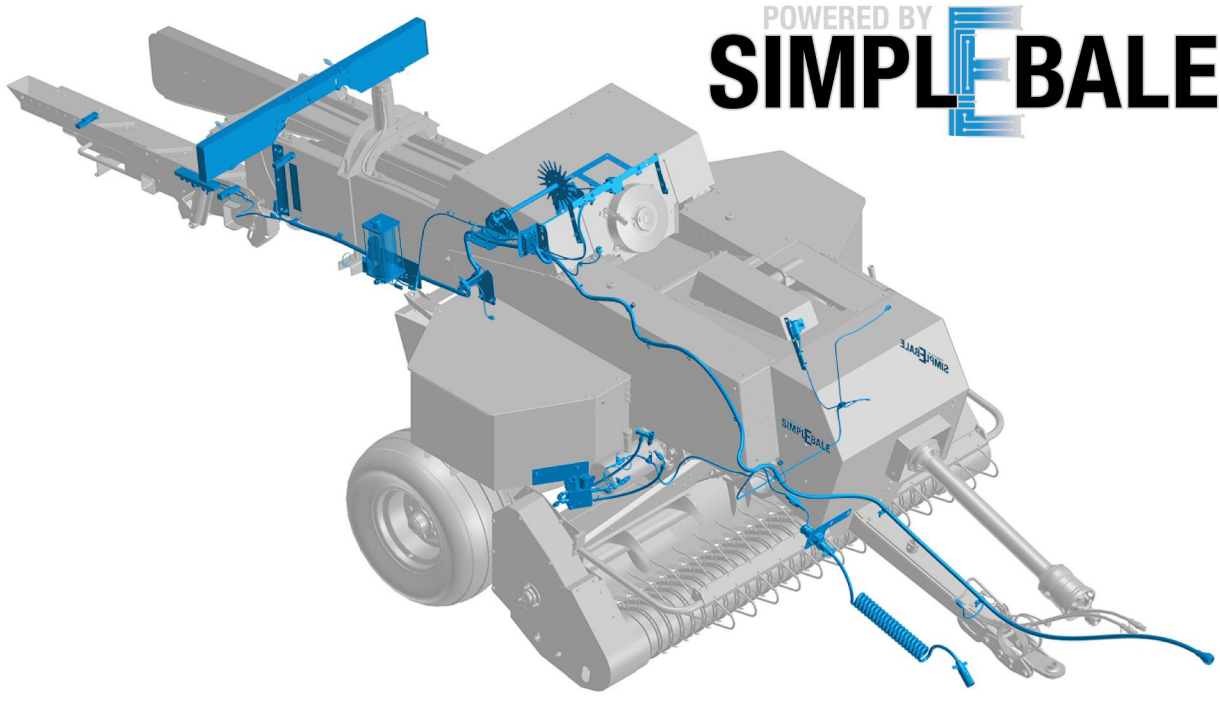
Operator’s Manual

SimplEbale



North America
4205 River Green Parkway
Duluth GA 30096 USA

Original Operator’s Manual

March 2024
79037889A
NA
English

How to use this manual

General

You must read this manual before you operate or do work on the machine.

If more assistance is necessary you should speak to your AGCO dealer.

This manual is only applicable to the models specified on the front cover.

Contents

For quick reference, there is an index at the back of the manual. The index lists the contents and the location in the manual. Each chapter starts with a table of contents which includes the different sections in that chapter.

Fastener torques

Always replace fasteners with fasteners of the same specification. Tighten all fasteners to the correct torque values.

You can find the list of torque values in the service manual or the assembly instructions of the machine. If the torque value is different, it is specified in the procedure.

Special tools

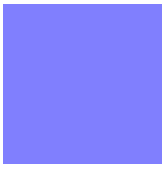
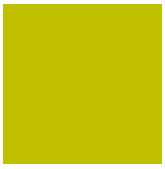
If it is necessary to use a special tool in a procedure, the tool identification is specified in the procedure.

Illustrations

The illustrations do not always show the same machine specification or machine configuration. The procedure is the same unless the instruction tells you differently.

The illustrations in this manual use a color system to help you follow the instruction correctly.

Color	Description	Functions
	Target/focus item The primary component in the step is this color.	Primary component, decal location, component location
	Connectors, fasteners All components that attach the primary component to a different component are this color.	Fasteners, electrical connectors
	Primary alternative If there are 2 primary components in the illustration, 1 of the 2 components is this color.	Secondary component

Color	Description	Functions
	**Secondary alternative** If there are 3 primary components in the illustration, 1 of the 3 components is this color.	Tertiary component
	**Special tool** Where the special tools or equipment are in an illustration, they are this color.	Pressure gauges, specified tools
	**Parts that you move** A component that you must move, and that is not necessary to remove from the machine.	Electrical wires, hydraulic hoses
	**Sections** Where a cross-section of a component is necessary, this color shows the component that you see through.	Engines, drivetrain
	**Channels** To show the flow of liquid in a channel.	Engines, drivetrain
	**Temperature** Where the temperature of liquid changes. • Blue - Cold • Red - Hot	Coolant flow, water flow
	**Pressure** Where the pressure or state of gas changes. • Yellow - Low • Orange - High	SCR system, hydraulic systems

SimplEbale

1 Safety

1.1 Safety Icons

NOTE: *The use of the signal words DANGER, WARNING and CAUTION with the safety messages. The signal word for each message will use the structure that follows:*

DANGER: Danger

Shows data on a possible hazard that if you do not prevent death or injury will occur.

WARNING: Warning

Shows data on a possible hazard that if you do not prevent death or injury will occur, these will include hazards that occur when guards are not in position.

CAUTION: Caution

Shows data on a possible hazard that if you do not prevent can cause small or moderate injury or component or property damage.

NOTE: *This shows more data that can help.*

1.2 Safety Instructions

YOU are responsible for the SAFE operation and maintenance of your machine.

YOU must make sure that each person who operates or does work on the machine understands all the SAFETY data in this manual.

YOU are the key to safety. Good safety procedures prevent accidents to you and each person near you.

Make these procedures a set part of your safety sequence.

Make sure that EVERYONE who operates, does maintenance or works near to the machine obeys the safety precautions.

Follow the safety instructions to prevent the risk of injury or death:

- Owners must complete training with all operators before they operate the machine. This training must be done a minimum of each year.
- The operator must read, understand and obey all safety and operation instructions in the manual.
- A person who did not read and understand all safety and operation instructions must not operate the machine.
- Do not change the equipment. Adjustments not approved by the manufacturer can change the function of the machine and cause damage or personal injury.
- Only use approved replacement parts and make sure that only approved technicians do the repair procedures.

Vehicle modifications with impact to dimensions, weight and road- and user safety are prohibited.

The manufacturer confirms that the described complete vehicle is intended to be used on the road and that it can be registered in EU member states. Subsequent changes without parts approvals or without manufacturer approvals will invalidate the type approval. The issued Certificate of Conformity and corresponding data sheets are also invalidated. After modifications is the responsibility of the vehicle owner to ensure the vehicle operating permission.

1.3 General Safety

- Read and understand the manual and all safety decals, before you operate the machine.
- Follow all safety regulations, in this manual and instructions or warnings shown on the machine
- Only use the machine for its correct operation
- Only approved persons that understand the operator manual, can operate, drive and do maintenance on the machine.
- Keep persons and objects away from parts that move.
- Make sure that the installation of all the safety guards and protection devices is correct and they operate correctly.
- Always use a tractor with a cabin. Make sure that you close the cabin of the tractor during operation to decrease the quantity of sound. High quantity of sound can cause reduction in hearing.
- Know the height of the machine. Always keep a minimum distance of 3 m (10 ft) between the machine and electrical power lines, specially when you open the tailgate.
- Put on the correct protective clothing and equipment (gloves, safety glasses and ear protectors).
- Look for hazards and signs of defects (leakage and noise).
- Keep the safety decals clean to make sure that you can see them at all times. Replace safety decals that are missing or you cannot see.
- Know the telephone number for emergency medical help in your area.
- Speak to your local dealer, if you are not sure of one or more items.
- Only connect the machine to the tractor using the procedures in this manual. Only connect the machine to a tractor trailer hitch with your local regulations approval.
- Make sure that the front axle weight of the tractor is sufficient. Make sure that you do not have more weight than the maximum permitted on the rear axle.
- Do not connect the machine to the tractor when the tractor engine is in operation.
- Release the pressure from the hydraulic system before you connect or disconnect the hydraulic hoses. Refer to the manual of the tractor.
- If the machine has a pneumatic or hydraulic brake, connect the brake hose(s) to the tractor.
- Do not remove a blockage by hand or by foot. Always use an applicable tool.
- Make sure that the pick up safety guard always has the correct height setting.

- The machine has a brake release button. It can be used to release the brakes, when the air hoses are not connected to the tractor.

  NOTE: *When the air hoses are connected to the tractor the brake release button will automatically retract.*
- Only use the brake release button to do the maintenance and servicing of the machine.
- Make sure that you connect the air hoses for the pneumatic brake system (optional equipment). The pneumatic brake system does not operate when the air hoses are disconnected.

2 Introduction

2.1 Monitor information page

(1) Software version and build date
(2) QR code for wireless internet connection
(3) Wireless internet connection ON/OFF and small square baler monitor wireless identification number

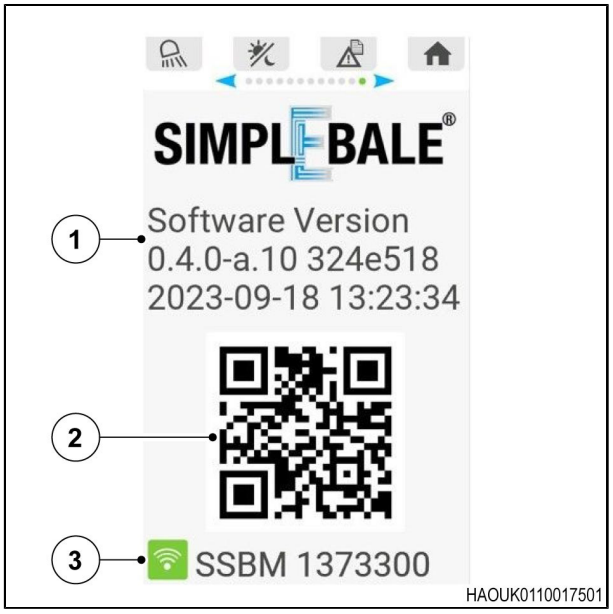


Fig. 1

2.2 Software

AGCO continue to update the Ag Co-Pilot monitor. There is no charge to update the software. You can download the updates from the AGCO Access service portal: **https://access.agcocorp.com** You can install the updates to the software on the Ag Co-Pilot with a Wi-Fi approved device.

2.3 Overview

2.3.1 Ag Co-Pilot overview

The Ag Co-Pilot is a monitor that supplies information to the operator. The information lets the operator see the baler data and make changes from the operator's seat.

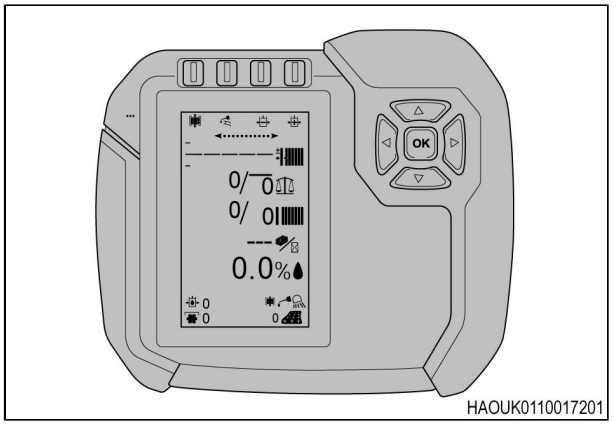


Fig. 2

2.3.2 Ag Co-Pilot monitor layout

(1) Buttons that the operator can configure
(2) Keypad
(3) Machine status indicators
(4) Home screen data
(5) Speaker

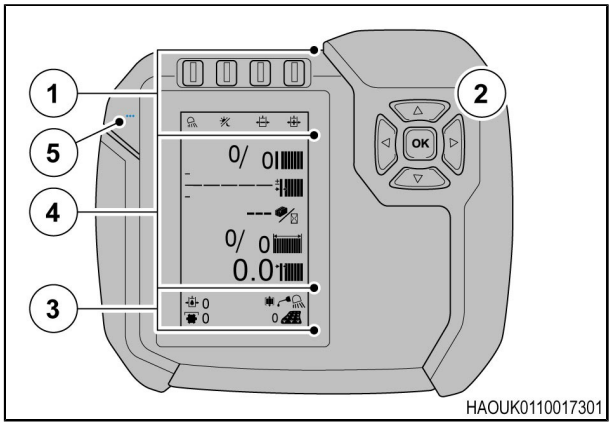


Fig. 3

(1) Side area to hold with hand
(2) Mounting bracket surface
(3) 48 pin electrical connector
(4) Identification decal

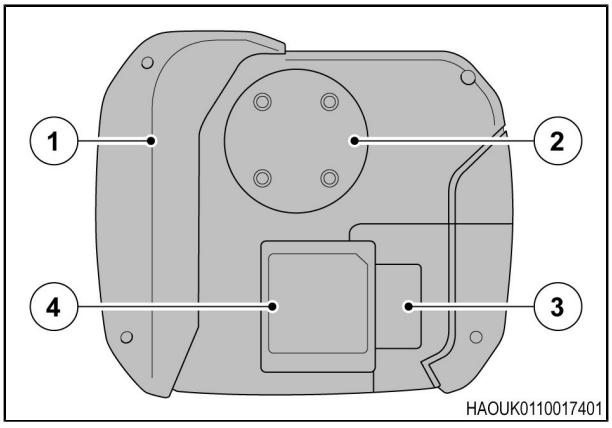


Fig. 4

2.4 Controls

2.4.1 Operation buttons

Icon	Description
	Work lamp ON/OFF
	Bale chamber pressure reduction
	Bale density decrease (You can set the increments of the change in the hydraulic density control setup.)
	Bale density increase (You can set the increments of the change in the hydraulic density control setup.)
	Knotter lubrication pump ON/OFF
	Day/Night mode
	Screen brightness decrease
	Screen brightness increase
	Alarm page
	Dye marker
	Return to the home screen

2.4.2 Change the function of an operation button

You can set the 4 buttons above the home screen to do some of the baler functions. There are 9 baler functions that you can set the buttons to use.

Procedure

1. Use the directional keypad to move the cursor to the icon below the necessary button.
2. Select the necessary button, then press the OK button on the keypad.

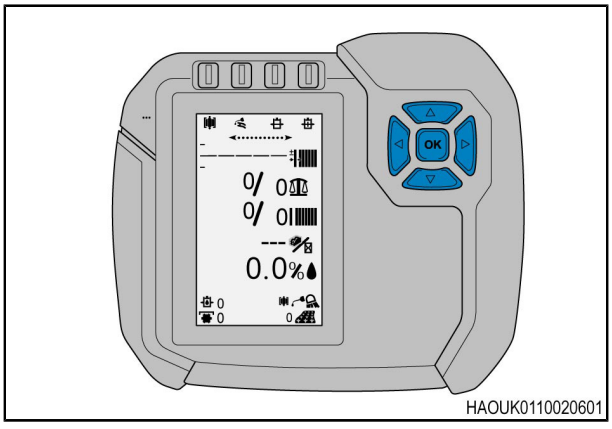


Fig. 5

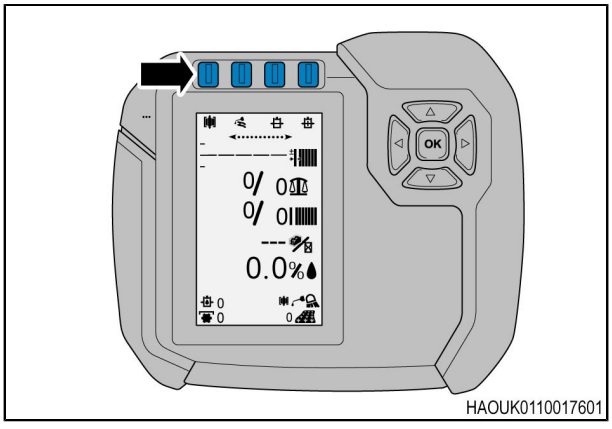


Fig. 6

3. A list of available functions shows.
4. Select the necessary function with the cursor then press OK.
5. The button function icon will change to the new function on the home screen.

