Workshop Service Manual

MASSEY FERGUSON

Variable Chamber Baler

RB 4160 V
RB 4160 V Xtra
RB 4180 V
RB 4180 V Xtra

Wolfenbüttel
AGCO GmbH - Gebrüder-Welger-Straße 3 - D-38304
Wolfenbüttel

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English

MASSEY FERGUSON

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, or 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, or other reproductive harm. Wash hands after handling.

TABLE OF CONTENT

1 General

1.1 Safety

1.1.1 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.*

1.1.2 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 sequence 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.

1.1.3 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

- Always keep a minimum distance of 3 m (10 ft) between the machine and electrical power lines, make sure that you monitor the height of the machine when the tailgate is in the open position
- Know that the height of the machine is up to 3.50 m (11.5 ft) and with an opened tailgate 4.28 m (14.04 ft), depending on specifications and installed tyres
- 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
- Make sure that all safety guards and protection devices are in position
- Do not remove a blockage by hand or by foot. Always use an applicable tool
- Make sure that you set the pressure of the tyres of the transport wheels to the pressure specified. Do not put less than or more than the specified pressures in the tyres
- We recommend to only replace the first tyres with tyres that have speed category and load specifications the same or better than the values in the tyre pressure table. If you do not do this, it can cause dangerous problems.

1.1.4 Safe Driving

Read and understand the general safety instructions. Make sure that:

- You always obey your local road traffic regulations and the speed limits
- The drawbar and the parking jack are in the drive position
- The machine is in the transport position
- The tailgate is not open and locked
- The trailed steering axle (if present) is locked
- All parts that move (for example the folding components and covers) are locked
- The tractor hydraulic system is OFF
- All the lamps on the machine operate correctly and are clean from dirt
- Examine the operation of the brakes before you start to drive. Do not drive with the machine if there is a problem with the brakes
- Do not make sudden turns when on a slope
- Drive slower when on a down slope
- Do not disengage the clutch of the tractor or change gears on a slope.

1.1.5 Public Road Transport Safety

Read and understand the general safety instructions before you drive on the road. When you drive on the road:

- Obey the local road traffic laws
- Keep a safe distance from other traffic
- Make sure that the plug for the lighting cable fully connects to the tractor socket and the lamps operate correctly
- Use warning lamps or other safety signs, if necessary

- If necessary by local law install the rear marking plate for Slow Moving Vehicles (SMV) on to the machine
- If necessary by local law install the licence plate on the machine
- If necessary by local law, install the safety chains. Connect them to a rigid part of the tractor
- If there is a hydraulic brake system, always connect the safety brake cord (optional)
- Remove loose objects that can fall off the machine, for example, loose crops, mud or soil
- Make sure that only approved tyre types are in use on the machine. Tyres not approved by the manufacturer can be dangerous. Examine the transport wheels nuts and tighten them if necessary after the set working hours or driven distance. Make sure that the tyres have the correct pressure. Do not inflate the tyres with more than the recommended quantity of air
- Do not operate hydraulic components
- Make sure that the maximum height of the machine is safe when you drive below electrical lines and structures
- Always keep a minimum distance of 3 m between the machine and electrical power cables
- Make sure the tubes of the bale ejector are pushed in into the transport position.

1.1.6 Safe Maintenance

Read and understand the general safety instructions then:

- Before you do maintenance or do work on the machine:
  - Stop the tractor engine and remove the key
  - Disengage the power take-off (PTO)
  - Stop all the parts that can move
  - Put the wheel chocks against one of the wheels
- Do not touch parts that can move
- Obey the maintenance schedule in the manual to prevent problems
- Do not change the machine
- If it is necessary to replace parts, only use parts with manufacturer approval
- Make sure that all covers and guards are in position and locked when you complete maintenance work.

1.1.7 Safe Operation

Read and understand the general safety instructions then:

- Before you start to work with the machine do a visual inspection
- Make sure that no changes occurred to the machine and no components are missing
- Make sure that there are no unusual noises or leaks during operation
- Only use the manufacturers instructions when you operate the machine
- Do not get on or into the machine when it is operating
- Make sure that you disengage the PTO shaft, stop the tractor engine and remove the key before you remove crop material from the machine
- Make sure that you disengage the PTO shaft, stop the tractor engine and remove the key before you put in the net and twine
- Correctly attach the net knife before you do work on or near the net knife. see chapter 1.4.6 *Install the Net Knife Safeguard,* page 1-16
- Protective gloves must be in use when you do work on the net knife or on the knives of the cutting device
- Do not go near the tailgate area while in operation
- Control the machine from the operators seat only. Do not transport other persons on the machine
- When the machine is in operation do not climb on the drawbar or other parts of the machine
- Do not put metal parts near to the machine. This causes accidental operation of the proximity sensors and unwanted movements of the machine
- On a slope always put bales in a position in which they cannot move down the slope

- Make sure that there are no people or animals in the danger zone during operation see chapter 1.5 *Danger Zones,* page 1-18 . This is important in or near areas that are open to bystanders
- Keep a minimum distance of 3 m (10 ft) from electrical high-voltage lines when you open the tailgate. The height of the machine is up to 3.50 m (11.5 ft) and with an opened tailgate 4.28 m (14.04 ft), depending on specifications and installed tyres.)
- Correctly position the tailgate safeguard when you do work on the opened tailgate. see chapter 1.4.2 *Set the Tailgate Safeguard,* page 1-15
- Make sure that there are no objects in the field that can go into the machine
- Do not operate the machine with defective, removed or opened protective devices.

After operation

- Park the machine on flat, level, and stable ground
- Before you disconnect the machine from the tractor, make sure that:
  - The manually operated parking brake (optional) is on
  - The wheel chocks are against the wheels
  - The machine is in the correct position on the support foot
  - Release the pressure of the hydraulic system before you disconnect the hydraulic hoses. Refer to the tractor manual.

1.1.8 Fire Prevention

- Fire can easily occur with the harvested crop! To prevent fire:
  - Remove all crops that stayed in the machine, including from behind the guards.
- Fire can occur when the parts of the machine get too hot! To prevent this:
  - Follow the lubrication instructions
  - Make sure that there are no oil leaks
  - If a part of the machine gets too hot: find and remove the cause.
- Brakes that are not free to operate can cause fire! Before first use and before you use the machine after a period of more than one week:
  - Examine the brakes to make sure that they operate correctly
  - Release the manually operated brake before you drive with the machine attached
  - Examine the brake system for correct operation.
- Electricity can cause fire:
  - Keep the electrical systems of the tractor and the machine in a good condition
  - Do not use the wiring on the machine for devices other than those installed by, or approved by, the manufacturer
  - Too much load on the electrical cables will cause heat.
- Do not smoke near the machine
- Keep the exhaust system of the tractor in a good condition
- Keep a fire extinguisher near to the machine.

