CALIFORNIA

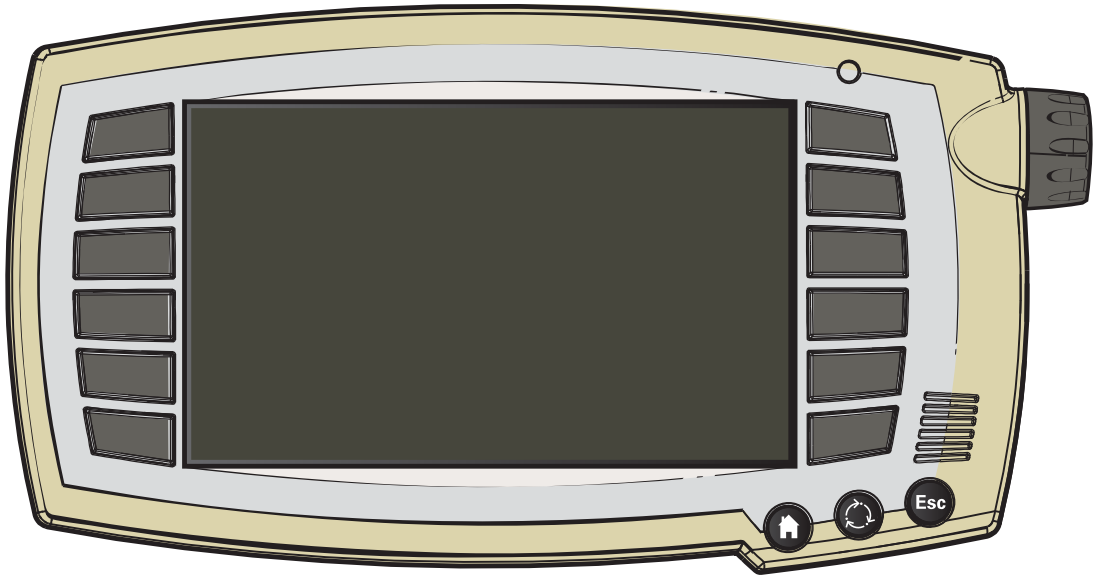
Proposition 65 Warning

WARNING: Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm. **Wash hands after handling.**

Challenger

TMC Display



AGCO S.A. - Beauvais - France - RC B562 104 539

Original Operator's Manual

August 2014
No. ACW0084020
Issue 1
TMC Display - NA
English

1.1 General

1.1.1 General

T003109

The on-board computer (TMC Display) is a measuring and setting unit providing information that helps to make optimum use of the tractor.
It is located on the armrest in the cab.
The TMC Display comes on automatically when the tractor's ignition is switched on. When the ignition is switched off, the TMC Display stores all the data.
The controller's front panel is fitted with switches that provide access to the various applications displayed on the screen.

Fig. 1. I009067

The TMC Display enables parameters to be set for the following applications:

- Settings
- Transmission
- Power Management,
- Headland
- Valves
- Joystick
- Instant
- Average
- Efficiency
- Map
- Engine
- Steering axle beam
- Rear linkage
- Dual Control
- Pointes
- Front linkage
- Memory name
- Isobus
- Task Controller,
- Video

Icon (5) *fig. 2* selected

When the icon corresponding to the Isobus application is selected ( ), the window *fig. 7* opens, providing access to this application.

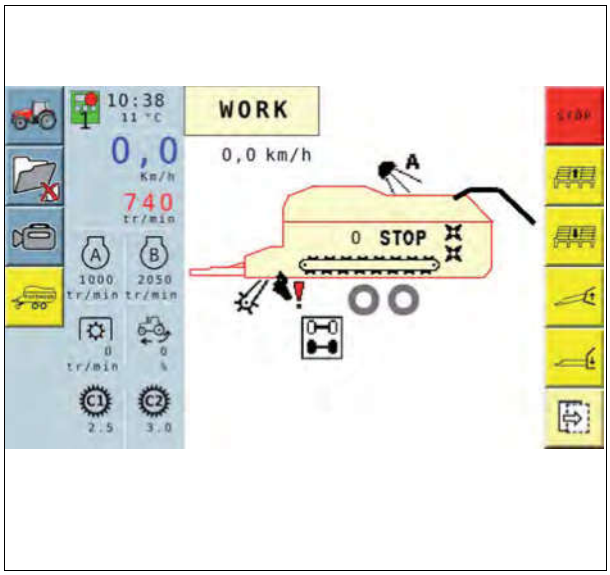


Fig. 7. I050876

Icon (6) *fig. 2* selected

When the icon corresponding to the Video application ( ) is selected, the window *fig. 8* opens, providing access to this application.

