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Four-Post Lifts Installation and Operation Manual

Manual P/N 5900091 — Manual Revision A3 — Released September 2020

Models:

- GP-9F
- GP-9XLT



Model GP-9F shown.

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



IMPORTANT SAFETY INSTRUCTIONS, SAVE THESE INSTRUCTIONS! Read the contents of this manual thoroughly *before* installing, operating, servicing, or maintaining this lift. Failure to follow the instructions and safety precautions in this manual can result in serious injury or death. Make sure all operators read this manual. Keep the manual near the product for future reference. *By proceeding with installation and operation, you agree that you fully understand the contents of this manual and assume full responsibility for product use.* **Manual.** GP-9F and GP-9XLT Four-Post Lifts, *Installation and Operation Manual*, Manual P/N 5900091, Manual Revision A3, released September 2020.

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Limitations. Every effort has been made to make sure 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. You can always find the latest version of the **manual for your product on the BendPak website**.

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 or visit **www.bendpak.com/support/warranty** for full warranty details. Go to **bendpak.com/support/register-your-product/** and fill out the online form to register your product (be sure to click **Submit**).

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 the Lift unless you can do so safely!*

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

- Follow all installation, operation, and maintenance instructions.
- Make sure product installation 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 specified.
- Service and maintain the unit with approved replacement parts only.
- Keep instructions permanently with the product and make sure all labels are clean and visible.

• Only use the 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:

B P BendPak	- Santa Paula, CA USA ™ www.bendpak.com			
MODEL NUMBER				
	TION			
DESCRIP	TION			
LIFT CAPACITY	DATE OF MFG.			
ROLLING JACK MAX CAP.	MAX PSI / BAR			
VOLTAGE	SERIAL NUMBER			
110-240V, 50-60 Hz, 1 Ph 208-240V, 50-60 Hz, 1 Ph				
380-415V, 50-60 Hz, 3 Ph 208-440V, 50-60 Hz, 3 Ph	UPC			
DANGER!	F DATA PLATE IS REMOVED PN 5905952			
	PDATA PLATE IS NEMIOVED PN 5905952			

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Introduction

This manual describes these Four-Post Lift models:

- **GP-9F**: Four-post Lift that can raise Vehicles up to 9,000 pounds (4,082 kg).
- **GP-9XLT**: Four-post Lift with *extended length and height* that can raise Vehicles up to 9,000 pounds (4,082 kg).

Both models are certified by the Automotive Lift Institute (ALI), www.autolift.org.

This manual is mandatory reading for all users of these Lifts, including anyone who installs, uses, maintains, or repairs them.

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

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

If you are having issues, refer to the **Troubleshooting** section of this manual for assistance.

Technical support and service is available from your dealer, on the web at **bendpak.com/support**, by email at **techsupport@bendpak.com**, or by phone at **(800) 253-2363**, extension 196. You may also contact BendPak for parts replacement information at **(800) 253-2363**, extension 191; please have the model and serial number of your unit available.

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 a bill of lading, it tells the carrier that the items on the invoice were received in good condition. *To protect yourself, do not sign until after you have inspected the shipment.* If any of the items listed on the bill of lading are missing or are 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 to make an inspection.

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

Refer to ANSI/ALI ALIS Standard *Safety Requirements for Installation and Service of Automotive Lifts* for more information about safely installing your Lift.

Important Safety Instructions

When using your garage equipment, basic safety precautions should always be followed, including:

- 1. Read all instructions.
- 2. Do not touch hot parts; you could be burned. Always use care with the equipment.
- 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. Do not let a cord hang over the edge of a table, bench, or counter or come in contact with hot manifolds or moving fan blades.
- 5. If an extension cord is necessary, a cord with a current rating equal to or greater than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled out.
- 6. Always unplug equipment from electrical outlets when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
- 7. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
- 8. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
- 9. Adequate ventilation should be provided when working on operating internal combustion engines.
- 10. Keep hair, loose clothing, fingers, and all parts of your body away from moving parts.

- 11. To reduce the risk of electric shock, do not use the unit on wet surfaces or expose to rain.
- 12. Use only as described in this manual. Use only manufacturer's recommended attachments.
- 13. Always wear safety glasses. Everyday glasses only have impact resistant lenses, they are not safety glasses.
- 14. To reduce the risk of injury, close supervision is necessary when this product will be used around children.
- 15. To reduce the risk of injury, never overload drawers or shelves. Refer to loading instructions.
- 16. To reduce the risk of electric shock or fire, never overload receptacles. Refer to markings for the proper load on receptacles.

Save these instructions!

Additional Safety Information

The following safety information applies to all GP-9 models:

- The product is a four-post Lift. Use it only for its intended purpose.
- The product may only be operated by authorized, trained persons.
- 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, eye protection, back belts, and hearing protection are *mandatory*.
- *Never* exceed the rated capacity of the Lift.
- When the Lift is in use, keep all body parts well away from it.
- Clear the area immediately if a Vehicle is in danger of falling off the Lift.
- Do not make any modifications to the Lift; this voids the warranty and increases the chances of injury or property damage.
- Make sure all operators read and understand this *Installation and Operation Manual*. Keep the manual near the Lift at all times.
- 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.
- 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.
- 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 (800) 253-2363 or techsupport@bendpak.com.
- BendPak recommends making a *thorough* inspection of the product at least once a year. Replace any damaged or severely worn parts, decals, or warning labels.

Symbols

Following are the symbols used in this manual:

	Calls attention to an immediate hazard that will result in death or severe injury.
	Calls attention to a hazard or unsafe practice that could result in death or severe personal injury.
	Calls attention to a hazard or unsafe practice that could result in minor personal injury, product damage, or property damage.
NOTICE	Calls attention to a situation that, if not avoided, could result in product or property damage.
	Calls attention to information that can help you use the product better.

Calls attention to information that can help you use the product better.

Liability Information

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

- Use of the equipment for purposes other than those described in this manual.
- Modifications to the equipment without prior, written permission from BendPak.
- Modifying, disabling, overriding, or removing safety features. •
- Damage to the equipment from external influences. •
- Incorrect operation of the equipment.

Additional Product

There is an additional product you can purchase for use with your Lift:

Rolling Jack. A Rolling Jack raises the wheels of a Vehicle off the Runways of a Lift, such as a • GP-9F or GP-9XLT, making it much easier to perform service such as brake jobs and suspension work while the Vehicle is still on the Lift.

You can raise two wheels off the Runways if you have one Rolling Jack. It takes two Rolling Jacks to raise all four wheels off the Runways at the same time.

All GP-9 models take 4,500 lb. capacity Rolling Jacks. Refer to the Rolling Jack pages on the BendPak website for more information.

Components



The Front of the Lift is the end **opposite** the Ramps. The Power Unit can be attached to the Post at the Driver-Side Front **or** Passenger-Side Rear **only**. Drawing not necessarily to scale. Some components not shown.

The main components of your Lift include:

- **Power Post**. The Post that holds the Power Unit. The Power Post can only be at the Driver-Side Front or the Passenger-Side Rear of the Lift (refer to the drawing on the previous page).
- **The other three Posts**. The locations of the Safety Lock Holes are different from each other. Make sure to orient them correctly (instructions provided later).
- **Power Unit**. An electric/hydraulic unit that connects to an electric power source and then provides Hydraulic Fluid to the Hydraulic Cylinder that raises and lowers the Runways. The standard Power Unit uses a 110 VAC motor; a 220 VAC version is also available.
- **Powerside Runway**. The Runway next to the Power Post. The Powerside Runway has the Hydraulic Cylinder and the Lifting Cables under it. You must install the Powerside Runway next to the Power Post, once you decide where you want your Power Post.
- Offside Runway. The other Runway. It does not have an Hydraulic Cylinder or Lifting Cables under it.
- **Utility Rails**. Part of each Runway, they hold the Drip Trays and Bottle-Jack Trays. Utility Rails must be positioned on the inside of the Lift.
- **Crosstubes**. They connect the two Posts at the Front of the Lift together and connect the two Posts at the Rear of the Lift together. Sleeves at the end of each Crosstube hold the Safety Locks, the Slack Safeties (the backup Safety Lock system), and the Sheave for the Lifting Cable. The Lifting Cables that raise and lower the Runways are routed next to the Crosstubes and around the Sheaves, up to the Top Caps at the top of each Post.
- **Ramps**. One for each Runway. Use them to drive onto and off of the Runways.
- Safety Locks. Once engaged, they hold the Runways up, even if the power goes out or there is a leak in the Hydraulic Hoses. Your Lift has multiple Safety Lock Holes, spaced every four inches on each Post. This lets you lock the Lift at the desired height for what you want to do. The Lift also has a backup Slack Safety system; refer to About Safety Locks for more information. Only leave your Lift either fully lowered or engaged on Safety Locks.
- **Tire Stops**. Located at the Front of the Lift, Tire Stops prevent the Vehicle's front Tires from going any further forward.
- **Caster Kit**. Gets the bases of the Posts up off the ground so that the entire Lift can be moved. If you plan on using the Caster Kit, do not anchor the Lift.
- Drip Trays. Position them between the two Runways to catch dripping oil.
- **Tire Chocks**. When put in place behind a Vehicle's Tires, they prevent the Vehicle from moving backwards.
- JP45 Bottle-Jack Tray. Holds one or two Bottle Jacks (not included), which let you get a Vehicle's wheels up off the Runways. Refer to the *JP45 Quick Start Guide* for more information.
- **Rolling Jack**. A Rolling Jack raises the wheels of the Vehicle on the Lift off the Runways, making certain types of work easier to perform while the Vehicle is on the Lift. You would use 4,500 lb. capacity Rolling Jacks on both GP-9 Lift models; refer to the **BendPak website** for more information.

Frequently Asked Questions

Question: What kinds of Vehicles can I put on my Lift?

Answer: Cars, trucks, SUVs; anything that fits on the Runways and under the ceiling, up to 9,000 lbs (4,082 kg) each.

- **Q**: How long does it take to raise or lower my Lift?
- A: From 45 to 60 seconds.
- **Q**: Do I have to put my Power Unit in a particular location?
- A: Yes. The Power Post (the Post that holds the Power Unit) must be located at either the Driver-Side Front or the Passenger-Side Rear of the Lift.
- **Q**: How high does the ceiling have to be?
- A: It depends on the height of the Vehicles and how high you raise the Lift. If you are going to put a tall Vehicle on the Lift and raise it all the way up, you should raise it carefully the first time, checking to make sure there is enough room. For a rough estimate, assume you will need 88 in / 2,235 mm plus the height of the tallest Vehicle you are going to raise.
- **Q**: Does it matter if I drive my Vehicles in front first or back them in?
- A: We recommend driving your Vehicles in front first, because that makes it easier to center the Vehicle's Wheels on the middle of the Runways.
- **Q**: Will the Lifting Cables really hold my Vehicles?
- A: Yes. Your Lift has four Lifting Cables made from superior-grade stainless steel and rated to handle 14,000 lbs (6,350 kg) *each*.
- **Q**: How long can I leave a Vehicle on a raised Runway?
- A: As long as you want. Once the Lift is **engaged** on its Safety Locks, gravity holds it in position, so a loss of power or a Hydraulic Fluid leak does not impact it; it is going to stay where you left it. *Always leave your Lift either fully lowered or engaged on Safety Locks*.
- **Q**: Can I install my Lift outside?
- A: No. Your Lift is approved for indoor installation and use. *Outdoor installation is prohibited*.
- **Q**: Do I have to anchor the Lift to the ground?
- A: No. Anchoring provides more stability for the Lift, but it also means you cannot use the Caster Kit to move the Lift.
- **Q**: What Accessories come with the Lift?
- A: Both models come with Drip Trays, a Bottle-Jack Tray, aluminum Ramps, a Caster Kit, steel Tire Stops, and Wheel Chocks.
- **Q**: What optional components are available?
- A: A **Rolling Jack** can get the Tires of Vehicles on the Lift up off the Runways, making automotive service such as brake jobs and suspension work easier to accomplish.
- **Q**: What if I have a problem with the Lift that I cannot solve?
- A: Contact BendPak; we are here to help. Using a web browser, visit the BendPak Support website, click on + New support ticket, and then fill in and submit a Support Ticket (make sure to click the Submit button at the bottom).

Specifications



Front of Lift Тор View m ~i→ n С k-**Rear of Lift** Ramp Ramp h а

Model	GP-9F	GP-XLT	
Lifting capacity	9,000 lbs / 4,082 kg		
Maximum capacity front axle	4,500 lbs / 2,041 kg		
Maximum capacity rear axle	4,500 lbs / 2,041 kg		
a Total width	113 in / 2,865 mm		
b Outside Posts length	176.5 in / 4,482 mm	200.5 in / 5,092 mm	
C Total length (includes Ramps)	203.5 in / 5,169 mm	227.5 in / 5,779 mm	
d Post height	89 in / 2,262 mm	99 in / 2,512 mm	
e Runway thickness	4.75 in / 118 mm		
f Maximum rise	70.5 in / 1,790 mm	82.5 in / 2,097 mm	
g Maximum lifting height	75 in / 1,908 mm	87 in / 2,215 mm	
h Distance between Posts	98 in / 2,489 mm		
Runway width	20 in / 513 mm		
Width between Runways	35 in / 888 mm		
k Runway centerline	55 in / 1,401 mm		
Outside edge of Runways	72.5 in / 1,842 mm		
m Drive-through clearance	87.5 in / 2,223 mm		
n Length of Runways	165.5 in / 4,208 mm	189.5 in / 4,818 mm	
Min. wheelbase @ rated capacity ¹	116 in / 2,946 mm	133 in / 3,373 mm	
Min. wheelbase @ 75% capacity ¹	99.5 in / 2,525 mm	114 in / 2,891 mm	
Min. wheelbase @ 50% capacity ¹	84.5 in / 2,146 mm	97 in / 2,457 mm	
Min. wheelbase @ 25% capacity ¹	69.5 in / 1,768 mm	80 in / 2,024 mm	
Locking positions	Every 4 in / 102 mm		
Lifting time to maximum rise	45 seconds	55 seconds	
Motor	110 VAC, 60 Hz, 1 Ph standard; 208-240 VAC available		
Max. normal operating pressure	110 VAC: 2,380 PSI / 208-240 VAC: 2,380 PSI		
Power Unit PRV setting	110 VAC: 2,856 PSI / 208-240 VAC: 2,856 PSI		
Sound (when raising/lowering)	<70 dBA		

¹ The Lift supports less weight than its full rated capacity if a Vehicle's wheelbase is shorter because the Wheels of the Vehicle are closer to the middle of the Runways, where there is less strength. For example, if you put a Vehicle with a wheelbase of only 84.5 inches on a GP-9F, the shorter wheelbase puts more weight in the middle of the Runways, reducing the Lift's capacity to 4,500 lbs (50% of its full rated capacity of 9,000 lbs).

