

Hydraulic Jack Installation

54012-HJ

 Warning

- Top of battery needs to be protected. If positive side of battery is accidentally grounded person could be burnt or wiring system can be damaged, or battery gasses could explode causing injuries.
- Disconnect cable from negative battery terminal before starting installation.
- Always wear eye protection and protective clothing when working around hydraulic systems.
- Remove jewelry and objects that might conduct electricity while working on power units.
- Fluid under pressure can pierce the skin and enter the bloodstream causing death or serious injury.
- Hydraulic hoses and electrical cables (harnesses) must be tied and routed safely to avoid any damage and pinching (away from hot places, sharp objects etc.).

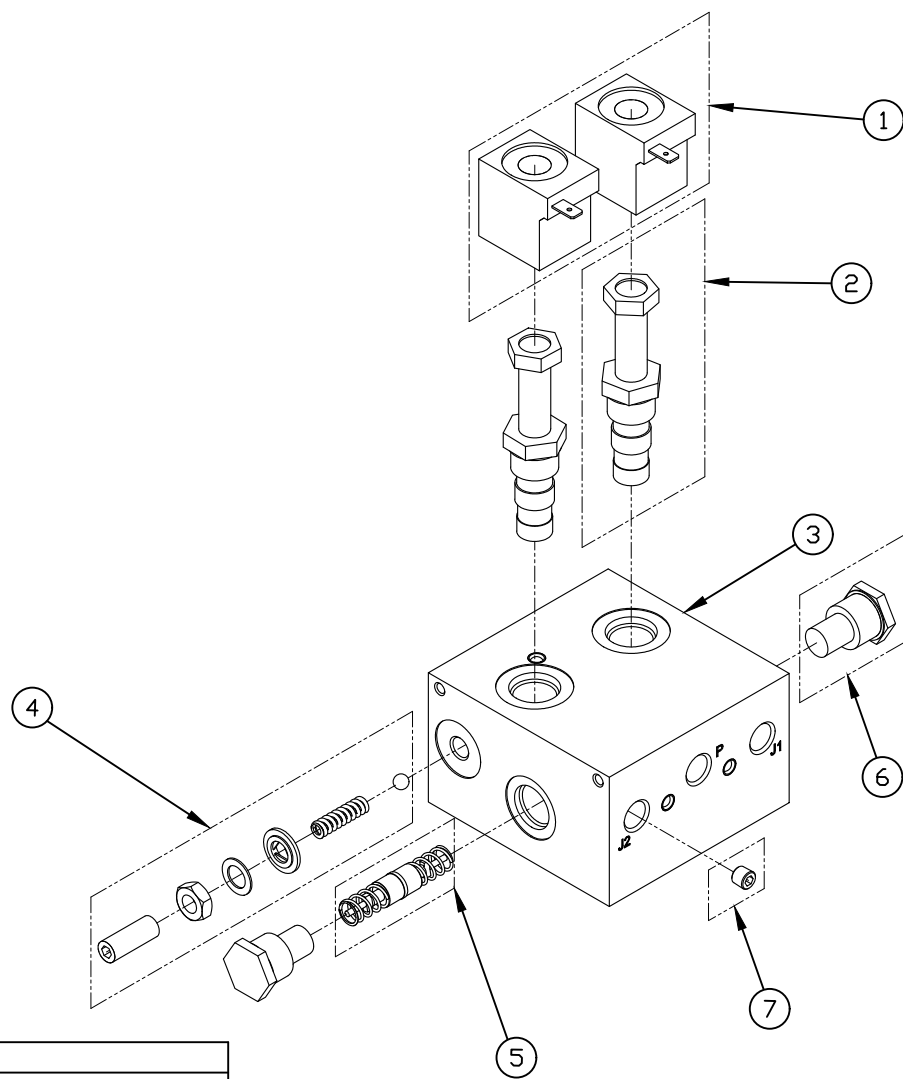


Switch Setup on V/Straight Plow



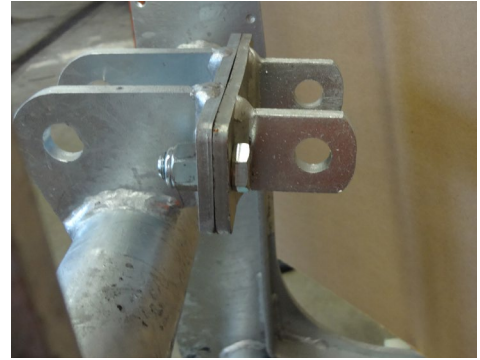
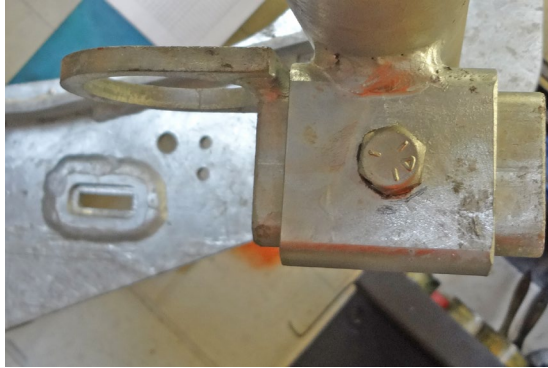
Switch Setup on WING Plow

54012-HJ Hydraulic Jack Kit for V, Wing and Straight Plow			
	Item	Description	Quantity
1	53517-HANDLE	QLIV Lift Frame with Handle	1
2	53576-N	Hydraulic Jack Manifold Assembly (c/w coils and valves)	1
2a	53576-01-N	Manifold Only	
2b	FP18835-D	Coil 10VDC	
2c	3W/2P Cartridge	FP0679-D	
2d	FP7217	PO Check Valve	
2e	FP72187	Piston for PO Check Valve	
2f*	FP7257	Relief Valve Kit	
3	HH-00293-028	5/16 – 18 x 1.25 HHCS	2
4	HH-00341-003	5/16 Flat washer	4
5	53567-A	Jack Cylinder Bracket	1
6	HH-00972-089	½ - 20 x 1 ¼ HHCS	2
7	HH-00540-004	½ - 20 Nylon Insert Locknut	2
