

Solid State Light (SSL) System Installation

(the control module installed with power unit (pump cover))

Installation of SSL System

Warning:

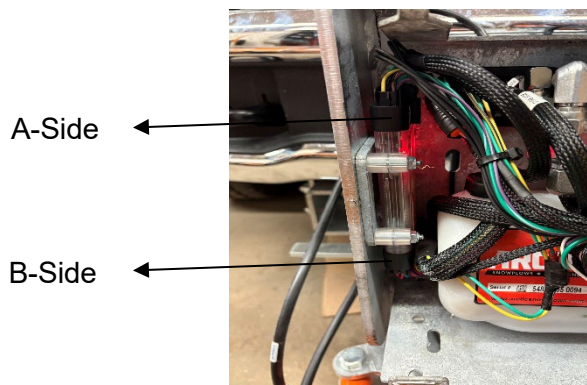
- ❖ Top of battery needs to be protected. If positive side of battery is accidentally grounded person could be burnt or wiring system can be damaged, or battery gasses could explode causing injuries.
- ❖ Disconnect cable from negative battery terminal before starting installation.
- ❖ Always wear eye 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.).
- ❖ When drilling mounting holes or using self-tapping screws in the engine compartment, be sure to check the mounting location for any wires, hoses other obstructions that could be damaged during installation.

Electrical installation of SSL system

1. Secure the SSL plow module (2) to the bracket using #10-24 x 1.5" flat head screw, as shown in the figure.



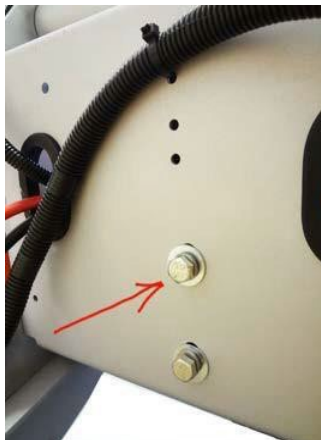
2. Bolt the bracket to the side of the lift frame as shown in the picture. Connect the plow side signal harness to A side of the module and connect the plow side lighting harness to B side of the module.



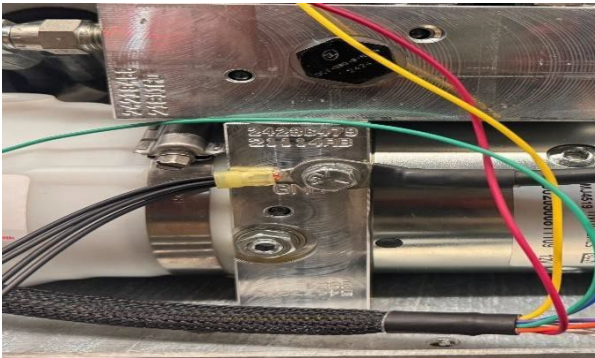
3. Install the pump unit onto the pump plate.



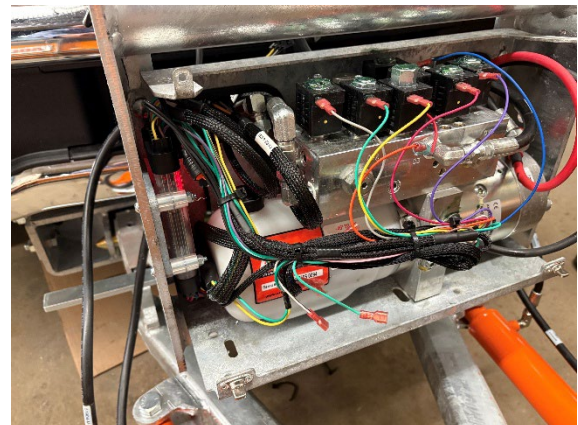
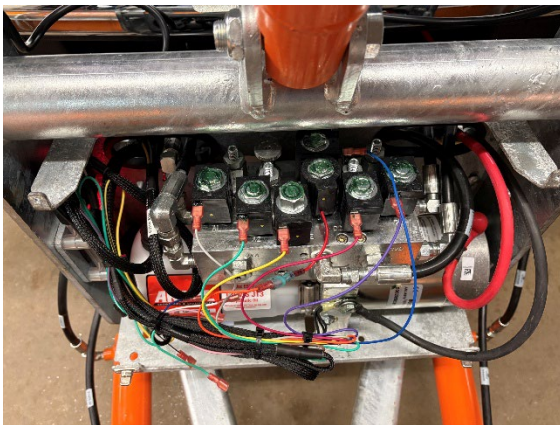
4. Install lights. Using cable ties secure the light harness to the lift frame. Insert the light plugs into the pump cover housing.
5. Install the power unit and secure it with 2 x 3/8" bolts and lock washers using holes on the back side.



6. Install red terminal protector on cable and plug assembly. Attach red lead of the cable and plug assembly to positive motor stud and black lead to the pump base using 5/16" bolt. Liberally coat connections with dielectric grease then slide cover over the eye on the end of the cable.



7. Secure the plow side signal harness and bring it toward the driver's side.
8. Plug the light connectors inside of the pump cover and secure them using zip ties. Connect the plow side signal leads to the coils.



9. Mount the solenoid to metal surface close to the driver (as shown in the picture) bending bracket if necessary. (if possible, on the firewall)



NOTE: Solenoid must be well grounded to function properly.

10. Slide a dummy plug over power cable (15) and ground cable (14) and route through grille of truck leaving 10-inch length to attach to the cable and plug assembly (13). Secure the red power cable (15) to the large terminal on the solenoid and the black ground cable (14) to the negative terminal on the battery.



Install power cable 22" (18) from the positive side of battery to one of the terminals of 135 AMP circuit breaker (19). Install 56" power cable (17) on the second terminal end on the circuit breaker terminal and to the large terminal on the solenoid (10). When installing the circuit breaker locate a flat surface suitable for mounting.

Choose surface that is clear of moving parts and extreme heat. The firewall or fender are possible mounting locations. Use 1/4" bolts and locknuts. If an acceptable flat surface is not available, cable tie the circuit breaker securely to a harness or an existing bracket. Note: Make sure that chosen location is in a spot that will allow the power cables to reach their destination (see drawing).

11. For the underhood harness locate a pass-through hole in the firewall near the driver's side of the truck. Route the harness through the hole in firewall and attach to the controller. Install the light adapter harness.

See section below for Installation of Vehicle Harness RED/WHITE (ignition) wire.

Installation of Vehicle Harness RED/WHITE (ignition) wire

Connect the RED/WHITE wire to a “keyed” 12V+ ignition source. Note: This 12V+ source should only be active when the key is in the ON position. Failure to wire to a “keyed” source can allow a condition to occur causing the battery to drain. This will also prevent operation of the plow without the vehicles key being on.

To find a “keyed” 12V+ ignition source, consult the fuse panel section of the vehicles owner’s manual. Look for a fuse labeled ACC/IGN or ACC (Accessory). Remove the fuse, apply the fuse tab as shown below and reinstall the fuse. The RED/WHITE ignition wire can now be plugged to the ¼” fast-on tab.

Note: Check to make sure that the snowplow control ONLY has power when the vehicle ignition switch is ON.

If NO accessory fuse is available, a test light may have to be used to determine if power to a certain fuse (or any other power source) is “switched / keyed” or not.



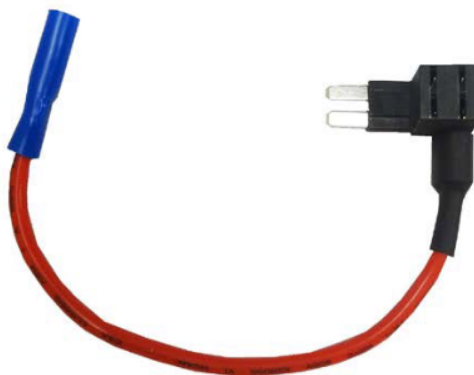
Low Profile Mini ATM Fuse holder 53625-05-M

Includes: - Fuse holder part# 53625-05-N
- 10A Fuse part# 53625-09-N



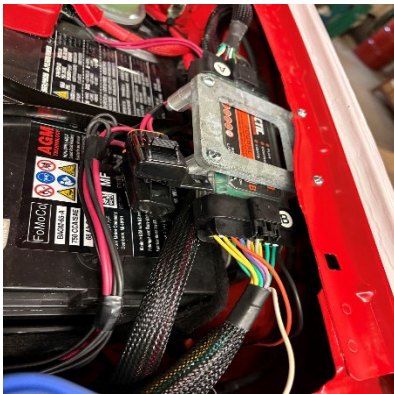
Micro Dual Fuse holder 53625-07-M

Includes: - Fuse holder part 53625-07-N
-10A Fuse part# 53625-08-N



Note: The RED/WHITE ignition wire is equipped with its own 10-amp fuse, so it can be tapped to any size fuse (10 or above). Do not use two taps on the same fuse.