Specifications subject to change without notice.

Installation Checklist

Following are the steps needed to install your Lift. Perform them in the order shown.

- \Box 1. Review the installation safety rules.
- $\hfill\square$ 2. Make sure you have the necessary tools.
- \Box 3. Check for clearances around the Lift.
- \Box 4. About the usable area of the Lift.
- \Box 5. Select the Lift location.
- \Box 6. Plan for electrical work.
- \Box 7. Unload and unpack the Lift components.
- \square 8. Choose the Power Post location.
- \Box 9. Understand the orientation issues.
- \Box 10. Create chalk line guides.
- \Box 11. Move the Posts into position.
- \Box 12. Install the Crosstubes.
- \Box 13. Raise the Crosstubes.
- \Box 14. Install the Runways.
- □ 15. About Safety Locks.
- $\hfill\square$ 16. Install the Safety Lock Release Mechanism.
- \Box 17. Install the Top Caps.
- □ 18. About Runway Sheaves.
- \Box 19. Route the Lifting Cables.
- 20. Install the Power Unit.
- \Box 21. Install the Flex Tube.
- □ 22. About Compression Fittings and Tubing.
- \Box 23. Install the Return Line.
- \Box 24. Install the Hydraulic Hoses.
- \Box 25. Contact the Electrician.
- □ 26. Connect to a power source (*Electrician may be required*).
- 27. Install the Power Disconnect Switch (*Electrician required*).
- □ 28. Install the Thermal Disconnect Switch (*Electrician required*).
- 29. Add Hydraulic Fluid to the Power Unit reservoir.
- □ 30. About Embedment.
- \Box 31. Anchor the Posts.
- □ 32. Perform final leveling.
- $\hfill\square$ 33. Install the accessories.
- □ 34. Lubricate the Lift.
- \Box 35. Perform an operational test.
- \Box 36. Review the final checklist.

Installation

The installation process includes multiple steps. Perform them in the order listed.

Read the **entire** Manual *before* beginning the install; this gives you a better understanding of the installation and operation requirements.

▲ WARNING Only use the manufacturer-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.

Safety Rules

While installing this equipment, your safety depends on proper training and thoughtful operation.

WARNING Do not install this equipment unless you have automotive Lift installation training. Always use proper lifting tools, such as a Forklift or Shop Crane, to move heavy components. Do not install this equipment without reading and understanding this Manual and the labels on the unit.

Only fully trained personnel should be involved in installing this equipment. Pay attention at all times. Use appropriate tools and lifting equipment. Stay clear of moving parts.

BendPak recommends referring to the ANSI/ALI ALIS Standard (R2015) *Safety Requirements for Installation and Service* for more information about safely installing, using, and servicing your Lift.

WARNING You *must* wear OSHA-approved (publication 3151) personal protective equipment *at all times* during installation: leather gloves, non-skid steel-toed work boots, eye protection, back belts, and hearing protection are *mandatory*.

Using Tools

You may need some or all of the following tools:

- Rotary hammer drill
- 34 inch carbide bit (conforming to ANSI B212.15)
- Hammer and crow bar
- Four-foot level
- Open-end wrench set, SAE and metric
- Socket and ratchet set, SAE and metric
- Hex key wrench set
- Medium crescent wrench, torque wrench, pipe wrench
- Chalk line
- Medium-sized slot screwdriver and needle-nose pliers
- Tape measure (25 feet or above)
- Forklift, Shop Crane, or heavy-duty Rolling Dolly
- 12-foot ladder

Clearances

For safety purposes, a specific amount of clear space around the Lift is *required*.



Top view. Drawing not necessarily to scale. Not all components shown.

Usable Area

The strength of the Runways is less in the middle, so you *must not* put the Wheels of a Vehicle you are raising in this area. The same restriction applies to Rolling Jacks and Bottle-Jack Trays; they must *not* be used in this middle section of the Runways.

CAUTION Do not load Vehicles so the Wheels of the Vehicle are in the middle of the Runways or use Rolling Jacks or Bottle-Jack Trays in that area; it could permanently damage the Runways. Damage caused by this **unsupported** use of the Lift is **not** covered by the Warranty.

This will not impact your use of the Lift in the vast majority of cases, as the length of the wheelbases of the Vehicles you are raising put the Wheels in the Usable Areas.



Top view. Drawing not necessarily to scale. Not all components shown.

Selecting a Location

When selecting the location for your Lift, consider:

- Overhead obstructions. Check for overhead obstructions such as building supports, heaters, electrical lines, low ceilings, hanging lights, and so on. *You do not want the Vehicles on the Lift hitting obstructions as the Lift rises*. The Lift location should have 88 inches of height plus the height of the tallest Vehicle you plan on raising.
- **Clearances**. You must leave room around the Lift. Leave at least six feet (1.8 meters) clear on each side and the front, and 12 feet (3.65 meters) at the Rear of the Lift (so you can safely drive Vehicles onto the Runways). Refer to **Specifications** and **Clearances** for more information.
- **Power**. You need a 110 or a 220 VAC power source available for the Power Unit, depending on what Power Unit you ordered.
- Outdoor installations. Your Lift is approved for *indoor* installation and use *only*.
- Architectural plans. Consult the architectural plans for your desired installation location. Make sure there are no issues between what you want to do and what the plans show.
- **Floor**. Only install the Lift on a flat, Concrete floor; do not install on asphalt or any other surface. The surface must be level; do not install on a surface with more than three degrees of slope.

WARNING Installing your Lift on a surface with more than three degrees of slope could lead to injury or even death. Only install the Lift on a level floor. If your floor is not level, consider making the floor level or using a different location.

• **Shimming**. If your Concrete floor is not level and you are anchoring it, you can use Shims under the bases of the Posts, as needed, to level the Lift.

To estimate your Shim requirements, use a transit level and targets to check for flatness. Use the provided Shims as necessary.

- NOTICE Do not shim a Post more than half an inch using the provided Shims. A maximum shim of 2 inches is possible by ordering optional Shim Plates. Contact BendPak at (800)
 253-2363, extension 191 to order. Please have the model and serial number of your Lift available.
- **Concrete specifications**. Do not install the Lift on cracked or defective Concrete. Make sure the Concrete is at least 4.25 inches thick, 3,000 PSI, and cured for a minimum of 28 days.
- ▲ CAUTION BendPak lifts are supplied with installation instructions and Concrete anchors that meet the criteria set by the American National Standard "Automotive Lifts Safety Requirements for Construction, Testing, and Validation", ANSI/ALI ALCTV. You are responsible for any special regional structural and/or seismic anchoring requirements specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC).

Be sure to check your floor for the possibility of it being a *post-tension slab*. In this case, you must contact the building architect before drilling. Using ground penetrating radar may help you find the tensioned steel.

WARNING Cutting through a tensioned cable can result in injury or death. Do not drill into a post-tension slab unless the building architect confirms you are not going to hit tensioned steel or you have located it using ground penetrating radar. *If colored sheath comes up during drilling, stop drilling immediately*.

Planning for Electrical Work

You will need to have a licensed, certified Electrician available at some point during the installation.

DANGER All wiring *must* be performed by a licensed, certified Electrician.

Notify your Electrician in advance so that they come with a Power Disconnect Switch and a Thermal Disconnect Switch. If you ordered a 220 VAC Power Unit, they will also need to bring appropriate components.

Your Electrician needs to:

- **Install a Power Disconnect Switch**. Ensures you can quickly and completely interrupt electrical power to the Lift in the event of an electrical circuit fault, emergency situation, or when equipment is undergoing service or maintenance. Put it within sight and reach of the Lift operator.
- **Install a Thermal Disconnect Switch**. Ensures the equipment shuts down in the event of an overload or an overheated motor.
- Connect an electric power source to the Power Unit for 220 VAC Power Units. If you are using a 220 VAC Power Unit—instead of the standard 110 VAC Power Unit—your Electrician will need to bring and install appropriate components. Refer to Contacting the Electrician for more information.

Important: The standard 110 VAC Power Units come with a power cord and appropriate plug. Just plug it in to a 110 VAC outlet.

Unloading and Unpacking

Try to have the components of the Lift unloaded near where you are going to install it.

Once the components are unloaded, they are your responsibility to move around. As the Lift includes a number of heavy pieces, the closer you unload them to the installation location, the better off you are.

- **CAUTION** Some Lift components are very heavy; if handled incorrectly, they can damage materials like tile, sandstone, and brick. Try to handle the Lift components twice: once when delivered and once when moved into position. You must have a Forklift or Shop Crane to move them into position. Use care when moving them.
- **WARNING** The Lift is delivered with stabilizing structures on each end. Be *very* careful when removing these stabilizing structures; the Posts and Runways can shift or even fall. If they fall on a person, they could cause serious injury.

Important Note:

Before removing the Powerside Runway (the Runway with the Hydraulic Cylinder and the Lifting Cables under it), remove the four Runway Sheaves on one end of the Powerside Runway and the two Runway Sheaves on the other end.

Pay attention to the order in which the Runway Sheaves come off; later in the installation you will need to put them back into place in the reverse order from how you took them off.

Selecting your Power Post Location

Choose your Power Post location *before* moving the Posts into position.

The two valid options are Driver-Side Front and Passenger-Side Rear.



Top view. Drawing not necessarily to scale. Not all components shown.

As you can see from the drawing above, the Power Post location choice does not change the approach direction for the Vehicles you will be driving onto the Lift nor which end is the Front and which is the Back. It does, however, change the placement of the Runways.

Note: The Runway on the Power Post side (the Powerside Runway) *must* be the Runway with the Hydraulic Cylinder under it.

Why choose one location over the other? In many cases, the main factor is the location of the power source. Many customers prefer to put the Power Post, which holds the Power Unit, near the power source. If power is not an issue, choose the location that works best for your installation.

Orientation Issues

Important: The issues described in this section *must* to be decided on (**Runways**) or fully understood (**Posts** and **Top Caps**) before going further with Lift installation.

Before installing your Lift, you need to understand three orientation issues:

• **Runways**. The two Runways are *not* the same. One has a Hydraulic Cylinder under it and is the starting point for the Lifting Cables. The other Runway does not have anything under it. The Runway with the Hydraulic Cylinder under it is the Powerside Runway and *must* be installed next to the Power Post.

If you have not already chosen your Power Post location, return to **Selecting your Power Post Location** and make the choice.

• **Posts**. The four Posts are not the same; two have their Safety Lock Holes on the left, the other two have their Safety Lock Holes on the right (when you are looking at them straight on).

Each GP-9 comes with two "right" Posts and two "left" Posts.

When you put the Posts into position, make sure that all four Posts are oriented so that the Safety Lock holes are on the *outside* of the Lift.



View of Posts is from between the two Runways; view of Lift is from above. Not all components shown. Not necessarily to scale.

This orientation is *required* so that the Safety Locks in the Crosstubes line up with the Safety Lock Holes in the Posts.

The Power Post must be a "right" Post, but you can use either "right" Post as the Power Post.

• **Top Caps**. All four Top Caps must be oriented so that the extended corner is angled in towards the middle of the Lift.

Important: The four Top Caps look very similar but they are *not the same*.

The Top Caps also have a right and left orientation. The "right" Top Caps must be installed on the "right" Posts and the "left" Top Caps must be installed on the "left" Posts.

The drawing in **Installing the Top Caps** shows and describes how to determine if a Top Cap is a right or a left.

Creating Chalk Line Guides

Create the Chalk Line Guides so that the outside edges of all four Post bases fit into the four corners when it is time to put the Posts into place.

Refer to **Specifications** to determine the **Total Width** and **Outside Posts Length** values for your Lift.

Note: Do *not* use the Total Length value; this includes the Ramps, which are not taken into consideration for creating Chalk Line Guides.



To create Chalk Line Guides:

1. Write down the Total Width and Outside Posts Length values for your model.

They are found in **Specifications**.

2. Create the Front Chalk Line where you want the Front of the Lift.

(The Front of the Lift is the end opposite the Ramps.)

Make the Front Chalk Line longer than the Total Width setting for your Lift model, but make notations that indicate the length of the Total Width setting.

Making the Front Chalk Line longer makes it easier to create the Left and Right Chalk Lines at 90° angles to the Front Chalk Line (see the drawing on the previous page).

3. Create the Left and Right Chalk Lines at 90° angles to the Front Chalk Line and **parallel to each other**.

Make the Left and Right Chalk Lines longer than the Outside Posts Length setting for your Lift model.

The Left and Right Chalk Lines *must* be parallel to each other.

Measure to verify that they are parallel to each other; the same distance apart at the front and the back.

4. Create the Rear Chalk Line parallel to the Front Chalk Line.

Make the Rear Chalk Line longer than the Total Width setting for your Lift model.

The Front and Rear Chalk Lines *must* also be parallel to each other.

Measure to verify that they are parallel to each other; the same distance apart on the left and the right.

5. With all four Chalk Lines created and **before** moving the Posts into position, measure *diagonally* to make sure the two diagonal measurements are the same.

This ensures your layout is correct.

If the diagonals are not the same length, find out why they are off and fix it.

Do not forget to check the diagonals.

6. When you move the Posts into position, put the outside edges of the bases inside the four corners created by the Chalk Line Guides.

