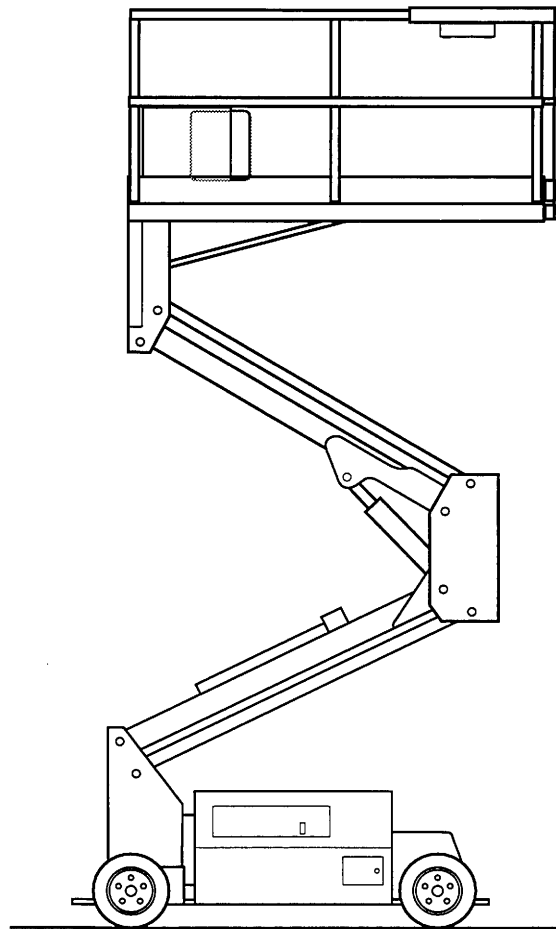


# FALCON 2034 VERTICAL LIFT

S/N EDA (or EDB) 00101 and up

## SERVICE MANUAL

**For Service Concerns  
Only:  
Direct Phone Line to  
Service Department,  
8:00 AM to 5:00 PM  
Central Time,  
Monday thru Friday.  
Phone (414) 355-3181**



Art # A00.00710E

Part No. 89-750017 • Revision "0.3", dated Jan. 1997 •

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1. Install a pressure gauge in Port PL.
2. Loosen lock nut.
3. Lift the platform fully in low speed, while continuing to dead head lift, and use a hex key to adjust pressure. Backing out hex socket screw decreases pressure set to unlock valve.
4. Tighten lock nut.

## SEQUENCE VALVE

This valve, located in port V10 on the control assembly, is an internal pilot and drain sequence valve. It is a screw-in, cartridge-style, direct-acting valve used to divert pressure to the drive circuit when the steer cylinder is fully extended. The sequence valve shifts at 2500 psi. The valve is factory set.

To adjust the valve:

1. Install a pressure gauge in Port PL.
2. Loosen lock nut.
3. Steer fully in either direction, continuing to dead head steering, and use a hex key to adjust pressure. Backing out hex socket screw decreases pressure set to unlock valve.
4. Tighten lock nut.

## STEER VALVE

This valve, located in socket V1 on the control assembly, is a solenoid-operated, 4-way, 3-position, tandem center valve. It is screw-in, cartridge-style, and direct-acting, for use to open and close flow to the steer cylinder. The steer valve opens when the steer toggle is pressed in either direction to allow steer right and left functions. There are no adjustments to this valve, but the solenoids can be replaced if it malfunctions.

## STEER BYPASS VALVE

This valve, located in port V6 on the control assembly, is a solenoid-operated, 2-way, normally open valve. It is a screw-in, cartridge-style, and poppet valve used to allow hydraulic fluid to return to the reservoir when not steering. When steering, this valve remains open. When driving or lifting, this valve closes. There are no adjustments to this valve, but the solenoid can be replaced if it malfunctions.

