

PRODUCTIVITY GUIDE

RBX SERIES ROUND BALER



FEATURING

- Safety
- Service Inspections
- Baler Monitor Functions
- Baler Operation
- Maintenance
- Troubleshooting
- Updates and Kits



GENERAL INFORMATION

Introduction

Thank you for taking the time to participate in this Case IH round baler customer clinic. Our goal is to enhance your awareness of product features and function, as well as certain maintenance procedures and products that will prolong the life of your baler.

We have included information in this Productivity Guide that will be helpful in operating and maintaining your Case IH baler. Your Operator's Manual will include most of this information, however some helpful hints and operating suggestions in this Guide have been assembled by listening to the experiences of baler owners just like you. If your baler is operated or maintained by more than one person, be sure to share helpful hints in this Guide with all operators to keep your machine working at top efficiency. While this information will prove helpful in achieving top performance we remind you that it is not a replacement for your Operator's Manual.

At Case IH, we want to see you achieve a level of performance and reliability that exceeds your expectations, and confirms the belief that you have purchased the best large square baler available. What makes a Case IH RBX baler so special? Let's take a look—

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We value our customers, and hope that each baling season is safe and productive. Sometimes, in the rush to beat the weather, start chores, or avoid missing the first inning of the softball game, safety vigilance fails—and the risk of an accident soars. Never attempt to save a moment by compromising safety—the result can cost more time than ever was saved—and sometimes the cost may be immeasurable. The Operator’s Manual contains a comprehensive list of safety rules for your RBX Series baler. Please take a few moments to review the entire list. We’ve listed some of the most important here.

General Safety Rules

- Read the Operator’s Manual thoroughly before starting, operating, servicing or carrying out any other operation on the machine. The time invested in reviewing the manual will pay off in terms of time saved later.
 - Read all the safety decals on the machine and follow the instructions. Immediately replace any decals that are missing or damaged.
 - The baler should be operated only by responsible individuals, who are familiar with the machine.
 - Avoid fire hazards by keeping the baler clean. Inspect the unit daily for signs of hydraulic leaks, and have leaks repaired before further use.
 - A fire extinguisher should be mounted on the baler, easily accessible from the ground and away from moving parts and areas where debris is likely to accumulate. The presence of hydraulic and lubricating oil dictate that an ABC extinguisher is the best choice.
 - Though not directly related to baler operation—a word of caution about handling large bales. Every year, individuals are injured when using incorrect methods of handling that do not completely restrain and control the weight of large bales. Use the correct spear or grapple equipment to handle bales. Refer to loader or bale carrier Operator Manuals for correct bale handling methods.
- ## Baler Hookup, Transport and Field Operation
- Before connecting the baler to the tractor, be sure the tractor meets minimum horsepower requirements and is ballasted to control the weight of the baler, especially when operating in hilly terrain.
 - Do not enter the area between the tractor wheels and the baler when the tractor engine is running.
 - Be sure the tractor drawbar capacity is sufficient for the baler tongue weight. The hitch pin must be securely cross pinned, and the safety chain properly connected to the tractor before road transport. Check warning lights before entering a public roadway.
 - When transporting the baler on a public road, fully raise the pickup, and engage the flywheel brake. Raise the bale chute to close the bale chamber.
 - Always use SMV sign, flashing warning lights, and turn signals when transporting the machine on public roads.
 - Maintain a safe speed when transporting and maneuvering the baler in traffic. Be constantly aware of the size and weight of the towed baler. Allow for the added weight of bales that may be in the baler.
 - Do not work around the baler wearing loose clothing that could get caught in the moving parts.
 - Prior to operating the baler, assure that all guards and covers provided are properly installed, including PTO shaft shielding.
 - Never allow anyone to ride on the baler or the tractor. Keep the children away from and off the baler at all times.
 - Prior to engaging the PTO, always make sure there are no bystanders nearby. Sound a warning with the tractor horn as an added precaution.
 - Always operate the baler at a safe speed, especially when on uneven ground or inclines. Use particular care when turning on hillsides or near embankments.
 - Always make sure that the area behind the machine is clear before manually ejecting the bale.

Baler Hookup, Transport and Field Operation (cont.)

- Keep hands, feet and/or garments away from moving parts. ALWAYS DISENGAGE THE PTO AND STOP THE TRACTOR ENGINE before attempting service, adjustments or clearing the baler of crop or debris. Do not dismount the tractor until all machine rotation has stopped. Remove the ignition key from the tractor when leaving the equipment unattended.
- If the baler is equipped with a rotor-cutter, use special care when working in the area near the cutter knives. Lower the knives out of the feeder area using the tractor hydraulic valve prior to servicing or removing crop from the feeder.

Machine Maintenance

- When adjusting, cleaning, lubricating or performing repairs, the baler must be completely stopped. Disengage the PTO, stop the tractor engine.

- If the gate is opened for service operations, close the gate lock valve before entering the area under or near the gate.
- Always block the baler wheels and set the tractor parking brake before working on or under the machine.
- When working on the hydraulic system, always ensure that the system is not under pressure before disconnecting pipes and/or hoses.
- When servicing belts or rollers, tension must be removed from the belts. Use the procedure detailed in the Operator's Manual to relieve belt tension.
- Oil escaping under pressure can be injected into the skin and cause serious injury. When searching for oil leaks, wear safety glasses and use a piece of wood or cardboard to locate high pressure leaks. NEVER use your hands to detect an oil leak.
- When servicing or repairs are complete, make sure that all guards are in place.

BASIC CONFIGURATION SPECIFICATIONS

The RBX series of Round Balers is offered in two basic bale widths of 3.9' (nominal 4') and 5.1' (nominal 5'). Minimum bale diameter is 2.5' on RBX443, and 3' on all other models. Maximum nominal bale size, in feet, for all models is 4 X 4 (RBX443); 4 X 5 (RBX453); 4 X 6 (RBX463); 5 X 5 (RBX553); and 5 X 6 (RBX563).

Four standard pickup sizes include 5', 6.4', 7' and 7.8'. Pickup style and width are matched to baler size and specialty function for optimum crop movement from stubble to the baler. Standard and wide width choices are available for RBX463 and RBX563.

RBX453 is available in both Silage and Rotor-cutter Silage models, with structural modifications and endless belts to handle the added weight of high-moisture crop, as well as special roll and belt features to self-clean the unit and prevent accumulation of sticky crop residue.

Chevron pattern belts and steel rolls aggressively move and tumble crop for quick and effortless core

formation. A stuffer pickup is available on all models except the RBX553.

All RBX models are equipped for twine wrapping. The RBX443 uses a single arm, double twine electrically actuated system. The Electric-Controlled Twine Wrap System is available for twine-only wrapping on RBX453 Silage, RBX453 Rotor-cutter Silage, RBX463 and RBX563; with in-cab control of twine application using the dual twin arm system. The Electric-Controlled Twine wrap console also includes bale shape and size indicators, and a full bale alarm.

The Electronic Auto-Controlled Twine/Mesh Wrap System offers programmable twine and net placement. This automated system is available on all models except RBX443. The net wrapping system can be used with standard-width net that covers the outer bale surface, in addition to wider net that wraps around the outer edges of the bale for improved appearance, weather resistance and handling characteristics.

Take Full Advantage of its Capabilities

- ▶ Getting the most from your Case IH baler is the purpose of this booklet.
- ▶ Case IH wants to help owners achieve peak efficiency from all of their equipment.

Have you, or someone you know, purchased a new baler in the last few years and continued to use it in much the same way as the baler it replaced? Many times we fail to take advantage of the advanced features available on today's modern equipment, such as

Electronic Auto-Controlled Twine/Mesh Wrap System. As a result the owner may not be getting all the value from the money spent.

Many of the items suggested in this booklet can be completed by the owner when preparing for the season or by the operator when starting a new field. Other adjustments, service procedures, or repairs might be more effectively completed by your dealer's trained service technicians.

Maintenance Choices, Being Prepared for **DEMANDING** Conditions

Ask your Case IH dealer about Customized Maintenance Inspections. It is a proactive way to be sure your baler will operate at its best possible performance when you need it.

Customized Maintenance Inspections include a visual and functional inspection of your baler. They can be used as a pre-season or as a post-season tune-up. Benefits include:

- Increased productivity
- Less downtime during the season
- Lower operating costs
- Improved fuel economy
- Documented maintenance
- Service by Case IH-trained technicians
- Service with Genuine Case IH lubricants, kits, and parts



The combined advantages of CMI services should result in a lower cost of ownership and higher resale values.

Documented Service Promotes High Resale Value

When you schedule your equipment for annual maintenance inspection services, your Case IH dealership places annual UPTIME Action Maintenance decals on your equipment after each inspection (see figure 5.1), distinguishing your commitment to keep your machines running in top condition. Not only does annual maintenance support your productivity in the field, each decal symbolizes completed service—which may increase the resale value of your equipment.

Because Case IH technicians use Customized Maintenance Inspection Checklists for each inspection, you can rest assured that the service is thorough and nothing is overlooked.



