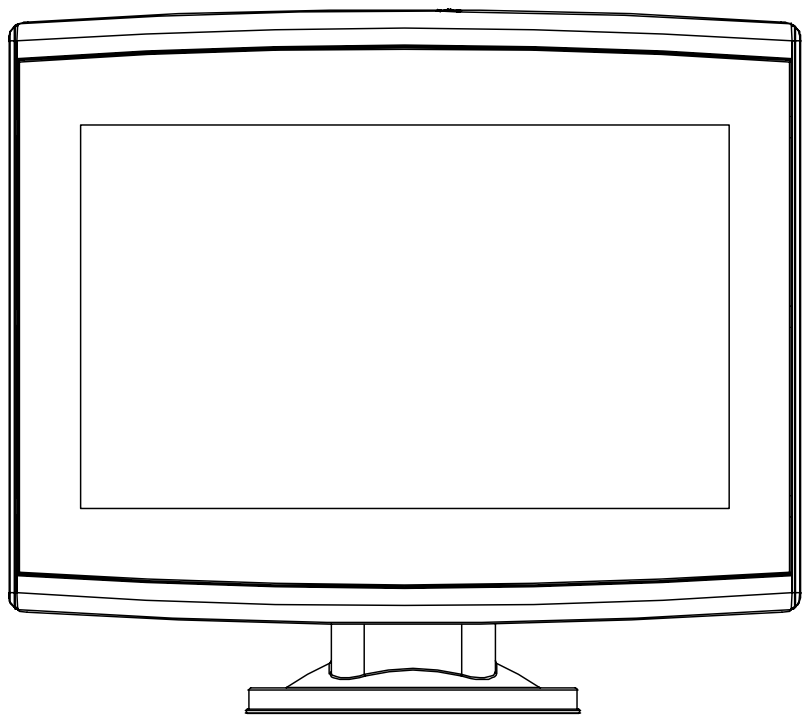
AVMAP
SATELLITE NAVIGATION



G7 FARMNAVIGATOR

USER MANUAL

Updated to 3.11.xR software version
(where x indicates all 3.11 software versions)

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1.Introduction

Thank you for choosing G7 Farmnavigator!
This Quick Guide shows you G7 Farmnavigator main functions.
Visit www.farmnavigator.com for further information, user manual, contacts, support.

2.Antenna installation

2.1 How to install the Turtle Smart antenna

Turte Smart antenna is provided with three magnets which ensure a quick installation on a ferromagnetic surface. In order to guarantee a precise and accurate functioning, the position of the antenna should be evaluated carefully.

2.1.1 How to connect Turtle Smart antenna

Turtle Smart antenna is provided with a 9-pin serial cable which transfers data and power supply between G7 Farmnavigator and Turtle Smart antenna.
Turn off the device, and connect the 9-pin serial cable to the cable located on the bracket, marked with “GPS Antenna”.

3.Implements configuration

To open the implement page, from the main menu tap “DATABASE” > “IMPLEMENTS”.
In the IMPLEMENTS page, it is possible to create and configure all the implements that will be used with G7 Farmnavigator.
1. Select “Add New”;
2. Insert the name, and select “OK”;

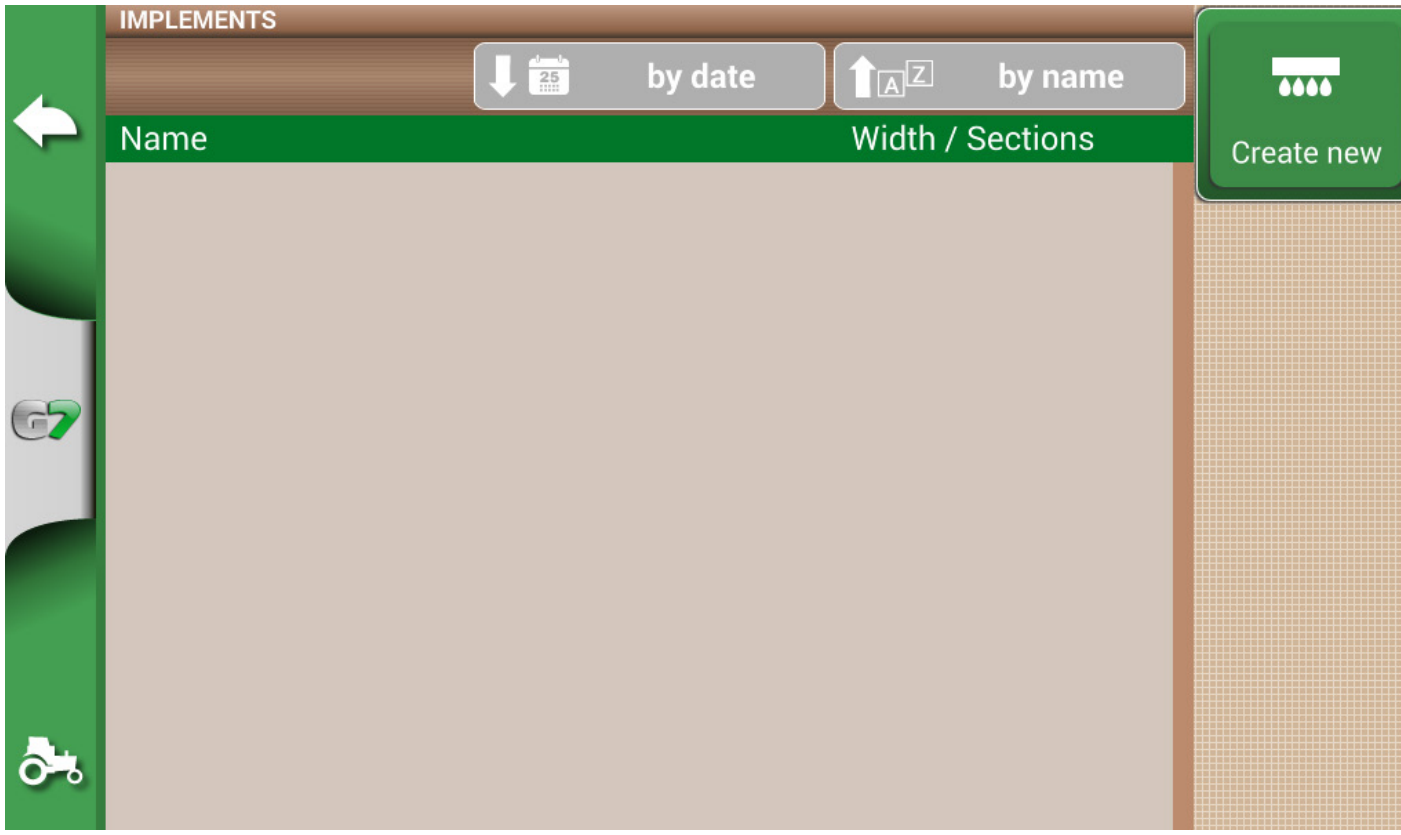


Figure 3.1.a IMPLEMENTS menu

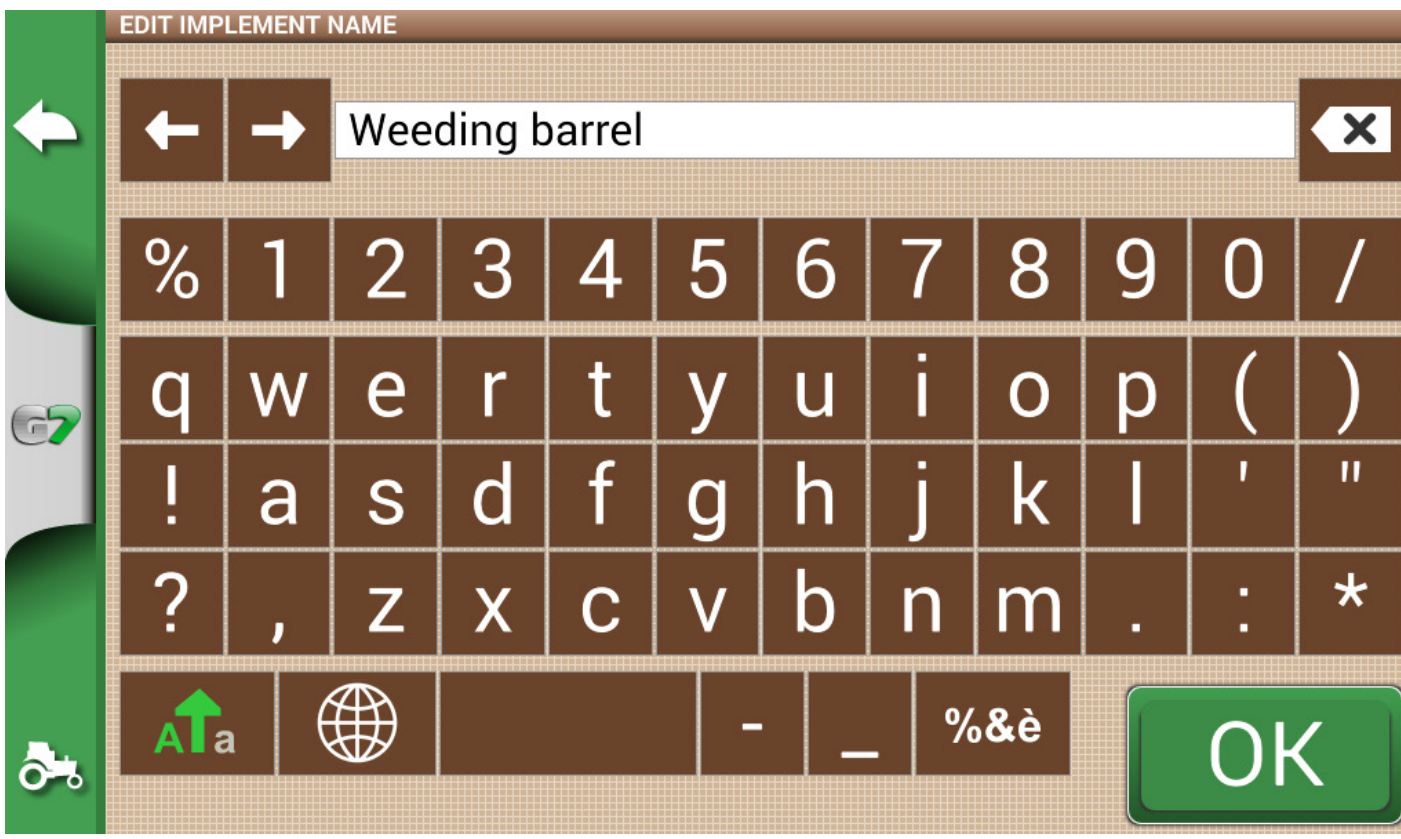


Figure 3.1.b Implement name

3. If active, select the external controller type. Select “No section control” to use the implement without section control;
4. Select “Assembling type and offset”;
5. If the implement is mounted, tap “REAR FIX MOUNT”;
- Offset 1 refers to the distance between the posterior axle and the implement operating point.
- Offset 2 refers to an eventual misalignment between the implement and the centre of the tractor.