1.2 Safety decals

Location and explanation of the safety decals

Installation of safety decals

1. Make sure that the installation surface is clean and dry.
2. Make sure that the temperature of the installation surface is not less than 5 °C (41 °F).
3. Find the correct position for the decal before you remove the backing paper.
4. Remove a small part of the cover paper.
5. Put the decal in the correct position on the installation surface and carefully push the small part of the shown adhesive surface of the decal on to the installation surface.
6. Slowly remove the cover paper and attach the decal to the installation surface.
7. Make small air holes in the decal with a pin and use the cover paper to make sure that the decal is flat.

Maintenance of safety decals

Safety decals show important data and data that you can use that will help you to safely operate and maintain the machine.

Obey the instructions to make sure that all the decals stay in the correct position and condition.

- Keep the safety decals clean and in good condition at all times. Clean the safety decals with soap and water. Do not use mineral spirits, abrasive cleaners or other agents that can cause damage to the safety decals.
- Replace safety decals that are missing or that are in bad condition.
- Purchase replacement safety decals from your local service provider.

1.3 Safe Maintenance

1.3.1 Personal protective equipment

DANGER: Risk of injury

Put on the correct personal protective equipment (PPE). Stop the engine and remove the ignition key. Make sure that the machine stops fully before you make an adjustment or do work on the machine.

WARNING: Risk of injury

Use applicable hearing protection against loud noise. Exposure to high noise levels can cause hearing impairment. Do not use headphones while you do procedures on the machine.

Always use Personnel Protective Equipment (PPE) when you do procedures on the machine.

Mandatory safety signs

Fig. 1

(1) Goggles
(2) Gloves
(3) Safety boots
(4) Clothing
(5) Breathing protection
(6) Ear protection

1.3.2 Prepare for emergencies

Make sure that first aid equipment is available.

Make sure that other persons know you are at work on the machine.

Make sure that you can speak to the emergency services if necessary.

1.3.3 Waste disposal

Incorrectly disposing of dangerous waste can cause damage to the environment. Dangerous waste includes oil, fuel, fluids and batteries.

Always:

- Use an applicable container when you remove fluids.
- Do not use food or drink containers.
- Do not put dangerous waste in the ground, down a drain or into a water source.

1.3.4 Correct maintenance

- Do not do work on the machine or its components while the machine operates.
- Do not wear loose clothing when you do work on or near the machine.
- Keep long hair behind the head and wear a hair net.
- Remove metal jewellery to prevent electrical short circuit or other injury when you do work on the machine.
- Always set the engine to OFF and remove the key before you do maintenance on the machine.
- Make sure that the machine is cold before you do maintenance on it.
- Keep all parts in good condition and correctly installed.
- Repair damaged machine systems or components immediately.
- Remove all foreign objects and unwanted material before you do work on the machine.
- Disconnect the electrical system before you make electrical adjustments or weld on the machine.

1.3.5 Clean area

- Fully clean the machine and components before you do work on the machine.
- The work must be done on a hard surface and in a clean area.

1.3.6 Maintenance safety

- Make sure that the work area has sufficient lighting.
- Lamps that do not have a cover can cause a fire.
- Always keep chemicals and dangerous materials in the manufacturers containers.

1.3.7 Maintenance area safety

To safely do maintenance, troubleshoot or make adjustments to the machine, it is important to move it to a safe area..

1. Park the tractor with the machine at a safe location and on solid level ground.
2. Set the parking brake of the machine and the tractor to ON.
3. Stop the engine on the tractor and remove the key. Remove the PTO shaft.
4. Release the pressure of the hydraulic system before you disconnect the hydraulic hoses. Refer to the tractor manual.
5. Install wheel chocks against 1 of the transport wheels.

1.3.8 Disconnect the Machine

Procedure

1. Make sure that you save all the adjustments by switching off the power on the controller with the on/off button.

2. Apply the manually operated brake (1).

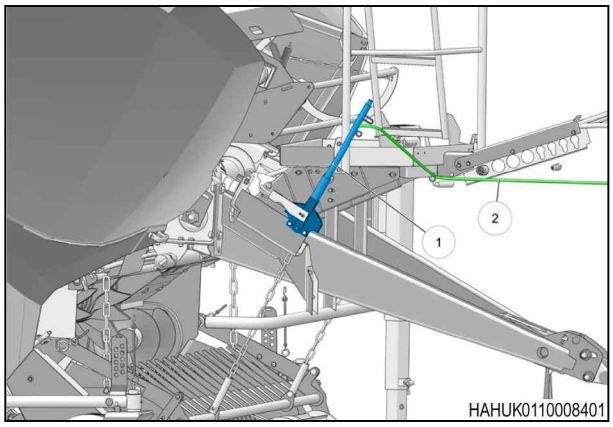

Fig. 2

3. Put the wheel chocks in position.

4. Install the support foot.

5. For a hydraulic brake system:

a) Disconnect the hydraulic brake hose from the tractor and immediately connect it to the dummy coupling on the platform.

b) Disconnect the optional safety brake cord.

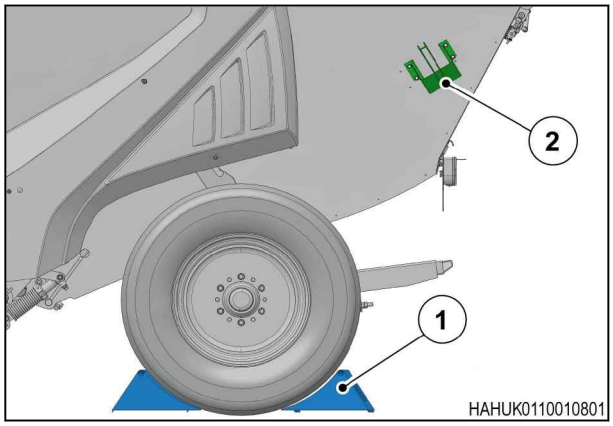

Fig. 3

6. For a compressed air braking system:

a) Disconnect the reservoir coupling with the red top.

b) Disconnect the brake coupling with the yellow top.

c) Connect the couplings to the dummies.