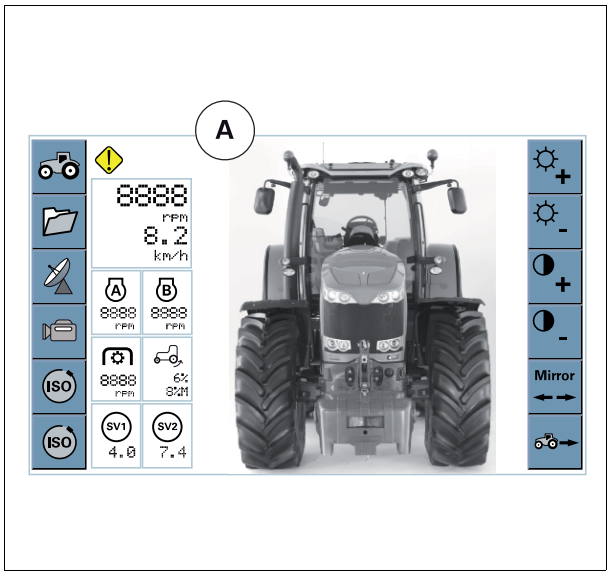
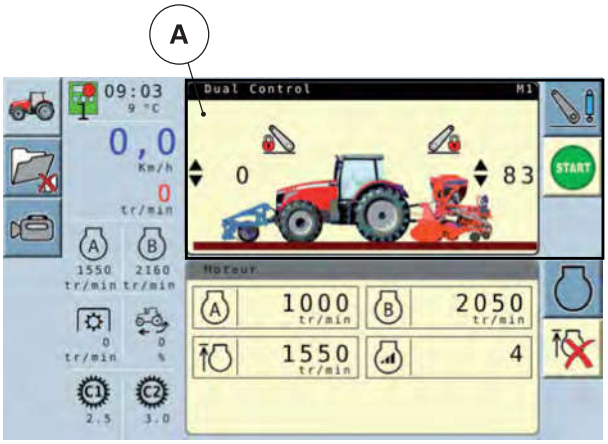
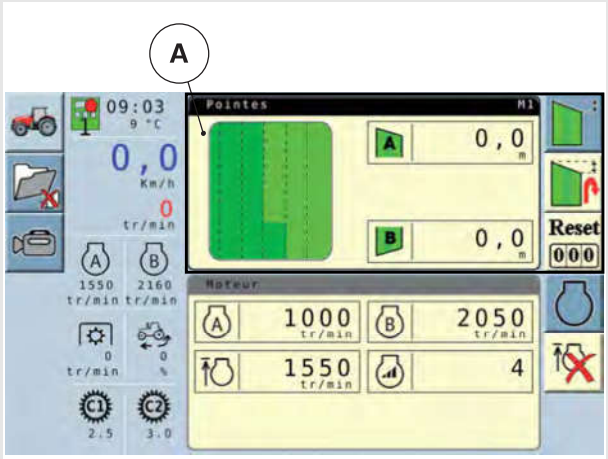
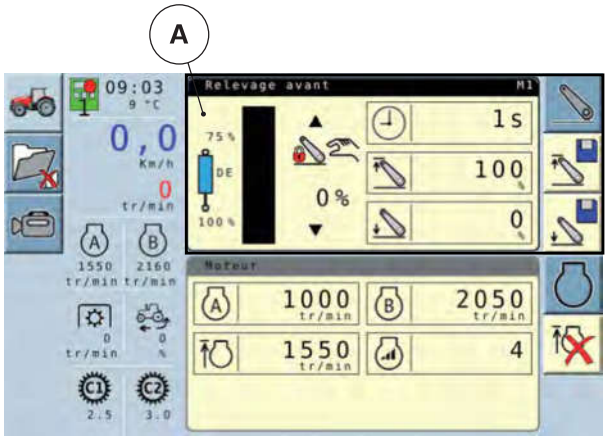


Fig. 8. I011979

2.2.2 Tractor application

T022238

When the Tractor application is selected, the screen *fig. 9* is displayed.
This new screen is split into 3 sections. The left-hand vertical section (A) displays the various values.

Application	Icon	Screen (A) displaying
Dual Control		
Pointes		
Front linkage		

Setting the date:
Turn the encoder to set the day, month and year. Validate by pressing the ✓ key or by pressing the encoder, or cancel by pressing the ✗ key.

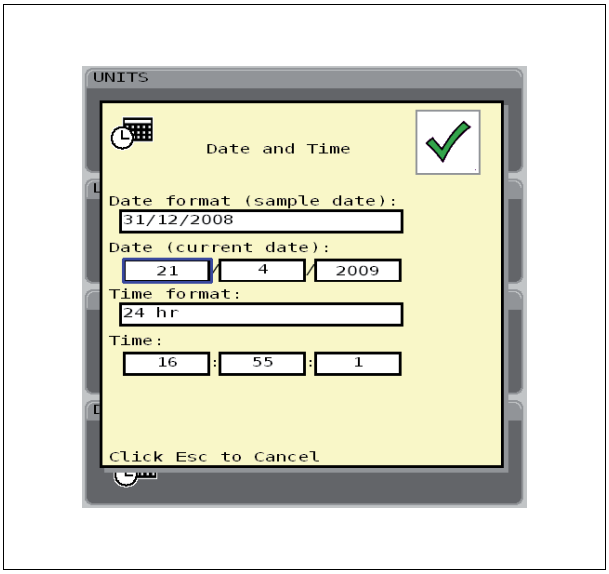


Fig. 10. I008943

3.3.2 Adjusting the brightness, sound, number of Isobus implements and the Isobus terminal

T007358

To modify the settings for the brightness, sound and number of Isobus implements, select the window (A) *fig. 11* then press the encoder or the switch corresponding to the icon.

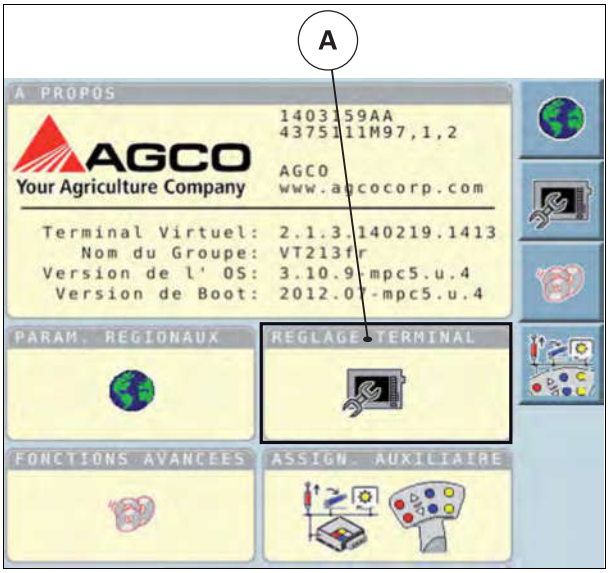


Fig. 11. I008930

4.1 Transmission application

4.1.1 General

T003111

This application is used to:
- View the settings values selected by the user
- Input other transmission settings

This application makes it possible to adjust the following settings:
- Reverse shuttle sensitivity
- Progressivity to reach the stored forward speeds
- Pedal mode deceleration sensitivity
- Engine underspeed supervisor for the field mode (tortoise) and the road mode (hare).

4.1.2 Description of the Transmission application

T003112

When the Transmission application is selected, the following screen is displayed.

(1) Maximum engine speed setting in Pedal mode
(2) Engine underspeed supervisor value setting in road mode (hare)
(3) Maximum forward speed setting in Pedal mode
(4) Engine underspeed supervisor value setting in field mode (tortoise) mode

On the right-hand side of the screen, there are 3 symbols displayed at the top of the Transmission application. These are used to activate systems or to access a window by pressing the corresponding switch on the computer.

