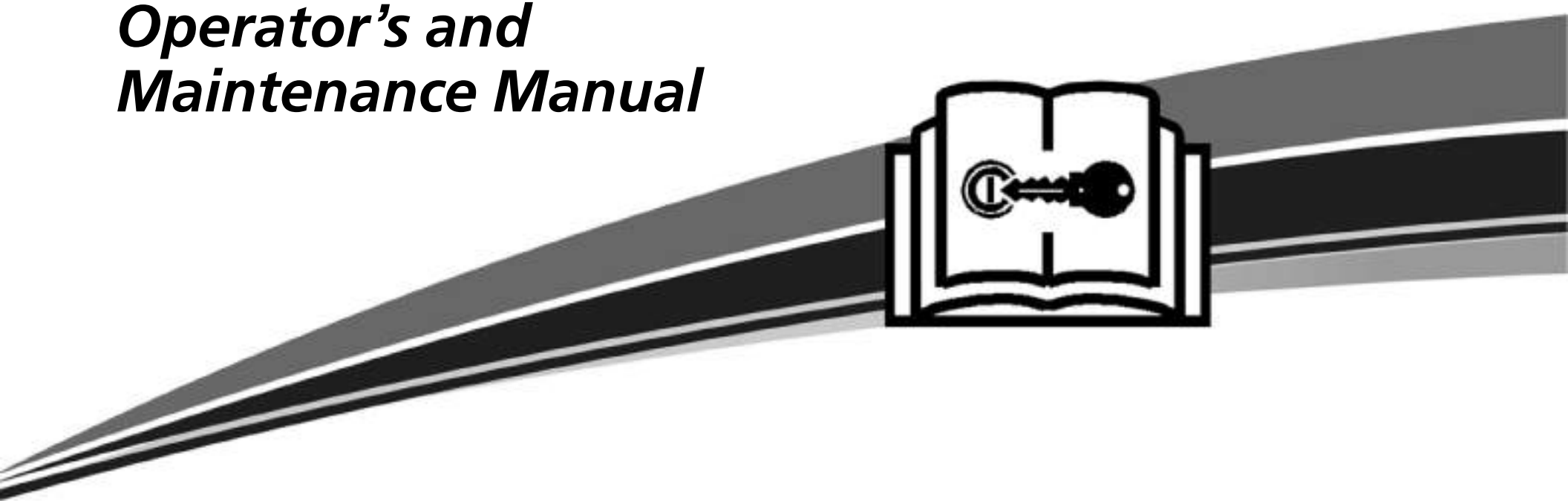
504/604 PRO Baler

Operator's and Maintenance Manual



504PRO_604PRO_o-m2_00 -
Serial No. 504PR Serial No. 8001 —
604PR Serial No. 101 —
Order No. 105400EC2
Cabled Assembly Order No. 510520026

Vermeer | EQUIPPED TO DO MORE.

INTRODUCTION

This manual explains the proper operation of your machine. Study and understand these instructions thoroughly before operating or maintaining the machine. Failure to do so could result in personal injury or equipment damage. Consult your Vermeer dealer if you do not understand the instructions in this manual, or need additional information.

The instructions, illustrations, and specifications in this manual are based on the latest information available at time of publication. Your machine may have product improvements and features not yet contained in this manual.

Vermeer Corporation reserves the right to make changes at any time without notice or obligation.

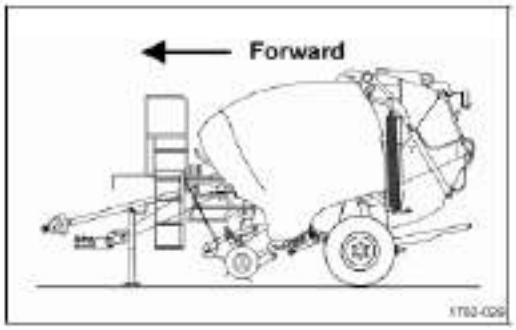
Operation, lubrication, and maintenance instructions are included in the two Operator's and Maintenance Manuals provided with the machine. The tethered (cabled) manual must remain attached to the machine for ready reference. Store it in the manual storage box when not in use.

Additional copies of the manuals are available from your dealer. Use the reorder number on the front cover to order additional manuals.

- Copies of this manual are available in Spanish from your dealer. Other languages may also be available.
- Se dispone de ejemplares de este manual en español.

Notice to Owner – You are requested to notify Vermeer Corporation when you have purchased a used Vermeer machine. Notify the Customer Data Department by telephone: 800-829-0051 or 641-628-3141; email: customerdata@vermeer.com; internet: www.vermeer.com or myvermeer.com; or, letter: Customer Data Dept., Vermeer Corporation, PO Box 200, Pella IA 50219 USA. Upon request, an owner of a used Vermeer machine will receive one free set of Operator's, Maintenance and Parts manuals.

Vermeer Corporation
1210 Vermeer Road East, P.O. Box 200
Pella, Iowa 50219–0200



Orientation: Right and left sides of the machine are determined by facing in the direction of forward travel.

Trademarks

VERMEER, VERMEER Logo and EQUIPPED TO DO MORE are trademarks of
Vermeer Manufacturing Company.
MOBIL is a trademark of ExxonMobil Corporation.

Warranty

EFFECTIVE AUGUST 1, 2013

VERMEER CORPORATION (hereinafter "Vermeer") warrants each new Agricultural product of Vermeer's manufacture to be free from defects in material and workmanship, under normal use and service for one (1) full year after initial purchase/retail sale.This Limited Warranty shall apply only to complete machines of Vermeer's manufacture, parts are covered by a separate Limited Warranty. **EQUIPMENT AND ACCESSORIES NOT OF VERMEER'S MANUFACTURE ARE WARRANTED ONLY TO THE EXTENT OF THE ORIGINAL MANUFACTURER'S WARRANTY AND SUBJECT TO THEIR ALLOWANCE TO VERMEER ONLY IF FOUND DEFECTIVE BY SUCH MANUFACTURER.**

EXTENDED WARRANTY OPTIONS ARE AVAILABLE FOR PURCHASE.

WARRANTY TERMS:

During the Limited Warranty period specified above, any defect in material or workmanship in any warranted item of Vermeer Agricultural Equipment not excluded below shall be repaired or replaced at Vermeer's option without charge by any authorized independent Vermeer dealer. The warranty repair or replacement must be made by a Vermeer independent authorized dealer at the dealer's location. Vermeer will pay for replacement parts and such authorized dealer's labor in accordance with Vermeer's labor reimbursement policy. Vermeer reserves the right to supply remanufactured replacement parts as it deems appropriate.

RETAIL PURCHASER RESPONSIBILITY:

This Limited Warranty requires proper maintenance and periodic inspections of the Agricultural Equipment as indicated in the Operator's/ Maintenance Manual furnished with each new Agricultural Equipment. The cost of routine or required maintenance and services is the responsibility of the retail purchaser. The retail purchaser is required to keep documented evidence that theseservices were performed.

This Vermeer New Agricultural Equipment Limited Warranty may be subject to cancellation if the above requirements are not performed.

Vermeer Agricultural Equipment with known failed or defective parts must be immediately removed from service.

EXCLUSIONS AND LIMITATIONS

The warranties contained herein shall NOT APPLY TO:

- Any defect which was caused (in Vermeer's sole judgment) by other than normal use and service of the Agricultural Equipment, or by any of the following: (i) accident; (ii) misuse or negligence; (iii) overloading; (iv) lack of reasonable and proper maintenance; (v)improper repair or installation; (vi) unsuitable storage; (vii) non-Vermeer approved alteration or modification; (viii) natural calamities; (ix) vandalism; (x) parts or

accessories installed on Agricultural Equipment which were not manufactured or installed by Vermeer authorized dealers; (xi) the elements; (xii) collision or other accident.

- Any Agricultural Equipment whose identification numbers or marks have been altered or removed.
- Any Agricultural Equipment which any of the required or recommended periodic inspection or services have been performed using parts not manufactured or supplied by Vermeer or meeting Vermeer Specifications including, but without limitation, lubricants (oil, grease), belt lacings, and hydraulic fluids.
- New Agricultural Equipment delivered to the retail purchaser in which the equipment /warranty registration has not been completed and returned to Vermeer within ten (10) days from the date of purchase.
- Any defect that was caused (in Vermeer's sole judgment) by operation of the Agricultural Equipment not abiding by standardoperating procedures outlined in the Operator's Manual.
- Tire Limited Warranties and support are the responsibility of the respective product's manufacturer.
- Transportation costs, if any, of transporting to the Vermeer dealer.
- The travel time and expenses of the Vermeer dealer's service personnel to make a repair on the retail purchaser's site or other location.
- In no event shall Vermeer's liability exceed the purchase price of the product.
- Vermeer shall not be liable to any person under any circumstances for any incidental or consequential damages (including but not limited to, loss of profits, out of service time) occurring for any reason at any time.
- Diagnostic and overtime labor premiums are not covered under this Limited Warranty Policy.
- Depreciation damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow operating instructions, misuse, and/or lack of proper protection during storage.
- Accessory systems and electronics not of Vermeer's manufacture are warranted only to the extent of such manufacturer's respective Limited Warranty, if any.
- Wear items which are listed by product group below:

  COMMON WEAR ITEMS: roller chain, sprockets, clutches, clutch components, knives, bolts/torqued parts, hoses (unlessotherwise specified under extended warranty).

  BALE MOVERS: chains, motor sprocket, rear sprocket.

  BALE PROCESSORS: coupler chain, DRV couplers, feed roller belting, flails.

  BALE WRAPPERS: extension chain, film dispenser gear set, gearbox housing, knife assembly, plastic sprocket, shear bolts.

  BALERS: belt lacings/cables, pickup teeth, scraper knives, service items, twine knives.

  RAKES/TEDDERS: teeth, tines.

  MOWERS: blades, caps, discs, shoes.

MISC. BALE HANDLING EQUIPMENT: knife blades, tines (bale spikes).

PARTS WARRANTY

Parts replaced in the warranty period will receive the balance of the first year New Agricultural Equipment Limited Warranty, during the first twelve (12) months. Replacement parts after the original machine warranty, are warranted to be free from defects of materials for ninety (90) days or the part will be repaired or replaced, without labor coverage for removal and reinstallation.

EXCLUSIONS OF WARRANTIES: UNLESS OTHERWISE REQUIRED BY LAW, AND EXCEPT FOR THE WARRANTIES EXPRESSLY AND SPECIFICALLY MADE HEREIN, VERMEER MAKES NO OTHER WARRANTIES, AND ANY POSSIBLE LIABILITY OF VERMEER HEREIN UNDER IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. VERMEER RESERVES THE RIGHT TO MODIFY, ALTER AND IMPROVE ANY PRODUCT WITHOUT INCURRING ANY OBLIGATION TO REPLACE ANY PRODUCT PREVIOUSLY SOLD WITH SUCH MODIFICATION. NO PERSON IS AUTHORIZED TO GIVE ANY WARRANTY, OR TO ASSUME ANY ADDITIONAL OBLIGATION ON VERMEER'S BEHALF.

NO DEALER WARRANTY. The selling dealer makes no warranty of its own and the dealer has no authority to make any representation or promise on behalf of Vermeer or to modify the terms or limitations of this warranty in any way.

ELECTRONIC SIGNATURES. Each of the parties hereto expressly agrees to conduct transactions by electronic means. Accordingly, the parties agree and intend that all electronic transmissions including, without limitation, electronic signatures, shall be considered equivalent to an original writing as provided under Iowa law, as it may be amended from time to time.

MANUFACTURED BY:

VERMEER CORPORATION, Pella, Iowa 50219 USA

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RECEIVING AND DELIVERY REPORT

Refer to applicable sections of this manual as needed and check or perform the following items:

Receiving

- Check that all loose items (controller, driveline, controller mount, tractor harness, manuals, gauge wheels, any optional kits, and all hardware) are included.
- Inspect decals, safety signs, and shields for transit damage.
- Inspect tires and rims for damage.
- Record identification numbers of baler: (see page iii) .
- Assemble baler. Assembly Instructions are available in Section 12 of this manual.

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Dealer/Owner Information

dealer	owner
address	address
city	city
state / province	state / province
zip / postal code	zip / postal code
country	country
phone number	phone number
email address	email address

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Identification Numbers – Record

The serial number is shown on data plate on the right side of machine, as shown right. Warranty claims and queries cannot be dealt with unless the serial number is stated. Please enter this number here immediately after delivery:

Machine Model # .....

Machine Serial # (VIN) .....

Pre-Delivery (504/604 PRO Baler)

- Check gearbox oil level.
- Check safety signs, operating decals, and shields for transit damage.

- Inspect tires and rims for damage.
- Check that highway lights operate correctly.
- Check all chains for proper adjustment.
- Check the controllers for proper function and for visual damage.
- Check drivelines for proper installation.
- Ensure slow-moving vehicle sign is installed.
- Check that correct hydraulic couplers that match tractor are installed and do not leak.
- Check that hydraulic couplers on baler hoses match those on tractor.
- Ensure tailgate latches properly.
- Check tire pressure and wheel lug nut torque as described below.

Tire	Pressure	Lug nut torque	Retorque
2 tires Types (See page 11-3 for proper tire setup) – 14L 16.1 – 21.5L 16.1	14 psi (97 kPa) 21 psi (145kPa)	244 ft-lb (330 Nm)	after first 10 hours of operation, then at 50-hour intervals
2 pick-up gauge wheels: 16 × 6.50-8 4 PR (Figure 71)	29 psi (200 kPa)	-	-

- Adjust bale density setting to 7.
- Check net wrap system operation and adjust if needed. (see page 7-27)
- Run baler and check all phases of operation.

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1 TYPE OVERVIEW

Drawbar	D11 – US-Version
Pick-up width	6.6 / 7.4 / 7.9 ft (2.00 / 2.25 / 2.40 m)
Roller lubrication	manual roller lubrication
Chain lubrication	automatic chain lubrication
Cutting device	Xtra Cut 17 (with 17 knives)
Rotor	ring type rotor (for 17 knives)
Wrapping	net wrap
Control / operation	E-LINK PRO display with controller
Conveyor channel bottom	bottom door Hydroflexcontrol (hydraulic lowering and lifting)

2 SAFETY MESSAGES

General Safety Messages

General safety messages appear in this Safety Messages section. Specific safety messages are located in appropriate sections of the manual where a potential hazard may occur if the instructions or procedures are not followed.

A signal word "**DANGER**", "**WARNING**", or "**CAUTION**" is used with the safety alert symbol.

Safety signs with signal word "**DANGER**", "**WARNING**", or "**CAUTION**" are located near specific hazards.

DANGER	Indicates a hazardous situation that, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates information considered important, but not hazard-related.

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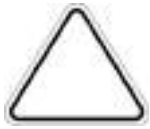
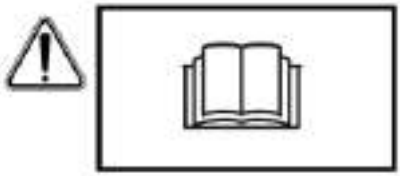
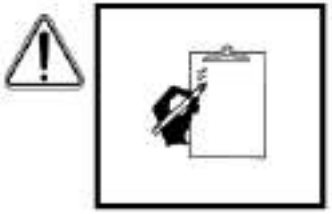
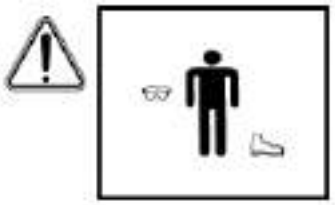
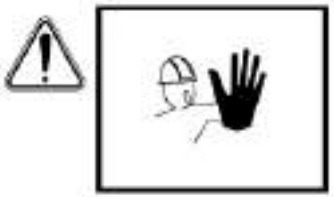
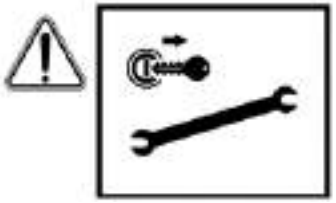
2.1 Safety Symbol Explanation

		This symbol is used in combination with an exclamation mark or other symbols to alert you to the potential for death or serious injury
1		Read Operator's and Maintenance Manual and safety signs before operating machine.
2		Check machine before operating. Machine must be in good operating condition and all safety equipment installed and functioning properly.

3		Wear personal protective equipment. Dress properly.
4		Keep spectators away.
5		Follow Shutdown Procedure before servicing, cleaning, repairing or transporting machine.
6		Pressurized fluid can penetrate body tissue and result in death or serious injury. Leaks can be invisible. Keep away from any suspected leak. Relieve pressure in the hydraulic system before searching for leaks, disconnecting hoses, or performing any other work on the system. If you must pressurize the system to find a suspected leak, use an object such as a piece of wood or cardboard rather than your hands. When loosening a fitting where some residual pressure may exist, slowly loosen the fitting until oil begins to leak. Wait for leaking to stop before disconnecting the fitting. Fluid injected under the skin must be removed immediately by a surgeon familiar with this type of injury.
7		Failure to follow any of the preceding safety instructions or those that follow within this manual, could result in death or serious injury. This machine is to be used only for those purposes for which it was intended as explained in this Operator's and Maintenance Manual.

2.2 Safety Instructions

WARNING: Even when all instructions have been read and understood there are potential hazards with the machine. Always handle the machine with care to avoid injury to yourself and others!

WARNING: Do not do work on the magnets of the blade holders if you have a cardiac pacemaker or other implant that can be impaired by magnetic fields.

- Before starting work perform a visual inspection of the machine. Check whether any device has been changed or is missing and pay attention to any unusual noise or leaks which occur during operation.
- All protective devices, as for example guarding shields are for your safety! Never operate the machine with defective or removed guarding shields.
- Keep all safety relevant parts always in correct function. Before operating all guards and shields must be mounted and closed!
- Never perform maintenance or repair works during machine operation.
- In case of all work on movable parts or in the range of action of movable parts: Follow Shutdown Procedure on page 6-1 and disconnect driveline from power take-off. Interrupt electrical connection between tractor and machine.
- Pressurized fluid can penetrate body tissue and result in serious injury or death(see page 2-14). Leaks can be invisible. Keep away from any suspected leak. Relieve pressure in the hydraulic system before searching for leaks, disconnecting hoses, or performing any other work on the system. If you must pressurize the system to find a suspected leak, use an object such as a piece of wood or cardboard rather than your hands. When loosening a fitting where some residual pressure may exist, slowly loosen the fitting until oil begins to leak. Wait for leaking to stop before disconnecting the fitting. Fluid injected under the skin must be removed immediately by a surgeon familiar with this type of injury.
- Bring no metal parts close to the machine, as long the electric control is in operation (e.g. tools, safety boots with metal caps). Reason: unintentional triggering of proximity switches and thus unexpected machine movement.
- When carrying out work on the opened tailgate: apply tailgate safeguard (see page 2-15).
- During work in the vicinity of the net knife: fit net knife safeguard (see page 2-16).
- Never remove any crop material from the machine while the drive is running, or while the disconnected machine is still moving. Always switch off driveline and tractor engine first.
- Ensure tractor operator is the only person riding the tractor, unless the tractor is equipped with an approved trainer seat and seat belt. Riding on the baler is prohibited!
- Never step onto the maintenance platform while machine is in motion. Before stepping onto the maintenance platform: stop machine, switch off driveline and tractor engine, take out ignition key and wait for all movement to stop

- Do not step onto the drawbar or other parts of the machine, when the machine is in operation. Keep sufficient distance to baler (pick-up, running gear, bale unloading area).
- Before threading the net wrapping material: Follow Shutdown Procedure on page 6-1
- All protection devices must be mounted to the baler and must be in correct state. Prior to opening the protection devices switch off driveline and tractor engine and wait for all movement to stop.
- Block the wheels of the baler to prevent unexpected movement when machine is parked.
- When opening the tailgate keep a minimum distance of 10 ft (3 m) from electrical high-voltage lines.
- There is risk of when working around net knife or cutting device knives. Wear protective gloves.
- When working at the magnets of the knife holders: The function of cardiac pacemakers can be interrupted by magnetic fields.

  When working at the magnets of the knife holders: Risk of injury by sharp edges – never hit the inserted knives from down with a striking tool. Magnets could be damaged!
- Maintenance work may be carried out by trained persons only. All maintenance and repair works that is not part of the operating instructions must be carried out by authorized personnel only.
- Prior to disassembling the complete pick-up the machine must be secured against backward tilt.

  In case of locations on a slope: Never eject a bale where it can roll. A rolling bale can be destructive and result in death or serious injury. Never try to stop a rolling bale. The area behind the baler should be clear before opening tailgate.

2.3 Machine Decals

2.3.1 Operational Signs

The most important operating instructions are labelled with operational signs. The exact meaning is described in the following. For a complete list of all decals on the machine, please refer to the Spare Parts List.

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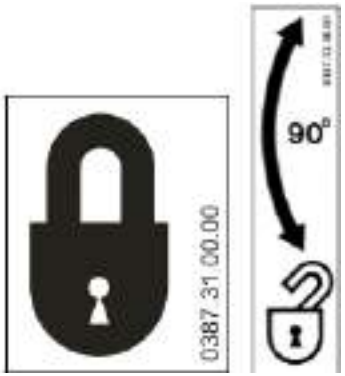
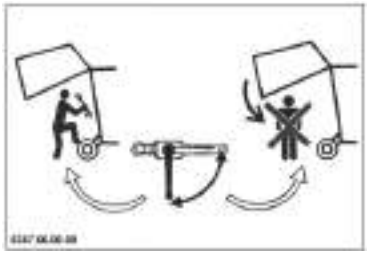
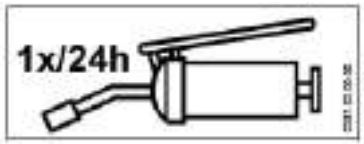
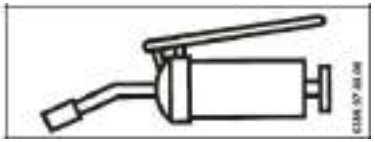
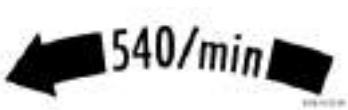
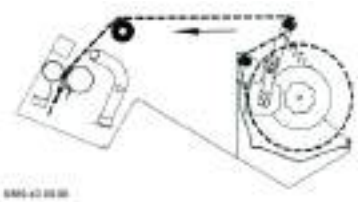
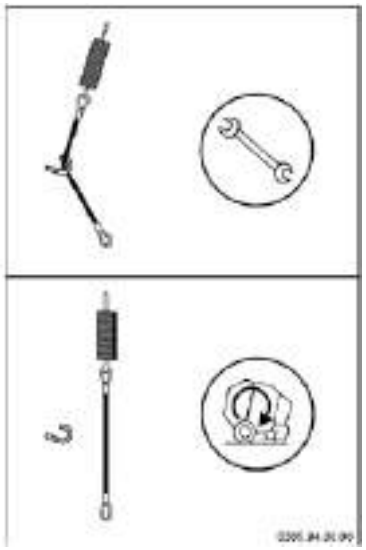
Decal	Explanation
	The two lift eyes at the upper cross bar are indicated by this symbol. Other fastening points are not permitted for crane suspension.
	Tie down points. Three points at the machine are indicated by this symbol: Two points on the axle and one on the drawbar. Tie down the machine for transport. Other tie down points are not permitted.
	Guard lever for cutting device knives To unlock the cutting device knives the lever must be turned down through about 90°.

	Tailgate locking device If the lever is positioned perpendicular to the flow direction, the tailgate is secured against lowering.
	Lubrication Once a day: check lubrication and relubricate if necessary.
	Lubrication Check lubrication and relubricate if necessary.
	Necessary driveline speed: 540 rpm
	Thread scheme for net wrapping

	Locking of the belt tightener for maintenance purposes

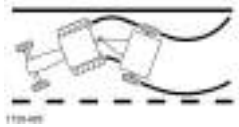
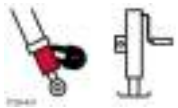
2.3.2 Safety Signs

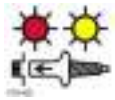
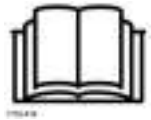
Hazards that can not be secured by construction are labelled with safety signs. Signs which are described in the following.

located on your machine contain important and useful information that will help you operate your equipment safely. Refer to the Parts Manual for safety sign location. To assure that all signs remain in place and recognizable, follow instructions given below.

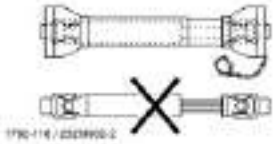
- Keep signs clean. Use soap and water – not mineral spirits, abrasive cleaners, or other similar cleaners that will damage the safety sign.
- Replace any damaged or missing signs. When attaching signs, the temperature of the mounting surface must be at least 40°F (5°C). The mounting surface must also be clean and dry.
- When replacing a machine component with a sign attached, replace sign also.
- Replacement signs can be purchased from your Vermeer equipment dealer.

Decal	Explanation
	**DANGER:** Baler intake can pull you in, resulting in death or serious injury. Stay clear of pick-up reel and feed intake area. Baler may take in crop or twine faster than you can let go.

	• NEVER feed crop in by hand. • NEVER remove material from the baler intake while it is running. • NEVER try to unplug baler by hand while it is running. • ALWAYS disengage power takeoff, shut off tractor engine, set park brake, and remove key before working on baler for any reason including servicing, inspecting, or unplugging machine.
	**WARNING:** Improper towing and excessive speed or braking while transporting on a highway may result in loss of control. Equipment damage, injury, or death are possible.
	**WARNING:** Ensure slow-moving vehicle (SMV) sign is in good condition and properly displayed on the rear of machine. Do not tow equipment at speeds over 20 mph (32 km/h). Obey all applicable laws concerning road use. Use good judgment and drive carefully.
	**WARNING:** Use a tractor that is large enough and properly ballasted for sufficient steering and braking control. Minimum tractor weight is 7200 lb (3266 kg).
	**WARNING:** Place machine components in transport positions and install locks and/or chains. Raise and stow tongue jack.
	**WARNING:** Securely hitch implement to tractor. Hitch pin must have positive retention. Ensure highway safety towing chain is properly installed.

	⚠	**WARNING:** Connect and use equipment highway lights.
	⚠	**CAUTION:** Oversized bales place excessive load on belts, rollers and bearings which could result in product or property damage and is a fire hazard. Do not overfill baler.
	⚠	**WARNING:** Read this Operator's Manual and safety signs before operating machine.
	⚠	**WARNING:** Use Shutdown Procedure before servicing, cleaning, repairing or transporting machine.
	⚠	**WARNING:** Belts, rollers, and chains can cut off hand or arm
	⚠	**WARNING:** Keep all shields in place when operating
	⚠	**WARNING:** Falling from baler can result in death or serious injury.

	⚠	**WARNING:** Riders are not allowed on the baler
	⚠	**WARNING:** Opening tailgate can crush, resulting in serious injury or injury.
	⚠	**WARNING:** Stay away from rear of baler. Warn others to stay away before raising tailgate.
	⚠	**WARNING:** A falling or closing tailgate can crush, resulting in serious or death.
	⚠	**WARNING:** Engage lock before working under tailgate.
	⚠	**WARNING:** Chopper knives can cut fingers and hands.
	⚠	**WARNING:** Wear gloves and use suitable tool when handling chopper knives.

	The accumulator is under gas and oil pressure. Depressurize hydraulic system prior to disassembling or repair.
	Stepping or standing on some areas of machine may result in slipping or falling. Do not step on prohibited areas.
	⚠ **DANGER:** Entanglement in rotating driveline can result in death or serious injury.
	Stay away from rotating driveline. Stop engine and ensure PTO driveline is stopped before working on driveline.
	Keep driveline shields in place at all times. Ensure shields turn and telescope freely. Wear Close-fitting clothing and confine long hair

2.4 Personal Protective Equipment

Wear required personal protective equipment. Wear close-fitting clothing and confine long hair. Avoid wearing jewellery such as rings, wristwatches, necklaces or bracelets. Always wear: safety glasses and safety shoes.

2.5 Fire Prevention Baler

Figure 1. Do not smoke in the vicinity of the machine.