8	HH-00972-139	5/8 – 18 x 4 ½ HHCS	1
9	HH-00540-002	5/8 – 18 Nylon Insert Locknut	2
10	53566-N	2” Bore Diameter x 12” Stroke Hydraulic Jack Cyl.	1
11	53568-A	Bottom Jack Cylinder Bracket	1
12	HH-00972-136	5/8 - 18 x 3 ½ HHCS	1
13	53526-A	Jack Foot Assembly	1
14	HH-00293-094	½ - 13 x 2 ½ HHCS	1
15	HH-00340-003	½ -13 Nylon Insert Lock nut	1
16	FPN0339	Manifold Valve Cover	1
17	FPN0546	#10 – 24 x 3/8 Self Tapping Screw	4
18	53573-HJ	Up/Down kit for Hyd Jack (c/w switch & 53573-M)	1
18a	53573-M	Harness for Hydraulic Jack (No Switch)	
18b	53573-02-A	Toggle Switch	
18c	800096-MPX	Relay	
19	53877-A	Box Only	1
20	HH-00141-029	#10 – 32 x ¾ Machine Screw	2
21	HH-00540-100	#10 – 32 Nylon Insert Locknut	2
22	51002-M	¼” – 18” Hose Assembly (ST-90)	2
23	51904-M	¼” – 29” Hose Assembly	2
24	HH-00790-002	90 Degree Swivel Elbow (1/4 NPT Male to ¼ NPT Swivel)	7
25	FP1414	Strain Relief Fitting	1
26	HH-00457-007	5/16 Lockwasher	2
27	53535-02-N	Fitting O ring boss (#6) to 90 deg Swivel	2



53576-N MANIFOLD ASSEMBLY			
7	FP4371	1	PLUG, ORIFICE, 3/64 IN
6	FP7217	2	CHECK VALVE PD CHECK (M3493)
5	FP7218	1	PISTON FOR PD CHECK (M3493)
4	FP7527	1	RELIEF VALVE KIT
3	53576-01-N	1	MANIFOLD JACK ONLY
2	FP0679-D	2	CARTRIDGE 3W/2P
1	FP18835	2	COIL 10VDC (PART OF FP7249-D FP10833-D) SPADE
	PART #	QTY.	DESCRIPTION

Installation of Hydraulic Jack



- Install Bottom Jack Bracket (11) using 5/8" x 1 1/2" bolt and nut (12) & (9).
- Install Top Bracket (5) using two 1/2" x 1 1/4" bolts and nut (6) & (7).

