



**VALTRA**

# **OPERATOR'S MANUAL**

## **Smart farming**

# Smart farming

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# 1 Introduction

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## 1.1 About this manual

This manual is the operator's manual for the Valtra Smart Farming systems. This manual is intended to be used in conjunction with the Operator's manual of the tractor. The instructions here apply to the operation of the Valtra Smart farming systems. For general instructions regarding the operation, safety, maintenance and service of the tractor, see other user documentation of the tractor.

Valtra Guide is a satellite-based automatic steering system, which steers the tractor along predefined path. Read this manual carefully before you use the Valtra Guide system. When you use the Valtra Guide system, obey the safety instructions of this manual and those of the Operator's manual of the tractor.

Valtra Guide system is intended to be used only in a safe and suitable area. Even if the system makes steering automatic, be careful when you use it. Stay alert in the cab and make sure that you are ready to operate the steering yourself when necessary.

If the Valtra Guide system needs service, speak to your local Valtra dealer / workshop.



## 1.2 Intended use

Valtra Guide is designed solely for use in agricultural operations.

Do not use this machine for applications or purposes other than those described in this manual. The manufacturer accepts no liability for damage or injury resulting from misuse of this machine.

Compliance with the conditions of operation, service and repair as specified in the manufacturer instructions constitute essential elements for the intended use of this machine.

Only qualified persons who are familiar with Valtra Guide and its characteristics and relevant safety rules and procedures can operate, service and repair Valtra Guide.

Obey all generally recognized safety regulations and road traffic regulations.

Any unauthorized modifications performed on this machine will relieve the manufacturer of all liability for any resulting damage or injury.

## 2 Safety

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## 2.1 Safety instructions

### 2.1.1 Safety symbol

The safety symbol tells you about an area that can be dangerous!

Look for the safety symbol in this manual and on the machine. The safety symbols tell you that there are important safety instructions in the manual.



Fig. 1

### 2.1.2 Safety messages

The words DANGER, WARNING or CAUTION are used with the safety symbol. Learn these safety messages and obey the recommended precautions and safety instructions.



**DANGER:**  
If you do not obey the recommended precautions and safety instructions, DEATH OR INJURY will occur.



**WARNING:**  
If you do not obey the recommended precautions and safety instructions, DEATH OR INJURY can occur.



**CAUTION:**  
If you do not obey the recommended precautions and safety instructions, INJURY can possibly occur.



Fig. 2

### 2.1.3 Information messages

The instructions important and note are not related to personal safety. They give information about the operation and maintenance of the machine.

**IMPORTANT:**

*If you do not follow the special instructions or procedures, you can cause damage to the machine. You can also cause damage to the process, or the area around the machine.*

**NOTE:** *Information to help you do the procedure, or help you to understand.*

### 2.1.4 Safety signs



**WARNING:**  
Do not remove the safety signs. Replace the safety signs that you cannot read, are damaged, or are missing.

Clean the machine surface with a weak soap and water solution before you replace the safety signs. The replacement safety signs are available from your dealer.

Always make sure that the safety signs are in the correct locations and that you can read the safety signs. The illustrations of safety sign locations are in this section.

Keep the safety signs clean. If necessary, use a weak soap and water solution.

### 2.1.5 A word to the operator

It is your responsibility to read and understand the safety section in this manual and the manual for all implements before you operate this machine. You are responsible for your safety. Good safety procedures prevent injury to you and the persons around you.

Make the information in the safety section of this manual a part of your safety procedure. This safety section is written only for this type of machine. Safety is your responsibility. You can prevent injury and death.

This safety section gives basic safety examples that can occur during the operation and maintenance of your machine. This safety section is not a replacement for safety instruction in other sections of this manual.

Injury or death can occur if the safety instruction is not obeyed.

Learn how to operate the machine and how to use the controls correctly.

Do not operate the machine if you do not know how to operate the machine. Do not let persons operate the machine that do not know how to operate the machine.

Follow all safety instructions in the manuals and on the safety signs on the machine, the implements, and the attachments.

Use only approved attachments and implements.

Make sure that your machine has the correct equipment that is necessary by the local regulations.

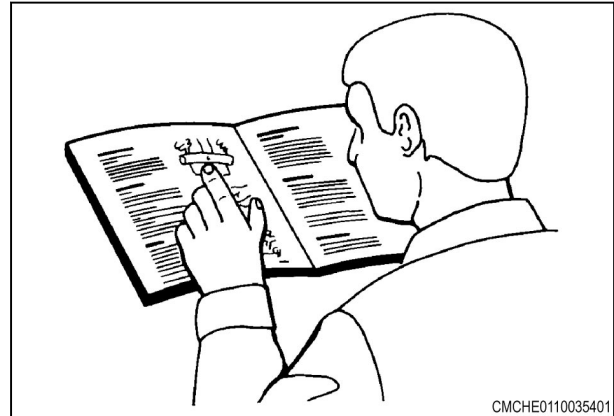


Fig. 3



**WARNING:**  
Do not use alcohol or drugs that can have an effect on alertness or coordination. If you use prescription or 'over the counter' drugs, get medical advice about the safe operation of machines.



**CAUTION:**  
If attachments or implements used with this machine have a different operator manual, see that operator manual for other important safety instructions.

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### 2.1.6 Safety information

---

Failure to obey basic safety rules and precautions cause most personal injuries that occur during product operation, maintenance or repair work. You can usually avoid an injury when you recognize dangerous situations before the injury occurs.

It is necessary that the operator is alert to the possible dangers at all times. The operator must have the necessary training, skills and tools to use the equipment correctly.

Incorrect operation, maintenance or repair of this product can be dangerous and can result in injury or death.

Do not operate, perform maintenance or do repair work on this product until you have read and understand the operation, the maintenance and the repair information.

Safety precautions and warnings are included in this manual and on the product. Injury or death can occur to the operator and other people if the operator does not obey the warnings.

It is not possible to anticipate all dangerous situations and conditions. The warnings in this publication and on the product are, therefore, not all inclusive. If you use a tool, procedure or technique that we do not recommend, you must make sure that it is safe for you and for others.

It is necessary to make sure that the operation, maintenance or repair work does not damage the product or make it unsafe. Information, specifications, and illustrations in this publication come from information available at the time of publication production.

Specifications, torques, pressures, measurements, adjustments, illustrations and other items can change at any time. These changes can have an effect on the service that is given to the product. Before you start to use the equipment, you can get the complete and most current information from approved Valtra dealers.

If the (GNSS) satellites or differential correction signal are lost, this system is momentarily disabled.

If this product is dropped, altered, transported or shipped without correct packaging or otherwise treated without care, erroneous measurements can occur.

Periodically test this product to make sure measurements are accurate.

Contact AGCO immediately if this product does not operate correctly.

**CAUTION:**

**Do not move a reference station when it is in operation. If you move a reference station that is in operation, the controlled steering of a system that uses the reference station is interfered. This can cause personal injuries or damage to property.**

Do not erect the reference station below or near high-voltage power lines.

To avoid exposure to radio frequencies, stay at least 25 cm away from the modem.

When you use the portable reference station, it is necessary that the tripod is securely installed.

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### 2.1.7 Electrical components

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**WARNING:**

**Incorrectly connected power can cause severe damage to people or the equipment.**

Make sure all the power cables to the system components are correctly connected. See the machine operator manual for safety information.

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### 2.1.8 Correct disposal of waste

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Incorrect disposal of waste can pollute the environment and ecology. As the product has a lithium battery with perchlorate material, special handling is necessary. If the battery is dead, recycle the battery correctly.

Different regional regulations can have an effect on how the battery is discarded or recycled. Inquire with local environmental or recycling center on the proper way to recycle or dispose waste.

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### 2.1.9 How to disengage the automatic steering

---

If the angle between the driving line of the tractor and the wayline is more than 75°, Valtra Guide disengages. If the distance to the wayline is too much, Valtra Guide disengages. With the decimeter precision, the maximum distance is 1.2 meters. With the centimeter precision, the maximum distance is 0.6 meters.

It is necessary to disengage the automatic steering and control the tractor manually in these conditions.

- The line of travel is blocked.
- The tractor does not stay on course.

Valtra Guide disengages also when you get up from the operator's seat. However, we do not recommend that you disengage Valtra Guide with this procedure when the tractor moves.

#### Procedure

1. These manual procedures disengage the automatic steering:
  - a) Turn the steering wheel clockwise or counterclockwise for some degrees.  
If the TwinTrac reverse drive system is not used, the steering wheel for TwinTrac does not disengage the automatic steering. If the TwinTrac reverse drive system is used, the front steering wheel does not disengage the automatic steering. But the front steering wheel does have an effect on the steering.
  - b) Drive less than 0.1 km/h for at least 10 seconds.
  - c) Deactivate Valtra Guide from the master activation switch.
2. If these procedures do not disengage the automatic steering, push the Valtra Guide engage button.

---

### 2.1.10 Radio frequency exposure requirements

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To comply with the radio frequency exposure requirements, maintain at least 25 cm (10 in) between the user and the radio modem.

Handling the cord of this product, or cords associated with accessories sold with this product, will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm.

Wash hands after handling.

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### 2.1.11 UHF radio

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A license is necessary if you use an Ultra High Frequency (UHF) radio. Fines and other penalties can be the result if you use a UHF radio without a license. It is necessary to obey all local laws when you use a UHF radio. Local authorities can give more information on what is necessary when you use a UHF radio.

Every country have their own individual UHF radio frequencies. Before the use of UHF radio, do a check of the allowed frequencies from your local authorities and set the UHF radio frequency accordingly.

Because of the Real Time Kinematic (RTK) mode, UHF is the most common choice of communication between a base station and a receiver. The quality and strength of the UHF signals have an effect on the range for UHF communications.

1. Local conditions, such as topography, local communications and meteorological conditions, have an effect on the range of the system and the RTK communications. If necessary, use a scanner to find clear channels.
2. It is possible to increase the range of the system if you adjust the base station antenna in these procedures:
  - The radio modem of the base station must have a fully charged battery.
  - Directional antennas and repeaters increase the system range. With the directional antennas, you get the full signal power from a narrower direction and thus increase the range of the system.

## 3 Signal definition and characteristics

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## 3.1 Defintions

### 3.1.1 GNSS and correction signal

GNSS (Global Navigation Satellite System) is a global navigation satellite system designed for position determination and navigation using satellite signals and signals received from pseudolites (terrestrial transmitters which emit signals like those of a satellite).

GNSS satellites communicate their exact position and time via radio. For position determination a receiver has to be supplied with signals from at least four satellites simultaneously. The four signal propagation times (from the satellites to the receiving aerial) are then calculated in the receiving device. This is used to determine the current position.

Stationary receiving stations improve positional accuracy by transmitting correction signals (DGPS) to users:

- With geostationary satellites such as the European EGNOS, the American WAAS and various other providers
- Terrestrially with a base station or RTK network

### 3.1.2 Satellite reception

It is possible that for example dense trees, copses, buildings and high-voltage power lines block the GNSS signal and the correction signal.

(1) A blocked signal

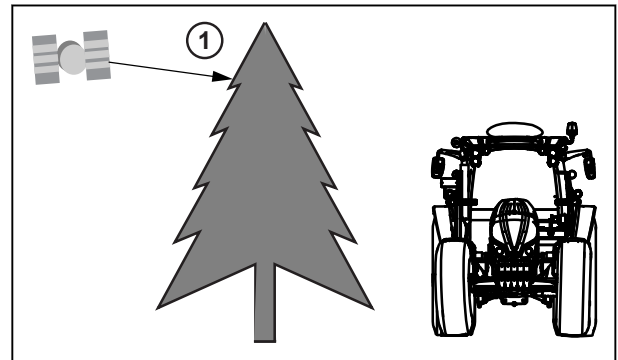


Fig. 1

The GNSS signal and correction signal are not available when the satellite is less than 5 to 8 degrees above the antenna level.

**NOTE:**

*The correction signal satellite is geostationary above the equator.*

(1) Small signal angle

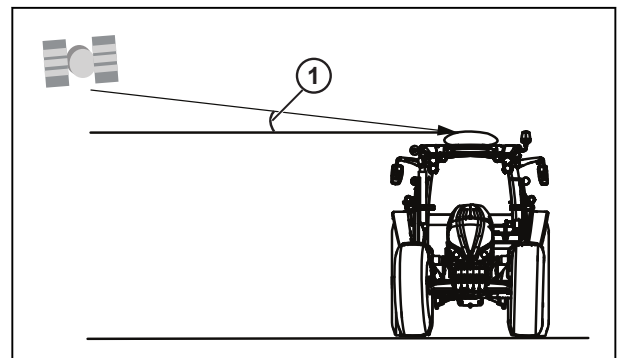


Fig. 2

For example trees, copses, buildings and high-voltage power lines can block the GNSS signal.

- (1) GPS 1 is blocked
- (2) GPS 2 is blocked
- (3) GPS 3 is not blocked
- (4) GPS 4 is not blocked
- (5) GPS 5 is not blocked

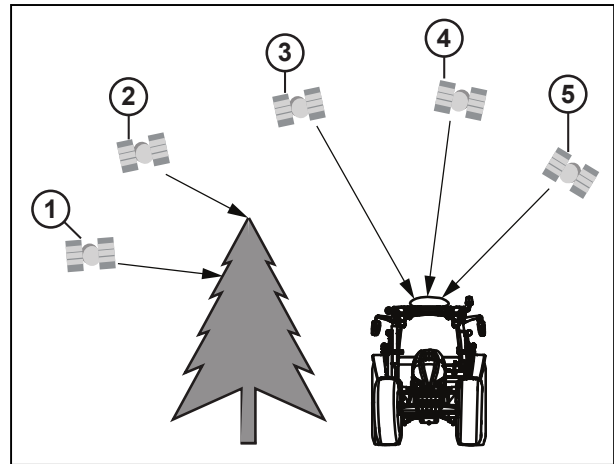


Fig. 3

Valtra Guide can break the connection to certain satellites, including the correction signal satellite, if the vehicle is operated on slopes. Slopes can cause the satellite to be out of the reception range of the antenna.

- (1) Angle 5-8°
- (2) GPS 1
- (3) Correction signal satellite
- (4) GPS 2
- (5) GPS 3
- (6) GPS 4

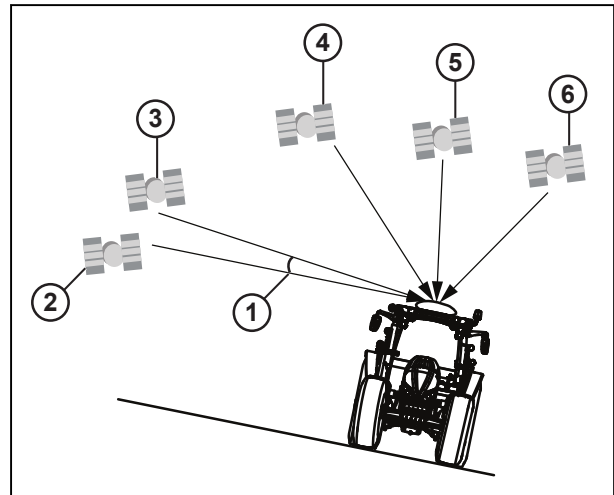


Fig. 4

Valtra Guide steers the machine but it does not steer the implement.

If the implement does not run concentrically to the vehicle because it is pulled downhill, for example, the automatic steering is not as accurate.

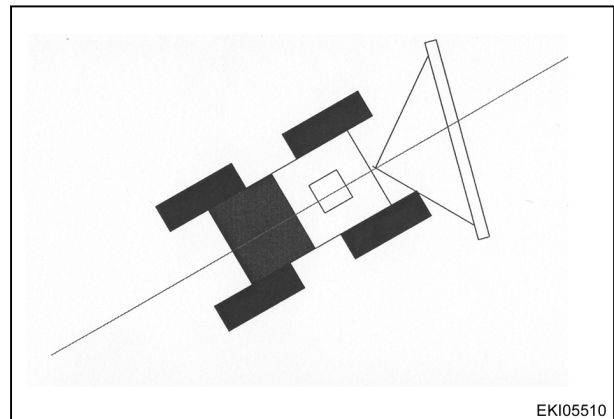


Fig. 5

EKI05510

- The wave angle and thus reception of the correction signal decreases as the vehicle moves north.
- Hills can make the reception of satellite signals weaker.
- The GNSS system does not offer uniform availability around the clock and for every location.

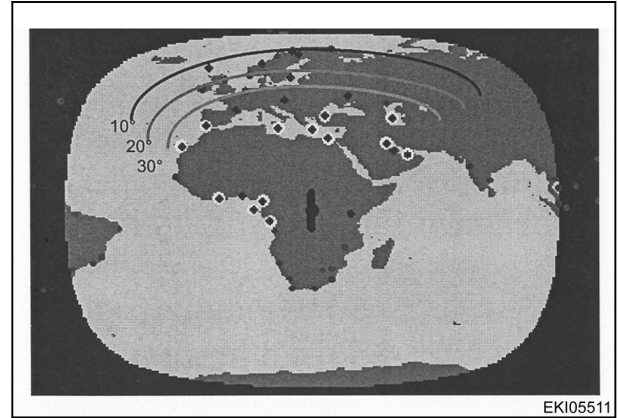


Fig. 6

### 3.1.3 Signal interruption

Position determination takes a certain amount of time after activation before reaching the specified level of accuracy. Temporary obstruction may cause the system to lose its connection to the satellite signal. This may result in reduced levels of accuracy, the need to redetermine position, or failures depending on the system.

### 3.1.4 Static and dynamic accuracy (satellite drift)

#### Satellite drift

A certain amount of drift occurs on satellite-based navigation systems. The accuracy is therefore defined statistically and specified as a percentage of the operational period.

- **Static accuracy:** Measured position of the stationary machine over 1–3 days. The average value determined states how close the measured value comes to the actual position.
- **Dynamic accuracy:** Pass-to-pass accuracy from wayline to wayline, which must be achieved when crossing the field within 15 minutes. If a longer period of time passes between two passes, a certain amount of drift will be noticeable.

### 3.1.5 Convergence time

The convergence time is the time necessary for the system to determine the position of the tractor after you activate the system. It is necessary to give some time to the satellite-based correction signals to get the correct level of accuracy. Signal interruptions, for example buildings, trees and other obstacles, make this procedure slower. If there is an extended stop in the correction signal, the level of signal precision decreases, and the system does the signal settings again.

### 3.1.6 Accuracy and strength indicator

#### NOTE:

*Automatic wayline guidance can only be activated with the yellow bar displayed.*

The accuracy of positioning is dependent upon the positions of the satellites relative to each other and the position of the receiver, as well as the accuracy of time measurement and the runtime.

At favourable angles ( $\sim 90^\circ$ ), the accuracy of measurement will be greater than at acute angles or angles of approx.  $180^\circ$ .

#### HDOP (Horizontal Dilution of Precision)

The HDOP value is a measure of measured value scatter; the lower the value, the lower the degree of measurement error.

#### SV

SV indicates the number of satellites used.

Bar indicator	GNSS	Correction signal		HDOP	SV
	NOK	NOK	-	-	-
	OK	NOK	only if fallback is deactivated		
	OK	OK	every	Yellow bar	
	OK	OK	every	=< 1.5	>= 6
	OK	OK	every	=< 1.3	>= 7

### 3.1.7 Valtra Guide status

The Valtra Guide status shows in the Map screen as different steering-wheel icons.

	The color of the icon shows the status of the steering controller. <ul style="list-style-type: none"> <li>• White = OFF</li> <li>• Yellow = Pre-engaged</li> <li>• Green = Engaged</li> </ul>
	The crossed icon shows that the steering controller is in the error state or it is not possible to activate.
	The icon shows that you have not turned the steering wheel in a period of 5 minutes.

### 3.1.8 Basic system features

#### Operating conditions

Best conditions for the reception of satellite signals:

- The tractor is on level ground or the base station is horizontal
- There are no blockages between the signal source and the signal reception

### Basic system features

- Valtra Guide can steer the tractor with driving speed between 0,1 km/h and 25 km/h both forward and reverse.
- Automatic steering along parallel waylines in straight lines and curved lines
- Move a wayline manually or automatically to zero the drift
- Save the implement settings
- Possibility to set the offset for the implements that are not on the center line of the tractor
- Save waylines, boundaries, obstacles, markers and worked areas in fields
- Current wayline number shows on the map screen
- The worked area shows on the map screen
- One RTK base station can transmit the correction signal to multiple Valtra Guide receivers

---

### 3.1.9 Restrictions

- Copses, trees and buildings can prevent the reception of the GNSS signal or the correction signal.
- Overhead power lines can cause electromagnetic interference.
- The inclined position of the tractor can have an effect on the number of the satellites that the Valtra Guide system can receive.
- The system cannot operate in regions where the correction satellite is too near the horizon. Also hills and especially their North-side slopes can have an effect on the operation.
- In areas of high latitudes, we recommend that you set the waypoints on the North/South axis as an alternative to the East/West axis.
- Precision is also decreased if you drive on a slope and pull an implement with a strong side pull.
- A too high or too low load on the front axle can decrease the precision.
- Slippery, sandy or very rough ground conditions can decrease the precision
- The terrain and the weather have an effect on the range of the base station. Also, signal precision decreases as the distance increases.
- Correction signal is interrupted when the tractor is too far away from the RTK base station.
- If there is an interruption in the power supply to the base station, there can be errors and changes in the track after you start the system again. You can correct it manually through SmartTouch.

---

### 3.1.10 Deactivation

The automatic steering deactivates in the following conditions or events (or cannot be activated):

- The steering wheel is turned
- The bar display is showing fewer than three bars (machine does not have a valid position)
- Driving speed is below 0.1 km/h or over 25 km/h
- The angle between the current machine driving line and the wayline (target wayline) exceeds 75°
- The machine deviates from the side of the wayline (target wayline):
  - Sub-meter accuracy: lateral deviation of more than 1.2 m
  - Centimeter accuracy: lateral deviation of more than 0.6 m
- The operator leaves the operator's seat.

## 3.2 Specifications

### 3.2.1 Overview of correction signals depending on the receiver

Receiver	Accuracy	Supported correction signal
NovAtel	Sub-meter	Autonomous
		SBAS (SBAS contains EGNOS / WAAS signals)
		TerraStar-L
	Decimeter	TerraStar-C
	Centimeter	RTK base SATEL EASy-Proof radio modem External radio modem
		RTK network Internal GSM/GPRS modem External mobile radio modem
Trimble	Sub-meter	Autonomous
		SBAS (SBAS contains EGNOS / WAAS signals)
		RangePoint RTX
	Decimeter	CenterPoint RTX Satellite
	Centimeter	CenterPoint RTX Fast RTK base Trimble AG-715 450MHz radio modem External radio modem
		RTK network Internal GSM/GPRS modem External mobile radio modem

### 3.2.2 Available correction signals: NovAtel receiver

**NOTE:** The actual accuracy of the Valtra Guide correction signals depends, amongst other things, on:

- GNSS system characteristics (GPS and GLONASS data)
- Satellite constellation
- Ionospheric and tropospheric conditions
- Multipath error (multipath effects: e.g. reflection on objects)
- Length of base line (distance between machine and RTK base station)

**NOTE:** AGCO assumes no responsibility for the performance of independent additional GNSS services such as TerraStar-L, TerraStar-C and SBAS.

NovAtel	Autonomus	SBAS	TerraStar-L	TerraStar-C	RTK Network <sup>[1]</sup> and base station
Receiver	Sub-meter	Sub-meter	Sub-meter	Decimeter	Centimeter
Authorisation level					
Availability/cover	Worldwide	Europe/NA	Worldwide	Worldwide	Regional
Accuracy Dynamic	± 21 -53 cm	+/- 15 -30 cm	+/-15 cm	+/-5 cm	+/-2.5 cm
Accuracy Static	±240 cm	+/-150 cm	+/- 50 cm	+/-5 cm	+/-2.5 cm
Start-up time	1 to 5 min	1 to 5 min	< 5 min	30 to 45 min	1 to 5 min

[1] RTK Network equals NTRIP (Networked Transport of RTCM via Internet Protocol).

**NOTE:**

To order a correction signal, please contact your Valtra dealer.

**3.2.3 NovAtel: TerraStar frequencies and coverage**

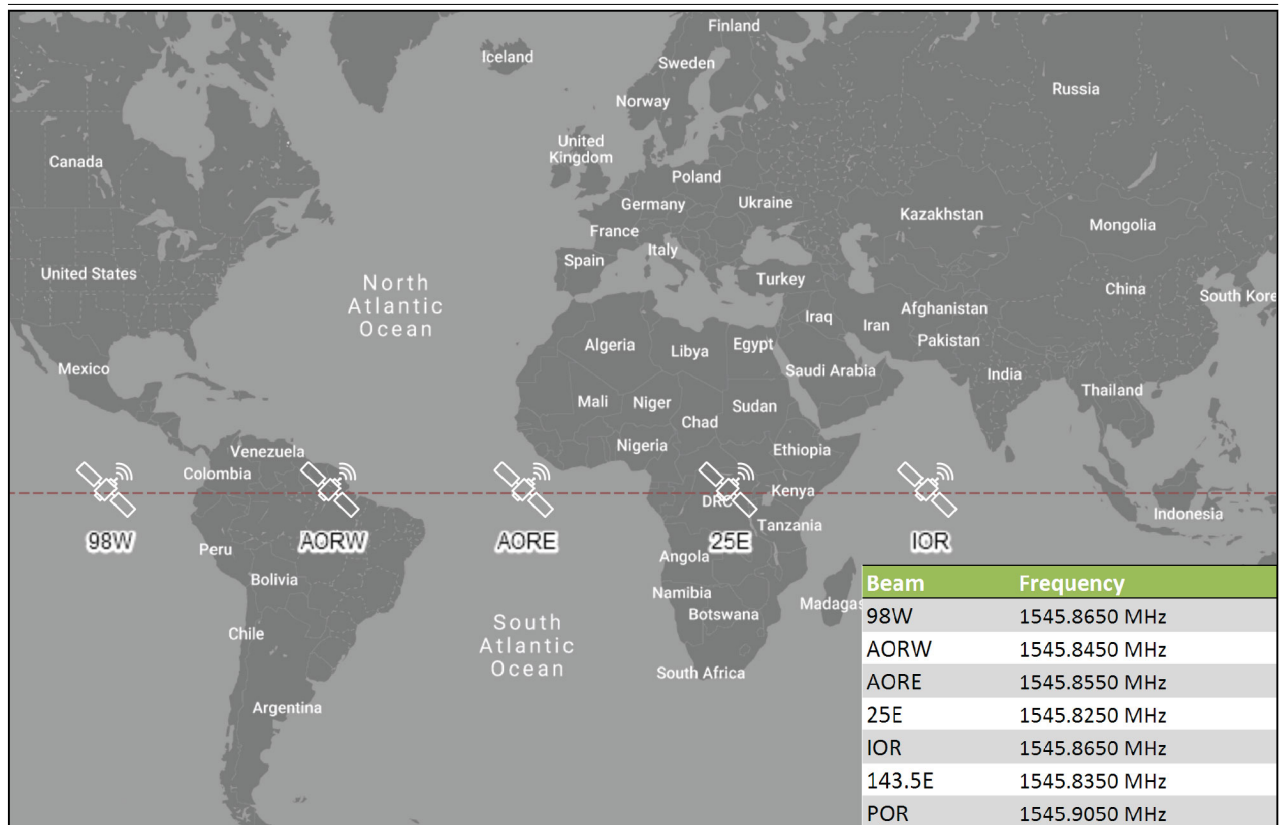


Fig. 7

**NOTE:** Baud rate (for all satellites): 1200

**NOTE:**

Do a check of the frequencies from the TerraStar coverage map in NovAtel internet site.



### 3.2.4 Available correction signals: Trimble receiver

**NOTE:** The actual accuracy of the Valtra Guide correction signals depends, amongst other things, on:

- GNSS system characteristics (GPS and GLONASS data)
- Satellite constellation
- Ionospheric and tropospheric conditions
- Multipath error (multipath effects: for example, reflection on objects)
- Length of base line (distance between machine and RTK base station)

**NOTE:** AGCO assumes no responsibility for the performance of independent additional GNSS services such as RangePoint RTX, CenterPoint RTX and SBAS.

Trimble	Autonomus	SBAS	RangePoint RTX	CenterPoint RTX Standard	CenterPoint RTX Fast	RTK Network <sup>[1]</sup> and base station
Receiver	Sub-meter	Sub-meter	Sub-meter	Decimeter	Centimeter	Centimeter
Authorisation level						
Availability/cover	Worldwide	Europe/NA	Worldwide	Worldwide	Worldwide	Regional
Accuracy Dynamic	± 21 -53 cm	+/- 15 -30 cm	+/-15 cm	+/-4 cm	+/-4 cm	+/-2.5 cm
Accuracy Static	±240 cm	+/-150 cm	+/- 50 cm	+/-4 cm	+/-4 cm	+/-2.5 cm
Start-up time	1 to 5 min	1 to 5 min	1 to 5 min	30 min	5 min	1 to 5 min

[1] RTK Network equals NTRIP (Networked Transport of RTCM via Internet Protocol).

**NOTE:**

To order a correction signal, please contact your Valtra dealer.

**3.2.5 Trimble: RTX frequencies and coverage**

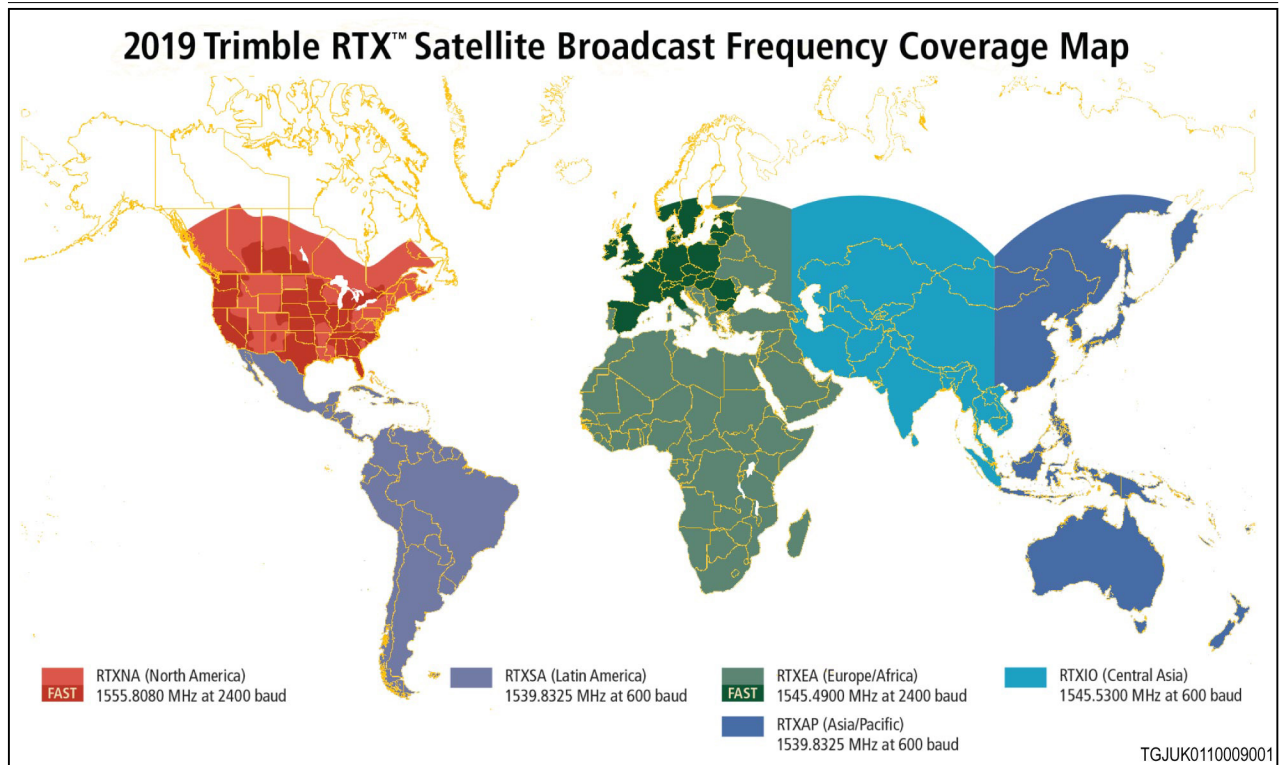


Fig. 8

**NOTE:** Do a check of the frequencies from the Trimble RTX world map in Trimble internet site.

**3.2.6 Trimble: RTX frequencies**

Region	Signal name	Frequency	Baud rate
North America	RTXNA	1555.8080 MHz	2400 Baud
South America	RTXSA	1539.8325 MHz	600 Baud
Europe (RTX Fast)	RTXEU	1539.8125 MHz	2400 Baud
Europe/Africa	RTXEA	1545.4900 MHz	2400 Baud
Asia-Pacific region	RTXAP	1539.8325 MHz	600 Baud
Asia-Central region	RTXIO	1545.5300 MHz	600 Baud

### 3.3 Correction source settings

#### 3.3.1 Valtra Guide receiver status

You can open the Valtra Guide receiver status from the Signal accuracy icon on the Map screen.

- (1) Valtra Guide status
- (2) Accuracy in numeric value and strength with bar - Green = good, yellow = medium
- (3) Current wayline
- (4) Cross track error
- (5) Correction signal
- (6) Vertical inclination
- (7) Horizontal inclination
- (8) Tractor direction - 0° is North, 90° is East, 180° is South, 270° is West

The precision of the altitude is ± 10-20 m as there is no correction signal for altitude.

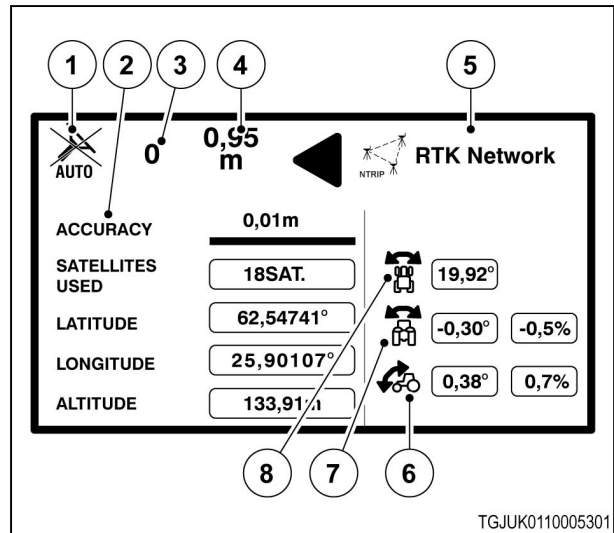


Fig. 9

#### 3.3.2 Valtra Guide receiver info

You can open the Valtra Guide receiver info from the Correction signal icon on the Map screen. The correction signal icon shows also the active correction signal.

- (1) Correction signal icon

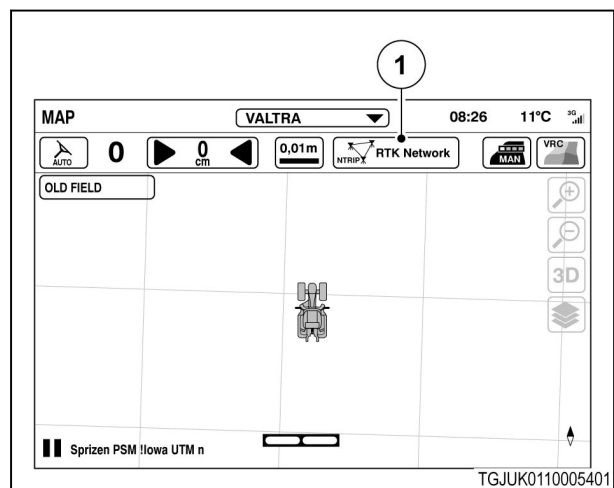


Fig. 10

- (1) Receiver info tab
- (2) Input authorization code
  - Used to upgrade the authorization level, for example.
- (3) Satellite receiver (NovAtel/Trimble)
- (4) Hardware version
- (5) Authorization level (centimetre, decimetre, submetre)
- (6) Serial number

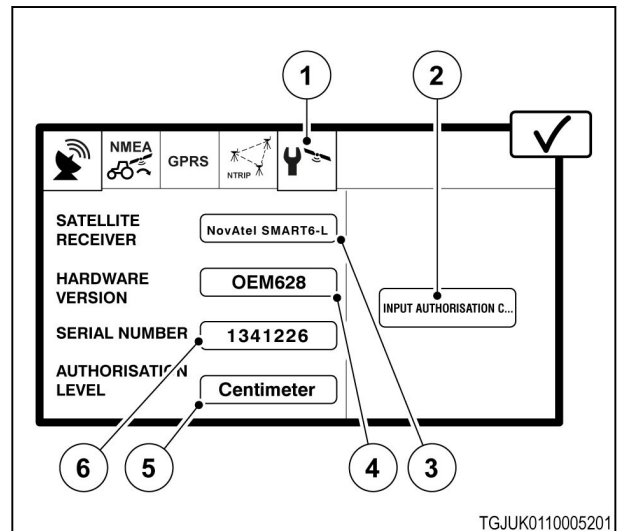


Fig. 11

### 3.3.3 NovAtel receiver

You can open the correction source settings from the Correction signal icon on the Map screen.

- (1) Correction signal icon

The pop-up screen of the correction source settings consists of 4 settings tabs at maximum. Only tabs relevant for selected correction signal show.

SBAS and the Base station are free, but for all the other correction source signals you need to purchase the license.

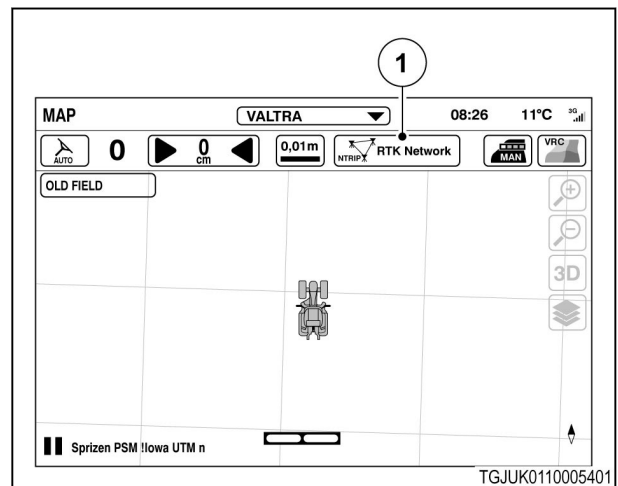


Fig. 12

#### Autonomous

- (1) Correction signal

The receiver calculates position only with GPS and GLONASS satellites without any correction signal. Use the autonomous for very low accuracy work when no correction signals are available.

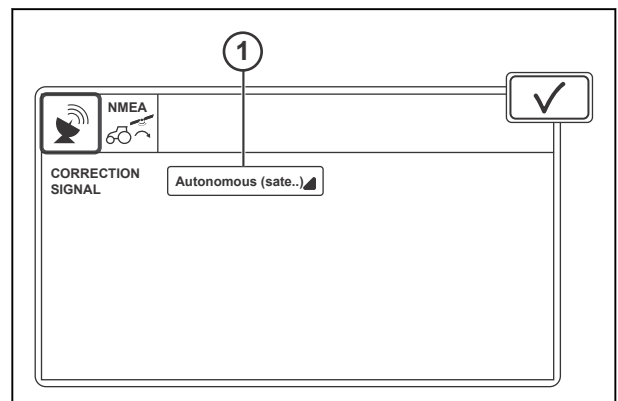


Fig. 13

**SBAS**

- (1) Correction signal
- (2) Signal lag
- (3) Connection status
- (4) Fallback

SBAS is a correction signal, which provides submeter level accuracy. Signal is free and available in the European and North-American regions. SBAS contains EGNOS and WAAS signals.

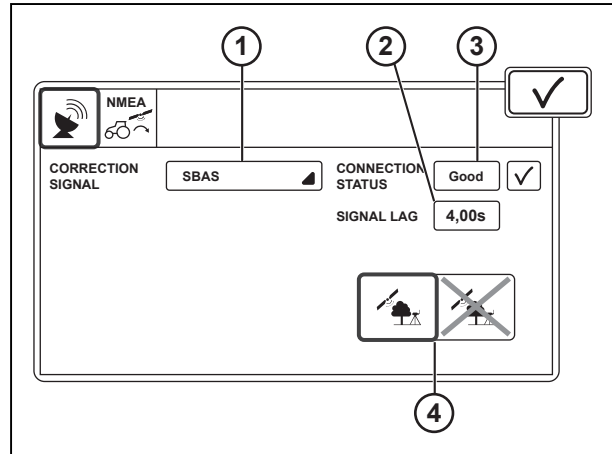


Fig. 14

**TerraStar-L**

- (1) Correction signal
- (2) Signal settings
- (3) Signal name
- (4) Frequency
- (5) Baud rate
- (6) Serial number
- (7) Signal lag
- (8) Connection status
- (9) Fallback

TerraStar-L is a correction signal, which provides sub-metre level accuracy. Signal is only available, if Valtra Guide has sub-metre authorization level.

Automatic in the Signal settings gives the correct data settings for most regions. Use the Custom in the Signal settings if you are located in a border region between 2 satellite areas. With the custom settings, do a check of the frequency and baud rate from the TerraStar internet pages.

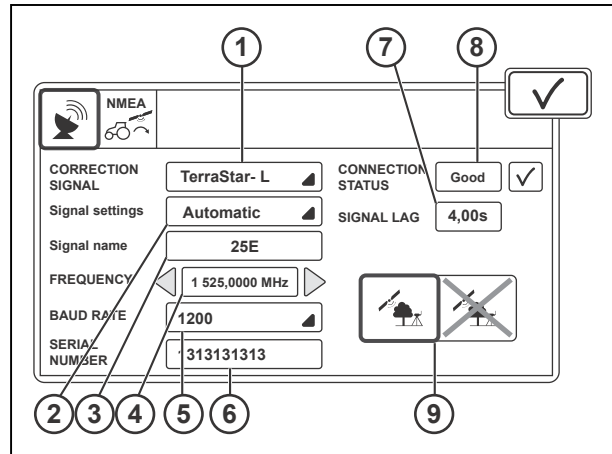


Fig. 15

**TerraStar-C**

- (1) Correction signal
- (2) Signal settings
- (3) Signal name
- (4) Frequency
- (5) Baud rate
- (6) Serial number
- (7) Signal lag
- (8) Connection status
- (9) Fallback

TerraStar-C is a correction signal, which provides decimeter level accuracy. Signal is only available, if Valtra Guide has decimeter authorization level.

Automatic in the Signal settings gives the correct data settings for most regions. Use the Custom in the Signal settings if you are located in a border region between 2 satellite areas. With the custom

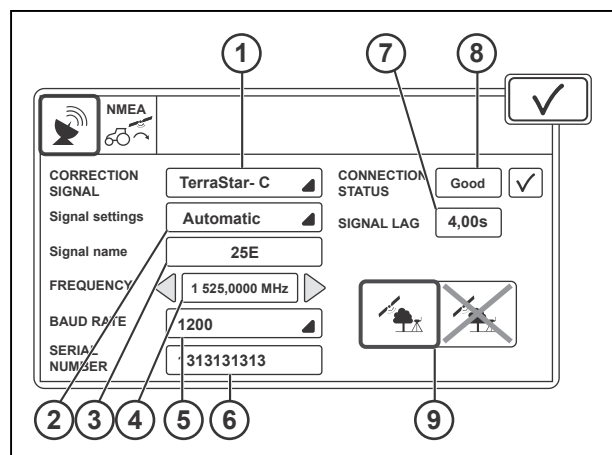


Fig. 16

settings, do a check of the frequency and baud rate from the TerraStar internet pages.