The harvested crop can easily ignite! To prevent fire:

- Remove crop remains and oil leaks.
- If any machine parts run hot: find and remove cause.
- Keep the electrical systems of tractor and baler and the exhaust system of the tractor in proper condition.
- The existing wiring must not be used for any other purposes than those installed in the factory or approved by the manufacturer. Overloading the electrical lines leads to excessive heating.

Fire extinguisher (option) – Refill

A 2.5 gal (9.5 liter) pressurized water fire extinguisher is recommended to be carried on the tractor or baler.

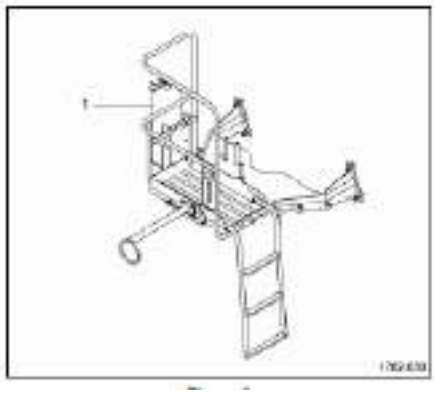


Figure 2. A fire extinguisher can be mounted to the rails of the maintenance platform.

NOTICE Order fire extinguisher kit (part number AK01415) from your authorized Vermeer dealer.

NOTICE Fire extinguisher is shipped empty and must be filled/charged prior to initial use. Fire extinguisher must also be refilled/recharged after every subsequent use. To refill/recharge, use the following procedure:

Figure 3. Fire extinguisher

- Discharge any remaining pressure and water from the fire extinguisher.
- Loosen valve collar nut [2]. Remove valve/handle assembly [3] and remove the plastic fill tube from inside the cylinder.
- Rinse inside of cylinder with clean water. Inspect for and remove any corrosion or debris that may interfere with proper operation.
- Add antifreeze powder (part number 510507934), reinstall plastic fill tube, and refill cylinder with 2.5 gal (9.5 liter) of clean water. Install valve/handle assembly and hand-tighten valve collar nut.

NOTICE Exceeding 100–125 in-lb (11–14 Nm) torque will damage valve.

- Remove pressure valve cap and pressurize fire extinguisher to 100 psi (690 kPa), or the green area on the fire extinguisher pressure gauge. Use an air pressure source regulated to no more than 125 psi (860 kPa). Replace pressure valve cap and check for leaks using soapy water solution.

2.6 Hydraulic System Baler

WARNING: Pressurized fluid can penetrate body tissue and result in death or serious injury. Leaks can be invisible. Keep away from any suspected leak. Relieve pressure in the hydraulic system before searching for leaks, disconnecting hoses, or performing any other work on the system. If you must pressurize the system to find a suspected leak, use an object such as a piece of wood or cardboard rather than your hands. When loosening a fitting where some residual pressure may exist, slowly loosen the fitting until oil begins to leak. Wait for leaking to stop before disconnecting the fitting. Fluid injected under the skin must be removed immediately by a surgeon familiar with this type of injury. Pressurized fluid can penetrate body tissue and result in serious injury or death. Leaks can be invisible. Keep away from any suspected leak. Relieve pressure in the hydraulic system before searching for leaks, disconnecting hoses, or performing any other work on the system. If you must pressurize the system to find a suspected leak, use an object such as a piece of wood or cardboard rather than your hands. When loosening a fitting where some residual pressure may exist, slowly loosen the fitting until oil begins to leak. Wait for leaking to stop before disconnecting the fitting. Fluid injected under the skin must be removed immediately by a surgeon familiar with this type of injury.

Max. operating pressure of the hydraulic system:

- 3045 psi (210 bar)

During assembly work on the hydraulic system, in particular if accumulators are used:

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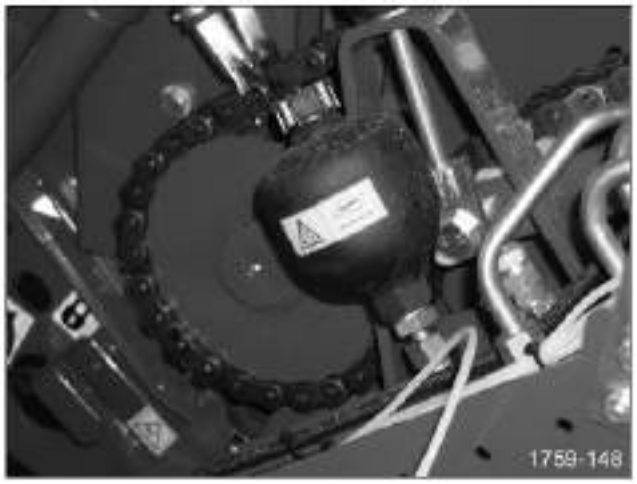

- Depressurize hydraulic system as described in Shutdown procedure (see page 6-1).
- Secure hydraulic operated parts (pick-up, cutting device) mechanically against unexpected movements.
- If any **short-time** maintenance or assembly work is carried out with the tailgate open, the tailgate must be hydraulically secured against lowering: use the shut off valve (on the left side of machine). When the valve is shut off, the actuating lever is perpendicular to the flow direction.
- In case of **longer** maintenance or assembly work with the tailgate open, the tailgate must (in addition to the hydraulic safeguard) be mechanically secured against lowering - using suitable means. This is necessary because, even if the hydraulic system is shut off, hydraulic pressure losses may still occur.
- After completion of any maintenance and/or assembly work reset the valve to its initial position and/or remove the mechanical safeguard.

2.7 Safety Devices

2.7.1 Tailgate Safeguard

The tailgate safeguard is a hydraulic shut-off valve that secures an opened tailgate and prevents it from lowering. The shut-off valve is located on the left side of the maintenance platform. Always set the shut-off valve in the 'shut-off' position (perpendicular to lines) when you do maintenance with the tailgate open.

Set the tailgate safeguard

1. Open the tailgate.

2. Turn the hydraulic tailgate valve (1) (see Figure 4 on page 2-16) to the shut-off position (parallel to lines).

Remove the tailgate safeguard

1. Turn the hydraulic tailgate valve to the operating position.
2. Close the tailgate.

Figure 4. Tailgate hydraulic valve

2.7.2 Net knife safeguard

WARNING: Risk of cutting! During work in the vicinity of the net knife: fit net knife safeguard.

When maintenance or assembly work is performed in the vicinity of the net knife, the net knife must be mechanically secured to prevent unexpected movement: insert and secure safety chain with spring clip.

Before operating: remove net knife safeguard. Remove safety chain (incl. spring clip).

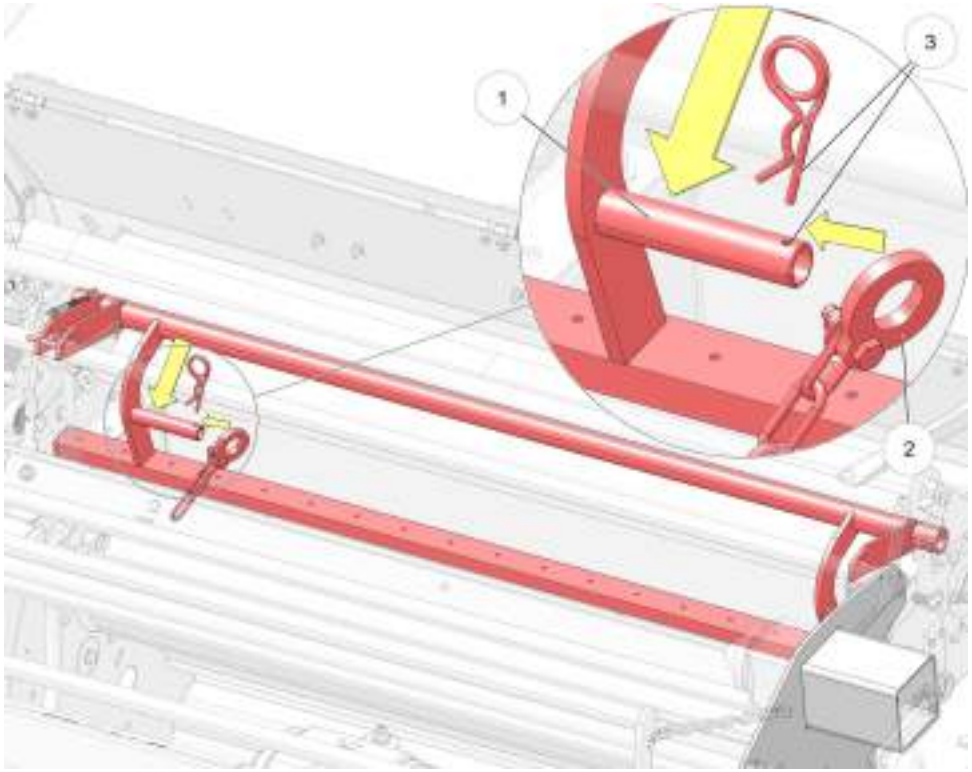

Figure 5. Secure the net knife

KEY:
1. Handle net knife carrier - 2. Safety chain - 3. Spring clip

2.7.3 Pick-up Safeguard

The pick-up safeguard is a safety chain (2) (see Figure 6 on page 2-18) that sets the height of the pick-up and protects it from falling if the hydraulic pressure should drop during driving. The chain prevents the pick-up from falling into holes or ditches in rough field conditions.

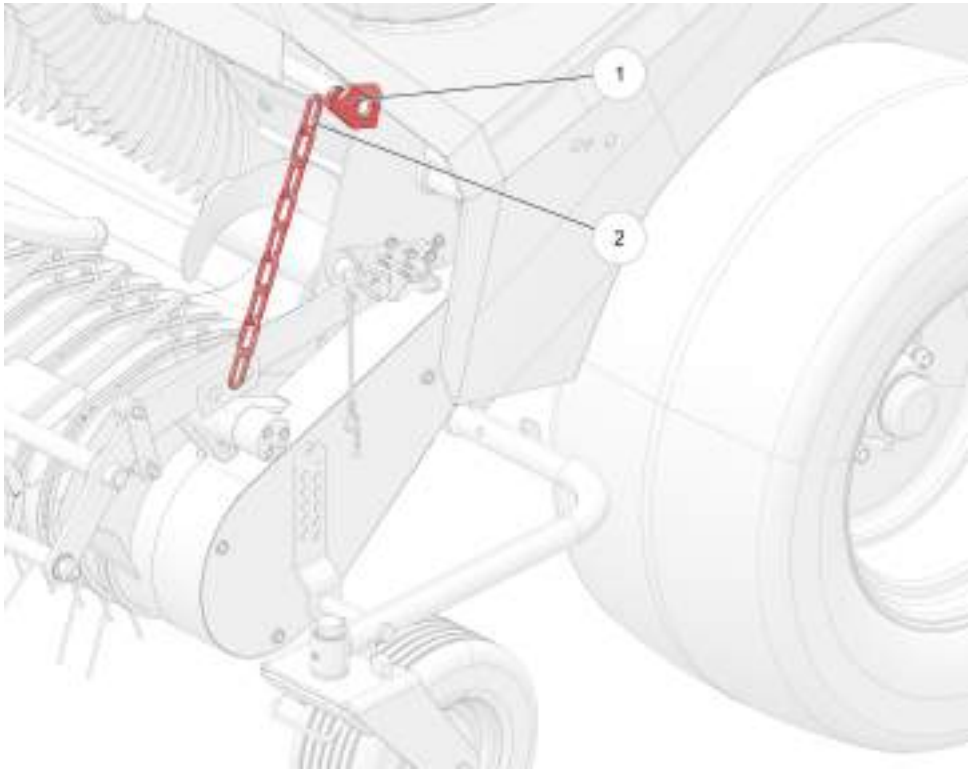

Figure 6. Pick-up safeguard

KEY: 1. Hook - 2. Chain

2.8 Side Covers

WARNING: Risk of cutting injury from moving parts. Never operate the machine with open shields!

WARNING: Risk of injury from swiveling shields. After unlocking, the shields swivel automatically up operated by pneumatic pressure. Do not open the shields unless there is sufficient space for swiveling up.

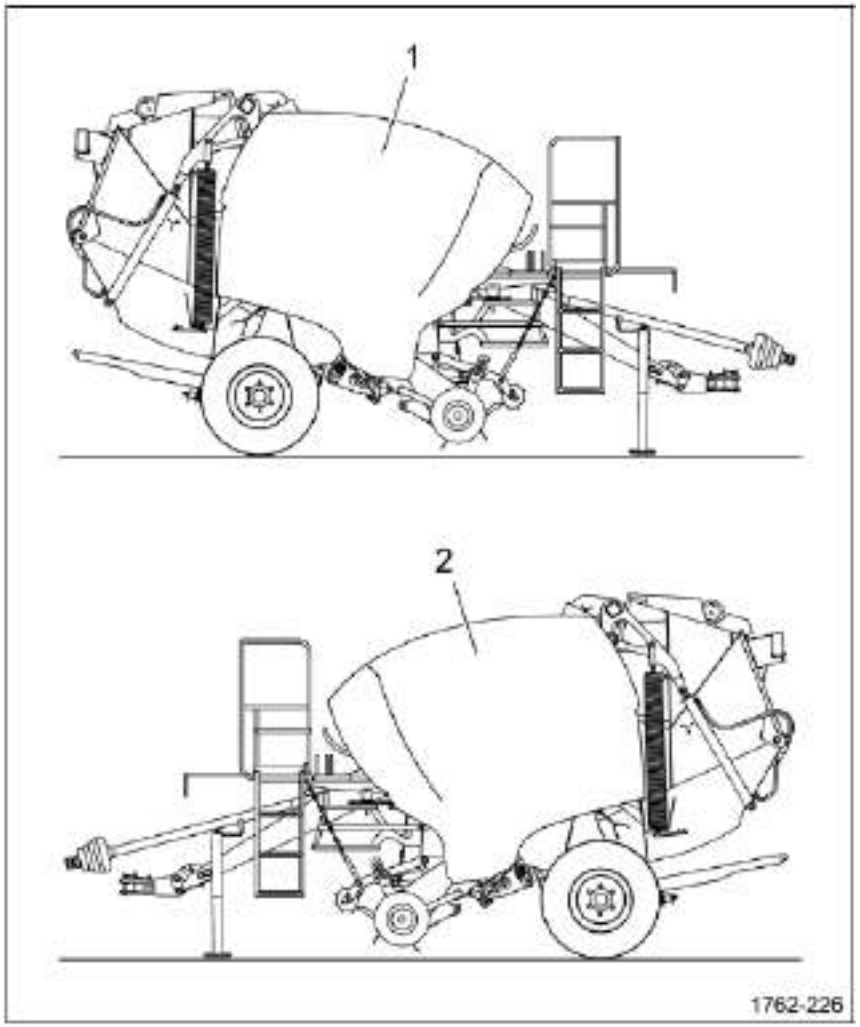

Figure 7. Shields

When the on the left and right side are open some parts are easier to reach.

Open the cover

1. Turn the lever (1) (see Figure 8 on page 2-20)

2. Use the lock (2) to open the cover.
   The cover will turn up.

Close the cover

1. Push the cover down until first the lock and then the lever engage.

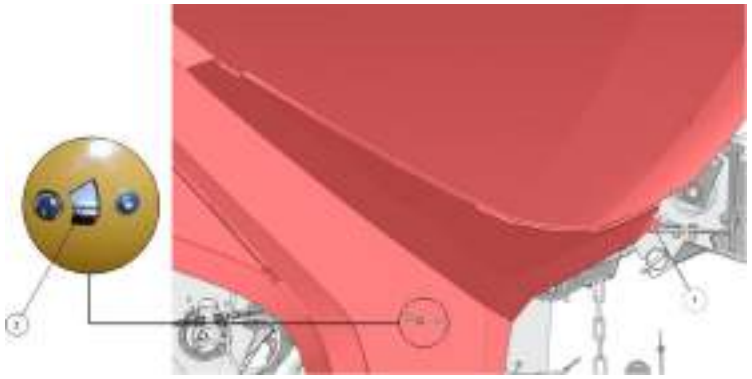

Figure 8. Open the side cover

KEY:
1. Lever - 2. Lock

3 INTENDED USE

Vermeer round balers are designed solely for use in baling agricultural crop material.

Always use the machine in accordance with the instructions contained in this Operator's Manual, safety signs on the machine, and other material provided by Vermeer Corporation.

Proper maintenance and repair are essential for safety, and for efficient operation of the machine. Do not use the machine if it is not in suitable operating condition.

4 OVERVIEW OF THE MACHINE

4.1 Overview of the machine

The baler has a wide pick-up max. 7.9 ft (2.40 m) and can produce round bales with a width of 4.0 ft (1.23 m) and a diameter from:

- 504 PRO 3.3 – 5.2 ft (1.00 –1.60 m).
- 604 PRO 3.3 – 5.9 ft (1.00 –1.80 m).

The baler produces a round bale in 5 steps:

1. Pick up 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 form the bale.
4. Tie the bale.
5. Open the tailgate and eject the bale.

The steps 1 - 3 are continuous when the tractor drives. The tractor must stop when the tying starts in step 4. The tractor and baler must stand still to eject the bale in step 5.

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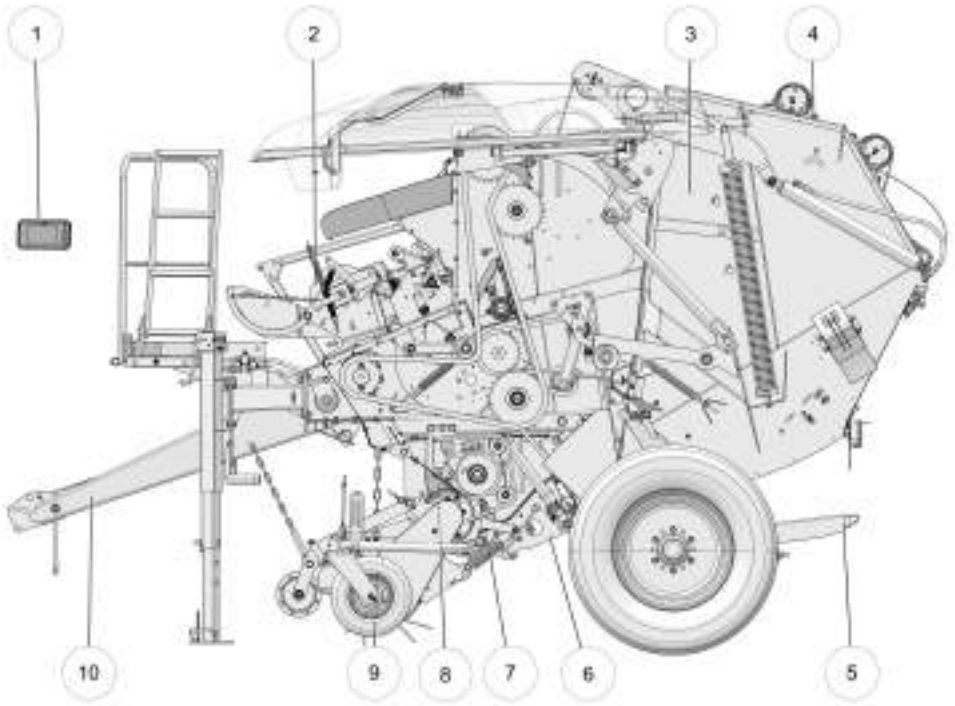

Figure 9. General overview

KEY:
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. Draw bar

5 CONTROLS AND ADJUSTMENTS

5.1 Control

The baler is operated from the tractor by the PTO shaft, the hydraulic single and double acting valves and by the user interfaces E-Link Pro

For more information about how to operate the user interface, see the software description (see page 5-7).

The has a touch screen, but can also be operated using the buttons on the side. Each function button (F1 - F10) has the same function as the touch screen button next to it.

The active functions on the display are highlighted in red, not selected or inactive functions are gray.

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Figure 10. E-link Pro buttons

Key		
A. ON/OFF Push ON/OFF to switch the monitor On or Off	**1. Start** Push Start to start or restart a net wrap cycle	**6. Home** Push Home to activate the home page
B. Escape Push Esc to stop with the Up/Down navigation	**2. Manual/Automatic** Push Manual/automatic to switch between the manual and automatic bale wrap mode.	7. **Bale setup** Push Bale setup to activate the page where bale settings can be made
C. Up/Down Push Up or Down to navigate in menus Push Up or Down to increase or decrease values	**3. Knives** Push Knives to switch the function of the double acting valve in the tractor to lift/lower the knives.	**8. Statistics** Push Statistics to activate the page where statistics can be viewed

D. OK (Enter) Push OK to accept the active selection (selected with the Up or Down button)	**4. Hydroflex floor** Push Hydroflex floor to switch the function of the double acting valve in the tractor to lift/ lower the Hydroflex floor.	**9. Task** Push Task to activate the page for entering tasks
E. Toggle Push Toggle to switch between the virtual terminal menus and the baler application	**5. Pick-up** Push Pick-up to switch the function of the double acting valve in the tractor to lift/lower the pick-up.	**10. Advanced** Push Advanced to activate the page where advanced settings can be made

Figure 10. E-link Pro buttons

5.2 Setup the E-link Pro Display

Preparation

1. Make sure the E-link pro is connected to the baler.
2. Switch on the E-link with the On/Off button (A) (see page 5-2)
3. Push the toggle button  (F5), the configuration page appears.

Setup Country and Language

1. Push [] (F8) (see page 5-2) on a configuration page.
   The page "Regional Configuration" appears.
2. Push the line "Country".
3. Push the button [] or [] to select your country.
4. Push [OK] to confirm the country and return to the page "Regional Configuration".
5. Push the line "Language".
6. Push the button [] or [] to select your language.
7. Push [OK] to confirm the language and return to the page "Regional Configuration".
   Refresh and reboot the controller. The language on the display is now in the selected language.

Setup Display and Sound

1. Push [] (F6) (see page 5-2) on a configuration page.
   The page "Display/Sound Configuration" appears.
2. Push the line "Brightness".
3. Push the button [] or [] to increase or decrease the brightness of the display.
4. Push the button [] (F8) to confirm the setting and return to the page "Display/Sound Configuration" .
5. Push the line "Volume".
6. Push the button [] or [] to increase or decrease the volume.
7. To switch off the sound completely: push the button in the upper right corner (F1).
   To switch the sound On again push once more on the button in the upper right corner (F1).
8. Push the button [] (F8) to confirm the setting and return to the page "Display/Sound Configuration".

Setup Date and Time

1. Push [] (F7) (see page 5-2) on a configuration page.
   The page "Date/time configuration" appears.
2. Push the line "Current date".
3. Push the button [] or [] to increase or decrease the Month.
4. Push [OK] to confirm the setting and toggle between Month, Day and Year.
5. Push the button [] to confirm the date.
6. Push the line "Timezone".
7. Push the button [] or [] to select your time zone.
8. Push [OK] to confirm the time zone and return to the page "Date/time configuration".
9. Push the line "Current time".
10. Push the button [] or [] to increase or decrease the hour.

11.Push [OK] to confirm the setting and toggle between Hour and Minute.

12.Push the button [] to confirm the time.

13.Push the line "Daylight Saving" to switch between daylight saving or “standard time”.

Virtual Terminal

1. Push the button [] on a configuration page.
   the page "Virtual Terminal" appears.
2. Push the line "System details", please fill the displayed serial number in the registration section of this manual .
3. Push the button [] to return to the configuration page.

Finish the Setup

1. Push the button in the low right corner, if a reboot is necessary you must push the button [√],
   the system will restart.
2. If a reboot is not necessary push the toggle button  (F5) (see page 5-2),
   the home page of the baler will appear.

5.3 Software Description

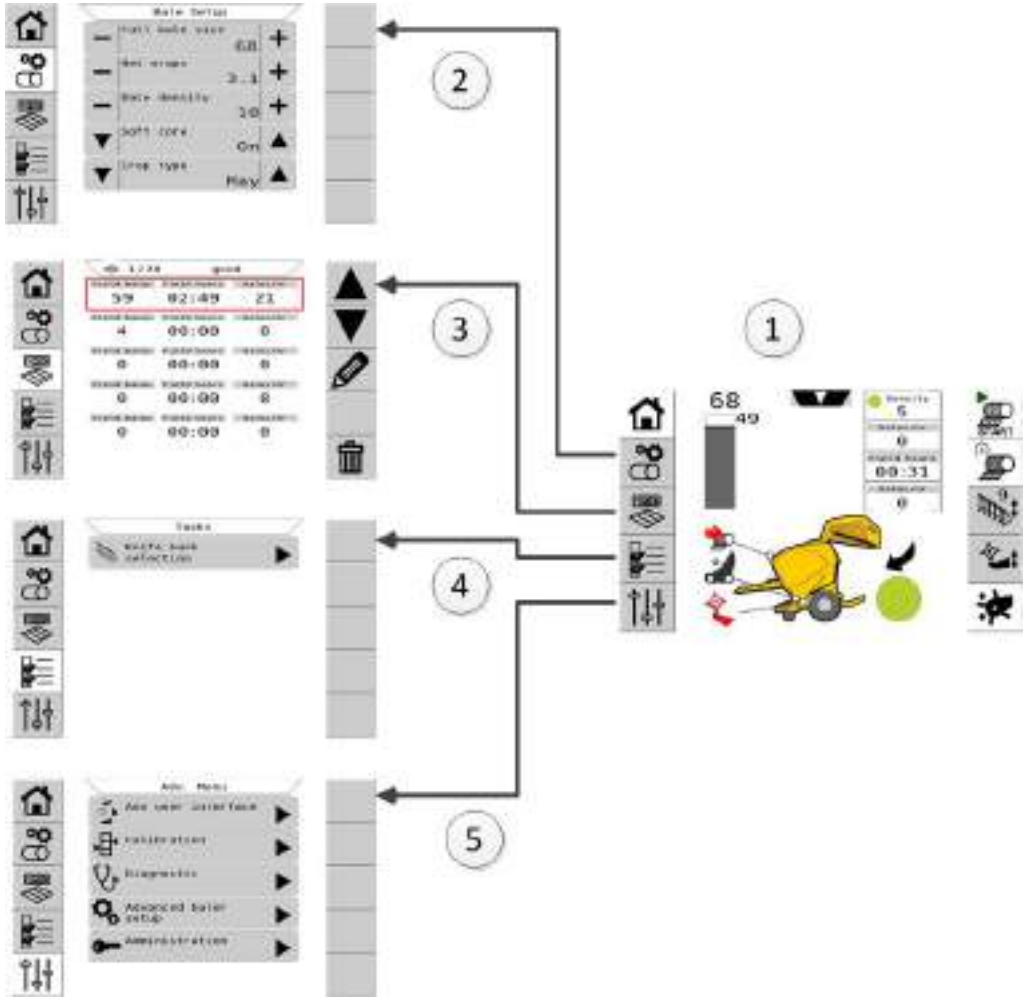

Figure 11. E-Link Pro Software

KEY:
1. Home page (see page 5-7) - 2. Bale setup (see page 5-12) - 3. Field statistics (see page 5-14) - 4. Tasks (see page 5-15) - 5. Advanced

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5.4 Home Page E-Link Pro

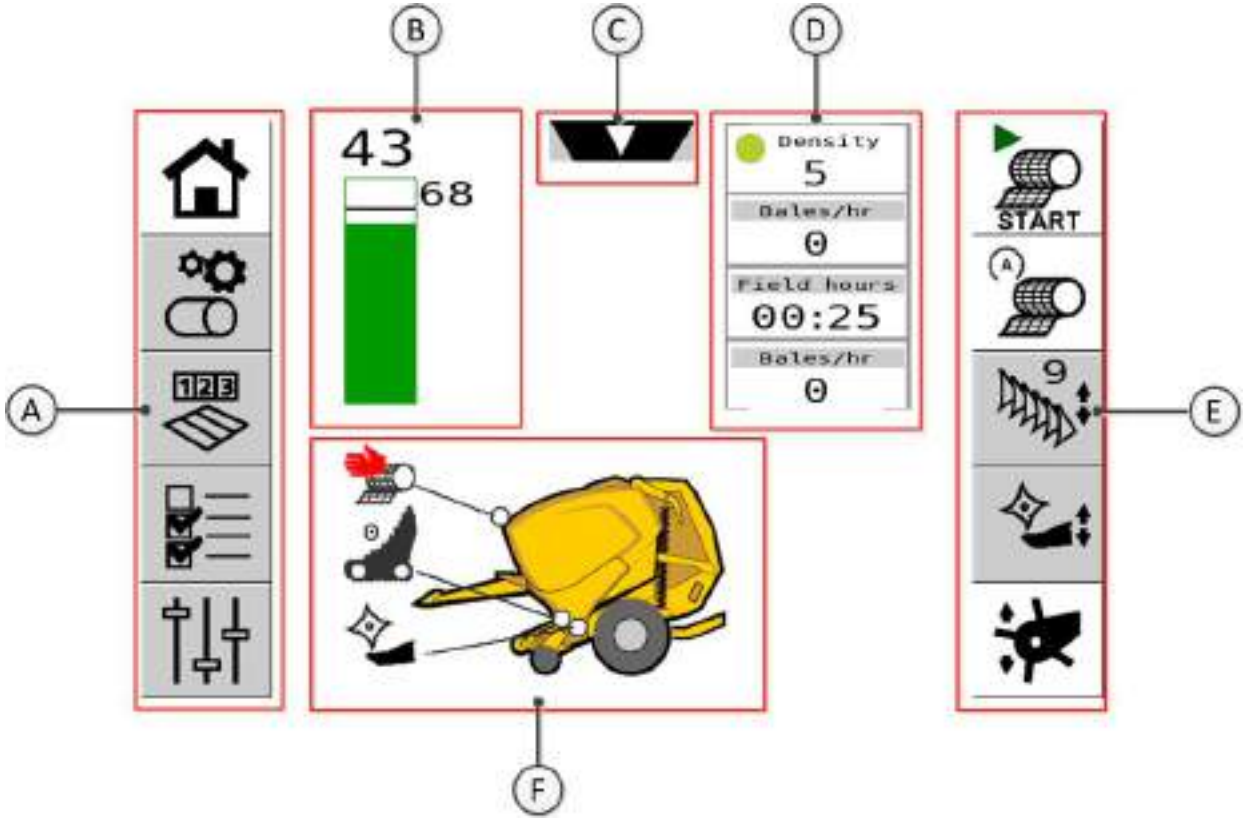

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Figure 12. Home page

The home page of the E-Link Pro display is divided into 6 sections:

- Sections [A and E] have control buttons.
- Sections [B, D and F] give information.
- Section [C] has a button to view the field name and other information.

