LONG REACH®

A Division of Allied Systems Company

Installation Instructions
Light Bar Kit

INSTALLATION

This manual provides installation instructions for light bar kits used with 3-position pressure relief valve. The switch box installation allows for three relief selections. The light assembly uses 12V bulbs. A voltage converter and filter are used for 24-48V applications.

The switch box contains a cam that activates the micro-switch based on lever position. When a microswitch is switched ON, a colored light illuminates to show which relief cartridge is selected.

NOTICE

This kit is intended to be installed by a qualified person or technician.

1. Remove the original capscrews and stops on the valve and discard.
2. The switch box may be installed in either 180˚ position as required for clearance or cable routing, as shown in Figure 1. The switch box mounting holes must line up with the two tapped holes near relief locations marked 1, stamped on the valve (Fig. 2).
3. Install the stops and capscrews from the kit to securely fasten the switch box to the valve.
4. Drive the cam onto the shaft with a rubber mallet. The cam may be installed in either 180˚ position depending on switch box mounting and valve mounting positions.

NOTICE

Cam slots and microswitch arms face each other when activated. The cam can be pried off and rotated 180˚, if needed.

5. Install the cover by sliding it on and tapping into place.

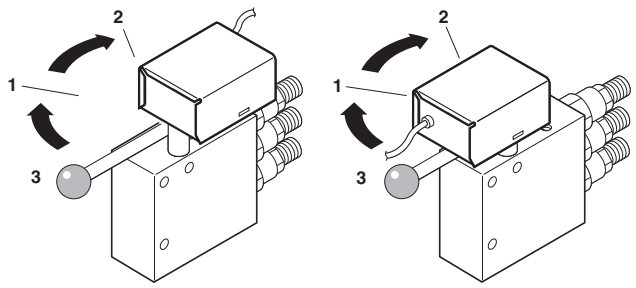


Figure 1, Switch box mounting options

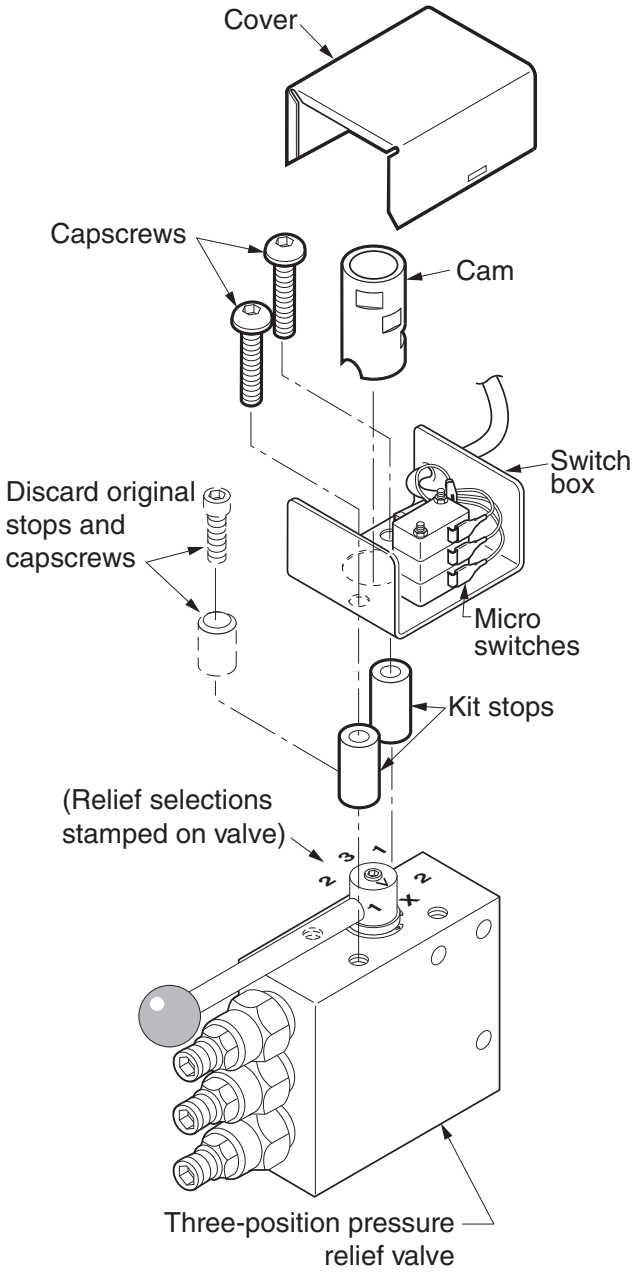


Figure 2, Switch box assembly

6. Locate and mount the light bar on the back of the truck's overhead guard. Connect the cable extension and route the cable from the light bar to join the switch box cable.

