

Professional Series Hydraulic Turn System
P/N: HYPro



22000 Industrial Blvd Rogers, MN 55374
866.527.7637
www.motoalliance.com



Thank you for purchasing MotoAlliance's top-of-the-line Hydraulic Turn System! Your DENALI Hydraulic Turn System was designed for speed, convenience and strength. The system comes sealed from the factory and requires no maintenance, no hydraulic fluid, and best of all, a hassle-free install! The DENALI Hydraulic Turn System has built in bypass valves that will protect the pump and cylinder from being over pressurized. However, this does not replace the need for common sense and extreme caution when using this powerful system. Always pay attention to your surroundings and heed the follow precautions. Most of all, enjoy not having to get out in the cold each time you want to turn your blade!

Warning And User Caution

- Do not continually force the hydraulics to run once the blade is fully turned in one direction
- Never allow passengers to ride on the blade while plowing
- Stay clear of bystanders while plowing
- Do not exceed 10 MPH with blade installed
- Always wear safety gear (helmet, glasses, etc) when plowing
- Use extreme caution when plowing and riding on sloped surfaces
- Avoid all fixed objects and always wear a seatbelt
- Be cautious of the blade when lowering it from an upright position
- Always store your blade resting on the ground



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ITEM	Part Description	P/N	Quantity
1	Hydraulic Pump	HY-Pump_200mm	1
2	Hard Stop Block	PTUTHT_200mm-7	1
3	Swivel Plate Bracket (curved)	PTUTHT_200mm-Curved	1
4	Lift Arm Bracket (flat)	PTUTHT_200mm-Flat	1
5	MX-228-BU Contactor	MX_228	1
6	Rocker Switch / Dash Switch	MX_033_BU / MA11208_H	1
7	Power Cables	HY_6ga_PowerCables	1
8	Wiring Harness	HY-Wiring Loom	1
9	1/2" x 3" Grad 8 Bolt	HYPro-9	2
10	1/2" Flat Washers	HYPro-10	2
11	1/2" Nylock Nut	HYPro-11	2
12	3/8" x 1 1/4" Hex Bolt	HYPro-12	6
13	3/8" Flat Washers	HYPro-13	6
14	3/8" Nylock Nut	HYPro-14	6
15	Self-Tapping Screws	HYPro-15	2
16	Insulation Displacement Crimp	HYPro-16	1



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- 1) Remove the Pivot Lock Lever and Pivot Riser Brackets by removing the four 3/8"-16 x 1 1/4" Serrated Flange Bolts and spring as shown **Error! Reference source not found..**

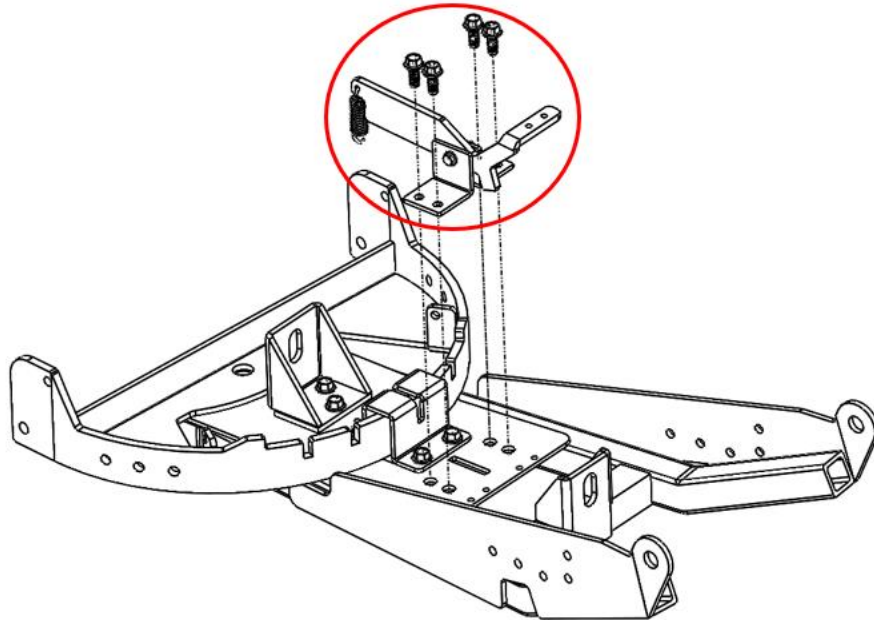


Figure 1

- 2) Remove the Pivot Lever Support Bracket by removing the four 3/8"-16 x 1 1/4" Serrated Flange Bolts as shown in **Error! Reference source not found..**