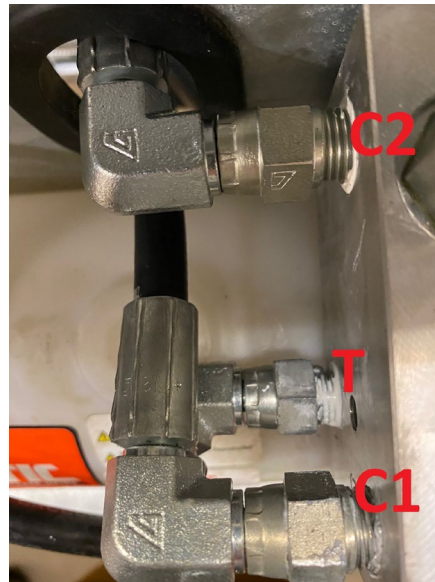
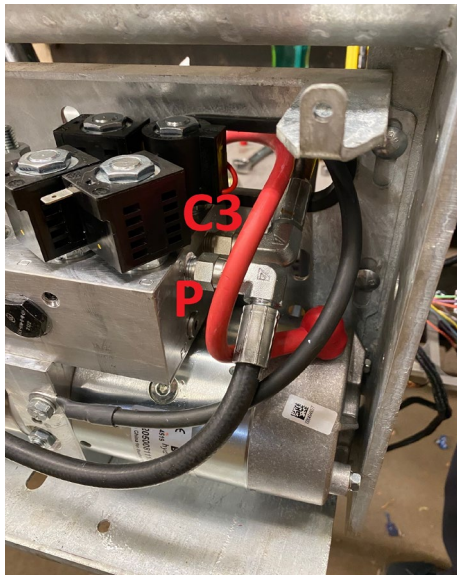


- Secure a cylinder (10) using 5/8" x 4.5" bolt and lock nut (8)(9).
- Install a cylinder foot (13) using 1/2" x 2 1/4" bolt and nut (14)(7) through the bottom hole (the top hole is used for higher trucks).
- Install a manifold (2) on the side of lift frame (1) using two flat washers (4) under each bolt (3) (washer are located between manifold and lift frame). Install 5/16" lock washer (26) under the 5/16" bolt (4).

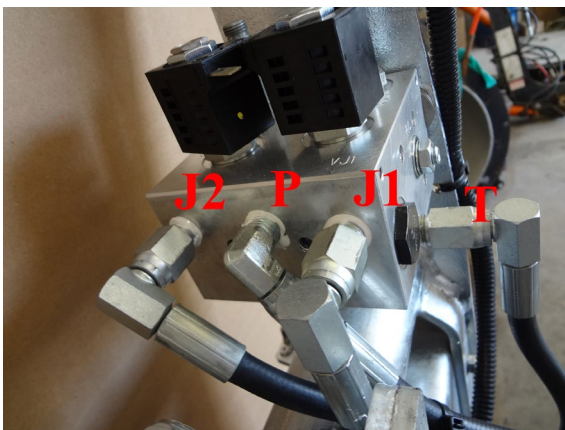
Straight Blade Installation M3493 power unit



Manifold Installation- front view.

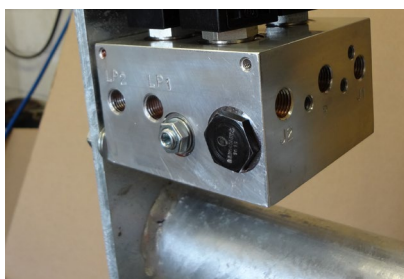


Straight Blade power unit – P & T hose installation

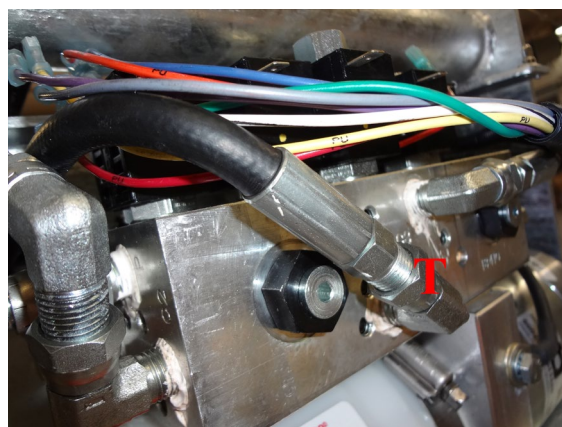
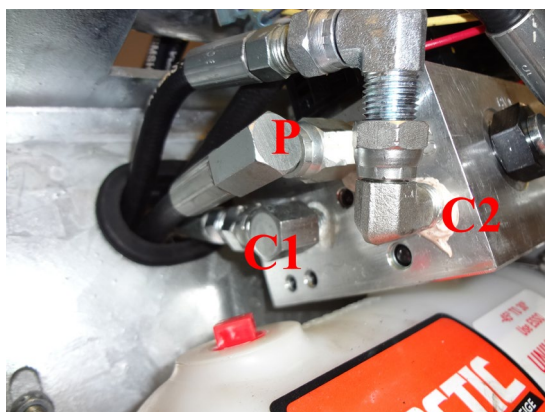