## DRIVE VALVE

This valve is located in port V4 on control assembly, is a solenoid-operated, 4-way, 3-position, motor spool valve. It is a screw-in, cartridge-style, and spool-type valve used to allow hydraulic fluid to drive rear hydraulic motors. When moving forward coil #1 is energized and coil #2 is de-energized. When moving in reverse coil #2 is energized and coil #1 is de-energized. It requires no adjustments, but solenoids can be replaced if they malfunction.

## COUNTERBALANCE VALVES (DRIVE)

These identical valves are located in ports V2 and V3 on the control assembly. They are used for overrunning load control and hydraulic load locking, and restrain flow from the pump to prevent cavitation. They also function as deceleration controls when driving down hill, and act as a dynamic brake stopping the machine before the parking brake is applied. They are factory set at 200 psi pilot pressure and 2000 psi load induced pressure. Under normal use, this valve requires no adjustment. Consult with Simon Service, if necessary,

## LIFT VALVE (NORMALLY CLOSED)

This valve, located in port V7 on the control assembly, is a solenoid-operated, 2-way, normally closed valve. It is a screw-in, cartridge-style, and piloted poppet valve. When lifting this valve is open. There are no adjustments to this valve, but the solenoid can be replaced if it malfunctions.

## MECHANICAL COMPONENTS

Following is a description of the major mechanical components of the 2034 Link.

### UNDERCARRIAGE

Two removable covers are used to protect the items mounted on the undercarriage.

#### **CAUTION**

**When steam cleaning the undercarriage, cover the battery charger and other electrical components, to prevent water damage.**

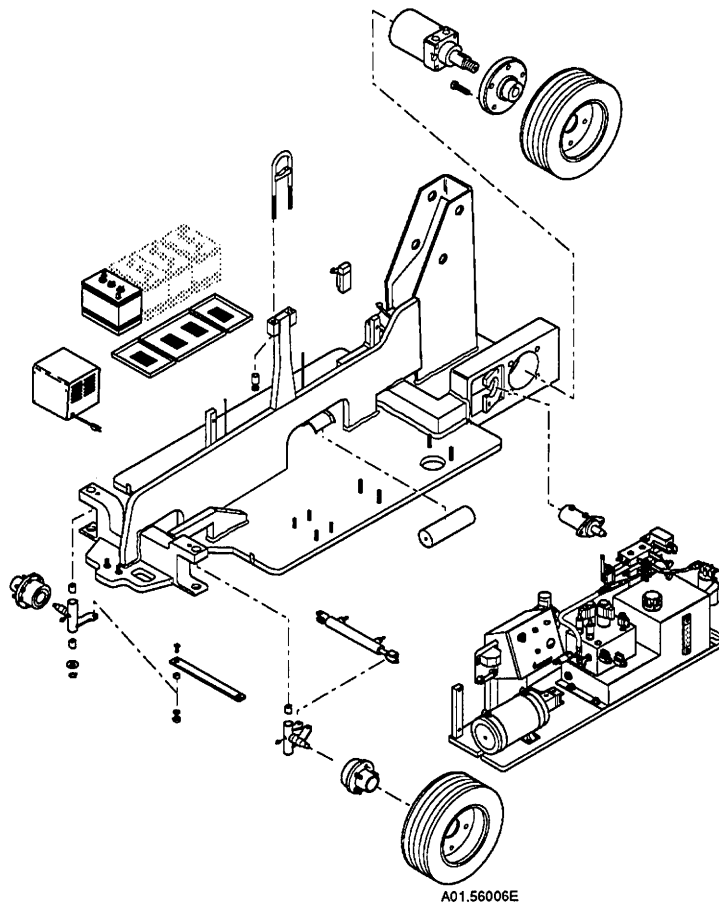
Steam clean the undercarriage once a year, and inspect all welds and brackets. Check for cylinder pins that turn in their mountings, which will indicate sheared pin lock pins.

### TIRES

The 2034 Link uses 8" x 4" (204 mm x 102 mm) solid rubber tires with 3.75" split rims. Inspect tires for cuts, chunking, sidewall damage or abnormal wear. Any tire faults **MUST BE CORRECTED** before further machine operation.

