary loader motion, the loader joystick controller must be of a self-neutralising type. When the operator releases his grip on the joystick, the joystick must return to a non-operational neutral position - except for float detent position in the loader lower direction.

- Ensure that no one is in the working area when you are working with a front loader.
- Lower the front loader to the down position before leaving the tractor.
- Observe any special instructions issued by the loader manufacturer.



**WARNING:** The risk of overturn increases as the loader is raised. Be extra careful on slopes when operating the loader. Always carry the loader as low as practical for the conditions.



**WARNING:** Always look at the implement. Objects can fall or roll backwards onto the driver when the loader is raised. Only lift loads which can be contained in, and are intended for, the specific implement.

- Differential lock

Use the differential lock only when running on loose or slippery ground.

- Overturning

- Always consider the way in which the tractor is to be used and the fact that the centre of gravity of the tractor/implement assembly changes according to the load being transported or towed.
- Adapt the tractor speed according to visibility, weather conditions and the type of terrain.



**WARNING:** The instructions concerning overturning in this manual are not exhaustive.

- Hydraulic/fuel pressure

Do not attempt to locate a leak in the hydraulic system or attempt to close a leak using any part of your body.



**CAUTION:** Oil/fuel under high pressure easily penetrates through clothing and skin and can cause serious injury.

- Hot surfaces



**CAUTION:** Be careful of hot surfaces during operation and service work, in particular the engine and hydraulics components.

- Falling Object Protection Structure (FOPS)



**DANGER:** The cab structure is designed for protection against falling objects (FOPS) in accordance with OECD-code 10 (energy level 1362 J). Before operating, make sure the protection is adequate for your work conditions.

## 1. Safety precautions

- Operator Protection Structure (OPS)



**DANGER:** Protection against penetrating objects is not provided (no OPS available) if the cab of your tractor is fitted with windows made of glass. Protection against penetrating objects is provided in accordance with ISO 8084 (OPS is available) if the cab of your tractor is fitted with windows made of polycarbonate, except the Side visibility cab (no OPS in Side visibility cab). Before operating, make sure the protection is adequate for your work conditions.

- Hazardous substances EN 15695-1:2009



**DANGER:** The cab is classified as category 2 according to the draft of EN15695-1:2009. Protection against dust is provided. Protection against hazardous substances (agricultural chemicals, etc.) is not provided. Personal protective equipment must be used according to the chemical manufacturer's recommendations. Without air conditioning and with manual air conditioning the fan knob position must be 3 or higher and recirculation must be closed. With automatic air conditioning the fan speed must be set to maximum.

- Forest work

- When working in forest, pay special attention to safety issues. The specific dangers related to forest work are overturning, falling objects and penetrating objects.

---

### 1.2.4.2 Getting into and out of the cab

---

When getting into and out of the cab, pay special attention to safety issues.

- Always use three-point contact with the tractor and face the tractor when getting in and out.
- Use handrails, grab handles and steps when getting in and out.
- Do not use the control levers as a handhold.
- Do not step on pedals when getting in and out.
- Never attempt to get into or out from a moving tractor.
- Never jump off a tractor.

---

### 1.2.4.3 Driving on public roads

---

When driving the tractor on public roads, pay special attention to the safety issues.

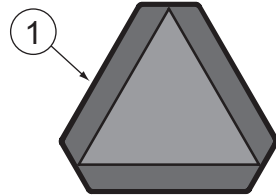
- Before driving
  - Check that the tractor is safe for driving on the road.
  - Adjust the rear view mirrors to give the correct viewing angle.
  - Lock the check links with pins when transporting implements using three-point linkage.

- When driving the tractor on public roads



**WARNING:** Do not transport anything on the auxiliary hydraulic valves while driving on the road. The load, trailer link steering and such have to be locked (for example mechanically).

- Use the slow moving vehicle emblem on the rear end of the tractor if allowed by law.



1. Slow moving vehicle emblem

---

#### 1.2.4.4 Controlling the driving speed

---

Adjust the driving speed to suit the driving surface, visibility and load.