Figure 5.1

SERVICE INSPECTIONS

Checklist For Your "Walk Around" Inspection

SAFETY EQUIPMENT	OK	Replace/ Adjust	BALE CHAMBER AND GEAR BOX	OK	Replace/ Adjust
1. Safety decals	<input type="radio"/>	<input type="radio"/>	1. Gearbox mounting hardware	<input type="radio"/>	<input type="radio"/>
2. Flasher lights	<input type="radio"/>	<input type="radio"/>	2. Gearbox oil level (change if after specified number of bales)	<input type="radio"/>	<input type="radio"/>
3. PTO Shields	<input type="radio"/>	<input type="radio"/>	3. Gearbox breather	<input type="radio"/>	<input type="radio"/>
4. Safety chain	<input type="radio"/>	<input type="radio"/>	4. Forming belt and lace condition	<input type="radio"/>	<input type="radio"/>
5. Fire extinguisher? Yes <input type="radio"/> No <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5. Starting roll flap condition	<input type="radio"/>	<input type="radio"/>
PICKUP AREA			6. Starter roll drive chain	<input type="radio"/>	<input type="radio"/>
1. Pickup assembly, tines, cam track, cam bearings and augers	<input type="radio"/>	<input type="radio"/>	7. Sledge roll drive chain	<input type="radio"/>	<input type="radio"/>
2. Pickup drive chain condition and tension	<input type="radio"/>	<input type="radio"/>	8. Sledge slip clutch	<input type="radio"/>	<input type="radio"/>
3. Auger drive chains	<input type="radio"/>	<input type="radio"/>	9. Main slip clutch/shear bolt (PTO)	<input type="radio"/>	<input type="radio"/>
4. Overrunning clutch function and adjustment	<input type="radio"/>	<input type="radio"/>	10. Rotor drive chains (if equipped)	<input type="radio"/>	<input type="radio"/>
5. Pickup flotation adjustment	<input type="radio"/>	<input type="radio"/>	11. Roller bearings	<input type="radio"/>	<input type="radio"/>
6. Stuffer drive chain condition and tension	<input type="radio"/>	<input type="radio"/>	12. Bale shape sensing function	<input type="radio"/>	<input type="radio"/>
TIE-OFF SYSTEM			MISCELLANEOUS		
1. Twine knife condition	<input type="radio"/>	<input type="radio"/>	1. Switches and inductive sensors (condition and proper clearance)	<input type="radio"/>	<input type="radio"/>
2. Twine routing tube condition	<input type="radio"/>	<input type="radio"/>	2. Electrical connections	<input type="radio"/>	<input type="radio"/>
3. Twine tube breakaway	<input type="radio"/>	<input type="radio"/>	3. Electrical harness routing/condition	<input type="radio"/>	<input type="radio"/>
4. Twine cut-off adjustment mesh wrap (if equipped)	<input type="radio"/>	<input type="radio"/>	4. Monitor condition/operation	<input type="radio"/>	<input type="radio"/>
5. Roller condition	<input type="radio"/>	<input type="radio"/>	5. Wheel bearings	<input type="radio"/>	<input type="radio"/>
6. Cam bearings	<input type="radio"/>	<input type="radio"/>	6. Tires (condition and pressure)	<input type="radio"/>	<input type="radio"/>
7. Hold-down arm adjustment	<input type="radio"/>	<input type="radio"/>	7. Hydraulic lines, valving and cylinders (conditions and leakage)	<input type="radio"/>	<input type="radio"/>
8. Brake pad	<input type="radio"/>	<input type="radio"/>	8. Operation of kicker (if equipped)	<input type="radio"/>	<input type="radio"/>
9. Cut-off knife condition	<input type="radio"/>	<input type="radio"/>	9. Tailgate operation/condition	<input type="radio"/>	<input type="radio"/>
			10. Density system operation/service (hydraulic system versus spring tension system)	<input type="radio"/>	<input type="radio"/>
			11. Sheet metal condition	<input type="radio"/>	<input type="radio"/>
			12. Structure - cracks/welds	<input type="radio"/>	<input type="radio"/>
			13. Missing and broken parts	<input type="radio"/>	<input type="radio"/>
			14. Gauges and indicators on front of machine	<input type="radio"/>	<input type="radio"/>

Electronic Auto-Controlled Twine/Mesh Wrap System

The Electronic Auto-Controlled Twine/Mesh Wrap System baler control monitor gives the operator in-cab control or display of bale size, bale shape, net or twine wrap, number of wraps, wrap pattern, and crop cutter knives. Electronic Auto-Controlled Twine/Mesh Wrap System is required to control net wrapping on the RBX series balers.

The operation of the monitor divides controls into 5 basic areas of function. These functions are illustrated in terms of touchpad control grouping, identification and control action explanation (see figure 7.1).

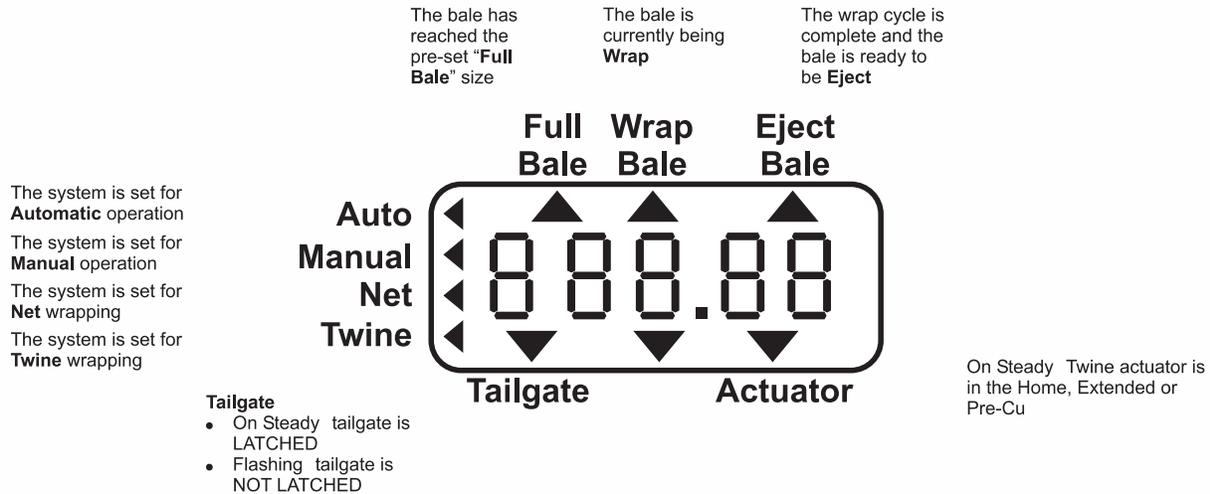
Baler Monitor



- | | |
|--|---|
| <ul style="list-style-type: none">  Turns the Net-Twine Wrapper system on and off  Toggles between system Setup and Diagnostic modes  Toggles between Automatic and Manual operation of the Wrap system  Toggles between wrapping bales with Net and Twine  Manually starts wrap cycle  Clears daily bale counts, turn off audible alarm and error message displays  Toggles between Daily and Total bale counts | <ul style="list-style-type: none">  Manually retracts twine or net actuator  Manually extends twine or net actuator  Display or change pre-set bale diameter  Display or change number of wraps of twine or net  Increase bale diameter or number of wraps values  Decrease bale diameter or number of wraps values |
|--|---|

Figure 7.1

BALER MONITOR FUNCTIONS



The Electronic Auto-Controlled Twine/Mesh Wrap System Monitor display window provides the operator with indicators for modes of operation (Twine or Net, Automatic, Manual), bale status (Full Bale, Wrap Bale, Eject Bale), and system status or position (Tailgate latch, Actuator (Twine, Net insertion). Indicator triangles may flash or be displayed steady depending on the current status of the specific system (see figure 8.1).

The display window format adjusts for each type of information that is placed in view. The more commonly displayed information is shown, along with the basic keystroke commands that are used to enter the display mode and make value changes.

Bale Size

- **Check** Bale Size—press the "Bale Size" button, Bale Size displayed for 2 seconds after releasing button (see figure 8.2)
- **Change** Bale Size—press and hold the "Bale Size" button, use + and - keys to change size

NOTE: Display returns to previous data 2 seconds after releasing the Bale Size button.

Number of Net Wraps

- Must be in **Net** mode
- Displayed in quarter wrap steps (see figure 8.3)
- **Check** Number of Wraps—press the "Number Wraps" button, Number of wraps displayed for 2 seconds after releasing button
- **Change** Number of Wraps—press and hold the "Number Wraps" button, use + and - keys to change Number of Wraps

NOTE: Display returns to previous data 2 seconds after releasing the Number Wraps button.

Number of Twine Wraps

In twine wrap mode, three pre-programmed wrap selections are available standard with the Electronic Auto-Controlled Twine/Mesh Wrap System. The number of end wraps can be temporarily changed within these selections, and returns to the pre-programmed number when the wrap selection is changed. In addition, the operator can program a custom wrap selection if the pre-programmed selections are not suitable for a specific application. **The number of wraps is time-based, and assumes the baler is operating at Rated PTO RPM during the wrap cycle.**

- Must be in **Twine** mode
- Displayed with wraps on left, end wraps on right (see figure 9.1)
- **Check** Number of Wraps—press the “Number Wraps” button, Number of wraps displayed for 2 seconds after releasing button
- **Change** Number of Wraps—press and hold the “Number Wraps” button, use + and - keys to change Number of Wraps selection

NOTE: Display returns to previous data 2 seconds after releasing the Number Wraps button.

Change Number of Twine End Wraps

- Must be in **Twine** mode
- Press and release “Number Wraps” button (see figure 9.2)
- While display is showing number of wraps, Press and hold the Number Wraps button
- Display will show only end wraps at right side of window, use + and - keys to change Number of End Wraps

NOTE: Display returns to previous data 2 seconds after releasing the Number Wraps button.

Change to Custom Wrap Pattern

- Must be in **Twine** mode
- **Change** to Custom Pattern—press and hold the “Number Wraps” button, use + and - keys to change to “PA4” selection (see figure 9.3)
- Refer to Operator's Manual and Monitor Setup section to program custom pattern

NOTE: Display returns to previous data 2 seconds after releasing the Number Wraps button.

