⚠ WARNING

PLEASE READ THE ENTIRE CONTENTS OF THIS MANUAL PRIOR TO INSTALLATION AND OPERATION. BY PROCEEDING YOU AGREE THAT YOU FULLY UNDERSTAND AND COMPREHEND THE FULL CONTENTS OF THIS MANUAL. FORWARD THIS MANUAL TO ALL OPERATORS. FAILURE TO OPERATE THIS EQUIPMENT AS DIRECTED MAY CAUSE INJURY OR DEATH.



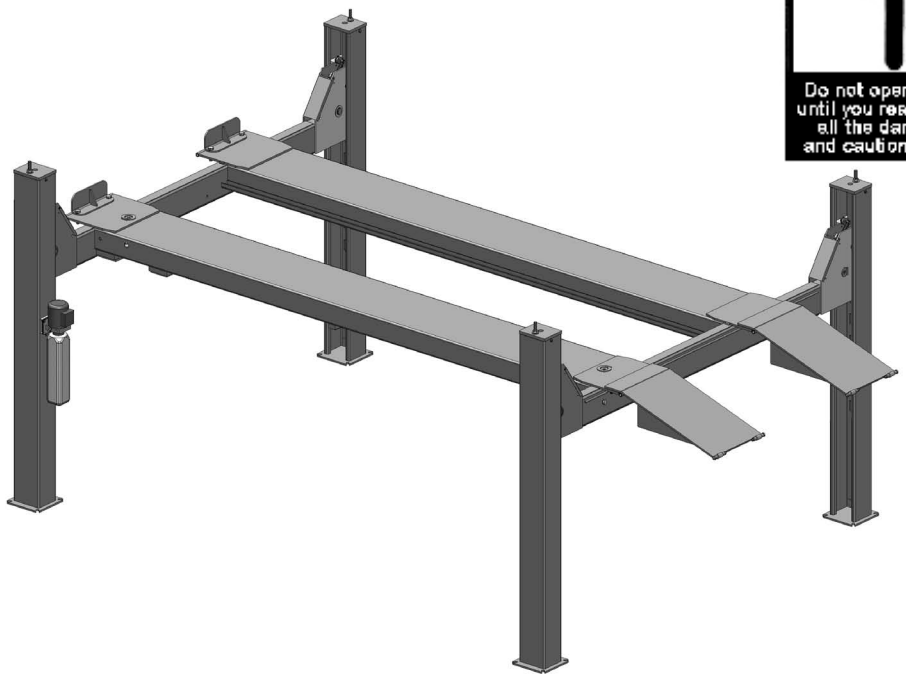
Manual REV D 06-12-12
pn# 5900160

INSTALLATION AND OPERATION MANUAL

SUPER-DUTY FOUR-POST LIFTS

Models:
HDS-18
HDS-27 / HDS-27X
HDS-35 / HDS-35X
HDS-40 / HDS-40X





Keep this operation manual near the machine at all times. Make sure that ALL USERS read this manual .

SHIPPING DAMAGE CLAIMS
When this equipment is shipped, title passes to the purchaser upon receipt from the carrier. Consequently, claims for the material damaged in shipment must be made by the purchaser against the transportation company at the time shipment is received.

BE SAFE
Your new lift was designed and built with safety in mind. However, your overall safety can be increased by proper training and thoughtful operation on the part of the operator. DO NOT operate or repair this equipment without reading this manual and the important safety instructions shown inside.

BendPak®
PROVIDING AUTOMOTIVE SERVICE SOLUTIONS

1645 Lemonwood Dr.
Santa Paula, CA. 93060, USA
Toll Free 1-800-933-9970
Tel: 1-805-253-2363
Fax: 1-805-933-9160
www.bendpak.com

18,000; 27,000; 35,000; 40,000 POUND CAPACITY, COMMERCIAL GRADE FOUR POST AUTO / TRUCK LIFT

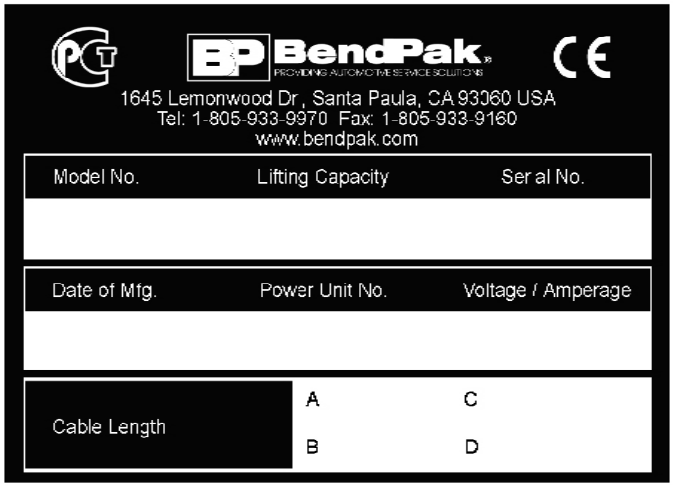
This instruction manual has been prepared especially for you.
Your new lift is the product of over 35 years of continuous research, testing and development; it is the most technically advanced lift on the market today.

READ THIS ENTIRE MANUAL BEFORE INSTALLATION & OPERATION BEGINS.

RECORD HERE THE LIFT AND POWER UNIT INFORMATION WHICH IS LOCATED ON THE SERIAL NUMBER DATA PLATES ON THE LIFT AND ON THE POWER UNIT

Power Unit Model # _____
Power Unit Date Of Mfg. _____
Power Unit Serial # _____

This information is required when calling for parts or warranty issues.



PRODUCT WARRANTY

BendPak 4-Post Lifts are covered under warranty for five years on equipment structure, to be free of defects in material and workmanship. Power units, hydraulic cylinders, and all other assembly components such as turnplates, slip plates, cables, chains, valves, switches etc. are covered under warranty for one year against defects in material or workmanship under normal use. BendPak Inc. shall repair or replace at their option for the warranty period those parts returned to the factory freight prepaid which prove upon inspection to be defective. BendPak Inc. will pay labor costs for the first 12 months only on parts returned as previously described.

The warranty does not extend to...

- ♦ defects caused by ordinary wear, abuse, misuse, shipping damage, improper installation, voltage or lack of required maintenance;
- ♦ damages resulting from purchaser's neglect or failure to operate products in accordance with instructions provided in the owner's manual(s) and/or other accompanying instructions supplied;
- ♦ normal wear items or service normally required to maintain the product in a safe operating condition;
- ♦ any component damaged in shipment;
- ♦ other items not listed but may be considered general wear parts;
- ♦ damage caused by rain, excessive humidity, corrosive environments or other contaminants.

THESE WARRANTIES DO NOT EXTEND TO ANY COSMETIC DEFECT NOT INTERFERING WITH EQUIPMENT FUNCTIONALITY OR ANY INCIDENTAL, INDIRECT, OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE, OR MALFUNCTION OF A BENDPAK INC. PRODUCT OR THE BREACH OR DELAY IN PERFORMANCE OF THE WARRANTY.

WARRANTY IS NOT VALID UNLESS WARRANTY CARD IS RETURNED.

IMPORTANT NOTICE

Do not attempt to install this lift if you have never been trained on basic automotive lift installation procedures. Never attempt to lift components without proper lifting tools such as forklift or cranes. Stay clear of any moving parts that can fall and cause injury. These instructions must be followed to insure proper installation and operation of your lift. Failure to comply with these instructions can result in serious bodily harm and void product warranty. Manufacturer will assume no liability for loss or damage of any kind, expressed or implied resulting from improper installation or use of this product.

PLEASE READ THE ENTIRE CONTENTS OF THIS MANUAL PRIOR TO INSTALLATION AND OPERATION. BY PROCEEDING YOU AGREE THAT YOU FULLY UNDERSTAND AND COMPREHEND THE FULL CONTENTS OF THIS MANUAL.

DEFINITIONS OF HAZARD LEVELS

Identify the hazard levels used in this manual with the following definitions and signal words:



DANGER

Watch for this symbol: It Means: Immediate hazards which will result in severe personal injury or death.



WARNING

Watch for this symbol: It Means: Hazards or unsafe practices which could result in severe personal injury or death.



CAUTION

Watch for this symbol: It Means: Hazards or unsafe practices which may result in minor personal injury or product or property damage.

OWNER'S RESPONSIBILITY

To maintain the lift and user safety, the responsibility of the owner is to read and follow these instructions:

- Follow all installation and operation instructions.
- Make sure installation conforms to all applicable Local, State, and Federal Codes, Rules, and Regulations; such as State and Federal OSHA Regulations and Electrical Codes.
- Carefully check the lift for correct initial function.
- Read and follow the safety instructions. Keep them readily available for machine operators.
- Make certain all operators are properly trained, know how to safely and correctly operate the unit, and are properly supervised.
- Allow unit operation only with all parts in place and operating safely.
- Carefully inspect the unit on a regular basis and perform all maintenance as required.
- Service and maintain the unit only with authorized or approved replacement parts.
- Keep all instructions permanently with the unit and all decal's on the unit clean and visible.

BEFORE YOU BEGIN

Receiving:
The shipment should be thoroughly inspected as soon as it is received. The signed bill of lading is acknowledgement by the carrier of receipt in good condition of shipment covered by your invoice. If any of the goods called for on this bill of lading are shorted or damaged, do not accept them until the carrier makes a notation on the freight bill of the shorted or damaged goods. Do this for your own protection.

NOTIFY THE CARRIER AT ONCE if any hidden loss or damage is discovered after receipt and request the carrier to make an inspection. If the carrier will not do so, prepare a signed statement to the effect that you have notified the carrier (on a specific date) and that the carrier has failed to comply with your request.

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT. File your 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 Ranger Products responsible for collection of claims or replacement of lost or damaged materials.

TABLE OF CONTENTS

Contents	Page No.
Warranty	2
Definitions of Hazard Levels	3
Owner's Responsibility	3
Before You Begin	3
Protective Equipment	5
Introduction / Safety / Warning Instructions	6
Tools Required	7
Step 1 / Selecting Site	7
Step 2 / Floor Requirements	7
Concrete Specifications	7
Assembly View / Description of Parts	8
Floor Plan / Specifications	9-10
Power Unit Location	11
Step 3 / Column and Cross Tube Installation	12-13
Step 4 / Raising the Cross Tubes	13
Step 5 / Powerside Runway Installation	14
Step 6 / Offside Runway Installation	14
Step 7 / Cable Sheave Installation	14-17
Step 8 / Power Unit Installation	18
Step 9 / Routing Hydraulic Hoses	18-19
Step 10 / Routing Air Lines	20
Safety Label Placement Guidelines	21
Step 11 / Power Unit Hook Up	22-23
Step 12 / Installing Slack Safety Springs	23
Step 13 / Lift Start Up / Final Adjustments	23-24
Step 14 / Anchoring The Columns	24-25
Step 15 / Final Assembly	25
Step 16 / Leveling / Synchronizing	25-26
Step 17 / Bleeding	26
Post-Installation Checklist	26
Optional Equipment Installation	27
Operation / Maintenance	28-33
Troubleshooting	34-36
Parts Breakdowns	37-52
Installation Agreement	53
Maintenance	55-56

INSTALLER / OPERATOR PLEASE READ AND FULLY UNDERSTAND. BY PROCEEDING YOU AGREE TO THE FOLLOWING.

♦ I have visually inspected the site where the lift is to be installed and verified the concrete to be in good condition and free of cracks or other defects. I understand that installing a lift on cracked or defective concrete could cause lift failure resulting in personal injury or death.

♦ I understand that a level floor is required for proper installation and level lifting.

♦ I understand that I am responsible if my floor is of questionable slope and that I will be responsible for all charges related to pouring a new level concrete slab if required and any charges.

♦ I understand that BendPak lifts are supplied with concrete fasteners meeting the criteria of the American National Standard “Automotive Lifts - Safety Requirements for Construction, Testing, and Validation” ANSI/ALI ALCTV-2006, and that I will be responsible for all charges related to 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).

♦ I will assume full responsibility for the concrete floor and condition thereof, now or later, where the above equipment model(s) are to be installed. Failure to follow danger, warning, and caution instructions may lead to serious personal injury or death to operator or bystander or damage to property.

♦ I understand that Bendpak lifts are designed to be installed in indoor locations only. Failure to follow installation instructions may lead to serious personal injury or death to operator or bystander or damage to property or lift

DANGER

Failure to follow danger, warning, and caution instructions may lead to serious personal injury or death to operator or bystander or damage to property.

WARNING

Please read entire manual prior to installation. Do not operate this machine until you read and understand all the dangers, warnings and cautions in this manual. For additional copies or further information, contact:

BendPak Inc. / Ranger Products
1645 Lemonwood Dr.,
Santa Paula, CA. 93060
1-805-933-9970
www.bendpak.com

INSTALLER / OPERATOR PROTECTIVE EQUIPMENT

Personal protective equipment helps makes installation and operation safer, however, does not take the place of safe operating practices. Always wear durable work clothing during any installation and/or service activity. Shop aprons or shop coats may also be worn, however loose fitting clothing should be avoided. Tight fitting leather gloves are recommended to protect technician hands when handling parts. Sturdy leather work shoes with steel toes and oil resistant soles should be used by all service personnel to help prevent injury during typical installation and operation activities.



Eye protection is essential during installation and operation activities. Safety glasses with side shields, goggles, or face shields are acceptable. Back belts provide support during lifting activities and are also helpful in providing worker protection. Consideration should also be given to the use of hearing protection if service activity is performed in an enclosed area, or if noise levels are high.

THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH IF NOT FOLLOWED COULD ENDANGER THE PERSONAL SAFETY AND /OR PROPERTY OF YOURSELF AND OTHERS AND CAN CAUSE PERSONAL INJURY OR DEATH. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE.

INTRODUCTION

1. Carefully remove the crating and packing materials. **CAUTION!** Be careful when cutting steel banding material as items may become loose and fall causing personal harm or injury.

2. Check the voltage, phase and proper amperage requirements for the motor shown on the motor plate. Wiring should be performed by a certified electrician only.

IMPORTANT NOTICE !

Do not attempt to install this lift if you have never been trained on basic automotive lift installation procedures.
Never attempt to lift components without proper lifting tools such as forklift or cranes.
Stay clear of any moving parts that can fall and cause injury.

IMPORTANT SAFETY INSTRUCTIONS !

Read these safety instructions entirely!

1. **READ AND UNDERSTAND** all safety warning procedures before operating lift.

2. **KEEP HANDS AND FEET CLEAR**. Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.

3. **KEEP WORK AREA CLEAN**. Cluttered work areas invite injuries.

4. Consider work area environment. Do not expose equipment to rain. **DO NOT** use in damp or wet locations. Keep area well lighted.

5. **ONLY TRAINED OPERATORS** should operate this lift. All non-trained personnel should be kept away from work area. Never let non-trained personnel come in contact with, or operate lift.