Fig. 7

2.4.3 Navigate the screen and pages

The green dot on the screen page indicator  shows the operator which page is on the screen. The 2 outer arrows show where the screen cursor is. To move to a different screen the operator can press the left or right arrow on the keypad.

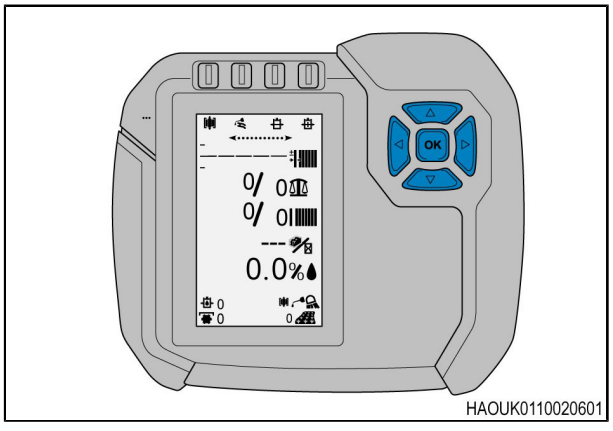


Fig. 8

2.4.4 Baler Keypad

The keypad attached to the side of the machine can operate some of the SimplEbale functions.

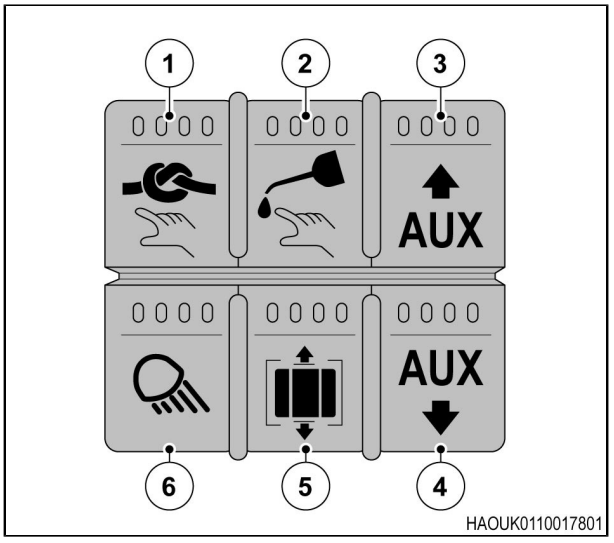


Fig. 9

(1)	N/A	N/A
(2)	Knotter lubrication	Activates the lubrication system for the knotter
(3)	N/A	N/A
(4)	N/A	N/A
(5)	Chamber pressure release	Releases the pressure in the bale chamber
(6)	Field/Work lamps	Field/Work lamps ON/OFF

3 Operation

3.1 Home page

3.1.1 Home page overview

The home page menu shows all the system information for the baler on one screen.

This information shows as values and indicators where applicable.

The values have their applicable icons show adjacent to them.

The operator can configure the information that shows on the home page.

See the Available data for the home page section.

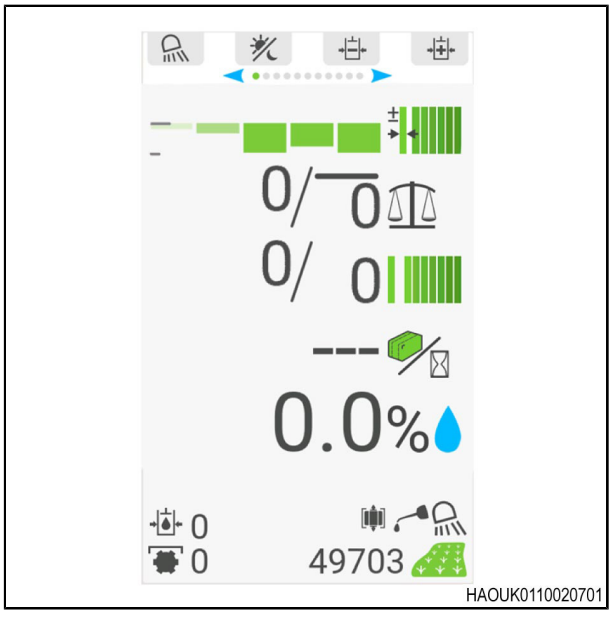
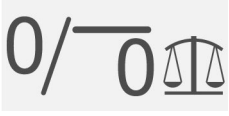
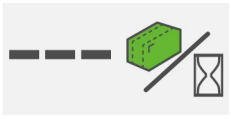
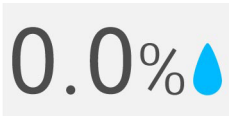


Fig. 1

3.1.2 Available data for the home page

You can configure the home screen to show different properties of the machine.

Icon	Description
	**Flake width report** Bar graph which shows flake width differences. This value uses star wheel movement to compare the thickness of each flake to the last flakes. This data gives the operator an indication of the best ground speed to make flakes and bales which are almost the same.
	**Bale weight** Bale weight and average bale weight. This value shows the weight of the last bale weighed and gives an average bale weight of the last 5 bales weighed.
	**Flake counter** Bale flake count and the flake count of the last bale. This is a correct flake value that removes empty plunger strokes that can occur in irregular windrows or when on headlands.

Icon	Description
	**Baling efficiency** Bales made each hour.
	**Bale moisture** Moisture of the bale measured. If the baler has the moisture sensor, the terminal shows the moisture of the bale measured by the sensor.
	**Bale length** Length of the bale in the baler and the length of last bale made.
	**Flake size** Dimension of the last flake made.

3.1.3 Machine status and indicators

The machine status icons show the machine status. This data shows as values and indicators where applicable. The applicable icons show the values.

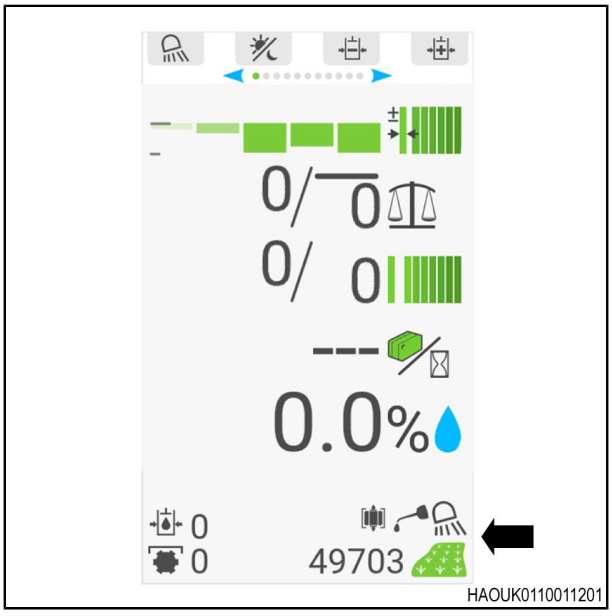
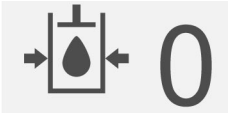


Fig. 2

Icon	Description
	**Bale density pressure** If the baler has a pressure sensor, a signal is sent to the terminal screen. The terminal shows the bale density pressure value.
	**PTO speed** Shows the PTO speed to give the operator data to set the machine speed for the conditions.
	**Bale chamber pressure reduction/Automatic lubrication/Work lamps** Indicators for each function if installed.
	**Field bale counter** Shows the bale count for the field. You can reset the counter from the Counter page.

3.2 Counter page

3.2.1 Counter page overview

The counter page shows all of the counter information for the baler on one terminal. This information shows as values and indicators where applicable.

(1) Counter overview page icon
(2) Maintenance hours
(3) Field bale counter
(4) Bale counter 1
(5) Bale counter 2
(6) Average bale weight
(7) Total weight counter
(8) Average moisture
(9) Machine total operating hours and bale counter

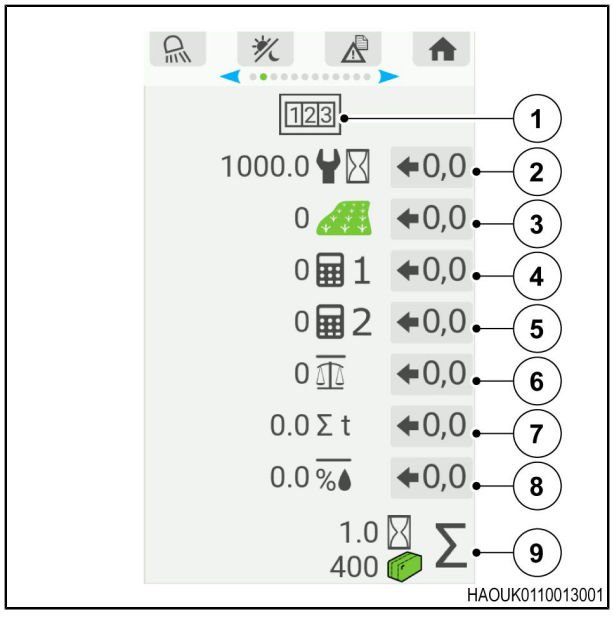
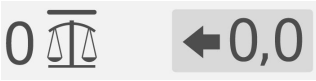


Fig. 3

Icon	Description
	**Counter overview page icon** Shows that the counter overview page is selected.
	**Maintenance hours** Hour meter which shows the hours until maintenance is due. **NOTE:** *The value can be changed in the Baler settings page.*
	**Field bale counter** Bale counter which shows the field bale count. **NOTE:** *This is the same counter which shows on the Home page.*
	**Bale counter 1** The bale counter 1 shows the quantity of bales made since the counter was last reset.
	**Bale counter 2** The bale counter 2 shows the quantity of bales made since the counter was last reset.

Icon	Description
	**Average bale weight** Bale weight counter which shows the average weight of all bales made since the counter was last reset.
	**Total weight counter** Total weight of the bales made. Shows the total weight since the counter was last reset.
	**Average moisture** Average moisture of all bales made since the counter was last reset.
	**Machine total operating hours and bale counter** Total operating hours of the machine and bales made. **NOTE:** *Life time counters show the counts on the monitor, not the baler. The monitor and controller are in the same unit and not directly connected to the baler.*

3.2.2 Reset the counters

Procedure

1. Use the keypad to navigate to the applicable counter icon  .

2. Press and hold the **OK** button on the keypad to start the reset procedure.

   Result

   The counter icon ◄0,0 will start to fill in with a blue color ◄0,0.

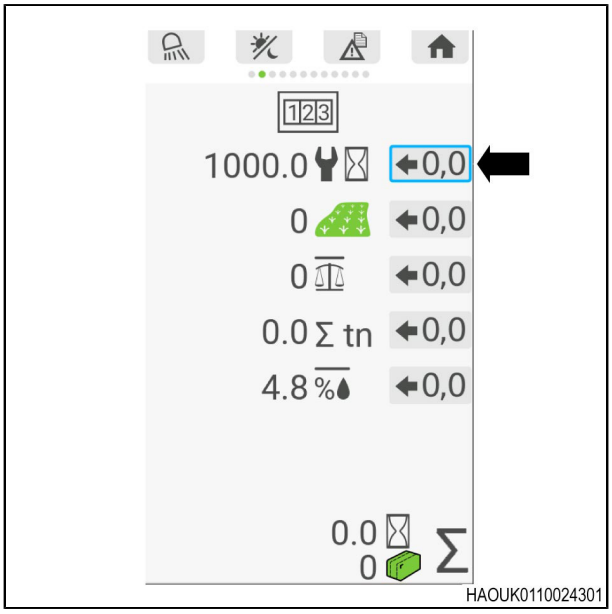


Fig. 4

3. The procedure completes when the counter icon ◄0,0 shows in a fully blue color ◄0,0.

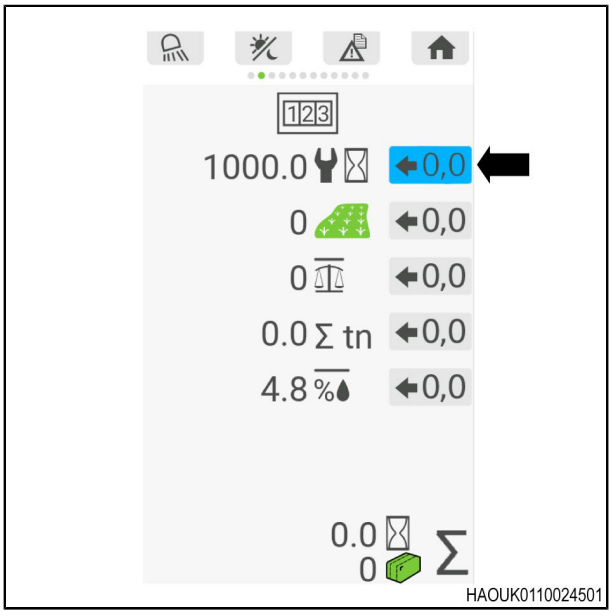


Fig. 5

4. Release the **OK** button on the keypad.

3.3 Hydraulic page

3.3.1 Hydraulic page

The hydraulic menu shows all the system information for the hydraulic density control on one terminal. This information shows as values and indicators where applicable. All the values show adjacent to the applicable icons. You can select the hydraulic control modes on the menu and also the target values or set points for the control modes.

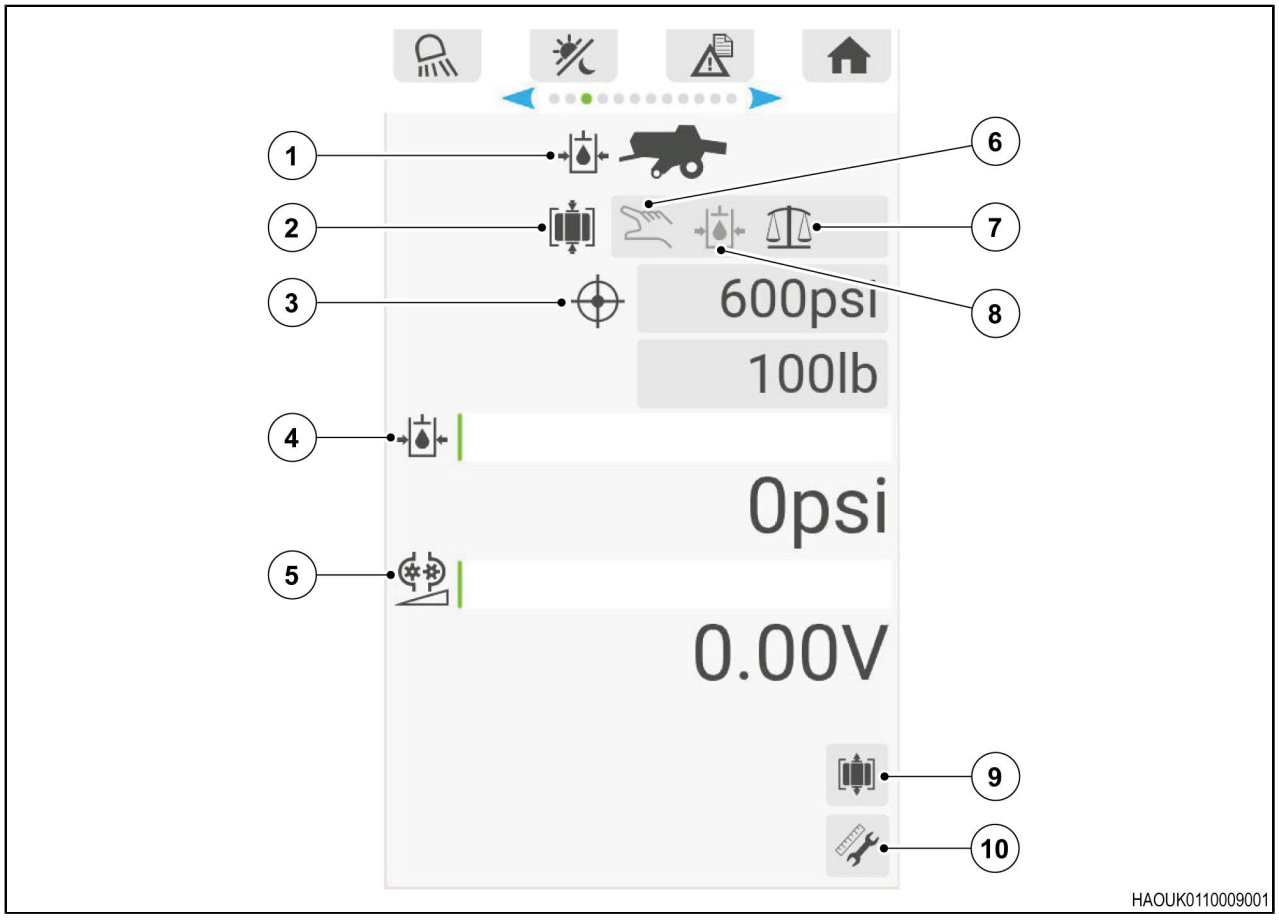
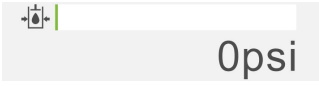


Fig. 6

(1) Hydraulic page menu icon
(2) Mode selection for bale density control
(3) Target value setting
(4) Pressure value
(5) Voltage value
(6) Manual voltage mode
(7) Automatic weight mode
(8) Automatic pressure mode
(9) Bale chamber pressure release
(10) Hydraulic valve calibration

Icon	Description
	**Mode selection for bale density** You can select from 3 of the control modes to control the system for hydraulic bale density.
	**Manual voltage mode** Manual mode uses the voltage target for the hydraulic control valve that the operator sets to adjust the hydraulic system.
	**Automatic pressure mode** Automatic mode uses the hydraulic pressure target that the operator sets to automatically adjust the hydraulic pressure.
	**Automatic weight mode** Automatic weight mode uses the weight target and the hydraulic pressure target that the operator sets to automatically adjust to the target weight. This is only available with the bale chute scale installed.
	**Target value setting** The target value changes with the bale density mode that you select and the units change with the mode.
	**Pressure value** The is the live value for pressure and the related bar graph from the pressure sensor added to the bale density hydraulic system.
	**Live voltage value** The live voltage value and bar graph for the solenoid valve on the control manifold that controls the hydraulic system pressure for the bale density.