Manifold hose installation (T-29" hose, P- 18" hose) Jack hose installation (18" Hoses)

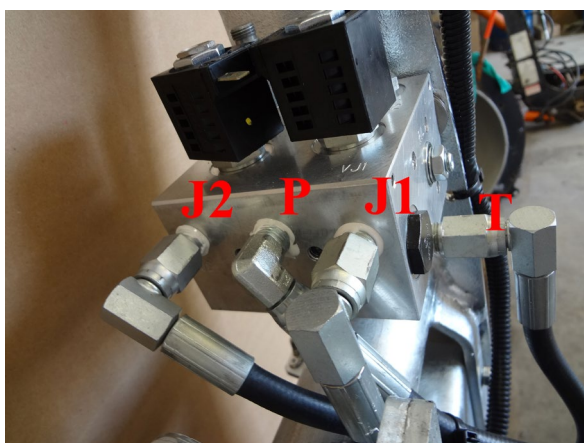
V plow installation M3500V power unit



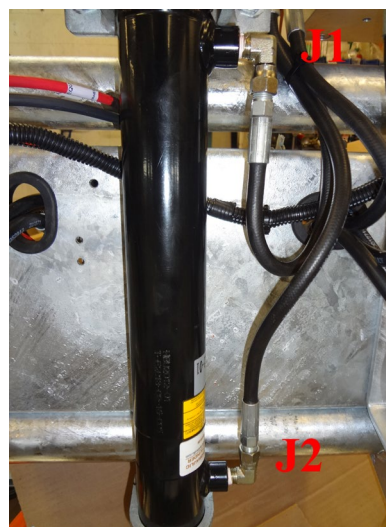
Manifold installation – front view



V plow power unit (P and T hoses installation)

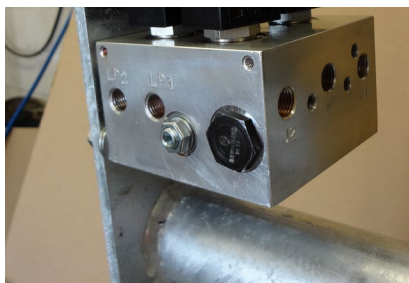


Manifold hose installation (T-29" hose, P-18" hose)

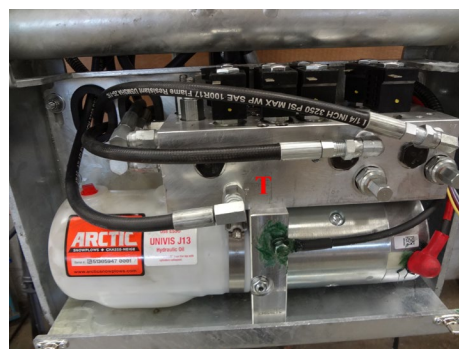


Jack hose installation (18" Hoses)

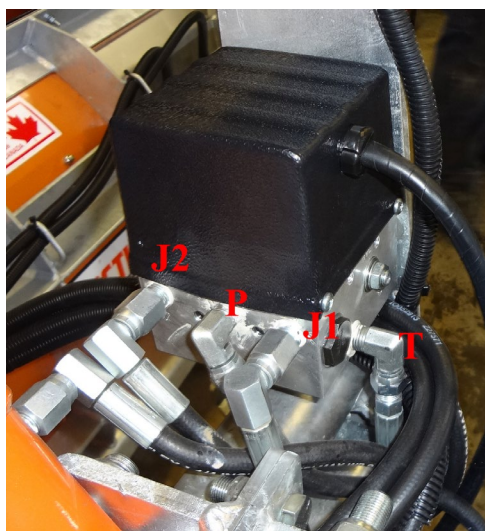
Wing plow installation



Manifold installation – front view.