[A] Buttons on the left to go to another page

 Home page

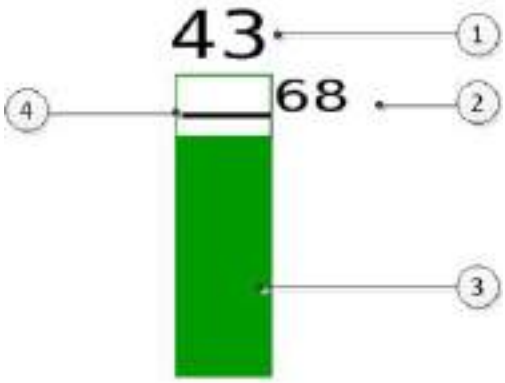
 Bale settings page

 Statistics/field data page

 Tasks page

 Advanced settings page

[B] Information about the current bale



1. Bale size indicator (Inch)
2. Target bale size (Inch)
3. Bale size indicator (graphic)
4. Target bale size (line)

In this picture the diameter of the target bale size is 68" (173 cm) and the currently formed diameter of the bale is 43" (109 cm).

The picture of the size indicator changes colour when the bale gets bigger.

Figure 13. Colour of the bale size indicator

1. Green, bale in progress
2. Yellow, bale nearly at target, only appears when "Near full alert" feature is activated (see page 5-23)
   At this point an audio signal is generated.
3. Red, bale is at the target size
4. Red, bale larger than the target

[C] Button

Button to view the field name and other information.

[D] Information about the field

Depending on the selection made in advanced settings the following information is shown:
"Field name"= Name of the field you typed

"Field bales" = Number of bales made on this field

"Field hours" = Number of hours worked on this field

"Bales/hr" = Speed of baling
"Total bales" = Total number of bales made with this baler

"Total hours" = Total number of hours operated with this baler

"Density" = Indicates the set density of the bale

[E] Buttons on the right to start or change the operation of the baler

The buttons start the following:

Start to wrap the bale (Manual wrapping)


or 
Switch from manual to automatic wrap or from automatic to manual wrap. In automatic mode, the wrapping starts automatically, in manual mode you must push the start button to start the wrap process
The selected mode is also visible on the display see [F].

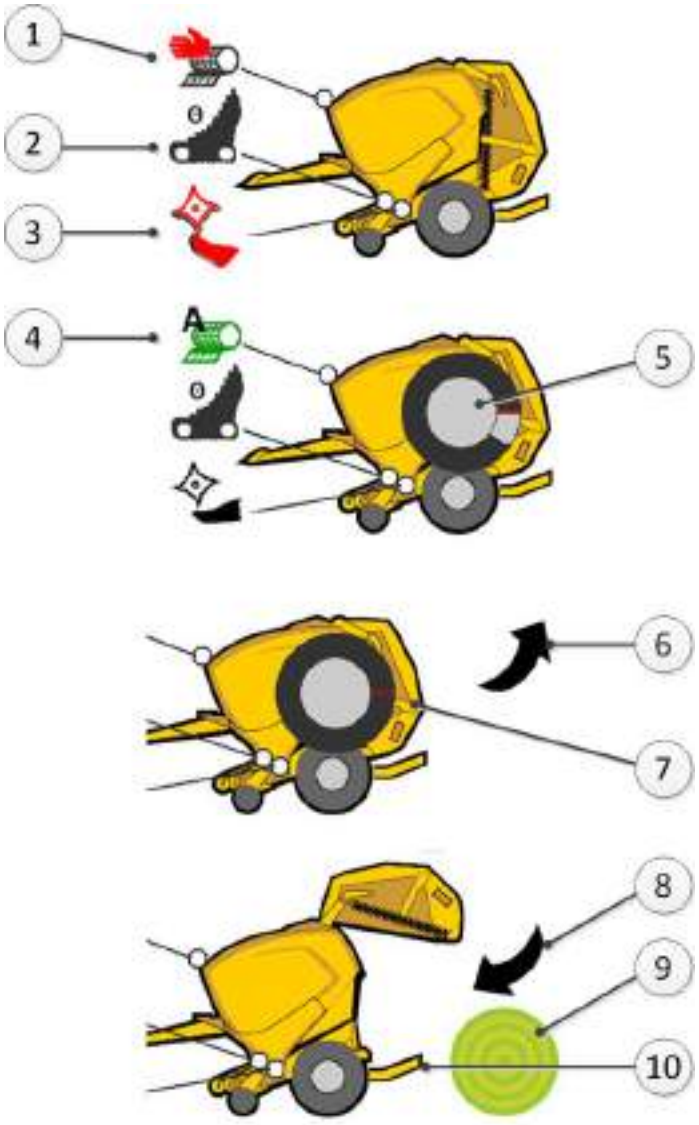
The buttons below are used to select the function of the double acting valve in the tractor:

Set the double acting valve in the tractor to insert / extract the knives, the number on the button indicates the number of knives


Set the double acting valve in the tractor to lift / lower the feed floor, only use this button to release a blockage


Set the double acting valve in the tractor to lift / lower the pick-up

[F] Baler equipment and operation status



1. The bale is wrapped manually
2. Number of Knives are inserted (green icon); if knives are not inserted this icon is black
3. Hydroflex floor is not lowered (black icon); if the Hydroflex floor is lowered this icon is red
4. The bale is wrapped automatically
5. The wrapping process is not done
6. You must open the tailgate
7. The wrapping process is done
8. You must close the tailgate
9. The bale is ejected
10. The ramp is down

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5.5 Bale Settings Page

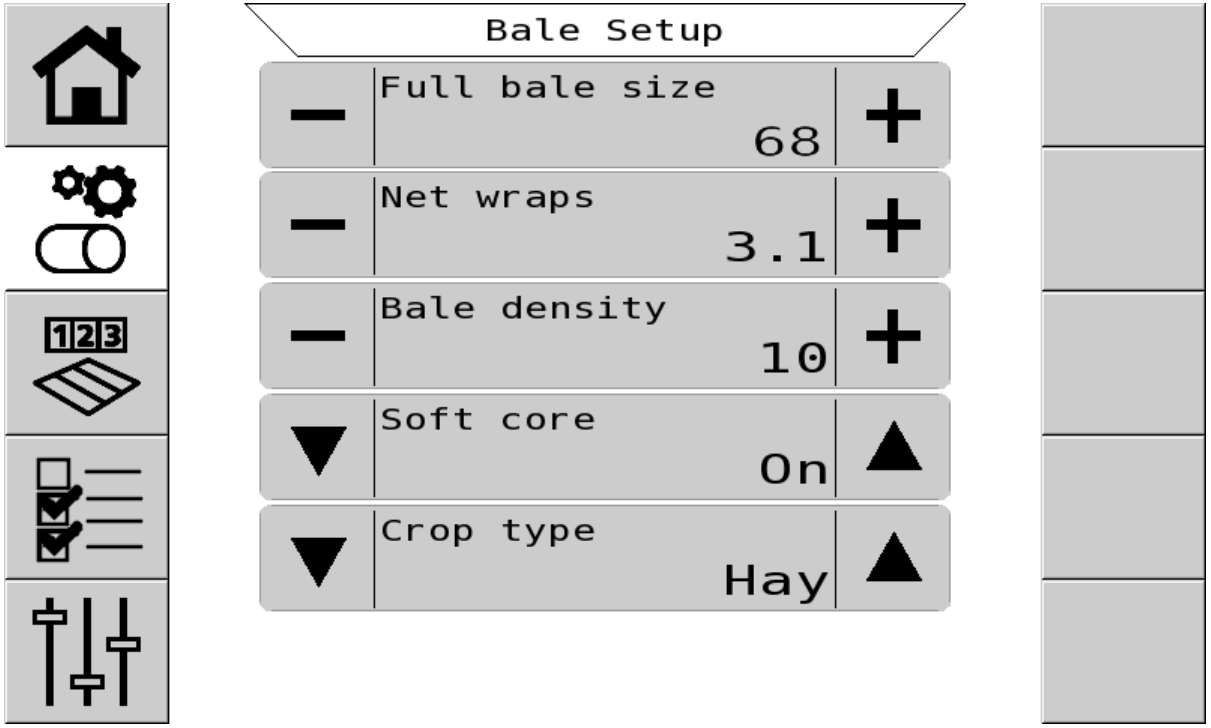

Figure 14. Bale Setup

You can use the buttons + and − or the buttons ▲ and ▼ to change the settings.

The settings are automatically saved when you go to another page, for example to the home page.

Setting	Machine type	Unit	Min - Max	Default/Advised
Full bale size	**504 PRO**	**inch**	**35 – 63**	**49**
	604 PRO	**inch**	**35 – 71**	**53**
The set diameter of the bale. When the bale has this diameter, the warning sound alerts you to stop the tractor and automatic wrapping starts. (When the wrapping is set to manual you must push the start button.)				

Net wraps	number	1.5 – 10.0	4
The number of wraps around the bale.			

Bale density	Level	0 – 10	5
The level that indicates if the bale must be more dense or less dense.			

Soft core	—	On/Off	Off
Selection for making bales with a soft core or not.			

Crop type	–	Straw/Hay/Silage	–
The type of crop the bale is made from. By selecting the crop type the settings of the baler will be adjusted automatically.			

5.6 Field Statistics Page

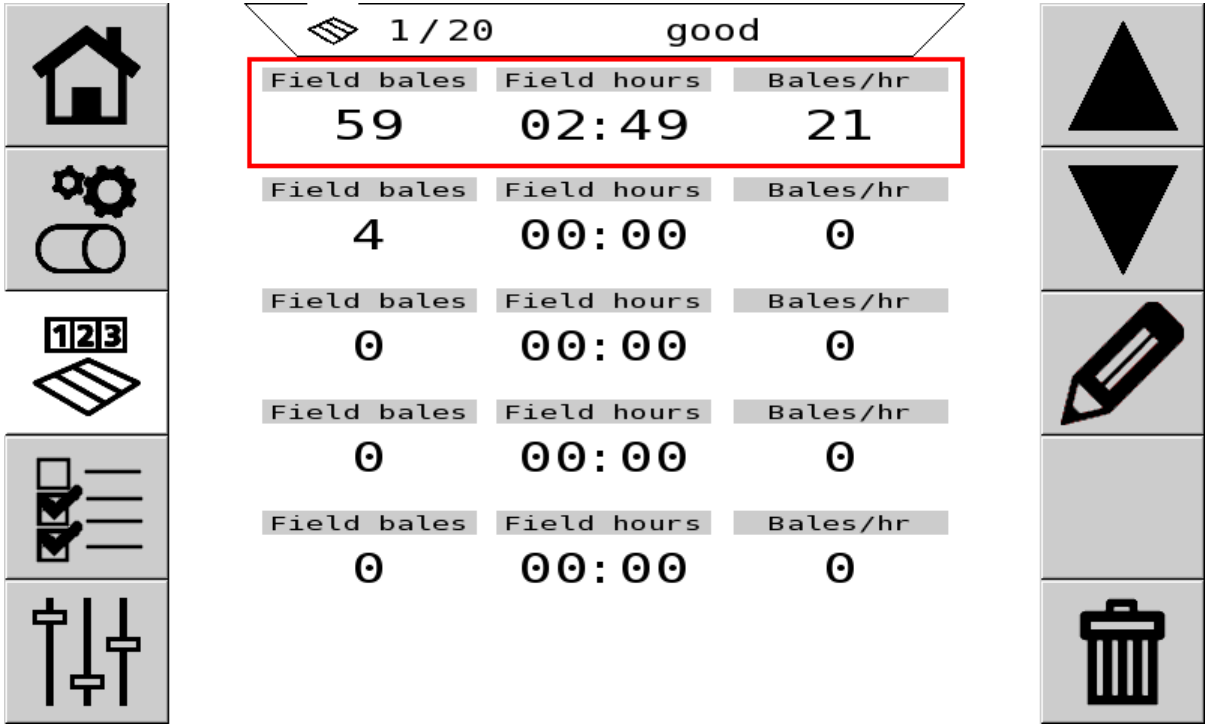

Figure 15. Field statistics page

This page shows information about the number of bales and hours worked on the field. The name of the selected field is shown in the title bar. Information of up to 20 fields can be stored. The name of the field can be entered on this page.

Push the buttons up  or down  to select a field. You can now use the field for baling, edit the name of the field or delete the data:

- Push to use the selected field.
- Push  to edit the name of the field.

  1. On the page that appears push the button  and a keyboard appears on the display.
  2. Type the new field name.

3. Push OK to save the name.
4. Push  to return to the field statistics page or  to go to the home page.

- Push  to delete the data of the field. Push  to confirm.

5.7 Tasks Page

Figure 16. Tasks

Depending on the available options on your baler like the tying system and knife groups, this page shows entries for wizards to make changes. Follow the instructions on the display.

The example below shows the wizard to change the knife group selection. With this function you can change the number of knives used during baling.

1. Push  to start the wizard.
2. Select the new number of knives.
   The selected number is shown grey and the icon "Disengage" starts blinking.
3. Use the double acting valve in the tractor to disengage the knives.
   The icon "Engage" starts blinking after the knives are lowered.
4. Use the double acting valve in the tractor to lift the new selected knife group.
5. When the text "Status: Engaged" is shown, you can push  to return to the tasks page or  to go to the home page.

5.8 Advanced Menu

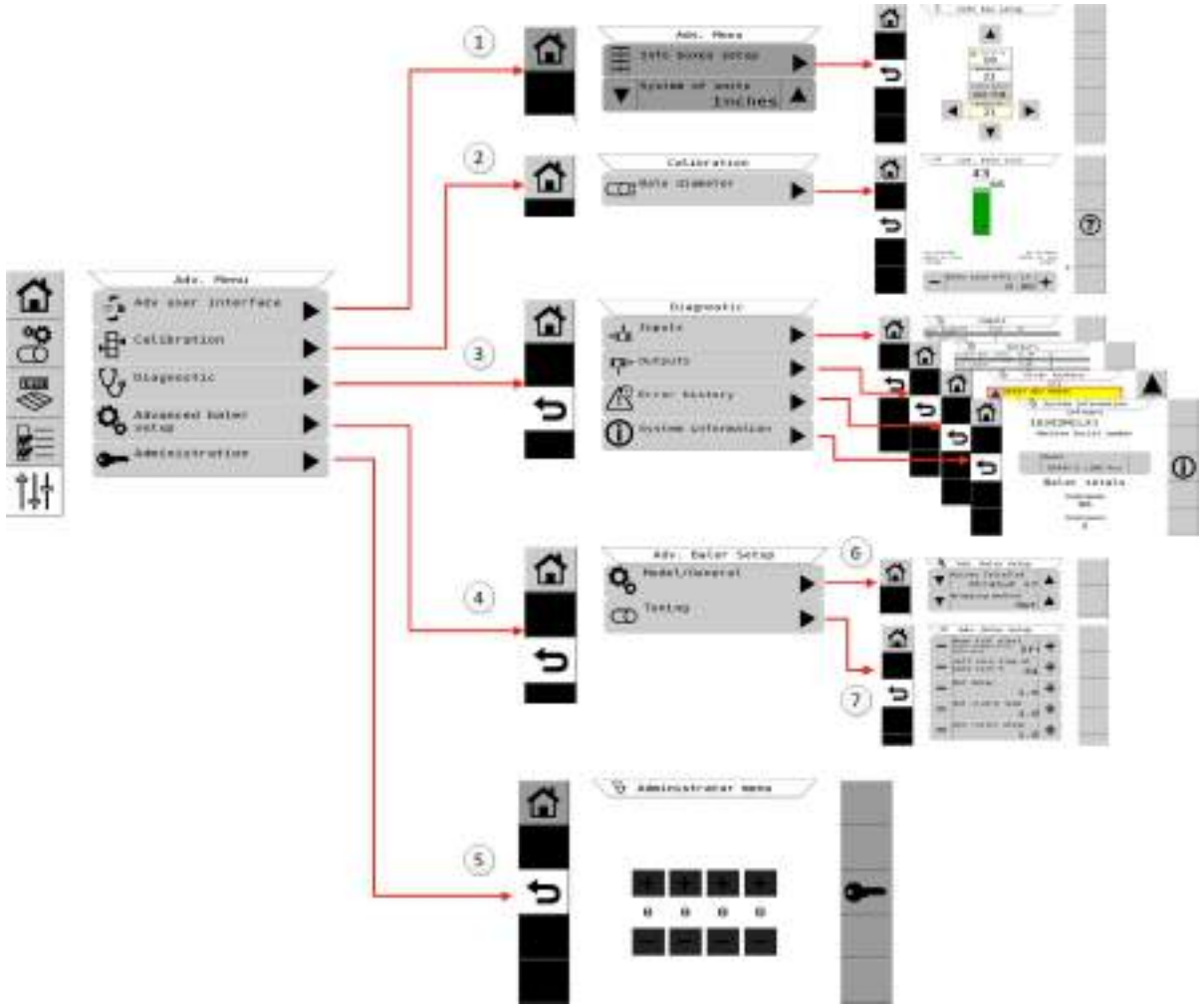

Figure 17. Advanced menu structure

KEY:
1. Advanced user interface - 2. Calibration (see page 5-19) - 3. Diagnostics (see page 5-22) - 4. Advanced Baler setup - 5. Administrator Menu - 6. Advanced baler setup - 7. Tuning

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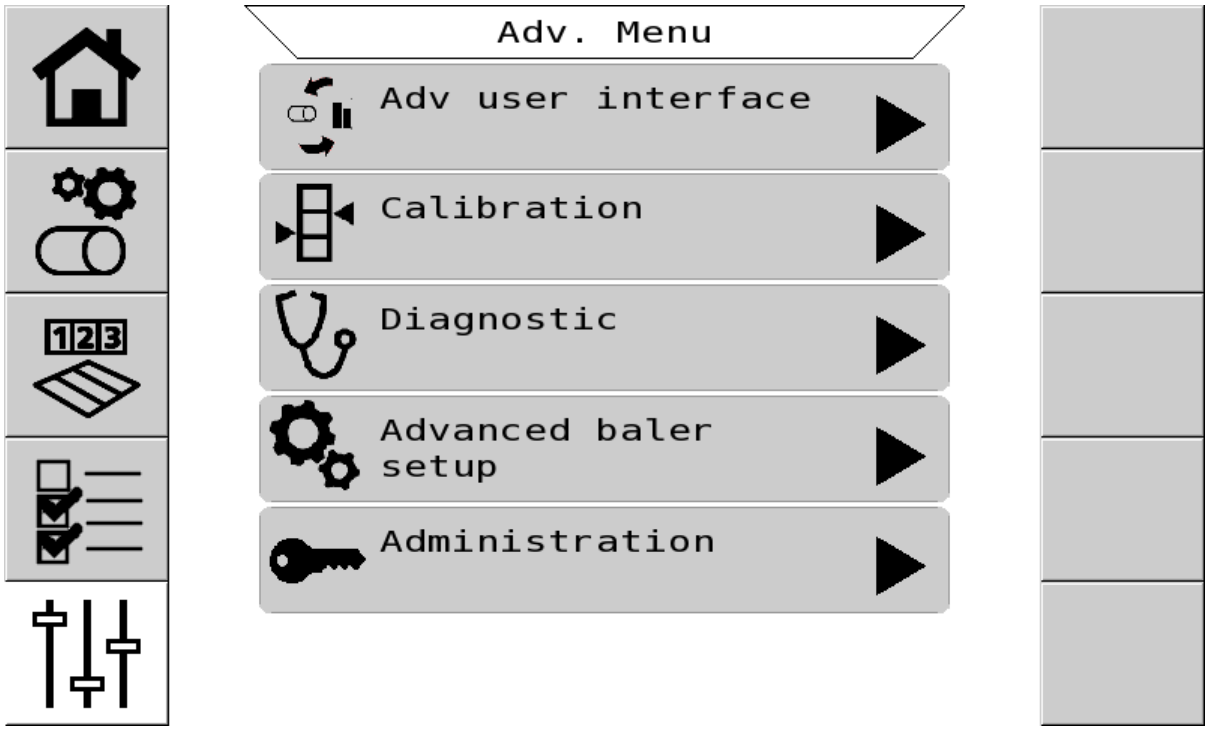


Figure 18. Advanced menu

Push the button ▶ on the line you want to use.

5.8.1 Advanced User Interface

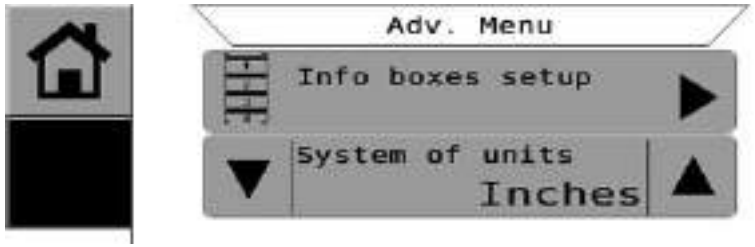


Figure 19. Advanced user interface

On this page you can change the shown information on the home page as follows:

1. Push the button right on the line "Info boxes set-up".
2. The display shows:

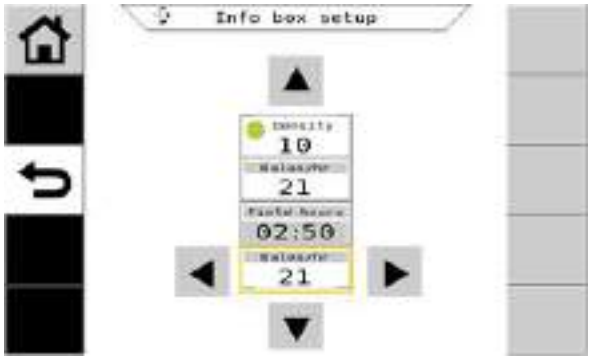


Figure 20. Info box setup

3. Use the arrow buttons arrow up ▲ or down ▼ to select the information box you want to change.
4. Use the arrow buttons left ◀ or right ▶ to select the information you want to display on the home page.
5. Push ⮌ to return to the page "Adv user interface" or 🏠 to go to the home page.

5.8.2 Calibration

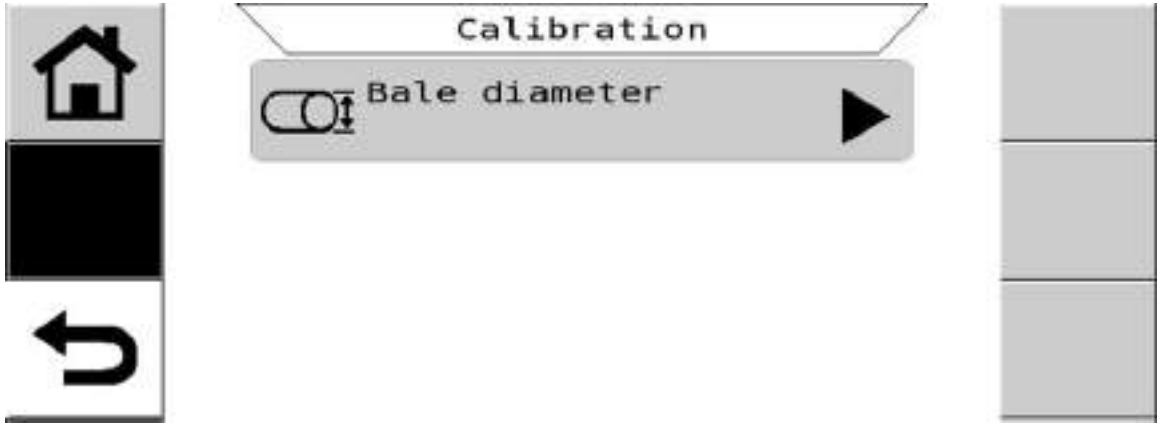
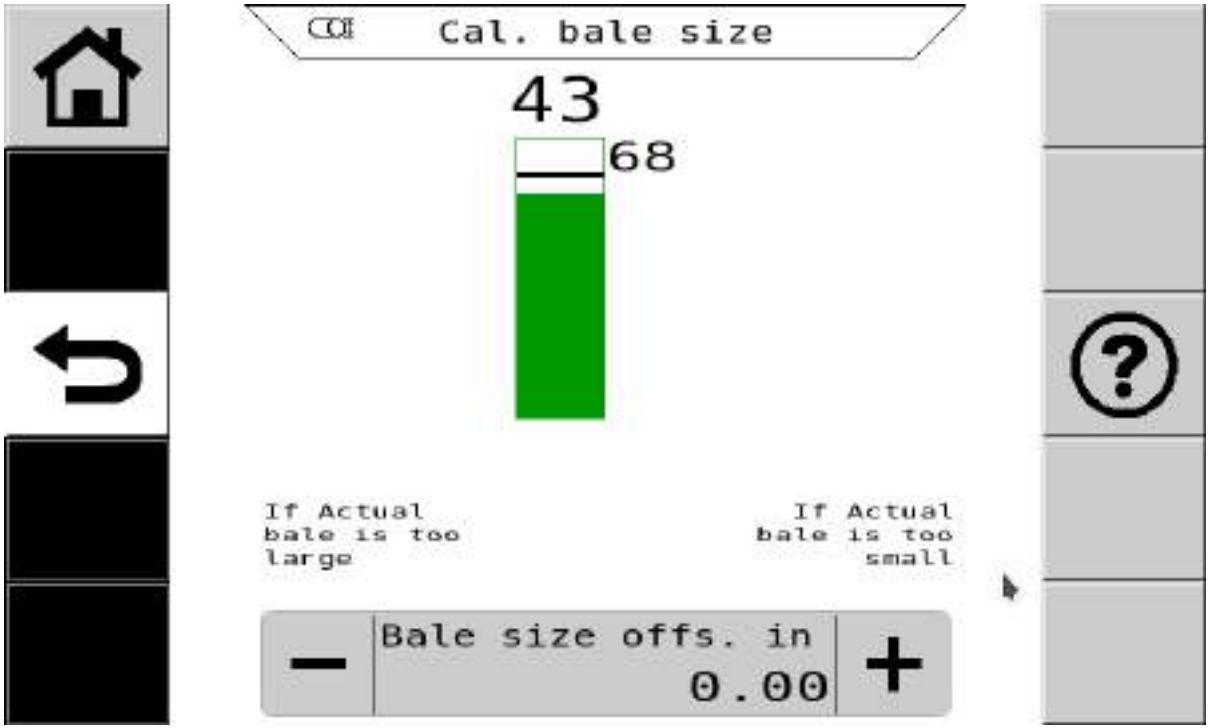


Figure 21. Calibrate

On this page you can start the calibration of the bale diameter. Do this if the size of the bale deviates from the set bale size. Before you start the calibration you must know how much the deviation is (See example below). Calibrate as follows:

1. Push the arrow button ▶ on the line "Bale diameter".
2. The display shows:



3. Use the button + or − to set the correct offset.
4. Push ↩ to return to the "Calibration" page or ⌂ to go to the home page.

