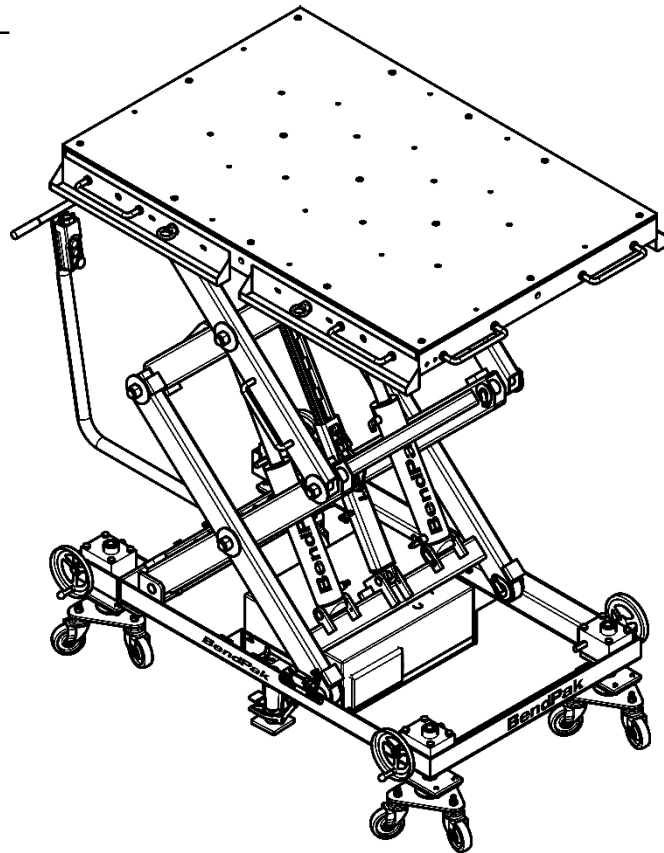


EV Battery and Powertrain Lifting System Setup and Operation Manual

Manual P/N 5900267 — Manual Revision A2 — January 2023

Model: • EV2400SL



Patent Pending

Designed and engineered by BendPak Inc. in Southern California, USA. Made in China.

DANGER

IMPORTANT Safety Instructions, save these instructions! Read the *entire contents* of this manual *before* using this product. Failure to follow the instructions and safety precautions in this manual can result in serious injury or death. Make sure all other operators also read this manual. Keep the manual near the product for future reference. **By proceeding with setup and operation, you agree that you fully understand the contents of this manual and assume full responsibility for product use.**

Manual. EV2400SL Battery and Powertrain Service Scissor Lift, *Setup and Operation Manual*, Manual Part Number 5900267, Manual Revision A2, released January 2023.

Copyright. Copyright © 2023 by BendPak Inc. All rights reserved. You may make copies of this document if you agree that: you will give full attribution to BendPak Inc., you will not make changes to the content, you do not gain any rights to this content, and you will not use the copies for commercial purposes.

Trademarks. BendPak and the BendPak logo are registered trademarks of BendPak Inc. All other company, product, and service names are used for identification only. All trademarks and registered trademarks mentioned in this manual are the property of their respective owners. You can always find the latest version of the **manual for your product at the BendPak website**.

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 reserves the right to change any information in this manual without incurring any obligation for equipment previously or subsequently sold. BendPak is not responsible for typographical errors in this manual. Feel free to contact us at any time to get the latest information about any product: **[bendpak.com](https://www.bendpak.com)**.

Warranty. The BendPak warranty is more than a commitment to you: it is also a commitment to the value of your new product. Contact your nearest BendPak dealer for full warranty details.

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

Owner Responsibility. 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 and use 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 all parts are in place and operating correctly.
- Carefully inspect the product on a regular basis and perform all maintenance as specified.
- Service and maintain the unit only with approved replacement parts.
- Keep all instructions permanently with the product and verify all labels are clean and visible.
- 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 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 Ranger 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 Lift if it can be used safely!**

Unit Information. Enter the Model Number, Serial Number, and the Date of Manufacture from the label on your unit. This information is required for part or warranty issues.

Model: _____

Serial: _____

Date of Manufacture: _____

BP BendPak		Santa Paula, CA USA www.bendpak.com	
MODEL NUMBER			
DESCRIPTION			
LIFT CAPACITY		DATE OF MFG.	
VOLTAGE		SERIAL NUMBER	
<input type="checkbox"/> 110-240V, 50-60 Hz, 1 Ph			
<input type="checkbox"/> 208-240V, 50-60 Hz, 1 Ph			
<input type="checkbox"/> 380-415V, 50-60 Hz, 3 Ph			
<input type="checkbox"/> 208-440V, 50-60 Hz, 3 Ph			
		UPC	
 DANGER! Disconnect Power Before Servicing		EAC	
WARRANTY VOID IF DATA PLATE IS REMOVED PN 5905951			

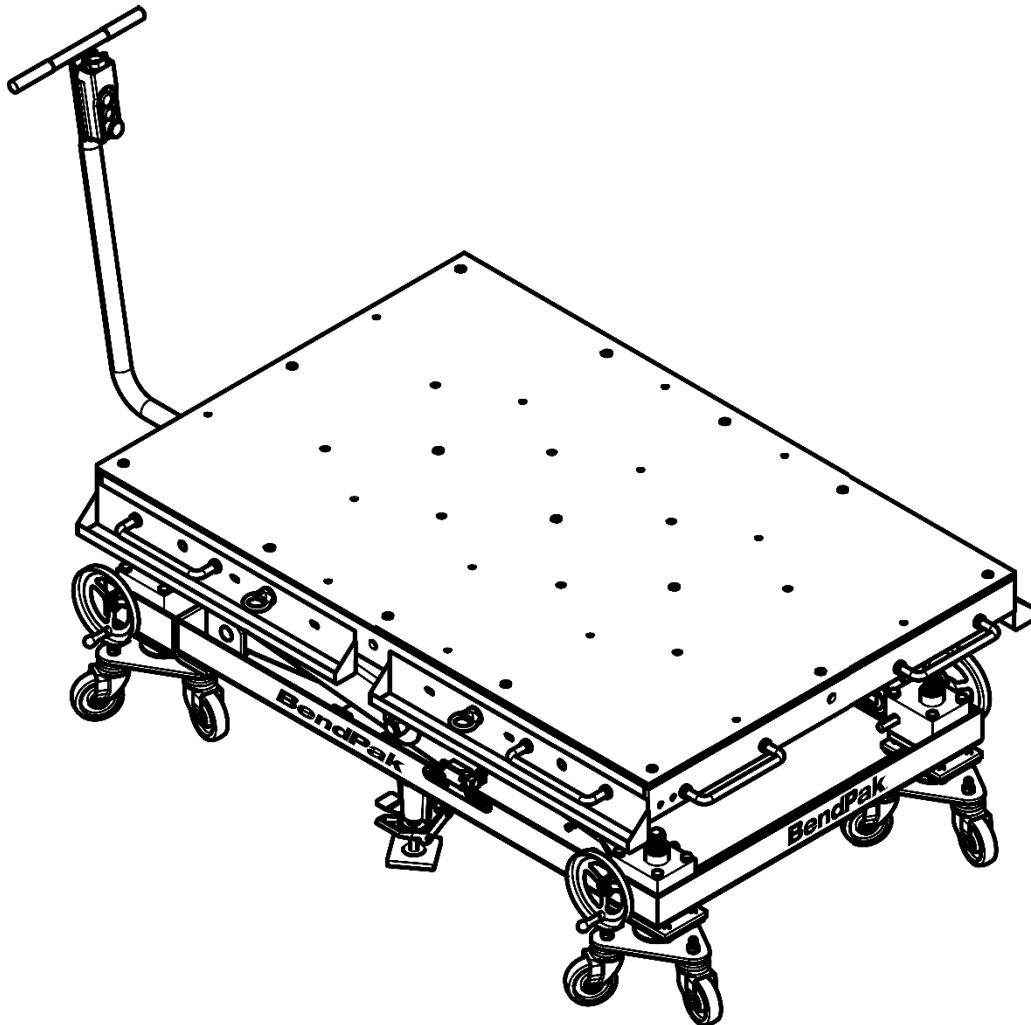


Table of Contents

Introduction	4	Accessories	34
Shipping Information	4	Troubleshooting	37
Safety Considerations	5	Maintenance	39
Components	9	Wiring Diagram	43
Specifications	10	Labels	44
Setup for Operation	12	Parts Drawings	47
Operation	20	Maintenance Logs	53

Introduction

This manual describes the setup and operation of the EV2400SL, a Battery-Powered Full Rise Scissor Lift for safely servicing Electric Vehicle Battery Packs and Powertrains up to 2,400 lbs. / 1,088 kg.

This manual is mandatory reading for all users of the EV2400SL, including anyone who sets up, operates, maintains, or repairs them.

Keep this manual on or near the equipment so that anyone who uses or services the Lift can access it.

Technical support and service is available from your dealer, on the Web at bendpak.com/support, by email at support@bendpak.com, or by phone at **(800) 253-2363**, extension 196.

Shipping Information

Your equipment was carefully checked before shipping. Nevertheless, you should 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. 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

Important Safety Instructions, save these instructions!

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. 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 BendPak's instructions. For more information go to www.P65Warnings.ca.gov.

IMPORTANT SAFETY INSTRUCTIONS!

1. Read all instructions.
2. The **EV2400SL** Lift is a Battery Powered Full-Rise Scissor Lift designed for servicing Electric Vehicle Battery Packs and Powertrains. **Use it only for its intended purpose.** Improper use of this Lift could cause serious injury or death.
3. Always keep the Load's Center of Gravity centered and balanced on the Lift's Top Deck.
4. The Lift is intended for **indoor use only, outdoor use is prohibited.**
5. The product should be operated by authorized and properly trained personnel only. Training includes reading and understanding the safety, operation and maintenance sections of this manual and warning labels on the Lift.
6. You **must** wear OSHA-approved (Publication 3151) Personal Protective Equipment at all times when installing, using, maintaining, or repairing the Lift. Leather gloves, steel-toed work boots, ANSI-approved back belts, and hearing protection **are mandatory.**
7. **Always wear safety glasses!** Everyday glasses only have impact resistant lenses, they are not safety glasses.
8. Do **not** work under a raised Lift Top Deck until the load is removed and the Lift is securely blocked in the raised position with an upright support stand or equal.
9. **Never** sit, stand, or ride on the Lift Top Deck. Moving components can cause a loss of balance resulting in severe personal injury or death.
10. **Always** verify the Lift is resting firmly on the adjustable Support Feet prior to raising or lowering a load on the Lift.
11. Do **not** move the Lift while the Load is raised; lower the Load completely before moving or storing the Load. Minor adjustments (less than 12 in.) when attempting to align Battery Packs or Powertrain components are acceptable.
12. Care must be taken as burns can occur from touching hot parts.
13. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged – until it has been examined by qualified service personnel.
14. Do not let a cord hang over the edge of a table, bench, or counter, or come in contact with hot manifolds or rotating machinery.





-
15. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords with a current rating less than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
 16. Always unplug the equipment from the electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp the plug and pull to disconnect. Secure the Control Pendant and Cable to prevent damage when storing.
 17. Let the equipment cool completely before putting away. Loop the cord loosely around equipment when storing.
 18. To reduce the risk of fire, do not operate in the vicinity of open containers of flammable liquids (gasoline or similar).
 19. Adequate ventilation should be provided when working on operating internal combustion engines.
 20. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
 21. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
 22. Use only as described in this manual. Use only BendPak recommended attachments and accessories.
 23. To reduce the risk of injury, close supervision is necessary when this product will be used around children.
 24. To reduce the risk of injury, **never** attempt to lift more than the rated capacity. Refer to loading instructions.
 25. The Lift uses electrical energy; if your organization has Lockout/Tagout policies, make sure to implement them after connecting the Lift to a power source.
 26. Refer to markings for proper load on electrical receptacles.
 27. Only operate your Lift between temperatures of +41°F to +104°F (+5°C to +40°C).
 28. The Lift should **only** be operated by authorized personnel. Keep children and untrained personnel away from the Lift.
 29. Do not make any modifications to the Lift; this voids the warranty and increases the chance of injury or property damage.
 30. Do not use the Lift while tired or under the influence of drugs, alcohol, or medication.
 31. Consider the work environment. Keep the work area clean. Cluttered work areas invite injuries. Keep areas well lit.
 32. **Always** make sure the Lift is secured on Safety Locks before attempting to work on or near a Vehicle.
 33. 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 BendPak or BendPak approved parts and assemblies only.
 34. BendPak 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.
 35. Keep loads balanced on the Lift Platform. Clear the area immediately if a Load is in danger of falling off the Lift.
 36. Do not make any modifications to the Lift. Modifications void the warranty and increases the chance of injury or property damage. Do not modify any safety-related features in any way.

-
37. Make sure all operators read and understand this Setup and Operation Manual. Keep the manual near the Lift at all times.
 38. While handling a Hydraulic Cylinder or a Hydraulic Hose, **always** wear gloves. In rare cases, a needle-like stream of hydraulic fluid (even at low pressure) can penetrate fingers, hands, or arms; such a puncture can feel like a bite, electric shock, or a prick. While it may seem like a minor issue, any amount of Hydraulic Fluid injected into the human body is a serious issue. Anyone suffering such a puncture wound should be **immediately** taken to a hospital emergency room to determine the extent of the injury. Explain the circumstances of the injury to the attending physician, including what kind of Hydraulic Fluid was involved. Do not assume a puncture wound that could have been caused by Hydraulic Fluid is a minor issue; it could be life threatening.
 39. Follow the instructions in this Operating manual and applicable standards for daily, monthly, and annual inspections and maintenance.
 40. Do not add or replace parts (i.e., batteries, wheels, power units) with items of different weights, specifications or positions on the Lift. These changes can shift the Lift's Center of Gravity and compromise the stability of the Lift.
 41. To reduce the risk of electric shock or fire, never overload receptacles. Refer to the labels for the proper load on receptacles.
 42. Operate this Lift with extreme caution. **Stop** all operation if a malfunction occurs.
 43. BendPak 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.
 44. 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 BendPak at **(877) 432-6627** or support@BendPak.com.

Save these instructions!

Symbols

Following are the symbols used in this manual:

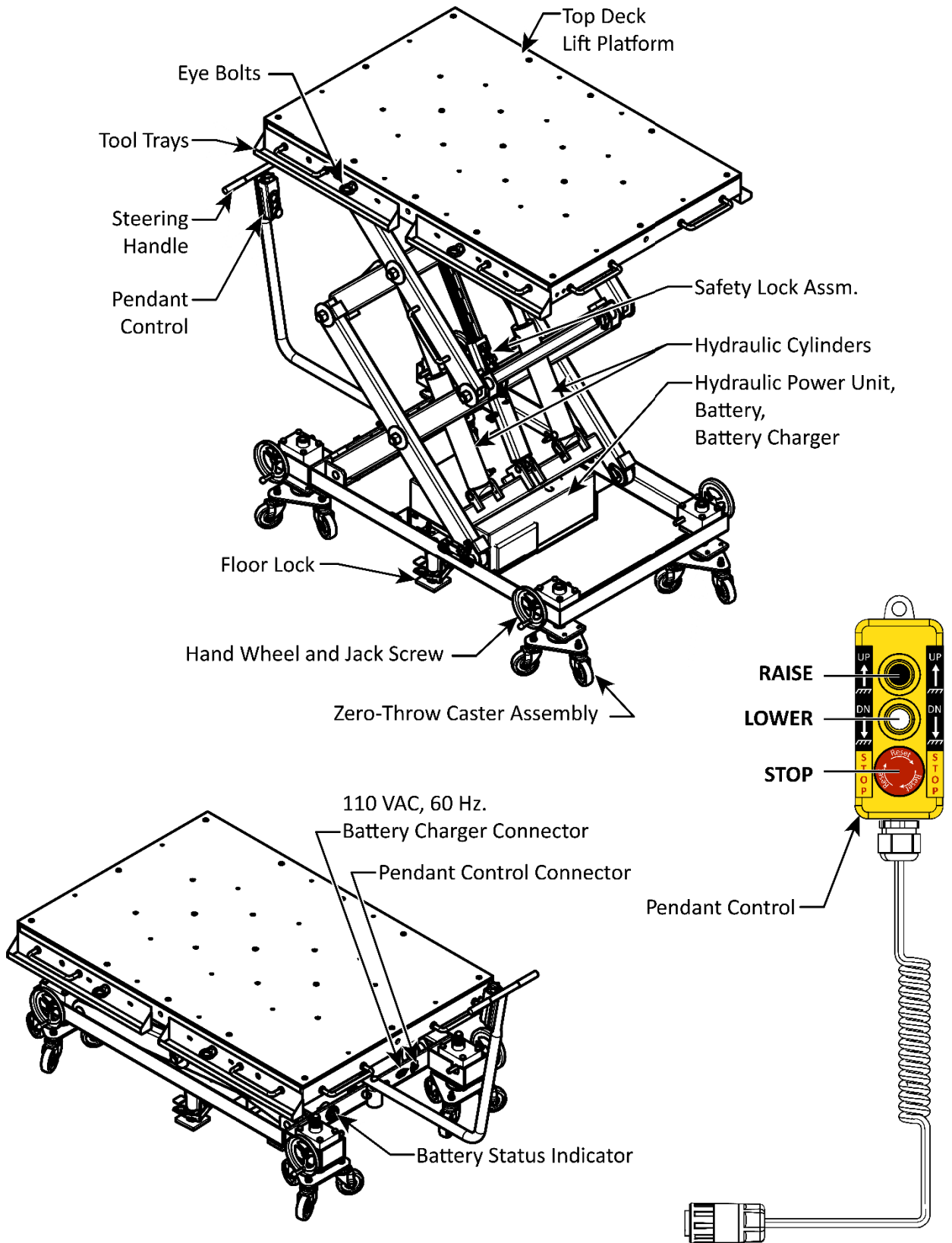
- | | |
|--|---|
|  DANGER | Calls attention to an immediate hazard that will result in injury or death. |
|  WARNING | Calls attention to a hazard or unsafe practice that could result in injury or death. |
|  CAUTION | Calls attention to a hazard or unsafe practice that could result in minor personal 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:

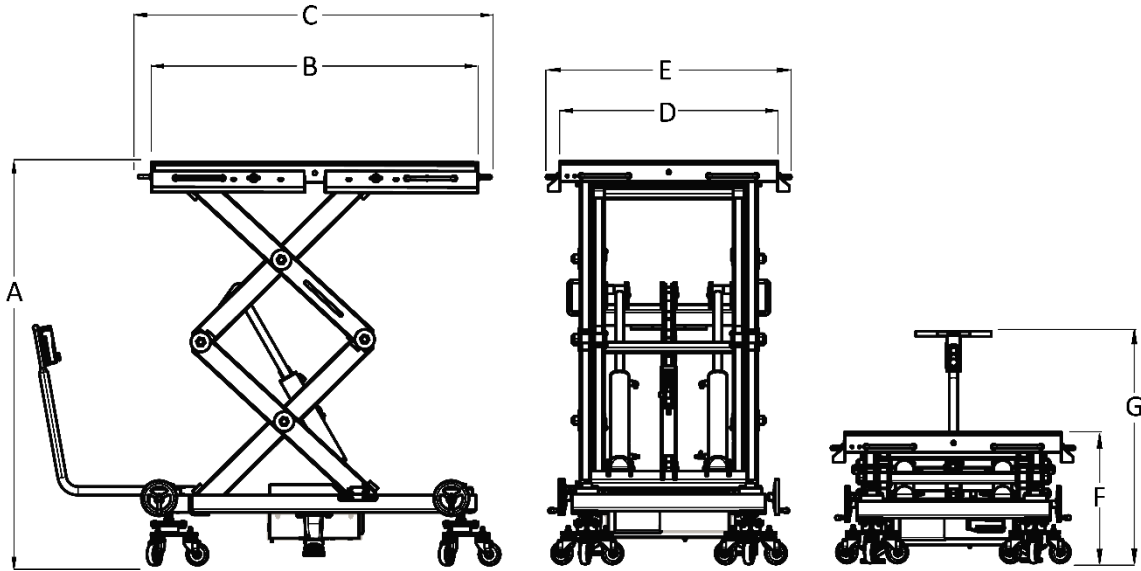
- Use of the product for purposes other than those described in this manual.
- Modifications to the equipment without prior, written permission from BendPak Inc.
- Injury or death caused by modifying, disabling, overriding, or removing safety features.
- Damage to the equipment from external influences.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