Wing plow power unit (P and T hoses installation 29")



Manifold hose installation (T-29" hose, P-18" hose)



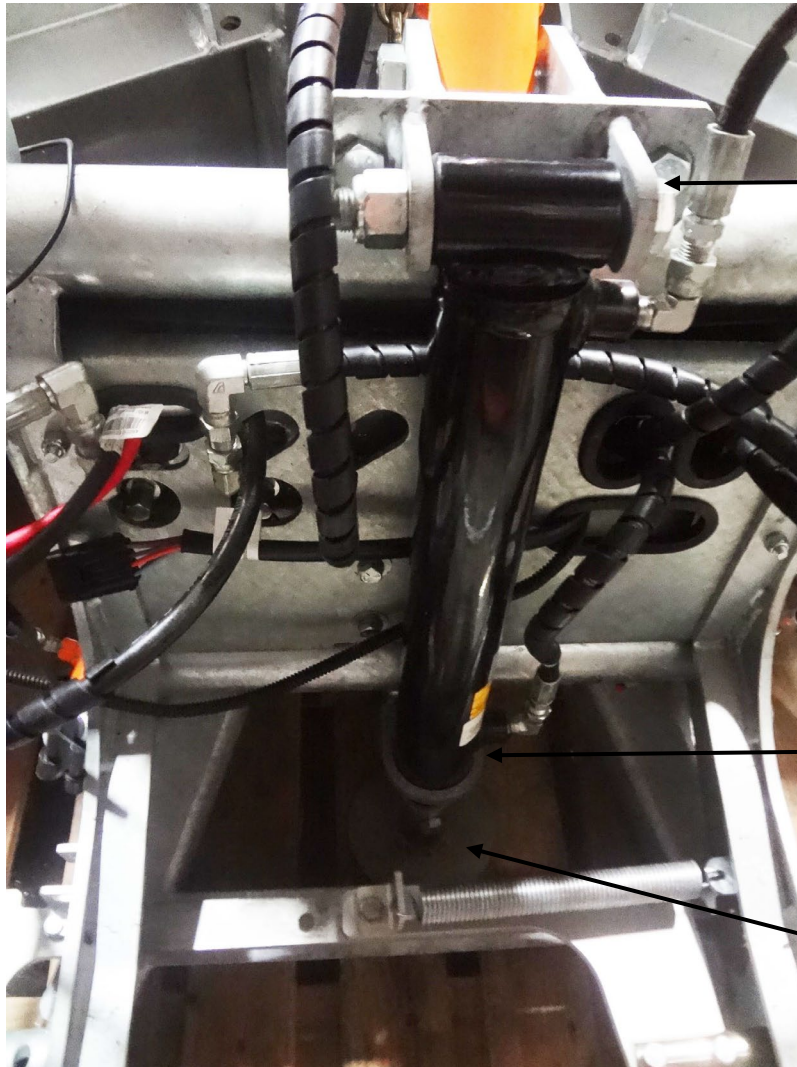
Jack hose installation (18" hoses)

Troubleshooting for Hydraulic Jack

Problem	Possible Cause / Solution
Jack is not going UP and/or down because motor is not running, and valve are clicking.	Check relay is wired properly, check for any loose wires or corrosion (brown wire), defective relay (if relay is not clicking)
	Check switch is wired properly (brown wire), check for any loose wires, defective switch (if there is no power to brown wire when switch is pressed up or down)
	Check Brown wire on solenoid for 12V, if not detected, back track and check all the butt connections for Brown wire to C valve wire
Jack is not going UP, motor is running	Check Orange wire on switch (controller must be in float position), check pink wire on switch, defective switch
	Check VJ2 coil on manifold (should get magnetized when UP is pressed)
	Check VJ2 valve on manifold
Jack is not going DOWN	Check Orange wire on switch (controller must be in float position), check blue wire on switch, defective switch
	Check VJ1 coil on manifold (should get magnetized when DOWN is pressed)
	Check VJ1 valve on manifold
Jack is not going UP and/or DOWN because motor is not running, and valves are not clicking	Check all wire connection on switch, check orange wire on switch (controller must be in float position), defective switch