6. **USE LIFT CORRECTLY**. Use lift in the proper manner. Never use lifting adapters other than what is approved by the manufacturer.

7. **DO NOT** override self-closing lift controls.

8. **REMAIN CLEAR** of lift when raising or lowering vehicle.

9. **CLEAR AREA** if vehicle is in danger of falling.

10. **ALWAYS INSURE** that the safeties are engaged before any attempt is made to work on or near vehicle.

11. **DRESS PROPERLY**. Non-skid steel-toe footwear is recommended when operating lift.

12. **GUARD AGAINST ELECTRIC SHOCK**. This lift must be grounded while in use to protect the operator from electric shock. Never connect the green power cord wire to a live terminal. This is for ground only.



13. **DANGER!** The power unit used on this lift contains high voltage. Disconnect power at the receptacle before performing any electrical repairs. Secure plug so that it cannot be accidentally plugged in during service.



14. **WARNING! RISK OF EXPLOSION**. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. This machine should not be located in a recessed area or below floor level.



15. **MAINTAIN WITH CARE**. Keep lift clean for better and safer performance. Follow manual for proper lubrication and maintenance instructions. Keep control handles and/or buttons dry, clean and free from grease and oil.

16. **STAY ALERT**. Watch what you are doing. Use common sense. Be aware.

17. **CHECK FOR DAMAGED PARTS**. Check for alignment of moving parts, breakage of parts or any condition that may affect its operation. Do not use lift if any component is broken or damaged.

18. **NEVER** remove safety related components from the lift. Do not use lift if safety related components are damaged or missing.

TOOLS REQUIRED

- Rotary Hammer Drill Or Similar
- 3/4" Masonry Bit
- Hammer
- 4 Foot Level
- Open-End Wrench Set: SAE/Metric
- Socket And Ratchet Set: SAE/Metric
- Hex-Key / Allen Wrench Set
- Large Crescent Wrench
- Large Pipe Wrench
- Crow Bar
- Chalk Line
- Medium Flat Screwdriver
- Tape Measure: 25 Foot Minimum
- Needle Nose Pliers

NOTE:
An air supply (30 PSI Min / 3 CFM Min.) will be required for the safety-lock mechanisms. See Step 10.

IMPORTANT NOTICE !

These instructions must be followed to insure proper installation and operation of your lift. Failure to comply with these instructions can result in serious bodily harm and void product warranty. Manufacturer will assume no liability for loss or damage of any kind, expressed or implied resulting from improper installation or use of this product.

PLEASE READ ENTIRE MANUAL PRIOR TO INSTALLATION !

STEP 1
(Selecting Site)

Before installing your new lift, check the following.

1. **LIFT LOCATION**: Always use architects plans when available. Check layout dimension against floor plan requirements making sure adequate space is available.

2. **OVERHEAD OBSTRUCTIONS**: The area where the lift will be located should be free of overhead obstructions such as heaters, building supports, electrical lines etc.

3. **DEFECTIVE FLOOR**: Visually inspect the installation site and check for cracked or defective concrete.

⚠ CAUTION

4. **OPERATING TEMPERATURE.** Operate lift only between temperatures of 41° -104° F.

5. Lift is designed for **INDOOR INSTALLATION ONLY.**

STEP 2
(Floor Requirements)

⚠ WARNING

This lift must be installed on a solid level concrete floor with no more than 3-degrees of slope. Failure to do so could cause personal injury or death.

A level floor is suggested for proper use and installation and level lifting. If a floor is of questionable slope, consider a survey of the site and/or the possibility of pouring a new level concrete slab.

⚠ DANGER

- **DO NOT** install or use this lift on any asphalt surface or any surface other than concrete.
- **DO NOT** install or use this lift on expansion seams or on cracked or defective concrete.
- **DO NOT** install or use this lift on a second / elevated floor without first consulting building architect.
- **DO NOT** install or use this lift outdoors.

CONCRETE SPECIFICATIONS

LIFT MODEL	CONCRETE REQUIREMENT
HDS-18	4" Min. Thickness / 2500 PSI Min.
HDS-27 / HDS-27X	4" Min. Thickness / 2500 PSI Min.
HDS-35 / HDS-35X	5" Min. Thickness / 2500 PSI Min.
HDS-40 / HDS-40X	5" Min. Thickness / 2500 PSI Min.

⚠ DANGER

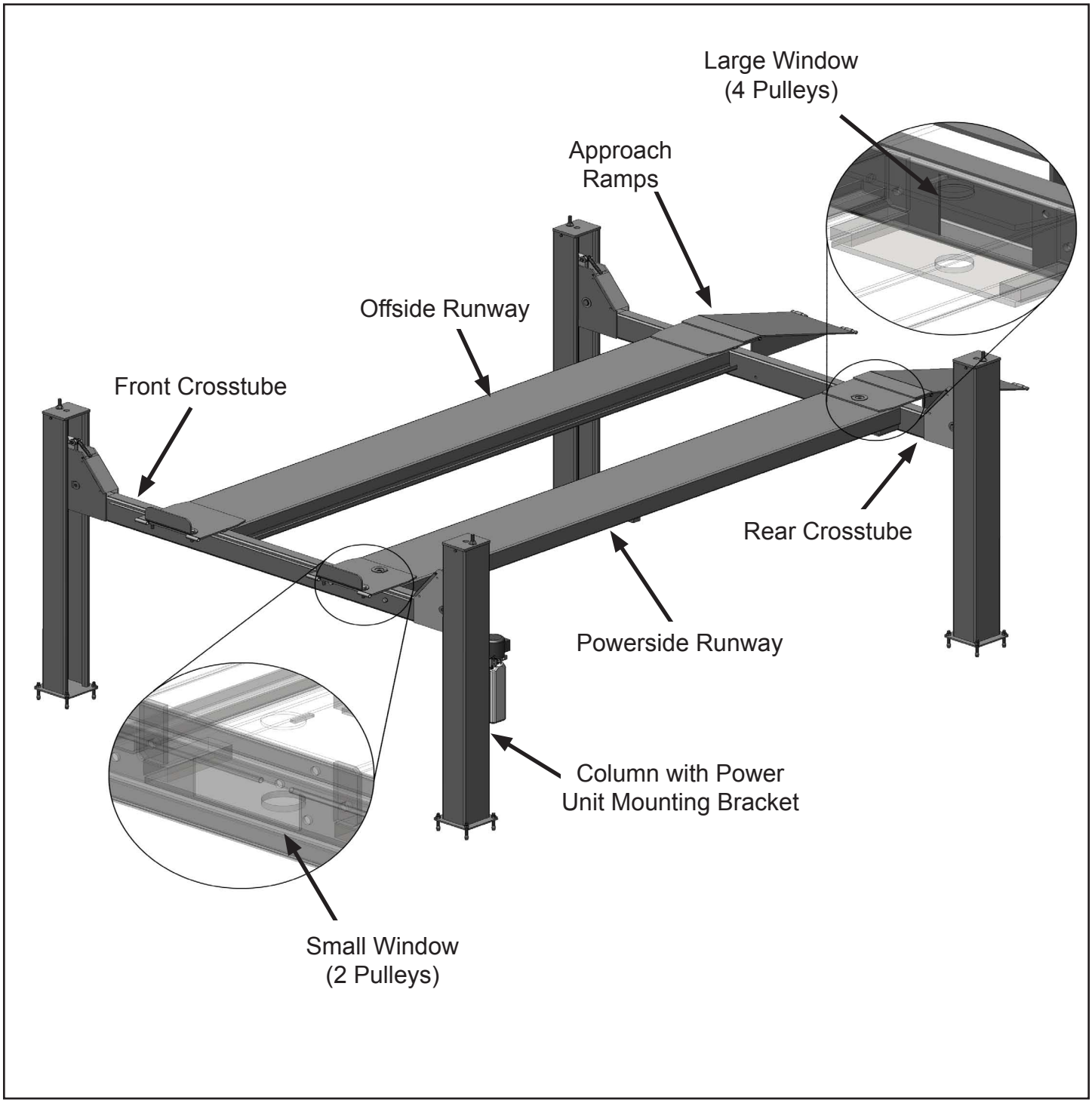
DANGER !
All models MUST be installed on 2500 PSI concrete only conforming to the minimum requirements shown above. New concrete must be adequately cured by at least 28 days minimum.

IMPORTANT NOTE:
BendPak 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. Lift buyers 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).

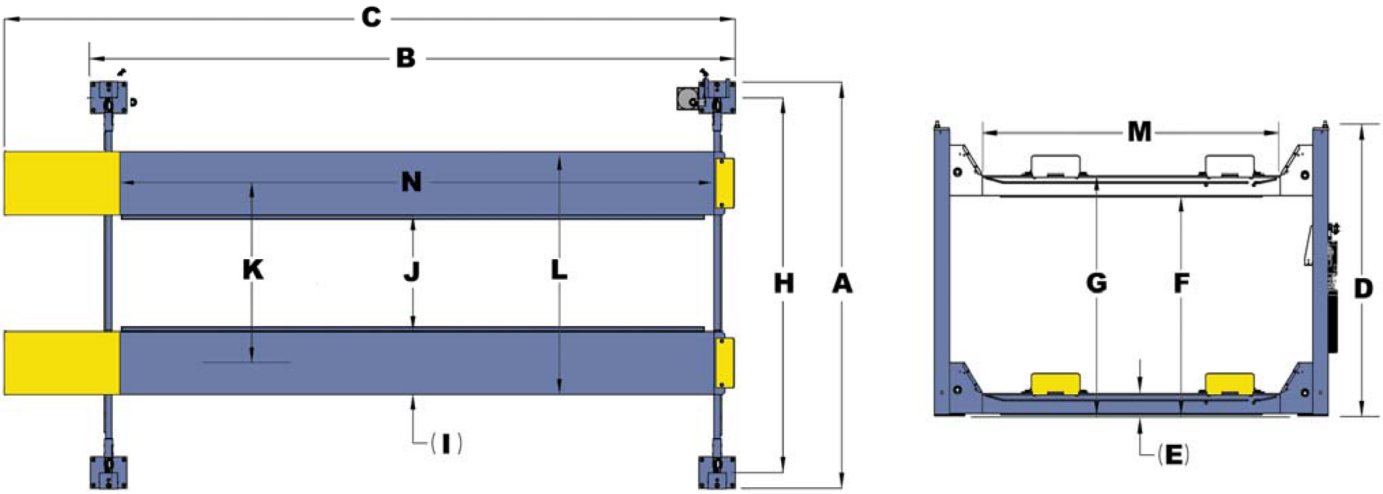
⚠ DANGER

When removing the lift from shipping angles pay close attention as the posts can slide and can cause injury. Prior to removing the bolts make sure the posts are held securely by a fork lift or some other heavy lifting device.

Assembly View
HDS-18/27/35



FLOOR PLAN



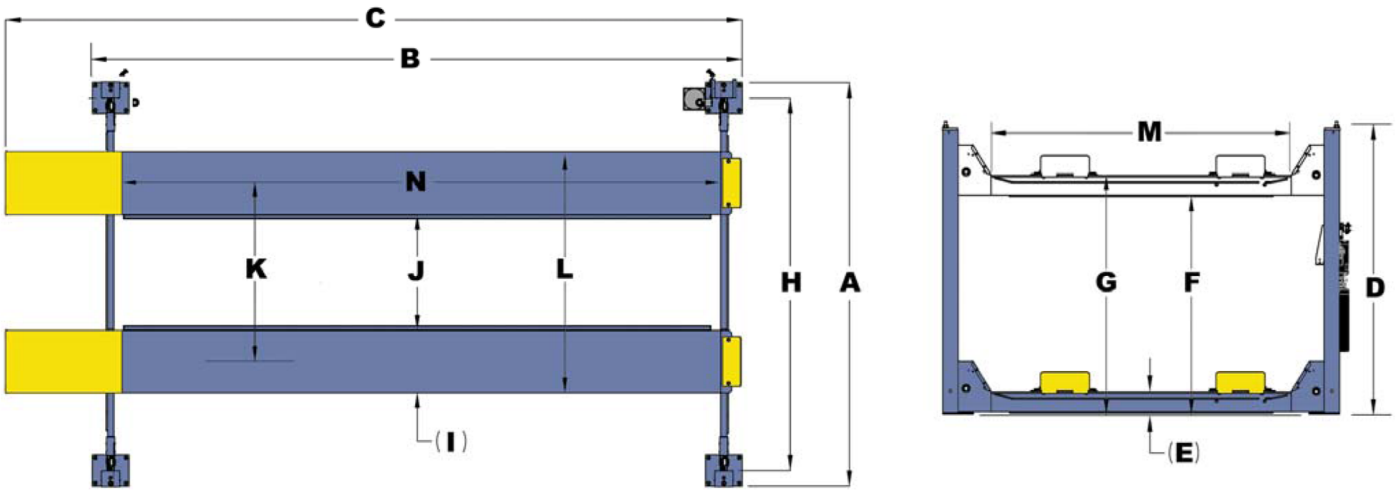
MODEL	HDS18	HDS27	HDS27X
Lifting Capacity*	18,000 lbs. / 8165 Kg.	27,000 lbs. / 12,247 Kg.	27,000 lbs. / 12,247 Kg.
*Max Capacity / Front Axle	9,000 lbs. / 4082 Kg.	13,500 lbs. / 6,124 Kg.	13,500 lbs. / 6,124 Kg.
*Max Capacity / Rear Axle	9,000 lbs. / 4082 Kg.	13,500 lbs. / 6,124 Kg.	13,500 lbs. / 6,124 Kg.
A - Overall Width	154" / 3912 mm.	154" / 3912 mm.	154" / 3912 mm.
B - Outside Length	201" / 5105 mm.	257" / 6528 mm.	317" / 8052 mm.
C - Overall Length	241" / 6121 mm.	297" / 7544 mm.	357" / 9068 mm.
D - Height of Columns	93” / 2362 mm.	93” / 2362 mm.	93” / 2362 mm.
E – Min. Runway Height	8-1/2” / 216 mm.	8-1/2” / 216 mm.	8-1/2” / 216 mm.
F – Max. Rise	60” / 1524 mm.	60” / 1524 mm.	60” / 1524 mm.
G - Max. Lifting Height	68-1/2” / 1740 mm.	68-1/2” / 1740 mm.	68-1/2” / 1740 mm.
H - Width Between Columns	134" / 3404 mm.	134" / 3404 mm.	134" / 3404 mm.
I - Runway Width	22" / 559 mm.	22" / 559 mm.	22" / 559 mm.
J - Width Between Runways (*) MIN	38" / 965 mm.	38" / 965 mm.	38" / 965 mm.
J - Width Between Runways (*) MAX	56" / 1422 mm.	56" / 1422 mm.	56" / 1422 mm.
K - Runway Centerline (*) MIN	60" / 1524 mm.	60" / 1524 mm.	60" / 1524 mm.
K - Runway Centerline (*) MAX	78" / 1981 mm.	78" / 1981 mm.	78" / 1981 mm.
L - Outside Edge of Runways (*) MIN	82" / 2083 mm.	82" / 2083 mm.	82" / 2083 mm.
L - Outside Edge of Runways (*) MAX	100" / 2540 mm.	100" / 2540 mm.	100" / 2540 mm.
M - Drive-Thru-Clearance	109" / 2769 mm.	109" / 2769 mm.	109" / 2769 mm.
K - Length of Runways	203" / 5156 mm.	263" / 6680 mm.	323" / 8204 mm.
Min. Wheelbase @ Rated Capacity	145" / 3683 mm.	185" / 4699 mm.	230" / 5842 mm.
Min. Wheelbase @ 75% Capacity	125" / 3175 mm.	160" / 4064 mm.	195" / 4953 mm.
Min. Wheelbase @ 50% Capacity	105" / 2667 mm.	135" / 3429 mm.	165" / 4191 mm.
Min. Wheelbase @ 25% Capacity	85" / 2159 mm.	110" / 2794 mm.	130" / 3302 mm.
Locking Positions	9	9	9
Lock Spacing	Every 6" / 152 mm.	Every 6" / 152 mm.	Every 6" / 152 mm.
Lifting Time	75 Seconds	75 Seconds	75 Seconds
Standard Motor (**)	220 VAC / 60 Hz. 1Ph.	220 VAC / 60 Hz. 1Ph.	220 VAC / 60 Hz. 1Ph.