**IMPORTANT:** Do not alter the maximum driving speed of the tractor. The maximum reverse driving speed is 20 km/h.

- Avoid any sudden increase or reduction (braking) in the driving speed.
- Avoid tight turns at high driving speed.
- When driving the tractor with an attached implement which centre of gravity is far from the tractor, the tractor may sway considerably during cornering.  
If care is not taken, the tractor may tip over or the load may be displaced.

---

#### 1.2.4.5 Driving downhill

---

Be careful when driving downhill.

- Do not drive with the gear lever in neutral or the clutch pedal pressed down.
- Do not press the HiShift push button.
- Check the brakes often.
- Change to a lower gear before driving down a steep incline.

**IMPORTANT:** Do not brake continuously as the brakes may overheat.

**IMPORTANT:** Do not let the engine overrun to avoid damage to the engine.

**NOTE:** If the speed is too high, a speed warning is shown on the instrument panel display and a buzzer goes off.

### 1.2.4.6 Operating with implements

---

Read and follow the instructions to avoid unnecessary risks when operating with implements and attachments.



**WARNING:** Always follow carefully the instructions given in the implement's user documentation. It is not allowed to use an implement without reading and understanding all the precautions and regulations.



**WARNING:** Before entering between the tractor and the implement, prevent the tractor from moving by applying the parking brake or blocking the wheels. There is risk of accidents if the tractor or implement should move.



**WARNING:** Implements attached to the linkage or the auxiliary hydraulic system must be lowered to the ground while parking and during maintenance.



**WARNING:** When installing an implement, air in hydraulic hoses and cylinders can cause erratic operation. Run the engine at low speed and make slow movements with the joystick to purge any air from the hydraulic system.



**WARNING:** When installing an implement, keep hands and feet away from moving components. Do not use your fingers to check the alignment of holes or pins — use a mandrel or a steel rod.



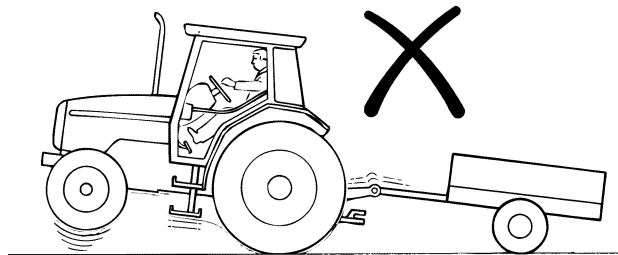
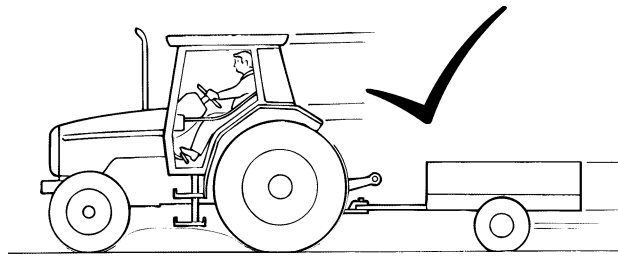
**WARNING:** When disconnecting, the implement may fall downwards.

**IMPORTANT:** When attaching a trailer or implement, be sure not to exceed the maximum weight of the rear axle. See the technical specifications in this manual for the maximum permissible axle loading.

- **Make sure to allow sufficient clearance for turning.**  
Three-point hitch and side-mounted implements make a much larger arc when turning than towed equipment. Use only Valtra approved attachments and implements.
- **Familiarise yourself with the working area and terrain.**  
Pay attention to vertical clearance and limitations that arise due to the increased reach.

- Pull only from the approved drawbar.

Towing or attaching to other locations may cause the tractor to overturn.



---

#### 1.2.4.7 Running with power take-off driven implements or machines

---

Read and follow the given instructions to use power take-off (PTO) driven implements and machines safely.



**DANGER:** Serious accidents may occur due to failure to use the prescribed safety devices.

- Use the prescribed safety devices and ensure that they are in good condition.
- Follow the directions given by the implement or machine manufacturer.

---

#### 1.2.4.8 Using ballast weights

---

Use ballast weights according to the instructions when needed.



**WARNING:** When driving on the road, at least 20% of the gross weight of the tractor must be on the front axle. When lifting an implement, the weight on the front end of the tractor is reduced, and the steering ability of the tractor is impaired or sometimes lost.