Lift frame Part# 53517-HJ

Lift frame Part# with QLIV Handle 53517-HJ-HANDLE



Top Bracket Part#

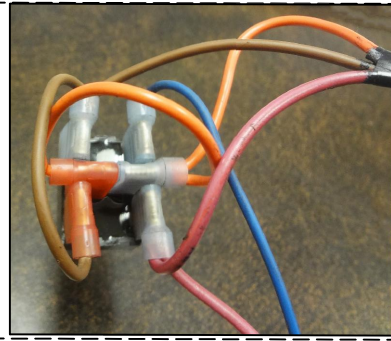
53567-N

Bottom Bracket part#

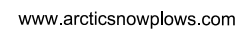
53568-A

Cylinder Foot Assembly Part#

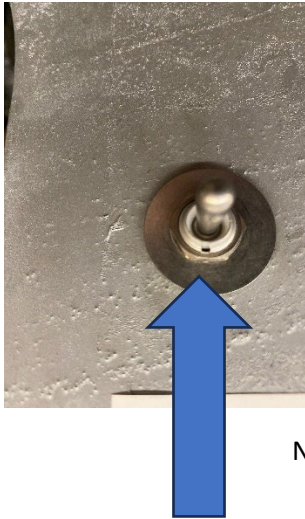
53526-A



JACK SWITCH		
PIN #	COLOR	AWG
85	BROWN (PUMP)	N/A
86	BLACK (GROUND)	N/A
30	EXISTING UP	N/A
87	BROWN (PUMP)	N/A
87a	PLOW UP (PINK/BLACK)	N/A



- 1) For V/Straight plow install a switch with 7/16" stainless steel washer under, notch should be facing down.



Notch facing down.



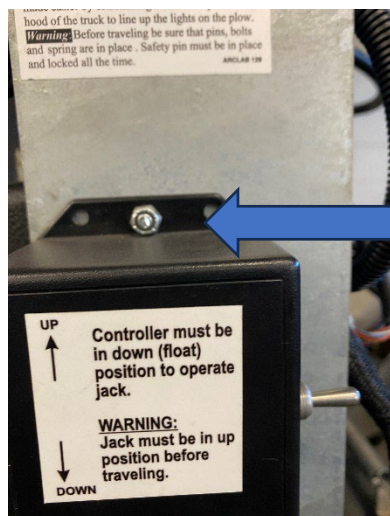
For Wing plow install the switch in the box (install 7/16" stainless steel washer under the switch and notch should be facing down).



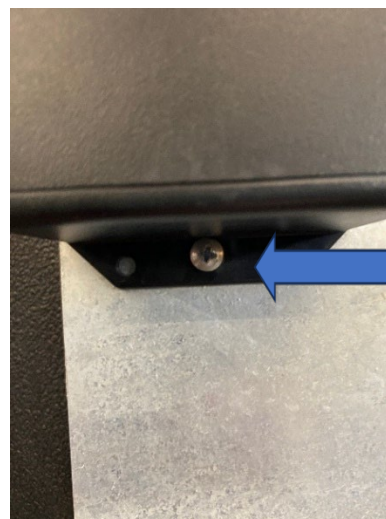
Notch facing down.



Install the bolt and the nut as shown below.

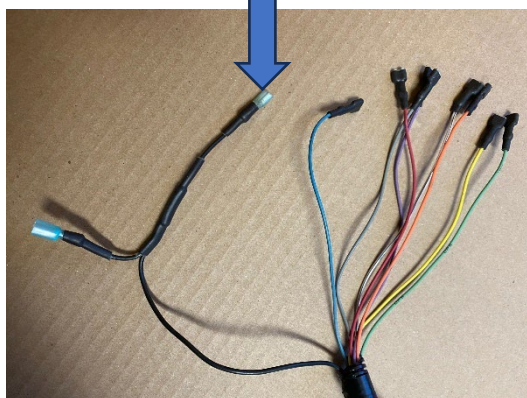


Nut



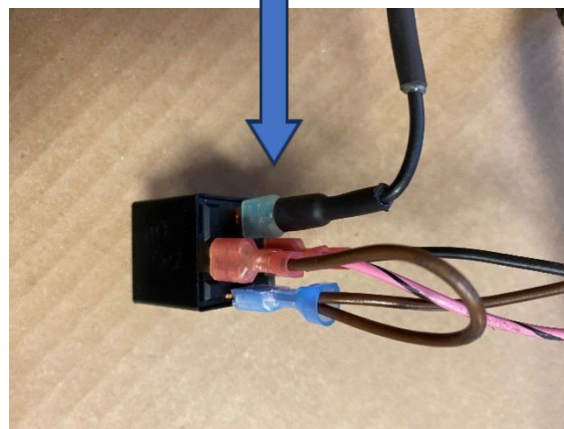
Bolt head.

Attach male spade terminal (black wire coming from lift frame harness) to Up Coil wire removed from C Valve Coil.