* This dimension may be limited with the addition of rolling jacks. See rolling jack specifications on separate page.

** Special Voltages Available Upon Request

The design, material and specifications are subject to change without notice.

FLOOR PLAN



MODEL	HDS-35	HDS-35X	HDS-40	HDS-40X
Lifting Capacity*	35,000 lbs. / 15,876 Kg.	35,000 lbs. / 15,876 Kg.	40,000 lbs. / 18,144 Kg.	40,000 lbs. / 18,144 Kg.
*Max Capacity / Front Axle	17,500 lbs. / 7,938 Kg.	17,500 lbs. / 7,938 Kg.	20,000 lbs. / 9,072 Kg.	20,000 lbs. / 9,072 Kg.
*Max Capacity / Rear Axle	17,500 lbs. / 7,938 Kg.	17,500 lbs. / 7,938 Kg.	20,000 lbs. / 9,072 Kg.	20,000 lbs. / 9,072 Kg.
A - Overall Width	154" / 3912 mm.	154" / 3912 mm.	154" / 3912 mm.	154" / 3912 mm.
B - Outside Length	257" / 6528 mm.	317" / 8052 mm.	257" / 6528 mm.	317" / 8052 mm.
C - Overall Length	297" / 7544 mm.	357" / 9068 mm.	297" / 7544 mm.	357" / 9068 mm.
D - Height of Columns	93" / 2362 mm.	93" / 2362 mm.	93" / 2362 mm.	93" / 2362 mm.
E – Min. Runway Height	8-1/2" / 216 mm.	8-1/2" / 216 mm.	8-1/2" / 216 mm.	8-1/2" / 216 mm.
F – Max. Rise	60" / 1524 mm.	60" / 1524 mm.	60" / 1524 mm.	60" / 1524 mm.
G - Max. Lifting Height	68-1/2" / 1740 mm.	68-1/2" / 1740 mm.	68-1/2" / 1740 mm.	68-1/2" / 1740 mm.
H - Width Between Columns	134" / 3404 mm.	134" / 3404 mm.	134" / 3404 mm.	134" / 3404 mm.
I - Runway Width	28" / 711 mm.	28" / 711 mm.	28" / 711 mm.	28" / 711 mm.
J - Width Between Runways (*) MIN	36" / 914 mm.	36" / 914 mm.	36" / 914 mm.	36" / 914 mm.
J - Width Between Runways (*) MAX	47" / 1194 mm.	47" / 1194 mm.	47" / 1194 mm.	47" / 1194 mm.
K - Runway Centerline (*) MIN	64" / 1625 mm.	64" / 1625 mm.	64" / 1625 mm.	64" / 1625 mm.
K - Runway Centerline (*) MAX	75" / 1905 mm.	75" / 1905 mm.	75" / 1905 mm.	75" / 1905 mm.
L - Outside Edge of Runways (*) MIN	92" / 2367 mm.	92" / 2367 mm.	92" / 2367 mm.	92" / 2367 mm.
L - Outside Edge of Runways (*) MAX	103" / 2616 mm.	103" / 2616 mm.	103" / 2616 mm.	103" / 2616 mm.
M - Drive-Thru-Clearance	109" / 2769 mm.	109" / 2769 mm.	109" / 2769 mm.	109" / 2769 mm.
N - Length of Runways	263" / 6680 mm.	323" / 8204 mm.	263" / 6680 mm.	323" / 8204 mm.
Min. Wheelbase @ Rated Capacity	185" / 4699 mm.	230" / 5842 mm.	185" / 4699 mm.	230" / 5842 mm.
Min. Wheelbase @ 75% Capacity	160" / 4064 mm.	195" / 4953 mm.	160" / 4064 mm.	195" / 4953 mm.
Min. Wheelbase @ 50% Capacity	135" / 3429 mm.	165" / 4191 mm.	135" / 3429 mm.	165" / 4191 mm.
Min. Wheelbase @ 25% Capacity	110" / 2794 mm.	130" / 3302 mm.	110" / 2794 mm.	130" / 3302 mm.
Locking Positions	9	9	9	9
Lock Spacing	Every 6" / 152 mm.	Every 6" / 152 mm.	Every 6" / 152 mm.	Every 6" / 152 mm.
Lifting Time	75 Seconds	75 Seconds	75 Seconds	75 Seconds
Standard Motor (***)	220 VAC / 60 Hz. 1Ph.	220 VAC / 60 Hz. 1Ph.	220 VAC / 60 Hz. 1Ph.	220 VAC / 60 Hz. 1Ph.

* This dimension may be limited with the addition of rolling jacks. See rolling jack specifications on separate page.

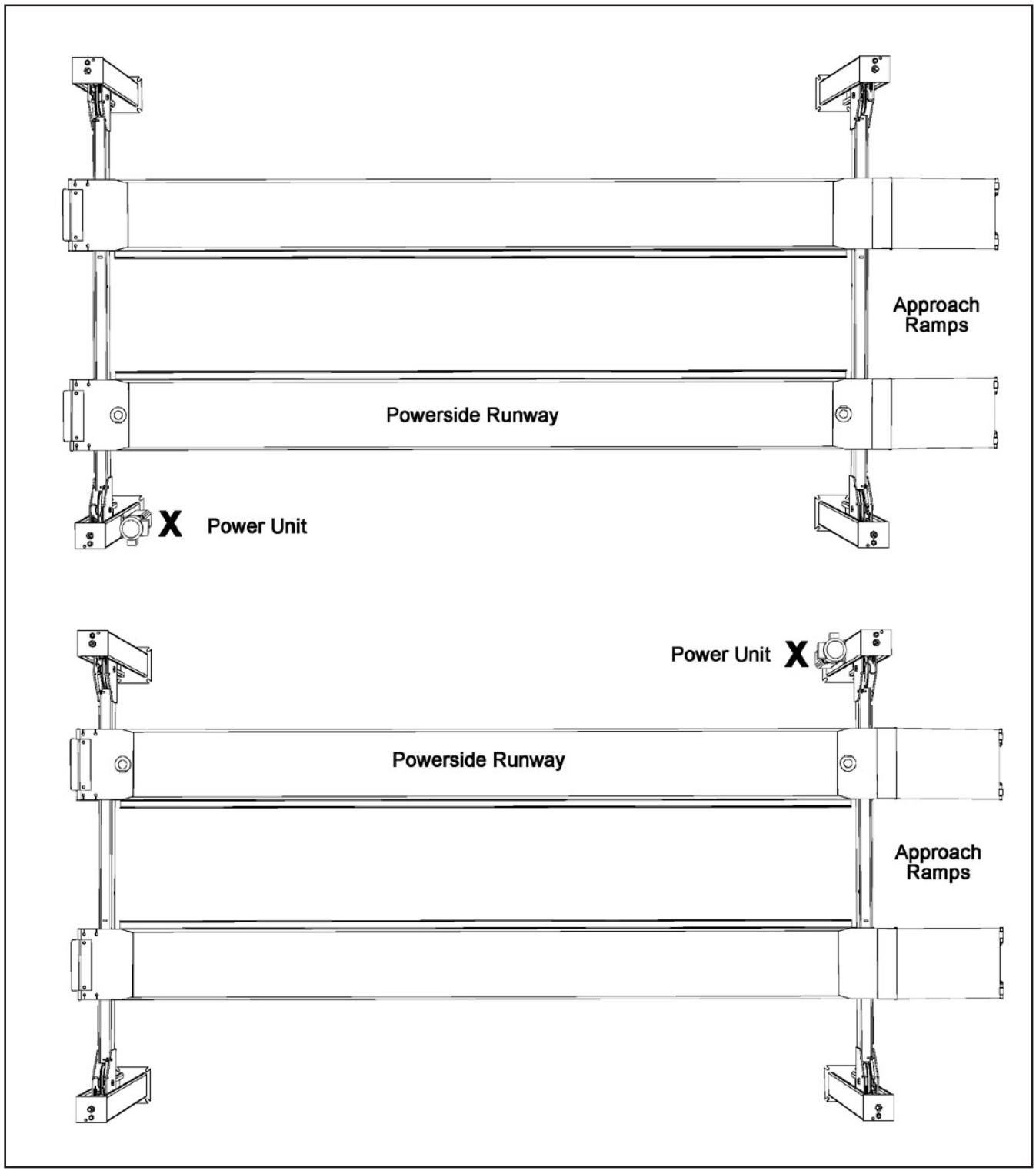
** Special Voltages Available Upon Request

The design, material and specifications are subject to change without notice.

POWER UNIT LOCATION

IMPORTANT NOTE !

The power unit can be located at either **"X"** location shown below. It is important to locate the POWERSIDE runway (with cylinder) on the SAME SIDE as the power unit location. Utility rails on the side of each runway MUST be installed facing the center. **For the remainder of this instruction the power unit will be illustrated mounted at the DRIVER-SIDE (LEFT) FRONT column - TOP ILLUSTRATION.** For power unit at right rear, rotate lift 180° leaving approach ramps and front tire stops in original position.



STEP 3

(Column & Cross Tube Installation)

1. Place a chalk line on the floor according to the floor plan layout. Pay attention to the power unit location. Locate and stand the Columns at their respective locations. **DO NOT BOLT** Columns down at this time. Use caution to prevent the Columns from falling over. (See Fig. 3.1)

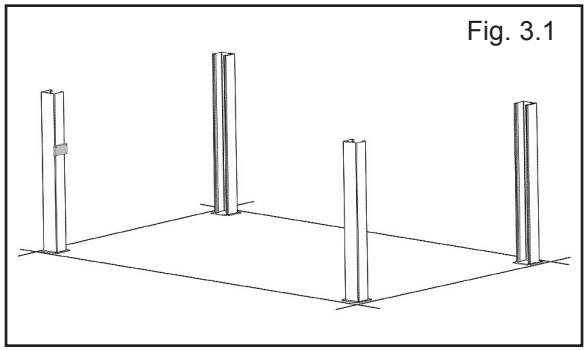


Fig. 3.1

2. To estimate the shim requirements, place a target on floor at each Column position and record the readings. Find the highest of the four locations then find the difference between each of the remaining Columns. This difference is the estimated amount of shim thickness that will be required at each Column. (See Fig.3.2)

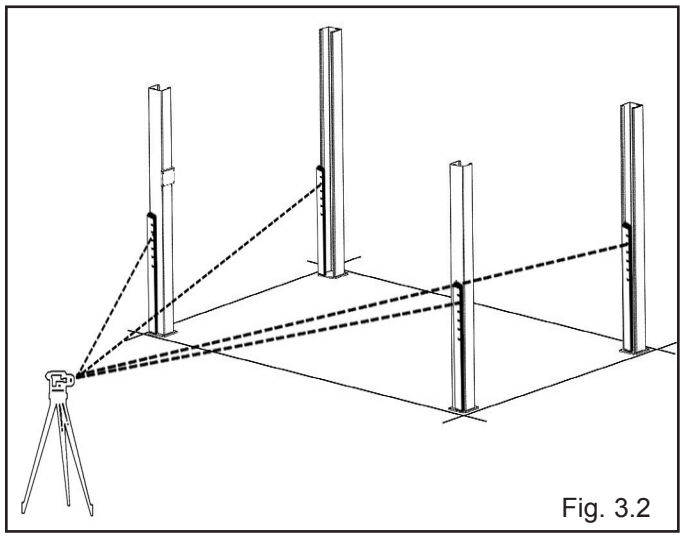


Fig. 3.2

Note:

The maximum shim thickness recommended by the factory is no more than 1/2" per column using shims and anchors provided with the lift. A maximum shim thickness of 2" is possible by ordering optional shim plates. Contact your authorized Bendpak Distributor for ordering information.

3. Using a forklift or crane, raise the CROSS TUBES (making sure the Plastic Slide Blocks are still in position) and drop down into the top of the COLUMNS. NOTE: The sheave windows should be positioned inward and adjacent the Power Unit Column. (See Fig. 3.3)

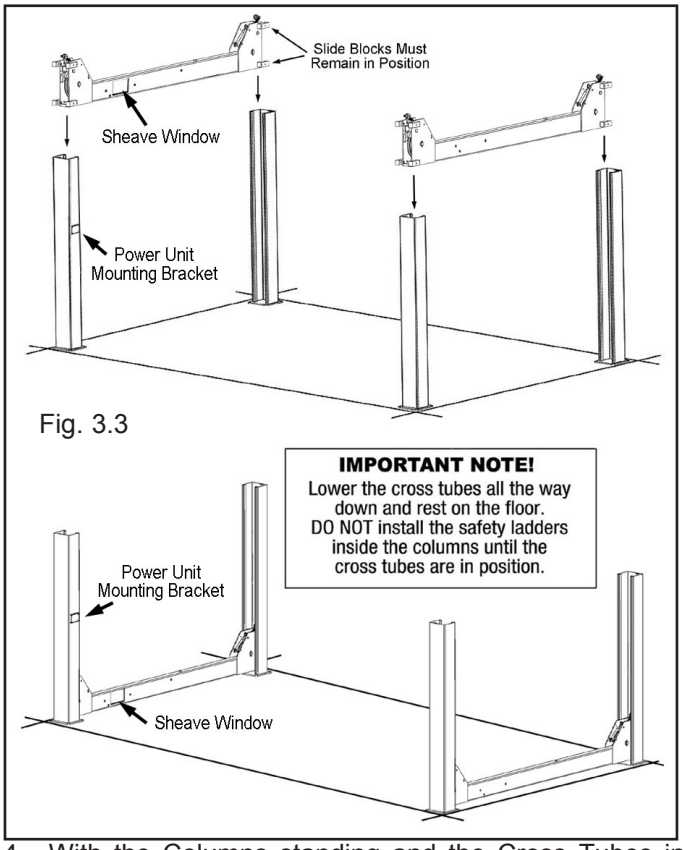


Fig. 3.3

4. With the Columns standing and the Cross Tubes in position, install the SAFETY LADDERS. Pass the Ladders through the Column openings and drop down through the Slide Block guide slots on the Cross Tube until the Ladders come to rest on the base plates. **DO NOT BOLT** Columns down at this time. (See Fig. 3.4 & 3.5.)