3.3.2 Release the hydraulic pressure on the bale chamber

Procedure

1. Use the keypad to go to the hydraulic control menu.

2. Select the icon to release the hydraulic pressure in the bale chamber. You can also operate this function with the baler keypad.

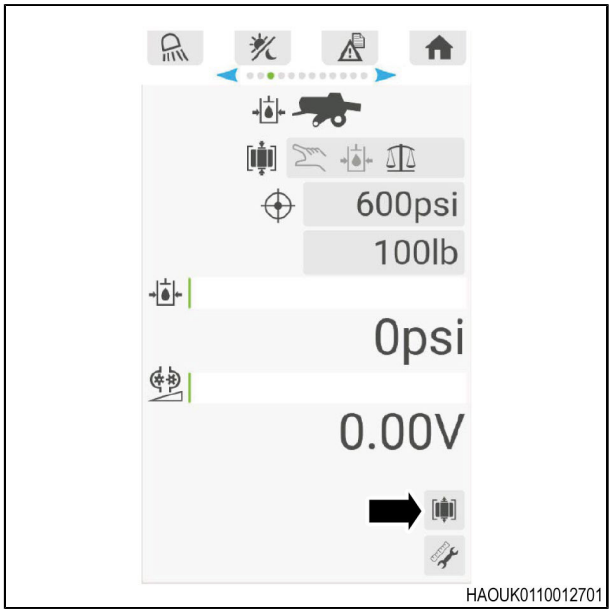


Fig. 7

3.3.3 Calibrate the hydraulic density control

WARNING: The machine or parts can move without notification.

The machine and its parts are heavy and can cause death or injury.

Park the machine on a clean, hard and level area.

Set the parking brake to ON and install the wheel chocks.

If an implement is on the machine, lower the implement to the ground.

Stop the engine and remove the ignition key.

Calibration of the hydraulic density control is necessary when you:

- Install the SimplEbale system.
- Replace the hydraulic valve.
- Do maintenance of the hydraulic density system.

To make sure that you calibrate the system to baling conditions, we recommend that you operate the PTO and the hydraulics for 10 minutes. This makes sure that the oil is at the correct operation temperature. If this is not done, the precision of the calibration can change and cause the pressure range for the valve to be incorrect.

Procedure

1. Start the PTO and set the baler to work speed.

2. Use the keypad to go to the hydraulic run page.
3. Use the keypad to select the  icon.
4. Press and hold the OK button to start the calibration.

   NOTE: *A blue status bar fills until it is fully blue. When fully blue, the calibration is done.*

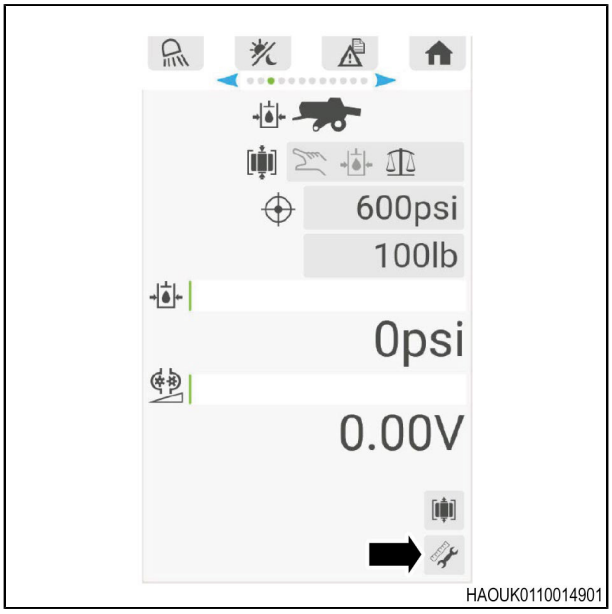


Fig. 8

After finishing the procedure

- The operator can continue to bale with the machine.

3.4 Moisture page

(1) Bale moisture
(2) Alarm limit
(3) Moisture value offset
(4) Dye marker ON
(5) Dye marker threshold
(6) Dye marker prime
(7) Sensor ON (symbol shows)

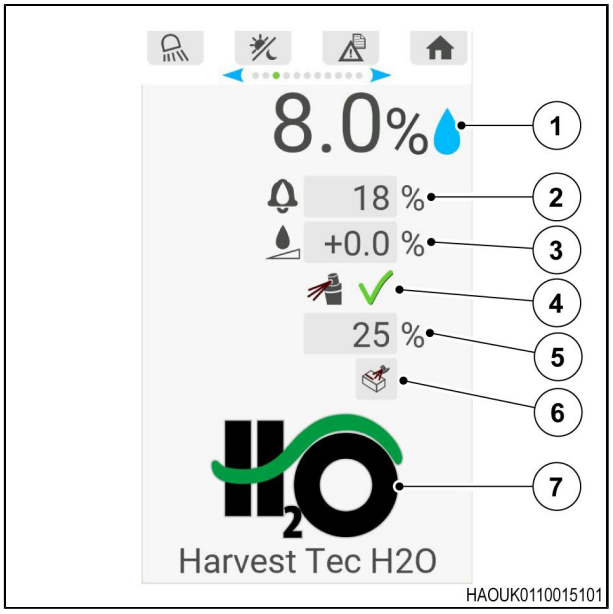


Fig. 9

(1) Bale moisture
(2) Alarm limit
(3) Moisture value offset
(4) Bale width setting
(5) Crop type
(6) Air calibration button
(7) Sensor ON (symbol shows)
(8) Software version for the moisture sensor

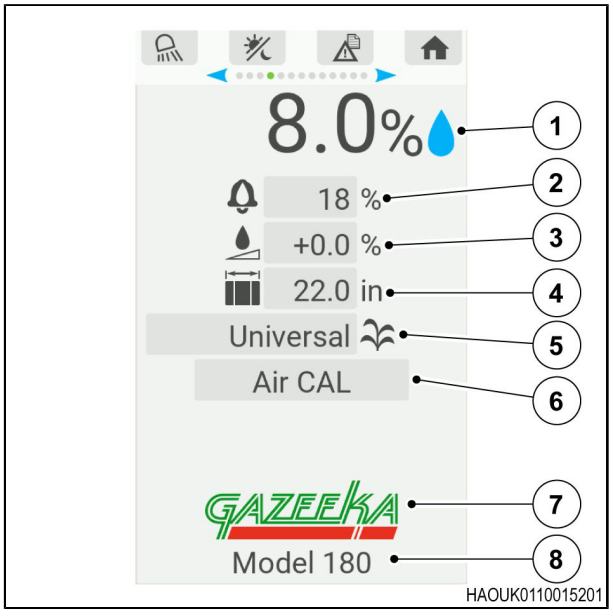


Fig. 10

3.5 Bale scale page

3.5.1 Bale scale page

The bale scale menu shows the operator the:

- Bale weight
- Load sensor weight
- Calibration and zero information for the load sensors.

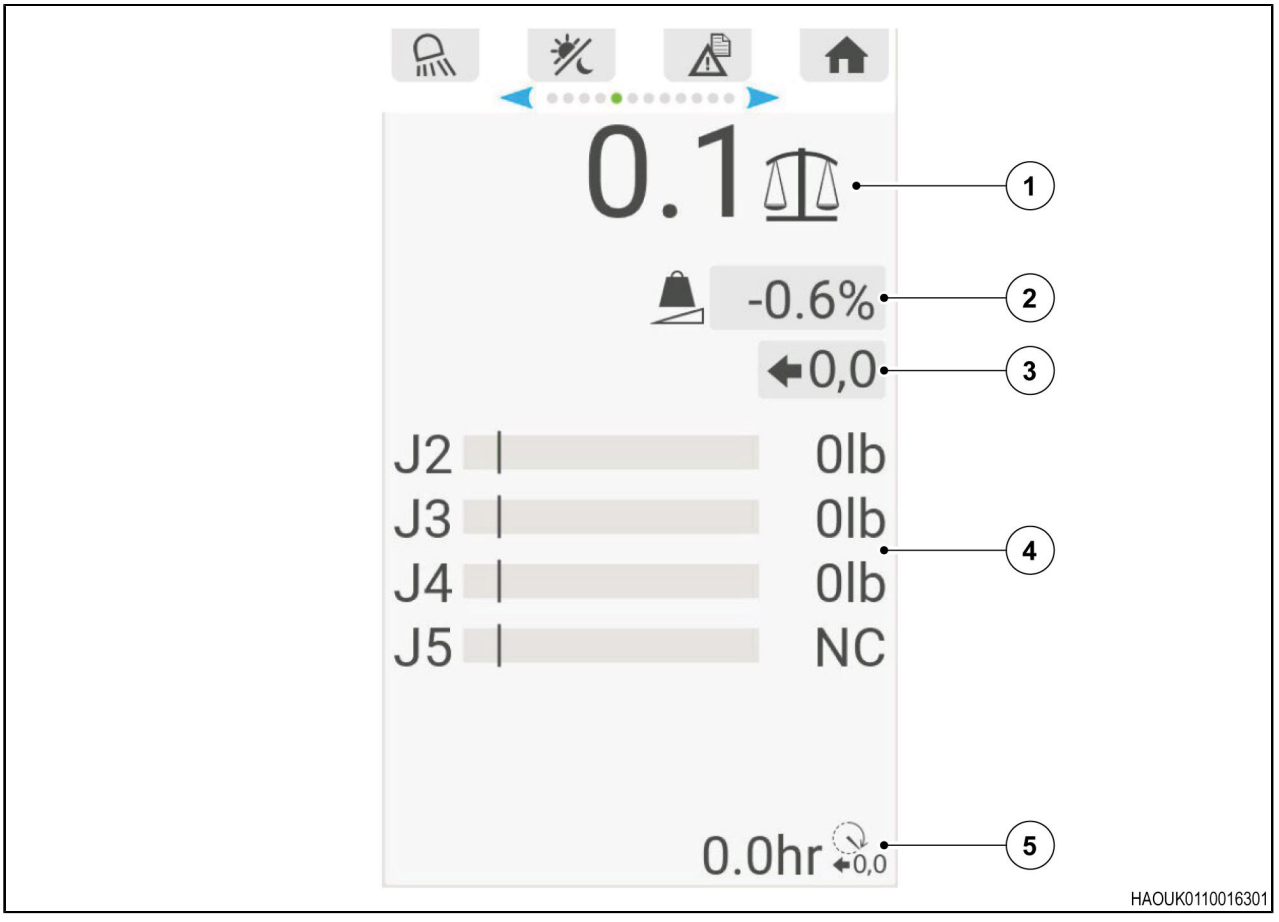
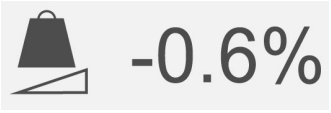


Fig. 11

(1) Scale total
(2) Scale offset adjustment
(3) Scale calibration button
(4) Load sensor values
(5) Hours in operation from the last calibration

Icon	Description
	**Scale total** The bale scale total for all the load sensors in use.
	**Scale offset adjustment** The manual offset adjustment of the scale total input by the operator. When a known weight is on the scale, the operator can enter an offset made by the calculated percentage difference of the scale total against the known weight value.
	**Scale calibration button** A scale calibration button that sets the load sensors to zero. Before you calibrate the scale, make sure that the scale is empty.
	**Load sensor values** Shows the weight on each load sensor. If not connected, the load sensor value will show “NC”.
	**Hours in operation from the last calibration** The measured hours of operation from the last scale calibration.

3.5.2 Calibrate the bale scale

Before starting the procedure

- Before you calibrate the scale, make sure that the scale is empty.

Procedure

1. Use the keypad to go to the scale calibration button.

2. When you select the calibration button, press and hold the OK button on the keypad.

   The calibration completes when the blue status bar fills the blue box.

   Result

   The scales total shows 0 and the weights for each load sensor also show 0.

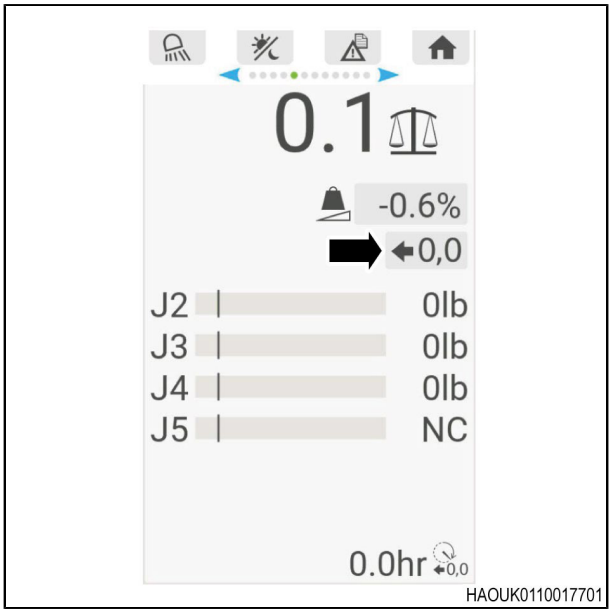


Fig. 12

3.6 Baler settings page

(1) Target flake count
(2) Target bale length
(3) Knotter fan reverse interval
(4) Knotter lubrication interval
(5) Knotter lubrication duration
(6) Maintenance interval counter
(7) Maximum operating pressure

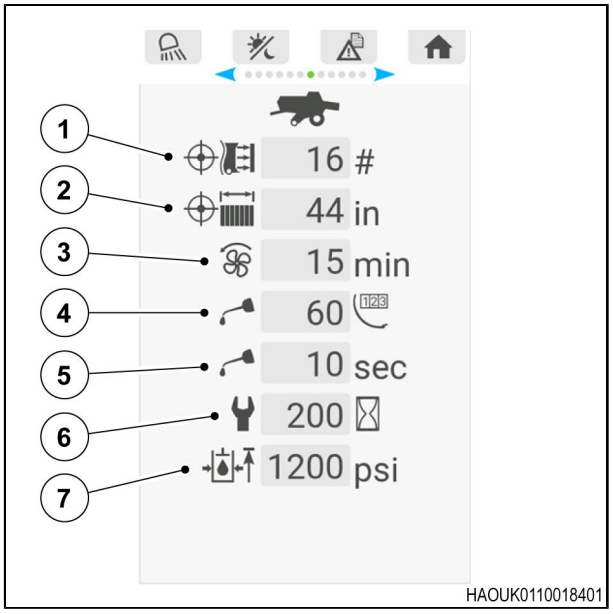
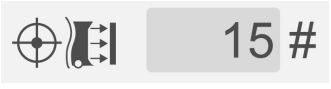
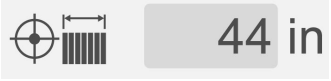
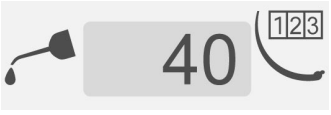
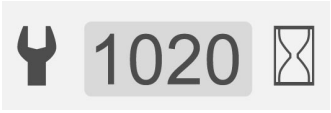


Fig. 13

Icon	Description
	**Target flake count** You must set the target for the flake count of a bale.
	**Target bale length** You must set the target bale length to the length of the bales that the baler makes. This setting does not control the length of the bales. The knotter trip arm controls the length of the bales mechanically.
	**Knotter fan reverse interval** You can set the period for the fan to operate before it operates in the reverse direction for a short time.
	**Kotter lubrication interval** You can set how many bales the machine makes before the knotter lubrication system operates.
	**Knotter lubrication duration** You can set the time that the knotter lubrication system operates for.