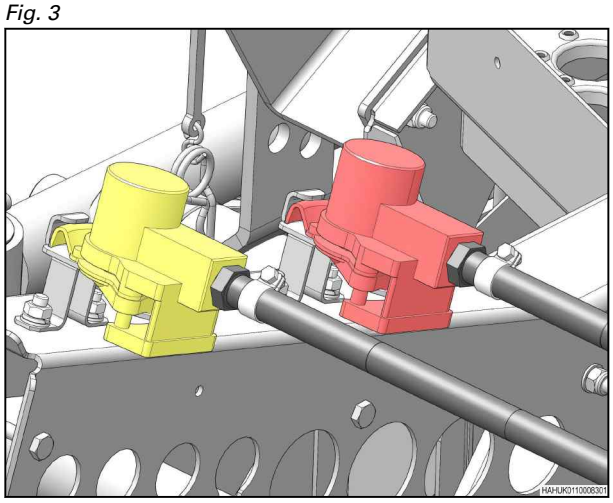

Fig. 4

7. Disconnect the cables of the electrical power supply, lighting and the control panel.

8. Disconnect the hydraulic hoses and connect them to the dummies.

9. Disconnect the PTO shaft:

a) For a machine with a bottom coupling: position the drive shaft on the drive shaft support.

b) For a machine with a top coupling: hang the drive shaft in the strap.

10. Disconnect the machine.

11. Install the lock on the drawbar head.

1.3.9 To Move the Machine without Brakes

Before starting the procedure

WARNING: Risk of unusual handling characteristics.

Always connect the air hoses to the tractor when you move or operate the machine.

Before starting the procedure

When the tractor air hoses are not connected and the air reservoir is full the brakes will be engaged. When the brakes need to be released and you cannot do this by connecting it to a tractor, it will be necessary to use this procedure.

Procedure

1. Push the release valve (1).
2. Move the machine at only walking speed.
3. Apply the wheel chocks and the parking brake to stop movement of the machine.

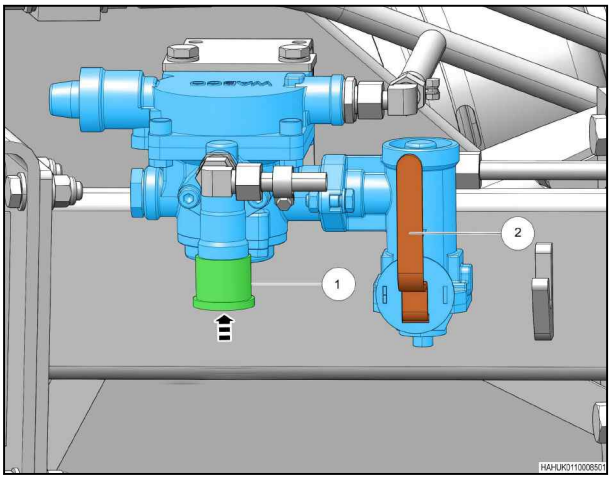

Fig. 5

After finishing the procedure

When you connect the air hoses, braking force will apply again.

Symbol	Brake effect	Data
	Low brake effect. Not for the road.	The machine has not sufficient braking effect for driving on the road. This setting does not have approval for moving the machine with a tractor.
	Medium brake effect. Not for the road. Only permitted for driving on the field.	The machine has not sufficient braking effect for driving on the road. This lever position can be used for field use of the machine. When using this setting the tractor must have sufficient brake power. For this heed the nature of the ground and of the site.
	Full brake effect.	Has approval for road driving! Has approval for field use!

1.3.10 Take the Machine out of Operation

To work safely it is important to remove the machine out of operation before you do maintenance, troubleshooting, or make adjustments.

1. Park the tractor with the machine at a safe location and on solid level ground.
2. Engage the parking brake of the tractor.

3. Make sure that you disengage the PTO shaft, stop the tractor engine and remove the key.
4. Release the pressure of the hydraulic system before you disconnect the hydraulic hoses. Refer to the tractor manual.
5. Apply the manual brake on the machine.
6. Use the 2 wheel chocks against one of the transport wheels.

1.3.11 Use the correct tools

- Always use the applicable equipment and the approved tools for repair and maintenance procedures..

1.3.12 Correctly lift the machine

- Do not lift the machine with equipment that is not of the applicable type.
- Do not work under a machine with only a jack to hold it up.
- You must use wheel chocks to prevent movement of the machine.

1.3.13 Correct lifting equipment

- Follow the recommended procedures in the manual for the removal and installation of the components or systems.
- The points for lifting the machine with a suitable jack are shown in the safety decal location section.
- It is dangerous to lift the machine incorrectly. This can cause injury to personnel or cause damage to the machine.
- Make sure that you use the correct lift equipment to hold or lift heavy components.

1.3.14 High pressure fluids

- If the high pressure hydraulic oil goes into the skin, get medical aid quickly.
- Set the machine to OFF and let it become cold before you examine the fluids. Be careful when you remove the radiator cap, electrical plugs, grease fittings or pressure taps.
- Do not open hydraulic connections while the machine operates. Release the hydraulic pressure before you do maintenance or repairs.
- Tighten all connections before you pressurize the system.
- Examine for leaks with a piece of wood or cardboard to prevent injury to the skin.
- High pressure hydraulic fluid or diesel fuel can cut the skin, burn or cause injury to the eyes.
- If hydraulic fluid or diesel fuel causes injury to personnel, get medical aid quickly.

1.3.15 Do not use heat near pressurized fluid lines

- Do not cause heat by welding, soldering or flames near pressurized fluid lines or other flammable materials.
- Pressurized lines can easily leak when heat moves from areas where you do work.
- Flammable gases can occur with the use of heat near pressurized fluid lines. If accidental ignition occurs, it can cause dangerous burns to the skin.

1.3.16 Welding or the use of heat on parts

Welding and the use of heat on parts can make dangerous, poisonous and or flammable fumes. Follow these precautions:

- Remove paint, dirt and fluids from the area where you do work.

- Use an applicable respirator when you remove paint with abrasive equipment, do not breathe in the dust.
- Remove solvents with soap and water.
- Remove flammable material from the area.
- Discard paint and solvents correctly.
- Let fumes move away from the work area.
- Always do work in an area with the good airflow.

1.3.17 Tires and wheels

Follow the correct procedures when you do work on tires, tires can explode and cause injury or death.

- Do not weld a wheel rim this is prohibited.
- Do not weld a wheel rim with a tire installed on it.
- Do not install or remove a tire unless you use the correct equipment and with a tire safety cage.
- Only the approved personnel can repair tires.

1.4 Safety Devices

1.4.1 Tailgate Safeguard

The tailgate safeguard is a hydraulic shut-off valve that safely holds an opened tailgate in position and makes sure that it does not lower.

The shut-off valve is located on the maintenance platform.

