

OWNER'S MANUAL

Model 890A **Scale Interface Kit & GPS Attachment Kit for** **AGCO balers**



P.O. Box 63 • 2821 Harvey Street • Hudson, WI 54016
800-635-7468 • www.harvesttec.com

#010-0890A
REVISED 6/22

HARVEST TEC 890A TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	3
OVERVIEW	3
INSTALLATION OF PIP INTERFACE CONTROL BOX	4-5
Installation of PIP Interface Control Box & Harness	4
Wiring Diagram	5
Setup Instructions	5
INSTALLATION OF GPS RECEIVER & HARNESS	6-7
GPS Receiver Installation	6
GPS Harness Installation	6
Wiring Diagram	7
SETUP INSTRUCTIONS	8
OPERATING INSTRUCTIONS	9
CONVERTING YIELD DATA FILE	10-11
PC Installation of Yield Data File Converter Program	10
Converting Yield Data File	11
COMMON QUESTIONS ABOUT THE 890A	12
TROUBLE SHOOTING	12
WIRING DIAGRAMS	13-14
PARTS BREAKDOWN FOR MODEL 890A	15
NOTES	16
WARRANTY STATEMENT	BACK PAGE

*****NOTE: Need to Purchase Garmin 16X HVS*****

AGCO Part no. 71425350

INTRODUCTION

Congratulations on purchasing a Harvest Tec Model 890A Scale Interface & GPS Attachment Kit. This kit provides you with the ability to record yield mapping files onto a USB flash drive along with writing the exact bale weight into your job records. The kit will also write the rolling average from the last three bales weighed by the AGCO scale kit on the baler to the tag if your baler is equipped with a Harvest Tec Model 850 Tagger (U.S. Patent 7,621,111B2 & U.S. Patent 7,415,924B2). The 890A will only work with AGCO balers with the AGCO scale kit installed. The yield mapping portion of the kit will only work if you plug a Garmin 16X HVS into the Interface box. For this kit to function at all your baler must have the Harvest Tec Model 500 Moisture Monitor or Harvest Tec model 565 Preservative Application System installed on it.

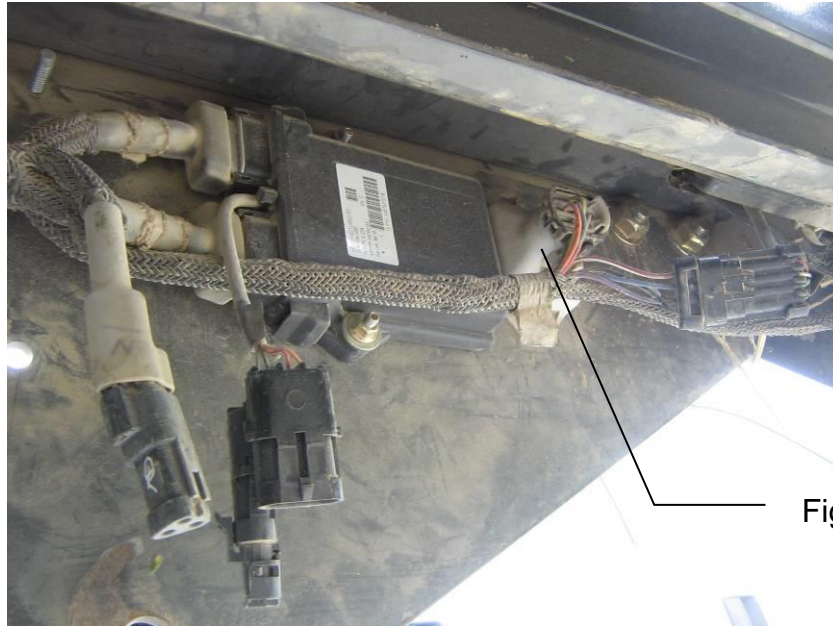
OVERVIEW

There are two parts to the Harvest Tec Model 890A Precision Information Processor (PIP) Interface Control & GPS Attachment Kit. The PIP Interface portion is designed to monitor the bale scale CAN communication and intercept the signal when it is transmitted. As this weight is captured it is immediately stored into the job records for that specific bale. If your baler is equipped with a Tagger, as the signal is intercepted the 890A will use the data collected from the last three bales and write rolling averages to the tags. The data will then be readable using a Harvest Tec Model 860 Scanner. The GPS attachment portion is designed to interface the Garmin 16X HVS into the 565/500 system and have it collect GPS points to be processed. With this processed data the PIP will create and store a yield files, save in a CSV format, onto the USB flash drive.