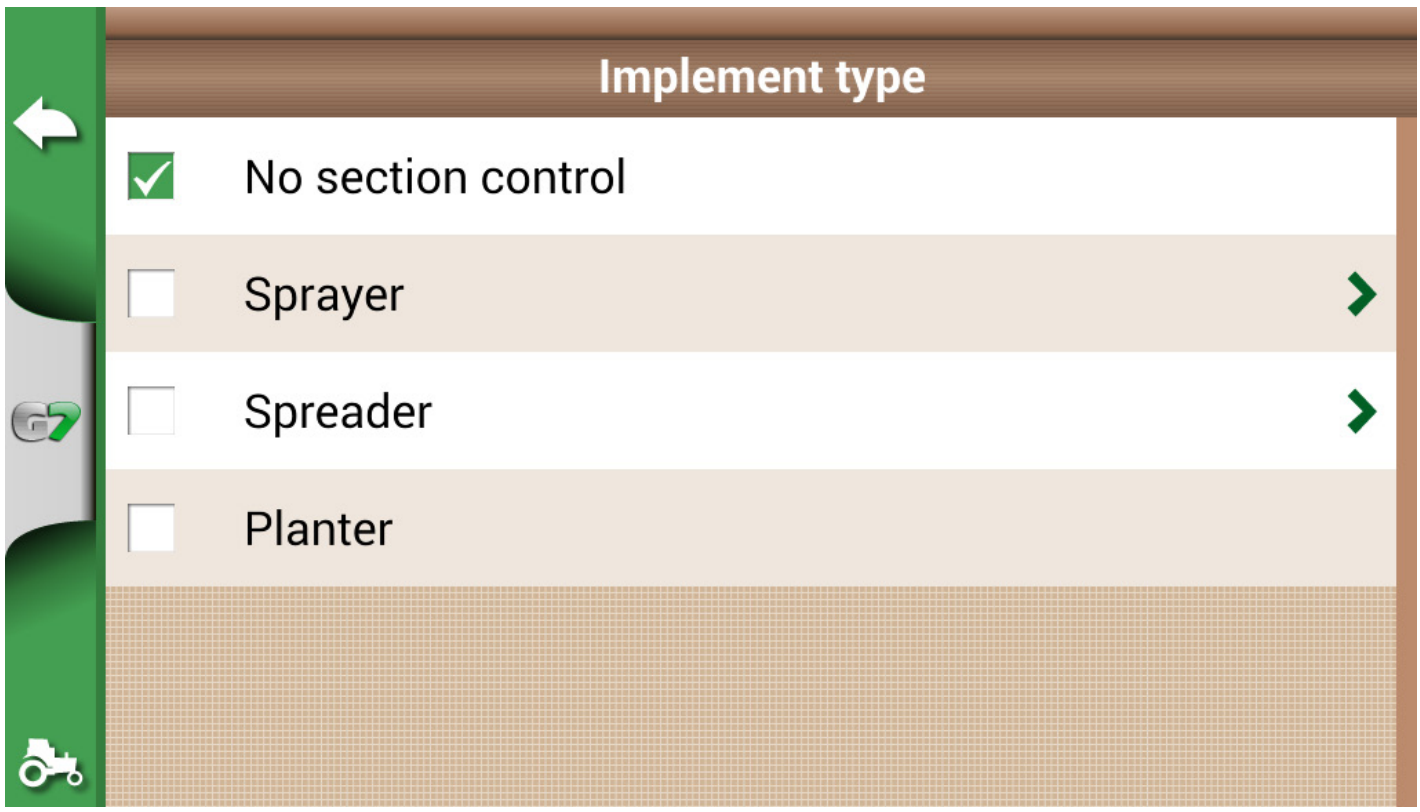


Figure 3.1.c External control unit connection

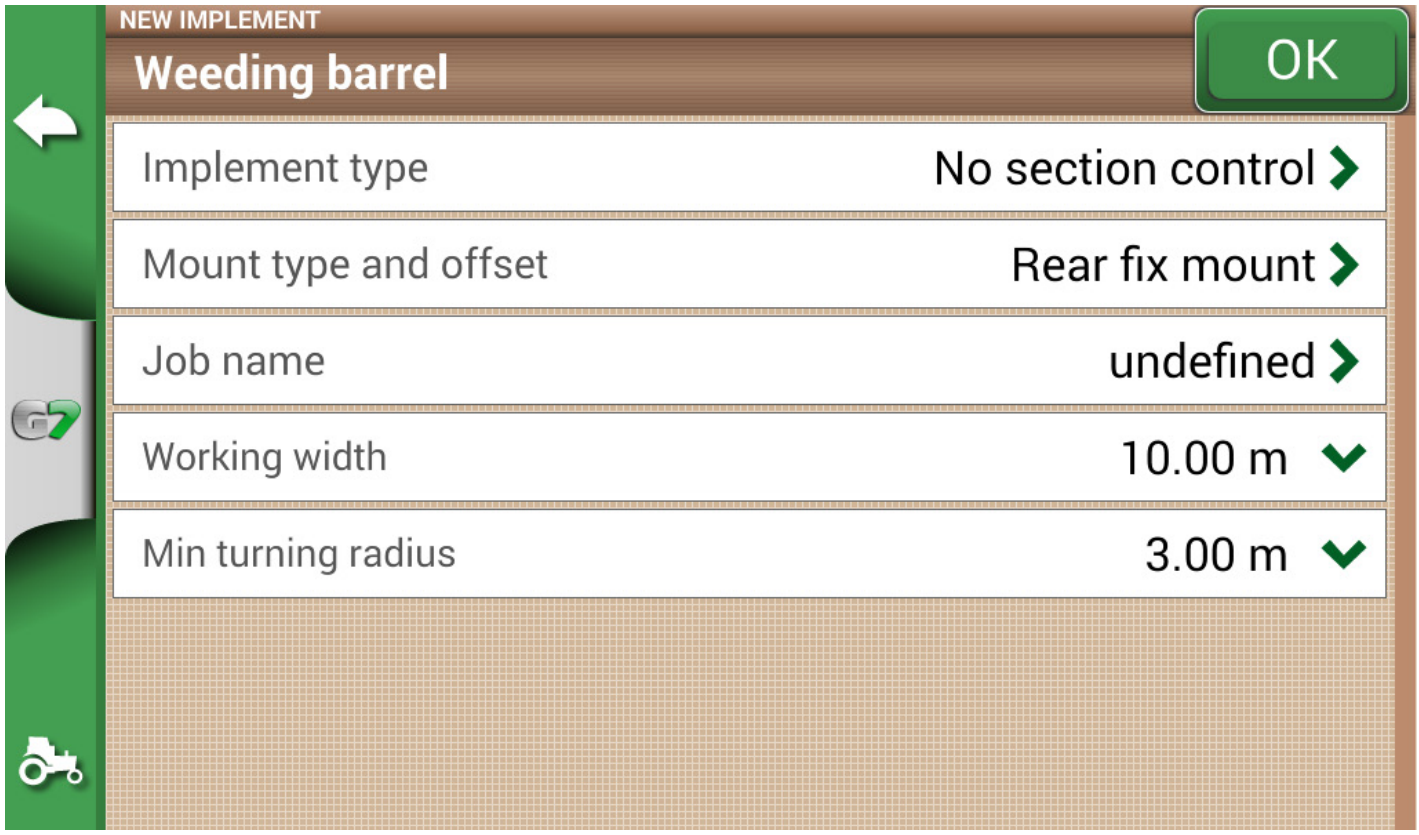


Figure 3.1.d Implement setting

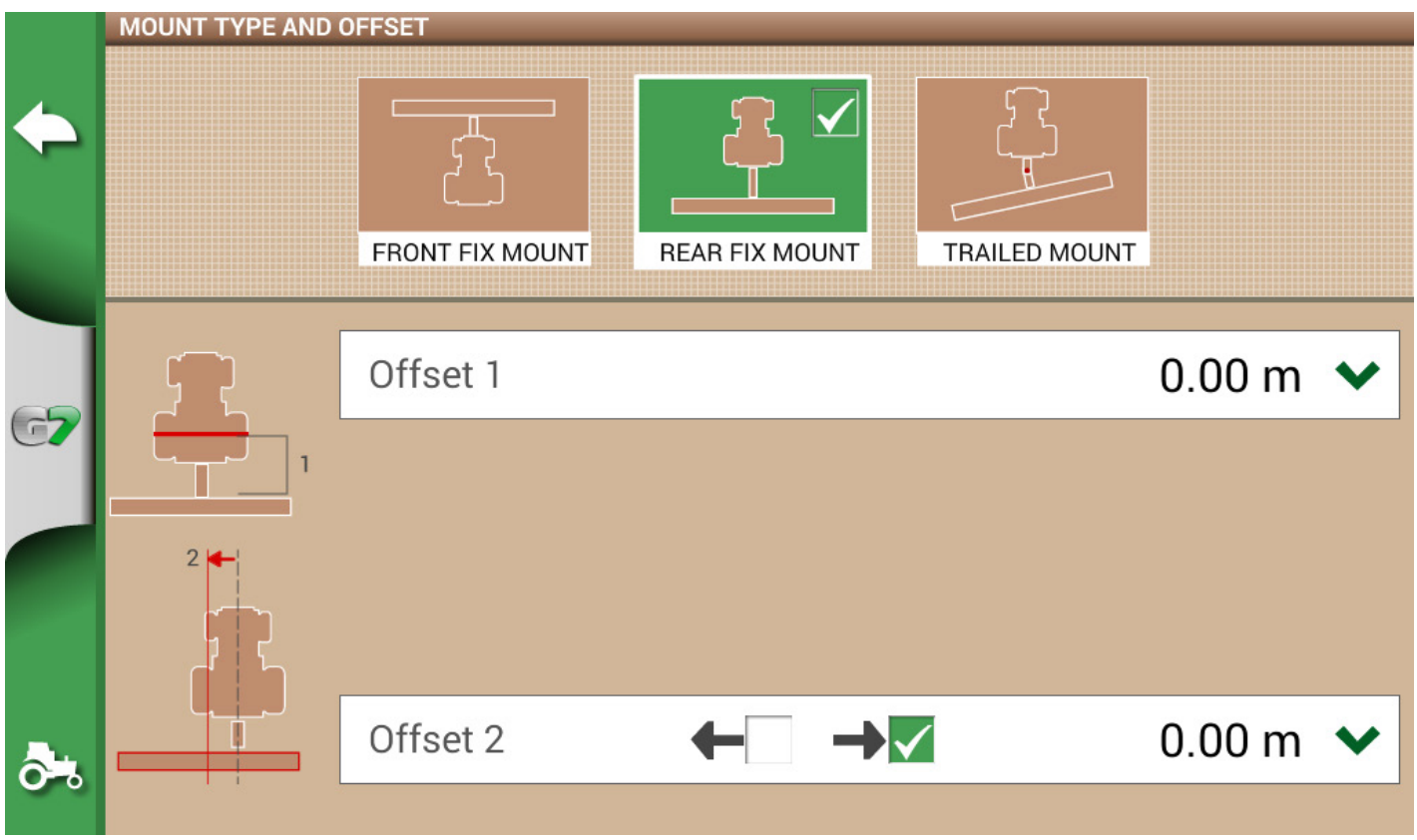


Figure 3.1.e Rear fix mount implement

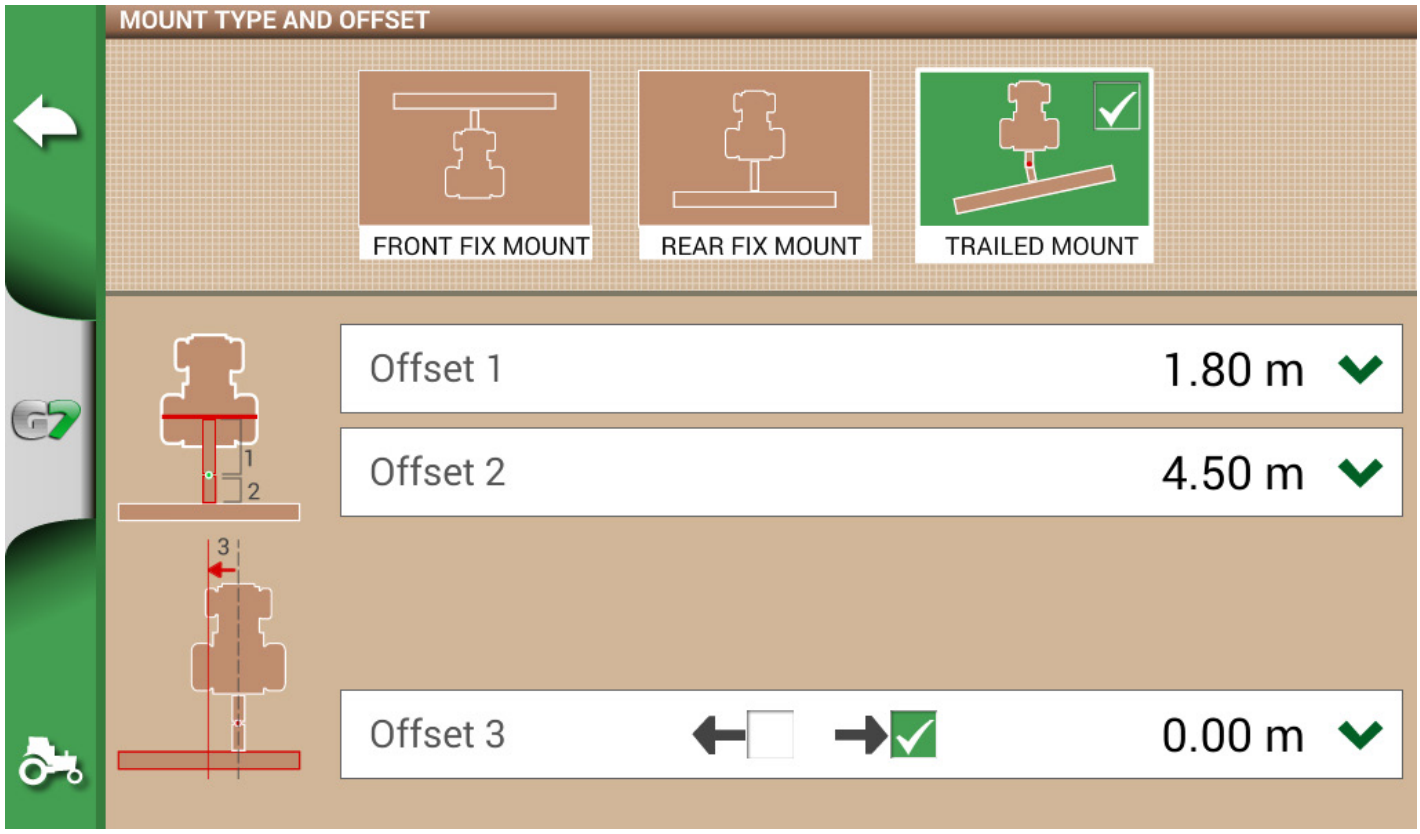


Figure 3.1.f Trailed mount

6. In case of towed implement, select “TRAILED MOUNT”;
- Offset 1 is the distance between the posterior axle and the junction;
- Offset 2 is the distance between the junction and the implement operating point;
- Offset 3 refers to a possible misalignment between the implement and the centre of the tractor;
