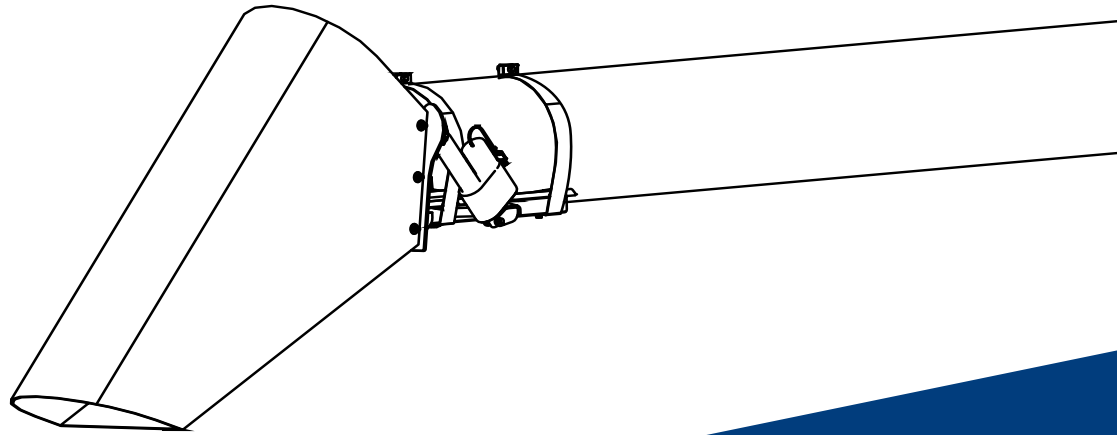




Operation, Install & Parts Manual

Model CPS1410

Pivoting Spout

For Models 50/60/7088, 70/8010, and 71/81/9120

D-1231212CMA01A
December, 2023

Hillco Technologies, Inc. 1010 1st Ave. Nezperce, Idaho
Phone: 800.937.2461
www.hillcotechnologies.com

D-231212CMA01A

Table of Contents

Warranty	3
Operation	4
Parts	5
Required Tools	7
Installation	8
Wiring Diagram	19
Trouble Shooting	20

Contact Information

Hillco Technologies, Inc.
1010 1st Avenue
Nezperce, Idaho 83543

www.hillcotechnologies.com

Phone	800-937-2461
	208-937-2461
Fax	208-937-2280

email: support@hillcotechnologies.com



Statement of Limited Warranty

Class III Warranty

Parts Only

Hillco warrants its Class III products to be free from defects in material and workmanship for a period of twelve (12) consecutive months following the warranty start date.

The warranty start date for Hillco Class III products is the date of the invoice, or the first date of use, whichever is earliest. Once the warranty period has begun, it cannot be stopped or interrupted.

Hillco warrants genuine Hillco replacement parts and components to be free from defects in material and workmanship for a period of ninety (90) consecutive days following the Hillco invoice date, or the remainder of the original equipment warranty period, whichever is longer.

Hillco's obligation under this parts warranty shall be limited to repairing or replacing, any part(s) that, in Hillco's judgment, shows evidence of such defect, to the original purchaser. This parts warranty does not cover any related labor associated with replacing parts deemed to be defective.

Limitations to Warranty

This warranty does not cover:

- 1) Any product damaged by accident, abuse, misuse, negligence, or improper maintenance.
- 2) Any unauthorized product alteration or modification.
- 3) Any unauthorized repairs made with parts other than genuine Hillco parts unless specifically authorized by Hillco.
- 4) Any repairs performed by anyone other than Hillco or an authorized Hillco dealer unless specifically authorized by Hillco.
- 5) Any claims directly resulting from improper installation, except those installations performed by Hillco.
- 6) Any labor costs associated with the defective part(s).

Warranty Procedure

Hillco Class III Warranty Registration Card must be completed and submitted by retail customer within thirty (30) days of purchase.

All warranty work must be performed, and claims submitted, within thirty (30) days of the occurrence of the claim and within the warranty period.

All parts removed during warranty repair should be held for a period of sixty (60) days after the warranty claim has been submitted to Hillco.

Hillco reserves the right to either inspect the product at the original retail purchaser's location, or the authorized Hillco's dealer's location; or require it to be returned to Hillco, transportation charges prepaid, for inspection.

To file a warranty claim, email support@hillcotechnologies.com with the following information:

- Your full name and phone number
- Proof of purchase
- Description of issue
- Serial number and/or part number(s) of items needing replaced, and
- If available, include any photos that can assist to describe the issue.

Limitation of Liability

Hillco makes no express warranties other than those, which are specifically described herein. Any description of the goods sold hereunder, including any reference to buyer's specifications and any descriptions in circulars and other media published by Hillco is for the sole purpose of identifying such goods and shall not create an express warranty that the goods shall conform to such description.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. There are no implied warranties of merchantability or fitness for a particular purpose. This warranty states Hillco's entire and exclusive liability and buyer's exclusive remedy for any claim for damages in connection with the sale or furnishing of Hillco products, their design, suitability for use, installation, operation, or for any claimed defects herein. HILLCO WILL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, NOR FOR ANY SUM IN EXCESS OF THE PRICE RECEIVED FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

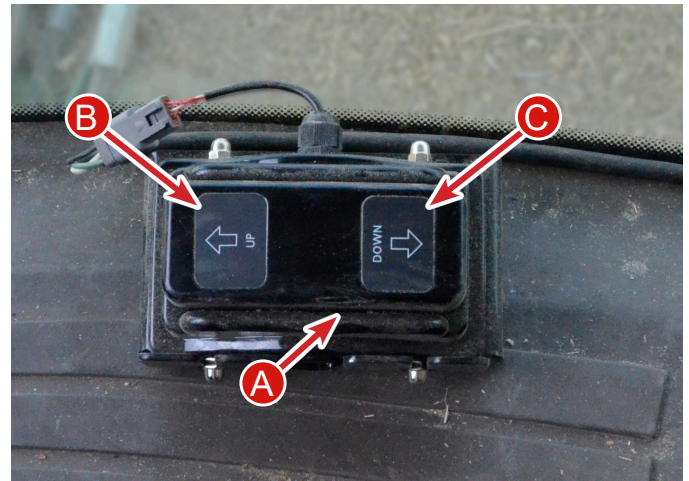
Neither representative of Hillco nor any dealer associated with Hillco has the authority to change the terms of this warranty in any manner whatsoever, and no assistance to purchaser by Hillco in the repair or operation of any Hillco product shall constitute a waiver of the conditions of this warranty, nor shall such assistance extend or revive it.

Hillco reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold.

OPERATION

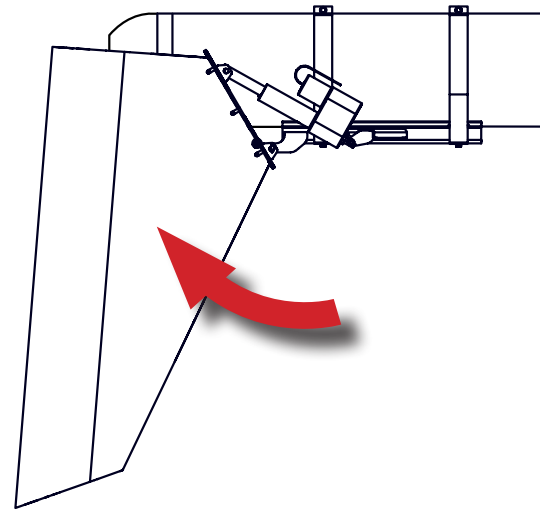
The pivoting spout is controlled with a foot switch (A) mounted on the floor of the cab.

