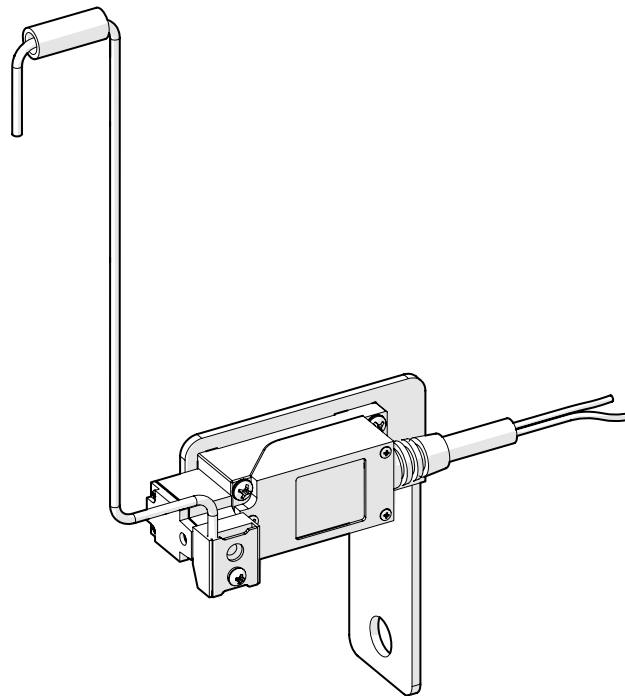


Autostacker Limit Switch Add-On Kit Installation and Operating Instructions

Document P/N 5900384 — Revision A — Released November 2023

Assembly Number:

- 5210459



DANGER

IMPORTANT SAFETY INSTRUCTIONS, SAVE THESE INSTRUCTIONS! Read these instructions thoroughly before installing, operating, servicing, or maintaining this Limit Switch Add-On Kit. Failure to follow the instructions and safety precautions in these instructions can result in severe injury or death. Make sure all other operators also read this manual. Keep these instructions near the product for future reference. ***By proceeding with installation and operation, you agree that you fully understand these instructions and assume full responsibility for product use.***

Manual. Autostacker Limit Switch Add-On Kit, *Installation and Operating Instructions*, Part Number 5900384, Revision A, released November 2023.

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Limitations. Every effort has been made to ensure complete and accurate instructions are included in this manual. However, product updates, revisions, and/or changes may have occurred since this manual was published. BendPak, Autostacker reserves the right to change any information in this manual without incurring any obligation for equipment previously or subsequently sold. All drawings are reference only – do not scale. BendPak, Autostacker is not responsible for typographical errors in this manual. You can always find the latest version of the [manual for your product on the Autostacker website](#).

Scan for digital pdf



Warranty. The Autostacker warranty is more than a commitment to you: it is also a commitment to the value of your new product. For full warranty details, contact your nearest Autostacker dealer or visit [autostacker.com/support/warranty](https://www.autostacker.com/support/warranty).

Safety. Your product was designed and manufactured with safety in mind. Your safety also depends on proper training and thoughtful operation. Do not set up, operate, maintain, or repair the unit without reading and understanding this manual and the labels on the unit; **do not use this product unless you can do so safely!**

Owner Responsibility. In order to ensure operator safety and maintain your product properly, it is the responsibility of the product owner to read and follow these instructions:


- Follow all setup, operation, and maintenance instructions.
- Make sure product setup conforms to all applicable local, state, and federal codes, rules, and regulations, such as state and federal OSHA regulations and electrical codes.
- Read and follow all safety instructions. Keep them readily available for operators.
- Make sure all operators are properly trained, know how to safely operate the unit, and are properly supervised.
- Do not operate the product until you are certain that all parts are in place and operating correctly.
- Carefully inspect the product on a regular basis and perform all maintenance as required.
- Service and maintain the unit only with approved replacement parts.
- Keep all instructions permanently with the product and make sure all labels are clean and visible.
- **Autostacker, BendPak** makes no promises, guarantees or assurances that our products meet any state, county, federal or international mandated permit, license, code, standard, certification, or any other mandate other than what is listed or shown on BendPak website(s), or any BendPak or Ranger online or published catalog. Not all BendPak lift models meet the standards as prescribed by ANSI/ALI ALCTV-(current edition) or ANSI/UL 201. Consult www.autolift.org for a complete list of lift models that meet ANSI/ALI ALCTV-(current edition) or ANSI/UL 201 or contact BendPak via contact@bendpak.com. **Buyer assumes full responsibility for any state, county, federal or international mandated permit, license, code, standard, certification, or any other mandate required related to the installation and/or operation of any BendPak or Autostacker product.** BENDPAK will not be responsible for any charges, fines, liens, or other levies imposed on the Buyer related to any special or regional structural, seismic or any other building code and/or codes such as the Uniform Building Code (UBC), International Building Code (IBC), or any other state, county, federal or international mandated permit, license, code, standard, certification, or other mandate, law, rule, regulation or directive by any other agency, government, administrations, or corporations whether state, county, federal, or international mandated.
- **Only use this product if it can be used safely!**

Introduction

These installation and operation instructions apply to the Autostacker Limit Switch Add-On Kit:

This Limit Switch Add-On Kit is designed to interrupt power to the Autostacker Lift when the platform reaches a specific height. This power interruption does not affect the platform lowering function of the Lift. Each Kit consists of a Limit Switch, Rod Arm, Mounting Plate, Fasteners, and Interconnecting Two-Conductor Cable.

More information about Autostacker products is available at [Autostacker.com](https://www.autostacker.com)

 **DANGER** Be very careful when installing, operating, maintaining, or repairing this equipment; failure to do so could result in property damage, product damage, injury, or (in very rare cases) death. Only authorized personnel are to operate this equipment. All repairs must be performed by an authorized technician. Do not make modifications to this Limit Switch Add-On Kit; this voids the warranty and increases the chances of injury or property damage. Make sure to read and follow the instructions on the labels on the unit.

These instructions are mandatory reading for all users of the Limit Switch Kit, including anyone who installs, operates, maintains, or repairs them. Keep this manual on or near the equipment at all times.

Technical support for your product is available directly from your distributor or you may contact [autostacker.com/support](https://www.autostacker.com/support) or support@autostacker.com. You can also ask for replacement parts (please have the serial number and model number of the unit available).

Shipping Information

Your equipment was carefully checked **before** shipping. Nevertheless, you should always thoroughly inspect the shipment before you sign to acknowledge that you received it.


When you sign the bill of lading, it tells the carrier that the items on the invoice were received in good condition. **Do not sign the bill of lading until after you have inspected the shipment.** If any of the items listed on the bill of lading are missing or damaged, do not accept the shipment until the carrier makes a notation on the bill of lading that lists the missing and/or damaged goods.

If you discover missing or damaged goods **after** you receive the shipment and have signed the bill of lading, notify the carrier at once and request the carrier to make an inspection. If the carrier will not make an inspection, prepare a signed statement to the effect that you have notified the carrier (on a specific date) and that the carrier has failed to comply with your request.

It is difficult to collect for loss or damage after you have given the carrier a signed bill of lading. If this happens to you, file a claim with the carrier promptly. Support your claim with copies of the bill of lading, freight bill, invoice, and photographs, if available. Our willingness to assist in helping you process your claim does not make us responsible for collection of claims or replacement of lost or damaged materials.

Safety Considerations

Read this entire manual carefully before installing or using the product. Do not install or operate the product until you are familiar with all operating instructions and warnings for your specific Lift. Do not allow anyone else to operate it until they are familiar with all operating instructions and warnings.