Always set the shut-off valve in the 'shut-off' position when you do maintenance with the tailgate open.

If the tailgate is open for a long period of time hold the tailgate with an applicable tool. This will stop hydraulic pressure reduction and movement of the tailgate.

1.4.2 Set the Tailgate Safeguard

Procedure

1. Open the tailgate.
2. Turn the hydraulic tailgate valve to the shut-off position.

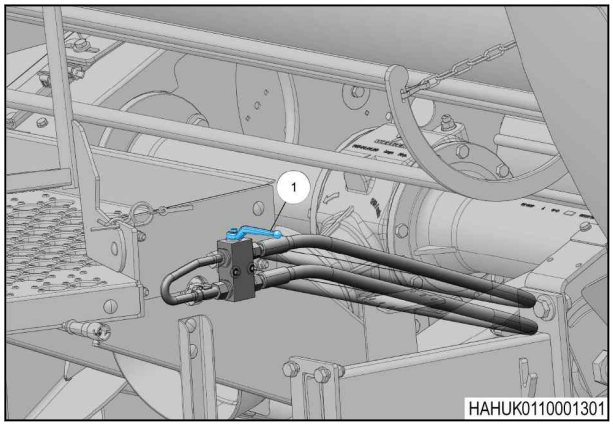

Fig. 6

(1) Hydraulic tailgate valve

1.4.3 Remove the Tailgate Safeguard

Procedure

1. Turn the hydraulic tailgate valve to the position to let operation occur.
2. Close the tailgate.

1.4.4 Hydraulic Shut-off Valve

The hydraulic hose of the pick-up has a shut-off valve. In the closed position the pick-up will not lower.

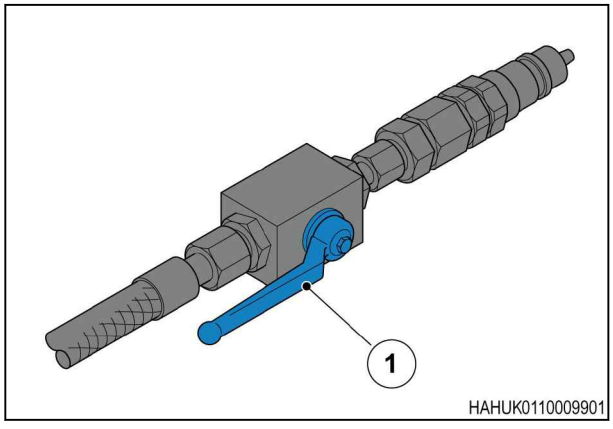

Fig. 7

1.4.5 Net Knife Safeguard

The net knife safeguard is a safety chain with a spring clip that attaches to the net knife. It stops unwanted movement of the net knife during maintenance and when you do work near the net knife.

The net knife safeguard is installed at the rear of the net unit. Always make sure that you attach the net knife safegaurd before you do maintenance or work near the net knife.

1.4.6 Install the Net Knife Safeguard

Procedure

1. Connect the safety chain to the handle.
2. Attach the safety chain with the spring clip.

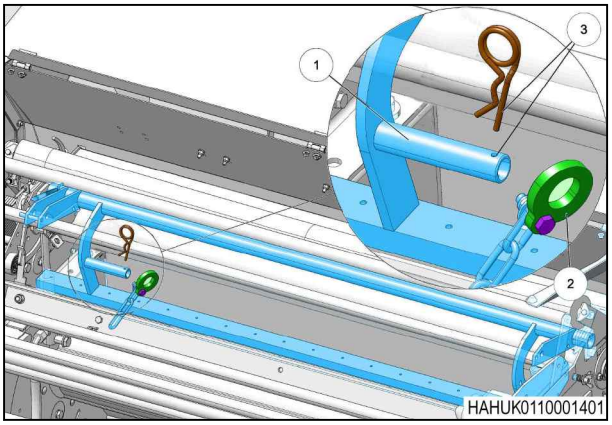

Fig. 8

(1) Handle net knife carrier
(2) Safety chain
(3) Spring clip

1.4.7 Remove the Net Knife Safeguard

Procedure

1. Remove the spring clip from the safety chain.
2. Disconnect the safety chain.

1.4.8 Pick-up Safeguard

The pick-up safeguard is a safety chain that:

- Stops the pick-up from falling down if the hydraulic pressure decreases while driving
- Stops the pick-up hitting the ground while driving on rough terrain.

The pick-up safeguard has two parts, the hook (1) and the chain (2). During transport, put the safeguard (left and right) in the shortest position.

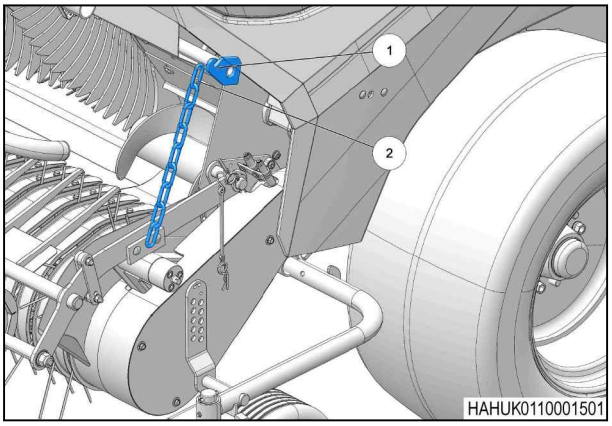

Fig. 9

1.4.9 Safety Chain (optional)

The safety chain is a secondary connection for pulled machines. It prevents separation of the machine and the tractor if the machine disconnects during operation. The use of a safety chain could be necessary by law in your area. You must obey your local regulations.

To Attach the Safety Chain

Procedure

1. Attach the safety chain to the drawbar and the hook to a rigid part of the tractor.
2. Make sure that the safety chain is the correct length to make turns with the tractor and the machine.

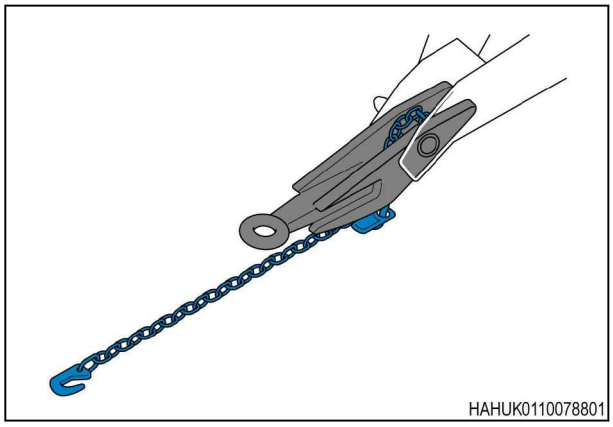

Fig. 10

1.5 Danger Zones

The operator controls the machine from the tractor seat (1) with the operator control unit, the hydraulic single, double acting valve and the PTO shaft.

