

Installation Manual

Model 4704556

Electronic Preservative Applicator

For Massey Ferguson High-Capacity SS Double Baler



HarvestTec®

EST. 1976

Table of Contents

	<u>Page</u>
Introduction, Model Reference, & Tools Needed	2
Tank Mounting	3-6
Tank Saddle Kit Breakdown	3
Tank Mounting	4
Pump Assembly	5
Filter Bowl, Pump and Gauge Breakdowns	5
Pressure Gauge Mounting	5
Drain Fill Kit and Tank Plumbing	6
Parts Bags and Hosing	6
Spray Shield Assembly	7-8
Hose Manifold Assembly	8
Plumbing and Hose Routing	9
Control Box	10
Optional Crop Eye Forage Indicators	11
Crop Eye Breakdown	11
Warranty Statement	12

Introduction

Read this manual carefully to ensure correct steps are done to attach the applicator to the baler. This applicator is designed to apply Harvest Tec buffered propionic acid. Use of alternative products may cause complications and voids warranty. Complications may include inaccurate pressure readings and damage to system components.

Electronic applicators can be installed on many square balers, with the proper model number and installation kit. Before installing the unit on the baler, make sure you have the proper installation kit (see the chart below). Contact your local authorized dealer for specifications if you are unsure about your installation kit.

Left and Right sides are determined by facing in the direction of forward travel.

Model Kit Reference – for High-Capacity / Double Small Square Balers

Electronic Applicator Systems

Baler Make	Baler Model	Model Number	Installation Kit	Tank Size
Grady TwinPak	SB2XR	467	4552	55 Gallon
Kubota	SSB2014, SSB2012	432	4554	55 Gallon
Marcrest	210 Baler	467	4553	75 Gallon
Massey Ferguson	1436 Double Baler	470	4556	75 Gallon

Tools Needed

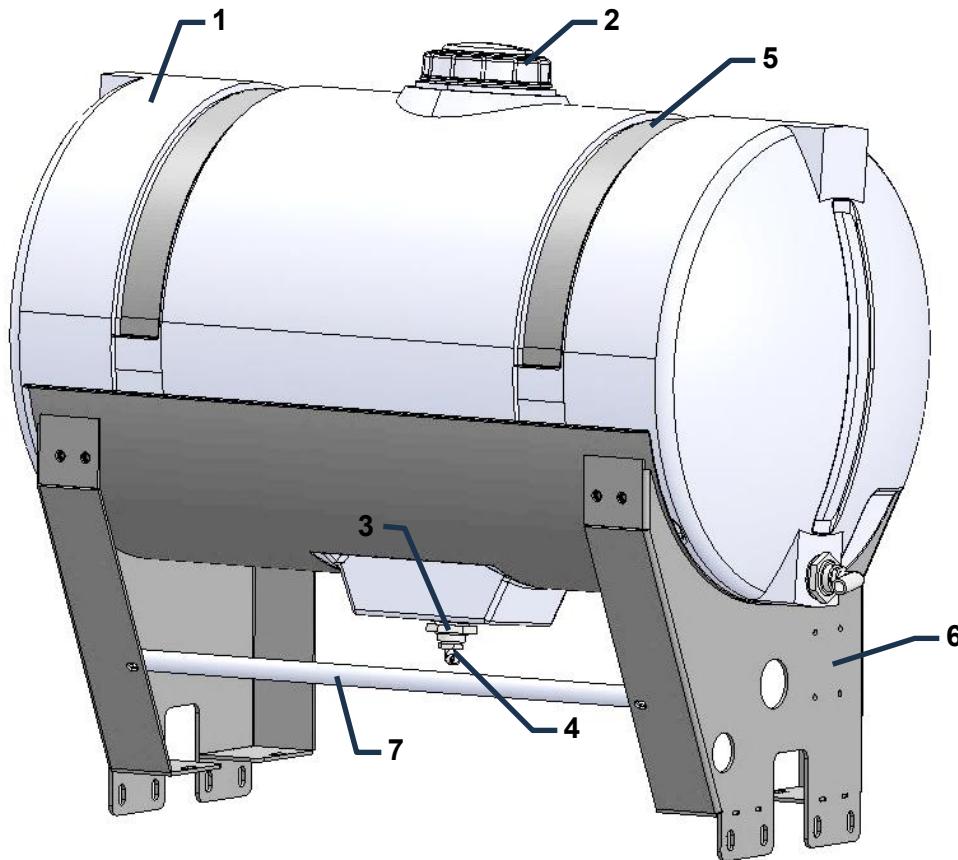
Standard wrench and socket set
 Hose cutter
 Metal drilling and cutting tools
 Straight edge