Icon	Description
	**Maintenance indicator counter** You can set the time that the machine operates for until the maintenance indicator shows on the display. The counter starts when you set the total operating hours and counts down from the total.
	**Maximum operating pressure** You can set the maximum hydraulic pressure. The maximum pressure changes for the machine model.

3.7 Display settings page

(1) Display brightness
(2) Volume
(3) Language
(4) Units

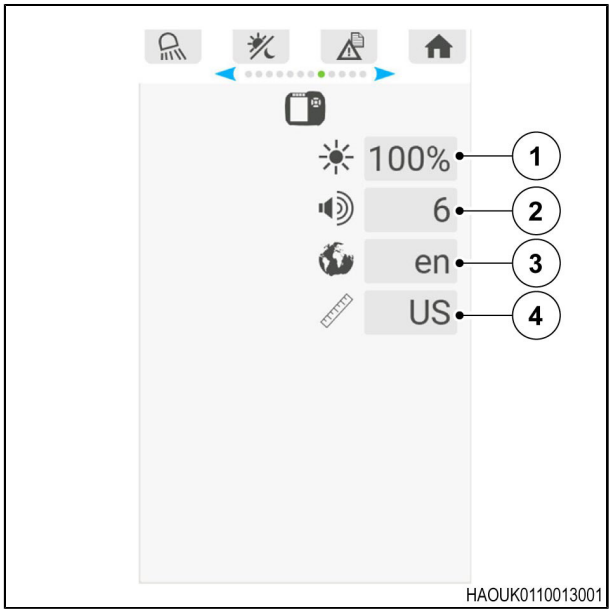


Fig. 14

3.8 Baler options page

3.8.1 Baler options page

(1) Moisture sensor
(2) Bale scale
(3) Knotter fan
(4) Knotter lubrication
(5) Bale chamber pressure monitor
(6) Bale chamber pressure control
(7) Baler model
(8) Bale dimensions

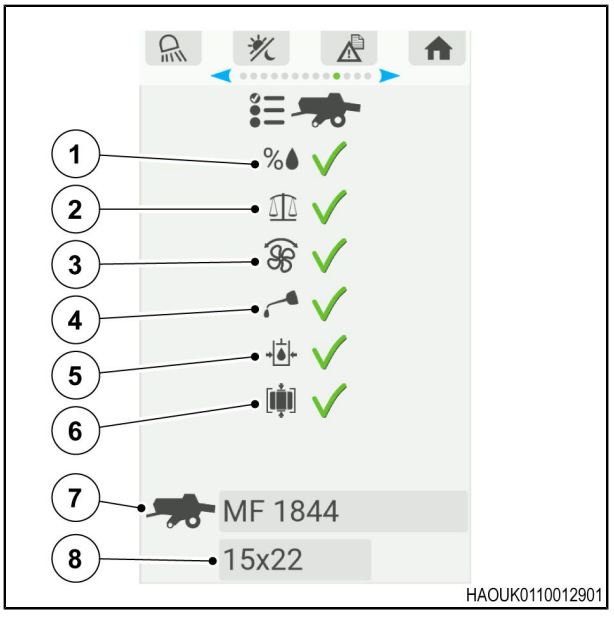


Fig. 15

3.8.2 Set an optional function to ON or OFF

The baler optional function page lets you set the functions of the baler to ON or OFF.

The functions can be set to ON in the baler settings page even if the baler does not have the component. If you do this, the terminal can show warnings because it cannot sense the component.

The chamber pressure monitoring function cannot be set to OFF if the baler chamber pressure control is set to ON. If you set the chamber pressure control to ON, the chamber pressure monitoring function will automatically be set to ON.

Procedure

1. Press the up and down arrows on the keypad to go to the necessary optional function.

   Result
   The selected optional function shows with a blue square.

2. Press and hold the OK button until the ✗ icon changes to the ✓ icon.

3.9 SimplEbale web site

Scan to QR code to go to the SimplEbale web site.

The web site contains documents and information for the SimplEbale.

Fig. 16

3.10 Do this procedure before you make a bale

DANGER: Moving components.

Risk of death or injury.

The operator of the machine must make sure that no person goes in the dangerous areas during operation.

Procedure

1. Set the necessary baler options to ON if the baler has the necessary components.

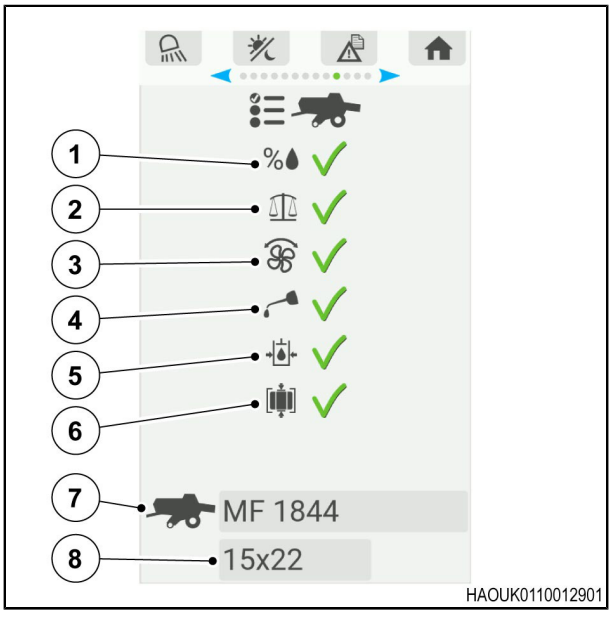


Fig. 17

(1) Moisture sensor
(2) Bale scale
(3) Knotter fan
(4) Knotter lubrication
(5) Bale chamber pressure monitor
(6) Bale chamber pressure control
(7) Baler model

2. Set the baler settings to the correct values.

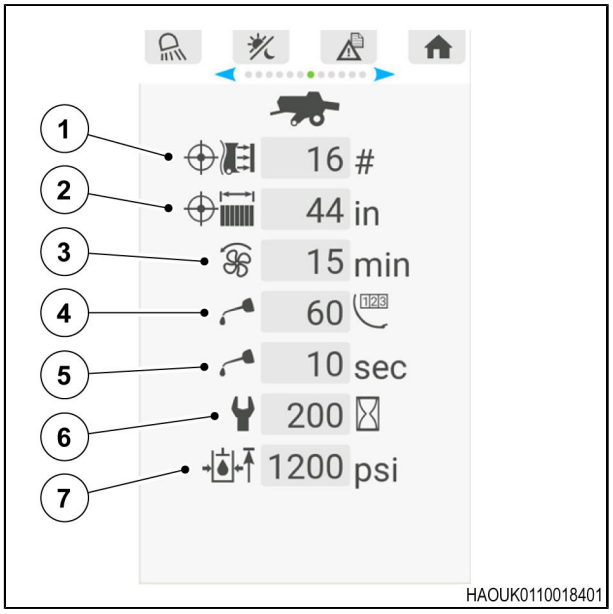


Fig. 18

(1) Target flake count
(2) Target bale length
(3) Knotter fan reverse interval
(4) Knotter lubrication interval
(5) Knotter lubrication duration
(6) Maintenance interval counter
(7) Maximum bale density operating pressure

3. Do a check of the calibration of the bale scale with a bale that has a known and accurate weight. Adjust the bale scale settings if it is necessary.

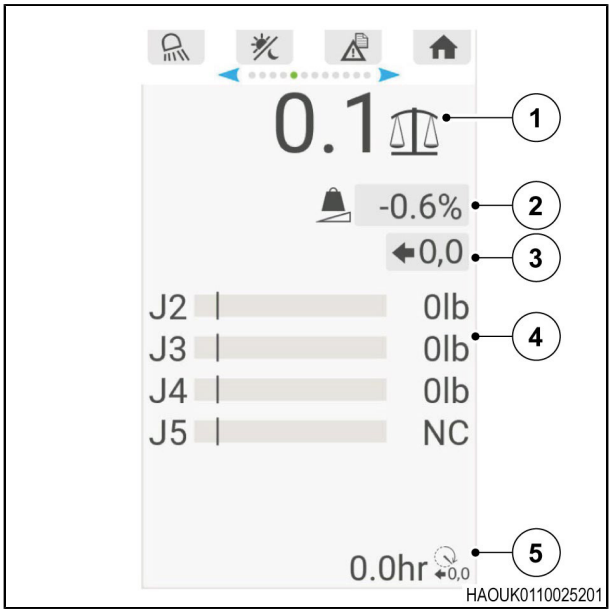


Fig. 19

(1) Scale total
(2) Scale offset adjustment
(3) Scale calibration button
(4) Load sensor values
(5) Hours in operation from the last calibration

4. Set the hydraulic mode settings to the correct values.

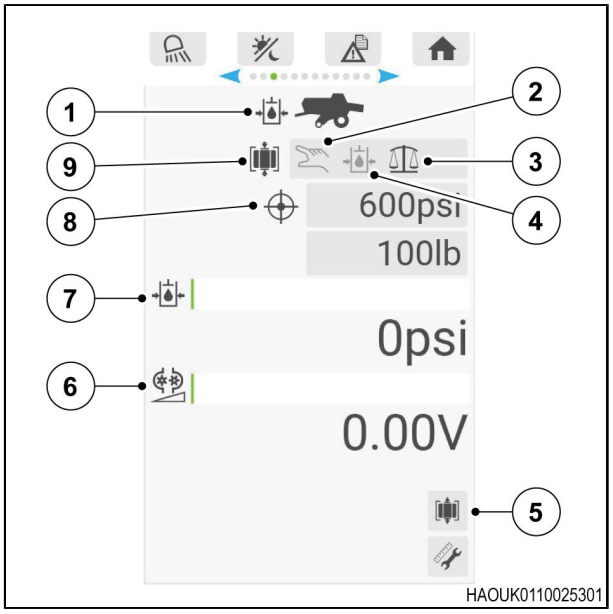


Fig. 20

(1) Hydraulic page menu
(2) Manual voltage mode
(3) Automatic weight mode
(4) Automatic pressure mode
(5) Bale chamber pressure release ON/OFF
(6) Voltage value
(7) Pressure value
(8) Target value setting
(9) Mode selection for bale density

5. Set the PTO to ON.
6. Set the PTO speed to the correct value.

7. Make sure that the PTO speed and the hydraulic pressure show on the home page of the display.

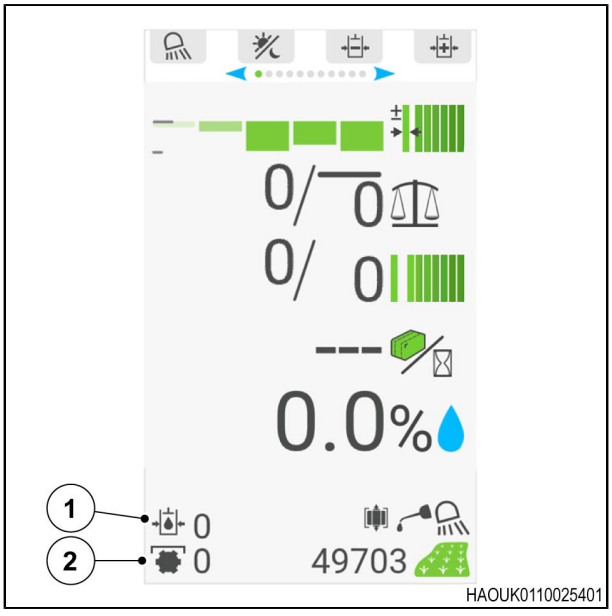


Fig. 21

(1) Hydraulic pressure
(2) PTO speed

8. Lower the baler pick-up and drive into a windrow to make a bale.
9. Do a check of the bale flake chart when you make a bale.
10. Adjust the ground speed of the machine if the bale flake dimension is not correct.

    Result
    The correct bale flake dimension is when the bars are near to the center of the chart range.
11. Continue to examine the bale parameters as you make the bales. Adjust the machine if it is necessary.

4 Maintenance

4.1 Sensor adjustments

4.1.1 Adjust the star wheel sensor

DANGER: Dangerous area.
Risk of death or injury.
Before you go into the area between the machine and the implement:
Park the machine on a clean, hard and level area.
Put the parking brake to ON.
If an implement is on the machine, lower the implement to the ground.
Set the ignition to OFF.
Install the wheel chocks.

WARNING: The machine or parts can move without notification.
The parts that move can cause death or injury.
Before you do work on the machine:
If an implement is on the machine, lower the implement to the ground.
Stop the engine.
Remove the ignition key.
Disconnect the PTO shaft.

WARNING: Entanglement with the PTO shaft.
Risk of death or injury.
Make sure that the guards are in position and always operate correctly.
If a guard breaks or is missing, repair or replace it before you use the machine.

CAUTION: Personal Protective Equipment is mandatory.
This procedure can cause injury.
Put on Personal Protective Equipment when you do this procedure.

Before starting the procedure

Number	Part number	Description	Quantity
(1)	ACX4656760	Guide tool	1

Procedure

1. Get access to the star wheel sensor.

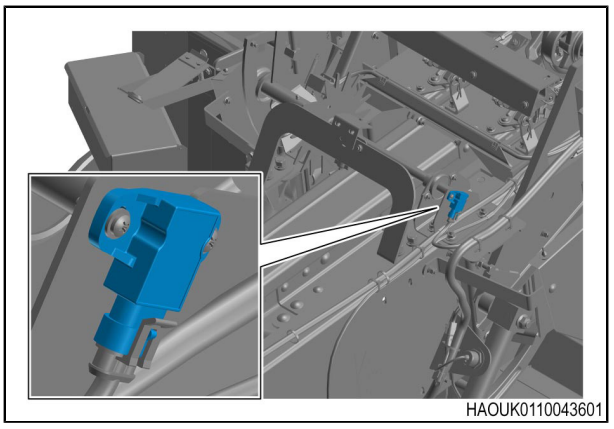


Fig. 1 *1840 models*

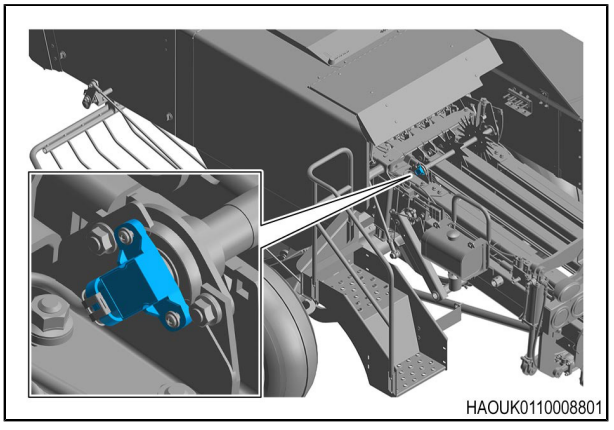


Fig. 2 *1844 models*

2. Use the guide tool ACX4656760 (1) to examine the alignment of the star wheel sensor.

   Result
   The top of the star wheel sensor must align with the holes in the guide tool ACX465670 (1).

3. Adjust the position of the star wheel sensor if it is necessary.
4. Loosen, but do not fully remove the 2 fasteners.
5. Move the star wheel sensor to the correct position and then tighten the 2 fasteners to the approved torque.
6. Remove the guide tool ACX465670 (1).