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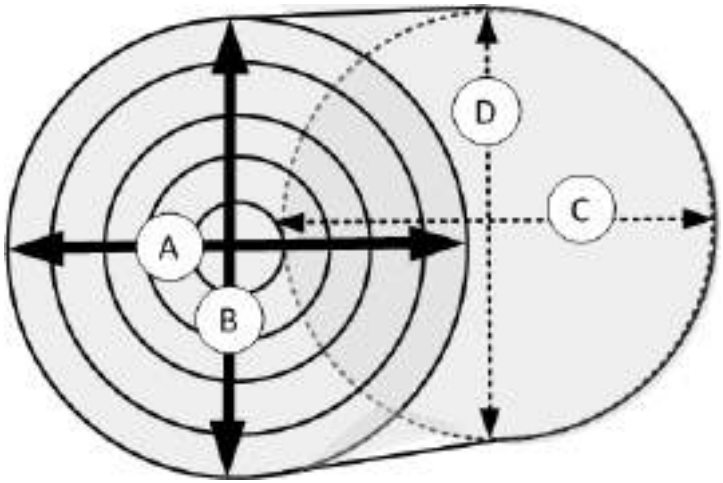
Example



Measure the distances A, B, C and D (= horizontal and vertical distance on both sides of the bale) and calculate the average bale size: (A+B+C+D)/4. For example:
The set bale diameter = 49.5 Inch but it is a bit too small:
(48.5 + 48 + 49.5 + 48)/4 = (194)/4 = 48.5 In this example the average bale size is 1 inch too small so the {bale offset} must be increased. Push + until the bale offset is + 1.00.

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5.8.3 Diagnostics

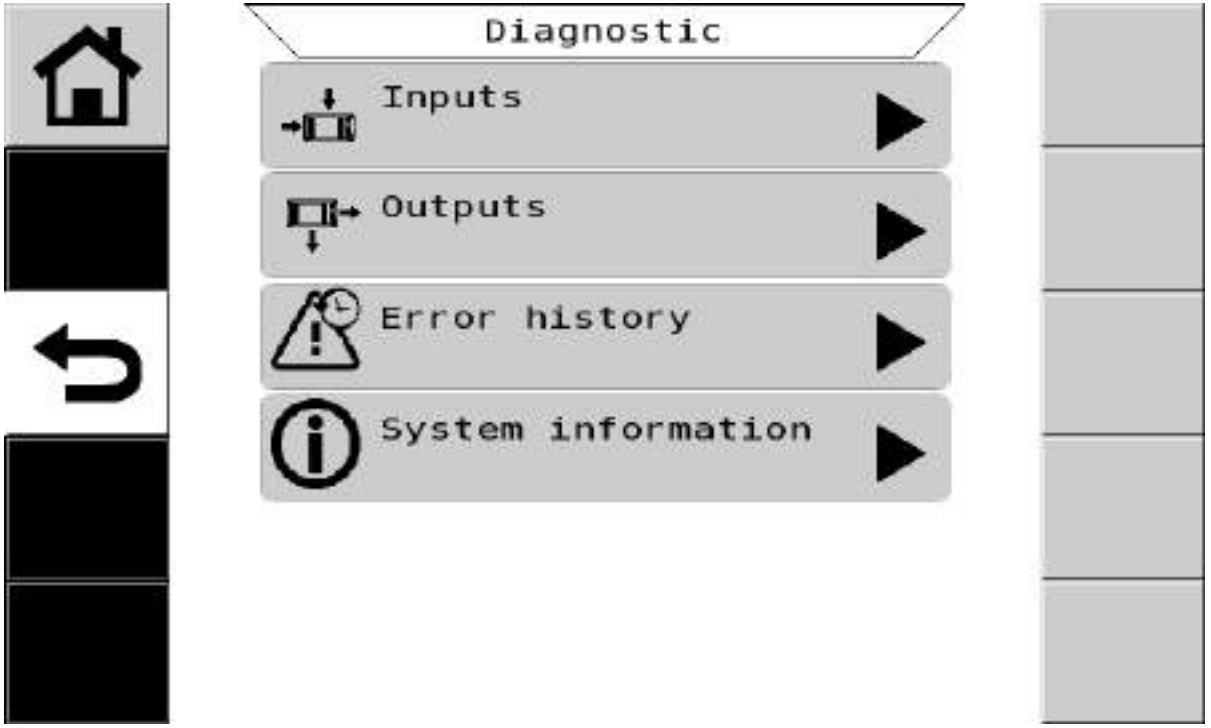

Figure 22. Diagnostics

On the diagnostics page you can select several pages that give more information during trouble shoot. Push the button ▶ on the line you want to view:

- "Inputs": displays the input signal (only for technicians).
- "Outputs": displays the output signal (only for technicians).
- "Error history": Displays the last 10 error messages and the number of times they occurred.

  Use the buttons up ▲ or down ▼ to select a message and push ? to view more information about the error message.
- "System information": Displays the software version, the model, serial number and the total number of bales and hours.
- "Administration": This is only available for Vermeer technicians and requires a password.

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5.8.4 Advanced Baler Setup (504/604 PRO Baler)

Figure 23. Advanced Baler Setup

Model Setup

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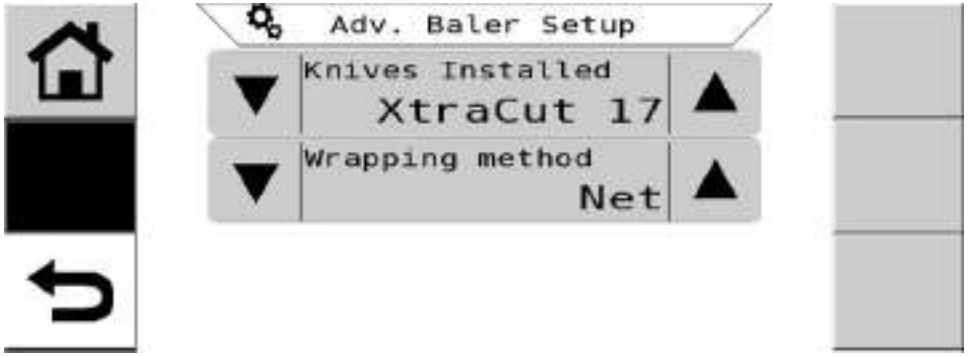

Figure 24. Advanced Baler Setup

1. Settings for the number of available knives or the wrapping method can be changed by pushing the arrow up ▲ or down ▼.

2. Push ↩ to return to the "Adv. menu" or ⌂ to go to the home page.
   The selection is automatically saved when you leave the page.

Setting	Unit	Min - Max	
Knives installed	–	**No knives 17**	
Select the number of knives that are actually installed in the baler. Depending on this setting you can select the number of knives on the page " Tasks"(see page 5-15)			

Tuning Page

1. Change the settings by pushing + or –

2. Push ↩ to return to the "Adv. menu" or ⌂ to go to the home page.
   The selection is automatically saved when you leave the page.

Setting	Unit	Min - Max	
Near full alert	**inch**	**Off / 0 - 50**	–
Number of inch before the set bale size is reached when the display must show the bale size indication graphic in yellow. Select Off if you do not want to see the bale indicator switch from green to yellow.			

Soft core bale size [%]	%	0 – 100	–
Size of the soft core, this is a percentage of the of the normal bale. Switch the soft core on or off on the page: "Bale set-up" (see page 5-12)			

Net delay	sec	0.0 – 5.0	–
Delay time for the net to start wrapping automatically after the bale size is reached.			

Net clutch time	sec	3.0 – 8.0	–
Active time for the net clutch.			

Net roller delay	sec	0.0 – 5.0	–
Delay time for the clutch to start.			

6 SHUTDOWN PROCEDURES

6.1 Shutdown Procedure Service and Maintenance

When stopping the machine, use the following shutdown procedure:

- Ensure bale chamber is empty. Do not leave bale or partial bale in bale chamber.
- Reduce engine speed to idle and switch off driveline.
- Fully lower or fully raise pick-up.
- Engage tractor park brake.
- Switch off tractor engine and remove key.
- Interrupt electrical connection between tractor and machine.
- Close shut off valve at the hydraulic tube of the pick-up (see Figure 58 on page 8-4).
- When carrying out work underneath or near the opened tailgate: apply tail gate safeguard (see page 2-15)
- When carrying out work near the net knife: fit net knife safeguard (see page 2-16)

For your safety and the safety of others, the shutdown procedure must be followed before dismounting from the tractor for servicing, cleaning, or inspecting the baler.

A variation of this shutdown procedure may be used if so instructed within this manual or the tractor manual, or if an emergency requires it.

6.2 Depressurize hydraulic system

- Fully lower tailgate.
- Fully lower pick-up.
- Move cutting device into home position. After the knives have reached the home position, the tractor's hydraulic control must be operated for another 5 sec to ensure the hydraulic accumulators are emptied.
- Keep tractor engine running and move all tractor hydraulic controls to "float".
- Select pick-up lift, bottom door, and cutting device functions on E-LINK PRO while tractor hydraulic controls are in "float" to depressurize all circuits.
- Shut off tractor engine and remove key.

- Secure hydraulic operated parts (pick-up, cutting device) mechanically against unexpected movements.

7 PREPARING THE EQUIPMENT BALER

WARNING: Crushing can occur! During handling in the area of the drawbar ensure that the machine is secured against moving. Do not raise the tongue jack before the baler has been safely coupled to the tractor.

Do not uncouple the baler, unless:

- Baler is parked on solid, level ground
- The baling chamber is empty and the tailgate closed
- The wheels of the machine are blocked to prevent unexpected movement
- Hydraulic system has been depressurized
- The hitch is without load.

Nobody must be between tractor and baler unless wheels of both machines are blocked to prevent unexpected movement!

Always keep children away from the machine!

Always follow Shutdown Procedure before performing maintenance or repair work (see page 6-1)

WARNING: Tailgate and ejected bale can crush. Proceed with particular care when opening and closing the tailgate. No persons may stay in the swiveling range of the tailgate and in the bale unloading area.

In case of locations on a slope: Never eject a bale where it can roll. A rolling bale can be destructive and result in serious injury or death. Never try to stop a rolling bale.

7.1 Install or Remove the Tongue Jack

Depending on the position of the crank handle in the support foot holder (pulled out or pushed in) the tongue jack moves fast or slow when you turn the crank handle. The direction of movement when turning clockwise or counter clockwise is depending on the position of the crank handle in the tongue jack holder (out or in).

- To move the tongue jack quick, you must pull the crank handle out of the tongue jack up to the stop
  - Up: Turn the crank handle clockwise.
  - Down: Turn the crank handle counter clockwise.

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- To move the tongue jack slowly, you must push the crank handle into the tongue jack up to the stop.
  - Up: Turn the crank handle counter clockwise.
  - Down: Turn the crank handle clockwise.

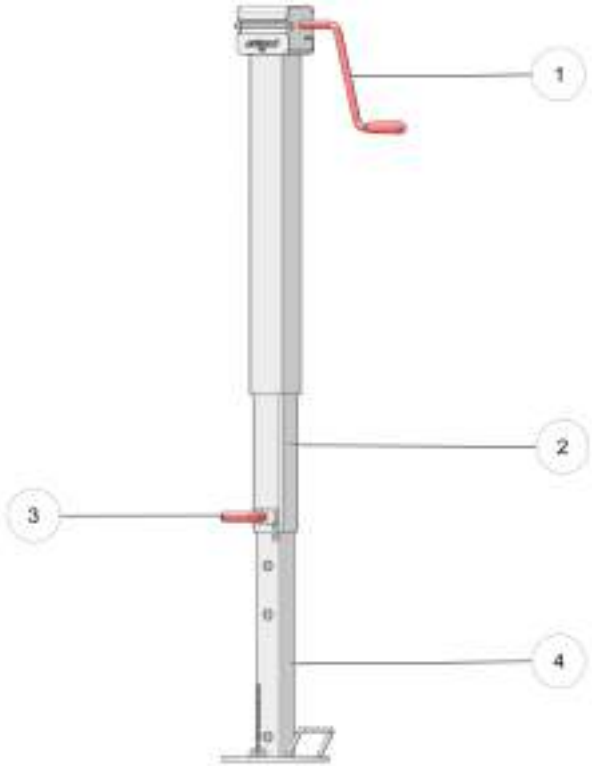

Figure 25. Tongue jack

KEY:
1. Crank - 2. Tongue jack holder - 3. Safety bolt - 4. Support foot

Install the tongue jack:

1. Make sure the baler is on a level ground, the parking brake is activated and the wheel wedges are blocking the wheels.
2. Remove the safety bolt (3) from the tongue jack holder (2).
3. Manually slide the tongue jack out of the tongue jack holder up to a convenient length.

4. Insert the safety bolt.
5. Position the tongue jack under the draw bar of the baler.
6. Turn the crank until the tongue jack is extended.

Remove the support foot:

1. Turn the crank (1) until the support foot (4) has retracted and there is sufficient free space.
2. Remove the safety bolt (3) from the support foot holder (2).
3. Manually slide the support foot completely in the support foot holder.
4. Install the safety bolt into the support foot holder.

7.2 Adjust the Height of the Drawbar

WARNING: Ensure maximum baler hitch weight does not exceed the permissible load on tractor drawbar(see page 13-1).

WARNING: Death or serious chrushing injury can result if machine falls. securely support machine with suitable blocking or jackstands. Never work under machine supported only by a jack or other lifting device.

1. Place the baler on a clean and level floor on the tongue jack(see page 7-1) and block the wheels.
2. Lower the tongue jack until the baler is in a horizontal position, the baler is horizontal when the platform is horizontal. Make sure the tongue jack is vertical and the axle plates are in a horizontal position.
3. Remove the bolts (1) (see Figure 27 on page 7-6) and the locking plates (3) from both sides of the baler.
4. Support the drawbar front end with suitable lifting device with a lifting capacity of > 150 kg.
5. Loosen the bolts (2) from both sides of the baler.
6. Use the lifting device to lift the draw bar to the required height, the draw bar must be aligned with the hitch pin of the tractor.
7. Tighten the bolts (2) finger tight on both sides and make sure serrations are alligned on the flange plates (5).
8. Tighten the bolts (2) with the correct torque on both sides of the baler.
9. Install the locking plates with the bolts (1) on both sides of the baler.
10. Loosen the bolts (9).

11.Adjust the bolt (8) until the draw bar head is in a horizontal position.

12.Tighten the bolts (9).

13.Connect the drawbar of the baler to the tractor.

CAUTION: Observe the torques on the decal! . Whenever the safety nuts and bolts (9) have been loosened they must be replaced by new ones

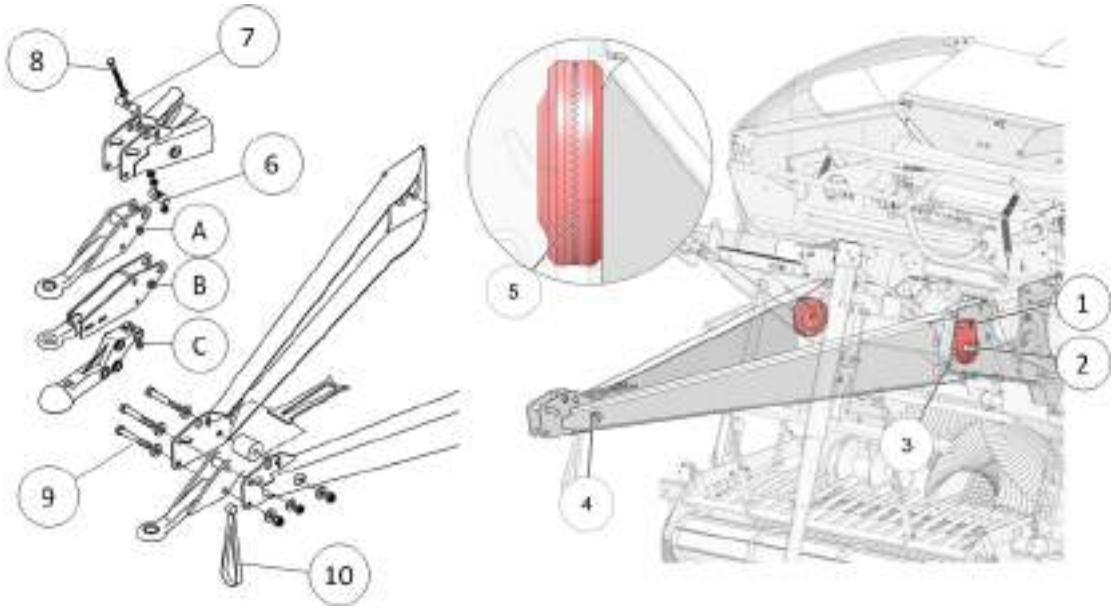

Figure 26. Adjust the drawbar

KEY: 1. Bolts - 2. Bolts - 3. Locking plate - 4. Hole - 5. Toothed flange - 6. Pin - 7. Pin - 8. Bolt - 9. Bolts 10. Strap A, B, C, types of drawbar heads

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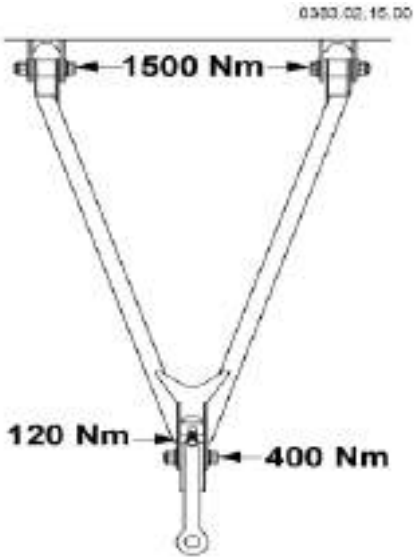

Figure 27. Torques

7.3 Tow Hitch Version

- Adjust drawbar per ASABE standards as shown. Failure to adjust the drawbar properly may result in driveline damage.

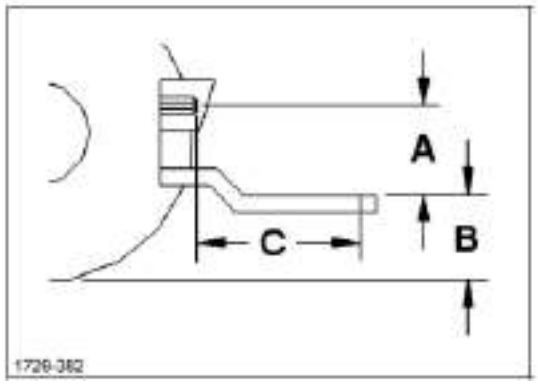

Figure 28.

Driveline (power take-off)	Type I
Speed	540 rpm
Diameter	1-3/8 in. (35 mm)
# of Splines	6
Dimension A	7.9–11.8 in. (20–30 cm)
Dimension B	13.0–19.7 in. (33–56 cm)
Dimension C	13.8 in. (35 cm)

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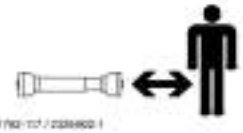
7.4 Driveline Baler

	**Danger:** Entanglement in rotating driveline [4] can result in death or serious injury.
	Stay away from rotating driveline [4]. Stop engine and ensure driveline is stopped before working on driveline.

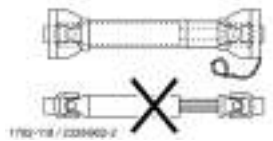
	Keep driveline shields in place at all times. Ensure shields turn and telescope freely. Wear close-fitting clothing and confine long hair.

Figure 29. Rotating driveline

WARNING: During operation there is potential of the driveline slipping off the tractor power take-off and causing injuries and/or damages. Ensure that the driveline is properly connected to the tractor.

NOTICE

Ensure angle of driveline constant velocity joint never exceeds 80° (see page 7-9). Damage to driveline and/or tractor may result.

- Follow the operating instructions of the driveline manufacturer as well as national relevant signs with type approval for driveline protection.

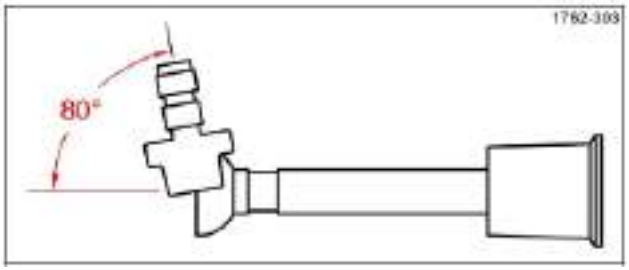


Figure 30. Angle of driveline

Only the driveline prescribed by the manufacturer may be used! A key-type overrunning clutch as integrated part of the driveline protects the machine drive.

Figure 31. Driveline

WARNING: Injury may occur. (see page 7-9) Protective tube and guard cone of the driveline and power take-off protection must be fitted and be in proper condition. Ensure before switching on the driveline that the selected speed of the tractor is in conformity with the permissible speed and direction of rotation of the machine (540 rpm).

Reduce engine speed to idle before switching off power take-off.

7.4.1 Driveline – couple to tractor

NOTICE

Do not attach a baler equipped for 540 rpm PTO to a 1000 rpm PTO; damage to baler may result.

- Lift driveline [4] from holder [3](see Figure 32 on page 7-10).
- Align splines and push driveline onto tractor PTO shaft.
- Pull back on collar [6], push driveline onto tractor shaft, and release collar (see Figure 33 on page 7-10). Push onto tractor shaft until collar snaps into locked position. Pull back on driveline to ensure it is properly locked in place.
- Install and lower tractor PTO shield [5] (see Figure 33 on page 7-10).
- Connect anti-rotation chain [7] (if equipped) to tractor (see Figure 34 on page 7-11).

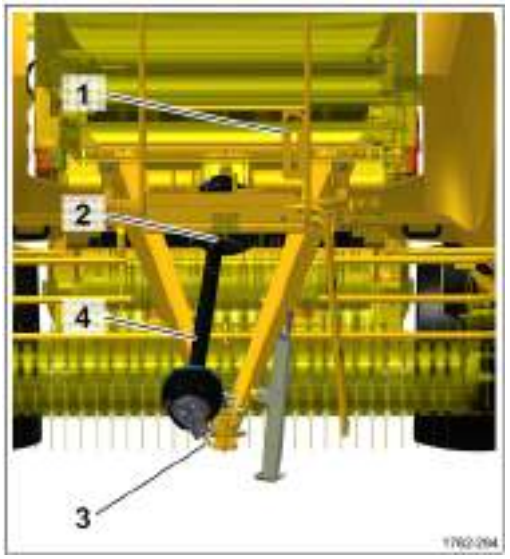


Figure 32. Lift driveline

Figure 33. Driveline —couple to tractor

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NOTICE

To prevent hose and cable damage, route all hoses and wiring harnesses through hose run [2]. When disconnected from tractor, store all hoses and wiring harnesses in holder [1](see page 7-10).

7.4.2 Driveline – uncouple from tractor

- Disconnect anti-rotation chain [7] (if equipped) from tractor (see Figure 34 on page 7-11).
- Raise tractor PTO shield [5] (see Figure 33 on page 7-10).
- Pull back on collar [6], pull back driveline off of tractor PTO shaft, and release collar (see Figure 33 on page 7-10).

- Install and lower tractor PTO shield [5] (see Figure 33 on page 7-10).

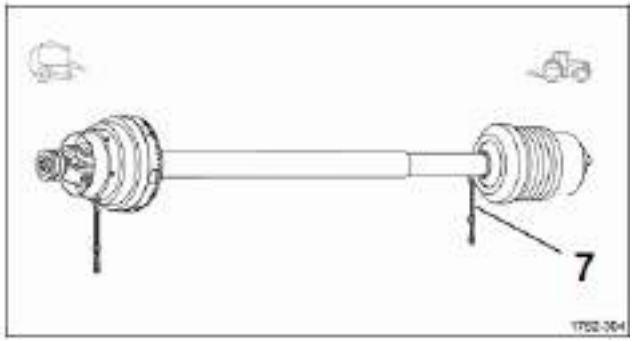

Figure 34. Anti-rotation chain

7.5 Attach Baler

WARNING: Use Shutdown Procedure before attaching implement to the tractor.(see page 6-1)

For trouble-free operation of the baler correct coupling of the machine and adjustment of the driveline is important.

- To prevent damage to baler tongue and driveline, remove any quick attach hitch and fully raise or lower 3-point lift.
- Lock drawbar in center position.
- Hitch baler to tractor using pin **[3],** support plate **[4],** and lock pin **[5].**

Connect optional towing safety chain **[7]** rated at 10,000 lb (4540 kg) as follows:

- Route hook end [8] of chain through hole in tongue **[6],** through end loop **[9]**, through intermediate support **[2]**, and around drawbar support structure **[1]** as shown. Leave only enough slack for turns.
- Hook end **[8]** of chain is equipped with a latch which prevents the hook from becoming accidentally uncoupled. Ensure latch is positioned to secure chain in hook as shown.

Figure 35. Attach baler

NOTICE Order safety chain (part number AK01332) from your authorized Vermeer dealer.

7.6 Electrical System

7.6.1 Lighting Set

To connect the lighting system, insert the 7-pin plug into the corresponding socket on the tractor. Before traveling on the roads, check that the lighting system functions correctly (also at daylight).

7.6.2 Control Electronics

The machine will be delivered with:

- Controller (see Figure 36 on page 7-13).
- E-LINK PRO display (see Figure 37 on page 7-13).
- Monitor mounting system (see Figure 38 on page 7-13).
- Battery connection wire harness .
- E-LINK PRO tractor harness

Figure 36. Controller

Figure 37. E-Link PRO display

Figure 38. Monitor mounting system

- Install the Monitor mounting system (see Figure 38 on page 7-13) on tractor at a location convenient for the operator.
- To connect the controller, insert the 9-pin plug into the corresponding socket on the E-LINK PRO tractor harness.

After connecting the plug supply voltage is available.

NOTICE

When baler is not in use, shut-off the power of the E-LINK PRO and disconnect the power supply plug. This prevents tractor battery discharge.