Components



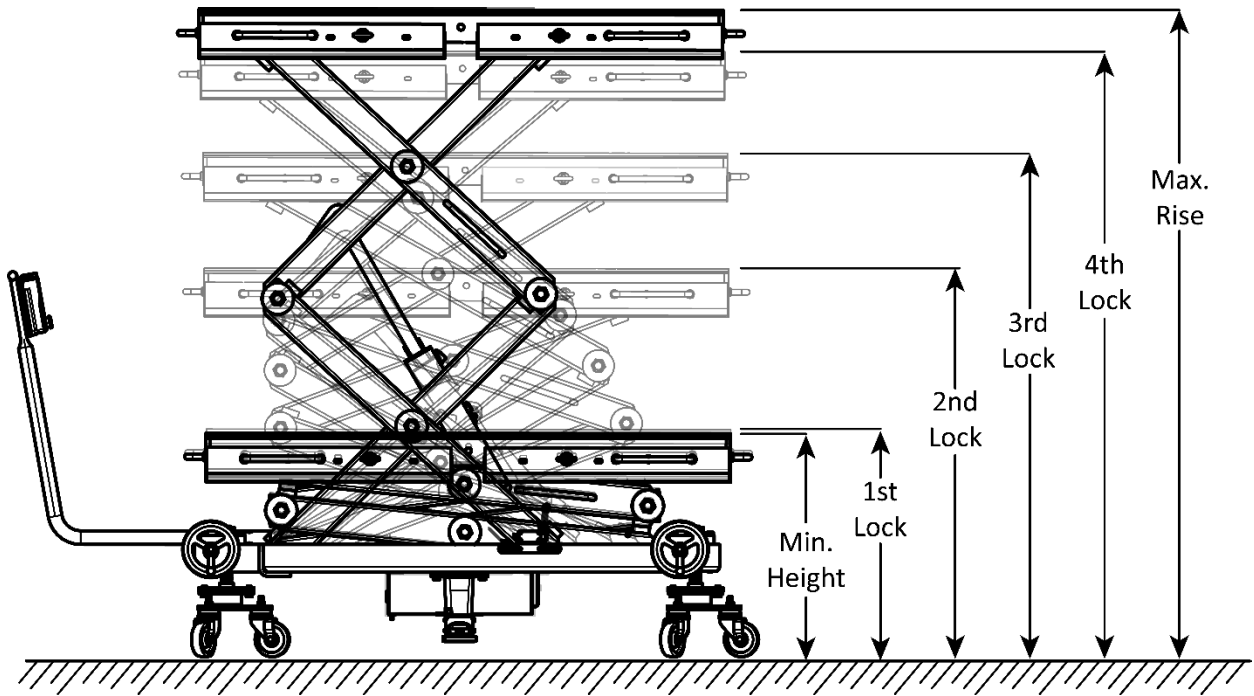
Not to scale. Not all components shown.

Specifications



Model	EV2400SL
Lifting capacity	2,400 lbs. / 1,090 kg
A Maximum Rise	74 in. / 1,878 mm
B Top Deck length	60 in. / 1,524 mm
C Overall length (with Handles)	68.25 in. / 1,733 mm
D Top Deck width	40 in. / 1,015 mm
E Overall width (with Handles)	44.25 in / 1,409 mm
F Minimum height	25.5 in. / 648 mm
G Height of Steering Handle	43.5 in. / 1,107 mm
Motor	12VDC
Battery Charger	Input: 120 VAC, 60 Hz / Output: 12VDC, 15A
Battery Charge Time	10-12 Hours to full charge from ≈20%
Lifting Time	25 – 30 seconds
Weight	896 lbs. / 406.4 kg

Specifications subject to change without notice.



Position	Height
Min. Height	25.5 in. / 648 mm
1 st Lock	26 in. / 660 mm
2 nd Lock	44 in. / 1,128 mm
3 rd Lock	57.75 in. / 1,464 mm
4 th Lock	69.25 in. / 1,761 mm
Max. Rise	74 in. / 1,878 mm
Screw Jack Max. Extension	1.5 in. / 38 mm


Specifications subject to change without notice.


Note: All dimensions shown with Screw Jacks set to maximum adjustment.


Setup for Operation

This section describes how to setup your Scissor Lift for operation. Only fully trained personnel should be involved in the setup and operation of this equipment. **Pay attention at all times.** Use appropriate tools and equipment. Stay clear of moving parts and live electrical components.

BendPak recommends referring to the ANSI/ALI ALIS Standard *Safety Requirements for Installation and Service* for more information on safe setup, operation, and service of your Lift.

 **WARNING** Always use the proper tools, such as a forklift, shop crane or hoist, to move heavy components.

 **WARNING** You must wear the proper protective equipment at all times during setup and operation of this Lift: leather gloves, steel-toed boots, back belts and hearing protection.

 **WARNING** **Use only the factory-supplied parts that came with your Lift.** If you use parts from a different source, you void your warranty and compromise the safety of everyone who installs or uses the Lift. If you are missing parts, visit bendpak.com/support or call **(800) 253-2363**, extension 191.


Tools and Supplies required

- Forklift, or shop crane/hoist
- Pry Bar
- Hammer
- Screwdrivers
- Hex Key set SAE and Metric
- Wrench set, open and closed end. SAE and Metric

Select a Site for Setup and Operation

Find a location near where you will be using your Lift for assembly. Keep the following in mind when selecting a site for your Battery Service Scissor Lift:

- **Clearance.** You must have adequate unobstructed space on all sides, plus enough space above the Lift for assembly and testing.
- **Check for overhead obstructions.** The site must be free of overhead obstructions.
- **Operator.** The operator at the Control Pendant **must** have a full, unobstructed view of the Lift at all times.
- **Level floor.** Inspect the floor and check for defective concrete. Verify the floor is dry, level, in good condition and has a minimum compressive strength of 500 psi.

 **WARNING** Do not operate the Lift on a surface with a slope of 3° or more. A slope of 3° or more could lead to property damage, personal injury, or death; the slope makes the Lift less stable, which could lead to the Load falling off the Lift.

- **Outdoor installation.** The Lift **cannot** be installed outside. It is intended for indoor use only.

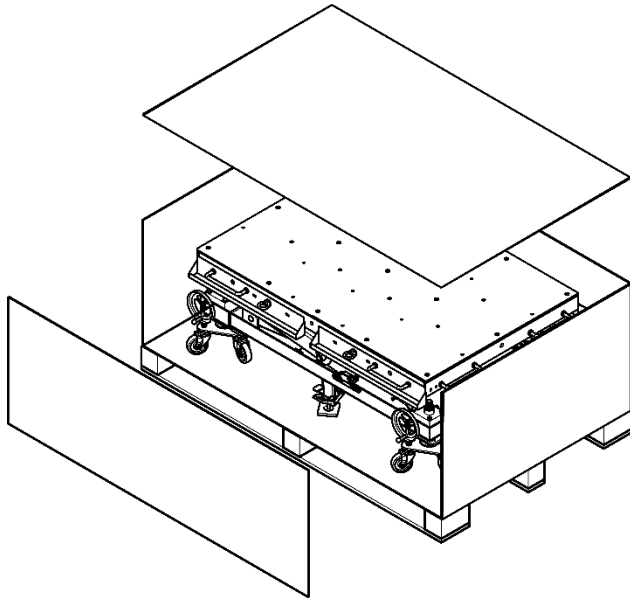
Unpacking

To remove the Lift from its shipping crate you will need a Hammer and Pry Bar, a Hoist or Shop Crane or Forklift. Follow the procedure below.

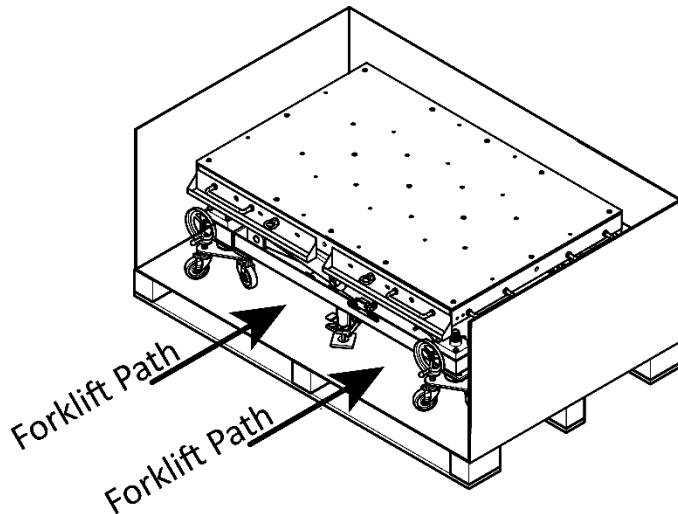
To unpack the EV2400SL using a Forklift:

1. Use a Pry Bar and Hammer to remove the top and one long side of the shipping crate. See figure below.

⚠ WARNING Exercise caution not to damage the Lift while removing it from the shipping crate.



2. Remove the SL24 Component Parts on top of and from below the Lift. Set these components aside where they will not be lost or damaged.
3. Use a Forklift to remove the Lift from the Packing Crate. Follow the path detailed below.



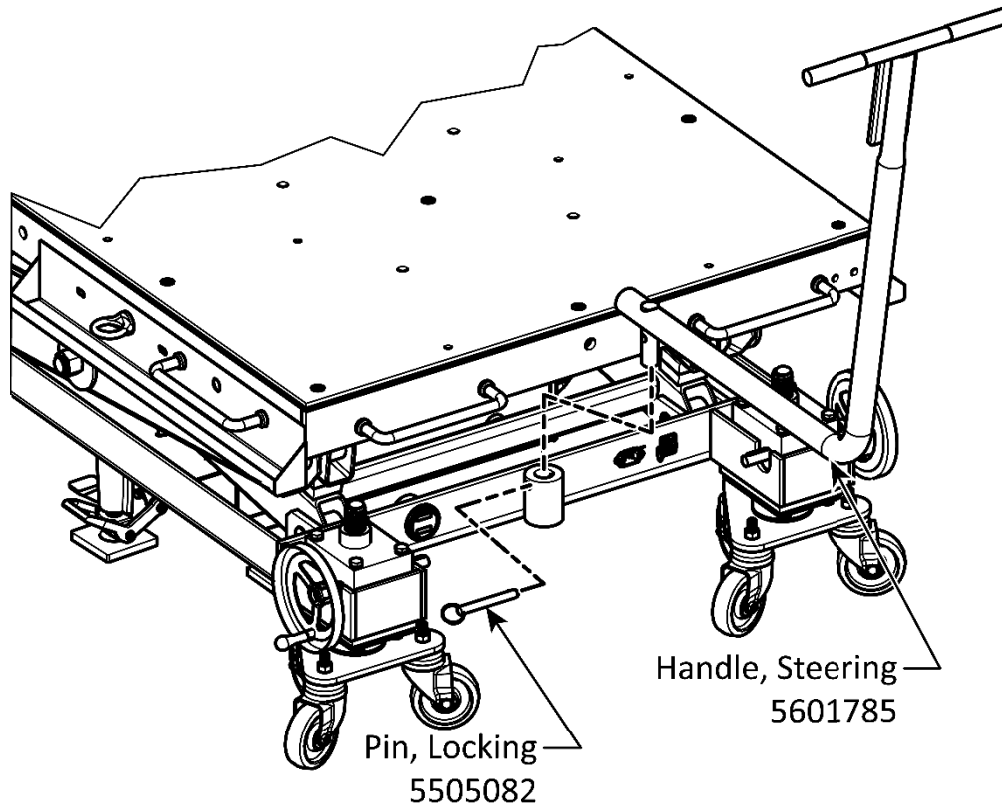
Not drawn to scale. Not all components shown.

Install the Steering Handle Assembly

Steering Handle Assembly must be connected to the Lift using a locking Pin.

To install the Steering Handle Assembly:

1. Retrieve the Steering Handle Assembly (5601785) and Locking Pin (5505082).
2. Attach the Steering Handle Assembly (5601785) and Locking Pin (5505082) as detailed in the figure below.



Not drawn to scale. Not all components shown.

3. Attach the Steering Handle Assembly (5216054) to the Tow Cart Tie Plate Using the Tow Cart Tie Pins (5505109) and lock the pins in place using the two M4 x 10 Set Screws (5530157) as shown in the figure below. Verify the Wheeled Jack Ram is seated securely in the Wheeled Jack Anchor.

Install the Tool Trays

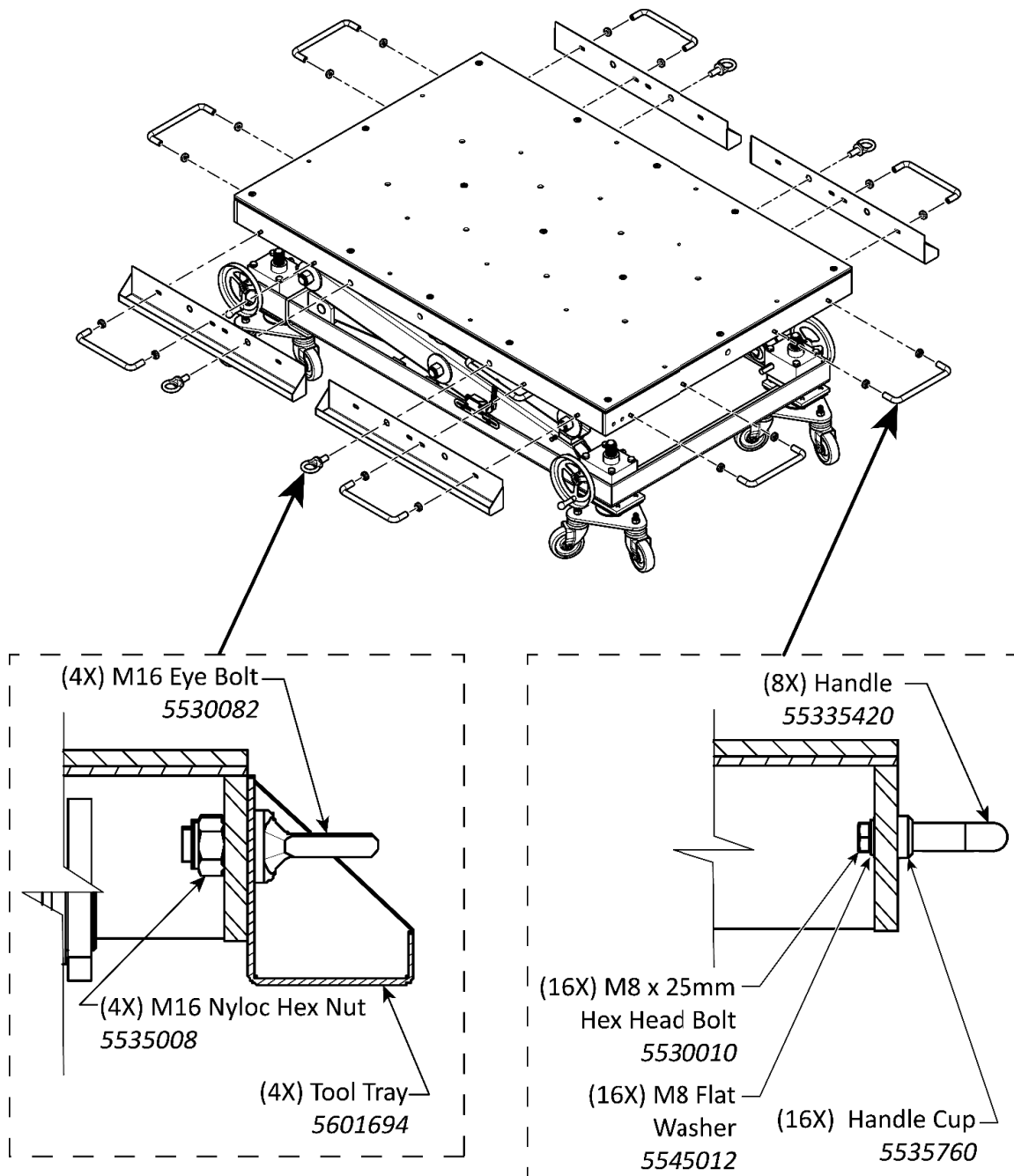
Follow the procedure below to install the Tool Trays.

To install the Tool Trays:

1. Retrieve the following components:

Qty.	Part Number	Description	Qty.	Part Number	Description
4	5601694	Tool Tray Weldment	16	5545012	M8 Flat Washer
8	5335420	Handle	16	5545010	M8 Hex Head Bolt
16	5535760	Handle Cup	4	5530082	M16 Eye Bolt
16	5530010	M8 x 25 Hex Head Bolt	4	5535008	M16 Nyloc Hex Nut

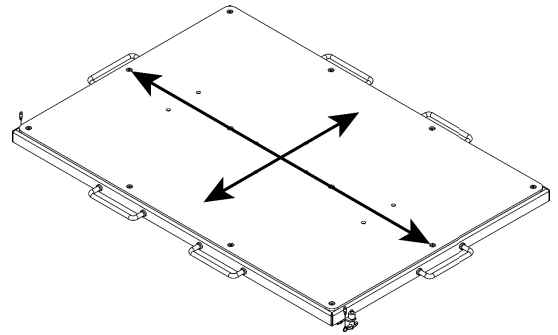
2. Attach as detailed in the figure below.



Not drawn to scale. Components removed for clarity.

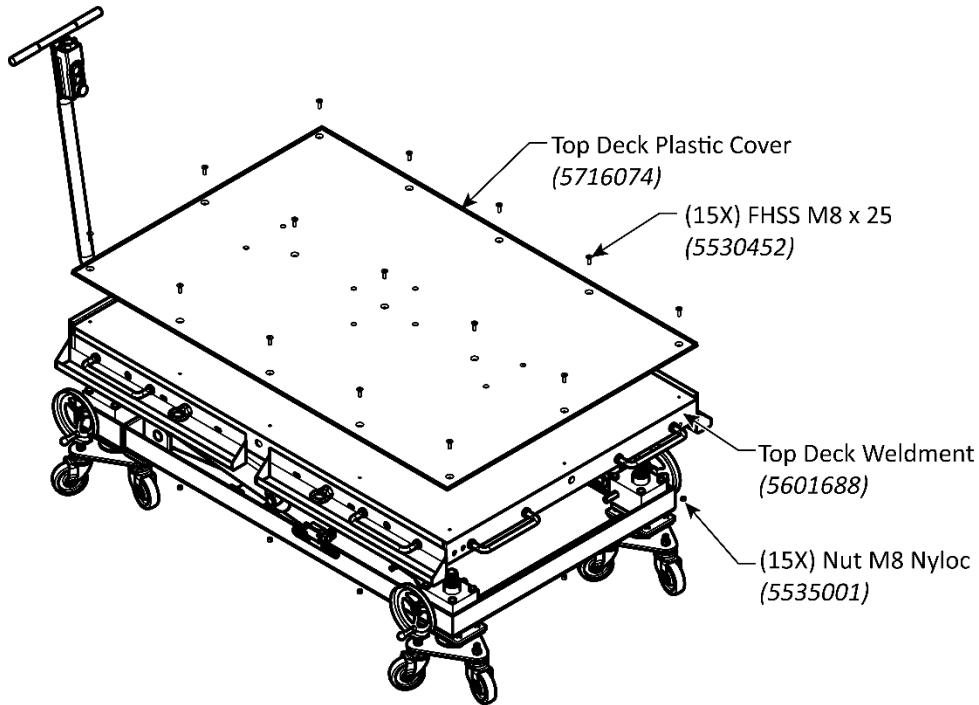
Install the Slip Plate Assembly

The Slip Plate Assembly (SKU 5216119) uses Ball Transfer Load Slides to allow small smooth load adjustments without moving or repositioning the entire Lift. The Slip Plate allows a $\pm .75$ in / 19 mm on either side of the centerline about both axes for a total of 1.5 in / 38 mm movement along either axis.

