LONG REACH®

A Division of Allied Systems Company

Installation Instructions Clamp Opening Control - Switch Operated

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SECTION 1 PURPOSE

Effective October 7, 2010, a new safety standard (ANSI/ ITSDF B56.1, Section 7.25.7) for all lift trucks with a load bearing clamp (paper roll clamp, carton clamp, etc.) requires the driver to make two distinct motions before opening or releasing the clamp. For example, you must press a switch and then move a lever to unclamp the load.

This requirement applies to new and used attachments being mounted on new trucks shipping from the factory after October 7, 2010, and is a recommended feature to be installed on dealer orders and existing applications.

This manual shows how to install, test, and operate opening control kits for clamp-supported load handling attachments. These kits add a switch-controlled solenoid which must be activated along with the control handle operation to reduce the risk of unintentional or accidental clamp opening.

NOTICE

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

Clamp Opening Control Switch Operated Kits
2520519 - 12V
2520520 - 24V
2520521 - 36V
2520522 - 48V

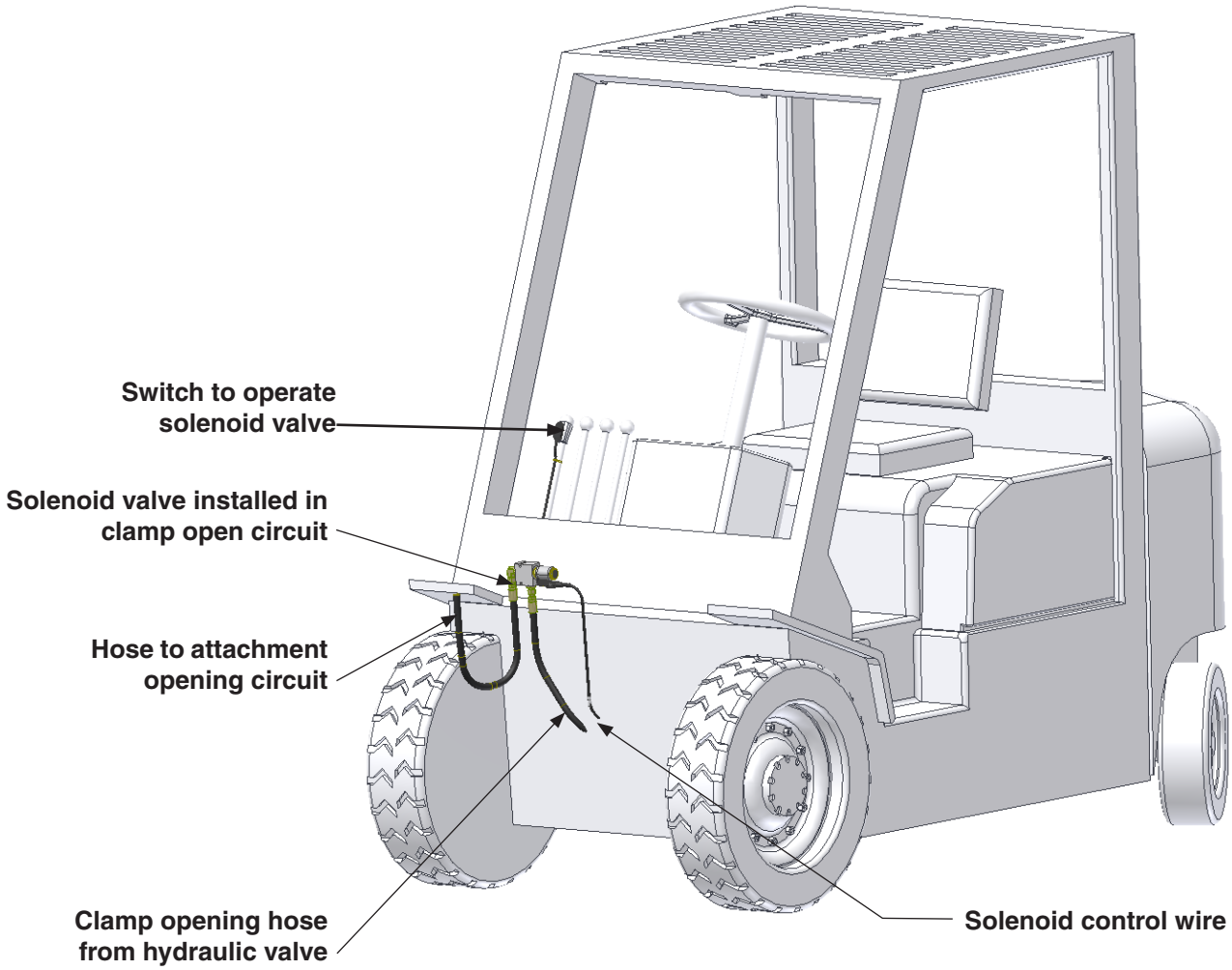

Fig. 1, Opening Control Kit Installed