Moving the Posts into Position

Use a Forklift or Shop Crane to move the Posts; they are heavy. You need to have at least two people work together to stand up the Posts.

DANGER The Posts are heavy and awkward; be very careful when handling them. If they fall on a person, they will cause injury.

To move the Posts into position:

- 1. Using a Forklift or Shop Crane, move the four Posts, one at a time, to the inside corners of the Chalk Line Guides.
- **Important**: Position the Power Post at one of its two allowed locations, then move the other three Posts into appropriate locations.

Position all Posts so that the **Safety Lock Holes are on the outside** of the Lift when you are looking at the Post from between where the Runways will go.



Not all components shown. Not necessarily to scale.

2. Stand up each Post. Have at least two people work together to stand up a Post.

CAUTION Use caution when walking around the Posts! They are **not** anchored down at this point, so it is possible to knock them over, which could cause injury.

- 3. When all four Posts are standing up, check all four to make sure the Safety Lock Holes are on the outside of the Lift.
- 4. Use a Transit Level to estimate the Shim requirements, if anchoring the Lift.

Use a target to find the difference in height between the Posts. The difference is the estimated amount of Shim thickness you will need.

Do **not** use Shims and/or Anchor Bolts to Shim more than half an inch. You can order 2 inch Shim plates for extreme cases.

5. Do **not** anchor the Posts at this point, even if you plan on anchoring them (which is optional).

Installing the Crosstubes

Your Lift has two Crosstubes; each one goes between two Posts at one end of the Lift.

Crosstubes have a Sleeve on each end; Sleeves go over the top of the Posts (before you install the Top Caps) and then slide down the Post.

There are two ways to get Sleeves over the tops of the Posts

- with the Posts standing up, raise the Crosstube (with Sleeves on each end) over the tops of the Posts and slide them down around the Post
- lay the two Posts down, put the Sleeves over the tops of the Posts and slide them down, then raise the Posts back up

The two Crosstubes must be oriented correctly. the side with the Crosstube Sheaves must go on the **inside** of the Lift.



Top view. Runways not installed. Bases not shown. Not to scale. Not all components shown.

If you install either Crosstube backwards, the Lifting Cables will not align with the Crosstube Sheaves and the Safety Locks will not align with the Safety Lock Holes in the Posts.

Spacers go between the Post and the Sleeve.

To install the Crosstubes:

- 1. Locate 2 Crosstubes, 16 Spacers, 8 Spacer Covers, and 8 screws (for the Spacer Covers).
- 2. Orient both Crosstubes so that the Crosstube Sheaves are on the **inside** of the Lift.

See drawing above.

It does not matter which Crosstube goes on which end of the Lift, as long as the Crosstube Sheaves are on the *inside* of the Lift.

3. Bend over the two Posts on one end of the Lift and slide the Sleeves of the Crosstubes over the tops of the Posts.

Make sure the Safety Locks on the Crosstubes do not engage on the Safety Lock Holes in the Posts as you lower the Crosstubes down.

4. Stand the Posts back up again and carefully move the Sleeves all the way to the ground.

5. Insert the Spacers between the Posts and the Sleeve; slide them down from above.

There are three Spacer types; they *must* be installed in the correct locations:

- **Small Spacer**. One. Very small on one side, small on the other side. Install between Safety Lock Hole and the Sticker. The very small side goes next to the Safety Lock Hole, the small side goes next to the Sticker.
- **Medium Spacer**. One. Small on one side, normal on the other side. Install on the other side of the Sticker. The small side goes next to the Sticker.
- **Full Spacer**. Two. Normal on both sides. They are interchangeable. Install on the side of the Post opposite the Sticker.

The following drawing shows the three Spacer types and where they go around the Post.



Top view. Sleeves not shown for clarity. Not all components shown. Not necessarily to scale.

- **Important**: When installing Spacers, *check them carefully as you install* to make sure you are putting each Spacer into a correct location for its type.
- 6. Once all four Spacers are installed in the correct location for a Post, screw the Spacer Covers into place.

One goes between the Small Spacer and the Medium Spacer. The other goes between the two Full Spacers.

The Spacer Covers hold the Spacers in place.

Raising the Crosstubes

After installing the Crosstubes, you need to manually raise them. This makes it easier to complete the rest of the installation. The two Crosstubes need to be raised to the exact same height and they must be engaged on the same Primary Safety Lock.

To raise the Crosstubes:

1. Use a Forklift or Shop Crane to carefully raise each Crosstube.

You want to raise the Crosstubes at least two feet off the ground, giving enough room to work under it. Many installers raise it four or five feet off the ground.



Important: The Slack Safeties *cannot* be engaged as you continue with the installation.

2. Visually confirm that the Safety Locks on all four Posts are engaged on the **Primary** Safety Locks.



3. Once both Crosstubes are raised to the same height, all four *Primary Safeties are engaged*, and all four Slack Safeties are **disengaged**, you can continue with the installation.

Installing the Runways

Your Lift has two Runways:

- **Powerside Runway**: Has the Lift's Hydraulic Cylinder underneath it. Has a hole on the outside (near one end) that lets you route the Hydraulic Hose from the Power Unit to the Hydraulic Cylinder. Lifting Cable routing starts under the Powerside Runway. There are four Runway Sheaves at the Front of the Powerside Runway and two Runway Sheaves at the Rear. These should have been removed when the Powerside Runway was unpacked.
- **Offside Runway**: The Offside Runway does not have a Hydraulic Cylinder under it, nor are there any Lifting Cables or Runway Sheaves under it.

WARNING Runways are very heavy and very long. Only let trained personnel move the Runways and only use appropriate tools, such as a Forklift or Shop Crane.

There are rules you need to observe to correctly orient the Runways:

- The Utility Rails must be on the inside.
- The Powerside Runway must be on the same side of the Lift as your Power Post (the Post that holds the Power Unit).
- The hole on the outside of the Powerside Runway must be next to the Power Post.

The following drawing shows the correct orientations of the Runways.



The only valid locations for the Power Post are Driver-Side Front or Passenger-Side Rear. Not necessarily to scale. Not all components shown.

GrandPrix strongly recommends using a Forklift or Shop Crane to raise the Runways and move them into position; they are very heavy.

WARNING Pay close attention when moving the Runways into position; they are very heavy and very long, and could shift position or fall, potentially causing serious injury.

To install the Runways:

1. Make sure all six Sheaves have been removed from under the Powerside Runway.

There are two on one end and four on the other end.

If they have not been removed, remove them now. Remember to pay attention to how you remove them, as you will have to reinstall them soon in reverse order.

2. Locate the eight Bolts and Washers needed to secure the Runways in place.

These should be located in the Parts Box.

- 3. Identify the Powerside Runway and the Offside Runway.
- **Note**: Remember, the Utility Rails must be on the inside and the Powerside Runway (with the Hydraulic Cylinder underneath) must be next to the Power Post.
- 4. Pick up the Powerside Runway using a Forklift or Shop Crane and move it into place next to the Power Post.

Make sure the Utility Rail is on the inside.

- 5. Bolt the Powerside Runway into place, two Bolts and Washers on each end going into the Crosstubes.
- 6. Using a Forklift or Shop Crane, pick up the Offside Runway and move it into place on top of the Crosstubes.

Again, make sure the Utility Rail is on the inside.

7. Bolt the Offside Runway into place, two Bolts and Washers on each end going into the Crosstubes.

About Safety Locks

Once engaged, Safety Locks hold the Runways in place, even if the power goes out or the Hydraulic Hoses leak or break. Your Lift has multiple Safety Locks positions, spaced every four inches.

Important: Simply raising the Runways does not *engage* them on the Safety Locks. You must back the Runways down onto the Safety Locks to engage them.

WARNING Safety Locks are dependent on correct orientation of the Posts. The Posts must be oriented so that the Safety Lock Holes are on the far outside of the Lift. If the Posts are *not* oriented correctly, the Safety Locks will not align with the Safety Lock Holes, and the Safety Locks will not work. This could lead to product or Vehicle damage, human injury, or even (in rare cases) death.

Safety Lock Holes are spaced every four inches. As you raise the Runways, the Safety Locks automatically move into the Safety Lock Holes and then past them as the Lift continues to rise. When you move the Runways back down after passing a Safety Lock Hole, the Safety Locks engage.



Side view. Side of Post removed for clarity. Not necessarily to scale. Not all components shown.

Once they are engaged, gravity keeps the Safety Locks engaged. Even if the power goes out or one of the Hydraulic Hoses breaks or leaks, the Runways are held up by the engaged Safety Locks.

WARNING
 Only leave the Runways either fully lowered or engaged on their Safety Locks.
 When you engage the Safety Locks at a desired height, check to make sure that all
 four Safety Locks (one per Post) are engaged at the same height. Do not go under
 a Lift until you are certain that all four Safety Locks are engaged.

So how do the Runways come down if the Safety Locks are engaged? To lower the Runways, you *raise* them a few inches (to get them off the Safety Locks), then *push down and hold down* the Safety Lock Release Handle and the Lowering Handle. While you hold down the Safety Lock Release Handle, the Safety Locks are moved away from the Safety Lock Holes; they cannot engage, which allows the Runways to be lowered.

Out of an abundance of caution, your Lift has *two* Safety Lock systems:

- **Safety Locks**: The primary system to hold up the Runways are the Safety Locks. When you move the Runways up, you can hear clicks as the Safety Locks go into and then past the Safety Lock Holes. When you want to keep the Runways at a certain height, go slightly past the height you want, then back the Safety Locks down into the Safety Lock Holes, which engages them.
- **Slack Safety**: The Slack Safeties are above the Safety Locks on the ends of the Crosstube Sleeves. They are different from the Safety Locks in that when the Lifting Cables are taut (during normal operation), they hold the Slack Safeties away from the Safety Lock Holes so that they cannot engage. However, if a Lifting Cable were to break (which is extremely rare), the Slack Safety for the broken Lifting Cable immediately engages, which prevents the Runway from falling very far.

Installing the Safety Lock Release Mechanism

The Lift uses a convenient mechanical Safety Lock Release Mechanism.

You *must* install the Handle next to the Power Post (it must be installed there because you have to hold down the Handle and the Lowering Handle on the Power Unit to lower the Runways). Because the Handle must be installed next to the Power Post, it can be in either of two locations: Driver-Side Front or Passenger-Side Rear.

The Safety Lock Release Mechanism goes to all four Posts. To get from one end of the Lift to the other, it is routed *under the Powerside Runway*.



Drawing not to scale. Not all components shown. Drawing is a top view showing the location of the mechanical Safety Lock Release Mechanism: on the outside of each Crosstube and **under** the Powerside Runway (the Powerside Runway only, not the Offside Runway).

The Safety Lock Release Mechanism is made up of multiple pieces that connect at many locations.

The other Crosstube has the same Safety Lock Release Mechanism components except there is no Handle.



Drawing not to scale. Components shown heavily exaggerated for clarity. Drawing is a front view of the Crosstube looking at the Power Post end of the Lift. The Long Rod pieces are routed **under** the Powerside Runway.

The components you will need to install the Safety Lock Release Mechanism are:

- **Two Pivot Pieces**. Pivot Piece attached to a Long Rod. One with the Handle attached, one with no Handle. Each Pivot Piece connects a Short Rod to a Medium Rod on the outside of each Crosstube; the Rod ends of the Pivot Pieces connect to each other (using the Connection Piece) under the Powerside Runway.
- **Two Short End Rods**. Connect the Safety Release Assemblies on each Crosstube to the Pivot Pieces on the ends of the Powerside Post only.
- **Two Medium End Rods**. Connect to the other side of the Pivot Pieces and go to the Safety Release Assembly.
- **Eight Connectors**. Make the connections to the Rods, four on the ends of each Crosstube.
- **Two Spacers**. Go between the Pivot Piece and the Crosstube. One Spacer per Pivot Piece.
- **One Connection Piece**. Connects the two Long Rods to each other under the Powerside Runway.
- **Two threaded Eye Hooks**. Hold the two Medium Rods in place.

To install the Safety Lock Release Mechanism:

- 1. Gather the components described above, plus the eight Bolts needed to attach the Connectors, and the necessary hardware.
- 2. Take the Eye Hook, slide a Nut over the threaded end, and then insert the Eye Hook to the Crosstube.

Do not fully thread the Eye Hook, allow roughly 3/4 of the Eye Hook Threads exposed.

- 3. Attach the Connectors to the Pivot Pieces and the Safety Release Assemblies.
- 4. On the Crosstube that connects to the Power Post, place a Spacer next to the Pivot Piece (with the Handle), and then route the Rod end through the opening in the Crosstube, as shown in the drawing above.

You will need to do this for the other Pivot Piece.

- 5. Connect the Short End Rod to the appropriate Connectors that connects to the Power Post.
- 6. Attach one end of the Medium Rod to the Pivot Piece.
- 7. On the other end of the Medium Rod, unscrew the Connector Piece, slide the end without the Connector Piece through the Eye Hook, and then reinstall the Connector Piece you just removed.
- 8. Take a Bolt, slide it through the rounded end of the Connector Piece, put two Washers over the Threaded end of the Bolt, and then connect the Bolt to the Threaded hole in the Safety Release Assembly.

You will need to do this with each Safety Release Assembly.

The following drawing shows the two Washers positioned between the Safety Release Assembly and the End of the Connector.



Side View of the Safety Release Assembly. Drawing not to scale. Not all components shown.

- 9. On the other Crosstube, put the Pivot Piece without the Handle into place, then connect the Short End and Medium End Rods.
- 10. **Under** the Powerside Runway, put the two Rods into place in the tubes—there are round tubes built in to the side of the Powerside Runway— put a Nut on the end of each Rod, and then connect the Rods in the middle with the Connector.
- 11. Re-check all of the connections you have made; tighten any loosen connections.
- 12. Carefully push down the Handle on the Pivot Piece near the Power Unit.
- 13. Check to make sure that all parts of the Safety Lock Release Mechanism move correctly when you push down on the Handle.