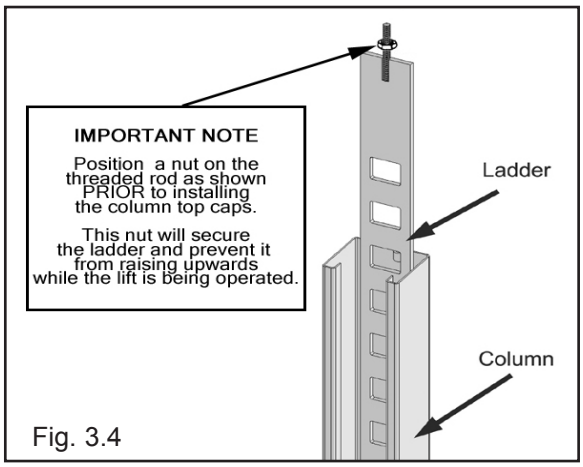


Fig. 3.4

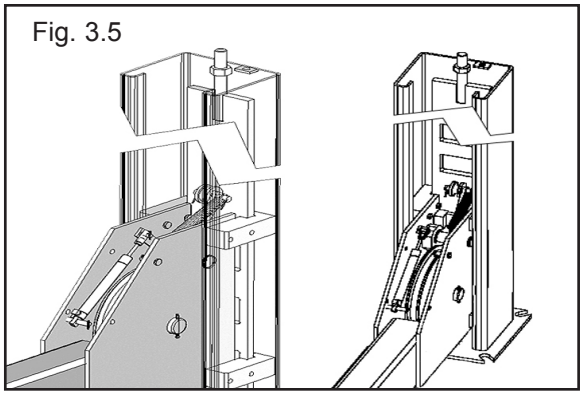


Fig. 3.5

5. The COLUMNS and CROSS TUBES will now be in position and spaced properly for the RUNWAYS.

6. Install the Column TOP CAPS using the M10 x 1.5 x 25 hex bolts, nuts & washers (torque to 35-45 PSI). The locating tabs should be positioned at the bottom and the cable hole should be positioned INWARD. Be sure to first install the Safety Ladder JAM NUTS prior to installing the TOP CAP. With the TOP CAP in position, tighten the top nut on each safety ladder until one inch of threads are exposed and the ladder is raised at least 1/2" off of the base of the Column. **NOTE: Raise the ladder at least 1/2" off of the base of the column or damage to the lift will occur.**
(See Fig. 3.6 & 3.7)

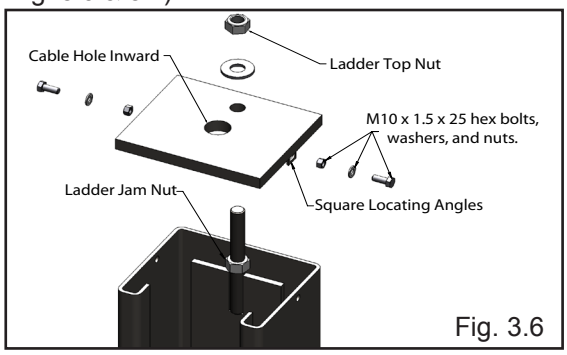
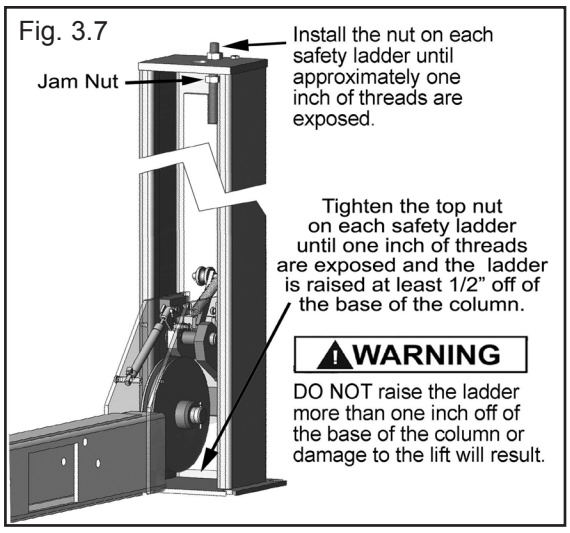


Fig. 3.6



STEP 4

(Raising The Cross Tubes)

1. Before proceeding it will be necessary to first raise the CROSS TUBES off the ground to facilitate Cable routing and final assembly.

⚠ DANGER

Be careful not to disturb the Columns and Cross Tubes as they may tip over causing personal injury or harm. Never attempt to lift components without proper lifting tools such as forklift or cranes.

2. Using a forklift or crane, manually raise the CROSS TUBES until the Primary Safety Locks engage and rest on the lock position second down from the top of the Ladder or approximately 52" off the ground. It is important that the SLACK SAFETY LOCK IS CLEARED. The Slack Safety Lock must never rest on the safety ladder. (See Fig. 4.1)

IMPORTANT NOTE:
It is important that the SLACK SAFETY LOCK IS CLEARED. The Slack Safety Lock must never rest on the Safety Ladder.

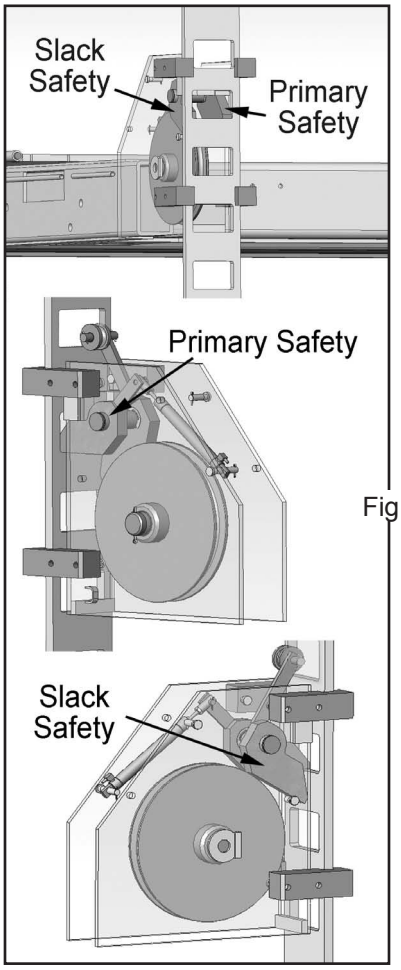
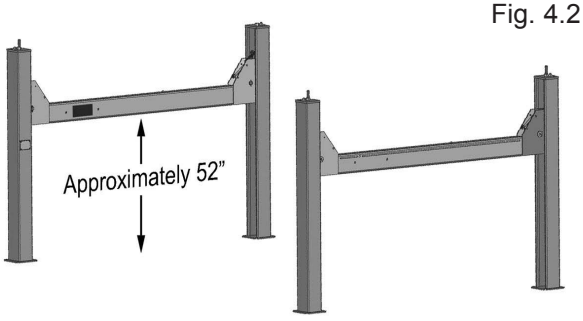


Fig. 4.1

3. The COLUMNS and CROSS TUBES will now be in position and spaced properly for the runways. Be careful not to disturb the Columns and Cross Tubes at this time as they may tip over causing personal injury or harm.
(See Fig. 4.2)

Fig. 4.2



STEP 5

(Powerside Runway Installation)

1. Locate the POWERSIDE RUNWAY, easily identified by the Cylinder and Sheave roller mounting structures welded on the underside. The Powerside Runway will be positioned on the side of the lift where the Power Unit is installed. (See Fig. 5.1)

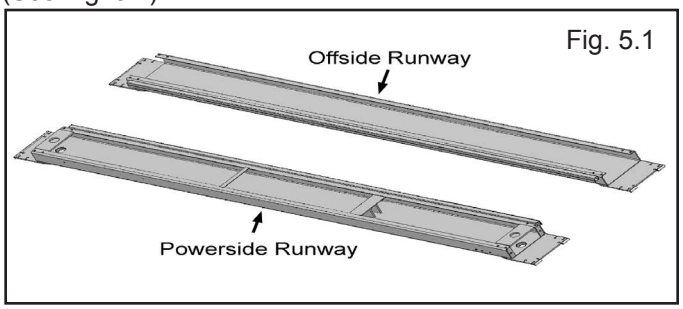


Fig. 5.1

2. Install Cylinder and Cable Block as shown. (See Fig.5.2 & 5.3.)

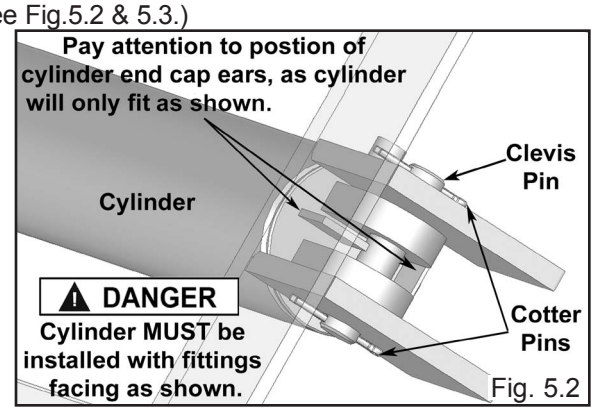


Fig. 5.2

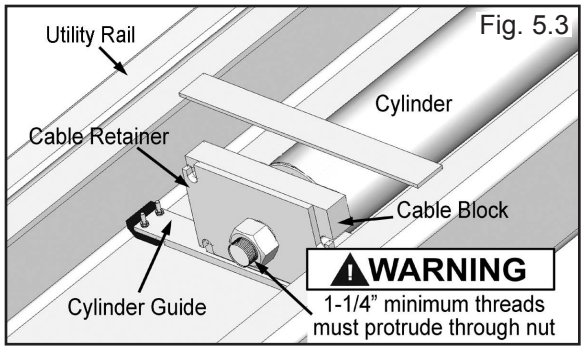


Fig. 5.3

3. Remove any pre-installed CABLE SHEAVES and SPACERS from the POWERSIDE RUNWAY making sure to and pay attention to the order in which they are removed. (This will help at the time of re-installation.) First remove the Retaining Pin then press the Sheave Axle through the Runway completely until the Sheaves and Spacers are removed. (See Fig. 5 4)

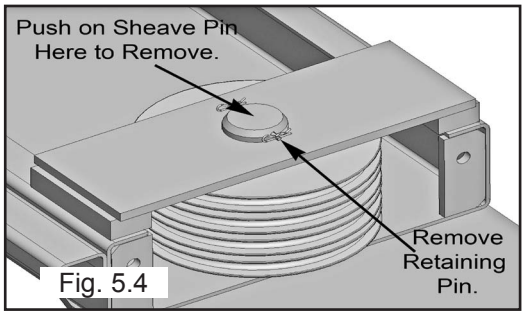


Fig. 5.4

4. Position the POWERSIDE RUNWAY on top of the Cross Tubes with the UTILITY RAIL towards the center. The fitting holes located at the side of the Powerside Runway should be adjacent the POWER UNIT COLUMN. Align the holes in the Runway with the holes on the Cross Tubes and bolt together (torque to 35-45 Ft/lbs) using four M18 x 2.5 hex bolts and washers. (See Fig. 5.5)

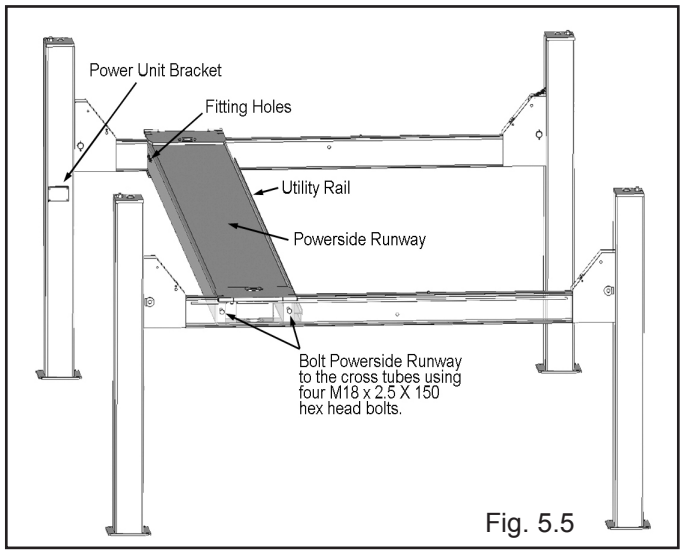


Fig. 5.5

STEP 6

(Offside Runway Installation)

1. Position the OFFSIDE RUNWAY on top of the Cross Tubes with the UTILITY RAIL located inside. (See Fig. 6.1)

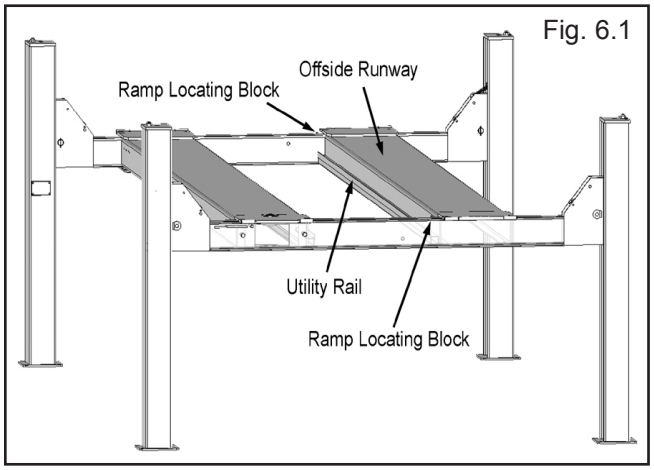


Fig. 6.1

STEP 7

(Cable / Sheave Installation)

DANGER

DANGER !

DO NOT PROCEED with Cable installation or go near the lift work area unless visual confirmation is made of ALL Safety Locks. ALL locks MUST be engaged before proceeding. Failure to comply with these instructions may result in severe personal injury or death. (See page 26.)

⚠ WARNING

WARNING!

WHEN THE CABLE ADJUSTING NUTS BOTTOM OUT ON THE THREADED END OF THE CABLE CONNECTOR AND THERE IS STILL SLACK IN THE CABLES, THE CABLES HAVE STRETCHED BEYOND THE SAFE USEFUL LENGTH AND NEED TO BE REPLACED WITH FACTORY APPROVED CABLE ASSEMBLIES. DO NOT PLACE WASHERS, SPACERS OR OTHER DEVICES TO "SHORTEN" THE EFFECTIVE CABLE LENGTH AS DAMAGE TO THE LIFT OR INJURY TO PERSONS MAY OCCUR.