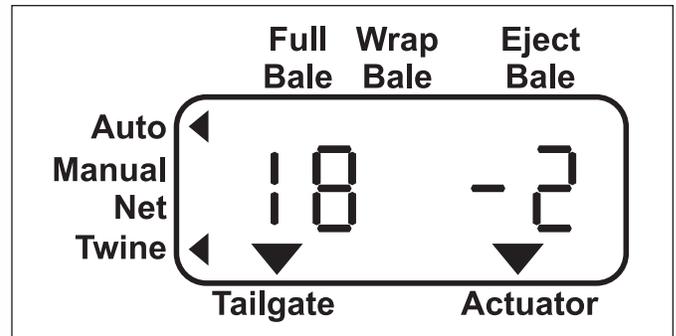


Figure 9.1

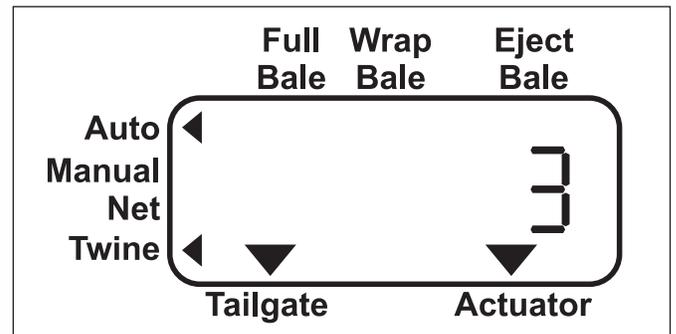


Figure 9.2

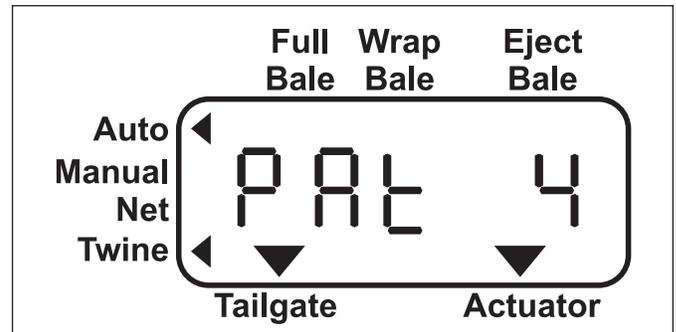


Figure 9.3

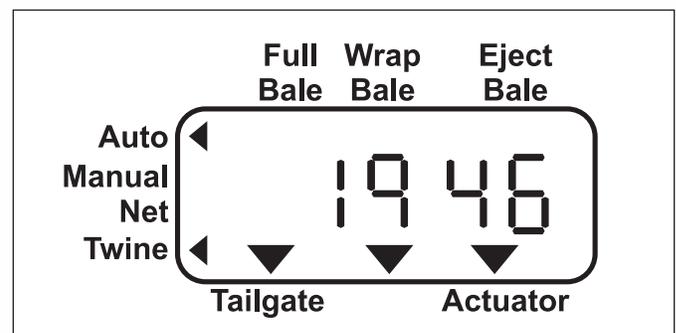


Figure 9.4

BALER MONITOR FUNCTIONS

Bale Counts

- To read **Daily** Bale count—press and release “Bales” button. Daily count will be displayed for 2 seconds after releasing button
- To read Total Bale count, press and hold “Bales” button while Daily count is displayed to read Total Bale count (see figure 9.4)

CLEAR Daily Bale Count

- Press and release “Bales” button. Daily count will be displayed for 2 seconds after releasing button.
- Press “Clear” button while Daily count is displayed
- Total Bale count CANNOT be cleared

Error Message

- Audible alarm will sound if malfunction occurs and “Error” message is displayed
- Press “Clear” button to turn audible alarm off (see figure 10.1)

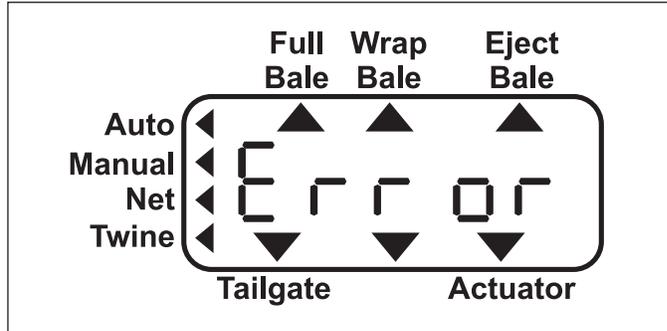


Figure 10.1

Electric-Controlled Twine Wrap System

The Electric Controlled Twine Wrap System is a computerized system that provides the operator with in-cab bale shape sensor displays, in addition to a full bale alarm and a complete wrap cycle signal. The system allows the operator to select from a menu of available wrap patterns, along with manual twine arm extend and retract controls (see figure 10.3).

- Electric actuator on the right side of the baler operates the dual twine arms to apply twine wrap to the bale (see figure 10.2)



Figure 10.2

Baler Monitor



Figure 10.3

Baler Monitor (cont.)

Bale shape indicator is displayed in the normal baler operation mode.

- Indicators show the right side of bale slightly larger than left, operator must move to fill the left side of the bale (see figure 11.1)

The bale shape indicator bars are used to display additional operational information for the operator.

Full Bale indication. Bars in corner of displays lit when the "full bale" alarm sounds. After wrap cycle, indicators reset to no lit bars, indicating bale chamber is empty (see figure 11.2).

Twine wrap pattern (see figure 11.3). Wrap Pattern 3 indicated by 3 bars on each side.

- Displayed when the "Number Wraps" touchpad is pressed

NUMBER WRAPS TABLE		NUMBER OF WRAPS			
Model	Bale Size	Pattern 1	Pattern 2	Pattern 3	Pattern 4
RBX453	4 X 5	10	14	18	22
RBX463	4 X 6	10	14	18	22
RBX563	5 X 6	10	14	18	24

Table 11.1

Diagnostic mode-bale size indicator. 4 X 5 bale size indicated by 4 bars in left column, 5 bars in right column.

- Displayed when pressing the Setup/Diagnostics touchpad for two seconds
- Pressing "Setup/Diagnostics" additional times will access other setup functions such as switch calibrations (see figure 11.4 and table 11.2).

SETUP ITEM	USE
1	Select baler model/bale size
2	Adjust, calibrate and test twine wrapper actuator sensor
3	Adjust and test the full bale switch
4	Adjust, calibrate and test the right bale shape sensor
5	Adjust, calibrate and test the left bale shape sensor

Table 11.2

To change the size of the bale when the "Full Bale" alarm is sounded, the cam on the full bale switch is adjusted to obtain the desired bale size (see figure 19.4).

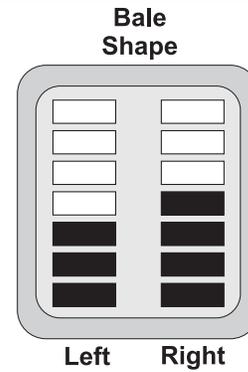


Figure 11.1

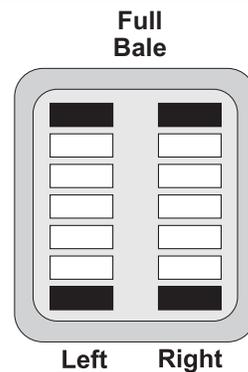


Figure 11.2

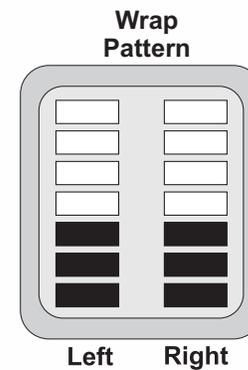


Figure 11.3

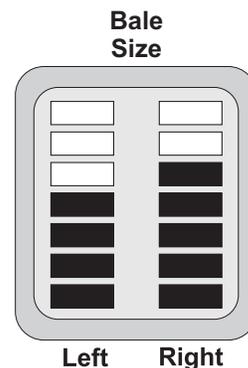


Figure 11.4

BALER OPERATION

Connecting the Baler to the Tractor

Baler performance can be directly affected by certain tractor adjustments. Prior to connecting the baler to the tractor, take some time to assure tractor conditions meet the following standards. Specific details for each step are in the Operator's Manual.

- Tractor meets minimum size requirements. Consider rotor-cutter power requirements, if equipped; and assure the size and weight of the tractor is sufficient to control the weight of the baler, especially on grades and inclines (see table 12.1).
- Adjust the tractor tread width so the wheels do not run over the windrow. Use a tractor with sufficient ground clearance to prevent crop from snagging and bunching on the underside of the tractor.
- Refer to figure 12.1 for measurements to assure the correct drawbar-to-PTO shaft dimensional relationship position prior to connecting the baler hitch and PTO shaft.
- Three-point hitch lower arms should be removed if at all possible to avoid the possibility of driveline damage due to contact with the hitch arms.
- Install the hitch pin from the bottom up to reduce crop snagging. Use 1- or 1-1/4" diameter by 6" long pin or bolt. Install the safety chain as specified before road transport.
- Move the jack to the operation storage position
- Verify the correct PTO shaft length after the baler hitch is connected to the tractor drawbar. See instructions in the Operator's Manual to assure adequate operating clearance.
- Connect the hydraulic hoses to the tractor couplers. Up to four circuits may be required, depending on baler features. The hose connector covers are color-coded for ease of connection:

Black - Double-acting tailgate lift

Green - Single-acting pickup lift circuit

Red - Double-acting crop cutting knife retraction

Blue - Double-acting rotor reverser circuit

- The tractor hydraulics should have a minimum flow of 9 GPM to assure acceptable tailgate cycle time.
- Make necessary electrical connections for the baler monitor, as well as transport warning and turn signal lights (see figure 12.2).