- 1) Install SSL lighting module above the driver side fender or in an appropriate position Note: Be sure module and all cables are properly protected from any sharp edges or hot or moving parts!!



- 2) Connect the truck side signal harness to the A side of the module and corresponding truck SSL light harness on the B side of the module.
- 3) When the plow is not attached to the truck, plug the end connectors to each other to avoid the corrosion (on both sides, plow and truck side).

For hydraulic install refer to Hydraulic Installation section.

Lighting System Procedure

To avoid corrosion, extend the life of the control module & ensure proper plow functionality keep all connectors well-greased with dielectric grease.

Basic Lighting Transfer Overview:

To transfer the lights from the vehicles headlights to the plow lights, the Control Module Electrical System installed on your vehicle must see 3 things.

- 1.) The vehicles ignition is turned ON.
- 2.) The vehicles headlight switch is turned ON.
- 3.) The plow is plugged in (by the vehicles grill).

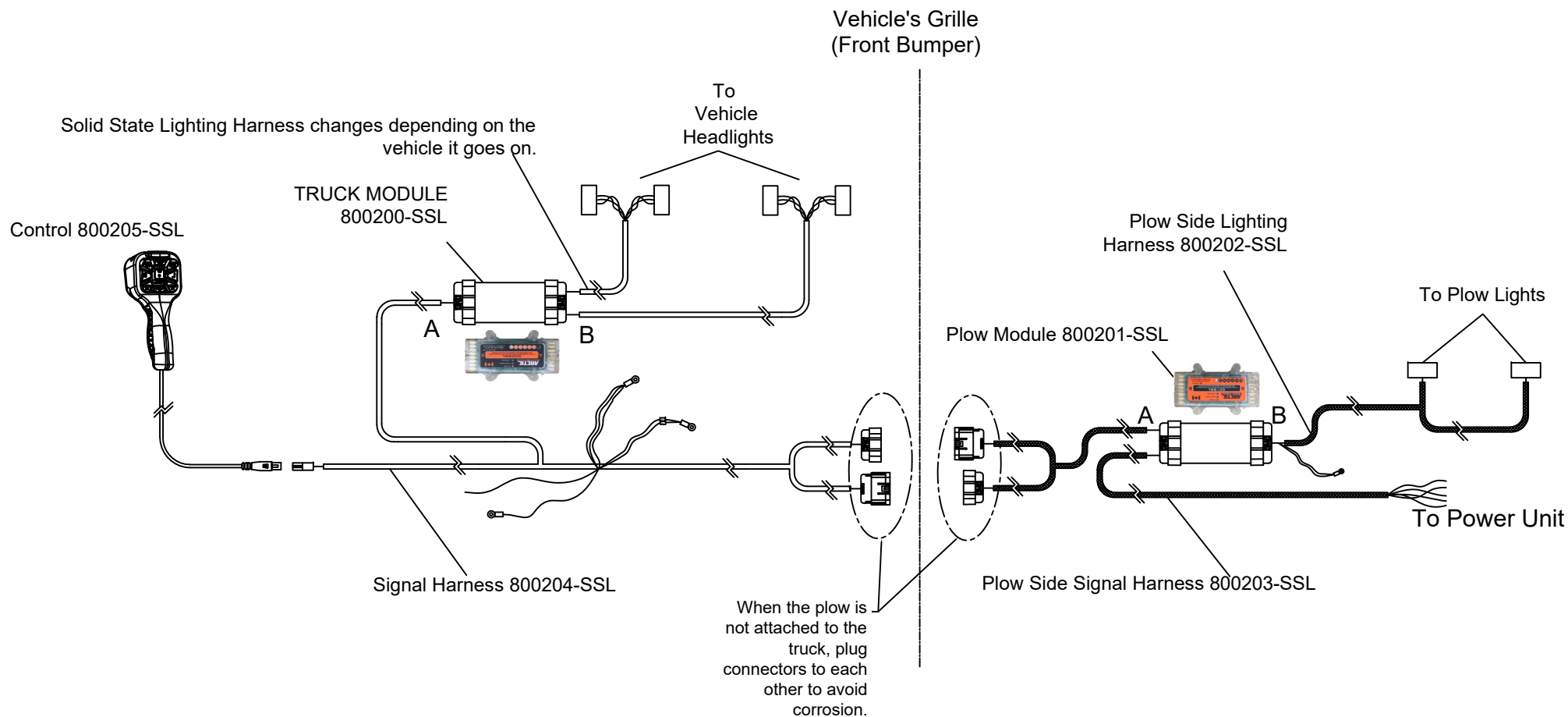
Note: Keep in mind that turning the vehicles ignition OFF, acts as a RESET for the lighting system.

SSL installation (parts can be found in kit part # 53618-SSL and pump kit)			
	Part#	Description	Quantity
1	800200-SSL	Solid State Lighting Module – Truck Side	1
2	800201-SSL	Solid State Plow Module	1
3	800202-SSL	Plow Side Lighting Harness	1
4	800203-SSL	Plow Side Signal Harness	1
5	800204-SSL	Truck Side Signal Harness	1
6	53615-N	3/16" Mini Fuse Tap	1
7	HH-00360-098	#10-24 x 1.5 Pan Head Machine Screw	2
8	HH-00340-020	#10-24 Nylon Insert	2
9	53614-N	1/4" Fuse Tab	1
10	761354	1/4" Female Connector	1
11	HH-00293-028	5/16"-18 x1" HHCS	2
12	HH-00340-017	5/16"-18 Nut, Nylon Insert	2
13	HH-00341-003	5/16" Flat washer	2
14	53626-M	MPX Module Bracket	1
15	53476-B	18" Cable Plug Assembly	1
16	53477-B	90" Ground Cable (Black)	1
17	53478-B	90" Power Cable (Red)	1
18	FP17757	Solenoid	1
19	51335-56-M	Battery Cable, 56"	1
20	51335-22-M	Gauge Battery Cable, 22"	1
21	53608-N	Circuit Breaker	1
22	800205-SSL	Handheld Controller	1
23	53625-05-N	Low Profile Mini ATM Fuse Holder	1
24	53625-09-N	Low Profile Mini 10A fuse	1
25	53625-07-N	Micro Dual Fuse Holder	1
26	53625-08-N	Micro 10A fuse	1
27	800114-LED	LED Snowplow Light	2