 **WARNING California Proposition 65 Warning.** This product can expose you to chemicals including styrene and vinyl chloride which are on the list of over 900 chemicals identified by the State of California to cause cancer, birth defects or reproductive harm. **ALWAYS** use this product in accordance with Autostacker's instructions. For more information go to www.P65Warnings.ca.gov.





IMPORTANT SAFETY INSTRUCTIONS! SAVE THESE INSTRUCTIONS!

1. Read all instructions.
2. Do not attempt to install this Kit if you have not been trained in basic automotive installation procedures.
3. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged – until it has been examined by a qualified service person.
4. To reduce the risk of fire, do not operate in the vicinity of open containers of flammable liquids (gasoline).
5. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
6. To reduce the risk of electric shock, do not use on wet surfaces or expose to snow or rain.
7. Use only as described in this manual. Use only Autostacker recommended attachments.
8. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only utilize impact resistant lenses, they are not safety glasses.
9. To reduce the risk of injury, close supervision is necessary when this product will be used around children.
10. The Lift and the Limit Switch Add-On Kit uses electrical energy; if your organization has Lock Out/Tagout policies, make sure to implement them after connecting the Lift to a power source.
11. The Lift should **only** be operated by authorized personnel. Keep children and untrained personnel away from the Lift.
12. Do not make any modifications to the Autostacker Limit Switch; this voids the warranty and increases the chances of injury or property damage.
13. Consider the work environment. Keep the work area clean. Cluttered work areas invite injuries. Keep areas well lit.
14. **Always** verify the Lift is secured on Safety Locks before attempting to work on or near the Lift.
15. Make a thorough inspection of the product at least once a year. Replace any damaged or severely worn parts, decals, or warning labels. Replace worn or damaged parts with Autostacker, BendPak or BendPak approved parts and assemblies only.
16. Autostacker recommends referring to the ANSI/ALI ALIS Standard *Safety Requirements for Installation and Service* for more information about safely installing, using, and servicing your Lift.

-
17. The Autostacker Limit Switch Add-On Kit is intended to limit the upward motion of Autostacker Lifts. **Use this kit only for its intended purpose.**
 18. You **must** always wear OSHA-approved (publication 3151) personal protective equipment when installing, using, maintaining, or repairing the Kit or the Autostacker Lift. Leather gloves, steel-toed work boots, eye protection, back belts, and hearing protection are **mandatory**.
 19. Modifications void the warranty and increase the chances of injury or property damage. Do not modify any safety-related features in any way.
 20. Make sure all operators read and understand these installation and operation instructions. Keep the manual near the Lift at all times.
 21. Make an inspection of the Lift **before** using it. Check for damaged, worn, or missing parts. Do not use it if you find any of these issues. Instead, take it out of service, then contact an authorized repair facility, your dealer, or Autostacker at autostacker.com/support or support@autostacker.com.

Symbols

Following are the symbols used in this manual:

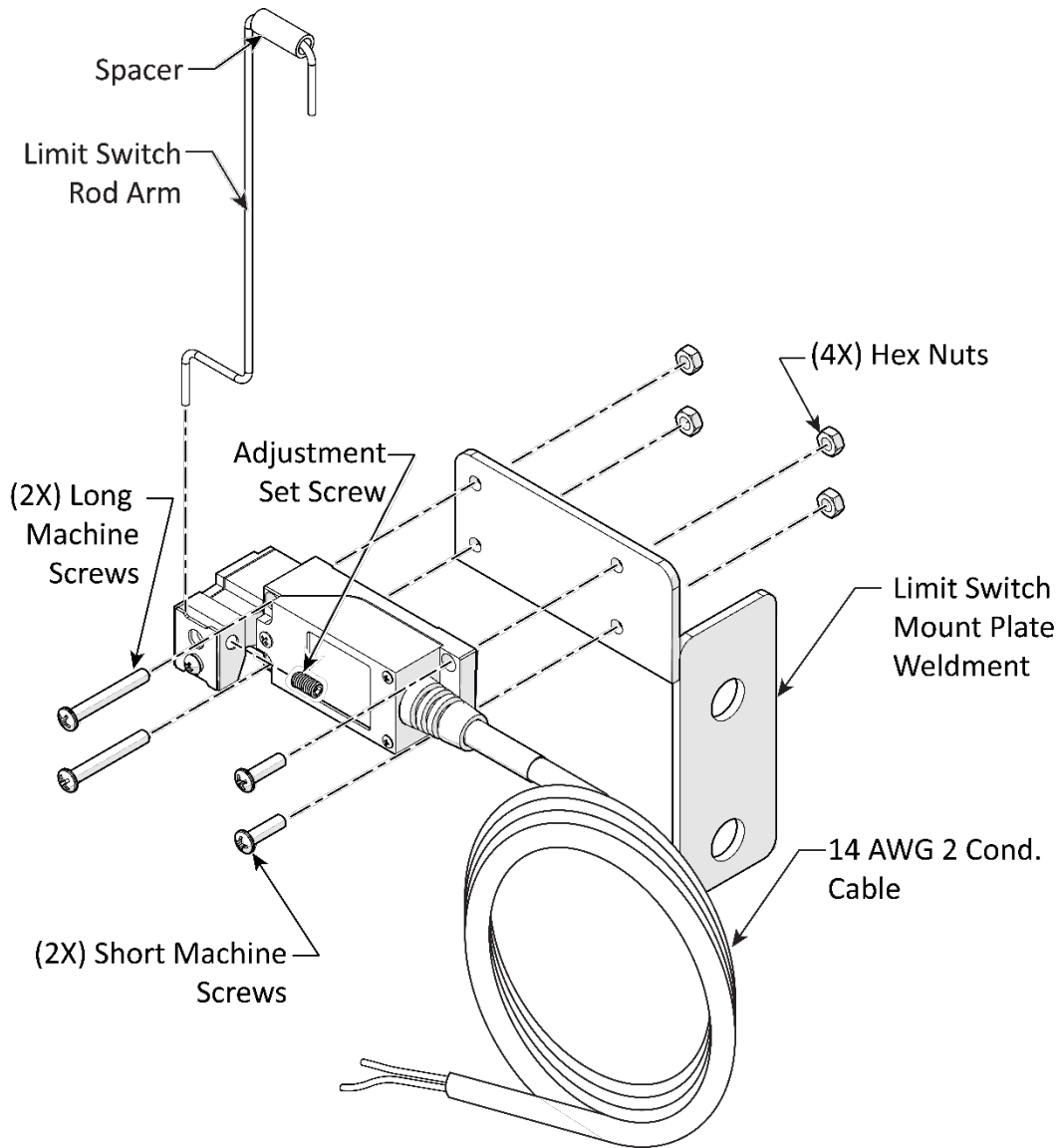
-  **DANGER** Calls attention to an immediate hazard that **will** result in injury or death.
-  **WARNING** Calls attention to a hazard or unsafe practice that **could** result in injury or death.
-  **CAUTION** Calls attention to a hazard or unsafe practice that could result in minor personal injury, product, or property damage.
- NOTICE** Calls attention to a situation that, if not avoided, could result in product or property damage.
-  **Tip** Calls attention to information that can help you use your product better.

Liability Information

BendPak Inc. assumes **no** liability for damages resulting from:

- Use of the product for purposes other than those described in this document.
- Modifications to the equipment without prior, written permission from BendPak Inc.
- Injury or death caused by modifying, disabling, overriding, or removing safety features.
- Damage to the equipment from external influences.
- Incorrect operation of the equipment.

Components



Drawing for reference only – do not scale.