BALER MODEL	OPTION	MIN PTO HP
RBX443		40
RBX453		60
RBX453	Silage	65
RBX453	Rotor-cutter	100
RBX463		70
RBX553		70
RBX563		80

PICKUP WIDTH MIN INSIDE TIRE CLEARANCE	
4' STD	55"
5' STD	70"
1.5 m wide	70"
1.8 m wide	80"
2.1 m wide	92"

Table 12.1

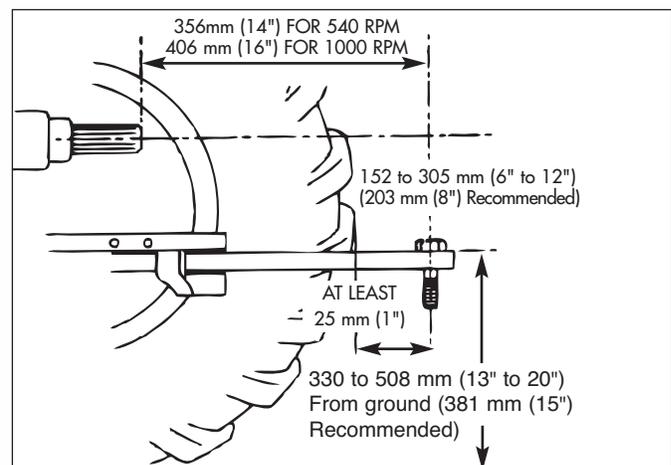
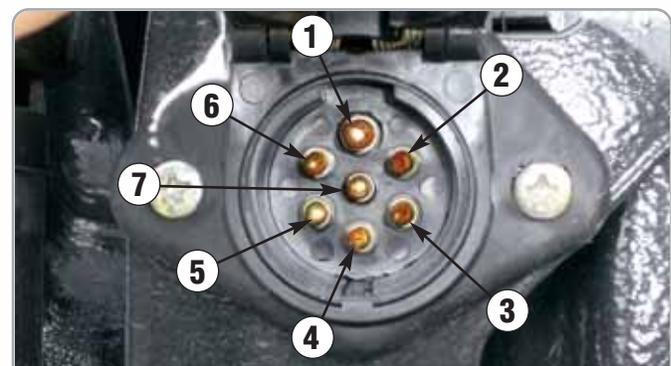


Figure 12.1



- | | |
|----------------------|-----------------------|
| 1. Ground | 5. Directional, right |
| 2. Not used | 6. Tail lights |
| 3. Directional, left | 7. Not used |
| 4. Brake lights | |

Figure 12.2

- Refer to the Operator's Manual for correct wiring connections for the monitor, depending on the type of tractor electrical system.
- Newer tractors have a mating lighting connector, with wiring compatible with the baler circuits. Older tractors may require addition of wiring connections for proper lighting operation.

Loading Twine

Twine used in a round baler application is less demanding than that for square balers, however, quality twine of consistent thickness and strength is important in maintaining bale integrity, especially with repeated handling and long-term storage.

One twine box is mounted on each side of the baler. Twine loading is similar on twine-only and twine-net balers.

- Each box holds three balls of twine
- Thread inside loose end of front ball through wireform or angle guide above the ball, then through twine tension clamp
- Thread twine out of front of twine box.
- Twine tension adjusted to 8-12 lb. pull. Twine too tight may not start properly. Twine too loose may be loose on bale and may not cut properly.

Route twine around idlers below front end of twine boxes.

- Through twine guide above idler
- Through twine guide below idler (see figure 13.1)

At center of baler, route twine:

- Through ring on bottom side of cross-tube
- Through guide on twine tube mounting bracket
- RBX453 and RBX463 have additional guide on twine tube (see figure 13.2)

Threading twine out of twine arm:

Units with "bullet" type twine retainer—

- Push bullet retainer bolt toward spring, or push bullet sideways to create clearance between bullet and ring
- Pass twine between bullet and ring, out end of twine arm (see figure 13.3)

Units with "spring clip" type twine retainer—

- Feed twine through guide ring approximately 10" back from end of twine arm
- Make sure twine is under tabs between the ring and end of twine arm



Figure 13.1

Figure 13.2



Figure 13.3



Figure 13.4

BALER OPERATION

Loading Twine (cont.)

- Use the special tool to place twine between spring clips out the end of the twine arm (see figure 13.4)
- Pull about 18" of twine out of the twine arm
- Place the twine between the twine knife and striker (see figure 14.1)

Loading Net

Several types of wrapping material can be used with the RBX series baler wrapping system. Standard width and wide width net wrap can be used to provide a neat bale that has a high degree of weather resistance, and retains bale integrity with repeated handling and extended storage.

Refer to table 14.1 for net roll and center tube width specifications. The wrap material must be oriented so the material comes off the top of the roll when installed in the baler. The inner diameter of the tube toward the right side of the baler may require trimming to fit over the mounting shaft.

When working with the wrap mounting shaft, be aware that the "Round tooth grippers" on the right end of the shaft are somewhat sharp, and could cause injury if contacted carelessly (see figure 14.2). These are designed to grip the cardboard tube to allow proper function of the net wrap brake that is mounted on the shaft.

To load net into the baler:

- Rotate the brake drum until the locking pin aligns with the hole in the drum. Move the locking pin into the hole.
- Release the latch and swing the net roll mounting shaft outward
- Remove the hairpin cotter, washer and plastic cone from the left end of the mounting shaft. Rotate the used core counterclockwise to disengage the grippers. Remove and discard the core.
- Slide the roll of net onto the shaft with the loose end coming off the top of the roll. As you slide the roll of net over the right end of the shaft, rotate the core counterclockwise to slide over the round tooth grippers. Slide the net far enough onto the shaft to center it in the bale chamber, then install the plastic cone and washer on the left end of the shaft.
- Release lock pin from the brake drum.



Figure 14.1

BALER MODEL	BALE CHAMBER WIDTH	MAX. WIDTH OF NET OR TUBE	MIN WIDTH OF NET OR TUBE
RBX453/463	46.5"	52"	44.5"
RBX553/563	61.5"	67"	59.5"

Table 14.1



Figure 14.2

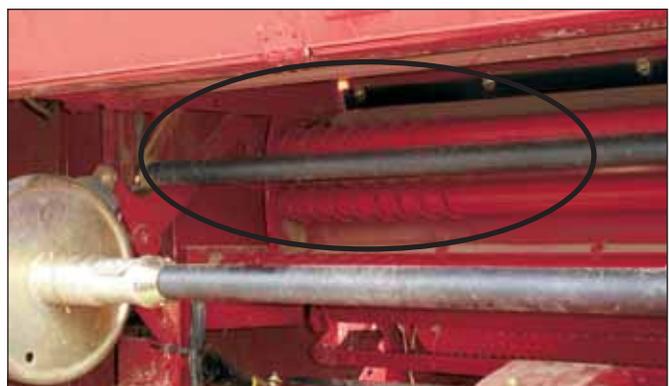


Figure 14.3

Loading Net (cont.)

To route net from the roll to the net insertion duckbill:

- Free the end of the net on the roll, and pull out 4'-5' of net.
- The net passes over spiral-wrapped spreader rolls (see figure 14.3). The spirals pull the net outward to the ends of the bale, pulling the net tight over the width of the bale. If net is not spread across the full width of the rolls, it will spread out while wrapping the first bale. Add an extra wrap on first bale to allow full width wrapping after the net is spread.

Route the net as shown in figure 15.1:

- Over the smooth roll
- Under the lower spreader roll
- Over the top spreader roll
- Around the front of the center spreader roll
- Into the duckbill
- Use the tool to push the net through the duckbill
- Leave 2"-3" of loose tail of net hanging out from the bottom of the duckbill. Pull any excess net length toward the front of the baler, away from the knife.
- Roll the front of the roll down while swinging the roll back into the baler to take up excess slack in the net. Latch the roll into the operating position.
- Visually confirm that the roll is centered over the bale chamber

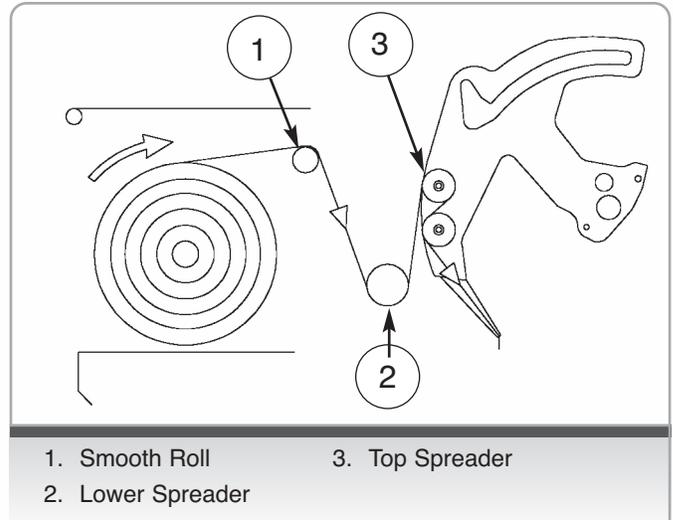


Figure 15.1

Make and wrap a bale. Check for even placement of net across the bale. If the net is wrapped more toward one side, the net roll must be moved to center the wrap.

- Remove the left and right net roll retaining clips. Shift the net roll as necessary to center the net.
- Install the clip onto the right end of the shaft in the groove closest the end of the cardboard tube.
- Move the cone into the left end of the tube. Install the hairpin clip in the groove that fits best with the available clearance on the left end.

CROP FEEDING AND CUTTING FOR PROPER BALE FORMATION

In addition to the visual quality of the bale, the manner in which bales are formed when breaking in a new baler or belts can have an effect on the overall belt life. Make smaller bales, and use special care to keep bales filled evenly when baling the first 25-50 bales, to reduce stress that can remain in the belt its entire service life.

BALER OPERATION

Pickup

Several factors affect the overall bale shape and integrity, all related primarily to the manner in which crop is fed into the baler and processed prior to being moved into the bale chamber (see figure 16.1).

