

Operation Manual

030-4670A

Touch Screen Display (TSD) for 400 Series



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Introduction

Thank you for purchasing a Harvest Tec Model 4670A Touch Screen Display (TSD). The TSD connects to the 400 series Hay Preservative Applicator System.

The 400 series Hay Preservative Applicator System is designed to apply buffered propionic acid to the forage crop as it is baled. The 400 series applicator will adjust the rate of application based on moisture and tonnage of the crop being harvested. This manual will take you through the steps of operation for the applicator and also point out safety precautions to follow while using the applicator. Please read this manual carefully to learn how to operate the equipment correctly. Failure to do this can result in personal injury or equipment malfunction. If you are unsure about operating the system after consulting this manual, contact your local authorized dealership for additional assistance. If you are in need of parts for the system please see your Installation Manual and contact your local authorized dealer to order the parts. This applicator is designed to apply Harvest Tec buffered propionic acid.

Safety

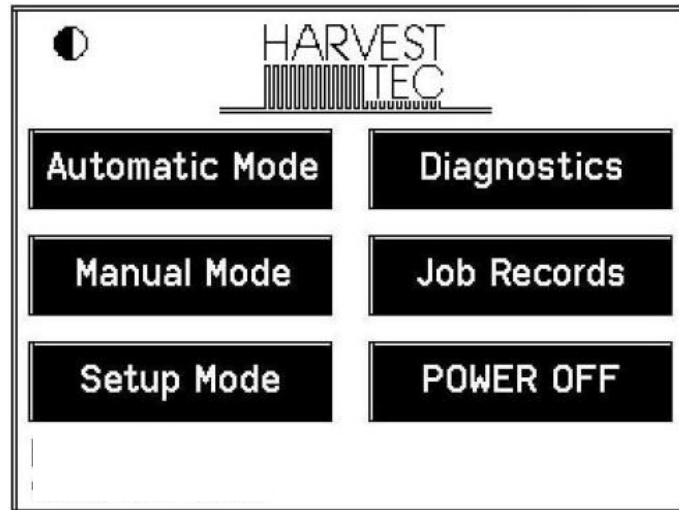
Keep signs clean and visible. Replace missing or damaged safety signs. Replacement signs are available from your local authorized dealer. See your installation manual under the replacement parts section for the correct part numbers.

Keep your applicator in proper working condition. Unauthorized modifications to the applicator may impair the function and/or safety of the machine.

Carefully read and understand all of the baler safety signs before installing or servicing the baler. Always use the supplied safety equipment on the baler to service the applicator.

Description of Screens & Menus of the Harvest Tec Touch Screen Display (TSD)

This system is calibrated for use with Harvest Tec buffered propionic acid. The use of other products can cause application problems and damage to system components. The TSD monitor will allow you to set your bale size, weight, single bale formation time, moisture levels and application rates. The automatic mode will automatically adjust the application rates as the moisture level changes. Manual mode will allow you to control the application rates on the go.



Automatic Mode - Automatically adjusts preservative application as you bale. The following items are displayed in the mode while baling: Moisture, Baling Rate, Application Rate (actual and target), Last Bale Average Moisture, Tons Baled, and Pounds of Product Used.

Manual Model - Allows the three different pumps to be turned on at a fixed rate as you bale. The following items are displayed in the mode while baling: Moisture, Baling Rate, Application Rate (actual only), Last Bale Average Moisture, Tons Baled, and Pounds of Product Used. This mode can also be used to prime the pumps.

Setup Mode - Allows the operator to customize the applicators settings for their baler and baling needs. This mode allows changes to be made to the following areas: Application Rate, Baling Rate, Language, US or Metric units, and turn on/off the optional Hay Indicators.

Diagnostics - Allows operator to set date and time and calibrate the touch screen. The installed software versions can also be viewed here.

Job Records - Keeps track of up to 63 plus jobs with total product used, average moisture content, highest moisture content, tons baled, date of baling, and total number of bales made. Individual bales are also able to be viewed and the records can also be downloaded to a USB drive in this mode.

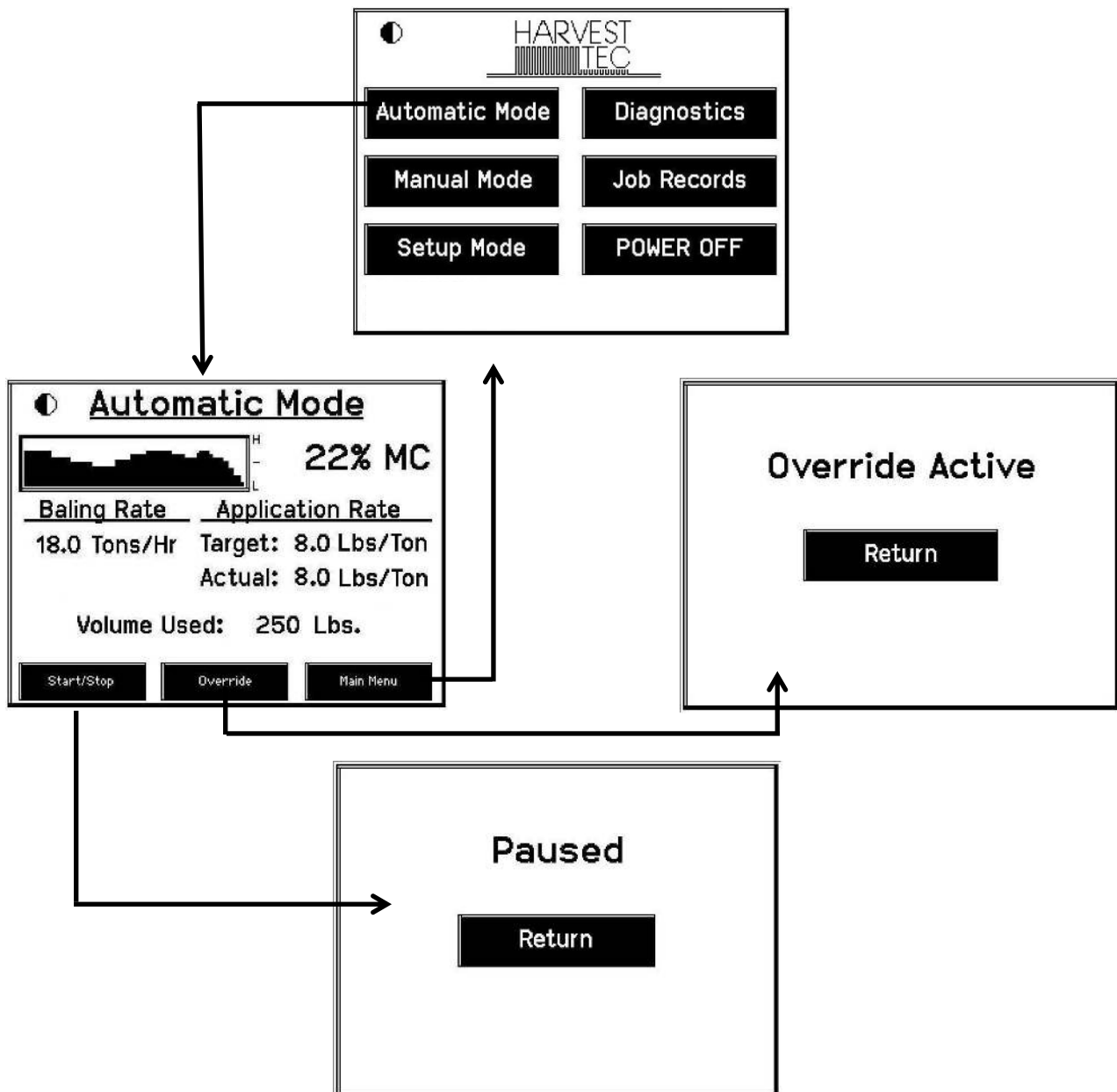
Power Off - Will power down the display only. The application unit will not fully power down unless the keyed power is turned off. Press anywhere on the screen to power back on (with the key on).