Sold Separately

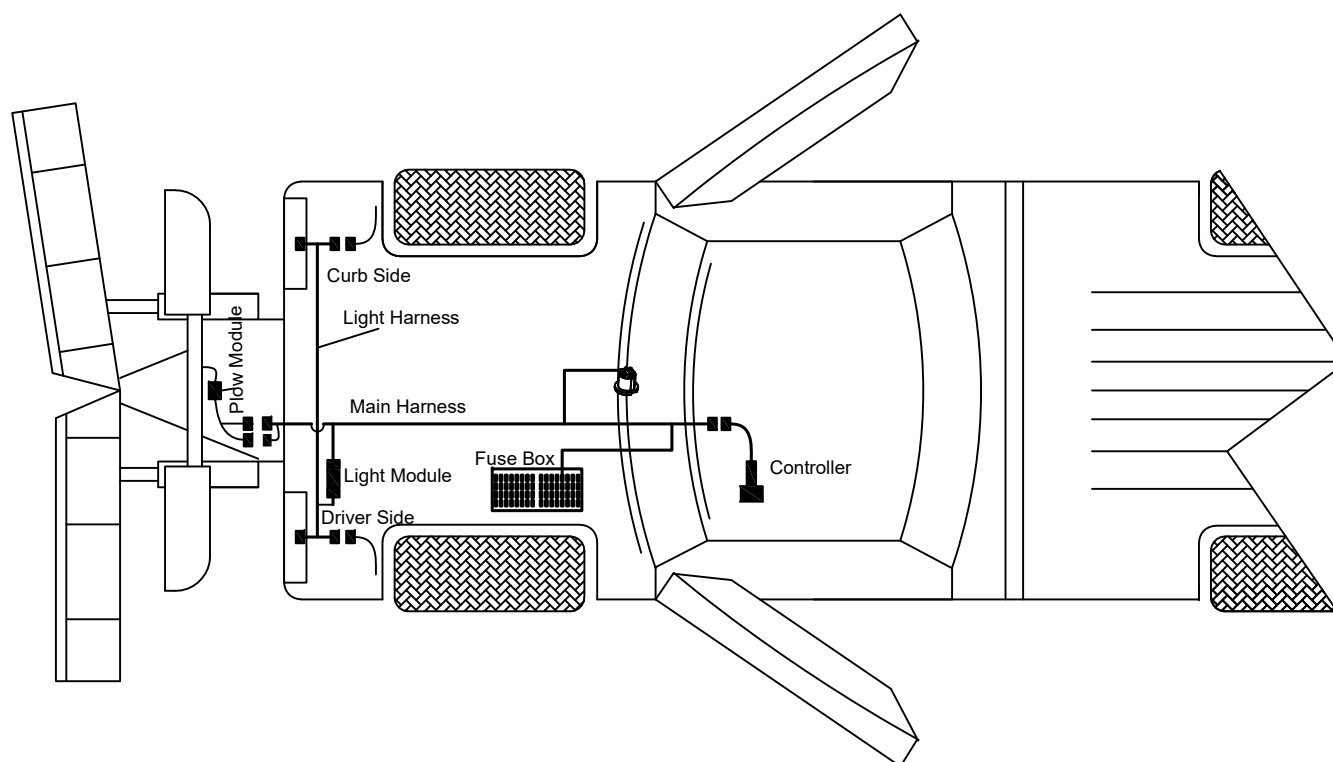
Truck Side

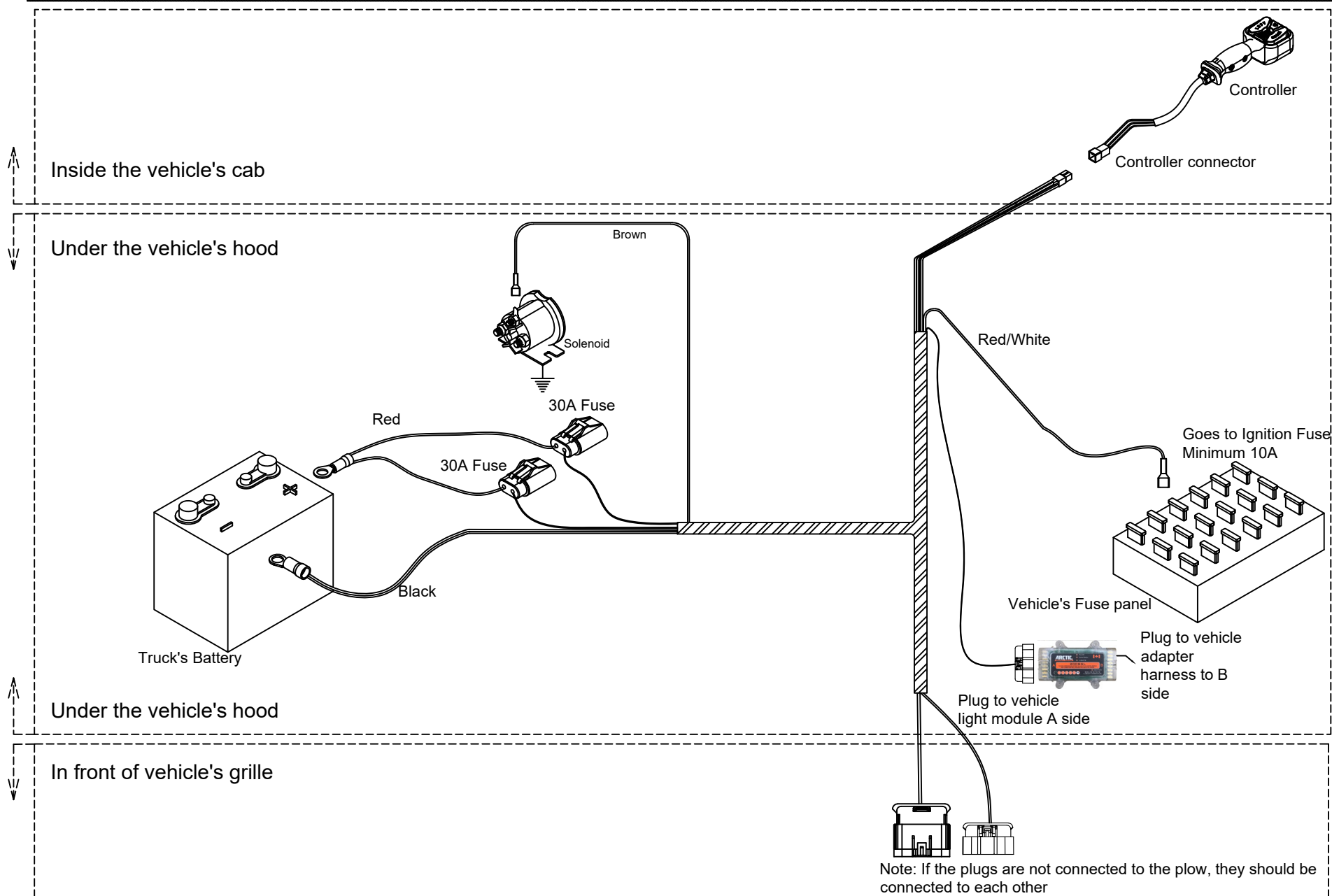
Plow Side

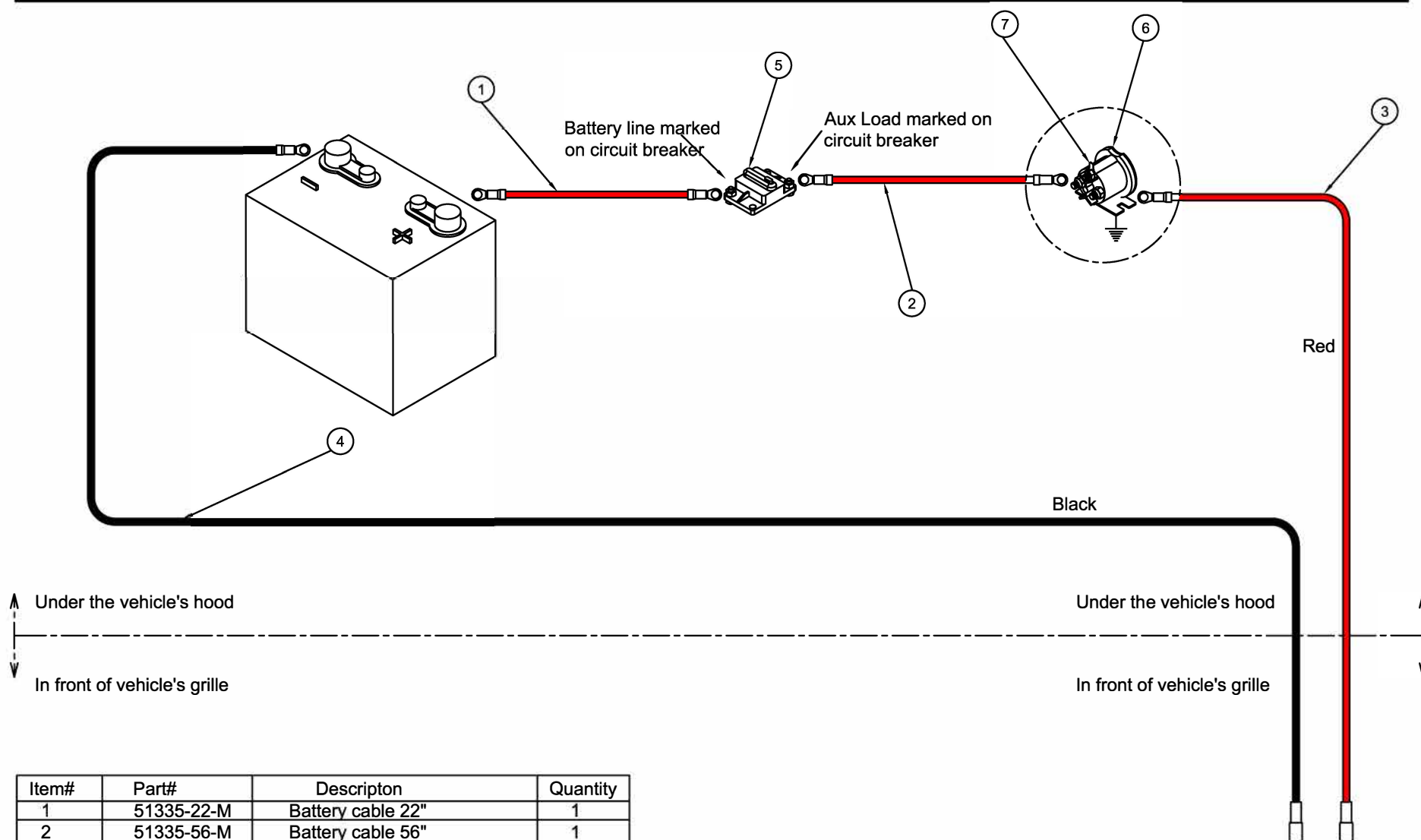


To avoid corrosion and extend the life of the Control module, keep connectors well-greased with dielectric grease.