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7.7 Net Wrapping

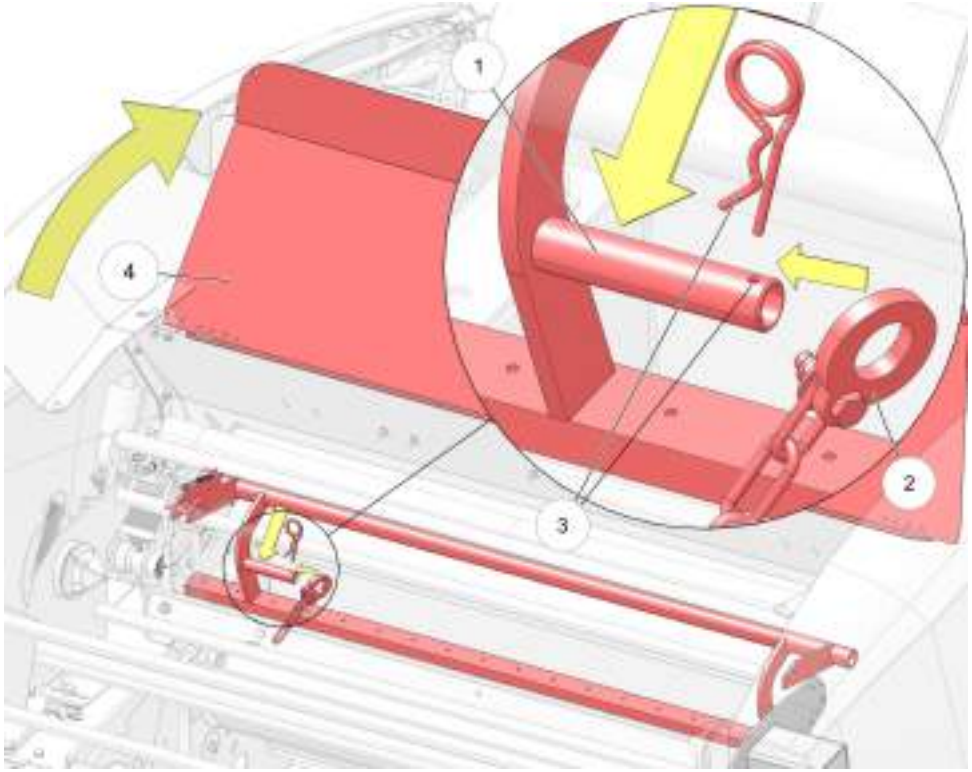

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Figure 39. Open the top cover and secure the net knife

KEY:
1. Handle net knife carrier - 2. Safety chain - 3. Spring clip - 4. Top cover

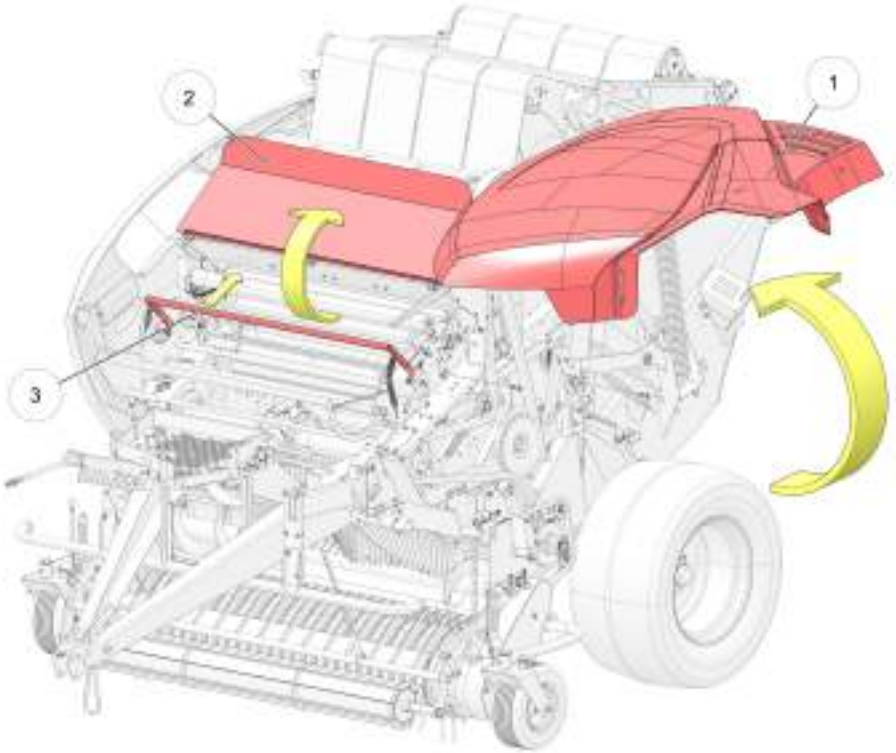

Figure 40. Covers

KEY:
1. Side cover - 2. Top cover - 3. Bar

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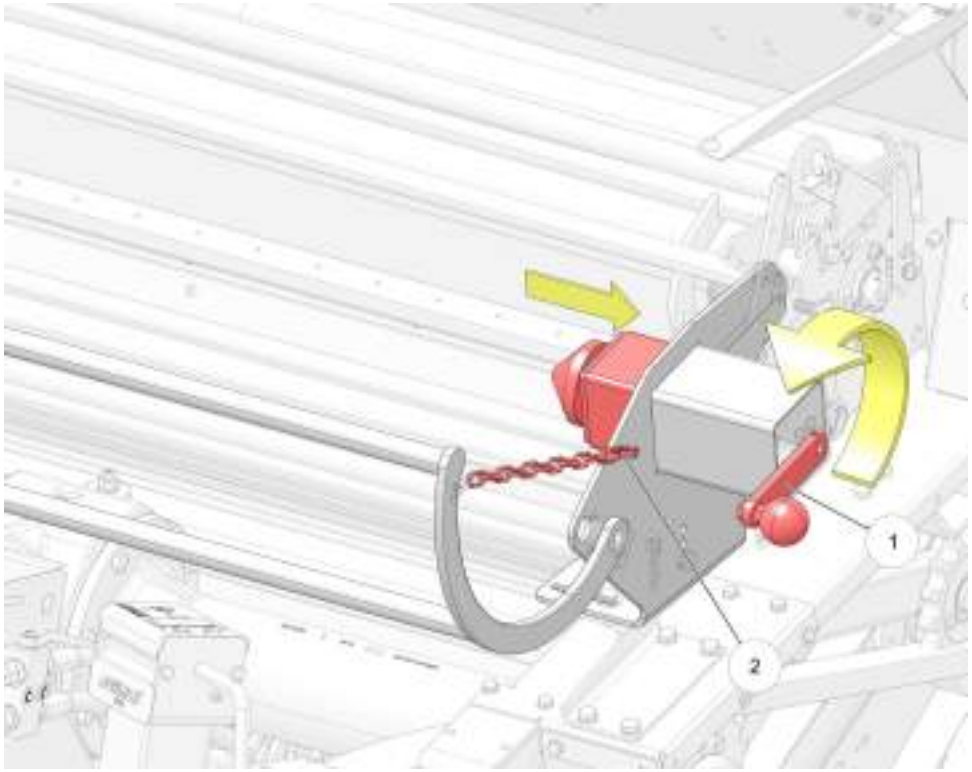

Figure 41. Prepare for a Net Roll

KEY:
1. Crank handle - 2. Safety chain on the net roll holder

7.7.1 Insert the Net

1. Push the new net roll (1) (see Figure 42 on page 7-19) into the holder.
2. Connect the safety chain (2).
3. Tilt the holder (3) and net into the net roll holder.
4. Turn the crank handle into the sleeve of the net roll up to the stop, and than 1/8 of a turn backward.
   This ensures that the roll can rotate freely.
5. Make sure the crank handle should not go all the way to stop. There should be a gap between the inner washer(2) (see Figure 43 on page 7-20) and the extruding bearing (1) of a distance of 3/8–1/2”(A). Overtightening will cause bearing failure or weld breakage.
6. Make sure the position of the spindles (1) and (2) (see Figure 44 on page 7-21) point in the center of the sleeve and not in the net. If necessary loosen the spindle with the crank handle and repeat step 4.
7. Feed the net according to the picture from the net roll (1) (see Figure 45 on page 7-22) via roll 2, 3 and 4 to the rubber roll (5) and steel roll (6).
8. Turn the rubber roll (5) by hand until the rolls grasp the net.
9. Make sure the net hangs out less than 10 cm beyond the rubber roll.
   This prevents that the net is grasped into the baling chamber too early.
10. Remove the cotter pin and turn the bar (3) (see Figure 40 on page 7-16) of the net tightener to the front.
11. Remove the spring clip (3) and chain (2) (see Figure 39 on page 7-15) of the net knife safe guard (if applicable).
12. Close the top cover (2) (see Figure 40 on page 7-16) and side cover (1).

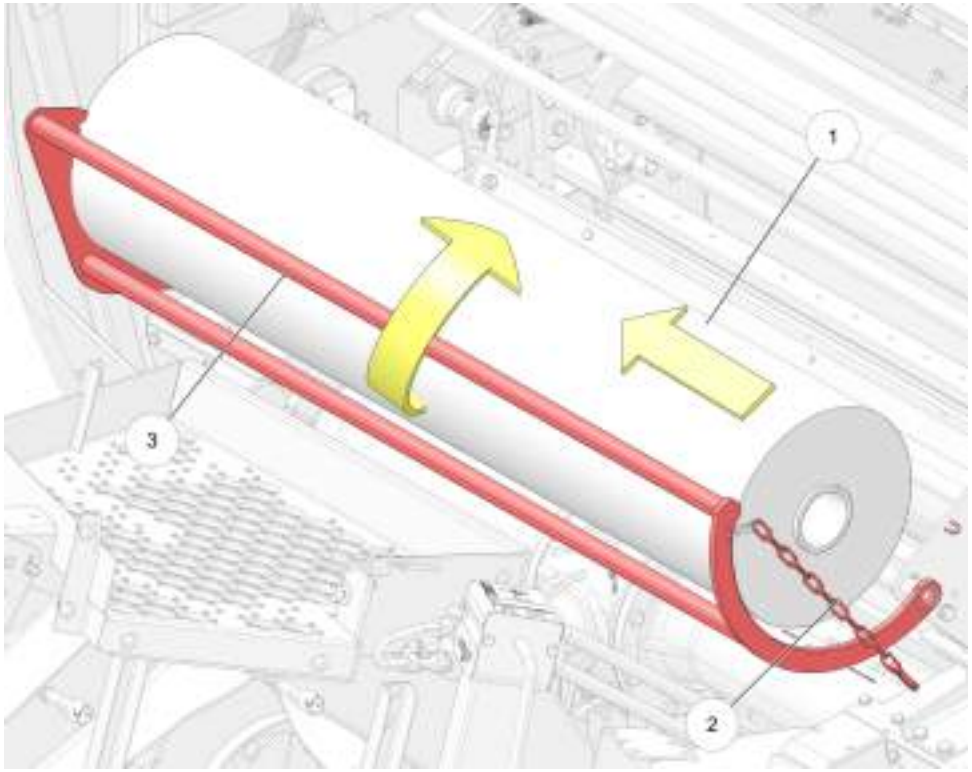

Figure 42. Insert the net roll

KEY:
1. Net roll - 2. Safety chain - 3. Net roll holder

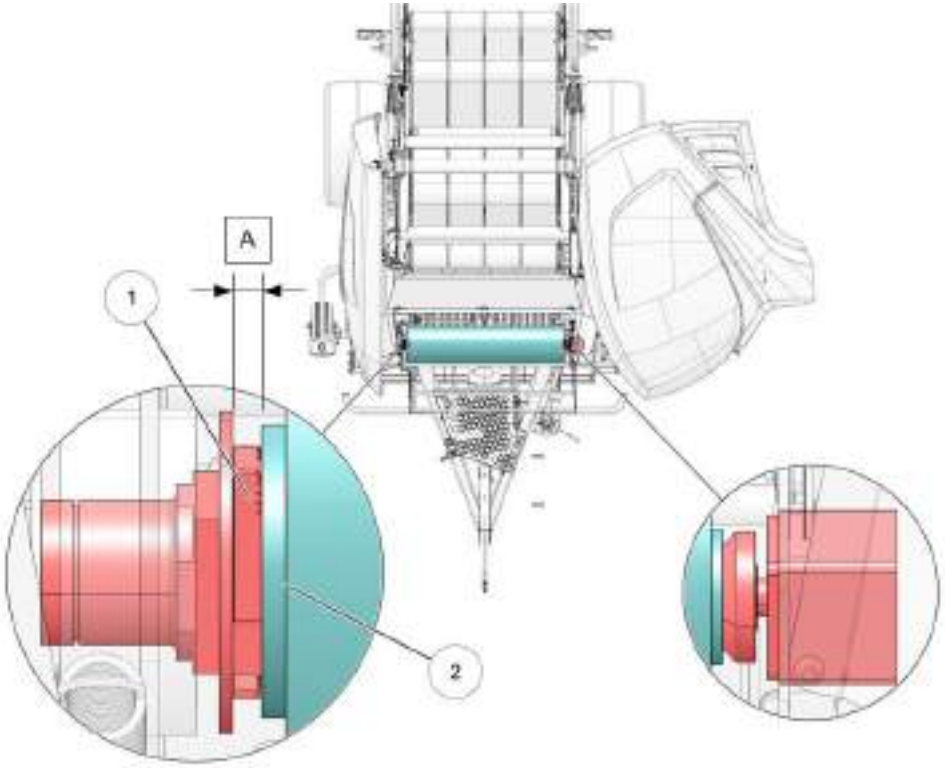

Figure 43. Check distance core position

KEY:
1. Extruder bearing - 2. Inner washer — A. Distance between 3/8 and 1/2”

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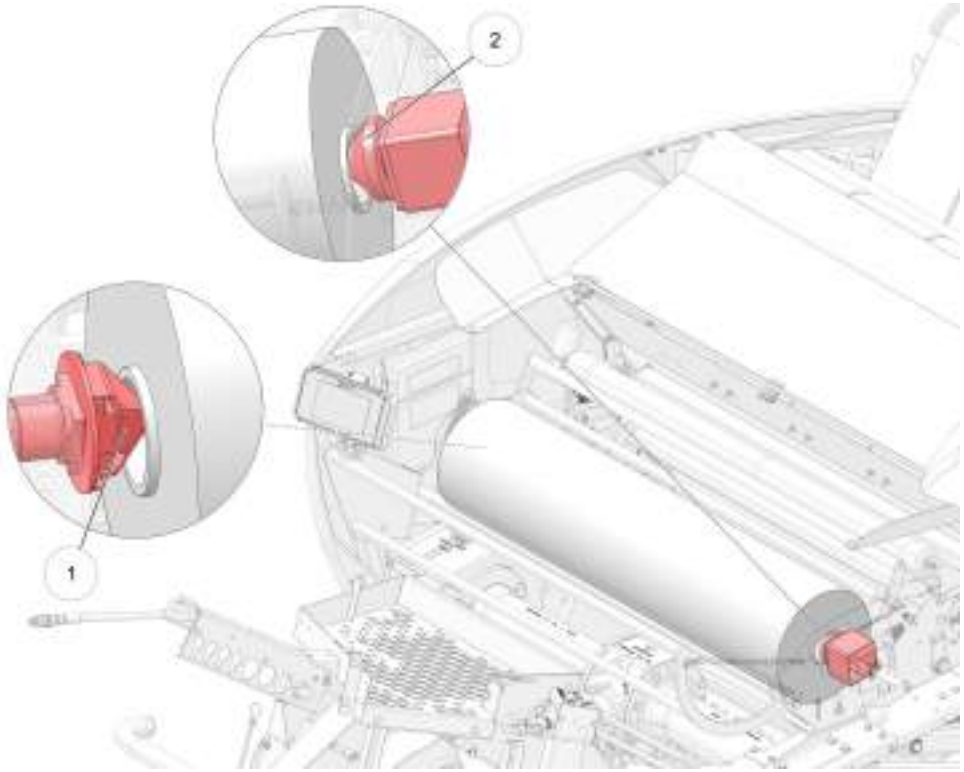

Figure 44. Check the position of the Spindles

KEY:
1. Spindle - 2. Spindle

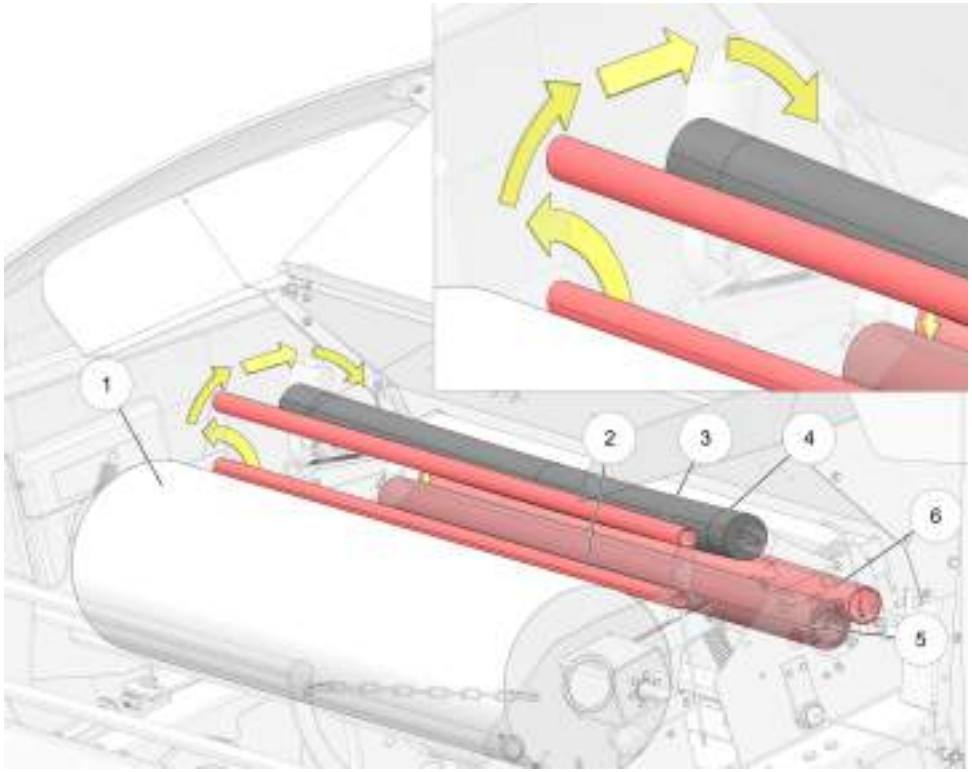

Figure 45. Feed the Net

KEY:
1. Net roll - 2. Upper guide tube - 3. Net tightener - 4. Expanding device - 5. Rubber roll - 6. Steel roll

7.7.2 Adjust the Net Roll Holder

Net rolls are available in several widths and net lengths. Depending on the length of the net you want to use and the width of the net some adjustments must be made.

WARNING: Before you do work near the net knife, insert the net knife safeguard and secure the net knife.

1. Open the top cover (4) (see Figure 39 on page 7-15).

2. Pull the handle (1) of the net knife carrier to the front and hold it.
3. Attach the safety chain (2) and secure it with the clip (3).
4. If you use a net length of 2000 m do the following on both sides:
    1. Remove the rods (1) from the bottom position.
    2. Put the rods in the top position holes (2) and (3).
5. If you use a net roll with a width of more than 1.23 m remove the extension spindle (4).
   If you use a net roll smaller than 1.23 m, make sure the extension spindle is installed.
6. If by adding or removing the extension spindle the net roll is no longer positioned in the center, you must position the net roll on both sides:
    1. Loosen the bolts (3) in the slotted holes of the position holders (1) and (2) and move the position holders until the net roll is positioned in the center of the bale chamber.
    2. Tighten the bolts.
7. Remove the safety chain (2) from the handle (1) of the net knife.
8. Close the top cover (4).

7.7.3 Netwrap Roller Position

Figure 46. A

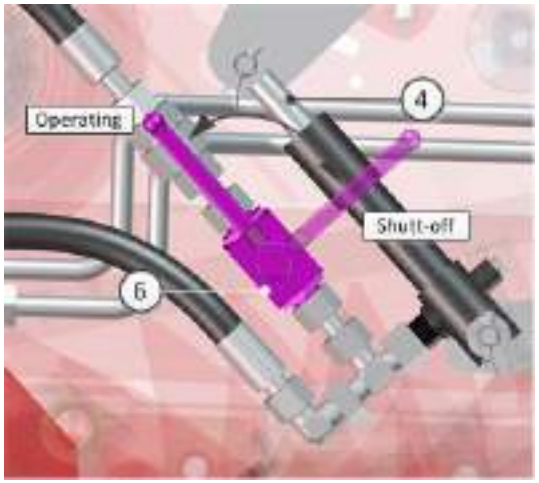

Figure 47. B

When netwrap roller valve (6)(see page 7-23) is turned to the operating position, netwrap roller (3) performs the following functions:

- **During wrap cycle**
  - Roller (3) is in rearward position(see page 7-25).
  - Roller (3) is belt-driven from roller (1) and rotates
    counterclockwise (viewed from right) to help feed netwrap onto bale.
  - Roller (3) stops rotating when netwrap feed clutch on right side of roller (1) disengages.
- **During bale ejection**
  - Cylinder (4) is connected to tailgate hydraulic circuit and extends to move netwrap roller (3) forward when tailgate raises.(see page 7-25)
- **During bale formation**
  - Roller (3) remains in forward position.
  - This lets debris drop between rollers (1) and (3), helping to prevent buildup in front of baler.

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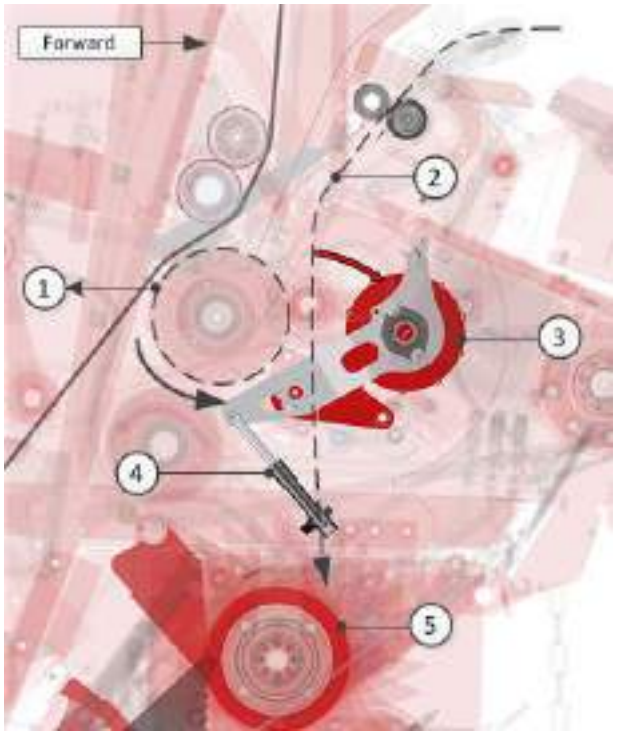


Figure 48. C

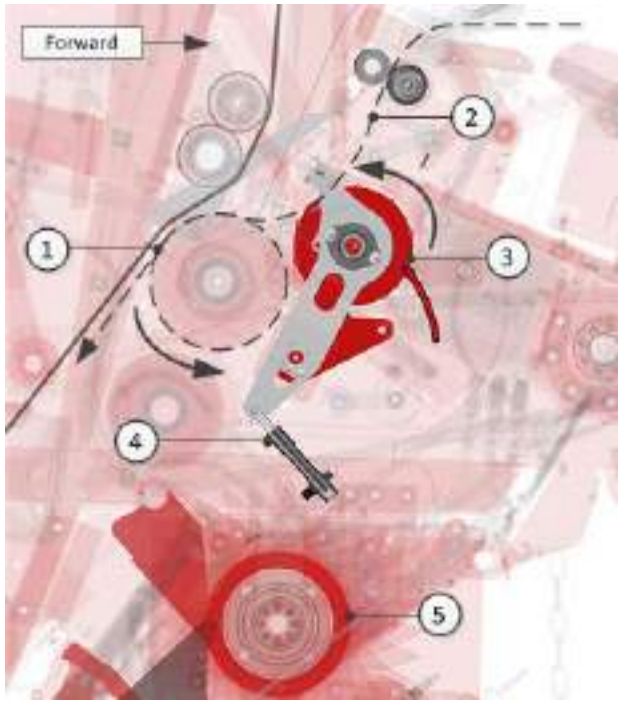


Figure 49. D

- **At start of wrap cycle**
  - Tractor hydraulic valve operating tailgate circuit must be in float position to allow cylinder (4) to retract.
  - A solenoid valve opens when wrap cycle begins. This allows cylinder (4) to retract by means of spring pressure, moving roller (3) rearward. (see page 7-25)
  - Roller (3) begins rotating when netwrap feed clutch engages.

NOTICE

If tractor hydraulic valve operating tailgate circuit is not in float position, cylinder (4) may not be able to retract and netwrap (2) will feed into rotor (5) as shown in left illustration.

  - In rearward position, roller (3) directs netwrap (2) to roller (1) and onto bale.

To disable roller (3) movement:

1. Make a bale and start wrap cycle.
2. Disengage PTO immediately after wrap cycle starts.
3. Follow Shutdown Procedure,(see page 6-1)
4. Ensure roller (3) is in rear position and move valve (6) to shut-off position. This will lock roller (3) in rear position at all times.
5. Engage PTO to complete wrap cycle and eject bale.

7.7.4 Reset net knife

The net knife is reset automatically whenever the tailgate is opened. If, with the baling chamber filled, another net wrapping cycle is necessary without opening of the tailgate, due to net roll change or a malfunction, the net knife can be reset by hand.

- For this pull the knife carrier against the spring tension to the front (see Figure 50 on page 7-26).

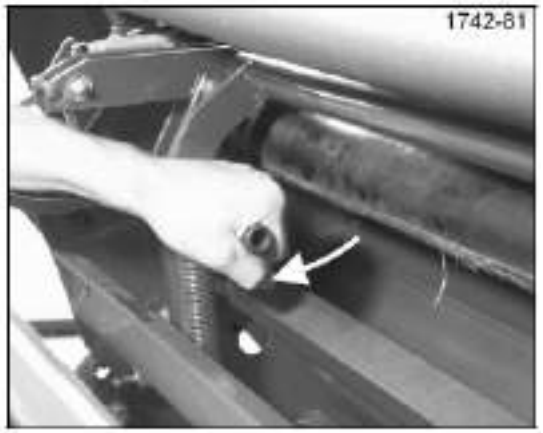


Figure 50. The net knife

7.7.5 Setting of net wraps (layers)

The number of net wraps (layers) around the bale can be set from 1.5 to 10.0 by means of the E-LINK PRO control.

7.8 Cutting Device

7.8.1 Insert a Net Roll

WARNING: Before you do work near the net knife, insert the net knife safeguard and secure the net knife.

CAUTION: Always wear safety gloves when doing work near the net knife and with the net.

CAUTION: Be aware that a net roll of 3000 m with a width of more than 1.23 m can be heavy (> 88 lb (40 kg)) and must be installed with two persons.

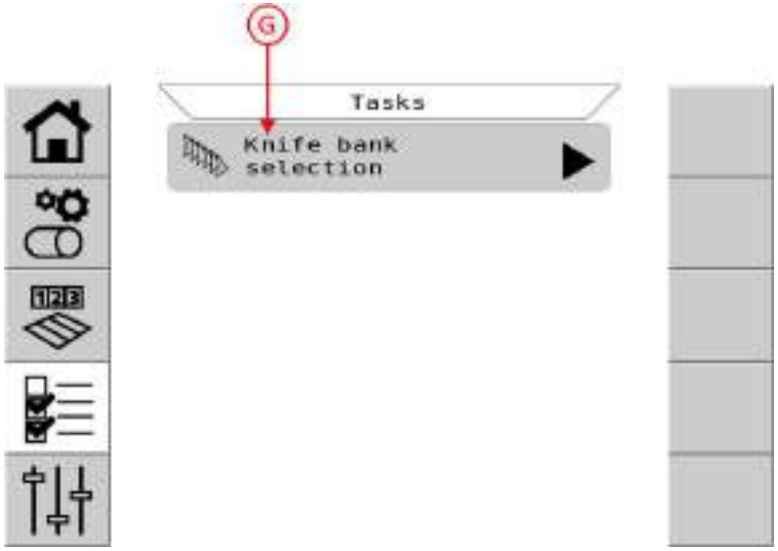
Preparation

1. Open the side cover on the left.
2. Open the top cover (4) (see Figure 39 on page 7-15)
3. If the last wrapping process was not completely executed (for example because the net roll depleted during the wrapping process) do the following:
    1. Pull the handle (1) of the net knife carrier to the front and attach the safety chain (2) and secure it with the clip (3).
4. Push the bar (3) (see Figure 40 on page 7-16) backwards and secure it with the cotter pin.
5. Turn the crank handle (1) (see Figure 41 on page 7-17) until the tension spindle has turned inwards to the stop.
6. Remove the safety chain (2) from the net roll holder.