The pivoting spout rotates 37° directing the stream both further away and closer to the combine than the standard John Deere unloading auger tip.



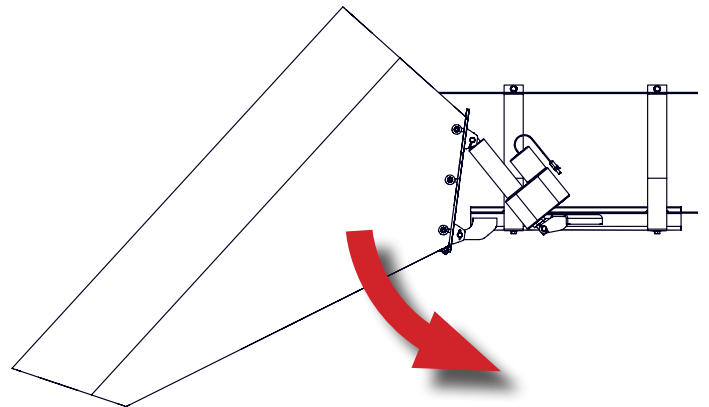
To rotate the pivoting spout up to direct the grain stream further away from the combine press the UP arrow (B).

Stop pushing the switch when you have either reached the desired position or the spout no longer moves up.



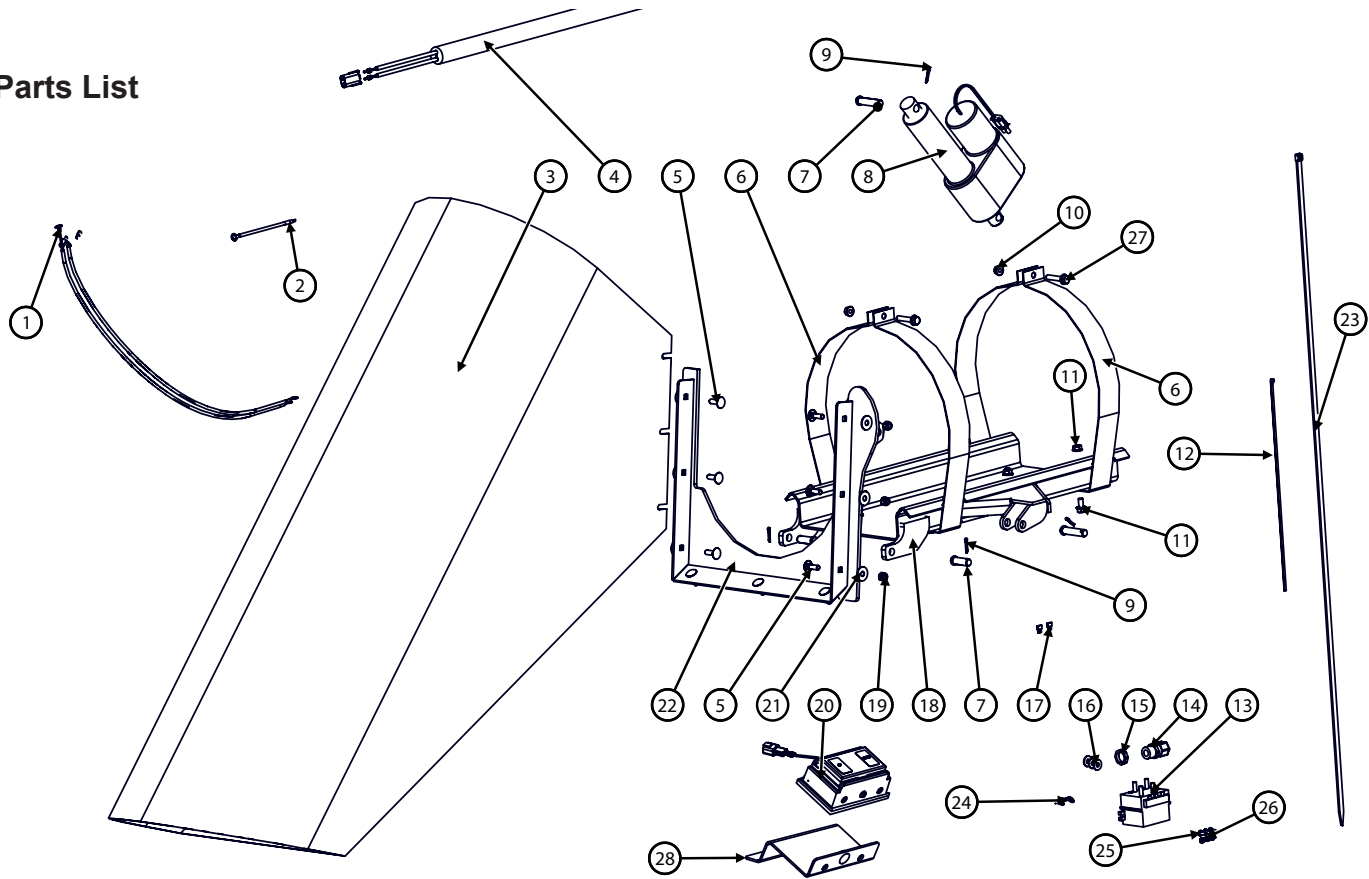
To rotate the pivoting spout down to direct the grain stream closer to the combine press the DOWN arrow (C).

Stop pushing the switch when you have either reached the desired position or the spout no longer moves down.