Standard screwdriver set
 Crescent wrench
 Tape measure

Side cutter
 Hammer
 Center punch

Parts Breakdown - Model 770, 470 Base Kits

Tank Saddle Kit 030-0470-TK



<u>Ref#</u>	<u>Description</u>	<u>Part #</u>	<u>Qty</u>	<u>Ref#</u>	<u>Description</u>	<u>Part #</u>	<u>Qty</u>
1	Tank - 75 gal.	005-9207	1	5	Tank Strap	001-4402M	2
2	Tank Lid	005-9022C	1	6	Tank Saddle	001-4445D	1
NP	Lid Breather (replacement)	005-9022B5	1	7	Railing Pipe	001-4445DP	1
NP	Lid Gasket (replacement)	005-9022CG	1	NP	Pump Plate Mount (for auto system only)	001-4445DX	2
3	Tank Fitting	005-9100	2		Replacement Tank (Inc. bottom tank fitting only)	005-9207	
4	Elbow 3/4MPTx1/2HB (replacement)	003-EL3412	1				

Complete Tank Saddle Kit 030-0470-TK

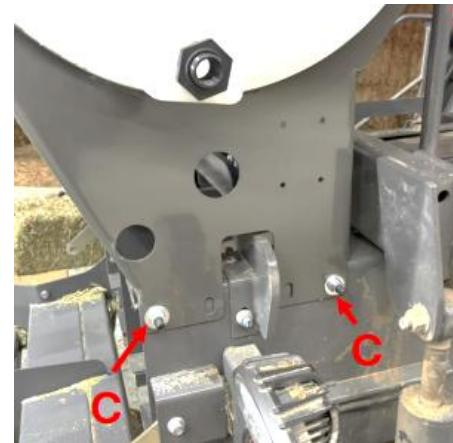
Tank Saddle Kit (030-0470-TK)

Installation – Tank Mounting

Tank Saddle Kit comes with the main tank saddle components pre-assembled and tank secured by the tank straps. Recommended to use an overhead lift or multiple persons to safely place and secure the tank saddle kit onto the baler.

Locate and remove the lower rail with the camera/light bracket from the factory handrail (A).

Place tank and saddle assembly on back of baler chamber, aligning the back vertical flange with the end of the bale chamber. Clamp in place.



Locate front and rear slots on tank saddle where they contact the bale chamber (B). Drill two 1/2" holes on each side of baler through the side of the bale chamber. Secure with supplied hardware: 2x 1/2" x 1-1/2" button head bolt, flat washers, lock washers and nuts on each side of baler (C).

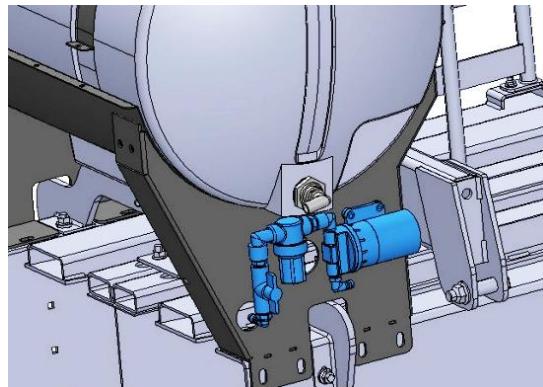
Locate the handrail pipe bolted to the rear of the tank frame. Remove the handrail bracket and attach to the baler handrail where the OEM camera/light bracket was previously installed (D).

Install the OEM camera/light bracket to the rear of the tank frame and reinstall camera and light, if applicable (E).

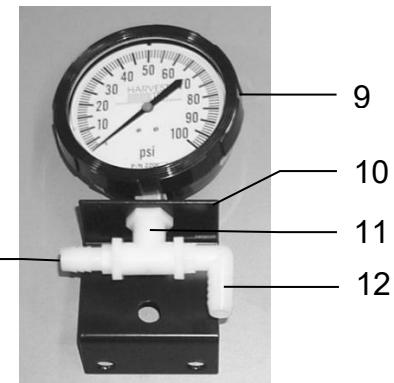
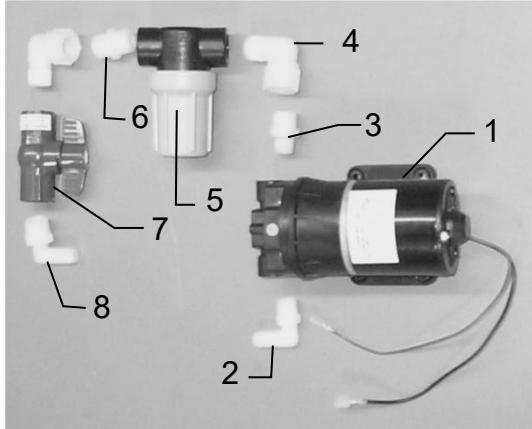