The danger zone (2) is the area immediately around the machine in which accidents can occur during operation. The extended danger zone (3) is the area behind the machine, where bales eject.

DANGER: Risk of death.

Parts of the machine and bales can move this can cause injury or death.

Do not go in the danger zones of the machine during operation. The operator of the machine must make sure that no person goes in the danger zones during operation.

DANGER: Risk of death.

When a person comes near the danger zones during operation, stop the tractor and disengage the PTO shaft.

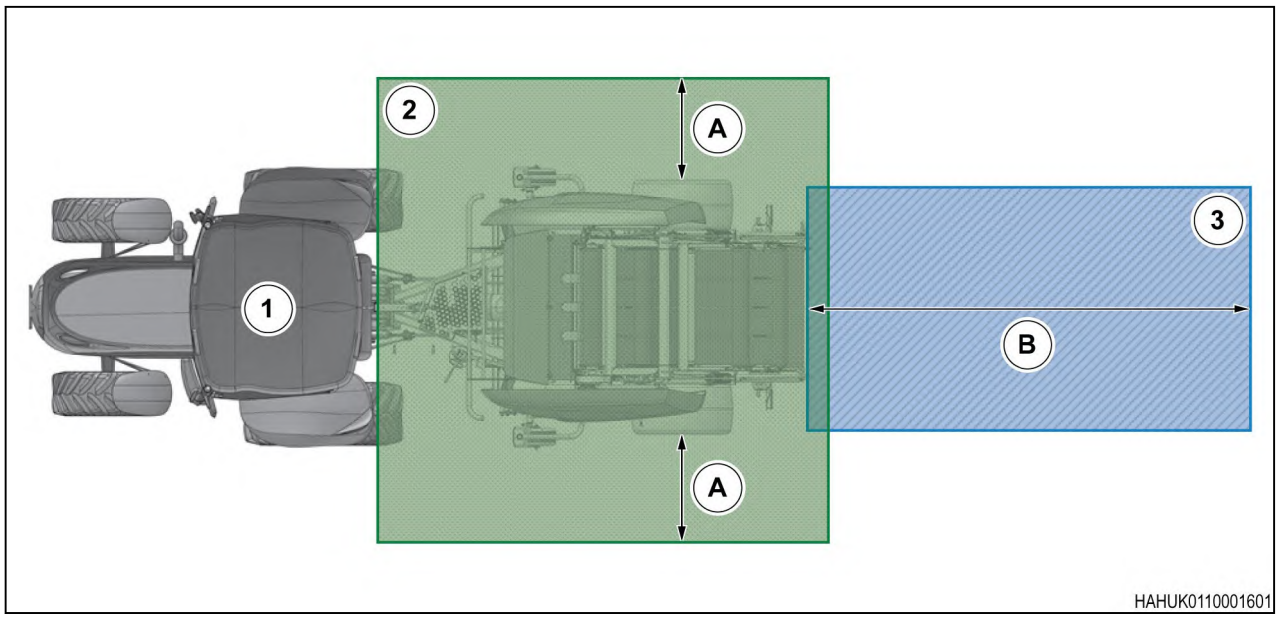

Fig. 11

1 Operator position
2 Danger zone
3 Extended danger zone

- A = 2.00 m (6.6 ft)
- B = 15.00 m (49 ft)

1.6 How to Use this Manual

1.6.1 Service manual

Do not operate the machine with the guards removed.

This service manual is prepared with the data available at the time of publication.

Read this service manual carefully before you do procedures on the machine.

Right side and left side, used in this manual, are found if you look in the direction the machine moves in when in use.

Adjustments made in the manufacturing procedure make it possible for the machine to change. The manufacturer can make changes to the machine, if necessary, without notification..

1.6.2 Chapters and page numbers

This service manual is divided into chapters. Refer to the table of contents.

Each chapter has a number with a secondary level indicator. Each chapter has a table of contents and an index.

1.6.3 Units of measurement

This service manual uses the "International System of Units (SI)" for measurement specifications, and if applicable, the equivalent "Imperial" unit is shown..

1.6.4 Replacement parts

To receive the correct part, make sure that you always have:

- Correct description of the part and the correct part number.
- The correct identification number of the machine.

1.6.5 Standard torque loading of parts

Tighten all the nuts, bolts and screws used on the machine to the standard torque that is applicable to the materials used in assembly.

If a component does not have a standard torque value, the correct value is specified in the applicable section of the manual.

1.6.6 Vehicle identification number and VIN plate

The Vehicle Identification Number (VIN) plate and VIN of the machine are on the right side of the chassis frame.

Always include the VIN number of your machine when you speak to your local service dealer or when you order replacement parts.