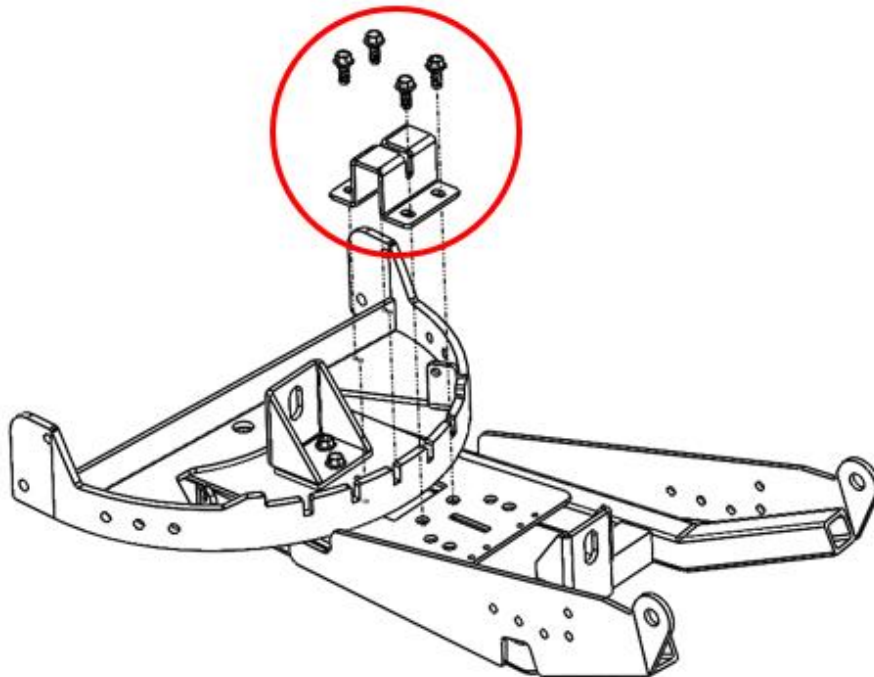


Figure 2

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- 3) Replace the Pivot Lever Support Bracket with the Hard Stop Bracket included in the DENALI Hydraulic Turn Kit. Use the four 3/8"-16 x 1 1/4" Serrated Flange Bolts to secure the bracket with the arrow toward the front of the plow system as shown in Figure 3.