Pump Assembly – Electronic Applicator

Attach the electronic pump assembly to the outside of the RH tank leg with 4x 1/4-20 nuts on the inside of the leg. Install 3/4" NPT x 1/2" HB elbow in bottom tank fitting, route 1/2" hose from bottom tank fitting to 1/2" Elbow fitting below ball valve. Secure hose with hose clamp on each end. Install 3/4" NPT x 3/4" HB Elbow into side tank fitting.



Filter Bowl, Pump and Gauge Breakdown



Ref	Description	Part #	Qty
1	Pump	007-4120S	1
2	Elbow	003-EL3812	1
3	Reducing Nipple	003-M1238	1
4	Street Elbow	003-SE12	2
5	Filter Bowl Asm.	002-4315-80	1
NP	Replace Screen	002-4315B	1
NP	Replace Gasket	002-4315D	1
6	Nipple	003-M1212	1
7	Ball Valve	002-2212	1
8	Elbow	003-EL1212	1

Ref	Description	Part #	Qty
9	Gauge	002-2208Z	1
10	Gauge Holder	0001-4717	1
11	Tee	004-TT14	1
12	Elbow Fitting	003-EL1412	1
13	Straight Fitting	003-A1412	1

Pressure Gauge

Mounting - Gauge Holder (001-4717)

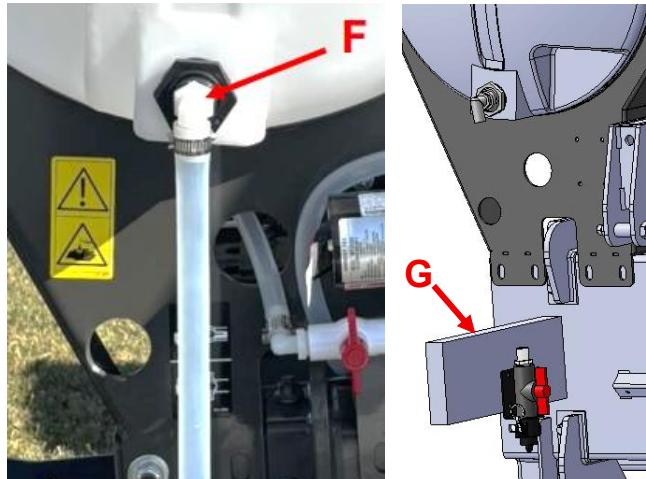
Mount the gauge assembly to the top front shield of the baler in a suitable location to be easily seen by the operator in the tractor. Choose a location that will not inhibit opening of the shield.



Drain Fill Kit and Tank Plumbing

Installation - Drain Fill Kit (030-0493DFK)

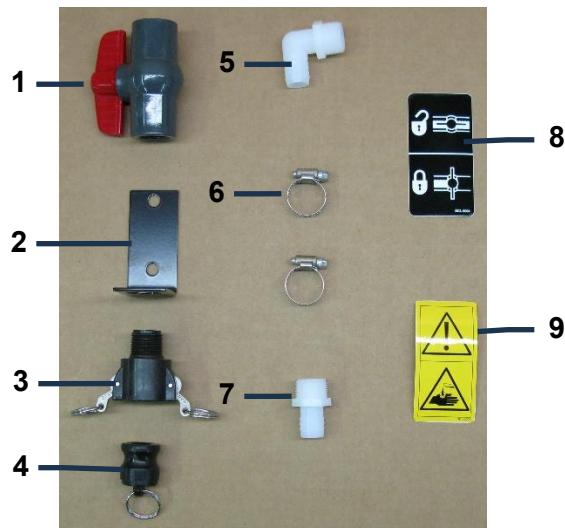
Remove the bolt securing plate to the back side of the baler marking tight bracket (G). Locate an area on the back side of this plate where the drain/fill bracket and valve assembly (from Parts Bag 1) can be mounted without the hardware interfering with baler lights or wiring on the other side. Bolt drain/fill bracket to the back of the baler plate and reinstall on baler. Route the $\frac{3}{4}$ " hose from the elbow at the side of the tank (F) to the fitting at the top of the drain/fill assembly, secure with hose clamps on each end.