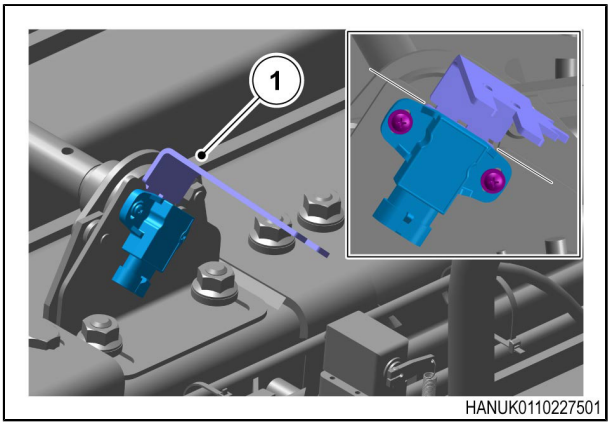


Fig. 3

7. Measure the distance (A) between the star wheel sensor and the magnet on the end of the shaft.

   Result
   The distance (A) must be 1 mm (0 in) to 3 mm (0.1 in).

8. Adjust the star wheel sensor assembly if it is necessary.
9. Loosen, but do not fully remove the 2 fasteners.
10. Move the star wheel sensor assembly to the set distance (A) to 1 mm (0 in) to 3 mm (0.1 in).
11. Tighten the 2 fasteners to the approved torque.

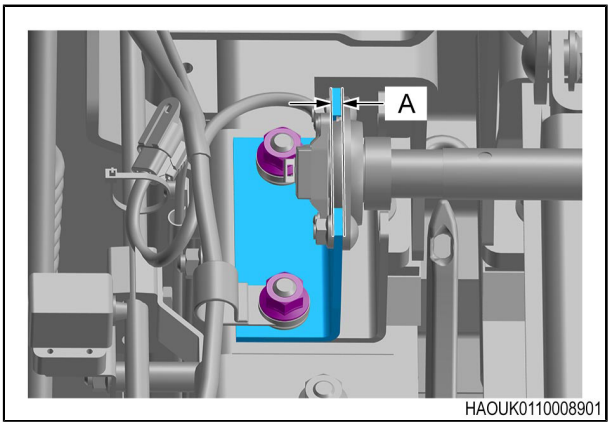


Fig. 4

12. Do a check to make sure that the star wheel sensor operates correctly.

    IMPORTANT: *Make sure that the wiring harness is connected to the star wheel sensor.*

4.1.2 Adjust the needle carriage sensor

DANGER: Dangerous area.
Risk of death or injury.
Before you go into the area between the machine and the implement:
Park the machine on a clean, hard and level area.
Put the parking brake to ON.
If an implement is on the machine, lower the implement to the ground.
Set the ignition to OFF.
Install the wheel chocks.

WARNING: The machine or parts can move without notification.
The parts that move can cause death or injury.
Before you do work on the machine:
If an implement is on the machine, lower the implement to the ground.
Stop the engine.
Remove the ignition key.
Disconnect the PTO shaft.

WARNING: Entanglement with the PTO shaft.
Risk of death or injury.
Make sure that the guards are in position and always operate correctly.
If a guard breaks or is missing, repair or replace it before you use the machine.

CAUTION: Personal Protective Equipment is mandatory.
This procedure can cause injury.
Put on Personal Protective Equipment when you do this procedure.

Procedure

1. Get access to the needle carriage sensor.

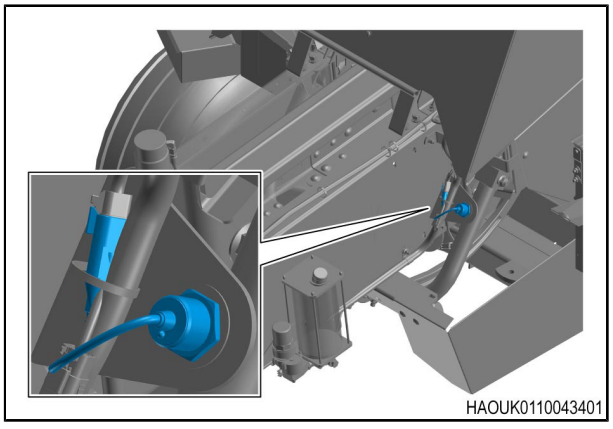


Fig. 5 *1840 models*

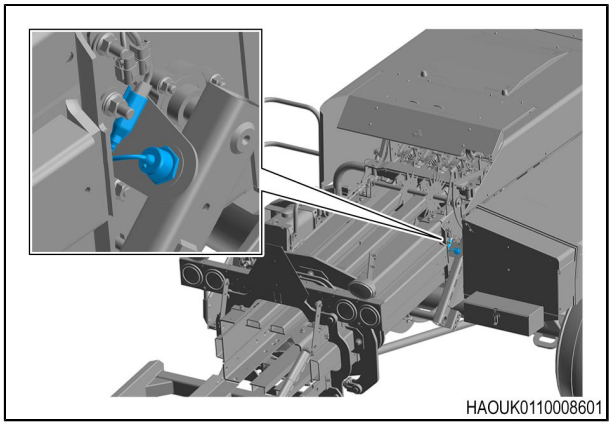


Fig. 6 *1844 models*

2. Loosen, but do not fully remove the 2 fasteners on the needle carriage sensor.
3. Use the 2 fasteners to adjust the position of the needle carriage sensor. The distance (A) must be 3 mm (0.1 in) to 7 mm (0.3 in) when the needle carriage is at the home position.
4. Tighten the 2 fasteners to the approved torque.
5. Do a check to make sure that the needle carriage cannot touch the sensor or move out of range when it is at the home position.

   IMPORTANT: *Make sure that the wiring harness is connected to the needle carriage sensor.*

   a) Set the ignition switch to ON.

   b) Slowly move the needle carriage and examine the LED at the rear of the sensor.

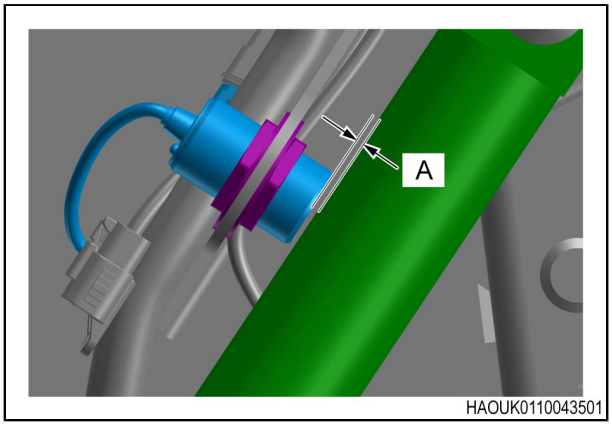


Fig. 7 *1840 models*

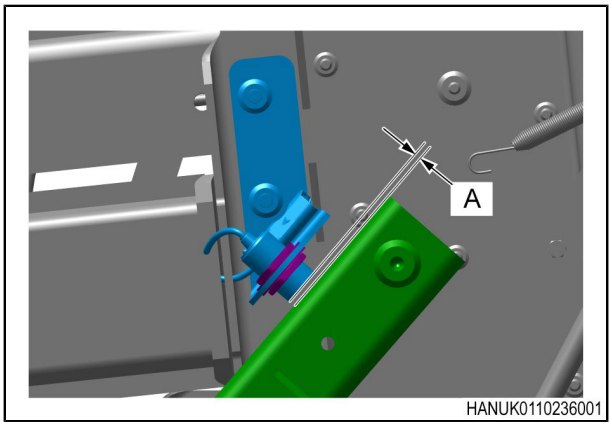


Fig. 8 *1844 models*

Result of the procedure
The needle carriage sensor clearance is set correctly when:

- The LED is ON when the needle carriage is in the home position.
- The LED is OFF when the needle carriage is not in the home position.

4.1.3 Adjust the PTO speed sensor

DANGER: Dangerous area.

Risk of death or injury.

Before you go into the area between the machine and the implement:

Park the machine on a clean, hard and level area.

Put the parking brake to ON.

If an implement is on the machine, lower the implement to the ground.

Set the ignition to OFF.

Install the wheel chocks.

WARNING: The machine or parts can move without notification.

The parts that move can cause death or injury.

Before you do work on the machine:

If an implement is on the machine, lower the implement to the ground.

Stop the engine.

Remove the ignition key.

Disconnect the PTO shaft.

WARNING: Entanglement with the PTO shaft.

Risk of death or injury.

Make sure that the guards are in position and always operate correctly.

If a guard breaks or is missing, repair or replace it before you use the machine.

CAUTION: Personal Protective Equipment is mandatory.

This procedure can cause injury.

Put on Personal Protective Equipment when you do this procedure.

Procedure

1. Open the cover.
   - For 1840 models: lift and turn the fastener. Open the cover.
   - For 1844 models: Turn the 2 fasteners and open the cover.

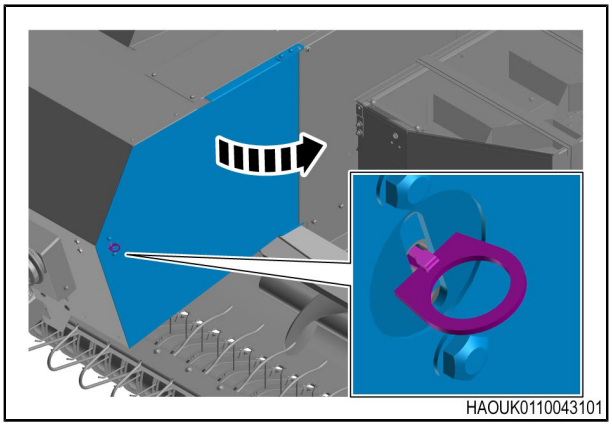


Fig. 9 *1840 models*

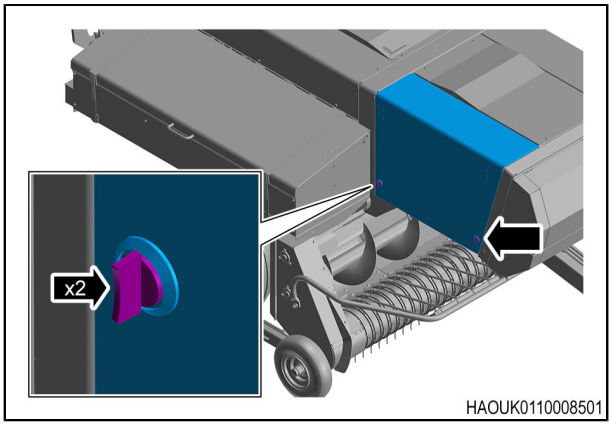


Fig. 10 *1844 models*

2. Get access to the PTO speed sensor.

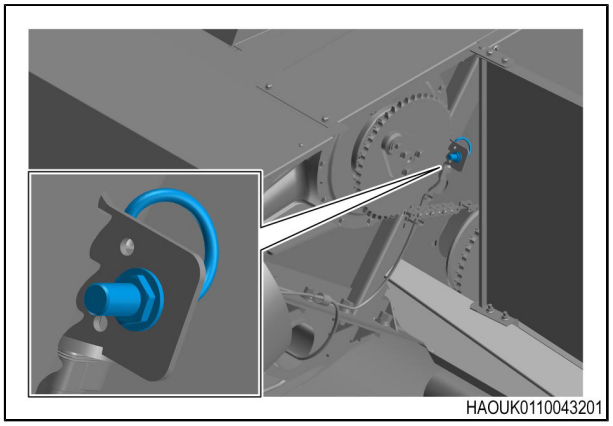


Fig. 11 *1840 models*

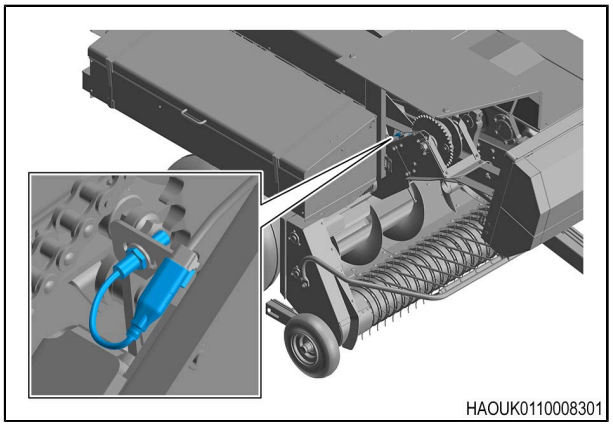


Fig. 12 *1844 models*

3. Loosen, but do not fully remove the 2 fasteners on the PTO speed sensor.
4. Use the 2 fasteners to adjust the position of the PTO speed sensor. The distance (A) must be 1 mm (0 in) to 3 mm (0.1 in).
5. Tighten the fasteners to the approved torque.
6. Turn the machine slowly 1 full turn by hand. Make sure that the sprocket does not contact or move out of range of the sensor.
7. Do a check to make sure that the sensor operates correctly.

   IMPORTANT: *Make sure that the wiring harness is connected to the PTO speed sensor.*

   a) Set the ignition switch to ON.
   b) Slowly move the PTO speed sensor sprocket and examine the LED at the rear of the sensor.

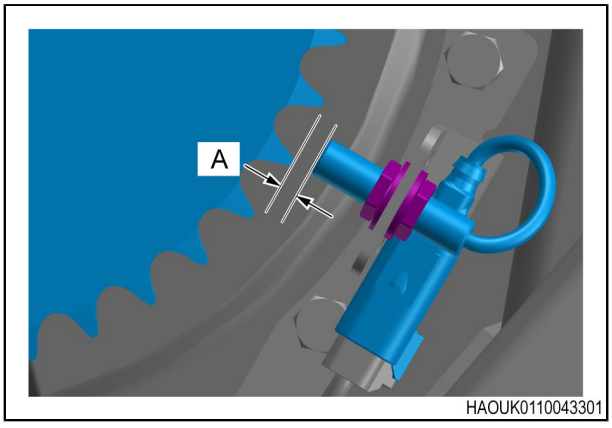


Fig. 13 *1840 models*

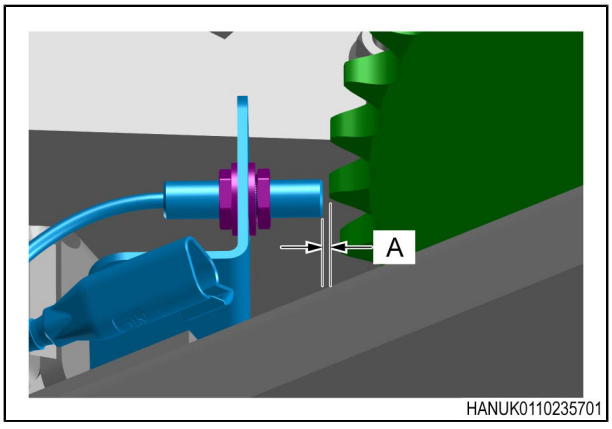


Fig. 14 *1844 models*

Result of the procedure

The PTO speed sensor clearance is set correctly when:

- The LED is ON when the sensor is adjacent to a sprocket tooth.
- The LED is OFF when the sensor is not adjacent to a sprocket tooth.

4.2 Bleed the air from the hydraulic density control valve

WARNING: The machine or parts can move without notification.

The parts that move can cause death or injury.

Before you do work on the machine:

If an implement is on the machine, lower the implement to the ground.

Stop the engine.

Remove the ignition key.

Disconnect the PTO shaft.

WARNING: Entanglement with the PTO shaft.

Risk of death or injury.

Make sure that the guards are in position and always operate correctly.

If a guard breaks or is missing, repair or replace it before you use the machine.

CAUTION: Personal Protective Equipment is mandatory.

This procedure can cause injury.

Put on Personal Protective Equipment when you do this procedure.

Procedure

1. Get access to the hydraulic density control valve.
2. Put an applicable container below the hydraulic density control valve.