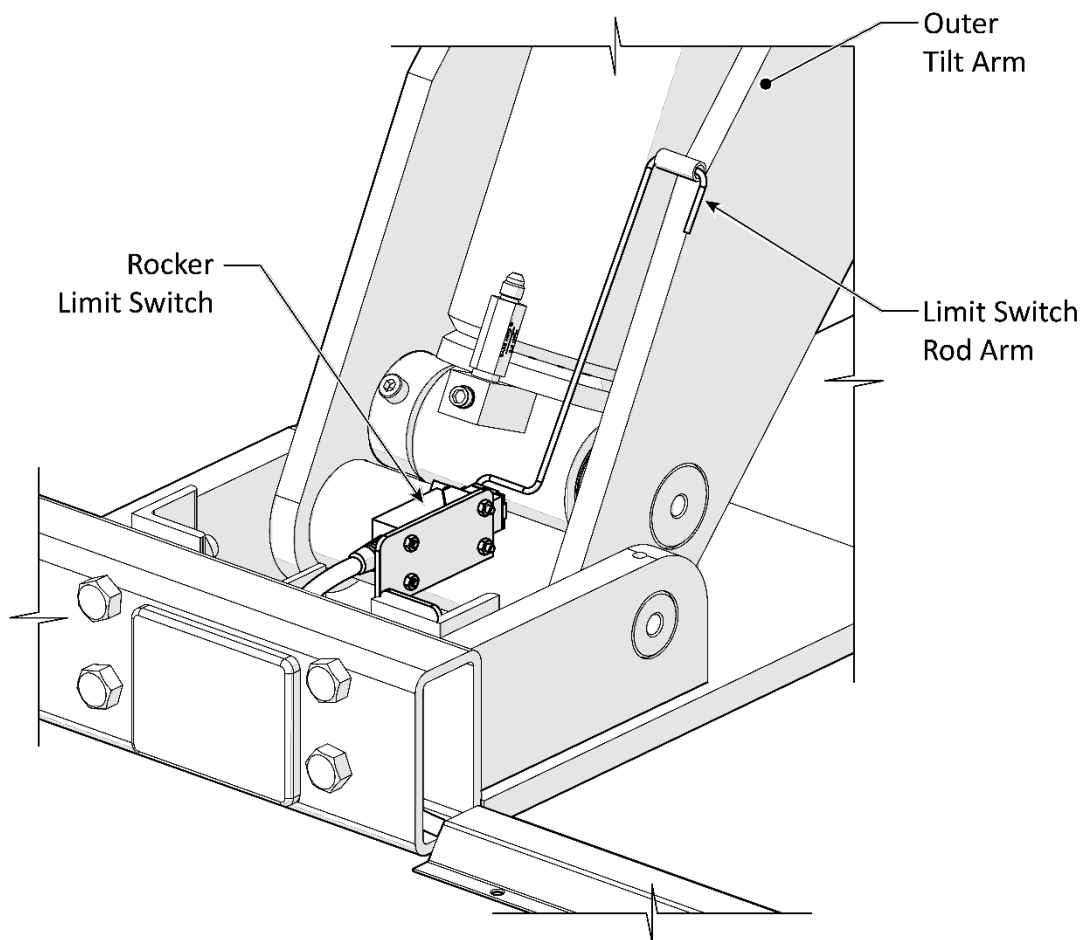
The figure above details the main components of the HD Limit Switch Kit:

- **Rocker Limit Switch.** The Limit Switch is a Single Pole Double Throw Switch wired as Normally Closed (NC). The switch opens when triggered by the Outer Scissor Tilt Arm. When the switch opens, further lifting is locked out and only lowering is allowed.
- **Limit Switch Mount Plate.** Provides a mounting surface for the Limit Switch.
- **Limit Switch Rod Arm.** Extends the Limit Switch Arm.
- **Spacer.** Provides a bearing surface to slide along the Tilt Arm.
- **Fasteners.** Two long and two short Phillips Head Machine Screws and Hex nuts secure the Limit Switch to its mounting bracket.
- **2 Conductor Cable.** Interconnecting cable runs between the Limit Switch and the Control Console.
- **Adjustment Set Screw.** Locks the Limit Switch Head to the switch mechanism.

Installation

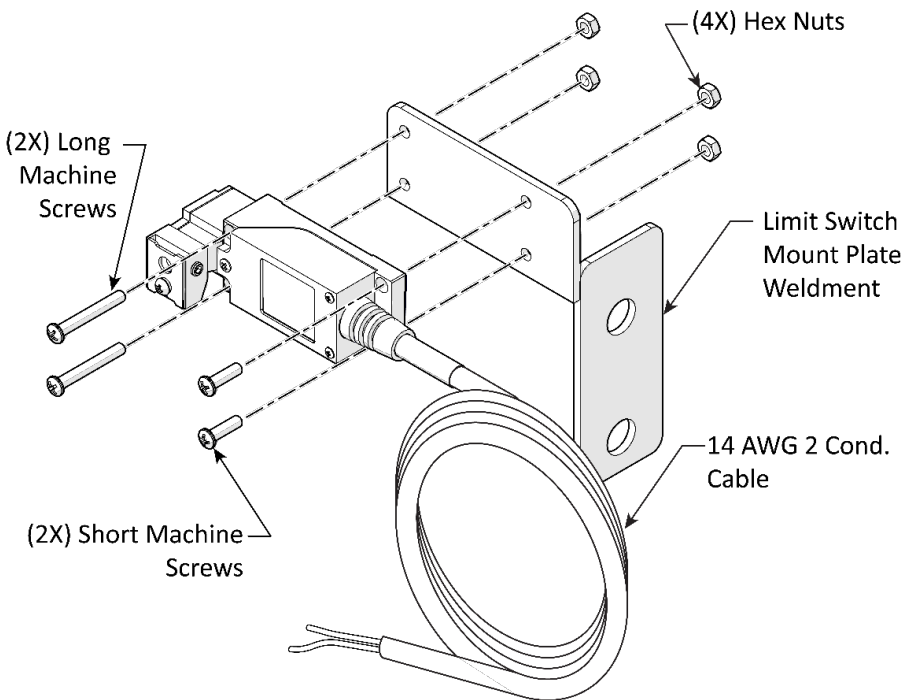
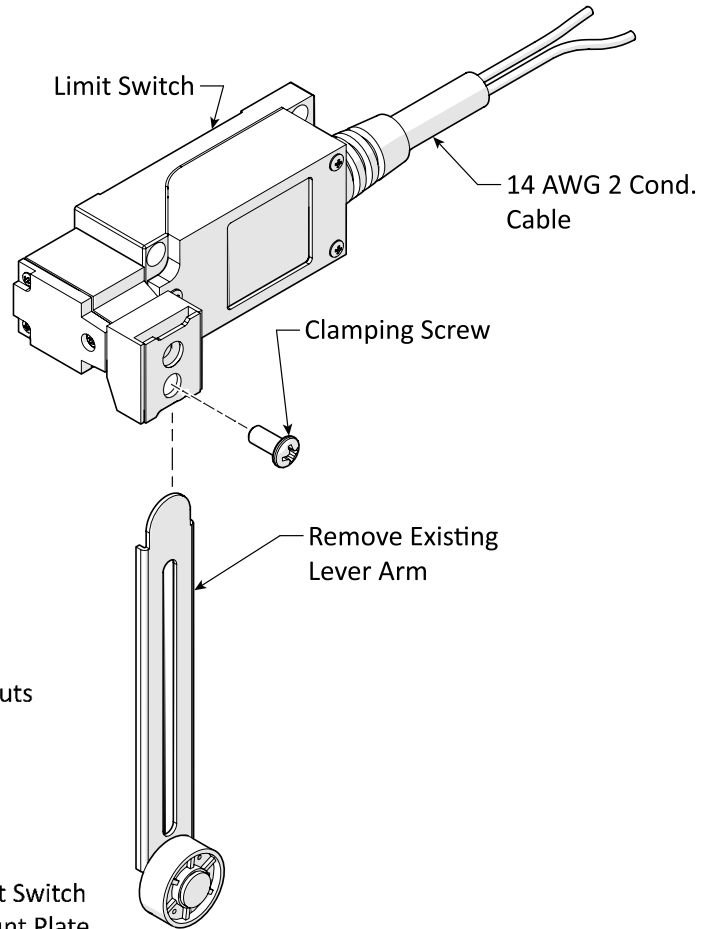
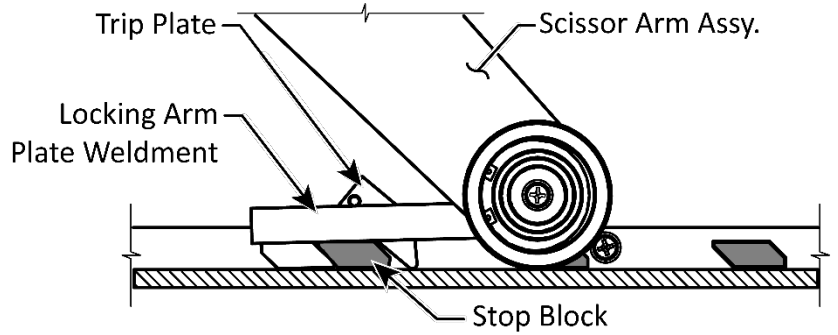
The following procedure details the Installation and operation of the Autostacker Limit Switch Add-On Kit. The Limit Switch is installed inside the Autostacker platform closest to the power console and a fixed pivot point of one outside tilt arm. A licensed Electrician is required to perform the electrical wiring and make the electrical connections in the power unit console.