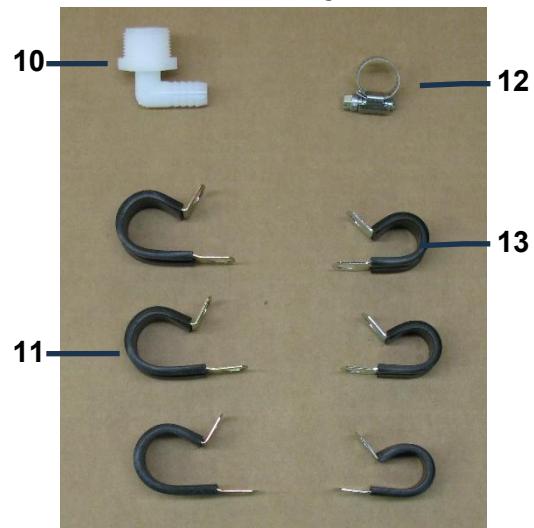
Attach the $\frac{1}{2}$ " hose from the elbow at the bottom of the tank to the inlet of the ball valve on the pump/filter assembly, securing with hose clamps on each end. Secure hoses so they will not interfere with moving parts, avoiding points where the hose may pinch or rub.

Drain Fill Line, Parts Bag Packages and Hosing

PBA-1



PBP-16



Ref	Description	Part #	Qty
1	3/4" Ball Valve	002-2200	1
2	Valve Holder	001-6702H	1
3	Female Coupler	002-2204A	1
4	Male Shut-Off Plug	002-2205G	1
5	3/4" x 3/4" Elbow	003-EL3434	1
6	#10 Hose Clamp	003-9004	2
7	3/4" x 3/4" Straight Fitting	003-A3434	1

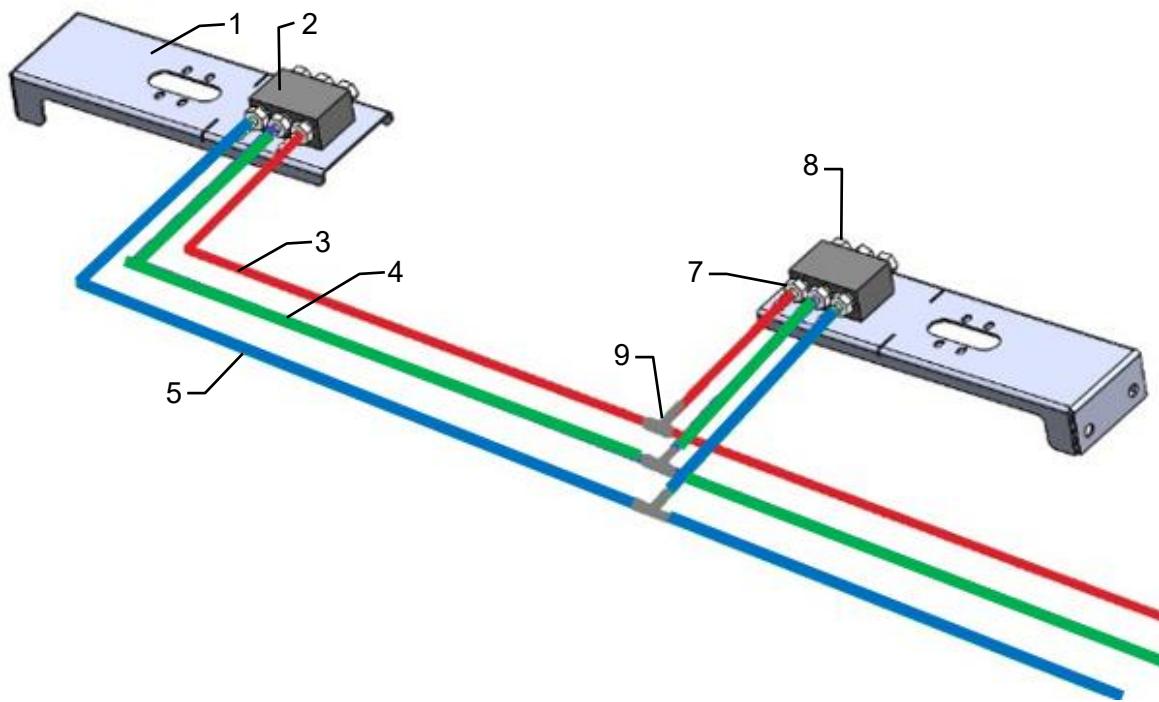
Complete Drain Fill Kit
(Includes 3/4" Hose Not Pictured)