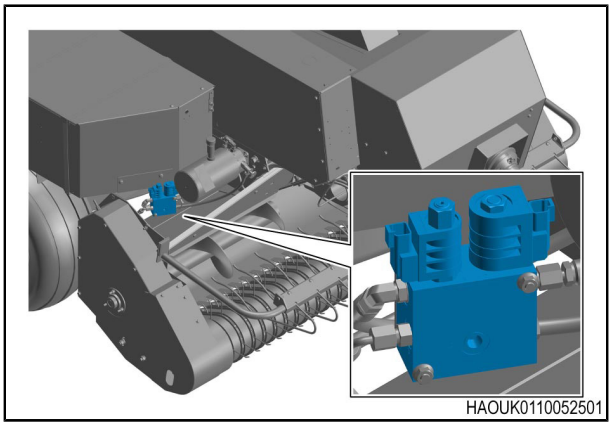


Fig. 15 *1840 models*

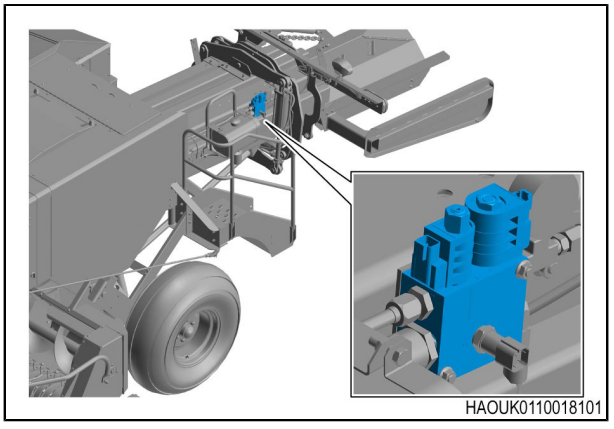


Fig. 16 *1844 models*

3. Remove the bleed screw on top of the hydraulic density control valve.
4. Start the engine on the tractor.
5. Engage the PTO and increase the PTO speed to the operation speed.
6. Examine the top of the hydraulic density control valve. Hydraulic oil and air bubbles will slowly release from the port.
7. When there are no air bubbles in the hydraulic oil coming out, install the bleed screw and tighten to the approved torque.
8. Decrease the PTO speed.
9. Disengage the PTO.

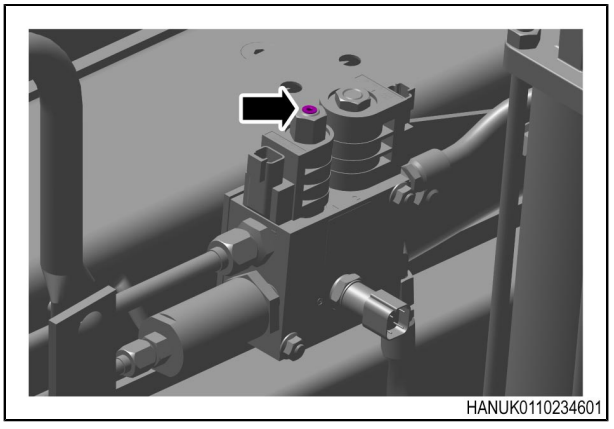


Fig. 17

10. Stop the engine on the tractor.

11. Remove the applicable container from below the hydraulic density control valve.

12. Clean the hydraulic oil that spilled during the bleed process.

After finishing the procedure

- Examine the level of the hydraulic oil. Add more hydraulic oil if it is necessary.

4.3 Update the terminal software

Terminal information page

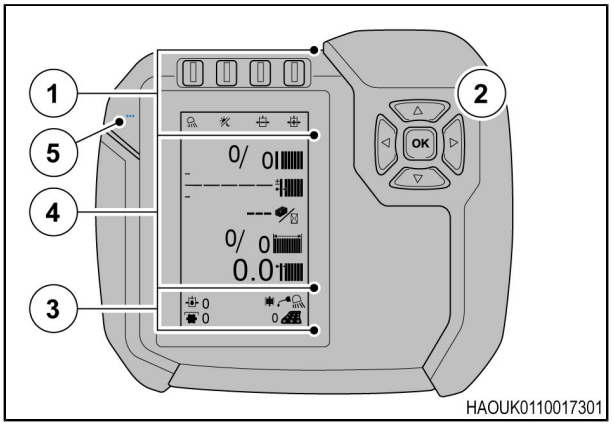


Fig. 18

(1)	Buttons that the operator can configure
(2)	Keypad
(3)	Machine status indicators
(4)	Home screen data
(5)	Speaker

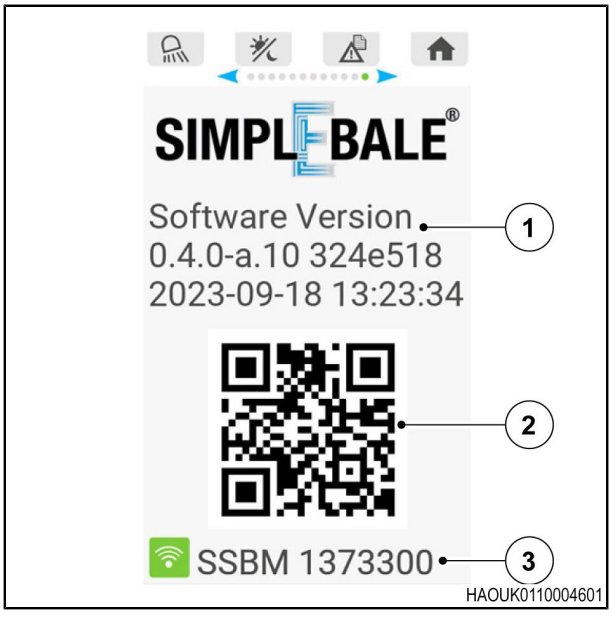


Fig. 19

(1)	Software version and build date.
(2)	QR code for the wireless network connection. **NOTE:** *When the approved wireless device connects to the Ag Co-Pilot terminal wireless the QR code changes to the software download page.*
(3)	Wireless on/off and SSBM (Small Square Baler terminal) device identification number of the terminal.

Procedure

1. Download the applicable software update from the AGCO service portal.

   NOTE: *AGCO will update the Ag Co-Pilot software. Software updates are available to download from the AGCO service portal at no cost. You can install the software updates on the Ag Co-Pilot with an applicable wireless phone or tablet computer.*

2. Save the file to the wireless device that you use to update the software to the Ag Co-Pilot terminal.

Fig. 20

3. Scan the QR code shown on the information screen of the Ag Co-Pilot terminal.

   IMPORTANT: *Use the same wireless device that you used to download the software update.*

4. When the QR code is scanned, a message will appear to **Connect to a network** that is transmitted from the Ag Co-Pilot terminal.

   IMPORTANT: *The SSBM information shown on the Ag Co-Pilot terminal and the one shown on the wireless device must be the same.*

Fig. 21

5. When the wireless device is connected to the Ag Co-Pilot terminal wireless network the QR code will change to a different code.
   a) Scan the new QR code on the Ag Co-Pilot terminal with the wireless device and you will be asked to **Show options**.
   b) When you press **Show options** on the wireless device, it will automatically copy the link provided by the QR code on the Ag Co-Pilot terminal.

Fig. 22

6. Select **Update** on the SimplEbale portal.

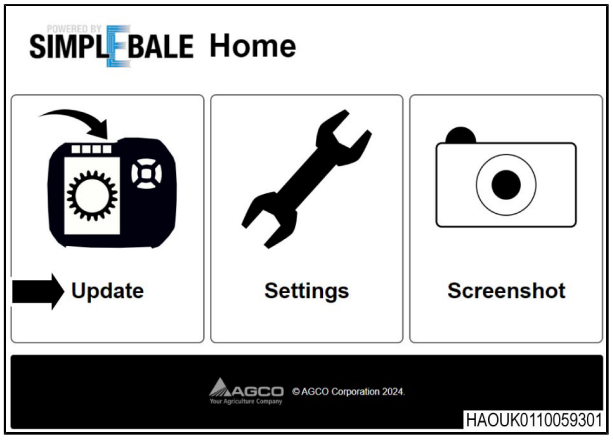


Fig. 23 *Update the software with a PC*

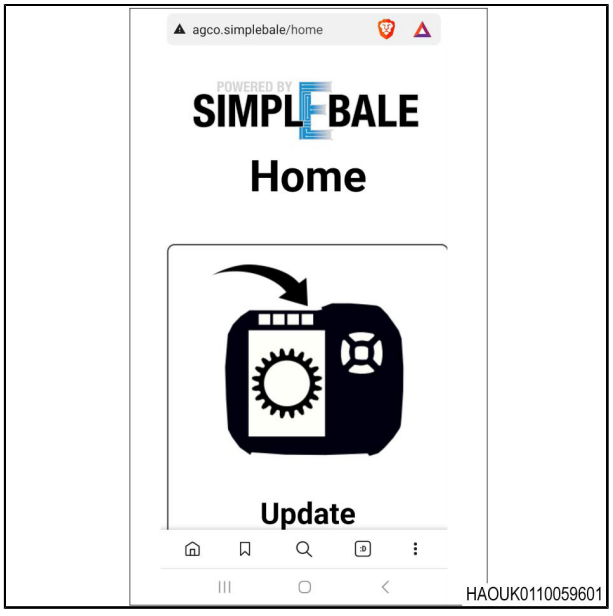


Fig. 24 *Update the software with an Android phone*

7. When the wireless device connects to the **Firmware Update** page, the downloaded software update file will be necessary to update the Ag Co-Pilot terminal.
8. Search for the file that was downloaded in step 2.

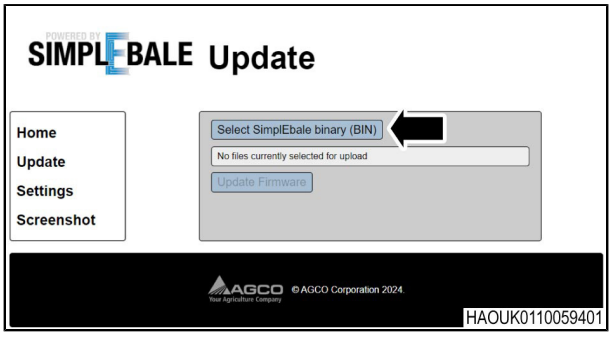


Fig. 25 *Update the software with a PC*

Fig. 26 *Update the software with an Android phone*

9. When the applicable file is selected the **Update Firmware** button can be selected.

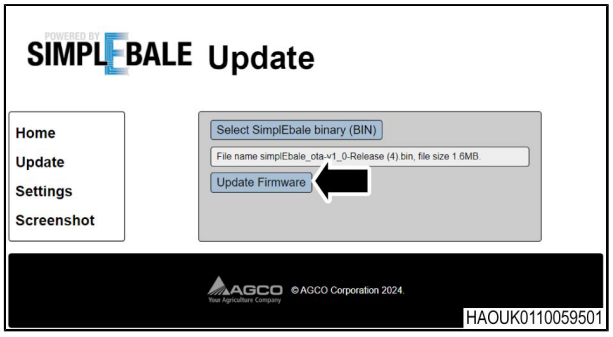


Fig. 27 *Update the software with a PC*

Fig. 28 *Update the software with an Android phone*

10. The status of the software update is shown as the update is in progress. When the update is complete the Ag Co-Pilot terminal will automatically restart.

    NOTE: *Check the new software version number on the Ag Co-Pilot terminal information screen.*

11. After the software update is complete, disconnect the wireless device from the Ag Co-Pilot terminal.

5 Troubleshooting

5.1 Baler diagnostics page

(1) PTO speed sensor
(2) Hydraulic duty cycle
(3) Knotter lubrication output
(4) Fan reverse output
(5) Service lamp output
(6) 5 V sensor supply
(7) Hydraulic pressure sensor
(8) Star wheel sensor
(9) 9 V sensor supply
(10) Battery voltage
(11) Field lamp output
(12) Fan forward output
(13) Needle carriage home status
(14) Chamber pressure reduction cycle

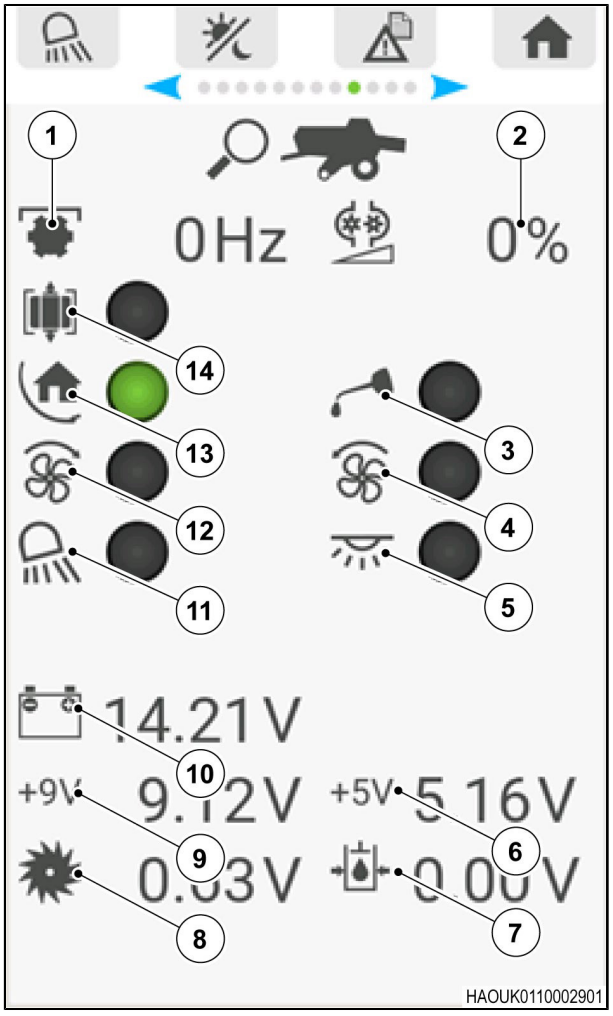


Fig. 1

5.2 Scale diagnostics page

(1) Load sensor module voltage
(2) Load sensor data
(3) Load sensor data
(4) Load sensor data
(5) Load sensor data
(6) Tilt sensor data for X axis
(7) Tilt sensor data for Y axis
(8) Tilt sensor data for Z axis
(9) Load sensor module software version

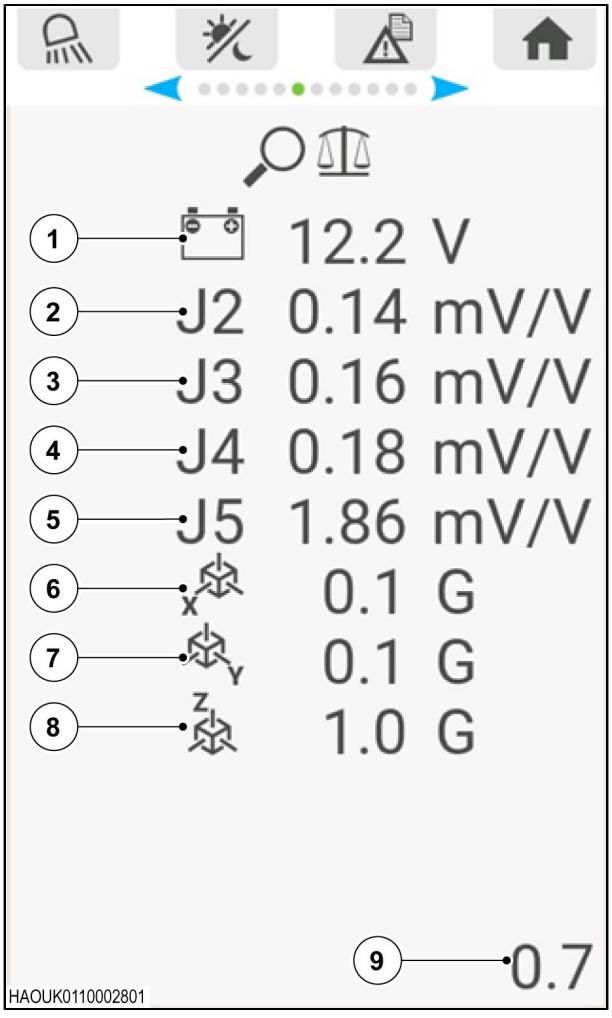


Fig. 2

5.3 Diagnostics

5.3.1 Star wheel diagnostics

WARNING: The machine or parts can move without notification.

The parts that move can cause death or injury.

Before you do work on the machine:

If an implement is on the machine, lower the implement to the ground.

Stop the engine.

Remove the ignition key.

Disconnect the PTO shaft.

CAUTION: Personal Protective Equipment is mandatory.

This procedure can cause injury.

Put on Personal Protective Equipment when you do this procedure.

Bale Length or Flake Count do not change

Step	Diagnostic	Result	Action
1	On the terminal, navigate to the **Diagnostics Screen**. Does the voltage of the star wheel sensor change as the star wheel rotates?	Yes	Go to step 3.
		No	Go to step 2.
2	Do a check of the wiring harness for damage. Do a continuity test of the wiring harness from the PTO speed sensor to the monitor sensor to the monitor sensor to the monitor connector. Clean the connections. Make sure that there is a 5 V supply at the wiring harness connector for the star wheel sensor.	Yes	Diagnostics complete.
		No	Repair or replace the harness.
3	Is there unwanted movement of the star wheel?	Yes	Tighten the bearing collars, replace the bearings if there is too much free play of the bearings.
		No	Go to step 4.