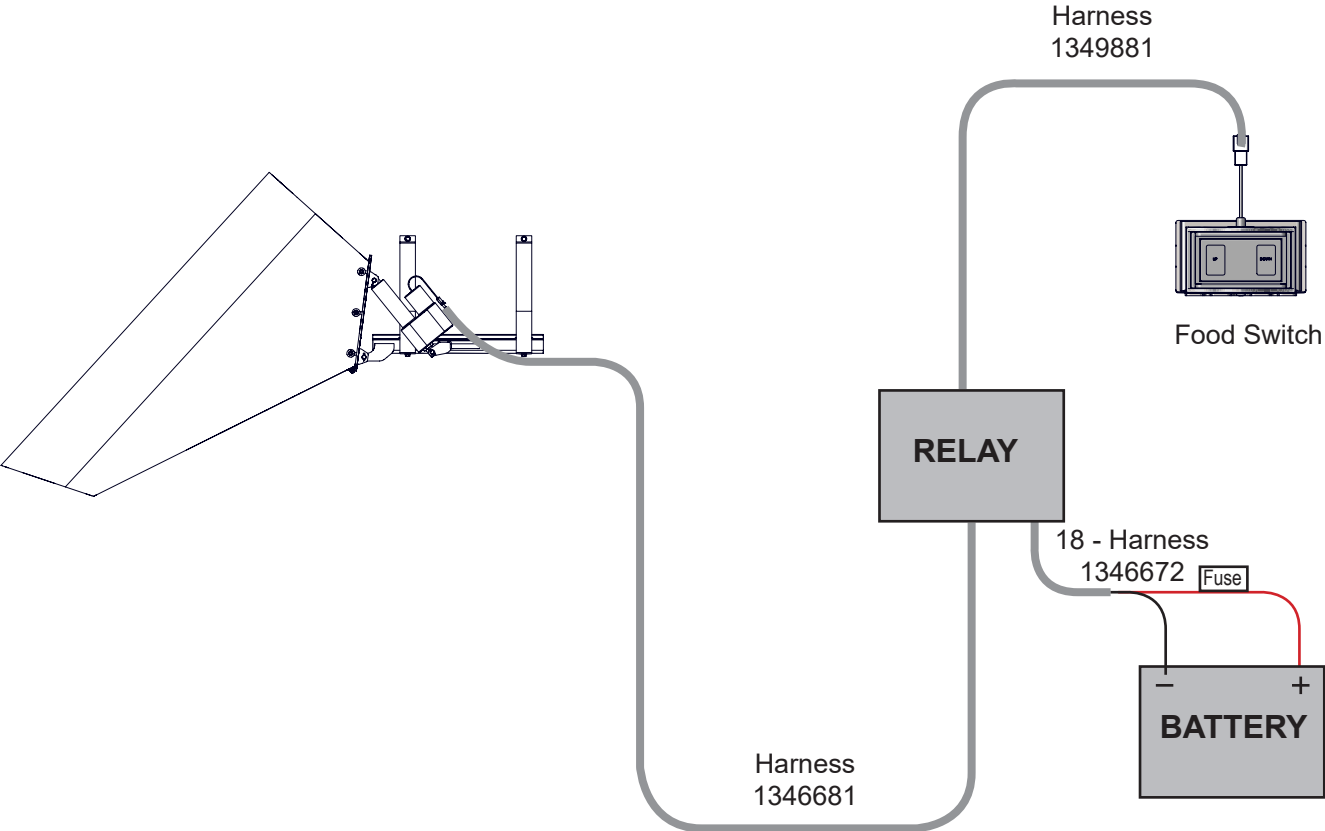
Note: If the spout is at its maximum either in or out and the switch is still pressed the actuator will ratchet. Constant ratcheting will shorten the life of the actuator motor and drive components. Constant ratcheting can also cause the fuse to blow.

Parts List



BOM ID	Description	Qty	Description
1	1346672	1	POWER/GROUND, SPOUT TIP
2	1349831	1	JUMPER, POWER, RELAY
3	1380271	1	SPOUT, POLYETHYLENE, 14" AUGER TUBE, W/ MOUNTING HOLES
4	1346681	1	HARNESS, RECEIVER/ACTUATOR, WIRELESS
5	163.008.025	9	BOLT,CARR,CL8.8 M8X25
6	1380161	2	STRAP, MOUNTING PS14
7	141.008	4	PIN CLEVIS, 1/2 X 1-1/2"
8	1349841	1	ACTUATOR, RAISE/LOWER, FAST
9	142.002	4	PIN, COTTER 1/8 X 1
10	123.008	6	NUT, HX,FL, CL 10.9, M8x1.25
11	122.008.016	6	M8 X 16 FLANGE BOLT
12	141341	1	3/16"x15" ZIP TIE
13	155853	1	RELAY, 100/50 AMP, 12V, DC, REVERSE POLARITY
14	138781	1	STRAIN RELIEF,BLACK,
15	142121	1	NUT,STRAIN RELIEF,BLK
16	105.004	3	WASHER, 1/4"
17	155771	2	BLADE FUSE,MINI,ATM 20 AMP
18	1380121	1	TRAY MOUNT, PS14
19	125.008	9	NUT,HX,NYL,CL10 M8
20	1349851	1	FOOT SWITCH
21	106.005.016	9	WASHER,FNDR,ZINC PL,5/16X1
22	1380171	1	SPOUT, MOUNT, PS14
23	156331	1	48" BLACK WIRE TIE
24	155778	2	TERMINAL,RING,12-10GA, 5/16" STUD
25	114.#10.008	3	SCREW,PHM,CH 10-24X1/2
26	119.#10	3	NUT,HX,FL,SERR 10-24
27	122.008.040	6	M8 X 40 FLANGE BOLT
27	122.008.080	6	M8 X 80 FLANGE BOLT
28	1351833	1	MOUNT, FOOT SWITCH

Wiring Harnesses



Required Tools

Installing the Tray Mount and Boot		
Tool	Notes	Checklist
3/8 Battery Driver		
13 mm deep socket 3/8 drive		
3/8 socket extension		
(2) - 13 mm Wrenches		
Medium or Large Channel Locks		
Needle nose Pliers		
Grinder with cutoff wheel	Needed to modify grain dam	
Ladder, scaffolding, forklift... something to get to the right height		
Installing Electrical		
Tool	Notes	
Tool Needed		
Electrical Strippers		
Utility Knife		
Electric Crimpers		
Heat Gun or Lighter		
Battery powered drill		
3/16 drill bit		
13/64 drill bit		
7/32 drill bit		
7/8 drill bit		
Phillips screw drivers		

Hardware Packaging

1. Bolt Bag 1
 - a. Carriage Bolt M8x25 Qty: 10
 - b. Fender Washer 5/16x1 Qty: 10
 - c. Nylok Hex Nut M8 Qty: 10

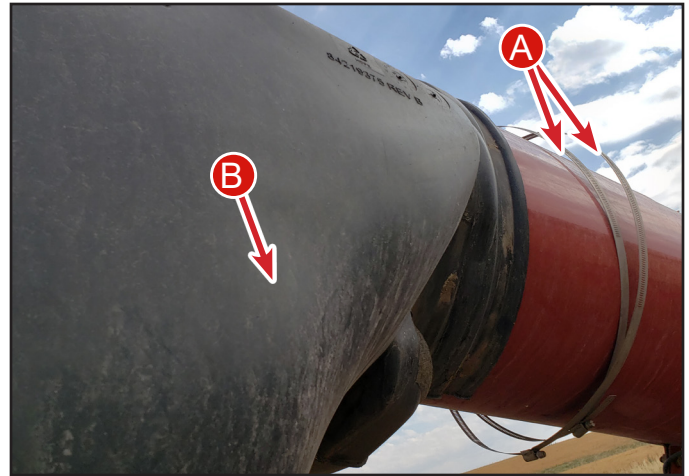
2. Bolt Bag 2
 - a. Hex Nut M8x1.25 Qty: 7
 - b. Bolt M8x16 Qty: 4
 - c. Bolt M8x40 Qty: 3
 - d. Bolt M8x80 Qty: 2
 - e. Flat Washer (5/16") Qty: 2

3. Bolt Bag 3
 - a. Clevis Pin 1/2 x 1- 1/2 Qty: 3
 - b. Clevis Pin 1/2 x 2 Qty: 3
 - c. Cotter pin 1/8" x 1" Qty: 6

4. Bolt Bag 4
 - a. 10-24 x 1/2 screw Qty: 3
 - b. 10-24 nut Qty: 3

Spout Tip Removal

Remove the two hose clamps (A) holding the stock spout (B) on.



Remove grain dam (C).
Save Hardware for reinstallation.

It is necessary to remove the dribble door bolts to allow the boot and dribble door to slide off.

Remove Existing boot (A).



Using a cutting wheel and grinder cut off section of grain dam that has the thicker steel cross welded to it. Cut at edge of cross but leave existing grain dam as long as possible.