CONTROL MODULE, MAIN HARNESS AND LIGHT ADAPTER – INSTALLATION



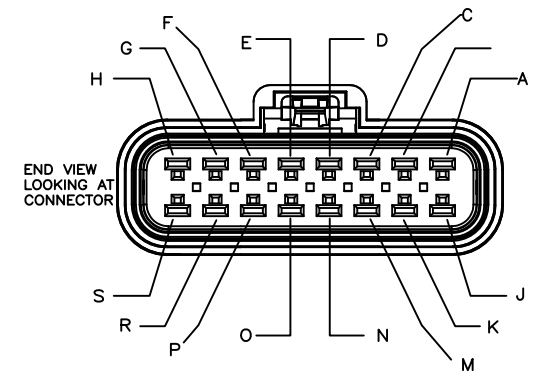
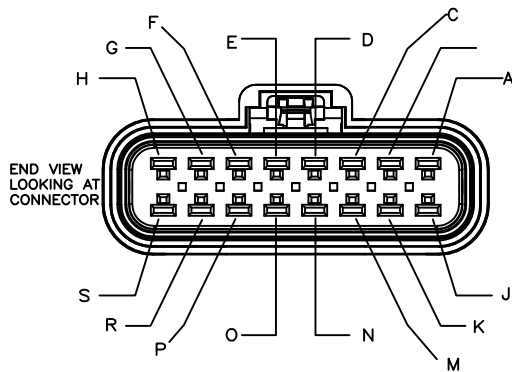




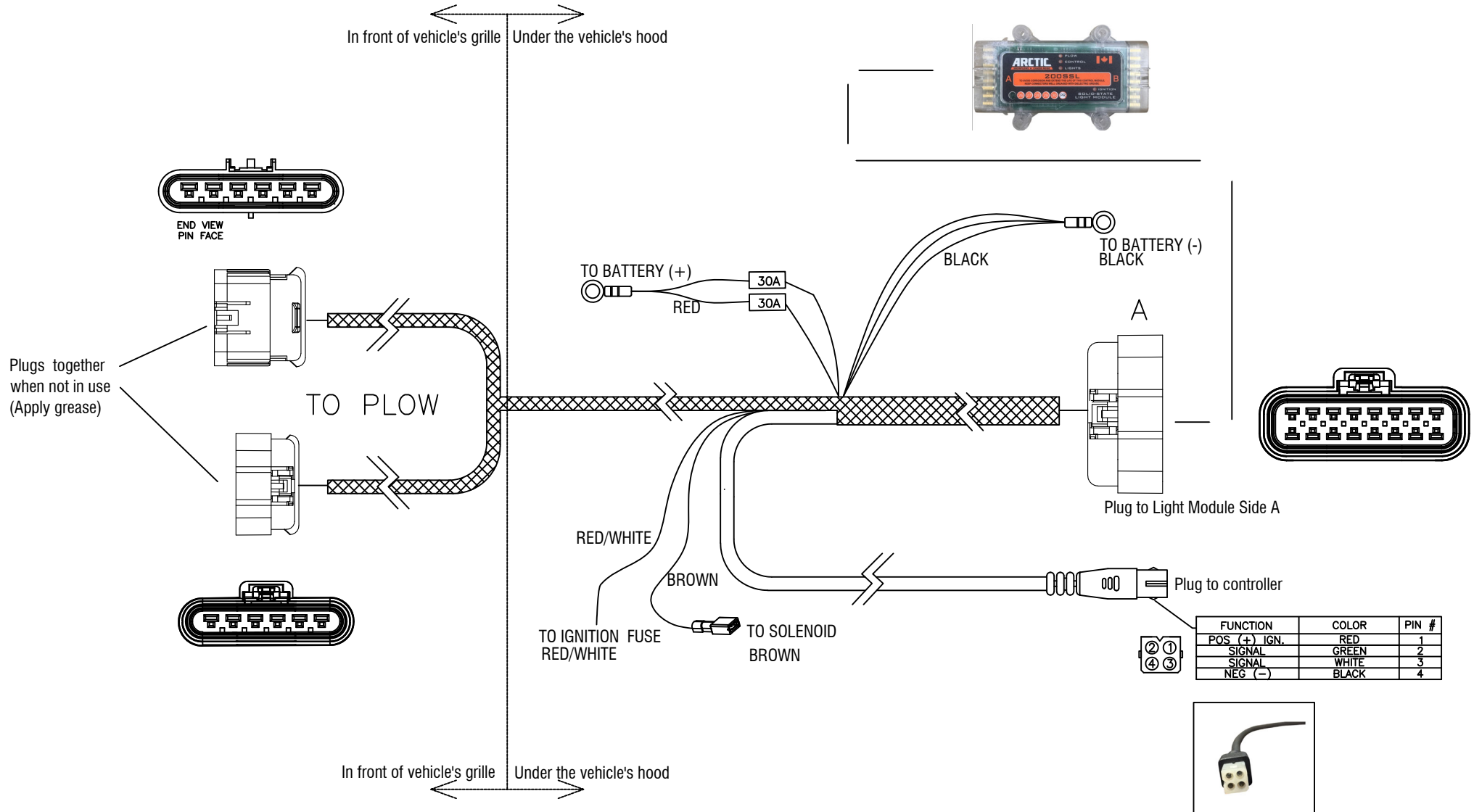
Item#	Part#	Description	Quantity
1	51335-22-M	Battery cable 22"	1
2	51335-56-M	Battery cable 56"	1
3	53478-B	90" Power cable	1
4	53477-B	90" Ground cable	1
5	53608-N	135 amps circuit breaker	1
6	FP17757	Solenoid	1
7	FP3414	#10 Blade terminal (Solenoid)	1

VM-A (800204) (Signal Harness)		
PIN #	COLOR	FUNCTION
A	RED	POS (+) to F-1
B	BLACK	GROUND
C	BROWN	PUMP
D	Cavity Plug	AUX OUT
E	RED/WHITE	(POS +) IGNITION
F	GREEN#1	RS485-B (see note A)
G	WHITE#1	RS485-A (see note A)
H	BLACK#1	GROUND
J	RED	POS (+) to F-1
K	YELLOW/BLACK	OP1 HIGH TO PLOW (AUX#1)
M	GREEN/BLACK	OP2 LOW TO PLOW (AUX#2)
N	Cavity Plug	OP3 PARK TO PLOW
O	Cavity Plug	OP4 R TURN TO PLOW
P	Cavity Plug	OP5 L TURN TO PLOW
R	GREEN	RS485-B
S	WHITE	RS485-A

VM-B (Light Adapter Harness)		
PIN #	COLOR	FUNCTION
A	RED/WHITE	OP_QUAD CUT-OUT
B	ORANGE	DATA
C	VIOLET	DRIVERS (LEFT) TURN IN
D	PINK	PASSENGER (RIGHT) TURN IN
E	GREY	RUN/PARK IN
F	CAVITY PLUG	N/A
G	CAVITY PLUG	N/A
H	BLACK	GROUND
J	YELLOW#1	PASS-HIGH IN
K	YELLOW/RED#1	PASS- HIGH OUT
M	Lt. GREEN#1	PASS-LOW IN
N	GREEN/RED#1	PASS- LOW OUT
O	YELLOW	DRIVERS-HIGH IN (Master)
P	YELLOW/RED	DRIVERS- HIGH OUT
R	Lt. GREEN	DRIVERS-LOW IN (Master)
S	GREEN/RED	DRIVERS- LOW OUT