INSTALLATION OF PIP INTERFACE CONTROL BOX

Installation of PIP Interface Control & Harness

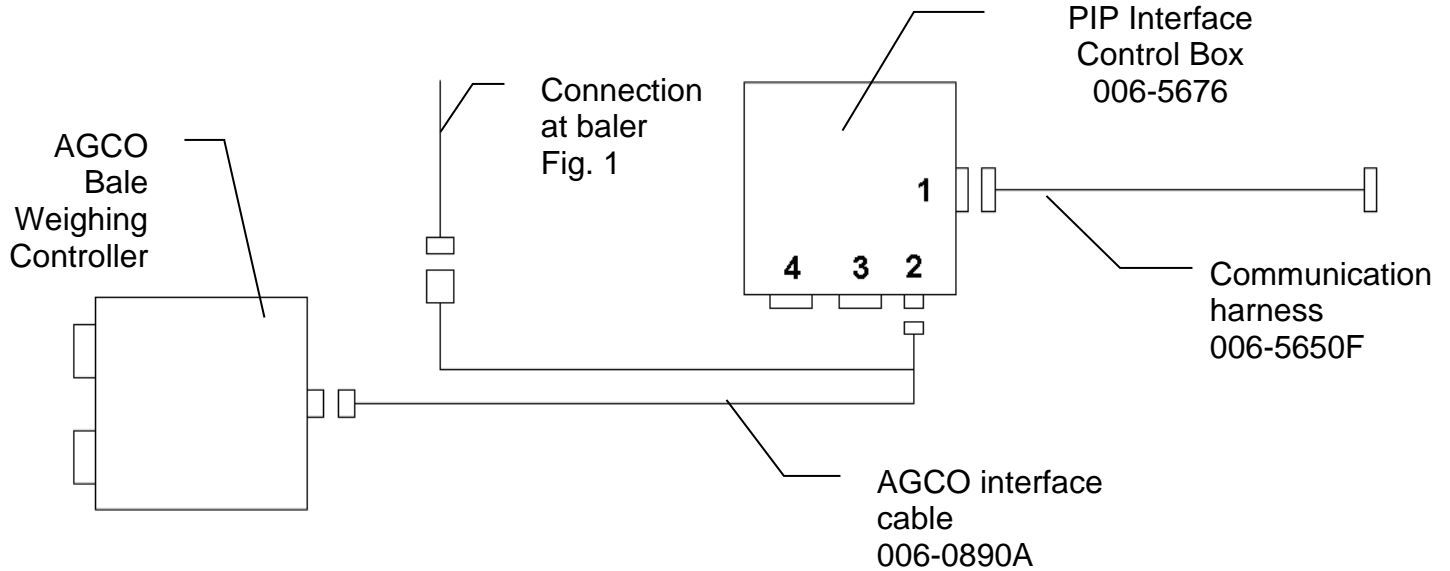
The PIP Interface Controller (PIC) (006-5676) will mount next to the AGCO Bale Weighing Controller. The AGCO Bale Weighing Controller will be located inside the right fender. Mark and drill four 5/16 holes next to the bale scale and attach with four 1/4 x 1 "bolts and flange nuts.



Disconnect the harness plug shown above (figure 1). Connect the AGCO interface cable (006-0890A) in the open port. Connect the AGCO scale harness plug into the other connection on the AGCO interface cable. Connect the last connection into the PIC.

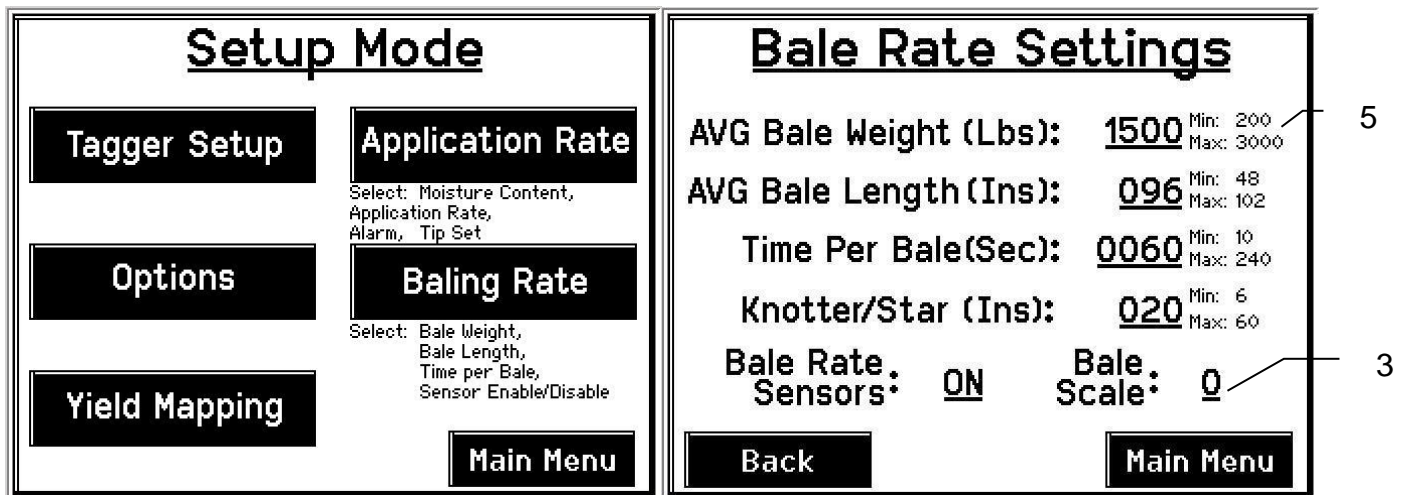
Locate a green terminating resistor (006-5650Z) on the Harvest Tec Precision Information Processor (006-5671LS), Pump Controller (006-5672), or Tagger Control (006-5673). The terminating resistor will be at different locations depending on the options installed. Remove the resistor. Connect one end of the communication harness, found in the 890A kit (006-5650F) to the PIP Interface Control box and the other connect to the open port were the terminating resistor was removed from.