7. Tap the green arrow in the upper left corner of the screen to go back to the previous page;
8. Select “Job type” to enter the type of job performed by the implement;

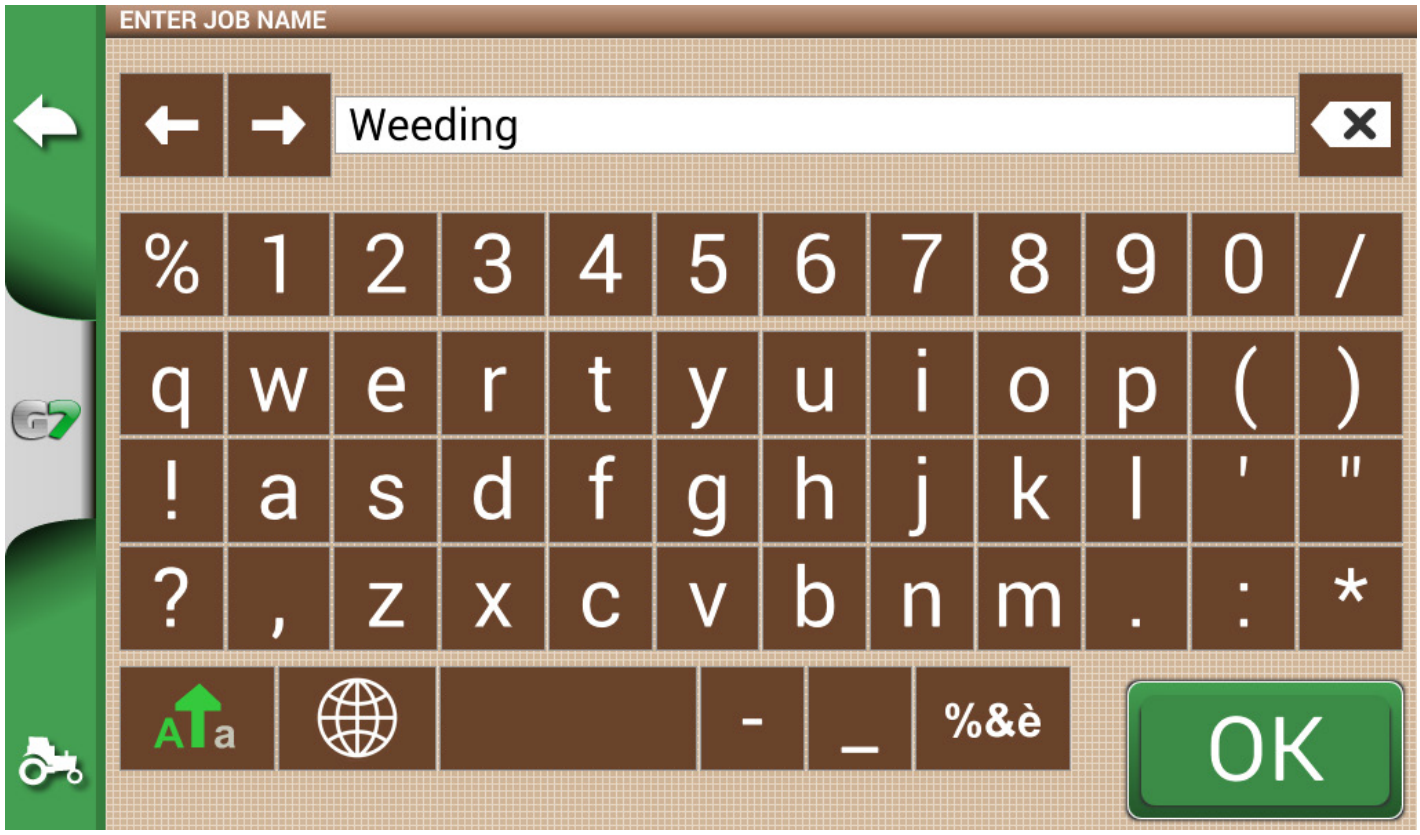


Figure 3.1.g Implement main activity

9. Tap “Working width”, insert implement width, and select “OK”;
10. Tap “Minimum turning radius” and insert the turning value indicated in the tractor registration certificate and select “OK”;
11. Select “OK” in the upper left corner of the page to configure.

All the information needed are now entered. From the DATABASE menu, it is always possible to add, edit and delete the information entered.