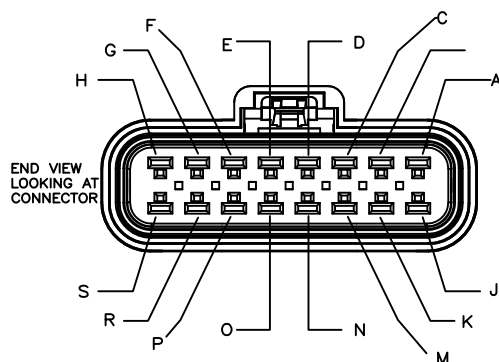
Signal Harness 800204-SSL





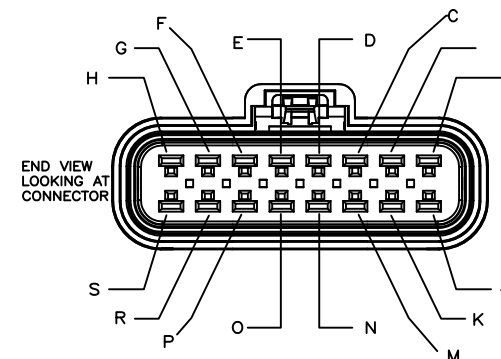
PM-A (800203) (Power Unit Signal Harness)

PIN #	COLOR	FUNCTION
A	RED#1	POS (+)
B	BLUE	OP1 - UP
C	ORANGE	OP2 - LOWER
D	VIOLET	OP3
E	RED#3	OP4
F	GREEN	RS485-B
G	WHITE	RS485-A
H	BLACK#1	GROUND
J	RED#2	POS (+)
K	GREEN#1	OP5 - RIGHT
M	GREY	OP6 - LEFT
N	WHITE/BLACK	OP7 - RW OUT
O	YELLOW	OP8 - RW IN
P	PINK	OP9 - LW OUT
R	BLUE#1	OP10 - LW IN
S	BLACK#2	GROUND



PM-B (800202-SSL) (Plow Light Harness)

PIN #	COLOR	FUNCTION
A	BLACK	GROUND SENSOR
B	WHITE	INPUT 3 HYDRAULIC JACK
C	GREEN	INPUT 2 HYDRAULIC JACK
D	ORANGE	INPUT 1 ANALOG
E	PINK/BLACK	5V-HYDRAULIC JACK(POWER)
F	GREEN/WHITE	STRAIGHT BLADE OPERATION
G	VIOLET/WHITE	WING BLADE OPERATION
H	BROWN	PUMP
J	GREEN/BLACK#1	CURB SIDE LOW BEAM
K	GREY/BLACK#1	CURB SIDE PARK
M	PINK	CURB SIDE TURN
N	YELLOW/BLACK#1	CURB SIDE HIGH BEAM
O	GREEN/BLACK#2	DRIVERS SIDE LOW BEAM
P	GREY/BLACK#2	DRIVERS SIDE PARK
R	VIOLET	DRIVERS SIDE TURN
S	YELLOW/BLACK#2	DRIVERS SIDE HIGH BEAM



PLOW SIDE - LIGHT OPERATION

NOTE-A:
 *ATTACH THE GREEN/WHITE WIRE TO THE GROUND(PUMP BASE BOLT) ONLY WHEN OPERATE STRAIGHT BLADE
 *ATTACH THE VIOLET/WHITE WIRE TO THE GROUND(PUMP BASE BOLT) ONLY WHEN OPERATE WING BLADE

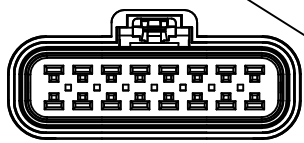
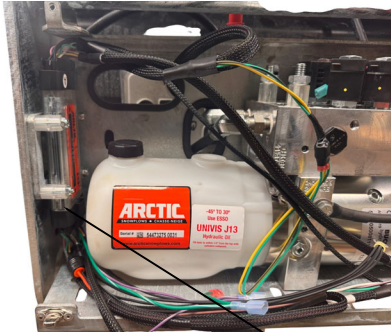
TO HYD JACK SWITCH
IF APPLICABLE

PINK/BLACK

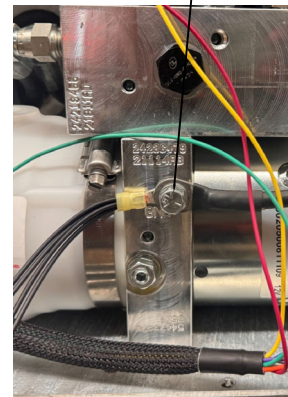
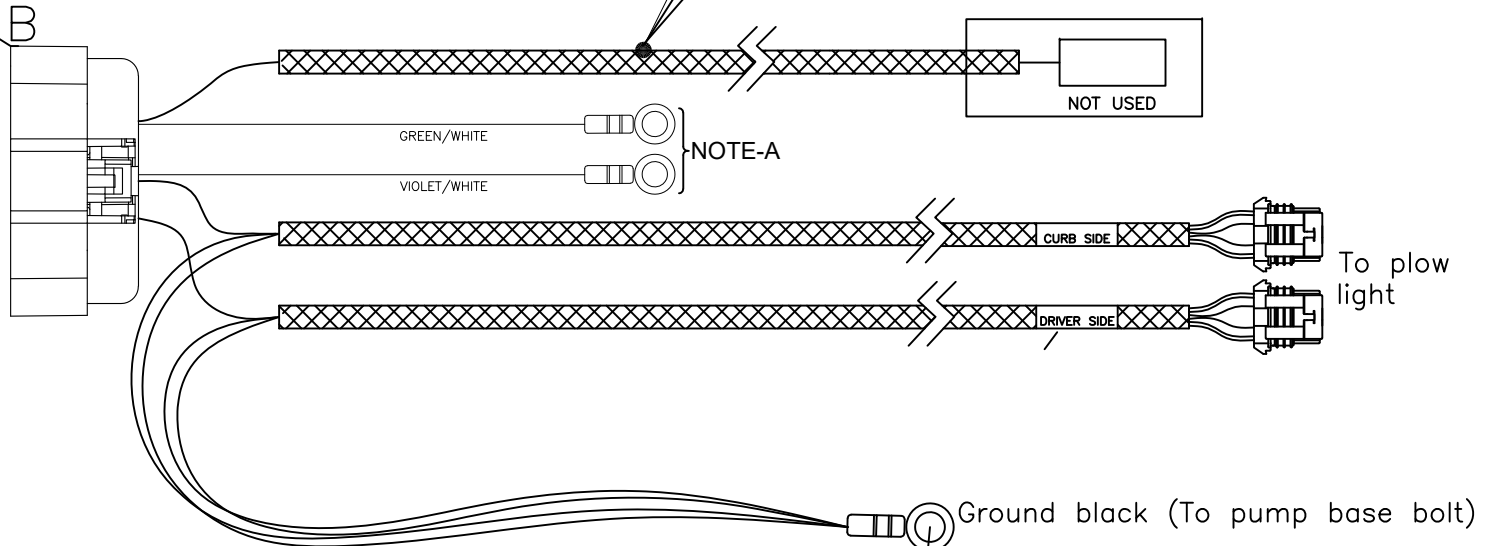
WHITE

GREEN

Inside the power unit cover

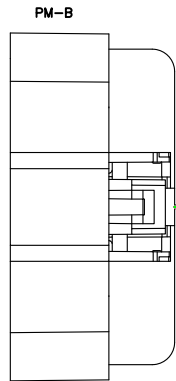
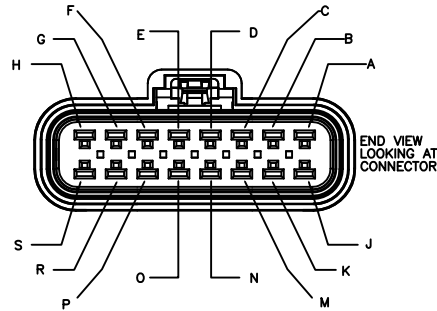