1. Inspect cables to insure proper lengths. All CABLES should have ID tags showing proper Cable lengths.

2. In order to install the Cables it is necessary to first extend the HYDRAULIC CYLINDER. Remove both Cylinder port plugs then use an air gun or come-along to extend the Cylinder. **IMPORTANT! -** Be careful not to damage the chrome rod during this step. (See Fig. 7.1)

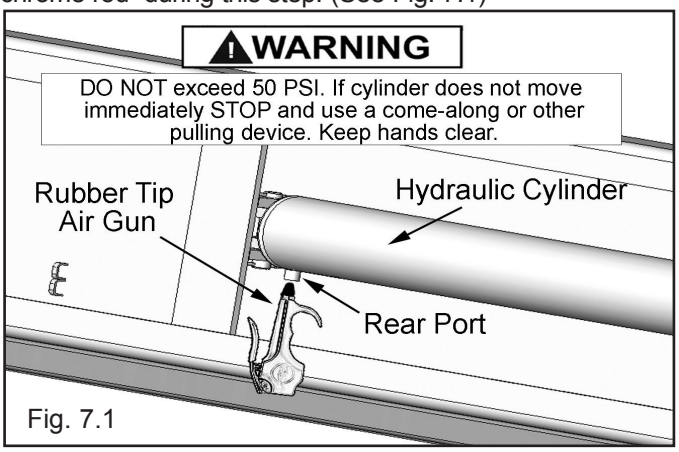


Fig. 7.1

3. You must reinstall the SHEAVES, SPACERS AND PINS in the same order as they are removed. Note: Failure to install PLASTIC FRICTION SPACERS will result in premature sheave wear and void warranty. (See Fig. 7.2 & 7.3.)

Fig. 7.2 FRONT SHEAVE INSTALLATION

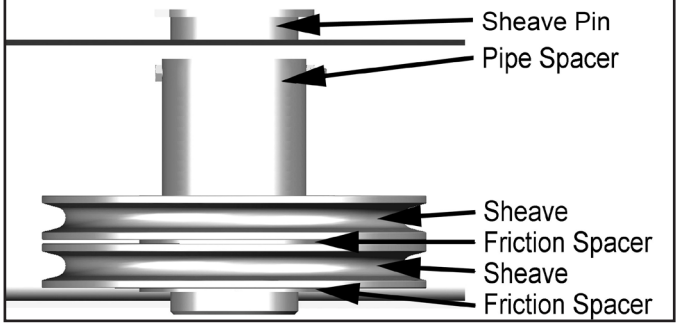
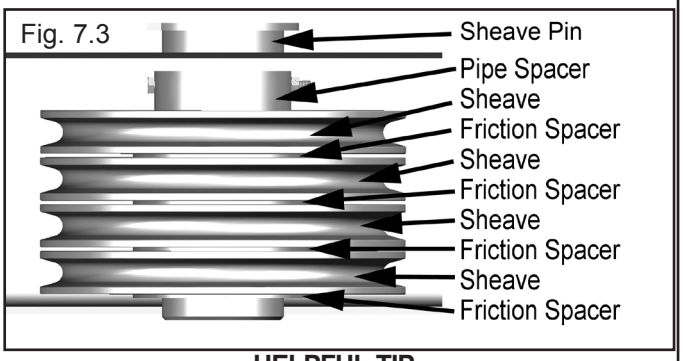


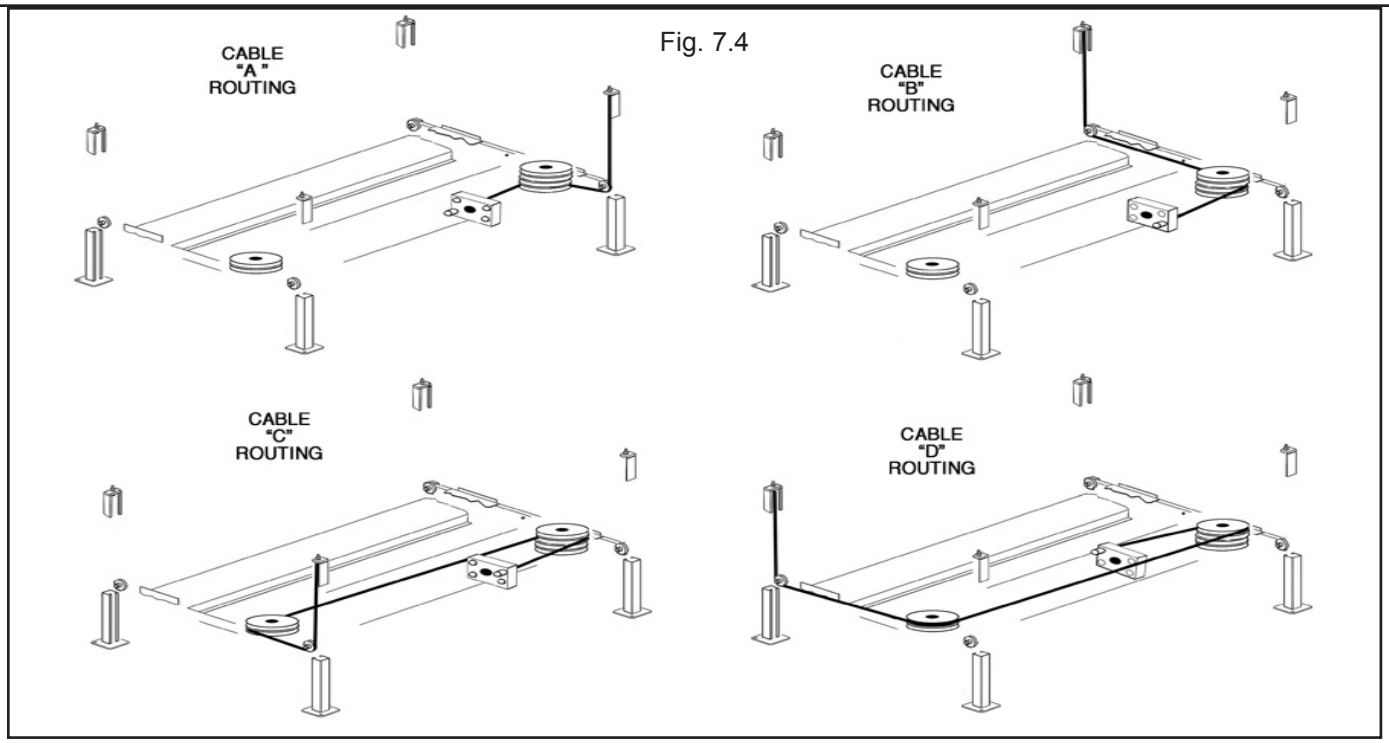
Fig. 7.3



HELPFUL TIP

Install the Sheaves and Cables in the order as shown below starting from the SHORTEST (A) to the LONGEST (D).

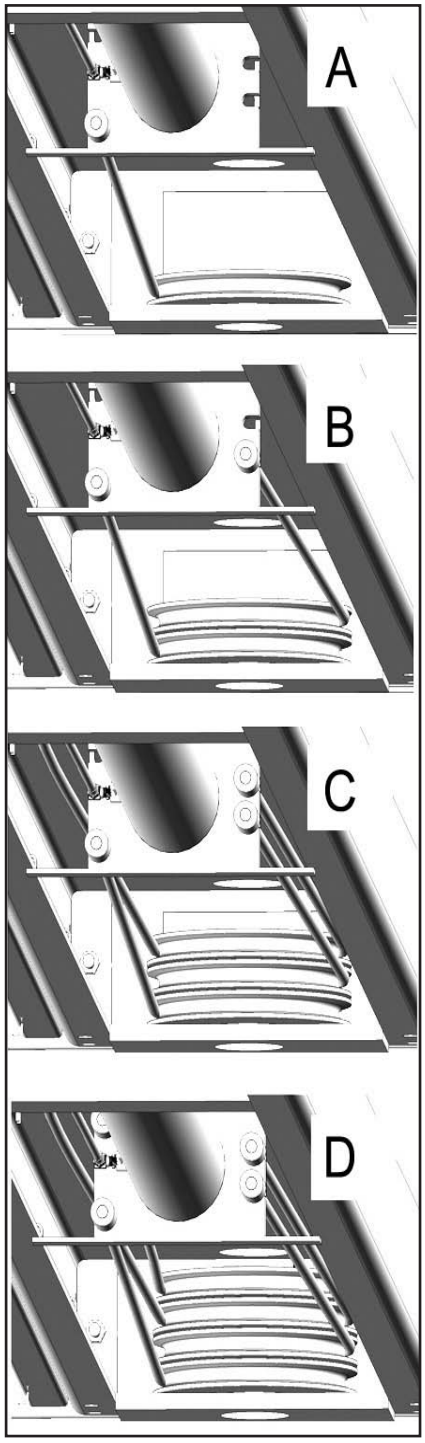
Fig. 7.4



⚠ DANGER

DANGER !

DO NOT PROCEED unless visual confirmation is made of ALL Safety Locks. ALL locks MUST be engaged before proceeding. Failure to comply with these instructions may result in severe personal injury or death. (See page 26.)



4. With the CABLES properly routed, hold the Sheaves in position and install the Pipe Spacer then SHEAVE PIN. (See Fig. 7.5)

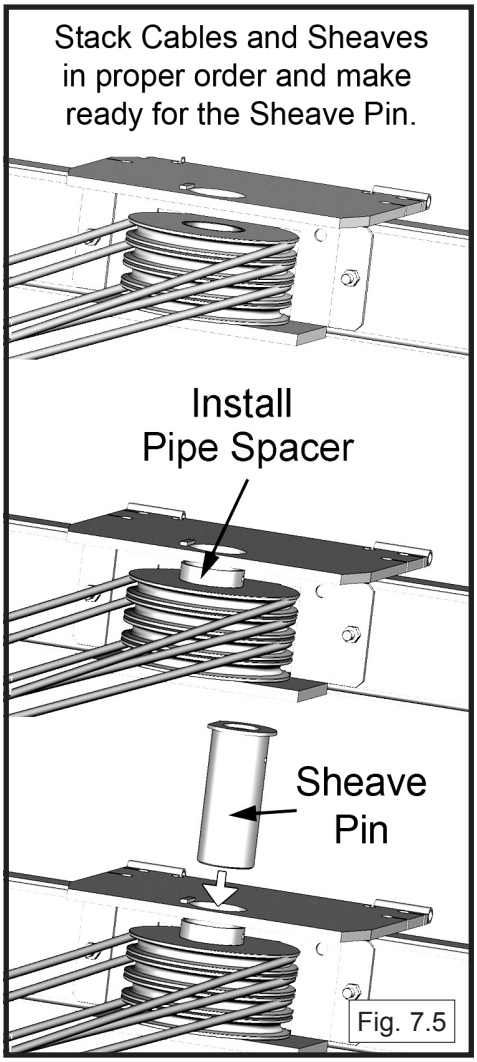


Fig. 7.5

5. Repeat the same procedure at the other end of the lift starting with the bottom Sheave and Cable first. Be sure that you install the Sheaves, Spacers and Pins in the same order as they are removed.

6. Install the Sheave Pin Retaining Pin and Hair Pins though the bottom of the Sheave Pin. (See Fig. 7.6)

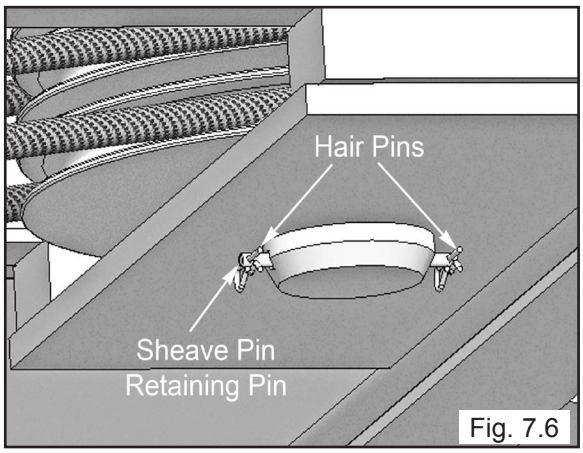


Fig. 7.6

7. Each cable must be installed through the CABLE RETAINER first to keep Cables stowed in their proper position on the Cable Block. (See Fig. 7.7)

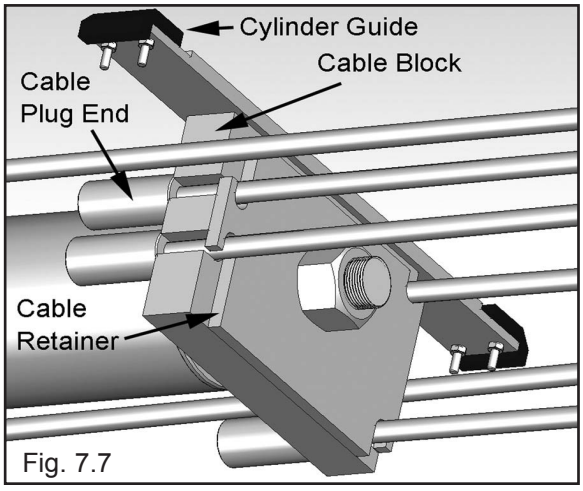
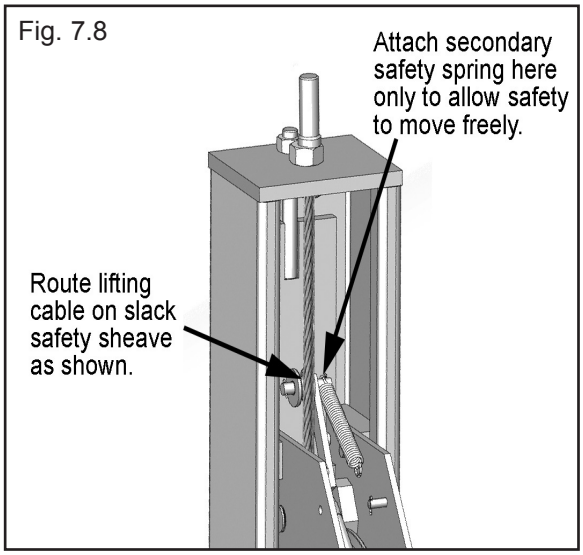


Fig. 7.7

8. Route the Cable ends through the ends of each Cross Tube, over the SLACK SAFETY SHEAVE then to the top of each column. Secure using the M30 Hex Nuts and Flat Washers. Tighten each nut until there is at least one inch of threads protruding through the top of the nut. The Cables will remain loose until start up and final Cable adjustments are made. (See Fig. 7.8 & 7.9)