⚠ DANGER All wiring **must** be performed by a licensed Electrician, in accordance with all applicable national, state, and local electrical codes. Do not perform any maintenance or installation on the Lift without first verifying that main electrical power has been disconnected from the Lift and cannot be re-energized until all procedures are complete. The Lift and the Limit Switch Kit use electrical energy; if your organization has Lock Out/Tagout policies, make sure to implement them prior to beginning the installation.

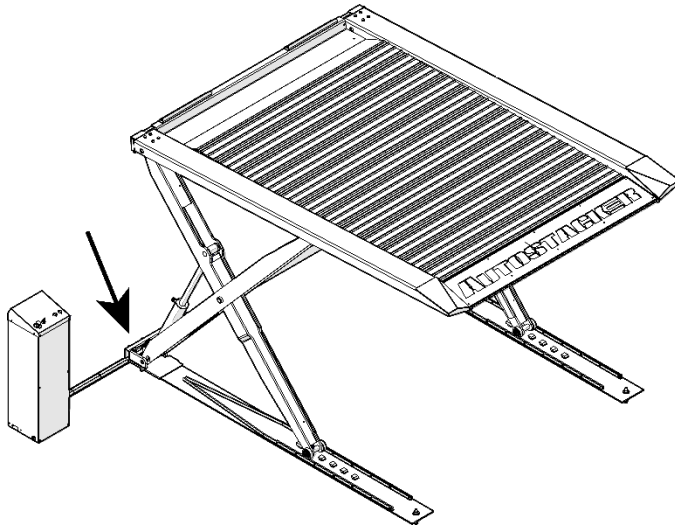


To install the Limit Switch:

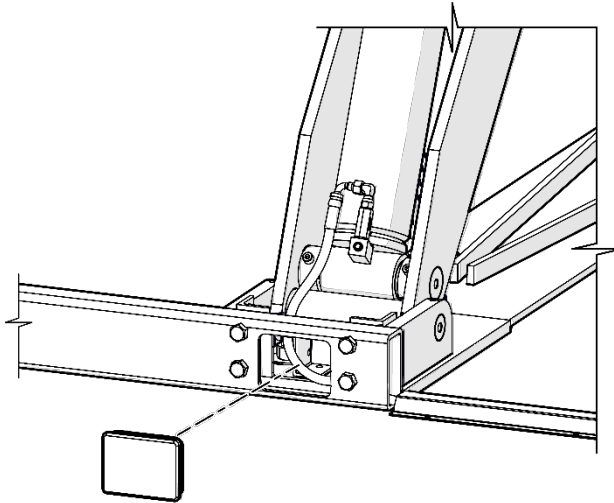
1. Remove the Limit Switch Add-On Kit from its packaging and verify all components are present.
2. Review the installation instructions.
3. Raise the Autostacker platform to its full rise position then lower it onto the top Safety Lock.
4. Verify the Lift is resting securely on its Safety Locks. *If the Lift will not engage its Safety Locks, lower the platform to the ground and contact your service provider for repair.*
5. Lock Out/Tagout electrical power to the Autostacker. Proper Lock Out will physically prevent power from being supplied to the Lift while the Limit Switch installation is in process.
6. Remove the existing lever arm from the Limit Switch. Refer to the figure on the right.
7. Connect the Limit Switch to the Limit Switch Mount Plate. Refer to the figure below.



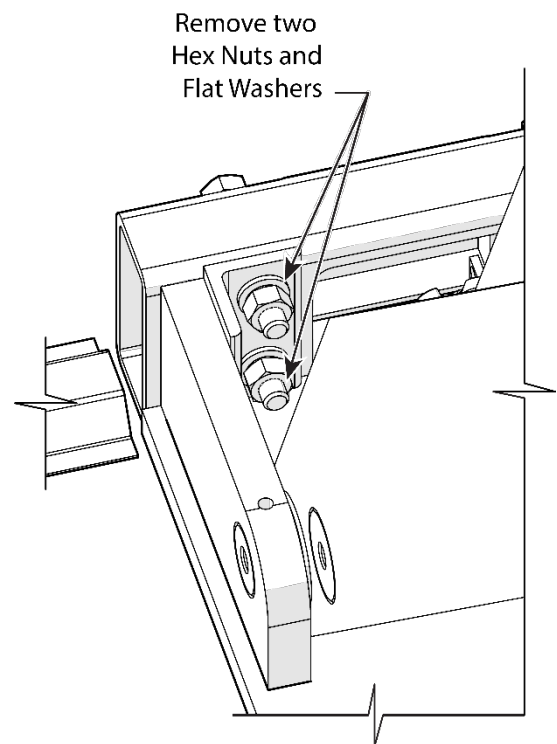
8. Locate the corner of the Autostacker closest to the Control Console. Refer to the figure below.