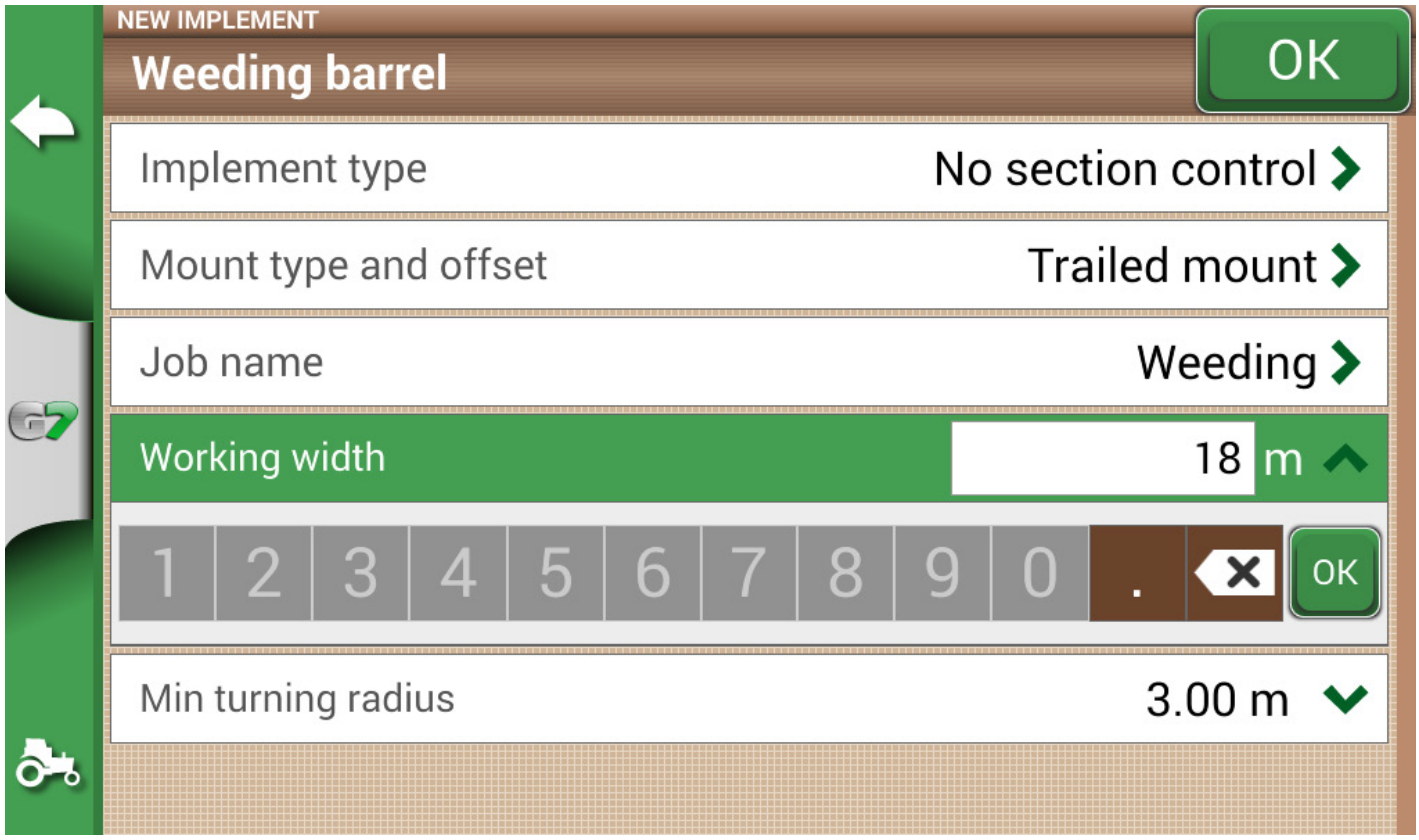


Figure 3.1.h Working width setting

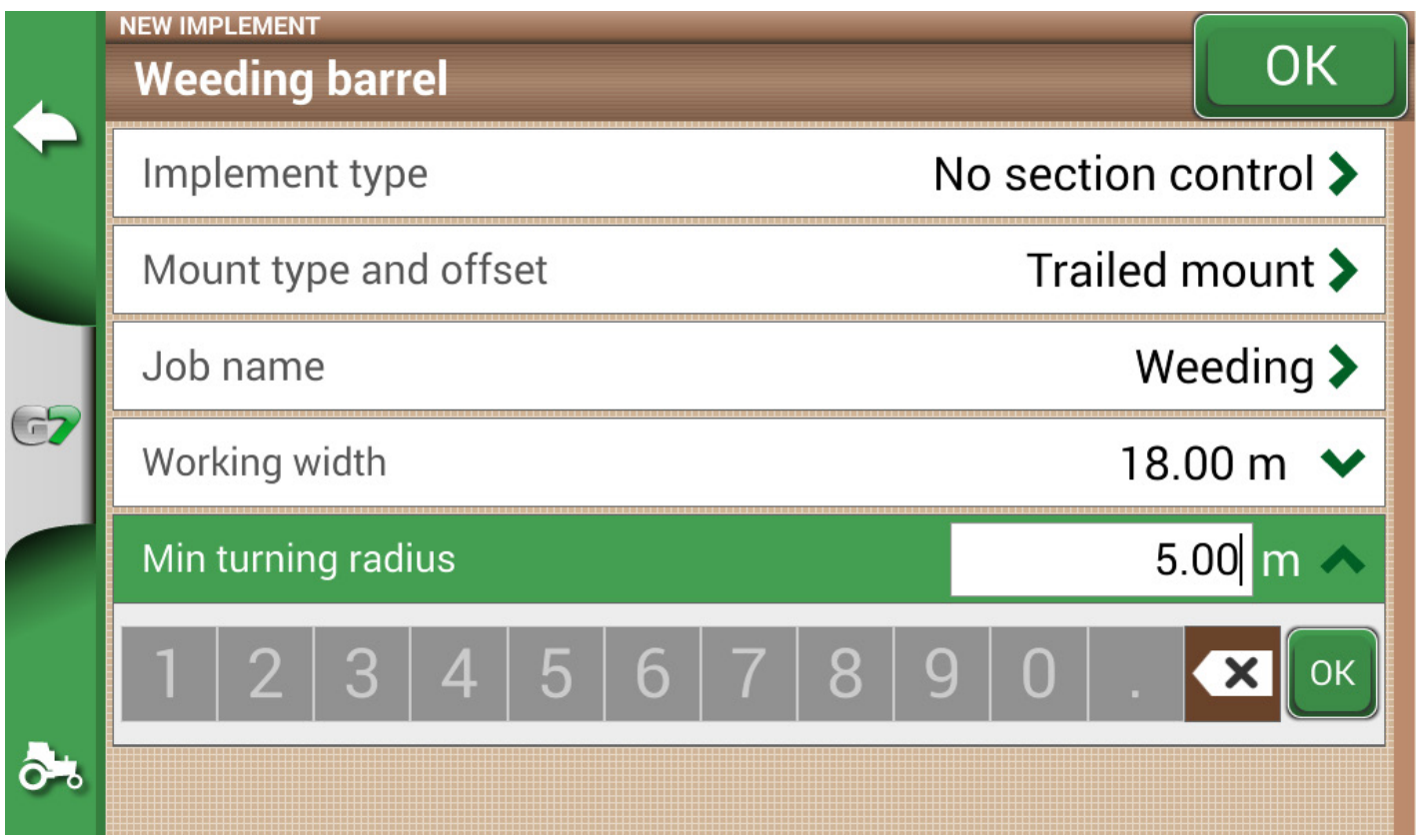


Figure 3.1.i Tractor minimum turning radius setting

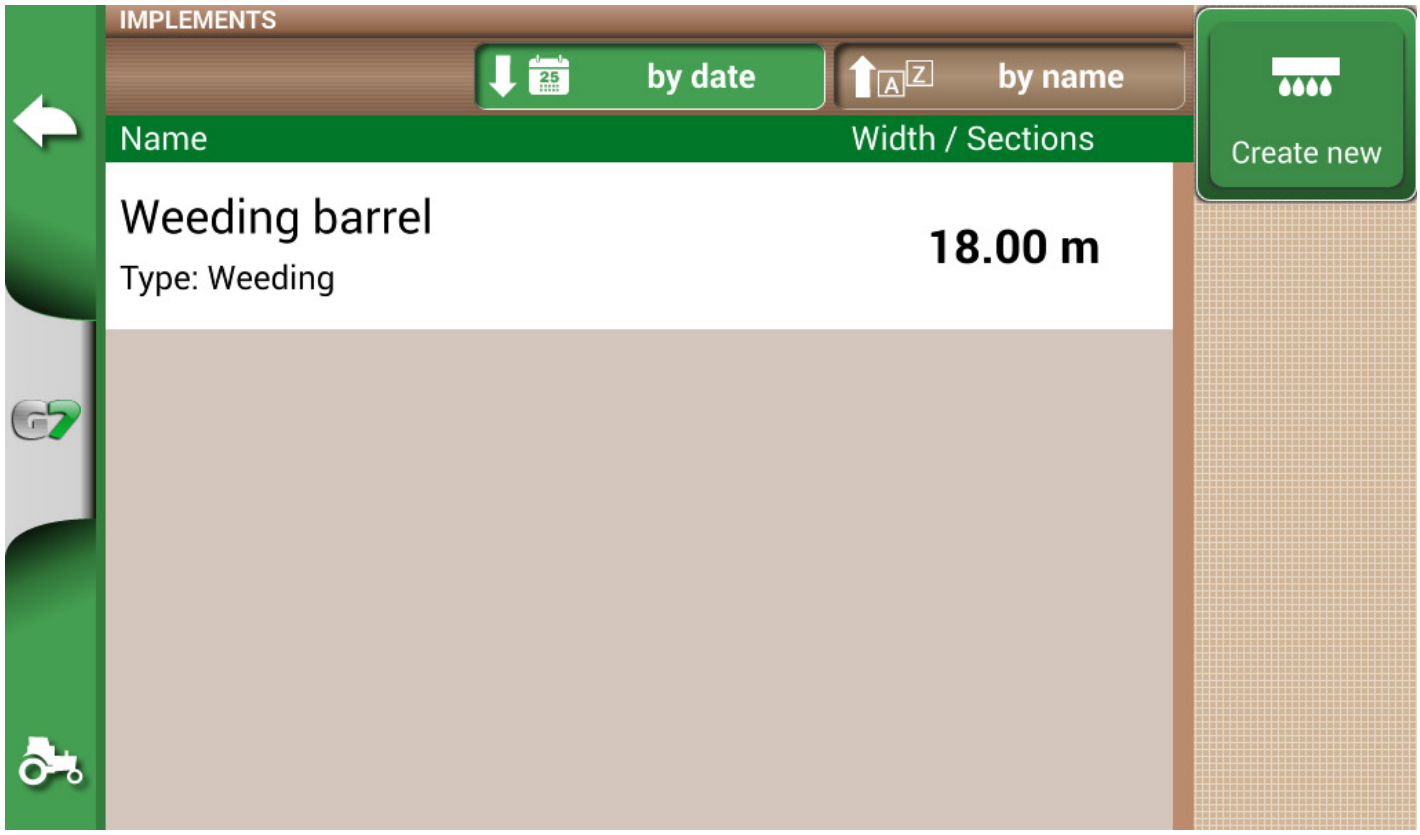


Figure 3.1.l List of saved implements

4.Job Page

The job page shows all the information and functions needed during your work activity.

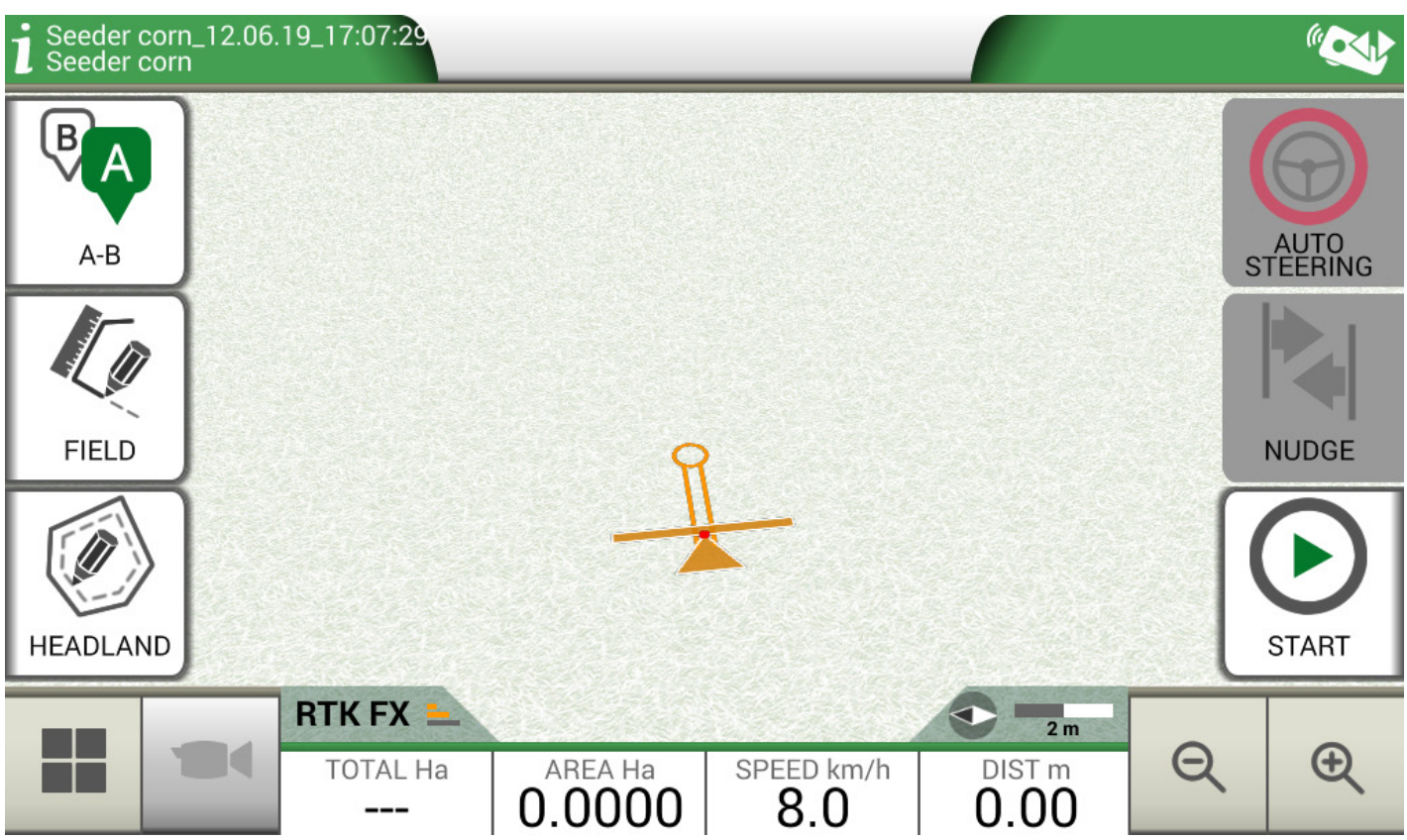


Figure 4.1.a Job main page

4.1. Current job information

4.1.1 Job Name

Job and implement names appear at the upper left corner of the page. Touch “i” to directly access detailed information about your job.

	File and implement name description

Table 4.1.a Job name

4.1.2 Connected devices

At the upper right corner of the screen, there are the icons that identify the type of devices connected to G7 Farmnavigator.

	Devices connected to G7 Farmnavigator
	Connected and active remote control
	Connected and active WiFi
	External third-party device connected and enabled for automatic sections control
	Auto-Steering system connected and enabled for the steering wheel control

Table 4.1.b Connected devices

4.1.3 Antenna precision and reception

At the bottom left corner of the page, the reception and precision status of the antenna connected to G7 Farmnavigator are presented.

	Description of antenna reception status and signal quality

Table 4.1.c Antenna reception and precision status

There are different levels of accuracy of the antenna:

RTK FX	Centimetre accuracy, maximum level of precision possible.
RTK FT	Decimetre accuracy, very high precision level. It does not fit for those jobs which require 1-2 centimetres precision.
DGPS	Sub-meter accuracy, middle level of accuracy, perfect for the majority of job. It includes the correction provided by geostationary satellites SBAS (EGNOS, WAAS, etc.).
3D/SPS	Low accuracy, it is not suitable for any type of job.
NO GPS	No GPS signal, the antenna is disconnected or it is in a place where there is a total shielding of the signal (inside a building).