To view a complete Wiring Diagram and Pin Outs, refer to your Installation or Operation Manual.

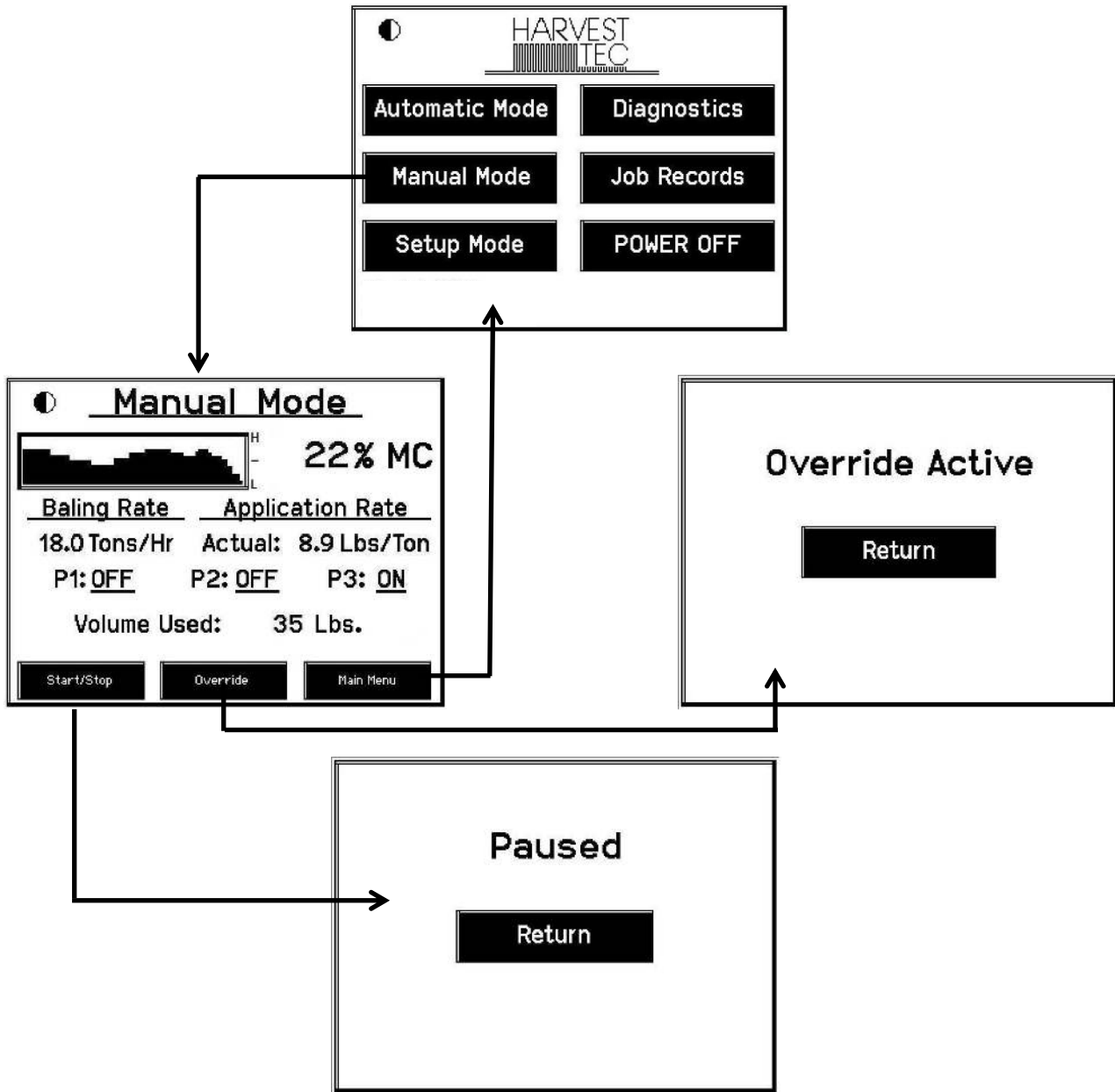
Screen Menus

Use the below listed screen menus to navigate through all of the operation screens.


Automatic Mode:



Manual Mode:



Setup Mode:


Automatic Mode **Diagnostics**
Manual Mode **Job Records**
Setup Mode **POWER OFF**

Setup Mode

Application Rate **Baling Rate**
 Select: Moisture Content, Application Rate, Alarm, Tip Set Select: Bale Weight, Time per Bale
Options

Main Menu

Setup Application Rate

% MC: L1: 16 L2: 22 L3: 26
 Rate: L1: 04 L2: 08 L3: 16
 Alarm: 30
 Tip Output: LOW

Back **Main Menu**

Bale Rate Settings

AVG Bale Weight (Lbs): 1500 Min: 200 Max: 3000
 Time Per Bale (Sec): 60 Min: 20 Max: 300

Back **Main Menu**

Round Balers

Bale Rate Settings

AVG Bale Weight (Lbs): 100 Min: 30 Max: 260
 AVG Bale Length (In): 36 Min: 12 Max: 60
 Time Per Bale (Sec): 10 Min: 4 Max: 60
 Bale Rate Sensors: ON

Back **Main Menu**

Small Square Balers

Tip Confirmation

Please confirm that the spray tips are correct for the output level selected.