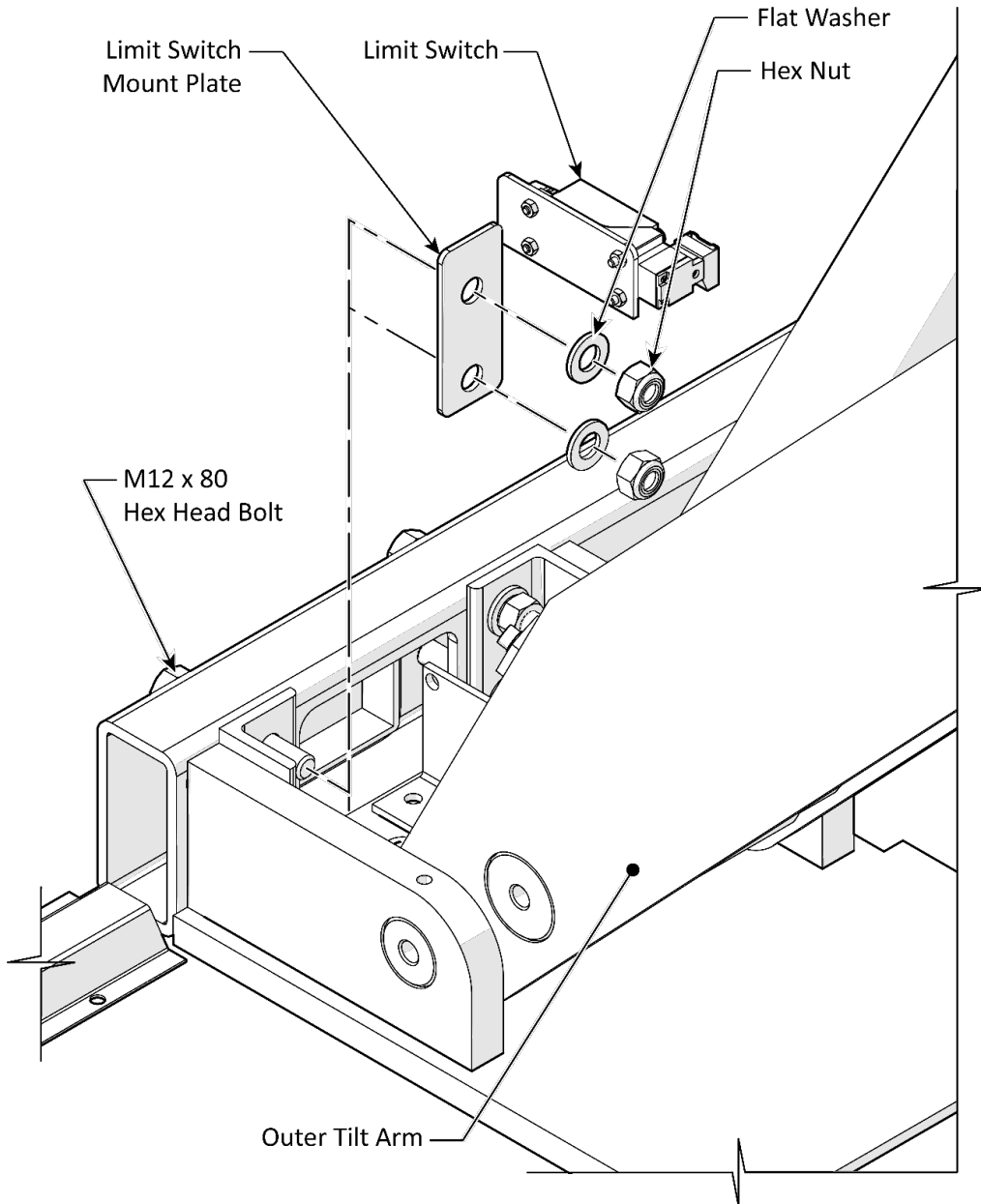
9. Remove the Polyethylene Cover from the back of the connector tube.



10. Remove and retain the two M12 nylock hex nuts (5535012) and flat washers (5545141). Do not remove the hex head bolts. Refer to the figure on the right.

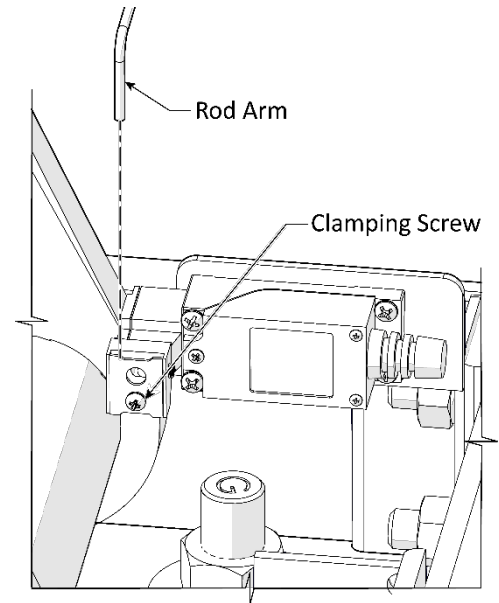


11. Install the Limit Switch Mount Plate over the M12 x 80 mm hex head bolts as shown in the figure below.
12. Reinstall the two flat washers and nylock hex nuts securing the Limit Switch Mount to the hex head bolts.

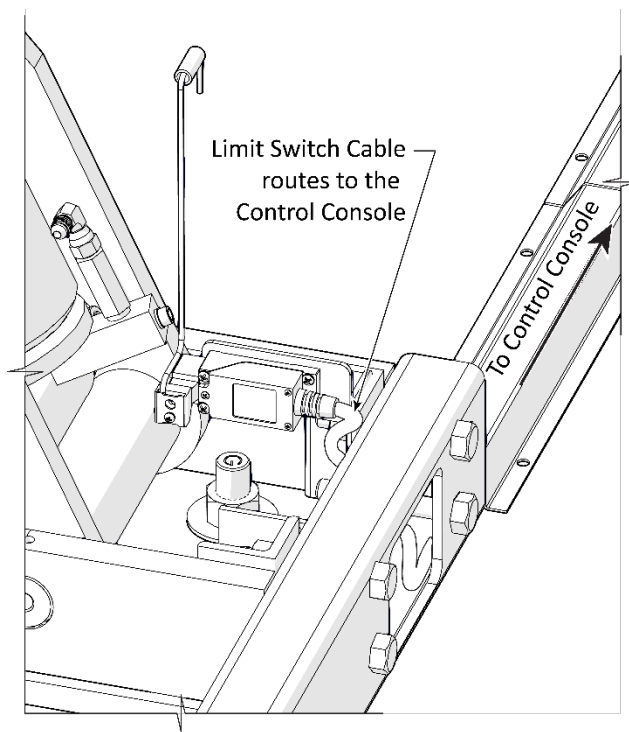


13. Loosen but do not remove the small clamping screw on the Limit Switch.

14. Insert the Limit Switch Rod Arm and rotate the arm until the spacer is in line with the outer tilt arm, then tighten the Clamping Screw.

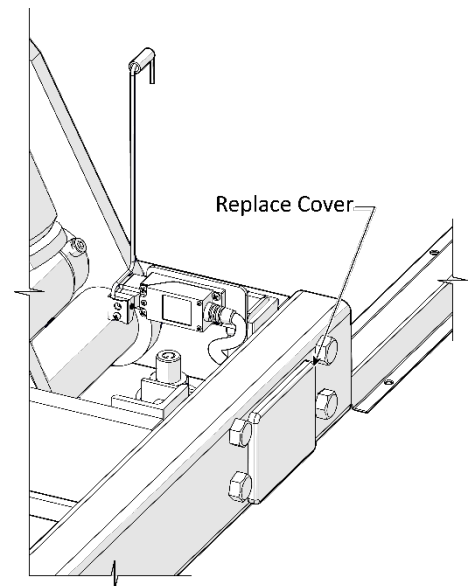


15. Route the two conductor cable from the Limit Switch with the hydraulic hoses through the opening in the connector tube and out to the control console.



16. Leave the remaining 14/2 cable coiled inside the control console for the Electrician to make the final electrical connections.