### CHANGING TIRES

When a tire change is necessary, **ALWAYS BLOCK THE WHEELS** before you raise the machine. Loosen and remove lug nuts, and pull off the wheel. Install the replacement wheel. Fasten lug nuts, and tighten to proper torque (see Machine Specifications). Lower the machine and remove the blocks.



Components Found on the Undercarriage.

## TROUBLESHOOTING CHART (CONTINUED)

Problem	Probable Cause	Solution
<ul style="list-style-type: none"> <li>• No high speed function for lift or drive.</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Stop Button, Key Switch, High Lift/Drive Selector Switch, high speed coil, high speed valve, no pump output.</li> </ul>	<ul style="list-style-type: none"> <li>• A breakdown of any one of these components will cause the high speed function to be inoperable.</li> </ul>
<ul style="list-style-type: none"> <li>• No high speed function for drive only.</li> </ul>	<ul style="list-style-type: none"> <li>• Limit switch.</li> <li>• High Lift/Drive Switch</li> </ul>	<ul style="list-style-type: none"> <li>• Check limit switch by wiring around component, and replace if faulty.</li> <li>• Check switch.</li> </ul>
<ul style="list-style-type: none"> <li>• Movement alarm will not sound.</li> </ul>	<ul style="list-style-type: none"> <li>• Forward or reverse diodes, movement alarm relay, or the travel alarm itself is faulty.</li> </ul>	<ul style="list-style-type: none"> <li>• A breakdown in any one of these components will cause the alarm not to function. Trace the available voltage to the horn. Replace the component(s) that are bad.</li> </ul>
<ul style="list-style-type: none"> <li>• Lift cylinder drifts down.</li> </ul>	<ol style="list-style-type: none"> <li>1. Holding valve cartridge dirty or faulty.</li> <li>2. Cylinder packing is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean, repair or replace the holding valve.</li> <li>2. Replace cylinder packing.</li> </ol>

TROUBLESHOOTING CHART

## MAINTENANCE SCHEDULE

The Simon MP with Electro-proportional control system is designed to require a minimum amount of maintenance. However, it is essential that the specified services be performed at the indicated intervals, and that the instructions contained in this manual are followed to ensure safety and reliability.

### DANGER

**DEATH OR SEVERE INJURY MAY RESULT IF MACHINE OPERATED IN AN UNSAFE CONDITION. DO NOT OPERATE ANY MACHINE IF UNSAFE OPERATING CONDITION.**

### GENERAL MAINTENANCE TIPS

- ALWAYS clean the surrounding area before opening hydraulic components.
- Never open a hydraulic system when there are contaminants in the air.
- Never leave components or hoses open. They must be protected from contamination (including rain) at all times.
- Use only recommended lubricants (see Lubrication Chart in front of this machine). Improper lubricants or incompatible lubricants may be as harmful as no lubrication.
- Watch for makeshift "fixes", which can jeopardize safety as well as lead to more costly repairs.
- Any work platform found not to be in safe operating condition should be removed from service until repaired. All repairs should be made by authorized personnel in conformance with the manufacturer's operating, maintenance, and repair manuals.

### FIRST THREE MONTHS OF OPERATION

As with any new machine, minor fluid leaks may occur until the various hydraulic components and pipe fittings are fully seated.

It is particularly important that, for the first three months of operation, all hydraulic components, hoses and pipe fittings be checked regularly for leaks and tightness, and corrective action taken as required.

Correction of minor fluid leaks and general tightening of machine components during this initial period are not considered as reimbursible expenses under the Simon Limited Warranty.

The hydraulic pump, electric motor, cylinders and pressure valves are self-lubricating.

### ROUTINE SERVICING

**NOTE:** The following recommendations are based on advice of suppliers, and the requirements of various safety regulations. They should be followed with discretion based on factors such as amount and type of machine usage, environmental conditions, and local safety regulations.

**IMPORTANT:** Make certain that the unit is inspected per the operational checklists at the end of this section.

# APPENDIX

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