

# OWNER'S MANUAL

## *Model 600BBXHI High Output Flow Meter*



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## **Introduction**

Thank you for purchasing the Harvest Tec Model 600BBXHI High Output Flow Meter assembly. This High Output Flow Meter Assembly is designed to enable increasing the rate of preservative applied through the system. The operating ranges of the flow meter are 120 to 900 pounds per hour (30 to 90 tons per hour). Please follow this manual for installation of the 600BBXHI on your Harvest Tec 600 series automatic system.

## **Tools Needed**

- Standard wrench set
- Standard socket set
- Standard screw driver or 5/16" nut driver
- Tape measure
- Hose cutter
- Hammer
- 9/16 drill bit

# Installation of Hardware

## 1. Installation of Tips

Locate the spray shield assembly at the front of your baler. The shield currently has 2 manifold blocks (001-4435NSB) with three tips in each. Three more tips will be added to the middle of the shield to increase the capabilities of the system. Measure the distance between the manifold blocks (001-4435NSB). Mark the hose and shield in the center between the blocks and cut the hose.

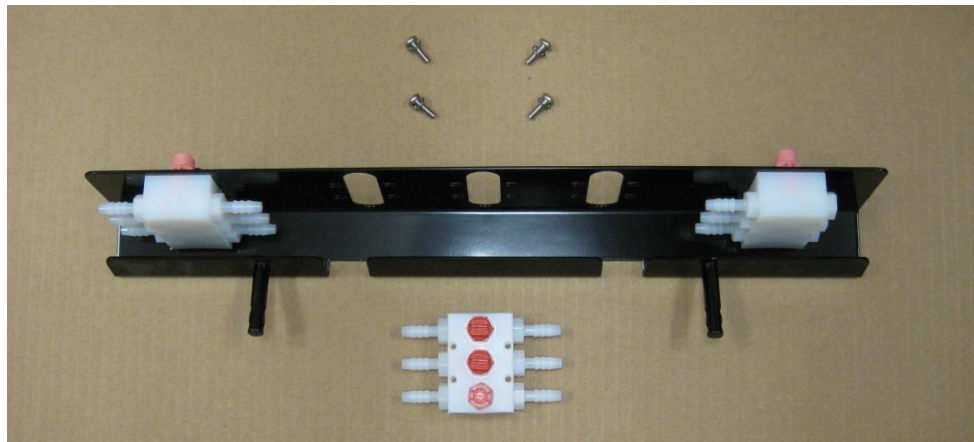


Install the additional manifold block (001-4435NSB) with the six fittings (003-A1414) in place, three on each side, and attach to the center of the shield. Cut the hose to length and attach to both sides of the manifold block at each fitting securing with the enclosed hose clamps. Attach the block to the center of the shield with hardware included (four 10/32" x 5/8" stainless screws and lock washers).

Starting with the tips in the line of pump one (pump closest to the filter bowl) place the one additional pink tip (004-T8001-PT) enclosed in this kit in that line and in the additional manifold block. All tips attached to pump one should be pink.

Install two red tips (004-T8003-PT) in the two remaining positions of the center manifold block just added. These will correlate with pumps two and three. The hose and line feeding pump two will now have two brown tips (004-T80015-PT) on the outer sides of the spray shield and one red tip (004-T8003-PT) in the center.

For pump three the additional tip you install is a red tip (004-T8003-PT) into the center manifold block. All tips attached to pump three should now have red tips.



## **Installation of Flow Meter**

Disconnect the main power harness at the hitch or at the battery.

Locate the pump controller (located next to the pumps) and remove all wire connections. Remove the two nuts that mount the pump controller to the pump plate and place the pump controller to the side.

To remove the old flow meter from the pump plate assembly, first turn off the ball valve on the side of the pump plate, second loosen the plastic nuts that hold the flow meter in position. Remove the flow meter taking care to not lose the o-rings inside the plastic nuts. Install the new flow meter with the arrow on the flow meter pointed towards the pumps, using the same plastic nuts and o-rings, make sure the wire coming out of the flow meter is pointing up and tighten the nuts.

Turn the ball valve back on and check for leaks. Reinstall the pump controller and reconnect all of the connections. If any connections look dirty, clean and apply dielectric grease.