17. Replace the Polyethylene Cover.



Electrical Connections

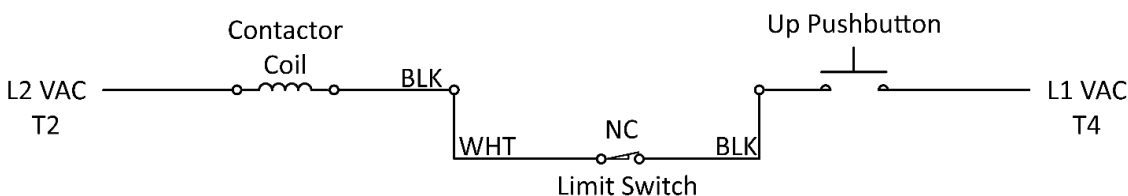
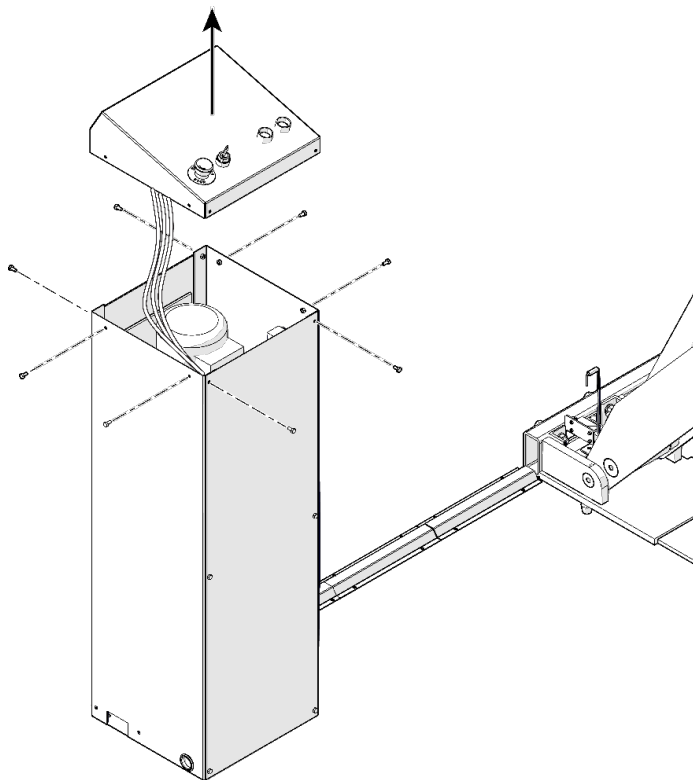
DANGER



All wiring **must** be performed by a licensed Electrician, in accordance with all applicable national, state, and local electrical codes. Do not perform any maintenance or installation on the Lift without first verifying that main electrical power has been disconnected from the Lift and cannot be re-energized until all procedures are complete. The Lift and the Limit Switch Kit use electrical energy; if your organization has Lock Out/Tagout policies, make sure to implement them.

To make the Electrical Connections:

1. Verify power has been removed and locked out to ensure that it cannot be energized while making the electrical connections.
2. Remove the eight hex head bolts securing the top cover of the control console. Lift the cover and turn it over to access the up pushbutton terminals.
3. Locate the 14-2 cable inside the control console routed from the Limit Switch.
4. Strip the insulation off the cable to expose the two 14 AWG conductors. Strip the wire insulation back approximately 1/2 to 3/4-inch off each conductor to expose the copper.
5. Locate the up pushbutton. The Limit Switch will be spliced in between the up pushbutton and the contactor's coil. See wiring diagram below. The complete wiring diagram is available at the end of this document.



For a complete wiring diagram see the Wiring Diagram at the end of this document.

6. Locate the black wire connected between the pushbutton and the contactor's coil. Remove that black wire from the pushbutton's terminal.
7. Connect the 14AWG white wire from the Limit Switch to the black wire removed from the pushbutton in step 6 using an appropriately sized wire nut.
8. Connect the black wire from the limit switch to the open pushbutton terminal created in step 6.
9. Verify all connections are secure and return the top cover of the control console to its normal operating position, secure with the hex head bolts. Verify the wiring is adequately protected from damage by abrasion or other physical hazards and conforms to all national, state, and local electrical codes. Secure the console cover after testing and adjusting the limit point.
10. Unlock and return power to the Autostacker Lift.

Test for Function

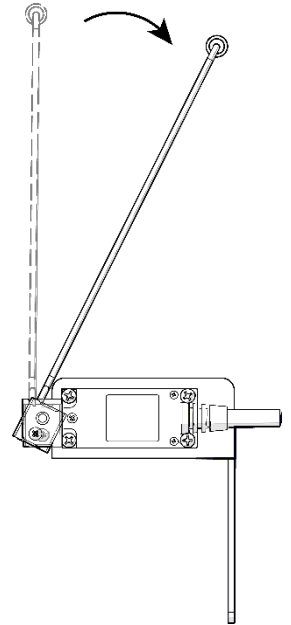
The Limit Switch is a Normally Closed Switch that will interrupt power to the Autostacker Lift when the Lift's Tilt Arm rotates the Limit Switch Rod to or past the Actuation Point. The point at which the Limit Switch interrupts power to the Lift is termed the Actuation Point. An assistant may be required to perform the following test.

To test for function:

1. Test the Limit Switch without a vehicle on the Lift.
2. Have an assistant carefully rotate the Limit Switch Rod off its vertical position away from the Lift's Tilt Arm and hold it in that position.

DANGER

Use a long screwdriver or other device to hold the Limit Switch Rod. Do not place any part of your body under the Lift or between any moving mechanical components. Always wear appropriate personal protective equipment.



3. Press the up pushbutton.
 - a. If the Lift does not move, then the test is successful. Move to step 4.
 - b. If the Lift moves up, then disconnect and lock out power to the Lift. Have the Electrician review/correct the wiring connections.
4. Lower the Lift platforms onto the nearest Safety Lock position below the maximum desired Lift Height, if not already in that position.

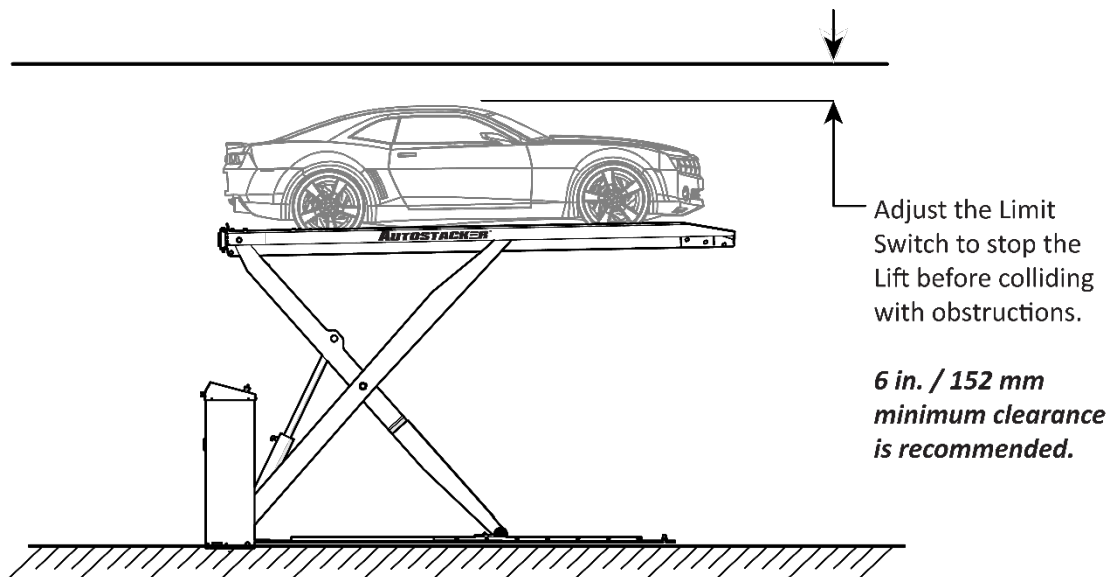
Always read and follow all lifting and lowering precautions and instructions delivered with your Lift.