If the antenna icon is green in all its parts, the receiving conditions are perfect. Otherwise, wait a few minutes, clean the antenna and get the device away from metal obstacles or dense vegetation.

4.1.4 Zoom level and compass

At the bottom right corner of the screen, zoom level and the compass that indicates the direction of the tractor are shown.

	The compass is oriented according to tractor's progress. The black tip of the compass indicates the North. The scale bar indicates the zoom level applied to the map.

Table 4.1.e Zoom and compass

4.1.5 Area, speed, distance

At the bottom of the screen, all the information about distance, speed, worked area and total area are shown.

	Information about area, speed and distance during work.

Table 4.1.f Area, speed, distance

Table 4.1.d Antenna precision level

The information displayed may vary if G7 Farmnavigator is connected to third-party devices. Long tap area value icon (second box starting from the left) to open a selection menu and change the information displayed.

4.2 Operative functions during jobs

4.2.1 Start/stop

START/STOP function enables you to draw or not a worked area.
- Press “START” to draw a green area of the same width as the implement and to count it in the worked area;
- Press “STOP” to interrupt colouring and suspend the counting of the area.

NOTE: START/STOP function can be also used in case of refuelling pauses during job.

	**START** Tap this icon to start working and colouring the worked area.
	**STOP** Tap this icon to interrupt colouring of the area.

Table 4.2.a Start/Stop functions

4.2.2 A-B lines

When you start a new job, tap A-B to have access to different types of guidelines. More specifically:

	**A-B Parallel lines** Tap this icon to work with A-B Parallel lines. Once you tap the icon, the point A will be saved. Proceed few metres straight ahead to save point B.
	**A-B Contour guidelines** Tap this icon to work with A-B Contour guidelines. Once you tap the icon, the point A will be saved. Proceed few metres to save point B. It is essential to correctly set “Minimum Turning radius” in the implement settings page.
	**Pivot Guidelines** Tap this icon to work with pivot guidelines.

	A-B Adaptative contour Tap this icon to work with A-B Adaptative contour. Once you tap the icon, the point A will be saved. Proceed few metres to save point B. The adaptative line is created at the end of the previous line. With this type of guideline, the last track drawn will be copied. It always provides a 180° turn at the end of the field.
	Point A + Direction Tap the icon to save point A. In the end, the direction of the tractor will be displayed and it can be confirmed or edited.
	A-B lines list This icon is active when the field is selected and if there are A-B guidelines already associated to that field.

Table 4.2.b A-B line types

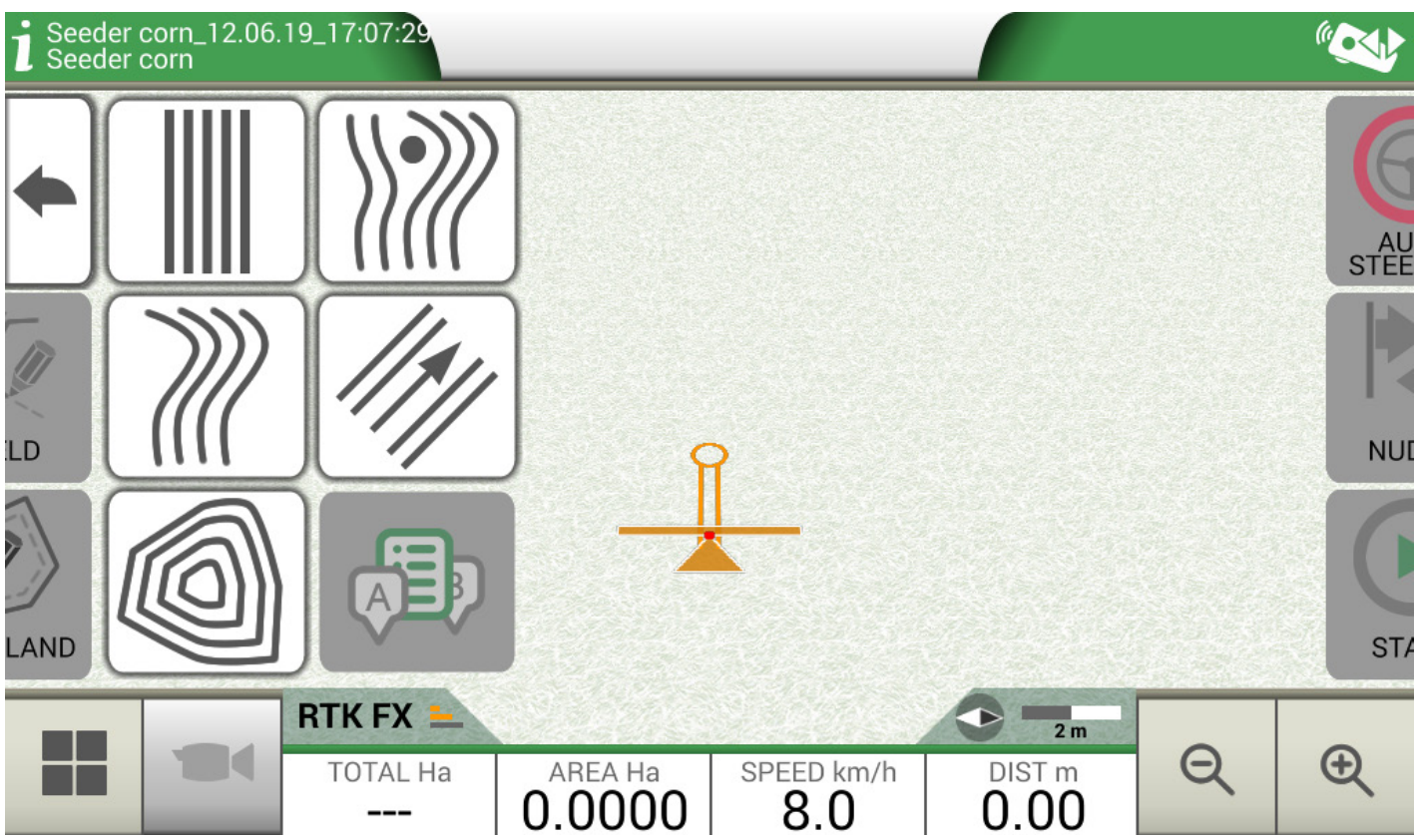


Figure 4.2.a A-B guidelines

Once A-B lines are defined and created, the icon will indicate the type of guideline which is currently active during your job.

	A-B Parallel		A+ Heading

Table 4.2.c Icon with A-B guideline type

During the job, tap A-B icon to access additional functions concerning A-B lines cancellation, change, or displacement.

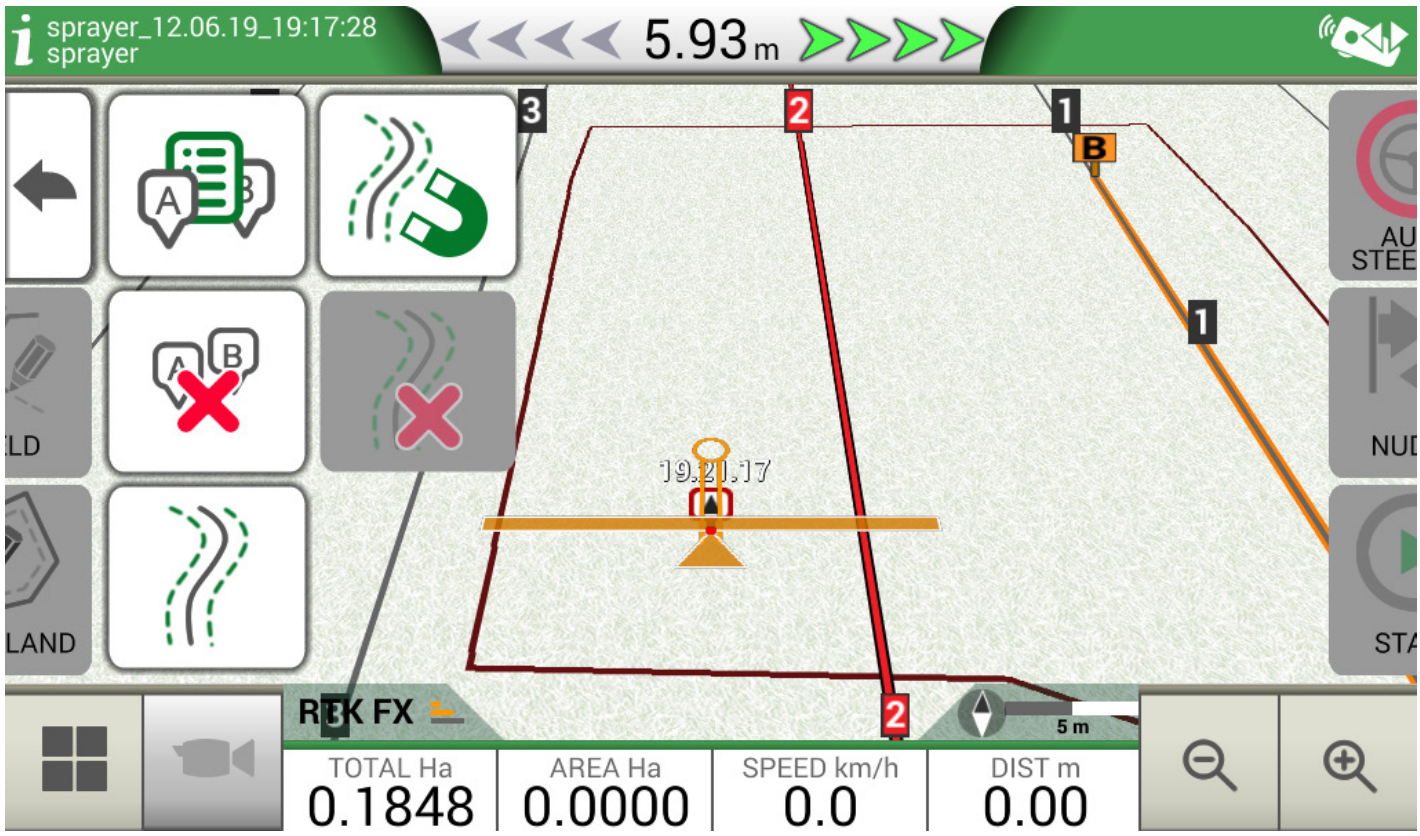


Figure 4.2.b Operating functions during job activity

Below is a list of all the functions available:

	**Magnet** Move A-B lines according to the antenna position.
	**Streets** Move A-B guidelines some metres away from the antenna position. The maximum displacement permitted is equal to half of implement width.
	**Shift cancellation** Delete shift and reset original A-B guidelines.
	**A-B guidelines list** If active, it shows the list of A-B guidelines saved and used in the field.
	**Delete A-B lines** This feature allows you to delete the A-B guideline created in the field. The area already worked and coloured in green will not be deleted.