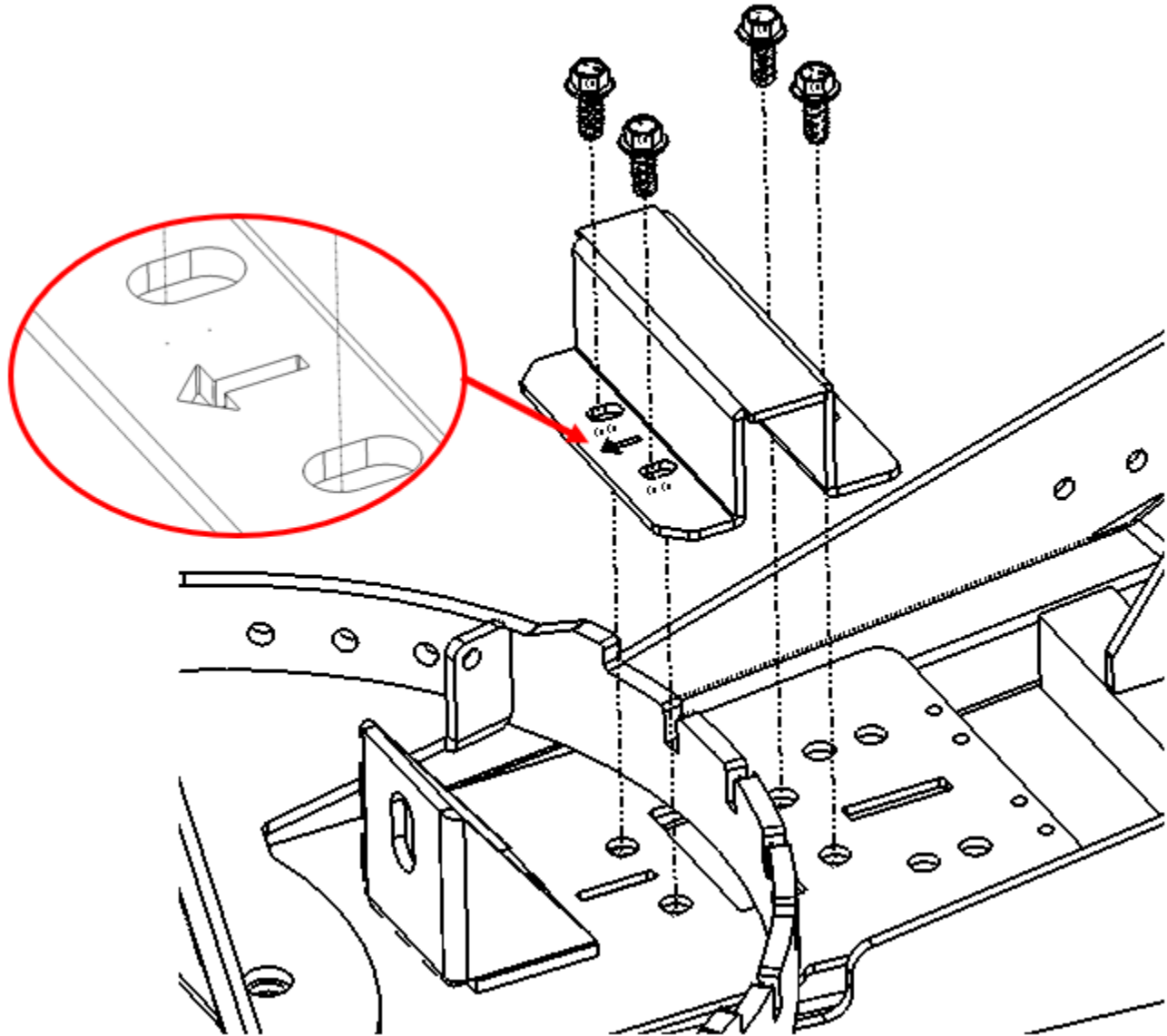


Figure 3



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Mount the Swivel Plate Bracket (curved) and Lift Arm Bracket (flat) using the 3/8" x 1 1/4" bolts, 3/8" washers and 3/8" Nylock Nuts. The brackets should be oriented such that the open ends are facing each other as shown in

4) Figure 4.