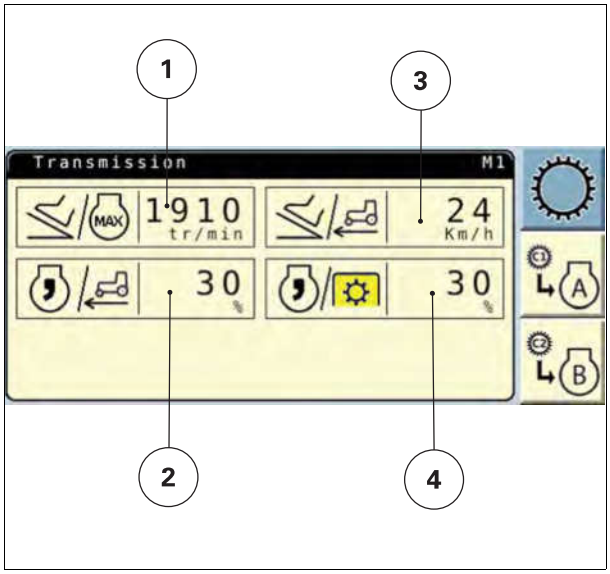


Fig. 1. I050752

Engine speed upper limit

Turn the encoder to select the appropriate value between 1400 and 2160 rpm.
Validate by pressing the ✓ key or by pressing the encoder, or cancel by pressing the ✗ key.

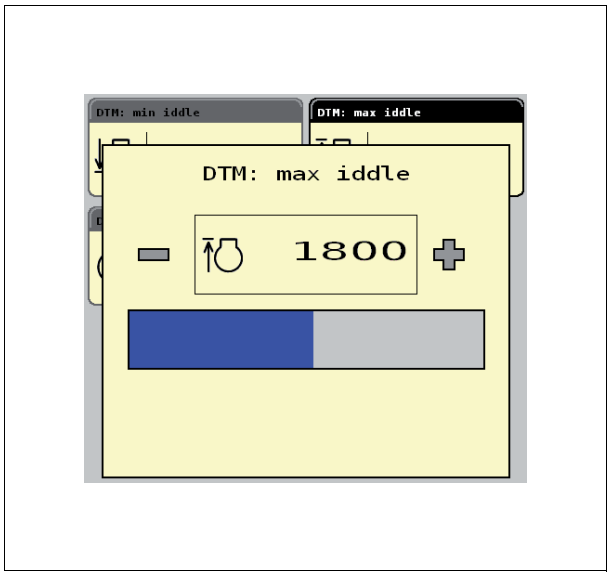


Fig. 4. I008841

Triggers where the limits are applied

Turn the encoder to select the appropriate event; 8 triggers are available.
Validate by pressing the ✓ key or by pressing the encoder, or cancel by pressing the ✗ key.

– Rear linkage in lowered position and action on a spool valve

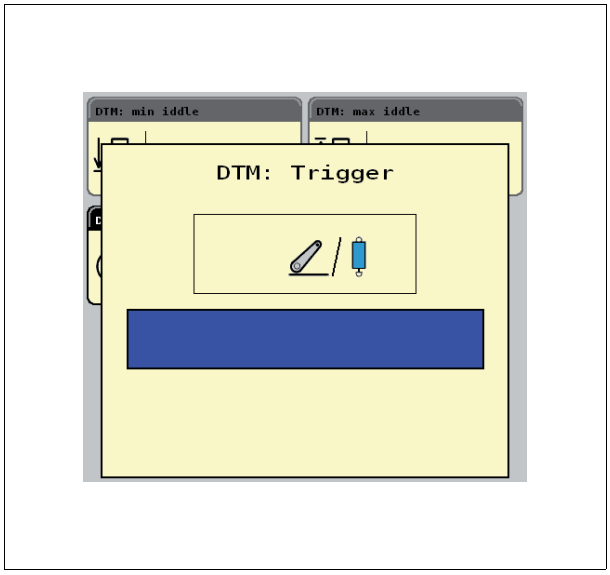


Fig. 5. I008842

Spool valves category	*NOTE: This action list concerns one rear electrohydraulic spool valve.*
	Activate rear spool valve control (e.g. cylinder rod extension)
	Activate rear spool valve control (e.g. cylinder rod retraction)
	Activate rear spool valve control in neutral position
	Activate rear spool valve control in floating position
	Activate front spool valve control (e.g. cylinder rod extension)
	Activate front spool valve control (e.g. cylinder rod retraction)
	Activate front spool valve control in neutral position
	Activate front spool valve control in floating position
	Activate front linkage lifting
	Activate front linkage Lowering
	Lock front linkage in position
	Activate front linkage floating position

It is possible to go to the next action by pressing the switch (A) or to return to the previous action by pressing the switch (B).
To return to the beginning of the sequence, press the switch (C).

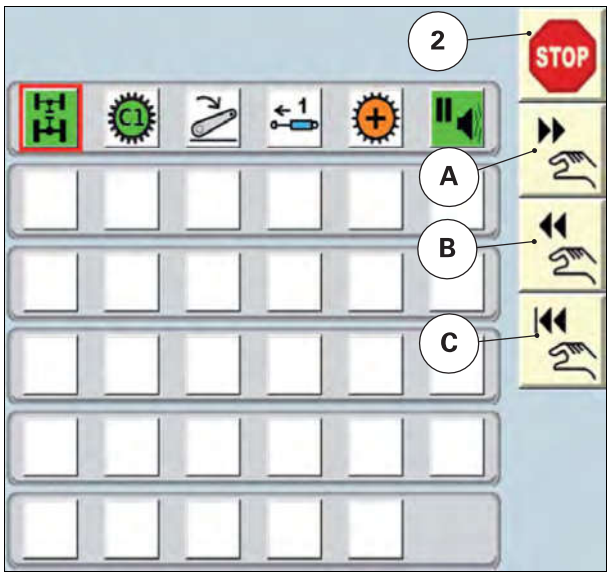


Fig. 22. I050824

The screen (B) appears when the function is activated.
Press the switch (2) to deactivate the permanent flow rate of the spool valve.