SECTION 2 INSTALLATION

1. Disconnect the cable from the battery's negative terminal before connecting any electrical components. (Fig. 2)

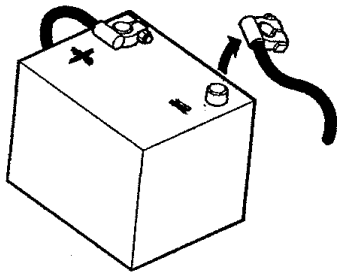

Figure 2, Disconnect Cable from Negative Terminal

2. Confirm the kit's solenoid coil voltage matches the truck operating voltage.

NOTICE

Consult the lift truck OEM to confirm that system will handle additional 1.5 amp at 12 volt drain.

3. Determine a suitable location for the solenoid on the cowl or near the hydraulic control valve and securely attach the valve. Do not get dirt or contamination in the valve or fittings. (Fig. 3)

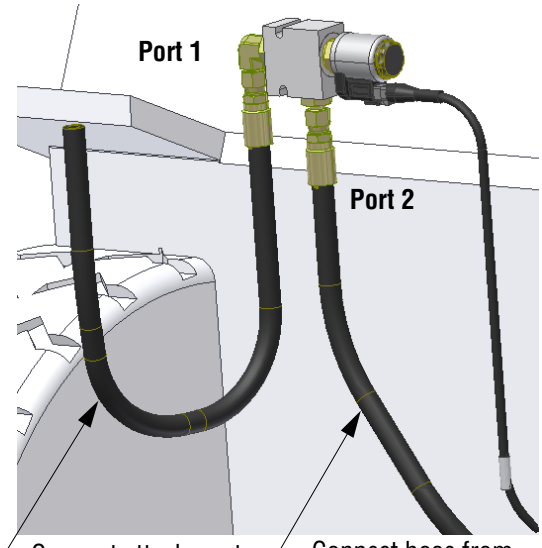

Figure 3, Mount Solenoid Connections

4. Ensure that the hose is free of any internal contamination. Connect a hydraulic supply hose from the hydraulic control valve open port to the side port (Port 2) of the solenoid valve. (Figs. 3 and 4)

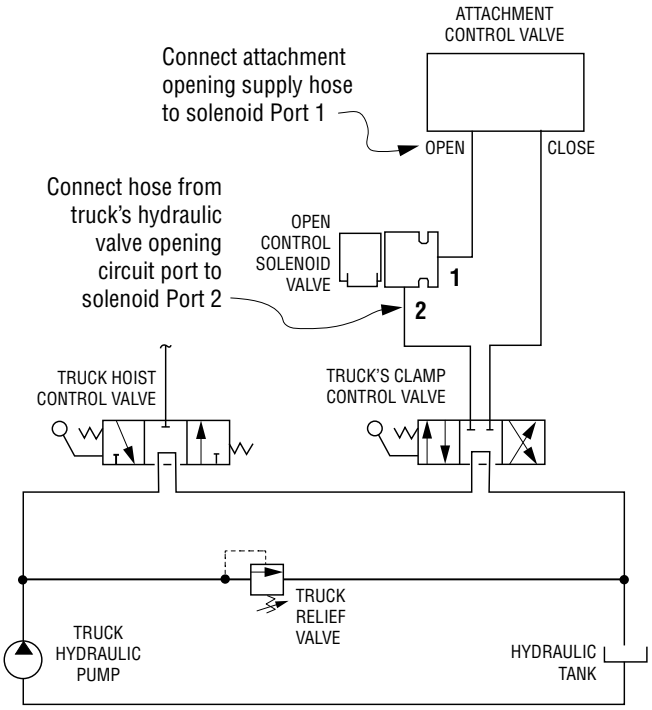

Figure 4, Solenoid Connection Schematic

5. Ensure that the hose is free of any internal contamination. Connect the attachment opening supply hose to the end port (Port 1) of the solenoid valve. (Figs. 3 and 4)

NOTICE

Solenoid must be installed in the circuit's clamp open line. Do not install the solenoid in the clamp return line.