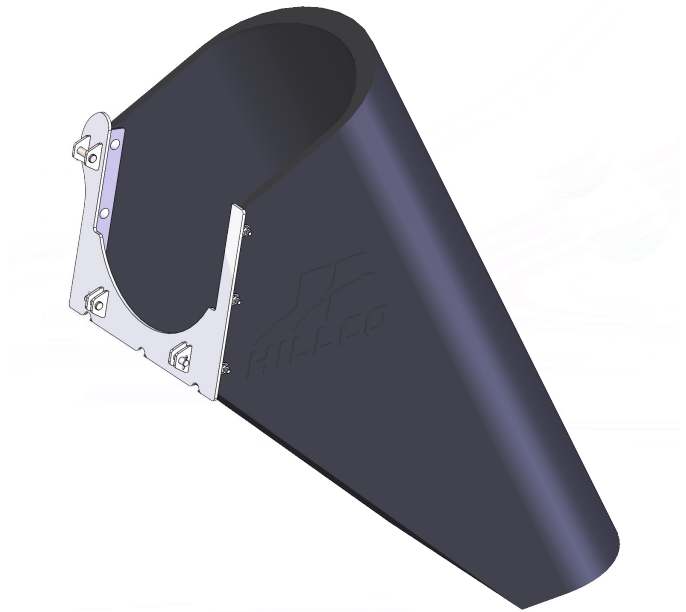
Reinstall dribble grain dam.



Spout Tip Installation

Locate bolt bag #1, the plastic boot and the metal boot mount. Use the M8x25 carriage bolts, 5/16 fender washers, and nylok nuts to secure the boot to the metal bracket.

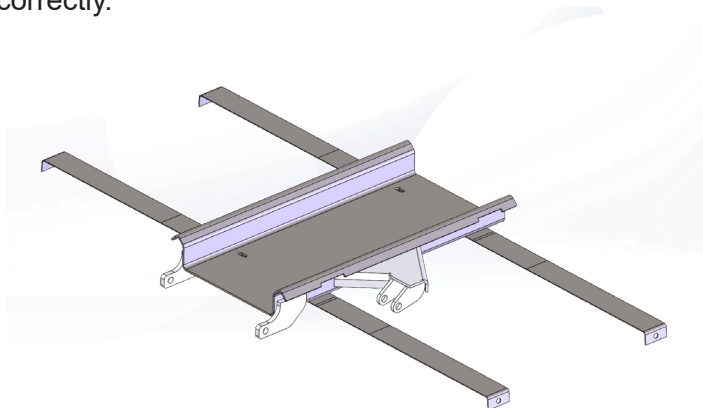
Make sure the carriage bolts have the head of the bolt to the inside.



Locate the two mounting straps and the mount tray.

Use the (4) shorter M8x16 bolts and nuts from bolt bag 2 to attach the two straps to the tray mount.

The strap bends will face opposite of the tray. That way when you go to install the tray the bends will be oriented correctly.



*Picture above shown with tray facing up.

D-231212CMA01A

Install tray mount approximately 4 5/8" back from the bottom of the auger tube per picture below.

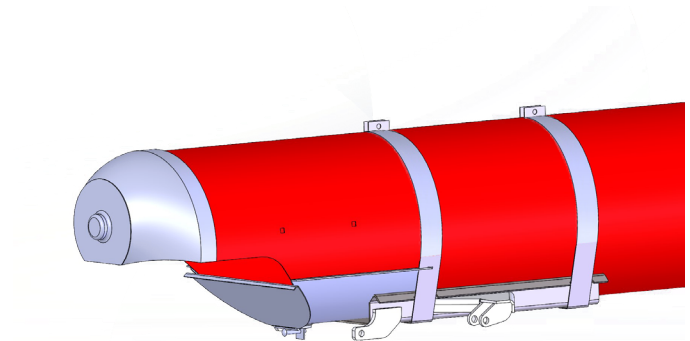
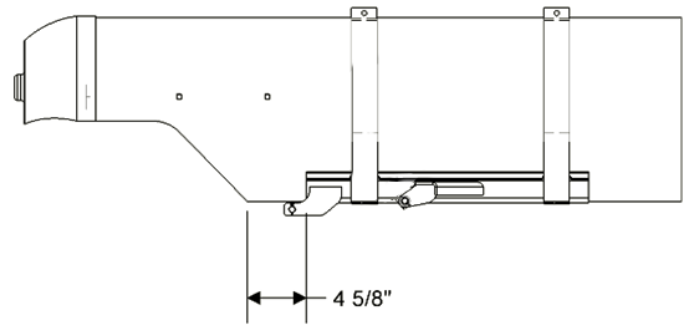
Dimension may need to be adjusted slightly depending on model of combine

Use the M8x40 bolts and nuts in bolt bag 2.

Note: For certain models longer bolts may be necessary. M8x80 bolts are also supplied in the kit.

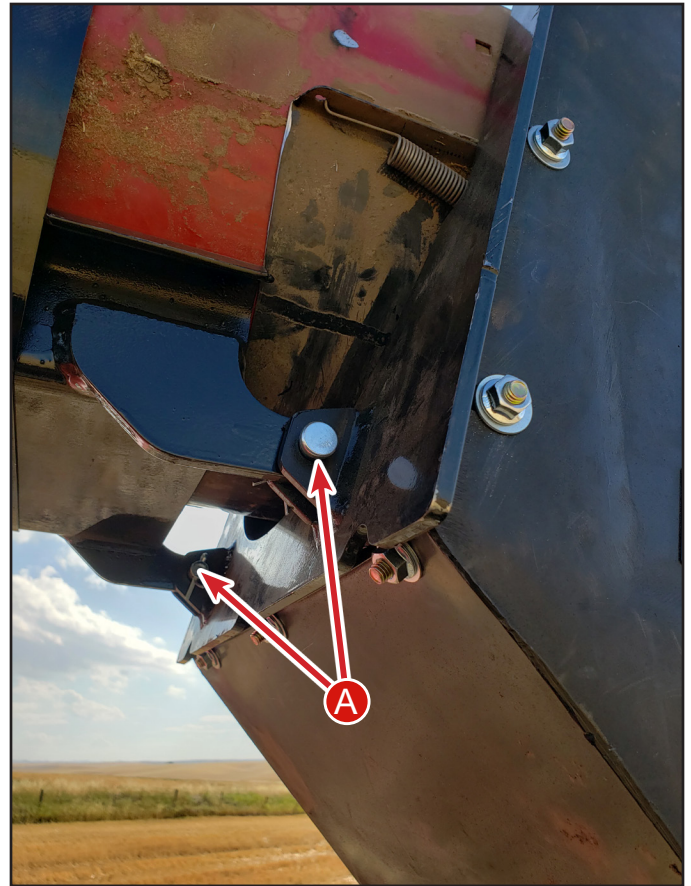
Form the straight straps around the auger tube. Hold the two tabs as close as possible with a pair of large channel locks to get nut started on bolt. Tighten bolt rest of the way.

To help in holding the tray mount up you can temporarily ratchet strap it in place.