Plug to plow module B side



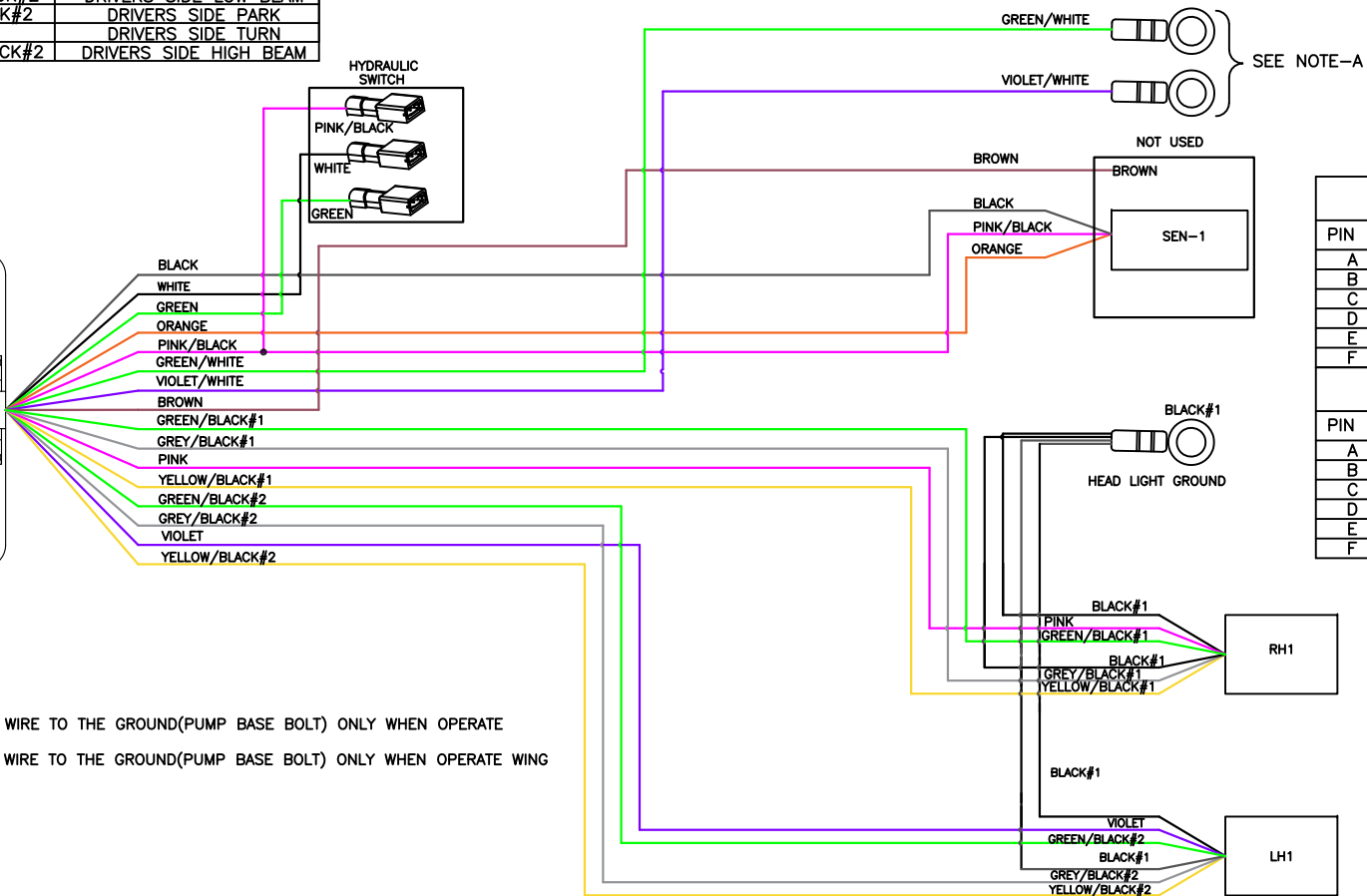
Inside the power unit cover

PIN #	COLOR	FUNCTION
A	BLACK	GROUND SENSOR
B	WHITE	INPUT 3 HYDRAULIC JACK
C	GREEN	INPUT 2 HYDRAULIC JACK
D	ORANGE	INPUT 1 ANALOG
E	PINK/BLACK	5V-HYDRAULIC JACK(POWER)
F	GREEN/WHITE	STRAIGHT BLADE OPERATION
G	VIOLET/WHITE	WING BLADE OPERATION
H	BROWN	PUMP
J	GREEN/BLACK#1	CURB SIDE LOW BEAM
K	GREY/BLACK#1	CURB SIDE PARK
M	PINK	CURB SIDE TURN
N	YELLOW/BLACK#1	CURB SIDE HIGH BEAM
O	GREEN/BLACK#2	DRIVERS SIDE LOW BEAM
P	GREY/BLACK#2	DRIVERS SIDE PARK
R	VIOLET	DRIVERS SIDE TURN
S	YELLOW/BLACK#2	DRIVERS SIDE HIGH BEAM



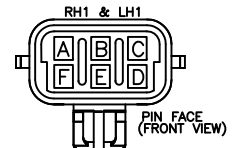
To plow module B side

NOTE-A:
 *ATTACH THE GREEN/WHITE WIRE TO THE GROUND(PUMP BASE BOLT) ONLY WHEN OPERATE STRAIGHT BLADE
 *ATTACH THE VIOLET/WHITE WIRE TO THE GROUND(PUMP BASE BOLT) ONLY WHEN OPERATE WING BLADE

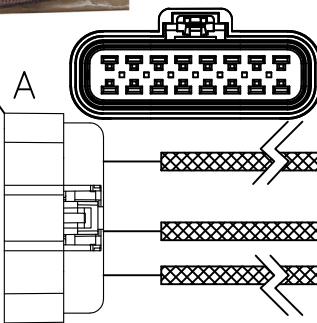
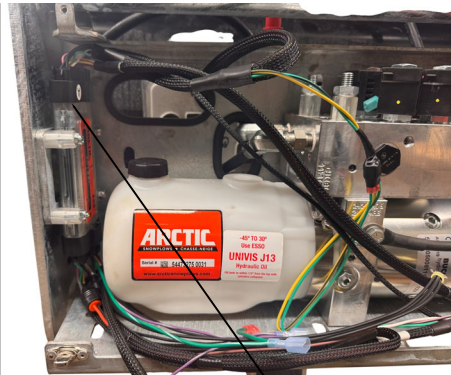


RH1 - Curb Side		
PIN #	COLOR	FUNCTION
A	BLACK#1	HEAD LIGHT GROUND
B	PINK	CURB SIDE TURN
C	GREEN/BLACK#1	CURB SIDE LOW BEAM
D	BLACK#1	HEAD LIGHT GROUND
E	GREY/BLACK#1	CURB SIDE PARK
F	YELLOW/BLACK#1	CURB SIDE HIGH BEAM

LH1- Drivers Side		
PIN #	COLOR	FUNCTION
A	BLACK#1	GROUND
B	VIOLET	DRIVERS SIDE TURN
C	GREEN/BLACK#2	DRIVERS SIDE LOW BEAM
D	BLACK#1	HEAD LIGHT GROUND
E	GREY/BLACK#2	DRIVERS SIDE PARK
F	YELLOW/BLACK#2	DRIVERS SIDE HIGH BEAM



PLOW SIDE - PLOW OPERATION



Plug to plow module
A side



Straight Blade		V Blade		Wing Blade	
Valve	Wire	Valve	Wire	Valve	Wire
A	Green	A1	Gray	A	White/Black
B	Yellow	A2	Green	B	Blue
C	Blue	B	Orange	C	Green
D	Red	C	Blue	D	Yellow
		D1	Purple	E	Red
		D2	Red	F	Orange
		E	Yellow	G	Gray
				H	Purple
Unused wires should be tied together					

Inside the power unit cover

In front of vehicle's grille

TO HYD JACK
MANIFOLD

PINK
VJ2
BLUE
VJ1

YELLOW/BLACK (AUXILIARY)
GREEN/BLACK (AUXILIARY)

TO TRUCK

Plugs together when
not in use A
(Apply grease)

BLUE
ORANGE
VIOLET
RED
GREEN
GREY
WHITE/BLACK
YELLOW

Inside the power unit cover

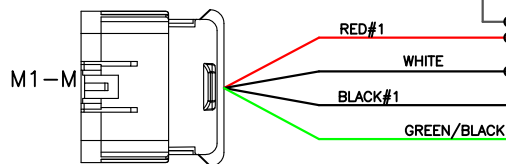
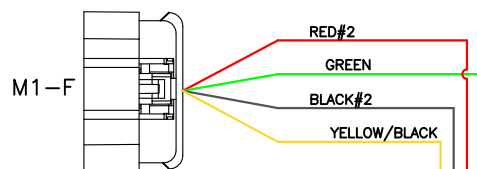
In front of vehicle's grille