About the Pivot Pieces

Once the Medium and Short Rods of the Safety Lock Release Mechanism are installed on both ends of the Lift, you need to check the Pivot Pieces to see that they are angled correctly:

- **The Pivot Piece with the Handle**. Make sure this Pivot Piece is angled a little bit to the left as you are looking at it, about 11:30 o'clock.
- **The Pivot Piece with no Handle**. This Pivot Piece should be oriented the opposite of the other Pivot Piece, so it should be angled a little to the right, or about 12:30 o'clock.

If the Pivot Pieces are *not* oriented correctly (for example, if they are both oriented straight up and down), the Safety Locks may not catch on the Safety Lock Holes when you try to lower the Lift onto its Safety Locks. If this issue occurs, adjust the angle of the Pivot Pieces until all Safety Locks engage in the Safety Lock Holes.

Installing the Top Caps

The Lift comes with four Top Caps, one for the top of each Post. Each Top Cap holds one end of a Lifting Cable.

All four Top Caps *must* be oriented so the extended corner is angled in towards the middle of the Lift.

The four Top Caps are not the same, even if they look like they are. Like the Posts, the Top Caps have "left" and "right" orientations. There are two Left Top Caps and two Right Top Caps.

The Left Top Caps must be installed on Left Posts. The Right Top Caps must be installed on Right Posts.

How do you tell a Left Top Cap from a Right Top Cap?

Put two Top Caps next to each other with the Circles together, as shown below.



When you look at the two Top Caps this way, the one on the left is a Left Top Cap and the one on the right is a Right Top Cap.

When installing the Top Caps, check to make sure you have the right Top Cap for the Post you are installing it onto. The Left and Right Top Caps look very similar; it is easy to confuse one for the other.

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After installing the Lifting Cables, look at each Lifting Cable from where it goes through the Circle in the Top Cap to where it goes by the Slack Safety Sheave. Each Lifting Cable should be straight up and down between those two points. If one or more are at an angle, then the Top Caps were installed incorrectly. You must go back and fix them. If one Top Cap is installed incorrectly, then at least one more must also be installed incorrectly.

To install the Top Caps:

1. Locate the four Bolts and four Washers needed to secure one Top Cap.

These will be located in the Parts Box.

2. Take the Top Caps, identify which are Left and which are Right, take the one you want to install, pick the corresponding right/left Post you want to install it onto, orient it correctly, then push the Top Cap down into the top of the Post.

Each Top Cap *must* be oriented so the extended corner is angled in towards the middle of the Lift and it must have the correct Left/Right orientation for the Post it is being installed onto.



Size of Top Caps exaggerated for clarity. Drawing is a top view of the Lift showing the Top Caps with the extended corner angled in towards the middle of the Lift. Drawing **not** to scale. Not all components shown.

- 3. Secure the Top Cap in place using the four Bolts and Washers.
- 4. Install the other three Top Caps the same way.

Make sure all four Top Caps are firmly bolted into place

About Runway Sheaves

Runway Sheaves route the Lifting Cables towards the appropriate Post.

Runway Sheaves are all under the Powerside Runway, four on one end (two stacks of two Sheaves) and two on the other end (two stacks of single Sheaves).

Because the Lift can be installed with the Power Post and the Powerside Runway in either of two locations, the Runway Sheaves can also be at either of two locations.

The two double Runway Sheaves are always on the Piston end of the Powerside Runway, as shown in the following drawing.



Top view. Drawing not necessarily to scale. Not all components shown.

All six Runway Sheaves should have been removed when unpacking the Lift, see. They are not reinstalled until you route the Lifting Cables, described in **Routing the Lifting Cables**. The following drawing shows how to reinstall the Runway Sheaves when it comes time to do so.

Single Sheaves

Double Sheaves




Routing the Lifting Cables

Before routing the Lifting Cables, you need to know the following:

- GrandPrix strongly recommends using gloves when working with Lifting Cables.
- Each Lift has four Lifting Cables. All four are different lengths; they can only be correctly routed to one Post. If they are routed to any of the other three Posts, they will either be too short or too long.
- All four Lifting Cables have a Button end and a Threaded end. The Button ends connect at the Tie Plate on the underside of the Powerside Runway; they are held in position by a Retaining Plate.



Button end

Threaded end

- To put the Button ends of the Lifting Cables into place at the Tie Plate, do not remove the Retaining Plate, just loosen it and slip the Button ends into place.
- The Lift has six Runway Sheaves (sheaves that are installed *under* the Powerside Runway), four at one end of the Powerside Runway (two stacks of two) and two at the other end of the Powerside Runway (side by side, not stacked). Refer to About Runway Sheaves for sheave locations based on the location of the Power Post / Powerside Runway.
- The Threaded end of each Lifting Cable goes around one or two Runway Sheaves, gets routed to the bottom of its Post where it goes around a Crosstube Sheave, then heads up and past a Slack Safety Sheave, and then attaches to the Top Cap at the top of the Post. The two longer Lifting Cables go around two Runway Sheaves, the two shorter Lifting Cables around just one.
- Before routing each Lifting Cable, remove the Nut at the Threaded end; you cannot route the Lifting Cable around the sheaves if the Nut is still on.
- Crosstube Sheaves come installed and should not be removed. Just use them where they are. There is a Retainer Bolt under the Crosstube Sheave that must be removed to route the Lifting Cable under and around the Crosstube Sheave; when the Lifting Cable is routed past the Crosstube Sheave, put the Retainer Bolt back on.

The Retainer Bolt prevents the Lifting Cable from slipping out of the Crosstube Sheave during operation.

- In the drawings on the following pages, the Lifting Cables are labelled A, B, C, and D. These letters are for identification purposes. The letters are not actually on the Lifting Cables or the Tie Plate. They do, however, represent shortest to longest cable. So Lifting Cable A in these drawings is the shortest cable, all the way through Lifting Cable D, which is the longest cable.
- **Important**: Make sure to route each Lifting Cable correctly. If you route a Lifting Cable to the wrong Post, it will either be too short or too long. If this happens, check to see where the Lifting Cable is supposed to go and then route it there. As a general rule, there should be about an inch of threads above the Top Cap when you put the Lifting Cable in place. If there is significantly less or more, you have the wrong cable.
- GrandPrix recommends routing Cables A and C together, then B and D together. This is because each pair goes around a double sheave. It is much easier to route the two cables to where they will go around the double sheave and then install the double sheave than it is to do the installation any other way.

The following drawing shows how Lifting Cables are routed to the top of their Posts.



View is from the inside of the Lift looking towards the Crosstube and Post. Not to scale. Not all components shown. Some components exaggerated for clarity.

The following drawing shows the routing for all four Lifting Cables.



Not to scale. Not all components shown. Some components exaggerated for clarity.

Before routing the Lifting Cables, extend the Piston using air pressure or a pulling device.

We recommend routing Cables A and C together first, and then Cables B and D.

To route the Lifting Cables:

- 1. Locate the shortest Lifting Cable, Cable A, and the second longest Lifting Cable, Cable C.
- 2. Make sure the Nut has been removed from the Threaded end of both Lifting Cables (the Nut cannot be on during routing, but keep it nearby, you will need it again soon).
- 3. *Starting with Cables A and C*, attach the Button ends of Cables A and C to the Tie Plate.

As shown in the drawing on the previous page, A goes on the bottom, C above it.

4. Route Cables A and C towards where the double sheaves are going to be re-installed.

Put both cables into position such that when the double sheaves are re-installed, Cables A and C will both be going around the sheaves.

Both double sheaves were removed earlier.

Remember to keep Cable C on top and Cable A below it.

5. Re-install the double sheave for Cables A and C.

Refer to **About Runway Sheaves** for a drawing of how to re-install the double sheave.

- 6. *Switching to just Cable A*, remove the Retainer Bolt under the Crosstube Sheave.
- 7. Route Cable A over to its Crosstube Sheave, under it, up and past the Slack Safety Sheave, and then up to the Top Cap and through the hole in the Top Cap.

Make sure to route the cable on the correct side of the Slack Safety Sheave.

The Threaded end of the cable should go through the hole in the Top Cap about an inch. However, if the cable is way too short or long, check to make sure you have the correct cable.

8. Put a Washer and Nut into place above the Top Cap, then finger tighten the Nut to hold Cable A in place.

You only want to finger tighten the Nut at this point so that there is a little play in the cabling.

- 9. Re-install the Retainer Bolt under the Crosstube Sheave.
- 10. *Switching to just Cable C*, route it all the way around the double sheave and then back towards the other end of the Powerside Runway.
- 11. When you get to the other end of the Runway, route it around the single sheave and then towards its Crosstube Sheave.
- 12. Remove the Retainer Bolt under the Crosstube Sheave.
- 13. Route Cable C under the Crosstube Sheave, up and past the Slack Safety Sheave, and then up to the Top Cap and through the hole in the Top Cap.
- 14. Put a Washer and Nut into place above the Top Cap, then finger tighten the Nut to hold Cable C in place.
- 15. Re-install the Retainer Bolt under the Crosstube Sheave.
- 16. Perform Steps 1 through 15 again, but this time for Cables B and D.
- 17. When all Lifting Cables are correctly routed, securely tighten all four Nuts above the Top Caps.

Installing the Power Unit

This section describes how to *install*, but **not** make the connections to, the Power Unit for your Lift. An Electrician is *not* needed to install the Power Unit.

The Power Unit *must* be installed on the Power Post using the Power Unit Holder. The Power Unit Holder has a Holder Plate at the top that connects to the top of the Power Post using two of the four Bolts that hold the Top Cap in place.

Because the Top Caps are held in place on two sides of the Power Post, you can install the Power Unit on either of those two sides. Most customers choose to install their Power Units on the end of the Lift, as that is closer to the Safety Lock Release Handle.

▲ DANGER Risk of explosion: The Power Unit has internal arcing or parts that may spark and should not be exposed to flammable vapors. Never expose the Power Unit motor to rain or other damp environments. Damage to the motor caused by water is *not* covered by the warranty.

To install the Power Unit:

- 1. Determine which side of the Power Post you want to install the Power Unit.
- 2. *Starting with the Power Unit Holder*. At the top of the Post, remove the two Bolts and Washers holding the Top Cap on the side you want the Power Unit.

You can leave in place the Top Cap Bolts on the other side.

- 3. Put the Power Unit Holder into place, with the holes in the Holder Plate going over the holes where you just removed the Bolts and Washers at the top of the Post.
- 4. Put the Washers and Bolts back into place and securely tighten the Bolts.



Drawing not necessarily to scale. Not all components shown.

6. *Switching to the Attachment Plate and the Power Unit*. Put the Vibration Dampener into place, up against the Plate on the back of the Power Unit.



The Power Unit is heavy. We recommend having one person hold the Power Unit while another person secures it in place.

7. Line up the holes on the Plate on the back of the Power Unit, the Vibration Dampener, and the Attachment Plate.

Use the holes that best center the Power Unit on the Attachment Plate.

8. Use the Bolts, Nuts, and Washers to connect the Plate on the back of the Power Unit to the Vibration Dampener and the Attachment Plate.

Hand tighten the Bolts and Nuts.

- 9. Find the Safety Placard and Zip Tie from the Parts Box.
- 10. Use the Zip Tie to attach the Safety Placard to one of the unused holes on the Power Unit Plate.
- 11. Slide the Flex Tube Bracket over the two Bolts that are closest to the side of the Powerside Runway.

The Bracket can go on either side of the Vibration Dampener.



Not necessarily to scale. Not all components shown.

Orient the Bracket so that the Hole for the Flex Tube faces down, as shown in the drawing above.

12. Securely tighten the Bolts and Nuts.

Do not connect the Power Unit to a power source at this point.

Installing the First End of the Flex Tube

The Flex Tube is a flexible, black plastic tube that attaches to the bottom of the Flex Tube Bracket (next to the Power Unit) on one end and to a hole on the Powerside Runway on the other end.

The Flex Tube protects the Hydraulic Hose and the Return Line as they go from the Power Unit to underneath the Powerside Runway.

Installation of the Flex Tube is done in two parts: the first connection is to the Flex Tube Bracket next to the Power Unit (done now) and the second connection is to the hole on the Powerside Runway (done later).

Threads Threads Flex Tube Threads Plastic Collar Nut

The following drawing shows the Flex Tube.

Side view. Not drawn to scale. Not all components shown.

To install the Flex Tube to the Flex Tube Bracket:

- 1. Make sure the Flex Tube Bracket has been installed next to the Power Unit.
- 2. Unscrew the Plastic Nut from one end of the Flex Tube. It does not matter which end.
- 3. Holding the Flex Tube by the Plastic Collar, put the Threads on the end of the Flex Tube through the hole at the bottom of the Flex Tube Bracket.

The Threads go through the hole until they are accessible from the other side, while the rest of the Flex Tube stays outside.

- 4. Screw the Plastic Nut back onto the Threads of the Flex Tube and tighten it.
- 5. Let the other end of the Flex Tube hang in place for now.

Working with Compression Fittings and Tubing

Your Lift comes with a roll of 1/4 inch, black, polyethylene Tubing (also called Poly-Flo® Tubing) that is used with Compression Fittings for the Return Line.

Note: Compression Fittings are different from Hydraulic Fittings. This section covers Compression Fittings only.

The components involved with Compression Fittings include:

- 14 inch, black, polyethylene Tubing. You use a single piece of Tubing for the Return Line.
- **Elbow Compression Fittings**. One on the Power Unit and one on the Hydraulic Cylinder.
- **Nuts, Ferrules, Rods, and Threads**. Each connector on an Elbow Compression Fitting has a Nut, Ferrule, Rod, and Threads (see drawing below). The Nut holds the Tubing and Fitting together. The Ferrule compresses when you tighten the Nut on the Threads to make a secure connection. The Rod goes inside the Tubing so that nothing leaks out.

The following drawing shows the components of a connector on an Elbow Compression Fitting.



Important: *Ferrules can only be tightened once*. When you tighten the Nut on the Threads, the Ferrule gets compressed; it literally changes shape and *cannot* be used again.