**IMPORTANT:** When using salt liquid as ballast weight in the wheels, the manufacturer does not take the responsibility for the damages caused by salt.

- Use sufficient ballast weights.
- Mount ballast weights only at the points intended for this purpose.

## 1. Safety precautions

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### 1.2.4.9 Towing

---

Read and follow the given instructions to tow a trailer or an implement safely.



**WARNING:** When the tractor is towing a trailer, the brake pedals must be locked together. The brakes are not to be used individually for steering.



**WARNING:** When using a trailer, make sure that the hitch latch is locked.



**WARNING:** When using a trailer, always use the trailer brakes if required by law. The trailer brakes are recommended to be used in 50 km/h models also in those countries where it is not required by law.



**WARNING:** Be sure no one is standing between tractor and implement.

**IMPORTANT:** When attaching a trailer or implement, be sure not to exceed the maximum weight of the rear axle. See the technical specifications in this manual for the maximum permissible axle loading.

**IMPORTANT:** When attaching a trailer or implement, be sure not to exceed the maximum load of the tyre type. See the technical specifications for maximum rear axle tyre loadings.

- Couple a trailer to the drawbar using an approved trailer coupling.
- Always lower a loaded drawbar with the hydraulic lift.
- Check that trailer brakes are operating properly and observe any special instructions issued by the trailer manufacturer.
- Secure the trailer load properly.



**WARNING:** On tractors with trailers, the load must be properly secured. The load must not obstruct the operator's vision, or cover lights and reflectors. Loads which project more than 1 m behind the vehicle train must be suitably marked. During daytime, this should be done with a flag, and during darkness, with a red light and a reflector arrangement.

---

### 1.2.4.10 Ensuring personal safety of other people

---

Avoid hazards for other people when using the tractor.



**DANGER:** Do not allow children in the cab or near the tractor or an attached implement while the engine is running.



**DANGER:** If the tractor engine is running, do not leave anybody in the cab without supervision, as the push buttons are easily operated. Always apply the parking brake.

- Stop the engine and lower the implement to the ground when leaving the tractor.
- Do not let passengers ride in the tractor unless it is provided with a special seat.  
Other personal transport, for example on front-mounted loaders, is not permissible.
- Do not let passengers ride on the platform inside the tractor.
- Never lend the tractor to a person who is not used to driving it.



**DANGER:** You may be held responsible for any resulting accidents.

- Do not allow children, untrained or unqualified persons to operate your tractor. They could injure themselves or someone else.

---

#### 1.2.4.11 Fire hazards

---



**WARNING:** Open fire, smoking and sparks are prohibited near the fuel system and batteries. Especially when charging batteries, explosive gases are present.

---

#### 1.2.4.12 Handling viton seals subjected to high temperatures

---

At temperatures over 300°C, the viton seals of the engine produce highly corrosive hydrofluoric acid.

- Do not touch viton seals subjected to abnormally high temperatures with your bare hands.  
Use neoprene rubber or heavy duty gloves and safety glasses when decontaminating.
- Wash seals and the contaminated area with 10% calcium hydroxide or other alkali solution.
- Put all the removed material in sealed plastic bags and deliver them to the point stated by the authorities concerned.



**WARNING:** Never burn viton seals.

---

#### 1.2.4.13 After-treatment system

---

The selective catalytic reduction (SCR) after-treatment system contains vanadiumpentoxide. Vanadiumpentoxide can be hazardous to health.

The SCR after-treatment system is installed in the muffler, and is not hazardous to health under normal use and handling.



## **1. Safety precautions**

When the SCR after-treatment system is handled in such a way that there is a risk of exposure to dust, safety precautions must be taken. Such work includes, for example, opening the after-treatment system, machining, and disposal of the after-treatment system.

### **Safety instructions for work involving the SCR after-treatment system**

- Inhalation: If dust is inhaled, the affected person must be immediately taken to breathe plenty of fresh air. If a considerable amount of dust has been inhaled, seek medical help.
- Contact with eyes: Rinse eyes immediately with water. If irritation continues, seek medical help.
- Contact with skin: Wash with soap and water. Take off contaminated clothes.
- Swallowing: If a large amount has been swallowed, drink plenty of water and try to vomit. Seek medical help.