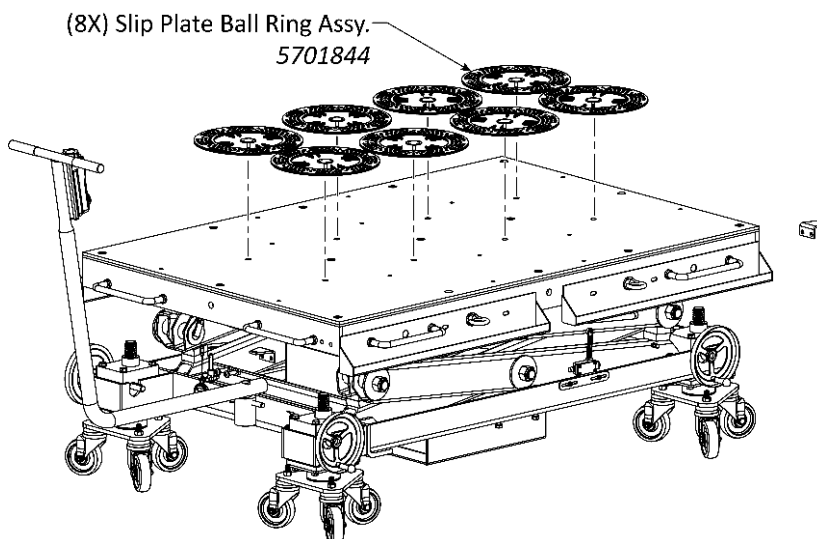


To Install the Slip Plate:

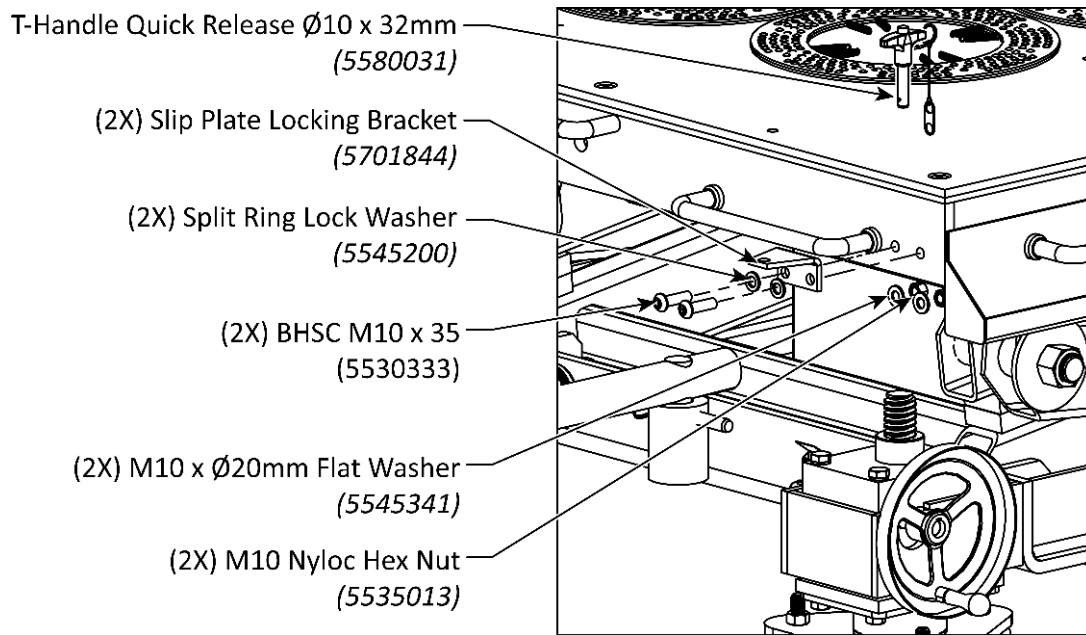
1. Remove the plastic cover from the Lift's Top Deck Weldment.



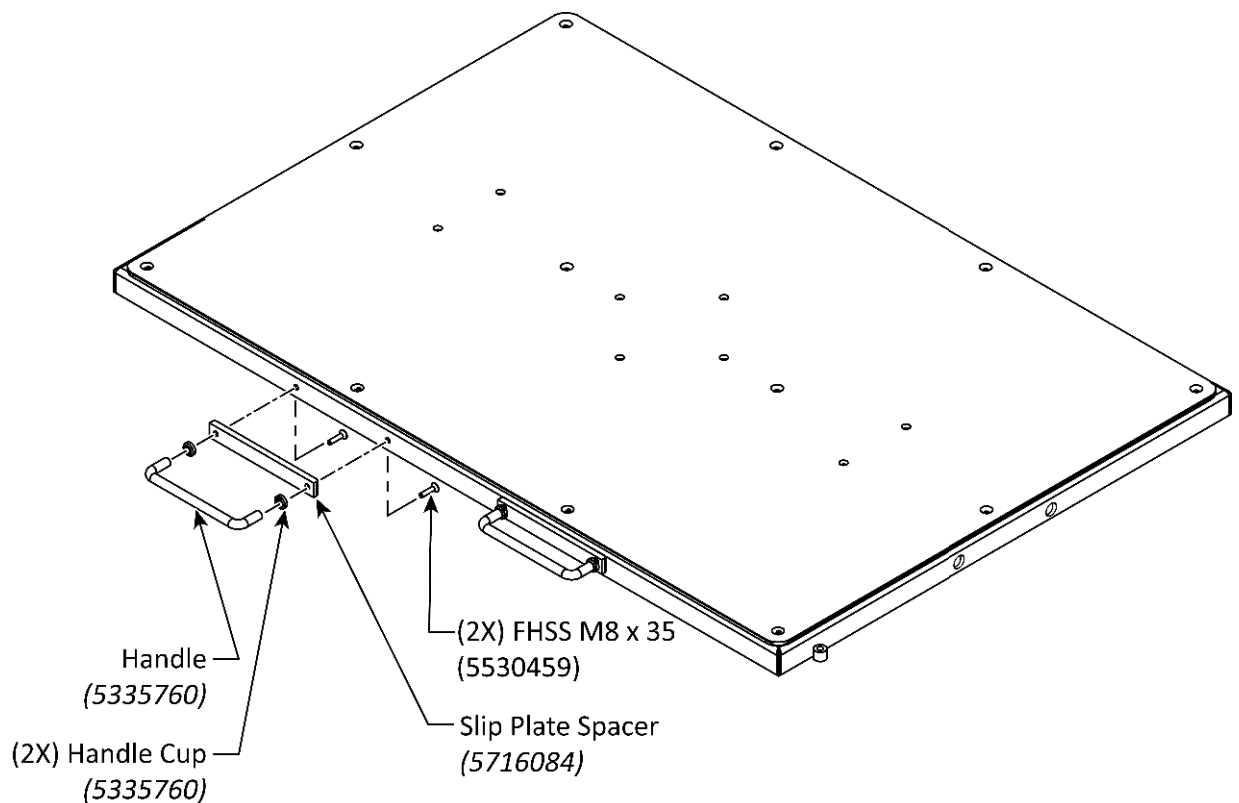
2. Install the eight Slip Plate Ball Ring Assemblies (5701844) on the Lift Deck as shown below.



- Install the two Slip Plate Locking Brackets on **both** ends of the Lift Deck using the components detailed in the figure below.

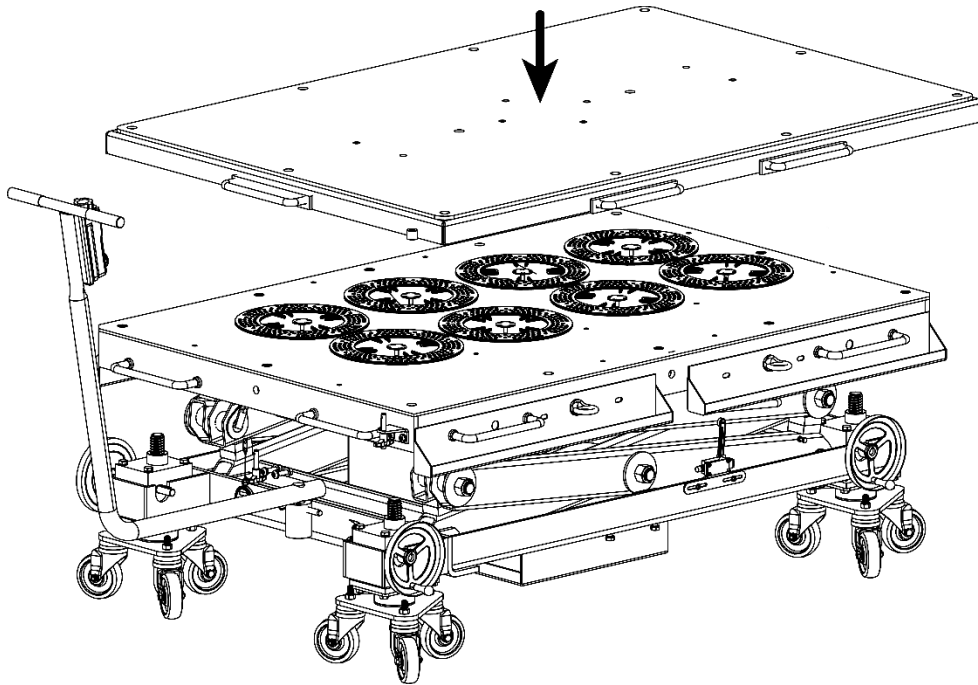


- Install the six Slip Plate Handles (533760) on the Slip Plate using the fasteners as detailed in the figure below.

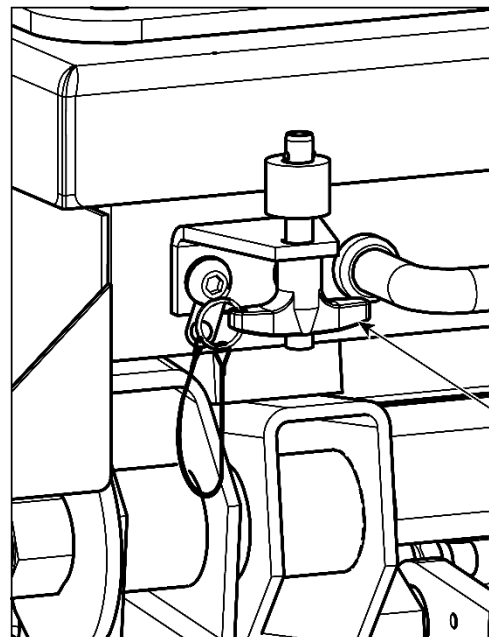


5. Carefully place the Slip Plate Assembly over the Lift Deck. Take care not to drop the Slip plate on the Ball Ring Assemblies.

⚠ WARNING The Slip Plate is heavy. Seek assistance when moving the Slip Plate into position.



6. Insert both T-Handle Quick Releases into the Locking Brackets and the Slip Plate Ring to secure the Slip Plate from movement.



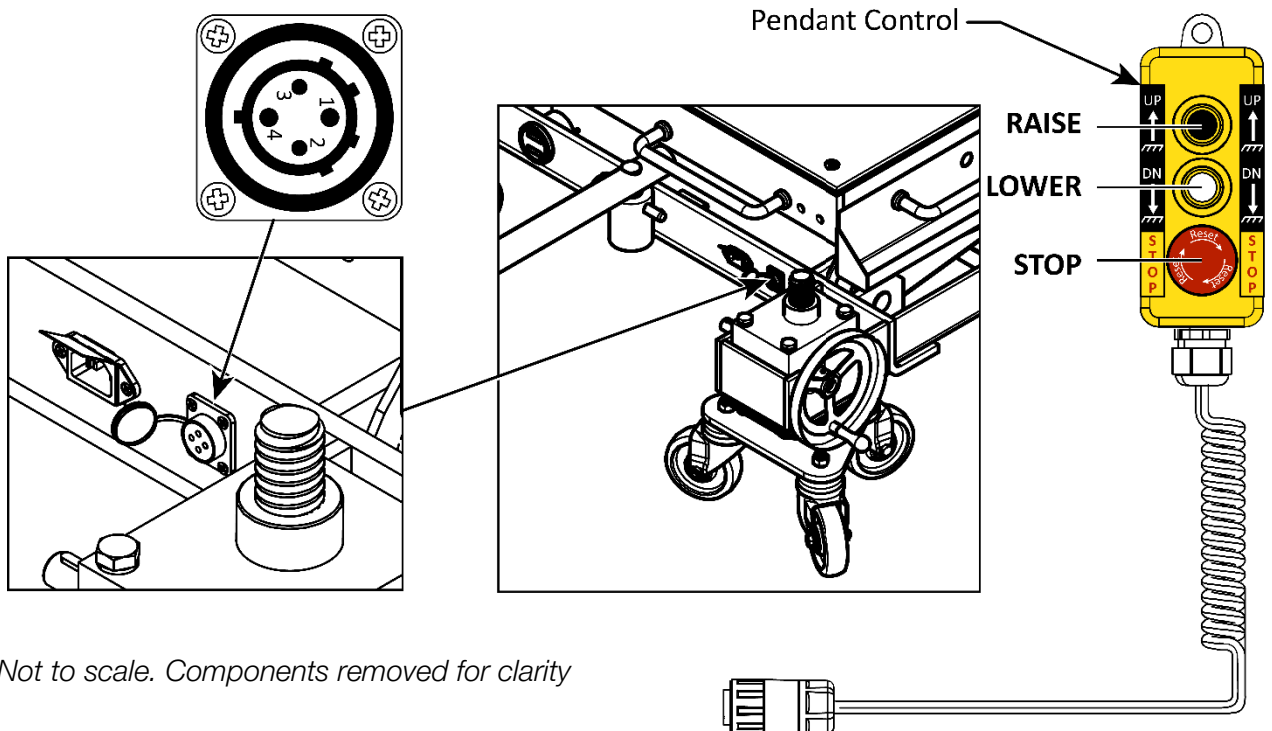
T-Handle Quick Release
(5580031)

Connect the Control Pendant

The Control Pendant connects to the Lift through a four-pin connector near the Steering Handle. The Control incorporates a strong magnet that will hold the Pendant on any convenient steel surface.


To connect the Control Pendant:


1. Retrieve the Pendant and push the Red Stop Button to put the Pendant in the **off** condition.
2. Plug the Pendant's Connector into the mating Receptacle on the Lift. The Receptacle is mounted on the Lift Base near the Steering Handle and the Charging Port as shown below. Remove the protective cover and mate the Connectors. These Connectors are keyed and must be correctly aligned to mate. Rotate the Pendant Connector until it snaps into its mate. Then rotate the Collar on the outside of the Connector to secure the Connectors together.





Operation

This section describes how to operate your Lift.

 **DANGER** Crushing hazard and pinch points. Do not place any part of your body between the Top Deck and any moving part of the Lift, unless the Lift's motion is locked by a Jack Stand, Forklift or equal device that will prevent the Lift's movement.

 **WARNING** Use care around the Lift. Before moving the Lift, lower it completely. When the Lift is in operation, keep everyone at least 30 feet away from it. ***Failure to observe these precautions can result in serious personal injury, including, in rare cases, death.***


 **WARNING** Operate the Lift only on flat, level concrete that is in good condition. Do not attempt to roll the Lift over broken or severely cracked concrete.

 **WARNING** Hydraulic Fluid under pressure is dangerous. You must always wear OSHA-approved (publication 3151) Personal Protective Equipment when handling hydraulic fluid or components: eye protection, leather gloves, and steel-toed boots are mandatory.

Check the Site

Keep the following in mind when selecting a site for your Battery Service Scissor Lift:

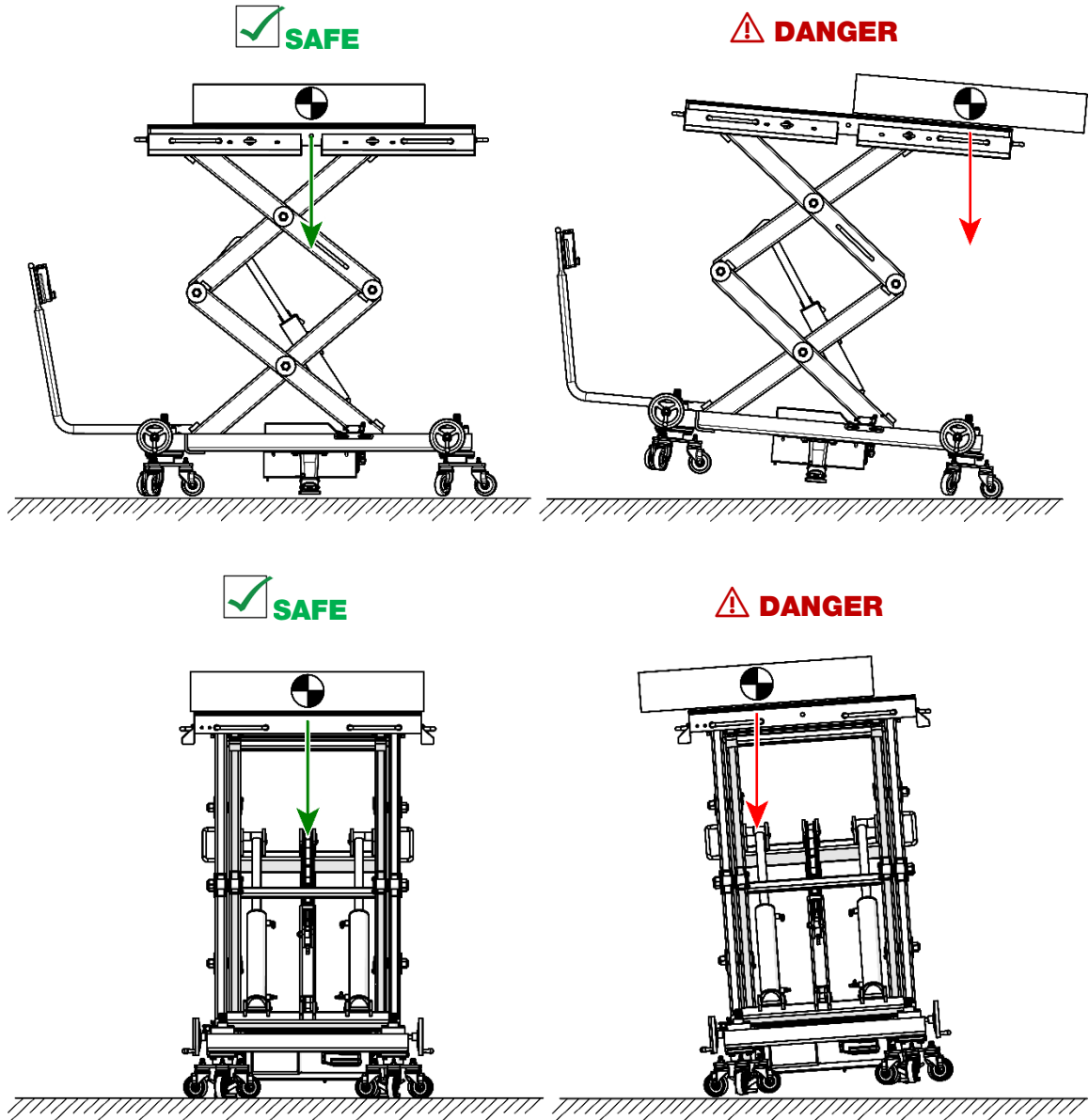
- **Clearance.** You must have adequate space on all sides, plus enough space above for the Loads you will be raising and lowering.
- **Check for overhead obstructions.** The site must be free of overhead obstructions.
- **Operator.** The operator at the Control Pendant ***must*** have a full, unobstructed view of the Lift at all times.
- **Level floor.** Inspect the floor and check for defective concrete or asphalt. Make sure the floor is dry, level, and has a minimum compressive strength of 500 psi.

 **WARNING** Do not operate the Lift on a surface with 3° of slope or more. A 3° -degree slope or greater could lead to property damage, personal injury, or death; the slope makes the Lift less stable, which could lead to the Load falling off the Lift.

- **Operating temperature.** The Lift is designed to be used between temperatures of 41° to 104°F (5° to 40°C).
- **Outdoor installation.** This Lift is designed for indoor use only.











- **Center of Gravity.** Keep the Load's center of gravity on the centerline of the Lift.

⚠ DANGER Do not move the Load too far from the Lift centerline. Placing the Load off the centerline of the Lift risks tipping or damaging the Lift and causing serious damage or injury.