To connect Tubing to a Compression Fitting:

1. Push the Tubing through the Nut and Ferrule and over the Rod.

Do not push hard; you only need the Tubing to go a little way over the Rod. You may not be able to see the Ferrule at this point, but the Tubing must go through the Ferrule and over the Rod.

- 2. Slide the Nut on the Tubing *away from the Fitting*, if the Nut is still on the Threads, unscrew it from the Threads and then slide it away from the Fitting. See the drawing above.
- 3. Slide the Ferrule over the Tubing, away from the Fitting and towards the Nut.
- 4. With the Nut and the Ferrule out of the way, push the Tubing further over the Rod until it stops. Do not push hard.
- 5. Slide the Ferrule and the Nut back to the Threads on the Fitting.

The Ferrule goes around the Rod and under the Threads. The Nut goes onto the Threads.

6. Tighten the Nut.

Remember that the Ferrule can only be used once; do not tighten the Nut until everything is ready.

Installing the Return Line

The Return Line takes excess Hydraulic Fluid coming out of the Hydraulic Cylinder and sends it back into the Fluid Reservoir on the Power Unit.

The Return Line is a single piece of 1/4 inch, black Tubing with Elbow Compression Fittings on each end. You need to cut a piece of the supplied Tubing to create the Return Line.



Drawing not to scale. Some components exaggerated for clarity.

To install the Return Line:

- 1. Measure from the Return Line port on the Cylinder to the Return Line port on the Power Unit. The Return Line is going to be routed through the Flex Tube, so take that into account.
- Cut a piece of Tubing of appropriate length from the roll of Tubing that comes with the Lift.
 It is better to make the Tubing piece a little too long rather than a little too short.
- 3. Route the Tubing through the Flex Tube opening next to the Power Unit, through the Flex Tube, out the other end of the Flex Tube, and then through the hole in the side of the Powerside Runway.
- 4. Locate the Return Line port on the Power Unit and remove the Shipping Plug.
- 5. Connect the NPT connector of the Elbow Compression Fitting to the Return Line port on the Power Unit.
- 6. Find the Return Line coming out of the Flex Tube next to the Power Unit and connect it to the Compression connector on the Elbow Compression Fitting.

Refer to Working with Compression Fittings and Tubing for instructions.

- 7. Remove the Shipping Plug from the Return Line port on the Hydraulic Cylinder.
- 8. Connect the NPT connector of the second Elbow Compression Fitting to the Return Line port where the Shipping Plug was.
- 9. Connect the Return Line to the Compression connector on the Elbow Compression Fitting you just installed.

Installing the Hydraulic Hose

The Hydraulic Hose moves Hydraulic Fluid from the Power Unit to the Hydraulic Cylinder.

To install the Hydraulic Hose, you will need the Hydraulic Hose and two Hydraulic Fittings.



Drawing not to scale. Some components exaggerated for clarity.

To install the Hydraulic Hose:

- 1. Find the Hydraulic Hose and the two Hydraulic Fittings.
- 2. Route the Hydraulic Hose through the Flex Tube; keep the Curved end at the Power Unit.
- 3. *Starting at the Power Unit*, locate an Hydraulic Power Out port, then connect the ORB connector of the JIC-to-ORB Hydraulic Fitting to the port.
- 4. Connect the JIC connector of the JIC-to-ORB Hydraulic Fitting to the Curved end of the Hose.
- 5. Securely tighten both connections on the JIC-to-ORB Hydraulic Fitting.
- 6. *Switching to the Hydraulic Cylinder*, locate the Hydraulic Port and install the NPT connector of the JIC-to-NPT Hydraulic Fitting to the port.
- 7. Put the Straight end of the Hydraulic Hose through the hole in the side of the Powerside Runway and move it to near the Hydraulic Port on the Hydraulic Cylinder.
- 8. Connect the Straight end of the Hydraulic Hose to the JIC connector of the JIC-to-NPT Hydraulic Fitting
- 9. Securely tighten both connections on the JIC-to-NPT Hydraulic Fitting.
- 10. *Switching to the Flex Tube*, it is time to connect the second end.
- 11. Unscrew the Plastic Nut from the unconnected end of the Flex Tube.
- 12. Holding the Flex Tube by the Plastic Collar, push the Threads through the hole on the side of the Powerside Runway.
- 13. Screw the Plastic Nut back onto the Threads of the Flex Tube and tighten it.

Contacting the Electrician

As mentioned previously, there are some installation tasks that *require* a certified Electrician.

DANGER All wiring *must* be performed by a licensed, certified Electrician.

All installations need an Electrician to:

• **Install a Power Disconnect Switch**. Ensures you can quickly and completely interrupt electrical power to the Lift in the event of an electrical circuit fault, emergency situation, or when equipment is undergoing service or maintenance. Put it within sight and easy reach of the Lift operator.

Refer to **Install a Power Disconnect Switch** for more information.

 Install a Thermal Disconnect Switch. Ensures the equipment shuts down in the event of an overload or an overheated motor. The Power Unit that comes with the Lift is *not* thermally protected.

Refer to **Install a Thermal Disconnect Switch** for more information.

Additionally, if your Lift came with a 220 VAC Power Unit, you will need the Electrician to:

- Connect the 220 VAC Power Unit to an appropriate power source. Have the Electrician wire the Power Unit either to a 220 VAC Power Cord and Plug or directly to the facility's power system.
- **NOTICE** If your Lift came with a 110 VAC Power Unit, it already has a power cord and appropriate plug. Just plug it in to a 110 VAC outlet.

The Electrician needs to provide the following components for all installations:

- a Power Disconnect Switch
- a Thermal Disconnect Switch

If your Lift came with a 220 VAC Power Unit, the Electrician is also responsible for providing:

• an appropriate Power Cord and Plug if you want to attach the Power Cord to a 220 VAC Plug (and then plug it in to an appropriate 220 VAC outlet) or just a Power Cord if you want to wire the Power Unit directly into the facility's power system.

Refer to **Wiring Diagrams** for additional wiring information.

Connecting to a Power Source

The standard Power Unit for your Lift is 110 VAC, 50/60 Hz, single phase.

An Electrician is not required to connect a 110 VAC Power Unit to a power source. But an Electrician is required to install the Power Disconnect Switch and Thermal Disconnect Switch.

A 220 VAC Power Unit is also available.

An Electrician is required to connect a 220 VAC Power Unit to a power source and to install the Power Disconnect Switch and Thermal Disconnect Switch.

Whichever Power Unit you ordered, it must be connected to an appropriate power source.

▲ DANGER All wiring *must* be performed by a licensed, certified Electrician. Do not perform any maintenance or installation on the Lift without first making sure that main electrical power has been disconnected from the Lift and *cannot* be re-energized until all procedures are complete.

Important electrical information:

- Improper electrical installation can damage the Power Unit; this is *not* covered under warranty.
- Use a separate circuit breaker for each Power Unit.
- Protect each circuit with a time-delay fuse or circuit breaker. For a 110 VAC, single phase circuit, use a 20 amp or greater circuit breaker. For a 220 VAC, single phase circuit, use a 25 amp or greater circuit breaker.
- Refer to **Wiring Diagrams** for additional wiring information about both Power Units.

DANGER The Lift uses electrical energy; if your organization has Lockout/Tagout policies, make sure to implement them as soon as the Lift is connected to a power source.

The following drawing shows the standard 110 VAC Power Unit.



The following drawing shows the 220 VAC Power Unit.



To connect the Lift to a power source:

1. If you have the standard 110 VAC Power Unit, plug it in to 110 VAC power source.

An Electrician is not required to connect to power if you have a 110 VAC Power Unit. However, an Electrician is required to install the Power Disconnect Switch and Thermal Disconnect Switch.

The standard 110 VAC Power Unit comes with an appropriate Power Cord and Plug already wired to the Power Unit.

- 2. If you have the optional 220 VAC Power Unit, you must have an Electrician prepare it for connection to a power source.
- 3. Have the Electrician locate the Pigtail coming out of the Electrical Box on the Power Unit.
- 4. Open the Electrical Box, note where the Pigtail wires are connected, remove the Pigtail, and then either:
 - Wire the Power Unit directly into the facility's electrical system, or
 - Wire a power cord with appropriate plug inside the Electrical box where the Pigtail was wired.

Do not use the Pigtail.

The necessary components are not supplied with the Lift; your Electrician will need to supply them. Refer to **Wiring Diagrams** for additional wiring information.

- 5. Close the Electrical Box.
- 6. If you have a 220 VAC Power Unit and your Electrician wired a power cord and plug, plug it in to a 220 VAC power source.

Installing a Power Disconnect Switch

A WARNING

A main Power Disconnect Switch is **not** provided with this equipment.

A Power Disconnect Switch is a National Electrical Code (NEC) requirement. It is designed to interrupt electrical power in the event of an electrical circuit fault, emergency situation, or when equipment is undergoing service or maintenance.

GrandPrix strongly recommends you install a Power Disconnect Switch that is properly rated for the incoming power.

DANGER All wiring *must* be performed by a licensed, certified Electrician.

Your Power Disconnect Switch must be readily accessible and installed so that it is in easy reach of the Lift operator. It must be clearly and legibly marked to indicate its purpose.

The drawing to the right shows a toggle Power Disconnect Switch between the Lift's power source and its Power Unit. A quick flip of the switch immediately cuts power to the Lift.

Make sure to have a certified Electrician install the Power Disconnect Switch.

Make sure the Electrician selects a UL-listed Power Disconnect Switch.



Installing a Thermal Disconnect Switch

MARNING The Lift's motor does *not* have thermal overload protection.

Connect a motor Thermal Disconnect Switch or overload device that will make sure the equipment shuts down in the event of an overload or an overheated motor.

DANGER All wiring *must* be performed by a licensed, certified Electrician.

High running amps that exceed the motor's full load amps (FLA) rating may result in permanent damage to the motor.

GrandPrix strongly recommends you *not* exceed the rated duty cycle of the Lift's motor.



Hydraulic Fluid Contamination

Hydraulic Fluid Contamination poses a serious issue for your Lift; contaminants such as water, dirt, or debris can get into the Hydraulic Hoses and Fittings on your Lift, making your new Lift inoperable.

Your Lift is shipped with clean components; however, BendPak strongly recommends that you clean all Hydraulic Hoses and Fittings prior to making connections. It is better and less costly to take these extra steps now so that you do not need to take your Lift out of service later to fix issues that could have been prevented at the time of installation.

There are several ways to clean Hydraulic Hoses and Fittings:

- **Compressed Air**. Use an air compressor to blow out contaminants from each Hydraulic Hose and Fitting prior to installation. Clean, dry air is preferred. Wear eye protection (safety glasses, goggles, or face shield) when using compressed air for cleaning. Never point an air hose nozzle at any part of your body or any other person.
- **Fluid Flushing**. As long as the Hydraulic Fluid is clean and compatible with the system fluid, you can flush Hoses and Fittings to create turbulent flow and remove particulates. Always ensure that the fluid itself is contaminant-free.

Some additional steps that will help keep the Hydraulic Fluid clean:

- **Remove old thread seal tape**. Some ports on the Hydraulic Cylinders are shipped with temporary plugs secured with thread seal tape, so make sure to thoroughly remove any leftover thread seal tape that may inadvertently enter the Hydraulic System.
- Use a liquid thread sealant only. Teflon paste-type thread sealant or Loctite[™] 5452 thread sealant is recommended for all NPT Fittings. Do not over tighten NPT Fittings or they may crack. Never use thread seal tape on JIC Fittings or ORB O-Ring Fittings.
- Always use clean equipment. If you use a dirty bucket or funnel to transfer the Hydraulic Fluid into the Hydraulic Fluid Reservoir, the contaminants will likely be introduced into the Fluid. When using cleaning rags, use a lint-free rag.
- **Proper storage**. Keep the Hydraulic Fluid sealed in its container until ready for use; store the Fluid in a clean, dry, and cool area.
- **Cover the Hoses and Fittings**. Before installation, do not leave the ends of the Fittings exposed; the same applies for the Hydraulic Hoses. As a general rule, keep the Hydraulic Hoses and Fittings capped and kept clean in a clean area until ready for use.
- **Filter the new Hydraulic Fluid**. Just because it is new does not necessarily mean it is *clean*. Use an offline filtration cart or kidney loop system to make sure the Hydraulic Fluid is clean before being transferred into the Hydraulic Fluid Reservoir (even using a heavy duty nylon mesh screen is better than trusting what is left at the bottom of the barrel).
- Avoid mixing different types of Hydraulic Fluid. If Hydraulic Fluid needs to be replaced, make sure to flush the Hydraulic System of the old Hydraulic Fluid before you add the replacement Fluid; do not mix the two together.

Adding Hydraulic Fluid

The Hydraulic Fluid reservoir on the Power Unit must be filled with approved fluid before you begin normal operation of the Lift. *When you receive the Lift, the fluid reservoir is empty.* The Power Unit will not work correctly until it is filled with approved Hydraulic Fluid.

Approved fluids are any general purpose ISO-32, ISO-46, or ISO-68 hydraulic fluid, approved automatic transmission fluids such as Dexron III, Dexron VI, Mercon V, Mercon LV, or any synthetic multi-Vehicle automatic transmission fluid.

MARNING Do not run your Power Unit without Hydraulic Fluid; you will damage it.



Not necessarily to scale. Not all components shown. Standard 110 VAC Power Unit shown. Hydraulic Fluid Reservoir is in the same location for all Power Units.

To fill the Hydraulic Fluid Reservoir:

- 1. Remove the Reservoir Cap from the top of the Reservoir.
- 2. If the Reservoir is empty, fill it with approved fluid.

The Reservoir holds approximately 3.6 gallons / 13.5 liters. Use care to keep the fluid clean when filling the reservoir.

Approved fluids are any general purpose ISO-32, ISO-46, or ISO-68 hydraulic fluid or approved automatic transmission fluids such as Dexron III, Dexron VI, Mercon V, Mercon LV, or any synthetic multi-Vehicle automatic transmission fluid.