**Base Station**

- (1) Correction signal
- (2) Modem type
- (3) Signal format
- (4) Channel spacing
- (5) Protocol
- (6) Frequency
- (7) Error correction ON/OFF
- (8) Distance to base
- (9) Signal lag
- (10) Connection status
- (11) Fallback

Base Station is a correction signal, which provides centimetre level accuracy. Signal is only available, if Valtra Guide has centimeter authorization level.

With Valtra Modem, set the Channel spacing, frequency and signal format to the same as the base station. If you use an external modem, refer to the modem manufacturer for the data settings.

Do a check of the allowed frequencies from your country's public authority.

Error correction settings must be same in the Valtra Guide radio and base station radio.

**RTK Network**

- (1) Correction signal
- (2) Modem type
- (3) Signal format
- (4) Connection type
- (5) Distance to base
- (6) Signal lag
- (7) Connection status
- (8) Fallback

RTK Network is a correction signal, which provides centimetre level accuracy. Signal is only available, if Valtra Guide has centimetre authorization level.

RTK modem receives the correction signal via mobile network and therefore requires a SIM card for the connection. Refer to the service provider for the data settings.

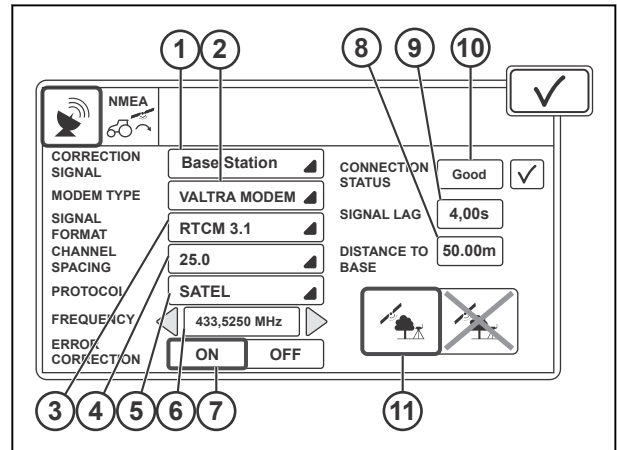


Fig. 17

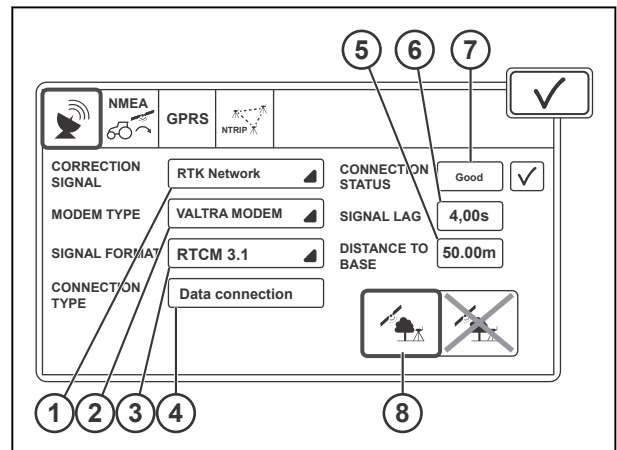


Fig. 18

**GPRS**

- (1) Pin
- (2) APN (access point name)
- (3) User name (optional)
- (4) Password (optional)
- (5) Service provider
- (6) Signal strength
- (7) Internet connection ON/OFF
- (8) Roaming enabled/disabled
- (9) Roaming active/not active

GPRS tab has settings for the GPRS modem. The modem calls to the server, which provides RTK correction signal and therefore a SIM card is required for the connection.

Refer to the service provider for the data settings.

**NOTE:** Roaming function can cause additional costs if it is enabled.

**NTRIP**

- (1) NTRIP address
- (2) NTRIP port
- (3) Mount point
- (4) User name
- (5) Password
- (6) Connect/Disconnect to server
- (7) NTRIP active/not active

The NTRIP address must be in numeric IP format.

When you turn the tractor main power off and again on, connection to the NTRIP server connects automatically. If the Valtra Guide receiver does not receive the NTRIP correction signal, disconnect and connect it again. Refer to the service provider for the data settings.

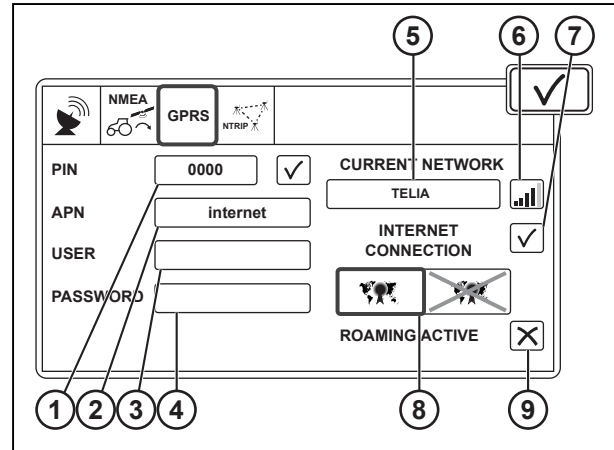


Fig. 19

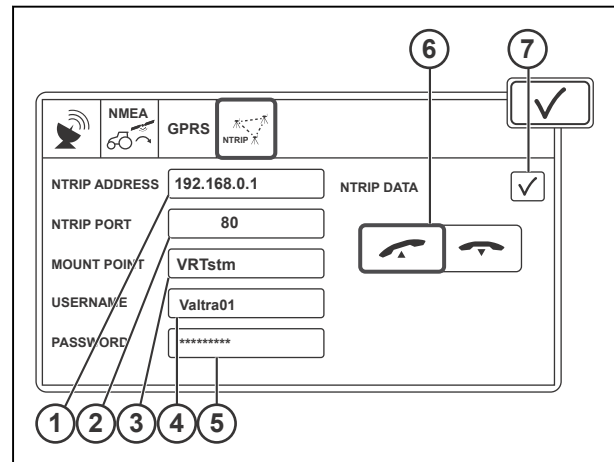


Fig. 20

**3.3.4 Trimble receiver**

You can open the correction source settings from the Correction signal icon on the Map screen.

- (1) Correction signal icon

The pop-up screen of the correction source settings consists of 5 settings tabs at maximum. Only tabs relevant for selected correction signal show.

SBAS and the Base station are free, but for all the other correction source signals you need to purchase the license.

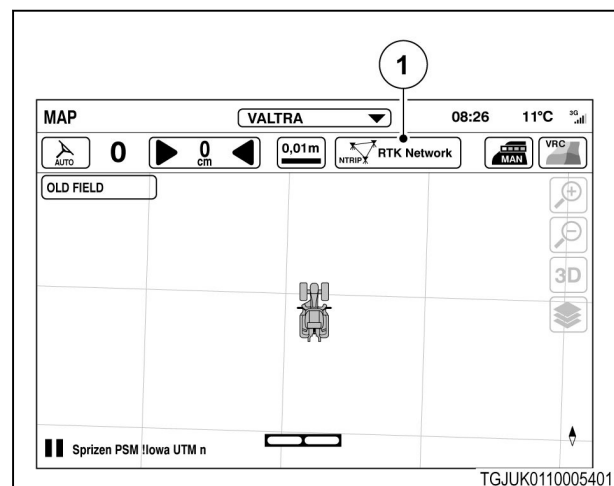


Fig. 21

**Autonomous**

- (1) Correction signal

The receiver calculates position only with GPS and GLONASS satellites without any correction signal. Use the autonomous for very low accuracy work when no correction signals are available.

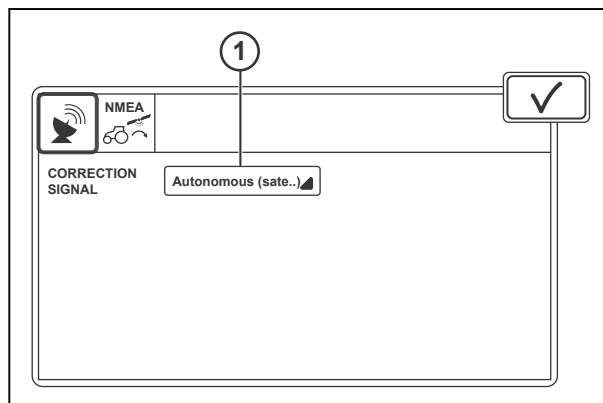


Fig. 22

**SBAS**

- (1) Correction signal
- (2) Signal lag
- (3) Connection status
- (4) Fallback

SBAS is a correction signal, which provides submetre level accuracy. Signal is free and available in the European and North-American regions. SBAS contains EGNOS and WAAS signals.

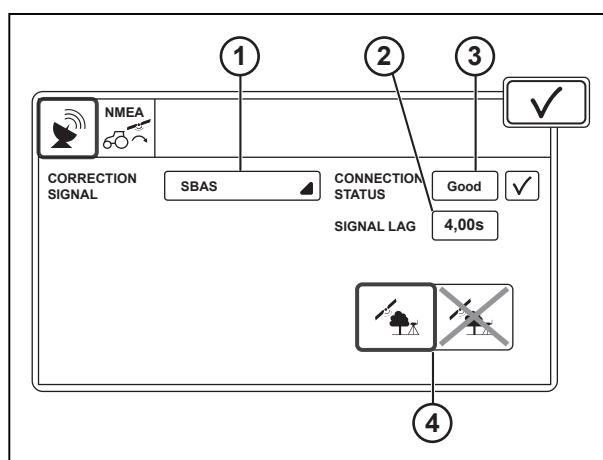


Fig. 23

**RangePoint RTX**

- (1) Correction signal
- (2) Signal settings
- (3) Frequency
- (4) Baud rate
- (5) Serial number
- (6) Signal lag
- (7) Connection status
- (8) Fallback
- (9) Expiry date

RangePoint RTX is a correction signal, which provides submetre level accuracy. Signal is only available, if Valtra Guide has submetre authorization level. Refer to the service provider for the data settings.

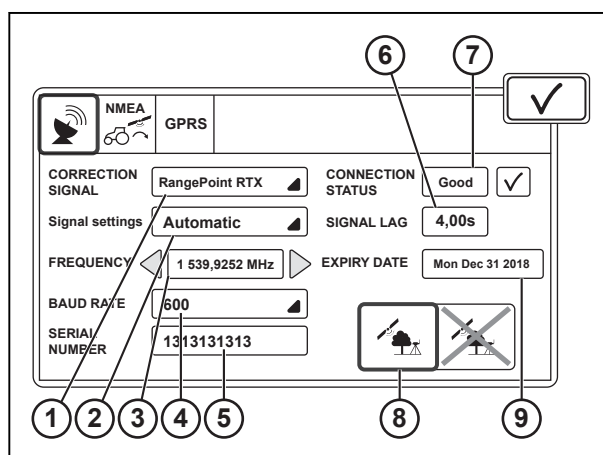


Fig. 24



### CenterPoint RTX

- (1) Correction signal
- (2) Signal settings
- (3) RTX Standard
- (4) Frequency
- (5) Baud rate
- (6) Serial number
- (7) Signal lag
- (8) Connection status
- (9) Fallback ON/OFF
- (10) Expiry date

CenterPoint RTX is a correction signal, which provides decimeter level accuracy. Signal is only available, if Valtra Guide has decimeter authorization level. Refer to the service provider for the data settings.

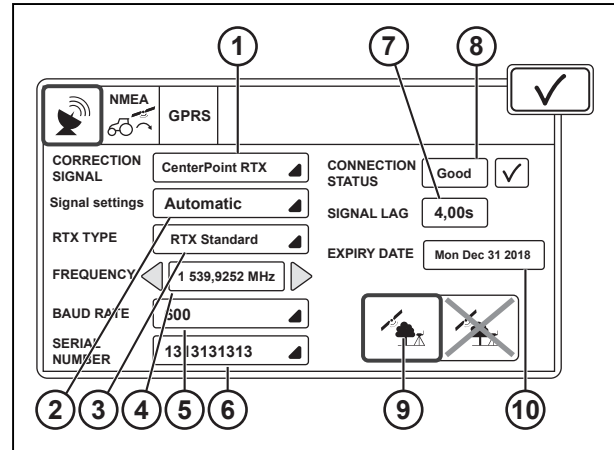


Fig. 25

### Base Station

- (1) Correction signal
- (2) Base type
- (3) Signal format
- (4) Protocol
- (5) Frequency
- (6) Mode
- (7) Distance to base
- (8) Signal lag
- (9) Connection status
- (10) Fallback ON/OFF

Base station is a correction signal, which provides centimetre level accuracy. Signal is only available, if Valtra Guide has centimetre authorization level.

With Valtra Modem, set the Channel spacing, frequency and signal format to the same as the base station. If you use an external modem, refer to the modem manufacturer for the data settings.

Do a check of the allowed frequencies from your country's public authority.

Error correction settings must be same in the Valtra Guide radio and base station radio.

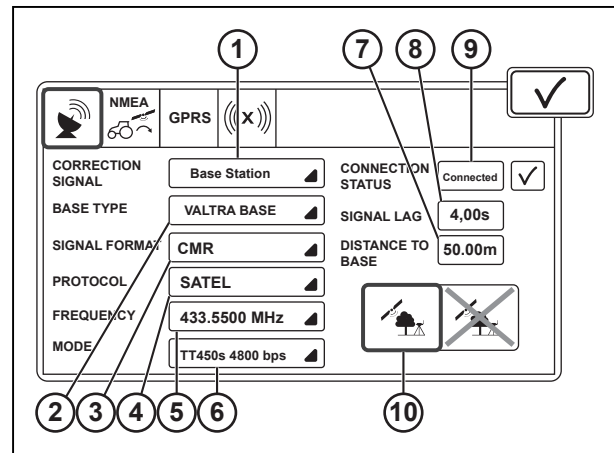


Fig. 26

**RTK Network**

- (1) Correction signal
- (2) Modem type
- (3) Signal format
- (4) Connection type
- (5) Distance to base
- (6) Signal lag
- (7) Connection status
- (8) Fallback ON/OFF

RTK Network is a correction signal, which provides centimetre level accuracy. Signal is only available, if Valtra Guide has centimetre authorization level.

RTK modem receives the correction signal via mobile network and therefore requires a SIM card. Refer to the service provider for the data settings.

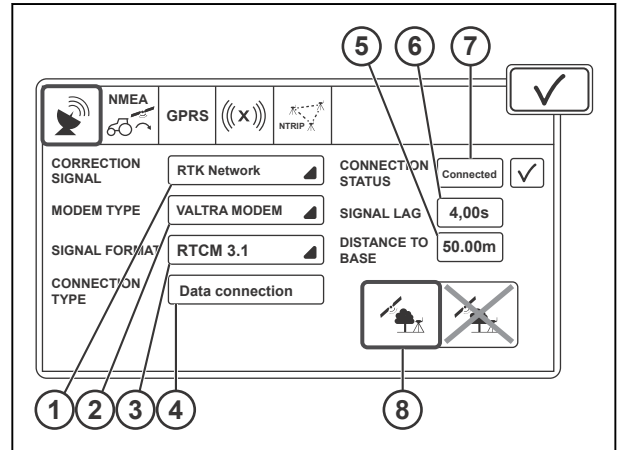


Fig. 27

**GPRS**

- (1) Pin
- (2) APN (access point name)
- (3) User name (optional)
- (4) Password (optional)
- (5) Service provider
- (6) Signal strenght
- (7) Internet connection ON/OFF
- (8) Roaming enabled/disabled
- (9) Roaming active/not active

GPRS tab has settings for the GPRS modem. The modem calls to the server, which provides RTK correction signal and therefore a SIM card is required for the connection.

Refer to the service provider for the data settings.

**NOTE:** Roaming function can cause additional costs if it is enabled.

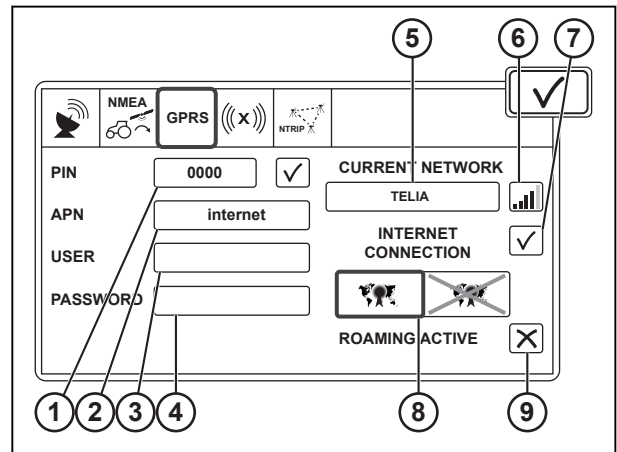


Fig. 28

**xFill**

- (1) Satellite receiver
- (2) Base datum
- (3) Baud rate
- (4) Frequency
- (5) xFill status
- (6) Signal lag
- (7) Remaining time

xFill is a feature, which can maintain the centimetre level accuracy for a maximum of 20 minutes when the Base Station or RTK Network correction signal is lost. xFill is always on when the correction source is Base Station or RTK Network correction signal. The frequency and baud rate are the same which are used for CenterPoint RTX correction source. Refer to the service provider for the data settings.

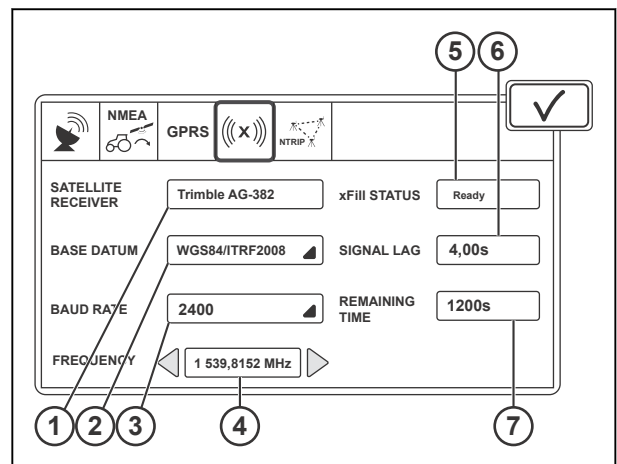


Fig. 29

**NTRIP**

- (1) NTRIP address
- (2) NTRIP port
- (3) Mount point
- (4) User name
- (5) Password
- (6) Connect/Disconnect to server
- (7) NTRIP active/not active

The NTRIP address must be in numeric IP format.

When you turn the tractor main power off and again on, connection to the NTRIP server connects automatically. If the Valtra Guide receiver does not receive the NTRIP correction signal, disconnect and connect it again. Refer to the service provider for the data settings.

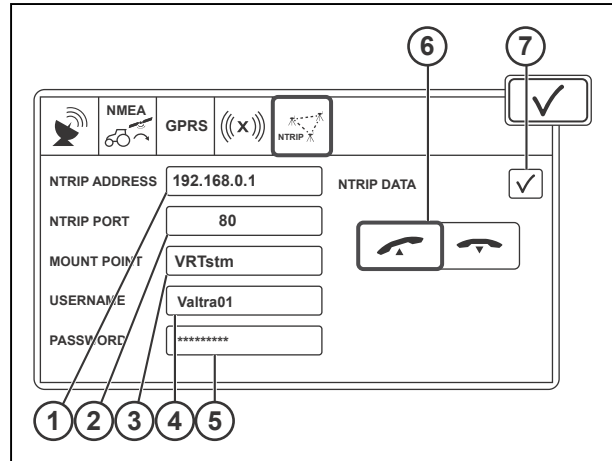


Fig. 30

**3.3.5 Use Fallback**

Fallback makes it possible to continue guidance when the selected correction signal with a higher accuracy is temporarily unavailable. Fallback activates a correction signal with less accuracy. When the correction signal with the higher accuracy is received again, the system automatically activates it.

**NOTE:** *With Fallback active, the wayline deviation can become greater when a correction signal with a lower precision is used.*

**Procedure**



- Open the Map screen
- Tap the Correction settings icon.

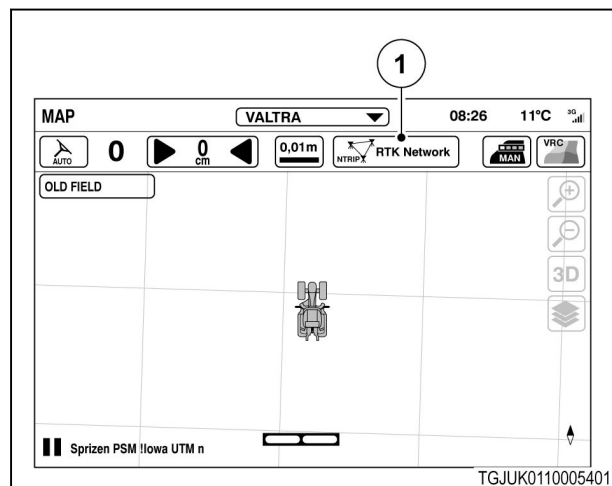


Fig. 31

- 1 Correction signal icon

- Tap the Correction signal tab.
- Tap the Fallback selector to activate or deactivate it.

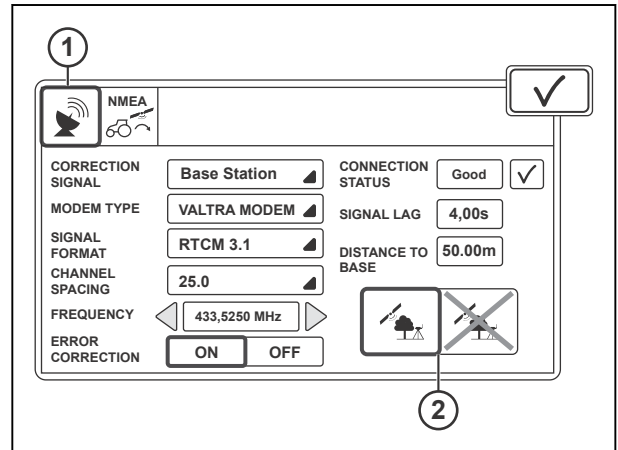


Fig. 32  
 1 Correction signal tab  
 2 Fallback

### 3.3.6 NMEA output

- 1 NMEA output ON/OFF
- 2 Baud rate
- 3 Parity setting
- 4 Data format
- 5 Transfer rate

NMEA allows you to receive position information in NMEA0183 standard format from the RS-232 connector located in the tractor electric centre. Refer to the implement manufacturer manual for the NMEA data settings.

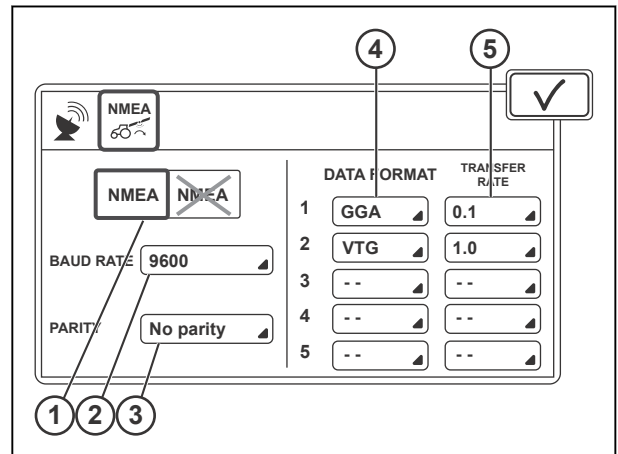


Fig. 33

### 3.3.7 Insert a SIM card

**Procedure**

1. Disconnect the connector.
2. Remove the 4 screws.
3. Lower the top dock from the roof.

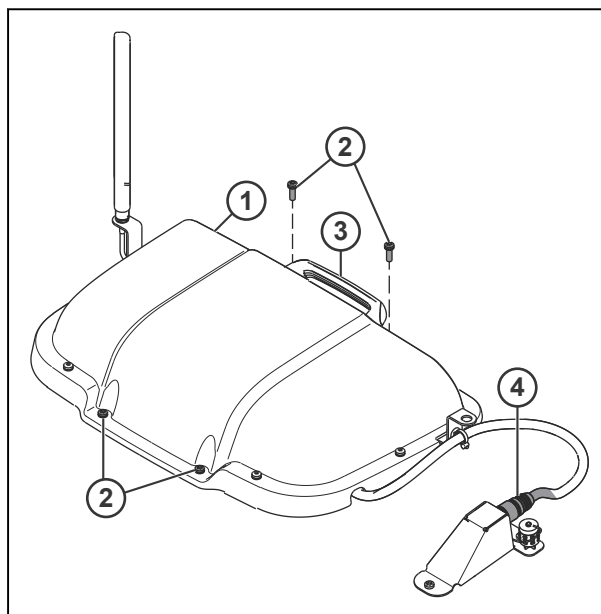


Fig. 34

- 1 Top dock
- 2 Screw
- 3 Handle
- 4 Connector

4. Remove the 4 screws and the nut.
5. Remove the cover.

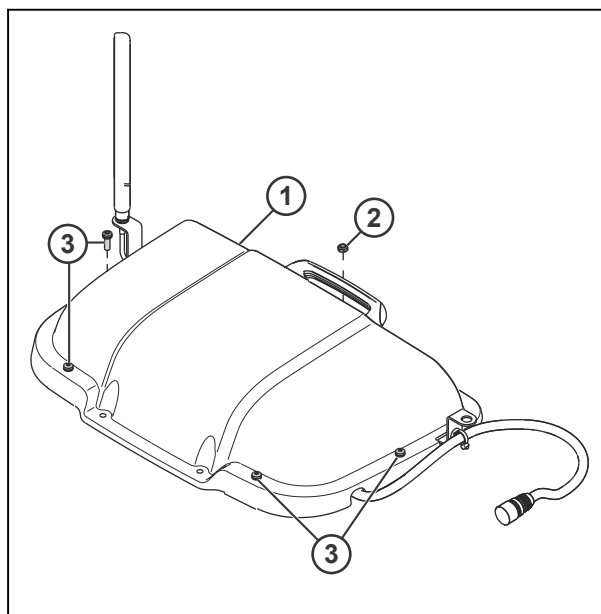


Fig. 35

- 1 Cover
- 2 Nut
- 3 Screws

6. Pull the red handle to disconnect the connector.

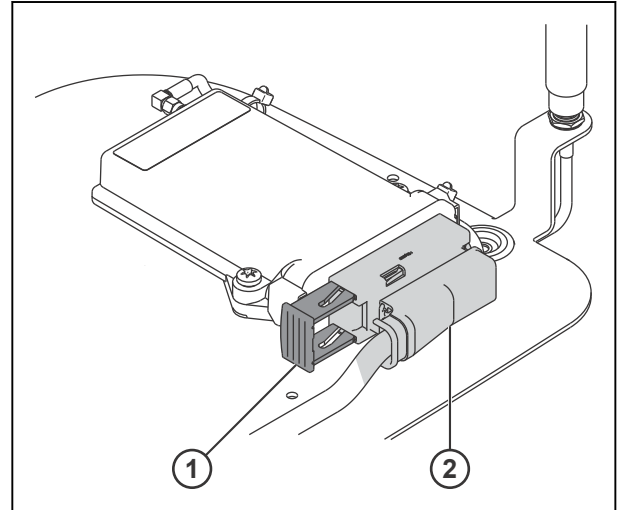


Fig. 36

- 1 Red handle
- 2 Connector

7. Push the yellow button with a ballpoint pen to eject the SIM card holder.
 

**NOTE:** Do not push the yellow button with force. The holder comes out only a few millimetres from the card slot. If you push the yellow button further to eject the holder more, the card slot breaks.

8. Carefully remove the SIM card holder.
9. Insert the SIM card to the holder and make sure that it clicks into place.
10. Position the SIM card holder to its guides on the top of the card slot and then push the holder into its place.

**NOTE:** Be careful not to drop the SIM card inside the modem.

When the SIM card holder is positioned correctly onto the guides, there is no noticeable resistance when you push it.

11. Use a pen to carefully push the SIM card holder into the card slot as far as possible.

The SIM card holder is not spring-loaded and does not click into place. When the SIM card holder is in the correct position, the yellow button comes up.

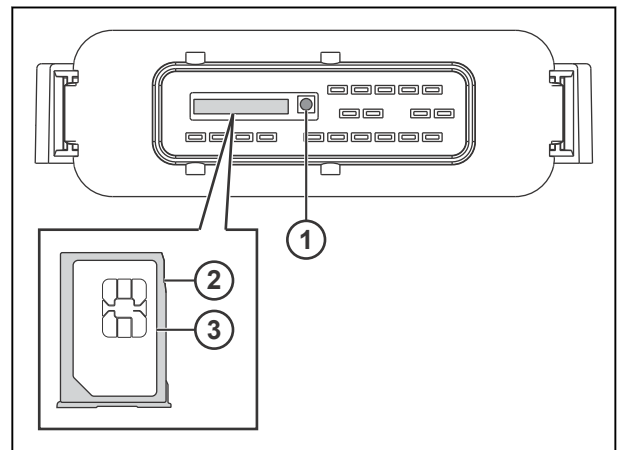


Fig. 37

- 1 Yellow button
- 2 SIM card holder
- 3 SIM card

- 12. Put the connector in its place.
- 13. Push the red handle to lock the connector.

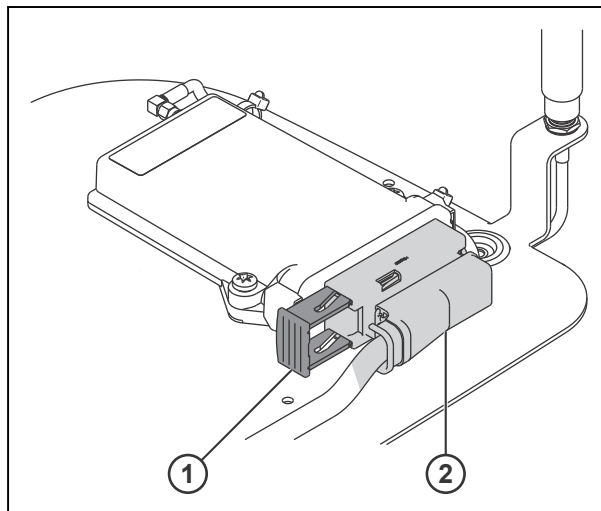


Fig. 38

- 1 Red handle
- 2 Connector

- 14. Install the cover.
- 15. Install the 4 screws and the nut.

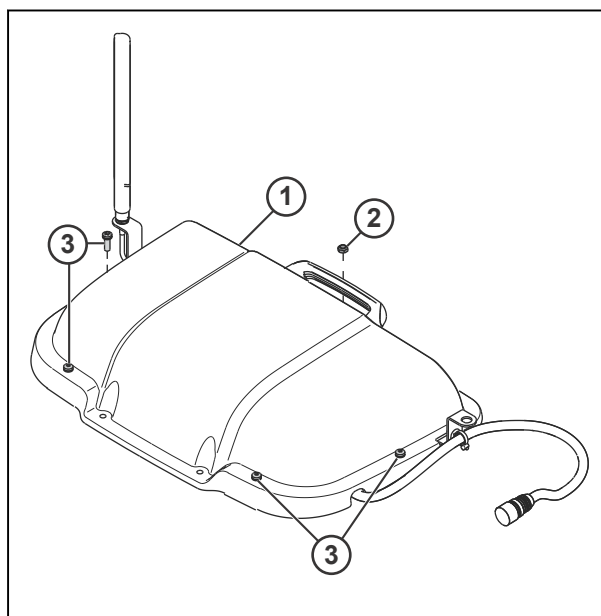


Fig. 39

- 1 Cover
- 2 Nut
- 3 Screws

16. Place the top dock on the roof.
17. Install the 4 screws.
18. Connect the connector.

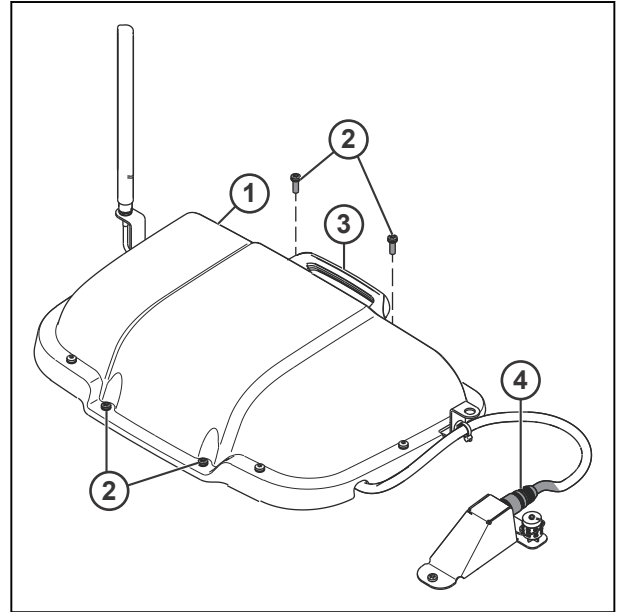



Fig. 40

- 1 Top dock
- 2 Screw
- 3 Handle
- 4 Connector

### 3.3.8 Upgrade the receiver's authorization level

You can upgrade the Valtra Guide receiver's authorization level to use a correction signal of higher precision. Purchase the authorization code from your local Valtra dealer.

#### Procedure

1. Open the Map screen 
2. Tap the Correction signal icon.

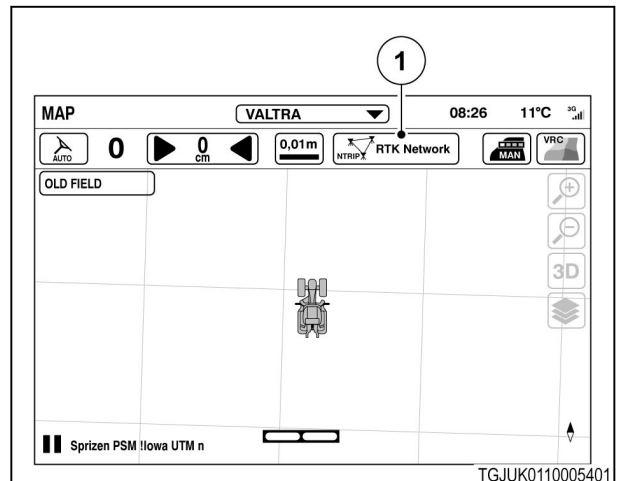


Fig. 41

- (1) Correction signal



3. Write down the receiver type, hardware version and serial number.
4. Purchase the authorization code from your local Valtra dealer.
5. Tap the Input authorization code icon.
6. Enter the authorization code.
7. Tap ✓ to accept the change.

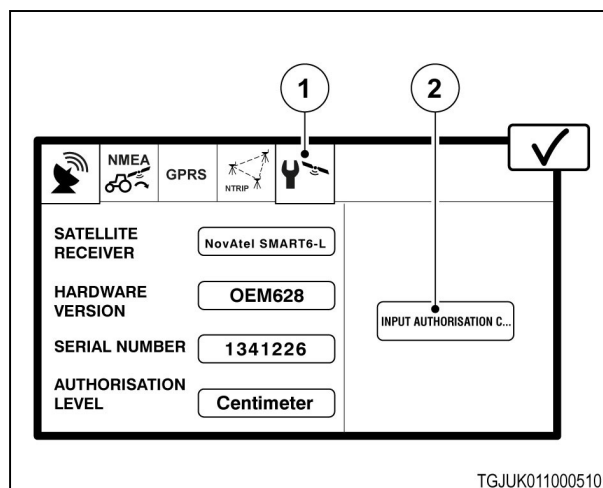


Fig. 42

- (1) Receiver info tab
- (2) Input authorization code

8. Restart the Valtra Guide system.

## 4 Valtra Guide operation

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## 4.1 Valtra Guide modes

Valtra Guide user interface has 2 modes, GO! mode and Field mode.

With the GO! mode, it is easy to start to use Valtra Guide. The GO! mode gives you step-by-step instructions. In Go! mode, you cannot save Fields and Waylines. When you make a new Wayline in GO! mode, it overwrites the previous one.

Field mode is an advanced mode where all the Valtra Guide functions are available.

Settings mode is to adjust settings.

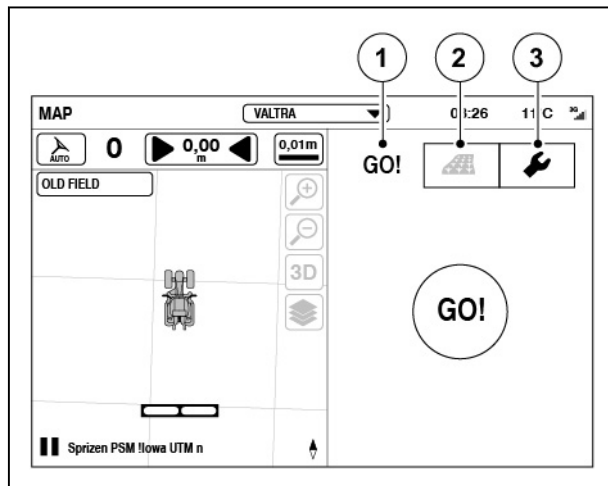



Fig. 1

- (1) GO! mode
- (2) Field mode
- (3) Settings mode

## 4.2 Map screen

Tap  to open the Map screen.

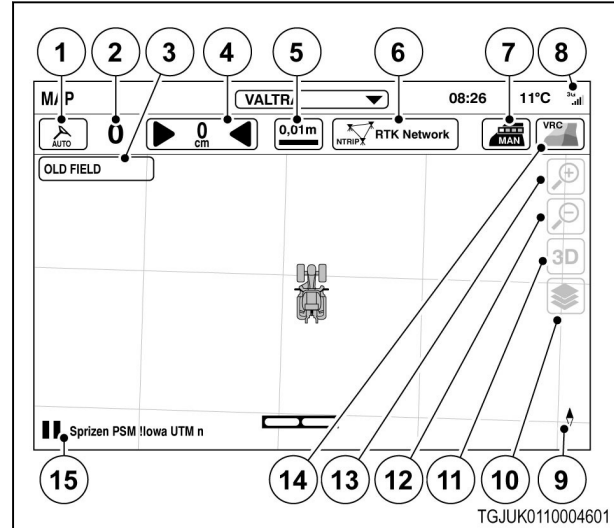



Fig. 2

1	Valtra Guide status	<p>Opens a pop-up screen of the System info.</p> <ul style="list-style-type: none"> <li>• White/Blue = OFF</li> <li>• Yellow = Activated</li> <li>• Green = Engaged</li> <li>• Crossed = Error state / not possible to activate</li> <li>• Crossed steering wheel = Steering wheel is not turned for a period of 5 minutes.</li> </ul>
2	Wayline number	<p>Number of the selected wayline (of all the waylines)</p> <p>Waylines on the left have negative (-) numbers and waylines on the right have positive numbers.</p>
3	Field name	<p>Displays field name when a field is selected.</p> <p>Opens a pop-up screen of the field configurator</p> <p>Displays "Field is not selected" when a field is not activated.</p>
4	Cross track	<p>Displays the cross track error value and the direction of the error.</p> <p>Opens a pop-up screen of the Wayline offset settings</p> <ul style="list-style-type: none"> <li>• Small (&lt;5 cm) = green arrows on the left and right side</li> <li>• Medium left (5–10 cm) = yellow arrow on the left side</li> <li>• Large left (&gt;10 cm) = red arrow on the left side</li> <li>• Medium right (5–10 cm) = yellow arrow on the right side</li> <li>• Large right (&gt;10 cm) = red arrow on the right side</li> </ul>

5	Signal accuracy	<p>Displays the correction signal in a numeric value and the strength with a bar.</p> <p>Strength bar:</p> <ul style="list-style-type: none"> <li>• Green = good</li> <li>• Yellow = medium</li> <li>• Red = poor</li> </ul> <p>Opens a pop-up screen of the signal accuracy.</p>
6	Correction signal	<p>The name and icon of the selected correction signal</p> <p>Opens a pop-up screen of the correction signal settings.</p> <ul style="list-style-type: none"> <li>• SBAS</li> <li>• TerraStar-C</li> <li>• TerraStar-L</li> <li>• RangePoint RTX</li> <li>• CenterPoint RTX</li> <li>• xFill</li> <li>• RTK Network</li> <li>• Base station</li> <li>• Other</li> </ul>
7	Section Control status	<p>Opens a pop-up screen of the Section Control settings.</p> <p>Status is visible only when Section Control is activated:</p> <ul style="list-style-type: none"> <li>• Auto</li> <li>• Manual</li> </ul>
8	GPRS signal	Shows the GPRS signal status and strength.
9	Compass	Red arrow points to North.
10	Toggle view mode	<ul style="list-style-type: none"> <li>• 2D</li> <li>• 3D</li> </ul>
11	Center map to tractor	<p>Set the map and tractor in the center of the display.</p> <p>Displays only when you have dragged the map.</p>
12	Zoom out	Zooms the map out
13	Zoom in	Zooms the map in
14	Variable Rate Control status	<p>Opens a pop-up screen of the Prescription map overview.</p> <p>Status is visible only when Variable Rate Control is activated.</p>
15	Task status and name	<p>Visible only when TaskDoc is activated.</p> <p>Shows active task status (record/pause) and name.</p>

When Variable Rate Control is activated an additional icon shows  on the Map screen. This icon will show a list of the map legends.

## 4.3 GO! mode

GO! mode is a simple way to use Valtra Guide.

Before you start to use GO! mode, set the correction source settings according to your configuration.

The GO! mode icon starts a sequence where you:

- Set implement settings
- Make Waylines

When this is done you can engage the Valtra Guide.

### 4.3.1 Start GO! mode

#### Procedure

1. Push the master activation switch.
2. Tap the Valtra Guide icon to pre-activate it.  
Valtra Guide is pre-activated when the icon is green/blue.

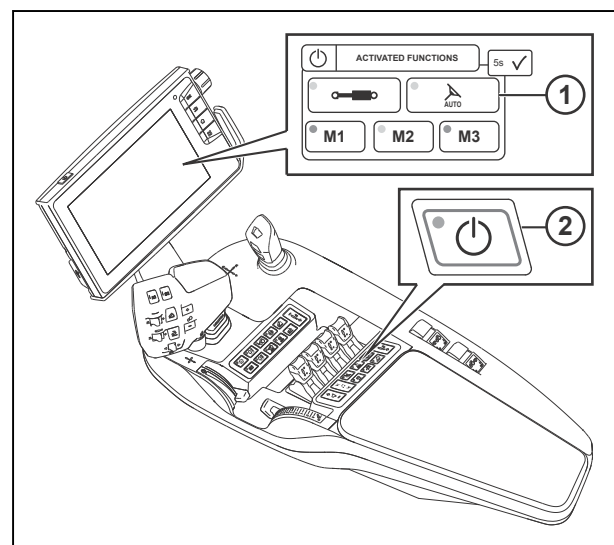


Fig. 3

- 1 Valtra Guide receiver pre-activation
- 2 Master activation switch

3. Open the Map screen
4. Tap the GO! mode tab.
5. Tap the GO! mode icon.

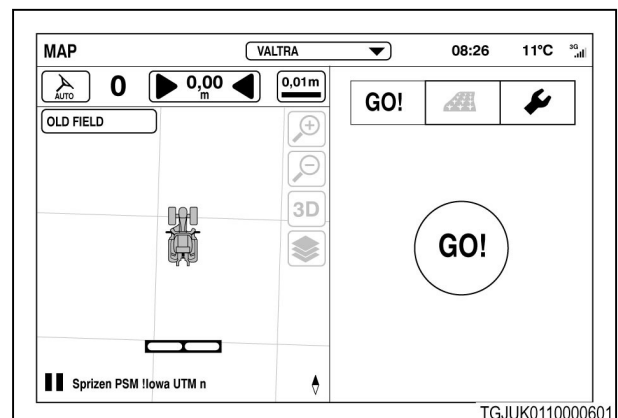


Fig. 4

6. Adjust the implement width and overlap.
  - a) Adjust the implement width.
  - b) Adjust the overlap.

Refer to these settings for the wayline width.

**NOTE:** The implement width and overlap are the same as in the profile. If you change them, the new values are not stored to the profile.