Key factors are:

- Windrow size, shape and density
- Pickup
- Packer or rotor
- Adjust gauge wheels to carry the pickup. Pickup teeth should be approximately 1" above the ground on a level surface. Set gauge wheels lower to provide more clearance in rocky or uneven field conditions.
- Flotation should be set to keep the pickup contact with the ground as light as possible, while not allowing the pickup to bounce and leave crop in the field
- Pickup windguard upward travel stops should be adjusted with about 2" clearance to the pickup bands. Higher volume windrows may require additional clearance; lighter crops require less clearance and greater contact with the windguard
- Downward travel stops should prevent windguard tines from contacting pickup bands or floor roll
- Upper windguard on wide pickups with stuffer has adjustable stops to maintain minimum clearance to the starter roll, as explained in the Operator's Manual

Crop centering augers on each side of the pickup are intended to move the edges of the windrow into the feeder area of the pickup.

- Augers are not intended to "re-position" the windrow to fill the edges of the feeder if windrows are not wide enough to evenly fill the feeder across the entire bale width
- Excessively wide windrows may overload and plug the pickup augers

Core Formation

The core is the center portion of the bale that forms before the belt tension begins to increase significantly. Generally, the core is approximately 30" diameter. In most crops, the core forms easily, however some crops do not roll readily in the bale chamber, and core formation may require special baling techniques. Some of the more challenging core formation conditions are:

- Long-stemmed, slippery, unconditioned dry grasses or straw
- Heavy double windrows or bunches
- Unconditioned stalky crops such as cane
- Very dry, short crop
- Brittle, slippery crop such as cornstalks



Figure 16.1

Corrective action to promote core formation:

- For most crops, reduce PTO speed and feed rate to allow crop to begin to tumble and roll in the baler. In some conditions, "force feeding" a small amount of crop may help start the core.
- Maintain PTO speed, but be prepared to stop movement when in stalky crops such as cane and corn stalks, until the core is established
- Stop PTO when not feeding crop (such as short rotary combine straw) into the baler to help retain bale integrity. (Do not stop PTO with silage, high-moisture or very heavy crops in the bale chamber).

Windrows and Driving Patterns

The operator has the ability to monitor the bale shape as the bale is formed using the Electric-Controlled Twine Wrap System or Electronic Auto-Controlled Twine/Mesh Wrap System baler monitors (see figure 17.1).

The bale shape indicators use bars that move up progressively relative to the side-to-side fill rate of the bale chamber. Using the shape indicators allows the operator to compensate if necessary for uneven or inconsistent windrows.

Allowing the bale to form heavily on one side will also affect belt tracking. Flat belts track toward the tight side of the belt. Therefore, uneven bale formation will be observed as the belts will move toward the larger side of the bale. Quickly begin to fill the opposite side and even out the bale, before the belts are damaged due to interference and the belts climbing over adjacent belts.

An important fact to remember is that if crop is fed into the baler unevenly, the bale will likely be uneven and mis-shapen, as well.

The key to making well-filled and well-shaped bales is to follow a rule that the windrow, whenever possible, must be built to suit the baler. Attempting to adapt the baler to the windrow will usually result in a less-than-desirable outcome.

The desired windrow width is slightly wider than the width of the bale. In this condition, the crop centering augers will move just enough crop to fill the sides of the bale chamber. The sides of the bale will then be well-filled and firm (see figure 17.2).

If windrows are not full bale width and uniform, the desired scenario, the operator must understand the crop flow into the baler and follow driving patterns to lessen the affect of the lower quality windrows (see figure 17.3).

If windrows are not full width, narrower windrows, approximately one-half the width of the bale, are the next-best option. In this case, weave from side to side initially to distribute hay across the bale chamber while forming the bale core (see figure 17.4). Once the core is formed, alternately feed hay into each side of the baler to fill the sides of the bale (see figure 17.3).

Watch the bale shape indicator and try to keep the bars even as the bale is formed. Some operators may want to change the bale shape alarm sensitivity to better match windrow size.



Figure 17.1

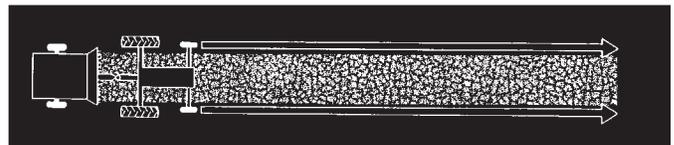


Figure 17.2

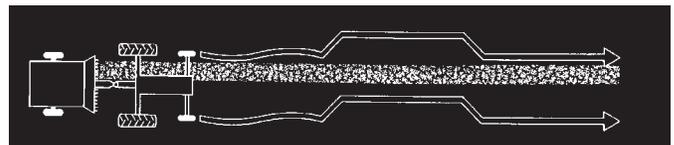


Figure 17.3

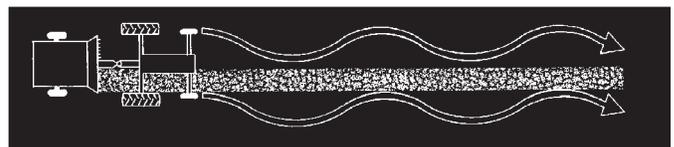


Figure 17.4

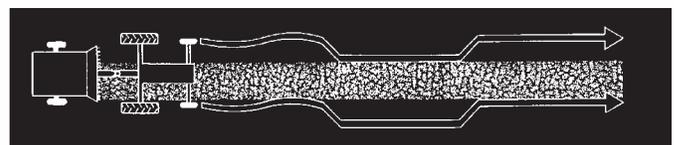


Figure 17.5

When wrapping with twine, have the baler centered over the windrow as the bale reaches completion, to facilitate twine pickup. Using this feeding pattern, the edges of the bale are filled, along with the center, as the windrow moves back and forth from side to side across the pickup.

Weaving continuously, in intervals less than six to eight seconds, will likely overfill the center of the bale. Loose end twine wraps will be likely (see figure 17.4).

Medium windrows, approximately three-fourths the width of the feeder, are the most difficult to bale and maintain well-shaped bales. Even with weaving, the center of the bale tends to be over-filled. The edge twines will likely be loose, and eventual difficulty in handling is a possibility (see figure 17.5).

BALER OPERATION

Rotor-cutter

Crop is moved from the pickup to the starter roll by the rotor lobes. Incorporated into the bottom of the feeder of rotor-cutter-equipped units are crop cutter knives that extend into the rotor area (see figure 18.1).

Crop material is cut as it moves across the knives.

Advantages of Crop Cutting:

- Bale density is increased
- Bales are easier to break apart when feeding
- Silage fermentation is improved as bales pack tighter, with a greater degree of air removal

The rotor-cutter is available on the RBX453 standard and Silage models. With the maximum 15 knives in use, the system will cut material to a theoretical length as short as 2.6".

- Different knife position combinations can be selected to change the cut length, or to leave longer crop at the bale edges for greater bale integrity
- Knife blanks must be installed in unused knife slots to prevent plugging
- The knives can be hydraulically retracted by the operator, if desired
- Each knife is mounted individually, with breakaway protection in the event a heavy slug or solid object enters the pickup and is passed through the cutter

Density Control

Bale density is a function of crop preparation, windrow conditions, baling technique, and baler adjustment.

Consider these crop and windrow conditions:

- Crop type, condition, and moisture
- Crop-cutter applications
- Type of crop conditioning, material sizing
- Size, shape of windrow and feed rate



Figure 18.1

The more time the crop spends in the baler, the greater the bale density. Movement across the rollers as the bale rotates presses more air from the crop mat, and allows crop to “settle” together, resulting in a tighter bale. Fast feed rates and short cycle times, a common occurrence with large windrows, will result in lower bale density. The importance of cycle time productivity, in-field crop loss and bale density must be balanced by the operator to achieve the most desirable outcome. Some dry grass hay will be broken by the dimpled roll and fall out of the bale chamber if allowed to remain in the bale chamber longer than necessary.

Bale density is controlled by spring tension, or a combination of spring tension and hydraulic resistance.

- RBX443–2-double extension spring assemblies
- RBX463–2 extension springs, 1 hydraulic cylinder
- RBX453–1 extension spring, 1 hydraulic cylinder
- RBX553/RBX563–2 extension springs, 2 hydraulic cylinders

The springs hold tension on the belts when the baler is empty, and provide the tension during core formation. As the bale grows and the chamber begins to expand, the effect of the hydraulic density control supplements spring tension, and provides the controllable element in belt tension and bale density.

Density Control (cont.)

The hydraulic density control system consists of a self-contained hydraulic cylinder with an adjustable relief valve between the two ends of the cylinder. The cylinder is connected to the belt tension arm, which carries the front and rear take-up rolls.

The tension arm must move to allow the bale chamber to expand as the bale is formed. By restricting the flow of oil from one end of the cylinder to the other, the cylinder restricts the movement of the belt tension arm, controlling the belt tension, and thus the density of the bale (see figure 19.1).

- The pressure gauge on the front of the baler registers the density system pressure (see figure 19.3)
- Raise the tailgate to the top of its travel. The tension arm will be pulled up the same as if a bale were forming. Read the density system pressure.
- Turning the density valve knob clockwise increases the restriction to oil flow, with a corresponding increase of bale density (see figure 19.2).
- Turning the valve counterclockwise reduces flow restriction, along with bale density.