A = POS (+) (RED#2)
 B = RS485 (GREEN)
 C = Cavity Plug
 D = GROUND (BLACK#2)
 E = AUX#1 (YELLOW/BLACK)
 F = Cavity Plug

F E D C B A



END VIEW
PIN FACE

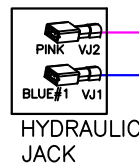
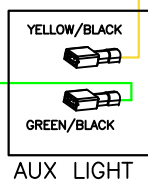
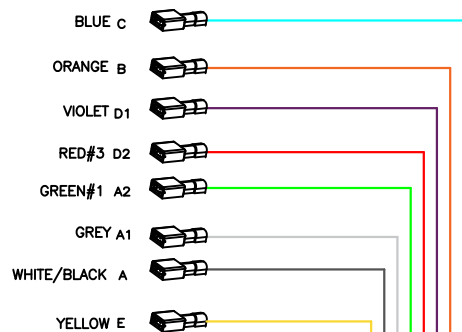


END VIEW
PIN FACE

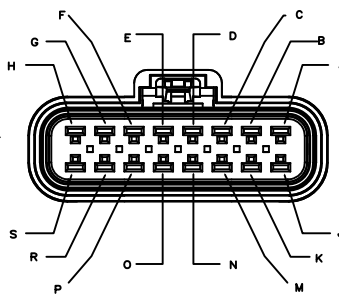
A B C D E F



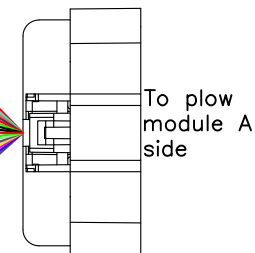
A = POS (+) (RED#1)
 B = Cavity Plug
 C = RS485 (WHITE)
 D = GROUND (BLACK#1)
 E = Cavity Plug
 F = AUX#2 (GREEN/BLACK)



END VIEW
LOOKING AT
CONNECTOR



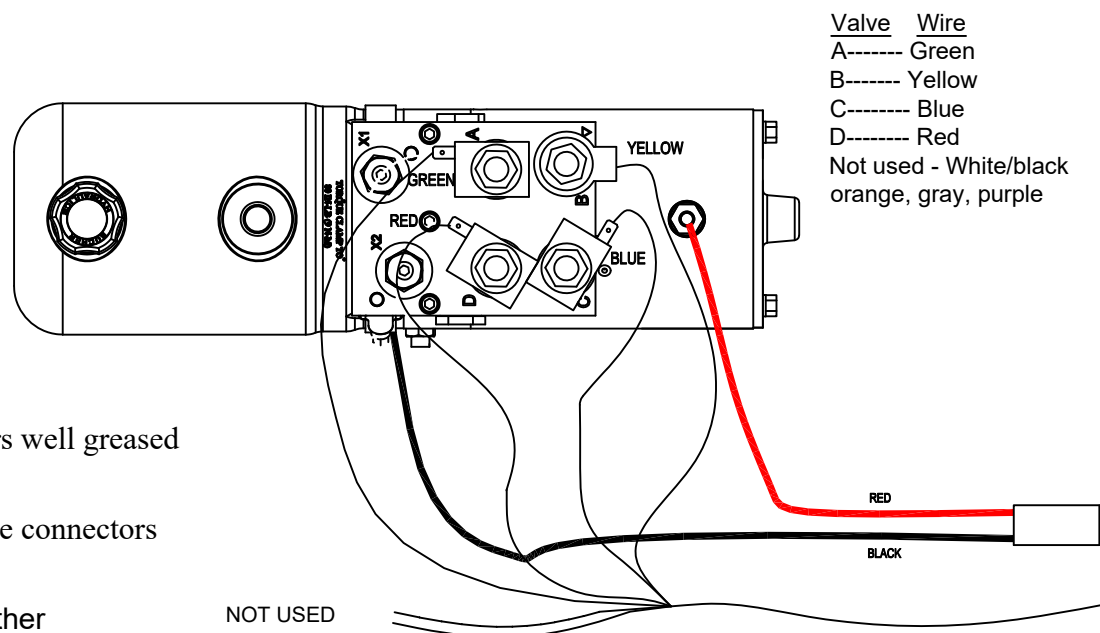
PM-A



To plow
module A
side

PM-A		
PIN #	COLOR	FUNCTION
A	RED#1	POS (+)
B	BLUE	OP1 - UP
C	ORANGE	OP2 - LOWER
D	VIOLET	OP3
E	RED#3	OP4
F	GREEN	RS485-B
G	WHITE	RS485-A
H	BLACK#1	GROUND
J	RED#2	POS (+)
K	GREEN#1	OP5 - RIGHT
M	GREY	OP6 - LEFT
N	WHITE/BLACK	OP7 - RW OUT
O	YELLOW	OP8 - RW IN
P	PINK	OP9 - LW OUT
R	BLUE#1	OP10 - LW IN
S	BLACK#2	GROUND

Straight Blade

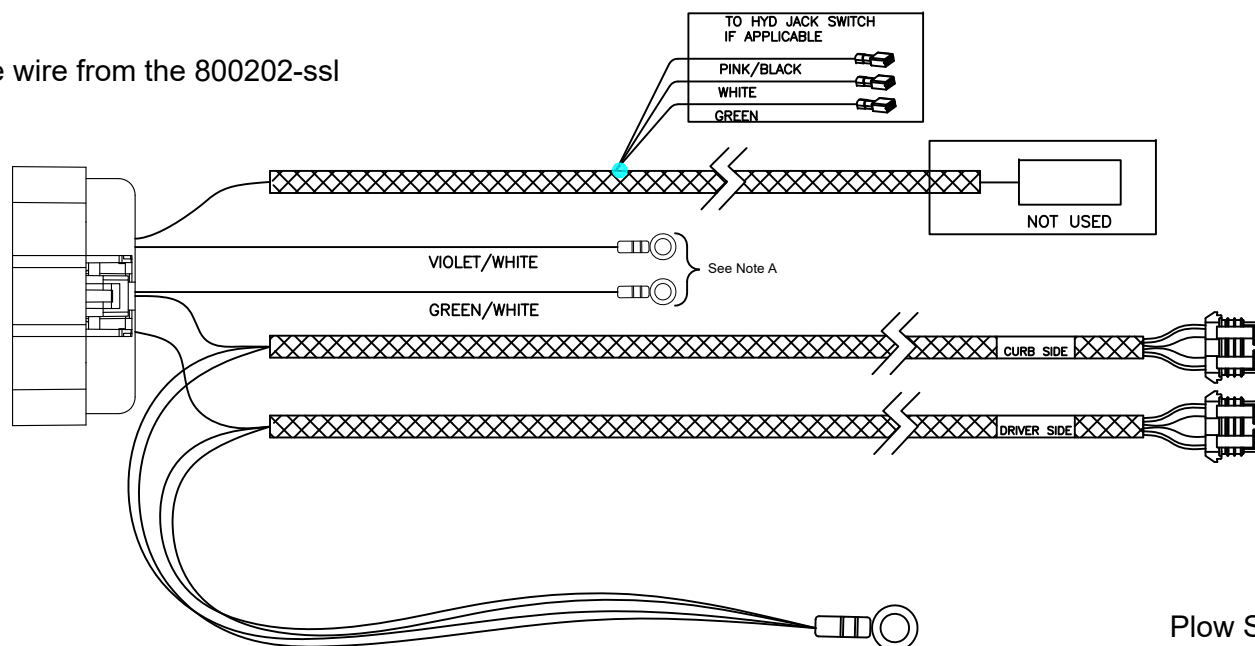


Note:

- To avoid corrosion, keep connectors well greased with dielectric grease
- Apply grease on the coils and on the connectors that plugs into the coils
- Unused wires should be tied together