- 3. If the Reservoir is low but not empty, carefully add approved fluid until the fluid level is about half an inch under the Reservoir Cap.
- 4. When the reservoir is full, put the Reservoir Cap back on.

About Embedment

Anchor Bolts (also called Wedge Anchors) get their holding strength from how far down into the Hole the Anchor Bolt is installed (called embedment) and how forcefully the Expansion Sleeve presses into the Concrete (based on how much torque is applied).

To get *enough* embedment, you have to understand *Effective* Embedment, which means the location in the Hole where the Expansion Sleeve presses into the Concrete. This is where the Anchor Bolts create holding strength; the further down into the Hole, the greater the holding strength.

(The technical definition of Effective Embedment is the distance from the surface of the base material to the deepest point at which the load is transferred to the base material; the "base material" in our case being the Concrete into which the Anchor Bolts are being installed.)

Some people confuse Effective Embedment with Nominal Embedment, which is how far down into the Hole the bottom of the Anchor Bolt is.

As shown below, the two are not the same. Nominal Embedment does not tell you anything about the holding strength of the Anchor Bolt.



Not necessarily to scale.

The Anchor Bolts shipped with your product have letters stamped into their tops, indicating how long they are.

For example:

- 4.75 in / 120 mm long Anchor Bolts are stamped with a G.
- 6.3 in / 160 mm long Anchor Bolts are stamped with a J.

Anchoring the Posts

Anchoring the Lift makes it more stable. Anchoring is *not required*.

If you want to use the Caster Kit to move the Lift at any point, do *not* anchor the Lift.

Install one Anchor Bolt in each of the holes in each Base Plate, four Anchor Bolts per Post, 16 Anchor Bolts total.

Concrete specifications are:

- **Depth**: 4.25 inches thick
- **PSI**: 3,000 PSI, minimum
- **Cured**: 28 days, minimum

The Concrete floor where you want to install your Lift must meet the following requirements:

- The floor must be a flat, Concrete floor. It must be level; *do not install the Lift on a surface with more than three degrees of slope*.
- Do not install the Lift on cracked or defective Concrete.
- Check the floor for the possibility of it being a post-tension slab. In this case, contact the building architect before drilling. Using ground penetrating radar may help you find the tensioned cable.

WARNING Cutting through a tensioned cable can result in injury or death. Do not drill into a post-tension slab unless the building architect confirms you are *not* going to hit a tensioned cable or you have located it using ground penetrating radar. *If colored sheath comes up during drilling, stop drilling immediately*.

Anchor Bolt specifications are:

- Length: 4 ³/₄ inches
- **Diameter**: ³/₄ inch
- Effective embedment: 2.75 inches, minimum
- Anchor torque: 85 95 pound feet (not less than 80 or more than 105)

WARNING Your Concrete and Anchor Bolts *must* meet these specifications. Only install your Lift on a Concrete surface. If you install a Lift on asphalt or any other surface, or your Concrete or Anchor Bolts do not meet these specifications, it could lead to product damage, Vehicle damage, personal injury, or even loss of life.

GrandPrix Lifts are supplied with installation instructions and concrete fasteners meeting the criteria as prescribed by the American National Standard "Automotive Lifts – Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-2006.

WARNING Use only the Anchor Bolts that came with your Lift. If you use components from a different source, you void your warranty and compromise the safety of everyone who installs or operates the Lift.

Lift buyers are responsible for conforming to all regional, structural, and seismic anchoring requirements specified by any other agencies and/or codes, such as the Uniform Building Code and/or International Building Code.

To anchor the Posts:

- 1. Locate the hardware you will need: four Anchor Bolts, four Nuts, and four washers per Post.
- 2. Using the Base Plates as guides, drill 4 inch deep holes for the Anchor Bolts—one hole in each corner of the Base Plate, so four holes total per Base Plate.



Go in straight, in the center of the hole; do not let the drill wobble.

Use a carbide bit (conforming to ANSI B212.15-1994).

The diameter of the drill bit must be the same as the diameter of the Anchor Bolt. So if you are using a $\frac{3}{4}$ inch diameter Anchor Bolt, for example, use a $\frac{3}{4}$ inch diameter drill bit.

3. Vacuum each hole clean.



BendPak recommends using a vacuum to get the hole very clean. You can also use a wire brush, hand pump, or compressed air; just *make sure to thoroughly clean each hole*.

Do **not** ream the hole. Do **not** make the hole any wider than the drill bit made it.

Important: The holding strength of an Anchor Bolt is partially based on the how cleanly the Expansion Sleeve presses against the Concrete. If the hole is dirty, the Expansion Sleeve does not press as cleanly, which means less holding strength. If the hole is too wide, the Expansion Sleeve does not press against the Concrete with as much force, again resulting in less holding strength.

4. Make sure the Washer and Nut are in place (the top of the Nut should be flush with the top of the Bolt), then insert the Anchor Bolt into the hole.



The Expansion Sleeve of the Anchor Bolt may prevent the Anchor Bolt from passing through the hole in the Base Plate; this is normal. Use a hammer or mallet to get the Expansion Sleeve through the Base Plate and into the hole.

Even using a hammer or mallet, the Anchor Bolt should only go into the hole part of the way; this is normal. If the Anchor Bolt goes all the way in with little or no resistance, the hole is too wide.

Once past the hole in the Base Plate, the Anchor Bolt eventually stops going down into the hole as the Expansion Sleeve contacts the sides of the hole; this is normal.

5. Hammer or mallet the Anchor Bolt the rest of the way down into the hole.

Stop when the Washer is snug against the Base Plate.

6. Plumb each Post; install any needed Shims.

Do not shim a Post more than half an inch using the provided Shims. A maximum of 2 inches is possible by ordering optional Shim Plates. Contact BendPak at **(800) 253-2363**, extension 191 to order. Please have the model and serial number of your Lift available.

Take your time while plumbing and shimming the Posts; *it is important to make the Lift as level as possible*.

 Wrench each Nut *clockwise* to the recommended installation torque, 85 – 95 foot pounds, using a Torque Wrench.



Important: Do *not* use an impact wrench to torque the Anchor Bolts.

Wrenching the Nut forces the Wedge up, forcing out the Expansion Sleeve and pressing it tightly against the Concrete.

Final Leveling

The following procedure describes how to fine tune how level your Lift is. The goal is that the four Safety Locks on the Lift engage at the same time.

To do final leveling on the Lift:

- 1. Raise your Lift to the first Safety Lock position.
- 2. Use a transit level or other leveling mechanism to evaluate how level the Posts and Runways are.
- 3. If you need to adjust a Runway, use the Top Nut and Stop Nut on the Top Cap of each Post to make adjustments to the Ladder in that Post (which impacts the levelness of the Runway and when the Safety Locks engage).
- 4. Raise the Lift to full height, listening as the Safety Locks engage.

If the Safety Locks are engaging at the same time, no further adjustments are necessary.

If the Safety Locks are not engaging at the same time, check the leveling, make necessary adjustments, and then raise the Lift again and listen as the Safety Locks engage.

5. When you are satisfied the Lift is level, firmly secure the Nuts at the top of each Post.

Installing Accessories

The accessories available for your Lift include:

- **Tire Chocks**. After you park a Vehicle on the Lift, put the Tire Chocks behind the back wheels to ensure the Vehicle stays where you put it. Included with the Lift.
- **Tire Stops**. Installed at the Front of the Lift. Hold the front Tires of the Vehicle in position. BendPak recommends chocking the rear Tires, so Vehicles stay in place. Included with the Lift.
- JP45 Bottle-Jack Tray. Holds one or two Bottle Jacks (not included), which let you get a Vehicle's wheels up off the GP-9 Runways. Refer to the *JP45 Quick Start Guide*, which comes with it. Included with the Lift.
- **Ramps**. Installed at the Rear of the Lift. Allow Vehicles to be easily driven onto the Runways. Included with the Lift.
- Drip Trays. Put them between the two Runways to catch dripping oil. Included with the Lift.
- **Caster Kit**. Gets the bottoms of the Posts up off the ground so that the entire Lift can be moved. Included with the Lift.
- **Rolling Bridge Jack**. Raises the wheels of the Vehicle on the Lift off the Runway, making it easier to perform brake jobs and suspension work while the Vehicle is on the Lift. Two are required to raise the whole car at one time. Separate purchase.

All of these Accessories are described in the following sections.

Tire Chocks

Tire Chocks go behind the back Tires of a Vehicle to make sure it stays where you put it.

To use the Tire Chocks: wedge them in behind the rear Tires of a Vehicle when it is in the desired location on the Lift, then remove them when you want to take the Vehicle off the Lift.

JP45 Bottle-Jack Tray

Holds one or two Bottle Jacks (not included), which let you get a Vehicle's wheels up off the GP-9 Runways.

Refer to the JP45 Quick Start Guide installation and usage instructions.

Ramps

Your Lift comes with two Ramps, which are installed onto the Rear of the Lift so that Vehicles can drive onto and off of the Runways.

To install the Ramps:

1. Install the four Ramp Mount pieces; one on each end of both Runways. Each takes two Bolts.



Important: Be careful *not* to disturb the Safety Release mechanism when you install the four Ramp Mount pieces.

2. To install a yellow, steel Ramp, put it into place next to the Ramp Mount piece, align the holes on the Ramp Mount piece, then slide the rod through the holes. Repeat the same process for the other yellow, steel Ramp.



3. To install a silver, aluminum Ramp, slip the end into place in the gap between the end of the Runway and the Ramp Mount piece. Repeat for the other silver, aluminum Ramp.



Tire Stops

Tire Stops are put into place on the Front of the Lift. They prevent the tires of the Vehicle on the Lift from going too far forward.

To install the Tire Stops:

- 1. Slide the bottom of the Tire Stop into place in the gap between the end of the Runway and the Ramp Mount piece.
- 2. Repeat Step 1 for the second Tire Stop.

Drip Trays

Drip Trays are black, plastic, freestanding trays that go between the two Runways and catch drips.

To use your Drip Trays, position them between the two Runways so that the Utility Rails hold them. Remove them when you are done with them.

Rolling Jack

A Rolling Jack lets you raise the Wheels of the Vehicle on the Lift off the Runway. It takes a pair of Rolling Jacks to get all four Wheels off the Runway.

Rolling Jacks are a separate purchase.

Brake jobs and suspension work, for example, are much easier to do to the Vehicle on the Lift if the wheels are off the Runways.

The Rolling Jack comes with its own manual; refer to that manual for instructions.

Caster Kit

The Caster Kit includes four assemblies, one per Post. When the Lift is raised by the Caster Kit assemblies, you can move it to a different location.

Important: Only put the Caster Kit into position to move the Lift. When you are done moving the Lift, remove the Caster Kit. Do not raise a Vehicle when it is on its Caster Kit.



To move your Lift with the Caster Kit:

- 1. Raise the Lift to the first lock and engage it there.
- 2. Locate the components of the four Caster Kit assemblies.
- 3. Using the supplied hardware, bolt all four Casters to the four holes in each of the Caster Kit Shafts.
- Take one Shaft and put the open end around the Post, with the Shaft on the inside of the Lift. The Cradle of the Shaft needs to be directly below the Crosstube above it.
- 5. Put the Pin through the holes in the Caster Kit assembly and the Post.
- 6. Put the Cotter Pin into place on the end of the Pin.
- 7. Repeat Steps 3 through 5 for the other three Caster Kit Assemblies.
- 8. Lower the Lift down to the ground.

Make sure the Crosstubes are going into all four Cradles on all four Caster Kit Shafts; this is what pushes the Bases of the Posts off the ground so that you can move it.

- 9. Move the Lift to the desired location.
- 10. Raise the Lift to a locking position off the Caster Kit assemblies and engage it there.
- 11. Take off all four Caster Kit assemblies.

Lubricating the Lift

There are eight lubrication points on the Lift. Find the Grease Fittings from the Parts Bag and install them on the Lift.

All of the lubrication points are where Sheaves are located:

- Four lubrication points on the Crosstube Sheaves. Each Crosstube Sheave is next to a Sleeve, for a total of four. If you have already installed the Safety Covers, the Crosstube Sheaves will be hidden; you will need to remove the Safety Covers to lubricate the Sheave.
- Four lubrication points under the Powerside Runway. One on the underside of each of the four Runway Sheave locations (two locations on each end of the Powerside Runway).

To lubricate: Put a small amount of white lithium grease or similar into the small hole at each lubrication point, both before you use the Lift and monthly after putting the Lift into service.

The following drawing shows the locations of the lubrication points.



Front View of Crosstube. Some components not shown.

Installing the Safety Covers

The location on the Lift where the Crosstube meets the Sleeve (which is around the Post) is where the Safety Locks and the Crosstube Sheaves are also located. To help protect these components, the Lift comes with four Safety Covers for these locations.

Like the Posts, the Safety Covers have "left" and "right" orientations. The Safety Covers must be oriented so that the opening near the top of the Cover allows the Lifting Cables on the Lift to pass through.

There are two Left Safety Covers and two Right Safety Covers.

The following drawing shows the correct orientation for the Safety Covers.



View is from the inside of the Crosstube. Not all components are shown.

To install the four Safety Covers:

- 1. Find a Safety Cover and put it over the Crosstube Sheave from above.
- 2. Tighten a screw into the hole in the top of the Safety Cover to secure it.

Performing an Operational Test

GrandPrix strongly recommends doing an Operational Test of your Lift with a typical Vehicle before starting normal service.

During the Operational Test, watch the Lift and its components and check for proper installation and operation. If you run into an issue that does not go away, refer to **Troubleshooting** for more information.

Note: Residual air in the Hydraulic System can cause the Lift to shake, move erratically, or squeak when you start using it; this is normal. If it happens, do not worry; it will go away soon, as the Hydraulic System is self-bleeding. If it does not go away after raising and lowering the Lift two or three times, try bleeding air from the Hydraulic Cylinder. If it still does not go away, refer to **Troubleshooting** for additional information.