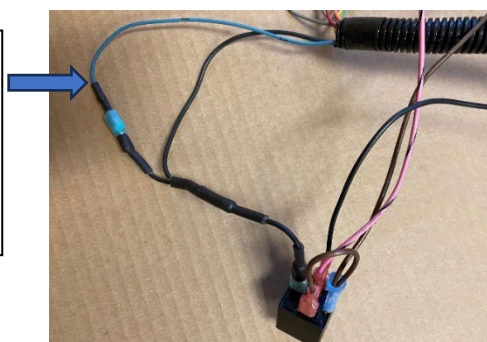


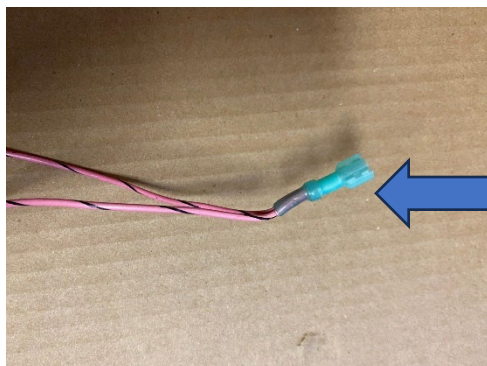
Attach female spade terminal (black wire coming from lift frame harness) to the relay.

Apply grease to all relay terminals.



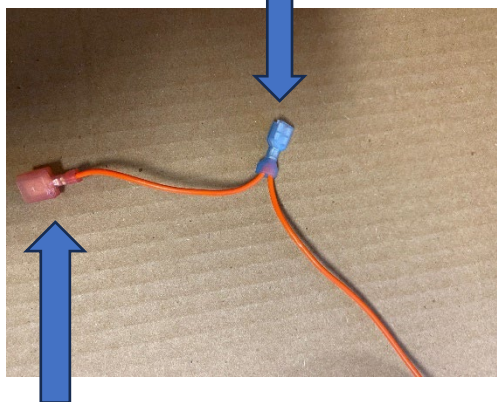
Attach male spade terminal (black wire coming from lift frame harness) to the C Valve wire - Blue Wire (for V and Straight Plow) or Green Wire (for WING Plow).



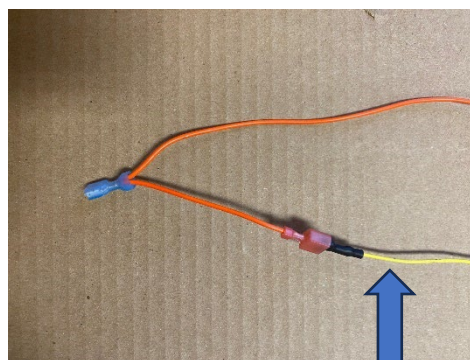


Attach the wire to C coil (see last page – drawing to find position of C valve).

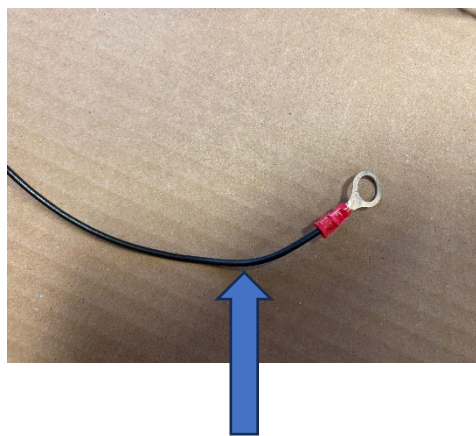
Attach to B coil (see last page – drawing to find position of B valve).



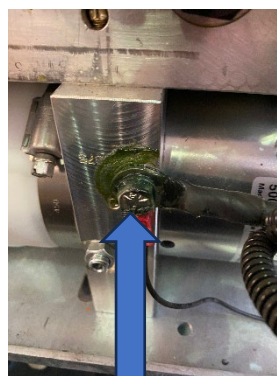
Attach to the yellow wire removed from B coil (see last page – drawing to find position of B valve).



Attach to the yellow wire removed from B coil (see last page – drawing to find position of B valve).

