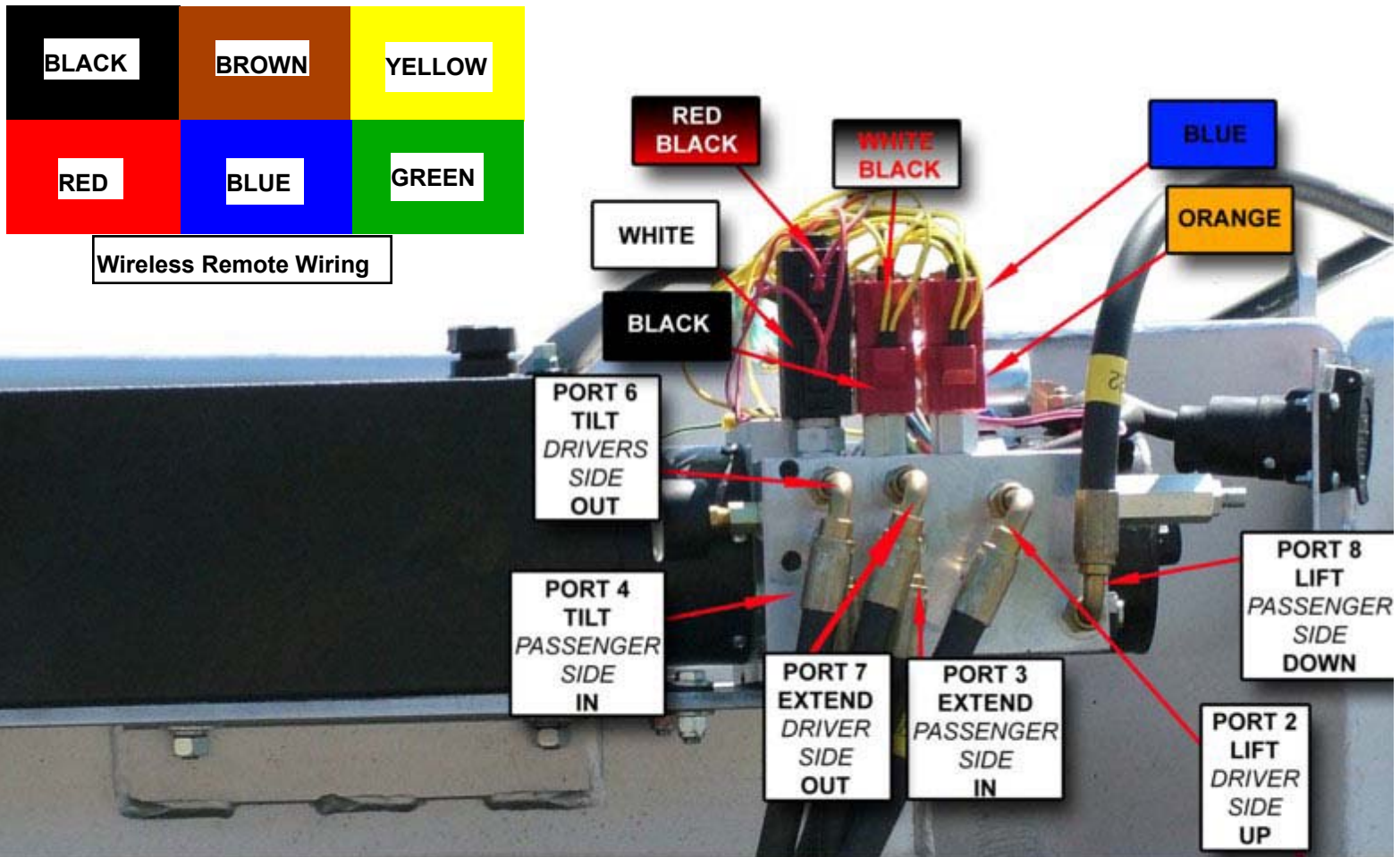


12 Volt Valve Body Wiring & Porting



Green wire to solenoid. Red wire to 12 volt power with 10 amp fuse.