Fig. 7.8



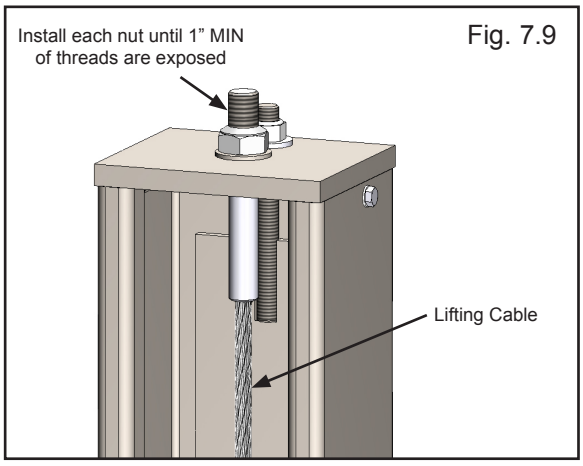


Fig. 7.9

9. After routing the Cables double-check to make sure all are properly positioned and REMAIN WITHIN THE GROOVES of ALL Sheaves. (See Fig. 7.10. & 7.11)

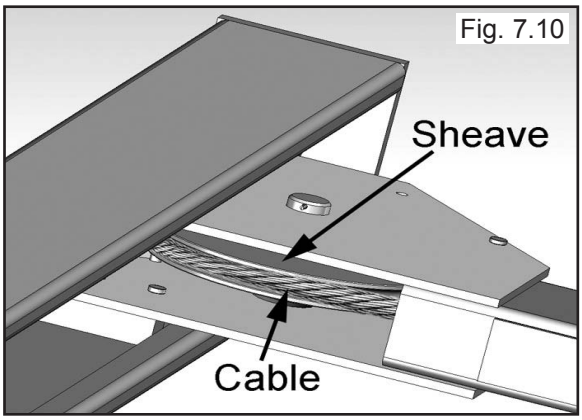


Fig. 7.10

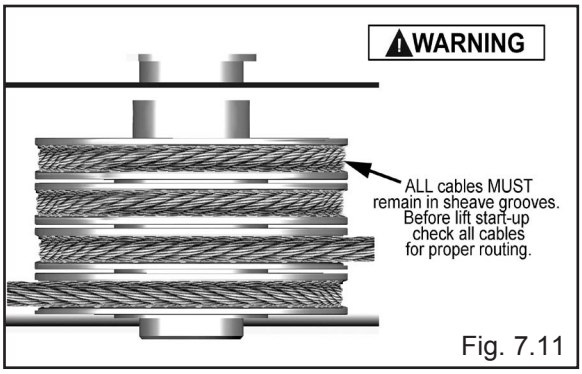


Fig. 7.11

⚠ DANGER

DANGER!
Lifting Cables routed through the Cross Tubes must run BELOW the Cross Tube Mounting Bolts. Serious damages or injury can occur if Cables are not routed correctly. (See Fig 7.12)

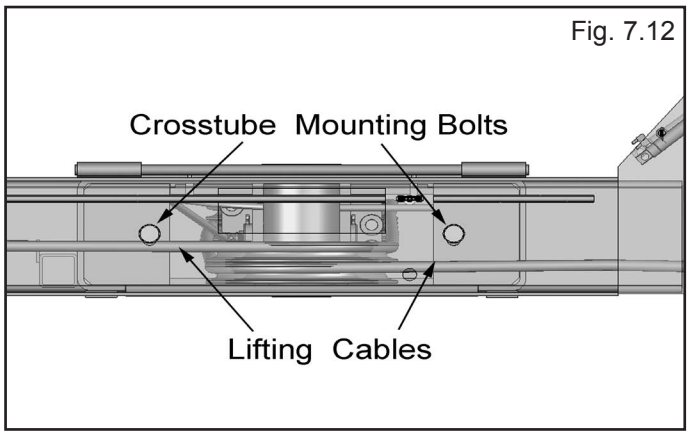


Fig. 7.12

⚠ DANGER

DANGER !
Failure to route Lifting Cables as described may lead to serious personal injury and/or death to operator or bystander and/or may cause damage to property.

DANGER

DANGER !
ALL WIRING MUST BE PERFORMED BY A LICENSED ELECTRICIAN.



DANGER!

DO NOT PERFORM ANY MAINTENANCE OR INSTALLATION OF ANY COMPONENTS WITH OUT FIRST ENSURING THAT ELECTRICAL POWER HAS BEEN DISCONNECTED AT THE SOURCE OR PANEL AND CANNOT BE RE-ENERGIZED UNTIL ALL MAINTENANCE AND/OR INSTALLATION PROCEDURES ARE COMPLETED.

STEP 8

(Power Unit Installation)

1. Mount the POWER UNIT to the Mounting Bracket using the M10 Hex Bolts and Nylock nuts (torque to 35-45 PSI) then FILL THE RESERVOIR with 20-quarts of 10-WT hydraulic oil or Dexron III automatic transmission fluid. (See Fig. 8.1)

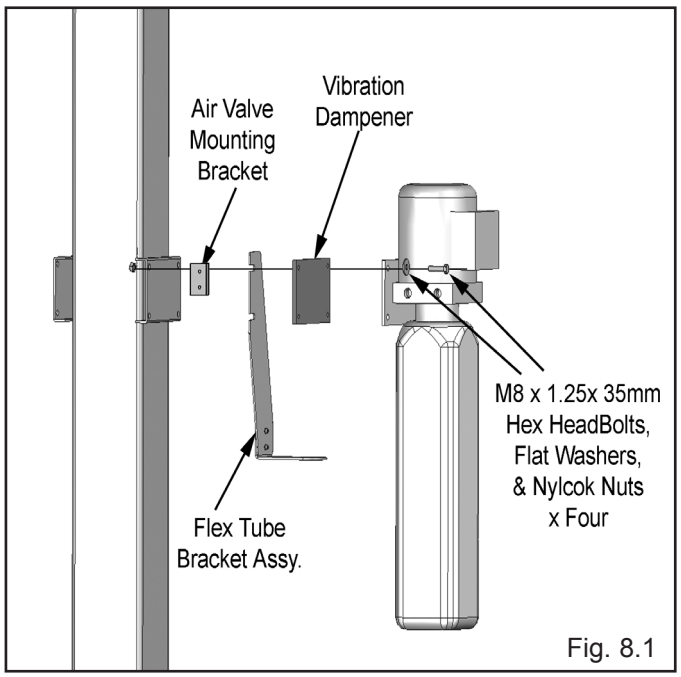


Fig. 8.1

STEP 9

(Routing Hydraulic Hoses)

NOTE:
POWER AND RETURN PORT LOCATIONS MAY VARY. CONFIRM POWER AND RETURN PORT LOCATIONS IN POWER UNIT DOCUMENTATION OR CONTACT TECHNICAL SUPPORT.

1. Install the 90-degree Hydraulic Fitting to the POWER PORT and the 90- degree Air Line Fitting to the RETURN PORT of the power unit and connect the hoses as described below. Use Teflon Tape on the pipe fitting threads.

DO NOT USE TEFLON TAPE ON THE JIC FITTING.

It will be necessary to remove the shipping plugs from both ports prior to installing the fittings. (See Fig. 9.1 -9.2)

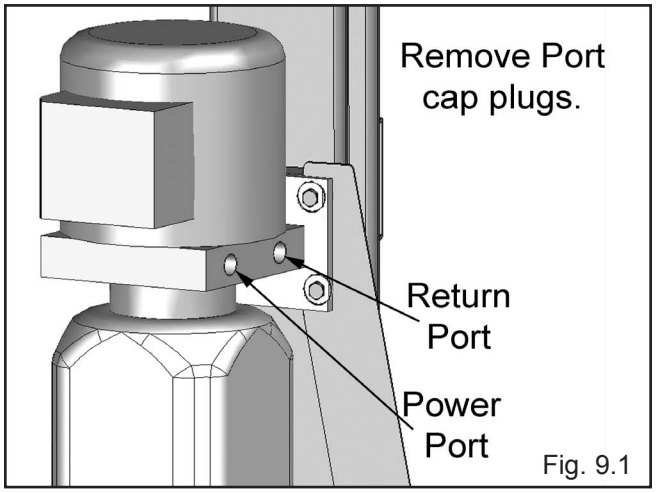


Fig. 9.1

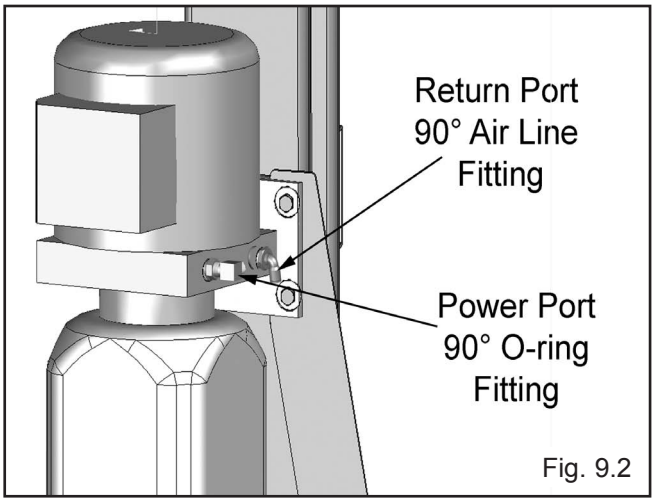


Fig. 9.2

2. Install the 90-degree Hydraulic fitting in the port at the ram end of the cylinder. On the pipe thread side of the fitting it is recommended to use Teflon tape or pipe sealer. DO NOT USE TEFLON TAPE on the JIC flared end.
(See Fig. 9.3)

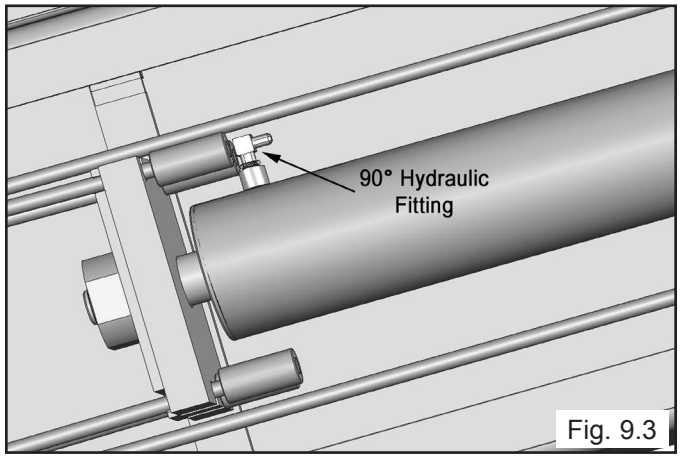


Fig. 9.3

3. Install the 90-degree Air Fitting fitting in the port at the base end of the Cylinder. On the pipe thread side of the fitting it is recommended to use Teflon tape or pipe sealer. DO NOT USE TEFLON TAPE on the JIC flared end.
(See Fig. 9.4)

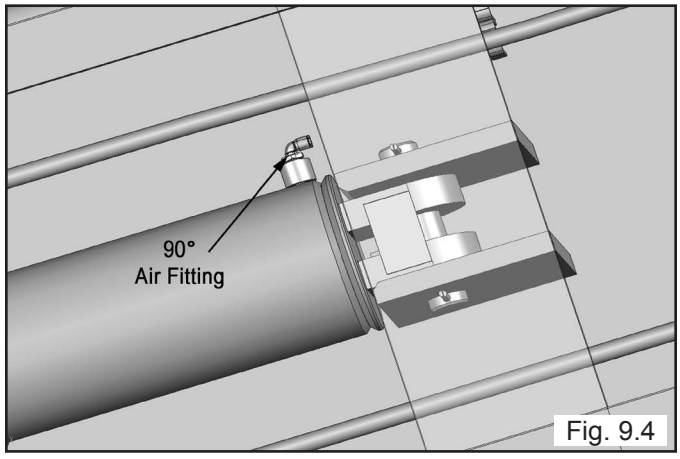


Fig. 9.4

4. Install one end of Flexhose to into hole in the POWERSIDE RUNWAY adjacent to the power unit. Install the other end of the Flex Hose to the Flex Hose Bracket Assy. Tighten the Plastic Nuts securely. (See Fig. 9.5)

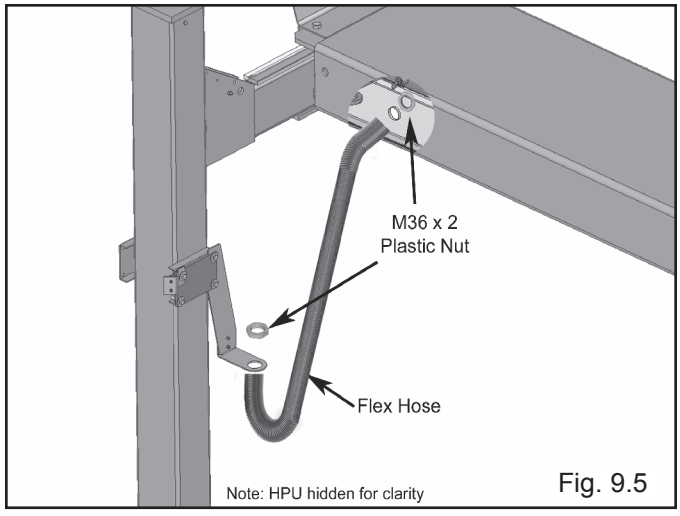


Fig. 9.5

5. Connect hoses as shown below making sure to pass through the retaining rings. MAKE SURE HOSES ARE KEPT CLEAR OF CABLES. (See Fig. 9.6)

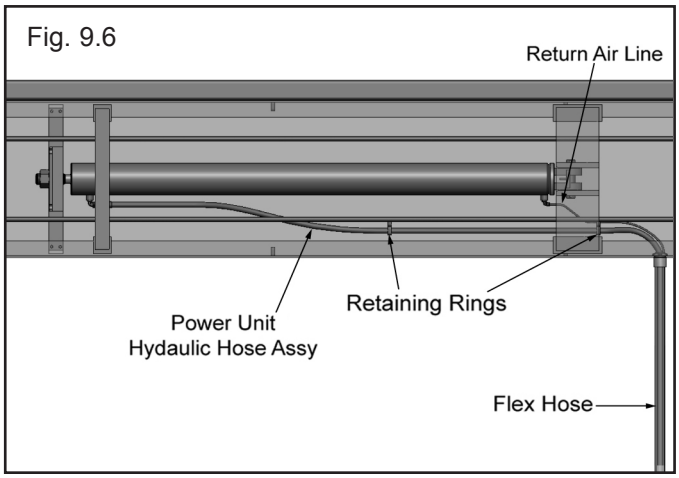


Fig. 9.6

6. Run the Power Unit Hydraulic Hose, (90° end) towards HPU and the Return Air Line through the Flex Hose to the Power Unit. (See Fig. 9.7)