### **Environmental hazards**

Vanadiumpentoxide is toxic to aquatic organisms, and may cause long-term adverse effects in the aquatic environment.

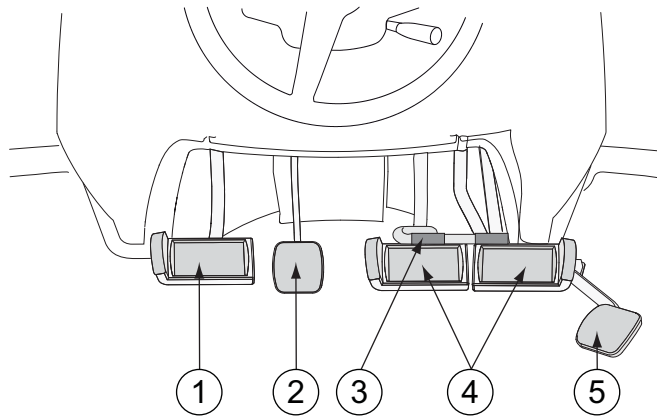
### **Precautions to protect the environment**

All dust and spillage must be gathered in a container for recycling or disposal in accordance with local regulations. They must not be allowed to enter water systems or the general waste management system.

When an SCR after-treatment system is no longer used, it must be disposed of in accordance with applicable EU regulations, national regulations, or local regulations. EU classifies its parts as hazardous to the environment.

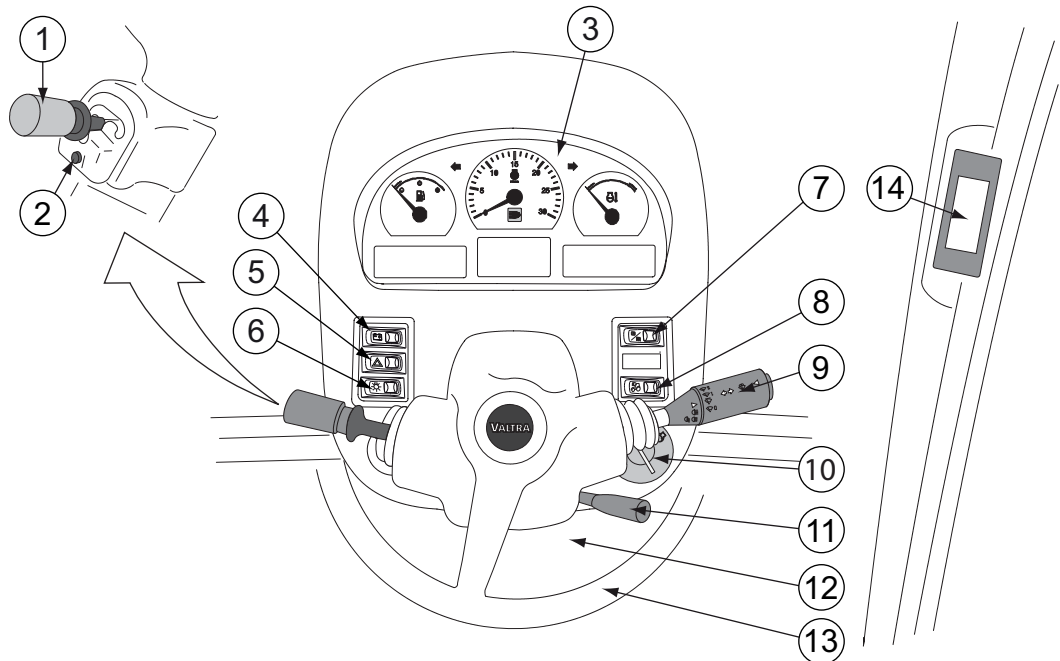
## 2 Instruments and controls

### 2.1 Pedals



1. Clutch pedal
2. Locking pedal for steering wheel inclination
3. Latch for brake pedals
4. Brake pedals
5. Accelerator pedal