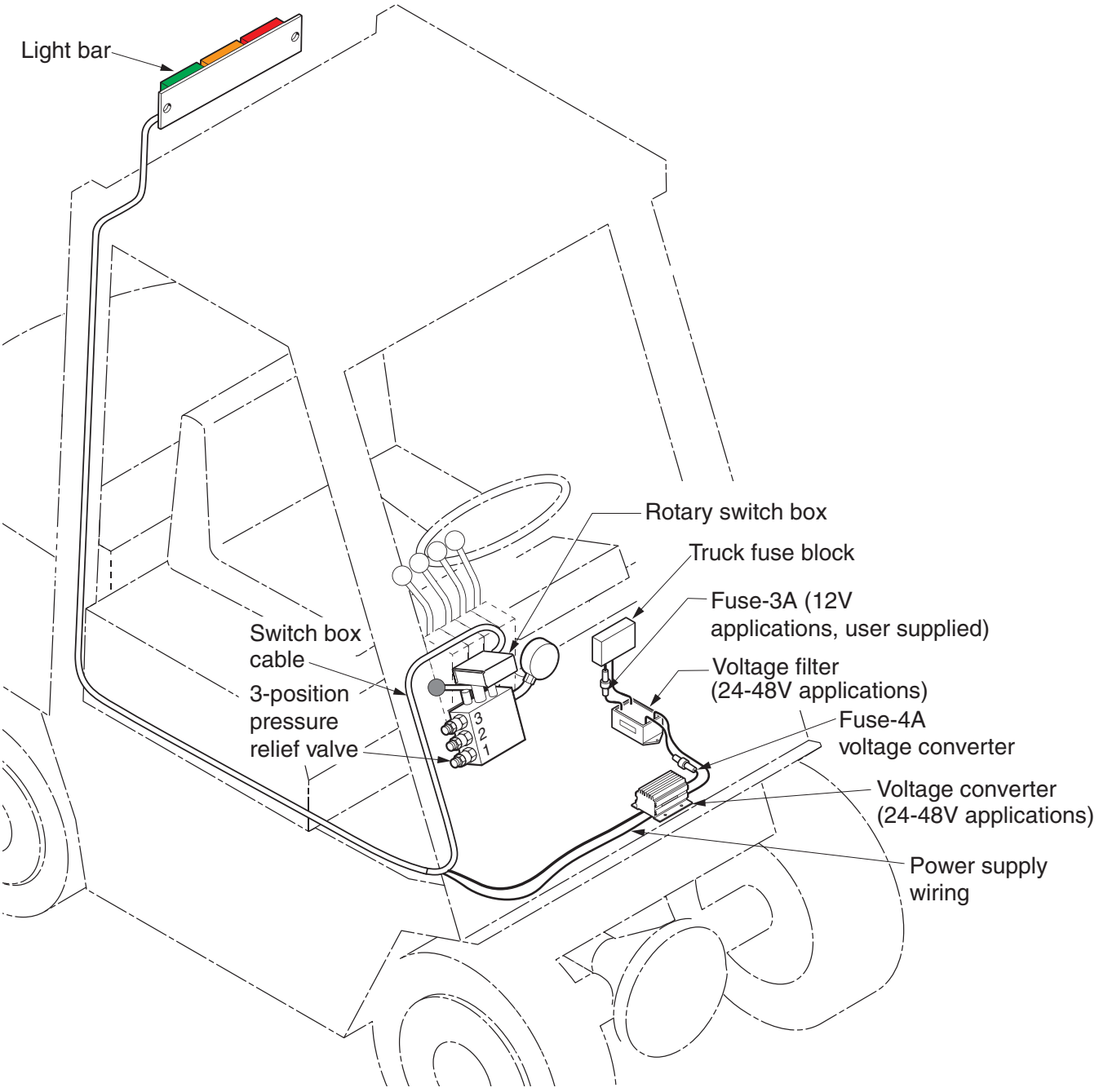


Figure 3, Connection diagram

⚠ CAUTION

Consult the lift truck OEM for proper power source connection.