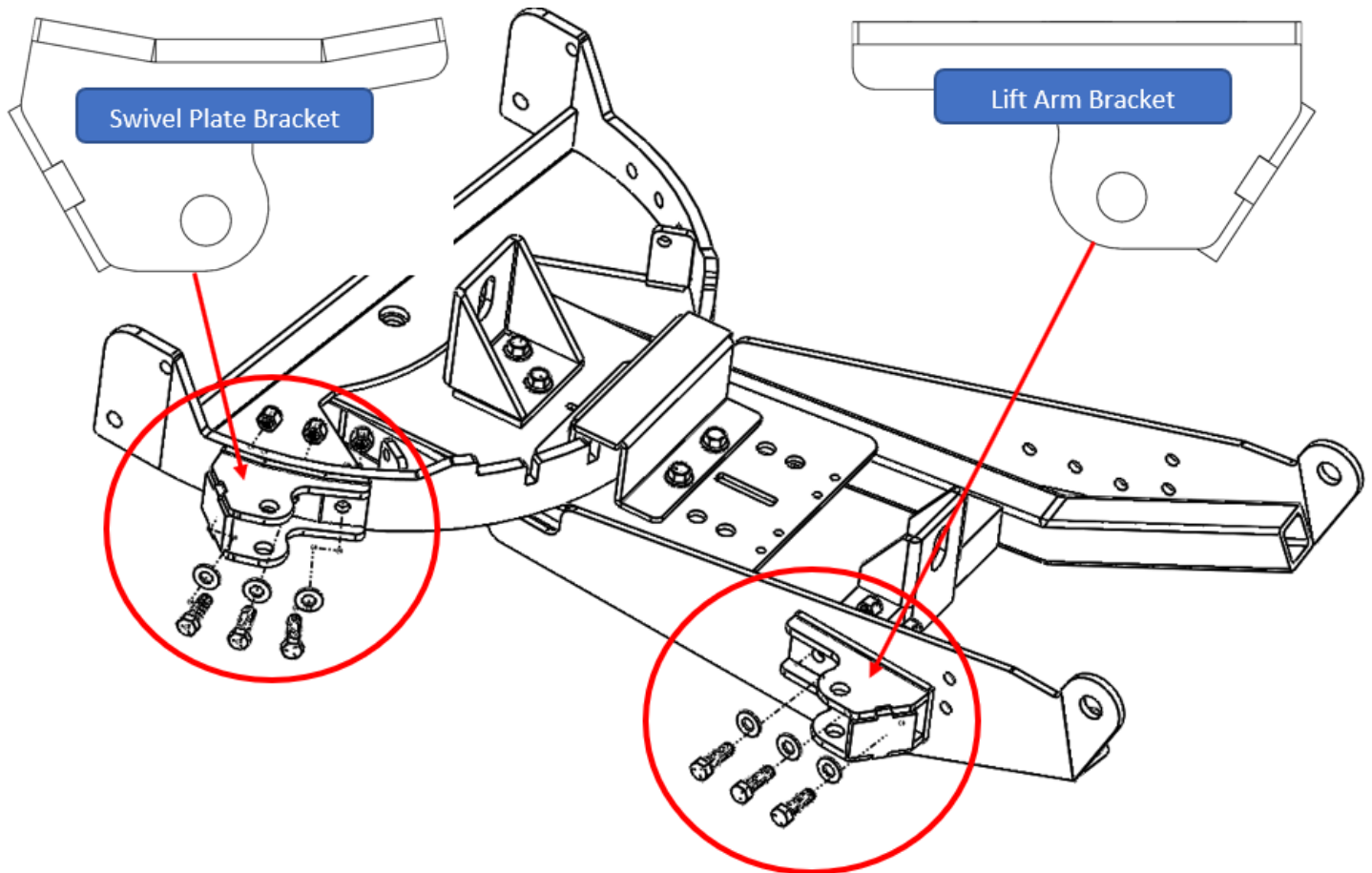


Figure 4



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- 5) Mount the Hydraulic Pump to the Swivel Plate and Lift Arm Brackets as shown in Figure 5. Secure the pump using the 1/2"-13 x 3" Hex Bolts, 1/2" Flat Washers, and 1/2"-13 Nylock Nuts. Tighten the 1/2" bolts.