### 2.2 Dashboard



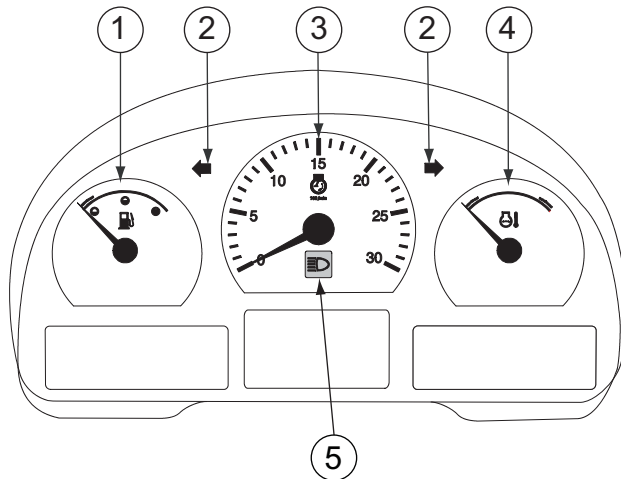
1. Power shuttle lever
2. Powershift preprogramming push button
3. Agroline instrument panel
4. Hazard warning flasher switch
5. Light switch
6. Agroline instrument panel display change-over switch

## 2. Instruments and controls

7. Upper headlights (extra equipment)
8. Multifunctional lever
9. Ignition switch
10. Lever for adjusting steering wheel position
11. Electric centre, lower part of the dashboard
12. Steering wheel
13. A-pillar display

### 2.2.1 Agroline instrument panel

The operator receives information from the gauges, coolant thermometer, tachometer and indicator lights. All this can be seen on the Agroline instrument panel.



1. Fuel gauge
2. Indicator lights for direction indicator
3. Tachometer
4. Coolant thermometer
5. Indicator light for the main beam
6. Agroline instrument panel display.

The fuel gauge shows the amount of fuel left in the tank.


The coolant thermometer indicates the engine temperature. The zone between blue (cold) and red (hot) is the normal operating temperature.

#### 2.2.1.1 Symbols on the Agroline instrument panel display

The Agroline instrument panel display has fixed views and views that can be selected by the operator.

##### Fixed view symbols

The fixed views are the following two functions shown on the bottom row of the display:

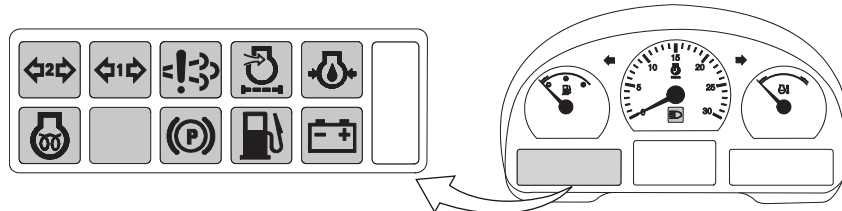
Symbol	Function
	Operating hours (hhhh.h)
km/h / mph	Driving speed (km/h / miles/h)

### Selectable view symbols

The selectable views are the following functions shown on the top and bottom row of the display:

Symbol	Function
	Driving trip (m, km/miles)
	Rear PTO rotating speed (r/min)
	Front PTO rotating speed (r/min, extra equipment)
	Clock
	Transmission temperature
<b>AC<sub>R</sub></b>	Position of lower links (% , 0-100 Ac)
	Maintenance schedule

#### 2.2.1.2 Indicator lights on the left side of the display







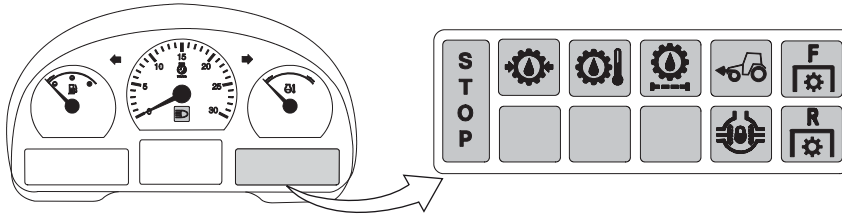
Indicator light	Indication
	Direction indicator light for second trailer (green) If one of the bulbs on the combination has failed, this light is not lit.
	Direction indicator light for first trailer (green) If one of the bulbs on the combination has failed, this light is not lit.
	Engine emission system failure or malfunction indicator light
	Engine air cleaner clogging indicator light
	Engine oil pressure light
	Glow indicator light  The light (yellow) is lit when the ignition key is in position  and the engine is cold.