Hydraulic System Warnings

Before applying power to the Hydraulic System note the following Warnings:

-  **WARNING** Failure to observe these warnings can result in serious personal injury including, in rare cases, death.
-  **WARNING** The Hydraulic Hoses and connections **must** be inspected before any attempt to raise a Load is made.
-  **WARNING** Verify all Hydraulic Hose connections and fittings, including unused auxiliary port plugs on the Power Unit, the Cylinders and anywhere else in the Hydraulic System are tightened.
-  **WARNING** The Power Unit is a Hydraulic Pump capable of developing pressures in excess of 5,000 psi (345 BAR). A pressure relief valve is used to set the pressure at the desired level. Tampering with, adjusting, modifying, or removing the relief valve is extremely dangerous and is not recommended. Only trained Hydraulics technicians should adjust the relief valve, using calibrated hydraulic pressure gauges to assure the proper pressure setting is achieved.
-  **WARNING** Changes to the output pressure may render the power unit incompatible with pressure limitations of other components in the hydraulic circuit. This may cause catastrophic failure of those components, and could result in property damage, serious personal injury, or death.
-  **WARNING** The Hydraulic System can contain high pressure which, if suddenly released, can cause serious injury or death.
-  **WARNING** Do **not** attempt to connect or disconnect Hydraulic Hoses while the equipment is loaded or while a Vehicle is on the Lift, or the Hydraulic System is under pressure.
-  **WARNING** Keep bare hands away from Hydraulic Fluid; always wear gloves when handling Hydraulic Fluid, Cylinders or Hydraulic Hoses.
-  **WARNING** When handling Hydraulic Fluid, always observe the safety instructions from the manufacturer.
-  **WARNING** **Always** promptly clean any Hydraulic Fluid spills. If a leak is the source of the spill, lockout the Lift to prevent use until the Hydraulic System is repaired.

Lift Operation Safety

BendPak recommends referring to the latest version of the ANSI/ALI ALIS Standard *Safety Requirements for Installation and Service* for more information about safely installing, using, and servicing your Lift.

 **WARNING** *Never* work under the Top Deck until the Load has been removed; do not work under the Lift unless it is secularly resting on a Safety Lock and or supported by Jack Stands.

Before you raise or lower a Load using your Lift, do the following:

- **Check the Lift.** *Before each use*, check the Lift for any missing, heavily worn, or damaged parts. Do not operate the Lift if you find any issues; instead, take it out of service, then contact your dealer, email support@bendpak.com, visit bendpak.com/support, or call **(800) 253-2363**, x196.
- **Check the area.** Check the area around the Lift for obstructions; anything that might block the Lift. If you find an obstruction, move it out of the way. Do not allow anyone within 30 feet of the Lift while it is in motion.
- **Check the operators.** Make sure everyone who is going to operate the Lift has been trained in its use, has read the labels on the unit, and has read the manual. Only the operator should be within 30 feet of the Lift when it is in motion.
- **Check for safety.** Make sure everyone who is going to be near the Lift is aware of its presence and takes appropriate safety measures. When lowering the Lift, do not leave it until it is fully lowered. Do not allow children to operate the Lift. Do not allow anyone under the influence of drugs or alcohol to operate the Lift.
- **Use the Emergency Stop** button to stop the Lift at any time.


Additional Operating Information

Keep the following in mind when operating the Battery Service Scissor Lift:


- **Before** operation, verify the Lift has a sufficient Battery charge (>20%), recharge if necessary.
- Your Lift is portable; if you move it to a new location, verify the location has a hard, flat, level, and dry surface.

 **CAUTION** Use the Lift only on hard, flat, level, and dry surfaces in good condition.

- Do not use the Lift in an explosive or flammable location.
- Always verify the Lift Top Deck is lowered completely **prior** to moving the Lift with or without a load across a Floor.

 **WARNING** *Never* move the Lift across a floor when the Top Deck is elevated. Minor adjustments (less than 12 in.) when attempting to align Battery Packs or power train components are acceptable.

- Check the weight of the load before attempting to raise or lower it. Do not guess at the load Weight – verify the weight.

 **WARNING** *Do not exceed the rated lifting capacity of your Lift* at any time for any reason; you could damage the Lift, the components, or the load on the Lift, and injure anyone in the vicinity of the Lift.

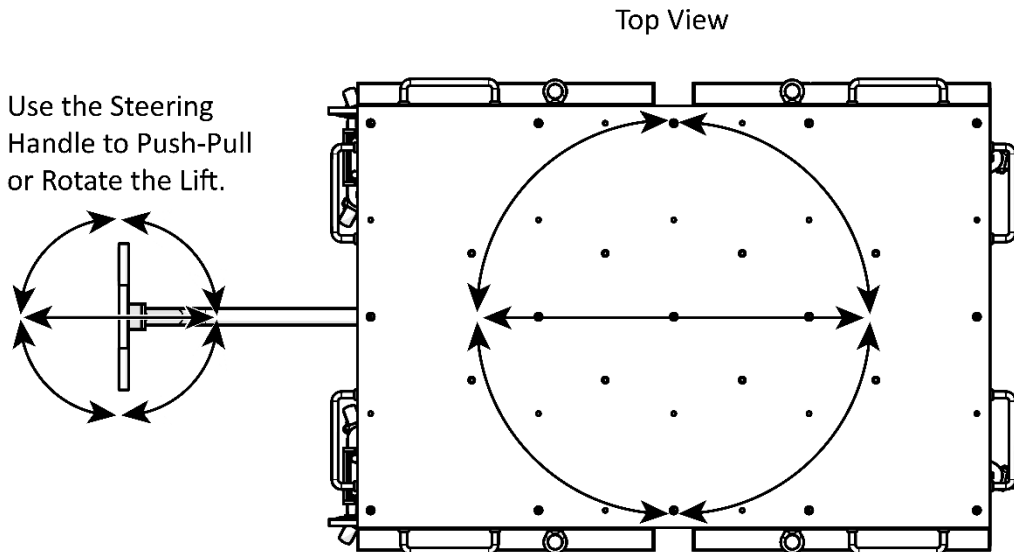
- The load **must** be centered and evenly distributed across the Top Deck; do not rock the load while raised or remove heavy items that could cause excessive weight shift.
- **Keep all body parts away from the Lift when the Lift is in use;** prevent hands and tools from becoming trapped between the Vehicle and Top Deck.
- **Always secure the Load to the Top Deck using the Eye Bolts and appropriately rated straps.**

⚠ WARNING **Never** stand or sit on the Top Deck to work.

- Do **not** load the Lift with loose or unstable materials.
- Do **not** attempt to move or adjust the Load while the Lift is in motion.
- Do **not** leave the Top Deck loaded for extended periods of time.
- **Use every precaution to guard against dirt entering the Hydraulic System;** this could affect the operation of the Lift and the safety of anyone near the Lift.

Using the Steering Handle

The Steering Handle is attached to the Lift Structure which rides on four Zero-Throw Caster assemblies. This caster design allows easy push-pull and rotation of the entire Lift with minimal force on the Steering Handle to move a given load. Refer to the figure below.



Not drawn to scale. Not all components are shown.

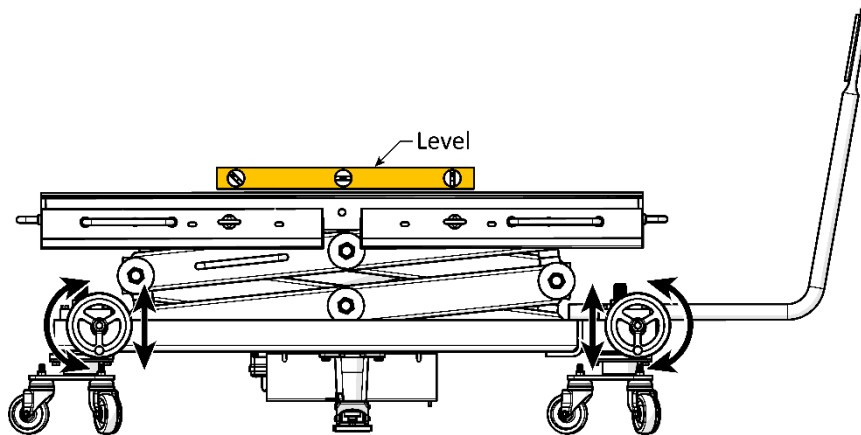
Leveling the Lift

The Lift may be leveled by adjusting the Zero-Throw Caster Assemblies up and down using the Hand Wheel to adjust a Screw Jack on each Caster Assembly.

To level the Lift:

1. Place a 4-foot Level on the Top Deck along the long axis, then check the level along the long axis of the Lift.

2. Rotate the Hand Wheels on the Screw Jack(s) for the Caster Assembly that will correct the level until the Top Deck is level along the long axis.
3. Rotate the 4-foot Level 90° and place along the centerline of the short axis on the Top Deck.
4. Rotate the Hand Wheel on the Screw Jack for the Caster Assembly that will correct the out of level condition.
5. Repeat until the Top Deck of the Lift is level.



Not drawn to scale. Not all components are shown.

Using the Floor Lock

The Floor Lock will restrict the Lift's motion and provide additional support by engaging two rubber feet located in the center of both long sides.

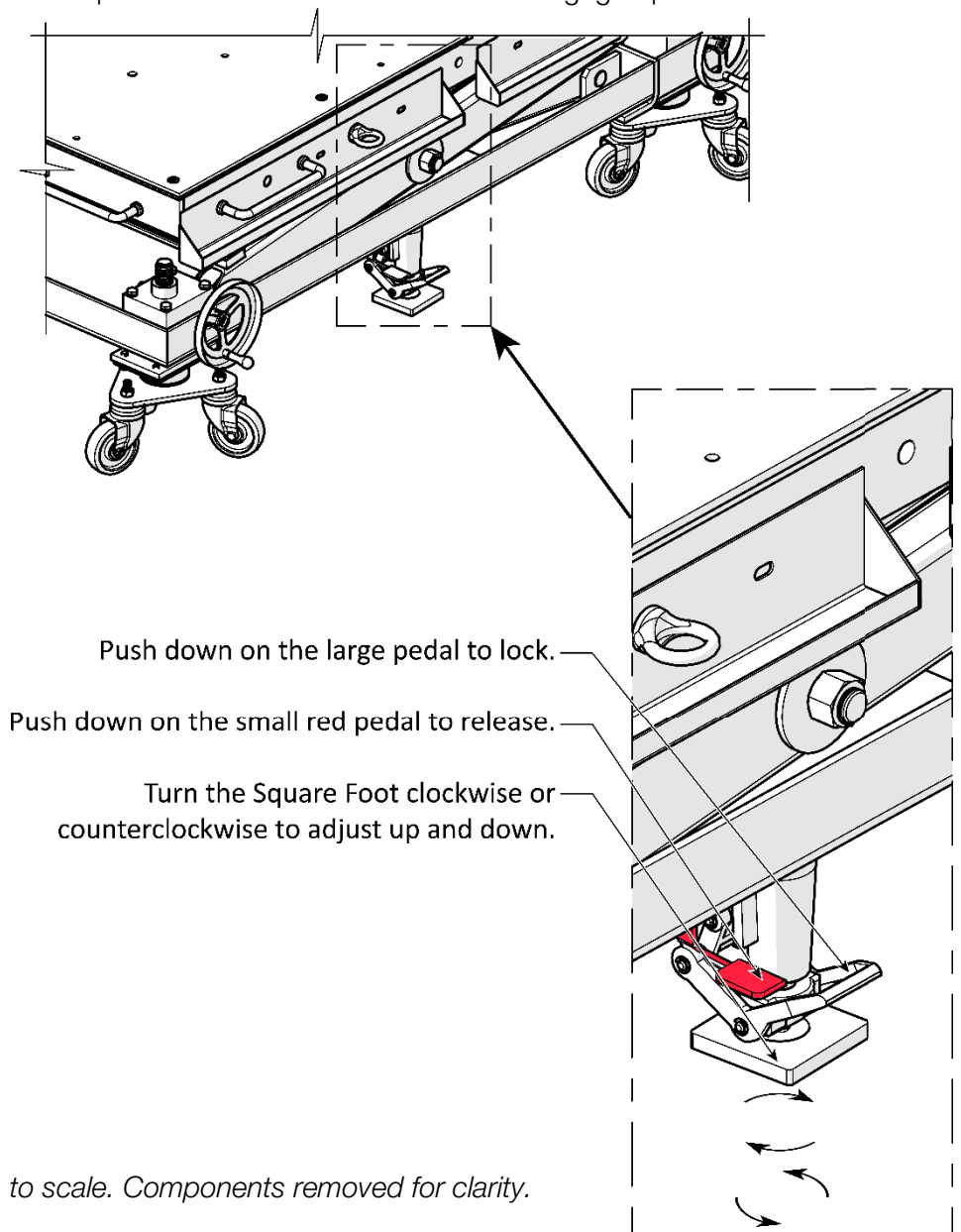
To engage the Floor Locks:

1. Move and orient the Lift as required for your application.
2. Use your foot to push down on the large pedal until the rubber foot comes into contact with the floor.
3. Repeat the same process on the other side of the Lift.

IMPORTANT! The Square Foot may be adjusted up and down by rotating the foot clockwise and counterclockwise.

To disengage the Floor Locks:

1. Press down on the small red pedal. The Foot will return to its disengaged position.
2. Repeat step 1 on the other side of the Lift.

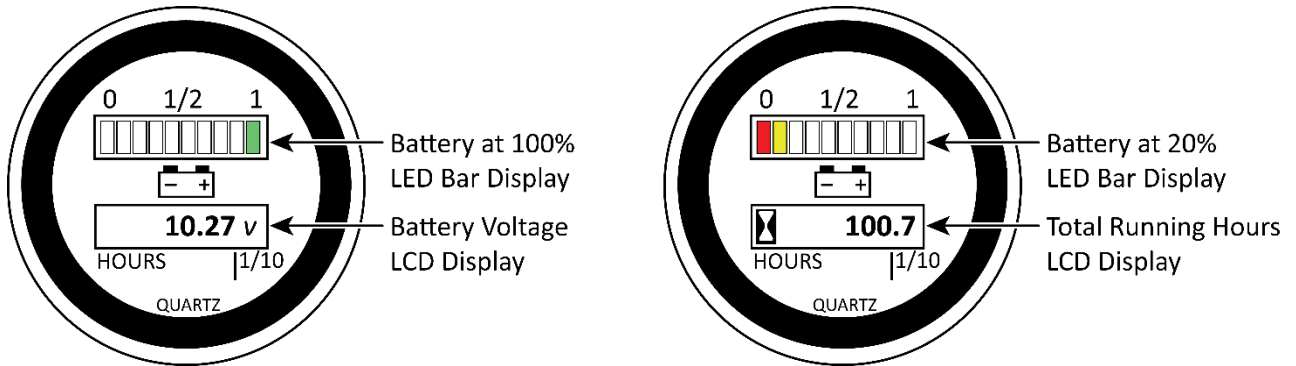


Not drawn to scale. Components removed for clarity.

Checking the Battery Charge Level

The charge status of the Battery is displayed on the Battery Status Indicator, located near the bottom of the Frame (facing the Steering Handle). When you use the Lift, the LED gauge will move downwards to 0 in 10% increments.

⚠ CAUTION Do not allow the Lift Battery charge to drop **below** 20%, as this can affect the performance of the Lift; do not attempt to lift a Load with a Battery Charge of 20% or less.



The Battery Status Indicator LCD is capable of displaying the current Battery Voltage or the Total Running Hours.

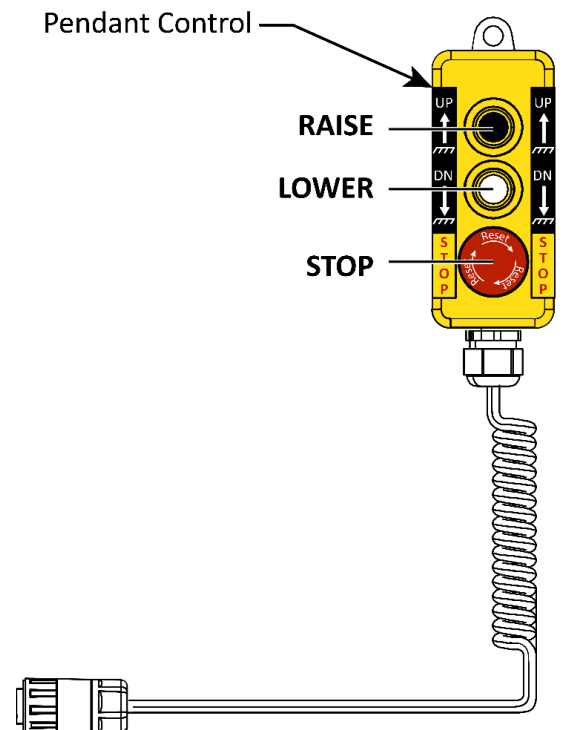
To switch between Total Running Hours and Battery Voltage briefly press the **S** button on the back of the indicator. When displaying Battery Voltage, a **V** is displayed to the right of the value and when displaying Total Running Hours, an hourglass shape is displayed to the left of the value.

The Control Pendant

The operation of the Lift is controlled through the Pendant.

The Controls on the Pendant are:

- **STOP** Button. Push for Stop. Rotate to restore power. Removes power from the Power Unit and the Lowering Solenoid.
- **UP** button. Applies Power to the Hydraulic Power unit. Moves the Top Deck up.
- **DN** Down button. Opens the lowering Solenoid Valve to lower the Top Deck onto a Safety Lock or all the way down to the minimum height.



Drawing not to scale.

About Safety Locks

There are four locking positions allowing the operator to raise or lower the load and lock it in a comfortable position for Service Tasks. The Safety Lock Mechanism is located in the middle of the Scissor Lift Mechanism and consists of four basic components as detailed in the figure below. **When the Top Deck rests on a Safety Lock the load is held without hydraulic pressure. Gravity and mechanical forces operate to hold the Load in position. The figure below details the locked position.**

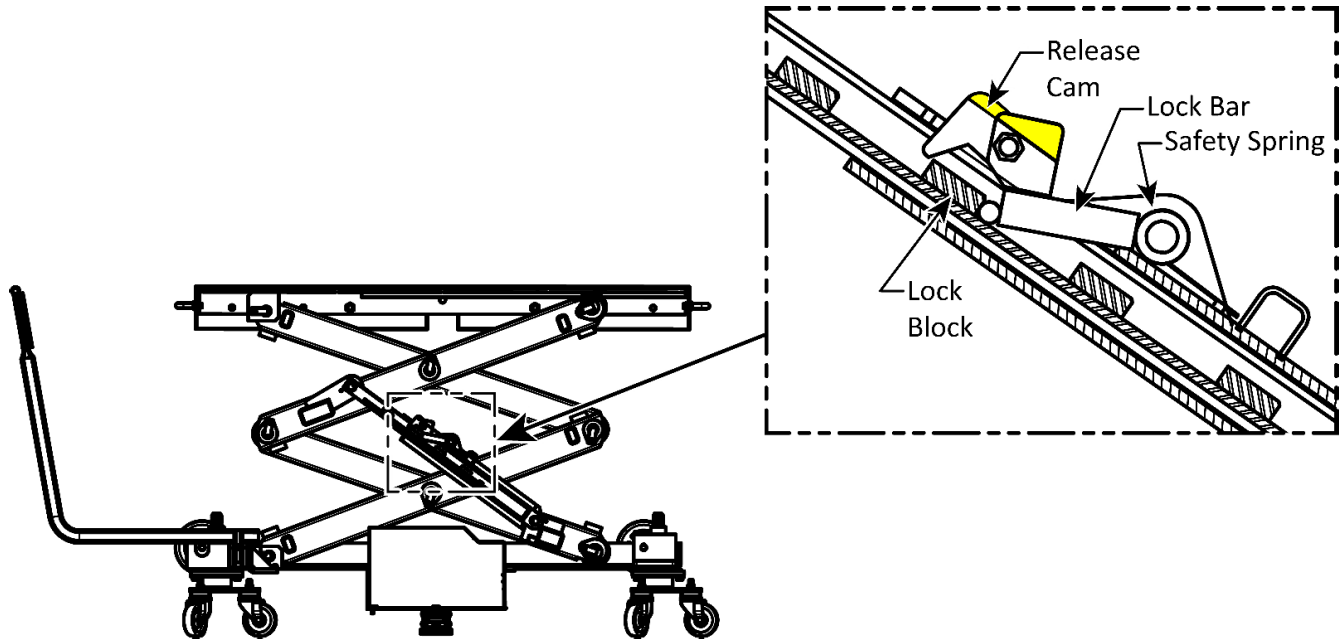


Figure not to scale. Partial cross section, components removed for clarity.