Adjust the Limit Switch Actuation Point

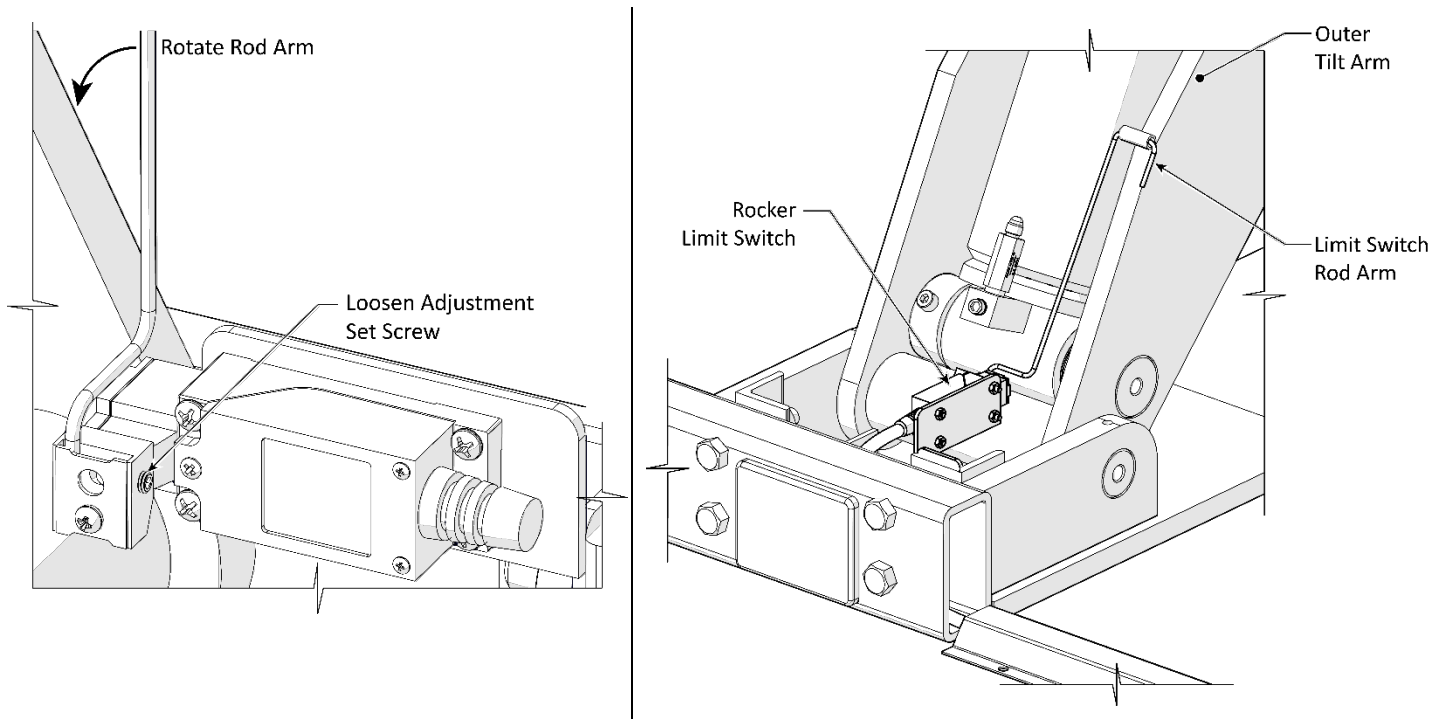
1. Verify the Lift platform is resting on its Safety Locks on both sides.

Determine the height at which the Limit Switch should actuate. This height is determined by adding the height of the Lift platform plus the height of the vehicle and an additional six inches added as a safety zone. Refer to the figure below.

6-inches is the recommended minimum clearance above a vehicle on the Autostacker.



2. Raise the Lift platform to the height at which the Limit Switch should activate then lower the platform a few inches. Measure and note the distance from the ground to the platform.
3. Loosen the adjustment set screw and rotate the Limit Switch Rod Arm to rest on the outer tilt arm as shown below.



Components removed for clarity.

4. Tighten the adjustment set screw.
5. Push the Up Button. The Lift should stop at the Limit position.
 - a. If the Lift stops higher than required, readjust the Rod Arm by loosening the set screw and lowering the Lift platform past the point measured in step 3. Then tighten the adjustment set screw. Push the Up Button and measure the point at which the platform stops. Repeat as required to achieve the desired limit height.
 - b. If the Lift stops lower than expected, loosen the adjustment set screw and raise the Lift platform a few inches by pushing the Up Button. Tighten the adjustment set screw and lower the Lift platform a few inches. Push the Up Button and measure the point at which the platform stops. Repeat as required to achieve the desired limit height.

Operation

The Limit Switch is fully automatic in operation and requires no operator input.

⚠ DANGER *A Limit Switch is no substitute for thoughtful attentive operation of the Autostacker Lift.* Always maintain a clear line of sight to the Lift. Watch the Lift as it approaches its vertical limit every single time. If the Limit Switch malfunctions, the operator can manually stop the Lift, preventing damage or injuries.

To raise the Lift:

1. Review the Lifting instructions in the Lift manual.
2. Raise the Lift platforms until power is interrupted by the Limit Switch. Once the Limit Switch is engaged, the up button is locked out and the only available function is to lower the Lift.
3. Press the Lowering button. The Lift platform will descend onto nearest Safety Lock.

IMPORTANT! When the Limit Switch engages it does **not** mean the Lift is on a Safety Lock! The Operator **must** lower the Lift onto a Safety Lock.

To Lower the Lift:

Refer to the Lowering Instructions in the Lift manual.

Maintenance

⚠ DANGER Always Lock Out/Tagout power before servicing or performing maintenance on the Limit Switch.

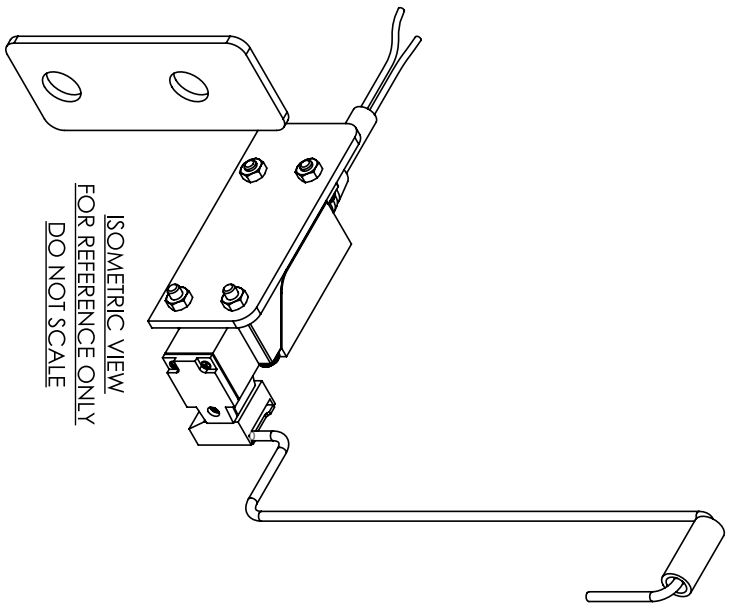
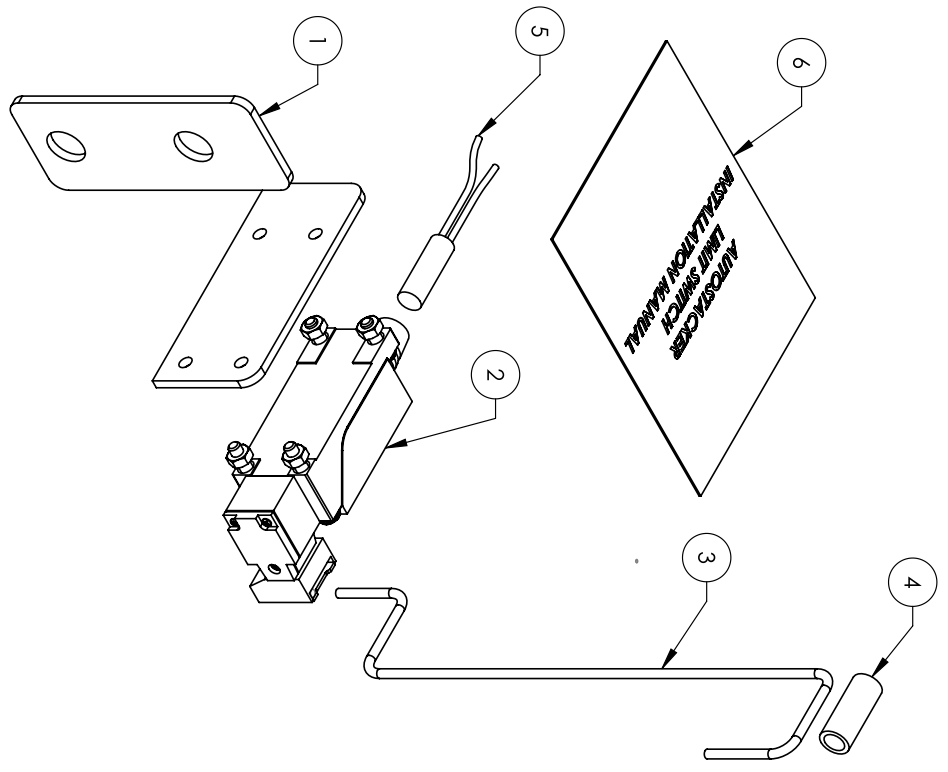
The Limit Switch Add-On Kit requires minimal maintenance.