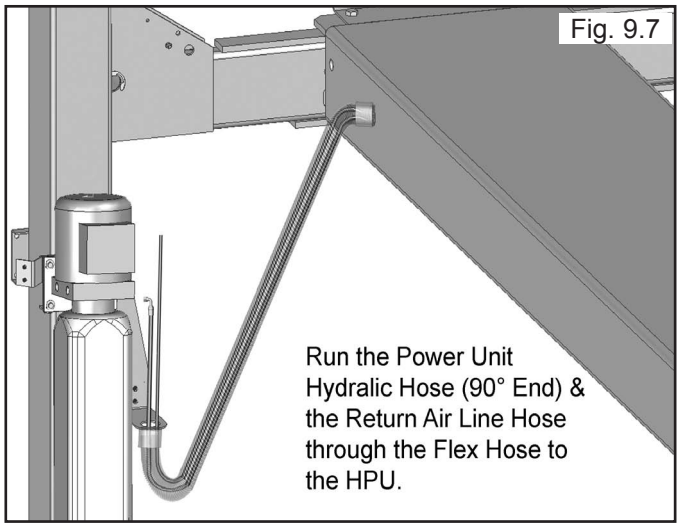


Fig. 9.7

7. Connect the 90° end of the Power Unit Hydraulic Line to the 90° Power Unit Fitting. Connect the Return Air Line to the 90° Air Fitting. (See Fig. 9.8)

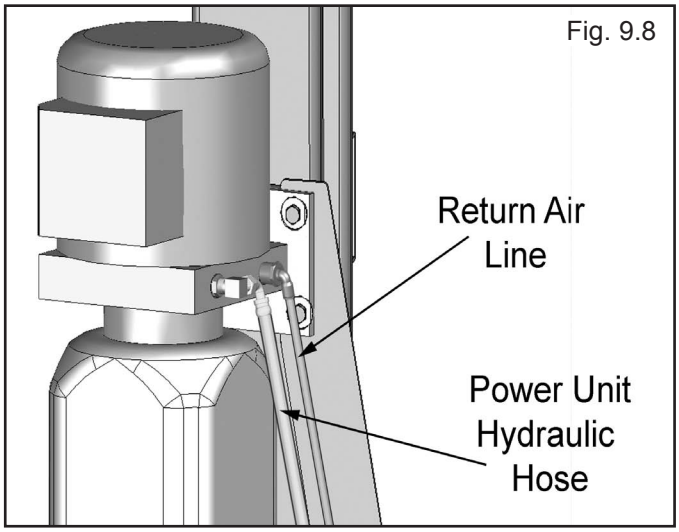


Fig. 9.8

STEP 10

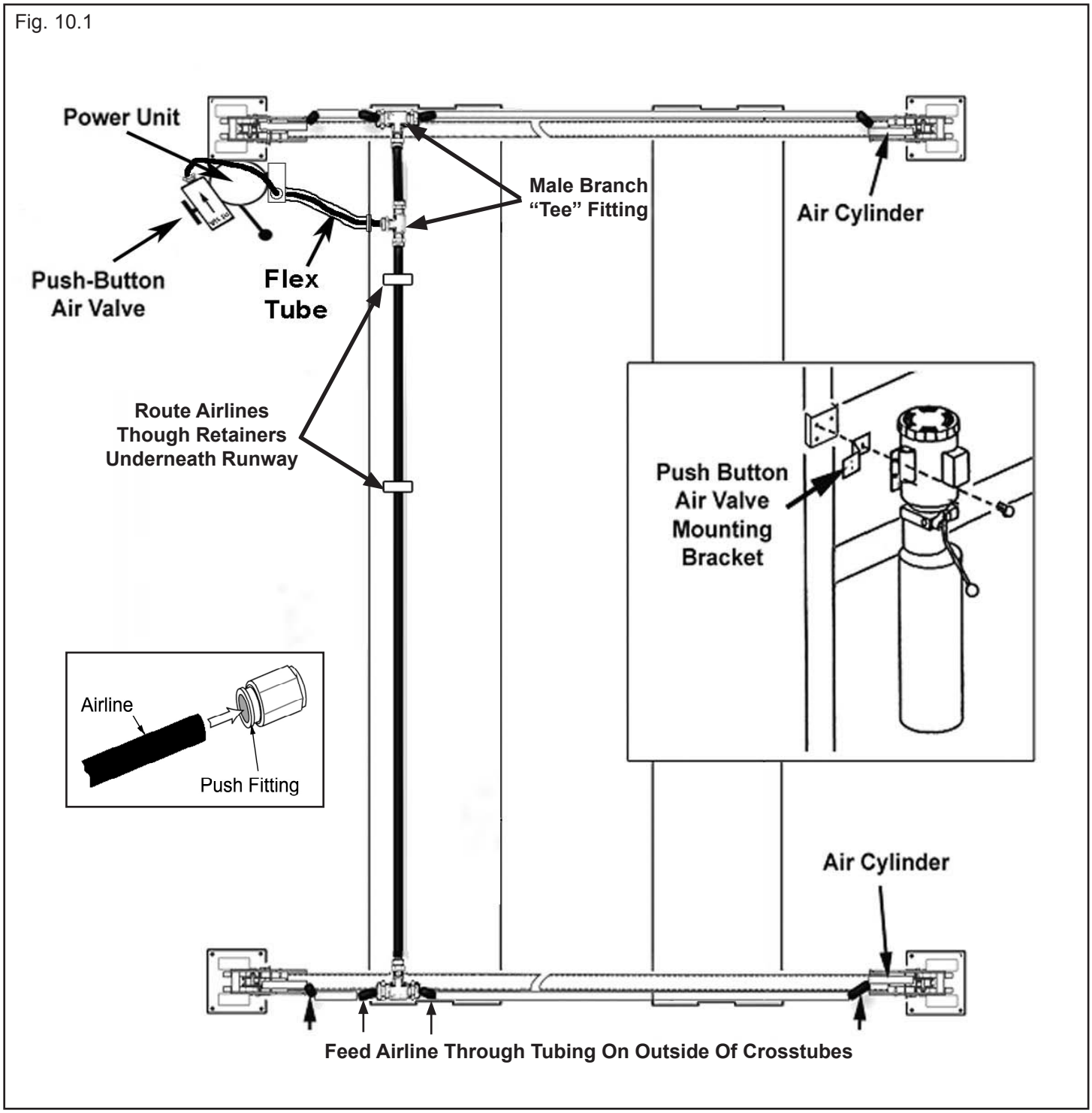
(Routing Air Lines)

Route the AIR LINE as shown below making sure to position the push button air valve with the INLET facing towards the AIR SOURCE and the OUTLET facing the direction of the LIFT. A filter/regulator/lubricator must be installed on air supply at lift. Failure to do so will void the warranty. Cut the provided 1/4" air line tubing with a sharp blade to lengths as required. Tubing must be cut square with no burrs. Note: To assemble air line tubing into fitting, use firm, manual pressure to push tubing into the fitting until it bottoms out. To remove air line tubing from the fitting, hold push sleeve in (against fitting) and, at the same time, pull out on tubing. Pay careful attention to keep air line clear of any pinch points. Improper assembly may result in safety lock failure.

An air supply (30 PSI Min / 3 CFM Min.) will be required for the safety-lock mechanisms.

AIR PRESSURE SHOULD BE REGULATED TO 125 PSI MAX. (See Fig. 10.1)

Fig. 10.1

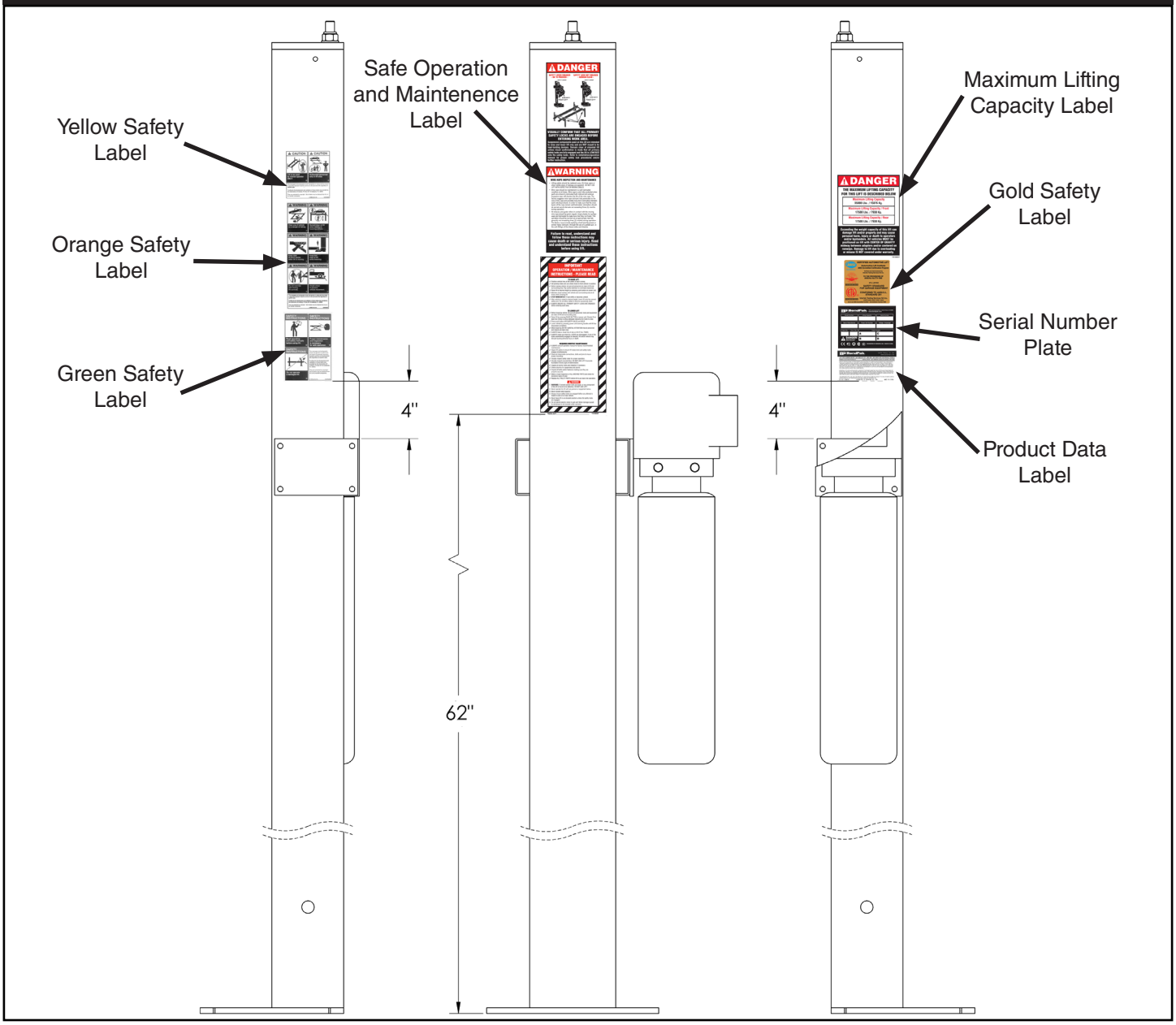


FOUR-POST LIFT POWER POST
SAFETY LABEL PLACEMENT GUIDELINES

WARNING

WARNING!

THESE ANSI/ALI ALCTV-2006 MANDATED SAFETY LABELS ARE PROVIDED FOR THIS PRODUCT FOR THE PROTECTION OF THE OPERATOR AND ANY PERSON(S) WORKING NEAR THE LIFT. THE SAFETY STICKERS MUST BE INSTALLED AS PER THE INSTRUCTIONS BELOW, PRIOR TO THE COMPLETION OF INSTALLATION. FAILURE TO PROPERLY INSTALL WARNING LABELS COULD FAIL TO WARN AND LEAD TO SERIOUS PERSONAL INJURY OR DEATH TO OPERATOR OR BYSTANDER OR DAMAGE TO PROPERTY. BE SURE EVERYONE WHO OPERATES THIS EQUIPMENT UNDERSTANDS ALL THE INFORMATION, CAUTION, WARNING, AND DANGER LABELS. KEEP ALL LABELS CLEAN SO THEY ARE LEGIBLE. THIS APPLIES TO ALL CAUTION, WARNING, AND DANGER LABELS. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE INFORMATION TO ALL OPERATORS FOR SAFE OPERATION OF THIS LIFT. REPLACE ANY DAMAGED OR WORN LABELS. ONCE ANY PART OF A LABEL BECOMES ILLEGIBLE, IT SHOULD BE REPLACED. THE PART NUMBERS FOR THE LABELS ARE LOCATED IN THE LOWER RIGHT CORNER OF THE LABEL. REPLACEMENT LABELS MAY BE ORDERED THROUGH YOUR DEALER OR THE ADDRESS BELOW. WHEN INSTALLING AND/OR REPLACING LABELS, BE SURE THE SURFACE IS CLEAN AND DRY, PEEL THE BACKING OFF THE LABEL, AND APPLY TO THE POST AS SHOWN BELOW. BE SURE TO WIPE WITH A CLEAN CLOTH TO RUB OUT ALL AIR BUBBLES.



DANGER

DANGER!

DO NOT PERFORM ANY MAINTENANCE OR INSTALLATION OF ANY COMPONENTS WITH OUT FIRST ENSURING THAT ELECTRICAL POWER HAS BEEN DISCONNECTED AT THE SOURCE OR PANEL AND CANNOT BE RE-ENERGIZED UNTIL ALL MAINTENANCE AND/OR INSTALLATION PROCEDURES ARE COMPLETED.

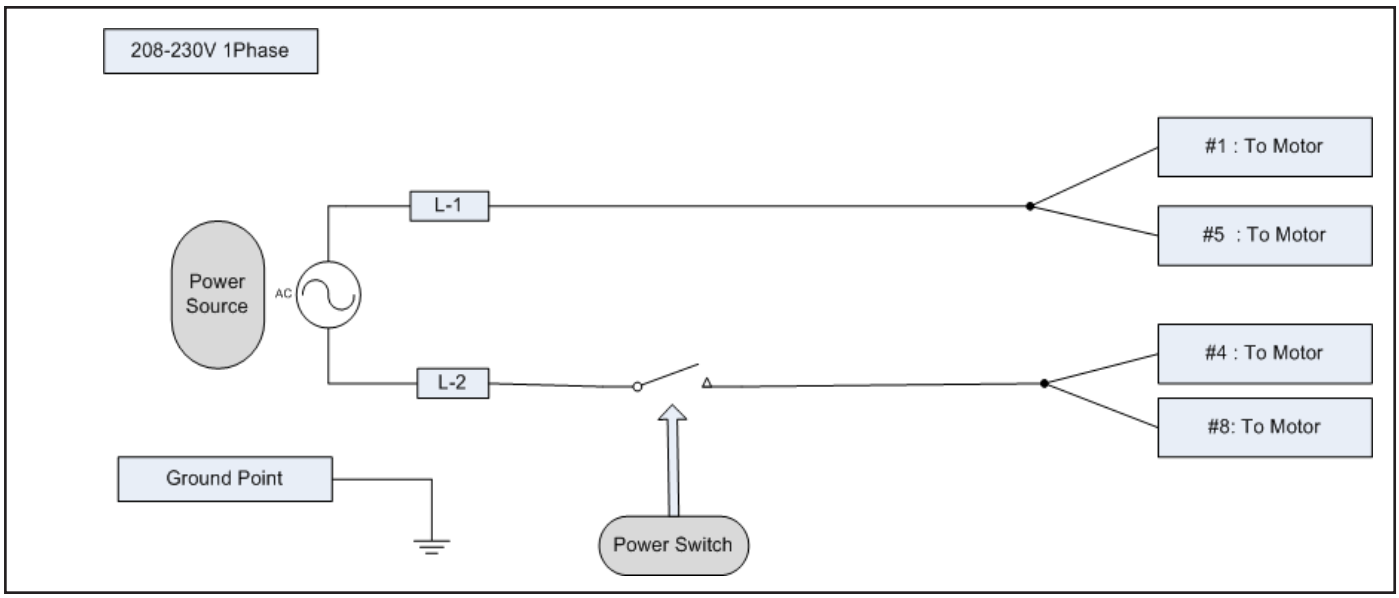


IMPORTANT POWER-UNIT INSTALLATION NOTES

- DO NOT run power unit with no oil. Damage to pump can occur.
- The power unit must be kept dry. Damage to power unit caused by water or other liquids such as detergents, acid etc., is not covered under warranty.
- Improper electrical hook-up can damage motor and will not be covered under warranty.
- Motor can not run on 50HZ without a physical change in motor.
- Use a separate breaker for each power unit.
- Protect each circuit with time delay fuse or circuit breaker.
- For 208-230 volt, single phase, use a 25 amp fuse.
- For 208-230 volt, three phase, use a 20 amp fuse.
- For 380-440 volt, three phase, use a 15 amp fuse.