⚠ WARNING **Always leave the Top Deck of the Lift engaged on one of the four Safety Lock Blocks or lowered to its minimum height.** Although rare, it is possible for the Hydraulic System to leak or become damaged, causing the Top Deck to slowly lower.

Learn to recognize the Safety Lock positions

The Release Cam will rise and fall as it moves up and over the Lock Blocks. **Only one Release Cam position** is the actual **Locked** position. When the bottom of the yellow area on the Release Cam forms a straight line with the weldment, the Lift is in a Locked position. Refer to the figure below.

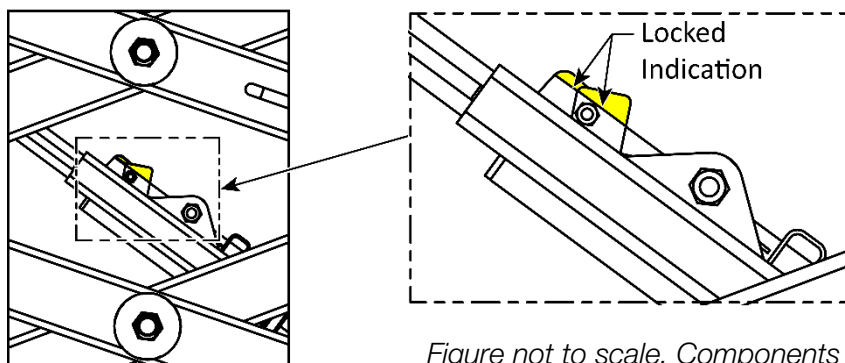


Figure not to scale. Components removed for clarity.

Review the figures below to recognize when the Top Deck is Locked and Unlocked.

To be Locked:

1. The Lock Bar must be in contact with the side of a Lock Block.
2. The Lift will no longer lower when pressing the Down button on the Pendant.
3. The Yellow area of the Release Cam forms a straight line with the Weldment when locked.

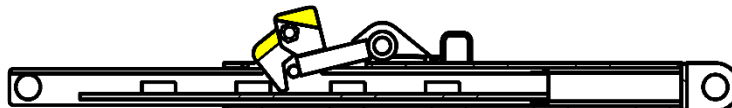
Refer to the cross section views below.



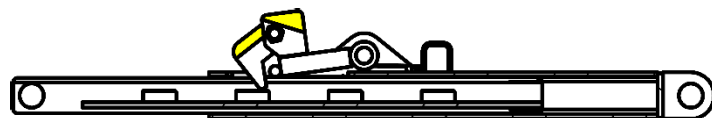
Engaged on a Safety Lock. **The Top Deck is Locked and Safe.**



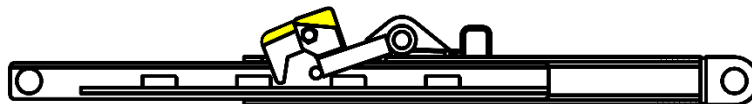
Passing over a Safety Block. **Caution, the Top Deck is Unlocked!**



Passing over a Safety Block. **Caution, the Top Deck is Unlocked!**



Between Safety Blocks. **Caution, the Top Deck is Unlocked!**



Positioning and Raising the Lift

This section describes how to position and raise a Load on the Lift.

To raise the Lift's Top Deck:

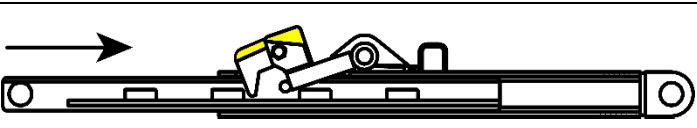
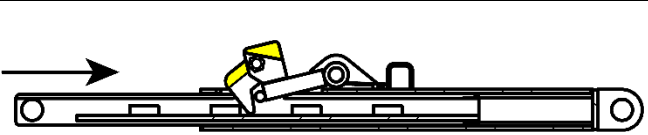
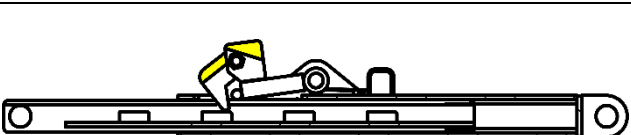
1. Check the items listed in **Lift Operation Safety**. If you find any issues, resolve them before raising the Lift.
2. Verify the Lift battery has a sufficient charge (>20%). If not, charge the battery prior to Lifting a load.
3. Determine the maximum Lift Top Deck height and adjust the Limit Switch, if desired. See **Adjusting the Limit Switch**.
4. Verify the Top Deck is fully lowered, and the Floor Stops are unlocked.
5. Move the Lift by the Steering Handle. Situate the Lift directly underneath the Load.
6. Walk around the Lift and verify there are no obstructions or any other issues that will interfere with raising the Lift's Top Deck.
7. Engage and adjust the Floor Stops to ensure the Lift will not move while lifting or lowering.
8. Verify the Top Deck is level and stable. Adjust the Jack Screws on each corner to level the Top Deck, if required.
9. On the Control Pendant, rotate the **Stop Button** clockwise to provide power to the Lift.
10. On the Control Pendant, press and hold the **Up** button to raise the Lift Top Deck.



⚠ WARNING *Always* verify the Lift is resting firmly on the Floor Stops and all four Caster assemblies *prior* to raising or lowering a Load.

11. Watch the Top Deck as it rises. If the Lift becomes unstable or moves unpredictably, release the **Up** button immediately and lower the Top Deck and Load until it is in a safe condition.
12. When the Top Deck is at the desired height, release the **Up** button. The upward motion of the Lift Top Deck may also be stopped by the Limit Switch.
13. Lower the Lift onto the nearest Safety Lock to leave the Lift in a safe condition.

To set the Lift on a Safety Lock:

This example begins with the Lock Bar between Lock Blocks.

a.	Safety Bar is between Lock Blocks. Press DN button.	
b.	Release Cam contacts the Lock Block. Continue to press the DN button.	
c.	Release Cam rolls over the Lock Block. Release the DN Button.	

d.	Press the UP Button. The Lock Bar drops between the Lock Blocks. Release the UP button.	
e.	<input checked="" type="checkbox"/> Press the DN Button until the Lock Bar rests against the Lock Block, then release. The Top Deck is now resting on a Lock.	

Lowering the Lift

This section describes how to lower the Lift.

To lower the Lift:

1. Check the items listed in **Lift Operation Safety**.
If you find any issues, resolve them *before* lowering the Lift.
2. Secure the Load on the Lift using the Eye Bolts and a Tie Down Strap.
3. Press and hold the **Down** button to lower the Lift's Top Deck.
4. When the Top Deck is fully lowered, release the **Down** button.

⚠ WARNING **Do not move the Lift while the Load is raised.** Lower the Load completely **before** moving or storing the Load.

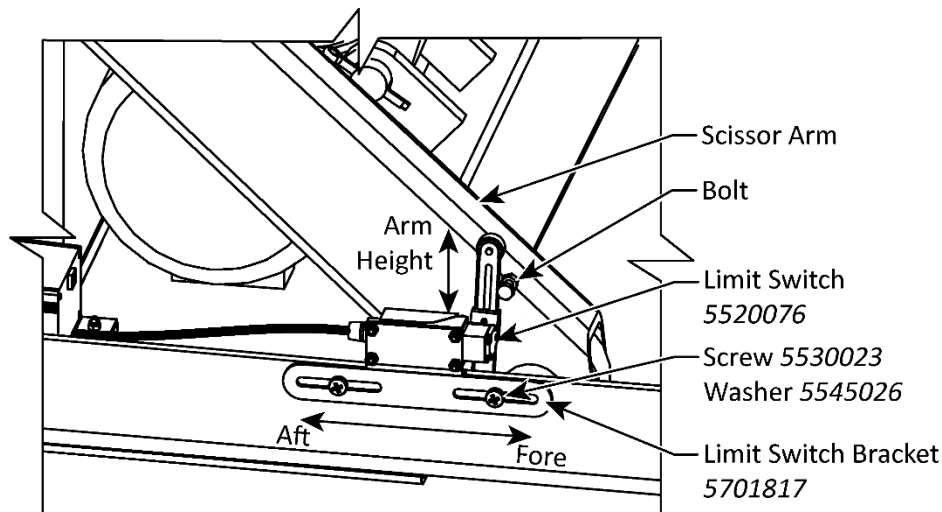
5. When the Load is safely lowered, check the Load's stability on the Lift to verify it is safe to transport.
6. Secure the Load using straps anchored on the Lift's Eye Bolts.
7. Release both Floor Stops.
8. Carefully move the Lift with its Load out from under the Vehicle by pushing, pulling, or rotating the Steering Handle as required.

Adjust the Limit Switch

The maximum height of the Lift Top Deck is mechanically constrained by the fully extended length of the Lifts' Hydraulic Cylinders.

The Limit Switch provides the ability to set a maximum lifting height which is lower than the Lift's mechanical maximum. This feature allows the operator to set a maximum height suited to your specific application and once properly adjusted, can prevent the Lift from colliding with obstructions and/or damaging the Vehicle under repair.

The Limit Switch incorporates two adjustments. The first controls the switch's horizontal position (fore and aft) while the second controls the height of the Limit Switch Arm itself. See figure below.



To adjust the Limit Switch:

1. Using a tape measure to determine the desired limit height.
2. Move and arrange the Lift to ensure that it will not strike any obstructions when raised.
3. Apply power by rotating the **Stop Button** on the Pendant clockwise.
4. Raise the Lift to the desired maximum height. Do **not** remove power from the Lift.
5. Loosen the two Screws (5530023) that allow the Switch to move fore and aft along the Lift's Base.
6. Slide the Switch along its Adjustment Slots until the Switch Arm contacts the Bolt on the Scissor Arm, and the Lift Top Deck will no longer raise when you push the **Up** button on the Pendant.
7. Tighten the two Machine Screws to secure the Limit Switch in position.
8. If required, adjust the length of the Limit Switch Arm to ensure contact with the Bolt extending from the Scissor Arm.
9. Lower and raise the Lift while observing the height at which it stops. Repeat steps 4 through 9, if required until the Lift Top Deck stops ascending at the desired height.

Working with the EV2400SL and EV Batteries Safely

High-voltage cabling and components are capable of delivering a fatal shock. Some EV components may retain hazardous voltages well after the vehicle has been shut down. Always refer to the vehicle manufacturer's instructions for safe installation/removal procedures, techniques, required tools and training.

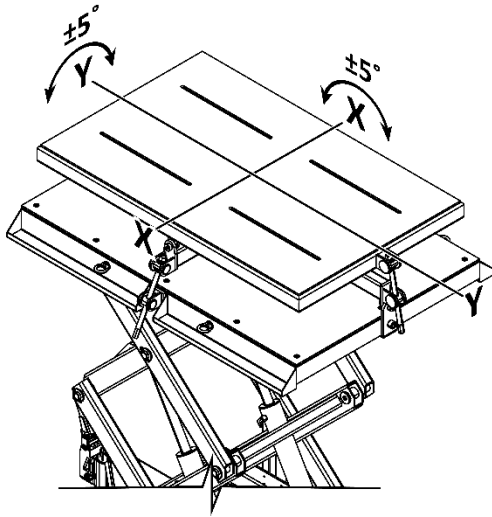
- ⚠ DANGER** This Lift is **not** insulated, **not** electrically grounded to Earth. The Lift will **not** provide protection to the operator or anyone in contact with it from electrical current. Stay away from the Lift if it is in contact with high voltage. Do not touch or operate the Lift until the electrical current is removed or shutdown.
- ⚠ DANGER** A large section of an Electric Vehicle's undercarriage holds the high voltage battery; **Never breach the high voltage battery when lifting from under the Vehicle.** Use every precaution to ensure that you do not breach the floor pan.
- ⚠ DANGER** Technicians should always be fully trained and read the Vehicle's Original Equipment Manufacturers' (OEM) high voltage disabling procedures and precautions **before** working on hybrid and electric Vehicles. Additional resources are available from the Society of Automotive Engineers (SAE).
- ⚠ DANGER** Avoid contact with the Vehicles' high-voltage cables unless the high-voltage battery has been disconnected. Proper personal protective equipment should include heavy, rubber, Class 0 rated gloves. Ordinary shop gloves are **not** thick enough nor designed to protect against high voltage. The gloves should be inspected to verify no pin holes, cracks, tears, or splits are present.
- ⚠ DANGER** Use caution to ensure you **never** come into contact with the Vehicle's high voltage Battery Terminals, exposed wiring, circuitry, or other high voltage components while lifting or manipulating the Vehicle's Battery.
- ⚠ DANGER** Regardless of the disabling procedure in use, **always** assume that high voltage components in the Vehicle are energized; **cutting, crushing, or simply touching high voltage components can result in serious injury or death.**
- ⚠ DANGER** Most Vehicles' high voltage circuit may require up to 15 minutes or more to fully de-energize; refer to Vehicle manufacturer's guidelines for the proper de-energizing procedure.
- ⚠ DANGER** Damaged batteries are capable of releasing explosive gases and harmful liquids if damaged or mishandled.
- ⚠ WARNING** Look for color-coded high voltage cables in hybrid and electric vehicles. These colors warn of potential danger. Usually, these cables are orange, but some models use blue cables. Check with the Vehicle manufacturer to identify the correct color code. Exercise extreme caution if these cables appear damaged.
- ⚠ WARNING** Most Electric Vehicles with high voltage Batteries include a liquid cooling system. Take precautions to ensure that the cooling system is drained or will not spill its contents onto the Lift or the Lift's electrical components, Refer to the manufacturer's service guides.

Accessories

The EV2400SL Lift features sixteen recessed anchoring locations intended to accommodate a variety of accessories, modular fixtures, and adapters. Sold separately.

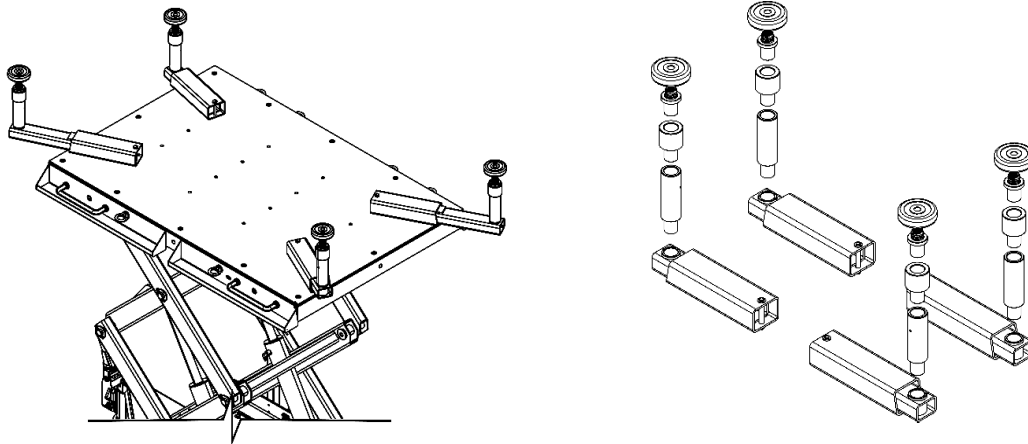
Tilt Deck

The optional Tilt Deck (SKU 5216043) features two independent adjusting screws allowing $\pm 5^\circ$ rotation of the deck surface along the X and Y axes. Adjusting screws feature hex bolts that can be operated manually with standard or power-driven wrenches. The Tilt Deck allows precise alignment of engine and drivetrain assemblies, fuel tanks, electric vehicle batteries and more. 1,650 lbs. / 748 kg Max. capacity. See figure below.



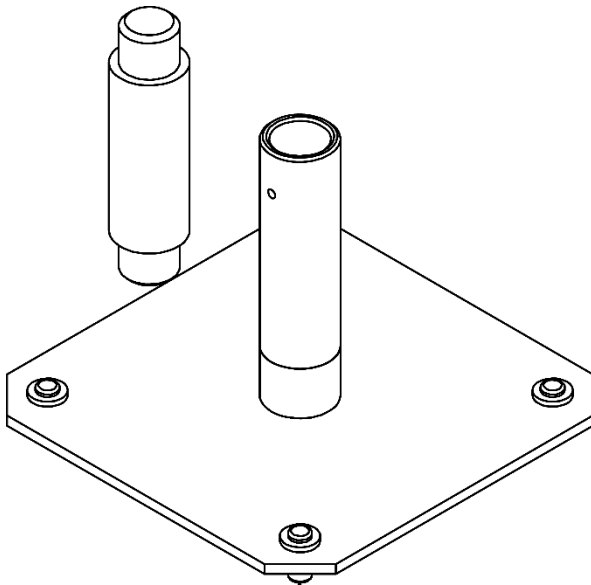
Lift Arm Kit

The optional Lift Arm Kit (SKU 5210272) is designed to attach easily to the Lift Deck in any of the 16 recessed anchoring locations on the Top Deck, providing a multitude of support options. The arm kit includes four telescoping lift arms, four adjustable height contact pads and four stackable adapters that provide configurable support for large, heavy, and awkward vehicle components. 600 lbs. / 272 kg maximum capacity each arm. Set of 4, see figure below.



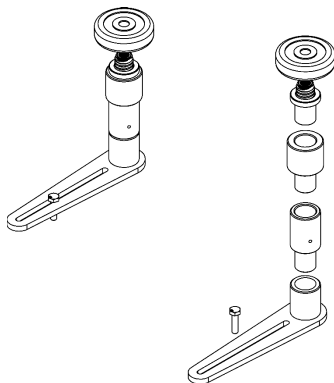
Transjack Deck Mount Kit

This Transjack Deck Mount Plate Kit (SKU 5216120) features a center support pin that adapts to virtually all competitive transmission jack heads, drivetrain adapters and fuel tank supports on the market. See figure below.



Transjack Receiver Plate Kit

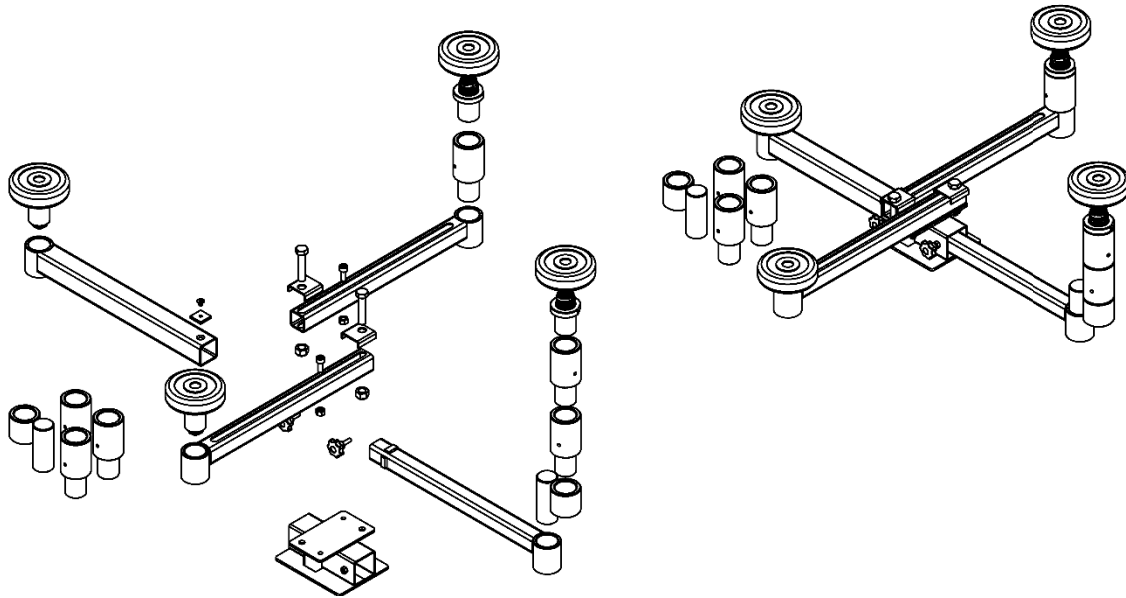
The Transjack Receiver Plate Kit (SKU 5210305) consists of four adjustable Accu-Point™ support fixtures creating a dynamic universal fitment of almost any vehicle. This assembly features independently adjustable and indexing locking arms that adapt to nearly any transmission, drivetrain or vehicle sub-frame shape. The kit comes complete with four adjustable support fixtures, four adjustable height Contact Pads and four stackable Adapters. 600 lbs. / 272 kg capacity each fixture.