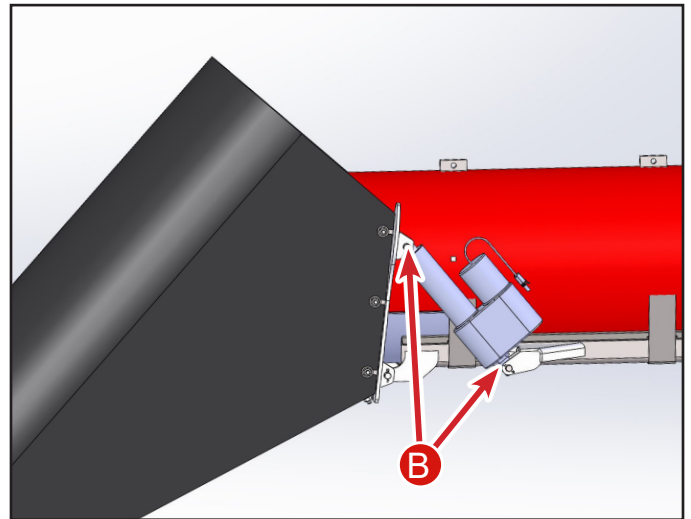
Using the two $\frac{1}{2}$ x 1 - $\frac{1}{2}$ " clevis pins (A) from bolt bag 3 connect the lower pivot points of the boot mount to the tray mount. Lock in place using cotter pins.

A - $\frac{1}{2}$ x 1 - $\frac{1}{2}$ " clevis pins



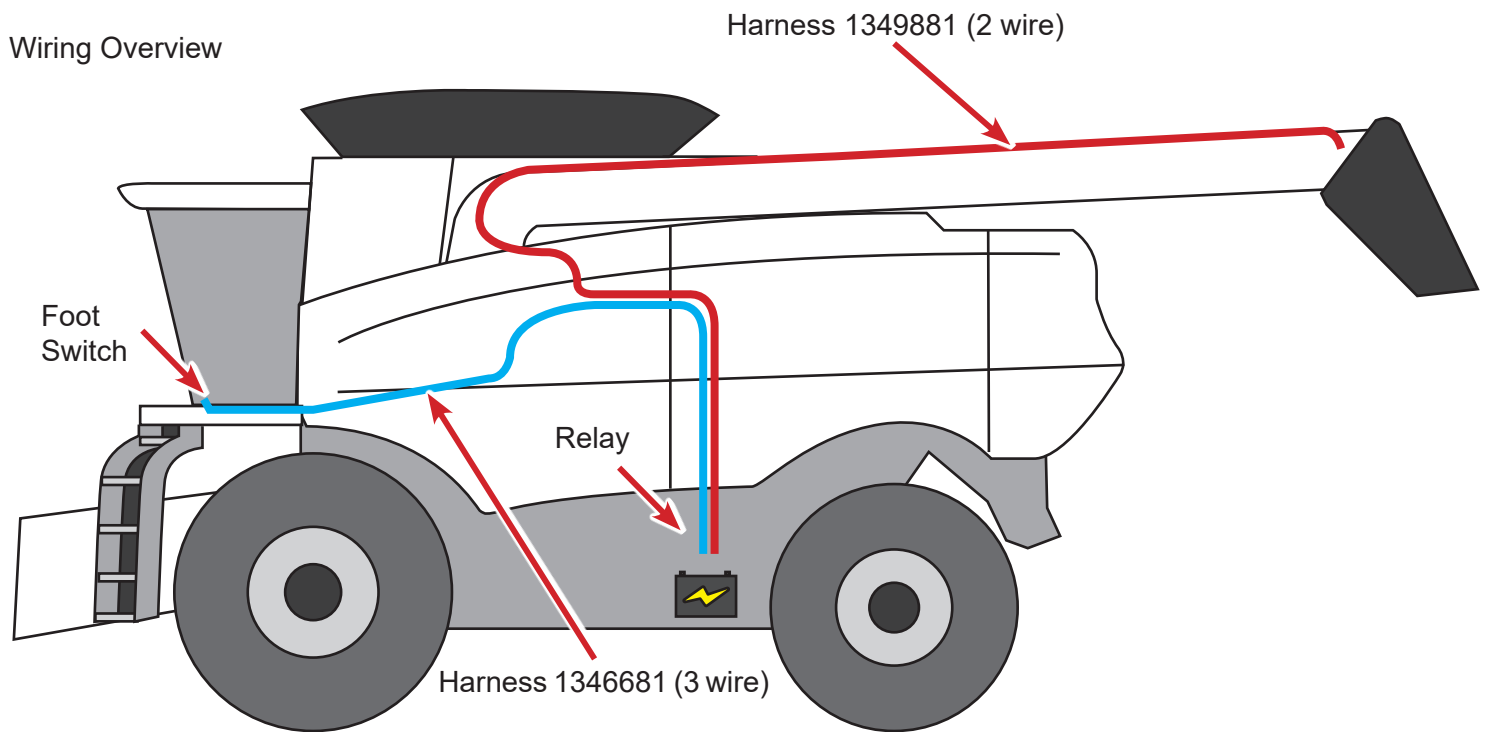
Use the two $\frac{1}{2}$ " x 2" clevis pins (B) to attach the linear actuator to the tray mount and the boot mount oriented as shown.

B - $\frac{1}{2}$ x 2" clevis pins



Wiring

Wiring Overview

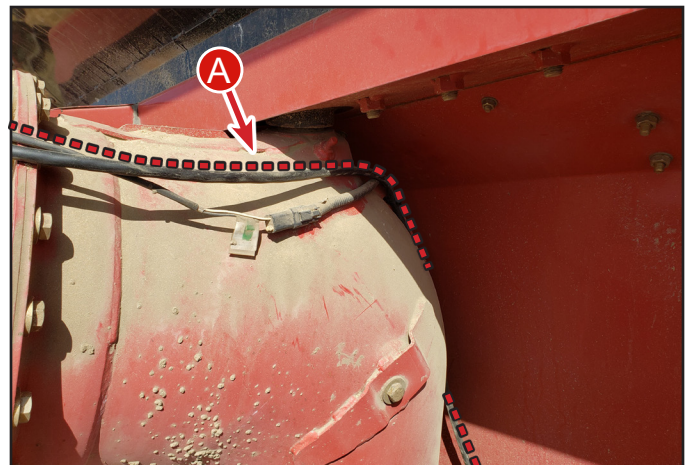


Start with wiring the 2 conductor wire (A). Plug the end of the wire to the linear actuator. And begin routing towards the battery. Use the 48" zip to secure the wire to the auger tube where needed. Certain models have lights that have a harness installed already, and you can use the same mounts with the smaller 15" zip ties. See pictures for routing.

Follow other harnesses as needed.

Do not cut the harness or make crimps until installing the relay.