High Output Level:

| Pump | Tip | Tip Color | Qty |
|-----------|-----------|-----------|-----|
| 1 outside | 650050-PT | White | 2 |
| center | XR11001US | Orange | 1 |
| 2 | XR11003VS | Blue | 1 |
| 3 | XR11006VS | Grey | 1 |

Low Output Level:

| Pump | Tip | Tip Color | Qty |
|------|------------|-----------|-----|
| 1 | 650033-SS | Stainless | 3 |
| 2 | XR110015US | Green | 1 |
| 3 | XR11004US | Red | 1 |

OK

Round Balers

Tip Confirmation

Please confirm that the spray tips are correct for the output level selected.

High (Three-Tie) Output Level:

| Pump | Tip | Tip Color |
|------|------------|-----------|
| 1 | 650050-PT | White |
| 2 | XR110015US | Green |
| 3 | XR11004US | Red |

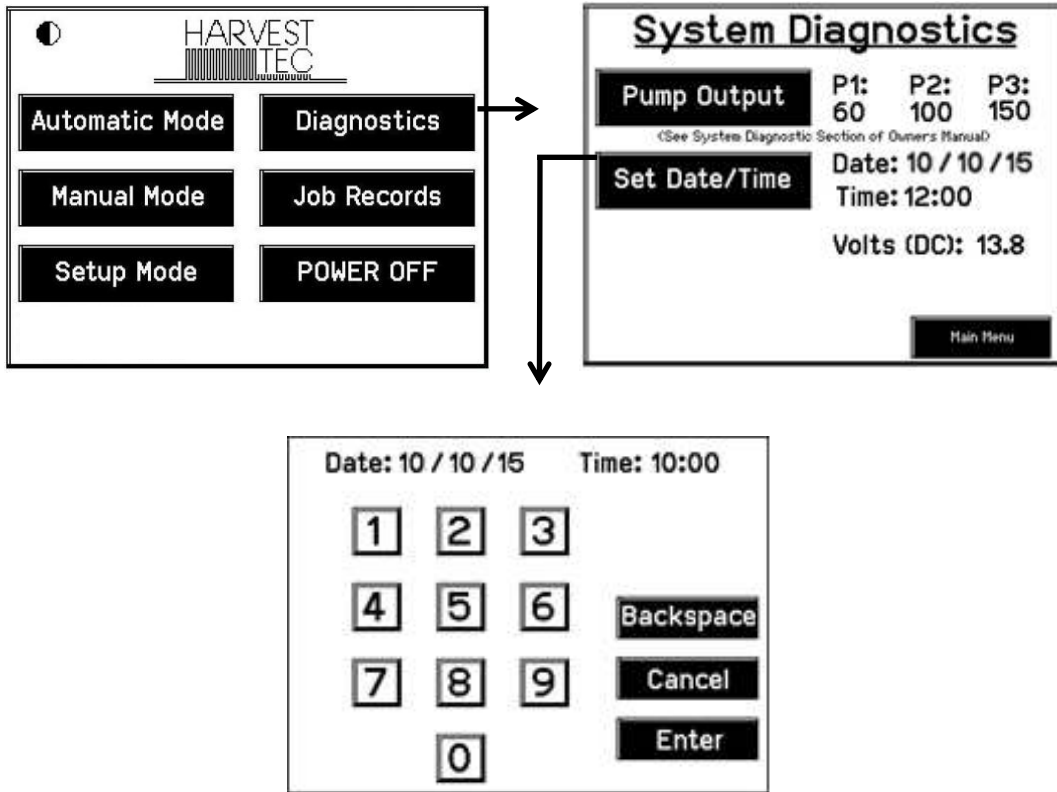
Low (Two-Tie) Output Level:

| Pump | Tip | Tip Color |
|------|------------|-----------|
| 1 | 650033-SS | Stainless |
| 2 | XR110015US | Green |
| 3 | XR11003VS | Blue |

OK

Small Square Balers

Diagnostics:



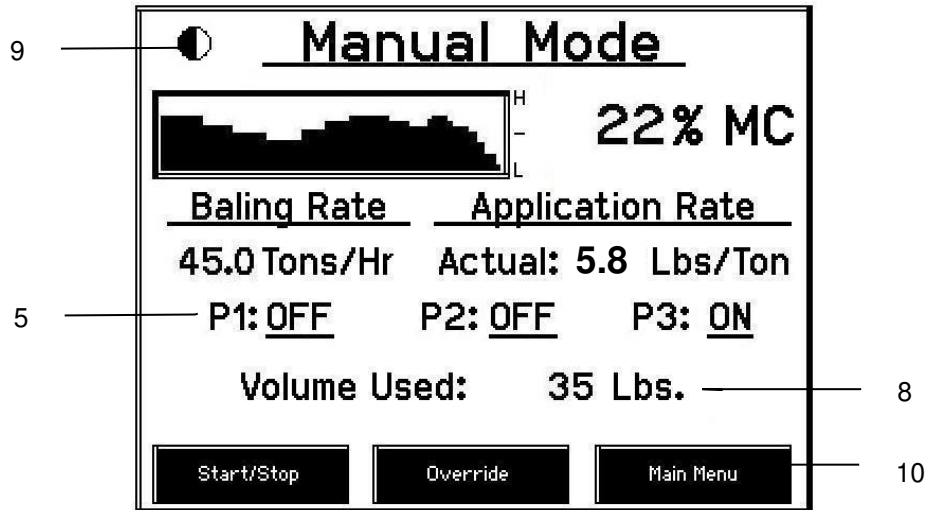
Job Records:



First Time and Annual Start Up Instructions

Checking and Priming the Pumps

1. Put 10 gal of water in tank and turn main ball valve on.
2. Inspect for any leaks or drips at this time. If any are found tighten or replace area or fitting.
3. **Turn controller on** (push anywhere on the right side of screen followed by the press to start key).
4. Press the MANUAL MODE key and the screen below will appear.



Note: The system comes with the high tips already installed on the spray shield or nozzle tubes. Test the system with the tips you will use most often. See the charts below for pump outputs.