030-0493DFK

Ref	Description	Part #	Qty
8	Valve Decal	DCL-8004	1
9	Hazard Decal	DCL-8001	1
10	3/4" x 1/2" Elbow	003-EL3412	1
11	3/4" Jiffy Clip	008-9010	3
12	#6 Hose Clamp	003-9003	1
13	Small Jiffy Clip	008-9009	3

Hoses			
NP	1/2" EVA Tubing (Pump to Tips)	002-9001	20 ft
NP	3/4" EVA Tubing (Drain/Fill Line)	002-9002	6 ft

Spray Shield - Installation Kit 4556



Ref	Description	Part #	Qty	Ref	Description	Part #	Qty		
1	Shield Holder	001-4445S	2	NP	Tip -Low (Red)	004-T8001-PT	2		
2	Spray Manifold	001-4435NSB	2	NP	Tip -Med (Green)	004-T8002-PT	2		
3	1/4" Hose	002-9016	9 ft	NP	Tip -High (Blue)	004-T8004-PT	2		
4	1/4" Hose -Green	002-9016G	9 ft	*Tip color subject to change					
5	1/4" Hose -Blue	002-9016B	9 ft	*Tip color subject to change					
NP	Hose Clamp	003-9002	18	NP	Hose Manifold Asm.	030-4720	1		
7	1/4MPT x 1/4HB	003-A1414	6	Complete Assembly (all parts listed)					
8	1/4" Hex Plug	003-F14	6	030-4556					
9	All Barb Tee	003-T1414	3						

Spray Shield Mounting – Installation Kit 4556

Locate the vertical bracket on the LH side of the baler tongue assembly.

Measure 2" up from the bottom horizontal edge and mark a parallel line. Use the spray shield holder to align the two holes in the side flange of the holder on the parallel line.

Align the front bottom corner of the spray shield bracket with the angled edge on the front bracket. Mark both hole locations and drill 2x 3/8" holes.

Bolt spray shield holder (001-4445S) to LH side of baler frame with 2x 5/16x1" bolts, lock washers, and nuts. Hose barbs should point towards the front of the baler. Repeat process for RH side spray shield holder assembly.

Connect hose(s) to RH spray nozzle assembly, securing with hose clamps, and route hose over the top of the baler tongue to the LH side of the pickup. Connect the solid white hose to the inside set (low tips); the Green striped hose to the center set of tips (med tips); and the Blue stripe hose to the outside set of tips (high tips).