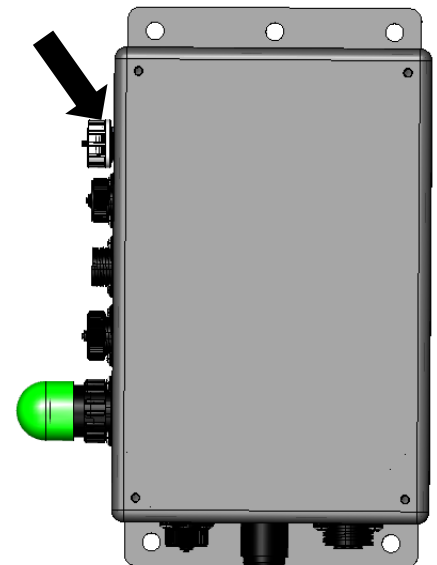
## Installation of 600 Series Software

1. Go to the [Product Updates](http://harvesttec.com/products.html) page on the Harvest Tec website (<http://harvesttec.com/products.html> ).
  - a. Locate the software update link for the **600 Series System**. This link will contain files for updating the *DCP Application Software, DCP Object Pool Software, 600 Series TSD (Touch Screen Display), Pump Controller, Tagger Controller, and Bale Scanner*.
    - i. Individually save each file straight to a USB drive by following the directions below or prompts on your computer if different. It is recommended to use a blank USB drive.
  - b. Click on the *600 Series DCP Application Software* file. When the window for saving file appears select the 'SAVE' option.
  - c. Once 'SAVE' has been selected, a *Save As* menu will appear and then choose where you want to save the files. Select the *Save In* drop down menu and select the USB storage drive.
2. Once the USB drive is selected press 'SAVE' and the file will save accordingly. *(Repeat steps a-c for all needed files. \*\*If your system does not consist of a 600 Series TSD, Pump Controller, or Tagger Controller, you do not need to save those files to your USB drive.*

**\*DO NOT EXTRACT or 'UNZIP' THE OBJECT POOL SOFTWARE FILE, LEAVE IT IN THE .zip FORMAT\***

2. Once you've saved *all* the necessary files required to update your system to your USB stick, you are ready to begin the update process. Start the update process by having your *600 Series system* turned off and powered down, also disconnect the power harness.

3. Insert your USB drive into the USB port of the DCP. Reconnect the power harness to the bottom of the DCP (shown right).  
\*Plugging the USB into a Virtual Terminal monitor will not update DCP.



4. Power the system on by turning the tractor key to the ON position and the update will begin automatically – Note: Do not power the system down or remove the USB drive during an update.
  - a. When initially powered on, the USB drive will flash, indicating that files are being loaded to the DCP, this update can take up to 30 minutes. The USB will not necessarily blink the entire time the update is taking place.
  - b. If the DCP is connected to a Virtual Terminal (VT), you might see a status bar or icon on the VT that indicates the **Object Pool Software** for the *600 Series System* is being loaded to the VT within 30 seconds. However, this is not standard on all VT's. So if a status bar does not appear, continue with the update as stated previously.
  - c. Once the Object Pool Software has finished loading to the VT, a 600 Series System tab will appear on the working screen that will allow you to view the 600 Series screens.
  - d. If the DCP is connected to a *600 Series TSD*, the *600 Series TSD* will beep once when powered on. The display will show '**Checking for Updates**'.
    - i. After the update is started the display will beep once and the display will change to '**Updating...**' Depending on how much software needs to be changed, the screen may stay on the 'Updating...' screen for up to 5 minutes. The display will flash every 2-3 seconds. It will continue to do this until the software is updated within the Display. Once the display stops flashing, the software will need to finish configuring itself. It may take another 30 seconds to a minute for the update to take effect. This update may take up to 5-10 minutes.

## **600 Series Software Updating Instructions (continued)**

5. If the DCP is connected to a 600 Series TSD, once the update process is complete, the '**Screen Calibration**' layout will be displayed. Recalibrate the screen to proceed to the main menu.
6. Once you have your system in Main Menu, the update has been completed. Verify that none of the Application/Bale Rate/Tagger settings have changed.
7. Make sure that a new Job has been created before baling is started.

**\*POWER DOWN THE APPLCIATOR BY TURNING OFF KEY AND THEN REMOVE USB STICK\***

### **Job Record Notes**

-Making updates to the **Object Pool Software** or **Application Software** on the *600 Series DCP* does not erase the *Job Record Files* or *Application/Bale Rate/Tagger Settings* stored on the *600 Series DCP*, so you do not have to download Job Records and write down all important settings before updating the system.

-Prior to modifying the **Configuration** of the *600 Series DCP*, you should download the Job Records and write down the important settings (refer to operation manual for download instructions). **Job Records will be erased and settings will be returned to factory default settings when the configuration is modified.**

In order to change the configuration of a DCP, you will need to contact Harvest Tec to obtain a specific configuration file for your DCP.