Wiring Diagram



Setup Instructions

1. Turn the 500/565 control system on. After a few seconds the Main Menu screen should appear. Press Setup Mode, the Setup Mode screen will then appear.
2. Press Baling Rate. The Bale Rate Settings screen will then appear.
3. Press the underline 0 next to bale scale. The keypad will then appear. Press 1 followed by enter.
4. The scale is now active in the system.



5. The AVG Bale Weight will now adjust for every bale being made. If no signal comes from the scale it will default to your inputted value.

INSTALLATION OF GPS RECEIVER & HARNESS

GPS Receiver Installation

Locate your Garmin 16X HVS. This should have been purchased through your AGCO dealer. The GPS receiver will be hard mounted on top of your baler in the area of the misstie flag indicators. If the misstie flag indicators are not present find a flat surface near the knotter cover/door. This location should give the GPS receiver the best chance at receiving the strongest satellite signal.

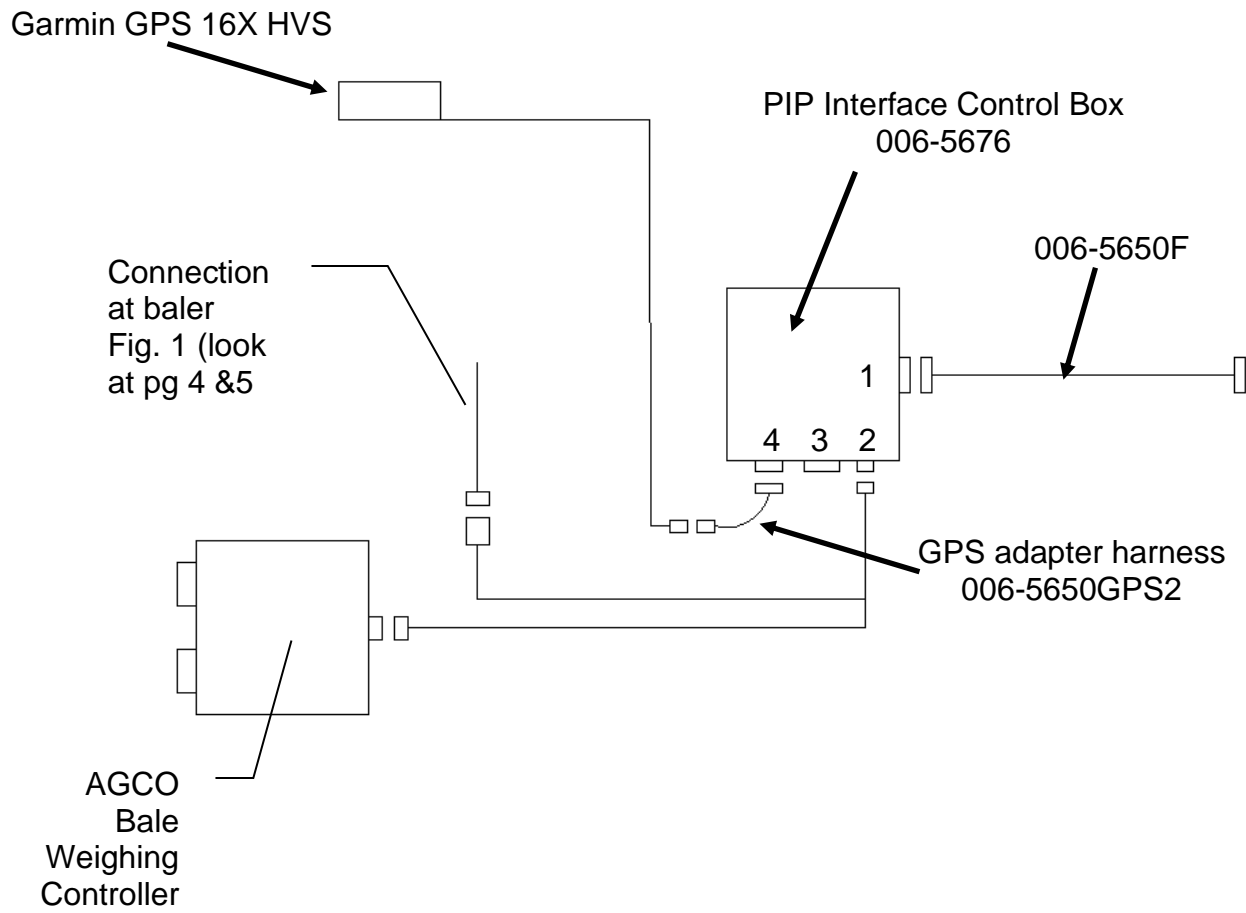
GPS Harness Installation