Step	Diagnostic	Result	Action
4	Is the magnet tight on the shaft?	Yes	Go to step 5..
		No	Tighten the fasteners.
5	Is the magnet aligned correctly with the sensor?	Yes	Go to step 6.
		No	Adjust the magnet.
6	Is there unwanted material in the space between the sensor and the magnet on the end of the shaft?	Yes	Clean the area between the sensor and the magnet on the end of the shaft.
		No	Go to step 7.
7	Adjust the distance between the sensor and the magnet on the end of the shaft to 1 mm (0 in) to 3 mm (0.1 in). Is the problem corrected?	Yes	Diagnostics complete.
		No	Refer to your approved dealer.

5.3.2 PTO speed diagnostics

WARNING: The machine or parts can move without notification.

The parts that move can cause death or injury.

Before you do work on the machine:

If an implement is on the machine, lower the implement to the ground.

Stop the engine.

Remove the ignition key.

Disconnect the PTO shaft.

WARNING: Entanglement with the PTO shaft.

Risk of death or injury.

Make sure that the guards are in position and always operate correctly.

If a guard breaks or is missing, repair or replace it before you use the machine.

CAUTION: Personal Protective Equipment is mandatory.

This procedure can cause injury.

Put on Personal Protective Equipment when you do this procedure.

The PTO speed does not show

Step	Diagnostic	Result	Action
1	Do a check of the LED indicator on the rear of the PTO speed sensor. Does the LED come ON when the tooth of the sprocket aligns with the sensor?	Yes	Go to step 2.
		No	Go to step 3.
2	Fully rotate the PTO shaft. Does the LED on the rear of the PTO speed sensor come ON when aligned with each tooth on the sprocket? Does the LED go OFF when it is not aligned with a tooth?	Yes	Go to step 4.
		No	Position the PTO speed sensor so the LED on the rear of the sensor comes ON after each tooth aligns with the sensor.
3	Do a check of the sensor position. Is the distance from the sensor to the sprocket tooth 1 mm (0 in) to 3 mm (0.1 in)?	Yes	Go to step 4.
		No	Move the sensor to the correct position.
4	Do a check of the wiring harness for damage. Do a continuity test of the wiring harness from the PTO speed sensor to the monitor connector. Clean the connections. Make sure that there is a 9 V supply at the wiring harness connector for the PTO speed sensor. Does the PTO speed show?	Yes	Diagnostics complete.
		No	Replace or repair the wiring harness, or replace the sensor.

The PTO speed that shows on the display is not accurate

Step	Diagnostic	Result	Action
1	Navigate to the **Baler Options** on the terminal, is the baler model correct?	Yes	Go to step 2.
		No	Select the correct baler model.
2	Do a check of the sensor position. Is the distance from the sensor to the sprocket tooth 1 mm (0 in) to 3 mm (0.1 in)?	Yes	Go to step 3.
		No	Move the sensor to the correct position.

Step	Diagnostic	Result	Action
3	Fully rotate the baler to make sure that the sensor is calibrated correctly. Is the PTO speed that shows on the display accurate and constant during the full turn?	Yes	Diagnostics complete.
		No	Do a check of the sprocket for damage and correct alignment with the sensor.
4	Do a check of the wiring harness for damage. Do a continuity test of the wiring harness from the PTO speed sensor to the monitor connector. Clean the connections. Make sure that there is a 9 V supply at the wiring harness connector for the PTO speed sensor. Is the PTO speed that shows on the display accurate?	Yes	Diagnostics complete.
		No	Replace or repair the wiring harness, or replace the sensor.

5.3.3 Scale diagnostics

CAUTION: Personal Protective Equipment is mandatory.

This procedure can cause injury.

Put on Personal Protective Equipment when you do this procedure.

No sensor found

Step	Diagnostic	Result	Action
1	Is the scale harness is connected to the J1 power port on the load cell module.	Yes	Go to step 2.
		No	Connect the wiring harness.
2	Are the load cell harnesses are connected to the J2-J5 load cell ports of the load cell module.	Yes	Go to step 3.
		No	Connect the wiring harness.
3	Find the LEDs on the module. Does the power LED illuminate?	Yes	Go to step 5.
		No	Go to step 4.

Step	Diagnostic	Result	Action
4	Do a check of the wiring harness for damage, and a check of the continuity from the wiring harness to the monitor connector. Clean the connections. Make sure that there is a 12 V supply on the connector the module connects to. Can you identify the module?	Yes	Diagnostics complete.
		No	Do a check to make sure that the fuse (F6) is not defective. Repair or replace the wiring harness, or replace the module.
5	Does the communications LED flash 1 time, or 2 or 3 times?	LED flashes 1 time	Refer to your approved dealer.
		LED flashes 2 times	See **Controller Area Network Diagnostics**.
		LED flashes 3 times	Go to step 6.
6	Does the fault LED flash 1 time, or 2 or 3 times?	LED flashes 1 time	Low voltage warning. Do a check of the battery and the charge system.
		LED flashes 2 times	High voltage warning. Do a check of the charge system.
		LED flashes 3 times	Load sensor port failure, go to step 7.
7	The standard setting of the load sensor is if the load sensor is not in use it flashes 3 times. If a port with a fault is in operation, the LED will also flash 3 times. Change the load sensor connector from the port with a fault with the connectors from a port that operates correctly. If the fault follows the connector, see **Load Sensor diagnostics**. If the load sensor operates correctly, the other port has a fault. Replace the port that has a fault.		

Communications LED status

Flash type	Status
Flashes quickly	Startup mode
Always ON	Standard operation
LED flashes 1 time	Source MAC address fault
LED flashes 2 times	CAN bus hardware fault
LED flashes 3 times	Standard operation

Fault LED status

Flash type	Status
Flashes quickly	Startup mode
LED flashes 1 time	Low voltage warning
LED flashes 2 times	High voltage warning
LED flashes 3 times	Load sensor port failure, or standard operation when 3 or less load cells are connected.

The scales are not accurate or the empty weight is incorrect

If the load sensor shows a value of -2.27 kg (-5 lb) to 2.27 kg (5 lb) after the scale is set to zero.

Step	Diagnostic	Result	Action
1	Remove all objects from the scale and set the scale to 0. Clean the scales and remove unwanted objects. Does the scale balance correctly?	Yes	Diagnostics complete.
		No	Go to step 2.
2	Do a check of the scale. Make sure that there is no damage to the frame of the scale. Does the scale balance correctly?	Yes	Diagnostics complete.
		No	Go to step 3.
3	Is there loose or missing hardware that attaches to the load sensors?	Yes	Go to step 4.
		No	Go to step 5.
4	Repair or replace the hardware and set the scales to 0. Does the scale balance correctly?	Yes	Diagnostics complete.
		No	Go to step 5.
5	Do a check of the load sensor or the load sensor wiring harness and connectors. Are the components damaged?	Yes	Replace or repair the components.
		No	Refer to your approved dealer.

The load sensor display weight does not change

Step	Diagnostic	Result	Action
1	Navigate to the **Scale Diagnostics** screen on the terminal. Does **NC** show on the screen near the load sensor icon? **NOTE:** ***NC*** *is usual when 3 or less load sensors are connected. If there are more than 3 load sensors connected:* ***NC*** *is a fault with the wiring harness, load sensor, or the load sensor and the module does not connect.*	Yes	Go to step 2.
		No	Go to step 3.
2	Connect the load sensor wiring harness connector to the load sensor module. Does the load sensor display weight change?	Yes	Diagnostics complete.
		No	Go to step 4.
3	Do a check of the other load sensors. Does the display weight of the other load sensors change?	Yes	Replace the load sensor.
		No	Load sensor communication fault. See **Scale Diagnostics**.
4	Do a check of the position of the load sensor. Are the fasteners tight on the hardware that attaches to the load sensor?	Yes	Go to step 5.
		No	Move the load sensor to the correct position. Tighten the fasteners of the hardware that attaches to the load sensor.
5	Remove the load sensor that has a fault. Use a multimeter to measure the resistance across the pins of the load sensor. Does the resistance measure 1000 Ω ± 200 Ω? **NOTE:** *For the pin layout, see* ***Load Cell Schematics****.*	Yes	Refer to your approved dealer.
		No	Replace the load sensor.

5.3.4 Needle carriage diagnostics

False Bale Count

Step	Diagnostic	Result	Action
1	Move the needle carriage to the home position. Does the needle carriage status sense an object (green dot) on the **Diagnostics** screen of the terminal?	Yes	Go to step 2.
		No	Go to step 3.
2	Put a metal object against the sensor. Does the lamp on the rear of the sensor illuminate?	Yes	Position the sensor so the LED illuminates when the needle carriage is in the home position.
		No	Go to step 4.
3	Does the needle carriage status show when the needle carriage is not in the home position?	Yes	Do a check of the sensor for damage, replace the sensor if necessary.
		No	Go to step 5.
4	Do a check of the wiring harness for damage. Clean the connections. Is there a 9 V supply to the connector that the sensor connects to?	Yes	Refer to your approved dealer.
		No	Repair or replace the wiring harness, or replace the sensor.
5	Do a check of the alignment of the sensor. Does the needle carriage status on the terminal show a green dot when the LED on the sensor illuminates?	Yes	Diagnostics complete.
		No	Position the sensor so the needle carriage status on the terminal shows when the LED on the rear of the sensor illuminates.

5.3.5 Fan diagnostics

The fan does not turn in the forward direction

Step	Diagnostic	Result	Action
1	Can the PTO speed be identified? **NOTE:** *The PTO speed must be >70% of the usual baler PTO speed to set the fan to ON.*	Yes	Go to step 2.
		No	See **PTO Speed Diagnostics**.
2	Is the fuse for the fan (F1) defective?	Yes	Replace the fuse.
		No	Go to step 3.
3	Does the fan forward relay operate correctly?	Yes	Go to step 4.
		No	Replace the relay.
4	Does the fan turn by hand? Disconnect the electrical connector from the fan and do a check that it rotates freely by hand.	Yes	Go to step 5.
		No	Replace the fan.
5	Is there damage to the harness?	Yes	Repair or replace the harness.
		No	Go to step 6.
6	Clean the connections. Is there a 12 V supply to the fan connector when the fan is set to ON?	Yes	Complete.
		No	Repair or replace the harness or fan.

The fan does not turn in the rearward direction

Step	Diagnostic	Result	Action
1	Can the PTO speed be identified? **NOTE:** *The PTO speed must be identified to start the fan.*	Yes	Go to step 2.
		No	See **PTO Speed Diagnostics**.
2	Do a check of the reverse time setting on the baler settings on the terminal. Is the reverse function set to OFF, or set incorrectly?	Yes	Change the settings.
		No	Go to step 3.

Step	Diagnostic	Result	Action
3	Is the fuse for the fan (F1) defective?	Yes	Go to step 4.
		No	Replace the fuse.
4	Does the fan reverse relay operate correctly?	Yes	Go to step 5.
		No	Replace the relay.
5	Does the fan turn by hand? Disconnect the electrical connector from the fan and do a check that it rotates freely by hand.	Yes	Go to step 6.
		No	Replace the fan.
6	Is there damage to the harness?	Yes	Repair or replace the harness.
		No	Go to step 7.
7	Clean the connections. Is there a 12 V supply to the connector that the fan connects to?	Yes	Complete.
		No	Repair or replace the harness.

The fan will not turn off

Step	Diagnostic	Result	Action
1	Can the PTO speed be detected? **NOTE:** *The PTO speed must be detected to activate the fan.*	Yes	Go to step 3.
		No	Go to step 2.
2	Is a fan relay in the ON position when the fan is set to OFF? Does the fan stop when you remove a relay?	Yes	Replace the relay.
		No	Go to step 3.
3	Is there damage to the harness?	Yes	Repair or replace the harness or fan.
		No	Refer to your approved dealer.

5.3.6 Lamp diagnostics

Step	Diagnostic	Result	Action
1	Do the status lamp indicators on the diagnostic screen illuminate when lamps are set to ON?	Yes	Go to step 2.
		No	Go to step 3.
2	Are the keypad status indicator lamps on?	Yes	Go to step 3.
		No	See **CAN diagnostics**.
3	Does the fuse for the lamp operate correctly?	Yes	Go to step 4.
		No	Replace the fuse.
4	Does the relay for the service lamp and the relay for the field lamp operate correctly?	Yes	Go to step 5.
		No	Replace the relay.
5	Is there damage to the harness?	Yes	Replace the harness.
		No	Go to step 6.
6	Do a check of the connectors. Is there a 12 V supply to the connectors?	Yes	Refer to your approved dealer.
		No	Repair or replace the lamps.

5.3.7 Automatic lubrication system diagnostics

Step	Diagnostic	Result	Action
1	Is the automatic lubrication enabled on the **Baler Options** on the terminal?	Yes	Go to step 2.
		No	Activate the automatic lubrication function on the **Baler Options** on the terminal.
2	Can the PTO speed be identified?	Yes	Go to step 3.
		No	See **PTO Speed Diagnostics**.

Step	Diagnostic	Result	Action
3	Does the **Bale Count** operate correctly? **NOTE:** *The automatic lubrication system function is operated by the* ***Bale Count****.*	Yes	Go to step 4.
		No	See **Needle Carriage Diagnostics**.
4	Do a manual lubrication cycle from the keypad. Does the lubrication pump operate for 15 seconds?	Yes	Go to the **Baler Settings** screen on the terminal and change the lubrication pump duration and interval.
		No	Do a check of the lubrication pump and relay. Do a check of the wiring to the lubrication pump. Do a check of the lubrication pump. Use a multimeter to see if there is an internal short in the lubrication pump motor.

5.3.8 Bale pressure system diagnostics

WARNING: The machine or parts can move without notification.

The machine and its parts are heavy and can cause death or injury.

Park the machine on a clean, hard and level area.

Set the parking brake to ON and install the wheel chocks.

If an implement is on the machine, lower the implement to the ground.

Stop the engine and remove the ignition key.

CAUTION: Personal Protective Equipment is mandatory.

This procedure can cause injury.

Put on Personal Protective Equipment when you do this procedure.

Hydraulic pressure not stable

Step	Diagnostic	Result	Action
1	Was the air removed from the hydraulic valve after repairs on the hydraulic system, or before the first start of the machine?	Yes	Calibrate the hydraulic valve. See **Calibrations**.
		No	Remove the air from the hydraulic system. Go to step 2.
2	Is the hydraulic pressure stable?	Yes	Diagnostics complete.
		No	Calibrate the hydraulic valve. To calibrate the hydraulic valve, see the **Calibrations** section.

Hydraulic system not building pressure

Step	Diagnostic	Result	Action
1	Set the PTO to ON, set the manual mode to ON and set the manual voltage to 5 V. Does pressure increase in the hydraulic system?	Yes	Go to step 2.
		No	Go to step 3.
2	Increase the engine rpm to set the PTO speed to the standard operation speed. Is the PTO speed on the display correct?	Yes	Go to step 4.
		No	See **PTO Diagnostics**.
3	Set the manual mode to ON and set the manual voltage to 5 V. Use a multimeter to do a check of the solenoid valve. Can the multimeter find a 5 V electrical voltage? **NOTE:** *The voltage measured must be ± 1 V from the voltage that shows on the terminal.*	Yes	Go to step 5.
		No	Replace the solenoid.
4	Is the pressure sensor in fault mode or does the display show 0 psi?	Yes	Do a check of the pressure transducer. Replace the transducer if necessary.
		No	Go to step 6.

Step	Diagnostic	Result	Action
5	Set the manual mode to ON and set the manual voltage to 5 V. Does an object made from iron attach to the solenoid?	Yes	Go to step 6.
		No	Do a check of the wiring harness. If there is damage to the wiring harness, repair or replace the wiring harness.
6	Calibrate the hydraulic valve. Does pressure increase in the hydraulic system?	Yes	Diagnostics complete.
		No	Go to step 7.
7	Do a check of the hydraulic density cylinder. Does it operate correctly with no leaks?	Yes	Go to step 8.
		No	Replace the hydraulic density cylinder.
8	Do a check of the oil pump reservoir. Is the level of oil correct?	Yes	Go to step 9.
		No	Add oil.
9	Do a check of the hydraulic hoses. Are there leaks or failures on the hoses?	Yes	Repair the hydraulic hoses.
		No	Go to step 10.
10	Do a check of the drive mechanism for the oil pump. Does it operate correctly?	Yes	Go to step 11.
		No	Replace the oil pump drive chain.
11	Rotate the oil pump and do a check if it operates correctly. Is the internal key in good condition and operating correctly?	Yes	Go to step 12.
		No	Replace the oil pump.
12	Do a check of the hydraulic valve. Are there unwanted objects in the valve stems?	Yes	Clean the hydraulic valve and remove the unwanted objects.
		No	Refer to your approved dealer.