**If you have any questions or problems regarding the update process please contact Harvest Tec for assistance. 800-635-7468**

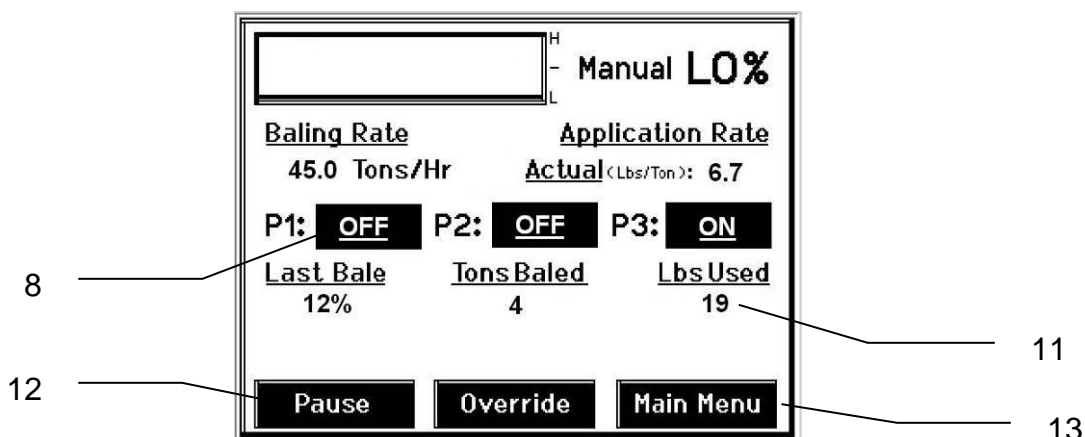


## First Time and Annual Startup

**AFTER INSTALLATION THE UNIT MUST BE CHECKED OUT BEFORE FIELD OPERATION!!**

### 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 applicator system on** (turn on key to the tractor).
4. Once at Main Menu press the SETUP MODE key. Press the Baling Rate key in the Setup Mode screen. The Bale Rate Sensors need to be turned OFF. **Select Sensors are: OFF** to disable bale rate sensors. Make sure the AVG Bale Weight is 1500 lbs and the AVG Baler Length is 96 in. and EST Baling Time is 60 sec. Once the Bale Rate Sensors have been turned off the TSD should go blank. Touch the screen to start it back up, it should return to MAIN MENU key.
5. Press the MANUAL MODE key.
6. The screen shown below should appear.
7. The rates listed below are for Harvest Tec buffered propionic acid. Other products will need to be collected and weighed to assure proper performance is achieved.



**8. NOTE: THIS KIT COMES WITH THE X-HI TIPS AND THEY NEED TO BE PROPERLY INSTALLED ON THE SPRAY SHIELD. TEST SYSTEM WITH TIPS YOU WILL USE MOST OFTEN.**