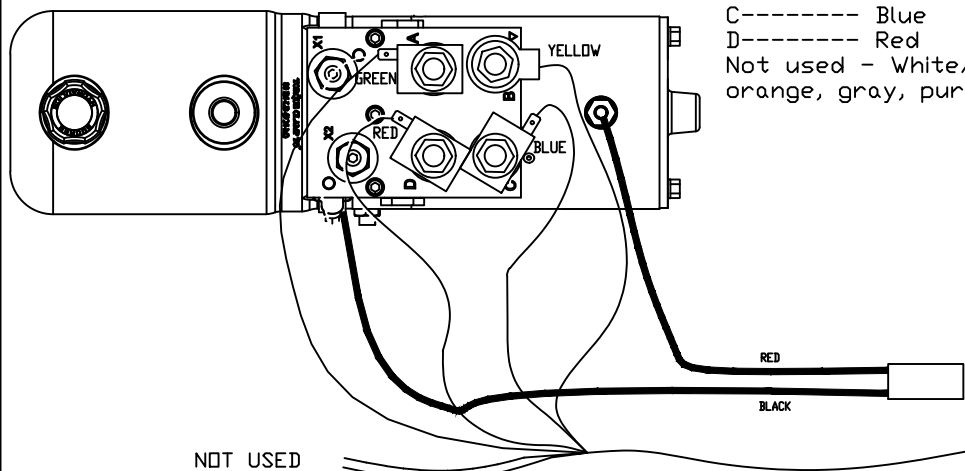


Attach to the ground.



Attach under 5/16" bolt - to the ground.

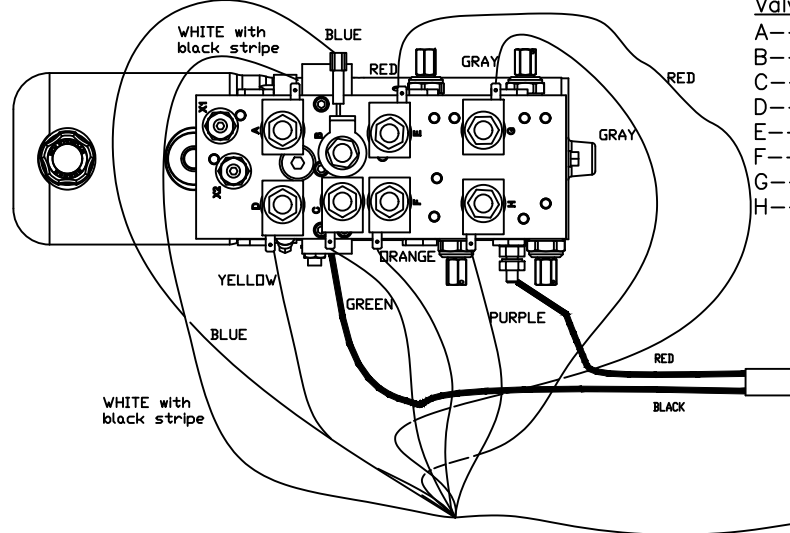
Straight Blade



Valve	Wire
A-----	Green
B-----	Yellow
C-----	Blue
D-----	Red
Not used -	White/black orange, gray, purple

Lift frame harness

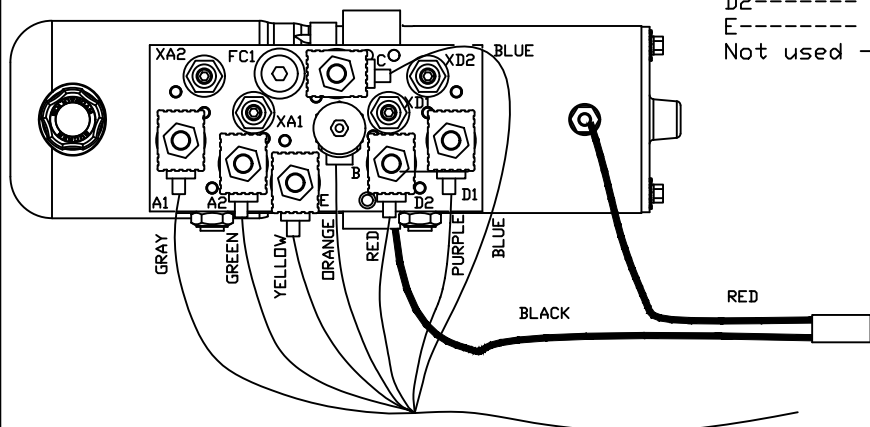
Wing Blade



Valve	Wire
A-----	White/black
B-----	Blue
C-----	Green
D-----	Yellow
E-----	Red
F-----	Orange
G-----	Gray
H-----	Purple

Lift frame harness

V Blade



Valve	Wire
A1-----	Gray
A2-----	Green
B-----	Orange
C-----	Blue
D1-----	Purple
D2-----	Red
E-----	Yellow
Not used -	White/black

Lift frame harness

