Smart Switch with External Switch - 24 volt (501-9949)

Wiring Instructions

CONTROL BOX

MOTOR (-) / 6 ga. wire

MOTOR (+) / 6 ga. wire

BAT (-) / 6 ga. wire

BAT (+) / 6 ga. wire

80 AMP FUSE

BATTERY

FOR TECHNICAL ASSISTANCE
Call Toll Free: (800) 368-3075

1404 N. Marshall Ave, El Cajon, CA 92020
**Step 1**

Run the 6 ga. wire to both locations (motor & battery box) and attach to truck body as shown in Fig. 1.

**Note:** The wire must go beyond the pivot point.

**Caution:** Make sure wire does not get pinched at the pivot.

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**Step 2. Attaching The Connectors (Motor)**

**A.** Split the molded 6 ga. wire approximately 4" and strip the ends about 5/8" down.

**B.** Attach connectors (part # 514-0308) and crimp (Fig. 2).

**C.** Attach black wire to Terminal # 1 on motor (Fig. 3).

**D.** Attach red striped wire to Terminal # 2 on motor (Fig. 3).
Step 3.
A. Mount the Control Box near the battery.

B. Split the 6 ga. wire at the Control Box about 4” back and slip on rubber boots - Red Boot (part # 514-0319) on red striped wire and Black Boot (part # 514-0317) on black wire (Fig. 4 & 5).

C. Strip wire about 5/8” and attach connectors (part # 514-0308) (Fig. 4). Crimp Connectors.

D. Attach Red Striped wire to Motor (+) and Black wire to Motor (-) on Control Box (Fig. 5).

Do not over tighten nuts on connections!

Step 4. Wiring the Fuse

A. Cut a length of 6ga. duplex wire long enough to run from the battery to the Control Box.

B. Split the duplex wire at the battery.

C. Strip one end of the Red Striped wire about 5/8”, and strip one end of the fuse holder wire about 5/8”. Attach the 6 ga. Butt Connector (part # 514-0315) and crimp.

D. Strip the other end of the fuse holder wire about 5/8” and attach the 6 ga. 3/8” terminal end (part # 514-0309) or the 6 ga. 1/4” terminal end (part # 514-0308), depending on the size of the terminal at the battery. Do not attach to positive (+) terminal on battery at this time.

E. Install 80 amp fuse in fuse holder.

F. Push the fuse holder cover over the fuse.
Step 5.
Strip the insulation off the end of the red and black wires far enough to fit the contacts for the heavy duty plugs. (Fig. 8)

Step 6.
Solder contacts to the ends of the wire. (Fig. 9-10)
Step 7.
Push contacts in the plugs from the back. Be sure that the contacts are inserted properly so that the spring tab in the plug locks the contact in place. (Fig. 11)

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Step 8. Wiring the Battery

A. Connect the black 6 ga. wire to the negative terminal on the battery using a 6 ga. 3/8” terminal end (part # 514-0309) or 1/4” terminal end (part # 514-0309), depending on the size of the terminal at the battery. (Fig. 12).
Step 8. Wiring the Battery (Continued)

B. Connect the red striped 6 ga. wire to BAT (+) at the battery. Connect the heavy duty plug at the Smart Switch Box. (Fig. 13).

**Warning:** You must attach the black 6 ga. wire to the battery first, before attaching it to the box.

**Note:** If the system operates backwards then reverse the 6 ga. wires on the motor.
Smart Switch with External Switch - 24 volt (501-9949)

<table>
<thead>
<tr>
<th>Item #</th>
<th>Part #</th>
<th>Description</th>
<th>QTY</th>
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<tr>
<td>1</td>
<td>514-0111</td>
<td>Sealed Toggle Switch</td>
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<tr>
<td>2</td>
<td>514-9916</td>
<td>Solenoid 24 Volt</td>
<td>2</td>
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<td>3</td>
<td>514-0414</td>
<td>70 Amp Thermal Circuit Breaker</td>
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<td>514-0419</td>
<td>Boot for 70 Amp Circuit Breaker</td>
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<td>514-0317</td>
<td>Black Terminal Boot</td>
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<td>6</td>
<td>514-0319</td>
<td>Red Terminal Boot</td>
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<td>514-0302</td>
<td>Connector 10 ga. 1/4&quot; Eyelet</td>
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<td>514-0303</td>
<td>Connector 14 ga. #10 Terminal</td>
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<td>514-0308</td>
<td>Connector 6 ga. Lug with 1/4&quot; Eyelet</td>
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<td>514-0309</td>
<td>Connector 6 ga. Lug with 3/8&quot; Eyelet</td>
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<td>514-0318</td>
<td>Butt Connector 6 ga.</td>
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<td>514-0321</td>
<td>16 ga. Push on Female Terminal</td>
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<td>15 Amp 32VDC Blade Fuse</td>
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<td>514-0417</td>
<td>80 Amp Blade Fuse</td>
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<td>17</td>
<td>517-9923</td>
<td>Plastic Flanged Solenoid Box</td>
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