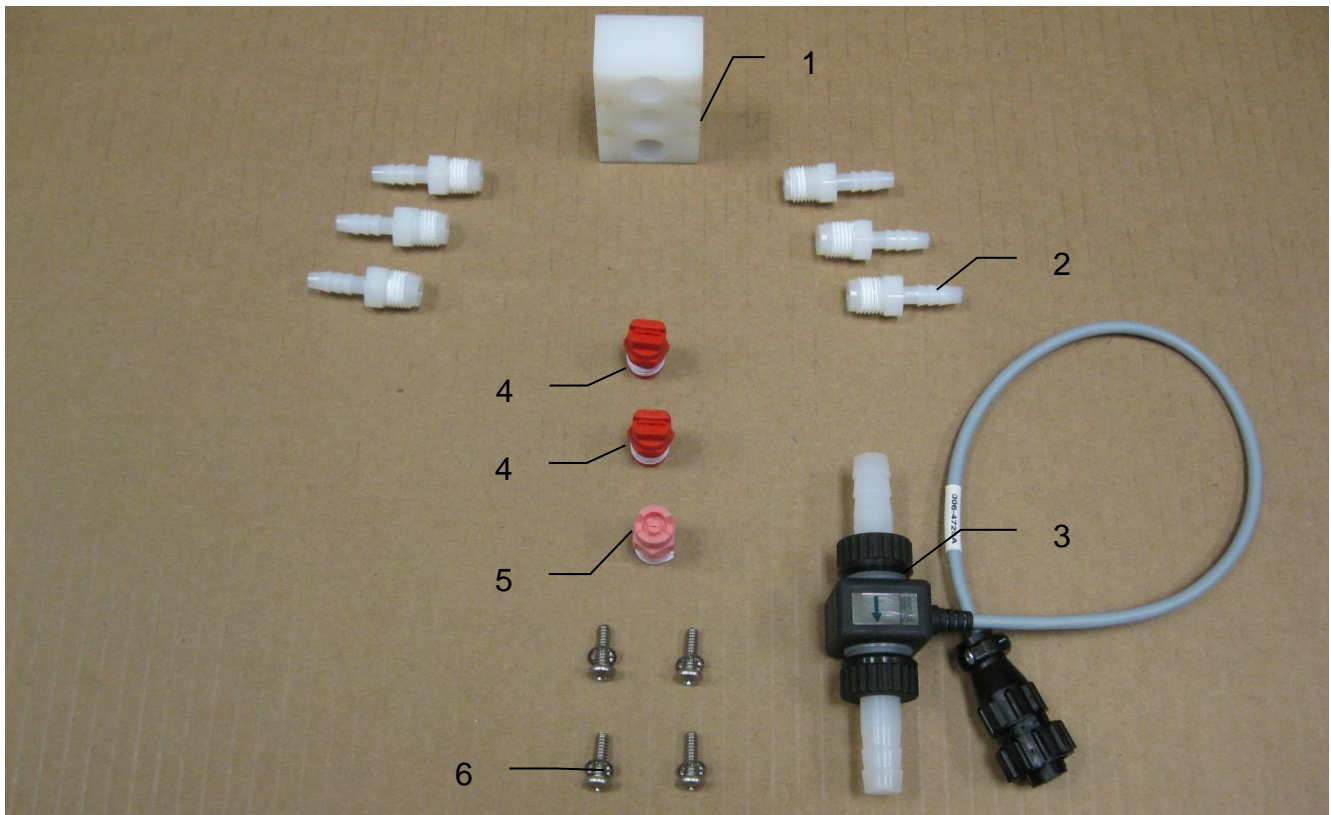
- **With low tips in:** Turn pump 1 on (P1). To do this press the underlined area on the screen which says OFF. The application rate should then read between 1.1 – 1.5 Lbs/Ton. Ideally, at 13.5 volts, the rate would read 1.3 Lbs/Ton.
  - Repeat the process for pumps 2 and 3 (P2 and P3). The application rate should read between 1.9 – 2.6 Lbs/Ton and 2.9 – 3.9 Lbs/Ton respectively. Ideally, at 13.5 volts, the rate for pump 2 would be 2.2 Lbs/Ton; pump 3 would be 3.4 Lbs/Ton.
  - **With high tips in:** Turn pump 1 on (P1). To do this press the underlined area on the screen which says OFF. The application rate should then read between 1.9 – 2.6 Lbs/Ton. Ideally, at 13.5 volts, the rate would read 2.2 Lbs/Ton.
  - Repeat the process for pumps 2 and 3 (P2 and P3). The application rate should read between 2.9 – 3.9 Lbs/Ton and 5.7– 7.7 Lbs/Ton respectively. Ideally, at 13.5 volts, the rate for pump 2 would be 3.4 Lbs/Ton; pump 3 would be 6.7 Lbs/Ton.
  - **With X-Hi tips in:** Turn pump 1 on (P1). To do this press the underlined area on the screen which says OFF. The application rate should then read between 3.0 – 4.0 Lbs/Ton.
  - Repeat the process for pumps 2 and 3 (P2 and P3). The application rate should read between 4.7 – 5.7 Lbs/Ton and 6.7 – 8.7 Lbs/Ton.
2. This process will also be used to prime the pumps whenever needed.

3. While running pumps check for a good spray pattern out of the respective tips and verify that no parts of the system are leaking.
4. 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.
5. Last Bale shows the average moisture content of the last bale made. This information will then be saved in your Job Records.
6. Press the MAIN MENU key to return to the initial start up screen.

NOTE: It is recommended that the system be run with the bale rate sensors on. Press the SETUP MODE key and turn the bale rate sensors back on for normal operation. (Also see Baling Rate to adjust bale weight, length, and time.)

## 600XHI Parts Breakdown

### Large Square Baler



<u>Ref</u>	<u>Description</u>	<u>Part #</u>	<u>Qty</u>
1	Manifold Block	001-4435NSB	1
2	Straight Fitting	003-A1414	6
3	High Output Flow Meter	006-4727A	1
4	Tip (Red)	004-T8003-PT	2
5	Tip (Pink)	004-T8001-PT	1
6	Hardware		4
NP	Hose Clamps	003-9002	6

## **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. If it is determined that a non-Harvest Tec branded hay preservative has been used inside the Harvest Tec applicator system where the failure occurred, then Harvest Tec reserves the right to deny the warranty request at their discretion. 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.

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