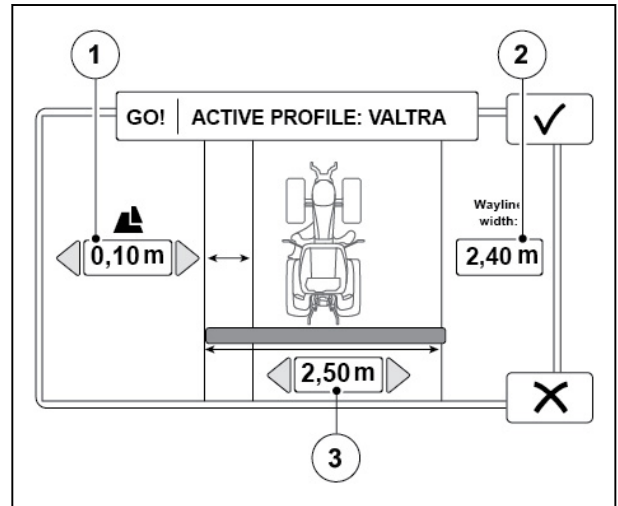


Fig. 5

- (1) Overlap
- (2) Implement width
- (3) Wayline width

7. Select the wayline type.
8. Tap ✓ to accept.

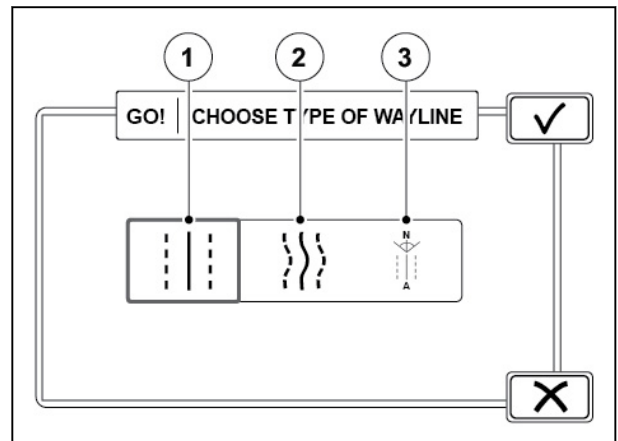


Fig. 6

- (1) Straight (A-B)
- (2) Countour
- (3) Angle (A+ heading)



## 4.3.2 Make a wayline

### 4.3.2.1 Make a straight wayline (A-B)

#### Procedure

1. Tap the **A** icon to set the start point A (for example, on the corner of the field between the field and the headland).
2. Drive to the end of the field or at a distance minimum of 10 m.
3. Tap the **B** icon to set the end point B.  
Parallel waylines show on the left (negative numbers) and right (positive numbers) side of the tractor. The system calculates the wayline intervals from the preset implement width and overlap.

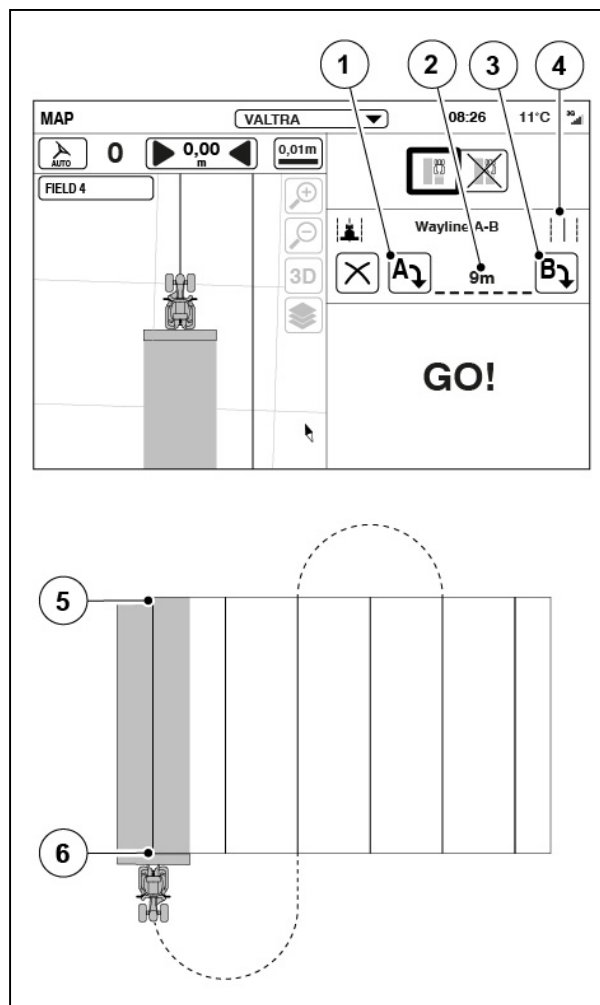


Fig. 7

- (1) Start point A
- (2) Wayline length
- (3) End point B
- (4) Straight wayline
- (5) Start point A
- (6) End point B

### 4.3.2.2 Make a contour wayline

#### Procedure

1. Tap the Record icon (for example, on the corner of the field between the field and headland).
2. To pause the recording (for example, if there is a straight part in the field), tap the Pause icon.  
The recording makes a straight line between the Pause and Continue recording taps.
3. Tap the Continue recording icon to continue recording.
4. Drive to end of the field.
5. Tap ✓ to accept.

Parallel waylines show on the left (negative numbers) and right (positive numbers) side of the tractor. The system calculates the wayline intervals from the preset implement width and overlap.

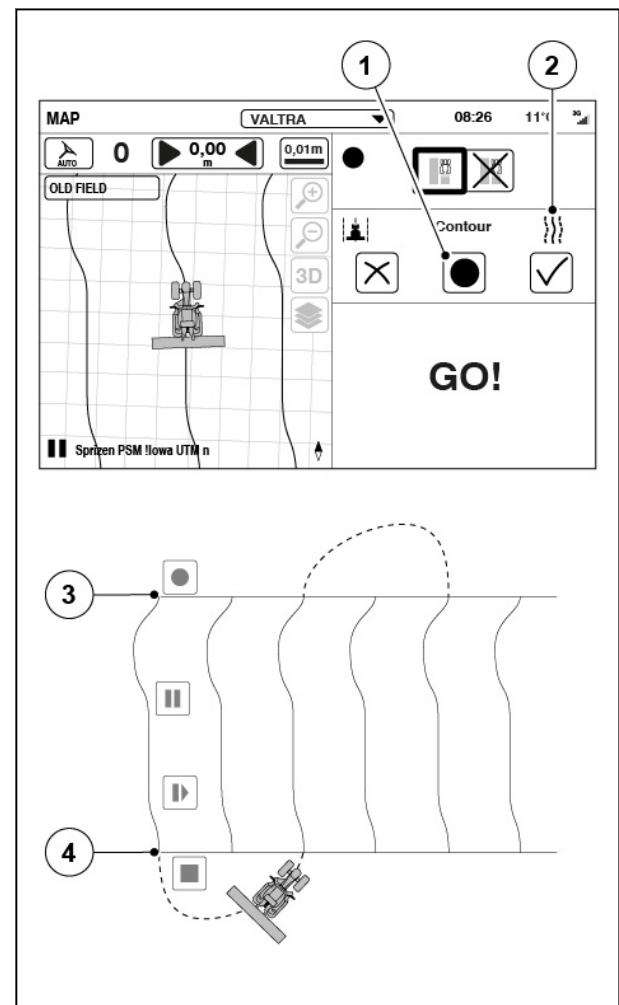


Fig. 8

- (1) Record
- (2) Contour wayline
- (3) End of wayline
- (4) Start of wayline

### 4.3.2.3 Make an angle wayline (A+ heading)

#### Procedure

1. Set the angle of the waylines.

Valtra Guide shows the angle to which the head of the tractor points.

0° is North, 90° is East, 180° is South and 270° is West.

2. Tap ✓ to accept.

The selected angle appears.

Parallel waylines show on the left (negative numbers) and right (positive numbers) side of the tractor. The system calculates the wayline intervals from the preset implement width and overlap.

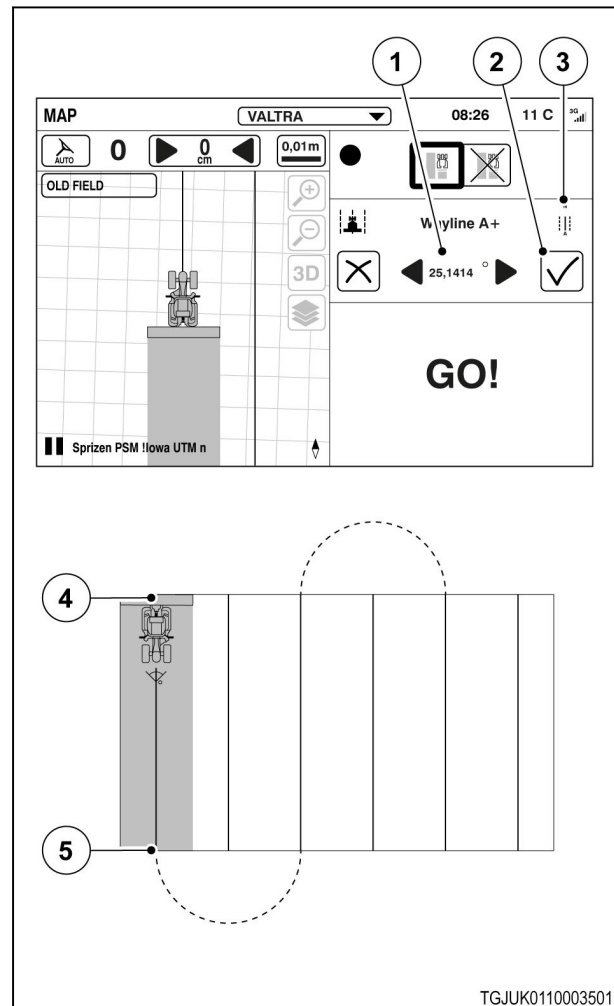


Fig. 9

- (1) Angle
- (2) Accept
- (3) Angle wayline
- (4) Start of wayline
- (5) End of wayline

### 4.3.3 Engage Valtra Guide

#### Procedure

1. Make sure that Valtra Guide is pre-activated.

2. Start to drive.

Valtra Guide can operate when the tractor speed is between 0,1km/h - 25 km/h.

3. Turn the steering wheel.

Valtra Guide does not engage if you have not turned the steering wheel in 5 minutes before you push the engage Valtra Guide.

4. Push the Valtra Guide engage button to engage the automatic steering.  
The tractor aligns itself automatically to the nearest wayline and starts to follow it.

**NOTE:**

*You can also engage Valtra Guide in advance, even if some item(s) in the System info*

*screen has **X** status. When the conditions are met within 5 seconds from the push of the button, Valtra Guide engages automatically.*

**NOTE:** *When the steering valve is on, the driving speed is limited to 25 km/h. It is not possible to turn the steering valve on when the speed is above 25 km/h.*

5. To stop the automatic steering, turn the steering wheel or push the Valtra Guide engage button again.

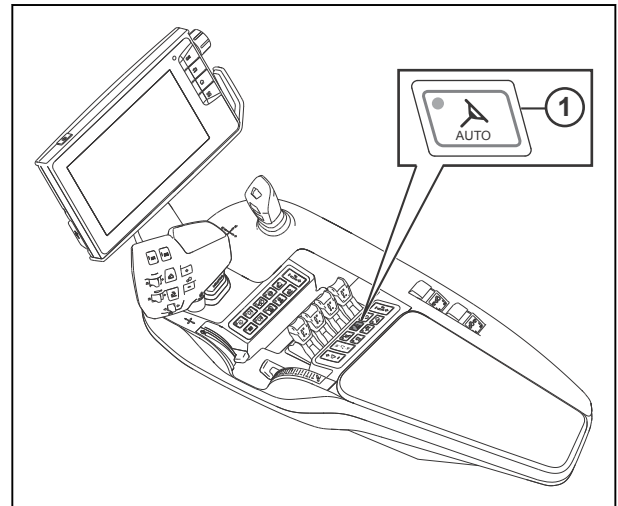


Fig. 10

- 1 Valtra Guide engage

## 4.4 Field Mode

Field mode is an advanced mode where you can use all the Valtra Guide functions. These functions include:

- Field management
  - 1 or multiple waylines for each field
- Headland settings
- Obstacles configurator
- Markers

### 4.4.1 Pre-activate Valtra Guide

#### Procedure

1. Push the master activation switch.
2. Tap the Valtra Guide icon to pre-activate Valtra Guide.  
Valtra Guide is pre-activated when the icon is green/blue.

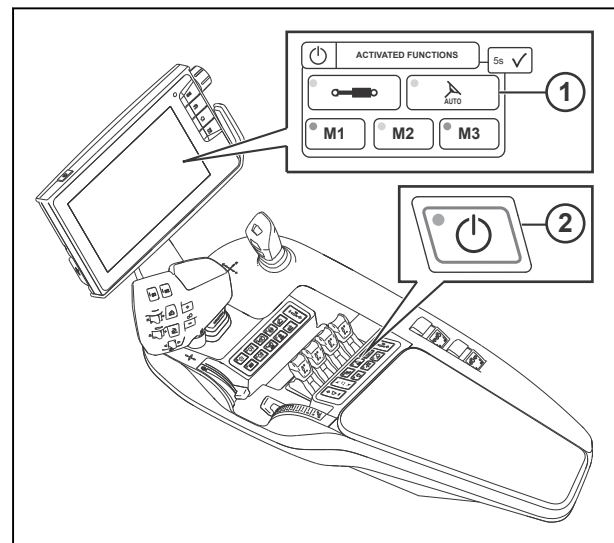


Fig. 11

- 1 Valtra Guide receiver pre-activation
- 2 Master activation switch

### 4.4.2 Adjust the implement settings

#### Procedure

- Open the Map screen
- Tap the Map screen.
- Tap the Settings tab.



- Tap the Implement settings icon.  
The implement width and overlap are the same as in the profile.  
These settings have an effect on how the wayline width is specified.

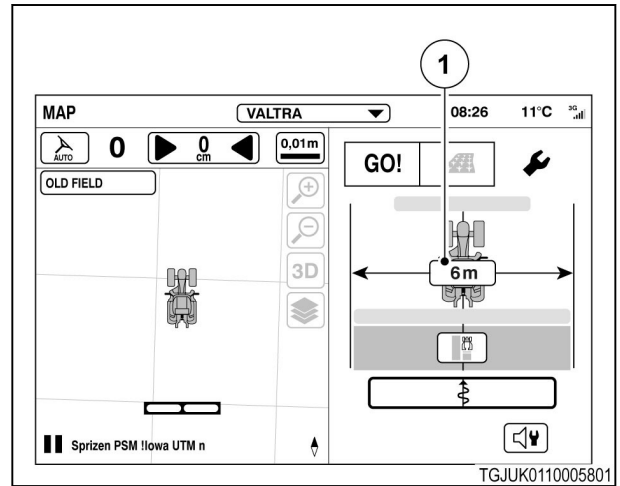


Fig. 12

1 Implement settings

- Adjust where the rear implement is connected.



Rear linkage.



Tow point (trailed implement)



Not in use

- Adjust the rear implement width.
- Adjust the rear implement distance from the connection point.
- If the rear implement has offset:
  - Set the Offset selector to YES position.
  - Set the Offset value.
- Adjust the overlap (or underlap) to previous wayline.

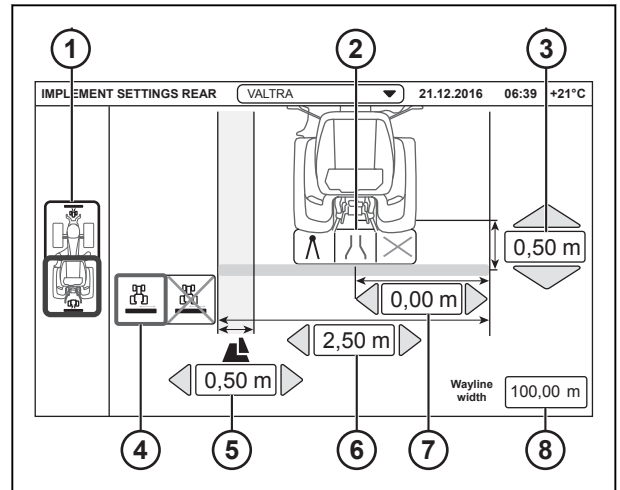
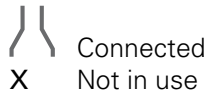


Fig. 13

- 1 Front/rear implement selector
- 2 Rear implement connection
- 3 Rear implement distance from the attaching point
- 4 Rear implement offset selector
- 5 Overlap (or underlap) to previous wayline
- 6 Rear implement width
- 7 Rear implement offset
- 8 Wayline width

- Adjust if the front implement is connected.



- Adjust the front implement width.
- Adjust the front implement distance from the attaching point.
- If the front implement has offset:
  - Set the Offset selector to YES position.
  - Set the Offset value.

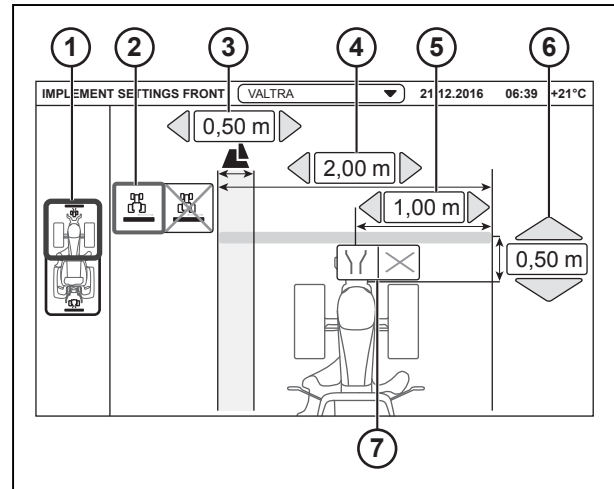


Fig. 14

- Front/rear implement selector
- Front implement offset selector
- Overlap (or underlap) to previous wayline
- Front implement width
- Front implement offset
- Front implement distance from the attaching point
- Front implement connection

- Adjust the overlap (or underlap) to previous wayline.

### 4.4.3 Manage fields

#### Procedure



- Open the Map screen
- Tap Manage fields.

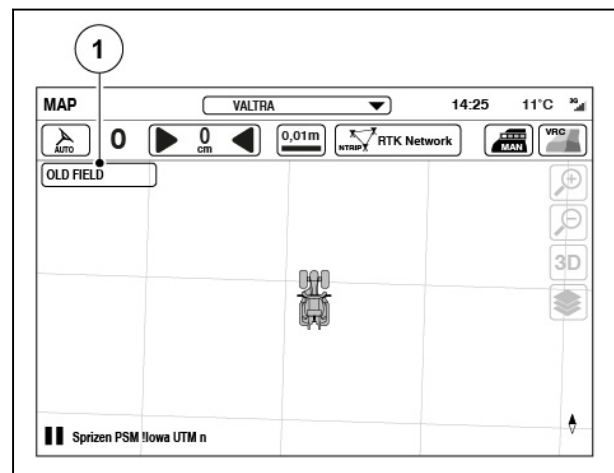


Fig. 15

- Manage fields

- To select a field:
  - Tap the field name.
  - Tap the checkbox to select a field.
  - Tap ✓ to accept.
- To add a new field:
  - Tap the Add field icon.
  - Type the field name.
  - Tap ✓ to add the field or ✗ to cancel.
- To rename a field:
  - Tap the Field configurator.
  - Tap the Rename field icon.
  - Rename the field and tap ✓ to save or ✗ to cancel.
- To delete a field:
  - Tap the Field configurator.
  - Tap the Delete field icon.

The field is deleted immediately without confirmation.

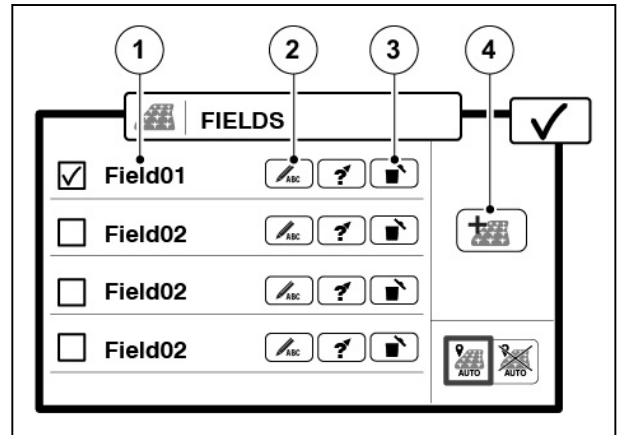


Fig. 16

- (1) Field name
- (2) Rename name
- (3) Delete field
- (4) Add field

#### 4.4.3.1 Navigate to a field

Valtra Guide can help navigate to a field by showing the distance to it and pointing its direction with a compass.

#### Procedure

1. Open the Map screen.
2. Tap Manage fields.

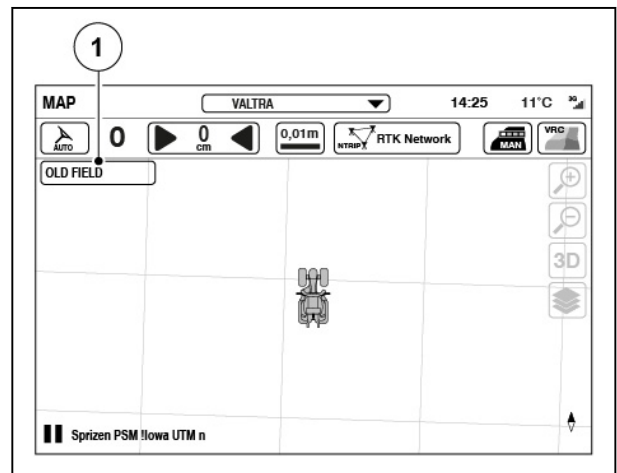


Fig. 17

- (1) Manage fields



3. Tap the Navigate icon of the desired field.

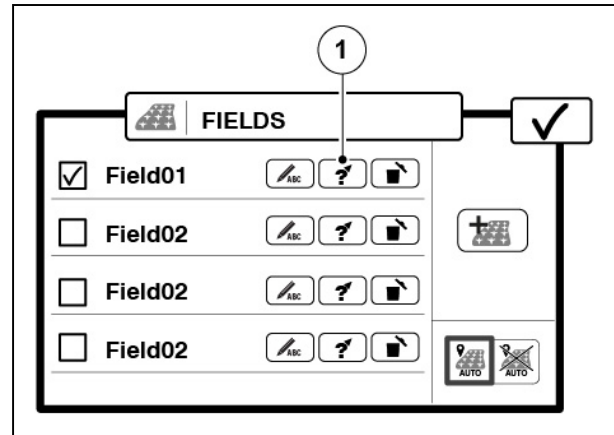


Fig. 18

- 1 Navigate to field

4. Tap ✓ to return to the Map screen.  
A compass will show on the Map screen to point the direction and show the distance to the field

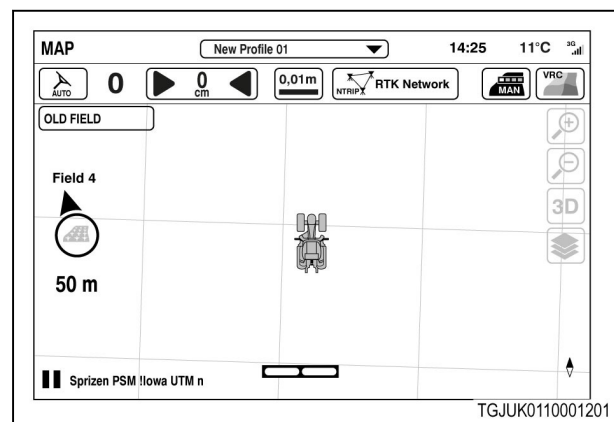


Fig. 19

5. To stop the navigation:
  - Tap the Field name.
  - Tap the Navigate icon.

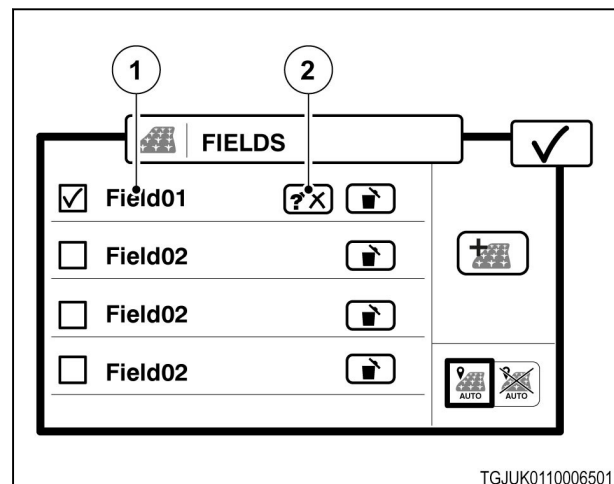


Fig. 20

- 1 Field name
- 2 Stop navigation

#### 4.4.3.2 Use the automatic field detection

You can set Valtra Guide to automatically know the field you are in.

**Procedure**

1. Open the Map screen
2. Tap Manage fields.

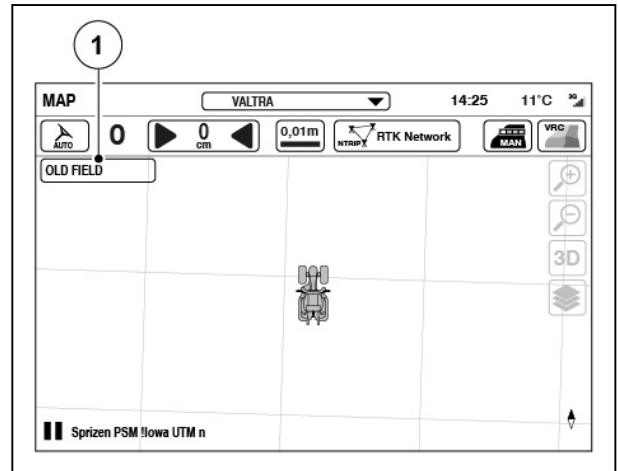


Fig. 21

(1) Manage fields

3. Set the slider of the Automatic field detection to the ON position.
4. Tap ✓ to accept.

**NOTE:**

When you get to a new field, you can hear a sound and a pop-up screen shows to tell you the field name.

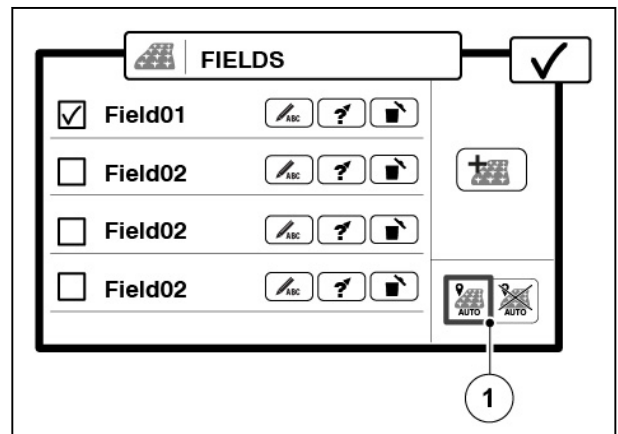


Fig. 22

(1) Automatic field detection

**4.4.4 Record the field boundary**

**NOTE:** You can record the field boundary when Valtra Guide is engaged and you work on the field.

**Procedure**

1. Open the Map screen
2. Tap the Map screen.
3. Tap the Field tab.



4. Tap the Add field boundary button.

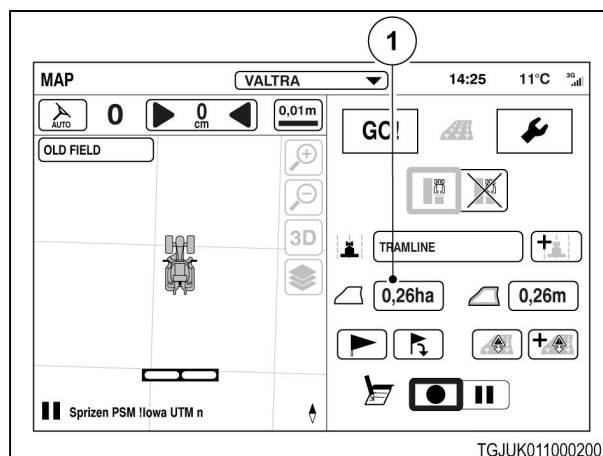


Fig. 23

- (1) Add field boundary

5. Choose the recording position.

This selection comes into view only when front and rear implement is connected to the tractor. You can choose front implement, tractor (position of the Valtra Guide receiver) or rear implement.

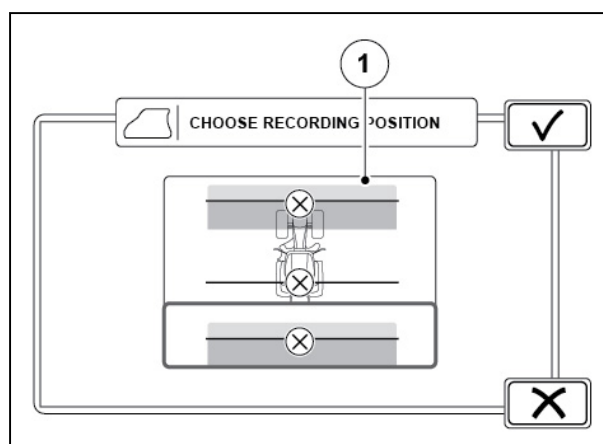


Fig. 24

- (1) Recording position

6. Choose the recording position.

This selection is comes into view only when front or rear implement is connected to the tractor. You can choose implement or tractor (position of the Valtra Guide receiver).

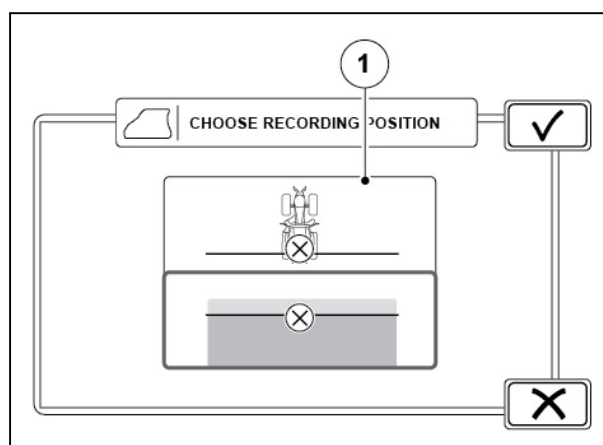


Fig. 25

- (1) Recording position

- 7. Choose the recording side.
- 8. Tap ✓ to continue or ✗ to cancel.

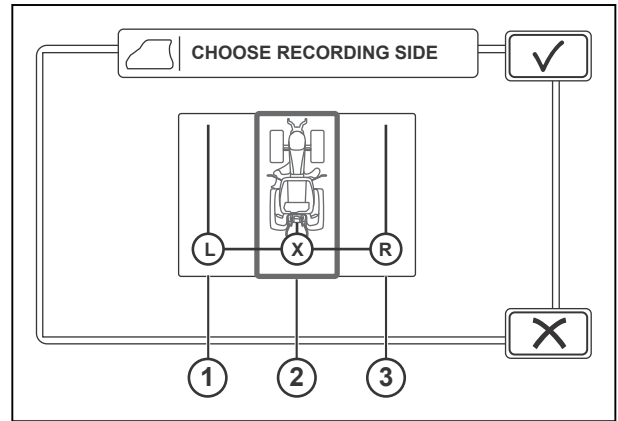


Fig. 26

- (1) Left side
- (2) Centre
- (3) Right side

- 9. Tap the Record icon to start to record.
- 10. Drive around the field along its boundaries.
- 11. Pause the recording procedure before you drive to a field corner to get straight corners.
  - a) Tap the Pause icon.
  - b) Tap the Continue icon to continue to record after the corner.

The recording makes a straight line between the Pause and Continue recording taps.

- 12. Tap the Stop icon to end the recording procedure.
  - The start and end points automatically connect with a straight line.

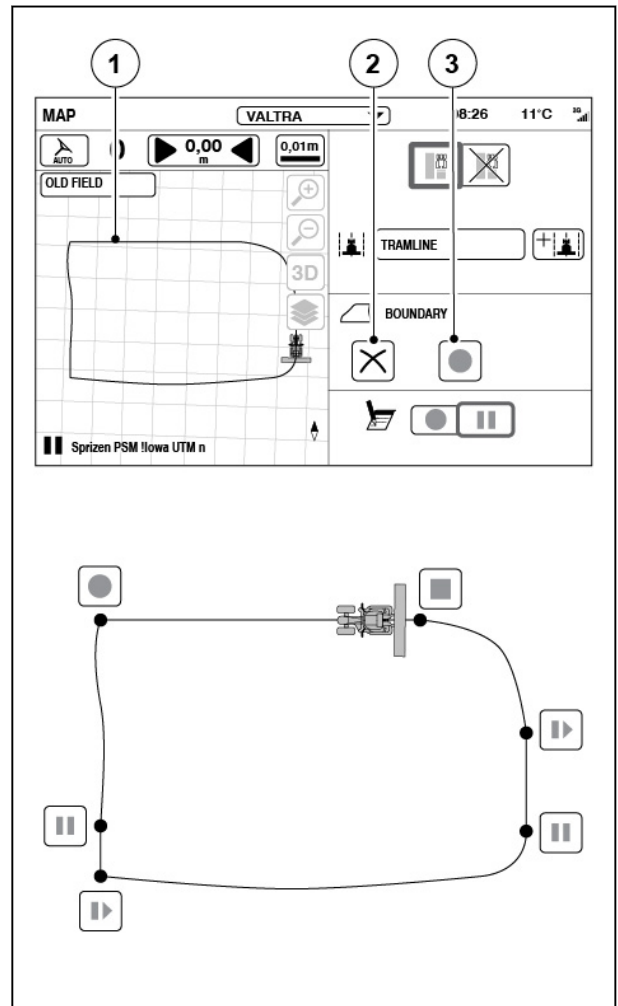


Fig. 27

- (1) Field boundary
- (2) Cancel
- (3) Record


### 4.4.5 Waylines

With Valtra Guide engaged, the tractor will go along waylines. Implement settings specify the width of the waylines

**NOTE:** You can make more than one wayline for the same field for different tasks or implements.

#### 4.4.5.1 Make a straight wayline (A-B)

**Procedure**

1. Open the Map screen 
2. Select a field.
3. Tap the Add new wayline.

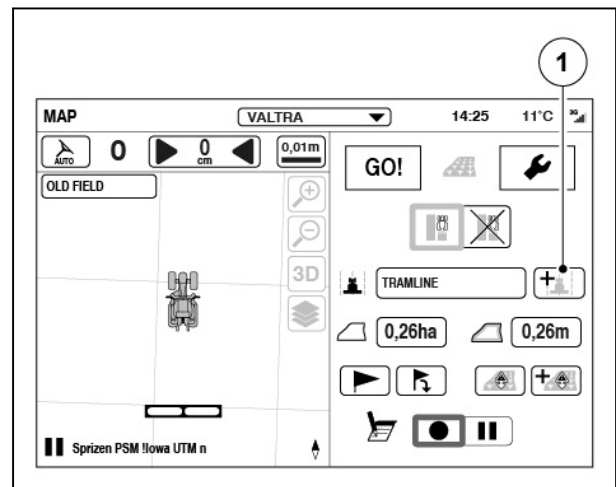


Fig. 28

(1) Add new wayline

4. Tap the straight wayline.
5. Tap ✓ to accept.

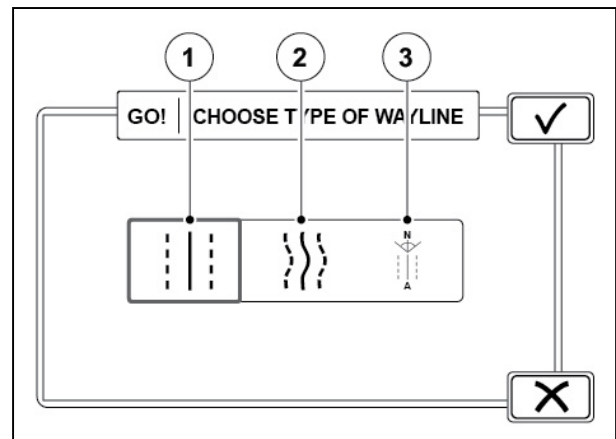




Fig. 29

- (1) Straight wayline (A-B)
- (2) Countour wayline
- (3) Angle wayline (A+ heading)

6. Tap the  icon to set the start point A (for example, on the corner of the field between the field and the headland).
7. Drive to the end of the field or at a distance minimum of 10 m.
8. Tap the  icon to set the end point B.  
Parallel waylines show on the left (negative numbers) and right (positive numbers) side of the tractor. The system calculates the wayline intervals from the preset implement width and overlap.

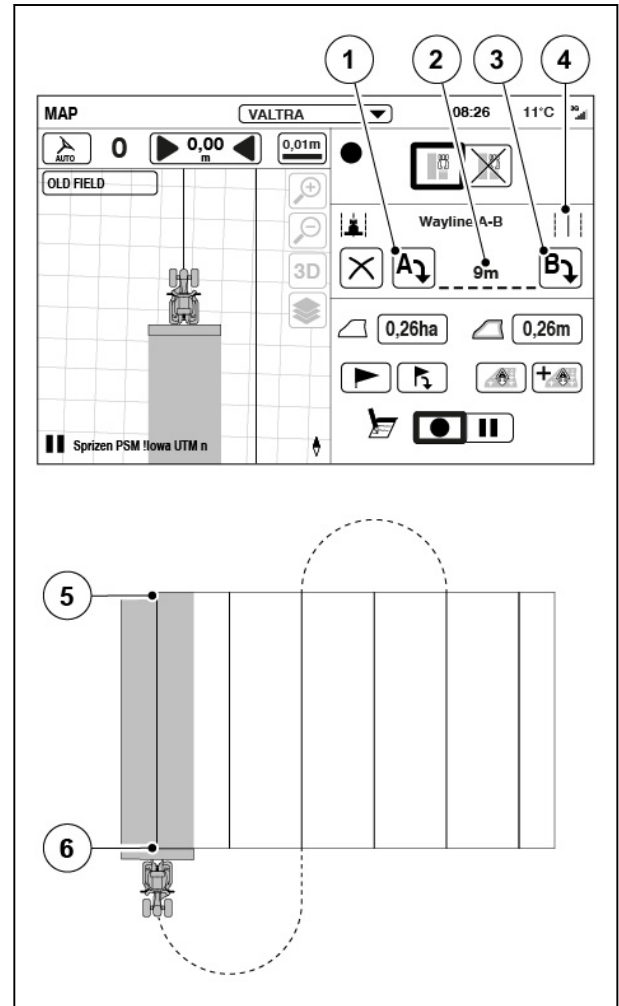



Fig. 30

- (1) Start point A
- (2) Wayline length
- (3) End point B
- (4) Straight wayline
- (5) Start point A
- (6) End point B

#### 4.4.5.2 Make a contour wayline

##### Procedure

1. Open the Map screen .
2. Select a field.

3. Tap the Add new wayline.

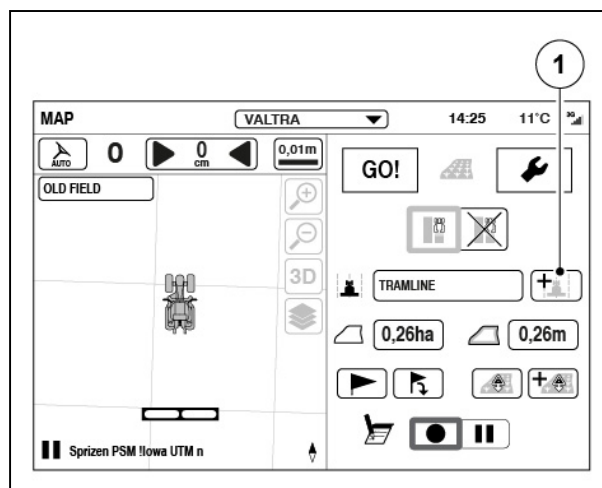


Fig. 31

- (1) Add new wayline

4. Tap the contour wayline.

5. Tap ✓ to accept.

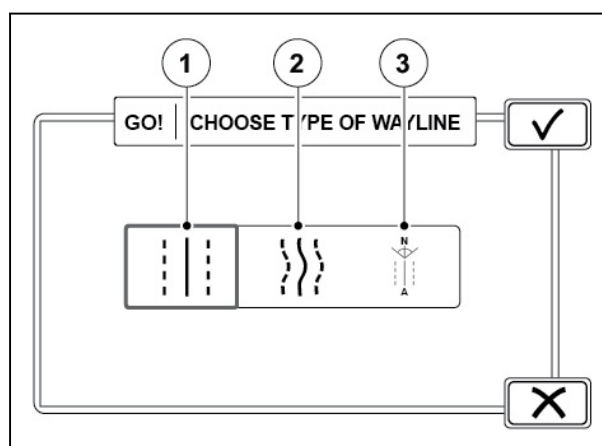


Fig. 32

- (1) Straight wayline (A-B)
- (2) Contour wayline
- (3) Angle wayline (A+ heading)

6. Tap the Record icon (for example, on the corner of the field between the field and headland).
7. To pause the recording (for example, if there is a straight part in the field), tap the Pause icon.  
The recording makes a straight line between the Pause and Continue recording taps.
8. Tap the Continue recording icon to continue recording.
9. Drive to end of the field.
10. Tap ✓ to accept.  
Parallel waylines show on the left (negative numbers) and right (positive numbers) side of the tractor. The system calculates the wayline intervals from the preset implement width and overlap.

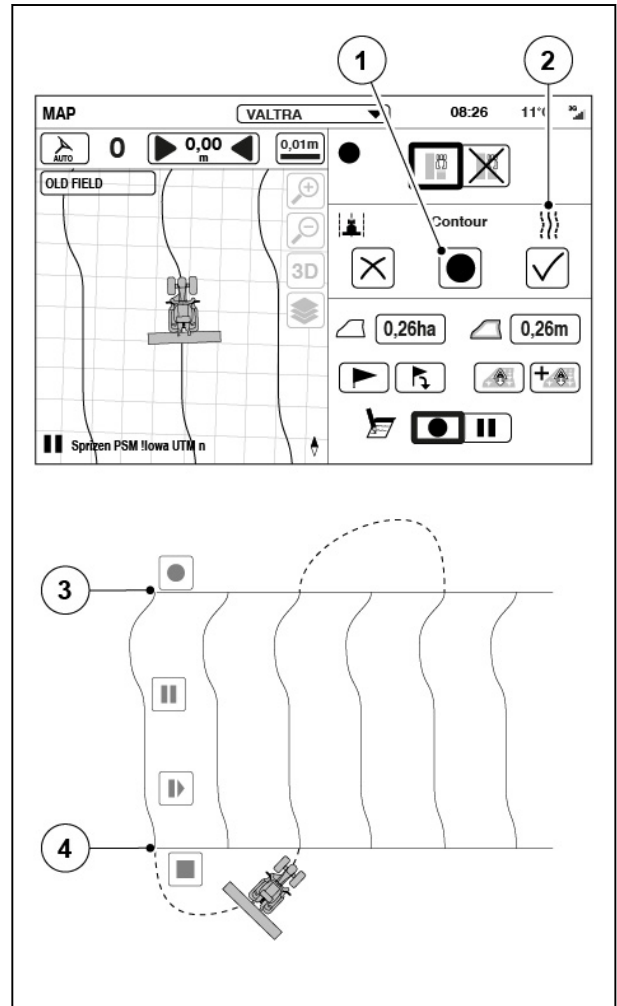



Fig. 33

- (1) Record
- (2) Contour wayline
- (3) End of wayline
- (4) Start of wayline

#### 4.4.5.3 Make an angle wayline (A+ heading)

##### Procedure

1. Open the Map screen .
2. Select a field.



3. Tap the Add new wayline.

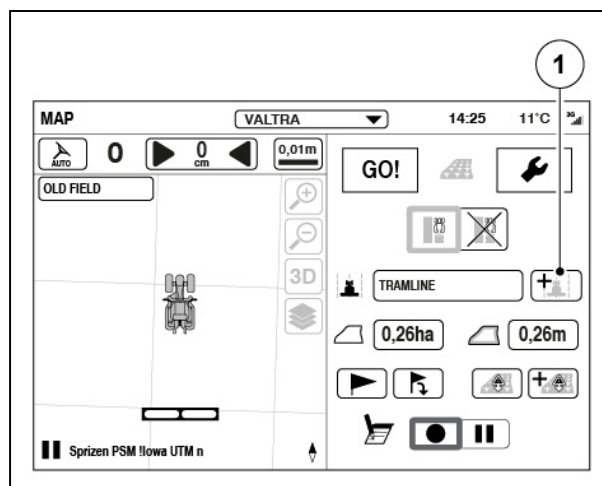


Fig. 34

- (1) Add new wayline

4. Tap the Angle wayline.

5. Tap ✓ to accept.

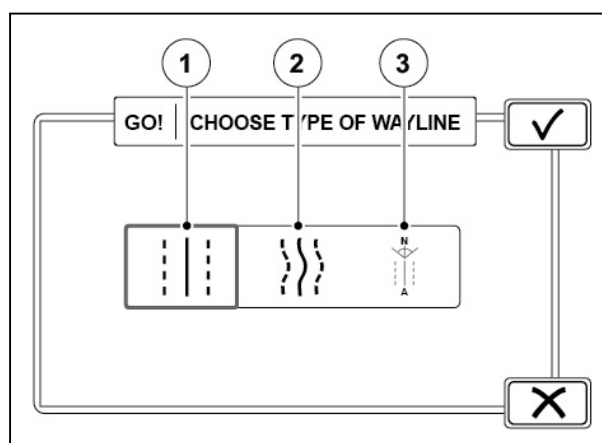


Fig. 35

- (1) Straight wayline (A-B)
- (2) Countour wayline
- (3) Angle wayline (A+ heading)

6. Set the angle of the wayline.

Valtra Guide shows the angle to which the head of the tractor points.