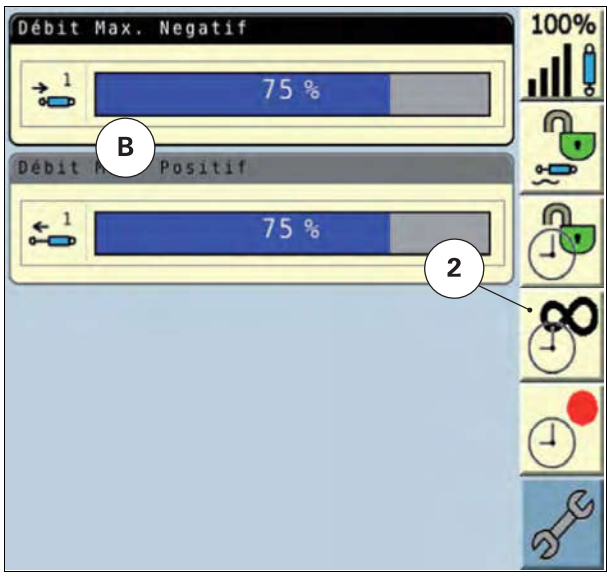


Fig. 19. I050661

Press the "Esc" switch at the bottom right of the TMC Display to return to the hydraulic spool valve screen.
The permanent flow rate symbol (D) is displayed on the screen.

To activate the permanent flow rate, simply press the spool valve control in a position (cylinder rod extended or retracted) (see the Operation section of the Operator's Manual).
The symbol (C) appears when the spool valve is activated.
The spool valve is cut off after the control is put in the neutral position or floating position.

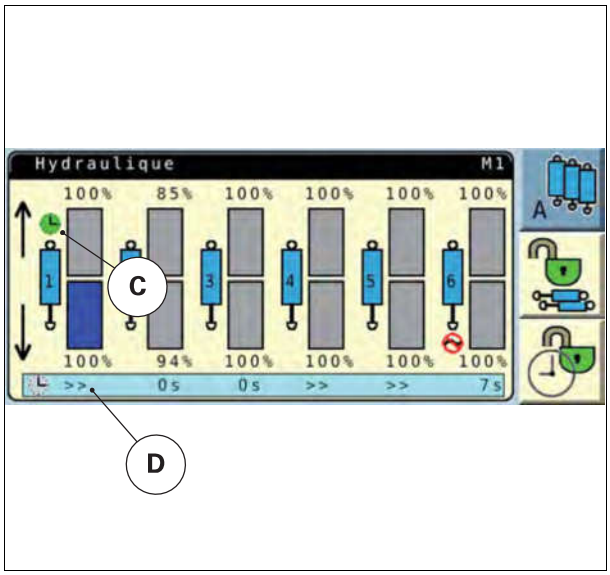


Fig. 20. I050671

4.6 Average counter application

4.6.1 General

T003150

This application enables all instant information to be counted to provide average values for the work carried out.
It also compares (for example) recorded values from different years, depending on the driving mode used or the implement settings made.

The information obtained comprises:
- Area worked
- Area worked per hour
- Fuel consumption
- Fuel consumption per hour
- Distance covered
- Fuel consumption per area worked

The average is calculated from the first activation of the memory or from resetting.

4.6.2 Description of the Average counter application

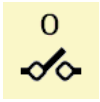
T003151

When the Average Counter application is selected, the screen *fig. 1* is displayed.

(1) Area worked
(2) Area worked per hour
(3) Fuel consumption
(4) Fuel consumption per hour
(5) Duration of work
(6) Fuel consumption per area worked

On the right-hand side of the screen, there are three symbols displayed at the top of the Average Counter application. They are used to select:

Memory name selection for counting.
NOTE: *Apply the correct parameters (work trigger and implement width).*



Manual counting.

Implement real and instant working width. If the implement is not working over its entire width, the width can be modified in real time (in the case of points or overlaps).
The colour code representing the effective working width of the implement is divided into four sections: , , and .

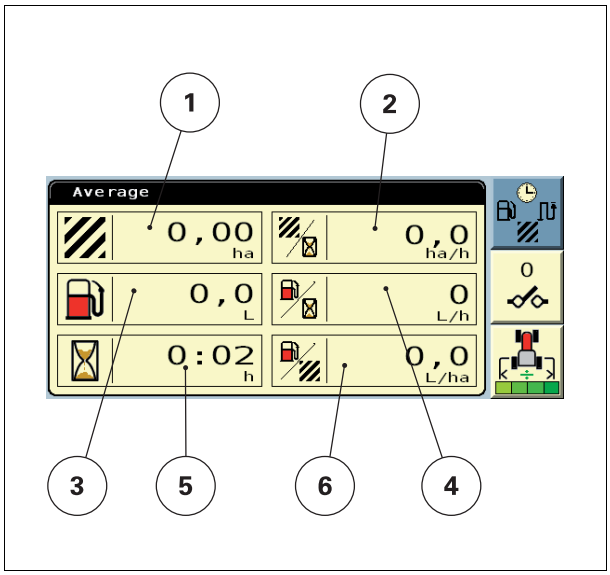


Fig. 1. I009050

– 4th zoom

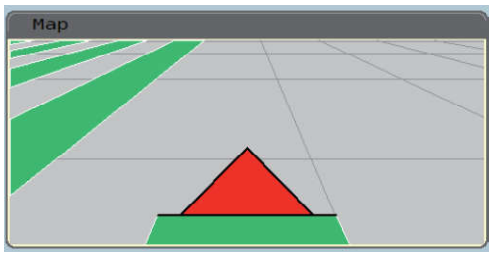


Fig. 8. I018965

4

Adjusting the axle lock maximum forward speed

This window is used to adjust the steering axle lock maximum forward speed. The forward speed can be set between 10 km/h (6 mile/h) and 25 km/h (16 mile/h).