Table 4.2.d Functions available in the A-B menu

4.2.3 Field

In order to define a field, go along the field perimeter and activate field registration mode.
The term field refers to the physical perimeter of the field. “FIELD” function allows you to save the position of the field. It is not intended as edge processing. It is possible to carry on the activities even during the measurement of field boundaries. It is important to take into account that G7 Farmnavigator calculates the position of the field boarders according to the width of the chosen implement.
- Move to the edge of the field;
- Select “START” if you are working the area during the registration of the field boundaries;
- Select “FIELD” and move along the field perimeters;
- Tap “FIELD” again, when you are in close proximity to the starting point so as to finish recording;

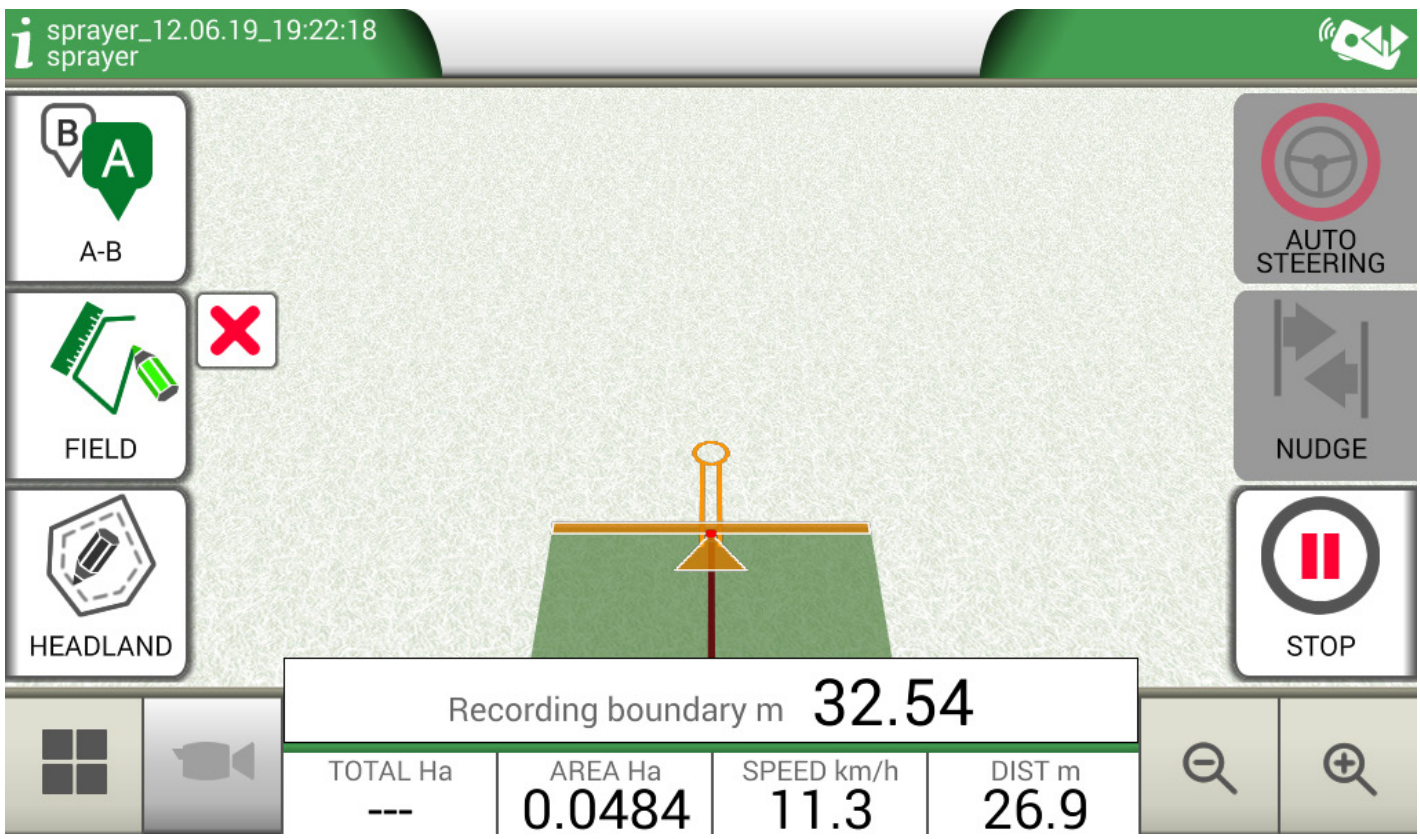


Figure 4.2.c Creation of a new field

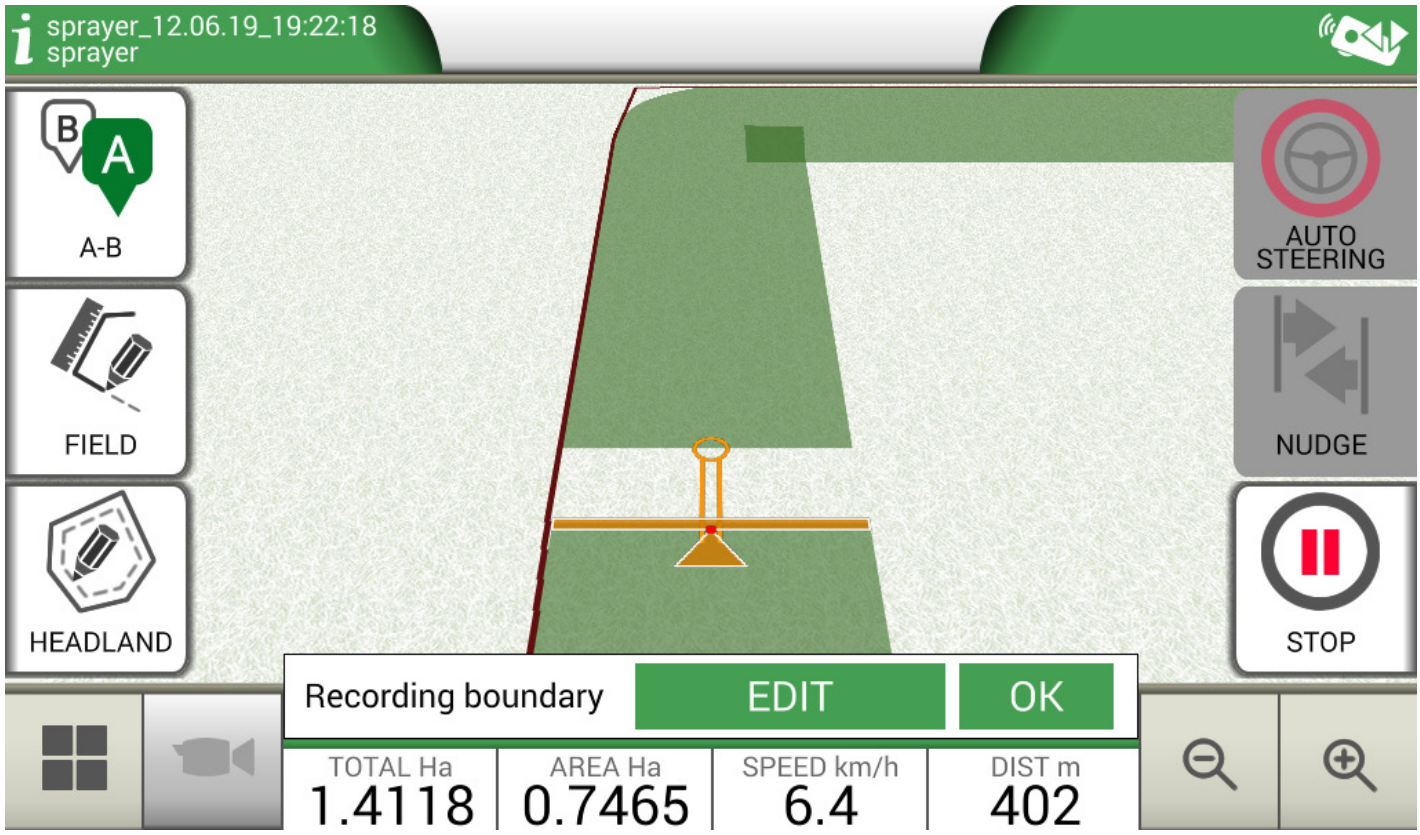


Figure 4.2.d Closing the field perimeter

- Field boundaries are now saved and stored in memory.

NOTE: It is possible to locate the field on the same perimeters next year only by using an RTK instrumentation.

Once the field is defined, there are other features which allow you to visualize, edit or delete field boundaries. Tap “FIELD” to access these features:

	**Edit/continue field registration** It allows you to modify field boundaries already defined by adding or modifying one of its part.
	**Enable/disable field view** Tap this icon to enable or disable the contour view of the field from the map.
	**Delete field boundaries** Delete field contour.

Tabella 4.2.e Dettaglio delle funzioni che agiscono sul campo

4.2.4 Headlands

This feature is very useful for determining the contour of the worked area. Define the field to use this function.

Take the following steps to activate headland:

- Select a field from the list and create a new job;
- Move to the edge of the field;

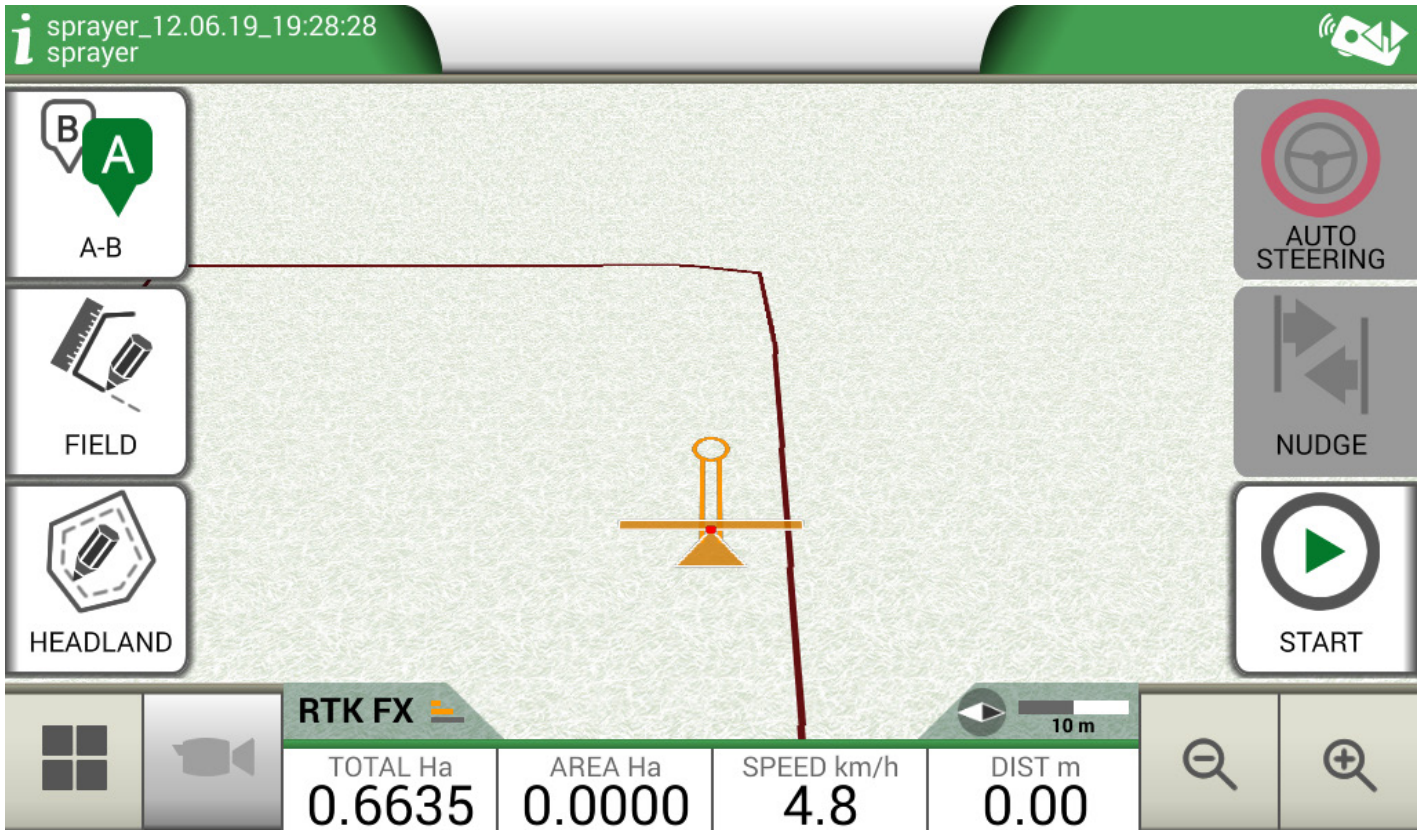


Figure 4.2.f Headland, start a new row

- Tap headland button, named “HEADLAND”, and set the width of the headland that must be a multiple of implement width;
- An area which corresponds to the headland will be displayed on the map.