Bale chamber pressure reduction does not function correctly

Step	Diagnostic	Result	Action
1	Is the PTO speed less than 70% of the standard PTO speed?	Yes	Go to step 2.
		No	Decrease the PTO speed.

Step	Diagnostic	Result	Action
2	Does the compression cycle status indicator illuminate on the **Baler Diagnostics** page of the terminal?	Yes	For 1844 models: See **Hydraulics system not building pressure** diagnostics.
		No	Refer to your approved dealer.

5.3.9 CAN bus diagnostics

The CAN bus keypad does not operate correctly

Step	Diagnostic	Result	Action
1	Do some of the first LEDs on the keypad buttons come ON when you set the machine to ON?	Yes	See **General CAN bus diagnostics**.
		No	Go to step 2.
2	Do the keypad lamps come ON when you set the machine to ON?	Yes	See **General CAN bus diagnostics**.
		No	Do a check of fuse 6, replace if it is necessary.
3	Is there power to the CAN bus keypad?	Yes	Go to step 4.
		No	Go to step 4.
4	Use a multimeter to do a check of the CAN bus keypad connector. Can the multimeter find a 12 V electrical current?	Yes	Refer to your approved dealer.
		No	Do a check of fuse 6, replace if necessary.

General CAN bus diagnostics

Step	Diagnostic	Result	Action
1	Are the 2 resistors installed on the CAN bus? There is a resistor at the aft of the baler and a resistor on the cab harness connector.	Yes	Go to step 2.
		No	Install the 2 resistors on the CAN bus.

Step	Diagnostic	Result	Action
2	Use a multimeter to do a check of the CAN bus. Can the multimeter find an electrical current? **NOTE:** *The typical voltage for the CAN is 2.3 V for CAN low and 2.7 V for CAN high.*	Yes	Do a check of the CAN bus hardware for damage or broken wires.
		No	Go to step 3.
3	Do a check of the moisture sensor, the CAN bus keypad, and the scale module. To see if a hardware device creates a CAN communication fault, disconnect each hardware device 1 at a time.		Replace broken hardware.

5.4 Fault codes

5.4.1 Fault codes overview

Go to the fault code menu to see stored fault codes. You can configure the home screen to show the fault code menu.

Icon	Description
	Fault code menu

5.4.2 Erase a fault code

Procedure

1. Move the cursor with the keypad buttons to the applicable fault code.
2. Press the **OK** button on the keypad.

   NOTE: *The fault code details display.*
3. Press the button to the delete the fault code.

   NOTE: *It is not possible to delete active fault codes.*

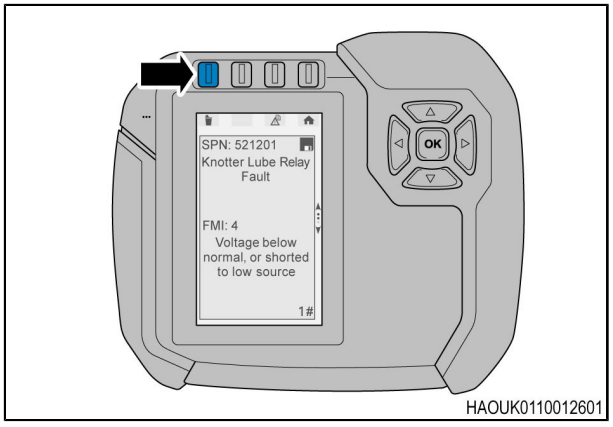


Fig. 3

5.4.3 Fault codes

Fault title on display	Fault code	System	Fault level	System condition description
Keyswitch battery potential	158	Standard	High	Battery voltage is higher than 16 V
Keyswitch battery potential	158	Standard	High	Battery voltage is lower than 10.5 V
Hydraulic pressure	1762	Standard	High	Valve pressure is higher than 200 psi

Fault title on display	Fault code	System	Fault level	System condition description
Sensor power 2 fault	3509	Standard	High	Sensor voltage is lower than 4.5 V
Sensor power 2 fault	3509	Standard	High	Sensor voltage is higher than 5.5 V
Sensor power 1 fault	3510	Standard	High	Sensor voltage is lower than 8.5 V
Sensor power 1 fault	3510	Standard	High	Sensor voltage is higher than 9.5 V
Hydraulic pressure sensor	520201	Hydraulic and load control	High	Standard input fault
Decompress solenoid fault	520205	Hydraulic and load control	Low	Standard output fault
Pressure control solenoid fault	520206	Hydraulic and load control	High	Standard output fault
Hydraulic response fault	520207	Hydraulic and load control	Low	The bailer is ON and the hydraulic pressure is 50 psi lower than the applicable pressure
Rear keypad fault	520401	Keypad	Low	The keypad does not connect to the machine for more than 3 seconds while the machine is in operation. The machine can not connect to the keypad for more than 5 seconds after the machine is set to ON.

Fault title on display	Fault code	System	Fault level	System condition description
Moisture system fault	520501	Moisture system	Low	The moisture system is set to ON and: • There is no communication from the moisture sensor for 3 seconds. • The system type data is unknown. • There is a 30 second configuration delay.
Moisture system fault	520501	Moisture system	Low	The moisture function is OFF and the machine can not find the moisture system.
Scale module fault	520701	Chute scale	Low	The scale function is OFF and the machine can not find the Load Sensor Module (LSM) system.
Insufficient load cells	520702	Chute scale	Low	Load Sensor Module (LSM) is ON and the system senses that there are less than or more than 3 load cells.
Bale length sensor fault	520901	Knotter system	High	Standard analog input fault.
Knotter trip relay fault	520905	Knotter system	High	Standard output fault.
Continuous needles cycling	520909	Knotter system	High	Baler is in operation and on the twine tie cycle the start flake count of the bale is less than 1.

Fault title on display	Fault code	System	Fault level	System condition description
Needles not home	520910	Knotter system	High	Baler is in operation and the needles have been away from the start position for more than 1 flake.
				The needles are not at the start position on startup.
Tie cycle fault	520912	Knotter system	High	After the knotter was set to ON, the machine did not get a signal that the tie cycle started: -2 times in automatic mode. -1 time in manual mode.
Bale oversize	520914	Knotter system	Low	The current bale length is equal to or more than 100 mm (3.9 in) over the set bale length.
Knotter fan forward relay fault	520915	Knotter system	Low	Module configuration and standard output fault.
Knotter fan reverse relay fault	520917	Knotter system	Low	Module configuration and standard output fault.
Flywheel shearbolt failure	521008	Drives/Gears	High	The PTO speed decreased faster than the approved value for the machine.
No PTO speed detected	521009	Drives/gears	Low	The PTO speed signal is lower than 100 rpm, but the machine is in operation and it makes bales.

Fault title on display	Fault code	System	Fault level	System condition description
Service light relay fault	521101	Lamps	Low	Standard output fault.
Field light relay fault	521102	Lamps	Low	Standard output fault.
Knotter lube relay fault	521201	Oilers	High	Standard output fault.

6 Specifications

6.1 Fuse schematic

The location of the fuse box is on the right side of the machine.

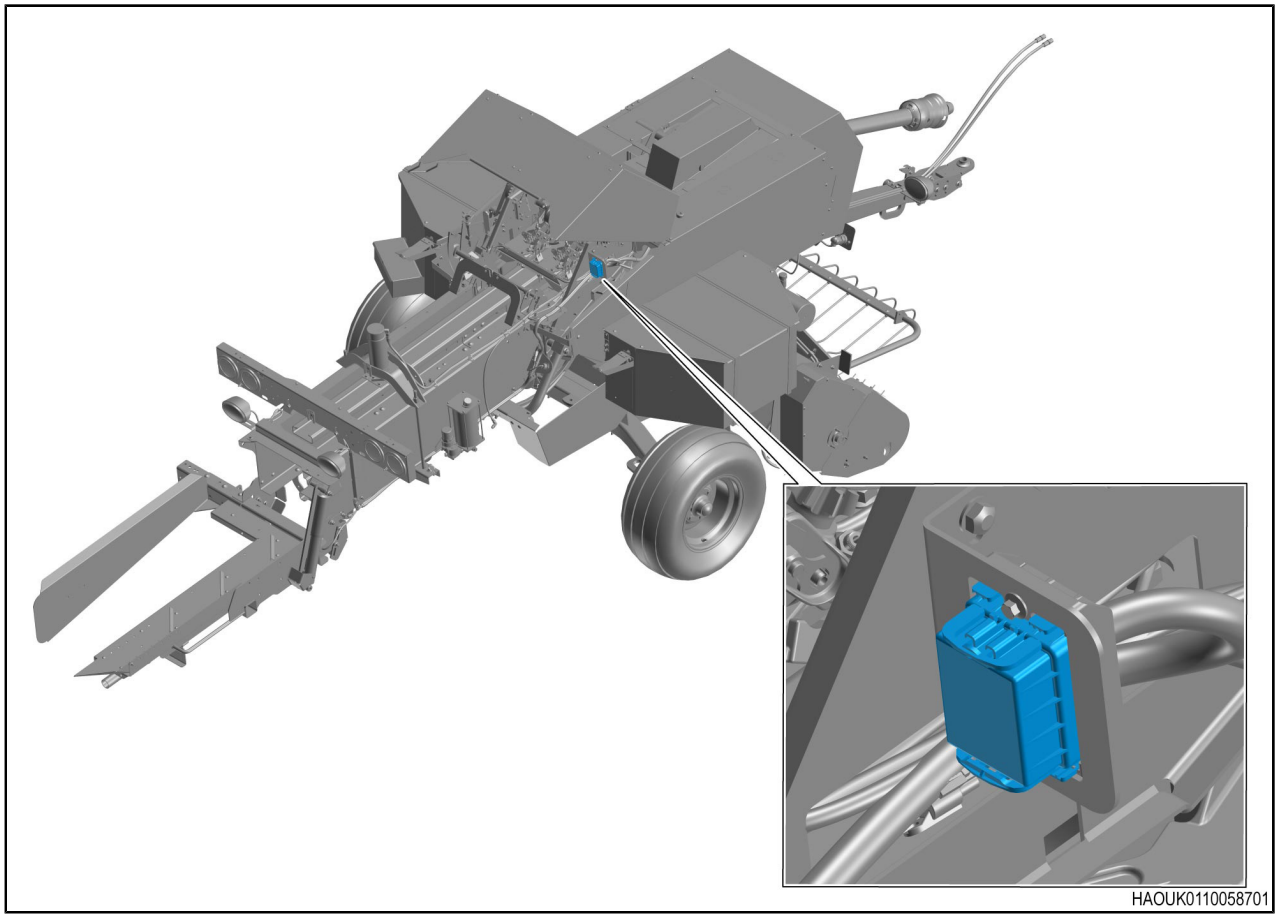


Fig. 1 *1840 models*

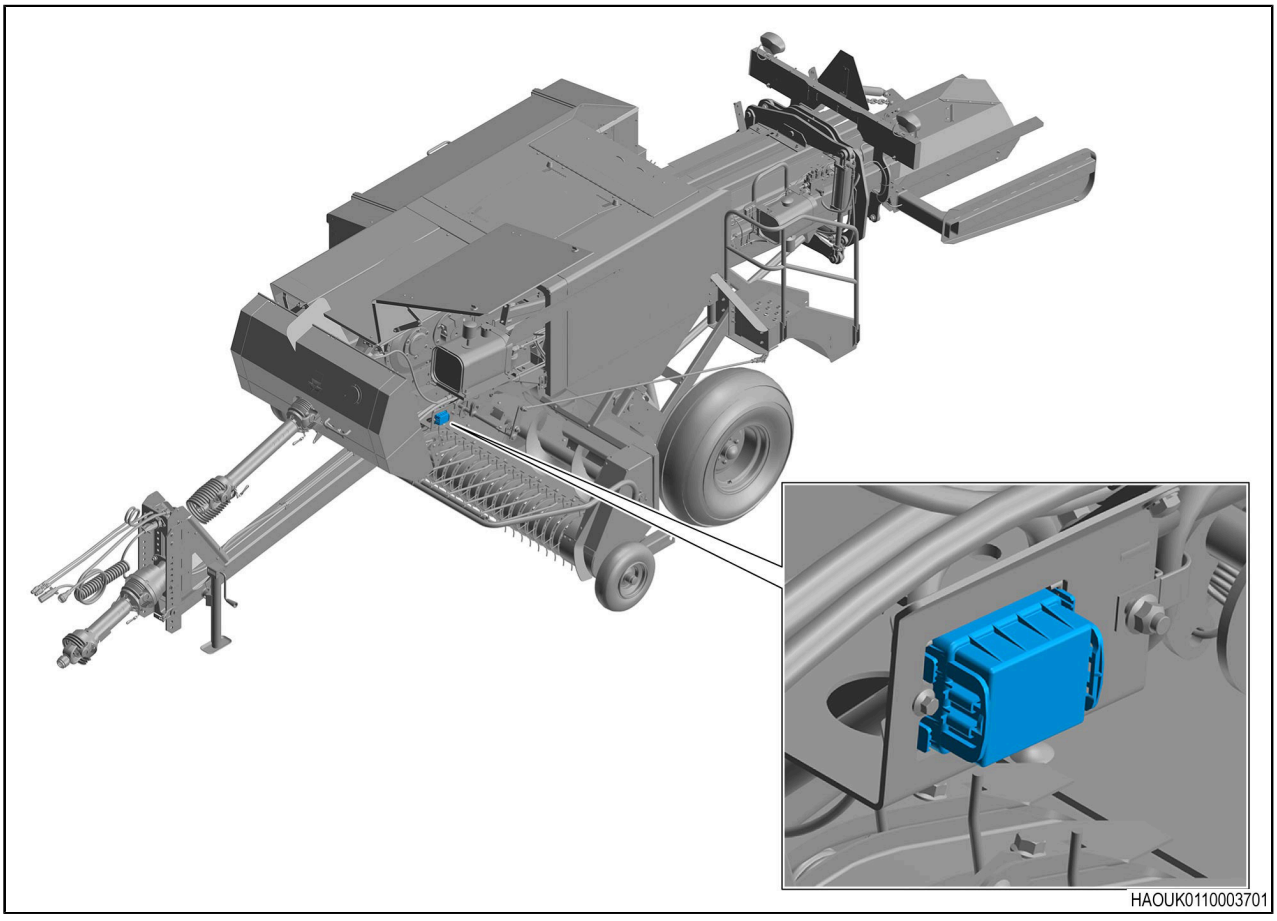


Fig. 2 *1844 models*

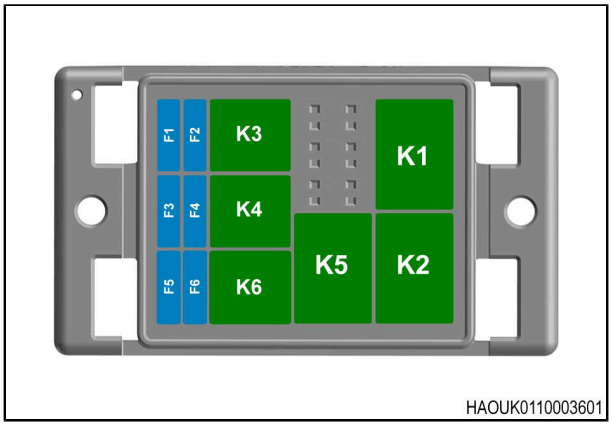


Fig. 3

Fuses

Fuse	Amp	Description
F1	25	Fan
F2	10	Accessory power
F3	15	Lamps
F4	7.5	Lubrication pump
F5	7.5	Knotter trip system
F6	3	ECU Accessory power

Relays

Relay	Description
K1	Fan direction 1
K2	Fan direction 2
K3	Field lamps
K4	Lubrication pump
K5	Knotter trip system
K6	Service lamp

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79037889A (English)
March 2024