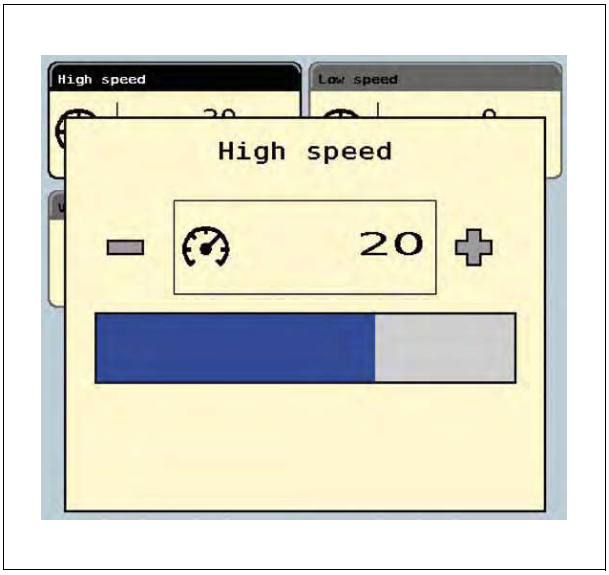


Fig. 6. I026386

Adjusting the axle lock minimum forward speed

This windows offer the option of adjusting the steering axle low speed lock position. The speed can be set between 0 and 3 km/h (2 mile/h).

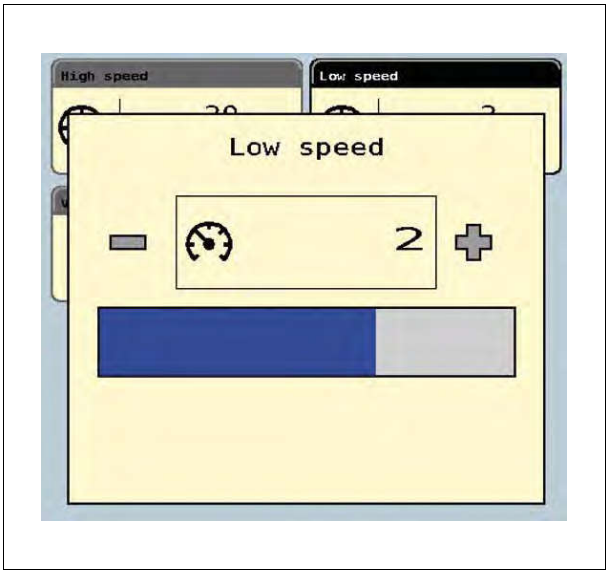


Fig. 7. I026387

4.12 Dual Control application

4.12.1 General

T003258

The Dual Control system automatically controls the linkage and implements in the working position and at the end of the field.
It also enables the rear linkage position to be carried over to the front linkage position or to the depth wheel position of a semi-mounted plough for example.
The information required for system operation is provided by sensors. This information is processed by the Autotronic 5 linkage controller, which controls an electrohydraulic spool valve,
and is then displayed by the TMC Display onboard computer.

Using this application, the following can be controlled:

- a front and rear implement, using the Front Dual Control (e.g.: a front roller and a combined rear seeder, a front and rear plough etc.),
- a semi-mounted rear implement, using the Rear Dual Control (e.g.: a semi-mounted plough, a semi-mounted disc tiller etc. These implements are hitched to the rear linkage)
- a trailed rear implement using the Trailed Implement Control (e.g., a disc tiller, a trailed Chisel etc. These implements are hitched to the swinging drawbar or linkage arms. This system enables implement height to be set according to wheel slip and the draft applied to the linkage arms (with the linkage locked).

DC	Dual Control
DCAv	Front Dual Control
DCAr	Rear Dual Control
TIC	Trailed Implement Control

4.12.2 Selecting the different Dual Control modes

T003259

1. Using the encoder, select the "Dual control" menu (1)

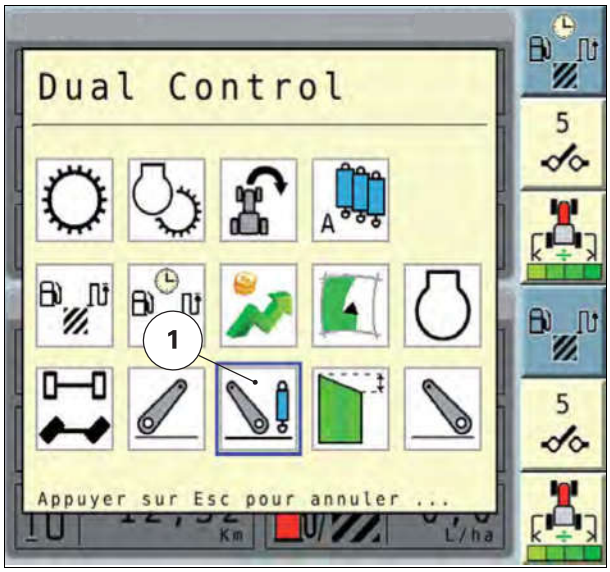


Fig. 1. I045965

4. ***IMPORTANT:*** *To ensure correct calibration, the front linkage must be able to move from its highest position to its lowest position.*
   Calibration must therefore be carried out with no front implement attached.

   Set engine speed to 1500 rpm.
5. Place the front linkage in approximately its middle position.
6. Place the rear linkage control in the lowered position.
7. Place the rear linkage height/depth setting control between 3 and 4.
8. To start the calibration, press the switch corresponding to the "START" icon.
9. During calibration, the front linkage is lifted and lowered several times.
10. When the calibration is complete, the window is displayed again, complete with the calibration values.

Calibration values for optimum Dual Control operation

A	Minimum and maximum specified Dual Control activation specified values	1 to 10
B	Maximum (high) and minimum (low) position front linkage	a difference of more than 100 points (the value of the top line is always higher than the value of the bottom line)
C	Correction on lifting and lowering. This correction is mainly dependent upon ram capacity.	5 to 100

NOTE: *If the calibration values fall significantly out of this range, either the sensor working area needs to be modified or the sensor specifications are incorrect.*
However, the Dual Control will operate using default values.

4.12.4 Rear Dual Control

4.12.4.1 Description of the Rear Dual Control application

T007418

When the Rear Dual Control application is selected, the window *fig. 19* is displayed.

4.12.5 Trailed Implement Controls (TIC)

4.12.5.1 Description of the Trailed Implement Control (TIC) application

T007431

When the Trailed Implement Control application is selected, the window *fig. 36* is displayed.