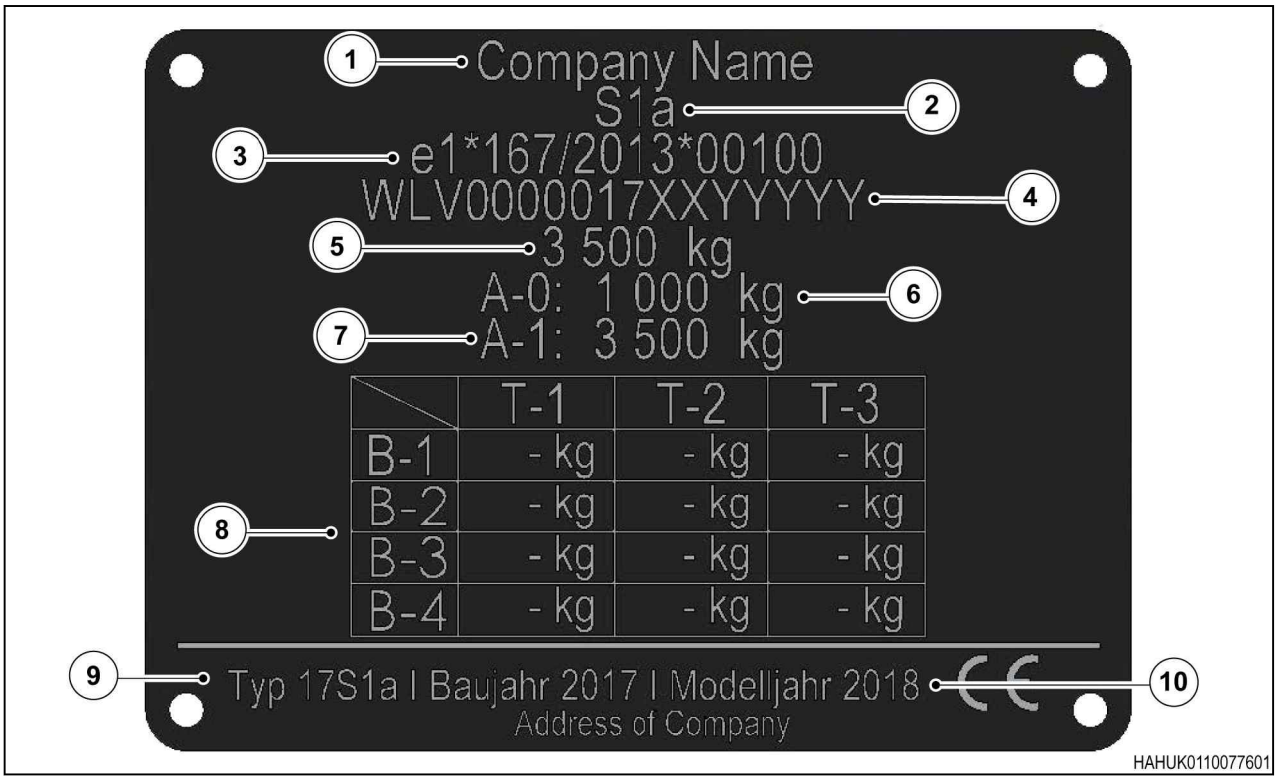

Fig. 12

(1) Manufacturer name
(2) Vehicle category
(3) Type approval number (only shown if necessary for local legislation)
(4) Vehicle Identification Number (VIN)
(5) Maximum permitted weight, sum of all axles (this will not include the vertical load on the pulling eye)
(6) Maximum permitted vertical load on the pulling eye
(7) Maximum permitted load on axle 1
(8) 2nd trailer axle weight
(9) Type name
(10) Production and model year

NOTE: *PTAC - Maximum permitted total weight of the machine, this includes the vertical load on the pulling eye. (Only for some machines with hydraulic brakes).*

We recommend that you complete the table with the vehicle identification number (VIN) of your machine. This makes sure that you can easily find the data.

VIN	

When it is necessary for your local regulations, a "Certificate of Conformity (CoC)" is supplied with the machine. You can then show the CoC to your local authorities. If you loose your CoC speak to your local dealer.

Control box software Balercontrol E

The control box shows the software version number when you connect the power supply, before the meters show.

Software version	

Control box software E-Link

Press and hold a button on the control box E-Link when you connect the power supply to show the software revision.

Software Revision	
dd	

Control unit E-Link

Press  again and again until Systeminfo shows on the display.

Serial Number	
Software Version	
Software Date	
Memory	

Local approved dealer information

We recommend you write the telephone number and the email address of your local approved dealer in the table. This makes sure that you can easily find the data.

Telephone number	
email address	

Left, right, rear and front

The positions left, right, rear and front in this manual refer to one of the following:

- The machine, seen from the driving direction
- The view when in front of the specified component.

1.7 Specifications

Item	RB 4160 V	RB 4180 V
Bale chamber	4 endless belts	4 endless belts
Bale chamber diameter	Approximately 0.90 – 1.60 m (3.3 – 5.2 ft)	Approximately 0.90 – 1.80 m (3.3 – 6 ft)
Bale chamber width	1.23 m (4.0 ft)	1.23 m (4.0 ft)
Pick-up working width	2.00 / 2.25 / 2.40 m (6.6 / 7.4 / 7.9 ft)	2.00 / 2.25 / 2.40 m (6.6 / 7.4 / 7.9 ft)
PTO speed	540 rpm / 1000 rpm	540 rpm / 1000 rpm
Cutting device	0 / 13 / 17 / 25 knives	0 / 13 / 17 / 25 knives
Hydroflex	Optional	Optional
Varionet net wrap	Yes	Yes
Variotwine and Varionet net wrap	Optional	Optional
Bale discharge ramp	Yes	Yes
Maximum weight on the axle (A-1)	3800 kg (8378 lb)	3800 kg (8378 lb)
Maximum weight on the draw bar coupling (A-0)	1000 kg (2205 lb)	1000 kg (2205 lb)
Maximum speed - Non brake - Pneumatic brake - Hydraulic brake	 40 km/h (25 mph) 40 km/h (25 mph) 25 km/h (15 mph)	 40 km/h (25 mph) 40 km/h (25 mph) 25 km/h (15 mph)
Brake system	None / pneumatic / hydraulic	None / pneumatic / hydraulic
Noise level in the tractor with the cabin closed	< 70 dB (A)	< 70 dB (A)
Dimensions of the license plate position	255 × 165 mm (10 × 6.5 in)	255 × 165 mm (10 × 6.5 in)

Tyre size	Maximum speed	Tyre pressure
15.0/55-17	40 km/h (25 mph)	2.6 bar (38 psi)
380/55-17	40 km/h (25 mph)	2.6 bar (38 psi)
19.0/45-17	40 km/h (25 mph)	2.8 bar (41 psi)
480/45-17	40 km/h (25 mph)	2.8 bar (41 psi)
500/55-20	40 km/h (25 mph)	2.6 bar (38 psi)
500/45-22.5	40 km/h (25 mph)	3.6 bar (52 psi)
500/50-22.5	40 km/h (25 mph)	2.8 bar (41 psi)

Tyre size	Maximum speed	Tyre pressure
Only use tyres that have been approved for the maximum axle load of the machine (see value A1 on the VIN-plate) at a speed of 40 km/h.		
Guide wheels (not allowed on public roads)		
170/60-8	40 km/h (25 mph)	2.0 bar (29 psi)

Tyres

Tightening torque for the wheel nuts	
Only for wheel nuts with radius seat	450 Nm (332 lbft)
Only for flat collar nuts with spring collar	450 Nm (332 lbft)

Wheel nut tightening torque

1.7.1 Dimensions

The dimensions will change because of the type of tyres and the installed height of the drawbar head. See the table for the maximum dimensions.