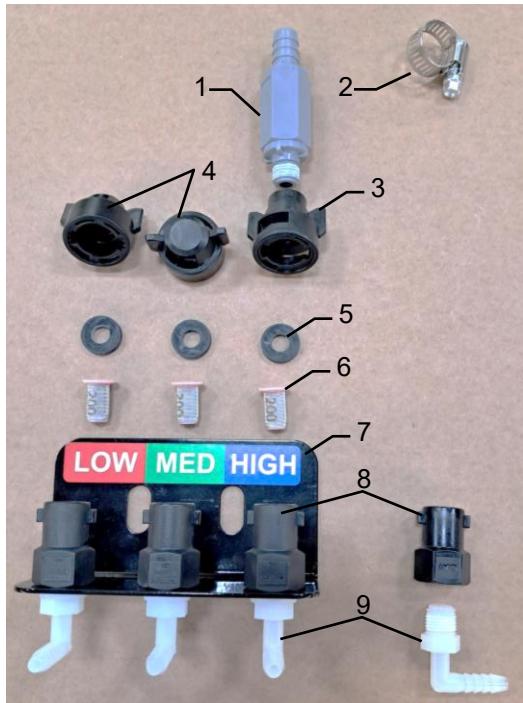
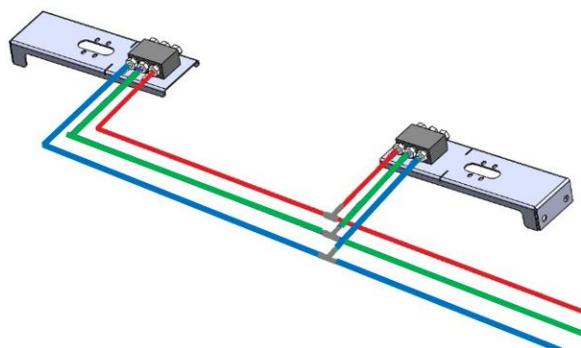
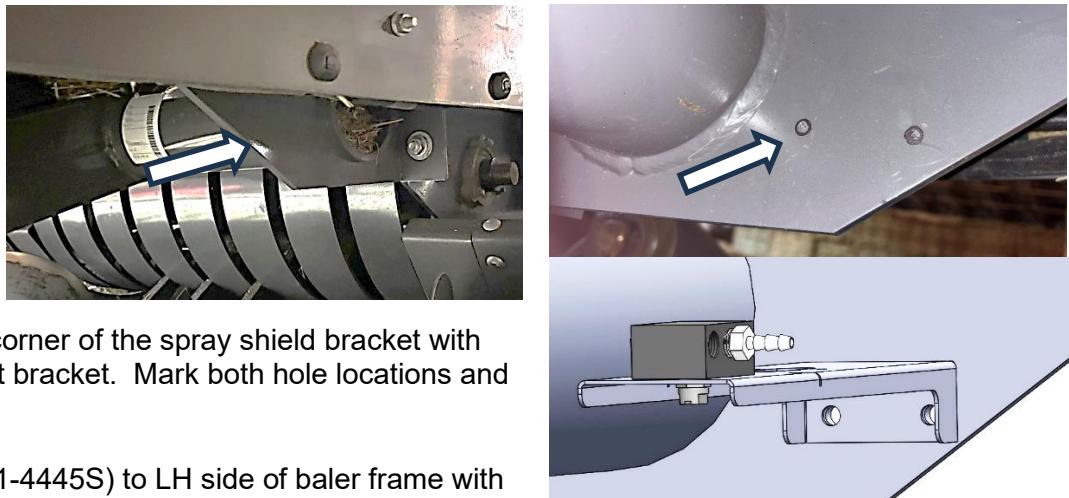
Connect hose(s) from RH side of the baler to corresponding tee fittings, 001-T1414, on LH side of tongue. Connect hoses on LH spray bracket assembly to corresponding tee fitting. Route hose(s) from the tee fitting(s) to the LH side of the baler and connect to appropriate hose location on the Electronic Manifold Assembly.

Hose Manifold Assembly (030-4720)

Mounting- Mount the hose manifold on the front of the baler in an accessible location. Make sure the bracket placement will not interfere with any baler operations. Connect spray shield lines to appropriate hose barb elbow, using hose clamps supplied with the spray shield assembly:

White / Clear line connects to 'LOW'
 Green Striped line connects to 'MED'
 Blue Striped line connects to 'HIGH'

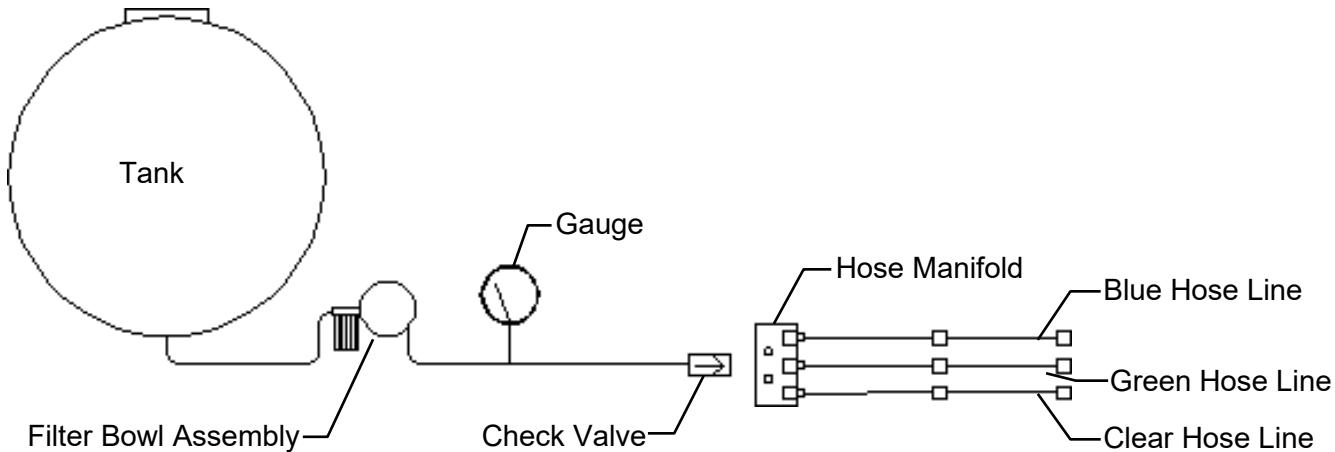
Ref	Description	Part#	Qty
1	Check Valve	002-4564X	1
2	Hose Clamp	003-9003	1
3	Female Quick Connect	004-1207H	1
4	Shutoff Cap	004-1207F	2
5	Washer	004-1207W	3
6	Tip Strainer	004-1203-200	3
7	Hose Manifold Bracket	001-4720	1
8	Quick Connect	004-1207G	3
9	Elbow	003-EL1414	3
Complete Assembly		030-4720	