0° is North, 90° is East, 180° is South and 270° is West.

7. Tap ✓ to accept.

Waylines for the selected angle come into view.

Parallel waylines show on the left (negative numbers) and right (positive numbers) side of the tractor. The system calculates the wayline intervals from the preset implement width and overlap.

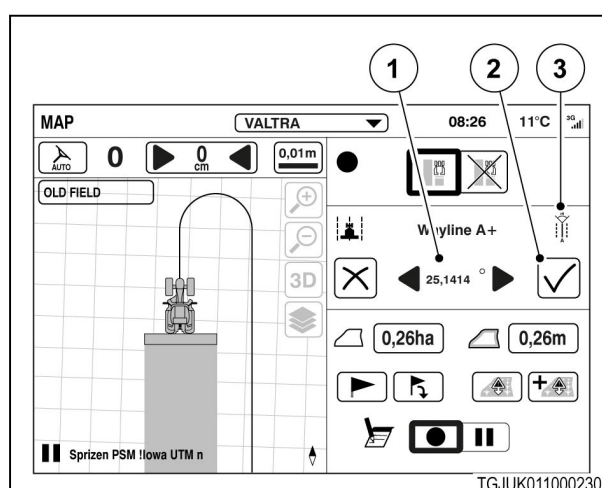


Fig. 36

- (1) Angle
- (2) Accept
- (3) Angle wayline

#### 4.4.5.4 Manage waylines

##### Procedure



- Open the Map screen
- Select a field.
- Tap the Wayline configurator.

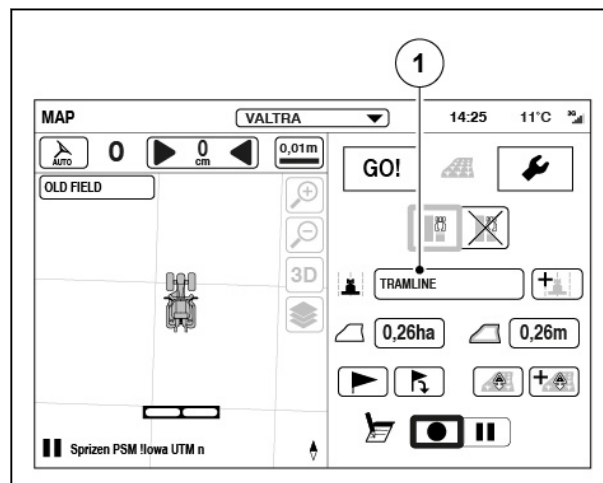


Fig. 37

(1) Wayline configurator

- To select a wayline, tap the checkbox.
- To see the wayline coordinate information, tap the Wayline information button. Pop-up screen will show to tell the position information of the wayline.
- To delete a wayline, tap the Delete icon. Wayline is deleted immediately without confirmation.
- Tap ✓ to accept the change.

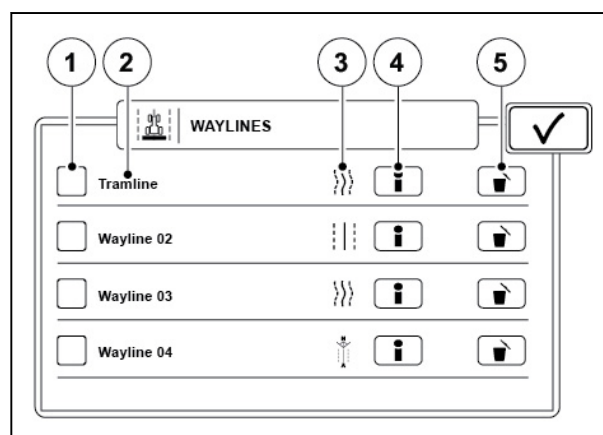


Fig. 38

- (1) Checkbox
- (2) Wayline name
- (3) Wayline type
- (4) Wayline information
- (5) Delete

#### 4.4.6 Wayline assistant

Wayline assistant is an optional feature package that includes:

- Single contour wayline
- Segmented wayline
- Wayline configurator

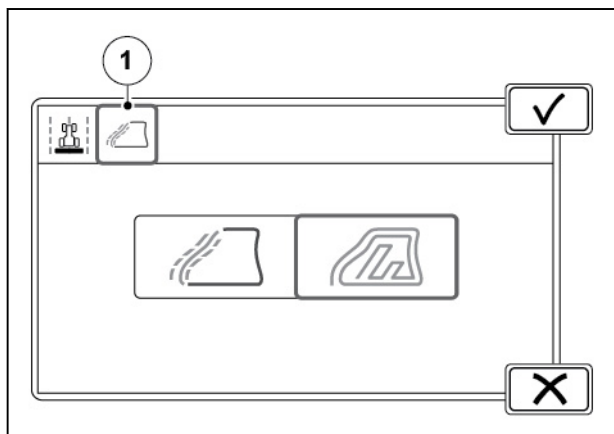


Fig. 39

(1) Wayline assistant

Segmented wayline is a wayline which can have multiple segments. You can, for example, put your existing waylines together to make a new segmented wayline. Segmented waylines can be made from existing waylines and boundaries or you can record new waylines.

#### 4.4.6.1 Record a single contour

Single contour wayline is as regular contour wayline, though it does not make parallel waylines.

##### Procedure

1. Tap the Wayline assistant tab.
2. Tap the Single contour icon.

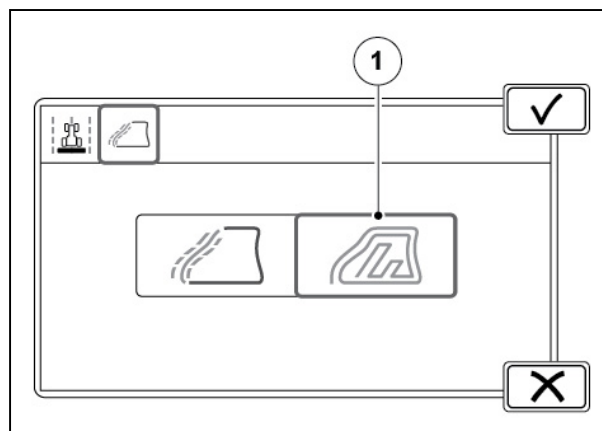


Fig. 40

(1) Single contour icon

3. Tap the Record icon.
4. To pause the recording (for example, if there is a straight part in the field), tap the Pause icon.  
The recording makes a straight line between the Pause and Continue recording taps.
5. Tap the Continue recording icon to continue recording.
6. Drive to the end of the field.

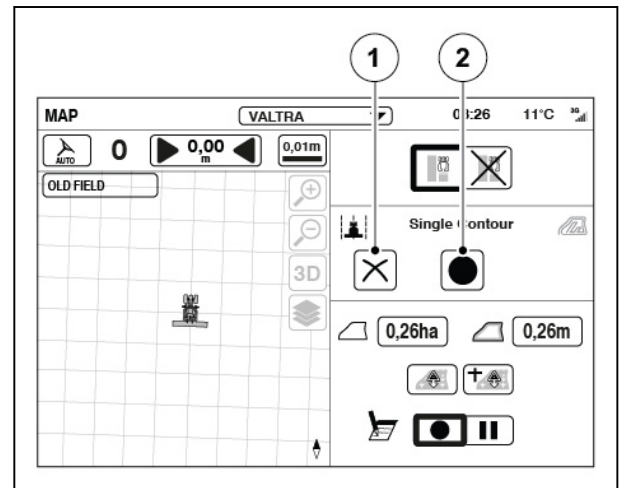


Fig. 41

- (1) Cancel recording
- (2) Record wayline

7. Tap the Accept icon.  
The green arrows shows the start point and the red arrow shows the end point. Tails of 10 meters are created at the start and end of the wayline.  
Nudge offset settings are disabled for the single contour wayline.

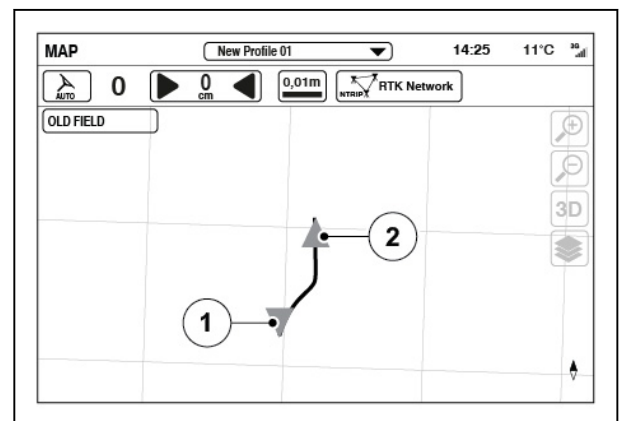


Fig. 42

- (1) Green arrow
- (2) Red arrow

#### 4.4.6.2 Record a segmented wayline

##### Procedure

1. Tap Add new wayline.
2. Tap the Wayline assistant tab.

3. Tap the Segmented wayline icon.

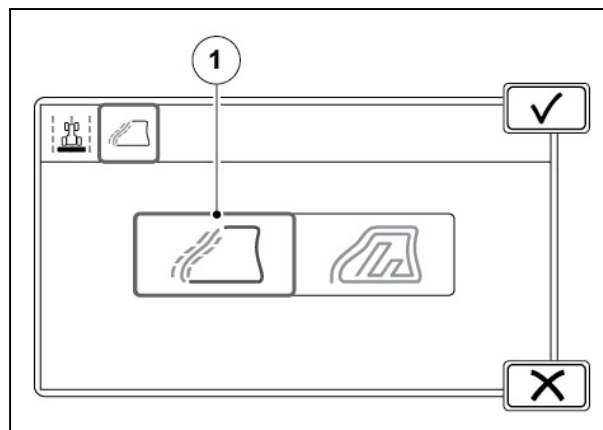


Fig. 43

- (1) Segmented wayline icon

4. Tap the Segmented wayline recording.

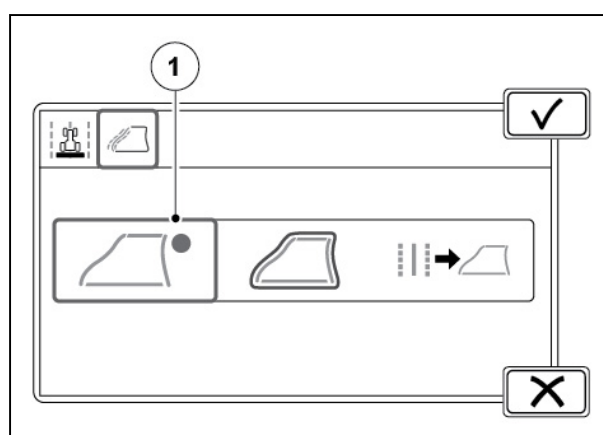


Fig. 44

- (1) Segmented wayline recording

5. Tap the Plus icon (for example, in the corner of the field).

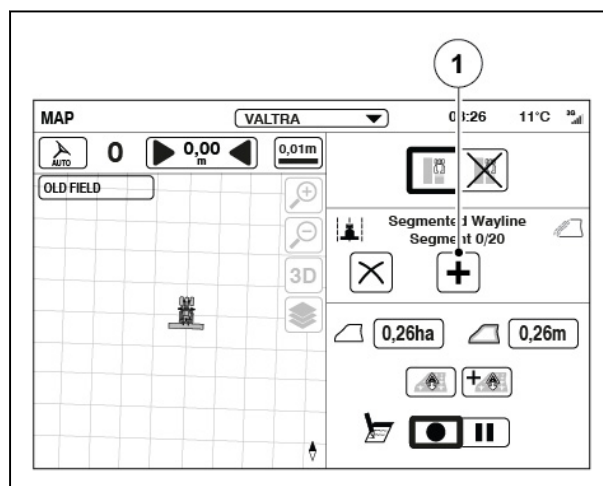


Fig. 45

- (1) Plus icon

6. To pause the recording (for example, if there is a straight part in the field), tap the Pause icon.

The recording makes a straight line between the Pause and Continue recording taps.

7. Tap the Continue recording icon to continue recording.
8. Drive to the end of the field edge.
9. Tap the Stop icon to finish the wayline segment.
10. Make segment waylines of all the edges of the field.
11. Tap the Accept icon to save the segmented wayline.

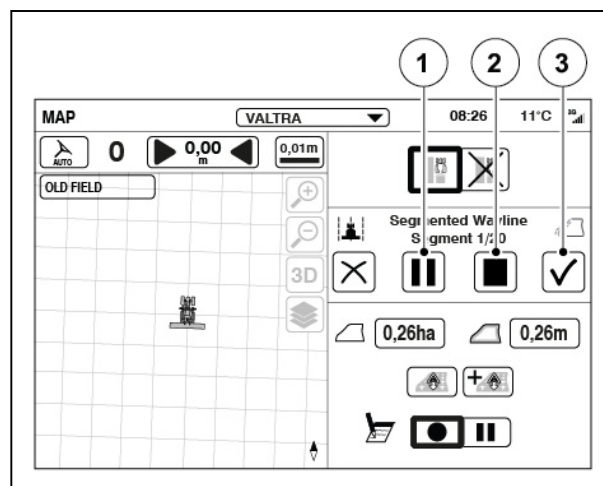


Fig. 46

- (1) Pause icon
- (2) Stop icon
- (3) Accept icon

#### 4.4.6.3 Make a segmented wayline from boundary

You can automatically make segmented waylines, which follow the field boundary.

##### Procedure

1. Select a field which has a boundary.
2. Tap the Wayline assistant tab.
3. Tap the Segmented wayline icon.

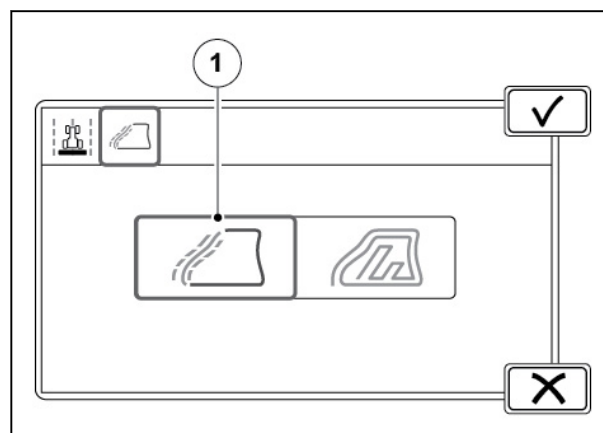


Fig. 47

- (1) Segmented wayline icon

4. Tap the Segmented wayline from boundary.  
Pop-up screen appears to show the field boundaries converted into segments. Red arrows show the segment number and end points.
5. Adjust the number of segments, if needed.  
This has an effect on how accurately segments follow the boundary.
6. Optimize the wayline extensions, if needed.  
This has an effect on the appearance of the wayline endings. When optimized, the segment ends point to the start of the next segment.
7. Tap Accept to save the segmented waylines.
8. Rename the segmented wayline (if needed) and tap Accept to save.

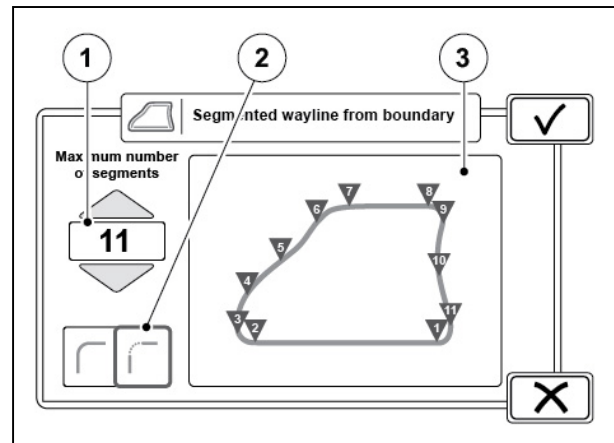


Fig. 48

- (1) Maximum number of segments
- (2) Optimize wayline extensions
- (3) Preview

#### 4.4.6.4 Make a segmented wayline from existing waylines

You can use your existing straight and contour waylines to make a segmented wayline.

##### Procedure

1. Tap the Wayline assistant tab.
2. Tap the Segmented wayline icon.

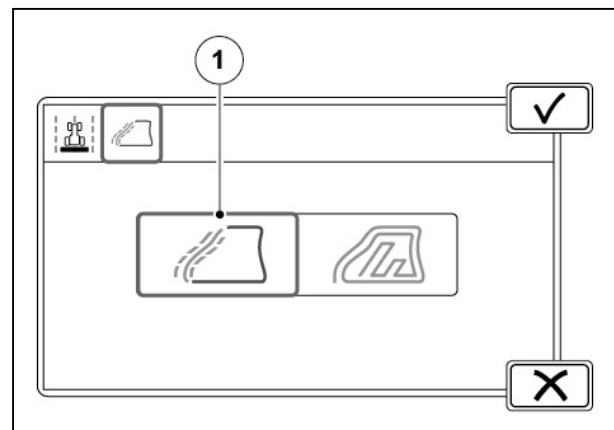


Fig. 49

- (1) Segmented wayline icon

3. Tap the Segmented wayline from existing waylines.

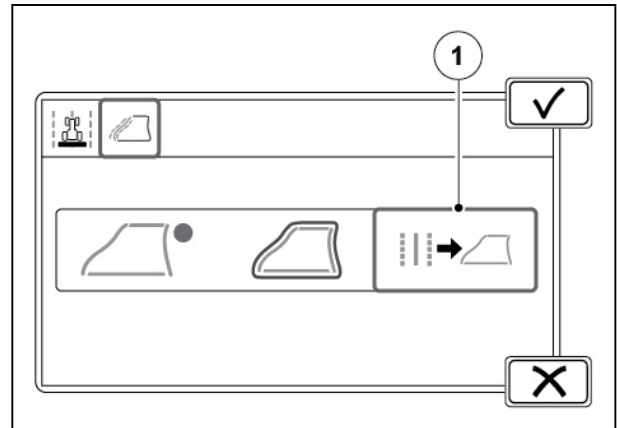


Fig. 50

- (1) Segmented wayline from existing waylines

4. Select the waylines you want to use.  
You can select a maximum of 20 waylines.  
Preview shows the waylines.
5. Tap Accept to make a segmented wayline.
6. Rename the segmented wayline (if needed) and tap Accept to save.

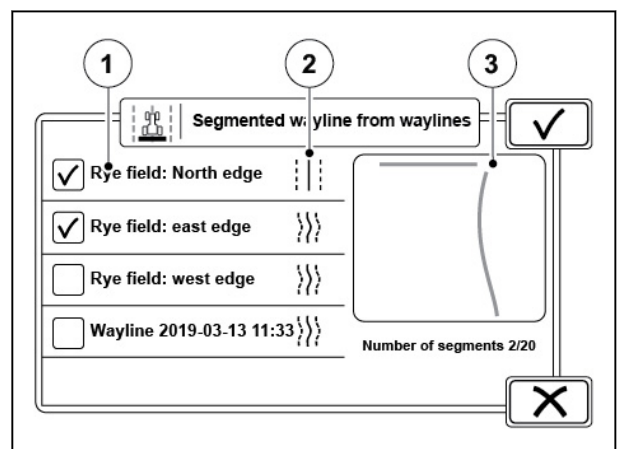


Fig. 51

- (1) Wayline name
- (2) Wayline type
- (3) Preview

#### 4.4.6.5 Use the wayline configurator

With the wayline configurator you can make segmented waylines from existing waylines or adjust the recorded ones.

##### Procedure

1. Open the Wayline configurator.
2. Select a wayline.



3. Tap the Wayline configurator icon.

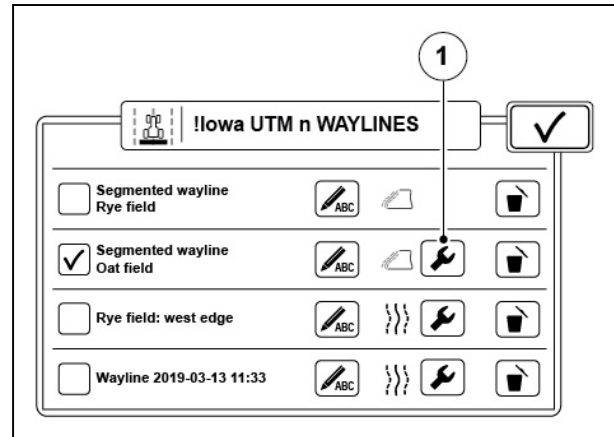


Fig. 52

- (1) Wayline configurator icon

4. Select the wayline you want to adjust.
5. To import existing straight or contour waylines, tap Import.
  - a) Select wayline(s) from the pop-up screen.
  - b) Tap Accept to import the waylines.

Waylines appear on the configurator.

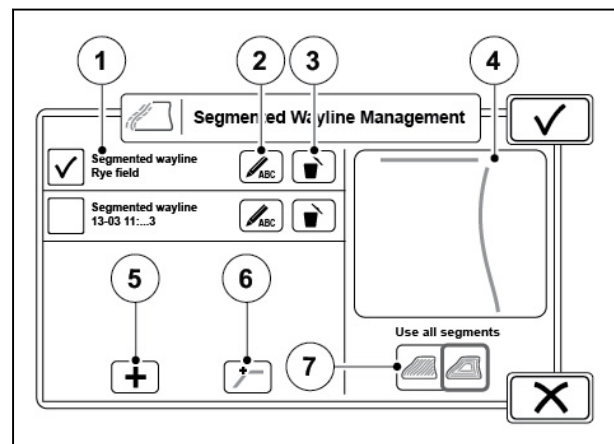


Fig. 53

- (1) List of waylines
- (2) Rename segment
- (3) Remove segment
- (4) Preview
- (5) Import
- (6) Merge segments
- (7) Use all/fix segments

6. To adjust the wayline overlaps and corners, tap Merge settings.
  - a) Select the segments with the + icon.
 

Segments show in yellow in the preview with selected segment highlighted in green.

When 2 segments are selected, red color shows segment parts to be removed and yellow color the resulting segment.
  - b) To change segment part to be removed, tap the Toggle icon for different outputs.
  - c) Tap Accept to save the new segmented wayline.
  - d) Tap OK to notice that any nudge offset possibly set to the wayline parts used do not apply in the new segmented wayline.

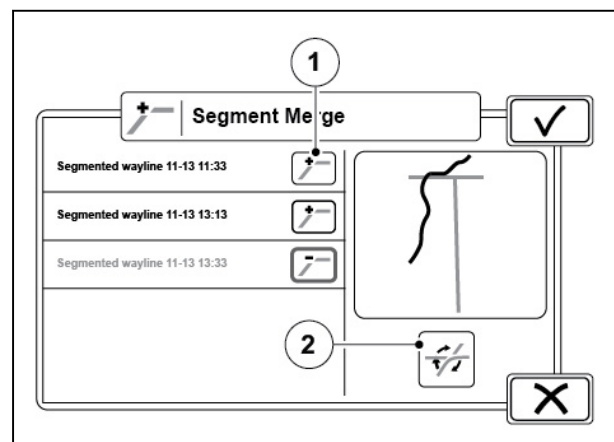


Fig. 54

- (1) + icon
- (2) Toggle icon

7. To use selected or all segments, set the slider accordingly.  
  
When you work the field around, use all segments. If you work the field first and headland at the end, use selected segments for the field and switch to all segments when you do the headland.
8. Tap Accept to save the wayline.

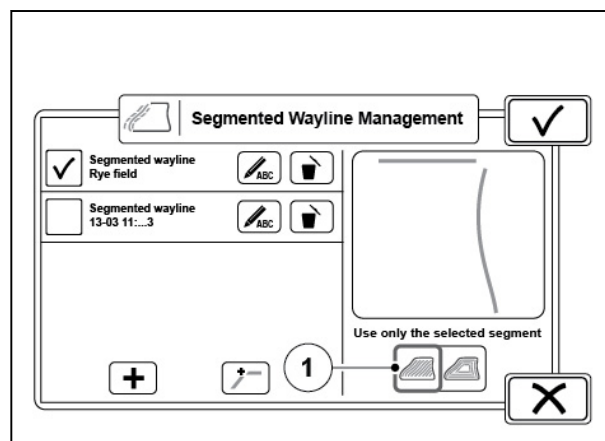


Fig. 55

- (1) Use all/fixed segments

#### 4.4.6.6 Segmented wayline in Map screen

When the segmented wayline is in use, current wayline and segment numbers show in the Map screen.

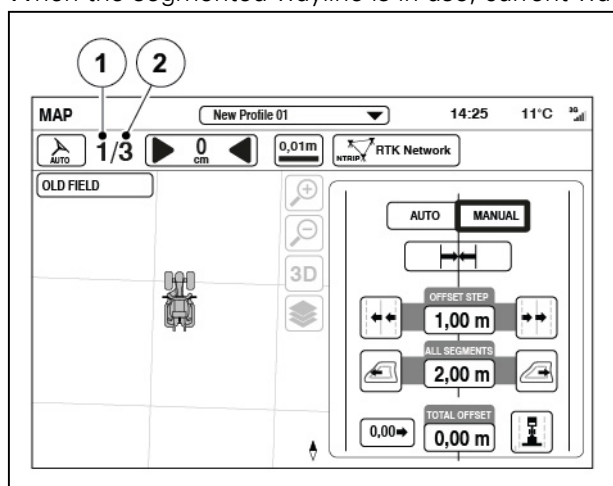


Fig. 56


- (1) Current segment number
- (2) Current wayline number

With segmented waylines, you can nudge offset of all segments away or nearer.

#### 4.4.6.7 Adjust the segmented wayline offset

The segmented wayline adjustment is available only when the Wayline assistant is enabled.

#### Procedure

1. Open the Map screen 

2. Tap the Cross track icon.

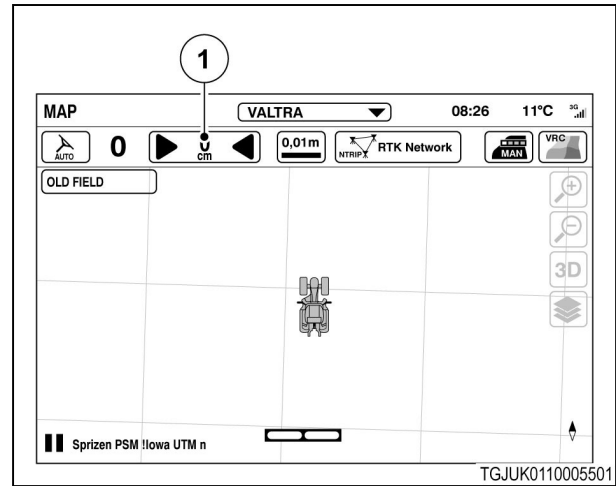


Fig. 57

- (1) Cross track

3. Set the manual nudge offset value.
4. Tap the left or right icon of the increase segment nudge offset.  
Total offset value for all segments shows the segment offset.
5. Tap the map to close the offset settings.

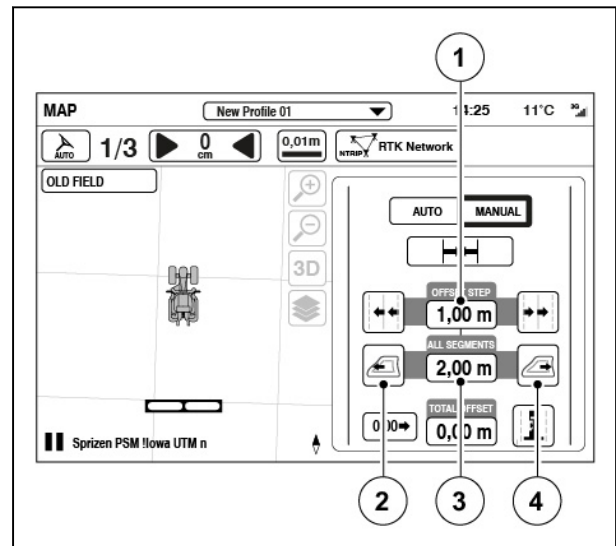


Fig. 58

- (1) Manual nudge offset value
- (2) Increase segment nudge offset to the left
- (3) Total offset value for all segments
- (4) Increase segment nudge offset to the right

#### 4.4.7 Wayline offset adjustment

Wayline position moves with low accuracy correction sources because of GNSS position drift. With the wayline offset setting you can move the position of the wayline, so it will match with the actual position of the tractor.


You can adjust the wayline offset manually or automatically.

Manual adjustment is useful, for example if you drive along the side of a slope where the implement slides downward.

With the automatic adjustment you can easily move the previous waylines to align with the actual position of the tractor, for example, when you return to a field.

#### 4.4.7.1 Use the manual wayline offset

##### Procedure

- Open the Map screen 
- Tap the Cross track icon.

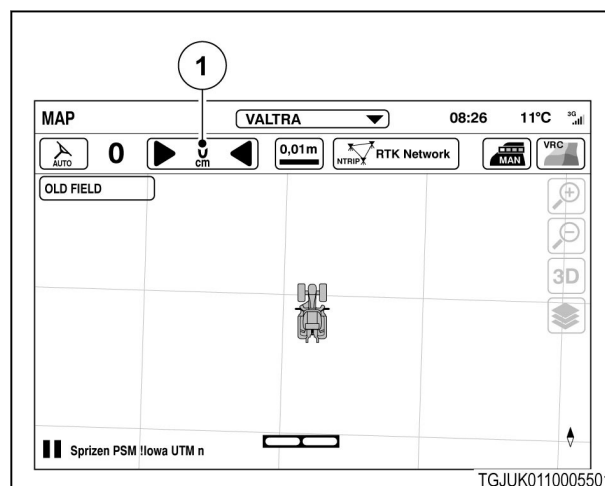


Fig. 59

(1) Cross track

- To adjust the wayline offset manually, set the Offset mode selector to Manual.  
The wayline moves from its initial position to the current tractor position.  
The adjustment moves the wayline position only when you tap the icon.
- To automatically adjust the wayline offset, tap the Auto offset icon.
- To manually adjust the offset:
  - Set the Offset step.
  - Tap the left or right icon of the increase manual nudge offset.  
Total offset shows the sum of the auto and manual offset.
- To set the auto and manual offset to the center, tap the Reset offset icon.
- Tap the map to close the offset settings.

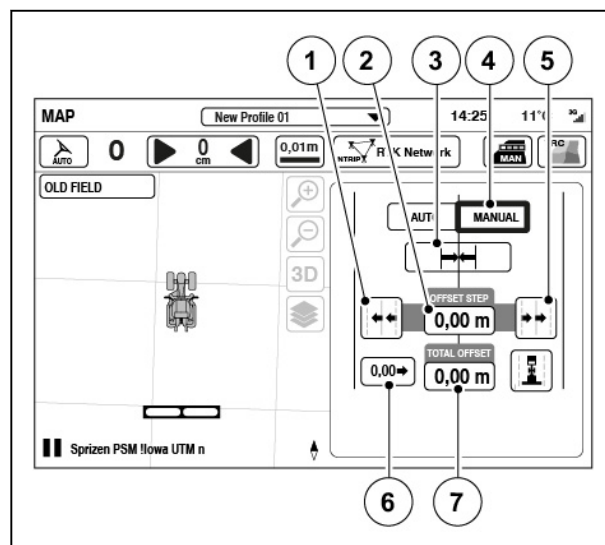



Fig. 60

- (1) Increase manual nudge offset to the left
- (2) Manual nudge offset value
- (3) Auto offset
- (4) Offset mode selector
- (5) Increase manual nudge offset to the right
- (6) Reset offset
- (7) Total offset value

#### 4.4.7.2 Save wayline offset as new wayline

If you have adjusted wayline to have offset, you can save it as a new wayline. This is very useful, for example, when you return to a field.

**Procedure**

1. Open the Map screen 
2. Tap the Cross track icon.

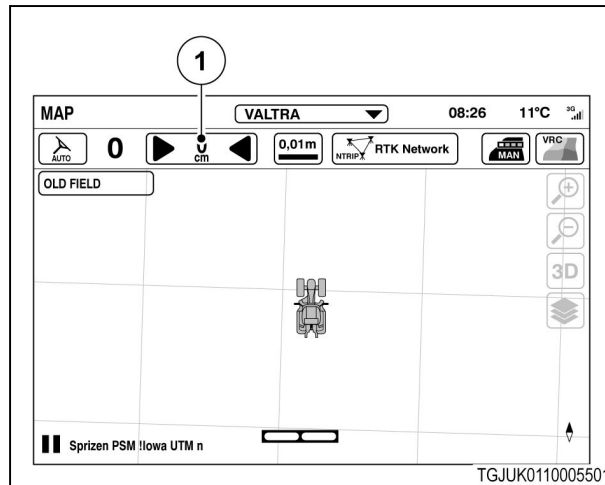


Fig. 61

(1) Cross track

3. To save the manually adjusted wayline offset as a new wayline, tap the Save offset icon.
4. Tap the map to close the offset settings.

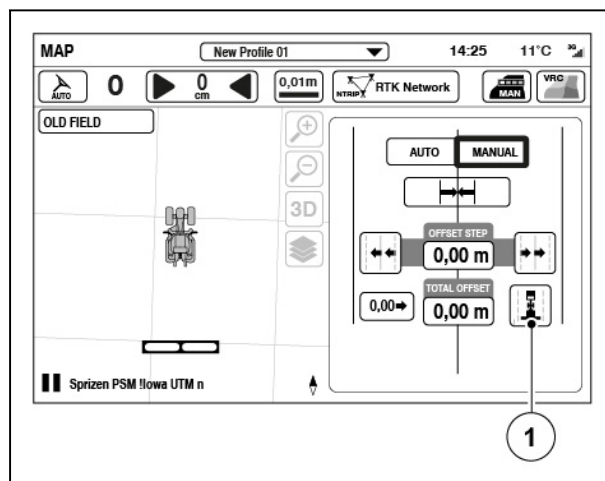


Fig. 62

(1) Save offset as new wayline

**4.4.7.3 Automatic wayline offset**

Automatic wayline offset automatically moves the wayline position to align with actual position of the tractor every time you engage Valtra Guide.

**Procedure**

1. Open the Map screen 

2. Tap the Cross track icon.

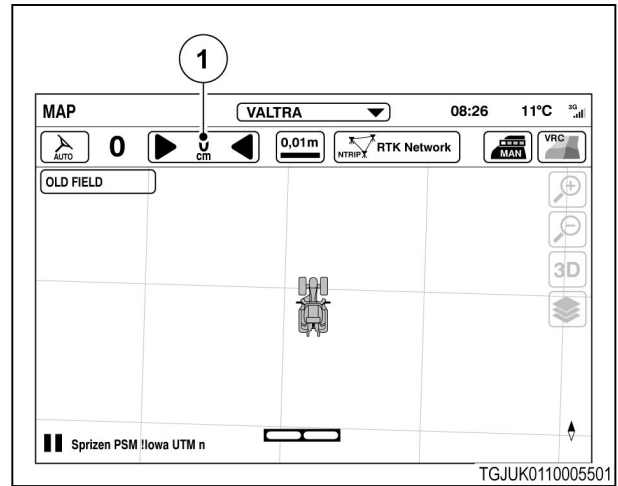


Fig. 63

- (1) Cross track

3. Tap the Auto icon to activate the wayline automatic offset.  
Waylines move to align with actual position of the tractor. Automatic wayline offset is active until the next tractor restart.

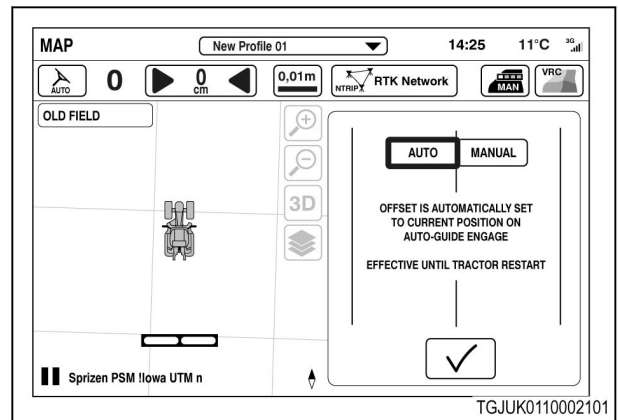


Fig. 64

**4.4.7.4 Use the mounting offset setting**

If Valtra Guide does not steer the tractor along same tracks when you drive the wayline in both directions, there might be an error on Valtra Guide installation or implement settings are not correct.

If the implement settings do not help with the problem, it is possible to adjust the mounting offset of the receiver. Before you make any changes to the mounting offset, calibrate the wheel angle sensor and navigation controller (GYRO).

**Procedure**

1. Open the Tractor health screen



2. Tap the calibrations icon.

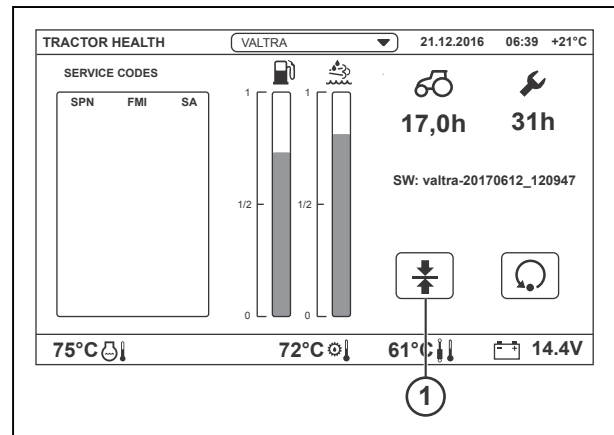


Fig. 65

- 1 Calibrations pop-up screen

3. Tap the Navigation controller calibrations tab.
4. Make a straight test drive track of at least 100 meters on a level ground.  
If the terrain is sufficiently soft, you can see and measure the tracks easily.
5. Disconnect implements from the tractor, if connected.
6. Drive along the same line, from start to stop and then back to the start.  
If the Valtra Guide system is correctly installed, the tractor drives along the same tracks.
7. If the tracks of the two driving directions are not aligned, edit the mounting offset settings.
  - a) Measure the difference between the center lines of the tracks.
  - b) Enter the difference in the Mounting offset settings screen.
  - c) If necessary, set the value to 0 with the Reset icon.

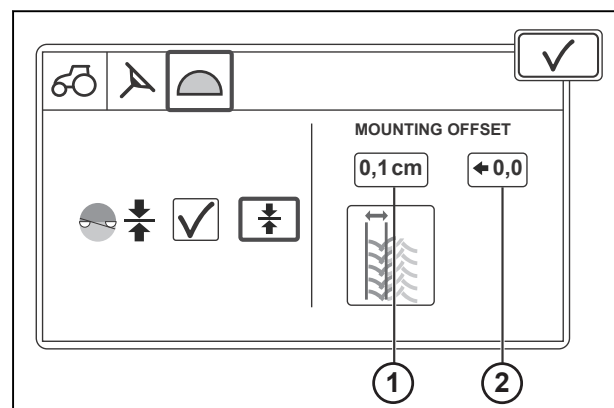


Fig. 66

- 1 Mounting offset
- 2 Reset mounting offset

#### 4.4.8 Use the tramlines

Implements which support tramlines, for example a seeder, can leave the implement and tractor tracks not sowed to preserve seeds. You can set tramlines to Valtra Guide to show you when to engage the tramline function in the implement. Tramlines show in orange color along the waylines and when you work the tramline, it paints in blue.

##### Procedure

1. Open the Map screen
2. Tap the Map.



3. Tap the Settings mode.
4. Tap Track settings.

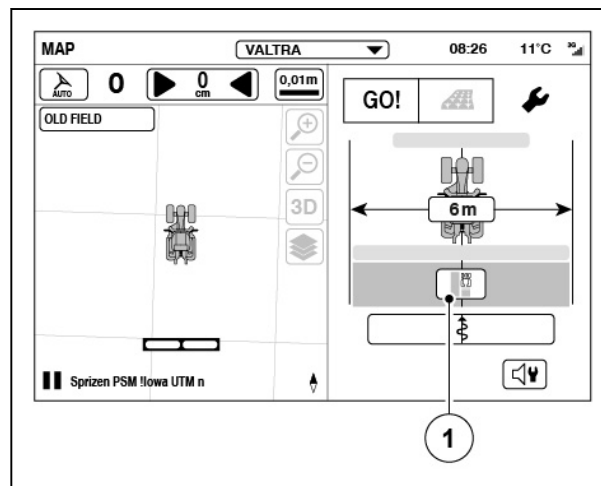


Fig. 67  
(1) Track settings

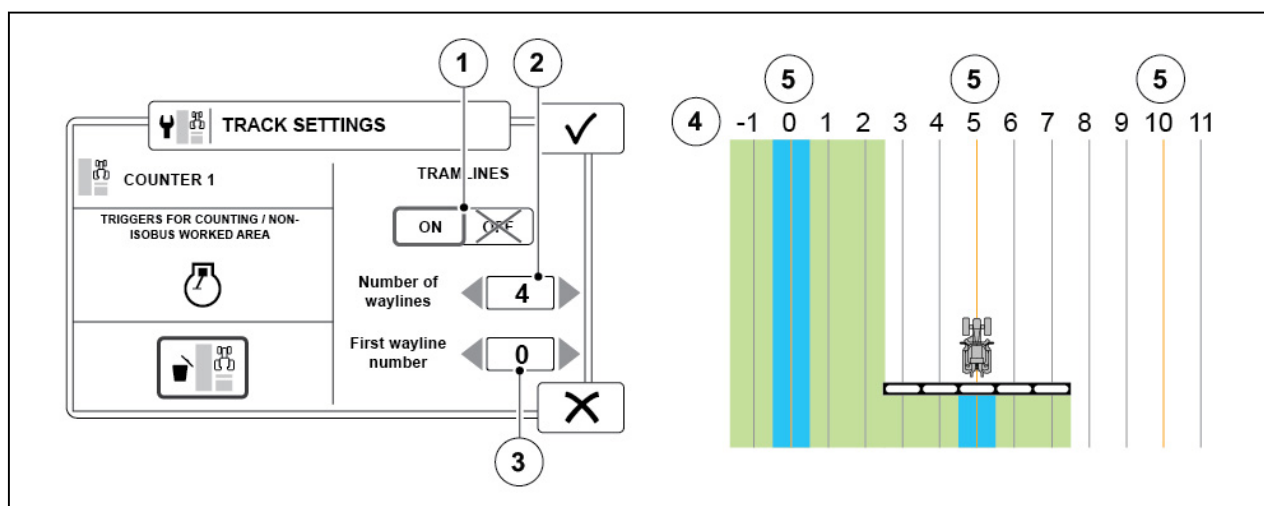


Fig. 68  
(1) Tramlines ON/OFF  
(2) Number of waylines (between tramlines)  
(3) First wayline number (to be set as tramline)  
(4) Waylines  
(5) Tramline

5. Set the Tramlines ON.

These settings could apply for a seeder with a 2m working width and sprayer with a 10m working width, for example.