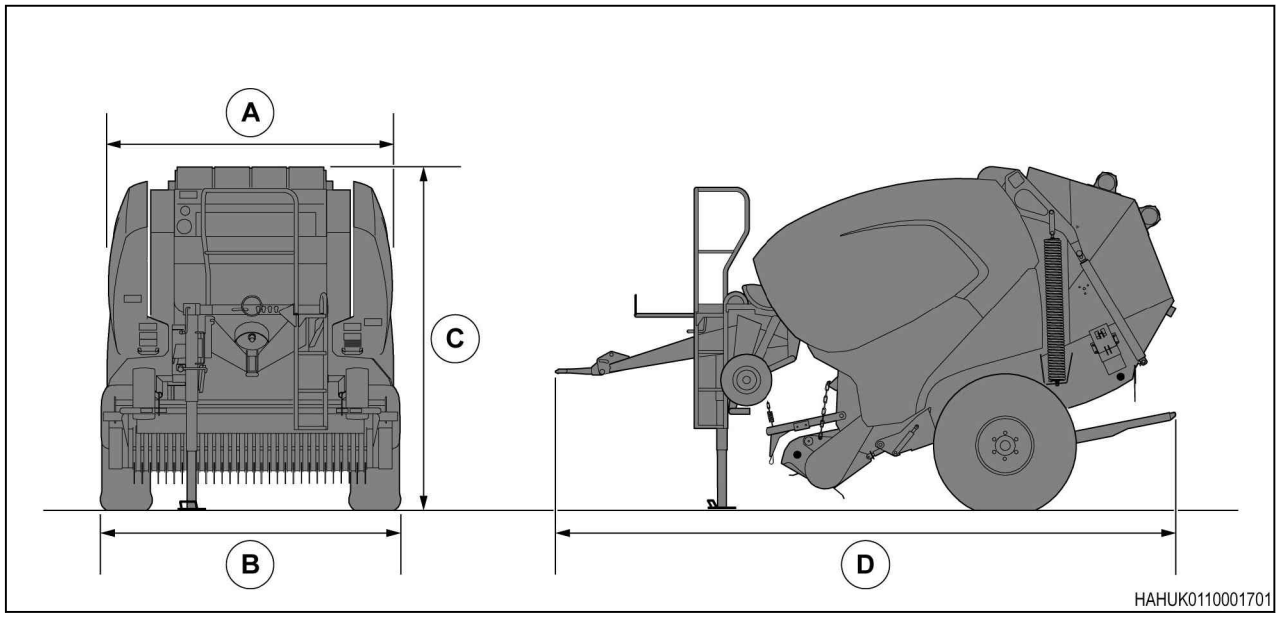

Fig. 13

	RB 4160 V	RB 4180 V
Width top (A)	2580 mm (102 in)	2580 mm (102 in)
Width bottom (B) *	2800 mm (110 in)	2800 mm (110 in)
Height (C)	2900 mm (114 in)	3100 mm (122 in)
Height with open tailgate	4170 mm (164 in)	4250 mm (167 in)
Length (D)	5250 mm (207 in)	5500 mm (217 in)
Length with open tailgate	5600 mm (220 in)	5850 mm (230 in)

Dimensions

* If necessary for local law, the machine will have marks to identify the width when B exceeds 2,55m.

1.8 Software Error Codes

1.8.1 Software error codes

DTC	Text	Description
52066314	Twine runs	Shut off the Power Take Off. Manually cut the twine.
52066315	Twine runs	Shut off the Power Take Off. Manually cut the twine.
52066317	Twine runs	Shut off the Power Take Off. Manually cut the twine.
52066318	Twine runs	Shut off the Power Take Off. Manually cut the twine.
52066319	Twine does not run	Replace twine. Adjust twine mechanism. Examine wiring and sensor.
52067315	Twine left does not run	Replace twine. Adjust twine mechanism. Examine wiring and sensor.
52067316	Twine right does not run	Replace twine. Adjust twine mechanism. Examine wiring and sensor.
52067317	Twine left does not run	Replace twine. Adjust twine mechanism. Examine wiring and sensor.
52067318	Twine right does not run	Replace twine. Adjust twine mechanism. Examine wiring and sensor.
52067319	Net feeding	Shut off the Power Take Off. Release the net knife manually.
52067420	Unexpected net feeding	Shut off the Power Take Off. Release the net knife manually.
52067521	Net not feeding	Do not open the tailgate. Examine wiring and the net clutch. Examine the net drive belt. Clear material in the net rollers. Examine the net path.
52067622	Net started then stopped	Do not open the tailgate. Replace the net roll.
52067723	Net started then stopped	Do not open the tailgate. Replace the net roll.
52067824	Reset net knife	Manually reset the net knife. Examine the sensor distance to the knife. Examine the sensor operation and wiring.
52067925	Net knife not actuated. To continue please restart the tying procedure from the home screen.	Operate with the lever in float. Examine the knife safety chain. Examine the wiring and net knife motor. Examine the net knife movement.
5212597	Tailgate closed?	Tailgate is still open, it should be closed for tying.
5212738	Bail unload failed	Unload the bale to the field has failed.
5212748	Hook is still open	Hook is open while filling the baling chamber. This can damage the tailgate.
5030	Battery voltage out of range	The battery voltage is out of the operating range. Please check the battery.

DTC	Text	Description
5032	Left side force sensor defect	The tailgate force sensor has a defect. Do a check of the sensor and electrical harness
5033	Right side force sensor defect	The tailgate force sensor has a defect. Do a check of the sensor and electrical harness
5034	Tailgate force sensors defect	The two force sensors on the tailgate have a defect. Stop baling
5212737	Bale unload failed	Unload the bale to the field has failed
5212767	Bale size sensor configuration problem	The bale size could not obtained, check machine configuration
5212777	Bale size sensor configuration problem	The bale size could not obtained, check machine configuration
5218761	Tying is not finished	Please finish tying by activating the net knife or restart tying

1.9 Description

1.9.1 General overview

The machine will make a circular bale in 5 steps:

1. Lift the loose crop material with the pick-up unit.
2. Cut (if necessary) and transport the material into the compressing chamber.
3. Compress the material and make the shape of the bale.
4. Attach the net to the bale.
5. Open the tailgate and eject the bale.

Steps 1- 3 are continuous when the tractor drives. The tractor must stop when the tying starts in step 4. The tractor and machine must not move to eject the bale in step 5.