Multi-Point Support Assembly

The Multi-Point Adapter (SKU 5216205) safely supports large, heavy, and awkward vehicle components such as axles, fuel tanks, transfer cases, transmissions, bumpers, etc. Features adjustable telescoping arms and adjustable height contact pads for multi-configurable support. 800 lbs. capacity. **IMPORTANT NOTE:** Requires Deck Mount Kit SKU 5216120.

Important! The Multi-Point Support Assembly also requires Deck Mount Kit (SKU 5216120).



Troubleshooting

This section describes common troubleshooting issues for the EV2400SL.

Note: *If your Lift is not functioning correctly, you must take it out of service until it is fixed.*

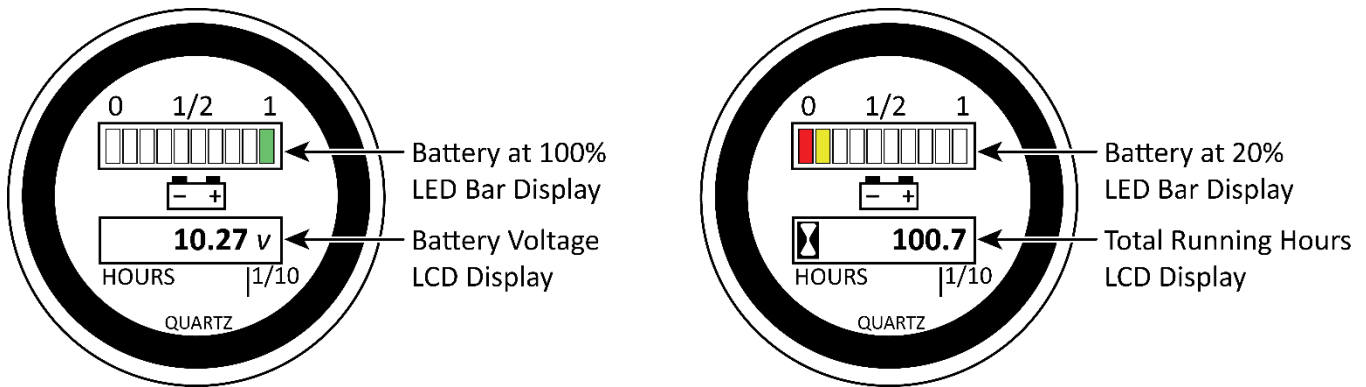
Important: All repair work **must** be completed and inspected by qualified personnel.

General Troubleshooting

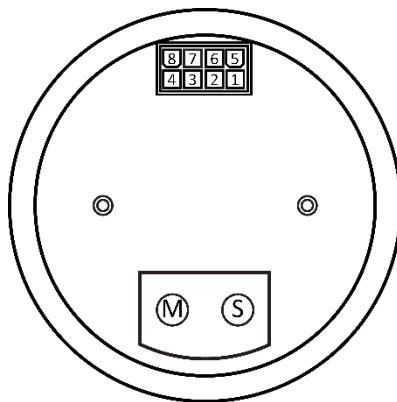
Issue	Action to Take
The Motor does not run.	Check the Battery and the Fuses. Verify the Limit Switch is not engaged.
Top Deck does not go up or down.	Verify the Top Deck is not overloaded. Verify there is sufficient Battery charge. Verify there is sufficient Hydraulic Fluid in the Reservoir. Verify the Limit Switch is not damaged; replace it if required.
Top Deck does not raise to full height.	Verify there is sufficient Hydraulic Fluid in the Reservoir. Verify the Limit Switch is not engaged or damaged.
Top Deck is slowly lowering on its own.	Replace the Lowering Valve. Clean the Lowering Valve. Check for Low Hydraulic Fluid or leaks.
Battery does not charge.	Replace the Battery. Replace the Charger.
Hydraulic Fluid is old or dirty.	Replace the dirty fluid with clean, approved Hydraulic Fluids, such as Dexron III, Dexron VI, Mercon V, Mercon LV, Shell Tellus S4 / S3 / S2, or comparable.

Electrical and Charging System Troubleshooting

Issue	Action to Take
Battery Status Indicator gives a Blank LED and LCD display.	Look for damaged wiring. Repair/Replace. Incorrect Connector wiring. Repair/Replace
Timer Hourglass icon does not flash after opening function.	Look for damaged wiring. Verify the connector is wired correctly.
No change on Voltage LED Bar Display	Battery Parameters incorrectly programmed into Indicator. 200 second delay not completed.
Unclear or color changed on LCD display.	Exposure to excessive heat or cold. Return the display to normal operating temperatures.
Battery Status Indicator only displays Total Running Hours.	Briefly push the S button on the back of the Battery Status Indicator. The Indicator should Display Battery voltage with a V after the value. If the Display continues to only display hours contact BendPak Technical Service.



Connector Pin Assignments



8	7	6	5
4	3	2	1

1. +Vdc
2. Vdc Ground
3. No Connection
4. Load
5. No Connection
6. No Connection
7. No Connection
8. No Connection

If you continue to have problems with your Lift, take the Lift out of service, then contact your dealer, visit bendpak.com/support, email techsupport@bendpak.com, or call **(800) 253-2363**, extension 196.

Maintenance

Unless stated otherwise, all maintenance may be performed by the owner/employer and does not require trained Lift Service Personnel.

⚠ DANGER Before performing any maintenance, **verify the Lift is completely disconnected from power and cannot be re-energized until all maintenance is complete.**

⚠ DANGER Crushing hazard and pinch points. Do not place any part of your body between the Top Deck and any moving component(s) of the Lift, unless the Lift's motion is locked by a Jack Stand, Forklift or equal device that will prevent the Lift's movement.

To maintain your Lift:

- **Daily:** Keep the Lift clean. Wipe up any liquid spills, clean and remove any dirt.
- **Daily:** Make a visual inspection of all moving parts and check for damage or excessive wear. If you find any damaged or worn parts, take the Lift out of service until they are replaced. Use only factory-approved replacement parts.
- **Weekly:** Check all controls to make sure they are functioning normally.
- **Weekly:** Check all labels on the unit. Replace them if they are illegible or missing.
- **Monthly:** Lubricate all pivot points and axles. We recommend using White Lithium Grease or similar.
- **Monthly:** Check the Hydraulic Fluid levels. Refill if low. Check the cleanliness of the Oil Filter.
- **Monthly:** Clean the Battery. Dirt is a conductor of electricity and can increase the rate of discharge, shortening the life of the Battery.
- **Every Three Months:** Check all electrical components for proper operation.

⚠ DANGER You **must** wear OSHA-approved (publication 3151) Personal Protective Equipment at all times when servicing the Battery: eye protection, leather gloves, steel-toed boots are **mandatory**.

- **Every Three Months:** Remove corrosion from the Battery Terminals.
- **After the first 3 months of operation:** Remove and replace the Hydraulic Fluid. Change the Hydraulic Fluid **every 24 months thereafter**. Dispose of used Hydraulic Fluid according to national and local environmental regulations. Contaminated Hydraulic Fluid will shorten the life of the Cylinder Seals.

⚠ WARNING Do not operate your Lift if you find issues; instead, take the Lift out of service, then contact BendPak Technical Support.

Filling with Hydraulic Fluid

The Lift is shipped without Hydraulic Fluid. The Hydraulic Fluid Reservoir on the Power Unit must be filled with approved fluid before beginning operation. Use only new, clean Anti-Foaming Hydraulic Fluid. Approved fluids are Dexron III, Dexron VI, Mercon V, Mercon LV, Shell Tellus S4 / S3 / S2, or equivalent.

⚠ CAUTION Keep Hydraulic Fluid clean. Contaminated Hydraulic fluid can shorten the life of pump components and the Hydraulic Cylinder seals.

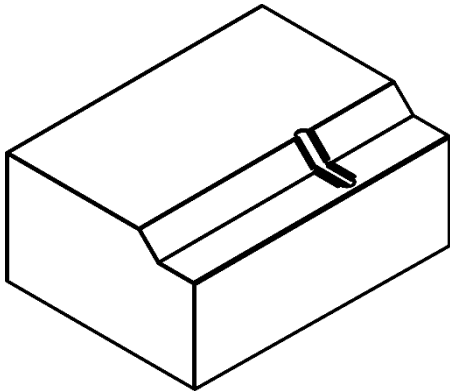
To Fill the Lift with Hydraulic Fluid:

1. The Lift should be in a raised position and engaged on a Safety Lock and or supported with Jack Stands.

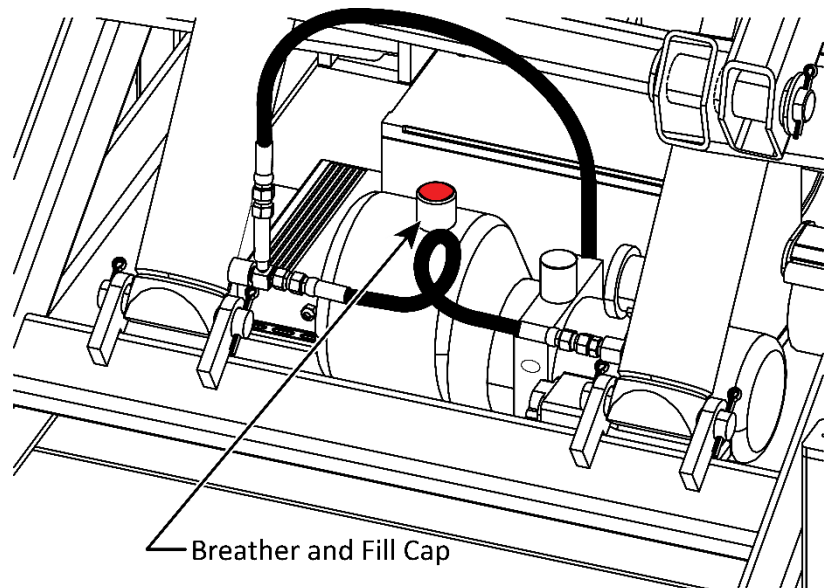
⚠ DANGER Crushing hazard and pinch points. Do not place any part of your body between the Top Deck and any moving part of the Lift unless the Lift's motion is locked by a Jack Stand or equal device that will prevent movement.

⚠ WARNING Hydraulic Fluid under pressure is dangerous. You must wear OSHA-approved (publication 3151) Personal Protective Equipment at all times when bleeding the Lift: eye protection, leather gloves, and steel-toed boots are mandatory.

2. Remove the Cover (5210386).



3. Find the Hydraulic Fluid Reservoir, then clean the Breather Cap and surrounding area before removing the Cap. See figure below.
4. Use a clean Funnel that incorporates a minimum 60-micron screen for filtration. Observing the reservoir fill pipe, pour in only enough Hydraulic Oil to bring the oil up to just below the fill tube. The Lift requires approximately **1 gallon / 3.8 liters**.
5. Recheck the fluid level after initial use.
6. Clean, then replace the Breather Cap on the Reservoir.



*Not drawn to scale.
Not all components shown.*

Bleeding the Hydraulic System

Bleeding the Hydraulic System is **not required**. The system will Self-Bleed. Raise and lower the Top Deck several times with no load on the Top Deck to bleed the system.

Disposing of Used Hydraulic Fluid

Used Hydraulic Fluid cannot be disposed of by dropping it into the trash or dumping it into the street. It contains toxic ingredients that are harmful to the environment.


Instead, you must either recycle it or drop it off at a hazardous waste collection facility.

Rags and/or granular absorbents that have absorbed Hydraulic Fluid should be treated as hazardous waste and be disposed of at a hazardous waste collection facility.

If you are unable to find an appropriate facility, the website earth911.com has resources that may be of help.


Cleaning the Lift Battery Terminals

Dirt and corrosion can trap conductive materials and eventually cause a Battery to lose its charge.

 **WARNING** *Always wear complete eye and protective equipment*, avoid touching your eyes while working near a Battery. Be careful to keep corrosion and debris from coming in contact with eyes.

1. Remove the Cover (5210386).
2. Using a wrench, remove the Battery Cables. Exercise care not to short the Wrench against any metal part of the Lift and a Battery Terminal. (Remove the negative cable first. When reinstalling, install the negative cable last.)
3. Mix a solution of water and baking soda, then scrub the Terminals and the Connectors with a small wire brush to remove corrosion.
4. Wipe the Terminals clean and dry with a cloth rag before replacing the Cables.
5. Verify the Red Cable is connected to the Positive (+) Battery Terminal and the Black Cable is connected to the Negative (-) Battery Terminal.

Lead Acid Battery Safety

 **WARNING** *Always wear complete eye and protective equipment*, avoid touching your eyes while working near a Battery. If Battery acid contacts your skin or clothing, wash immediately with soap and water. If acid enters an eye, immediately rinse the eye with running cold water for at least 10 minutes and get medical attention as soon as possible.

 **WARNING** Do not contact the Battery Terminals or Cable Clamps with tools that may draw sparks.

 **WARNING** Avoid Battery Acid. Neutralize Battery Acid spills with baking soda and water.


 **WARNING** Do not expose the Battery or Charger to rain.


Keep the following in mind for the safe handling of Lead-Acid Batteries and Battery Chargers:

1. Verify local voltage and frequency is the same as the input specification of the Lift Charger 115 VAC at 2 Amps, 47 to 63 Hz.
2. An extension cord should not be used unless absolutely necessary; **using an improper extension cord could result in a risk of fire and electric shock**. If an extension cord must be used, make sure the pins on the extension cord plug have the same number, size, wire gauge, and shape as those of the AC Power Cord on the Charger.
3. When handling Power Cords, always pull by the plug rather than by the cord; this reduces the risk of damage to both plug and cord, and it will also minimize the likelihood of electric shock resulting from that damage.
4. Carefully examine power cords. The normal wear and tear on extension and flexible cords can loosen or expose wires, creating hazardous conditions and increase your risk of contacting electrical current.
5. Verify all electrical power cords are located so that they cannot be stepped on, tripped over, or otherwise subject to damage or stress.
6. Do not operate the Battery Charger in a closed-in area or restrict ventilation in any way; **keep the Battery Charger away from any sources of ignition**.
7. Do not operate the Battery Charger with damaged AC power cords or plugs or DC output leads, replace worn or damaged components immediately.
8. Do not set the Battery Charger directly above the Battery.
9. Batteries store electric charge and can give you a shock if not handled properly; make sure you are not wearing any jewelry such as rings, bracelets, necklaces, and watches when working with a Lead-Acid Battery.
10. Keep Lead-Acid Battery vent caps securely in place.
11. Do not expose the Battery Charger or any of its electrical connections to rain, snow, or extremely high, condensing humidity.
12. Never attempt to charge a visibly damaged or frozen Battery, or if the battery case is bulging or leaking.

Charging the Lift Battery

When the Battery level indicates low, approximately 20%, charge the Battery. It typically requires 10 to 12 hours to reach a full charge. The Battery Charger is a fully automatic constant current charger, utilizing a micro-controller to monitor the charge state of the Battery. The Charger includes protection against over-voltage, over-current, reversed polarity and short circuit.

 **WARNING** Use of an incorrect Charger for the Lift Battery can result in Battery explosion, serious injury and property damage. Use only factory-approved replacements.

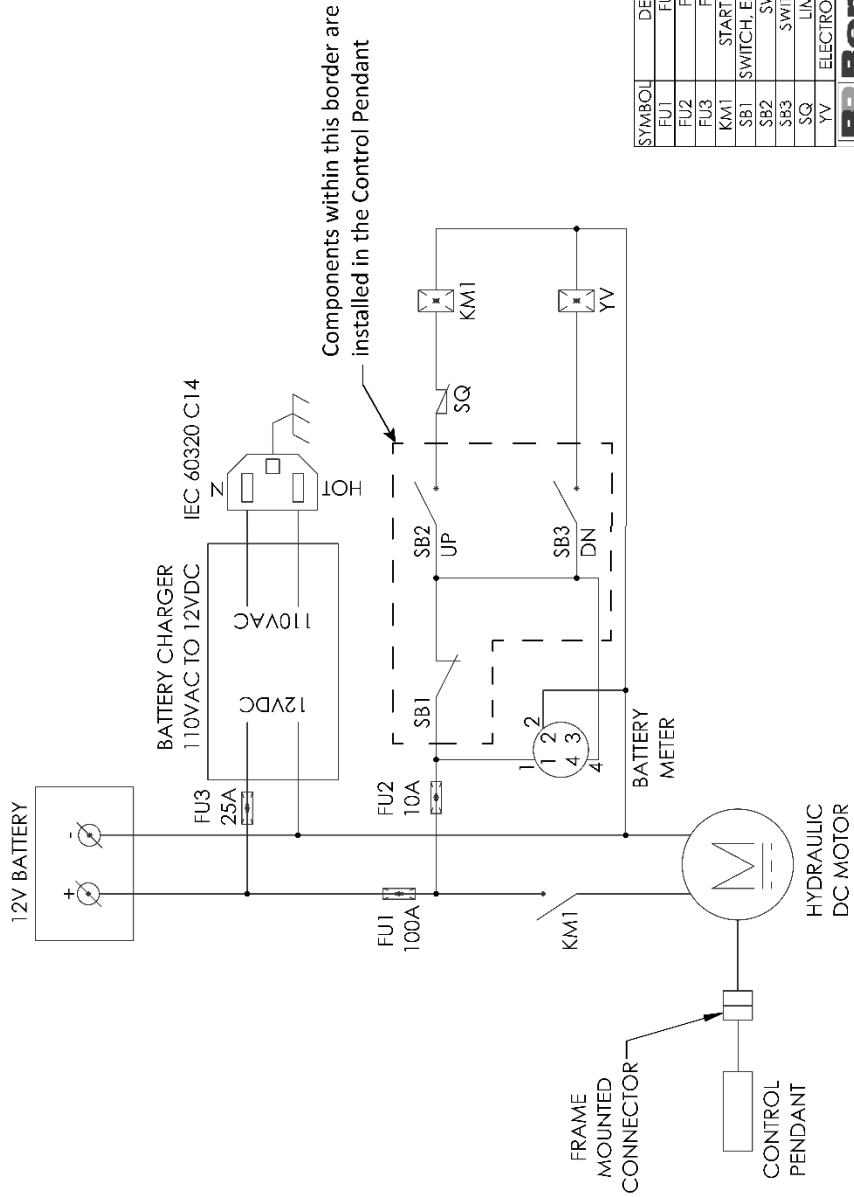
 **WARNING** Do not charge the Battery in hazardous locations where potentially flammable or explosive gases are present.

To charge the Lift Battery:

1. Verify the Top Deck is fully lowered, and the Lift is resting on its Adjustable Floor Stops.
2. Use the supplied Power Cord (5324203) to connect the Charger to a 110 VAC outlet. Charging is automatic and begins immediately.