6. Adjust the number of waylines between the tramlines.
7. Set the number of first wayline to be set as tramline.
8. Tap ✓ to accept.

#### 4.4.9 Record field boundary and wayline at the same time

You can record the boundary and wayline at the same time. You can also drop markers or point obstacles when you record a boundary or a wayline.

##### Procedure

1. Start to record a boundary.
2. Tap the Add wayline icon.



3. Select a Contour wayline.
4. Record the wayline in an appropriate position.

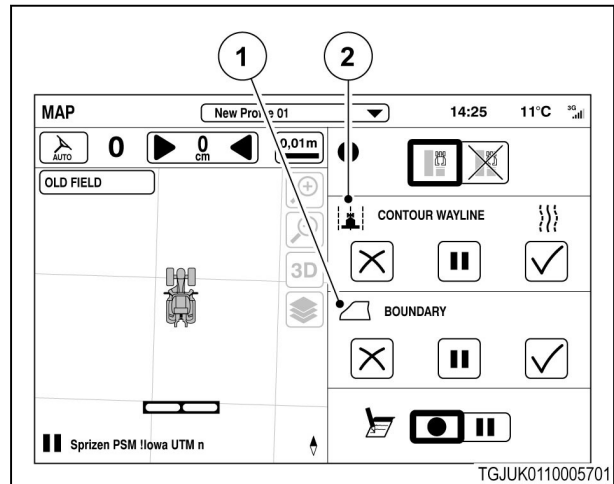


Fig. 69

- (1) Boundary menu bar
- (2) Wayline menu bar

#### 4.4.10 Make a headland

##### Procedure



1. Open the Map screen
2. Select a field.
3. Tap the Map screen.
4. Tap the Headland setting icon.
5. Enter the width of the headland.

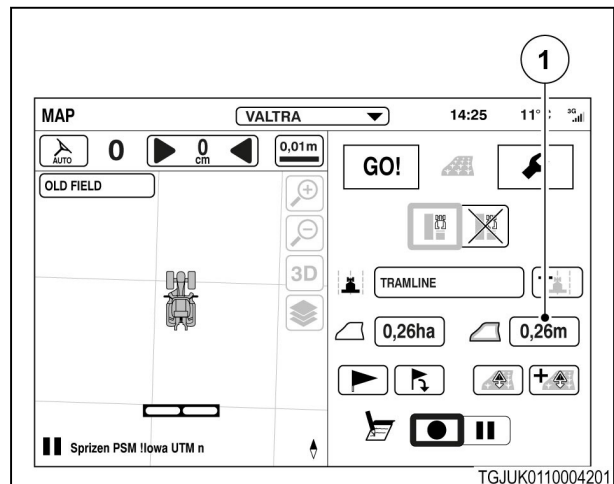


Fig. 70

- 1 Headland setting icon

6. Tap ✓ to accept or ✗ to cancel.  
Headland shows on the map screen.

**NOTE:** A field with a boundary must be selected.

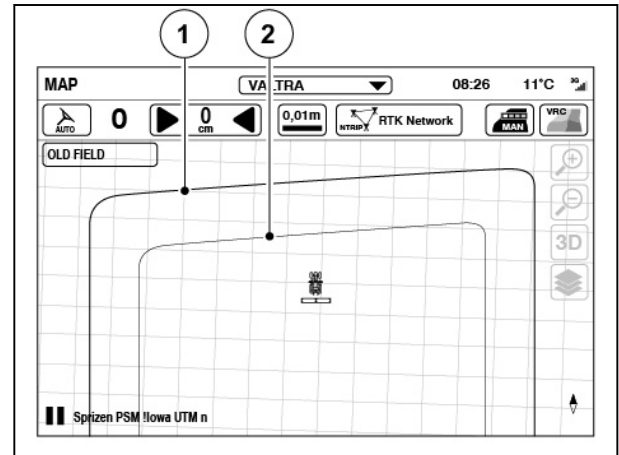


Fig. 71

- 1 Field boundary
- 2 Headland

#### 4.4.11 Obstacles

You can make small obstacles or obstacle areas on your field. Typically a small obstacle can be a pylon or a rock and an obstacle area patch of trees. Obstacles saved for the field are shown in the Obstacle configurator.

When you drive near an obstacle, you can hear a warning sound and see a notification on the SmartTouch screen.

**NOTE:** You can make an obstacle when Valtra Guide is engaged and you work on the field.

##### 4.4.11.1 Make a small obstacle

###### Procedure



1. Open the Map screen
2. Select a field.
3. Tap the Map screen.
4. Drive as near the obstacle as you can.

5. Tap the Add obstacle.

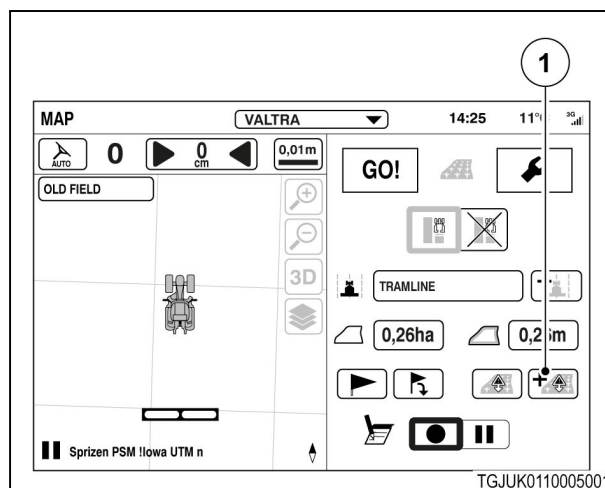


Fig. 72

- (1) Add obstacle

6. Tap the small obstacle.

7. Tap ✓ to continue.

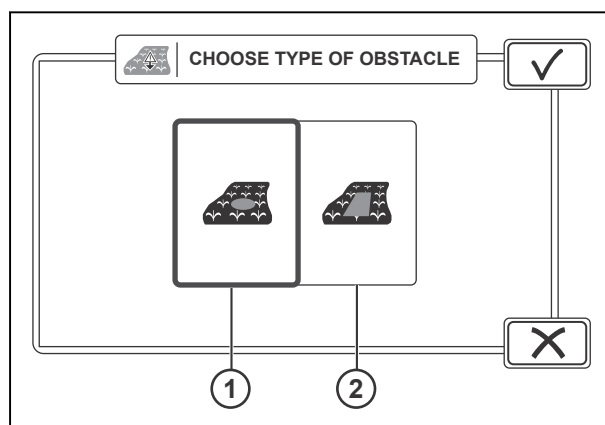


Fig. 73

- (1) Small obstacle
- (2) Area obstacle

8. Tap the Record icon.

9. To rename the obstacle, tap the suggested name.

10. Tap ✓ to accept.  
Obstacle shows on the Map screen.

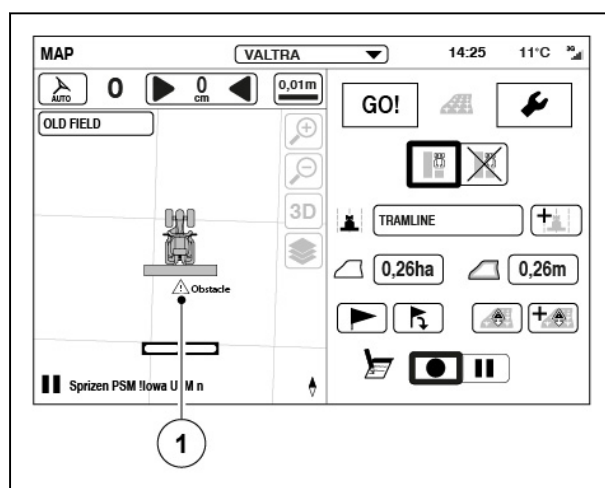


Fig. 74

- (1) Obstacle

**4.4.11.2 Make an area obstacle**

**Procedure**



1. Open the Map screen
2. Select a field.
3. Tap the Map screen.
4. Drive as near the obstacle as you can.
5. Tap the Add obstacle.

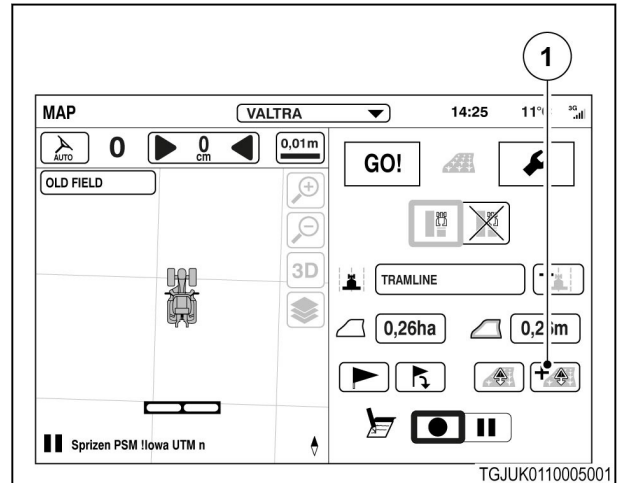


Fig. 75

- (1) Add obstacle

6. Tap the Area obstacle.
7. Tap ✓ to continue.

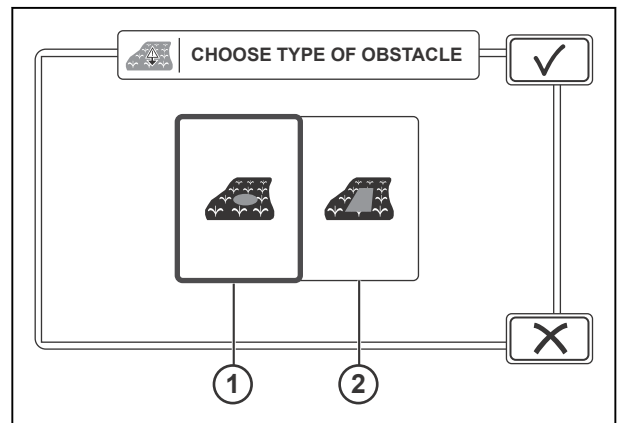


Fig. 76

- (1) Small obstacle
- (2) Area obstacle

**8.** Select the side where the obstacle is.

If a front or rear implement is connected, you must first select if the recording is done from the implement or tractor.

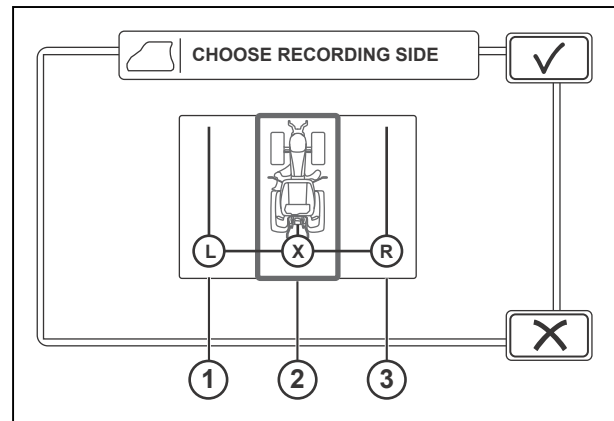


Fig. 77

- (1) Left side
- (2) Centre
- (3) Right side

**9.** Tap the Record icon.**10.** Drive around the area obstacle.**11.** To pause the recording:

- a) Tap the Pause icon
- b) To continue to record after a pause, tap the Continue recording icon.

The recording procedure makes a straight line between the Pause and Continue recording taps.

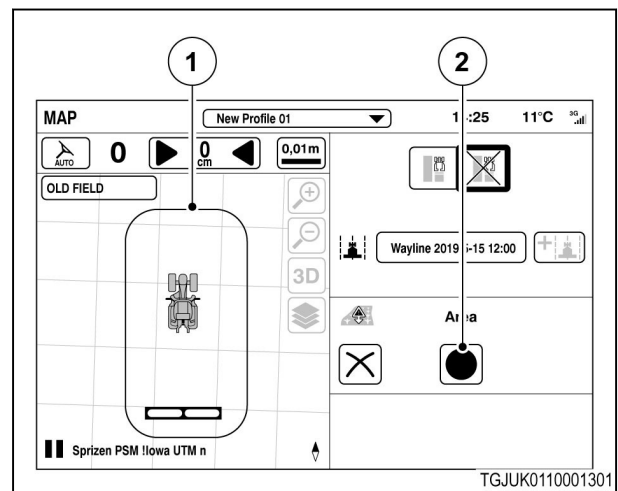
**12.** Tap the Stop icon to add the obstacle.  
Obstacle shows on the Map screen.

Fig. 78

- (1) Area obstacle
- (2) Record

**4.4.11.3 Manage obstacles****Procedure**

- Open the Map screen
- Select a field.
- Tap the Map screen.

- Tap the Obstacle configurator icon.

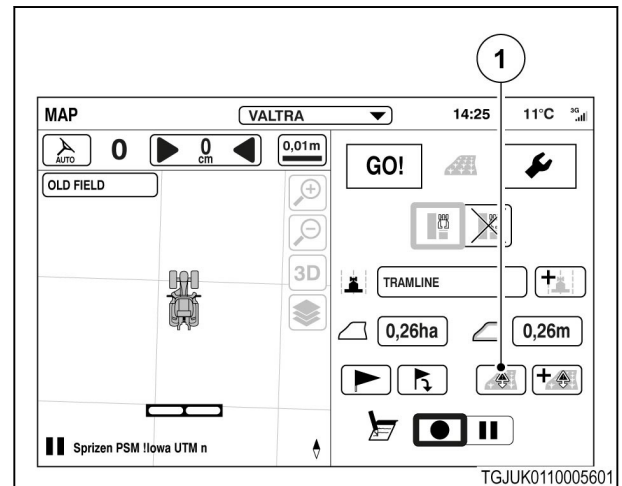


Fig. 79

(1) Obstacle configurator

- Select small obstacles or area obstacles with the selector.
- To delete an obstacle, tap the Delete icon. Obstacle is deleted immediately without confirmation.

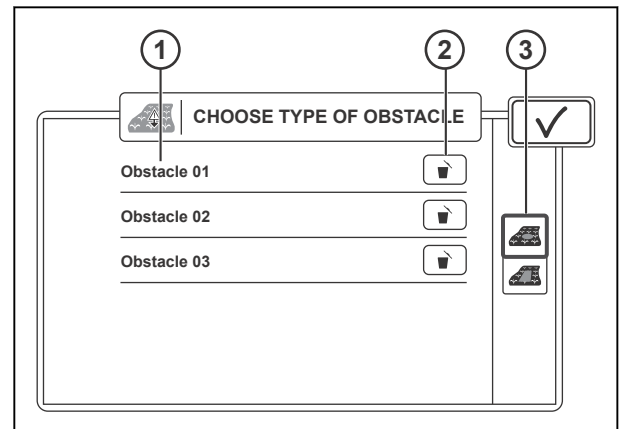
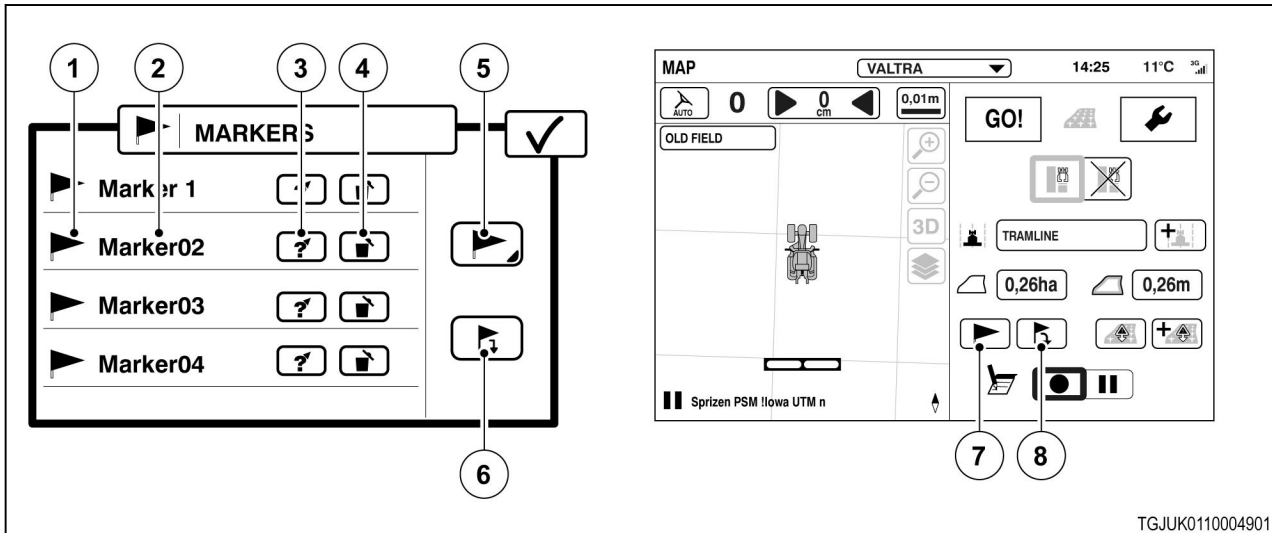


Fig. 80

- 1 Obstacle name
- 2 Delete obstacle
- 3 Small obstacle / area obstacle selector

#### 4.4.12 Use the markers

Use the markers to mark spots other than obstacles on a field, for example, wetlands, or the place you stopped working. You can adjust the marker colors.



TGJUK0110004901

Fig. 81

- (1) Marker color
- (2) Marker name
- (3) Navigate to marker
- (4) Delete marker
- (5) Select marker color
- (6) Drop marker to current position
- (7) Marker configurator
- (8) Add marker

**Procedure**



1. Open the Map screen
2. To select a marker color
  - a) Tap the Marker configurator.
  - b) Tap the Marker color icon.
  - c) Select the color.
3. To add a marker
  - a) Tap the Add marker icon.
  - b) Type the marker name.
4. To delete a marker
  - a) Tap the Marker configurator.
  - b) Tap the Delete icon.

The marker deletes immediately
5. To navigate to a marker
  - a) Select a field.
  - b) Tap the Marker configurator.
  - c) Tap the navigate icon of the desired marker.
  - d) Tap ✓ to return to the Map screen.  
The Compass shows on the Map screen to point the direction and distance of the marker.

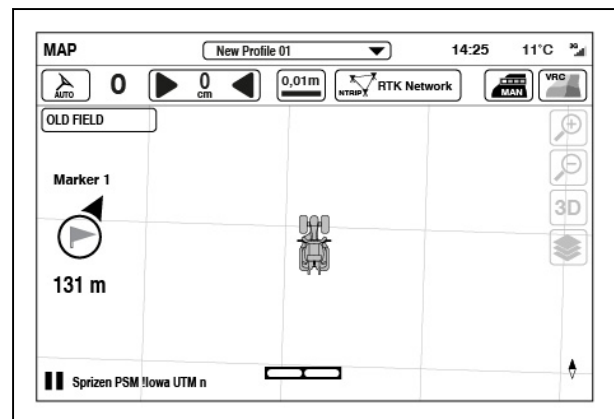


Fig. 82

6. To stop the navigation.
  - a) Tap the Marker configurator.
  - b) Tap the Stop navigation icon.

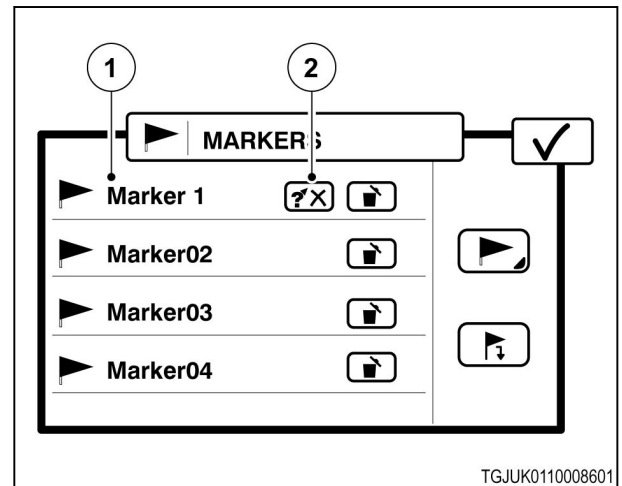



Fig. 83

- (1) Markers
- (2) Stop navigation to marker.

#### 4.4.13 Do a check of the system information

##### Procedure

1. Open the Map screen 
2. Tap the Valtra Guide status.

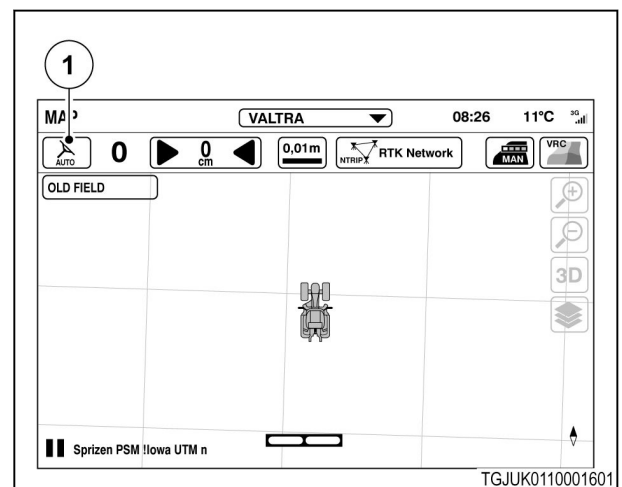


Fig. 84

- (1) Valtra Guide status



3. When all the items have the ✓ status, the Valtra Guide can engage

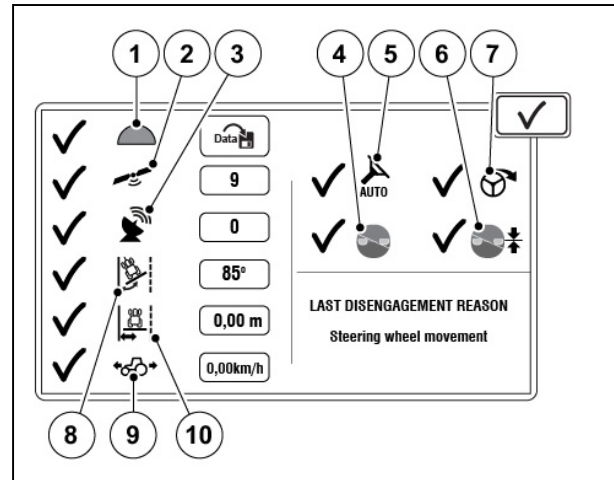


Fig. 85

1	GNSS receiver (top dock) status	Self-test status, successful/not successful.
2	Satellite count	The Valtra Guide receives data from the GNSS satellites. A minimum of 5 satellites must be connected.
3	Valid GNSS position	A valid GNSS position is determined from GNSS data and correction signal data.
4	GYRO status	OK/Not OK If ✗ shows, drive a short distance at more than 1.5 km/h to prepare the GYRO.
5	Valtra Guide pre-activated	Yes/No
6	GYRO calibration status	Calibrated/Not calibrated
7	Steering wheel activity status	OK/Not OK Changes to ✗ when you have not turned the steering wheel in a period of 5 minutes.
8	Distance to the nearest wayline	The distance must be less than 10 m.
9	Tractor speed	OK when the tractor speed is between 0.1-25 km/h.
10	Angle to the wayline	The angle must be between 0°-75°.

#### 4.4.14 Engage Valtra Guide

##### Procedure

1. Make sure that all the items in the System info have ✓ symbol or the icon of the steering controller status in the Map screen is not crossed.
2. Start to drive.  
Valtra Guide can operate when the tractor speed is between 0,1km/h - 25 km/h.
3. Turn the steering wheel.  
Valtra Guide does not engage if you have not turned the steering wheel in 5 minutes before you push the engage Valtra Guide.

4. Push the Valtra Guide engage button to engage the automatic steering.  
The tractor sets itself automatically to the nearest wayline and starts to follow it.

**NOTE:**

You can also engage Valtra Guide in advance, even if some item(s) in the System info

screen has **X** status. When the conditions are met within 5 seconds from the push of the button, Valtra Guide engages automatically.

**NOTE:** When the steering valve is on, the driving speed is limited to 25 km/h. It is not possible to turn the steering valve on when the speed is above 25 km/h.

5. To stop the automatic steering, turn the steering wheel or push the Valtra Guide engage button again.

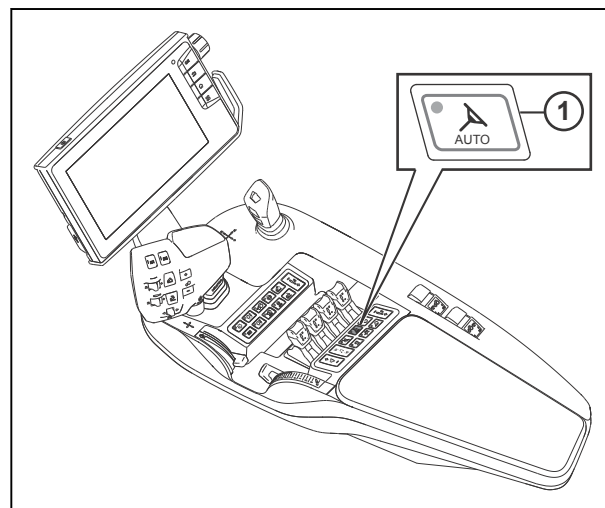



Fig. 86

(1) Valtra Guide engage button

## 4.5 Adjust the steering settings

### Procedure

1. Tap the Map screen 
2. Tap the Settings icon.
3. Tap the Steering settings.

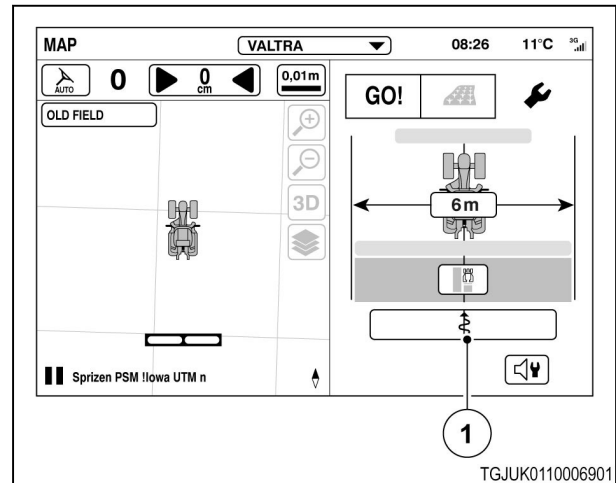


Fig. 87

- (1) Steering settings

4. To adjust the Steering settings, tap the icon.  
In a normal situation, Valtra Guide operates correctly with the both sliders in the middle position.

- a) To adjust the wayline catch-up, drag the slider for wayline catch-up.  
When the slider is adjusted to the left, the tractor steers toward the wayline gradually. Use this when the implement is connected to the rear linkage.

When the slider is adjusted to the right, the tractor steers toward the wayline quickly. Use this when the implement is connected to the pick-up hitch.

- b) To adjust the steering sensitivity, drag the slider for steering sensitivity.

When the steering sensitivity is adjusted to the left, the steering response is slow. Use this if the air pressure in the front tyres is very low or the tractor wobbles along the wayline.

When the steering sensitivity is adjusted to the right, the steering response is quick. Use this if the tractor follows the wayline too slowly.

- c) Tap  to accept or  to discard the changes.

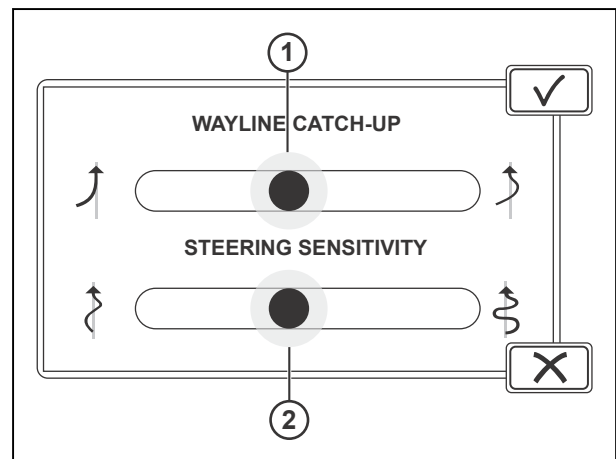


Fig. 88

- (1) Wayline catch-up
- (2) Steering sensitivity

## 4.6 Paint the worked area on the Map screen

The worked area is painted on the Map screen when the Worked area painting is ON and counter 1 and its triggers are active.

- (1) Worked area
- (2) Worked area painting (ON/OFF)

### NOTE:

With the selector for Worked area painting you can easily stop the painting momentarily, for example, when you move to another field.

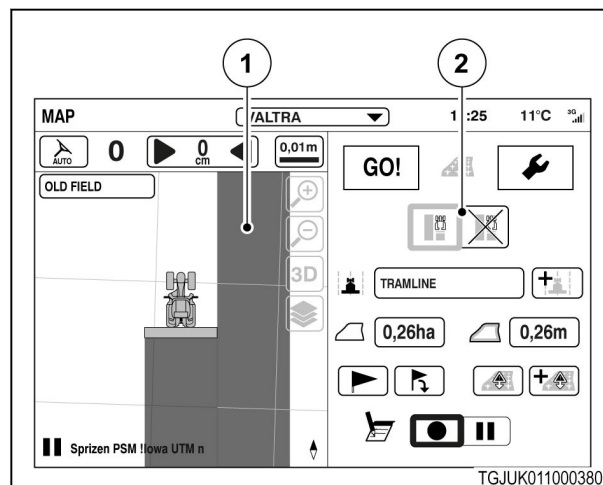



Fig. 89

### Procedure

1. Open the Counters screen.
2. Select the counter 1.
3. Select the triggers.

If you select more than 1 triggers, all of them must be active for the counter to count (and the worked area to paint on the Map screen).

With the Valtra Guide trigger, the worked area is painted on the Map screen only when the Valtra Guide is engaged.

4. Tap  to start counter 1.
5. Set the worked area painting to the ON position from the Map screen.  
The worked area is painted when the selected trigger(s) are active.
6. To stop the work area painting:
  - a) Set the worked area painting to the OFF position.
  - b) Stop the counter 1.

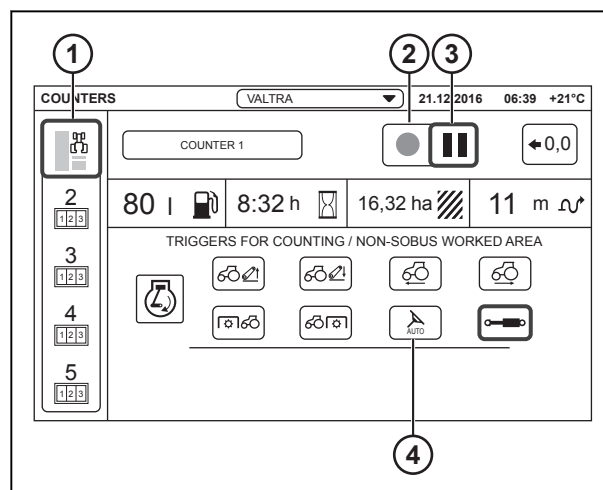


Fig. 90

- (1) Counter 1
- (2) Start
- (3) Pause
- (4) Valtra Guide trigger

## 4.7 Reset the painted area

### Procedure

1. Open the Map screen
2. Tap the Map.
3. Tap the Settings mode.
4. Tap Track settings.

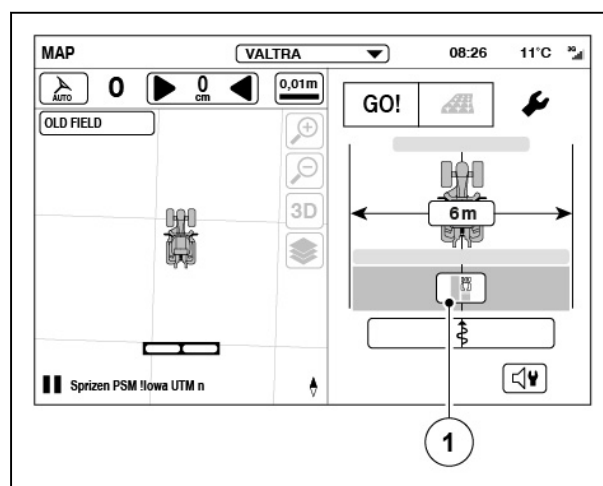


Fig. 91

(1) Track settings

5. Tap Reset to remove the painted area.
6. Tap YES to reset or NO do cancel.

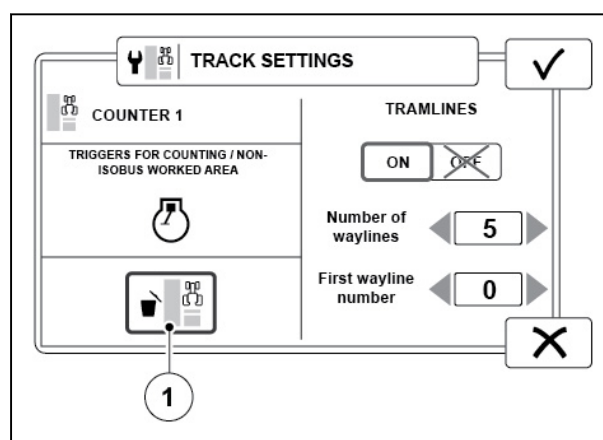


Fig. 92

(1) Reset painted area

### 4.8 Adjust the alarm settings

**Procedure**



- Open the Map screen
- Tap the Map screen.
- Tap the Settings tab.
- Tap the Alarm settings icon.

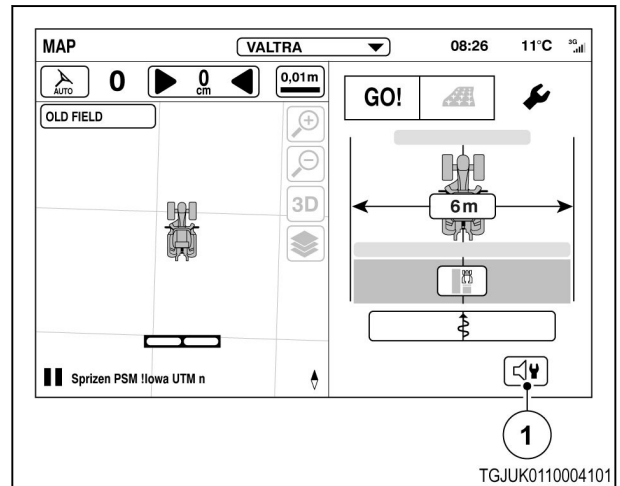


Fig. 93

1 Alarm settings

- Set the boundary alarm ON or OFF.  
When you approach field boundary, you can hear a warning sound.
- Set the obstacle alarm ON or OFF.  
When you approach an obstacle, you can hear a warning.
- Set the fallback alarm ON or OFF.  
When a fallback occurs and the system starts to use a more accurate/inaccurate signal, you can hear a warning sound.
- Set the headland alarm ON or OFF.  
When the tractor rear wheels across the headland, you can hear a warning.

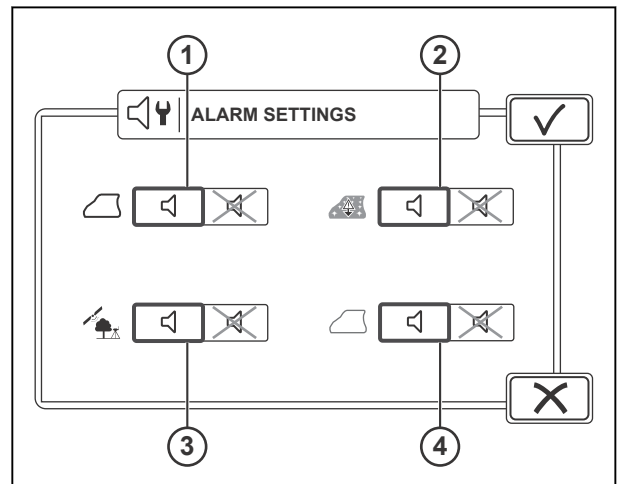


Fig. 94

- 1 Boundary alarm
- 2 Obstacle alarm
- 3 Fallback alarm
- 4 Headland alarm

## 4.9 Use Valtra Guide with QuickSteer

To use Valtra Guide with QuickSteer, pre-activate Valtra Guide on and activate QuickSteer or the other way around.

### Procedure

1. To pre-activate the Valtra Guide receiver:
  - a) Push the master activation switch.
  - b) Tap the Valtra Guide icon.Valtra Guide is pre-activated when the icon is green/blue.

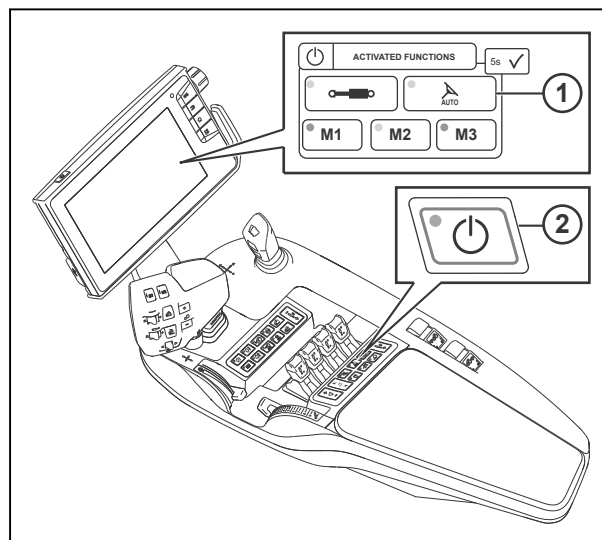


Fig. 95

- 1 Valtra Guide preactivation
- 2 Master activation switch

2. Push the QuickSteer button.  
A green light on the button shows and the electrohydraulic steering valve activates.
- NOTE:** When the steering valve is on, the driving speed is limited to 25 km/h. It is not possible to turn the steering valve on when the speed is above 25 km/h.
3. Adjust the QuickSteer settings from the



Steering settings screen.

4. To deactivate QuickSteer, push the QuickSteer button again.

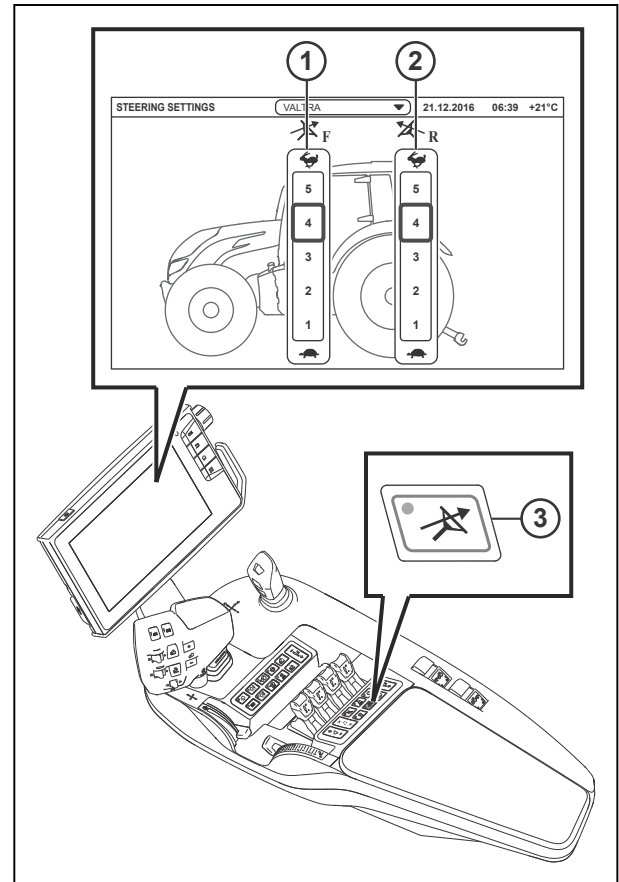


Fig. 96

- 1 QuickSteer settings for forward driving
- 2 QuickSteer settings for reverse driving (optional)
- 3 QuickSteer ON/OFF



## **4.10 Valtra Guide with TwinTrac and QuickSteer**

You can use Valtra Guide also with the TwinTrac reverse drive system. Valtra Guide stays pre-activated if you turn the seat.

You can use the normal steering or QuickSteer to steer the tractor with the TwinTrac reverse drive system.

When you turn the operator's seat to the normal or TwinTrac position, the QuickSteer goes off if it was activated.

## 5 Section Control operation

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## 5.1 Section Control

Section Control enables fully automated switching of the sections over the width of the implement in accordance with the necessary degree of overlap for implements, for example, sprayers, fertilizer spreaders and seeders. Section Control can also turn sections of the implement on and off at the headland or at the edge of the field when unwanted overlap occur.

How Section Control can help you:

- Avoid overlaps and gaps in the field
- Preserve operation materials (seeds, fertilizers, chemicals...)
- More comfortable for the operator especially with large working widths
- Makes the work pattern always accurate, even at night and poor visibility.

Section Control operates with all the ISOBUS implements which obey the ISO 11783 standard and are compatible with Section Control functionality. When you connect the ISOBUS implement to the tractor, it uploads automatically all the related data to the tractor. Thus, it is not necessary to configure general settings.

### 5.1.1 Open the Section Control screen

#### Procedure

1. Open to the Map screen
2. Tap the Section Control icon.  
Section Control screen appears.

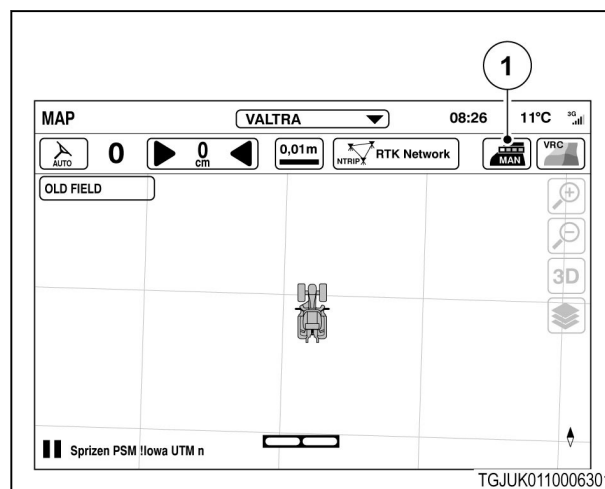


Fig. 1  
(1) Section Control

### 5.1.2 Implement settings

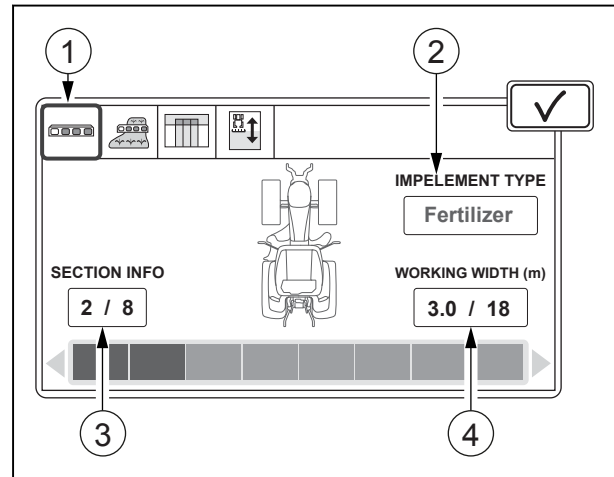


Fig. 2


1	Implement settings tab	
2	Implement type	Implement type shows automatically.
3	Section info	Shows the active and total number of implement sections.
4	Working width	Shows the width of the active and all the sections of the implements.