To test your Lift:

- 1. Check the area around, above, and under the Lift for obstructions; move them if you find any.
- 2. Drive the Vehicle onto the Lift.

Center the Vehicle's tires in the middle of each Runway.

Put the Vehicle into park, put on the parking brake, put it in gear if it is a manual transmission, and chock the rear Wheels.

3. Check all four Lifting Cables from the Top Cap down to the Slack Safety Sheave.

Verify that each Lifting Cable is straight between those two points. If any two are angled (not quite straight), then the Top Caps may have been installed incorrectly. If so, they must be fixed. Refer to **Installing the Top Caps** for additional information.

4. Press and hold the **Up** button.

Both Runways start rising.

5. After the Runways pass one or two Safety Locks (you will hear them), release the **Up** button.

The Runways stop rising.

6. Pull down *and hold down* the Safety Lock Release Handle (next to the Crosstube), then press *and hold* the Lowering Handle (on the Power Unit).

The Runways start lowering.

- 7. When the Runways are fully lowered, release both handles.
- 8. Wait for one minute.

CAUTION Always take a break between cycles. The Power Unit's motor is **not** constant duty. If you run it continuously, you will damage it, which is **not** covered by the Warranty.

- 9. Repeat the process, this time raising the Runways higher.
- 10. If the Lift is working without shaking, moving erratically, or squeaking, there is no need to repeat the procedure.

If the Lift is shaking, moving erratically, or squeaking (which is normal during the start-up period), repeat the procedure a couple more times, with a one-minute break between cycles.

If you continue to have issues, refer to **Troubleshooting** for assistance.

Final Checklist Before Operation

Make sure these things have been done *before* putting the Lift into normal operation:

- Review the **Installation Checklist** to make sure all steps have been performed.
- Make sure the Power Unit is getting power from the power source.
- Check the reservoir on the Power Unit; it must be full of approved Hydraulic Fluid or automatic transmission fluid. *You can damage the motor by running it without enough fluid.*
- Check the Hydraulic System for leaks.
- Make sure all four Posts are properly anchored, shimmed, level, and stable, if you anchored them.
- Make sure all Lifting Cables are taut, seated in their Sheaves, and lubricated.
- Make sure that all Lifting Cables are straight between the Top Cap and the Slack Safety Sheave. If any two are more angled than straight, then the Top Caps may have been installed incorrectly. If so, they must be fixed. Refer to **Installing the Top Caps** for additional information.
- Make sure all Safety Locks are operating normally.
- Make sure the backup Slack Safety Locks are *not* engaged.
- If it has not been done already, perform an Operational Test of the Lift with a typical Vehicle. Refer to **Performing an Operational Test**.
- Leave the Installation and Operation Manual with the Lift.

Operation

This section describes how to operate your Lift.

GrandPrix recommends reading *Lifting It Right* from the Automotive Lift Institute prior to putting your Lift into normal operation. It is a guide to the considerations involved with the safe operation of automotive Lifts. It was included with your Lift.

▲ DANGER When you even hear the words "automotive lift," your brain should automatically remember that lifting a Vehicle is a serious endeavor with life-threatening risks. Focus on what you are doing. Automotive Lifts are dangerous tools when used by inexperienced or impaired operators. *Do not assume you are going to be safe this time because nothing happened last time*.

Safety Considerations

Do the following every time *prior* to raising or lowering a Vehicle; really, every time:

- Check the Lift. Walk all the way around the Lift, checking 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 techsupport@bendpak.com, or call (800) 253-2363.
- **Check the area**. Keep the area around and under the Lift clean and free of obstructions; anything that could cause a problem. Do not forget to check **above** the Lift. If you find an obstruction, move it out of the way. If you find any other issues, resolve them before using the Lift. Do not allow any people or animals within 30 feet of the Lift while it is moving.
- **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 while it is moving.

Do not allow anyone under the influence of drugs, alcohol, or medication to operate the Lift. Do not allow children to operate the Lift. Do not allow any unauthorized personnel to operate the Lift.

When the Lift is moving, the Operator must be paying full attention to the Lift and the area around it. The Operator must **not** be looking at a smart phone, talking to a co-worker, or be distracted in any other way.

• **Check for safety**. Make sure everyone who is going to be walking near the Lift is aware of its presence and takes appropriate safety measures.

When raising a Vehicle, do not leave the Controls until it is engaged on Safety Locks. When lowering the Lift, do not leave the Controls until it is on the ground.

Check the Vehicle. Never exceed the Lift's rated capacity. Do not allow people inside a Vehicle you are going to raise. Take out of the Vehicle anything you might need while it is up on the Lift. Make sure the Vehicle is not overbalanced on either end or either side. Make sure the Wheels of the Vehicle are *completely* on the Runways; Vehicles with long wheelbases cannot be on the Ramps or past the Tire Stops. When driving a Vehicle onto the Runways, make sure to position the Wheels in the center of the Runways.

Using the Controls

The Controls for the Lift include:

• **Up button**. Press and hold to raise the Runways. Located near the top of the Power Unit.

To engage Lift on its Safety Locks. Raise the Runways a little above where you want them, then press and hold the Lowering Handle to back the Runways down onto the Safety Locks (do **not** pull down and hold the Safety Lock Release Handle). When the Runways stop lowering, they are engaged on Safety Locks.

Before leaving the Lift, make sure all four Posts are engaged on Safety Locks at the same height.

• **Lowering Handle**. Press and hold to lower the Runways. Located in the middle of the Power Unit, the Lowering Handle is long and has a ball at the end.

To lower raised Runways all the way to the ground: *pull down and hold* the Safety Lock Release Handle first, then *press down and hold* the Lowering Handle.

Watch the Runways as they go down to make sure they are coming down evenly. If they are not, stop lowering the Lift and troubleshoot the problem.

MARNING Only leave your Lift either engaged on Safety Locks or fully lowered.

• **Safety Lock Release Handle**. Pull down and hold the Safety Lock Release Handle as part of the process to lower the Runways. The Safety Lock Release Handle is always installed next to the Power Unit. Pulling down and holding the Safety Lock Release Handle disengages the Safety Locks, which is needed to lower the Runways.



Raising and Lowering Vehicles

This section includes instructions for raising and lowering a Vehicle.

To raise a Vehicle:

- 1. Make sure the Runways are on the ground. If they are not, move them down to the ground.
- 2. Drive a Vehicle onto the Runways.

Make sure all four wheels are *fully* on the Runways, in the center of the Runways.

Put the Vehicle into park and put on the parking brake. Leave manual transmissions in gear.

- 3. Chock the Wheels.
- 4. Press and hold the Up Button on the Power Unit.

The Runways begin to rise.

5. When the Runways get to the desired height, go up a little bit higher, then release the Up Button and press and hold the Lowering Handle.

Do **not** pull down and hold the Safety Lock Release Handle; this prevents the Lift from engaging on its Safety Locks.

The Runways move back down a little and engage on the most recently passed Safety Locks.

How do you know if one of the four Safety Locks has, for some reason, not engaged? If this happens, the non-engaged corner of the Lift will continue to go down, while the others stay where they are. The result is a Runway that is not flat. Always make sure all four Safety Locks are engaged; you know they are if both Runways are flat.

MARNING Only leave your Lift either engaged on Safety Locks or fully lowered.

6. With the Runways engaged on the Safety Locks, check around the Vehicle to make sure everything looks good.

If you see anything wrong, fix it before anyone gets near the Runways or goes under them.

Do not go under the Lift until you are sure it is engaged on all four Safety Locks.

To lower a Vehicle:

- Make sure there are no obstructions under the Runways you are about to lower. If there are, move them out of the way *before* lowering the Runways.
- 2. Press and hold the **Up** Button for two or three seconds.

Moving the Lift *up* gets it off the Safety Locks, which is required for lowering the Lift.

- Pull down and hold the Safety Lock Release Handle, then press and hold the Lowering Handle. The Runways start lowering.
- 4. When the Runways are fully lowered, release both handles.
- 5. Remove the wheel chocks.
- Make sure it is safe to drive the Vehicle off the Lift.
 If not, make it safe.
- 7. Drive the Vehicle off the Lift.

Maintenance

Unless stated otherwise, all maintenance can be performed by the owner/employer and does not require trained lift service personnel.

▲ DANGER Before performing maintenance on your Lift, make sure it is disconnected from power. The Lift uses electrical energy; if your organization has Lockout/Tagout policies, make sure to implement them *before* performing any maintenance. If you come into contact with high voltage/current, you could be injured or killed.

If you need to replace worn, damaged, or broken parts, you **must** use parts from (or approved by) the original equipment manufacturer (OEM) or parts that meet the OEM's specifications.

WARNING If you use parts *not* from, approved by, or meeting the specifications of the original equipment manufacturer, you void your warranty and compromise the safety of everyone who installs or uses the Lift.

To maintain your Lift:

- **Daily**: Keep the Lift clean. Wipe up any spills, clean any dirt.
- **Daily**: Make a visual inspection of all moving parts and check for damage or excessive wear. Replace any damaged or worn parts before using the Lift.
- ▲ DANGER Do not use the Lift if the Lifting Cables are damaged or extremely worn. If a Vehicle is raised when you notice the damage or extreme wear, very carefully lower the Vehicle to the ground if this can be done safely; if it cannot be done safely, evacuate the area and make arrangements with trained lift service personnel to lower the Vehicle. When the Lift is on the ground, take it out of service, disconnect it from power, and make arrangements with trained lift service personnel to fix the damage and/or wear.
- **Daily**: Make sure all Safety Locks are in good operating condition. Do not use your Lift if the Safety Locks are damaged or excessively worn. If a Vehicle is engaged on its Safety Locks when damage or excessive wear is noticed, and the Vehicle cannot be lowered, evacuate the area and make arrangements with trained Lift service personnel to come and lower the Lift.
- **Monthly**: Check all labels on the Lift. Replace them if they are illegible or missing.
- Monthly: Grease the lubrication points on the Lift. Use white lithium grease or similar.
- Monthly: Check Hydraulic Fluid levels. Refill if low.
- **Monthly**: Lubricate the wire rope (Lifting Cables). Use a wire-rope lubricant such as 90-WT gear oil or ALMASOL® Wire Rope Lubricant.
- **Monthly**: Check cable connections, bolts, and pins for proper mounting and torque.
- **Monthly**: Check electrical connections. Requires a licensed, certified Electrician.
- **Every two months**: Check all Anchor Bolts to make sure they are properly torqued (if your Lift is anchored). If they are loose, tighten them.
- WARNING Do not operate your Lift if you find maintenance issues; instead, take the Lift out of service, then contact your dealer, trained lift service personnel, visit bendpak.com/support, email techsupport@bendpak.com, or call (800) 253-2363, extension 191.

Wire Rope Inspection and Maintenance

Your Lift's Lifting Cables, which are wire rope, should be inspected regularly:

• Wire rope should be replaced when there are visible signs of damage or extreme wear. *Do not use the Lift if it has damaged or worn Lifting Cables; take it out of service*!



• Wire rope should be maintained in a well-lubricated condition at all times.

Wire rope is only fully protected when each wire strand is lubricated both internally and externally. Excessive wear shortens the life of wire rope. Use a wire-rope lubricant that penetrates to the core of the rope and provides long-term lubrication between each individual strand, such as 90-WT gear oil or ALMASOL® Wire Rope Lubricant. To make sure the inner layers of the rope remain well lubricated, lubrication should be done at least every three months during normal operation.

• All Sheaves and guide rollers that contact moving wire rope should be given regular visual checks for surface wear and lubricated to make sure they run freely. This should be done every three months during normal operation.

For all Sheave axles, use standard wheel bearing grease. For all Sheaves and/or guide rollers, use 90-WT gear oil or a similar heavy lubricant, applied by any method including pump/spray dispensing, brush, hand, or swabbing.

• How often should you inspect?

Wire rope should be visually inspected at least once each day when in use, as suggested by American Petroleum Institute's Recommended Practice 54 guidelines. Any wire rope that meets the criteria for removal must be immediately replaced.

• When should you replace wire rope due to broken wires?

Wire rope should be removed from service if you see six randomly distributed broken wires within any one lay length (where a single strand makes a full turn around the rope) or three broken wires in one strand within one lay length.

• Are there other reasons to replace your wire rope?

Yes. Corrosion that pits the wires and/or connectors, evidence of kinking, crushing, cutting, birdcaging, or a popped core, wear that exceeds 10% of a wire's original diameter, or heat damage.

- How do you find broken wires?
 - a. Relax your rope to a stationary position and move the pick-up points off the Sheaves. Clean the surface of the rope with a cloth a wire brush, if necessary so you can see any breaks.
 - b. Flex the rope to expose any broken wires hidden in the valleys between the strands.
 - c. Visually check for any broken wires. One way to check for crown breaks is to run a cloth along the rope to check for possible snags.
 - d. With an awl, probe between wires and strands and raise any wires that appear loose.

Troubleshooting

This section describes how to troubleshoot your Lift.

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 done by qualified personnel.

WARNING The Lift uses electrical energy; if your organization has Lockout/Tagout policies, make sure to implement them **before** performing any Troubleshooting.

Runways do not raise or do not lower, once raised.	Make sure there is sufficient Hydraulic Fluid in the reservoir. Make sure there is no air in the Hydraulic System. Make sure none of the Hydraulic Hoses are pinched or leaking. If the Hydraulic Fluid is dirty, replace it with clean fluid. Make sure the Power Unit is getting power.
	Make sure Lift is not overloaded.
One corner of the Lift is lower than the other three corners.	The Safety Lock on the low corner is not engaged. Raise the Runways, then lower them down onto Safety Locks. Make sure all four Safety Locks are engaged at the same height.
Runways move erratically or squeak when in use.	Move the Runways up and down a few times to flush any residual air from the Hydraulic System. Make sure to pause for at least a full minute between cycles.
Runways do not stay up.	Check for leaking Hydraulic Fluid.
	Make sure the Runways were left engaged on Safety Locks.
Motor not running.	Check the connection to the power source; make sure it is plugged in and of the appropriate voltage. Check the wiring diagram.
Hydraulic Fluid is 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.
Runways make odd noises.	Lubricate the Sheaves using white lithium grease. If the Lift is new, a break-in period may be needed; run the Lift several times each day. If the noises persist, contact BendPak Support.
Lift becomes inoperative with Vehicle on it in a raised position.	If Safety Locks are engaged, Vehicle will stay raised. To lower it, use jacks and jack stands to raise the Vehicle up off the Runways a few inches, disengage the Safety Locks, then lower the Vehicle back down onto the Runways; the weight of the Vehicle will lower it to the ground.