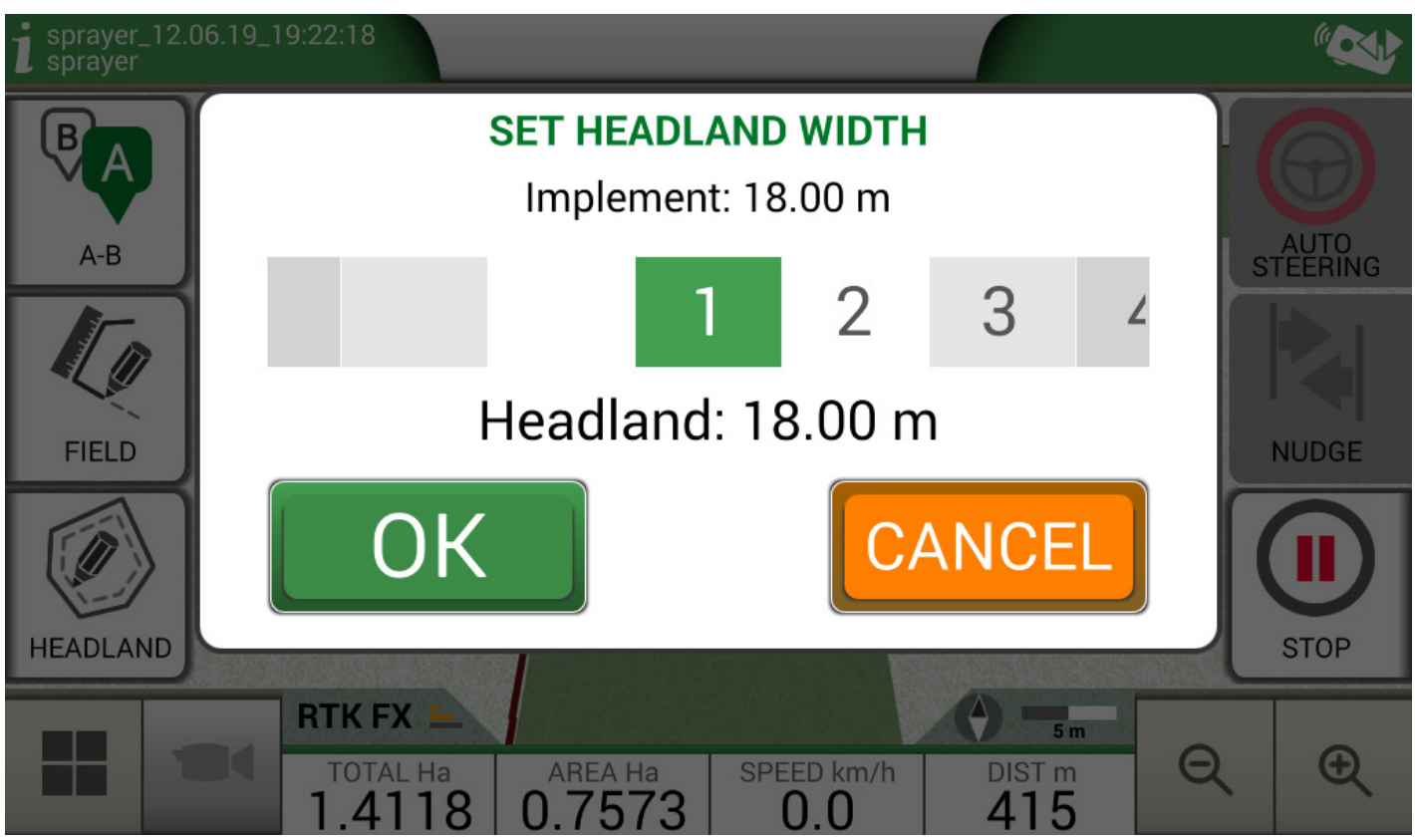


Figure 4.2.g Headland width configuration

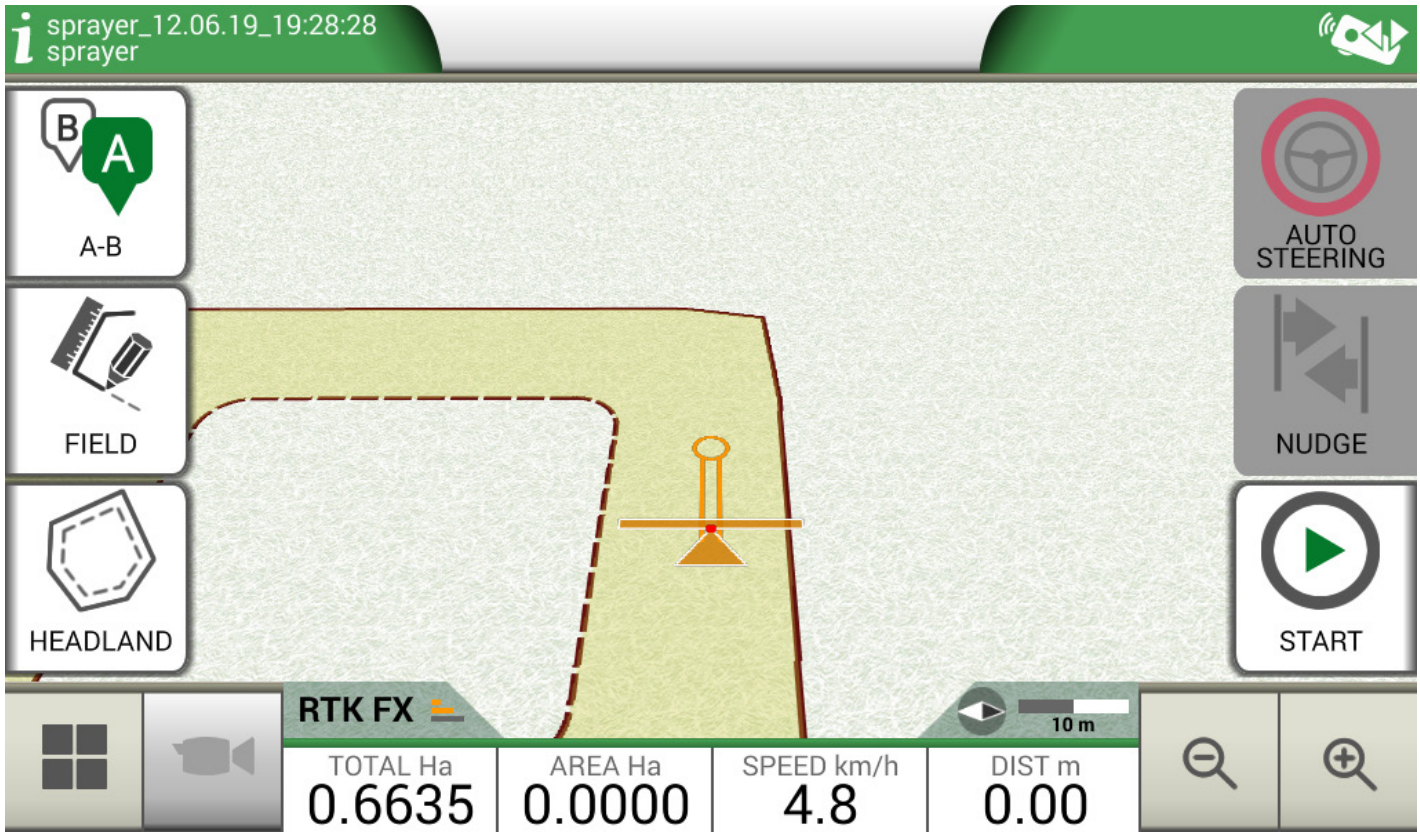


Figure 4.2.h Headland, area

Headland has different functionalities:
- It allows to define the area of the contour to be worked or already worked;
- In case of automatic sections control, it avoids that the product will be sprayed on the headland;
- It allows you to activate Auto-Steering system along the headland path (field contour).

Tap “HEADLAND” to enable all these functionalities.
Four different icons will be displayed:

	**Headland active** It allows you to open sections automatically on the headland. It shows the path tracking for Auto-Steering.
	**Headland disabled** It prevents the opening of the sections automatically inside the headland.
	**Headland inactive** Headland is drawn on the screen, the opening of the sections is active and the path tracking for Auto-Steering is not active.
	**Delete Headland** Allows you to delete headland and to restore initial field conditions.

Table 4.2.f Headland specific functions

4.2.5 Obstacles

G7 Farmnavigator allows users to save and view the position of a specific point on the map (e.g. an obstacle).
- G7 Plus permits you to activate this option only with remote controller.
- G7 Ezy is provided with a specific button on the main menu.

To save the position on a specific point:
- Tap on “MARK”;
- On the map, it is possible to see a marker near the selected point.

	**Obstacle / Mark** If pressed, it saves the position and it draws a marker on the map.

Table 4.2.g Obstacle, point of interest

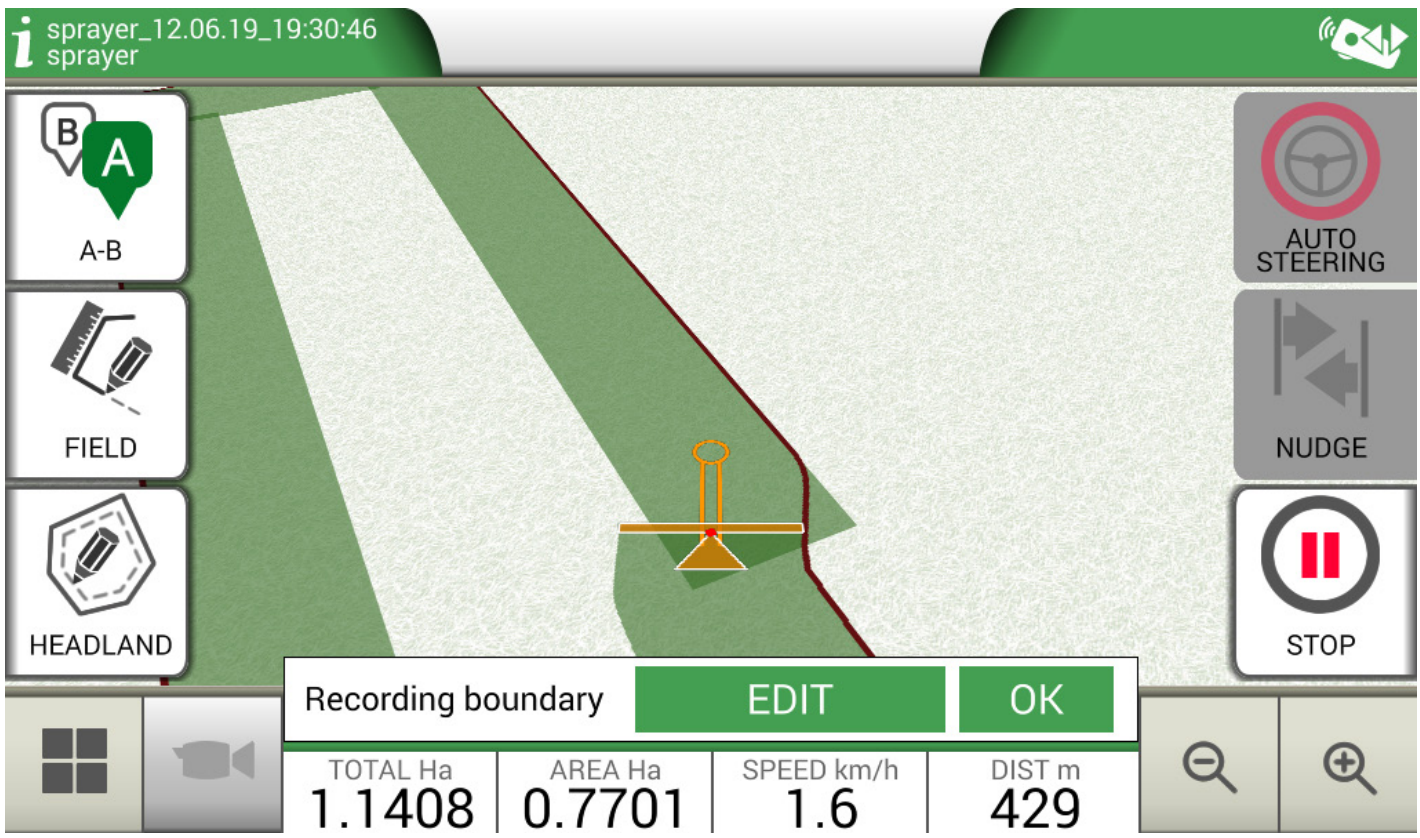


Figure 4.2.h Obstacle on the map

4.2.6 Auto-Steering system (For G7 Plus only)

G7 Farmnavigator is compatible with Auto-Steering mode. Connect G7 Farmnavigator to an external device which allows the steering wheel to be activated automatically and keep the tractor on the guideline.
In the Job page, the button marked as “AUTOMATIC STEERING” allows you to enable and disable automatic steering.