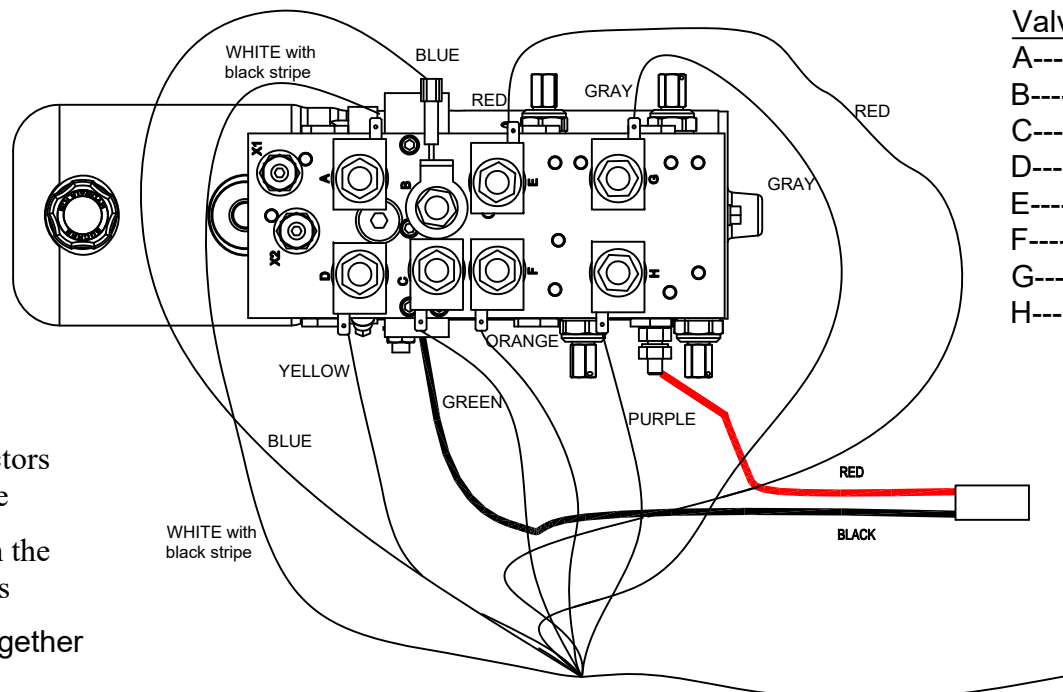
Note A:

Attach only the green/white wire from the 800202-ssl harness to ground



Plow Side Harness 800202-SSL

Wing Blade



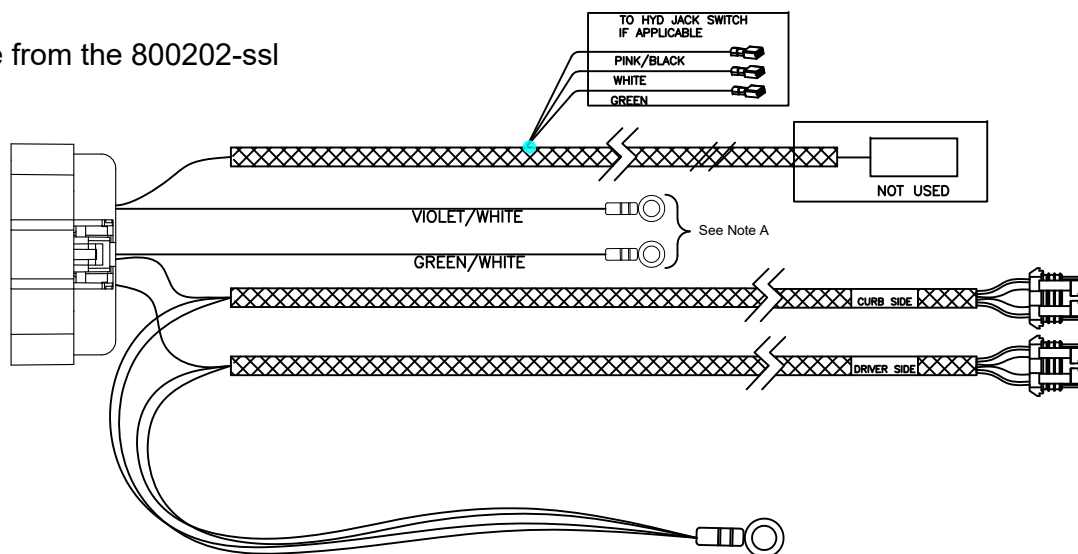
Valve	Wire
A-----	White/black
B-----	Blue
C-----	Green
D-----	Yellow
E-----	Red
F-----	Orange
G-----	Gray
H-----	Purple

Note:

- To avoid corrosion, keep connectors well greased with dielectric grease
- Apply grease on the coils and on the connectors that plugs into the coils
- Unused wires should be tied together

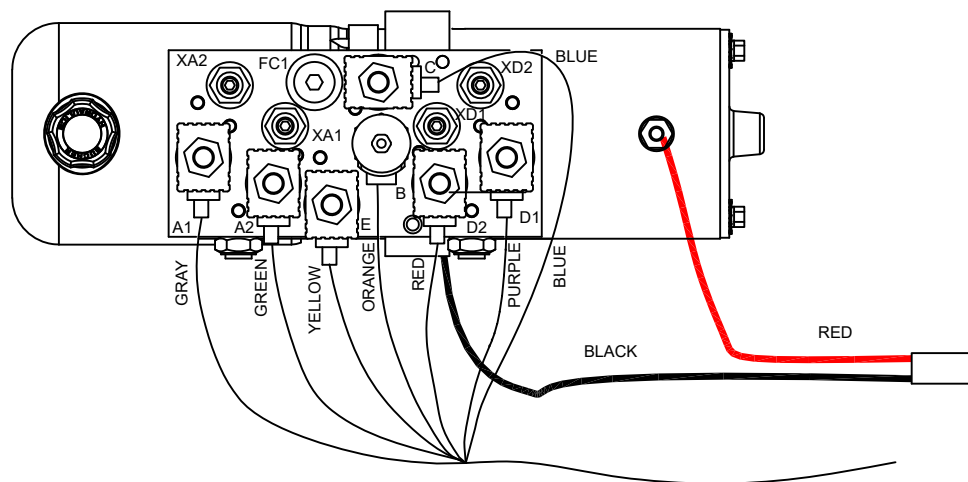
Note A:

Attach only the violet/white wire from the 800202-ssl harness to ground



Plow Side Harness 800202-SSL

V Blade



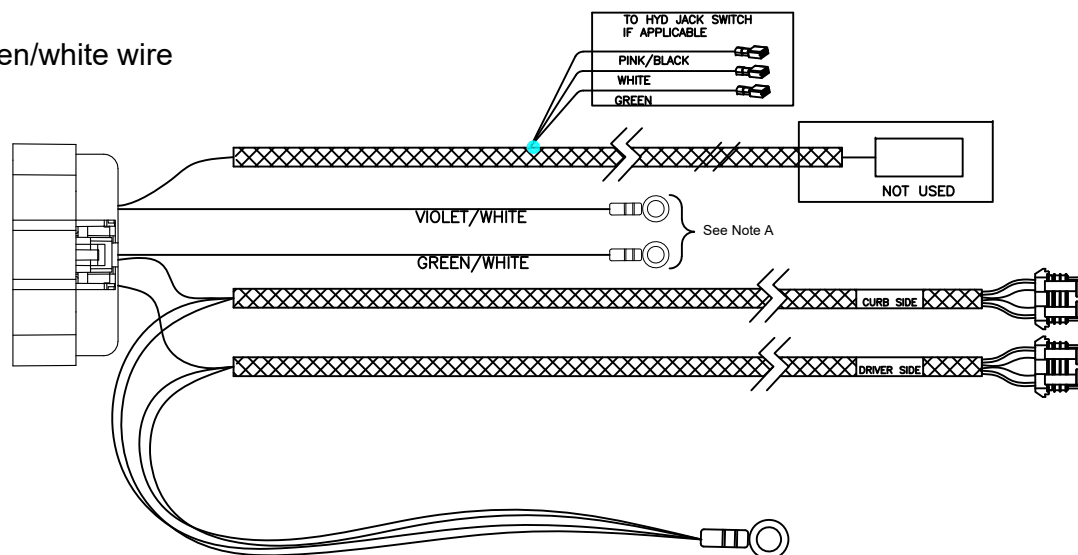
Valve	Wire
A1-----	Gray
A2-----	Green
B-----	Orange
C-----	Blue
D1-----	Purple
D2-----	Red
E-----	Yellow
Not used -	White/black

Note:

- To avoid corrosion, keep connectors well greased with dielectric grease
- Apply grease on the coils and on the connectors that plugs into the coils
- Unused wires should be tied together

Note A:

Do not use violet/white and green/white wire



Plow Side Harness 800202-SSL