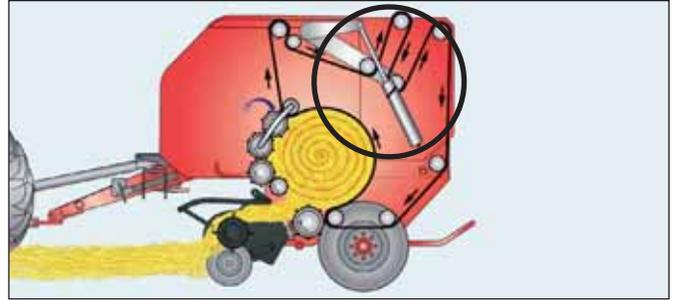


Figure 19.1



Figure 19.2



Figure 19.3

Density Setting Recommendations

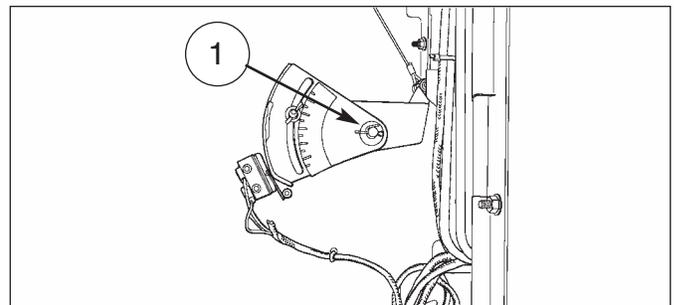
	ALFALFA	GRASS HAY	STRAW	SILAGE
RBX453	110 - 152 Bar	110 - 172 Bar	83 - 138 Bar	103 - 158 Bar
	1600 - 2200 PSI	1600 - 2500 PSI	1200 - 2000 PSI	1500 - 2300 PSI
RBX463	110 - 152 Bar	110 - 172 Bar	83 - 138 Bar	103 - 158 Bar
	1600 - 2200 PSI	1600 - 2500 PSI	1200 - 2000 PSI	1500 - 2300 PSI
RBX553	90 - 138 Bar	90 - 138 Bar	69 - 110 Bar	
	1300 - 2000 PSI	1300 - 2000 PSI	1000 - 1600 PSI	
RBX563	90 - 138 Bar	90 - 138 Bar	69 - 110 Bar	
	1300 - 2000 PSI	1300 - 2000 PSI	1000 - 1600 PSI	

Table 19.1

Bale Size

Bale size is adjusted in either of two ways:

- Balers with Electric-Controlled Twine Wrap System—to change the size of the bale when the “Full Bale” alarm is sounded, the cam on the full bale switch is adjusted to obtain the desired bale size (see figure 19.4).
- Balers equipped with Electronic Auto-Controlled Twine/Mesh Wrap System—set bale size electronically using the baler monitor



1. Bale Size Adjustment

Figure 19.4

MAINTENANCE

Daily Lubrication

The RBX baler is provided with grease fittings to lubricate bearings in the various drives. Some are lubricated by tubes leading from grease banks to remote grease points. Until the operator is familiar with the location of all grease and lubrication points, it is advisable to use the Operator's Manual as a guide to assure complete lubrication service.



Lubricate Daily with Grease

- 1 Twine Tube Pivots
- 2 Front PTO Driveline U-joint and Shields
- 3 Belt Drive Declutch RBX463/RBX563*
- 4 LH Sledge Pivot
- 5 Driveshaft Bearing
- 6 LH Rotor Shaft

* Grease Bank

Lubricate Daily with SAE 10W-30 Engine Oil

- 7 Wide Pickup LH Chain Case
- 8 Pickup Jackshaft Drive Chain (Rotor)
- 9 Pickup Drive Chain
- 10 Floor Roll Drive Chain
- 11 Starter Roll Drive Chain
- 12 Stationary Dimpled Roll Drive Chain
- 13 Belts Drive Chain



Lubricate Daily with Grease

- 1 RH Rotor Shaft*
- 2 RH Duckbill Pivot
- 3 Equal Angle Ball and Plate
(16-20 pumps)
- 4 RH Sledge Pivot

* Grease Bank

Lubricate Daily with SAE 10W-30 Engine Oil

- 5 Wide Pickup RH Chain Case
- 6 RH Sledge Roll Drive Chain
- 7 Rotor Drive Chain

MAINTENANCE

Maintenance

Scheduled maintenance is an essential part of keeping your RBX Baler working at top performance, with the highest level of reliability and minimal downtime.

We know it can be very easy to sidestep the time necessary for some routine maintenance. The people who designed your baler have taken your hectic schedule into consideration and have included convenient features to save time. Operators must still make some time to assure all necessary maintenance is performed in a timely and conscientious manner.

In addition to prioritizing the time necessary to perform normal maintenance operations, using top quality Case IH replacement parts and lubricants will go far in assuring your efforts to will be rewarded with trouble-free and productive baling.

Cleaning the Baler

Prior to performing regular inspections, adjustments and lubrication, the baler should be cleaned following use. This is especially critical if the baler is stored outdoors where it is exposed to rain and high moisture. Using the time while cleaning to visually check the unit is a good way to perform a basic baler inspection.

Compressed air is most effective for removing chaff and debris from the many cracks, crevices and corners on the baler. Another highly effective, and very portable option, is the high velocity, high volume air blast from a gas- or electric-powered leaf blower. Remember to wear eye protection any time air is used to clean the baler.

Do not use water to clean the baler. Any debris that inadvertently remains after cleaning, but is soaked with water, may become the source of accelerated rust and corrosion damage.

Use the following maintenance guide (see table 23.1) as a reference of prescribed service points and intervals. This guide is part of the baler Operator's Manual.

Close the tailgate lock valve prior to performing any work requiring the tailgate to be opened (see figure 22.1). Unless performing service on rotor-cutter knives, make sure knives are retracted when working in the feeder or bale chamber area.



Figure 22.1

Under normal operating conditions, follow this maintenance schedule. Under extreme conditions, perform service more frequently.

SERVICE ITEM	MAXIMUM HOURLY INTERVAL		
	8/DAY	50/WEEK	1000/YEAR
8 Hour lubrication	X		
Inspect and tighten hardware		X	
Check drive chains for proper adjustment		X	
50 hour lubrication		X	
Check for failing bearings (heat)		X	
Inspect pickup tines		X	
Inspect the belts and lacing		X	
Check roll scraper adjustment		X	
Torque tailgate belt adjusting roll bolts (Middle tailgate idler roll)		X	
Inspect pickup cam bearings		X	
Check tire pressure		X	
1000 hour lubrication			X
Change gearbox oil			X
Check hydraulic belt tension fluid level			X

Table 23.1

Roller Chains

Numerous roller chains are used on RBX balers. (See table 24.1) for quick reference to each chain, type of adjustment and adjustment specifications.

- RBX balers can be equipped with an optional roller chain oiler system (see figure 23.1). The oil pump dispenses oil through tubes to small manifolds, then through small tubes and brushes to the chains.
- The oil is dispensed onto the exposed chains, and therefore occasionally will be thrown off into the environment. Use a biodegradable oil to prevent contamination and pollution.
- Pump damage may occur if the system is allowed to run dry
- It is generally accepted that if roller chains are oiled once, they must then be oiled regularly to continually flush contaminants from the internal bearing areas of the chain.



Figure 23.1

CHAIN LOCATION	TYPE OF ADJUSTMENT	SPEC. DEFLECTION	SPEC. SPRING ADJUSTMENT
Starter Roll Drive Chain	Spring-loaded idler		7- $\frac{3}{8}$ "
Stationary dimpled roll drive chain	Spring-loaded idler		7- $\frac{3}{8}$ "
Floor roll drive chain	Spring-loaded idler		7- $\frac{3}{8}$ "
Sledge roll drive chain	Spring-loaded idler		2- $\frac{1}{2}$ "
Belt drive roll drive chain	Spring-loaded idler		14- $\frac{3}{4}$ "
Wide pickup drive chain	Spring-loaded idler		5- $\frac{1}{8}$ "
Wide pickup left drive chain	Solid idler	$\frac{3}{16}$ "- $\frac{3}{4}$ "	
Wide pickup right drive chain	Solid idler	$\frac{3}{16}$ "- $\frac{3}{4}$ "	
Standard pickup drive chain	Solid tightener	$\frac{3}{16}$ "- $\frac{3}{4}$ "	
CROP CUTTER BALERS			
LH Jackshaft drive idler	Spring-loaded idler	0- $\frac{5}{8}$ "	
RH Jackshaft drive idler	Spring-loaded idler	0- $\frac{5}{8}$ "	
Pickup drive idler	Spring-loaded idler	0- $\frac{5}{8}$ "	
Rotor pickup drive chain	Spring-loaded idler		4- $\frac{3}{4}$ "

Table 24.1

Gearbox

- The main gearbox has a level check dipstick. SAE 80W90 lubricant is used for replenishment. Check weekly, or every 50 hours of operation.

Bale Density and Belt Tension

The bale density system is a sealed and self-contained hydraulic system. A hose connected to a tractor remote hydraulic circuit is used to charge the density control cylinder. The complete procedure is explained in the Operator's Manual.

The tension must be removed from the baler belts before performing service on the belts and rollers.

- Tailgate is opened until the lock pin is below the tension arm
- Pull down and rotate the handle, moving the pin into position under the tension arm
- Lower the tailgate until the pin is holding the tension. The belts will continue to loosen as the tailgate is lowered
- Close the tailgate lock valve before working under or near the tailgate

Belts

Belts and lacing should be inspected weekly (see figure 24.1).

- Check belts for wear or damage
- Check lacing cables for excessive wear or breakage
- Follow instructions for belt repair and installation



Figure 24.1

Belt Operation

- Observe belt tracking during operation. Belts will normally shift as the bale is formed
- Contact with belt guides is normal, but belts should not curl against guides or flip over
- Rollers can be shifted to change belt tension across the baler, altering tracking characteristics of the belts
- Belt slippage at core start can be corrected by increasing density spring tension. Additional tension can be added by re-positioning upper rear tailgate roller.
- Belt slippage at full bale can be reduced with infeed disc kit to reduce friction between bale and baler sides
- Inspect rollers for material debris that can affect belt tracking and tension

Rotor-cutter

Rotor-cutter knives must be kept sharp to maintain optimal crop cutting performance.