Table continued on next page

## 2. Instruments and controls

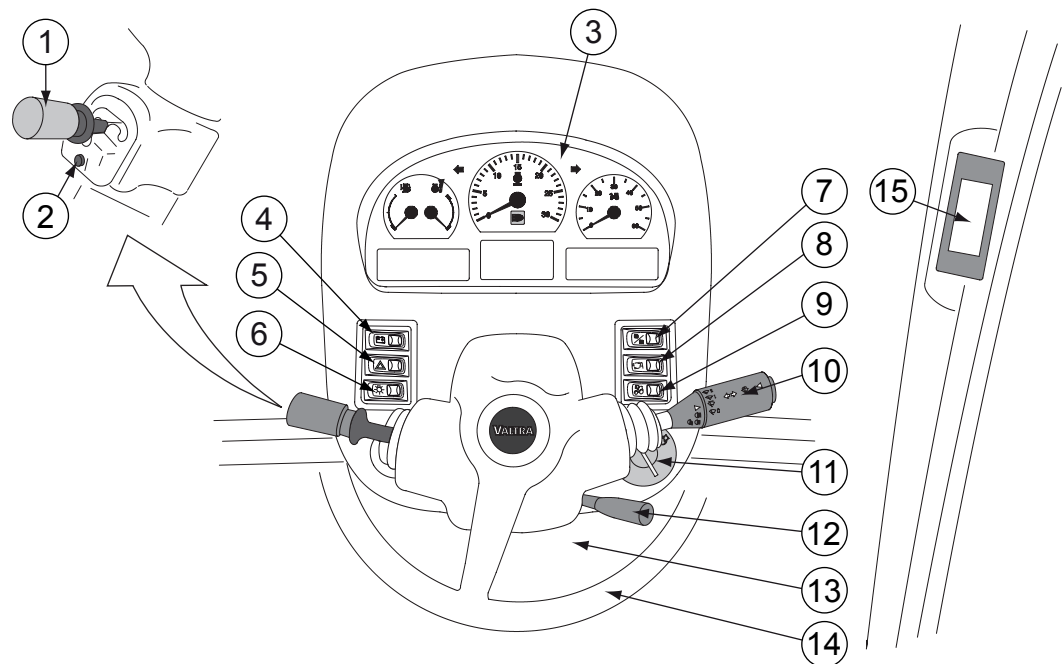
Indicator light	Indication
	Parking brake indicator light The light (red) is lit to indicate that the power shuttle lever is in the parking brake position.
	Low fuel level indicator light The light is lit (yellow) and a buzzer sounds once to indicate that about 50 litres of fuel is left.
	Battery charging indicator light

### 2.2.1.3 Indicator lights on the right side of the display



Indicator light	Indication
	STOP indicator light (red)
	Gearbox oil pressure light (red)
	Gearbox oil temperature light (red)
	Hydraulic pressure and auxiliary return oil filter clogging indicator light (red)
	Front wheel drive indicator light The light is lit (yellow) to indicate that front wheel drive is engaged.
	Front power take-off (PTO) indicator light The light (yellow) is continuously on and indicates that the front PTO is engaged.
	Differential lock indicator light The light is lit (yellow) to indicate that the differential lock is engaged.
	Rear PTO indicator light The light blinks (yellow) when the rear PTO has been activated and is ready to operate. The light is on continuously when the rear PTO is engaged.

## 2.3 Dashboard



1. Power shuttle lever
2. Powershift preprogramming push button
3. Proline instrument panel
4. Main switch
5. Hazard warning flasher switch
6. Light switch
7. Proline instrument panel display change-over switch
8. Proline instrument panel display setting switch
9. Upper headlights (extra equipment)
10. Multifunctional lever
11. Ignition switch
12. Lever for adjusting steering wheel position
13. Electric centre, lower part of the dashboard
14. Steering wheel
15. A-pillar display

### 2.3.1 Proline instrument panel

The operator receives information from the gauges, coolant thermometer, tachometer, speedometer and indicator lights. All this can be seen on the Proline instrument panel. The Proline instrument panel is an alternative equipment.

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