Wiring Diagram

SL24EVT SYSTEM ELECTRICAL DIAGRAM



SYMBOL	DESCRIPTION
FU1	FUSE, 100A
FU2	FUSE, 10A
FU3	FUSE, 25A
KM1	START CONTACTOR
SB1	SWITCH, EMERGENCY STOP
SB2	SWITCH, UP
SB3	SWITCH, DOWN
SQ	LIMIT SWITCH
YV	ELECTROMAGNETIC COIL

BP BendPak
 1646 LEMONWOOD DR.
 SANTA PAULA, CA 93060

TITLE: EV2400SL PRODUCTION
 LIFT VER A

SIZE	DWG. NO.	REV
A	5260658	C

SCALE: 2:1 SHEET 5 OF 5

Labels

A



B



C

⚠ WARNING	
THIS MACHINE MUST ONLY BE OPERATED BY PROPERLY TRAINED PERSONNEL. DO NOT USE THIS LIFT UNTIL IT HAS BEEN INSPECTED AND IS APPROVED FOR OPERATION.	
IMPROPER USE OF THIS MACHINE COULD CAUSE SERIOUS INJURY OR DEATH.	
<ul style="list-style-type: none">• DO NOT operate this machine unless you have been properly trained by an authorized and qualified person as described in the BendPak Setup and Operation Manual. Your training includes reading and understanding the safety, operation, and maintenance instructions in the manufacturer's manuals, knowing your employer's work rules and applicable governmental regulations.• FOLLOW the instructions in the Operating Manual and applicable standards for daily, monthly, and annual inspections. These may be obtained from your authorized equipment dealer or BendPak.	<ul style="list-style-type: none">• DO NOT add or replace parts (e.g., batteries, wheels, power units) with items of different weights, specifications, or positions on the Lift. These changes can shift the Lift's Center of Gravity and compromise the stability of the Lift.• DO NOT modify or change the machine without written approval from the manufacturer.• Operate this machine with extreme caution. STOP all operation if malfunction occurs.
CAUTION: Use of an incorrect charger for the Lift battery can result in battery explosion, serious injury and property damage.	
PN 5906121	

PN 5906121

D

⚠ ATTENTION
MAXIMUM LIFTING CAPACITY
CAPACITÉ DE LEVAGE MAXIMUM
2400 Lbs.
1090 Kg.
PN 5906120


E

⚠ DANGER	⚠ WARNING	⚠ CAUTION
		
KEEP HANDS CLEAR OF ALL PINCH POINTS.	DO NOT perform lift maintenance without first making sure ALL power has been disconnected and CANNOT be re-energized until all procedures are done.	Protective eyewear, face shield and gloves MUST be worn at all times when servicing or checking batteries. <small>PN 5906122</small>

F

⚠ DANGER			
Make sure to READ and understand all instructions and safety precautions as outlined in the manufacturer's service manual prior to using this equipment. Failure to follow ALL instructions can result in bodily harm or DEATH to operator and/or bystanders.	KEEP hands and feet clear at all times from moving machinery.	DO NOT go under a raised lift platform until load is removed and lift is securely blocked in raised position with an upright support stand.	DO NOT stand, sit, or ride on the lift platform.
		<small>PN 5906124</small>	

G

⚠ WARNING	
<p>NEVER RAISE OR LOWER loaded lift platform while steering column is in an elevated position. ALWAYS make sure the lift is resting firmly on the adjustable outrigger support pads prior to raising or lowering loaded lift platform.</p> <p>NEVER move the Lift across a floor when the platform is elevated. Minor adjustments (less than 12") when attempting to align battery packs or power train components are acceptable. ALWAYS make sure the lift platform is lowered completely, prior to rolling the lift system across any floor.</p>	HEAVY LOAD
	<small>PN 5906123</small>

I**J**

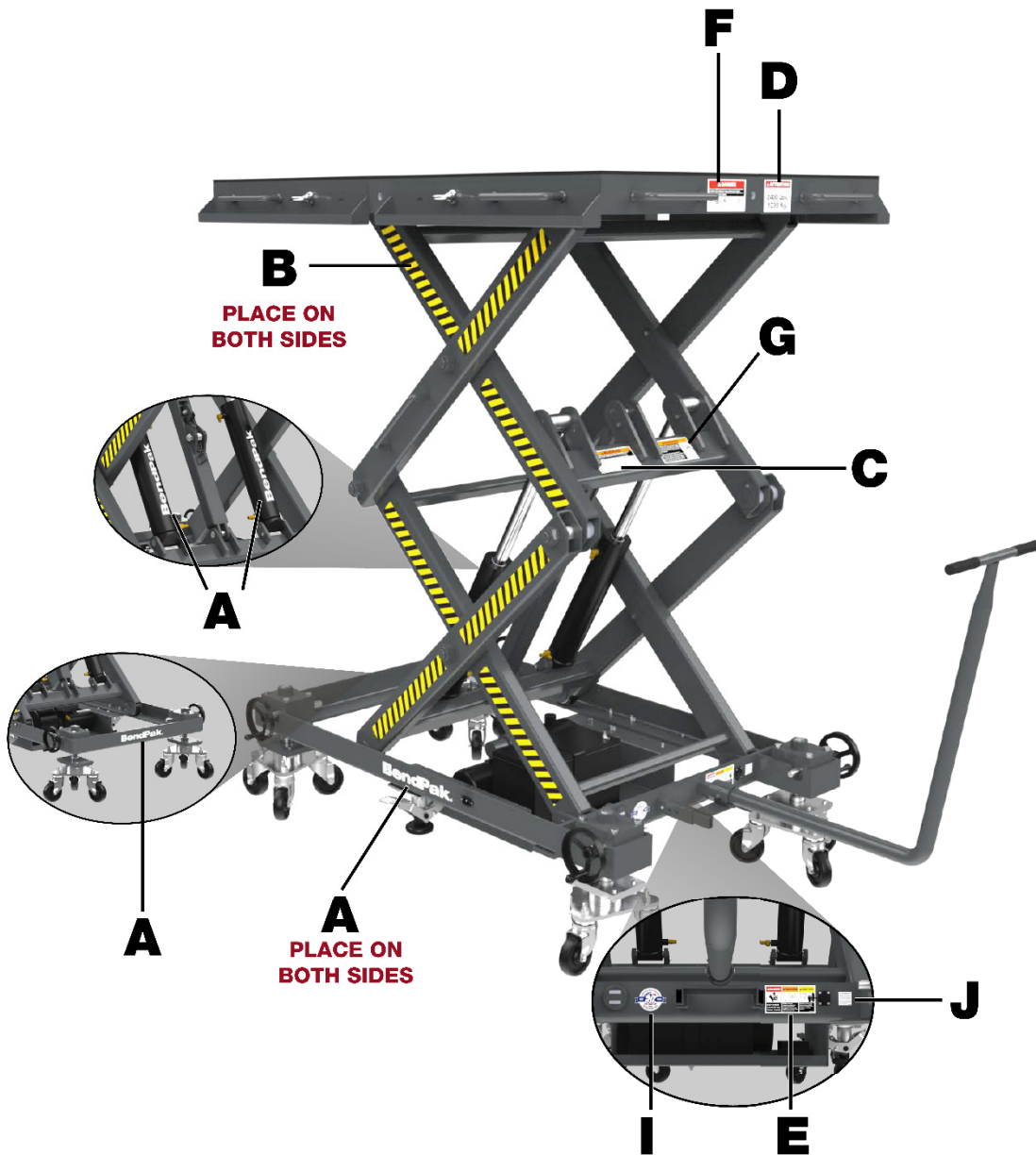
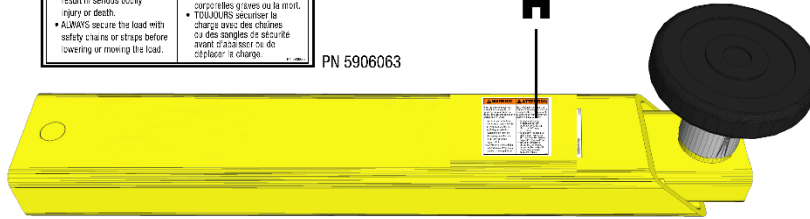
CALIFORNIA PROPOSITION 65
⚠ WARNING ⚠
<p>WARNING! This product can expose you to chemicals including styrene and vinyl chloride which are on the list of over 900 chemicals identified by the State of California to cause cancer, birth defects or reproductive harm. ALWAYS use this product in accordance with the manufacturer's instructions.</p> <p>For more information, go to www.p65warnings.ca.gov. <small>PN 5905775</small></p>

Optional Arm Kit Label

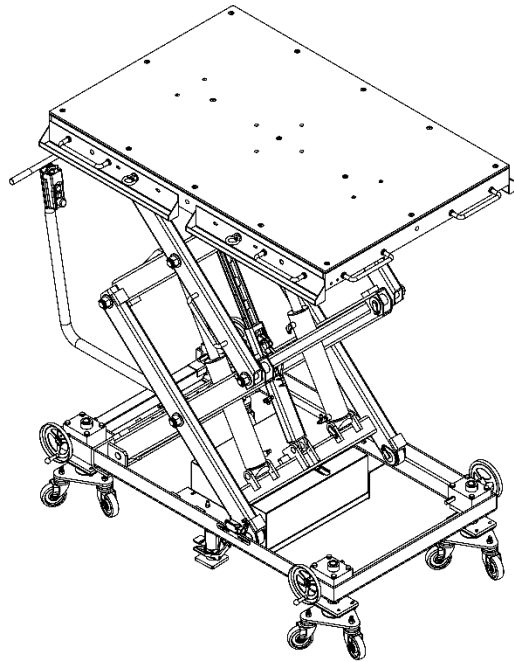
H

⚠ WARNING	⚠ ATTENTION
<p>Read the entire contents of the manual that accompanied this product prior to use. Failure to follow the instructions can result in serious injury or death.</p> <ul style="list-style-type: none"> Minimum load capacity for these auxiliary arms is 600 lbs. (272 kg) each or 2,400 lbs. (1,088 kg) per set of four. Overloading the arms can damage equipment and/or result in serious bodily injury or death. ALWAYS secure the load with safety chains or straps before lowering or moving the load. 	<p>Lisez l'intégralité du contenu du manuel qui accompagne ce produit avant de l'utiliser. Le non-respect des instructions peut entraîner des blessures graves ou la mort.</p> <ul style="list-style-type: none"> La capacité de charge maximale de ces bras auxiliaires est de 272 kg chacun ou 1088 kg par jeu de quatre. La surcharge des bras peut endommager l'équipement et/ou entraîner des blessures corporelles graves ou la mort. TOUTOURS sécuriser la charge avec des chaînes ou des sangles de sécurité avant d'abaisser ou de déplacer la charge.

PN 5906063

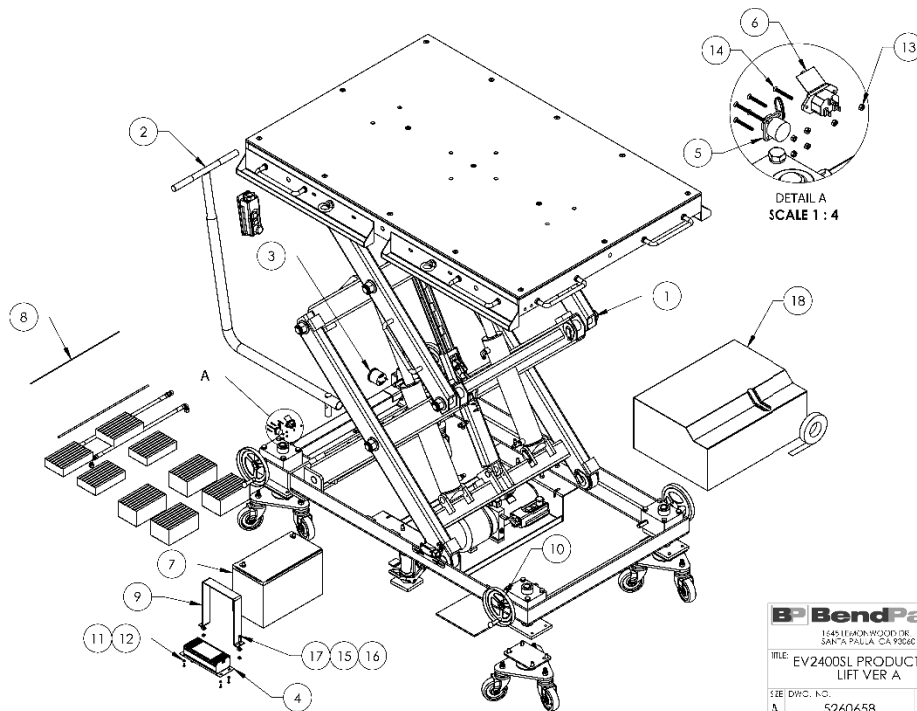


Parts Drawings

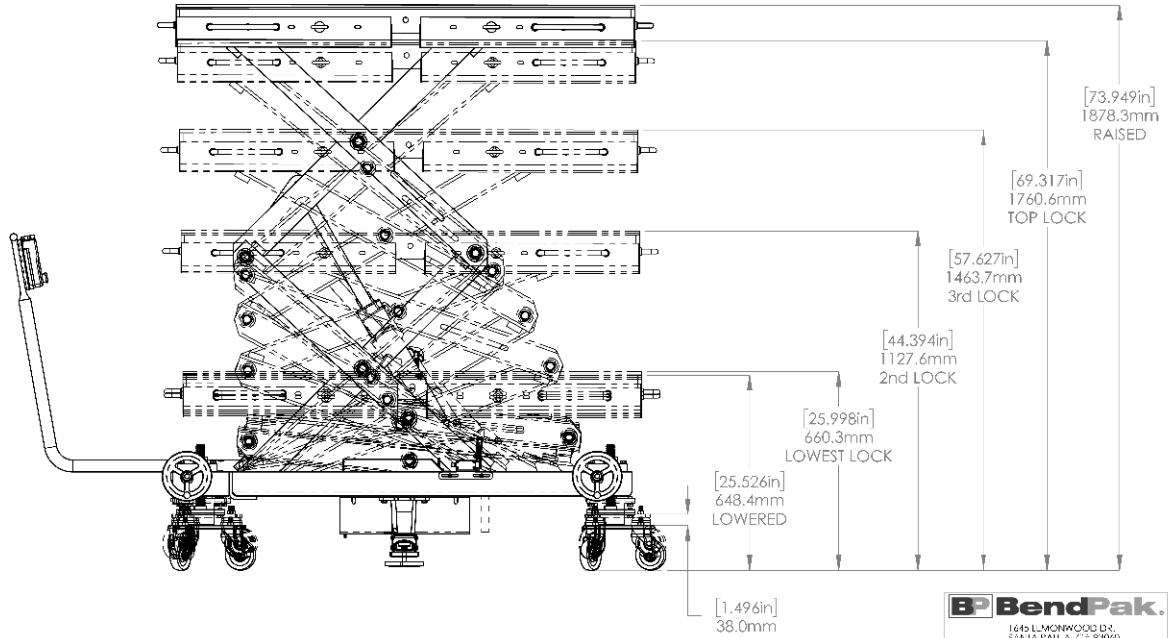


ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5245144	EV2400SL SUPERSTRUCTURE	1	G
2	5210266	EV2400SL COMPONENT PARTS	1	E
3	5520075	BATTERY LIFE INDICATOR, 12V DC, Ø56mm	1	--
4	5520077	EV2400SL BATTERY CHARGER 12V 15A	1	--
5	5520078	4 PIN PANEL SOCKET CONNECTOR, 500V 20A	1	--
6	5520079	CHARGER POWER INLET, 250V, 15A	1	--
7	5520080	EV LIFT BATTERY, 12V	1	--
8	5520038	WIRE, AWG 16-2, SJ00W	1	--
9	5580022	EV LIFT BATTERY TIE DOWN BRACKET	1	A
10	5900267	EV LIFT INSTALLATION AND OPERATION MANUAL	1	A
11	5530338	FHSS M4 x 0.7 x 12 ZPL	4	--
12	5535010	NUT M4 X 0.5 NL	4	--
13	5535020	NUT M3 x 0.5 NL	6	--
14	5530425	FHPS M3 x 0.5 x 25	6	--
15	5545339	WASHER, M6 x 18mm FLAT	2	--
16	5535357	NUT M6 x 1.0 NL	2	--
17	5530065	BHSK M6 x 1.0 x 20	2	--
18	5210386	EV LIFT COVER ASSEMBLY	1	A

DO NOT SCALE DRAWING	NAME	DATE	
	DRAWN: IM	04/9/2021	
	CHECKED		1545 LEGION WOOD DR SANTA PAULA, CA 92386
EMPS CIRCLE NUMBER	EMPS ANGLE PROTECT ON	TITLE	EV2400SL PRODUCTION LIFT VER A
		SCALE	DWG. NO. 5260658
		REV	G
			SCALE: 1:16 SHEET 1 OF 5



1545 LEGION WOOD DR SANTA PAULA, CA 92386	
TITLE: EV2400SL PRODUCTION LIFT VER A	
SCALE	DWG. NO. 5260658
REV	G
SCALE: 1:16 SHEET 1 OF 5	



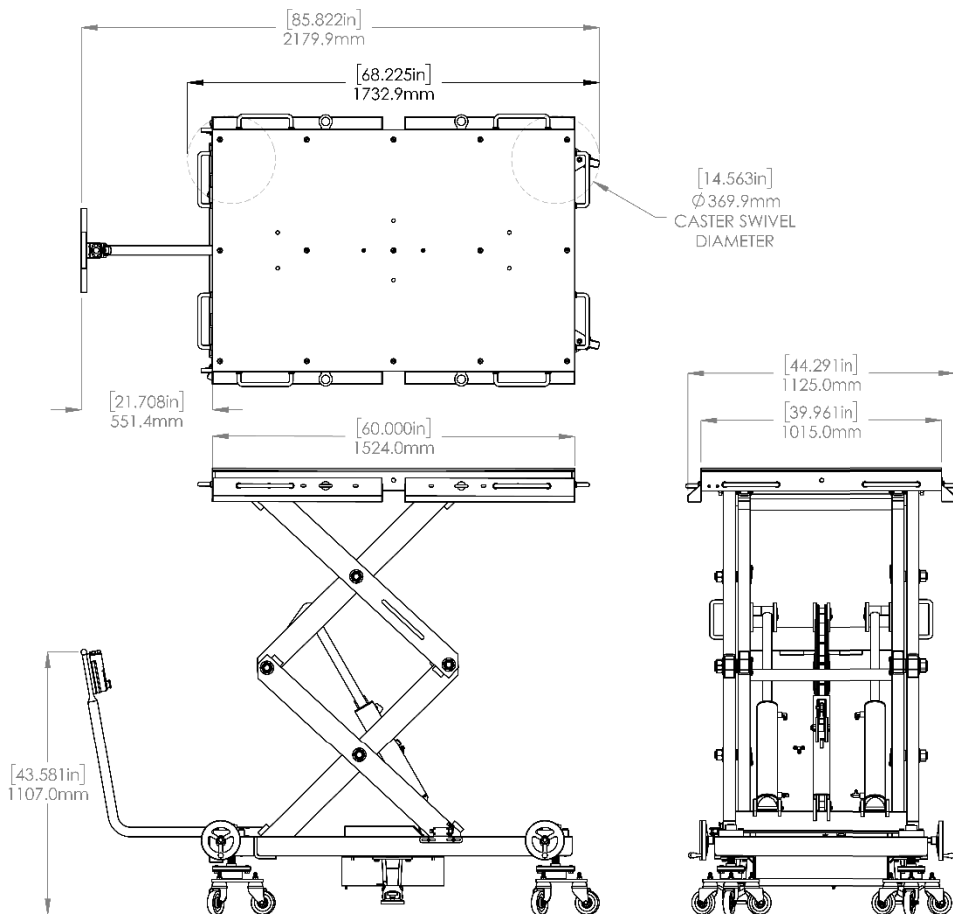
BendPak
 1645 L MONWOOD DR.
 SANTA PAULA, CA 93060