7.8.2 Insert the Knives

If you do not want to use all knives or a certain group of knives for a longer period it is better to replace the knives with blind knives (see page 11-21). The blind knives make sure the slot of the not used knives stay free of crop material.

1. Press softkey (E) to enable the Hydroflex control bottom door circuit.
2. Using tractor hydraulic control for remote valve connected to the electric control valve on the baler, fully lower (open) bottom door. As bottom door lowers, knives automatically disengage.
3. Continue to engage tractor hydraulics for 5 seconds to ensure hydraulic accumulators are emptied. Icons (b) and (C) should indicate 0 knives engaged and bottom door open.



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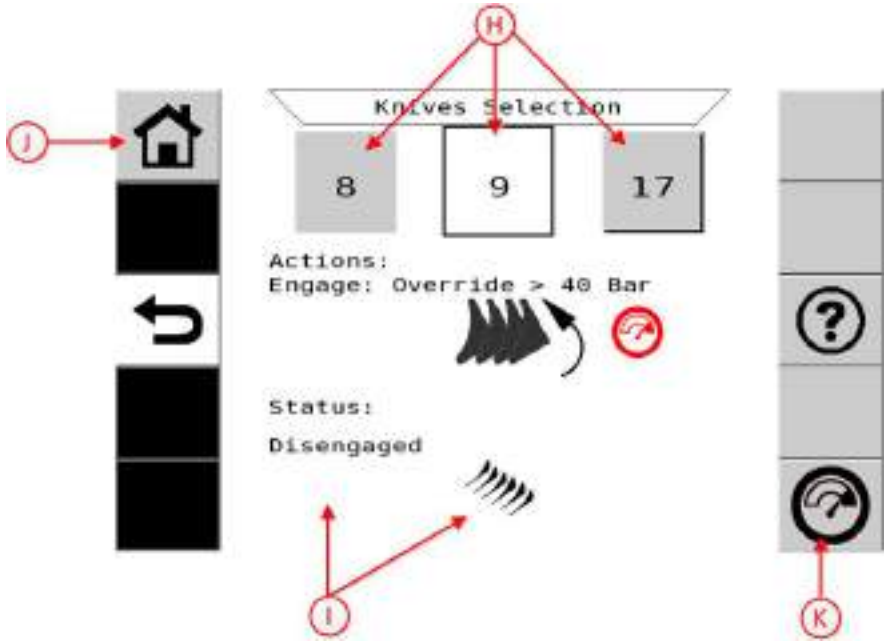
4. Press softkey (D) to enable the cutting device circuit.
5. Press softkeys (A), (G), and (H) to select desired knife group.
6. Move tractor hydraulic control in the opposite direction that lowered the bottom door in Step 2.
   - The selected knife group raises into cutting position through bottom door. Knife motion should be visible from the operator station. Bottom door raises and closes fully.
   - Keep tractor hydraulics engaged until icon (K) turns on.
     Icon (K) indicates knife circuit accumulators are fully charged to 580 psi (40 bar). If knife circuit accumulators are not fully charged, knives may gradually lower during operation reducing their effectiveness.
     Note that if icon (K) appears but icons (I) do not indicate knives engaged, it is likely that knives are blocked by debris and cannot push through to fully engaged position. Refer to High-Pressure Override procedure below.



7. Press softkey (J) to return to home screen.
8. Baler is ready to operate when icon (B) indicates a knife group engaged and icon (C) indicates bottom door is fully raised.
9. Press softkey (F) to select pickup circuit.
10. Place tractor hydraulic control in FLOAT position and begin baling.

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High-Pressure Override Procedure

11. Repeat Steps 1–5.
12. Press and hold softkey (K). Holding softkey (K) allows knives to be raised at full tractor pressure - up to 2610 psi (180 bar) or higher - rather than the 580 psi (40 bar) limit of normal operation.
13. After icons (I) indicate knives fully raised, immediately repeat Steps 1–8 to ensure correct accumulator pressure.

NOTICE

Do not operate baler before fully depressurizing knife accumulator circuit and repressurizing to the normal 580 psi (40 bar) with Steps 1–8. Operating above 580 psi (40 bar) may cause damage. Knives may not be able to lower out of the way if a foreign object is fed into the baler.

7.8.3 Brittle Crop Material

While baling brittle crop material it is recommended to move the cutting device into home position just before net wrapping process. In this way the bale is finally net wrapped with long material and crop losses are minimized.

7.8.4 Bale Appearance Optimization

Depending on the baling conditions the following effects may be observed:

- Stability loss on the side faces of the bale.
- Insufficient net covering of the bale.

In this case the two outer knives of the cutting device should be removed. Result: The internal cohesion of the bale in its marginal areas is optimized, the side faces stabilized and net wrapping improved. Remove outer knives [A] and [Z](see Figure 51 on page 7-31):

Figure 51. Cutting knive

7.8.5 Assembly and Disassembly of the Cutting Device Knives

NOTICE

By removing individual knives the cut length of the baling material can be changed. If no cutting function is desired for a longer period of time, all knives can be removed and replaced by blank knives.

WARNING: Injury may occur. Wear protective gloves and use a suitable tool while working with the knives. If any maintenance or assembly work is carried out with the tailgate open, the tailgate must be hydraulically secured against lowering for safety reasons

For the following working steps: refer to chapter

Moving in and out the cutting device

- Move cutting device to cutting position.
- Lower Hydroflexcontrol-bottom door half way.
- Open and secure tailgate (see page 2-15)
- Rotate knife axle lever down and forward 90 degrees until it contacts lower stop (see Figure 52 on page 7-32).

- Using pliers withdraw the knives rearward, then diagonally upwards from the knife axle and remove them from the knife slots.

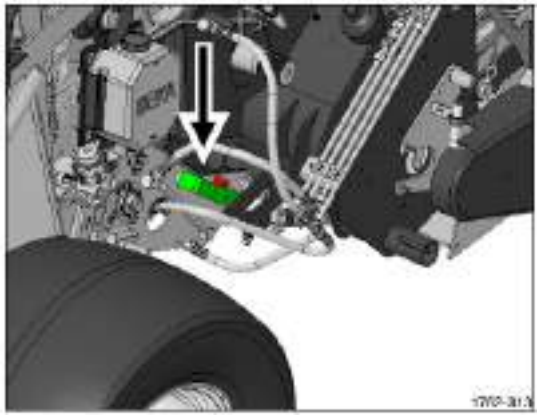

Figure 52. Knive axle lever

NOTICE Removed knives should be replaced by blank knives (part no. 1724551237W) to prevent plugging of the knife slots.

- Both blank and removed knives can be stored and secured with a cotter pin on the maintenance platform (see Figure 53 on page 7-33).

If no cutting function is desired for a longer period of time, removed knives must be replaced by blank knives (see Figure 54 on page 7-33):

- [1] Insert blank knives into the knife slots.
- [2] Rotate blank knives downward into knife slots.
- [3] Blank knives shown in final position.
- Rotate knife axle lever up and rearward 90 degrees until it contacts upper stop.
- Release tailgate safeguard and close tailgate.
- Close Hydroflexcontrol-bottom door.

Figure 53. Mowing cutting device

Figure 54. Replacing blank knives

7.8.6 Regrinding the Cutting Device Knives

To provide the best crop throughput it is recommended to regrind the cutting device knives at least after cutting of 500 bales. Dependent on the working conditions sharpening may be necessary earlier.

WARNING: Injury may occur when working near the magnets [1] of the knife holders! The function of cardiac pacemakers can be interrupted by magnetic fields. Potential of injury by sharp edges: Never strike against the installed knives from the bottom with a striking tool - this may damage the magnets! (see page 7-34)

- Remove knives, refer to chapter (see page 7-31)
- Regrind knives from the smooth side. The temper of the knives must not be drawn when grinding.

NOTICE

A flexible sander disc or flap disc is preferred when using a handheld grinder.

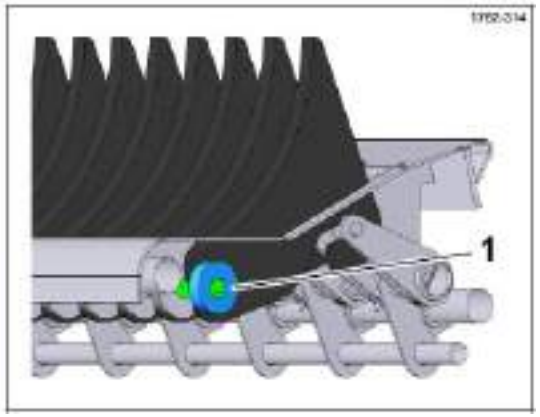

Figure 55. Magnet of the knife holder

7.9 Close up and Shutdown Procedure on the Field

1. Make sure that the bale chamber is empty.
2. Reduce the engine speed to idle.
3. Switch off the PTO shaft.
4. Completely raise the pick-up with the double acting valve in the tractor.
5. Switched off the tractor engine and remove the key.
6. Close the shut-off valve (1) .
7. Install the safety chain of the pick-up (2) .

8. Remove the spring clips (3) from the pick-up guide wheels.
9. Lift the guide wheels and hook them on the left and right side of the baler in the drive position (2) .
10. Secure the guide wheels with the spring clip (3).
11. Push in the bale ejector tubes (1) and secure with the cotter pin.
12. Remove all crop material from the baler that could come loose during driving and cause problems on public roads.

You can now drive to the next field, or drive to the parking area of the baler.

8 TRANSPORTING THE MACHINE

8.1 Tractor (towing vehicle) Requirements for Baler

Minimum weight/transport speed (per ASABE standard, “Safety for Agricultural Equipment”):

WARNING: Loss of steering or braking control can result in death or serious injury. Use a tractor that is large enough for sufficient steering and braking control. Do not tow equipment that does not have brakes at speeds over 20 mph (32 km/h). Do not tow with an underweight tractor.

Weights • Maximum tractor weight	7200 lb (3266 kg)
Drawbar power More power is needed if terrain is not flat, windrows are heavy or ground speed is high.	minimum 80 hp (60 kW) recommended 100 hp (75 kW)
Power takeoff	540 rpm
Electrical	12-volt power supply for lights and control unit

Hydraulic system	
• Minimum number of remote valves with FLOAT function	one single acting and one double acting
• Minimum flow rate	13 gpm (50 L/min)
• Minimum pressure	recommended 2600 psi (180 bar)
• Maximum pressure	3045 psi (210 bar)
NOTICE Some tractors have detents which will not allow the tractor hydraulic control to return to NEUTRAL on its own. The control must be returned to NEUTRAL manually to prevent overheating of the hydraulic system. Layout of controls varies with tractor model. Consult your tractor operator's manual.	
General requirements:	
• Upright exhaust system	
• Rollover protection structure (ROPS) and seat belt	
• Minimum weight/transport speed (per ASABE standard, "Safety for Agricultural Equipment") (see page 8-3)	

Minimum clearance [A] between the insides of both front and rear tires should be 62.2" (158 cm).

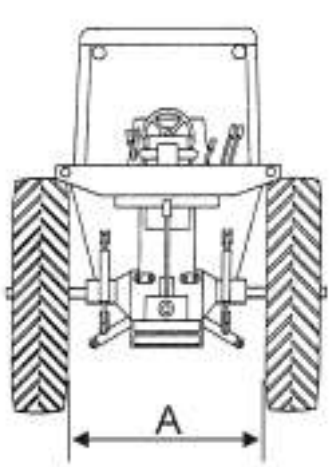

Figure 56. Tractor wheels

8.2 Minimum weight/transport speed (per ASABE standard, “Safety for Agricultural Equipment”)

WARNING: Maximum towing speed: 20 mph (32 km/h). Loss of steering or braking control can result in death or serious injury. Use a tractor that is large enough for sufficient steering and braking control. Do not tow equipment that does not have brakes at speeds over 20 mph (32 km/h). Do not tow with an underweight tractor.

Max. baler weight (empty bale chamber): 8400 lb (3810 kg) Min. tractor weight (road transport): 7200 lb (3266 kg)(see page 8-1)

8.3 Preparing for Transport

- The bale chamber must be completely emptied (acc. to road traffic regulations).
- Lift pick-up to highest position and secure pick-up with both chains (left and right side of the pick-up)(see Figure 57 on page 8-4)
- Close shut off valve [11] (see Figure 58 on page 8-4) at the hydraulic tube of the pick-up. By this the pick-up is secured into the highest position.
- Remove any crop material hanging loosely from the baler.
- Connect driveline to tractor power take-off (see page 7-7) “Driveline".

- The ladder of the maintenance platform must be folded up and locked.
- Connect lighting set of the machine to the tractor and check function (also at daylight).
- Ensure slow-moving vehicle (SMV) sign [1] is installed with orange and red reflective surfaces facing rearward as shown. (see Figure 59 on page 8-5)
- Install optional highway safety towing chain (minimum 10,000 lb / 4540 kg capacity), Vermeer part number AK01332.

Figure 57. Pick-up

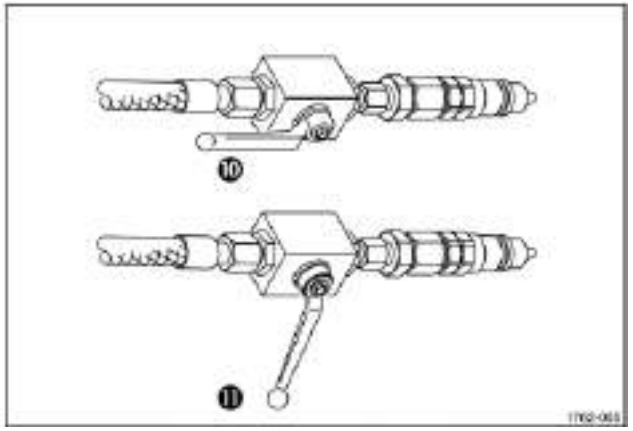

Figure 58. Shut off valve

Figure 59. Slow-moving vehicle

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9 OPERATING THE MACHINE BALER

WARNING: Death or serious injury may occur

The machine may only be operated by persons who are familiar with the operating instructions and the safety instructions. Never remove any harvested crop material from the machine while the drive is running. Prior to work: Switch off driveline, switch off tractor engine, remove ignition key and disconnect driveline from power take-off.

During operation: do not climb on the machine. Keep sufficient distance to the range of action of the machine (pick-up, running gear, tailgate, bale unloading area). As a matter of principle: Riding on the machine is prohibited for the entire machine! Keep children away from the machine!

Prior to first start: Make yourself familiar with the controls and the functions of this machine.

Stay clear of area between tractor and machine while the tractor engine is running.

Never operate the machine with defective or removed protective devices (e. g. casing shields and guards)! Before opening the protections: Switch off driveline, switch off tractor engine, remove ignition key and disconnect driveline from power take-off.

Prior to entering the bale chamber: close tailgate locking device (see page 2-16)

WARNING: Never perform maintenance and repair works while machine is in operation.

Follow Shutdown Procedure (see page 6-1) before working on movable parts of the machine.

If any maintenance or assembly work is carried out with the tailgate open, the tailgate must be hydraulically secured against lowering for safety reasons:

For this use the shutoff valve located at the left side of the machine. When the valve is shut off, the actuating lever is at right angles to the flow direction (see page 2-16)

9.1 Arriving at the Field

WARNING: Injury may occur. Be alert and use extreme caution when operating on hillsides or near ditches, gullies, holes, or obstructions where rollover could occur. Watch out for and avoid any object that might interfere with the proper operation of the implement (i.e. stones and limbs).

WARNING: Injury may occur. Never leave tractor controls unattended while the implement is operating. When carrying out work on the opened tailgate: Follow Shutdown Procedure (see page 6-1), and use appropriate safeguards when working on or around machine.

WARNING: Injury may occur. Contact with baler or bales can result in death or serious injury. Keep all spectators and other workers away from baler and work area while in operation. Survey area around baler for persons or obstacles before moving the machine and at all times while working with it.

Figure 60. Keep spectators away

9.2 Laying Swaths (windrows)

The full performance of the machine and good bale formation can only be achieved when the swaths are prepared carefully. Lay swath evenly.

The width of the swath should be:

Pick-up width	7.4 ft (2.25 m)
optimum width of the swath (approx.)	4 ft (1.22 m)

9.3 Pick-up Baler

Several hydraulic functions can be operated with only one tractor's hydraulic control by means of a electro-hydraulic manifold block (hydraulic switch).

Move cutting device into cutting position

- [10] Open shutoff valve(see Figure 61 on page 9-3) at the hydraulic quick coupler with red marking.
- [1] Press key or screen softkey (see Figure 62 on page 9-3)to activate the pick-up.

- Lift and lower the pick-up by means of the tractor's hydraulic control.

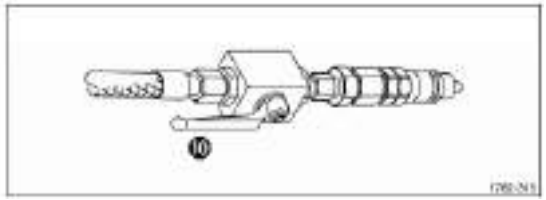

Figure 61. Shutoff valve

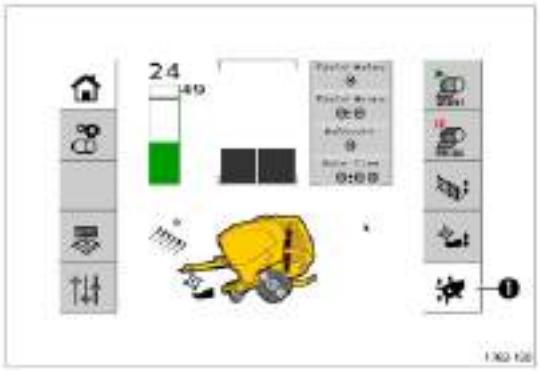

Figure 62. Screen

NOTICE The valves of the hydraulic switch will not be activated when the [1] pick-up is selected. This setting has to be preferred to minimize the power consumption and to avoid unnecessary heating of the valve coils.

NOTICE Keep the hydraulic control in “float” while baling.

9.3.1 Pick-up gauge wheels

On the field, adjust the pick-up gauge wheels so that the tines are approximately 0.8 in. (2 cm) above the ground.

- To adjust the pick-up gauge wheels: raise pick-up, refer to chapter (see page 2-17).
- Pull out spring clip [1] and fit shackle [2] in the desired hole (see Figure 63 on page 9-4)
- Secure the pick-up gauge wheels again with the spring clips.

- Set the safeguard safety chain to the desired position.
- Always select the same adjustment on both sides of the pick-up.

Figure 63. Pick-up gauge wheel

9.3.2 Wind guard

The wind guard (see figure on page 9-5) is mounted movable – hanging above the pick-up.

- The vertical position of the wind guard [5] is adjusted to the size of the swath by means of the chain [6](see Figure 64 on page 9-5).
- To avoid that the pick-up grasps the chain the upper end of the chain must always be fastened to the hook.

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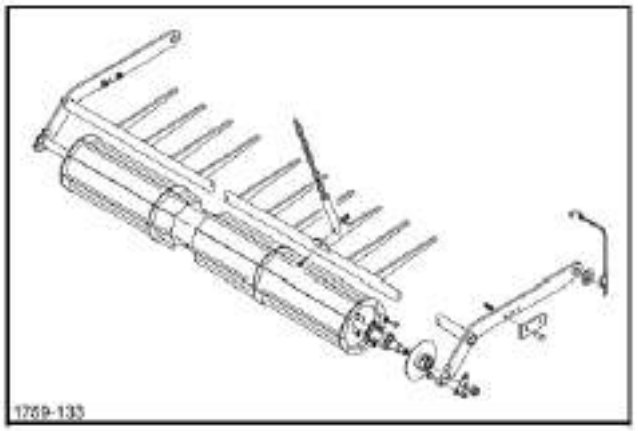
Figure 64. The wind guard



WARNING: Injury may occur at the pick-up. Both pick-up gauge wheels cover the circular path of the tines laterally and are therefore part of the safety equipment. When using the baler both gauge wheels must always be attached.

9.4 Driveline Speed

Operate baler at power take-off standard speed of 540 rpm. In case of extremely short and brittle crop material a lower power take-off speed (350–450 rpm) can safely be used.

CAUTION: Damage may occur. Only the driveline prescribed by the manufacturer may be used!

WARNING: Injury may occur. Protective tube and guard cone of the driveline and the power take-off protection, must be fitted and be in proper condition. Always ensure that the driveline is installed and secured correctly: Secure the driveline safeguard against revolving by fitting the chain. Ensure before engaging the driveline that no one is near baler!

9.5 Driving Style

To achieve optimal performance and well-shaped round bales the entire width of the bale chamber must be evenly supplied with material by an appropriate driving style.

- In case of small swaths, i.e. the swath width is less than the bale chamber width, drive alternately on the right and left swath side to fill the bale chamber evenly(see Figure 65 on page 9-6)

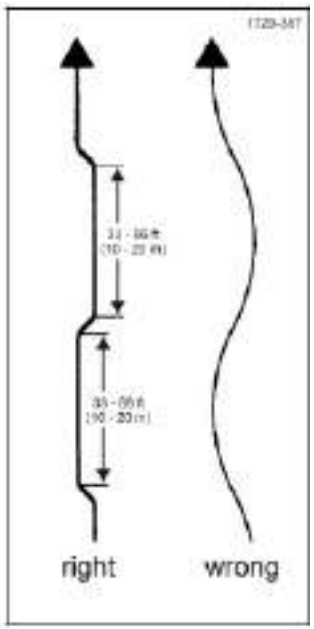


Figure 65. Driving pattern

9.6 Adjust Baler Settings on the Control

On the controller in the tractor set the following:

1. Push the button  to go to the Bale settings page.

   (Or on the home page of the E-link Control push  +  .)
2. Make all the settings (see page 5-12).
3. Push  to go to the Statistics/field data page.

   (Or on the home page of the E-link Control push  and select the line “Field”.)
4. Enter or select the field (or customer) for more information (see page 5-14).
5. If necessary to change the wrapping, push  to go to the Tasks page.

   (Or on the home page of the E-link Control push  and select the line “Field”)
6. Select the wrapping.
7. Push  to go to the home page.

   (Or on the E-link push  several times until the home page is displayed.)

For more information (see page 5-7), (see page 5-12), (see page 5-14),(see page 5-15)(see page 5-17),

9.7 Operate Tailgate on Baler

WARNING: Tailgate and ejected bale can crush. Proceed with particular care when opening and closing. No persons may stay in the operating range of the tailgate and in the bale unloading area. In case of locations on a slope: Never eject a bale where it can roll. A rolling bale can be destructive and result in death or serious injury . Never try to stop a rolling bale.

9.7.1 Open and close tailgate

The tailgate is opened and closed by means of the tractor's hydraulic control (distribution valve for the tailgate):

DISPLAY	MEANING
	Tailgate open
	Tailgate closed

Tailgate must be properly closed:

- Before beginning to pick up the crop material.
- After each bale ejection.

To properly close and lock tailgate, move the tractor's hydraulic control to "float". This accomplishes the following:

- Ensures tailgate fully closes while minimizing wear on tractor hydraulic pump.
- Allows sufficient time for locking hook [1] to engage locking bolt (see Figure 66 on page 9-9)
- Allows the net knife reset cylinder to fully retract in preparation for the next wrapping cycle.
- Allows operator to concentrate on other tasks (i.e. tractor gear selection) while tailgate closes.

Keep the hydraulic control in "float" during baling.

A short signal tone indicates to the tractor driver that the tailgate is closed completely. Furthermore a closed tailgate is displayed on the display.

Figure 66. Locking hook

10 OPERATION INSTRUCTIONS

10.1 Start Baling

You can start baling when the baler is prepared according to the previous paragraphs:

- Net or twine is inserted
- Baler is adjusted to the field
- Knives are set
- You know how to drive
- Baler settings are made
- Hydraulic shutoff valve of the tailgate and the valve of the pick-up are open

1. On the Home page on the controller, push the button  to activate the pick-up.
2. Switch on the PTO shaft in the nominal speed that is indicated on the gearbox.
3. Set the double acting valve in the tractor to "float".
4. Drive rapidly at nominal speed (hand throttle) and according to the drive instructions.
5. When the bale size indicator (see table on page 5-8) indicates that the bale is at the target size, you must stop the tractor.
6. Wait until the bale is wrapped.
   - If automatic bale wrapping is active, wrapping starts automatically.
   - If manual bale wrapping is active, you must push the button  to start the wrapping.
7. Eject the bale (see page 10-2).

NOTICE

You can always stop the tractor and start the wrapping process even if the bale is not yet at the target size but bigger than 35.4 inch (90 cm), just push the  button.
This is useful when almost all bales on the field are made and if the last bale would become too large or too small. See options below.

Make 2 or 3 smaller bales at the end of the field

Do this for the last 2 or 3 bales on the field:

1. Stop the tractor when the bale is at the size you want to make it.
2. Push the  button to start wrapping.
3. Eject the bale.

Make 1 larger bale at the end of the field

1. Make sure manual bale wrapping is active (to switch from automatic baling push the button ).
2. Drive the tractor until all crop material is picked up.
3. Stop the tractor.
4. Push the  button to start wrapping.
5. Eject the bale.

10.2 Eject a Bale

DANGER: Electrocution possible. Keep baler at least 10 ft (3 m) away from power lines.

WARNING: Opening tailgate can crush, resulting in death or serious injury. Stay away from rear of baler. Warn others to stay away before raising tailgate.

WARNING: Never eject a bale where it can roll. A rolling bale can be destructive and result in death or serious injury. Never try to stop a rolling bale. The area behind the baler should be clear before opening tailgate.

After a bale is wrapped (see page 9-7) the bale must be ejected.

1. Make sure it is safe to open the tailgate and there is no person in the swivel range, no power line nearby and the bale can not roll or tilt and injure someone.

2. Use the single acting valve in the tractor to open the tailgate.
   The bale leaves the chamber and an arrow appears in the display.
3. Move the single acting valve in the tractor to ‘float' to lower the tailgate completely. This ensures that
   - The tailgate closes with minimal wear on the hydraulic pump of the tractor.
   - Gives sufficient time for the locking hook and bolt to engage.
   - Allows the net knife reset cylinder to fully retract in preparation for the next wrapping cycle.

   Keep the single acting valve in 'float' during baling.
4. Wait for a short signal tone, this indicates that the tailgate is closed completely and locked.
   On the display a closed tailgate is shown.
5. Start driving and pick up material for the next bale.

10.3 Disconnect the Baler from the Tractor

Park the baler

1. Make sure the ground under the baler wheels and tongue jack is firm and level.
2. Make sure the baling chamber is empty and the tailgate is closed.
3. Depressurize the hydraulic system, see the procedure below.

Depressurize the hydraulic system

1. Start the tractor engine.
2. Lower the pick-up completely with the double acting valve in ‘float’.
3. On the control box push the button  to select the knives.
4. Use the double acting valve in the tractor to retract the knives.
5. Wait to release the valve lever after the knives are retracted for another 5 seconds.
   This ensures that the hydraulic accumulators are emptied.
6. While the tractor engine still runs, set the double acting valve in the tractor to ‘float' to depressurize all circuits.
7. Push the button  to select and depressurize the cutting device.

8. Switch off the tractor engine and remove the key.

Disconnect the Baler

1. Install the tongue jack(see page 7-1).
2. Disconnect the cables of electrical power supply, lighting and control panel and store in storage slots.
3. Disconnect the hydraulic hoses and connect them to the dummies and store in storage slots.
4. Disconnect the PTO shaft and Place the drive shaft on a drive shaft support.
5. Disconnect the baler.

10.4 Stopping the Machine in the Field

To work safely it is important to follow the Shutdown procedure (see page 6-1) before doing maintenance, troubleshooting, or making adjustments.