6. Install switch on the clamp/open control handle. Depending on handle or knob style, select a position convenient and comfortable for the operator's use. Better switch support may be provided by building up a support surface on handle or knob. Use double-sided tape to temporarily hold the switch in position. (Figs. 5)

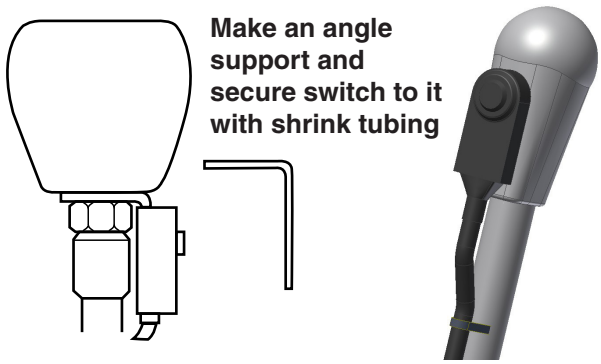

Figure 5, Switch Support

7. Using the smallest shrink tube that will fit around switch and handle, use a heat gun to heat and shrink the tube in place, to restrain the switch. If it is difficult to feel the switch action, carefully cut a hole in the shrink tube around the switch button to provide a better feel. (Fig. 6)

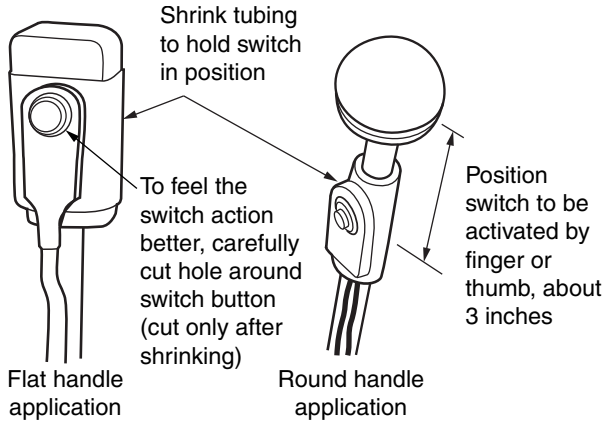

Figure 6, Switch Positioning

8. Secure the switch wire to the handle with cable ties.

NOTICE

Consult the lift truck OEM for proper positive power and negative ground connection points

9. Insert power cord connector in solenoid receptacle and route wire to a switch-controlled power source. (Fig. 7)

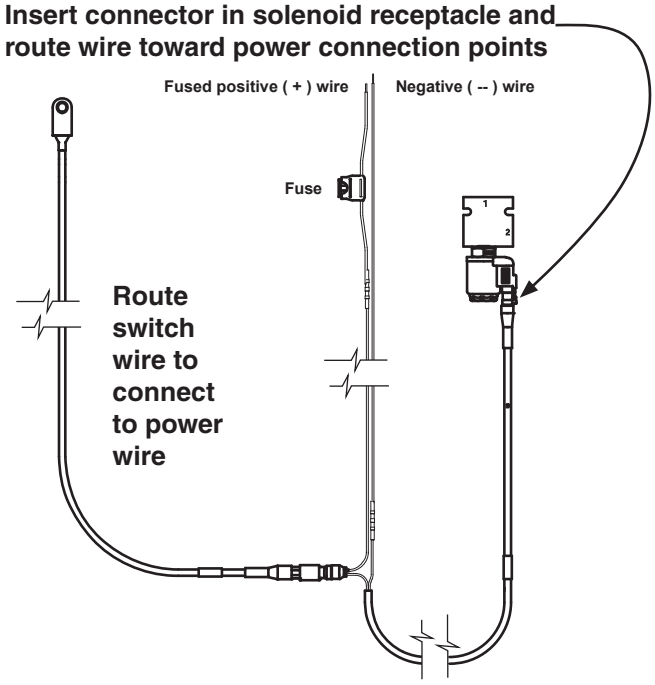

Figure 7, Wire Routing

NOTICE

Consult the lift truck OEM to confirm that system will handle additional 1.5 amp drain at 12 volts, dropping proportionally to 0.4 amp at 48 volts.

10. Route switch wire to connect to power wire connection at receptacle, avoiding moving parts where abrasion and pinch points could damage the wire. Secure as required. (Fig. 7) Nominal current draw is 1.5 amp at 12 VDC.