Once the Garmin GPS receiver has been installed, route the harness to the right side of the baler. The harness needs to be plugged into the PIP Interface Control (PIC) box that was included in the 890A kit, so using the zip ties provided, fasten the harness securely to the baler routing it safely towards the PIC box mounting location. (**Note: make sure wiring harnesses are not in any pinch points and will not come in contact with moving parts on the baler.) Once the harness has been routed and secure, locate the GPS adapter harness (006-5650GPS2) included in the 890A kit. This is the adapter harness that the GPS harness plugs into so that it can be interfaced into PIC. Plug the GPS adapter harness into the port labeled "Port 4" on the PIC.

****** *Wiring directions for balers without AGCO bale weighing scale installed:***

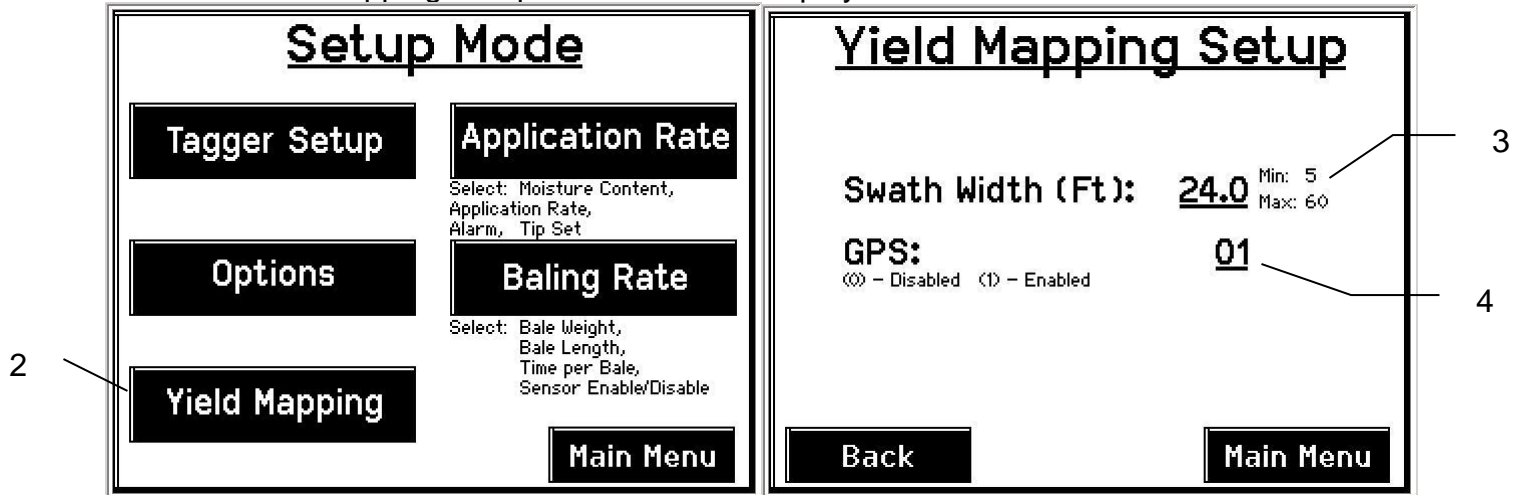
Locate a green terminating resistor (006-5650Z) on the Harvest Tec Precision Information Processor (006-5671LS), Pump Controller (006-5672), or Tagger Control (006-5673). The terminating resistor will be at different locations depending on the system installed on the baler. Remove the resistor. Connect one end of the communication harness (found in the 890A kit 006-5650F) to the PIC, and the other connect to the open port where the terminating resistor was removed from.