Installation of Plumbing

Intake- Screw the 003-EL3412 (3/4" to 1/2" elbow) into the bottom of the tank. Second screw the 002-2212 (1/2" ball valve) with elbow into the filter assembly. Lastly, route the 002-9001(1/2" hose) from bottom of the tank to ball valve. Secure with hose clamps.

Outlet- Run 1/2" hose from the pump outlet to the gauge assembly. The gauge is assembled with two straight fittings; an elbow is supplied in the parts bag to be used if necessary. From the gauge the hose will need to be run to the hose manifold. Cut the hose to length and attach the check valve (002-4564X) and female coupler (004-1207H) of the hose manifold assembly parts bag. Use the supplied caps (004-1207F) to cover the remaining disconnects (004-1207G) when not connected to the pump supply line.



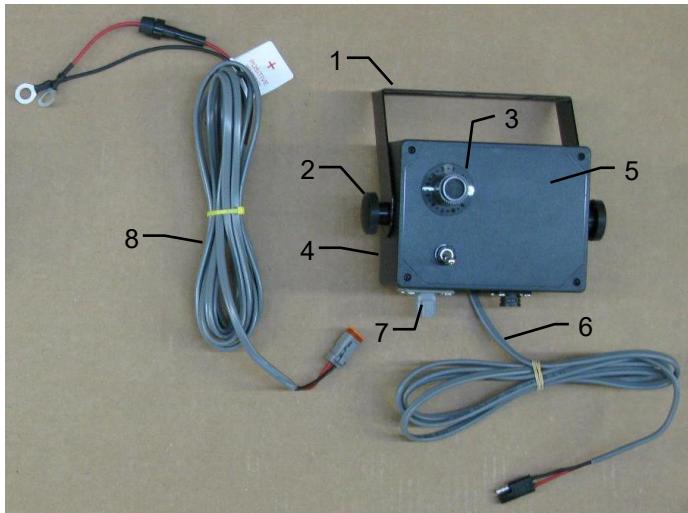
Hose Routing

Connect 1/2" hose to discharge fitting and route hose back under the tank and down the LH side of baler, following the existing brackets/lines between the chamber and the twine box. Route hose down LH side of baler and secure to existing lines with cable ties (J).

Locate the support bracket between the twine box and chamber that supports the existing lines and secure hoses to this bracket (K). Front view of hose secured to top of support bracket (L).



Model 457 Control Box



<u>Ref</u>	<u>Description</u>	<u>Part #</u>	<u>Qty</u>
1	U-Bracket Mount	001-2012E	1
2	Control Box Mount Knob	008-0923	2
3	Speed Dial Knob	006-2022A	1
<u>For Controls After Serial # 4550:</u>			
4	Control Box Enclosure	006-2015A	1
5	Control Box Cover	006-2015B	1
6	Pump Lead	006-4583	1
7	Box Plug	006-4580M	1
8	Power Lead	006-4581M	1
NP	Baler Pump Harness (26')	006-4574	1
NP	Baler Pump Harness (35')	006-4575	

Complete Replacement Control Box 030-0457

Installation of Control Box (030-0457)

Locate parts bag 13 for hardware to mount control box in a suitable location within the tractor cab.