7. Connect the cables together using the schematics in Figure 4, shown below. The green wires are connected to the power supply wiring.
8. Connect the power supply wiring (user supplied) to the truck fuse block. Eighteen gauge (18 AWG) power supply wiring is recommended.

12V Trucks

Install a 3-amp inline fuse in the positive (+) power supply wire. Connect the fused positive wire to a switched power terminal on the truck fuse block.

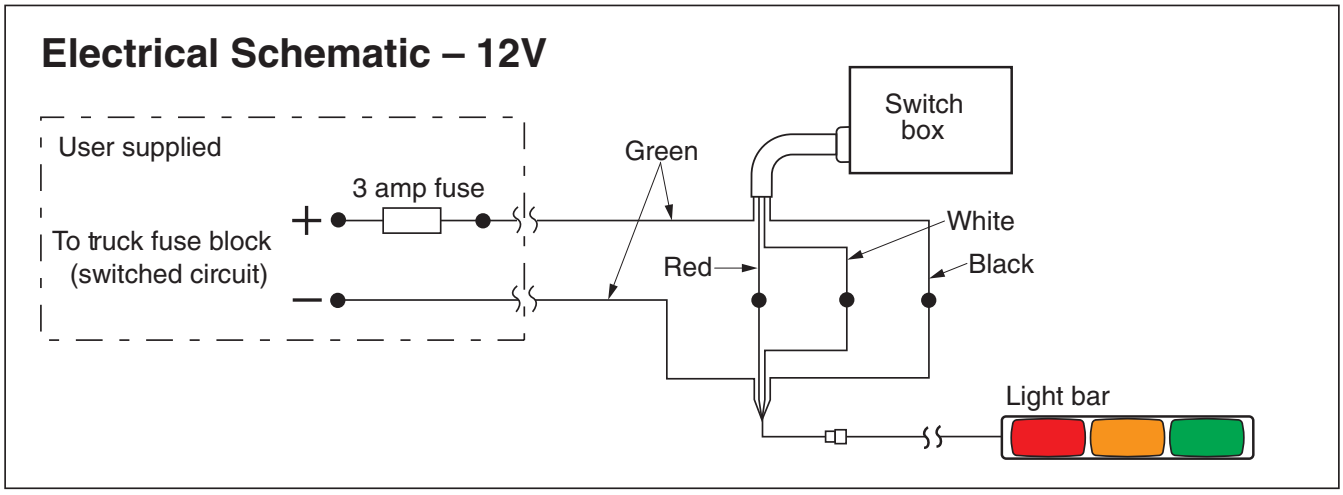
24V-48V Trucks

Connect the voltage filter to the voltage converter. Connect the positive (+) wire to a switched power terminal on the truck fuse block.

NOTICE

For 24-48V application, voltage converter must be wired into the circuit. The voltage converter has its own 4 amp input fuse.

Check the cable routing for pinch points and clearance. Use wire ties as needed.