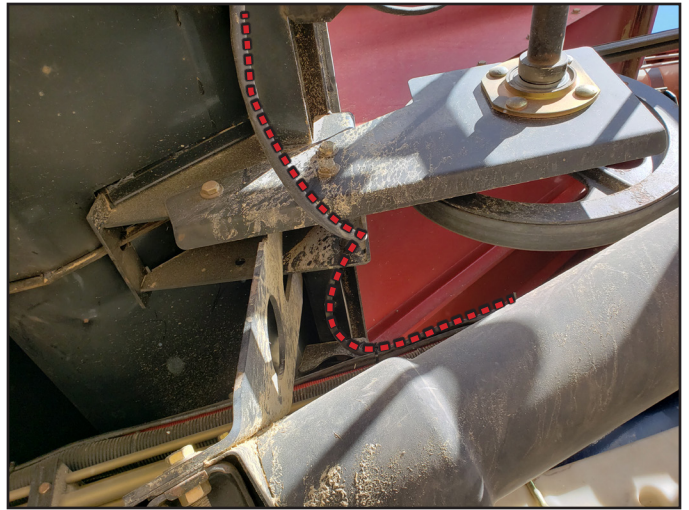
When wiring at the auger pivot pay close attention to make sure you have enough slack for the auger tube to rotate, but not too much slack such that the harness can't come in contact with any mechanical moving parts such as belts, gears, etc.



Continue to route the harness from the unloading auger turret down the side of the machine.



Route down towards batteries.



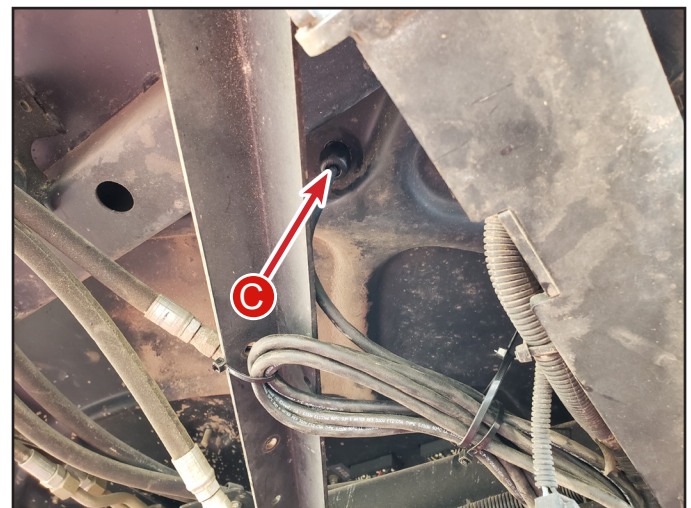
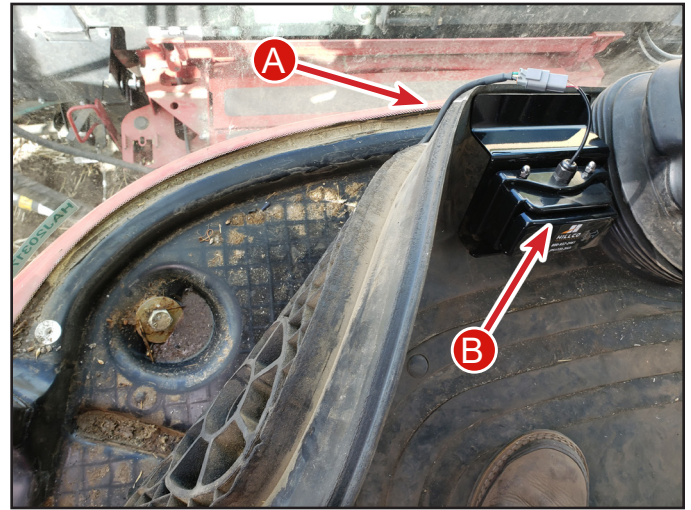
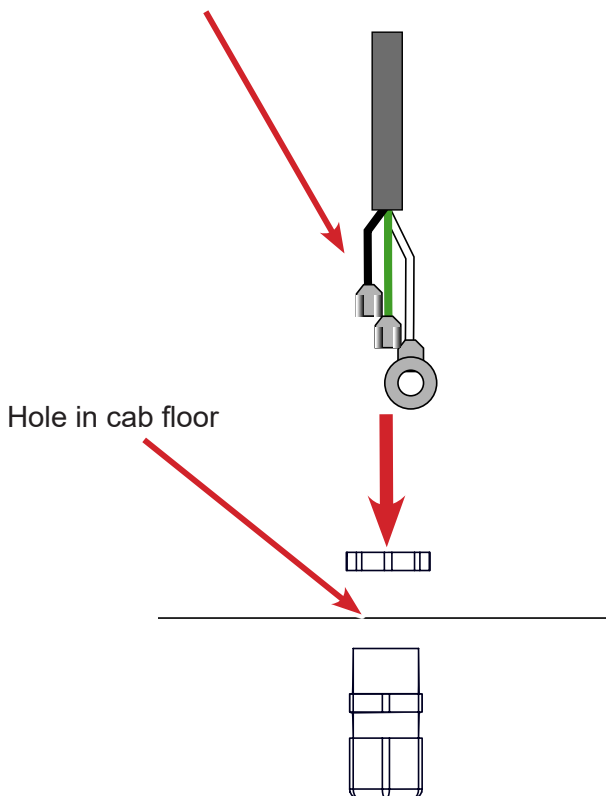
Foot Switch Installation

Locate Harness 1349881 (A) and the foot switch (B). Harness 1349881 will run from the cab to near the battery box. Final location to be determined by where the relay needs to be mounted.

Starting in the cab pull up the floor mat to the left of the steering column. Determine if there is a pass through that will work. If not drill a hole for the cable strain relief (C) provided. Install harness through cable clamp and plug into foot switch. The end of harness with ring terminal and push to connect terminals should be able to pass through the cable gland. If not remove the pins from the plug with a small screw driver or pin removal tool if you have one.

Note: If you have to drill a hole drill it in a cab floor valley otherwise the harness can cause the floor mat to stick up.

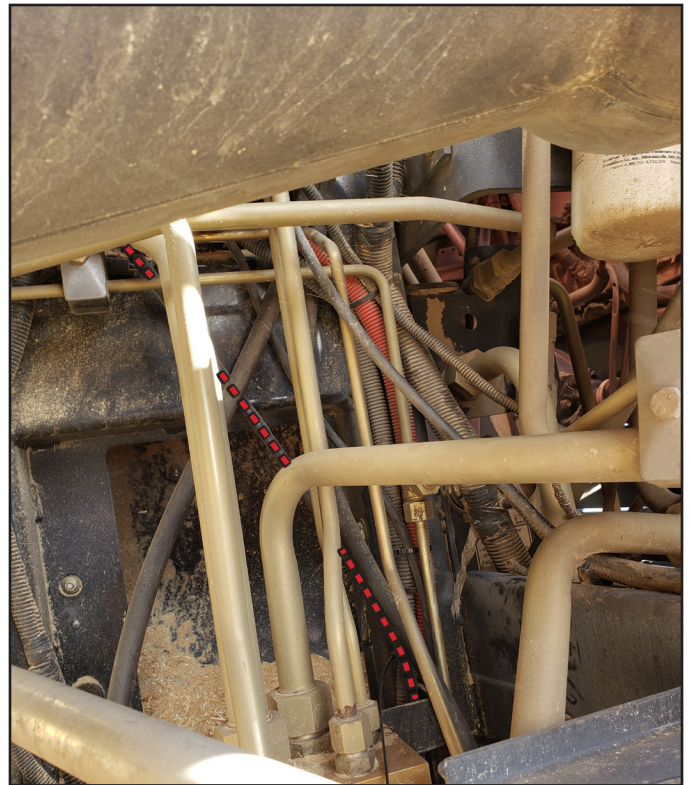
Push end of 1349881 with connectors and ring terminal through the strain relief. End with connector will not fit through strain relief.