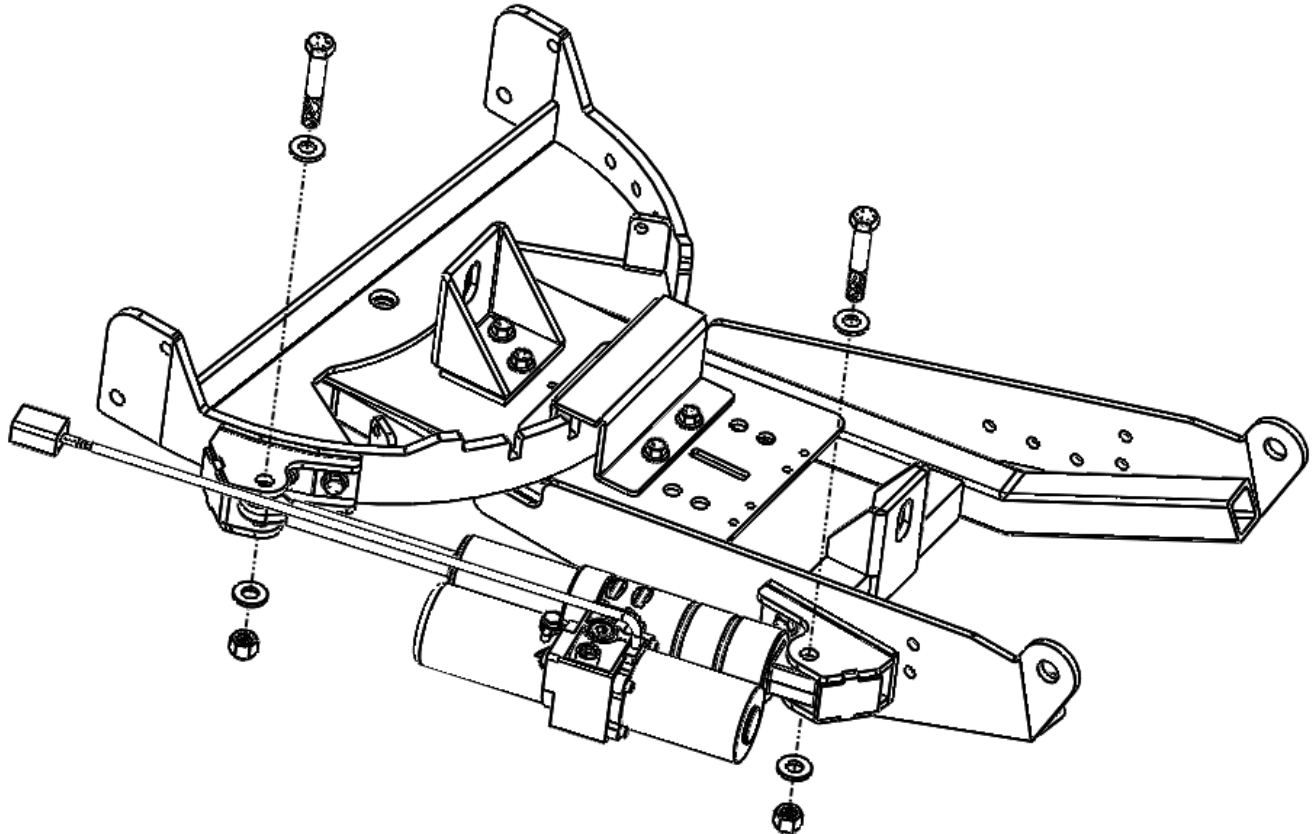


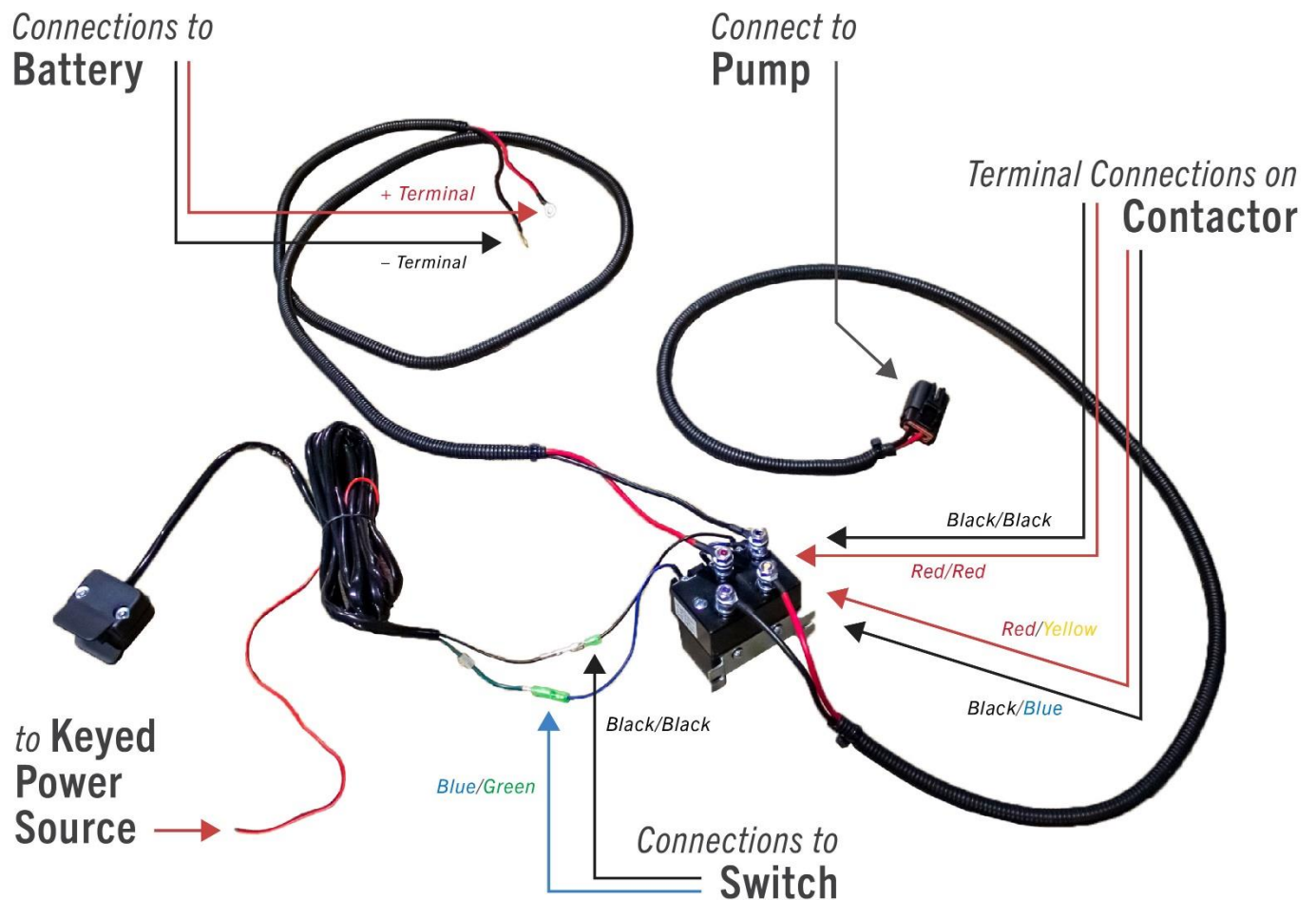
Figure 5

Electrical Setup

Before performing any electrical work on your vehicle remove the NEGATIVE battery terminal and secure it away from the battery.

- 6) Depending on the location of the vehicle battery the contactor mount location may vary. Keep the contactor as high and dry as possible while routing the power cables from the battery to the contactor. Another suitable power source is the power terminals from an existing winch contactor. Before securing any of the electrical cables and installing your contactor, lay out a path for the two Power Cables and Hydraulic Pump Wiring Harness. Mount the Contactor to the SxS using the Self Tapping Screws.

- 7) With the contactor mounted, attach the quick disconnect harness from the hydraulic pump to the blue and yellow terminals of the contactor. The quick disconnect harness wire color may vary from those in **Figure 6**. Connect the quick disconnect plug to the hydraulic pump plug. Attach the included power cables (red/black or blue/yellow) to the Red and Black terminals on the contactor. The cable that is attached to the red terminal post on the contactor should be connected to the red battery terminal. The cable that is attached to the black terminal post on the contactor should be connected to the black battery terminal.



HYPro Hydraulic System with Rocker Switch
 Wiring Diagram



Figure 6

- 8) Mount the Rocker Switch or Optional Dash Switch in a convenient location. Connect the green and black wires to the blue and black wires on the contactor. Connect the red wire from the switch to a keyed power source. This can be an auxiliary power block if the vehicle has one, a cigarette lighter power wire or USB charging power wire. Use the insulation displacement crimp to attach the red wire if tapping into an existing wire.



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- 9) Reconnect the negative battery terminal and toggle the hydraulic turn switch to verify correct wiring. If the direction of the Hydraulic Turn System is opposite the intended direction, swap the power cable wires that connect to the blue and yellow terminals of the contactor.

- 10) Secure any loose wires using zip ties and avoid any moving, sharp, or hot parts. Verify that there is enough cable for the hydraulic system to move in and out without pulling the cable tight.