NOTICE

The solenoid coil has an integral zener diode for transient voltage suppression. No external diode is required.

11. Connect positive wire to the designated key-controlled power connection points and negative to common negative terminal. Check the cable routing to avoid pinch points and abrasion sources, and provide clearance from moving parts. (Fig. 8)
12. Re-connect the battery's negative terminal.

Test Installation

Before returning truck into service, the installation must be tested.

1. Turn truck key on to provide power to switch.
2. With no load, activate the solenoid switch. The solenoid activation should be detectable by a slight sound or by feel of the solenoid noting the spool shift.
3. With the hydraulic system operational and no load, close the clamp as normal and then open the clamp by activating the switch and operating the handle to flush air out of the circuit.
4. Close the clamp and then operate the opening handle without activating the switch. The clamp should not open. Next, activate the switch and then the open handle. The clamp should now open.
5. Clamp a load and hoist it slightly off the ground (1˝ maximum).
6. Attempt to open the clamp without activating the switch and the clamp should not open. Now activate the switch and the clamp should arms should open.

Disabling The System

The clamp open control can be disabled by performing the following steps:

1. Disconnect the two hose ends to normally-closed solenoid valve and connect them together with a union. Alternately, remove the solenoid valve cartridge, being careful not to get contamination on it. Install a #10 O-ring plug in the cavity.
2. Remove the system power fuse in the cable harness. The truck and attachment will now operate normally. To enable the clamp opening control, reverse the procedure above.

Operation

The clamp opening control kit is designed to prevent accidental release of a clamped load. The clamp opening control handle will not function without engaging the switch to activate the circuit.

Press and hold the switch to operate the clamp opening control.

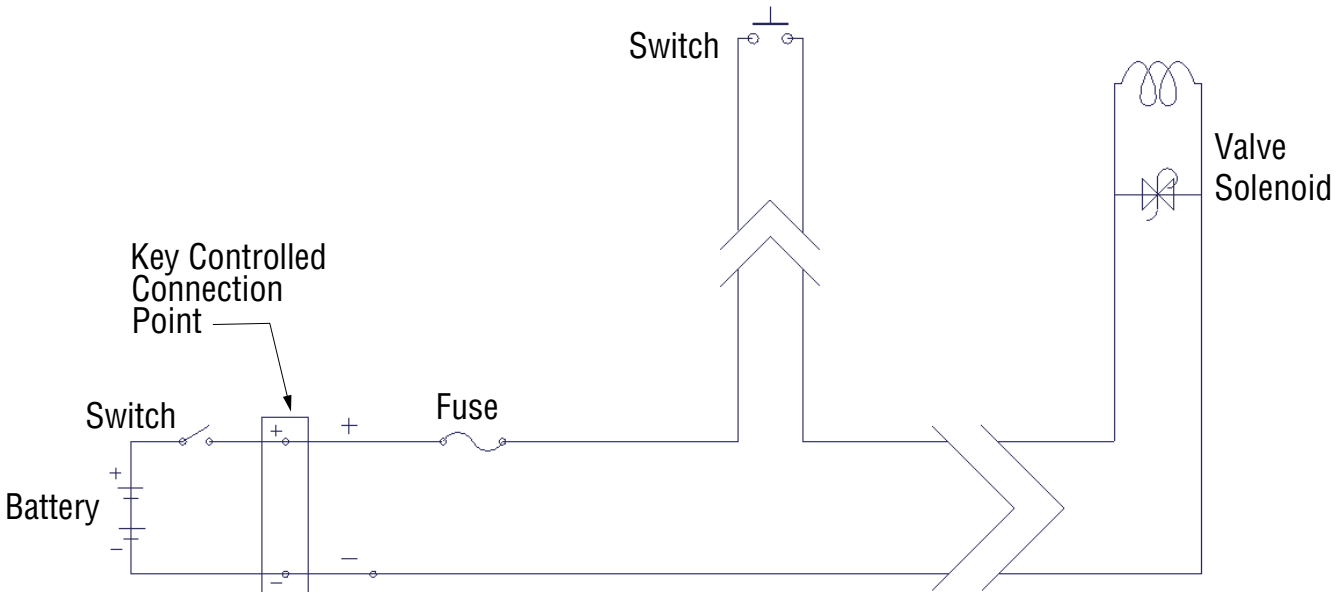

Fig. 8, Wire Connections