Run harness 1349881 along other harnesses that route to the battery. See pictures below for general guidance.

Note somewhere along the way the extra cable will need to be coiled up and zip tied together. It might be easiest to leave all the harness loose until you make the connections at the relay, then as you zip tie the wire into place you can decide the best place to coil up the extra cable. In the example below we coiled up the excess wire and zip tied it to the frame below the cab.

Use the pictures of our routing below as a rough guide. May need to adjust accordingly based off differences in combine models.



Controller Installation

Locate reverse polarity actuator control relay (155853).

Decide on a location to mount the Relay. In this example we installed a pivoting spout on a 7010.

There was a bracket near the battery box that had space on the inside so we install it at this location.

On your particular combine model you may need to install it on the other side of this bracket or somewhere else near the battery box on a different bracket.

Use the #10-24 Screws and Nuts. Drill appropriately sized holes for the relay using it as a template to mark out your size. Recommended Hole diameter is .2010 which is a #7 drill bit.

Mount relay (A) as shown with terminals facing down.

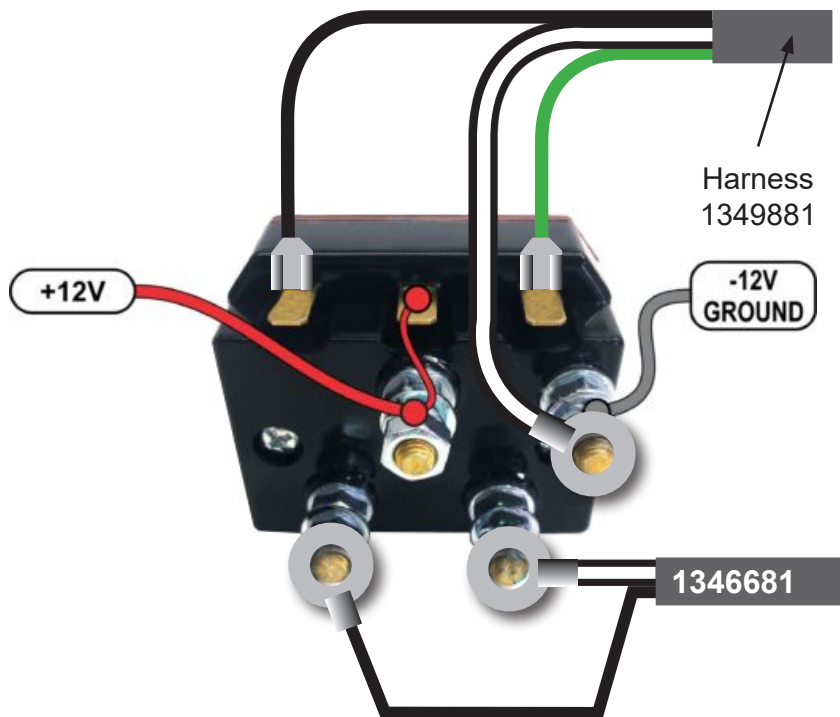


Connect harness 1349881 as shown to the relay controller.

Connect the female spade on the green wire to the far right male spade.

Connect the ring terminal on the white wire to the negative post.

Connect the female spade on the black wire to the far left male spade.



Power Harness

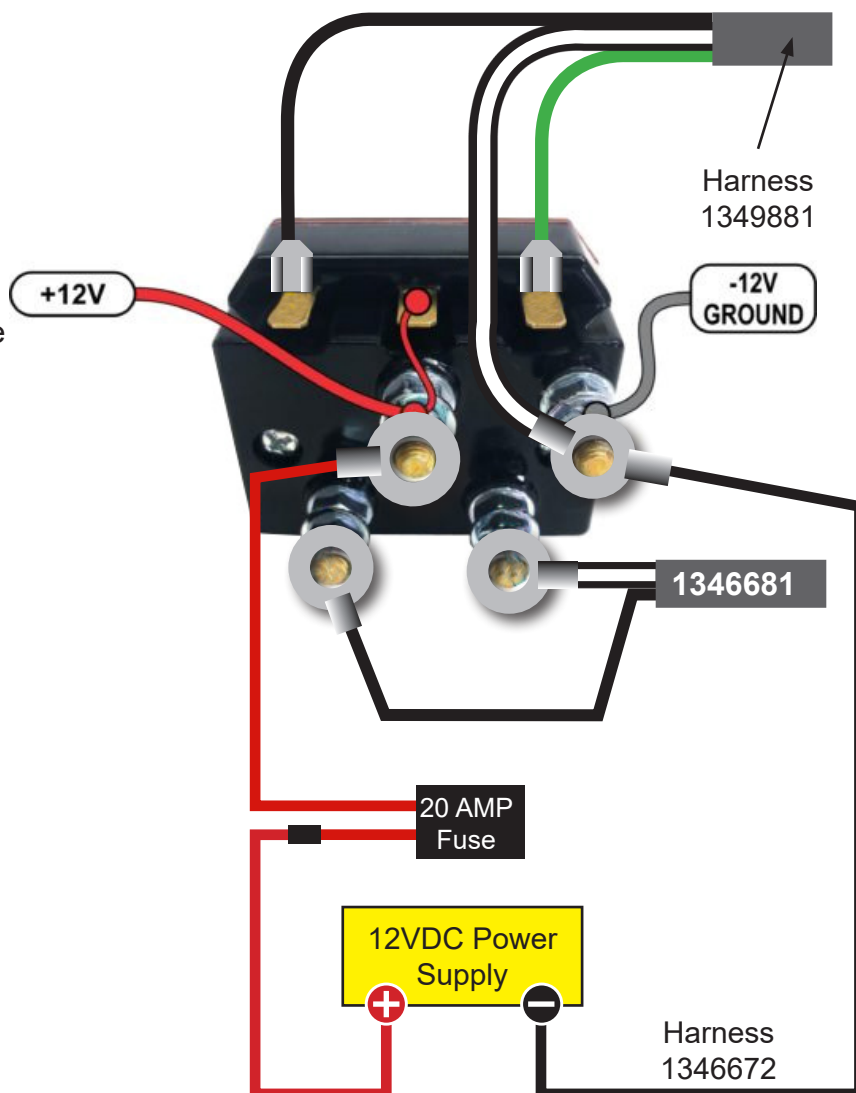
Locate Harness power harness 1346672.

Connect the orange wire with the 20 amp fuse to the positive terminal on the controller.