On a monthly basis:

- Conduct a visual inspection and functional test to determine if the Limit Switch requires repair/removal and or replacement prior to an in-service failure.
- Verify all fasteners are secure.
- Clean any debris that may interfere with the Limit Switch or the Autostacker operation such as leaves, dirt, or mud. Always promptly remove water, snow, ice, or salt.
- The Limit Switch is not watertight. Do not spray or otherwise expose to water.
- Do **not** apply oil or grease to any part of the Limit Switch. Oil or grease intrusion into the switch may cause switch failure.

Parts

- NOTE: UNLESS OTHERWISE SPECIFIED**
1. REFER TO MODEL FOR ADDITIONAL INFORMATION
 2. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
 3. (*) LENGTH FOR REFERENCE ONLY



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5601977	AUTOSTACKER LIMIT SWITCH MOUNT PLATE WELDMENT	1	A
2	5520076	ROCKER LIMIT SWITCH YBLX-ME/8108	1	A
3	5755188	AUTOSTACKER LIMIT SWITCH ROD ARM	1	A
4	5755137	AIR CYLINDER SPACER 25mm	1	A
5	5520032	WIRE, AWG 14, CAROL, 2C	3050mm*	-
6	5900384	AUTOSTACKER LIMIT SWITCH INSTALLATION MANUAL	1	-

DO NOT SCALE DRAWING

DRAWN	NAME	DATE
CA		11/01/2023

CHECKED

THIRD ANGLE PROJECTION

TITLE: AUTOSTACKER LIMIT SWITCH ADD-ON KIT

30440 AGOURA RD.
AGOURA HILLS, CA 91301

BendPak

SIZE DWG. NO. 5210459

SCALE: 1:2

REV A

SHEET 1 OF 2

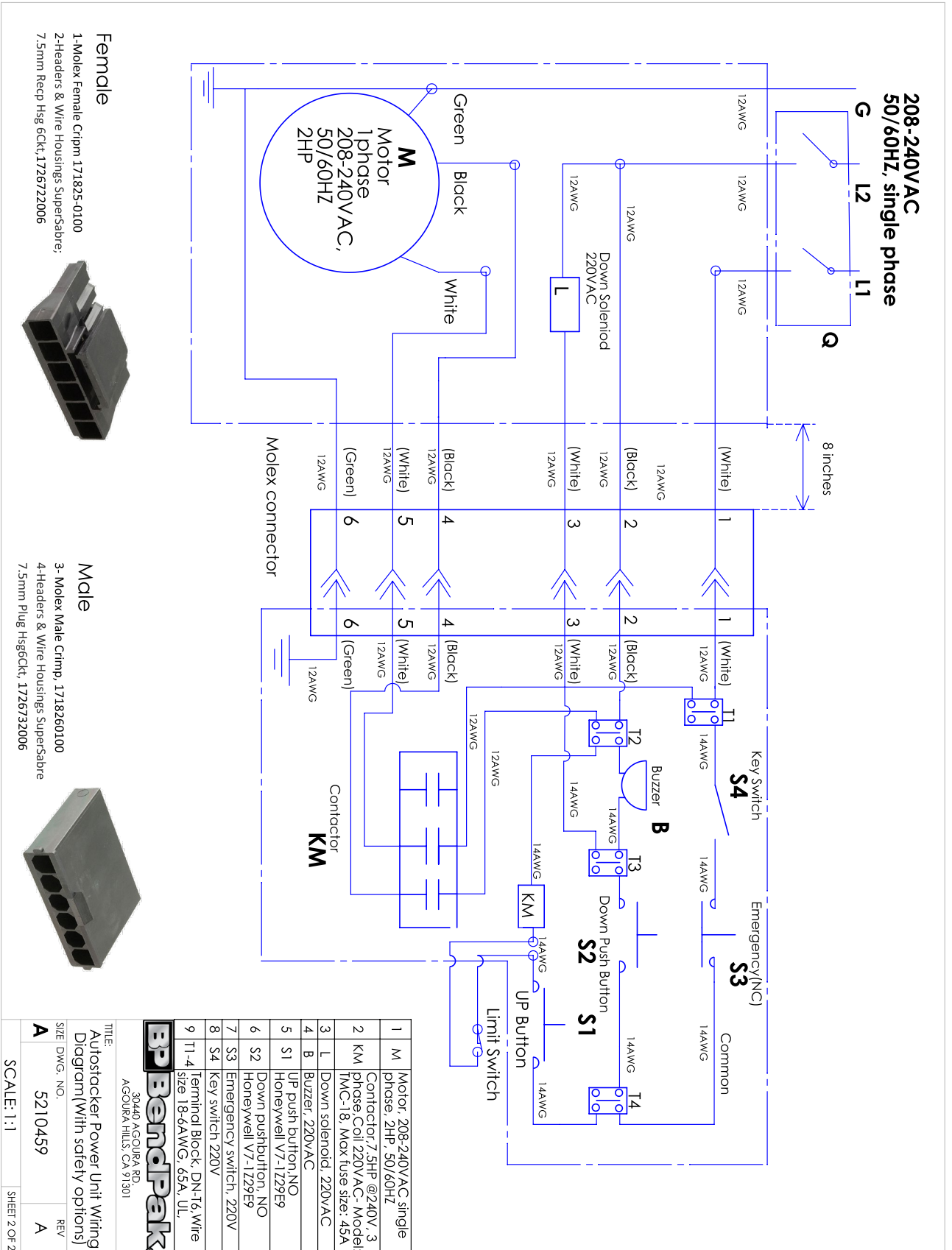
WHERE USED
AUTOSTACKER SERIES

THESE DIMENSIONS ARE IN MM

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SMILEY FACE

Wiring Diagram





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