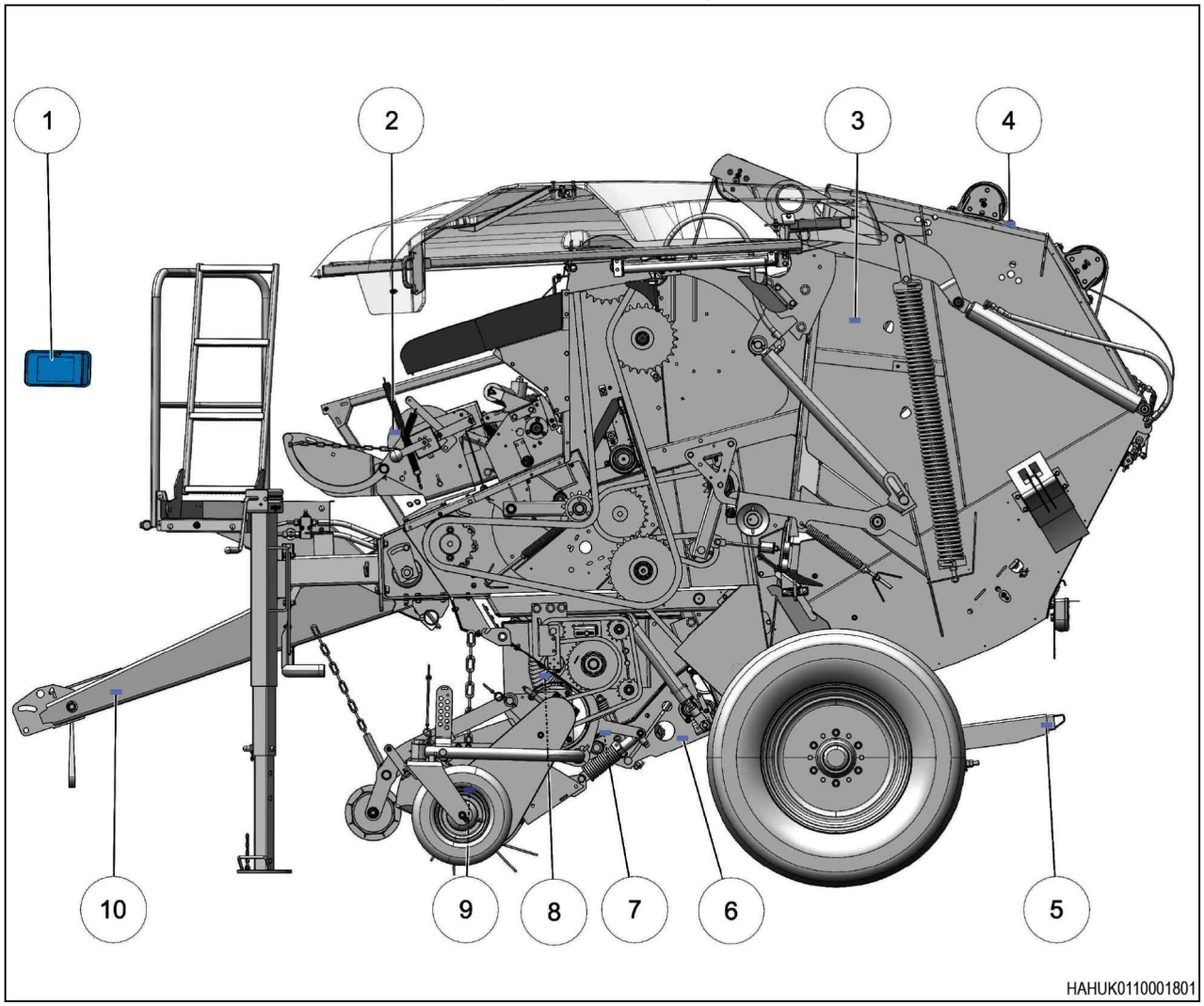

Fig. 14

(1) Controller
(2) Tying unit
(3) Bale chamber
(4) Tailgate
(5) Bale ejector
(6) Feed channel floor
(7) Cutting unit
(8) Feed rotor
(9) Pick-up unit
(10) Drawbar

1.9.2 Drawbar

The machine has a selection of drawbar heads:

- Ball head 80 mm (3.2 in) (ISO 24347)
- Fixed towing eye 40 mm (1.6 in) (ISO 8755)
- Turnable towing eye 35 mm (1.4 in) (ISO 5962-3).

Make sure that you can use one of these drawbar heads with your tractor. Read the tractor manual.

You must adjust the drawbar height to the tractor before use.

1.9.3 Device to Stop Use Without Approval

To make sure that only the approved personnel use the machine, you can install a lock to the drawbar head.

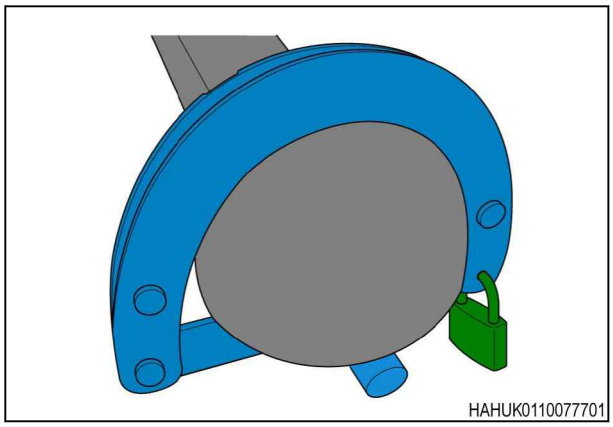

Fig. 15 Ball head lock

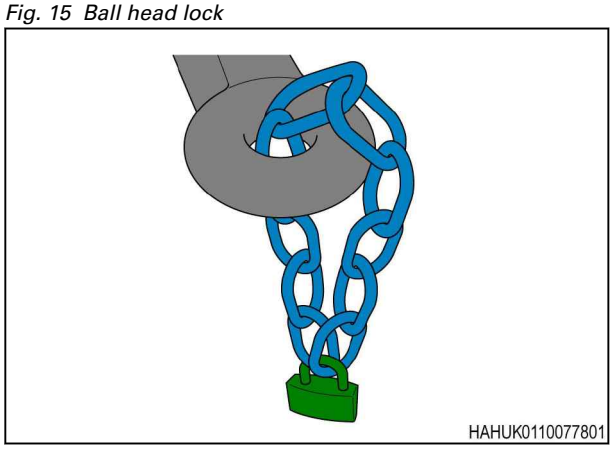

Fig. 16 Towing eye lock

1.9.4 Main drive shaft

The PTO shaft of the tractor turns the primary drive shaft which turns the main gear box

The main gear box turns to the roller chains, the feed rotor and the belts of the bale chamber.

The PTO shaft has an overload clutch between the PTO and the primary drive shaft to prevent an overload of the system.

1.9.5 Hydraulic system

For correct operation the tractor must have a standard hydraulic system.

The double acting valve of the hydraulic system lifts and lowers the:

- Pick-up.
- Knives in the cutting unit.
- Feed channel floor (when you remove a blockage).

The single acting valve of the hydraulic system will:

- Open the tailgate.