### 5.1.3 Activate and deactivate Section Control

You can set the Section Control to work automatically or manually. In the auto mode, Section Control switches the sections of the implement on and off automatically. In the manual mode you must switch the sections of the implement on and off from the control device of the implement, for example.

#### Before starting the procedure

#### Procedure

1. Open the ISOBUS settings .

2. Set the ISOBUS UT to the ON position to connect the ISOBUS universal terminal to the SmartTouch screen.
3. Set the Task Controller to the ON position to activate it.

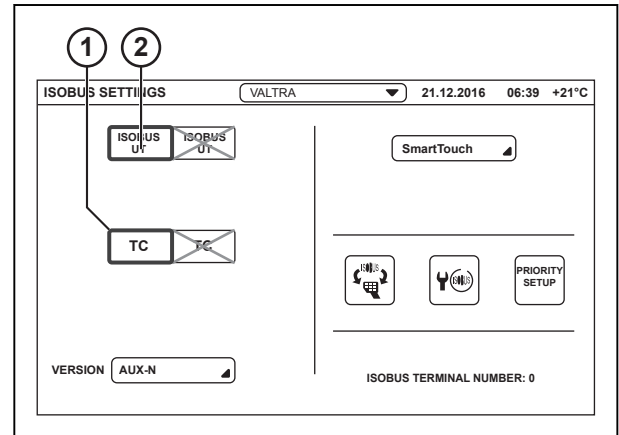


Fig. 3

- 1 Task Controller
- 2 ISOBUS UT

4. Go to the Section Control screen.
5. Tap the Automatic settings tab.
6. Tap the selector to activate or deactivate the automatic Section Control.

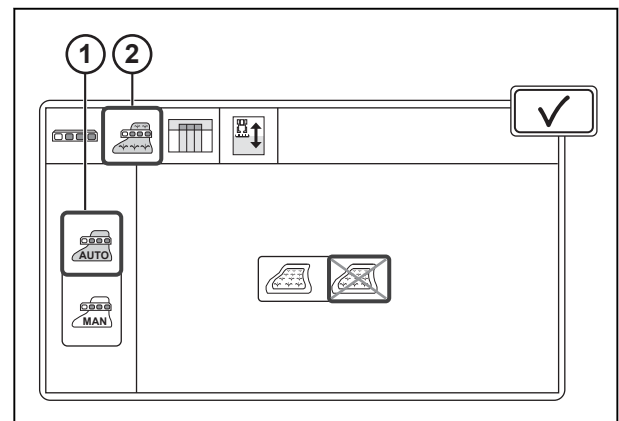


Fig. 4

- 1 Auto/Manual mode
- 2 Automatic settings tab

#### 5.1.4 Activate and deactivate headland mode

The headland mode makes it possible to first do work in the field and then do the headlands. For example, you can first seed in the field, then harrow and seed the headlands. This gives better crop as the headlands get less compacted.

Headland mode functions only when the field boundary and headland are set. We recommend that you use the headland mode only when the correction signal precision is in the centimeter level.

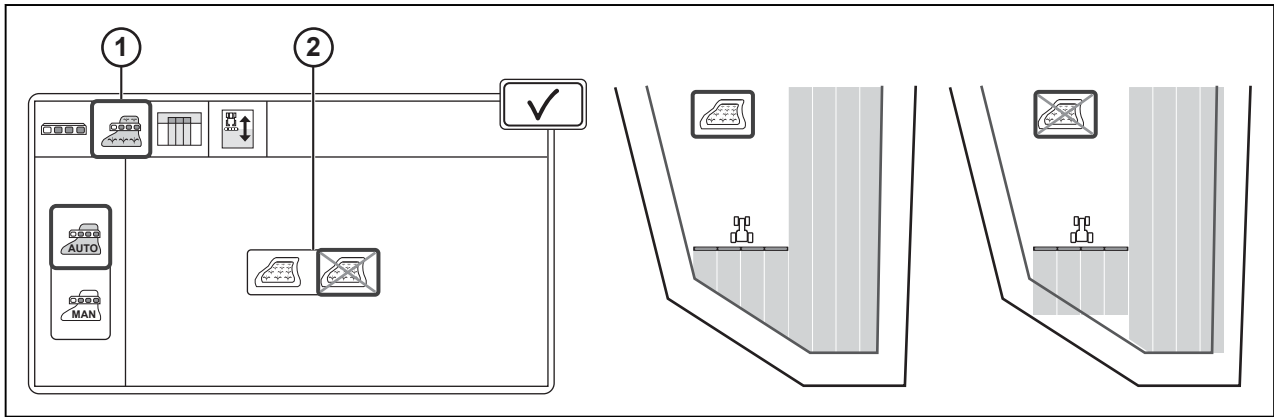


Fig. 5

1 Automatic settings tab

2 Headland mode

**Procedure**

1. Go to the Section Control screen.
2. Tap the Automatic settings tab.
3. Tap the selector to activate or deactivate the headland mode.

**5.1.5 Overlap settings**

**5.1.5.1 Adjust the in-field overlap**

You can adjust the overlap applicable to your current work. With 0% overlap, section deactivates immediately when it touches the worked area, headland or field boundary (possible gaps). With 100% overlap, section does not deactivate until it fully completes the work in its area (possible overlap).

You can use, for example, these settings as a guideline for overlap:

- 100 % for fertilizers to avoid gaps.
- 50 % for precision drills as the seed falls in the middle of the section.
- 0 % for chemicals because to spray an area 2 times can cause damage to the crop.

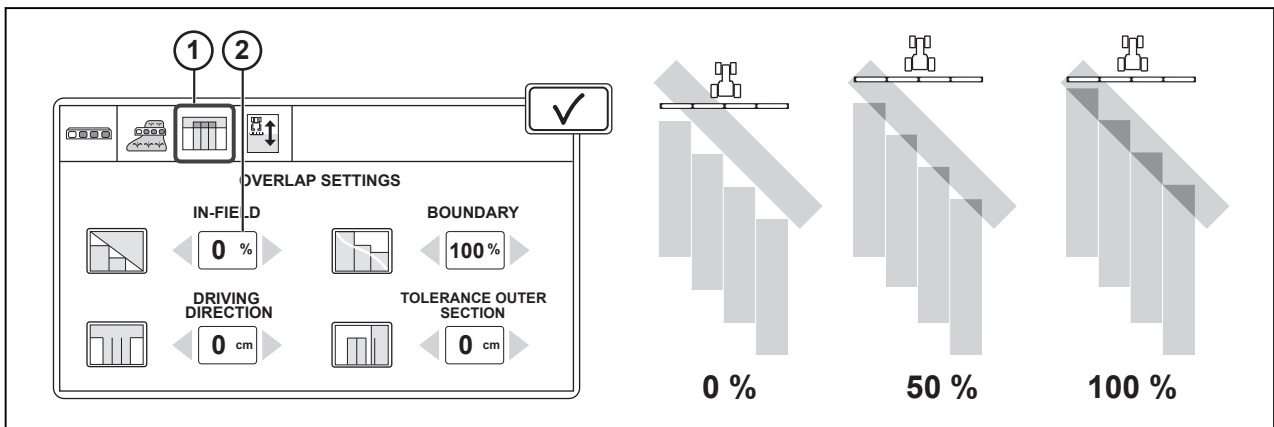


Fig. 6

1 Overlap settings tab

2 In-field setting

**Procedure**

1. Go to the Section Control screen.
2. Tap the Overlap settings tab.

### 3. Adjust the In-field overlap setting.

#### 5.1.5.2 Adjust the boundary overlap

You can adjust the overlap applicable to your current work. With 0% overlap, section deactivates immediately when it touches field boundary or headland (possible gaps). With 100% overlap, section does not deactivate until it fully completes the work in its area (possible overlap).

You can use, for example, following settings as a guide line for overlap:

- 100 % for fertilizers to avoid gaps.
- 50 % for precision drills as the seed falls in the middle of the section.
- 0 % for chemicals because to spray 2 times can cause damage to the crop.

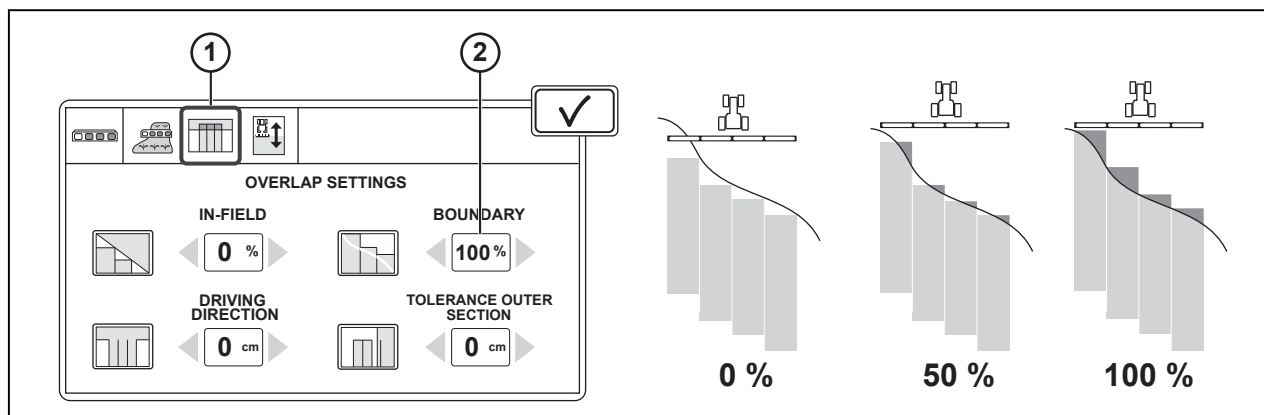


Fig. 7

1 Overlap settings tab

2 Boundary setting

#### Procedure

1. Go to the Section Control screen.
2. Tap the Overlap settings tab.
3. Adjust the Boundary overlap setting.

#### 5.1.5.3 Adjust overlap for driving direction

You can adapt the switch-on and switch-off times of the implement when you go near or go out of the headland. For example with precision drills, you can adjust if the last seed falls directly on the first headland row or if there is some space between. With applicable adjustment you can make the cultivation or harvest easier.

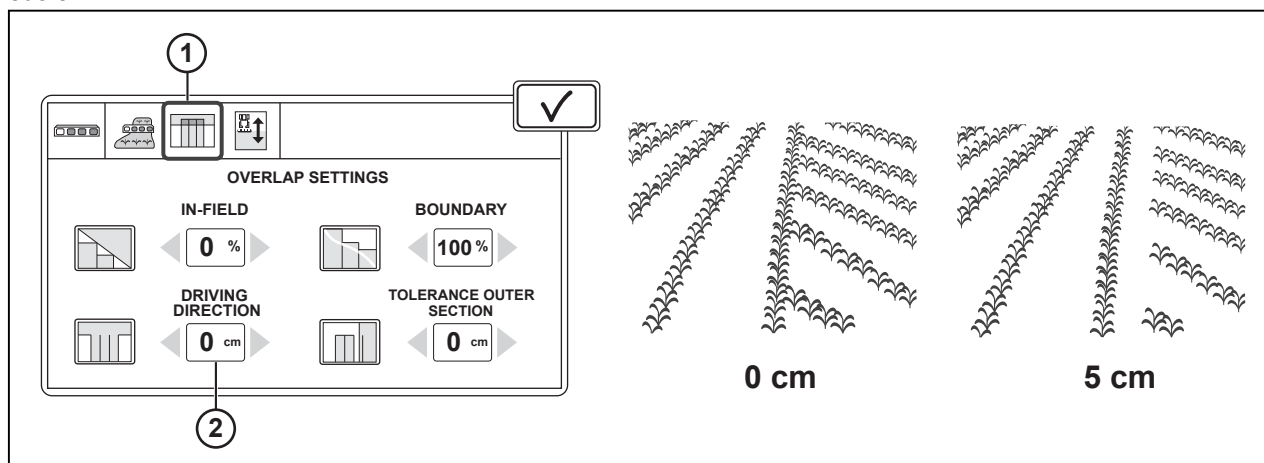


Fig. 8

1 Overlap setting tab

2 Driving direction setting



**Procedure**

1. Go to the Section Control screen.
2. Tap the Overlap settings tab.
3. Adjust the Driving direction setting.

**5.1.5.4 Adjust the tolerance of the outer section of the implement**

You can give the outer section of the implement some tolerance for overlap. This feature is available only when the In-field setting is 0%. Tolerance for the outer section of the implement is useful, for example, in the following cases:

- Wayline position moves with low precision correction sources because of GNSS position drift.
- Tractor or implement moves downward when the tramline is wet or you drive on a slope.

These errors can be only as small as some centimeters, but they can cause the outer section of the implement to switch-off.

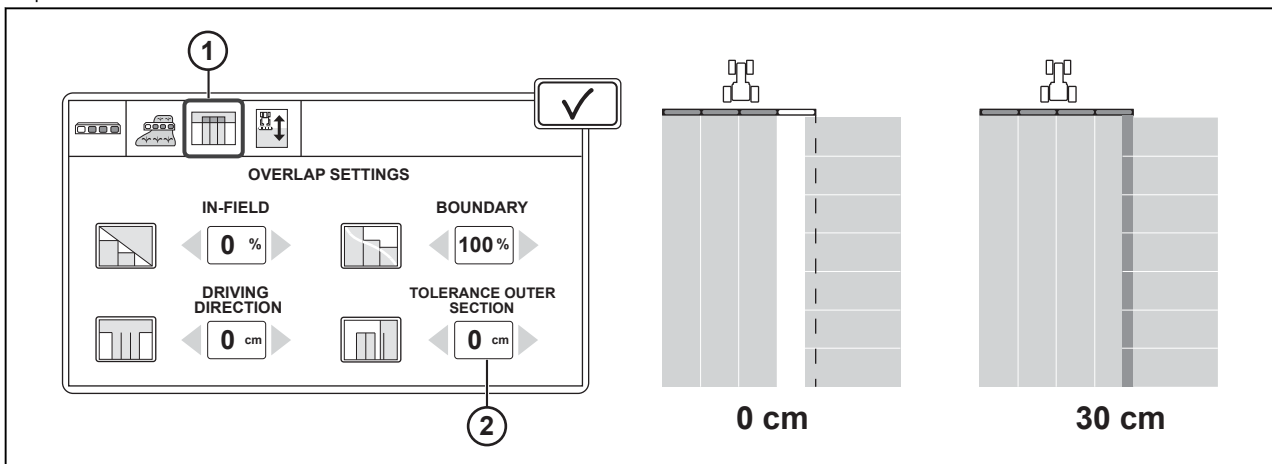


Fig. 9

- 1 Overlap settings tab
- 2 Tolerance of the outer section of the implement

**Procedure**

1. Go to the Section Control screen.
2. Tap the Overlap settings tab.
3. Adjust the Tolerance of the outer section of the implement.

**5.1.6 Delay time for switch-on and switch-off**

There is delay when the implement switches on/off and until it starts/stops to operate. The ISOBUS implements have default delay times for switch-on and switch-off, but you can also adjust them manually. For spreaders and sprayers, the default times are usually correct.

With precision drills, there can be delay from the start of the dosing module until the first seed falls on the ground. Also the weight and the shape of the seed have an effect on that time. Thus, with precision drills, it is necessary to adjust the delay times for switch-on and switch-off regularly.

Adjust the switch-on and switch-off times of the implement, if necessary.

- 1 Default delay switch-on time
- 2 Delay settings tab
- 3 Default delay switch-off time

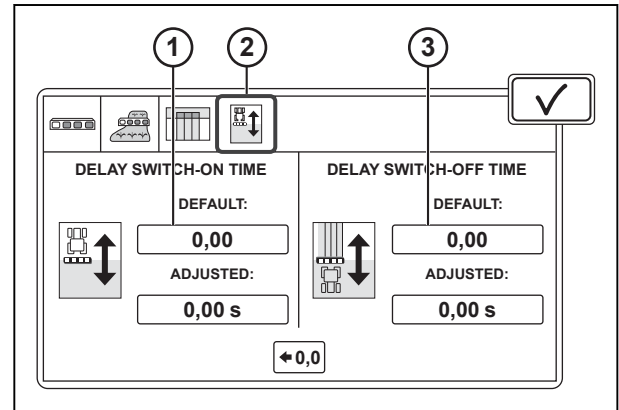


Fig. 10

### 5.1.6.1 Adjust the switch-on time

#### Procedure

1. Go to the Section Control screen.
2. Tap the Delay settings tab.
3. Tap Adjusted switch-on time.

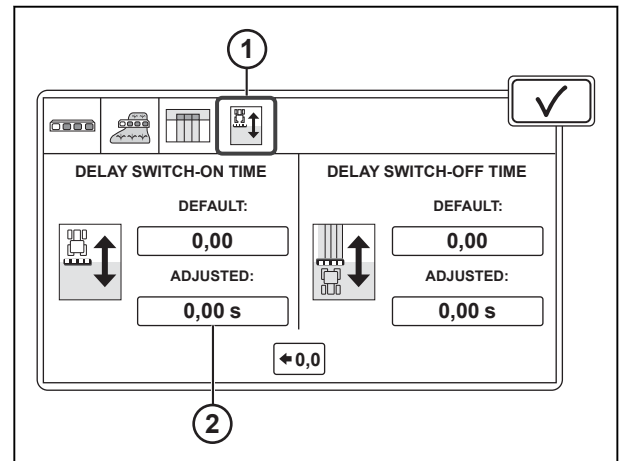


Fig. 11

- 1 Delay settings tab
- 2 Adjusted switch-on time

4. Measure the length of the gap on the field from the starting point of the drill to the desired starting position.
5. Set the slider as necessary if the planter/ seeder switch-on occurs after too short or long time.
6. Enter the length of the measured gap.
7. Enter your working speed.
8. Tap ✓ to accept.

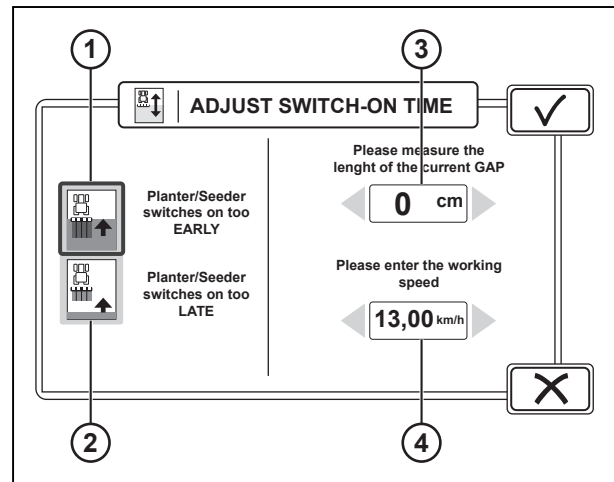


Fig. 12

- 1 Planter/seeder switches on too early
- 2 Planter/seeder switches on too late
- 3 Length of the current gap
- 4 Working speed

### 5.1.6.2 Adjust the switch-off time

#### Procedure

1. Go to the Section Control screen.
2. Tap the Delay settings tab.
3. Tap Adjusted switch-on time.

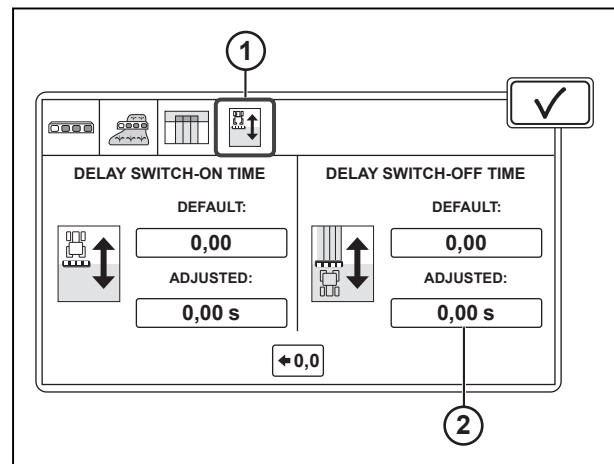


Fig. 13

- 1 Delay settings tab
- 2 Adjusted switch-on time

4. Measure the length of the gap on the field from the starting point of the drill to the desired stopping position
5. Set the slider as necessary if the planter/ seeder switch-off occurs after too short or long time.
6. Enter the length of the measured gap.
7. Enter your working speed.
8. Tap ✓ to accept.

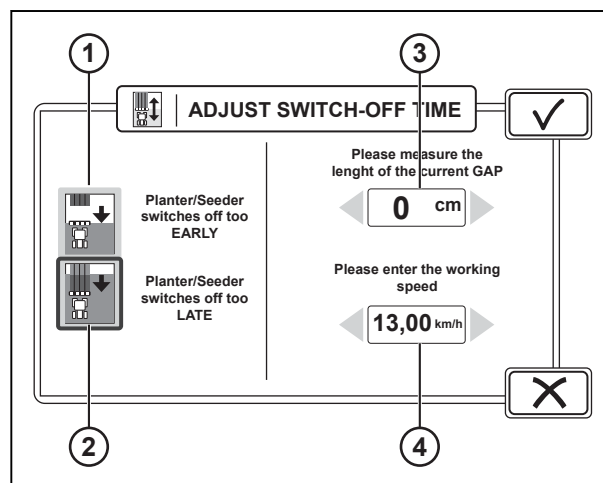


Fig. 14

- 1 Planter/seeders switches off too early
- 2 Planter/seeders switches off too late
- 3 Length of the current gap
- 4 Working speed

### 5.1.6.3 Reset the adjusted delay times

#### Procedure

1. Go to the Section Control screen.
2. Tap the Delay settings tab.
3. Tap the Reset adjusted delay.  
The Adjusted switch-on and switch-off settings reset to the same values as the default settings of the implement.

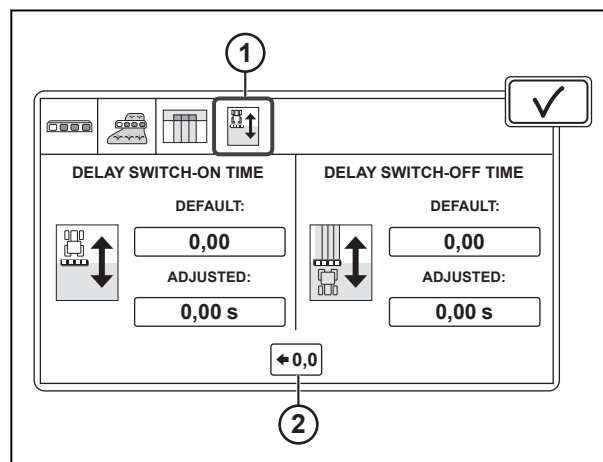


Fig. 15

- 1 Delay settings tab
- 2 Reset adjusted delay



## 6 TaskDoc operation

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## 6.1 TaskDoc and TaskDoc Pro

TaskDoc helps you to plan and manage your daily work tasks as well as to store and examine all the work-related data. You can make the work tasks directly in the tractor or with a farm management software on your computer.

When the driver starts the work task, Task manager does the documentation automatically, for example, worked area and fuel consumption. Data exchange between the tractor and computer occurs through Bluetooth connection or USB device.


With TaskDoc Pro, in addition to the Bluetooth connection and USB device, the data exchange can occur also through internet connection. This requires a licence to the TaskDoc Pro Server and a GPRS connection.

TaskDoc Pro also records GPS position of the tractor.

### 6.1.1 Activate and deactivate Task Controller

It is necessary to activate the Task Controller before you can use the Task manager.

#### Procedure

1. Open the ISOBUS Settings 
2. To activate the Task Controller, set it to the ON position.
3. To deactivate the Task Controller, set it to the OFF position

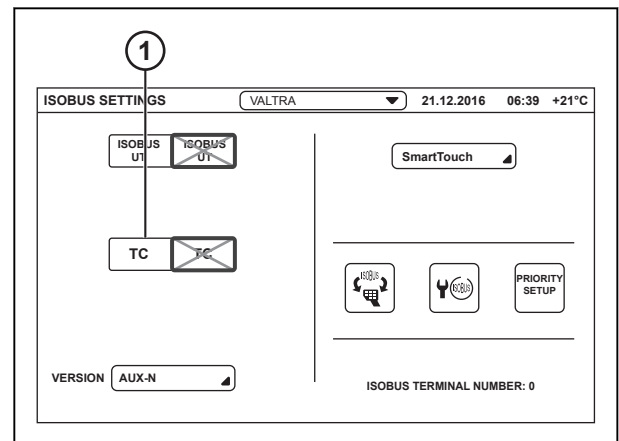


Fig. 1

1 Task Controller



### 6.1.2 Manage tasks

**Procedure**

1. Tap the Tasks icon.

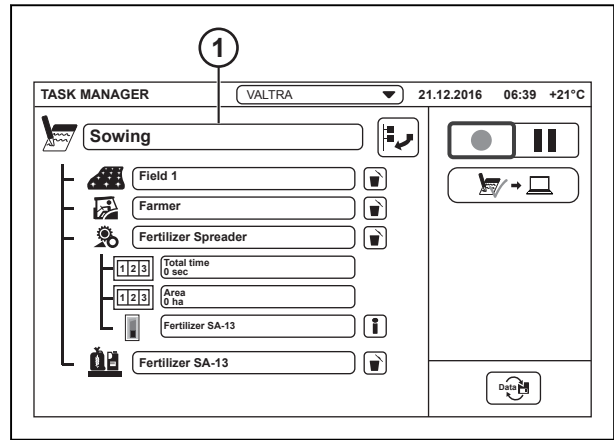


Fig. 2

1 Tasks

2. To select a task:

- a) Tap a task in the list.
- b) Tap ✓ to accept.

3. To add a new task:

- a) Tap the Add new task.
- b) Type the task name and tap ✓ to accept.  
New task appears on the task list.

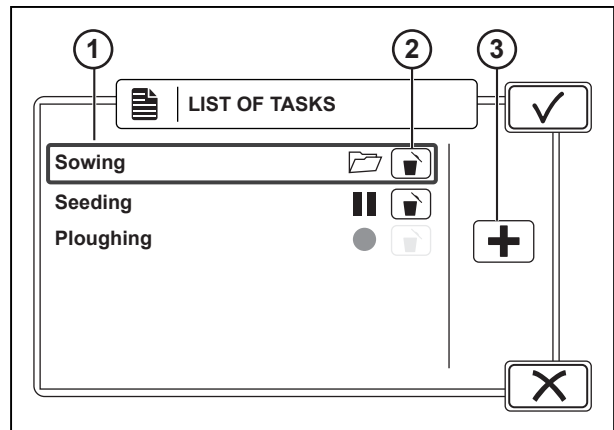


Fig. 3









1 Task list  
2 Delete task  
3 Add new task

4. To delete a task:

- a) Tap the Delete item.
- b) Tap YES to remove or NO to cancel.

### 6.1.3 Task elements

Symbol	Description
	Field
	Farm
	Worker

Symbol	Description
	Product group
	Customer
	Implement
	Cultural Method
	Free Comment
	Comment group
	Chemical ID
	Applicator certificate

### 6.1.4 Configure task

**NOTE:**

You can have only 1 field for each task. Also, after you start the task for the first time, you cannot delete or change the field anymore.

**NOTE:**

You can make a task without a field (for example, transport tasks) but it is possible that some of the farm management softwares do not have support for it, which can cause incorrect entries.

**Procedure**

1. Select a task.
2. Tap the Add new item.

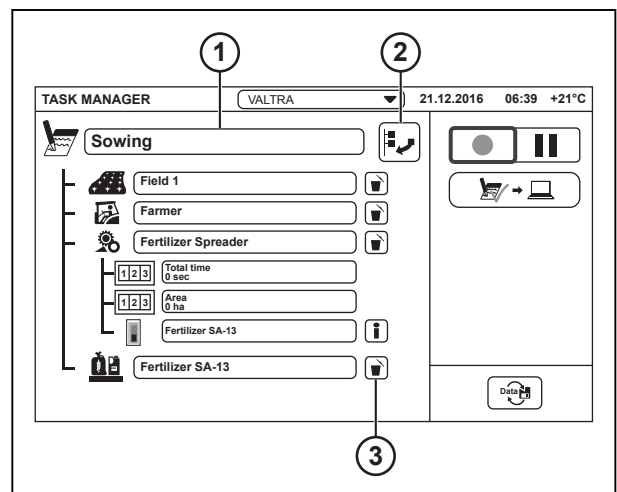


Fig. 4

- 1 Task
- 2 Add new item
- 3 Delete item

3. Select a category from the list and tap ✓.

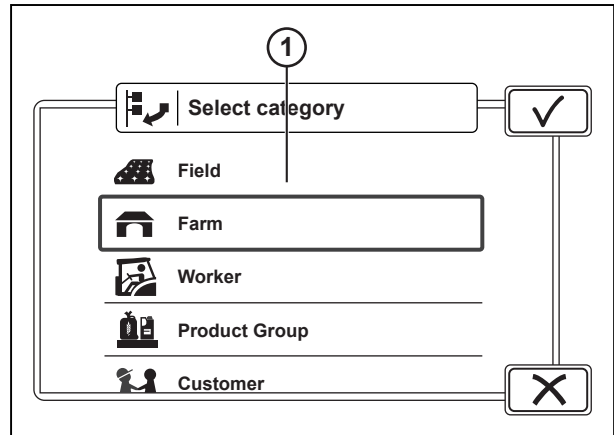


Fig. 5

- 1 Categories
- 2 Add new item

4. Select an item and tap ✓.  
If there are no appropriate items, make one.

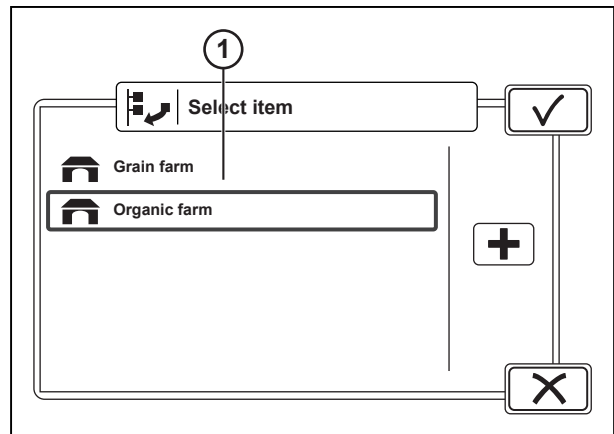


Fig. 6

- 1 Items

5. To make an item:  
You can make fields only in the Valtra Guide screen.
- a) Tap the Add new item.
  - b) Type the item name and tap ✓ to accept.  
New item appears on the item list.
  - c) Tap ✓ to select the item.

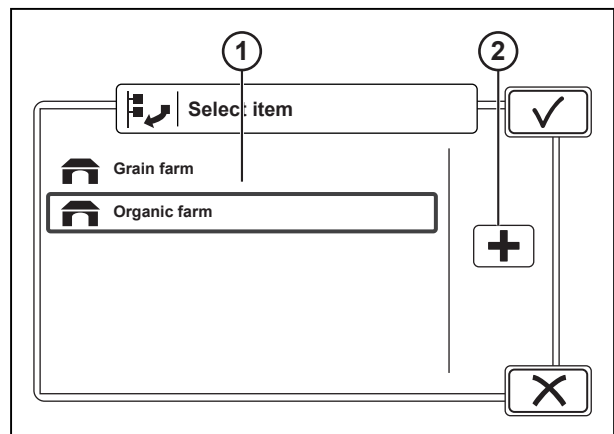


Fig. 7

- 1 Items
- 2 Add new item

6. Add all the items needed for the task.

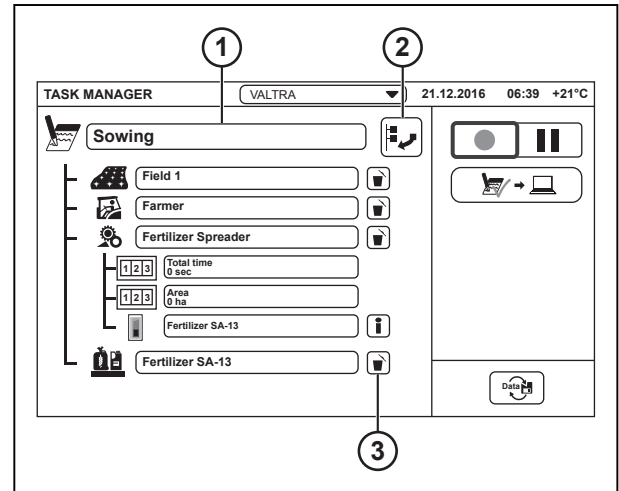


Fig. 8

- 1 Task
- 2 Add new item
- 3 Delete item

7. To delete an item from the task:
  - a) Tap the Delete item.
  - b) Tap YES to remove or NO to cancel.

### 6.1.5 Start and pause task

#### Procedure

1. To start a task, tap the Record task.  
You can have only 1 task in operation at a time. The status of each task shows also in the list of tasks. If you change to a different task, the previous task pauses automatically.
2. To pause the task, tap the Pause task.

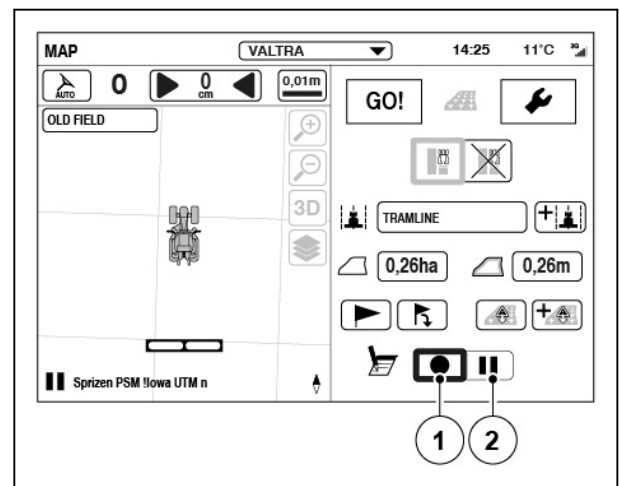


Fig. 9

- (1) Record task
- (2) Pause task

## 6.1.6 Save and export task

### Procedure

- When you have finished a task, tap the Save current task.  
The icon shows if the active connection type is GPRS (TaskDoc Pro Server), computer (Bluetooth) or USB.  
Pop-up screen of the task summary appears.

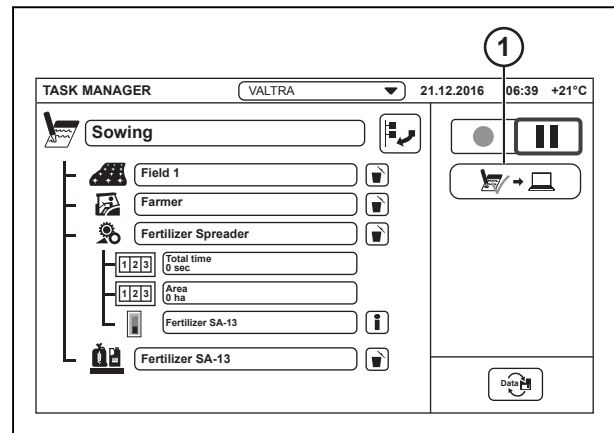


Fig. 10

- Save current task

- Tap ✓ to save and export the task.  
To return to previous screen, tap ✕ to cancel.

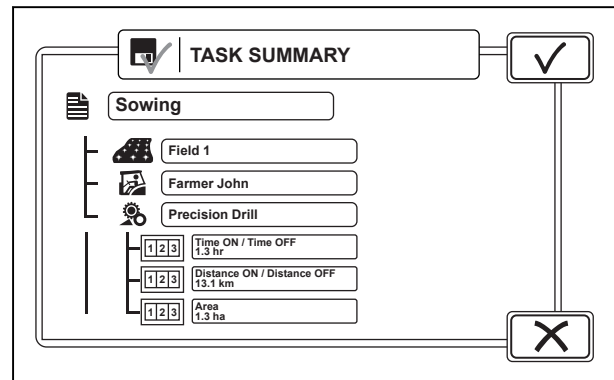


Fig. 11

- Tap OK.  
Task is saved and removed from the Task list. If the SmartTouch display is connected to the computer or TaskDoc Pro Server, the task exports automatically. If the connection is not available, the task goes to Booked task on the Data exchange information screen.



Fig. 12

## 6.1.7 Data exchange information

### (1) Data exchange

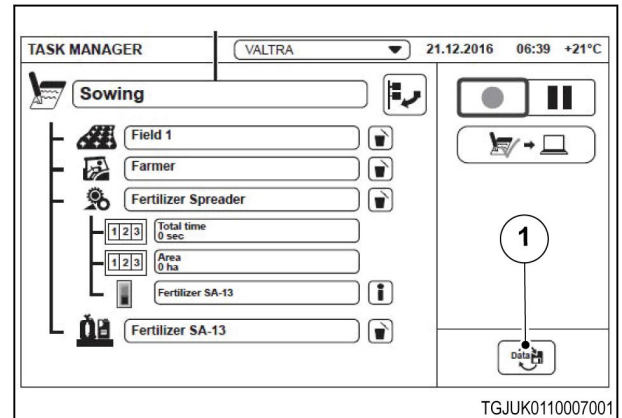


Fig. 13

When the tractor connects to the computer (with farm management software) or TaskDoc Pro Server, it automatically sends the booked tasks and receives new tasks. Last exchange shows the date and time of the last correct data exchange.

With the ISOXML export, you can send all field data to your computer via Bluetooth or GPRS.

- (1) PC software version
- (2) Last exchange
- (3) Booked tasks
- (4) Delete booked tasks
- (5) Radio connection status
- (6) Type of connection
- (7) GPS reception
- (8) Connection test
- (9) ISOXML export

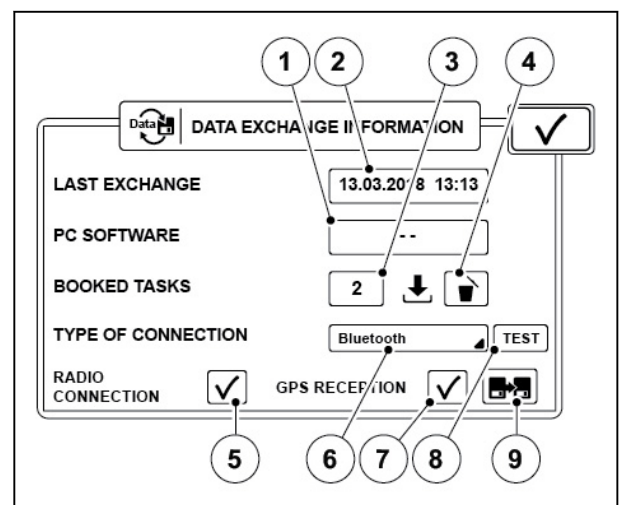



Fig. 14

### 6.1.7.1 Pair the Bluetooth radio module with the SmartTouch display

#### Procedure

1. Turn the ignition key to the  (power on) position.

2. Connect the antenna to the Bluetooth radio module.

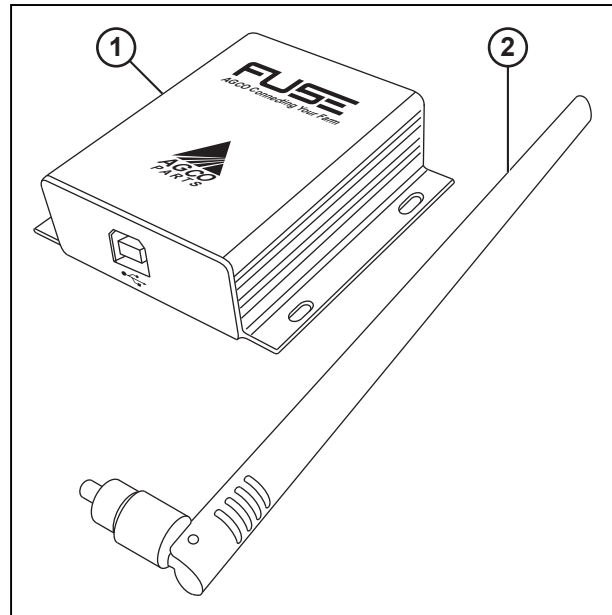


Fig. 15

- 1 Bluetooth radio module
- 2 Antenna

3. Connect the Bluetooth radio module to the SmartTouch display with a USB cable.

Pop-up screen appears to show that the bluetooth radio module is paired with the SmartTouch display.

It is sufficient to pair the bluetooth radio module and SmartTouch only one time. The pop-up screen does not appear if the SmartTouch display is already paired with the connected Bluetooth radio module.

**NOTE:**

*The SmartTouch display can pair to only one Bluetooth radio module at a time, but you can pair one Bluetooth radio module to multiple SmartTouch displays.*

4. Tap ✓ to accept.
5. Disconnect the bluetooth radio module from the SmartTouch display.

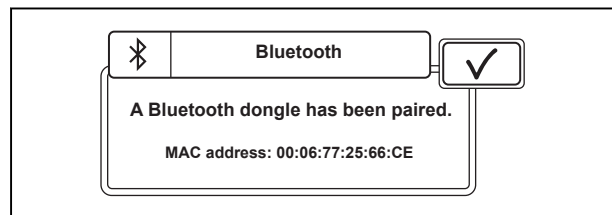


Fig. 16

### 6.1.7.2 Operate the TaskDoc Manager software

TaskDoc Manager software is necessary for the synchronization of data through Bluetooth connection between SmartTouch Display and computer.

**Procedure**

1. To install the TaskDoc Manager software:
  - a) Install the CD to your computer.
  - b) Start the installation wizard.

When the installation is completed, TaskDoc Manager icon **Td** shows in the Windows task bar.

2. Connect the Bluetooth radio module to your computer with a USB cable.

Driver (generic bluetooth radio driver) installs automatically. If the driver does not install correctly, try to disable other Bluetooth adapters from the Device manager.

When the Bluetooth radio module is connected to the computer and operates correctly, blue light flashes. When the Bluetooth radio module is in connection with the tractor, blue and red lights flash.

3. To see the tractor(s) status, right-click on the TaskDoc Manager icon **Td** and select 'Vehicles' in the menu.

The 'List of Vehicles' window opens. Paired tractors show on the list. The tick in the Connected field shows if the TaskDoc Manager is in connection with the tractor.

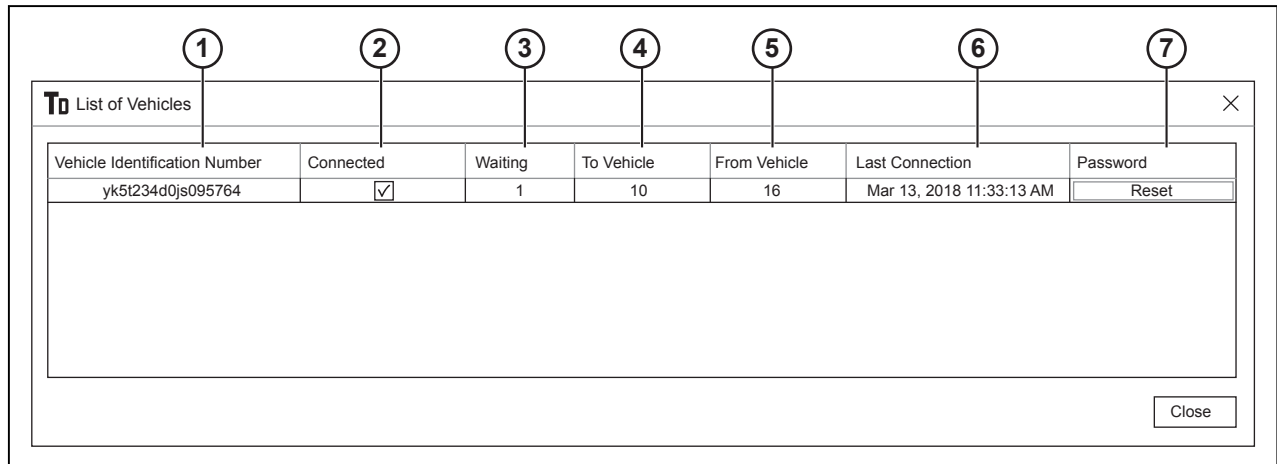


Fig. 17

- |   |   |   |   |
|---|---|---|---|
| 1 | Vehicle Identification Number                       | 4 | Total number of tasks sent to the vehicle   |
| 2 | Connected / not connected                           | 5 | Total number of tasks sent from the vehicle |
| 3 | Waiting - number of tasks that are not synchronized | 6 | Date and time of last connection            |
|   |   | 7 | Reset the connection to the tractor         |
4. To set a username and password:
 

The username and password are used in the Farm management software to connect to the TaskDoc Manager.