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

Bleeding the Hydraulic Cylinder

The Hydraulic Cylinder on the Lift is self-bleeding, which means that in most cases any air in the Hydraulic System gets removed automatically simply by using the Lift.

In rare cases, it may be necessary to *manually* bleed the Hydraulic System of any extra air.

WARNING Before performing any maintenance on your Lift (for example, bleeding the Hydraulic Cylinder or adding Hydraulic Fluid), make sure both Runways are on the ground and the power source has been disconnected and cannot accidentally be re-connected.

Symptoms of air in the Hydraulic System include Runways moving erratically and/or making odd noises during raising or lowering. These could be caused by other situations; refer to **Troubleshooting** for more information.

To bleed the Hydraulic System:

1. Raise the Lift to maximum rise and then lower it all the way back down again.

Pause for at least a full minute between each cycle. The Lift's motor cannot run continuously; it is designed for regular use, but not continuous use.

2. Raise the Lift again to maximum rise; watch the Runways as you raise it.

If the Lift does *not* move erratically, squeak, or jerk as it moves, the Hydraulic System has been purged of air. You can return the Lift to normal operation.

3. If the Lift *does* move erratically, squeak, or jerk as it moves, perform Step 2 again.

When the Lift is raising and lowering smoothly, you can return it to normal operation.

If your Lift is still moving erratically or making odd noises after bleeding the Hydraulic System, take it out of service, go to **bendpak.com/support**, email **techsupport@bendpak.com**, or call **(800) 253-2363**.

4. Check the Hydraulic Fluid reservoir on the Power Unit.

Bleeding the Hydraulic System may lower the amount of Hydraulic Fluid in the reservoir.

5. Add additional Hydraulic Fluid if necessary.

Wiring Diagrams





These wiring diagrams use the United States color codes for the three wires in the Pigtail that comes out of the Electrical Box on the Power Unit:

- Black: Live
- White: Live
- Green: Ground •

If you are using the unit in a European country, the Black – White – Green colors correspond to:

- Brown: Live
- **Blue:** Neutral
- Green/Yellow: Ground

Information about color code conventions in other regions and countries is available online.

WARNING: All electrical work, such as hard-wiring the unit or attaching a Plug to the Power Cord, must be done by a licensed, certified Electrician in accordance with all applicable local electrical codes. Damage caused by improper electrical installation may void your warranty.
Labels

GRANDPRIX



GRANDPR Josephere Sendrate Santa Paula, CA 93060 U.S.A. (805) 933-9970

D English, Front

С





French, Rear



VÉRIFIER VISUELLEMENT QUE TOUS LES VERROUS DE SÉCURITÉ Primaires sont engagés avant d'entrer dans la zone de travail Les composants de suspension de cet dévateur sont destries à dever et abuisser scenseur, ce ne sont PAS des dispositifs de maintient de la charge. Ne passez pas sou un ascenseur surreidevé avant d'avoir obtenu la confirmation visuelle que l'ascenseur est engagé sur ses serrures de sécurité. Reportez-vous au manuel pour comaître les procédures de verouitlage de sécurité de la sistuicitons supplicimentaires.

$\left[\bullet \right]$

Inspection et maintenance des câbles

de levage si l'usure ou des dommages sont évidents, tels que des brins cassés, des ns ou des zones de forte abrasion excessives. tentes, des deformations au des zones de tonte abrasion excessives. Caracte la câble netallique bein lucifier no trut temps. Le câble métallique n'est entiérement protégé que langue chaque toron est lubrifit, à la fois à l'intériour et à l'actérieur. Une suure excessive naccourcit la durée é evi éu du câble. Utiliser un lubrifit pour câble métallique qui pérfert est nes le noyau du câble et assure une lubrification à long terme entre les torons. La lubrification doit être effectuée au moins tous les tois mice en notunement normal.

is en fonctionnement normal. Se polles et la galaté de quictage en contact avec le câble métallique en mouvement doivent être à des contrôtés visuels réguliere de l'usure de la surte de la tribute service sesurer qu'ils fonctionnement fonctionnement fonctionnement donnement de poulie, utilisez de la graisse attordard pour rouienemt de roue. Pour tents les poulies et 4 ou site quictage utilisez de la graisse attordard pour rouienemt de roue. Pour tents les poulies et 4 ou site de poulie, utilisez de la graisse attordard pour rouienemt de roue. Pour tents les poulies et 4 ou se puidage, utilisez de la graisse attordard pour rouienemt de roue. Pour tents les poulies et 4 ou se puidage, utilisez de la praisse attordard pour rouienemt de roue. Pour tents les poulies et 4 ou se te quelle méthode, y compris la distribution par pompe / spray, brosse, main et / ou écouvilionnage

Lisez et comprenez ces instructions avant d'utiliser l'ascenseur. Ne pas lire, comprendre et suivre ces instructions peut provoquer des blessures graves, voire mortelles.

IMPORTANT **INSTRUCTIONS D'UTILISATION / DE MAINTENANCE**

POUR SOULEVER

- POIR SOULEVER
 POIRS SOULEVER
 Placez les pneus du véhicule au centre de chaque platfa-forme.
 Placez les pneus du véhicule au centre de chaque platfa-forme.
 Placez les pneus du véhicule au centre de chaque platfa-forme.
 Navant de soulever le véhicule, assurez-vois que tout le personnel set libre de l'élévateur et des
 winvions. Potze une detantion particulêre aux dégagements en hauteur.
 Soulever l'élévateur à la hauteur désirée en appuyant sur le bouton-poussoir du bloc d'alimentation.
 Notatier les encente hauteur and les hauteur desirée en appuyant sur le bouton-poussoir du bloc d'alimentation.
 Notatier les encente hauteur and les hauteur desirée en appuyant sur le bouton-poussoir du bloc d'alimentation.
- Maintenir le contact visuel avec le véhicule et la zone environnante à tout moment pendant la montée
- Vanienri le contad visue avec le venicule et la zone environnante a tout moment pendant la montee.
 Vane fois la véhicule élevé à la hauteur souhaitée, abaissez le pont élévateur sur le verrou de sécurité le plus proche. Ne laissez pas les d'âbles dévenir trop mous.
 Vans d'autorique se pas les d'âbles dévenir trop mous.
 Assurez-vous toujours que tous les verrous de sécurité primaires sont engagés avant d'entrer dans la zone de travail.

Ia zone de travail. POUR ABAISSER LE LEVAGE Assurez-vous que tout le personnel, les outils et l'équipement sont dioignés de l'asconseur et des V Learn to pronounce Soulever l'élévataur en appuyant sur le botont de la centrale. Soulevez l'assenseur d'au moins deux pouces pour permette une dégagement suffisiant des serures. A pouyes sur la poignée de divernouillage de sécurité et maintenz-la enfoncée. nt sont éloinnés de l'ascenseur et des environs

- Abaisser le véhicule en appuyant également sur la poignée d'abaissement.
- Volución de valemente or la propuesta considerativa en la progrado considerativa. Uno de la fabilissimente del Faberanesen ar, assurez-vous que tota le personnel et les objets sont gardés à l'écart. Y TOUJORS garder une ligne de mine visuelle sur l'asconseur pendant l'abilissement. Y TOUGURS garder que les vernos de sécurité sont désempairés. S'Una des servanes érrage par indevetance dans la descerte, l'asconseur et / ou le véhicule penvent être perturbés et causer des blessures ou la mort.

ENTRETIEN MENSUEL REQUIS Consultez le manuel d'utilisation pour la maintenance recommandée par l'usine

Ajustez les câbles de levage pour vous assurer que les ascenseurs sont de niveau et que les serrures de sécurité s'enclenchent simultanément.

✓ Vérifiez toutes les connexions de la chaîne / du câble, les boulons et les broches pour assurer un montage correct.

Inspectez visuellement les serrures de sécurité pour vous assurer qu'elles fonctionnent correctement. Inspecte visualisment les sentires de secure pour vois assure qu'illes roncionnent correction / Inspecter tous les boulons et autres fixations pour vois assurer qu'ils sont correctement fixés.

✓ Effectuez une inspection visuelle de toutes les pièces mobiles et recherchez des signes d'usure excessive. Remplacez toutes les pièces défectueuses avant que l'élévateur ne soit remis en service.

ATTENTION

- AVERTISSEMENT: si les boulons d'ancrage sont desserrés ou si l'un des composants de l'élévateur est délectueux, n'utilisze pas d'élévateuri C en lest pas sûr dans ces conditions.
 Ne faitais JAMAIS fonctionner l'avencemeur avec des personnes ou des équipements dessous. Ne JAMAIS dépasser la capacité nominale.
- Assurez-vous toujours que les serrures de sécurité sont enclenchées avant toute tentative de travail sur ou à proximité du véhicule.

Ne laissez pas le moteur électrique se mouiller! Les dommages au moteur causés par l'humidité ne sont pas couverts par la garantie.

F



A WARNING / ATTENTION



KEEP HANDS AND OTHER OBJECTS AWAY FROM ROTATING PARTS.

GARDEZ LES MAINS ET AUTRES OBJETS À L'ÉCART DE PIÈCES ROTATIVES.





INSTALLATION: 3 Sitely instructions. Latteriments, accessories, or scringuration modifying compression but are located in the later path which apparation of the UR disc the UR solution listing or a the lateriate laterial accessment before an used on the listical. If they can be called use to the laterial is allocated accession to the laterial accession accession of the laterial called accession that will shall be one used and the laterial to achieve the termshare portaining the reliability accession accession are used using laterial accession accession are used accession. BendPak life are supplied with constrain festences mosting the orderia as presented by ASTM 144 E468M-18. Lift bayers are reparation for any special regional, shadbard, and/or selection analoging requirements specified by any other agencies and/or oddes such as the Uniform Durking Code (UD requirements specified by any other agen and/or Informational Building Code (IBC) The manufacture, use, sale, or import of this product may be subject to one or more United States patents, or pending applications, owned by BendiPak Inc.

Ps 5905940 Made in China De Not Remove Engineered by BendPak Inc., USA



	J			
	DANGER			
	THE MAXIMUM LIFTING CAPACITY or this lift is described below			
ΙΓ	Maximum Lifting Capacity 9,000 lbs. / 4,082 kg			
	Max. Lifting Cap. / Front of Lift Center 4,500 lbs. / 2,041 kg			
	Max. Lifting Cap. / Rear of Lift Center 4,500 lbs. / 2,041 kg			
on li ov	tors and/or bystanders. All whiteles MUST be positione ift with CENTER OF GRAVITY midway between adapters and/or centered on runways. Damage to lift due to verbading or misuse IS NOT covered under warranty. A CAPACITÉ DE LEVAGE MAXIMUM R CE LEVAGE EST DÉCRIT CI-DESSOU			
	Capacité de Levage Maximale 9,000 lbs. / 4,082 kg	1		
Max.	. Capuchon De Levage. / Avant du centre de relèvemen 4,500 lbs. / 2,041 kg	t		
Max	x. Capuchon De Levage. / Arrière du centre de levage 4,500 lbs. / 2,041 kg			
endor domn teurs placés entre le	passement de la capacité de paids de cet élévateur pou mmager l'ascenseur et / ou les biene et puut causer de mages carportes (de blessures avoir la mort aux opéra- s et / ou aux passants. Tous les véhicules DOIVENT être s ur l'évisature avec le CENTRE De GRAVITÉ a mi-chem les adaptatsurs et / ou au centre des pistes. Dommages ver dus à la surcharge ou une mauvaiseu utilisation N°ES PAS couvret par la garantie.	in i		







The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 85 Cortland, NY 13045.

 Replacement label sets may be obtained from the original lift manufacturer and ALI's member companies. They are protected by copyright.

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NOTICE

If attachments, accessories, or configuration m o d i f y i n g components

used on this lift are located in the load path and affect operation of the lift, affect the lift electrical listing, or affect intended vehicle accommodation; and if they are not certified for use on this lift, then the certification of this lift shall become null and void. Contact the participant for information pertaining to certified attachments, accessories, or configuration modifying components.

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Ο

FRONT / SIDE OF LIFT



Parts Drawings



















Automotive Lift Institute (ALI) Store

You probably checked the **ALI's Directory of Certified Lifts** (www.autolift.org/ali-directory-ofcertified-lifts/) before making your most recent Lift purchase, but did you know the **ALI Store** (www.autolift.org/ali-store/) offers a wide variety of professional, easy-to-use, and reasonably priced training and safety materials that will make your garage a safer place to work?

The ALI Store is your trusted source for workplace safety!



Lifting It Right Online Certificate Course. Make *sure* you and your people are lifting vehicles the right way.



KPA Online Training Subscription. Get all of your people up to speed on automotive industry topics.



ANSI/ALI ALOIM Standard for Automotive Lifts. Safety Requirements for Operation, Inspection, and Maintenance.



ANSI/ALI ALIS Standard. Safety Requirements for Installation and Service.



Lifting It Right. A hardcopy version of the *Lifting It Right* safety manual from the Automotive Lift Institute.



Guide to Hitting Vehicle Lifting Points for Frame-Engaging Lifts. Don't eyeball your lifting points, *know* where they are.



Uniform Warning Labels and Placards for 2-Posts. Labels in Mandarin, French Canadian, and Spanish are also available.



Lift Operator Safety Materials. Five safety documents in a single package.



Safety Tips Card. Reminds your people of 13 key safety tips to follow daily.

Visit today and get the training and materials you need to work safely: http://www.autolift.org/ali-store/.



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