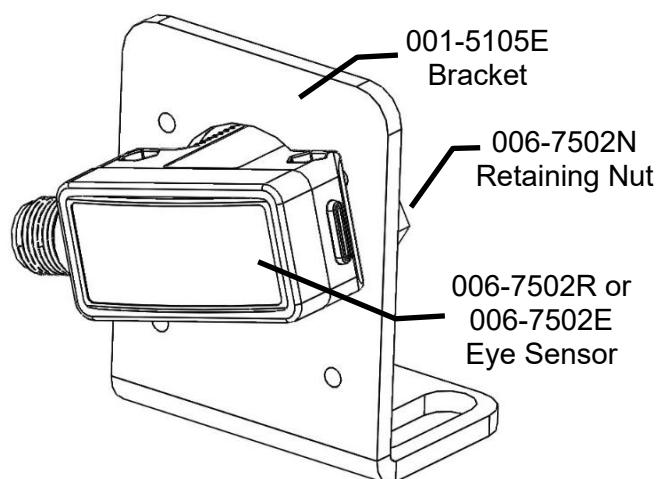
Route the wire to the starter solenoid on all 12v tractors. Connect the green lead marked + to the hot terminal on the starter. Connect the black lead to a good ground. **Do not reverse the leads.** Be sure to use a voltmeter to verify that you do have 12 volts running to the box.

Note: For tractors with 24v starters, connect the power leads to the tractor's right hand battery. Do not connect the leads to the starter. Connect the lead marked + to the positive battery terminal and the lead marked- to the negative on the battery. Wiring connections to the battery normally results in corrosion; terminal coating is recommended.

Caution: Do not run a pump or use an electronic control box directly off a battery charger. For stationary use, the applicator can be connected to a new battery and the battery connected to a charger

Optional Crop Eye Forage Indicators

Installation

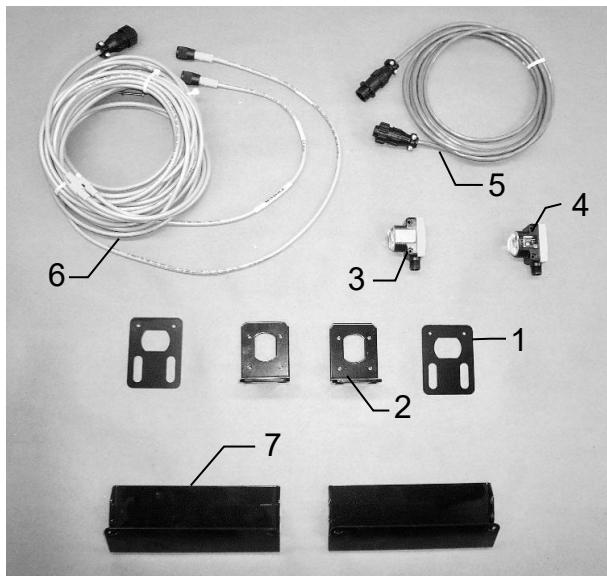


Sensor Placement: Crop eye sensors must be mounted directly across from each other on the baler pickup. Remove one of the existing factory bolts (installer's preference) on each side of the pickup head, place the sensor bracket (001-5105E) and reinstall factory bolt. Drill and tap a second hole to fully secure the sensor bracket. Attach the red Receiver Eye sensor (006-5105R) to the bracket on the RH side of baler with supplied plastic retaining nut. Do not over-tighten retaining nut to eye sensor. Repeat process on the LF side of the pickup for mounting the bracket and green Emitter Eye sensor (006-5105G).

Harness Routing (Electronic Systems): From the LH side of the baler where the wires and hoses are routed forward from the back of the baler, route the green leg of the EOR harness to the green sensor on the LH side of the pickup, and route the red leg of the EOR harness to the red sensor on the RH side of the pickup. Follow existing wires/hoses where possible, securing with cable ties. Avoid pinch points and allow for complete range of motion of pickup head.

From the front LH corner of the baler, route the opposite end of the wire harness (001-7502H) towards the tongue and attach extension harness (001-7500A) to connect to the EOR port located at the bottom of the 457 control box in the tractor cab. Secure excess wiring with cable ties.

Harvest Tec 474A Parts Breakdown



Ref#	Description	Part #	Qty
1	Trash Plate	001-5105S	2
2	Hay Indicator Bracket	001-5105E	2
3	Sensor -Receiver (Red)	006-7502R	1
4	Sensor -Emitter (Green)	006-7502E	1
5	Extension Wire- Amp Plug	006-7500A	1
6	Hay Indicator Harness -Amp Plug	006-7502H	1
7	Hay Diverter	001-5105F	2
NP	Hay Indicator Retaining Nut (Replacement, included with crop eye)	006-7502N	2

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.

Revised 4/17

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