    - a) Right-click on the TaskDoc Manager icon **Td** and select 'User' in the menu.
    - b) Make a Username and Password.
 

The username and password has no limitations.
    - c) Select OK.
  5. To see the TaskDoc Manager version number, right-click on the TaskDoc Manager icon **Td** and select 'Version' in the menu.
  6. To reset a connection of the TaskDoc Manager to a tractor, select the Reset in the 'List of Vehicles' window.
 

You need to do this only if the SmartTouch display is changed in the tractor.

### 6.1.7.3 Test the Bluetooth and internet connection

If the Bluetooth connection to the computer or GSM connection to the TaskDoc Pro server does not function, test the connection to find a fault.



**Procedure**

1. Select the type of connection to Bluetooth or GSM.

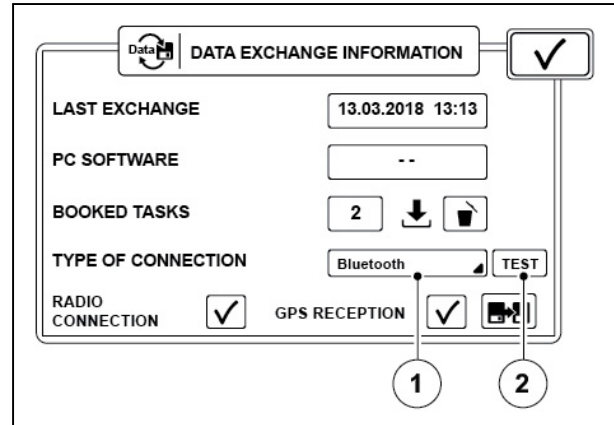


Fig. 18

- 1 Type of connection
- 2 Test connection.

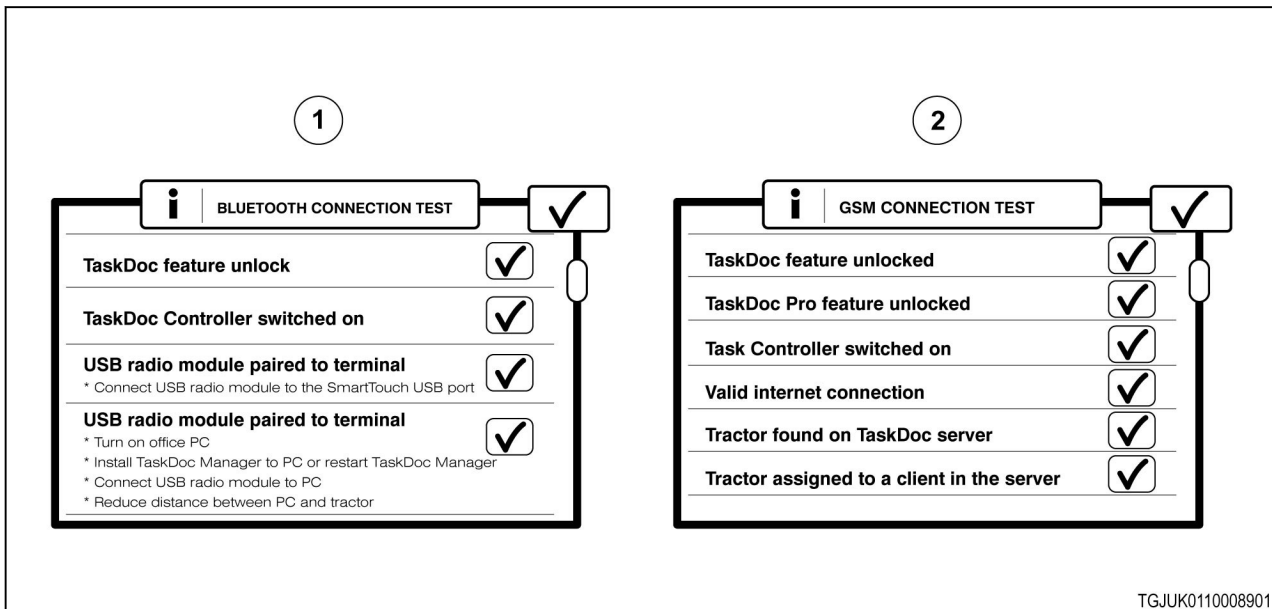


Fig. 19

- 1 Bluetooth connection test results
- 2 GSM connection test results

2. Tap the Connection test.

Pop-up screen opens to show the connection test result. Scroll down the screen and make sure that the status of all the items is ✓. If the status is ✗, follow the instructions on screen to enable the connection.

**6.1.7.4 Exchange data between tractor and PC through Bluetooth connection**

**Procedure**

1. Start your computer and connect the Bluetooth radio module to it.

2. Make sure that Type of connection is Bluetooth in the Data exchange information screen on the SmartTouch display.
3. Drive the tractor in the range of the Bluetooth signal of the computer. When the tractor is in the range of the Bluetooth signal, Radio connection status changes to ✓.

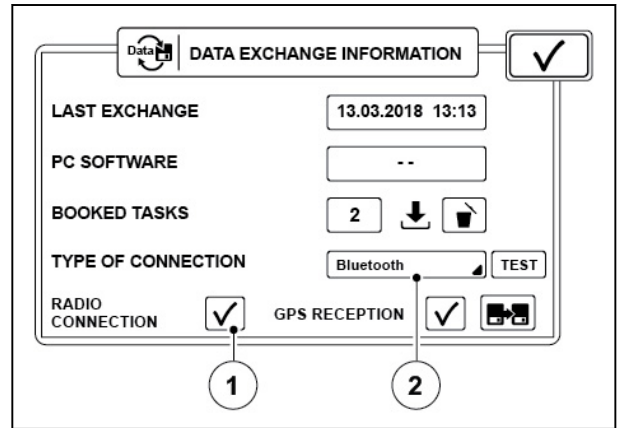


Fig. 20

- 1 Radio connection status
- 2 Type of connection

4. The SmartTouch display and computer synchronize data automatically.

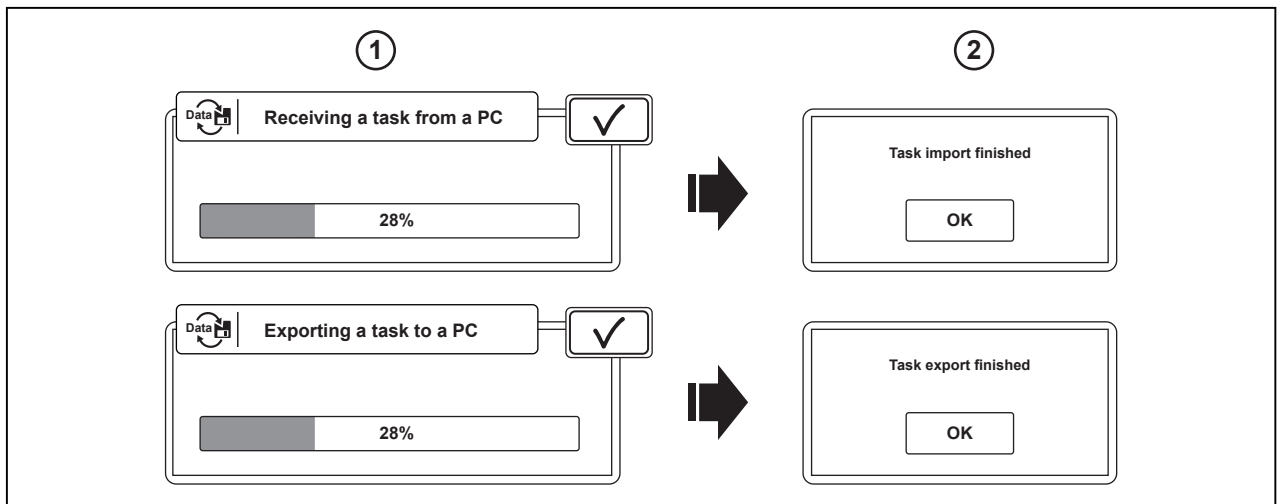


Fig. 21

- 1 Progress screens of data import and export
  - 2 Screens of data import and export finished
5. Tap OK to accept the data transfer.

### 6.1.75 Exchange information between tractor and PC through internet connection

**Procedure**

1. Make sure that Type of connection is GPRS in the Data exchange information screen on the SmartTouch display.

When the tractor connects to the TaskDoc Pro Server, Radio connection status changes to ✓.

You can access the GPRS settings from Correction signal icon on the Map screen.

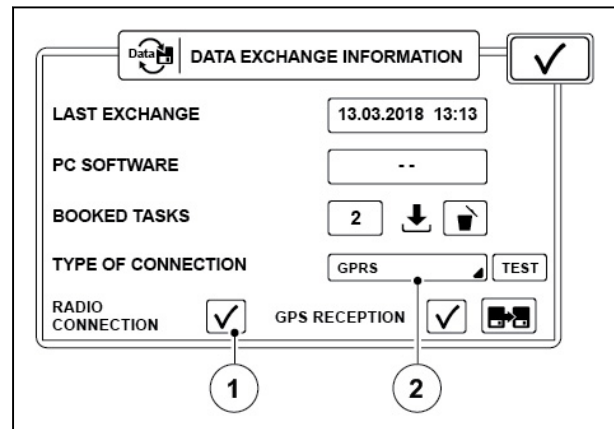


Fig. 22

- 1 Radio connection status
- 2 Type of connection

2. The SmartTouch display and the TaskDoc Pro Server synchronize data automatically.

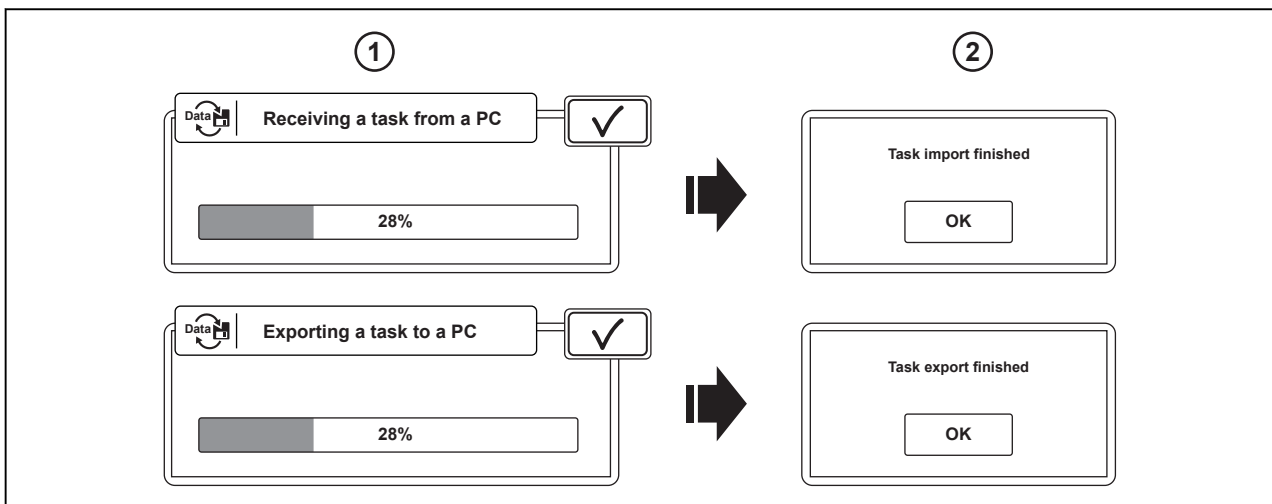


Fig. 23

- 1 Progress screens of data import and export
- 2 Screens of data import and export finished

3. Tap OK to accept the data transfer.
4. Tasks appear on your farm management software when you connect it to the TaskDoc Pro Server.

## 7 Variable Rate Control

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## 7.1 Variable Rate Control

With Variable Rate Control you can vary the amount of fertilizers and seeds put in the field, thus having the right amount to the right place. Design the prescription maps used by the Variable Rate Control with your farm management software and transfer to the tractor via TaskDoc Pro.

Variable Rate Control operates with all the ISOBUS implements which obey the ISO 11783 standard and are compatible with TC-GEO functionality. The ISOBUS implement controls the seeding or fertilizing according to the information of the prescription map and GNSS position.

Requirements for Variable Rate Control are:

- Valtra Guide
- TaskDoc Pro
- Farm management software
- ISOBUS implement which obey the ISO 11783 standard and is compatible with TC-GEO functionality.

### 7.1.1 Use Variable Rate Control

#### Procedure

1. Transfer a task (and a prescription map related to it) to your tractor.
2. Select a task.

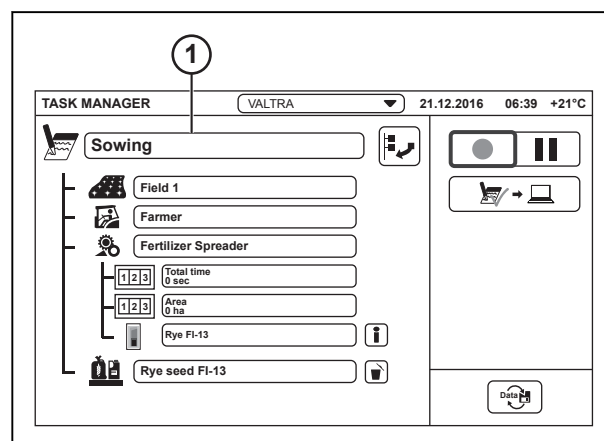


Fig. 1

(1) Task

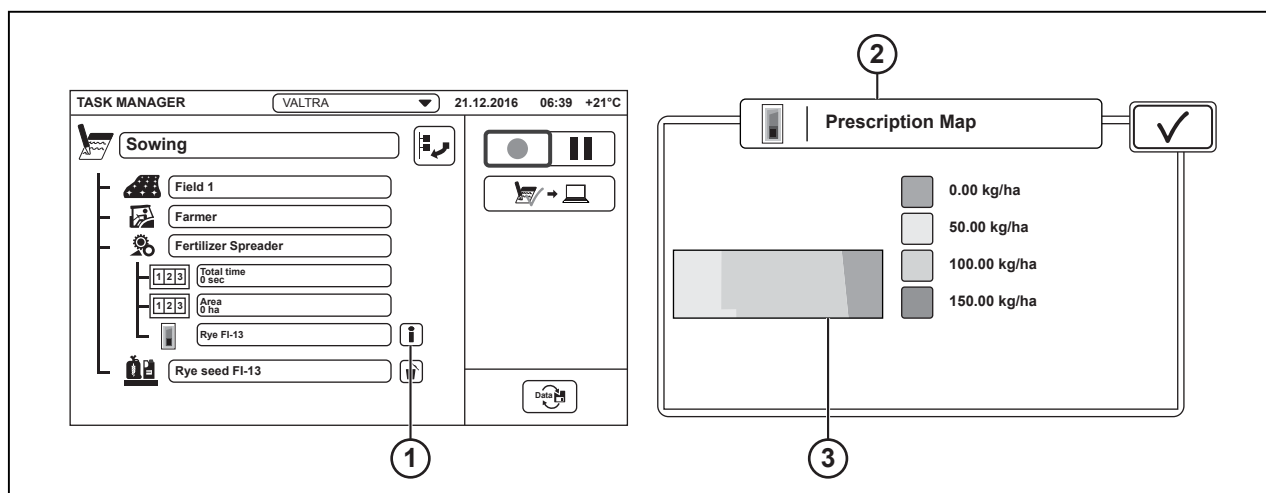


Fig. 2

- (1) Prescription map info
- (2) Prescription map overview
- (3) Prescription map preview
- 3. Tap the Prescription map info to make sure that you have the correct map.
- 4. Tap ✓ to accept.

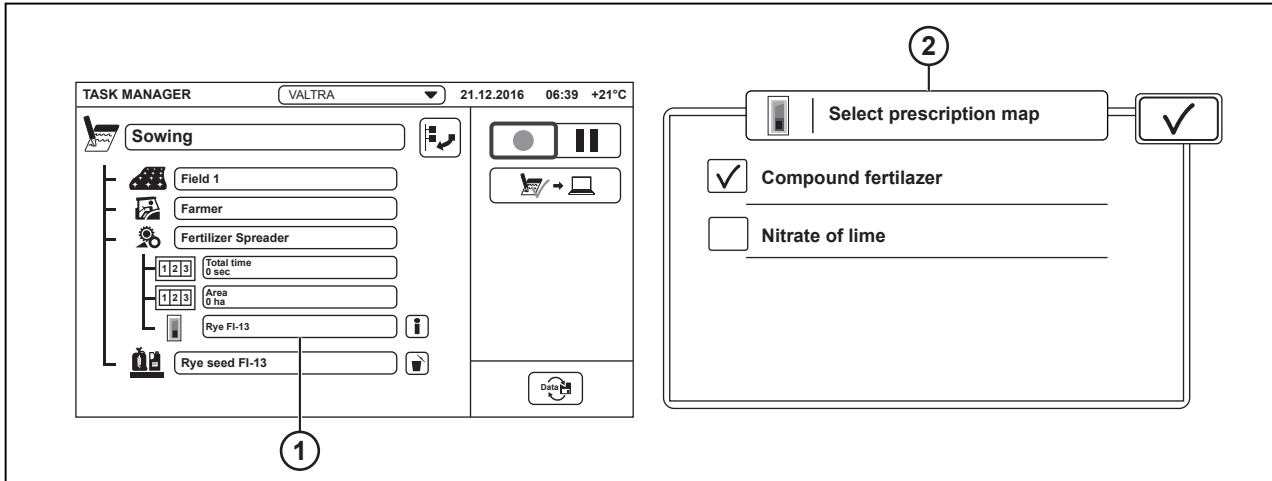


Fig. 3

- (1) Implement tank
- (2) Prescription map selection

- 5. Tap the Implement tank to select the prescription map.
- 6. Select the correct prescription map.
- 7. Tap ✓ to accept.
- 8. Go to the Map screen.
- 9. Tap the Map screen. A prescription map is shown.
- 10. To activate the Variable Rate Control, start a task with the Record task icon.  
Icon of the Variable Rate Control activated appears on the screen.

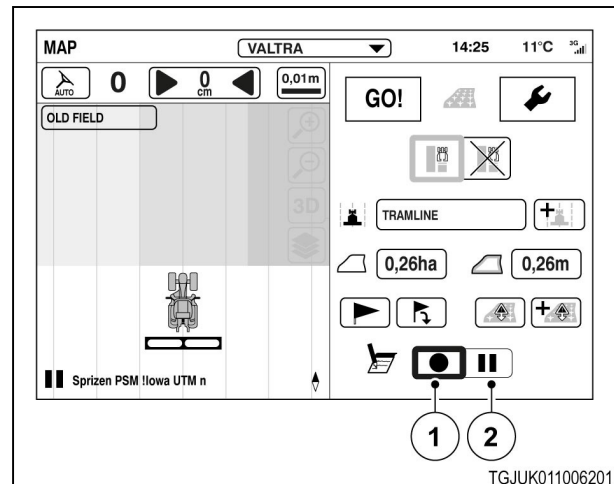


Fig. 4

- (1) Record task
- (2) Pause task

11. To select a map layer tap the Map layers icon.

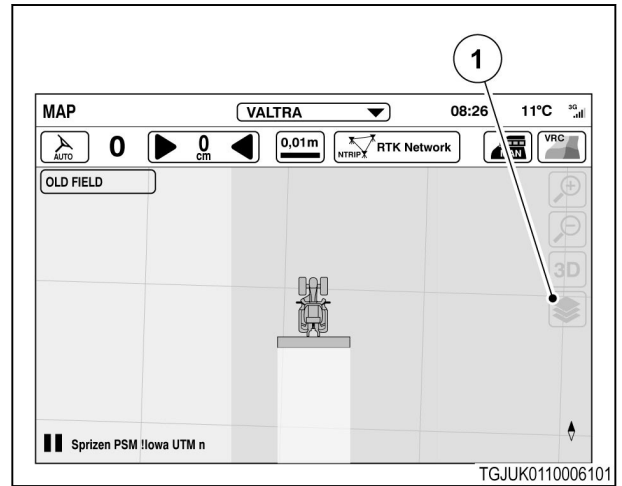


Fig. 5

- (1) Map layers

12. Select the desired layer.  
Map legends appear when the Application layer is selected.
13. Tap ✓ to accept.

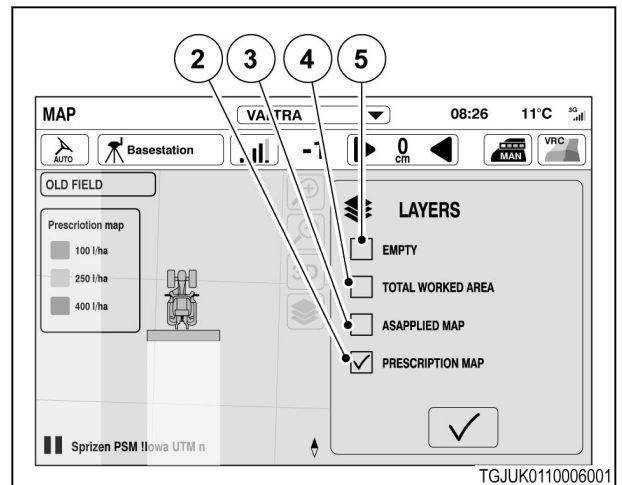


Fig. 6

- (2) Application layer
- (3) Actual value layer
- (4) Worked area layer
- (5) No layer



14. To stop the Variable Rate Control, pause the task with the Pause task icon.

Icon of the Variable Rate Control activated goes out.

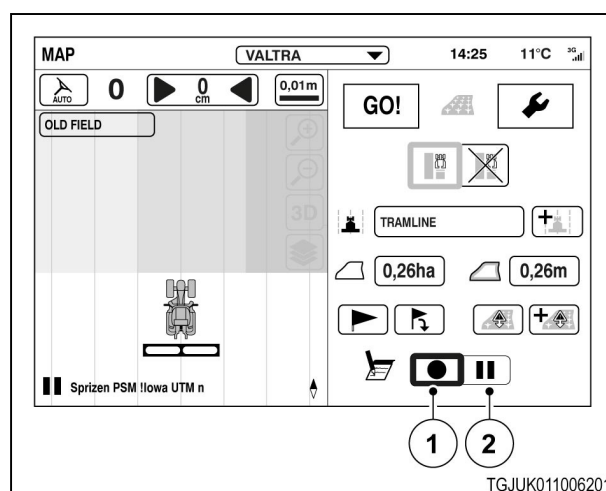


Fig. 7

- (1) Record task  
(2) Pause task

## 8 ISOBUS AUX

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## 8.1 ISOBUS AUX

ISOBUS implements that obey the ISO 11783 standard can be controlled directly from the SmartTouch armrest. When an applicable ISOBUS implement is connected to the tractor, ISOBUS AUX is activated from the master activation switch. You can allocate the ISOBUS AUX functions to the SmartTouch control devices from the Armrest screen.

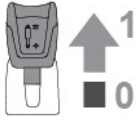
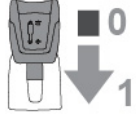
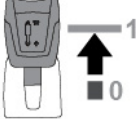
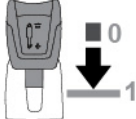
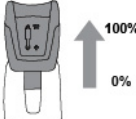
Allocations are not profile specific, that is, when you allocate ISOBUS AUX function to a SmartTouch control device, it goes into all profiles. ISOBUS AUX functions stay allocated also when you deactivate the ISOBUS AUX from the master activation switch.

When the ISOBUS implement is disconnected, the ISOBUS AUX allocations stay and the tractor related allocations must be done again. When the ISOBUS implement is connected again, the ISOBUS AUX allocations become active.

The Valtra profile is an exception as it has always the default settings when you select it.

### 8.1.1 Functions types

Following type of ON/OFF and analog functions are available for SmartTouch control devices.

	<p>ON/OFF type, non-latching</p> <ul style="list-style-type: none"> <li>• Activates when the lever moves forward</li> <li>• Deactivates when the lever moves backward</li> </ul>
	<p>ON/OFF type, non-latching</p> <ul style="list-style-type: none"> <li>• Activates when the lever moves backward</li> <li>• Deactivates when the lever moves forward</li> </ul>
	<p>ON/OFF type, latching</p> <ul style="list-style-type: none"> <li>• Activates when the lever latches to the extreme forward position</li> <li>• Deactivates when the lever is at the center position</li> </ul>
	<p>ON/OFF type, latching</p> <ul style="list-style-type: none"> <li>• Activates when the lever latches to the extreme backward position</li> <li>• Deactivates when the lever is at the center position</li> </ul>
	<p>Analog control</p> <ul style="list-style-type: none"> <li>• Forward position = 100%</li> <li>• Center position = 0%</li> </ul>

	<p>Analog control</p> <ul style="list-style-type: none"> <li>• Center position = 0%</li> <li>• Backward position = 100%</li> </ul>
	<p>Analog control</p> <ul style="list-style-type: none"> <li>• Forward position = 100%</li> <li>• Center position = 50%</li> <li>• Backward position = 0%</li> </ul>
	<p>Analog control</p> <ul style="list-style-type: none"> <li>• Forward position = 0%</li> <li>• Center position = 50%</li> <li>• Backward position = 100%</li> </ul>

### 8.1.2 Add ISOBUS AUX function to SmartTouch

**Procedure**

1. Connect an applicable ISOBUS implement to the tractor.
2. Push the master activation switch.
3. Tap the ISOBUS AUX to activate it.
4. Open the Armrest screen.

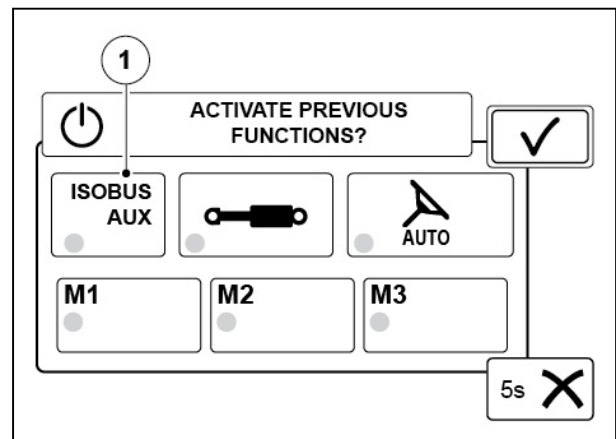


Fig. 1  
(1) ISOBUS AUX

5. Select a control device.

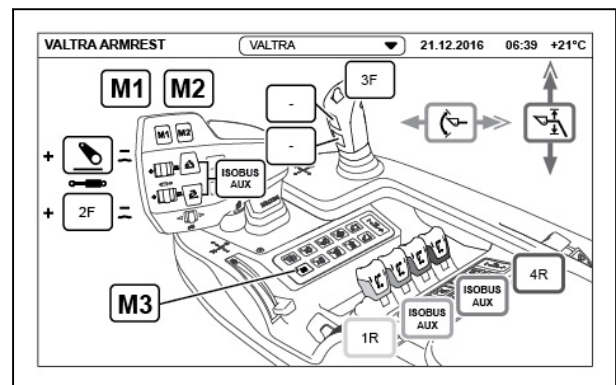


Fig. 2

- 6. Select ISOBUS.
- 7. Tap + to add a function.

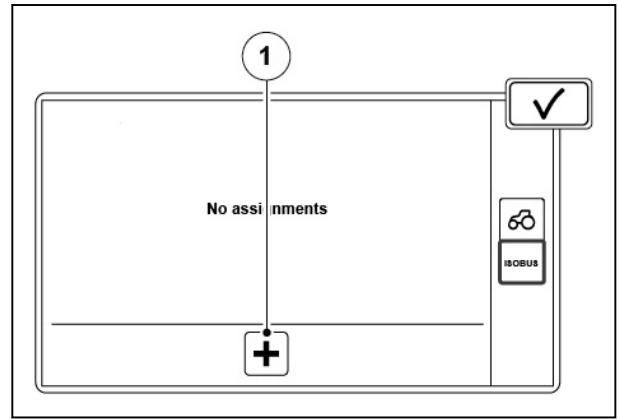


Fig. 3  
(1) + (add a function)

- 8. Select if the implement function is digital or analog.
- 9. Tap + to add a function.

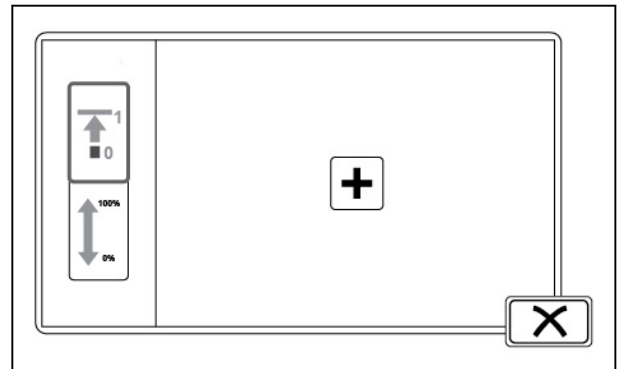


Fig. 4

- 10. Select the implement function and tap accept.

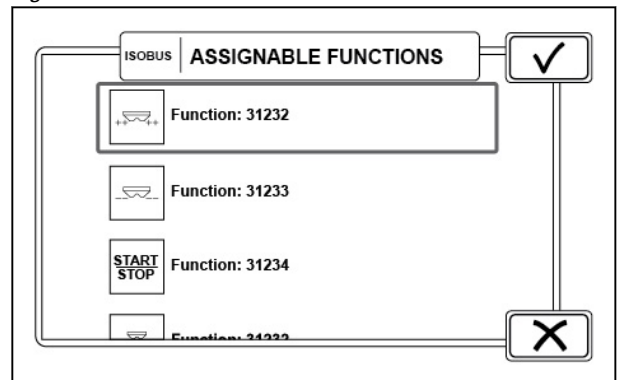


Fig. 5

- 11. Select the direction of the control lever that activates the function.
- 12. Tap Accept.

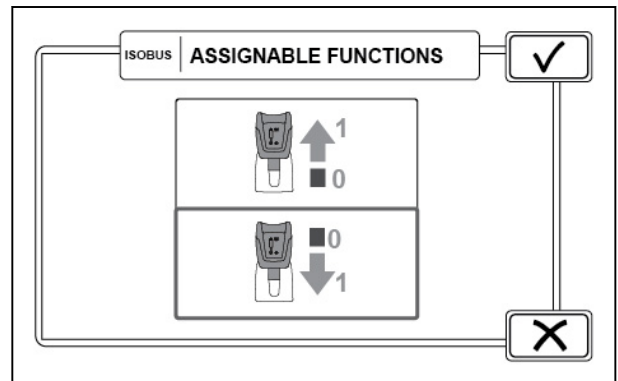


Fig. 6

13. Tap Accept to save the function or tap + to add one more function.

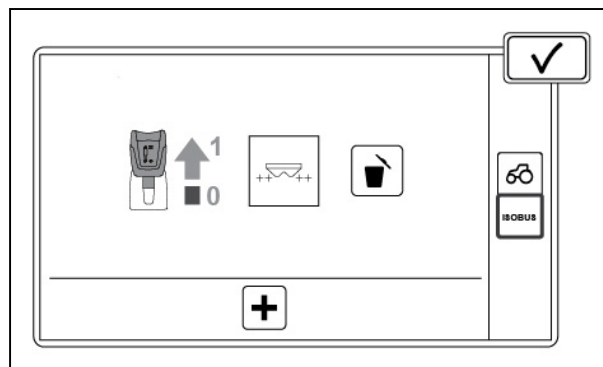


Fig. 7

14. Function will show on the Armrest screen.

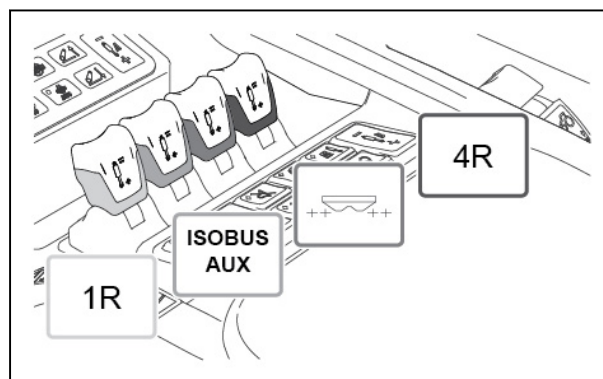


Fig. 8

### 8.1.3 Clear all the ISOBUS AUX allocations

#### Procedure

1. Turn the tractor main power off.
2. Make sure the ISOBUS implement is connected to the tractor.
3. Turn the power on.  
When the SmartTouch display starts, a pop-up screen appears.
4. To remove all the allocations, tap Delete.

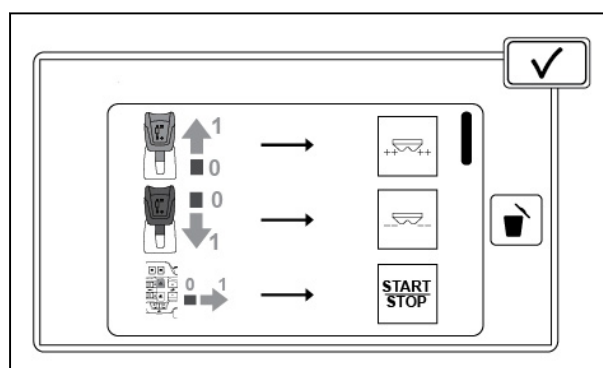


Fig. 9

## 9 USB Device

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## 9.1 USB data transfer

You can copy profiles, tasks, and fields between a USB device and SmartTouch.

This is useful as you can copy already configured items from one tractor to another with a USB device.

You can export:

- Profiles
- Completed tasks
- Fields (KML)
- Fields (ISO xml)

You can import:

- Profiles
- Task data (.zip or unzipped)
- Task data (.xml without attachments)
- Fields (KML)

**NOTE:**

*The USB device must have FAT32 file system.*

**NOTE:**

*When you import profiles, it erases all the profiles in the machine.*

- (1) Import data
- (2) Export data
- (3) Used/available internal memory of the USB device

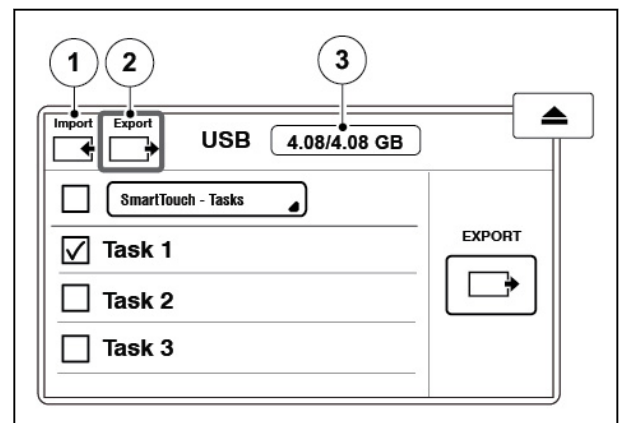


Fig. 1

### 9.1.1 Export data to a USB device

**Procedure**

1. Connect the USB device to the SmartTouch. A USB pop-up screen will show.
2. Select the Export tab.
3. Select the item type that you will export.
4. To select the items you can export:
  - a) Tap the checkbox to select the items.
  - b) Tap Select all to select all items.
5. Tap Export.
  - If a file or item with the same name is on the USB device, select Overwrite, Rename or Merge on the screen that shows.
  - If fields contain worked area data, it can be some time before the export completes.
  - Select from the screen that shows if you want to transfer the worked area data.
6. Tap Remove to disconnect the USB device.

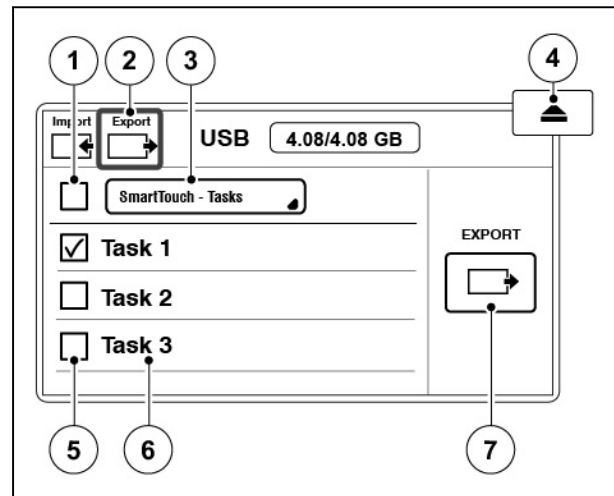


Fig. 2  
 (1) Select all items  
 (2) Export tab  
 (3) Select displayable items  
 (4) Remove the USB device  
 (5) Select item  
 (6) Item name  
 (7) Export the selected items

### 9.1.2 Import data from a USB device

**Procedure**

1. Connect the USB device to the SmartTouch. A USB pop-up screen will show.
2. Select the Import tab.
3. Select the item you want to import.
4. To select the items you want to import:
  - a) Tap the checkbox of the items.
  - b) Tap Select all to select all of the items.
5. **NOTE:**  
 When you import profiles, it erases all the profiles in the SmartTouch.  
 Tap import.  
 If an item with the same name is in SmartTouch, select Overwrite, Rename or Merge on screen that shows.
6. Tap Remove to disconnect the USB device.

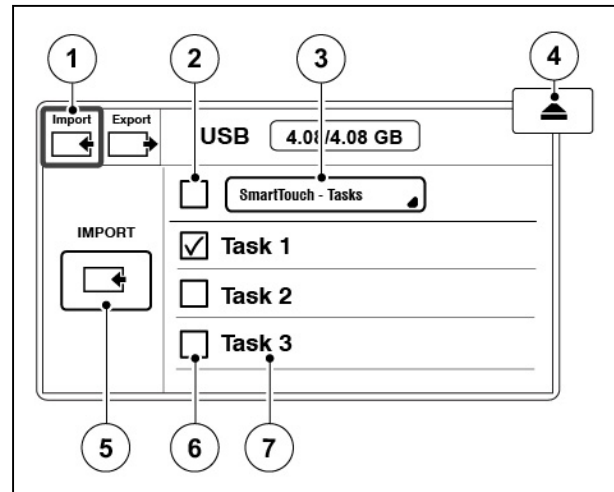


Fig. 3  
 (1) Import tab  
 (2) Select all items  
 (3) Select displayable items  
 (4) Remove the USB device  
 (5) Import selected items  
 (6) Select item  
 (7) Item name

## 10 Troubleshooting


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## 10.1 See the cause of Valtra Guide disengagement

You can see the cause for the latest Valtra Guide disengagement. This can help if a malfunction occurs.

### Procedure

1. Open the Map screen .
2. Tap the Valtra Guide status.
3. See the reason for Valtra Guide to disengage.

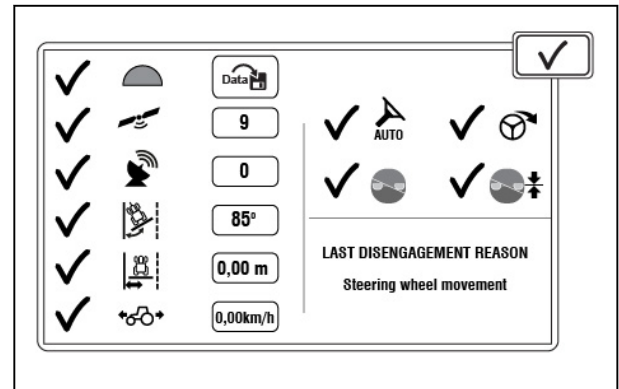



Fig. 1

## 10.2 Store diagnostic data for fault finding

If a malfunction or a fault occurs again and again in some conditions, you can store Valtra Guide diagnostic data from the last 5 minutes. This can help the service personnel to find the malfunction. System stores 5 most recent logs.

### Procedure

1. Open the Map screen .
2. Tap the Valtra Guide status.
3. Tap the Store diagnostic data.
4. Do again the operation that causes the malfunction.

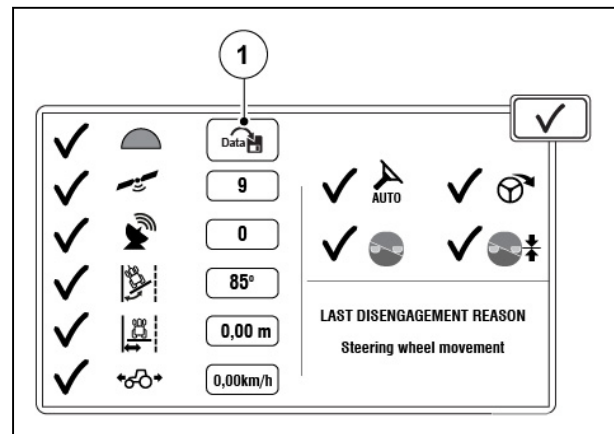


Fig. 2


(1) Store diagnostic data

## 10.3 Calibrate the navigation controller (GYRO)

Calibrate the navigation controller if you think that the steering is not accurate. We recommend that you also calibrate the navigation controller in the beginning of the growing season if there is a long period since the last time you used Valtra Guide.

### Procedure

1. Start the engine.
2. Let the engine operate for 10 minutes while the temperature of the navigation controller increases.
3. Drive the tractor to a level ground.
4. Apply the parking brake.

5. Open the Tractor health screen .

6. Tap the Calibrations icon.

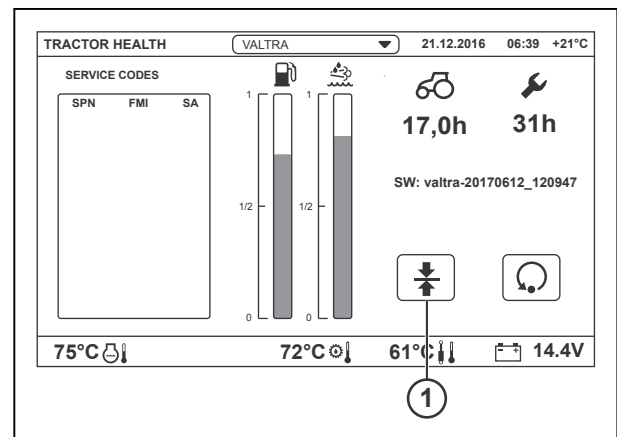


Fig. 3

- 1 Calibrations

7. Tap the Navigation controller calibrations tab.

8. Tap the Calibrate icon.

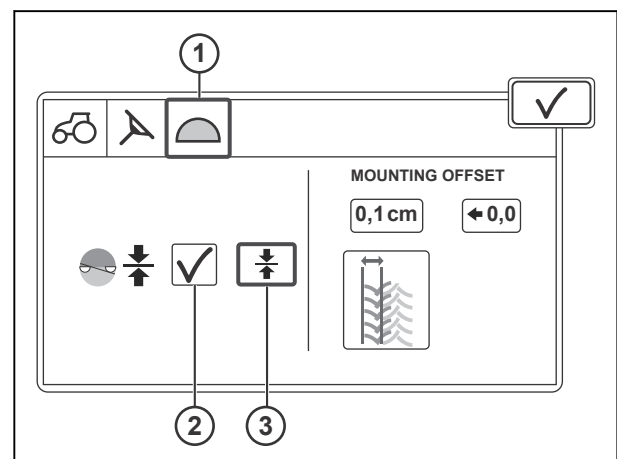


Fig. 4

- 1 Navigation controller calibrations
- 2 Calibration status
- 3 Calibrate GYRO (IMU)



- 9. Tap YES to start the calibration.