Round Balers

| Pump | Low Tips Output (Lbs / Ton) | High Tips Output (Lbs / Ton) |
|------|--------------------------------|---------------------------------|
| 1 | 0.7 – 1.2 | 1.3 – 1.9 |
| 2 | 1.7 – 2.4 | 2.6 – 3.6 |
| 3 | 2.5 – 3.5 | 4.9 – 6.8 |

Small Square Balers

| Pump | Low Tips Output (Lbs / Ton) | High Tips Output (Lbs / Ton) |
|------|--------------------------------|---------------------------------|
| 1 | 1.2 – 1.6 | 1.8 – 2.6 |
| 2 | 3.6 – 5.0 | 3.6 – 5.0 |
| 3 | 6.7 – 9.3 | 9.5 – 13.4 |

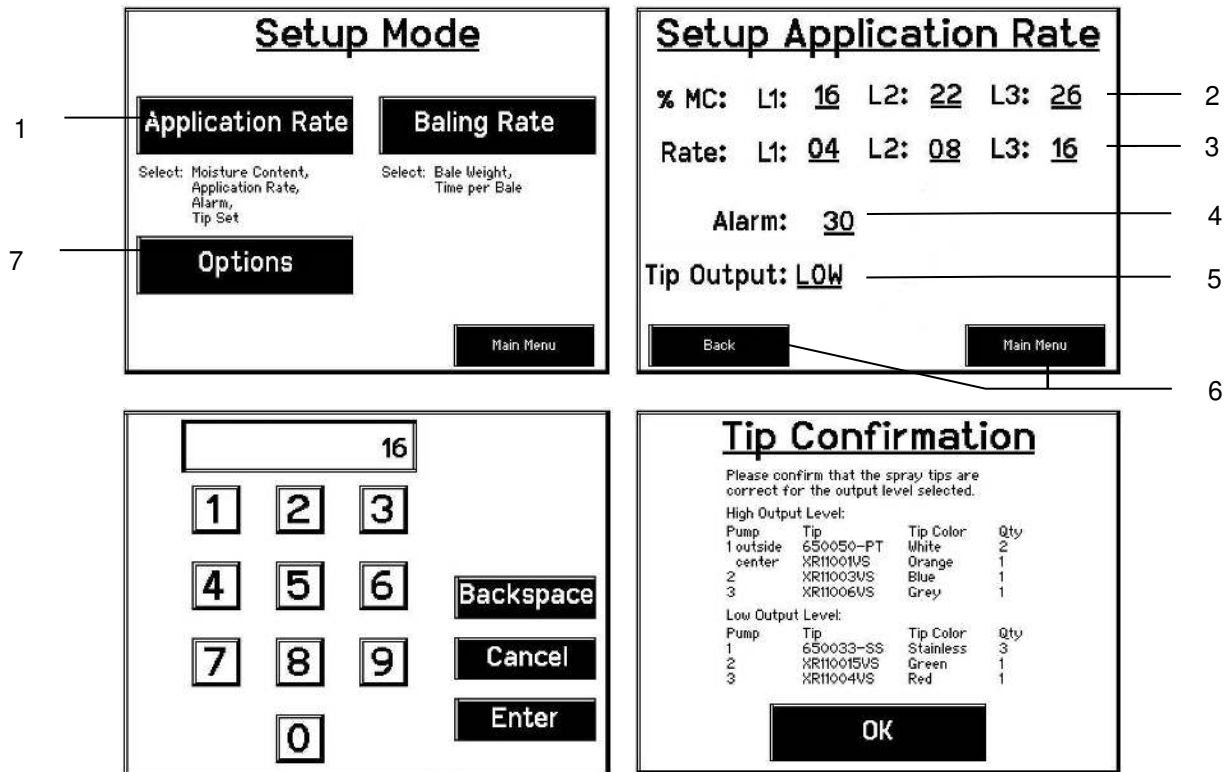
5. Turn pump 1 on (P1). To do this press the underlined area on the screen which says OFF. The line will now read ON. Repeat the process for pumps 2 and 3 (P2 and P3).
6. This process will also be used to prime the pumps whenever needed.
7. While running pumps check for a good spray pattern out of the respective tips and verify that no parts of the system are leaking.
8. While doing these tests the Volume Used on the bottom of the screen should be counting up, this verifies that the flow meter is functioning.
9. This button is your contrast control. Press this button to darken the screen. When the screen reaches its darkest point, when the button is next depressed it will return to lightest setting.
10. Press the MAIN MENU key to return to the initial startup screen.

Setting Up the System for Initial Use

In this mode you will setup your initial application rate and baling rate.

Application Rate

After pushing the SETUP MODE key in the Main Menu screen, the top left screen should appear:

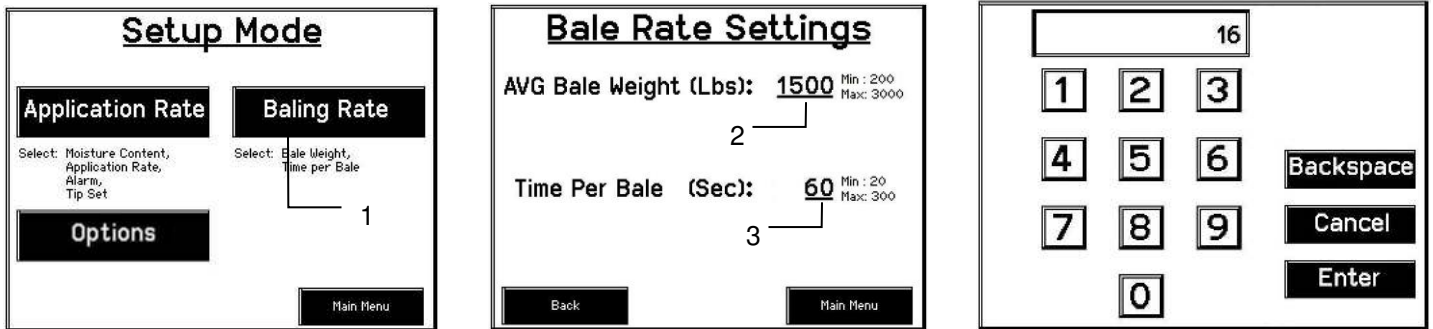


1. On this screen the operator will press the APPLICATION RATE key. Once pressed the SETUP APPLICATION RATE screen will be shown. (Top right picture)
2. Press any of the underlined numbers to the right of %MC to adjust their figures. The key pad shown on the bottom left will display. Remember level 1 must be lower than level 2 and level 2 must be lower than level 3. Harvest Tec products recommend set points of 16, 22, and 26 % MC levels. These are preset from the factory. Press ENTER to return to previous screen.
3. To change rate of chemical application, press any of the underlined numbers to the right of RATE: The key pad shown on the bottom left will display. Remember level 1 must be lower than level 2 and level 2 must be lower than level 3. Harvest Tec products recommend rates of 4, 8, and 16 lbs/ton. These rates are preset from the factory. Press ENTER to return to previous screen. **IT IS THE OPERATORS RESPONSIBILITY TO FOLLOW THE RECOMMENDATIONS OF THE PRESERVATIVE. ONLY THE OPERATOR CAN APPLY THE PROPER RATE.**
4. To set the alarm press on the underlined area and set the level at which you want the alarm to activate. To turn the alarm off, set level above 50.
5. Press the underlined area next to Tip Output to cycle between the high and low sets of tips.
6. Next press the BACK key found on the bottom left hand figure of the screen to return to SETUP MODE screen or press MAIN MENU key on bottom right hand figure of the screen to return to opening screen.
7. Press OPTIONS to adjust the unit between metric and standard units.