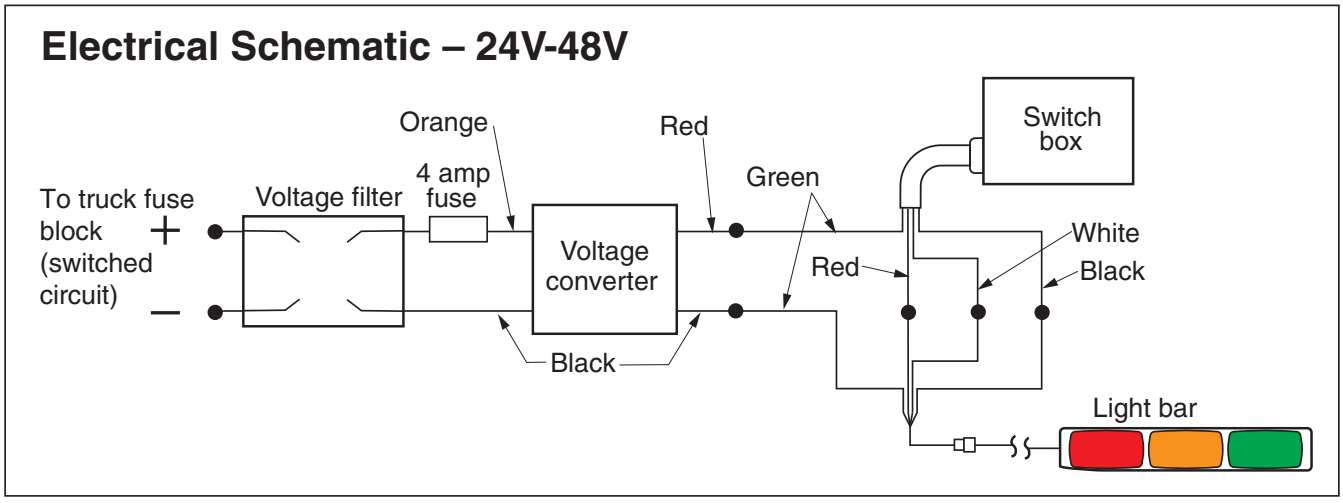


Figure 4, Electrical schematics

NOTICE

When installing this kit on electric trucks with regenerative breaking, a voltage filter must be installed. Failure to install the voltage filter can cause damage to electrical components.

Relief Adjustment

To set the valve relief cartridges, install a 5000 psi (345 bar) pressure gauge and fitting to the valve G port, see Figure 5. A clamp force indicator can also be used to adjust the relief cartridge settings.

3-Position Presets

Position X - Not Available

Position 1 - 800 psi

Position 2 - 1200 psi

Position 3 - 1800 psi

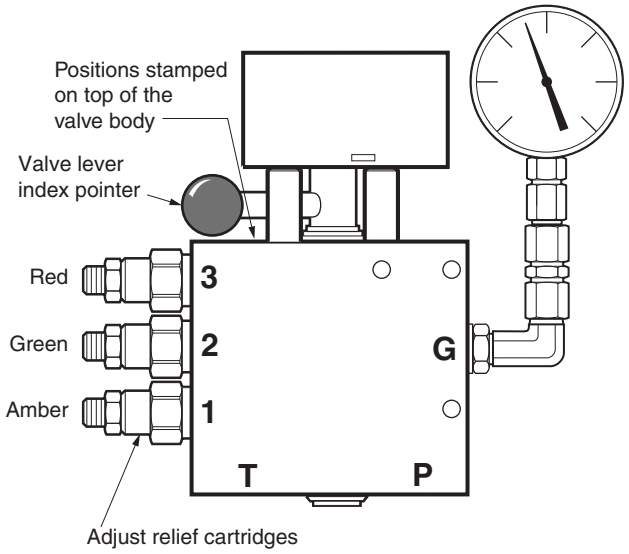
NOTICE

Cartridges are preset. Relief pressure for each cartridge must be adjusted for your application. Four stop positions are not available when a switch box is mounted on the valve.

1. Shift the valve lever index pointer to position 1 stamped on the valve body. See Figure 5.
2. Loosen the jam nut on the No. 2 relief cartridge. Adjust the relief cartridge (3/16-in. Allen hex wrench) inward (CW) to raise pressure or outward (CCW) to lower the pressure.
3. Clamp a load and check the pressure. Readjust as required. Tighten the jam nut.
4. Shift the selector switch to position 2. Loosen the jam nut on the No. 1 relief cartridge. Adjust the relief cartridge inward (CW) to raise pressure or outward (CCW) to lower the pressure.

   Repeat step 3 for the No. 2 relief position.
5. Shift the selector switch to position 3. Loosen the jam nut on the No. 3 relief cartridge. Adjust the relief cartridge inward (CW) to raise pressure or outward (CCW) to lower the pressure.

   Repeat step 3 for the No. 3 relief position.



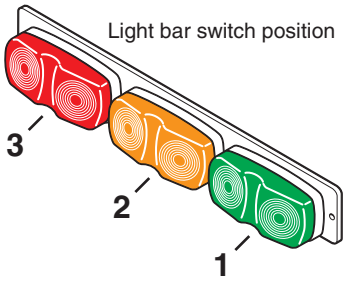


Figure 5, Light display

Switch Relief Light Chart

Switch Position	Relief Cartridge	Light Color
1	2	Green
2	1	Amber
3	3	Red

⚠ CAUTION

Equipment damage hazard.

Permanent damage will occur if the rotating spool is removed from the valve body and will void the warranty.

Replace valve as a complete assembly.