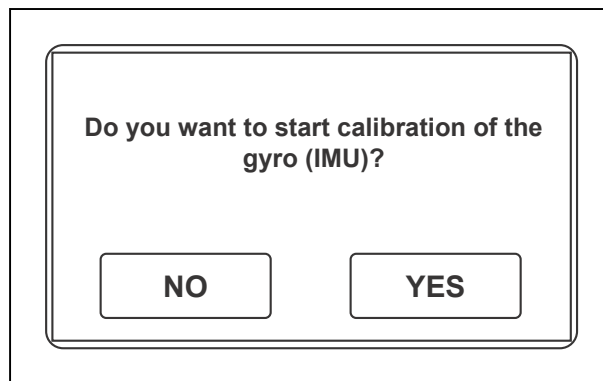


Fig. 5

- 10. Calibration starts and continues for 35 seconds.  
If the 10 minutes warm-up time has not run out, counter shows that first.

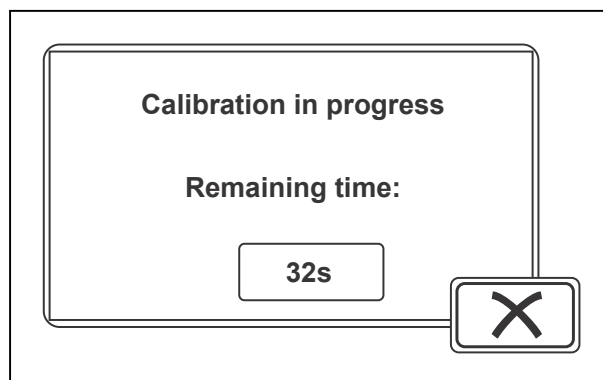


Fig. 6

- 11. Calibration is completed successfully.  
If the calibration was not correct, do the calibration again. If the calibration stays incorrect, speak to your local Valtra dealer / workshop.

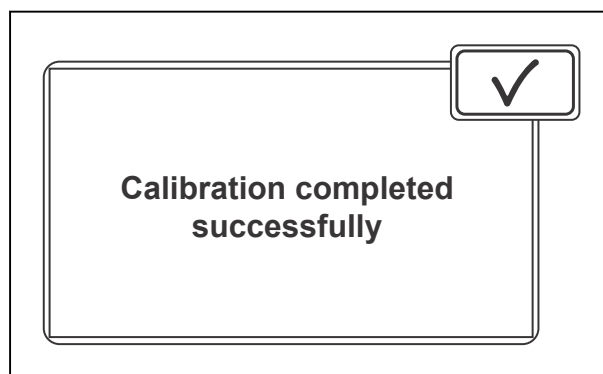



Fig. 7

## 10.4 Reset the Valtra Guide and QuickSteer steering valve

If the lights on Valtra Guide engage and the QuickSteer buttons flash, the steering valve is in the error mode. The service code can show on the SmartTouch display. Reset the steering valve to correct the fault condition.

If the light on the Valtra Guide steering valve on/off button flashes, the steering valve is in the error mode. The service code can show on the SmartTouch display. Reset the steering valve to recover from the fault.

### Procedure

- Turn the ignition key to the  (OFF) position and wait until the main power goes out.
- Turn the power on.

If the lights flash, the fault continues. In this case, speak to your local Valtra dealer / workshop.

## 10.5 Errors and faults

If an error occurs in the Valtra Guide, QuickSteer or TwinTrac systems, the Valtra Guide engage and QuickSteer On/Off button flash on the armrest. Also the SmartTouch screen will show an error condition or show it is not possible to engage Valtra Guide. The steering controller status will show a cross on it.

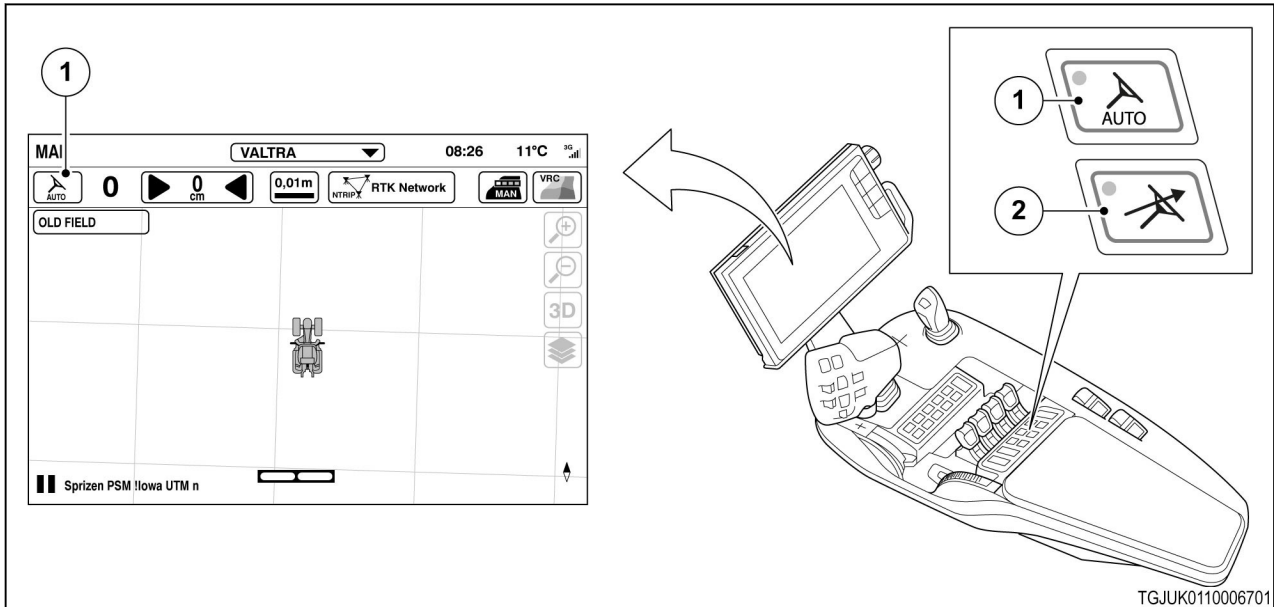


Fig. 8

- (1) Steering controller status (3) QuickSteer engage  
 (2) Valtra Guide engage

1. Red cross on the steering controller status symbol:
  - At least one condition is not permitted for the Valtra Guide engagement
  - More information on the System info screen
2. White steering controller status symbol:
  - All conditions for the Valtra Guide engagement are satisfactory, but Valtra Guide is not engaged
3. Yellow steering controller status symbol:
  - The Valtra Guide engaging button is pushed but at least one condition is not permitted
  - Valtra Guide is engaged immediately when all conditions are satisfactory
  - If conditions are not satisfactory in a certain time, the status indicator symbol becomes a red cross over the steering controller status symbol
4. Green steering controller status symbol:
  - Valtra Guide is engaged and it steers the tractor

**(1)** Service codes on the Tractor Health screen

If an error occurs and a service code appears on the Tractor Health screen, we recommend that you first stop the tractor, turn off the power and then start again. If the error occurs again, an approved Valtra dealer can help.

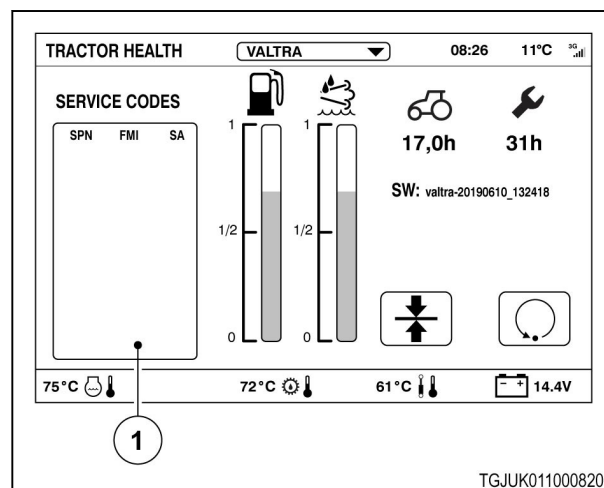


Fig. 9

## 10.6 Troubleshooting

You can engage Valtra Guide when the ✓ symbol shows for all the requirements of the System Info screen.

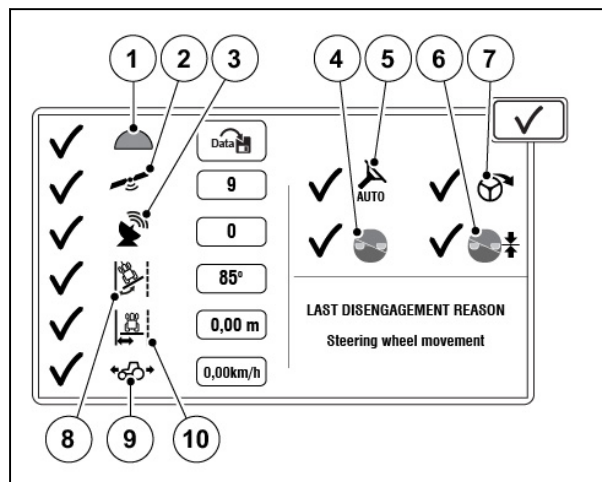


Fig. 10

Requirement		Possible cause	Procedure
1	Number of satellites connected	Position information not OK	Drive the tractor to change its position. At least 5 satellites are necessary for Valtra Guide to operate.
2	Correction signal lag	<ul style="list-style-type: none"> <li>Correction signal satellite is not available</li> <li>Correction signal data or license data is incomplete</li> <li>Incorrect settings of the correction signal</li> <li>Incorrect serial number for correction signal</li> </ul>	<ul style="list-style-type: none"> <li>Give the system sufficiently time to connect</li> <li>Speak to your dealer about the correct signal and license data</li> <li>Make sure that the settings are correct</li> <li>Give the correct serial number</li> </ul>
3	Steering wheel activity	You have not turned the steering wheel in a period of 60 seconds.	Turn the steering wheel.
4	GYRO status	GYRO status not OK	<ul style="list-style-type: none"> <li>Drive a short distance at a speed higher than 1.5 km/h.</li> <li>If the problem continues, talk to an approved Valtra dealer.</li> </ul>
5	Valtra Guide pre-activated	<ul style="list-style-type: none"> <li>Valtra Guide is not preactivated from the pop-up screen of the Master activation switch.</li> </ul>	<ul style="list-style-type: none"> <li>Pre-activate the Valtra Guide from the pop-up screen of the Master activation switch.</li> </ul>
6	GYRO calibration status	Not calibrated	Calibrate the GYRO. ▶

Requirement		Possible cause	Procedure
7	GNSS receiver status	Self-test not successful	<ul style="list-style-type: none"> <li>• Make sure that the antenna is correctly connected.</li> <li>• Make sure that the power supply fuses are operational.</li> <li>• Make sure that the indicator light on the antenna shows (remove receiver cover).</li> </ul>
8	Incorrect distance to the closest wayline	The distance to the closest wayline is too long.	Drive nearer to the nearest wayline.
9	Driving speed	Driving speed is too high or low.	Set the driving speed to 0,1-25 km/h
10	Incorrect angle to the wayline	The angle between the tractor and the wayline is too steep.	Drive along the wayline with an angle of 0°-75°.

Requirement		Possible cause	Procedure
1	Number of satellites connected	Position information not OK	Drive the tractor to change its position. At least 5 satellites are necessary for Valtra Guide to operate.
2	Correction signal lag	<ul style="list-style-type: none"> <li>• Correction signal satellite is not available</li> <li>• Correction signal data or license data is incomplete</li> <li>• Incorrect settings of the correction signal</li> <li>• Incorrect serial number for correction signal</li> </ul>	<ul style="list-style-type: none"> <li>• Give the system sufficiently time to connect</li> <li>• Speak to your dealer about the correct signal and license data</li> <li>• Make sure that the settings are correct</li> <li>• Give the correct serial number</li> </ul>
3	Steering wheel activity	You have not turned the steering wheel in a period of 60 seconds.	Turn the steering wheel.
4	Incorrect angle to the wayline	The angle between the tractor and the wayline is too steep.	Drive along the wayline with an angle of 0°-75°.
5	Incorrect distance to the closest wayline	The distance to the closest wayline is too long.	Drive nearer to the nearest wayline.
6	Valtra Guide pre-activated	<ul style="list-style-type: none"> <li>• Valtra Guide is not preactivated from the pop-up screen of the Master activation switch.</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-activate the Valtra Guide from the pop-up screen of the Master activation switch.</li> </ul>

Requirement		Possible cause	Procedure
7	GNSS receiver status	Self-test not successful	<ul style="list-style-type: none"> <li>• Make sure that the antenna is correctly connected.</li> <li>• Make sure that the power supply fuses are operational.</li> <li>• Make sure that the indicator light on the antenna shows (remove receiver cover).</li> </ul>
8	GYRO status	GYRO status not OK	<ul style="list-style-type: none"> <li>• Drive a short distance at a speed higher than 1.5 km/h.</li> <li>• If the problem continues, talk to an approved Valtra dealer.</li> </ul>
9	GYRO calibration status	Not calibrated	Calibrate the GYRO.

Problem	Cause	Indication	Action
The automatic steering system is engaged but the wayline guidance does not drive along the wayline	The steering angle sensor has mechanical or electrical tolerances	-	<ul style="list-style-type: none"> <li>• Calibrate the steering angle sensor</li> <li>• If this does not help, speak to an approved Valtra dealer</li> </ul>
	The front axle suspension or bearing has play	-	Speak to an approved Valtra dealer
	The middle position of the steering angle sensor is not calibrated correctly	-	Calibrate the steering angle sensor
	The steering response is not correct for the application	-	Adjust the steering response
	The base station moves	The base station tripod lets the GNSS aerial to move	Attach the base station correctly
	External sources cause interference with the radio connection between the base station and the receiver	The correction signal from the base station breaks temporarily	Drive the tractor to change its position
	Gyro failure	See the system page	Speak to an approved Valtra dealer
	Movements of the trailer coupling or the linkage drawbar let the implement move laterally	The tractor moves straight ahead but the implement moves to the side	<ul style="list-style-type: none"> <li>• Tighten the linkage drawbar</li> <li>• Correct the implement setting</li> </ul>

Problem	Cause	Indication	Action
	When ground conditions are bad and implements are installed, the tractor pulls away from the wayline	Wayline guidance is better to use on different ground conditions or with the implement raised	<ul style="list-style-type: none"> <li>Decrease the speed and the working depth.</li> <li>Make sure that the implement settings are correct; if needed, raise the implement.</li> </ul>
	Implement settings are not optimal	Wayline guidance is better to use on different ground conditions or with the implement raised	Make sure that the implement settings are correct
Overlaps or errors occur during automatic track guidance	Wayline distance is set incorrectly	-	Adjust the path-to-path distance
	Implement offset is set incorrectly	-	Adjust the implement offset
Not a valid GNSS position, automatic track guidance is not possible	Correction signal is not available	See the Correction source screen	<ul style="list-style-type: none"> <li>Make sure that there is a valid correction signal license available.</li> <li>Make sure that the correction signal is not blocked (for example forests, buildings, high-voltage power lines)</li> </ul>
	Expired correction signal license	See the Correction source screen	Order a new correction signal license. Contact your dealer.
	The GNSS position signal is blocked	-	Drive away from trees or building that cause the blockage
	Receiver failure	See the Correction source menu	Speak to an approved Valtra dealer
	Correction signal is not available in the area	See the Correction source menu	-
Bad reception of the correction signal	Correction signal is set incorrectly through the terminal	See the Correction source menu	Speak to an approved Valtra dealer
	Correction signal satellite is not in the view	See the Correction source menu	-
	Correction signal data or license data are not correct	See the Correction source menu	-
	Incorrect serial number when the correction signal is ordered	-	-





# 11 Accessories

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## 11.1 Additional SmartTouch display

You can have an additional SmartTouch display to your tractor. The additional SmartTouch display is used to control an ISOBUS implement or to see the camera. Then you can operate Valtra Guide with the armrest display and ISOBUS implement with the additional SmartTouch display.

ISOBUS universal terminal functions only in one of the two SmartTouch displays, not in both.

### 11.1.1 Use the additional SmartTouch display

#### Procedure



1. Open the ISOBUS settings screen from the SmartTouch display on the armrest.
2. Set the ISOBUS universal terminal to OFF position.
3. Set the Primary device to SmartTouch.
4. Set the Version to AUX-N.
5. Go to the home screen.

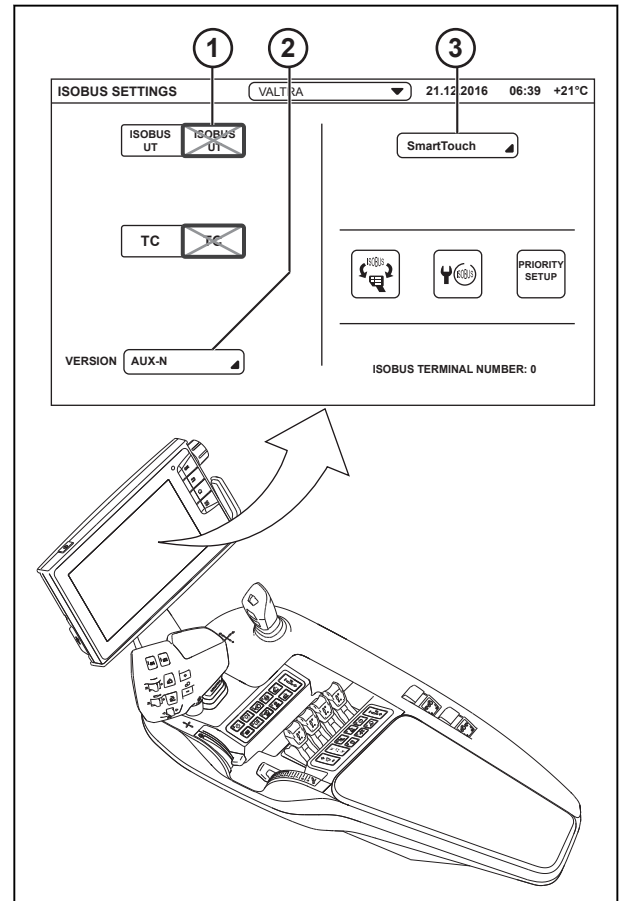


Fig. 1

- 1 ISOBUS universal terminal
- 2 Version
- 3 Primary device

6. Open the ISOBUS settings screen from the additional SmartTouch display.
7. Set the ISOBUS universal terminal to ON position.
8. Set the Primary device to Valtra.
9. Set the Version to AUX-N.
10. Go to the home screen.

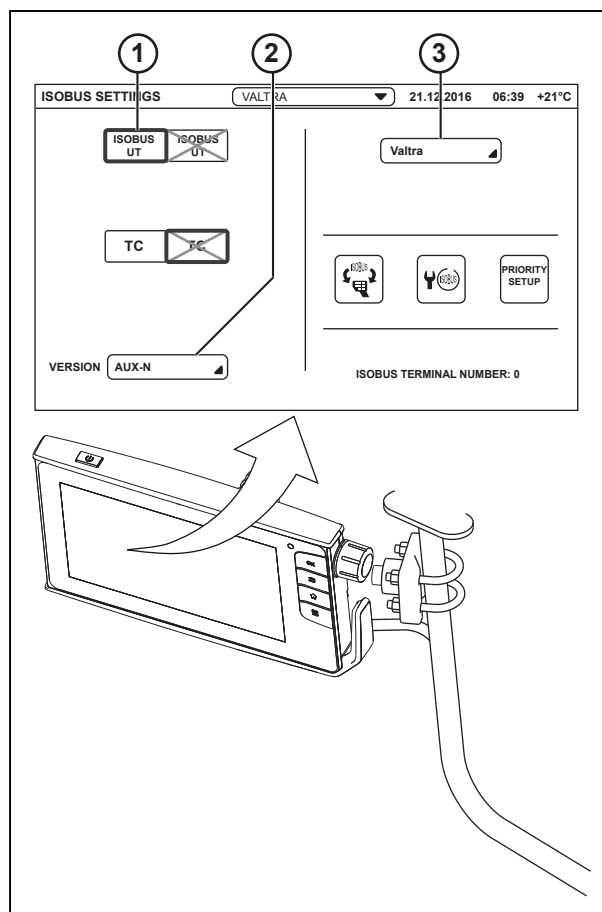
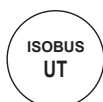


Fig. 2

- 1 ISOBUS universal terminal
- 2 Version
- 3 Primary device

11. Open the ISOBUS universal terminal from the additional SmartTouch display.



ISOBUS universal terminal now shows on the additional SmartTouch display. If the ISOBUS universal terminal does not show, turn the main power off and then on.

## 11.2 Base station

You can use the Valtra Guide system with a reference station for centimeter precision. The operation of the system is the same if you receive the correction signal from a reference station or from a satellite. This section gives an overview of the additional steps required for reference station management. The reference station is an integrated unit that has a radio module, a GNSS receiver, a GNSS aerial and a radio aerial. The reference station is installed on a tripod. The reference station uses an internal radio aerial to supply the correction signal to the mobile units in a radius of 3 km to 5 km.

- GNSS satellites transmit position signals.
- The base station compares this data with its accurate position.
- Correction signals are transmitted from the base station (transmitter) to the vehicle (receiver) with a modem.
- The Valtra Guide receiver calculates a very accurate location data from the position signal and correction signal.

### 11.2.1 Scope of delivery and accessories

HiPer AG base station

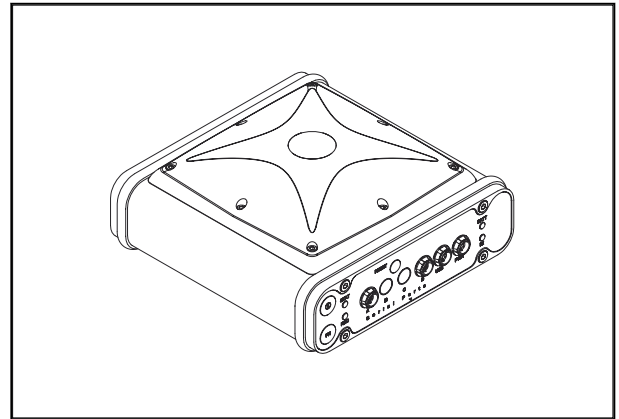


Fig. 3

UHF aerial



Fig. 4

Mains cable

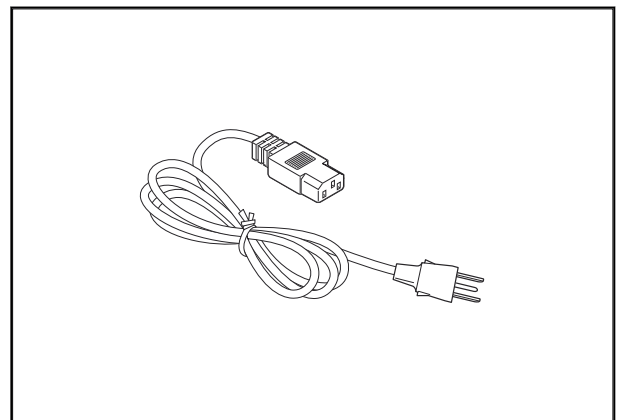


Fig. 5

Power supply unit

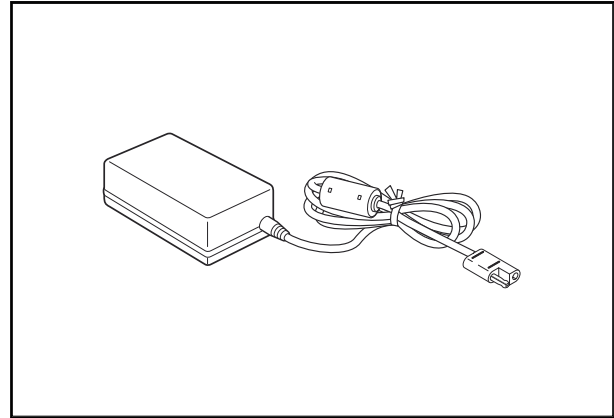


Fig. 6

SAE connecting cable - current supply to base station

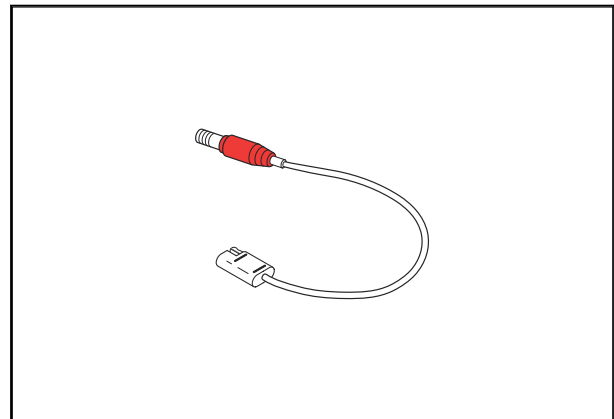


Fig. 7

SAE connecting cable - alligator clips

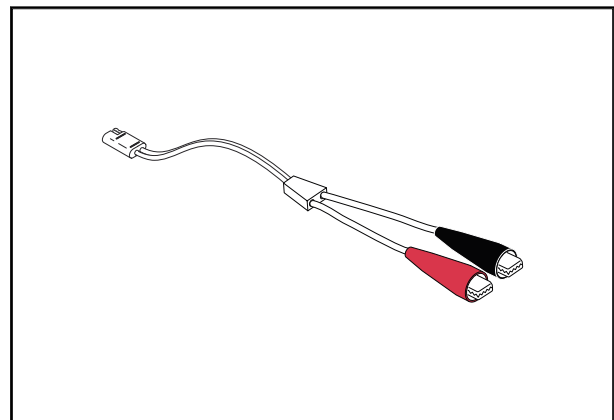


Fig. 8

SAE connecting cable - cigarette lighter

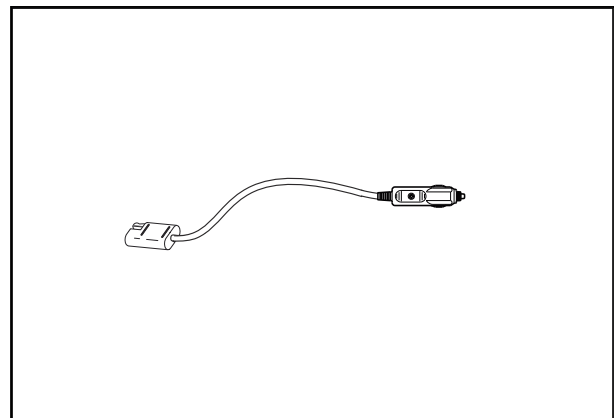


Fig. 9

SAE extension cord

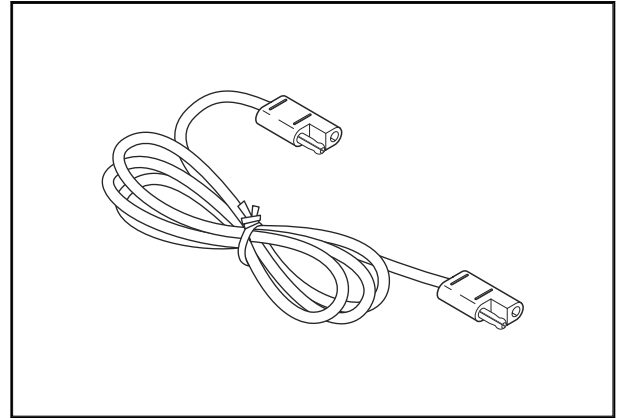


Fig. 10

Serial connecting cable

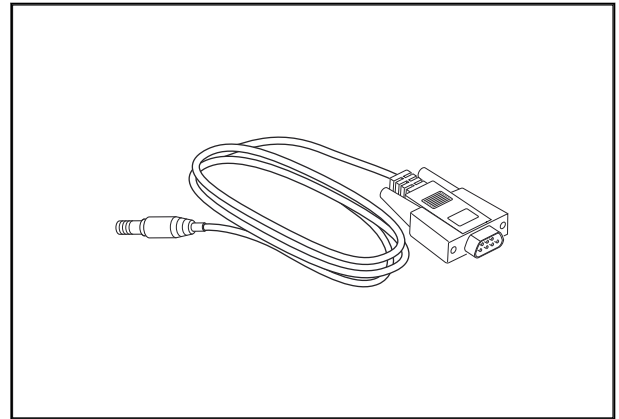


Fig. 11

Null modem DB9 M-M adapter

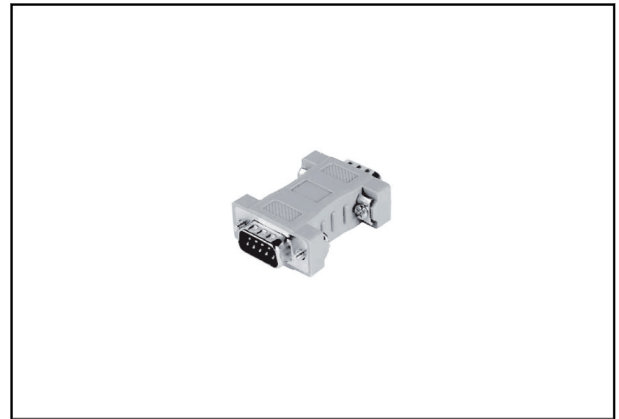


Fig. 12

Tripod

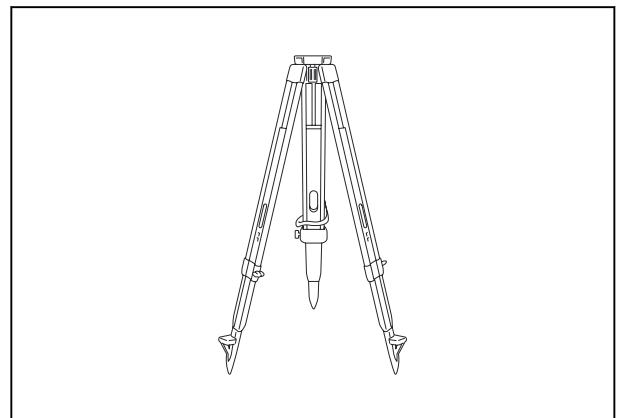


Fig. 13



Carrying case

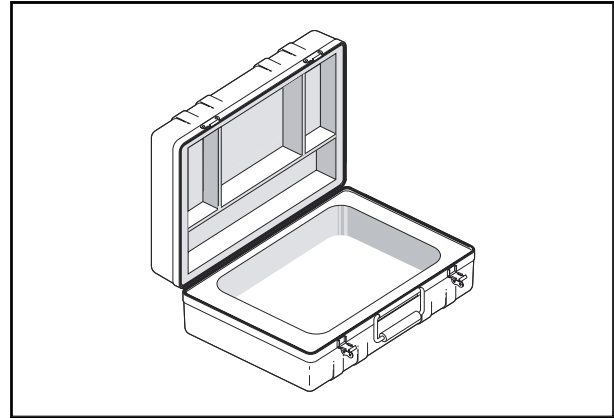


Fig. 14

### 11.2.2 Base station overview

- (A) ON/OFF button
- (B) Function button
- (C) RS 232 communication interface A
- (D) RS 232 communication interface D
- (E) USB communication interface
- (F) Current supply connector Input: Operation: 6-28 VDC; Load: 9-28 VDC (power consumption < 2A)
- (G) Modem status LED
- (H) Battery status LED
- (I) Reset button
- (J) Recording status LED
- (K) Implement status LED

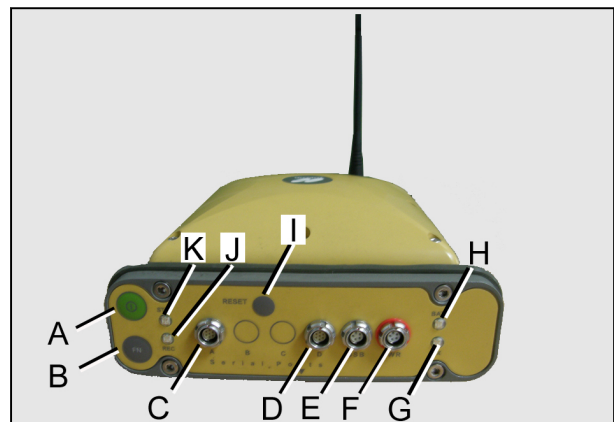


Fig. 15

- (L) Aerial port for radio modem
- (M) Port for external GNSS aerial

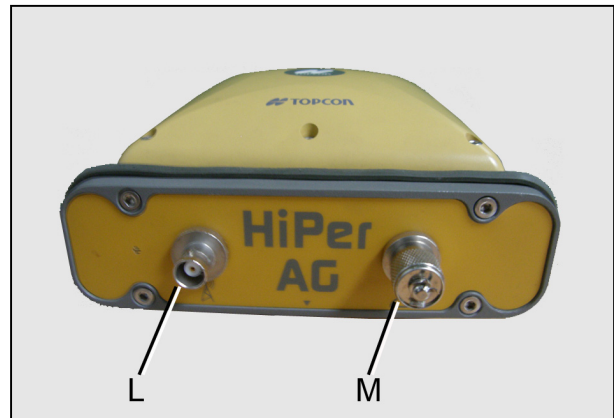


Fig. 16

### 11.2.3 LEDs

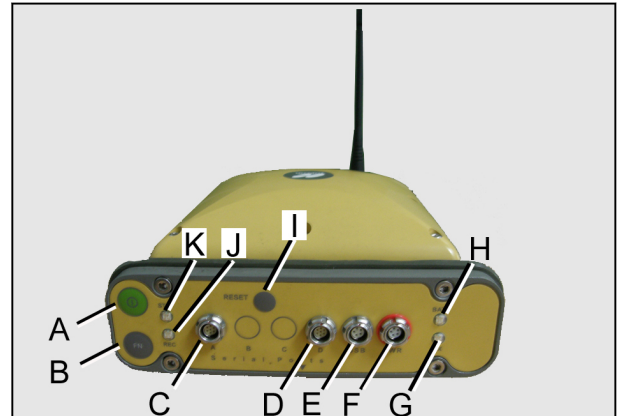


Fig. 17

Modem status LED (G)	Flashing red/green alternately: Base station sending correction data.
Battery status LED (H) Charge level:	<ul style="list-style-type: none"> <li>Flashing once a second: External current supply is connected, internal battery is being charged.</li> <li>Flashing every five seconds: Receiver is using the internal battery and no external current supply is connected.</li> <li>Off: Receiver is in "OFF" mode or internal battery is discharged and no external current supply is connected.</li> </ul>
<ul style="list-style-type: none"> <li>Green: &gt; 85%</li> <li>Orange: Medium</li> <li>Red: &lt; 15%</li> </ul>	
Device status LED (K)	<ul style="list-style-type: none"> <li>Flashing red: Receiver is on but cannot receive satellites.</li> <li>Flashing green: Receiver is switched on and receiving satellites; one flash per received GPS satellite.</li> <li>Flashing orange: Receiver is switched on and receiving satellites; one flash per received GLONASS satellite.</li> </ul>

### 11.2.4 Operating modes

- OFF mode:** The base station is completely switched off. All LEDs are off.  
**NOTE:** *It is not possible to charge the battery.*
- STANDBY mode:** The base station is switched on and the receiver switched off. Battery status LED (H): Depending on charge level and external/internal current supply.  
**NOTE:** *Use to charge the battery.*
- ON mode:** The base station is completely switched on.
  - Implement status LED (K) flashing.
  - Modem status LED (G) flashing.
  - Battery status LED (H): Depending on charge level and external/internal current supply.**NOTE:** *Use to operate automatic track guidance.*

### 11.2.5 Charge battery

#### Procedure

1. **NOTE:** Only charge the battery in ON or STANDBY mode.

Connect charging cable to port F

2. Switch base station to STANDBY mode

**NOTE:** After 9 hours the battery will be 90% charged, and in 10 hours fully charged. It is not possible to overcharge the battery. The charge level of the battery is indicated by the Battery status LED (H).

**NOTE:** Keep base station in OFF mode.

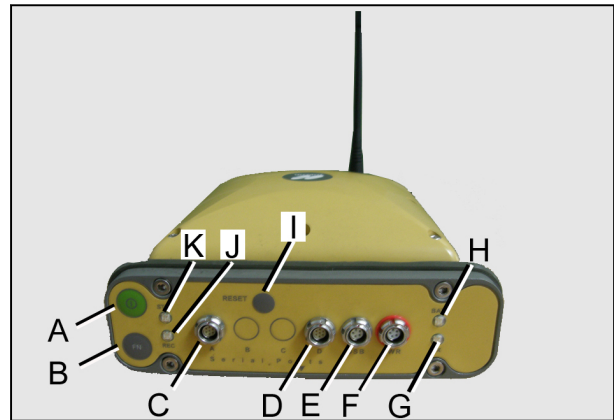


Fig. 18

**NOTE:** If the internal battery is flat and no external current supply is connected, the receiver will switch to "OFF" mode to protect the battery from deep discharge.

### 11.2.6 Set up and connect the base station

#### Procedure

1. Fit base station on tripod or similar (horizontal, see level on tripod)
2. If required, connect power supply (battery, power supply unit) to (F)

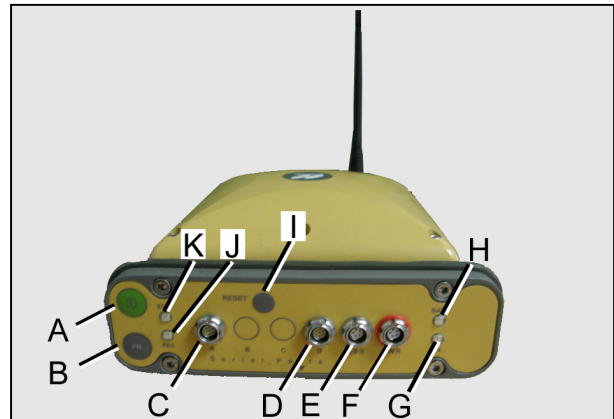


Fig. 19

3. Connect antenna (L)

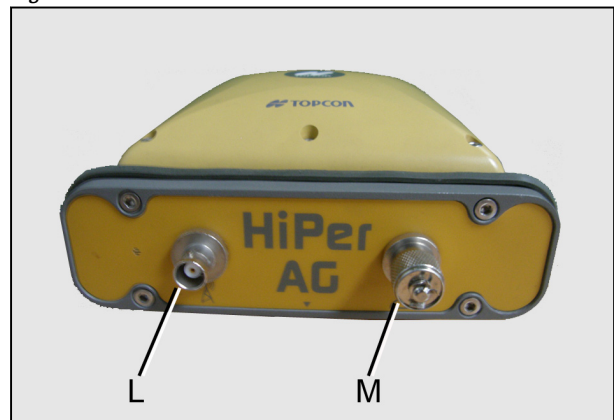


Fig. 20

### 11.2.7 Operate base station with external battery

#### Procedure

Connect cables (2,3,4) to the battery

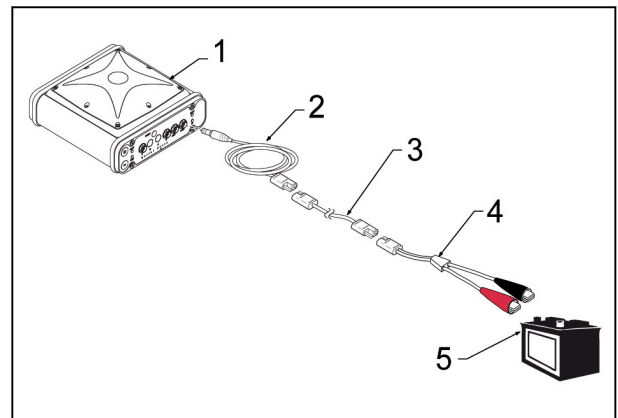


Fig. 21

- (1) Base station
- (2) Current supply cable for base station
- (3) SAE connecting cable - current supply to base station
- (4) SAE connecting cable - alligator clips
- (5) Battery

### 11.2.8 Switch base station to ON mode

#### Procedure

Alternatively, press the following button:

- Base station in OFF mode: Press Reset (I) button
- Base station in STANDBY mode: Press ON/OFF button (A)

**NOTE:** In ON mode, LEDs (G), (H) and (J) are on.

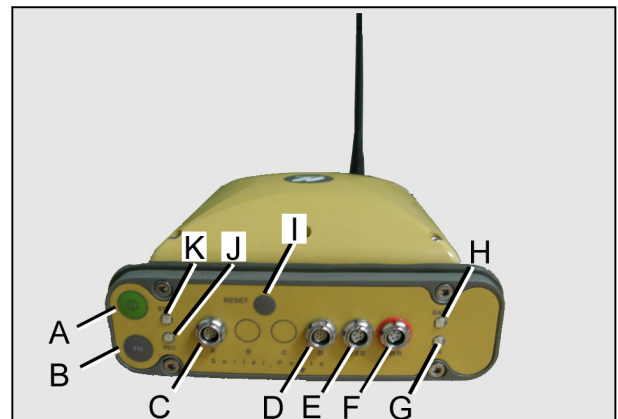


Fig. 22

### 11.2.9 Switch base station to STANDBY mode

#### Before starting the procedure

Base station must be in ON mode.

**Procedure**

1. Hold down ON/OFF button (A)
2. LEDs (K) and (J) will turn green and then go out
3. Release ON/OFF button (A)

**NOTE:** LED (H) is on.

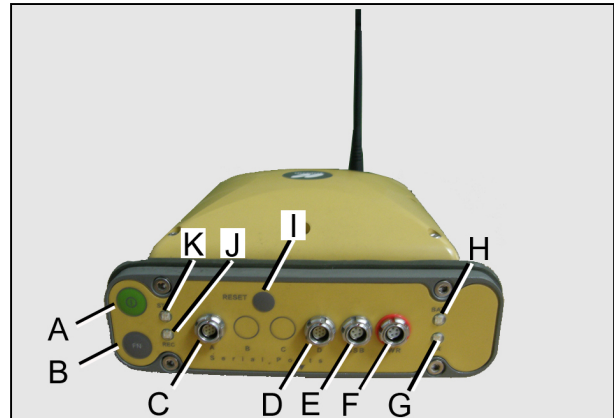


Fig. 23

**NOTE:** It is not possible to switch directly from OFF mode to STANDBY mode.

### 11.2.10 Switch base station to OFF mode

**Before starting the procedure**

Base station must be in ON mode.

**Procedure**

1. Hold down ON/OFF button (A)
2. LEDs (K) and (J) will turn green and then go out
3. LEDs (K) and (J) will turn orange
4. LEDs (K) and (J) will turn red
5. Release ON/OFF button (A)

**NOTE:** All LEDs are off.

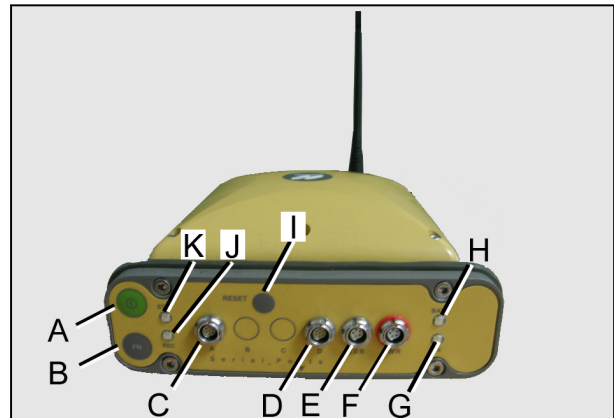


Fig. 24

**NOTE:** It is not possible to switch directly from STANDBY mode to OFF mode.

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