	Automatic steering not available G7 Farmnavigator is enabled for Auto-Steering but steering device is not installed or it is not active.
	Auto-Steering active but not in use Touch the red button to enable Auto-Steering.
	Auto-Steering active and in use Touch the green button to disable Auto-Steering.

Table 4.2.h. Auto-Steering buttons

For more detailed technical information about Auto-Steering system, check the installation and maintenance manual.

4.2.7 Nudge

From the job page, it is possible to move the A-B lines position a few centimetres. In order to do so, tap “NUDGE”.

	Nudge It allows you to modify A-B line position.

Table 4.2.i Work page, nudge button

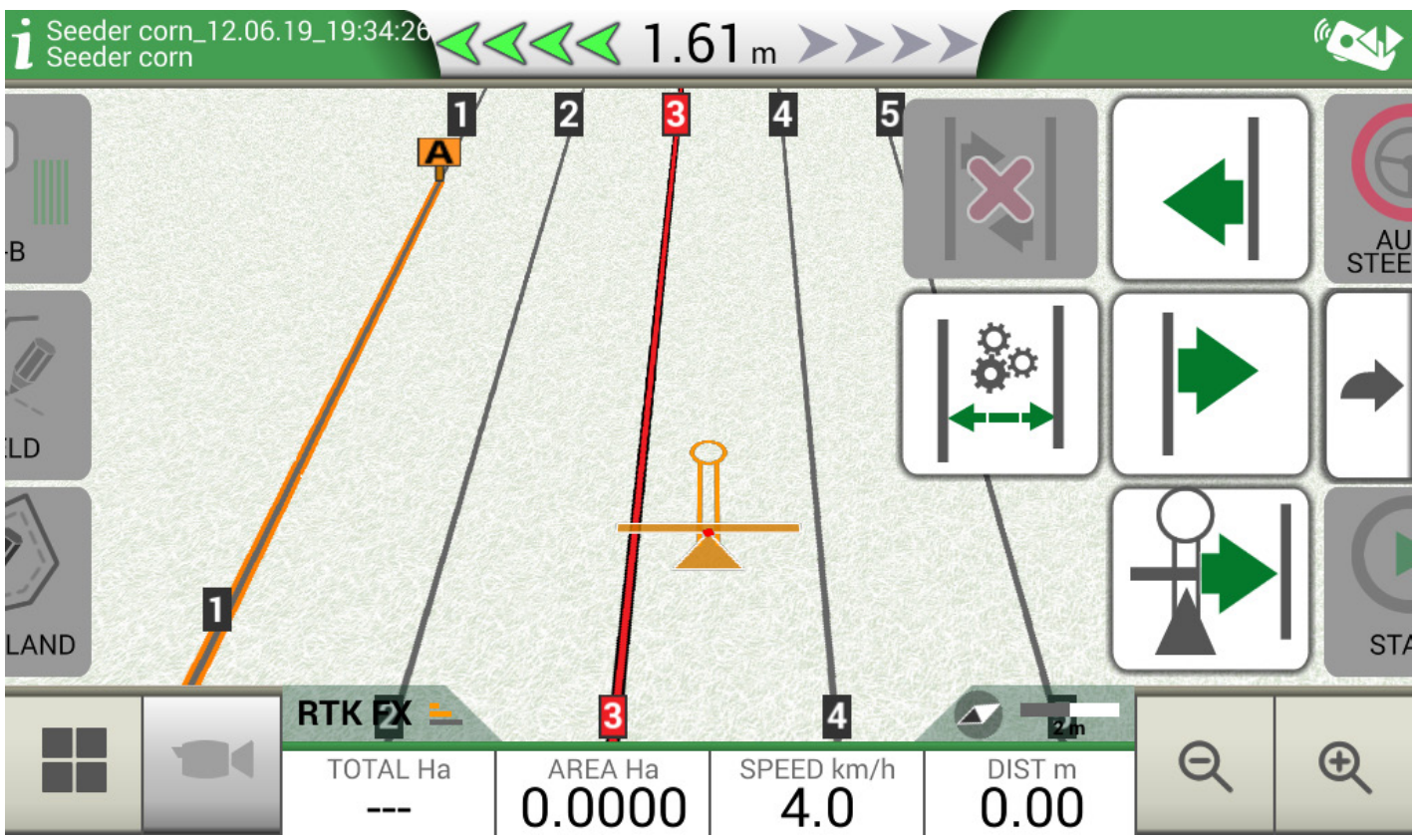


Figure 4.2.i Work page, A-B lines movement.

It is possible to insert nudge step, select movement direction or align the lines to the current position of the tractor.

	**Set nudge step** Tap this icon to set nudge step in centimetres, e.g. 5 cm.
	**Move the line to the left** Tap this icon to immediately move the line to the left, for example 5 cm (value set as nudge step).
	**Move the line to the right** Tap this icon to immediately move the line to the right, for example 5 cm (this is the value set as nudge step).
	**Align the lines** Tap this icon to move the line on the current position of the tractor.
	**Delete movement** Tap this icon to restore A-B line initial position and remove all the saved movements.
	**Go back to the previous page** Tap this icon to close the menu relative to nudge page. The menu will be closed automatically after 5 seconds of inactivity.

Table 4.2.I Details of nudge functions

ATTENTION: The maximum allowed nudge step is equal to half of the implement width.

5.G7 Farmnavigator Software updates

Follow the procedure to update the below software of your device.

5.1.1 Software Update via WiFi (G7 Plus only)

G7 Farmnavigator is provided with an automatic search for available updates when the device is connected to a WiFi network. To search for software update:



Figura 5.1.a Main Menu

1. Tap “SET UP”> System info > “Check for updates” and wait for the connection.

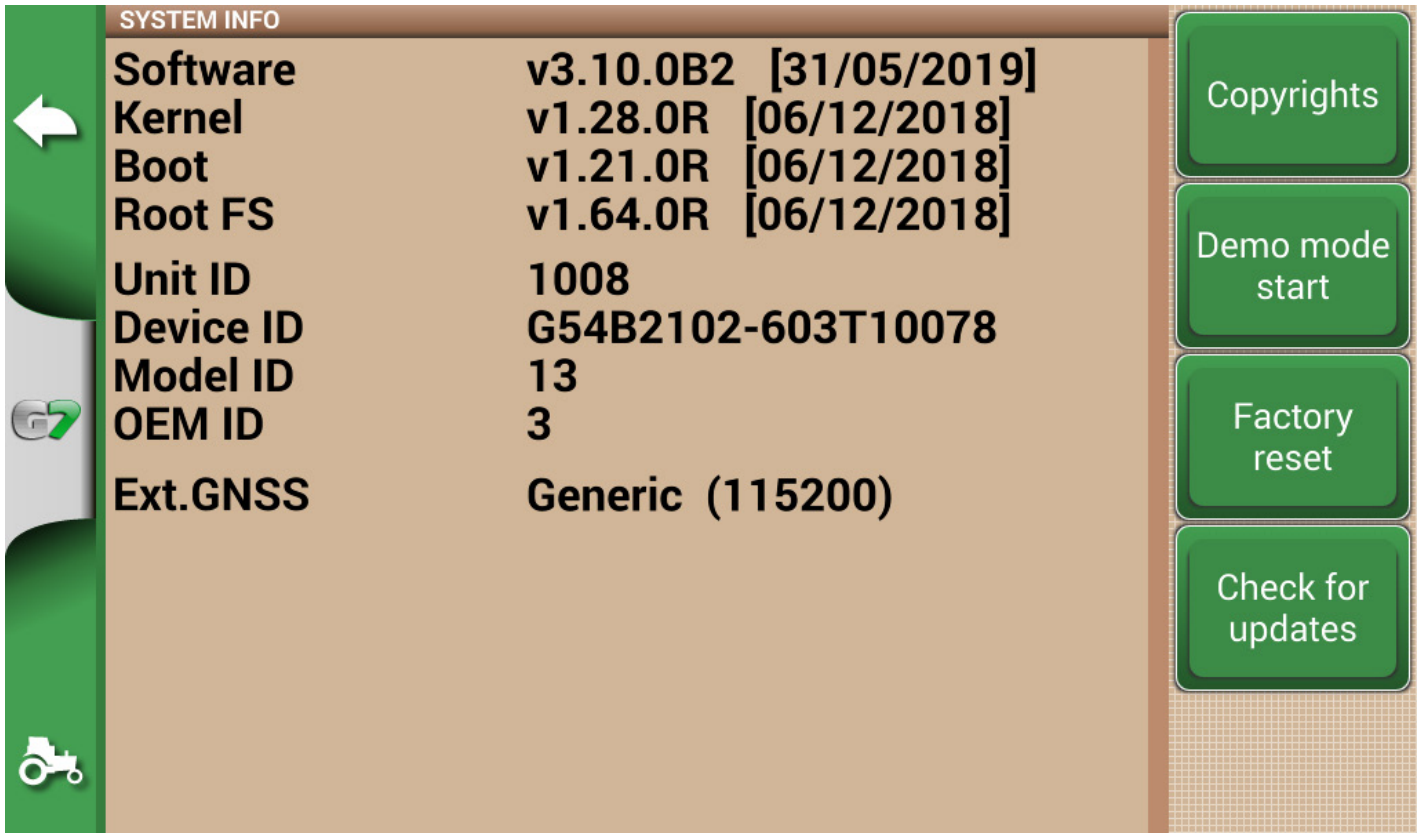


Figure 5.1.b Software update via WiFi

1. Tap “YES” to download the update;
2. The device restarts in update mode;
3. Tap “UPDATE NOW” to proceed with the installation;
4. Tap “CONTINUE” and wait for the restart;
5. The update is completed and the WiFi connection can be turned off.

5.1.2 Software Update via USB

If it is not possible to update the software via WiFi due to the lack of connection or since you have a G7 Ezy, you have to update the software via USB.
To proceed with the update, you need:
- USB stick (at least 2GB);
- Update file (it is strongly suggested to contact the customer support);
-‘USB Cable/ Video in’ (g7 Ezy, p/n: K2CYFS0600) or cable USB / Video in / Ethernet’ (G7 Plus, P/N: K2CYFS1000).

Perform the following procedure:
1. Copy the update file from a PC to USB stick;
2. Connect USB cable to the G7 Farmnavigator bracket;
3. Insert USB stick into the USB connector of the supplied cable;
4. Turn G7 Farmnavigator on, the device starts in update mode;
5. Tap “UPDATE NOW” to install the update;
6. Tap “CONTINUE” and wait for the program to start;
7. The update is now completed and the USB stick can be dismissed.