- Dull knives adversely affect the quality of cutting, and baler capacity
- Cutting with dull knives increases horsepower requirements and fuel consumption
- Spare knife set allows the baler cutter to be serviced quickly with minimal downtime
- Standard and hard-surfaced knives can be sharpened with a powered grinder
- Clamp knives with the serrated front edge of the knife down. Grind on the flat, back side of the knife. Hard-surfaced knives can be sharpened only on the back side.

Driveline Protection

Shear bolts are the most simple form of driveline protection. When a shear bolt is overloaded and fails, all or a portion of the baler stops functioning.

- The pickup on RBX453 rotor-cutter equipped balers is protected by a shear bolt
- Stop the tractor, and inspect the baler to determine the reason for the shear bolt failure
- If sufficient free movement is not available in the tractor PTO or baler driveline to align the shear bolt holes, it may be necessary to remove the PTO shaft to gain sufficient rotation

Slip clutches offer protection to components that may be momentarily overloaded. Often, a clutch may slip without the operator being aware of the condition, as the overload passes and the machine continues to function normally. Slip clutches are friction disc type clutches.

- Slip clutches are used on the PTO driveline on all models, except the RBX453 Standard or Silage Models with rotor-cutter. Torque specifications vary between models

Other slip clutch applications on RBX balers:

- Sledge drive
- Standard (non-rotor-cutter) pickup
- Specifications vary for the different clutches on the baler. The Operator's Manual should be consulted if clutches do not function correctly, and require service or adjustment.

Jaw-type slip clutch

- Used on wide pickup, stuffer equipped balers

Clutch Burnishing

- Slip clutch discs may stick when the baler has been in storage. The clutch may not slip as designed, hindering the protective effect of the clutch.
- Burnishing is a way of polishing the clutch components to relieve sticking, assuring proper clutch function
- Basic procedure is to reduce the clutch spring pressure, and block the output from turning. Slowly engaging the PTO allows the clutch to slip momentarily, relieving any seizure and wearing away contamination that may prevent the clutch from performing as designed.
- Reset the clutch pressure springs as specified in the Operator's Manual, in reference to the specific slip clutch
- It is highly recommended that this procedure be included in your dealer's pre-season maintenance inspection

The rotor-cutter drive is protected by a cut-out type torque-limiting clutch. The cut-out clutch is designed to disengage at a pre-set torque limit.

- The cut-out clutch interrupts power, but does not re-set until the PTO is turned off, and the machine coasts to a stop. The clutch automatically re-sets.
- Clear the obstruction or crop accumulation that caused the torque overload before attempting to re-start the PTO
- No service, maintenance or adjustment is required for the cut-out clutch. Refer clutch repairs to your authorized dealer.

An apron belt drive clutch is also used on RBX463 and RBX563 balers. The clutch stops the belts when the tailgate is opened. See the Operator's Manual if adjustment is required to stop the belts at approximately 36" of tailgate opening.

Twine and Net Knives

Twine and net cutting knives must be sharpened periodically to maintain clean material cutoff.

- Twine knives can be removed and file sharpened. Be sure to keep the cutting surface straight and retain the original bevel.
- Net knives can be removed and file sharpened. Be sure to keep the cutting surface straight and retain the original bevel. Be sure to install the knife and comb properly. Install the comb first, followed by the knife with the sharp knife edge installed against the comb.

BALE QUALITY OR BALING CONDITION	SYMPTOM	SUGGESTED ACTION
Core Formation	Uneven or unstable core, difficulty forming core	<ul style="list-style-type: none"> • Reduce PTO speed or feed rate • Stop PTO if crop is not being fed into baler • Revise windrow size and shape • Adjust belt tension arm spring tension
Bale Size	Bale is not the desired size	<p>Electric-Controlled Twine Wrap System</p> <ul style="list-style-type: none"> • Change bale size adjustment cam • Actual bale diameter does not match monitor setting. Calibrate Full Bale Switch in the Electronic-Controlled Twine Wrap System. See Operator's Manual for monitor setup.
Bale shape	Bale is cone-shaped	<ul style="list-style-type: none"> • Baler fed unevenly, too much crop fed to one side of the baler. Watch bale shape indicators and use care to fill baler evenly side-to-side when baling narrow windrows. • Make windrows slightly wider than the bale chamber. (Excessive windrow width may cause pickup augers to plug)
	Bale is barrel-shaped	<ul style="list-style-type: none"> • Baler fed unevenly, too much crop fed into the center of the baler. Medium-sized windrows overfill center of the bale • Make windrows slightly wider than the bale chamber
	Bale is hourglass-shaped	<ul style="list-style-type: none"> • Baler fed unevenly, too much crop fed into the edges of the baler. Watch bale shape indicators and use care to use weave pattern that distributes crop to center of baler as well as the edges. • Make windrows slightly wider than the bale chamber • Incorrectly adjusted V-rake leaving void in the center of the windrow
	Actual shape of bale does not match bale shape indicators	<ul style="list-style-type: none"> • Debris accumulation in bale shape sensor linkage preventing free movement of sensor and accurate shape indication • Bale shape sensors require adjustment • Bale shape sensors require calibration
	Bale is too tight/dense	<ul style="list-style-type: none"> • Reduce pressure in bale density hydraulic system • Increase ground speed and feed rate
	Bale is loose	<ul style="list-style-type: none"> • Increase pressure in bale density hydraulic system • Decrease ground speed and feed rate
Tailgate	Tailgate moves slowly	<ul style="list-style-type: none"> • Inadequate baler hydraulic flow
	Tailgate latches to not lock	<ul style="list-style-type: none"> • Debris or crop material in latches • Inadequate baler hydraulic pressure
Bale Ejection	Bales do not eject properly	<ul style="list-style-type: none"> • Excessive crop moisture • Bales too dense • Tailgate movement too slow, hydraulic system malfunction or inadequate flow • Add infeed disk kit if not already installed
	Ejection ramp noisy	<ul style="list-style-type: none"> • Rubber bumpers on ramp return spring rods broken • If optional extra spring kit is installed, light crop bales such as straw may require removal of one or more springs

TROUBLESHOOTING

BALE QUALITY OR BALING CONDITION SYMPTOM		SUGGESTED ACTION
Twine wrapping	Difficulty starting twine feed	<ul style="list-style-type: none"> Excessive twine tension Twine tangled, incorrectly routed or very tight in the center of a new ball In some slick grasses, adjust twine arms to come together no closer than 4" for improved twine pickup Complete bale with windrow at center of pickup allowing crop to pull twine into baler
	Prefer different wrap pattern	Electric-Controlled Twine Wrap System <ul style="list-style-type: none"> Select new twine wrap pattern A revised profile cam is available from service parts that changes twine spacing on the outer 12" of the bale
	Edge twines loose	<ul style="list-style-type: none"> Twine tension loose Bale edges not adequately filled, barrel-shaped bale Insufficient end wraps End wraps too close to edge of bale
	All twines loose	<ul style="list-style-type: none"> Insufficient twine tension
	Twine not cut	<ul style="list-style-type: none"> Insufficient twine tension Dull twine knives Bale too small
Net wrapping	Difficulty starting net feed	<ul style="list-style-type: none"> Debris buildup Net tail too short or not cleanly cut Net tension excessive (brake setting) Net pulls out of duckbill on insertion, duckbill too tight Incorrect net routing Duckbill adjusted in too far, pinching baffle Film-film sticking to itself, tearing or sticking to duckbill or spreader rolls
	Net not spreading across bale	<ul style="list-style-type: none"> Debris buildup in net path Excessive net tension (brake) Outer edges of duckbill baffles too tight ① Net roll not centered Poor bale shape, uneven feeding across bale Spreader roll not rotating freely
	Net loose on bale	<ul style="list-style-type: none"> Insufficient net tension Inadequate wraps, net slipping
	Net not cut	<ul style="list-style-type: none"> Knife dull or incorrectly adjusted Insufficient net tension (brake) Knife force or timing incorrect Duckbill baffles too loose Net roll "knives" slipped in cardboard tube, brake ineffective
	Net damaged after ejection	<ul style="list-style-type: none"> Debris in duckbill Duckbill too tight, net torn moving through duckbill Sharp edges on spreader rolls or net wrapping on rolls Poor quality net Inadequate film or net wraps Slow tailgate movement, bale ejection Sharp edge on floor roll Sharp edge on bale ramp mounting

① The duckbill adjustment can be given a preliminary check by "plucking" the lower baffle with one finger. At the outer edges, the baffles should be loose enough to produce a slight vibrating sound instantly after striking the lower baffle. In the center, the baffles should be slightly tighter, and should be adjusted until the vibration is not detected.