Baling Rate Settings

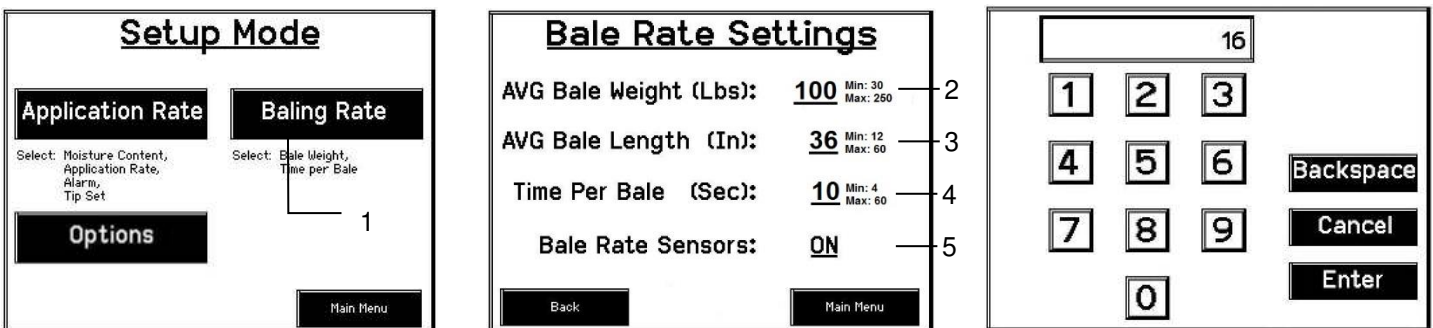
After pushing the SETUP MODE key in the Main Menu screen, the left screen will appear:

Round Balers



1. On the SETUP MODE screen the operator will press the BALING RATE key.
2. Press the underlined number to the right of AVG Bale Weight (Lbs): to adjust the weight of your bales. The key pad shown on the right side will display. Press any number combination in this screen within the min/max limits. Press the ENTER key to save this information.
3. Press the underlined number to the right of Time Per Bale (Sec): to adjust the time it takes to make a bale. The key pad shown on the right side will display. Press any number combination in this screen within the min/max limits. Press the ENTER key to save this information.

Small Square Balers



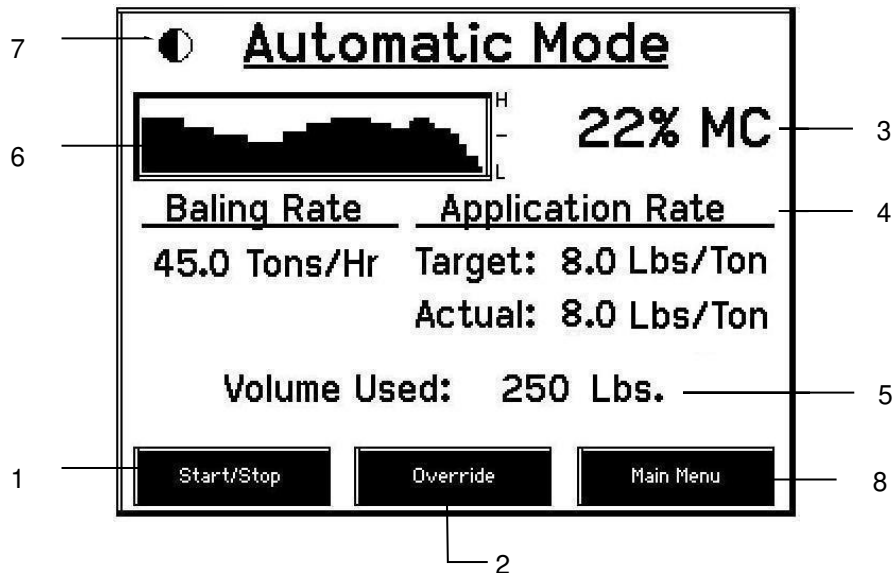
1. On the SETUP MODE screen the operator will press the BALING RATE key.
2. Press the underlined number to the right of AVG Bale Weight (Lbs): to adjust the weight of your bales. The key pad shown on the right side will display. Press any number combination in this screen within the min/max limits. Press the ENTER key to save this information.
3. Press the underlined number to the right of AVG Bale Length (In): to adjust the length of your bales. The key pad shown on the right side will display. Press any number combination in this screen within the min/max limits. Press the ENTER key to save this information.
4. Press the underlined number to the right of Time Per Bale (Sec): to adjust the time it takes to make a bale. The key pad shown on the right side will display. Press any number combination in this screen within the min/max limits. Press the ENTER key to save this information.
5. If the unit will be run with the bale rate sensors on, then the bale weight and length will need to be inputted. When the sensors are: on, the applicator will calculate your tons per hour. When the Sensors are: off a constant tons per hour (your inputted bale weight and time) will be used. Press the underlined word to toggle between on or off.

Operating Instructions

Auto mode will automatically apply product based on hay moisture content sensed by the moisture sensors and the operator's presets. See SETTING UP SYSTEM FOR INITIAL USE to change any of these settings. **Manual mode will apply preservative to the hay at a fixed rate regardless of the moisture content.**

Automatic Mode

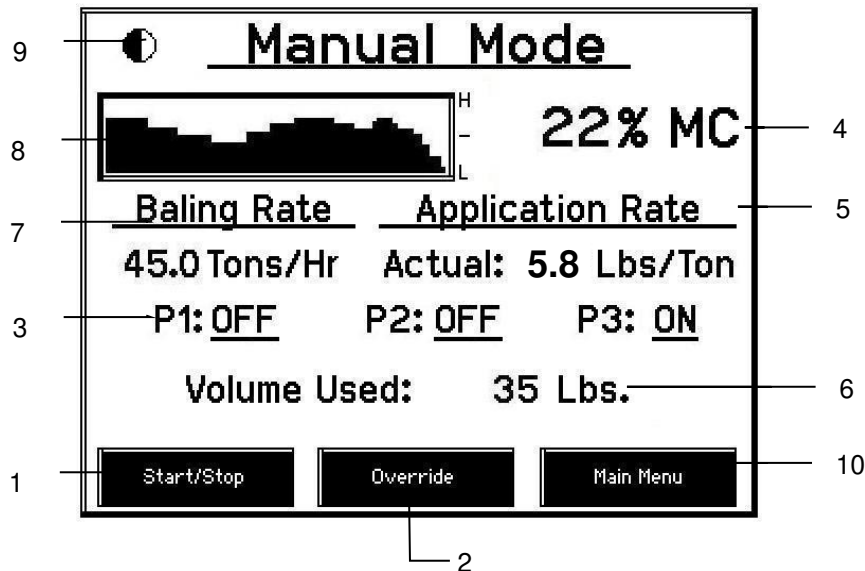
After pushing the AUTOMATIC MODE key in the Main Menu screen, the following screen should appear:



1. Push the START/STOP key to pause the unit while in operation.
2. Push the OVERRIDE key to turn on all three pumps at the same time for full output of the system. Use this mode when going through a short area of wet crop.
3. The moisture content is shown in the upper right hand corner.
4. Baling Rate and Application Rate are shown in the middle. The operator sets the target application rate in the setup mode: the actual rate should be within +/- one pound when running. The baling rate is also set in Setup Mode.
5. Volume used shown at the bottom of the screen will show accumulated pounds (liters) of preservative used on the go. This number will reset at power down, but remains in the job record screen.
NOTE: Initial start-up requires pressing the New Job key in the Job Records screen in order for Volume Used accumulation to be recorded. This only needs to be done once on initial start-up of system and not every time the system is started for operation. (See JOB RECORDS screen)
6. The graph shows the moisture trend from the past 90 seconds in 3 second intervals.
7. This button is your contrast control. Press this button to darken the screen. When the screen reaches its darkest point, when the button is next depressed it will return to lightest setting.
8. Press the MAIN MENU key to return to the opening screen.

Manual Mode

After pushing the MANUAL MODE key in the Main Menu screen, the following screen will appear:



1. Push the START/STOP key to pause the system while in operation.
2. Push the OVERRIDE key to turn on all three pumps at the same time for full output of the system. Use this mode when going through a short area of wet crop.
3. In Manual Mode you can turn the pumps on or off by pressing the underlined area next to the pump numbers. In Manual Mode (regardless of moisture, baling rate or bale weight) the outputs of the pumps are fixed rates as follows:

Round Balers

| Pump | Low Tips Output (Lbs / HR) | High Tips Output (Lbs / HR) |
|------|----------------------------|-----------------------------|
| 1 | 45 | 75 |
| 2 | 90 | 140 |
| 3 | 135 | 265 |

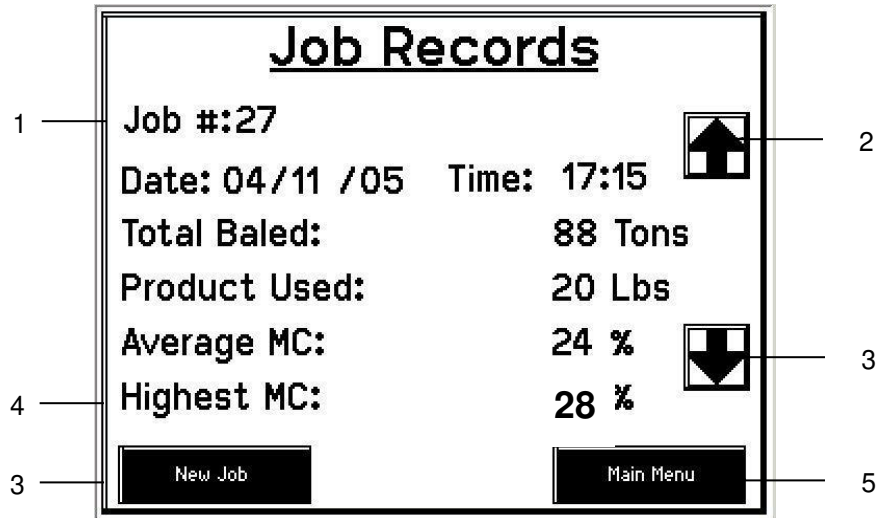
Small Square Balers

| Pump | Low Tips Output (Lbs / HR) | High Tips Output (Lbs / HR) |
|------|----------------------------|-----------------------------|
| 1 | 25 | 40 |
| 2 | 75 | 75 |
| 3 | 145 | 205 |

4. The moisture content is shown in the upper right hand corner.
5. Baling rate and Application rate are shown in the middle. The output of a pump can be checked by dividing the preset output (shown in step 3) by the displayed baling rate.
6. Volume used shown at the bottom of the screen will show accumulated pounds of preservative used on the go. This number will reset at power down, but remains in the job record screen. **NOTE: Initial start-up requires pressing the New Job key in the Job Records screen in order for Volume Used accumulation to be recorded. This only needs to be done once on initial start-up of system and not every time the system is started for operation.** (See JOB RECORDS screen)
7. The baling rate is set in the SETUP MODE menu.
8. This graph shows the moisture trend from the last 90 seconds of baling (one reading every 3 seconds).
9. This button is your contrast control. Press this button to darken the screen. When the screen reaches its darkest point, when the button is next depressed it will return to lightest setting.
10. Press the MAIN MENU key to return to the opening screen.

Job Records

After pushing the JOB RECORDS key in the Main Menu screen, the following screen should appear:

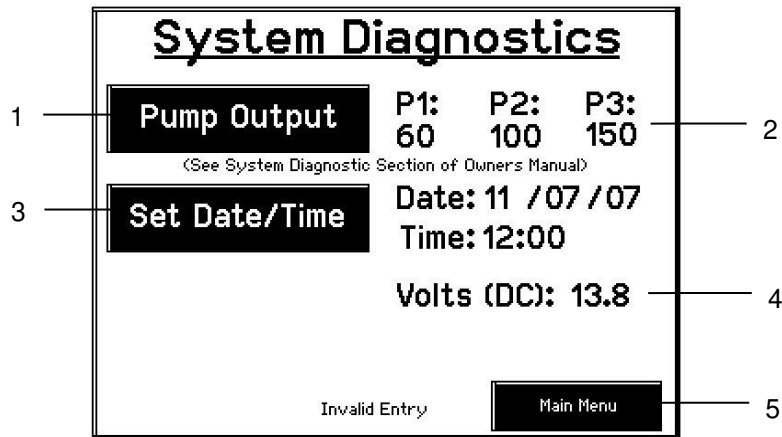


1. The job number will be displayed in the top left corner and will move to the next job when the NEW JOB key is pressed. The current job being viewed will always read "Job #: 0". Product used and average moisture content will be reset when the NEW JOB key is pressed. The job records screen will store up to 63 jobs and will allow you to access previous jobs by using the up and down arrows found on the right side of the screen.
2. Scrolling through previous jobs is done by pressing the UP or Down keys.
3. **Every time the NEW JOB key is pressed the accumulated pounds on auto and manual modes will be reset to zero.** After 63 jobs have been stored, the next time the NEW JOB key is pressed the system will start over with job one and the old job will be replaced.
4. Highest moisture content will display moistures up to 33%. Any moisture recorded higher than 33 % will register only as 99%.
5. To return the opening screen, press the MAIN MENU key.