1. Park the tractor with the baler at a safe location on a solid level ground.
2. Release the pressure of the hydraulic system (see page 10-3)

   Follow the Shutdown Procedure (see page 6-1)
3. Make sure the PTO shaft is switched off, stop the tractor engine and remove the key.

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11 MAINTENANCE/SETTING

WARNING: Use Shutdown Procedure before servicing, cleaning, repairing or transporting machine (see page 6-1).

11.1 Tires on Baler

WARNING: Tire explosion can result if the following procedures are not followed:

- Maintain correct tire pressure. Do not inflate tire above recommended pressure (see page 11-3).

- Low tire pressure can cause internal tire damage. Inflate to recommended pressure.
- Replace any tires with cuts or bubbles. Replace any damaged rims.
- Do not weld or heat wheel assembly. Heating will increase tire pressure.
- Check tires and rims for damage (see page 11-3).
- Check tires for correct pressure (see Figure 67 on page 11-2).
- Check lug nuts/bolts torque.
- Check after first 10 hours of operation, then at 50-hour intervals (see Figure 67 on page 11-2).
- Check pick-up gauge wheels for correct pressure (see Figure 68 on page 11-2).

Figure 67. Baler wheels

Figure 68. Gauge wheel

11.1.1 Tires and tire pressure

Tire	Pressure	Lug nut torque	Retorque
2 tires types: – 14L 16.1 – 21.5L 16.1	– 14L, 30 psi – 21.5L, 16 psi	244 ft-lb (330 Nm)	after first 10 hours of operation, then at 50-hour intervals
2 pick-up gauge wheels: 16 × 6.50-8 4 PR.	29 psi (200 kPa)	-	-

11.2 Wheel Nuts

- After first 10 hours of operation: Check lug nuts/bolts; torque to 244 ft-lb (330 Nm)(see Figure 69 on page 11-3).
- After first 20 hours of operation: Retighten all fastening screws, drawbar screws and nuts – also inside the machine. Exception: Do not change adjusting screws, e.g. on the net brake.
- At 50-hour intervals: Check lug nuts/bolts; torque to 244 ft-lb (330 Nm)(see Figure 69 on page 11-3).

Figure 69.

WARNING: Falling off can seriously injure. Never step onto the maintenance platform while machine is in motion. Before stepping onto the maintenance platform: stop machine, switch off driveline and tractor engine and wait for all motion to stop.

11.3 Safety Signs and Labels

NOTICE

Safety signs located on your machine contain important and useful information that will help you operate your equipment safely. Refer to the Parts Manual for safety sign location. To assure that all signs remain in place and in good condition, follow instructions given below.

- Keep signs clean. Use soap and water - not mineral spirits, abrasive cleaners, or other similar cleaners that will damage the safety sign.
- Replace any damaged or missing signs. When attaching signs, the temperature of the mounting surface must be at least 40°F (5°C). The mounting surface must also be clean and dry.
- When replacing a machine component with a sign attached, replace sign also.
- Replacement signs can be purchased from your Vermeer equipment dealer.

11.4 Environment/Disposal

11.4.1 Lubricants

- Dispose of lubricants properly and do not pollute the environment.
- Observe the safety data sheets of the lubricants used. Biologically degradable lubricants must be disposed of separately.

1 quart of oil pollutes 250,000 gallons of water.

1 litre of oil pollutes 1 million litres of water.

1 quart of oil pollutes 13,000,000 cubic yards of soil.

1 litre of oil pollutes 10 million cubic metres of soil.

11.4.2 Consumables

Nets and machine parts thrown away pollute the environment. They endanger in particular the animal world.

- Therefore: Dispose of nets and machine parts in a responsible manner.

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11.5 Tying Unit Maintenance

11.5.1 Adjust the Disk Brake of the Net Tying Unit

To prevent free-wheeling of the net roll the disc brake must be adjusted in such a way that the brake disc can no longer be turned by hand when the lever (1) (see Figure 70 on page 11-6) points upwards.

1. Make sure the baler is switched off according to the Shutdown Procedure for maintenance (see page 6-1).
2. Move tension arm rearward until lever (1) is pointing upward (12:00 position).
3. Ensure bolt (2) and milled nut (3) are loose and adjustable.
4. With lever (1) pointing upward, turn milled nut (3) clockwise until friction is felt against brake plate.
5. Tighten bolt (2) locking milled nut (3) into place.
6. Allow tension bar to return forward, applying full brake pressure.

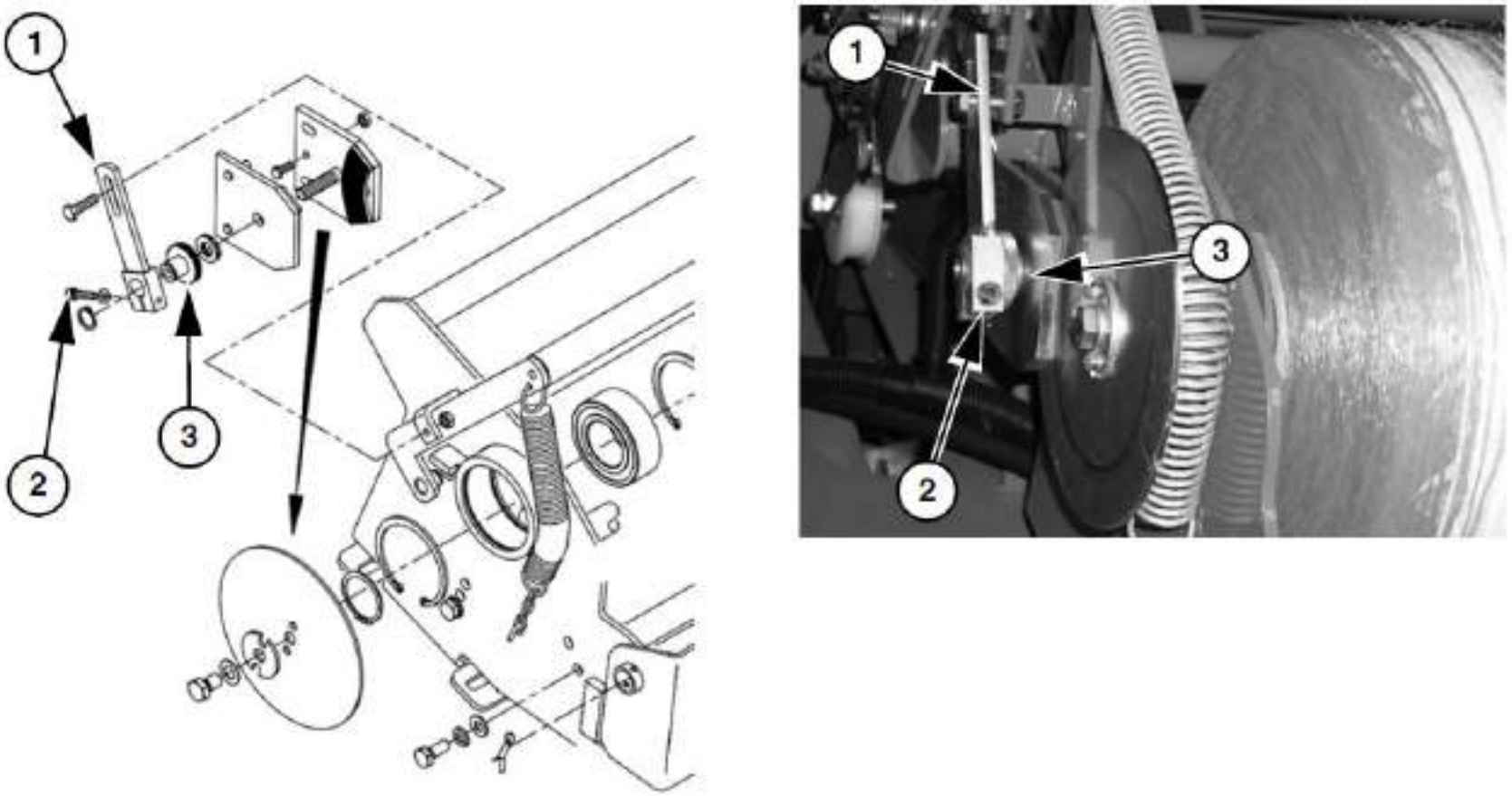

Figure 70. Adjust the disk brake of the net tying unit

KEY:
1. Lever - 2. Bolt - 3. Milled nut

11.5.2 Adjust the Shock Absorbers

On the left side of the baler the movements of the net tensioner (1) are damped by a shock absorber. Two wing nuts push the friction linings against the net tensioner from both sides.

1. Make sure the baler is switched off according to the Shutdown Procedure for maintenance (see page 6-1).

2. Move the net tensioner (3) (see Figure 71 on page 11-7) to the top end position and hold it.
3. Tighten both wing nuts (1) and (2) finger tight.
4. Move the net tensioner to the bottom end position, if it is just possible to move it by hand the wing nuts are correctly tightened. Otherwise tighten the wing nuts further.

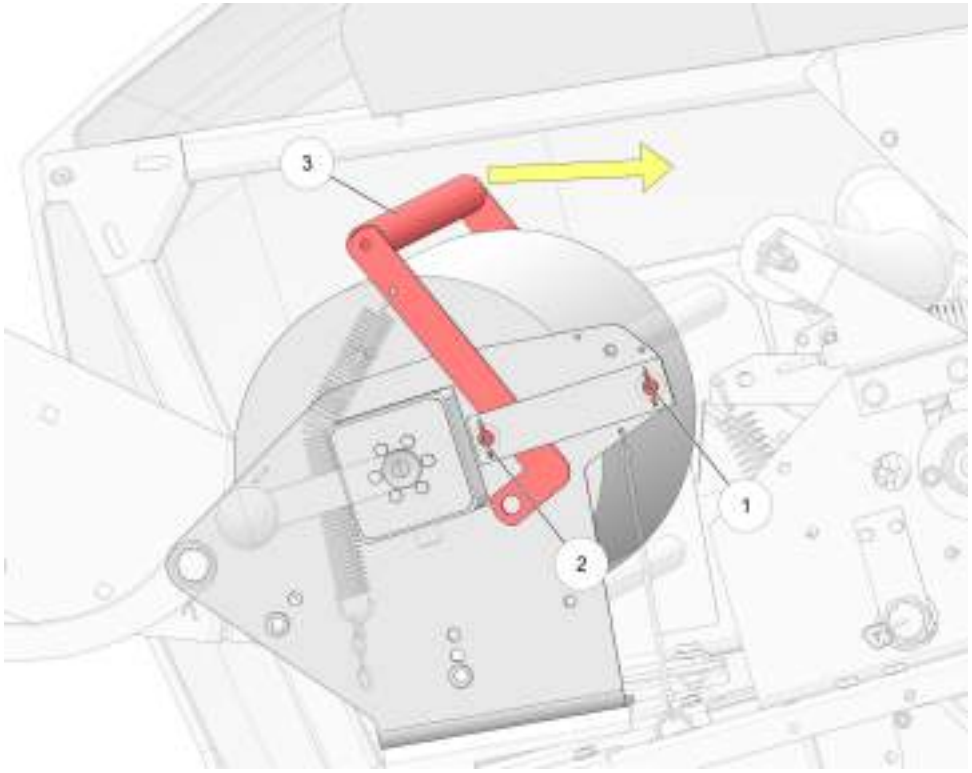

Figure 71. Adjust the shock absorber

KEY:
1. Wing nut - 2. Wing nut - 3. Net tensioner

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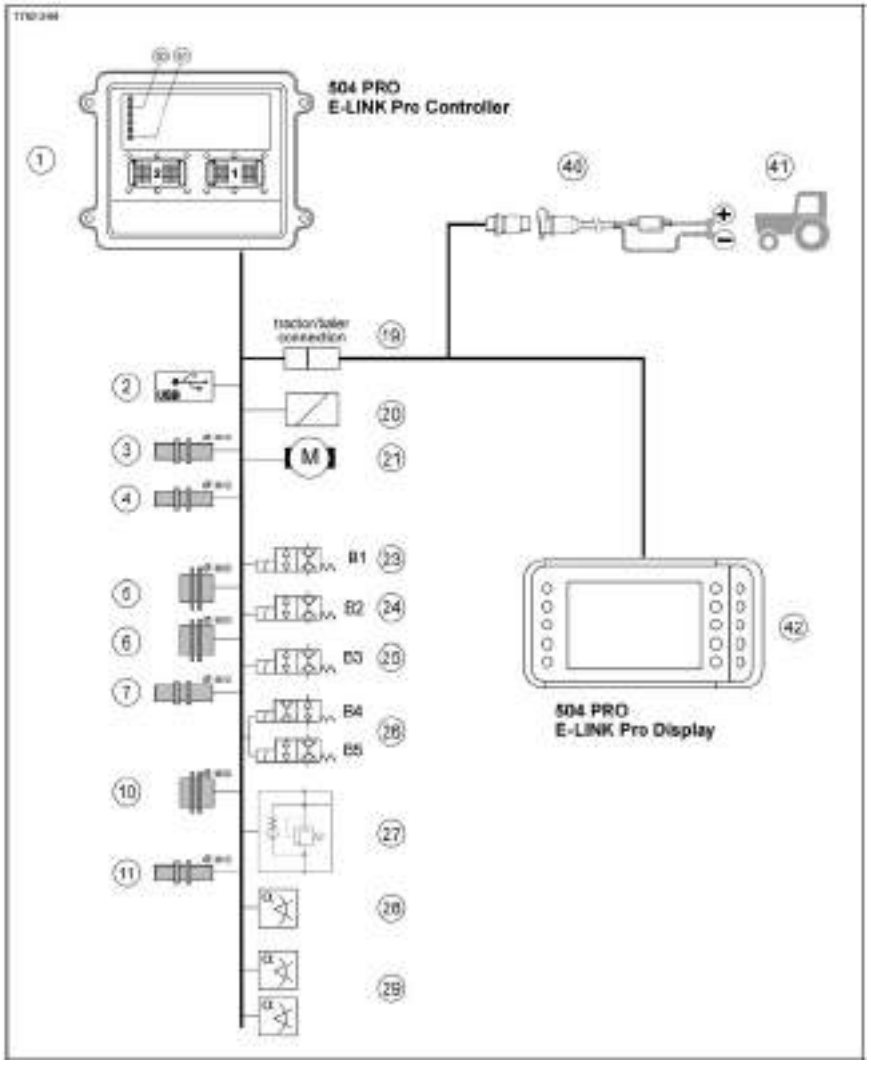
11.6 Components for E-LINK PRO

11.6.1 Controller and Display



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(Explanation for Figure on previous page)			
Item		Item	
1	controller "E-LINK PRO"	21	net knife tripping device
2	USB port	23	hydraulic switch B1
3	sensor cutting device (knife group 1)	24	hydraulic switch B2
4	sensor cutting device (knife group 2)	25	hydraulic switch B3
5	sensor bale ramp	26	hydraulic switch B4 and B5
6	sensor tailgate locking	27	pressure control valve
7	sensor bottom door	28	rotary encoder bale size
10	sensor net knife	29	rotary encoder left belt/right belt
11	sensor net length	40	connection to tractor
19	tractor/baler connection	41	tractor
20	magnet net wrapping unit	42	display "E-LINK PRO"
		50	red light on: controller in operation red light flashes: update (via USB-stick) in process
		51	green light flashes: data-transport (via CAN-BUS)

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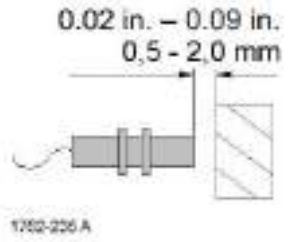
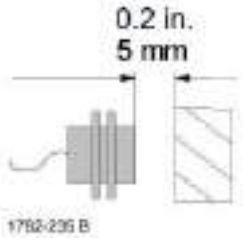
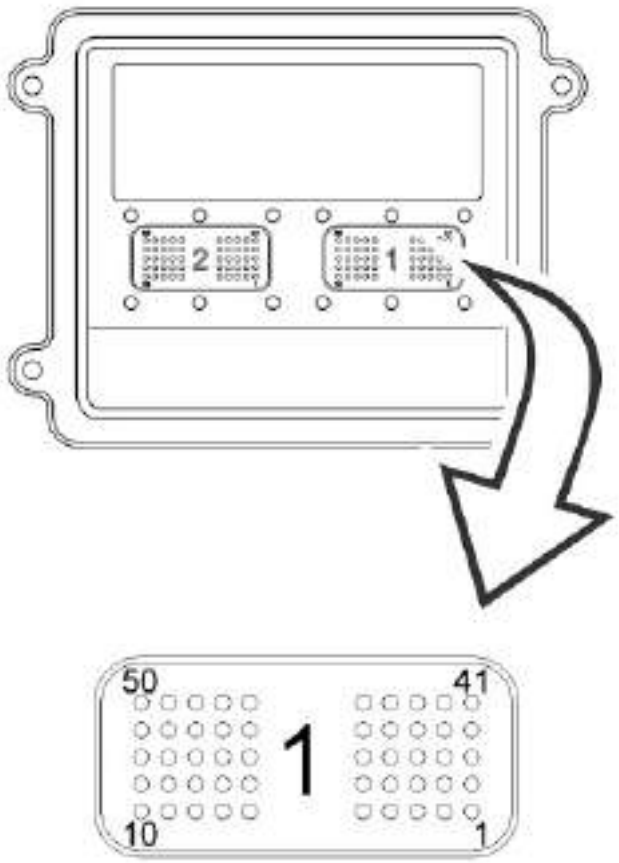
Name	**Use**	**Setting**
4× Sensor M12 ∅ 0.47 in. (12 mm)	• Cutting device (knife group 1 and knife group 2) • Hydroflexcontrol bottom door • Net run • Driveline speed	

3× Sensor M30 ∅ 1.18 in. (30 mm)	• Locking device, right • Locking device, left • Net knife	



1 - DOUT 10- Valve81 a
2 - PWM 3 a
3 - DOUT 3- Valve B4&B5 a
4 - PWM 2- Valve PressureControl a
5 - ACT GND- Battery- a
6 - ACT PWR- Battery+ a
7 - ACT PWR- Battery+ a
8 - H-Bridge 1- Actuator Twine Unit a
9 - H-Bridge 1- Actuator Twine Unit a
10 - H-Bridge 2- Net Knife a
11 - DOUT 9- Valve B2 a
12 - PWM 4 a
13 - DOUT 4- Valve B3 a
14 - PWM 1- Net clutch a
15 - ACT GND- Battery- a
16 - ACT PWR- Battery+ a
17 - ACT PWR- Battery+ a
18 - H-Bridge 1- Actuator Twine Unit a
19 - H-Bridge 2- Actuator Net Knife a
20 - H-Bridge 2- Actuator Net Knife a
21 - ANA5V 1/PIN3- Twine Right a
22 - ANA5V 2/PIN4- Twine Left a
23 - ANA5V 3- Net Length a
24 - ANA5V 4- Net Knife a
25 - ACT GND- Battery- a
26 - ACT GND- Battery- a
27 - ANA5V 9- Left Belt Sensor a
28 - ANA5V 10- Right Belt Sensor a
29 - ANA5V 11- Bale Size Sensor a
30 - ANA5V 12/DN- Pressure Transmitter a
31 - USB GND- a
32 - USB+5V- a
33 - USB SHLD- a
34 - ANA5V 5- Knife Group 1 a
35 - ANA5V 6- Knife Group 2 a
36 - ANA5V 7- Knife Bottom a
37 - ANA5V 8- Tailgate Lock a
38 - REF+5V- REF+5V
39 - SPWR1- Power for Digital Sensor a
40 - ECU-PWR- ECU-PWR a
41 - USB DP- a
42 - USB DM- a
43 - USB ID- a
44 - CAN L 1- CAN1 L b
45 - CAN H 1- CAN1 H b
46 - DIN 1- Bale Ramp a
47 - DIN 2- Pressure Switch a
48 - REF+8V a
49 - SPWR2 a
50 - ECU GND- ECU Ground a

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11.7 Chain Lubrication System Maintenance

11.7.1 Check the Level in the Oil Container of the Chain Lubrication

The chain lubrication system supplies oil from the container to the drive chains. Check the level in the oil container daily. Do not leak oil.

CAUTION: Damage to the lubrication pump and roller chains can occur when the system runs without oil. Never let the oil container run completely empty.

CAUTION: Damage to the lubrication pump, roller chains and baler when the system runs with the wrong oil flow.Never change the flow rate of the lubrication pump that was set in the factory. If adjustment is required, only a trained service technician is allowed to make the change on the basis of the service information provided by Vermeer.

Procedure

1. Make sure the PTO shaft is switched off, tractor engine is stopped and the key is removed.
2. Check the level in the oil reservoir (2) .If necessary fill the oil container.

11.7.2 Fill the Oil Container

Requirements

- Oil: SAE 30 motor oil or equivalent.

Procedure

1. Make sure the PTO shaft is switched off, tractor engine is stopped and the key is removed.
2. Clean the surroundings of the oil container (2) (see Figure 73 on page 11-12), this prevents that dirt falls in the container when you open it.
3. Remove the container cap (1).
4. Make sure the filter is clean, if necessary:
    1. Remove the filter from the oil container.
    2. Clean the filter and use exclusively petroleum-benzine or petroleum.
    3. Insert the filter in the oil container.
5. Pour the new and clean oil through the filter and fill the oil container up to the marked maximum.
6. Put the container cap on the container.

Test during the first few hours after filling

1. Check the oil level every 2 hours after filling the oil container.
   If necessary fill the oil container again.

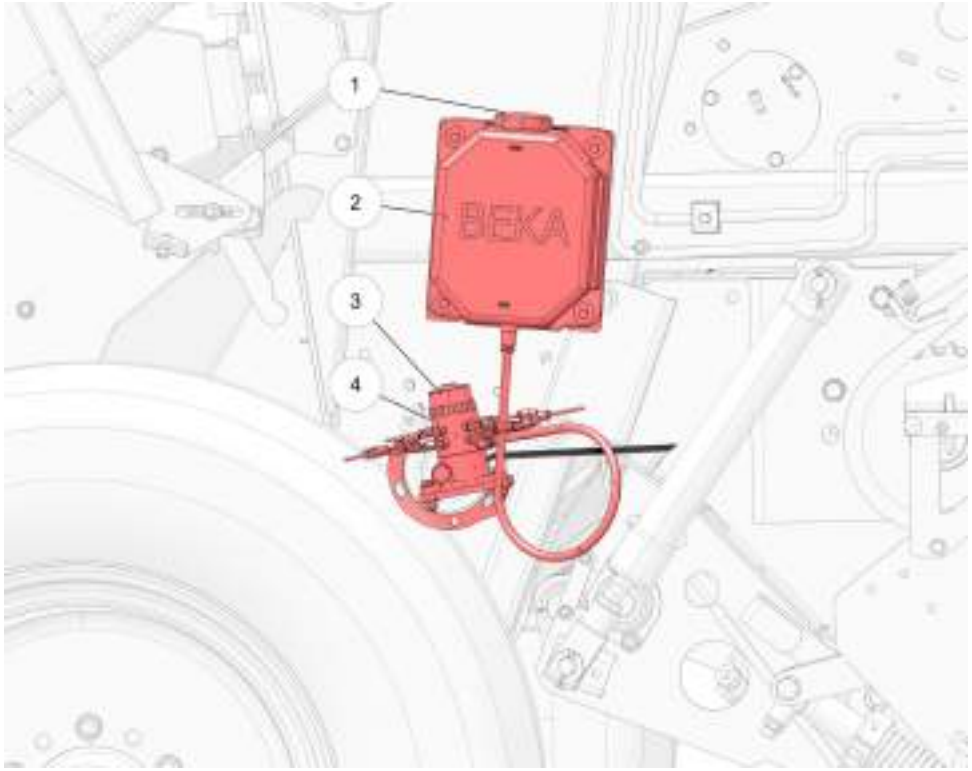

Figure 73. Lubrication oil container and pump

KEY:
1. Cap - 2. Oil container - 3. Cap of the pump - 4. Oil pump - 5. Tubes

NOTICE Change oil annually after the end of the season.

- Remove vent [11] to access check/fill hole.
- Allow oil to drain into a suitable container: Remove drain plug [12].

- Replace drain plug [12] and refill gearbox [10] through check/fill hole [11].

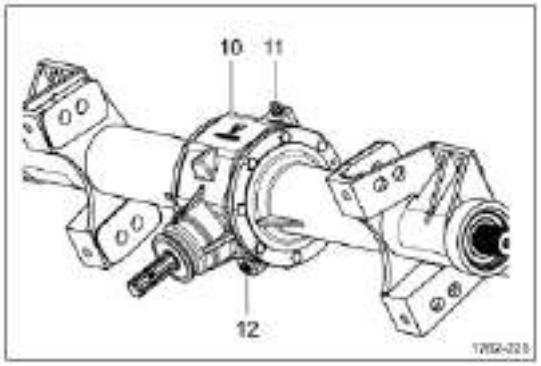

Figure 74. Gearbox

NOTICE Gearbox capacity is 57.5 oz (1.7 L). Use SAE-90 gear oil meeting API-GL5 specifications.

- Check filling level with dip stick weekly: Oil level must be between min. and max. mark.
- If necessary: Refill oil up to the max. mark.

11.8 Maintenance Procedures

11.8.1 Preventive Maintenance Schedule

Maintenance After the First Hour

- Tighten the chains of the pick-up, bale chamber and feed rotor
- Tighten the bolts on the wheels

Maintenance Every 10 Working Hours

- Examine the oil level of the chain
- Examine the Hydraulic hoses for damage and leaks
- Check the tire pressure

Maintenance After the first 3 weeks or the first 500 bales

- Lubricate the knife lever only on balers with cutting device XtraCut 17(see page 11-14).

Maintenance after Every 500 Bales or more often, in sandy conditions twice per day

- Sharpen or replace the knives
- Lubricate several parts of the baler (see page 11-14)

Maintenance after 3000 bales and before/after the baler is not used for more than 6 weeks

- Lubricate several parts of the baler (see lubrication chart (see page 11-14)

Maintenance at the End of the Season

- Tighten the Chains of the Pick-up, Bale Chamber and Feed Rotor
- Lubricate several parts of the baler (see page 11-14))

Maintenance at the Start of the Season

- Adjust the Disc Brake of the Net Tying Unit (see page 11-5).
- Adjust the Shock Absorbers of the net tying system (see page 11-6).

After 6 years

- Replace the hydraulic hoses, ask your certified technician to replace the hoses

11.8.2 Lubrication Chart

1. Make sure the PTO shaft is switched off, tractor engine is stopped and the key is removed.
2. Lubricate the parts with the referred lubricant and according to the interval in the tables in this paragraph.