PARTS KITS/ACCESSORIES/ASSEMBLIES



Natural Sisal Twine

- 100% biodegradable
- Consistent knot and tensile strength
- Mildew resistant
- Uniform thickness
- Only the best sisal fibers are used
- Every ball contains exact footage shown on the label

ROUND BALER TWINE			
Ft. per Bale	Knot Strength (lbs.)	Gross Wt. (lbs.)	End Use Application
16,000	180	40	Round Bales

RED WINDER UNTREATED TWINE			
Ft. per Bale	Knot Strength (lbs.)	Gross Wt. (lbs.)	End Use Application
16,000	180	40	Round Silage Bales



Plastic Baling Twine

- Provides maximum strength and ultimate performance
- Will not rot
- Makes tight, uniform bales
- UV stabilized to withstand sunlight exposure
- Plastic twine-wrapped bales can be stored indoors/outdoors
- Diameter of twine is uniform throughout the ball
- Non-toxic to animals

ROUND BALER TWINE (MONOFILAMENT)		
Ft. Per Box	Tensile Strength (lbs.)	End Use Application
16,000	110 Solar Degradable	All Round Bales
20,000	100 Big Ball	All Round Bales
20,000	110 Economy	All Round Bales
20,000	110 High Visibility	All Round Bales
20,000	125 High Visibility	All Round Bales
20,000	140 High Visibility	All Round Bales
28,000	110 High Visibility	All Round Bales

ROUND BALER TWINE (SLIT FILM)		
Ft. Per Box	Tensile Strength (lbs.)	End Use Application
20,000	110	All Round Bales
20,000	125	All Round Bales
20,000	140	All Round Bales
25,000	90	All Round Bales
28,000	110	All Round Bales

PARTS KITS/ACCESSORIES/ASSEMBLIES

WhiteNet™ Mesh Wrap

- Produces tight, smooth bales that are water-resistant
- Covers bale edge-to-edge, thereby reducing spoilage
- Proven to reduce leaf loss, thus maintaining higher hay and forage quality
- Lightweight material is easier to use and more cost effective
- Produces smooth well-shaped bales that are easy to transport and stack

WHITE MESH WRAP			
Width (Inches)	Length (Feet)	Length (Meters)	End Use Application
48	5,000	1,524	Case IH Balers
48	6,200	1,890	8450/8455/RBX452/RBX462/RBX453/RBX463
48	9,840	3,000	8450/8455/RBX452/RBX462/RBX453/RBX463
51*	9,840 MaxWrap	3,000	RBX452/RBX462/RBX453/RBX463
52	9,840	3,000	RS451
64	6,560	2,000	8460/8465/8465A
67*	7,000	2,134	8460/8465/8465A
67*	7,000 MaxWrap	2,134	RBX552/RBX562/RBX553/RBX563
67	6,560	2,000	RBX552/RBX562/RS551/RS561/RS561A

* MaxWrap™ over-the-edge mesh wrap. MaxWrap is a trademark of PGI Polymer Group, Inc.

White Silage Wrap for Round Bales

- Keeps silage virtually free from spoilage
- High-strength white film that is reflective
- UV stabilized to withstand sunlight exposure
- Creates a tight wrap that is weather-resistant
- Resists tears and punctures

WHITE SILAGE WRAP FOR ROUND BALES
20" x 6,000' x 1 mil.
30" x 5,000' x 1 mil.

Black Silage Wrap for Round Bales

- Cost-effective option
- Creates an air-tight tension seal
- Keeps silage virtually free from spoilage
- Resists tears and punctures

BLACK SILAGE WRAP FOR ROUND BALES
20" x 6,000' x 1 mil.
30" x 5,000' x 1 mil.

An improved buffered acid for baling at a higher moisture.

Case IH continues a tradition of leadership with a powerful advancement which will ensure increased hay quality. Thirty Plus™ is a chemically buffered form of propionic acid formulated to inhibit spoilage of your valuable hay crop. Pound-for-pound, it does what straight propionic acid does, yet it's gentle on your baler, with a pH of 6.0 that is as neutral as rainwater. Thirty Plus enables you to maximize the number of acres baled per day at moisture levels up to 30%. It works on all types of hay, including alfalfa, grass, and other crops susceptible to spoilage at higher moistures. Just as important, Thirty Plus maintains the green color and sweet smell of your hay. Make Thirty Plus an essential addition to your hay management plan.



Treated with
CASE IH Thirty Plus
Hay Preservative



Treated with
dry preservative

Use on Large Round Bales

Thirty Plus works well using large round balers. With the added capacity of a round baler, it is important to be set up to apply preservative. While dense core bales can be baled at 18%, loose core round bales are relatively safe to bale without preservative at under 20%. By using Thirty Plus you can bale at up to 30% and be assured of consistent quality throughout the entire round bale.



Case IH RBX Series Round Balers

New Lower 3-Ply Continuous Chevron Baler Belt Design

- Provides the perfect combination of positive yet gentle grip between crop and belts
- Exclusive lower profile Continuous Chevron design moves crop quickly to the baling chamber for fast and efficient bale starts
- Low profile textured surface releases crop during bale formation for minimal leaf loss
- Features a self cleaning design for constant performance in the most difficult conditions
- High strength polyester/nylon construction provides the ideal combination of working tension, elongation (under load), and faster retention
- 3-Ply Low Profile Continuous Chevron Endless belts are also available for most RBX models. Case IH belts are truly endless with the highest tension rating in the industry.

Standards a Cut Above the Competition



*New Lower Profile 3-Ply
Continuous Chevron Design*



*Regular Profile 3-Ply
Continuous Chevron Design*

Automated Lubrication System for RBX2/3 Series Balers



The Quicklub® Advantage

Through Lincoln's unique Quicklub system, small, measured amounts of grease are delivered to each bearing at specific time intervals (every 10 minutes) while the equipment is operating. This method produces a grease seal around each bearing....this acts as a barrier to keep contamination out. Wear surfaces are lubricated dynamically during operation while the critical components are in motion.

Benefits From Automatic Lubrication

- Gain 30 to 45 minutes a day of increased productivity by lubricating "on the fly"
- Improve bearing life by delivering frequent, smaller amounts of grease
- Lower maintenance costs by eliminating daily lubrication and reducing repairs
- Proper lubrication no matter the environment or weather conditions
- Increased resale value of equipment

Quicklube is a registered trademark of Lincoln Industrial Corp.

Lincoln PowerLuber®



Powerluber is a registered trademark of Lincoln Industrial Corp.

Lincoln's new, heavy-duty 14.4 volt PowerLuber gives you the power to lubricate just about anything, anytime, anywhere.

- Two-speed switch for high-pressure or high-volume delivery
- Cycle indicator pin to monitor grease output
- "Smart" charging system delivers reliable power

All the features you need, including comfortable grip and balanced design; hook for shoulder strap; built-in hose and coupler holder; and a slim, compact carrying case.

Model 1442 - Part No. 87298560 - one battery

Model 1444 - Part No. 87298561 - two batteries

Case IH LubeMinder® Automatic Chain Lubrication System



LubeMinder is a registered Trademark of Suburban MFG.

Keep all your baler chains running cool and lubricated automatically every time you activate the tailgate.

- Easy installation
- Fully adjustable flow
- Increases productivity
- Up to 300% increase in chain and sprocket life

Kit No. B96494 contains the LubeMinder® pump and enough brushes to lubricate all 7 chains found on the RBX 2/3 Series Balers. Installation is easy, taking only a few hours when done by your dealer.

Moisture Testers – Hay

DHT-1 Portable Hay Tester

Features

- Direct readout for % moisture and temperature (°F std.–°C opt.)
- Separate electronics module from probe
- Extra-rugged probe shaft made from aircraft aluminum
- Sturdy pistol-grip handle
- 3 Models available: 18" (std.), 24" and 32" probe lengths
- Padded carrying case included



Part No. **B500818** (18")
B505229 (24")
B505228 (32")

Specifications

- Accurate throughout the normal range of stored, baled Alfalfa, Timothy and Clover Hay
- Testing range: 14.4%–44% moisture, 33°–250°F temperature
- 1 year warranty

Accessories

Probe Only: B500819 (18"), B505230 (24"), B500820 (32")

HMT-2 Portable Hay Tester

Features

- Expanded **low moisture range down to 8%**
- Backlit display for night use
- Built-in calibration button
- Extra-rugged 20" probe for testing square or round bales
- Direct readout for % moisture and temperature (°F/°C)
- Above and below moisture limit indication



Part No. **B505453**

Specifications

- Accurate throughout the normal range of stored, baled Alfalfa, Timothy and Clover Hay
- Testing range: 8%–44% moisture, 32°–225°F (0°–107°C) temperature
- 1 year warranty

HMT-3 Portable Hay Tester

Features

- Direct readout of temperature in °F/°C
- Multi-language
- Adjustable for: Density of bale, Hay cutting, Hay type
- Displays running average
- Backlit display for night use
- Sturdy pistol grip handle
- Extra-rugged 18" probe
- Includes a 3" x 36 yd. roll of white baleage wrap patch tape reorder - Part No. B94847



Part No. **B94846**

Specifications

- Testing range: 35%–75% moisture
- 1 year warranty

BHT-1 Baler Mounted Hay Tester

Features

- Direct readout for % moisture – while baling hay
- Average of readings updated and displayed every 3 to 5 seconds
- Backlit display for night use
- Built-in calibration button
- Above and below moisture limit indicator
- Sturdy display module mounting bracket with adjusting knobs
- Includes sensor kit
- Long-lasting sensor pad and stainless steel hardware
- Fits square or round balers



Part No. **B505454**

Specifications

- Testing range: 8%–44% moisture
- 1 year warranty

Accessories

Sensor Pad Kit (B505533)

- Sensor pad and bolts

Extension Sensor Cable (B505459)

- 10' cable
- Weather-proof connectors

Complete Sensor Kit (B505460)

- Sensor pad and bolts
- 25' sensor cable
- Display module mounting bracket
- 8' power cable



Part No. **B505533**



Part No. **B50495**

Case IH dealers are the standard for expert sales, service and support of the most technologically advanced equipment in the world. They're committed to understanding your business and providing unique solutions to maximize your productivity.

From tractors to implements that meet the specific needs of your operation, Case IH dealers offer a complete agricultural system aimed at increasing your productivity and profitability. Coupled with timely parts and service, and flexible financial solutions through CNH Capital, Case IH dealers provide a total package to ensure you're always performing at your best.

But most importantly, Case IH dealers offer planning for the long-term growth of your business. By staying at the forefront of agronomic issues and the cutting edge of technology, they help prepare you for tomorrow.

Whatever it takes, Case IH dealers are dedicated to helping your operation achieve success season after season. Visit your Case IH dealer today to see the advantages of worldwide leadership.

CNH Capital
LENDING | LEASING | CREDIT CARDS | INSURANCE



SEE YOUR LOCAL CASE IH DEALER

 **Safety Never Hurts!**TM Always read the Operator's Manual before operating any equipment. Inspect equipment before using it, and be sure it is operating properly. Follow the product safety signs, and use any safety features provided.

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FOR THOSE WHO DEMAND MORE[™]