Wiring Diagram



SETUP INSTRUCTIONS

1. Turn the 565 control system on. After a few seconds the Main Menu screen should appear. Press Setup Mode, the Setup Mode screen will then appear.
2. Press Yield Mapping setup.
 - a. Yield Mapping Setup should now be displayed.

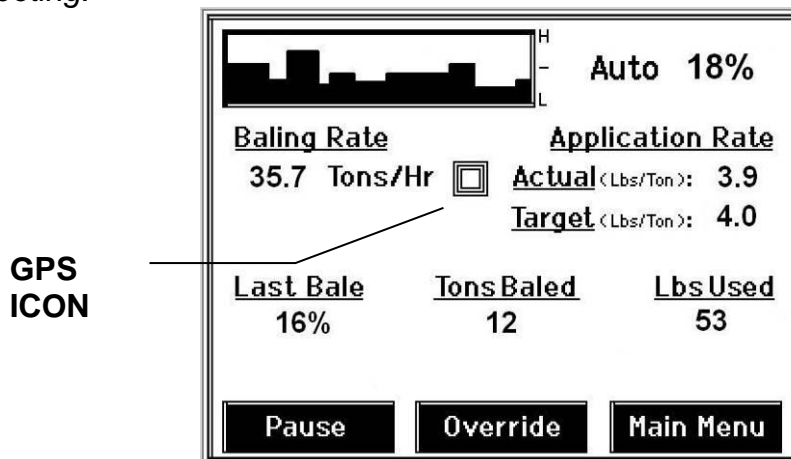


3. Press the underlined value next to **Swath Width (Ft)**. Enter in the swath width that will be baled, press **Enter** to confirm.
4. Press the underlined value next to **GPS**. Enabling/Disabling will require entering the appropriate value. 0 to Disable, 1 to Enable. Press **Enter** to confirm.
5. **Make sure the USB flash drive is inserted into the PIP's Data Transfer port before baling. Without the USB flash drive a yield file will not be created. (USB flash drive provided in the 880 kit)**



OPERATION INSTRUCTIONS

1. Once installation and setup is complete the system is ready for baling. There is a GPS indicator icon that will appear in either of the Automatic or Manual mode screens. The GPS icon shows the user that the GPS is transmitting data to the PIP to be processed. The GPS icon, if getting a good satellite signal, will continually increase/decrease in size. While all this is going on a Yield file is being created and saved to the USB flash drive. Additionally as you enter the Automatic/Manual mode work screens an alert message will appear above the **Override** key. This the alert message will display “**Opening USB flash**” and if the PIP locates the USB flash drive successfully the alert message will disappear and the yield data will be written too the flash drive. If a different alert message is being displayed see *pg. 12 for troubleshooting*.