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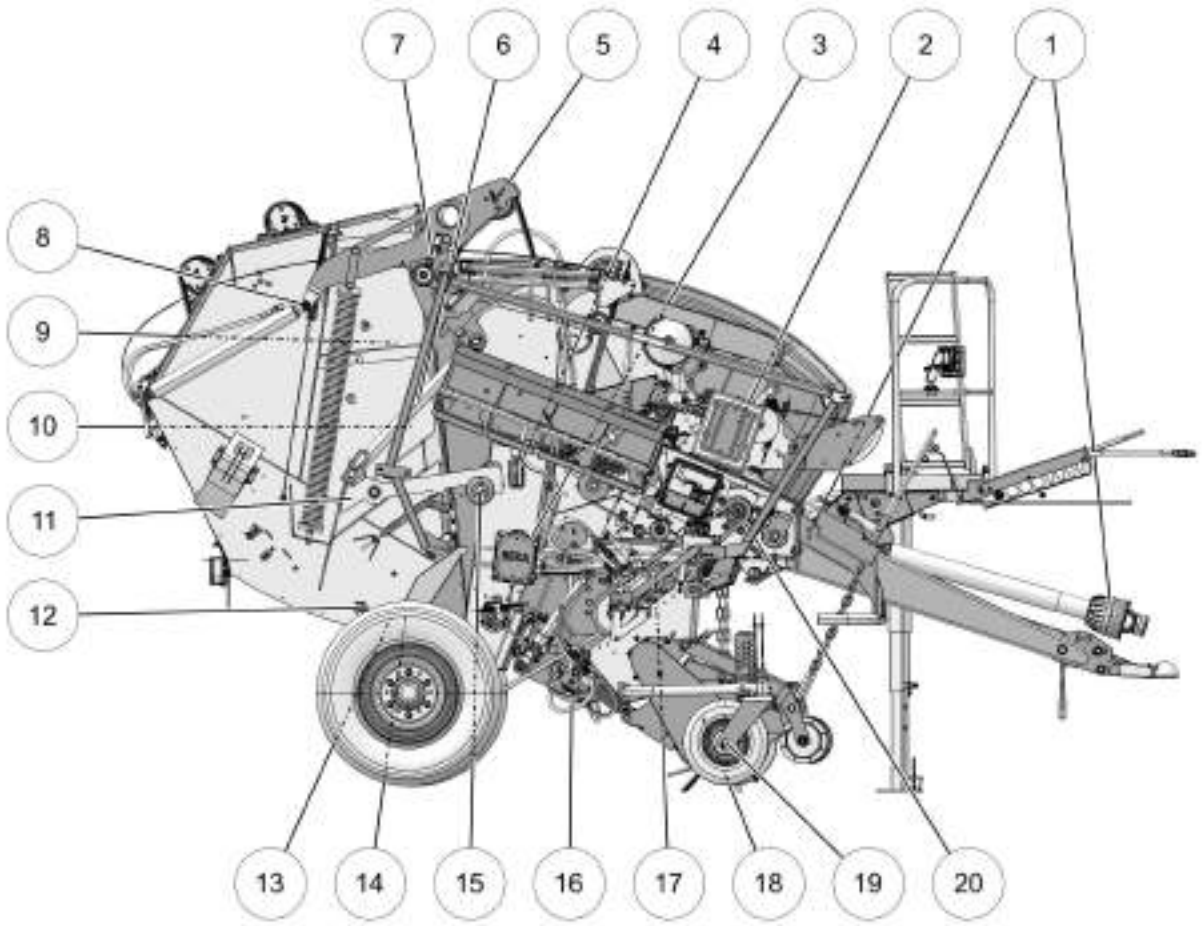
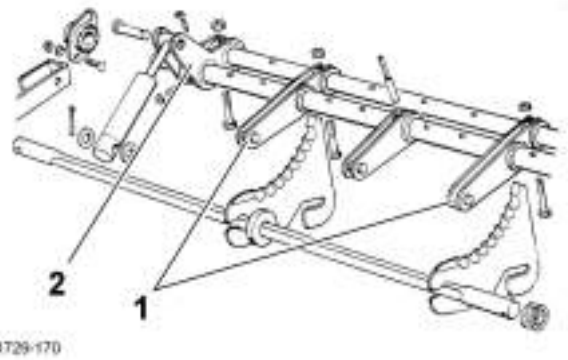


	Lubricant	Specifications
A	Multipurpose grease	NLGI 2 extreme pressure grease, e.g. VERMEER LC Ultra or SHELL Alvania EP2 Always apply 2 strokes with a manual grease gun
B	Chain Lubrication	SAE 30 motor oil (do not use waste oil))

	Lubricant	Specifications
C	Transmission oil	SAE 90 transmission oil
D	Machine oil	Multifunctional oil

After 500 bales after the first use			
Position in figure	Baler part	Lubricant	Note
16	Only balers with cutting device XtraCut 17: grease knife lever 	A	500 bales after first use, then once per season

After every 500 bales (or daily)			
Position in figure	Baler part	Lubricant	Note
1	Drive shaft	A	
3	Chain lubrication system	B	on the right side of the baler
4	Lubricant metering device (roller lubrication and rotor lubrication)	A	on both sides
11	Locking hook	A	on both sides

After every 500 bales (or daily)			
12	Lubricant metering device (roller lubrication)	A	on both sides
13	Tailgate roller (at the lower edge of the tailgate)	A	on both sides, open and fix the tailgate 1/4 (see page 11-23)
14	Tailgate roller (at the lower edge of the tailgate)	A	on both sides, open and fix the tailgate 1/4 (see page 11-23)
15	Roller on locking device	A	on both sides
19	Pick-up guide wheels	A	on both sides

After 3000 bales and Before/After the baler is not used for more than 6 weeks			
Position in figure	Baler part	Lubricant	Note
6	Top belt roller	A	on both sides, open and fix the tailgate 1/4 (see page 11-23)
7	Tension arm	A	on both sides
8	Joint between belt rocker and hydraulic cylinder	A	on both sides
9	Central belt rocker roller	A	on both sides, open and fix the tailgate 1/4 (see page 11-23)
10	Bottom belt rocker roller	A	on both sides, open and fix the tailgate 1/4 (see page 11-23)

At the end of the season annually (in case of special operating conditions also weekly)			
Position in figure	Baler part	Lubricant	Note
2	Movable parts of net tying unit and of twine tying unit	D	to ensure a smooth motion
5	Hydraulic cylinder on the tailgate locking mechanism	A	on both sides
16	Only balers with cutting device XtraCut 17: grease knife lever	A	500 bales after first use, then once per season

At the end of the season annually (in case of special operating conditions also weekly)			
17	Star ratchet in pick-up drive	A	left baler side
18	Bearing on pick-up Applies to camless pickup: left and right grease nipple can only be seen after removal of the side covers	A	on both sides
20	Main gear unit	C 2.2 l	Oil change Check the filling level with a dip stick or overflow hole

11.8.3 Clean the Baler

NOTICE During the first three months after delivery, do not use a high pressure steam cleaner (the paint still hardens during that time).

NOTICE Do not use a steam pressure higher than 100 bar (1450 psi) and water with a temperature higher than 50 °C.

NOTICE Keep the nozzle of the steam cleaner at least 7.9” (20 cm) from the surface and at an angle (to prevent damage to the paint).

NOTICE Do not spray water directly onto the hydraulic system, electrical system or bearings (to prevent damage).

Procedure

1. Make sure the baler is switched off according to the shut down procedure for maintenance or:
    1. Make sure the PTO shaft is switched off, tractor engine is stopped and the key is removed.
    2. Disconnect the cables of electrical power supply, lighting and control panel.
2. Clean the baler with a high pressure (steam) cleaner. Obey the instructions that are given above.
3. Lubricate all bearings to push out (possible) water.

11.8.4 Grind the Cutting Unit Knives

WARNING: Chopper knives can cut fingers and hands.

WARNING: Wear gloves and use suitable tool when handling chopper knives.

WARNING: Do not do work on the magnets of the blade holders if you have a cardiac pacemaker or other implant that can be impaired by magnetic fields.

CAUTION: Do not hit the knives with any kind of tool from the bottom. This may damage the magnets and splinters may brake loose and cause injury.

CAUTION: Wear protective gloves when you do work on the cutting unit blades.

NOTICE

Sharp blades save driving power, provide for a good cut quality and optimum crop throughput. How often the knives must be regrinded depends on the type of crop and the amount of contamination.

Remove the Knives

1. Insert the cutting device to cutting position with the controller and double acting valve in the tractor.
2. Swivel the feed channel floor halfway down with the controller and double acting valve in the tractor.
   Do not swivel completely down because the knives must still project from the feed channel floor.
3. Open the tail gate with the single acting valve in the tractor.
4. Make sure the PTO shaft is switched off, stop the tractor engine and remove the key.
5. Secure the tailgate with the hydraulic shutoff valve (1) (see Figure 4 on page 2-16) .

6. Find the lever of the knife axle (see Figure 75 on page 11-20) on the feed channel housing in front of the tire on the right side. Swivel the lever down through 90° as far as the stop.
7. Go inside the bale chamber and use pliers to remove the knives
   - Turn the knife slightly right to free from magnet.
   - Pull rearward and up to remove the knife.

Figure 75. Knife axle lever

Grind the Knives

NOTICE Economic grinding without excessive heating of the blades will prolong the life of the knives.

1. Grind the knives from the smooth side only.
   Do not heat the metal enough to change its color while grinding. This can affect temper and hardness.

Install the Knives

1. Go inside the baler and push the knives diagonally down onto the knife axle.
2. Swivel the lever of the knife axle up.
3. Release the tailgate with the hydraulic shut off valve.
4. Close the tailgate with the single acting valve in the tractor.
5. Swivel the feed channel floor up with the controller and double acting valve in the tractor.
6. Retract the cutting device with the controller and double acting valve in the tractor.

11.8.5 Replace Knives with Blind Knives

WARNING: Do not do work on the magnets of the blade holders if you have a cardiac pacemaker or other implant that can be impaired by magnetic fields.

CAUTION: Do not hit the knives with any kind of tool from the bottom. This may damage the magnets and splinters may brake loose and cause injury.

CAUTION: Wear protective gloves when you do work on the cutting unit blades.

Remove the Knives

1. Insert the cutting device to cutting position with the controller and double acting valve in the tractor.
2. Swivel the feed channel floor halfway down with the controller and double acting valve in the tractor.
   Do not swivel completely down because the knives must still project from the feed channel floor.
3. Open the tail gate with the single acting valve in the tractor.
4. Make sure the PTO shaft is switched off, stop the tractor engine and remove the key.
5. Secure the tailgate with the hydraulic shutoff valve (1) (see Figure 4 on page 2-16).
6. Find the lever (see Figure 53 on page 7-33) of the knife axle on the housing in front of the tire on the right side. Swivel the lever down through 90° as far as the stop.
7. Go inside the bale chamber and use pliers to remove the knives diagonally upwards from the knife axle.
8. Store the removed knives behind the side door on the right and secure them with a cotter pin.

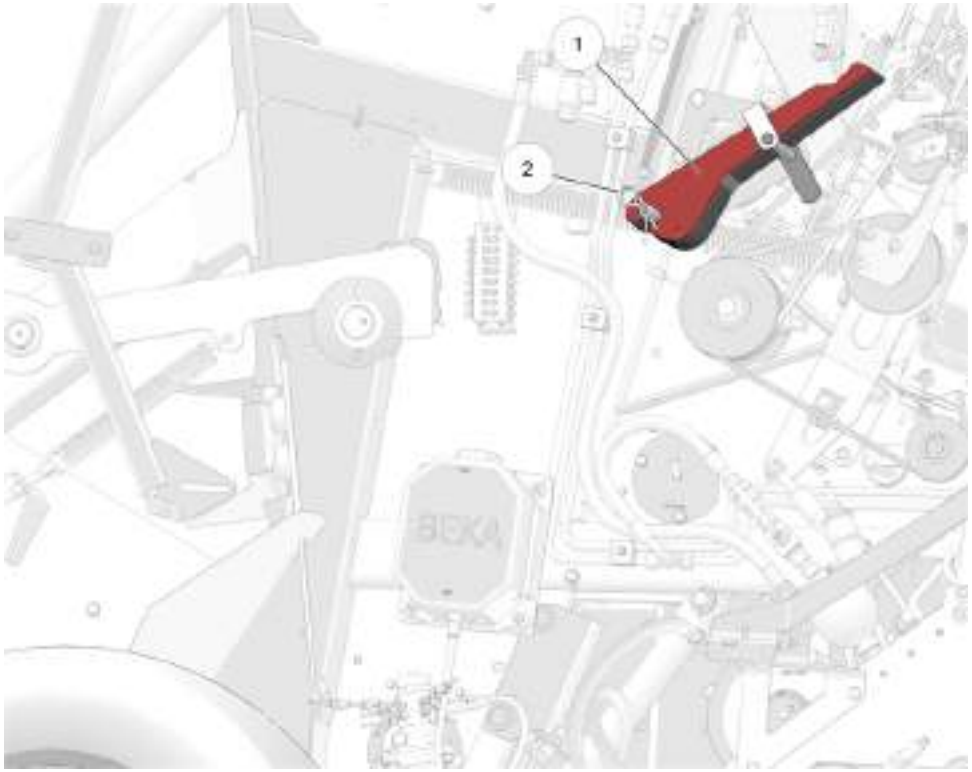


Figure 76. Knife storage

KEY: 1. Knives or blind knives - 2. Cotter pin

Install the blind knives

1. Go inside the baler and push the blind knives diagonally down onto the knife axle.
2. Swivel the lever of the knife axle up.
3. Release the tailgate with the hydraulic shutoff valve (1) (see Figure 75 on page 11-20).
4. Close the tailgate with the single acting valve in the tractor.
5. Swivel the feed channel floor up with the controller and double acting valve in the tractor.
6. Retract the cutting device with the controller and double acting valve in the tractor.

11.9 Lubricate the Tailgate and Tensioning Arm Rollers

Loosen the belts

1. Shut off the tractor and remove the key.
2. Pull the wire (1) (see Figure 77 on page 11-24) behind the hook (2) to lock the rocker arm.
3. Start the tractor engine.
4. Open the tail gate with the single acting valve in the tractor.
5. Shut off the tractor and remove the key.
6. Close the tailgate a bit and make sure it is still 1/4 open.
7. Secure the tailgate with the hydraulic shut off valve (1) (see Figure 4 on page 2-16).

Lubricate

1. Lubricate the rollers and parts according to the lubrication chart (see page 11-14) “Lubrication chart”.

Tighten the Belts

1. Release the tailgate with the shutoff valve.
2. Unlock the rocker arm.
3. Start the tractor engine.
4. Open the tailgate with the single acting valve.
5. Close the tailgate with the single acting valve.

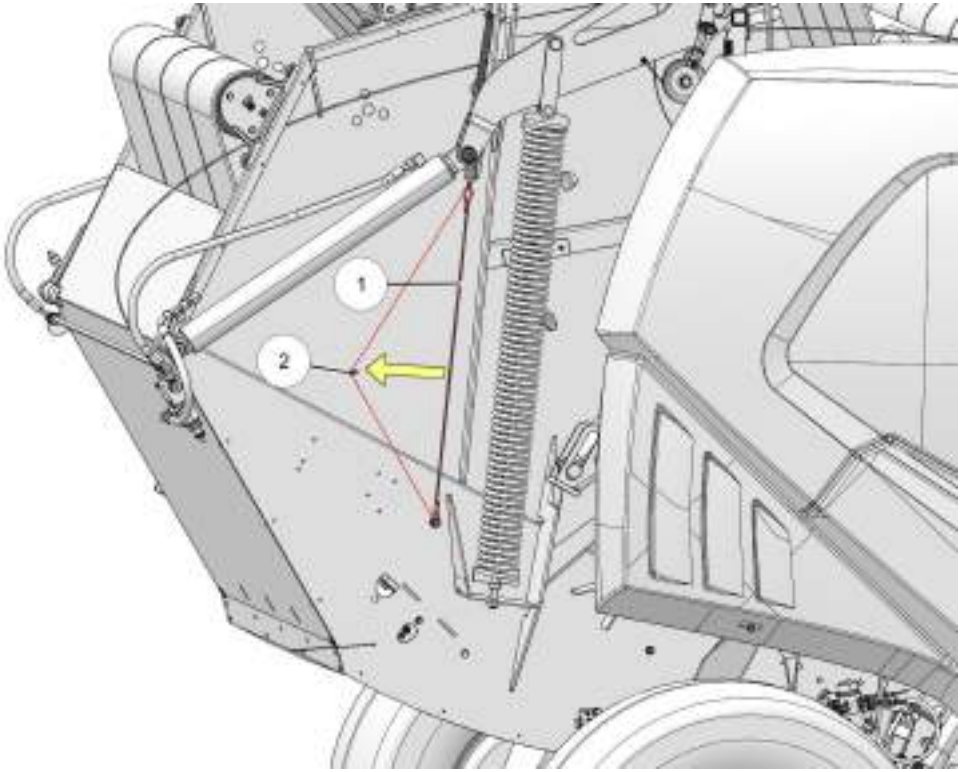


Figure 77. Rocker arm

KEY: 1. Wire - 2. Hook

11.10 Adjusting the Scraper Plate

Correct adjustment of the two scraper plates [1] reduces the effect of jamming the two pick-up augers and optimizes the crop-flow (see Figure 78 on page 11-25).

- Adjust the scraper to auger clearance using the screws [2]:

0–0.1 in. (1–2 mm).

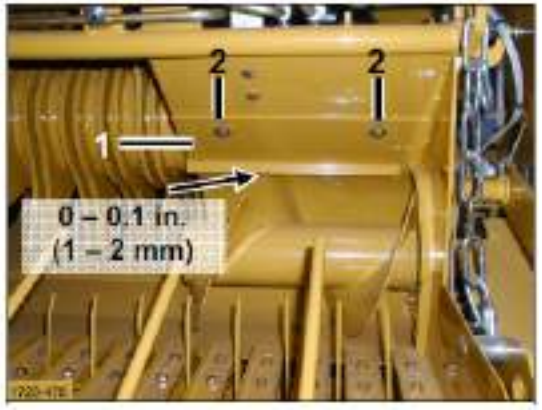


Figure 78. Auger scraper

11.11 Tensioning the Hydroflexcontrol

- Adjust the distance between top and bottom disc of the HYDROFLEX rubber spring: 2 in. (50 mm)(see Figure 79 on page 11-26).

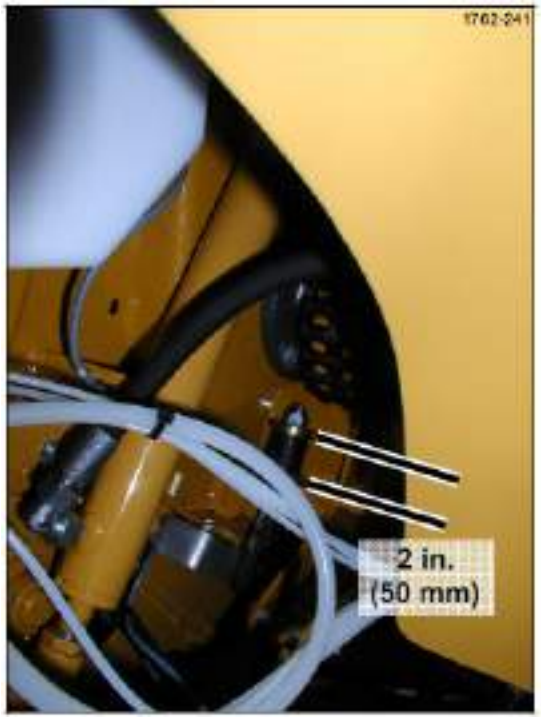


Figure 79. Hydroflex rubber spring

12 ASSEMBLY PROCEDURES

12.1 Driveline – Uncouple from Machine

Before road transport:

- Disconnect anti-rotation chain [1] from baler(see Figure 80 on page 12-1).
- Open access cover of the guard cone [2](see Figure 81 on page 12-2).
- Rotate gearbox shaft manually as needed to loosen and remove tapered pin [3] from clutch(see Figure 82 on page 12-3).
- Replace access cover of the guard cone [2](see Figure 81 on page 12-2).
- Slide driveline off of gearbox shaft to remove and stow in towing vehicle.

Figure 80. Anti-rotation chain

Figure 81. Guard cone

12.2 Driveline – couple to machine

- Slide driveline onto gearbox shaft(see Figure 80 on page 12-1).
- Open access cover [2] of the guard cone(see Figure 81 on page 12-2).
- Rotate gearbox shaft manually as needed to install tapered pin [3] to clutch(see Figure 82 on page 12-3).
- Replace access cover of the guard cone [2](see Figure 81 on page 12-2).
- Connect anti-rotation chain [1] to baler(see Figure 80 on page 12-1).

Figure 82. Gearbox

12.3 Coupling the Cam-Type Cut-Out Clutch

A driveline with automatic overload clutch (cam-type cut-out clutch) is installed.

- Clean and grease the profile of the machine sided connecting shaft prior to assembling.
- Loosen and turn out tapered pin [1].
- Open maintenance hole in the guard cone on the machine side. Slide the clutch onto the connecting shaft so that the location hole [2] points towards the maintenance hole.
- Position the location hole for the tapered pin above the ring groove [3] of the connecting shaft.
- Turn tapered pin into location hole and tighten firmly (approx. 74 ft-lb) (approx. 100 Nm) while moving the hub slightly back and forth in longitudinal direction.
- Check tight and firm seat of clutch hub by compression and tensioning movements. During work, check clutch for correct tightening at regular intervals.

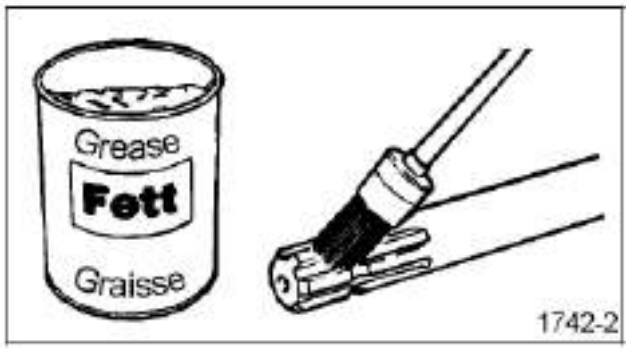


Figure 83. Grease

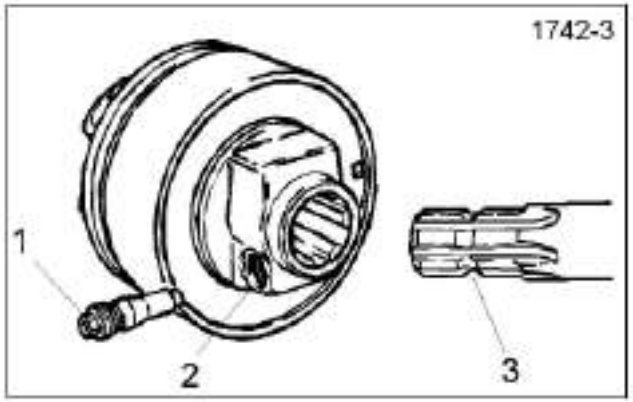
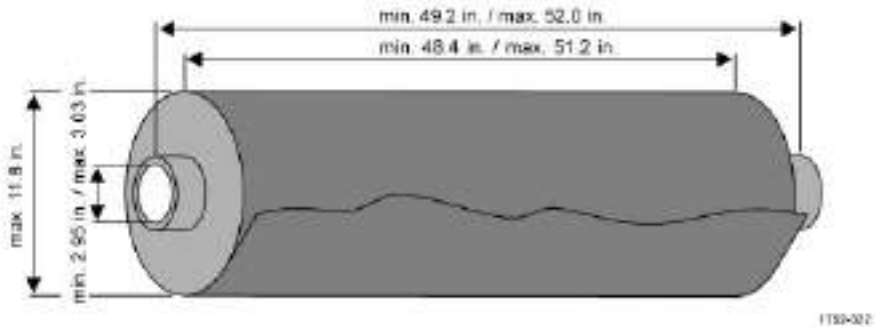


Figure 84. Cut-out clutch installation

13 TECHNICAL DATA

13.1 Overview

	504/604 PRO
Capprox. 60 in. × 48.4 in. (152 cm × 123 cm)	
Net wrapping unit with quality round bale net	Length: 6,560 ft or 9,840 ft / width: max: 4.27 ft (Length: 2,000 or 3,000 m / width: max: 130 cm)
center net roll tube inside diameter center net roll tube width net on roll width net roll outside diameter	min. 2.95 in. / max. 3.03 in. (min. 75 mm / max. 77 mm) min. 49.2 in. / max. 52.0 in. (min. 1250 mm / max. 1320 mm) min. 48.4 in. / max. 51.2 in. (min. 1230 mm / max. 1300 mm) max. 11.8 in. (max. 300 mm)



Net stock	maximum load of net wrapping material: 2 net rolls

Pick-up	
Pick-up width	89 in (2.25 m)
Rake width (distance first tine – last tine)	73 in (1.85 m)

Cutting device	17 knives

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Speed of driveline	540 rpm

Electrical connections	
Connection for lighting system	12 V (7-pole)
Connection for control	Connect to battery

Length with closed tailgate [m] Length with open tailgate	16 ft 5” (5.0 m) 17 ft 7” (5.4 m)
Width without gauge wheels Width without gauge wheels Width with gauge wheels	96” with 14L tires 107” with 21.5 tires 111” with 21.5 tires
Height with closed tailgate Height with open tailgate	8 ft 9” (2.7 m) 13 ft 7” (4.1 m)

Maximum speed	20 mph (32 km/h)
Weights Max. baler weight (empty bale chamber) Max. baler weight (max size bale in bale chamber) Maximum baler hitch weight	 8400 lb (3810 kg) 10800 lb (4899 kg) 1235 lb (560 kg)

Data are for approximate specifications and are not binding. Versions can vary.

13.2 Dimensions

The diameters are depending on the type of tires. The maximum dimensions are given below.

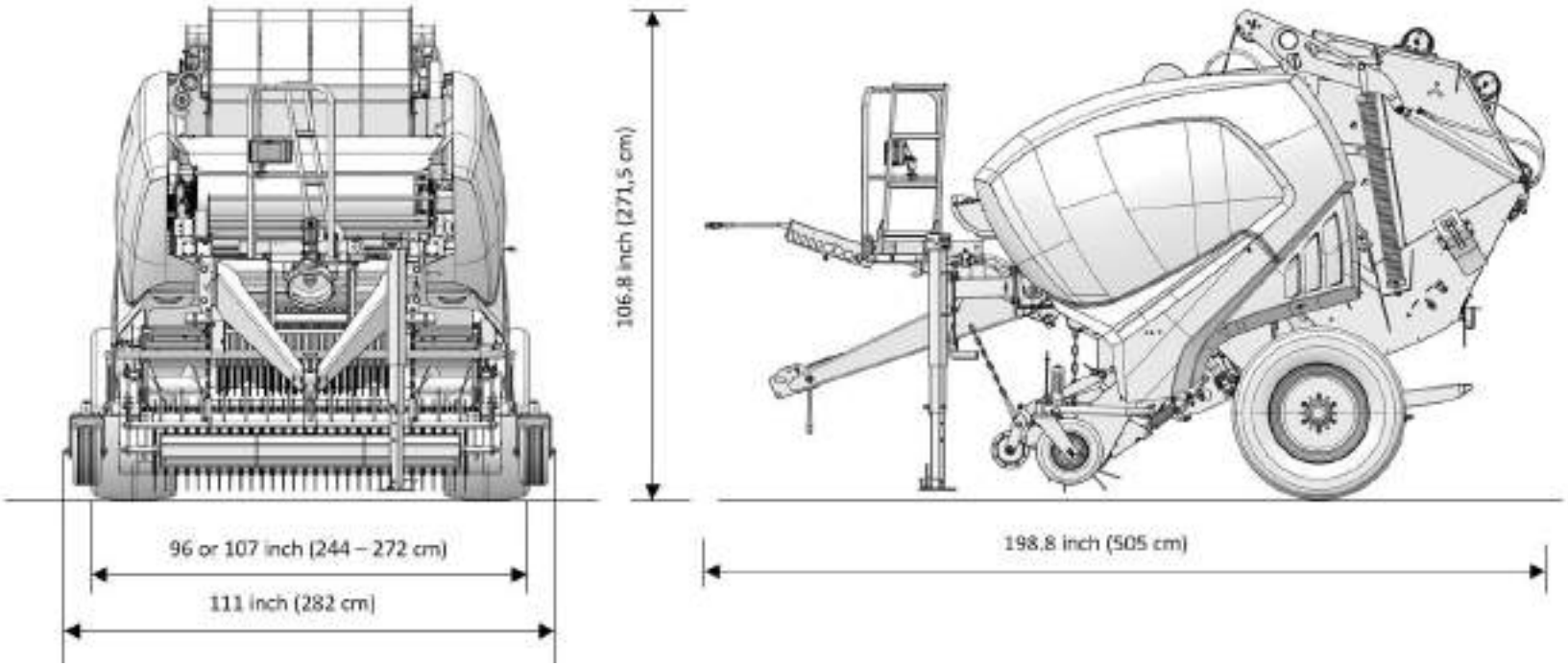

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Figure 85. Baler dimensions

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14 REVISION HISTORY

Revision	Date	Page(s)	Description
o-m2_00	08/16	All	Second edition Operator's and maintenance Manual released.