(A) TIC mode selected
(1) Value of the raised position of the implement lifting ram
(2) Value of the current position of the implement lifting ram
(3) Value of the lowered position of the implement lifting ram
(4) Position of the spool valve control for the lifting implement ram

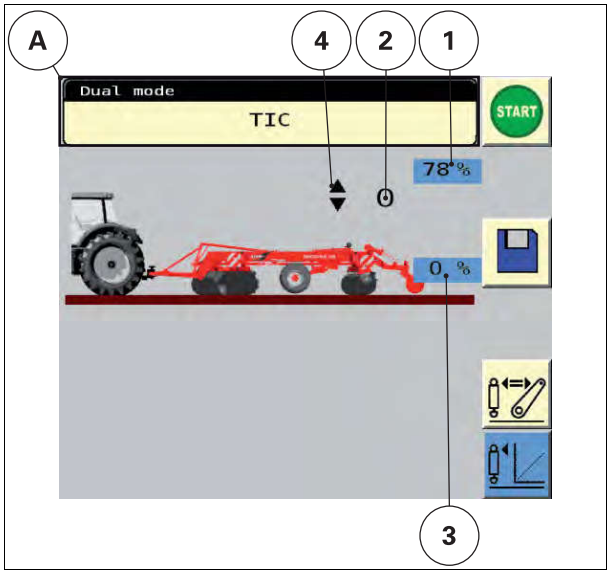


Fig. 36. I019012

Dual Control activation

Dual Control deactivation

Storing the value

Not used

Calibration

4.12.5.2 Using the Trailed Implement Control (TIC) application

T007415

Unlock the rear linkage controls using the corresponding switches (see the Operation section of the Operator's Manual).
Also unlock the auxiliary hydraulic controls using the corresponding switch (see the Operation section of the Operator's Manual).

4.14 Front hitch application

4.14.1 General

T003153

This application displays the current position of the front linkage.

This application makes it possible to adjust the following settings:

– Time delay
– Lifting flow rate
– Lowering flow rate
– automatic high and low position restore.

4.14.2 Description of the Front hitch application

T003154

When the Front linkage application is selected, the screen (A) *fig. 1* is displayed.

(1) Current front linkage position shown as a percentage
(2) Spool valve activation time with the time delay function (kick-out)
(3) Required raised position of the front linkage as a percentage
(4) Required lowered position of the front linkage as a percentage
(5) Symbol for manual mode or automatic position restore for the front linkage

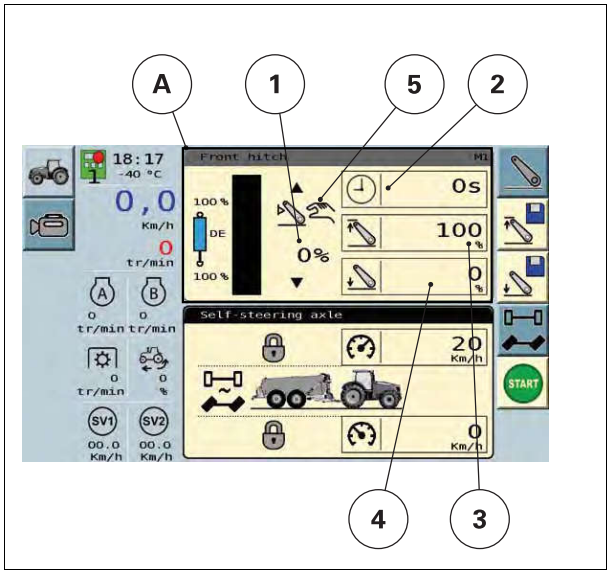


Fig. 1. I009053

In (A), the time delay function is deactivated.
Press the switch (1) to activate the time delay function of the front linkage.

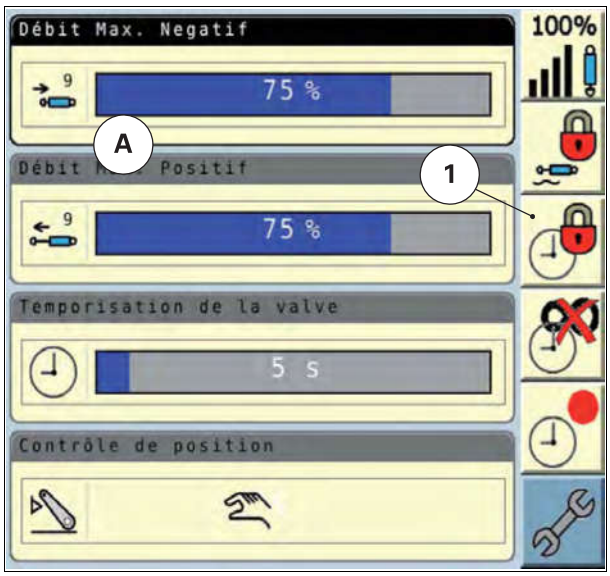


Fig. 22. I050581

The screen (B) appears when the function is activated.
Press the switch (2) to deactivate the time delay function of the front linkage.

Using the encoder, select the "Contrôle de position" (position control) function to activate the automatic position restore.

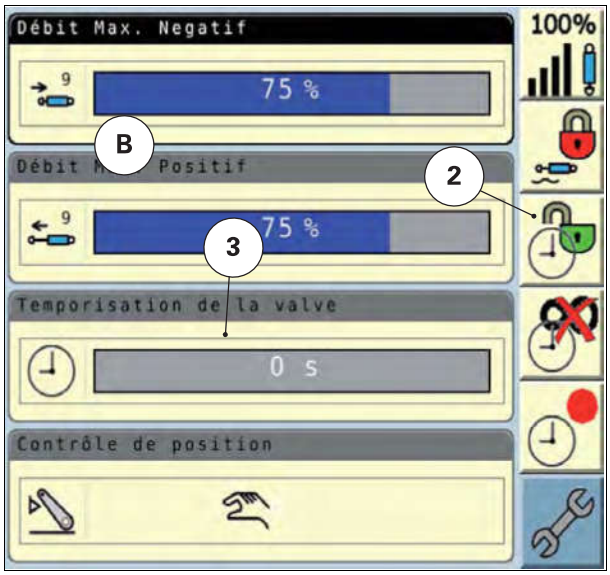


Fig. 23. I050606

Automatic restore inactive = this mode works with the pre-set time of the time delay function (kick-out)

Automatic restore active = this mode works with the pre-set raised and lowered positions of the front linkage and the time delay function (kick-out)