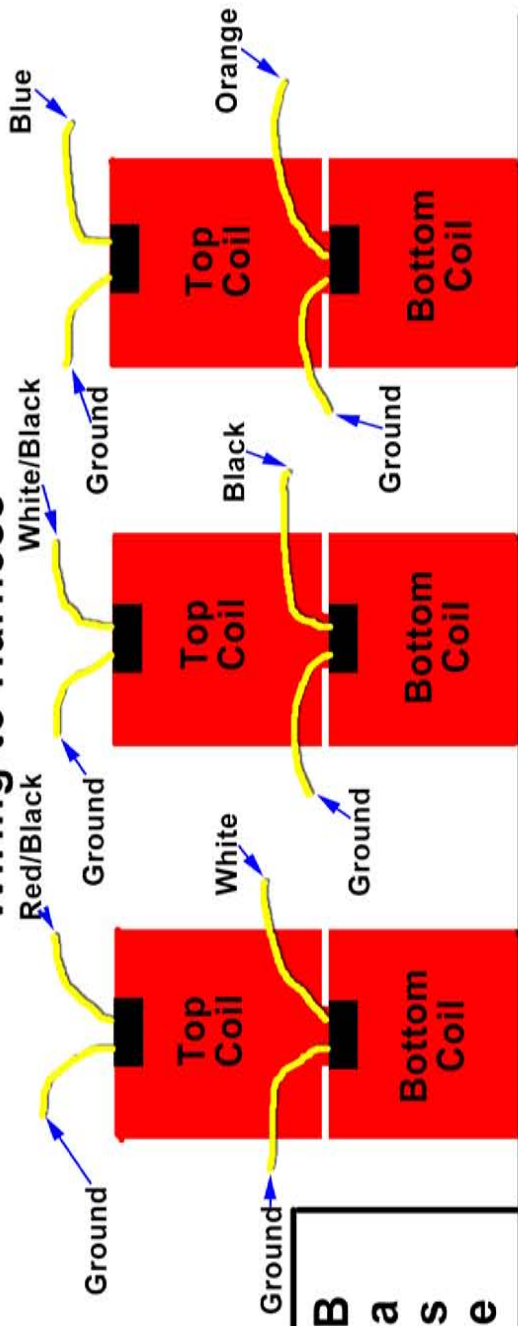
12 Volt Power Pack Installation

A. Fill hydraulic reservoir with oil. Unit must be run in each function to fill cylinders and lines with oil and then refilled. Stroke each function fully out and fully in to expel air from cylinders and lines.

B. Oil level should be +/- 5/16" above maximum line on dip stick when 1) tilt cylinder is fully retracted, 2) Lift cylinder is fully lifted up into "J" lock and unfolded, and 3) extend cylinder is fully retracted.

C. The 12 Volt Power Pack can draw up to 300 amps in extreme conditions and requires all cables, connectors, lugs, etc. to be capable of handling this current load. Only use 2 gauge cable.

Wiring to Harness



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K

Valve Block

Port 6
Tilt Out

Port 7
Extend
Out

Port 2
Lift Up

Port 4
Tilt In

Port 3
Extend
In

Port 8
Lift
Down

E-2

From Harness

Green Wire to small stud on starter solenoid. **Red Wire** to power side of starter solenoid with 10 amp fuse.

For Wireless remote wiring check pages E-2A thru E-2C

12 Volt Valve Body Wiring & Porting Troubleshooting

TROUBLESHOOTING 12 VOLT POWER SUPPLY TO PUMP:

- 1. Connect voltmeter to positive terminal (hotwire) on 12 volt power pack.**
- 2. Operate the “lift – UP” function of the remote control to lift cylinder’s “dead-end”. Take reading on pressure gauge. This reading should be 2500 to 2600 psi.**
- 3. Voltmeter should not read less than 9-6 volts under full load.**
- 4. If voltage is less than 9-6 volts, check condition of a.) battery, b.) cleanliness and soundness of terminals, c) length and diameter of battery cables.**
- 5. Perform above test with voltmeter connected to the terminal of battery (AT BATTERY).**

TROUBLESHOOTING HYDRUALIC PRESSURE

- 1. Be sure all of the above installation requirements are met.**
- 2. Run same test as above #2**
- 3. If 2500 psi cannot be attained, the pressure relief valve cartridge on the underside of pump body will require MINIMAL adjusting. To adjust, back off ½” lock nut and screw 1/8” Allen screw in by ¼ turn increments at a time, checking pressure after each adjustment until pressure relief valve is set at 2500 psi. Tighten lock nut.**

Troubleshooting 12 volt pump installation

Nearly all problems are caused by incorrect hydraulic connections. Always double check your connections to the valve. Page E-2

| Symptom | Possible Cause | Solution |
|---|--|---|
| No Zacklift functions operate | No hydraulic pressure to Zacklift. Insufficient power supply. Corroded electrical connections. | Check for correct hydraulic pressure from valve pressure should be 2500 psi Check electrical connection |
| Zacklift "lift" function has no power. | Hoses 8 & 2 in wrong positions | Switch hoses 8 & 2 on valve body of lift cylinder. Port 8 should only have maximum pressure of 1000 psi. Port 2 should be equal to pump pressure |
| All Zacklift functions sluggish | Low hydraulic flow rate. Insufficient power supply | Check hydraulic fluid level in tank. Check voltage. Voltage should not read less then 9 volts. Page B-11 |
| Fold function operates. Lower or raise function does not. | Bent inner main. Caused by carrying load out of lock Inner main rusted in place. Wear pad adjustment to tight. | Inspect Inner main, replace if necessary. Maintain to prevent rust. Page E-2 Adjust wear pads. Section D |
| Tilt function does not operate. | Lack of hydraulic pressure to cylinder | Check hydraulic pressure to tilt cylinder. 2500 psi. |
| Extend retract function does not operate. | Lack of hydraulic pressure to cylinder | Check hydraulic pressure to extend cylinder. 2500 psi. |
| Lower raise and fold function does not operate. | Lack of hydraulic pressure to cylinder | Check hydraulic pressure to lift cylinder. 2500 psi. |
| Unable to raise inner main into safety lock ("J" lock) | Normal wear | Adjust safety lock Page D-4 |
| Unable to fold into fold lock | Bent inner main. Caused by carrying load out of lock Dirt accumulation in roller guides of inner main | Inspect Inner main, replace if necessary. Clean roller guides of inner main. |
| Looseness of horizontal members | Normal wear | Adjust wear pads. Section D |
| Looseness of inner main | Normal wear | Adjust wear pads. Section D |
| | | |