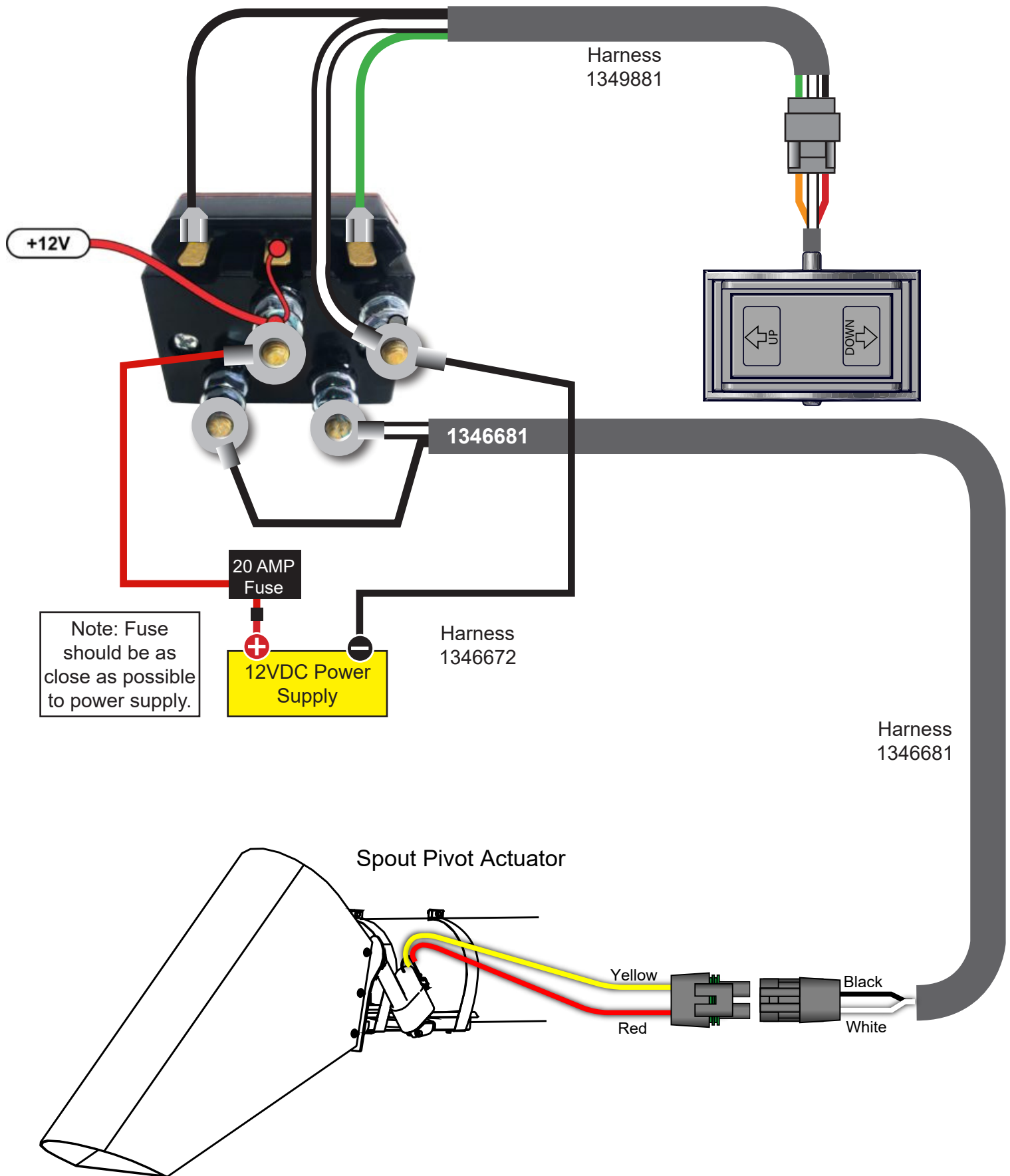
Connect the black wire with to the negative terminal on the controller. Route harnesses to battery.

Install harness such that the 20 Amp fuse is as close to the battery as possible. Must be within the first 8" of the wire to the battery/power supply.

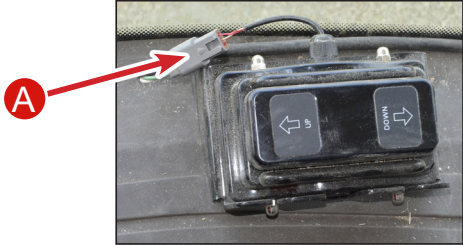
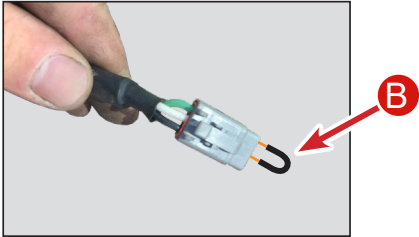
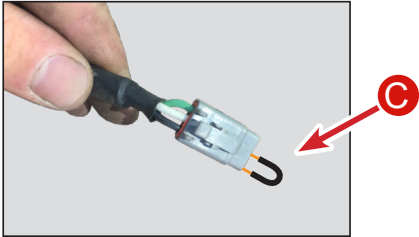
See next page for connecting to battery.



Wiring Diagram

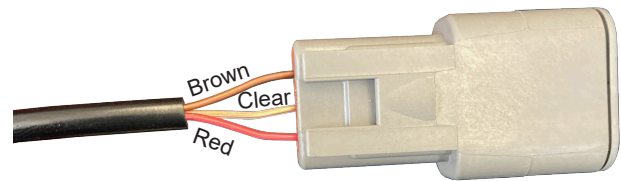


Trouble Shooting

Problem	Solution
Spout does not move	Blown fuse. Replace fuse (Spout is sent with two extra fuses) Note: resting your foot on the switch can cause it to actuate and max out the actuator thus causing the fuse to blow.
	Spout tip is hung up. Verify tip is not bound on any of the mounting hardware
	Check connections at relay.
Spout pivots wrong direction	Reverse two wires going to the actuator at relay or reverse black and green wires coming from the switch on the relay.
Spout pivots only one direction	1. Disconnect foot switch from wiring harness. (A).  2. On the harness entering the cab run a jumper wire (B) from the middle pin to either side pin of the wiring harness.  3. If the spout pivots swap the jumper wire to the other outside pin leaving the middle pin.  If the spout pivots the opposite direction the relay is good and the foot switch will need repair. See next page for foot switch repair.

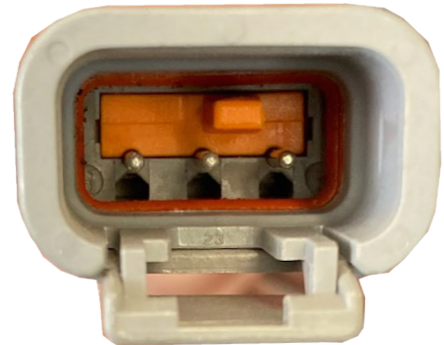
Foot Switch Repair

Verify wires are in correct spot as shown.

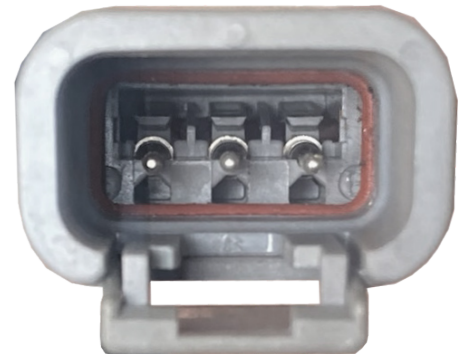


Verify pins are seated correctly in plug

If wires are in correct spot and pins look correct use a needle nose pliers to remove the orange plastic insert.



Use a small flat screw driver to release the wire and pin from the connector. Remove the three wires and inspect that the wires are connected to the pins. If they look good reinstall pins in the spots shown above.



If the three pin connector looks good disassemble the switch box by taking the bottom cover off. Verify the three wires are soldered to the corresponding spades on each switch. If a wire is broke resolder it to the correct spade. The clear wire should be soldered to both switches. The brown and red wire go to the switches as shown.

For a replacement switch contact Hillco Technologies at 800-937-2461.