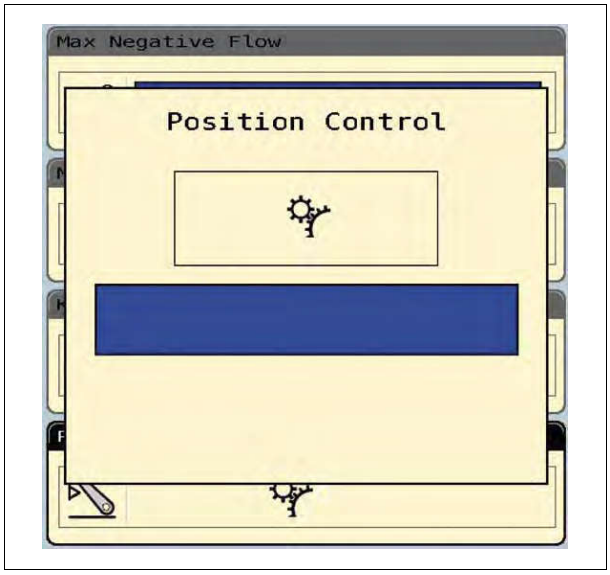


Fig. 24. I026410

It is possible to assign an implement type, for example: "cover crop"

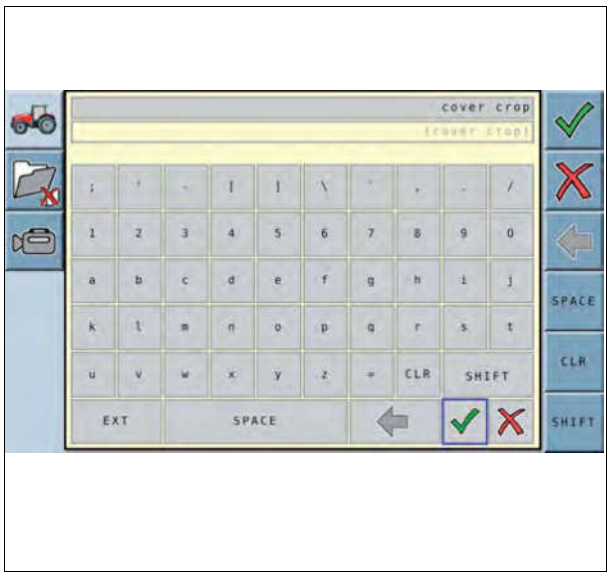


Fig. 5. I052284

Confirm selection

Cancel selection

Delete a character

Delete all the characters inserted in the window

CLR

Change the character case

SHIFT

Turn the encoder to select the required characters.
Validate each character by pressing the encoder.
Validate by pressing the ✓ key or by pressing the encoder, or cancel by pressing the ✗ key.

Work trigger

Using the encoder, choose "Déclencheur de comptage" (work trigger) (3) and validate by pressing the encoder.

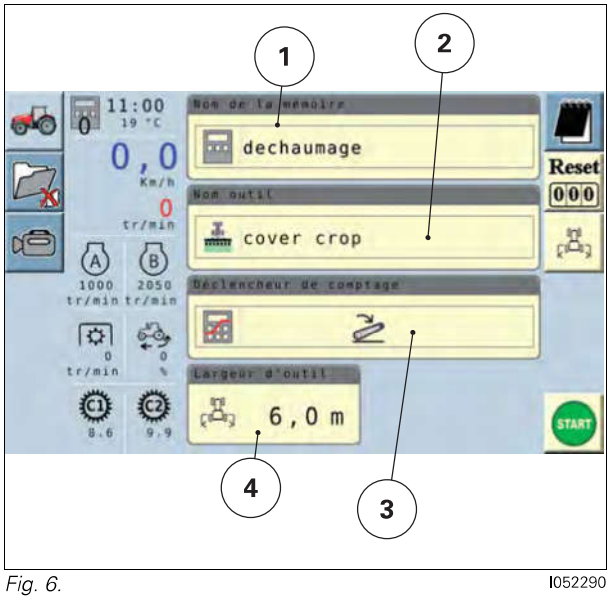


Fig. 6. I052290

Turn the encoder to select 1 of the 21 work triggers shown.
Validate by pressing the ✓ key or by pressing the encoder, or cancel by pressing the ✗ key.

Resetting the counters

Pressing the switch corresponding to the Reset 000 icon opens a new window.

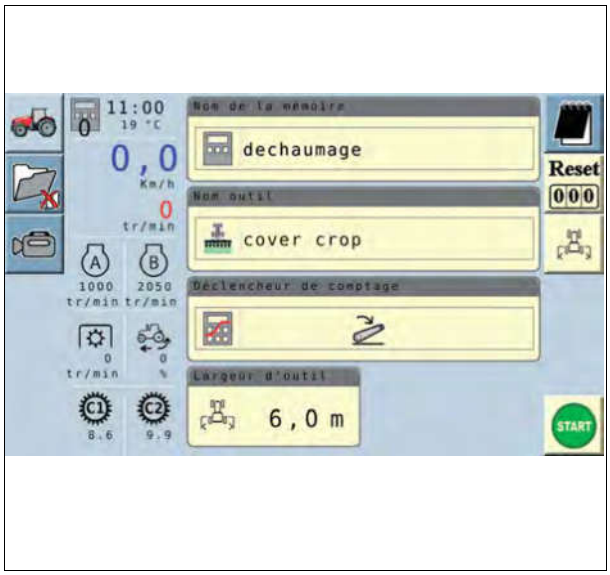


Fig. 31. I052292

The screen *fig. 32* is divided into two columns:

- On the left, the counter values when the trigger element is active are shown.
  There is a symbol representing the trigger at the top of the column. To select a different one, refer to the Memory name application (in this figure, the counter is the trigger)
- On the right, the total values when the memory is active are shown.

Modifying the values to be deleted

- To delete one or several values, turn the encoder on the box (A) and then press to select once the border turns blue
  To confirm the reset to 0 of the information selected, use the ✓ icon.
  To cancel the information reset, use the icon ✗.
- To delete all of the values, turn the encoder on the box (B) and then press to select
  To confirm the reset to 0 of the information selected, use the ✓ icon.
  To cancel the information reset, use the icon ✗.
- To change the value of the manual counter, select the box (C) and then turn the encoder to select the desired value and then press the encoder
  To validate, use the ✓ icon.
  To cancel the information reset, use the icon ✗.