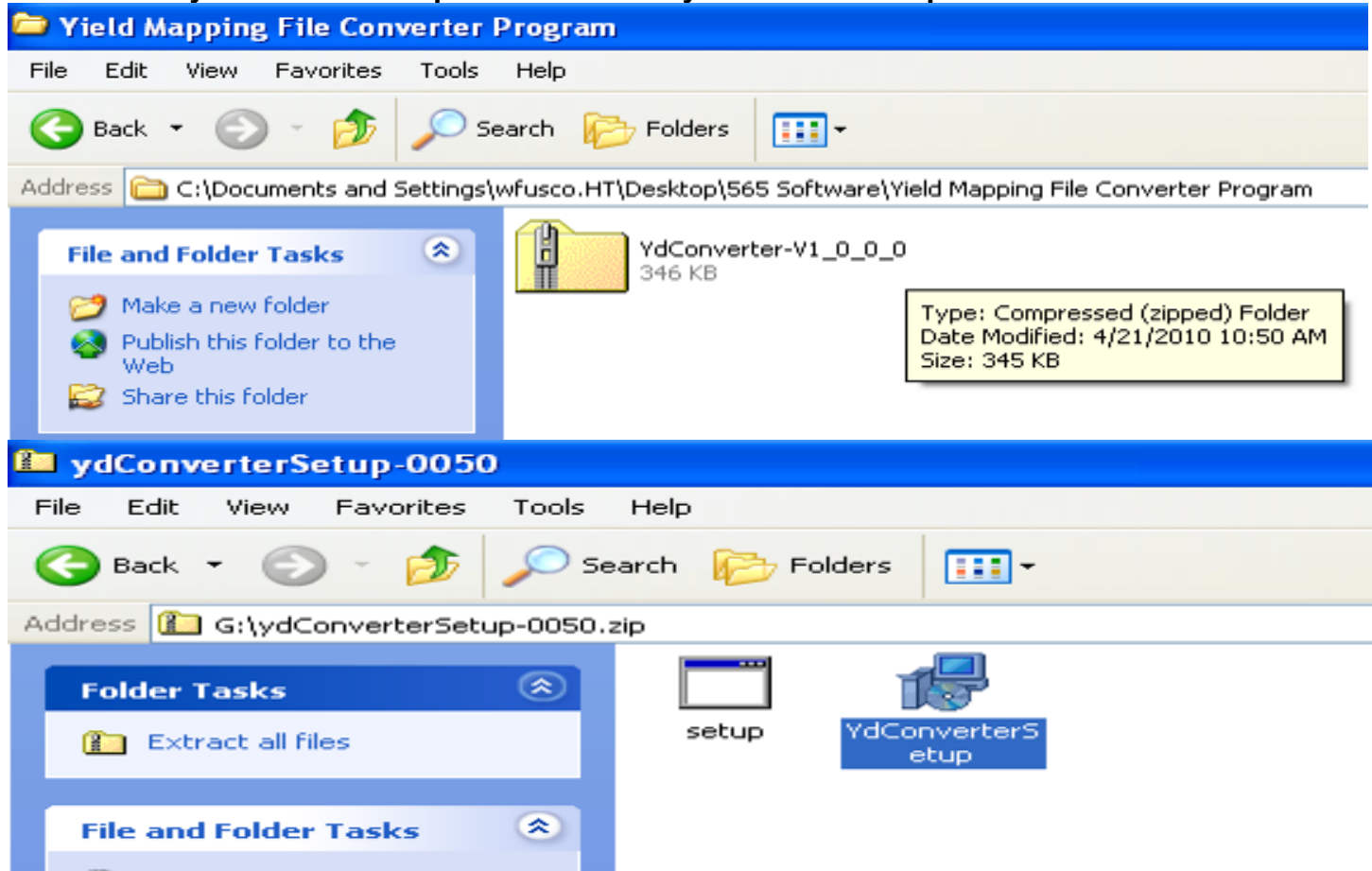
2. Once baling is complete, create a **New Job** and the yield data file that was written to the USB flash drive will be complete and ready to be converted. See **CONVERTING YIELD DATA FILE** for the next step.

******NOTE:** If you're a first time user, begin with the **INSTALLATION OF YIELD DATA FILE CONVERTER PROGRAM** before attempting to convert the yield data file.

CONVERTING YIELD DATA FILE

PC Installation of Yield Data File Converter Program

1. Plug the USB flash provided in the 880 kit into the USB port on the computer.
2. The USB flash will have a zipped file on it and will be labeled **ydConverterSetup-V1_0_0_0**.
 - a. Double click on that folder to open it and there will be two files inside labeled **setup** & **ydConverterSetup**. Double click on **ydConverterSetup**.



- b. A setup screen will appear, click **Next**.
- c. The next screen will ask you what folder you would like to save the File Converter Program in. Use the default option and click **Next** to accept. Next a confirmation screen will appear, press **Next** to confirm. The computer will then let the Yield File Converter Program install itself (Computer will take up to a 1 min to save the yield file converter program to its desktop).



- d. Once the program has been installed you will see and Icon on the computers desktop as pictured above.

Converting Yield Data File

1. The yield data file that was created on the USB flash while baling will need to be converted before it can be utilized in a yield mapping program. Start by double clicking on the yield mapping file converter Icon located on the computers desktop.
2. The program should open. Click on Select Files and navigate to the USB flash where the data files are located. Selected the file labeled as the users created job name **.YDT**



3. Once the **.YDT** file has been selected, click open to start the conversion. This process will take up to a few seconds. The converted file will read; the users created job name **-ym**. It will be located on the USB flash that the yield data file was created on.

NOTE: Once converted, the file is in the appropriate format and it can be used by any yield mapping software/program.

COMMON QUESTIONS ABOUT THE 890A

1. Will the 890A input the bale weights on my Job Records?

Yes. It will input the bale weight in the Job Records.

2. Why do my Job Records only show the default weight?

The default weight will always be the first weight displayed in the Job Records. After the first bale they should change with the baling conditions. The bale scale option needs to be turned on in the PIP. See **Setup Instructions**. If this is on check all connections and verify the scale is working.

3. What happens if the scale misses a bale weight?

If no signal is seen from the scale the system will record 0's into your bale records.

4. What weight is written to the tags?

The weight on the tags is a rolling average of the prior three bales.