TITLE: EV2400SL
 PRODUCTION LIFT
 VER A

SIZE	DWG. NO.	REV
A	5260658	G

SCALE: 1:15 SHEET 3 OF 5

1. ALL DIMENSIONS SHOWN WITH JACKS AT MAXIMUM ADJUSTMENT

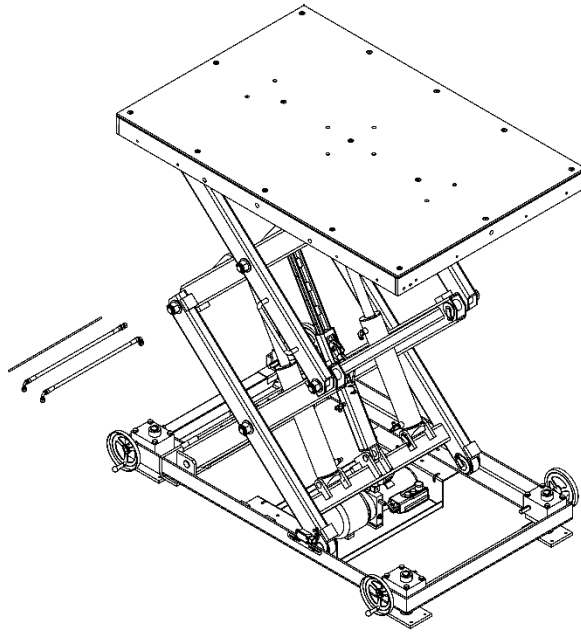


BendPak
 1645 L MONWOOD DR.
 SANTA PAULA, CA 93060

TITLE: EV2400SL PRODUCTION
 LIFT VER A

SIZE	DWG. NO.	REV
A	5260658	G

SCALE: 1:20 SHEET 4 OF 5



ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5216061	EV2400SL BASE SCISSOR ASSEMBLY	1	D
2	5601706	EV LIFT SCISSOR CLEVIS PIN WELDMENT	2	A
3	5601707	EV LIFT TOP CYLINDER CLEVIS PIN WELDMENT	2	A
4	5216056	EV2400SL TOP DECK ASSEMBLY	1	G
5	5620751	EV LIFT CYLINDER PIN WELDMENT	2	A
6	5502050	CYLINDER ASSEMBLY Ø3.0 x 13.9	2	A
7	5530031	HHB M6 x 1.0 x 12mm	8	--
8	5550395	FTG TEE -04 COMP x -04 COMP x -04 COMP	1	--
9	5550103	FTG ELB -04 JIC -04 ORB	1	--
10	5550083	FTG ELB -04 COMP x -04 NPT	3	--
11	5550148	FTG TEE -04 JIC x -04 NPT x -04 JIC	1	--
12	5550147	FTG NPL -04 JIC x -04 NPT	1	--
13	5585324	EV LIFT POWER UNIT - YBZ5-E1.6A1W2-WUAA11	1	--
14	5570195	HYDRAULIC HOSE ASSEMBLY Ø6.35 x 330mm S8	1	B
15	5570086	HYDRAULIC HOSE ASSEMBLY Ø6.4 x 558mm DB	1	B
16	5570795	1/4" POLY FLO TUBING	900mm	--
17	5713046	POWER UNIT VIBRATION DAMPENER 132mm x 32mm	1	A
18	5530044	PHSS M10 x 1.5 x 20	2	--
19	5216086	EV LIFT SAFETY ASSEMBLY	1	B
20	5601747	EV LIFT SAFETY CLEVIS PIN WELDMENT	2	A
21	5216090	EV2400SL CASTER LEVELLING ASSEMBLY	4	C
22	5530282	HHB M10 x 1.5 x 110	16	--
23	5545200	WASHER M10 x Ø18 SL	16	--

EV2400SL PART DRAWINGS

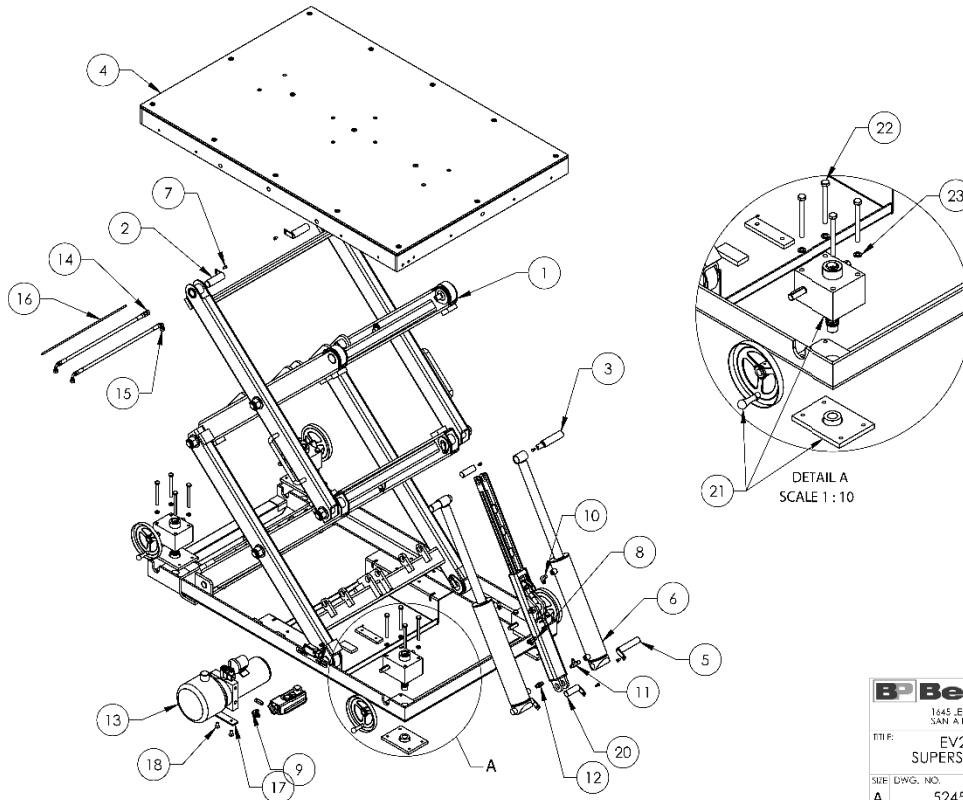
NAME	DATE
TM	05/25/2021

845 BENDPAK DR.
SAN ANTONIO, CA 78202

EV2400SL
SUPERSTRUCTURE

SIZE DWG. NO. REV
A 5245164 G

SCALE: 1:16 SHEET 1 OF 3

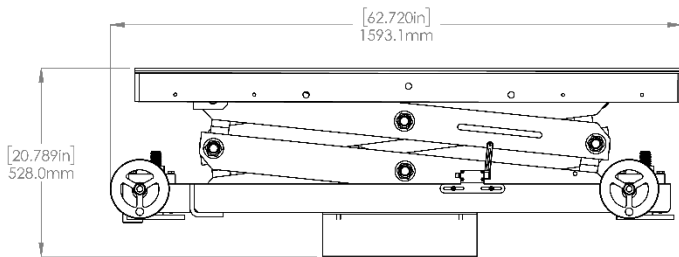
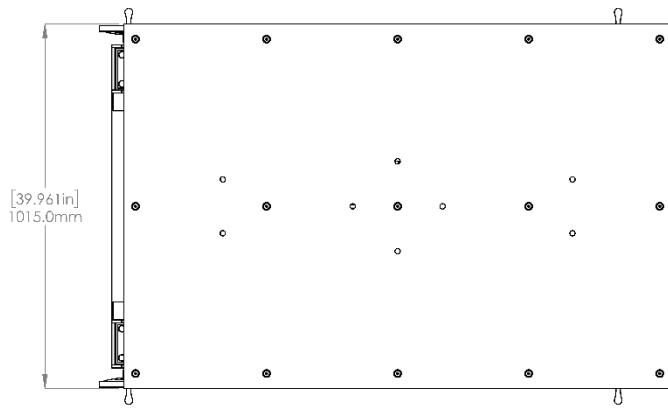


BendPak
1645 BENDWOOD DR.
SAN ANTONIO, CA 78202

EV2400SL
SUPERSTRUCTURE

SIZE DWG. NO. REV
A 5245164 G

SCALE: 1:18 SHEET 2 OF 3

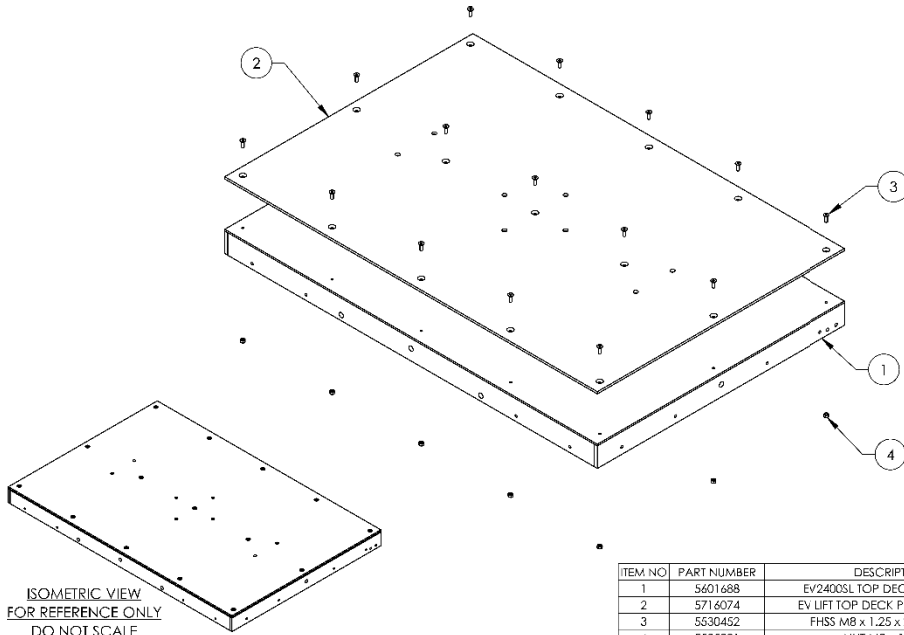


BendPak
 14451 FAWNWOOD DR
 SANTA PAULA, CA 93060

TITLE: EV2400SL SUPERSTRUCTURE

SHEET	DWG. NO.	REV
A	5245164	G

SCALE: 1:12 SHEET 3 OF 3

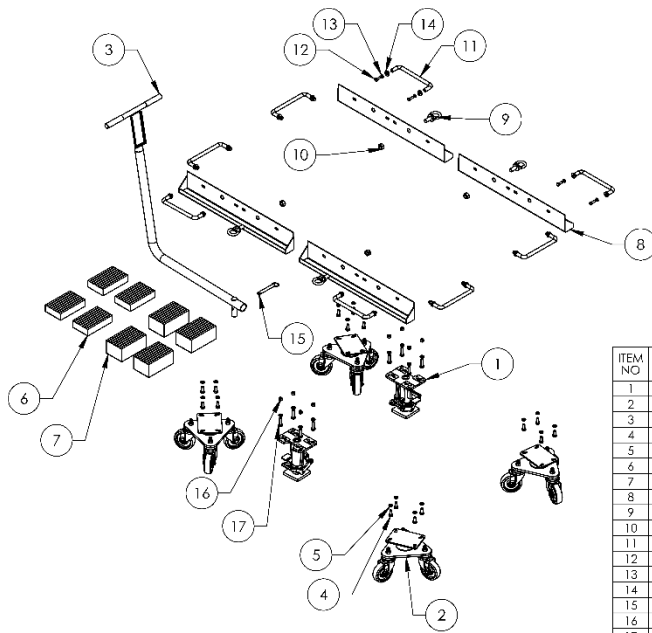


ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5601688	EV2400SL TOP DECK WELDMENT	1	G
2	5716074	EV LIFT TOP DECK PLASTIC COVER	1	G
3	5530452	FHSS M8 x 1.25 x 25 FT. CL 8.8	15	-
4	5535001	NUT M8 x 1.25 NL	15	-

DO NOT SCALE DRAWING	NAME	DATE	BendPak 14451 FAWNWOOD DR SANTA PAULA, CA 93060
DIMENSIONS ARE IN INCHES	DRAWN	04/09/2021	
	CHECKED		TITLE: EV2400SL TOP DECK ASSEMBLY
			SHEET: DWG. NO. 5216056 REV G
			SCALE: 1:12 SHEET 1 OF 1

THIRD ANGLE PROJECTION

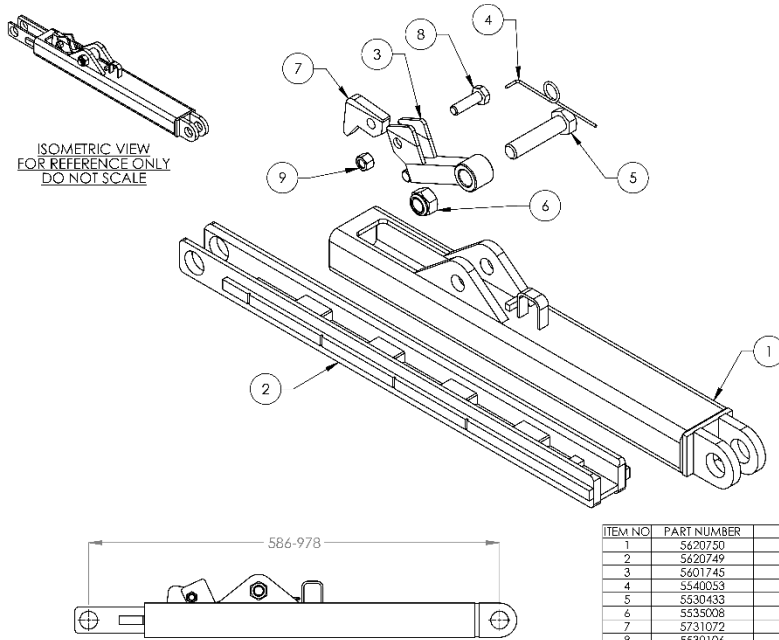
PROPRIETARY AND CONFIDENTIAL
 ALL INFORMATION CONTAINED HEREIN IS THE PROPERTY OF BENDPAK INC. AND IS TO BE KEPT IN STRICTLY CONFIDENTIAL. ANY DISCLOSURE OR REPRODUCTION OF THIS INFORMATION WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC. IS PROHIBITED.



ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5580029	FLOOR LOCK, 5in	2	A
2	5575075	EV2400SL TRIPLE SWIVEL CASTER	4	-
3	5601785	EV2400SL STEERING HANDLE ASSEMBLY	1	A
4	5530798	HHB M10 x 1.5 x 25	16	-
5	5545200	WASHER M10 x Ø18 SL	24	-
6	5300861	LOW RISE SCISSOR LIFT 38mm RUBBER PAD KIT, SET OF 4	1	A
7	5300862	LOW RISE SCISSOR LIFT 75mm RUBBER PAD KIT, SET OF 4	1	A
8	5601694	EV2400SL TOOL TRAY WELDMENT	4	C
9	5530082	EYE M16 x 2.0 x 95, 35 ID	4	-
10	5535008	NUT M16 x 2 NL	4	-
11	5535420	PS-SERIES DOOR HANDLE	8	A
12	5530010	HHB M8 x 1.25 x 25mm ZPL	16	-
13	5545012	WASHER, M8x16x1.6mm FLAT	16	-
14	5335760	RS-SERIES HANDLE CUP	16	A
15	5505082	RING PIN 1/2" x 4"	1	-
16	5535013	NUT M10 x 1.5 NL	8	-
17	5530421	HHB M10 x 1.5 x 40 CL 8.8	8	-

DDC NO SCALE DRAWING
 DRAWN: TM DATE: 06/25/2021
 CHECKED: CR
 DIMENSIONS ARE IN MM
 THIRD ANGLE PROJECTION
 PROPRIETARY AND CONFIDENTIAL
 BENDPAK INC. 1645 LEMONWOOD DR. SANTA PAULA, CA 92660
 BENDPAK IS A REGISTERED TRADEMARK OF BENDPAK INC. © 2021
 ALL RIGHTS RESERVED. NO REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT IS PERMITTED WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC.

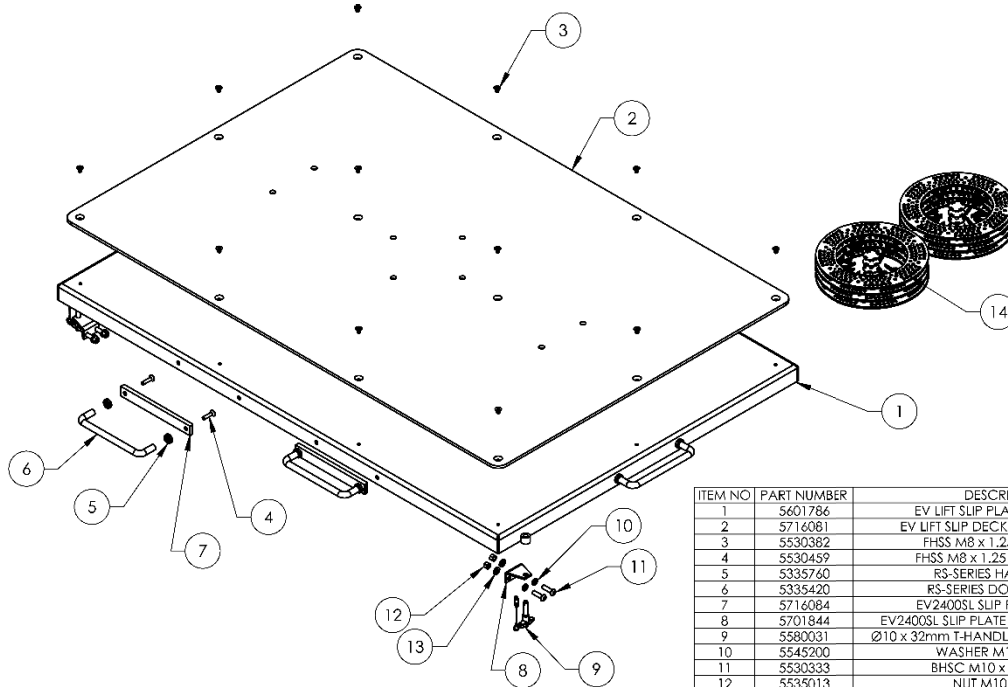
SCALE: 1:20	REV: E
-------------	--------



ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5620750	EV2400SL SAFETY WELDMENT	1	A
2	5620749	EV2400SL SAFETY STOP WELDMENT	1	B
3	5601745	EV2400SL SAFETY CATCH WELDMENT	1	B
4	5540053	EV2400SL SAFETY SPRING	1	B
5	5530433	HHB M16 x 2.0 x 70 CL 8.8	1	-
6	5535008	NUT M16 x 2 NL	1	-
7	5731072	EV2400SL SAFETY LATCH	1	A
8	5530106	HHB M10 x 1.5 x 35mm	1	-
9	5535013	NUT M10 x 1.5 NL	1	-

DDC NO SCALE DRAWING
 DRAWN: TM DATE: 12/12/2021
 CHECKED: CR DATE: 5/23/2022
 DIMENSIONS ARE IN MM
 THIRD ANGLE PROJECTION
 PROPRIETARY AND CONFIDENTIAL
 BENDPAK INC. 1645 LEMONWOOD DR. SANTA PAULA, CA 92660
 BENDPAK IS A REGISTERED TRADEMARK OF BENDPAK INC. © 2021
 ALL RIGHTS RESERVED. NO REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT IS PERMITTED WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC.

SCALE: 1:4	REV: B
------------	--------



FOR USE WITH
EV2400SL
EV4000SL

ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5601786	EV LIFT SLIP PLATE WELDMENT	1	B
2	5716081	EV LIFT SLIP DECK PLASTIC COVER	1	B
3	5530382	FHSS M8 x 1.25 x 12 CL10.9	12	--
4	5530459	FHSS M8 x 1.25 x 35 FT, CL 8.8	12	--
5	5335760	RS-SERIES HANDLE CUP	12	A
6	5335420	RS-SERIES DOOR HANDLE	6	A
7	5716084	EV2400SL SLIP PLATE SPACER	6	A
8	5701844	EV2400SL SLIP PLATE LOCKING BRACKET	2	A
9	5580031	Ø10 x 32mm T-HANDLE QUICK RELEASE PIN	2	--
10	5545200	WASHER M10 x Ø18 SL	4	--
11	5530333	BHSC M10 x 1.5 x 35mm	4	--
12	5535013	NUT M10 x 1.5 NL	4	--
13	5545341	WASHER M10 x Ø20 FLAT	4	--
14	5700446	SLIP PLATE BALL RING ASSEMBLY	8	--

ISO 1:01 SCALE DRAWING

NAME	DATE	 1415 LEMONWOOD DR. SANTA PAULA, CA 93060
DRAWN RK	02/11/2022	
CHECKED		TITLE: EV LIFT SLIP PLATE ASSEMBLY
THIRD ANGLE PROJECTION		SIZE DWG. NO. A 5216119
		REV B
<small>PROPERTY AND CONFIDENTIAL INFORMATION - NOT TO BE REPRODUCED OR DISSEMINATED WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC. © 2022 BENDPAK INC. ALL RIGHTS RESERVED.</small>		SCALE: 1:12 SHEET 1 OF 1



1645 Lemonwood Drive
Santa Paula, CA 93060 USA