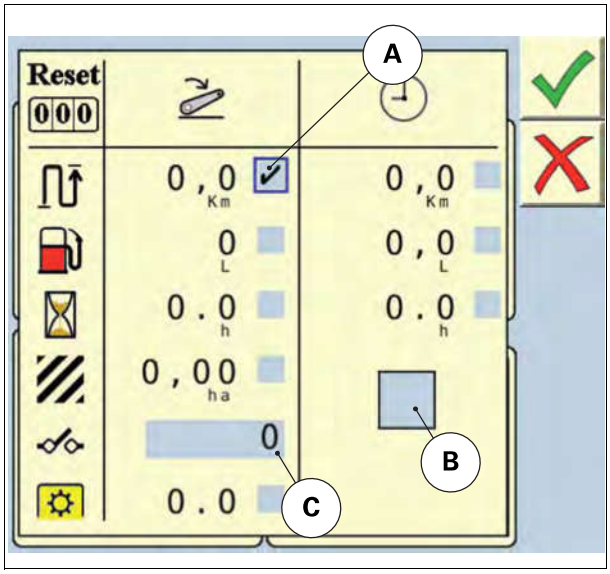
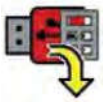
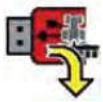


Fig. 32. I052320



Import a complete memory (tractor settings + counter values)



Import a set of tractor settings

Export a memory

Export a set of tractor settings to another memory on the terminal

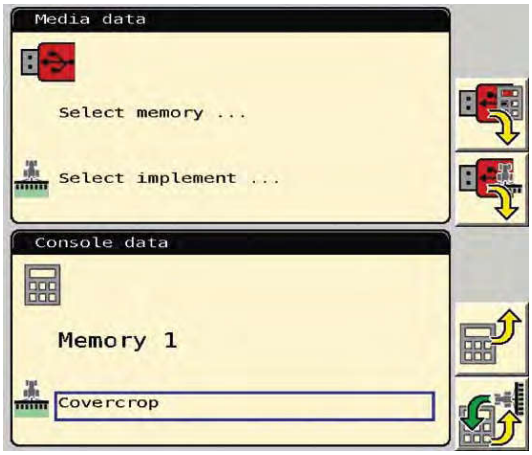


Fig. 51. I026481

Importing

The upper frame of the window *fig. 51* and its two switches are used either to import a complete memory, including predefined settings and counter values, which may have already been saved by a previous operation, or to import a set of tractor settings only.

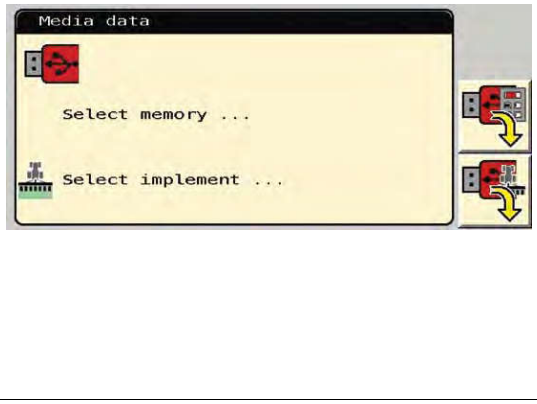


Fig. 52. I026533

Functions of Isobus terminal—'ON'

'ON': The Isobus application may be available in the TMC Display, but may first require configuration of the priorities of the Isobus terminals

A priority number (A) must be assigned to the terminal TMC Display. For example, in second position, the Isobus application will disappear from the terminal.

NOTE: *Depending on the Isobus terminals detected, it is possible that the TMC Display will be automatically assigned in second position*

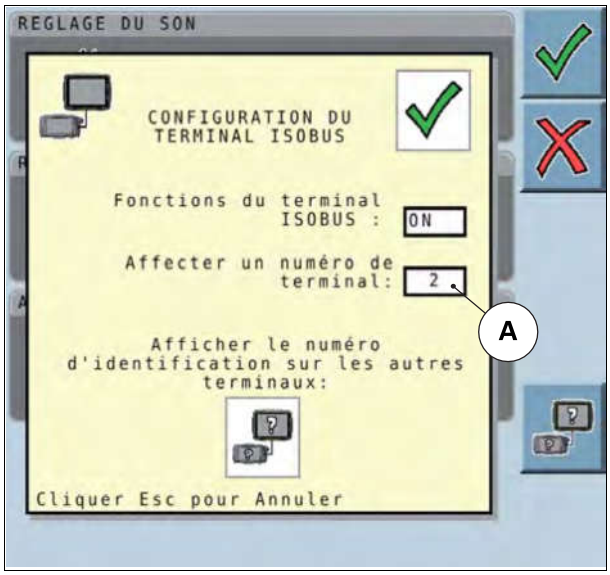


Fig. 5. I051016

6.3.2 Displaying two Isobus screens at the same time

T003158

In cases where the tractor uses several Isobus functions at once, it is possible view 2 applications on the same screen simultaneously.

In the Setup application, select the window (A) *fig. 11* then press the encoder or press the switch corresponding to the icon.

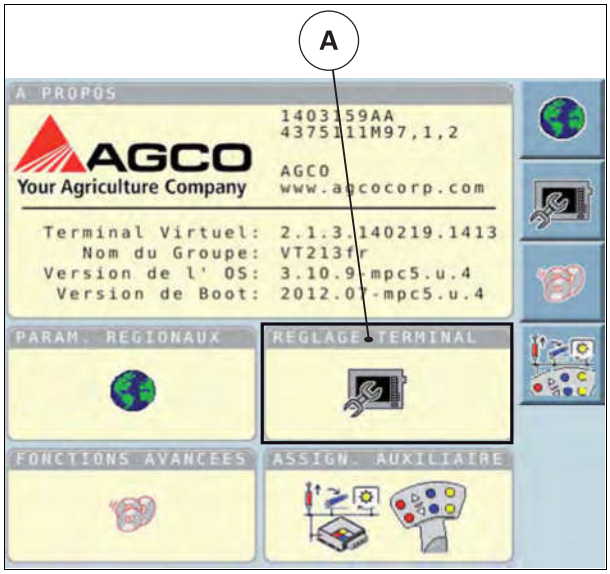


Fig. 6. I008930