TROUBLE SHOOTING:

890A Bale Scale

PROBLEM	POSSIBLE CAUSE	SOLUTION
Bale weight not correct on Job Records	1. Scale not turned on in Harvest Tec monitor 2. Bad connections	1. Turn scale on in the Bale Rate Settings menu 2. Check all connections and verify scale is functional
Bale weight not correct on tags	1. The first three tagged bales will have the default weight. All remaining bales will have a rolling average of the prior three bales	1. Check other bales. If problem persists check scale and tagging system.

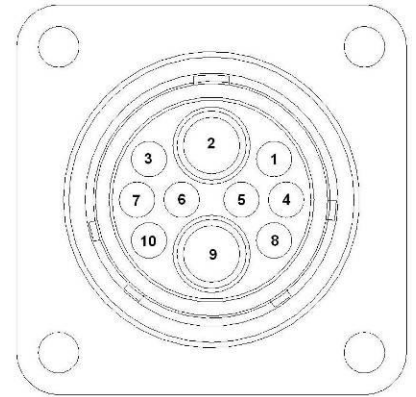
890A GPS & Yield Mapping

PROBLEM	POSSIBLE CAUSE	SOLUTION
Alert Message 'USB Flash not found' appears in Auto or Manual modes.	1. USB flash drive not in USB port on PIP.	1. Check to see if USB flash has fallen out or if one needs to be installed.
'Opening USB Flash File' is not appearing when entering Manual or Automatic mode.	1. GPS disabled.	1. Check Yield Mapping Setup to make sure that the GPS is enabled.
Yield Map not showing up on USB flash drive	1. GPS is disabled. 2. GPS did not connect to GPS satellites prior to baling. 3. Harness is damaged or the connection is dirty/damaged.	1. Check Yield Mapping Setup to make sure that the GPS is enabled. 2. Verify that the GPS icon is being displayed in Automatic/Manual modes 3. Inspect GPS wiring harness and connections.

WIRING – PIN OUT DIAGRAMS

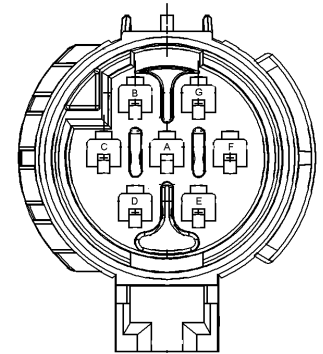
Communication harness - 006-5672

Pin 1	Red	Can 12 volt
Pin 2	Red	Battery 12 volt
Pin 3	Green	Comm channel OH
Pin 4	Silver	Shield
Pin 5	Yellow	Comm channel OL
Pin 6	Not used	
Pin 7	Not used	
Pin 8	Black	Can ground
Pin 9	Black	Battery ground
Pin 10	Not used	



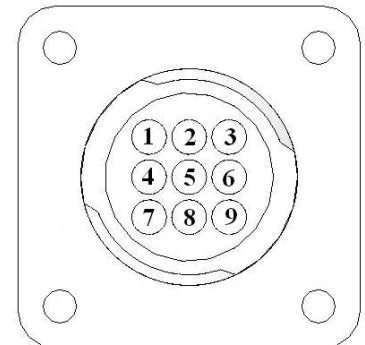
AGCO interface cable - 006-0890A

A	Not used	
B	Yellow or Orange	Can channel OH/IH
C	Black	Ground
D	Not used	
E	Not used	
F	Red	12 volt positive
G	Green or Blue	Can channel OL/IL



PIC - 006-5676

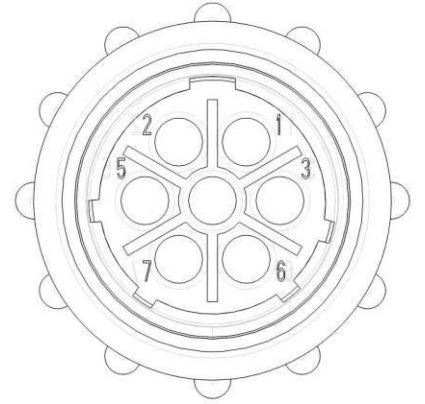
Pin 1	Yellow	Can channel IH
Pin 2	Green	Can channel IL
Pin 3	Not used	
Pin 4	Not used	
Pin 5	Not used	
Pin 6	Orange	Can channel OH
Pin 7	Blue	Can channel OL