NOTE: Initial start-up requires pressing the New Job key in the Job Records screen in order for Volume Used accumulation to be recorded. This only needs to be done once on initial start-up of system and not every time the system is started for operation.

Diagnostics

After pushing the DIAGNOSTICS key in the Main Menu screen, the following screen should appear:



The diagnostic mode will automatically check the pump output and performance of the three pumps. It is recommended to use this mode daily to ensure proper system performance.

Round Balers

| Pump | Low Tips Output (Lbs / HR) | High Tips Output (Lbs / HR) |
|------|-------------------------------|--------------------------------|
| 1 | 38 – 53 | 64 – 88 |
| 2 | 76 – 105 | 119 – 165 |
| 3 | 115 - 160 | 225 – 312 |

Small Square Balers

| Pump | Low Tips Output (Lbs / HR) | High Tips Output (Lbs / HR) |
|------|-------------------------------|--------------------------------|
| 1 | 21 – 30 | 34 – 47 |
| 2 | 64 – 88 | 64 – 88 |
| 3 | 123 – 170 | 175 – 240 |

- Once the screen is displayed, press the PUMP OUTPUTS key. The machine will cycle all three of the pumps for 15 seconds. After the cycles are complete, the system will display results next to each pump.
- If the system displays within the listed range.**
 - The system is operating correctly.

If the system displays higher than the listed range, some common problems could be:

 - Leak in line, tip missing, tip worn, and high tractor voltage.

If the system displays lower than the listed range, some common problems could be:

 - Make sure there is preservative in the tank and ball valve is in the open position.
 - Air in lines. Pump will not prime. Check for leak in lines, or defective check valve.
 - Pump is working, but not producing desired output. Pump needs to be rebuilt.
 - Main filter plugged. Check filter by tank and clean if necessary.
 - Tip or tip screen plugged. Check both tip and tip screen and clean if necessary.
 - Kink in hose. Straighten or replace hose.
 - Voltage from tractor is low. Check power cord with multimeter for 12 volts at baler mounted processor. Clean connections on battery. Dielectric grease connections at baler mounted processor and at hitch connection.
 - Pump is defective. Rebuild pump if motor runs smoothly. Replace pump if motor is bad.
 - Defective flow meter. Only if all pumps run, product is applied, and all numbers read 0.
- To set date and time, press the SET DATE/TIME key. In the next screen enter the date (month, day, year format) followed by the time. When done press the ENTER key. NOTE: Clock uses military time.
- The voltage should be between 12.0 to 14.5 volts for the system to work properly. If voltage is not in this range check all power cord connections and the tractors charging system.
- When done in this mode, press the MAIN MENU key.

Winter Storage

1. Thoroughly flush the system with water.
2. Remove the filter bowl and run dry until the water has cleared out of the intake side.
3. Remove the red plug from the bottom of the pump, drain, and run the pump for 30 seconds or until dry.
4. Drain all lines on the outlet side.
5. Never use oils or alcohol based anti-freeze in the system.
6. For spring start-up, if the pump is frozen, turn off the power immediately to avoid burning the motor out or blowing a fuse. The pump head can be disassembled and freed or rebuilt in most cases. Check the fuses after the pump has been freed.
7. Disconnect power from the Dual Channel Processor.
8. Remove **Touch Screen Display** from tractor and store in a warm, dry place.

Common Questions

1. **How do I turn the system on/off?**
To turn the system ON, simply press anywhere on right side of screen followed by pushing the 'Press to Start' key. To turn the system OFF, return to the Main Menu screen and press the POWER OFF key.
2. **How to get in the LBS/TON, MC%, and TONS/HR screens?**
In the Main Menu press the SETUP MODE key. From this screen you can change your application rates and how much product is applied. See SETTING UP FOR INITIAL USE for a detailed explanation of this process.
3. **The unit is stuck in the Application Rate screen.**
In the Application Rate screen, level 1 must be less than level 2, and level 2 must be less than level 3. For example, if level 1 is set at 16, level 2 must be set at 17 or higher, and level 3 must be set higher than level 2.
4. **How does OVERRIDE work?**
Override turns on all three pumps at full output. The pumps will remain at full output until the operator turns these pumps off by pressing the OVERRIDE key again.
5. **The flow meter reading is more or less than the programmed level set in the box.**
Some variation in flow meter readings compared to the programmed set point is normal due to factory tolerances on the pump motors as well as varying tractor voltages inputted to the control box. The flow meter reading is an accurate measure of how much product is actually being applied. The set points then will need to be adjusted if you want to attain a different flow meter reading.
6. **Why don't all the pumps turn on even at higher application rates?**
The selections of what pumps turn on when are automatically controlled by the control box's flow rate look up chart. Thus, not all the pumps turn on at once and the combination of what pumps turn on when is automatically controlled by the software. If you want to make sure all three pumps are working, go to the Diagnostics screen and run pump outputs.
7. **The moisture content displays "LO" or "HI" all the time.**
When the moisture content display does not change frequently while baling, there is likely a faulty star wheel connection. One of the first places to check is inside the white star wheel block. Check to see if the electronic swivel is in the star wheel shaft and check to see that the star wheel shaft is not working out of the block. Also, check all star wheel wires and connectors to see if there is a continuity or grounding problem.
8. **Should the battery connections be removed before jump starting or charging a battery?**
Yes. Anytime the tractor will have voltage going up rapidly the connections should be removed.

Troubleshooting:

| <u>Problem</u> | <u>Possible cause(s)</u> | <u>Solution(s)</u> |
|---|--|---|
| Pump will not run. | 1. No voltage to Baler Mounted Processor. | 1. Check for short, low voltage, and replace fuse if necessary. |
| | 2. Pump locked up. | 2. Clean or rebuild pump if motor is OK. |
| | 3. Damaged wire. | 3. Repair damaged wire. |
| Pump runs but will not prime. | 1. Air leak in intake. | 1. Tighten fittings on intake side. |
| | 2. Clogged intake. | 2. Clean. |
| | 3. Restricted outlet. | 3. Check and clean tips. |
| | 4. Outlet Check valve plugged | 4. Clean or repair check valve. |
| | 5. Dirt inside pump. | 5. Replace pump check valve. |
| Pump doesn't have enough output. | 1. Air leaks or clogs on inlet | 1. Tighten or clean filter bowl assembly. |
| | 2. Pump worn or dirty. | 2. Rebuild pump. |
| Moisture reading errors (high / low) | 1. Wire disconnected or bad connection between star wheels and baler mounted processor. | 1. Reconnect wire. |
| | 2. Low power supply to baler mounted processor. | 2. Check voltage at box. (Min of 12 volts required.) See Diagnostics section |
| | 3. Wet hay over 32% moisture | |
| | 4. Ground contact with one or both star wheels and baler mounted processor. | 4. Reconnect. |
| | 5. Short in wire between star wheels and baler mounted processor. | 5. Replace wire. |
| | 6. Use hand tester to compare. | 6. Contact Harvest Tec if no change |
| Moisture readings erratic. | 1. Test bales with hand tester to verify that cab monitor has more variation than hand tester. | |
| | 2. Check all wiring connections for corrosion or poor contact. | 2. Apply dielectric grease to all connections. |
| | 3. Check power supply at tractor. Voltage should be constant between 12V and 14V | 3. Install voltage surge protection on tractors alternator. |
| Flow meter readings do not match up with product usage. | | |
| Product is less than actual used. | 1. Voltage supplied to meter is less than 6 volts. | 1. Check for a min of 6 volts supplied at baler mounted processor. |
| | 2. Wiring short in signal to baler mounted processor. | 2. Inspect wire and replace if necessary. |
| | 3. Clog in meter. | 3. Flush with water. DO NOT USE AIR. |
| | 4. Using product other than Harvest Tec | 4. Catch and weigh product to check outputs. |
| Product shown is more than actual product used. | 1. High voltage supplied to the meter. | 1. Check voltage at baler mounted processor. Max of 18 volts. |
| | 2. Light interference with meter. | 2. Reflection into meter can cause a high reading. Move meter |
| | 3. Air leak in intake. | 3. Look for air bubbles in line. Replace line or other defective area that is allowing air into the system. |
| | 4. Using alternative product | 4. Catch and weigh product to compare. |
| System leaks product out of tips after shut down. | 1. Dirty / defective check valve. | 1. Clean or Replace. |
| Terminal reads under or over power. | 1. Verify with multi-meter actual voltage. Voltage range should be between 12-14 volts. | 1. Clean connections and make sure applicator is hooked to battery. See Diagnostics section of manual. |
| System always displays "End of Row Pause". | 1. Flow meter connector plug is plugged into Hay Indicator port on Baler Mounted Processor. | 1. Switch ports. |

Troubleshooting (continued)

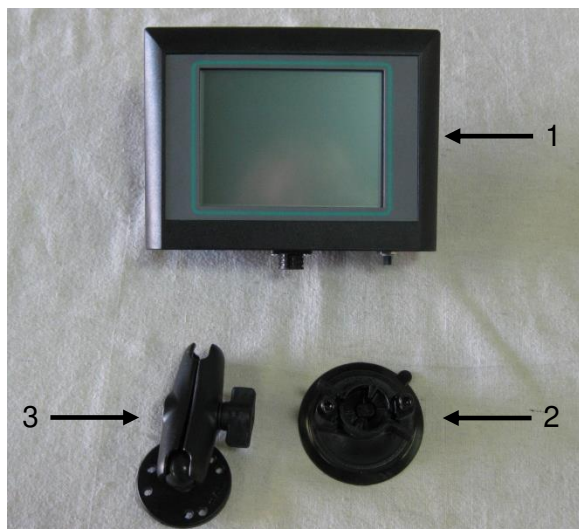
| Problem | Possible cause(s) | Solution(s) |
|--------------------------------------|---|--|
| System does not pause at end of row. | 1. Short in cable. | 1. Replace cable. |
| Bale rate displays zero. | 1. Bale rate sensors are reversed. 2. Short in cable. | 1. Switch the sensors next to the star wheel. 2. Replace cable. |
| Display will not power up. | 1. Display connector plug and bale rate sensors plug are switched on the Baler Mounted Processor. 2. Short in display cable. | 1. Switch plugs. 2. Replace cable. |
| Display is too dark or light | 1. Change in temperature or light conditions. | 1. Use the monitors contrast control. |
| | 2. Display and BMP not communicating. | 2. Disconnect 12 volt power cable at hitch. DO NOT DISCONNECT DISPLAY CABLE. Wait 5 minutes and reconnect. |
| Display says waiting for BMP | 1. Display and BMP not communicating. | 1. Disconnect 12 volt power cable at hitch. DO NOT DISCONNECT DISPLAY CABLE. Wait 5 minutes and reconnect. |

Backup fuse

The Model 462 is equipped with a backup system if your display is not functioning. This function is intended for use only as a temporary means for application and not as a way to apply preservative over multiple fields or for a lengthy amount of time. The baler mounted processor has a location for a backup fuse on the same side as the pump and flow meter harness that bypasses all other system inputs and applies preservative using one pump (Pump Three) at a constant lbs/hour shown below. These values are based upon an input voltage of 13.5 DC. Insert at least a 10 amp up to 20 amp fuse (3 AG style) into the backup fuse port to activate the bypass. The system will not turn off or pause until the fuse is removed. The main fuse must also be functional for the backup fuse to work.

| | Tip Set | Output (lbs/hour) |
|-----|---------|-------------------|
| 462 | High | 180 |
| | Low | 150 |

Parts Breakdown Touch Screen Display (TSD)



- | | | |
|---|----------------------|-------------|
| 1 | Touch Screen Display | 006-4670 |
| 2 | Suction Cup Mount | 001-2012SCM |
| 3 | RAM Mount | 001-2012H |

Complete Kit 030-4670A

Harvest Tec, LLC. Warranty and Liability Agreement.

Harvest Tec, LLC. will repair or replace components that are found to be defective within 12 months from the date of manufacture. Under no circumstances does this warranty cover any components which in the opinion of Harvest Tec, LLC. have been subjected to negligent use, misuse, alteration, accident, or if repairs have been made with parts other than those manufactured and obtainable from Harvest Tec, LLC.

Our obligation under this warranty is limited to repairing or replacing free of charge to the original purchaser any part that in our judgment shows evidence of defective or improper workmanship, provided the part is returned to Harvest Tec, LLC. within 30 days of the failure. Parts must be returned through the selling dealer and distributor, transportation charges prepaid.

This warranty shall not be interpreted to render Harvest Tec, LLC. liable for injury or damages of any kind, direct, consequential, or contingent, to persons or property. Furthermore, this warranty does not extend to loss of crop, losses caused by delays or any expense prospective profits or for any other reason. Harvest Tec, LLC. shall not be liable for any recovery greater in amount than the cost or repair of defects in workmanship.

There are no warranties, either expressed or implied, of merchantability or fitness for particular purpose intended or fitness for any other reason.

This warranty cannot guarantee that existing conditions beyond the control of Harvest Tec, LLC. will not affect our ability to obtain materials or manufacture necessary replacement parts.

Harvest Tec, LLC. reserves the right to make design changes, improve design, or change specifications, at any time without any contingent obligation to purchasers of machines and parts previously sold.

Note: The warranty registration card supplied with the installation manual must be filled out and returned to the manufacturer within fifteen days of purchase. Without record of receipt of warranty registration at the manufacturer, the warranty is not valid.

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