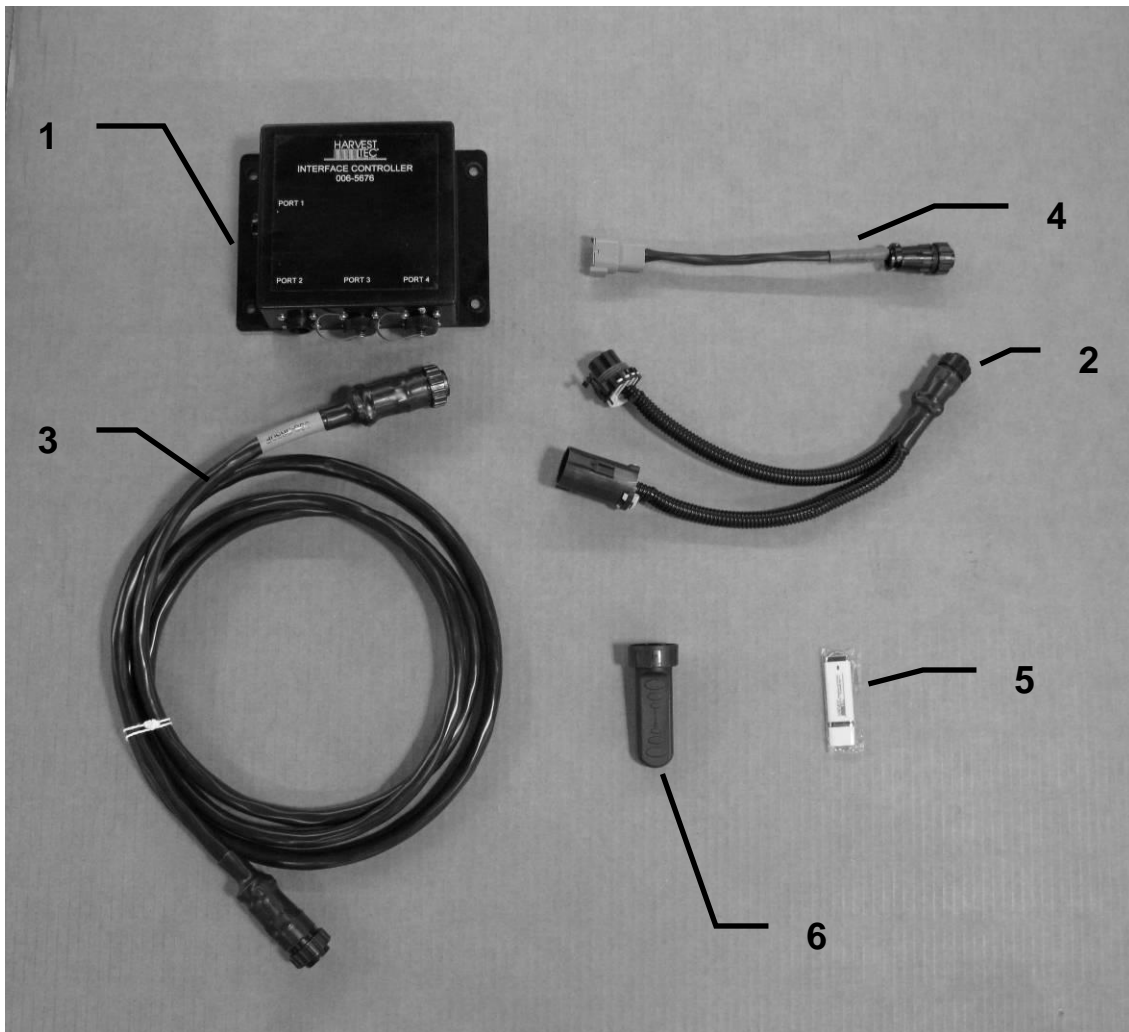
WIRING – PIN OUT DIAGRAMS CONT.

AGCO GPS Adapter Harness – 006-5650GPS2

Pin 1	Red	Power 12V
Pin 2	Black	Ground
Pin 3	Blue	RS232 Signal Receive
Pin 4	Yellow	RS232 Ground
Pin 5	Not used	
Pin 6	Not used	
Pin 7	White	RS232 Signal Transmit



PARTS BREAKDOWN FOR MODEL 890A



<u>Ref</u>	<u>Description</u>	<u>Part#</u>	<u>Qty</u>
1	PIP Interface Control	006-5676	1
2	AGCO interface cable	006-0890A	1
3	Communication harness	006-5650F	1
4	AGCO GPS Adapter Harness	006-5650GPS2	1
5	PIP Removable Storage Cover	006-5650RSC	1
6	Removable Storage	006-5650USB	1

NOTES:

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.

Revised 6/22

HARVEST TEC, LLC.
P.O. BOX 63
2821 HARVEY STREET
HUDSON, WI 54016
PHONE: 715-386-9100
1-800-635-7468
FAX: 715-381-1792
Email: info@harvesttec.com