Installation and adjustment.
DO NOT attempt to raise vehicle until a thorough operation check has been completed.

All wiring must be performed by a certified electrician only.



SEE WIRING INSTRUCTIONS AFFIXED TO MOTOR FOR PROPER WIRING INSTRUCTIONS.

STEP 11
(Power Unit Hook Up)

1. Have a CERTIFIED ELECTRICIAN run the power supply to motor. Refer to the data plate found on the motor for proper power supply and wire size.

⚠ DANGER

RISK OF EXPLOSION!

This equipment has internal arcing or PARTS THAT MAY SPARK and should not be exposed to flammable vapors. Motor should not be located in a recessed area or below floor level. NEVER expose motor to rain or other damp environments. DAMAGE TO MOTOR CAUSED BY WATER IS NOT COVERED UNDER WARRANTY.

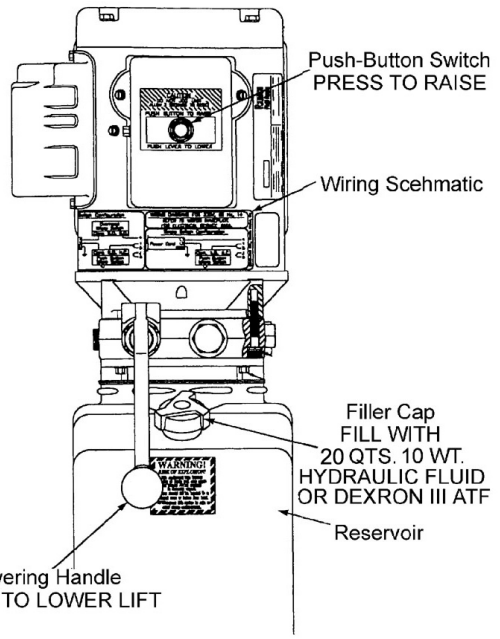
IMPORTANT NOTE:

CAUTION Never operate the motor on line voltage less than 208V. Motor damage may occur which is not covered under warranty. Have a certified electrician run appropriate power supply to motor. Size wire for 25 amp circuit. See Motor Operating Data Table.

IMPORTANT: Use separate circuit for each power unit. Protect each circuit with time delay fuse or circuit breaker. For single phase 208-230V, use 25 amp fuse. Three phase 208-240V, use 25 amp fuse. For three phase 400V and above, use 15 amp fuse. All wiring must comply with NEC and all local electrical codes.

Fig. 11.1

POWER UNIT



Typical Power Unit shown, controls and labels may vary.

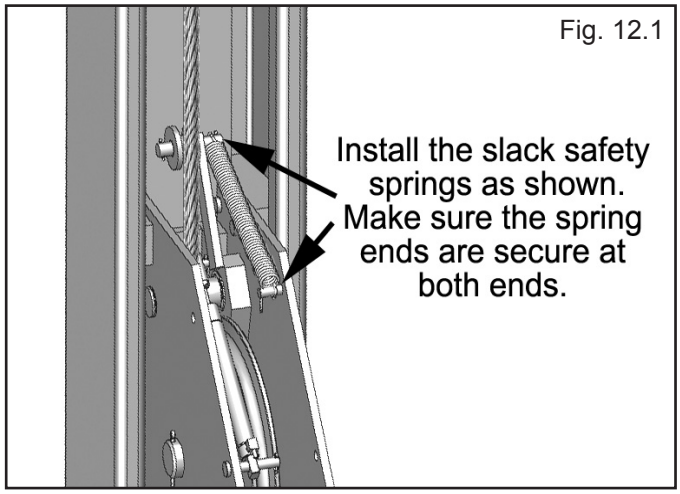
STEP 12
(Installing The Slack Safety Springs)

⚠ DANGER

The following steps involve the SLACK CABLE SAFETY DEVICE and MAIN SAFETY. Failure to follow these steps could result in serious injury or death in the event of cable failure.

1. Install the unattached end of the SLACK SAFETY LOCK SPRINGS as shown. Make sure the spring ends are secure at both ends. **DO NOT ATTEMPT TO RAISE THE LIFT UNTIL THE SLACK SAFETY SPRINGS ARE ATTACHED AND THE ROLLERS ARE PULLED CLEAR FROM THE LADDER.** (See Fig. 12.1)

Fig. 12.1



STEP 13
(Lift Start Up / Final Adjustments)

1. Make sure the POWER UNIT RESERVOIR is full with 20-quarts of 10-WT hydraulic oil or Dexron-III automatic transmission fluid.

2. Spray the inside of the Columns where the Slide Blocks glide with a light lubricant or WD-40.

3. Test the Power Unit by pressing the push-button switch. If the motor sounds like it is operating properly, raise the lift and check all hose connections for leaks. If the motor gets hot or sounds peculiar, stop and check all electrical connections.

4. Before proceeding, double-check to make sure all Cables are properly positioned within the grooves of ALL sheaves. Make sure all cable sheave retaining pins and/or clips are secure.

5. Check to make sure that all Slack Safety locks are cleared and free. (See Fig. 13.1)

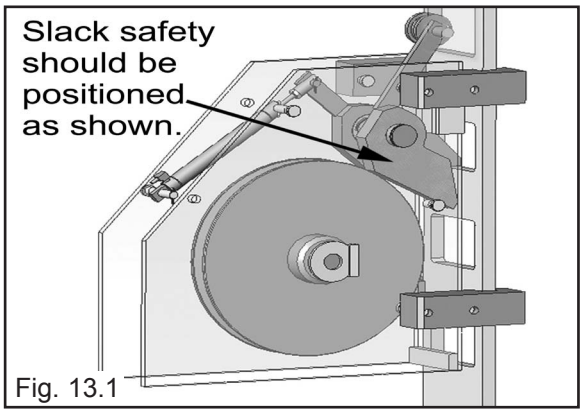


Fig. 13.1

6. Continue pressing the raise button until the Cables get taught and the lift starts to move.

7. Raise lift until the lift stops and lower until the Safetys engage the Top Locking Position. Adjust each ladder so that each Safety Lock rests on the corresponding Top Lock Position. Then adjust each Cable Nut so that each Safety Lock is ONE INCH (1") above the Top Lock Position. The Cable Nuts MUST be tightened until there is at least one inch of threads protruding through the nut. (See Fig. 13.2) Failure to do so could result in serious injury or death.

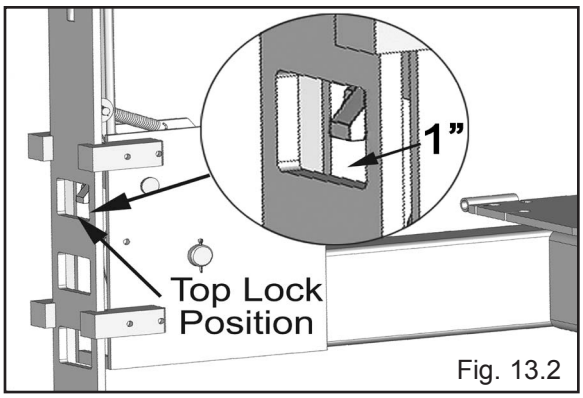


Fig. 13.2

⚠WARNING

All cable nuts MUST be tightened on each end until there is at least one inch of threads protruding through the nut. Failure to do so could result in serious injury or death.

NOTE:

There will be initial stretching of the cables in the beginning and/or with increased loads. Adjust the cables as outlined above a week after first use, then every three to six months thereafter depending on usage and/ or to compensate for stretch.

8. After connecting the air supply, press the PUSH BUTTON AIR VALVE and check that all Safety Locks are functioning properly. Lower the lift by pressing the push button air valve and Power Unit lowering valve simultaneously.

⚠WARNING

KEEP HANDS AND FEET CLEAR. Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.

9. Check all MAIN SAFETY LOCKS to make sure they move freely and spring back to the lock position when released. Lubricate all SAFETY PIVOT points with WD-40 or equal.

10. Run the lift up and down a few times to insure that the locks are engaging uniformly and that the safety release mechanisms are functioning. Re-adjust if necessary.

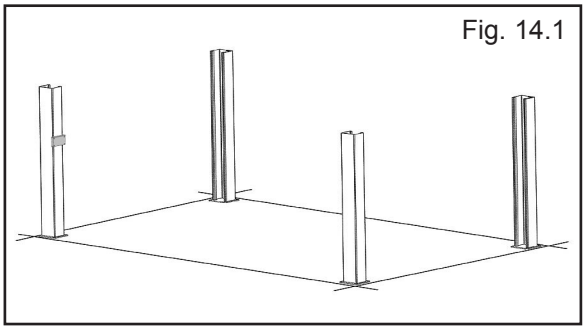
STEP 14

(Anchoring The Columns)

IMPORTANT NOTE:

BendPak 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. Lift buyers 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).

1. Before proceeding, DOUBLE CHECK MEASUREMENTS and make certain that the bases of each column are square and aligned with the chalk line. Raise the lift up and down and make sure it operates properly at the locations prescribed by the markings on the floor. (See Fig. 14.1)


Fig. 14.1

2. Using the BASE PLATE on each column as a guide, drill each anchor hole approximately 5" deep using a rotary hammer drill and 3/4" concrete bit. (See Fig. 14.2)

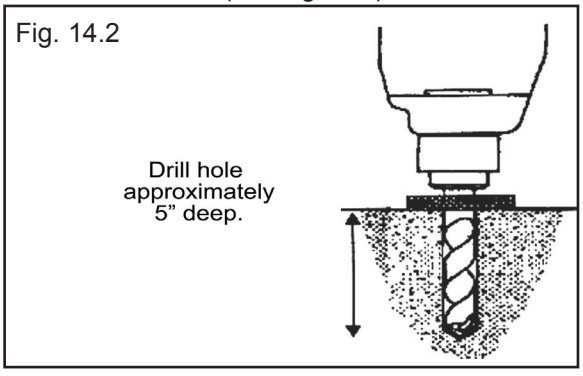


Fig. 14.2

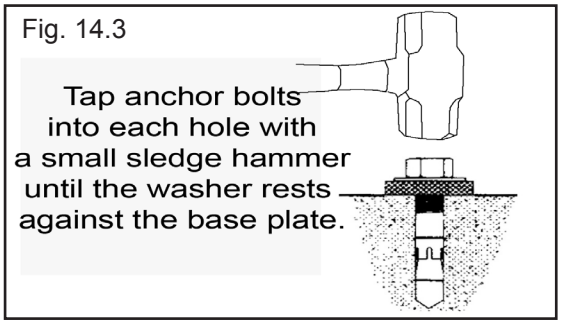
3. After drilling, REMOVE DUST thoroughly from each hole using compressed air and/or bristle brush. Make certain that the Columns remain aligned with the chalk line.

⚠ CAUTION

ALWAYS WEAR SAFETY GOGGLES.

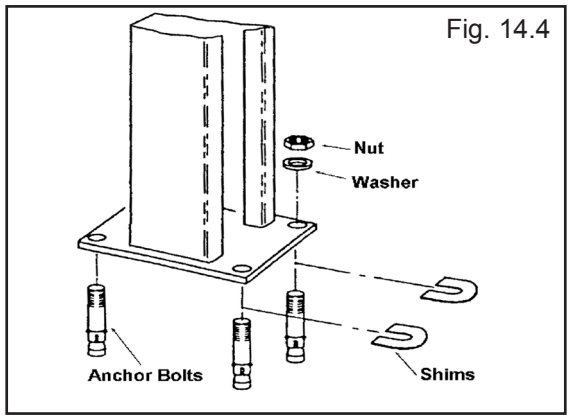
4. Assemble the washers and nuts on the anchors then tap into each hole with a sledge until the washer rests against the base plate. Be sure that if shimming is required, enough THREADS ARE LEFT EXPOSED. (See Fig. 14.3)

Fig. 14.3



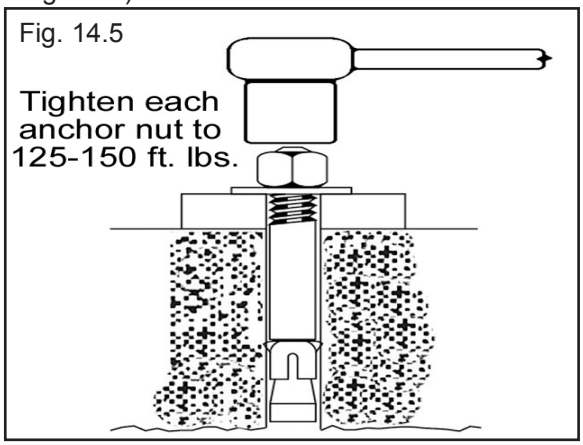
5. If shimming is required, insert the shims as necessary under the base plate so that when the anchor bolts are tightened, the columns will be plumb. (See Fig. 14.4)

Fig. 14.4



6. After any necessary shims are installed, tighten each anchor nut 3-5 turns past hand tight. IMPORTANT - If anchor bolts do not hold when torqued to required amount, concrete must be replaced. Saw cut and remove 24" x 24" square area under each column base then re-pour with reinforced 2500 PSI concrete to a depth of six inches minimum, keying new concrete under existing floor. (See Fig. 14.5)

Fig. 14.5



STEP 15

(Final Assembly)

1. Install the approach ramps on the entry side of the lift. (See Fig. 15.1 &15.2)

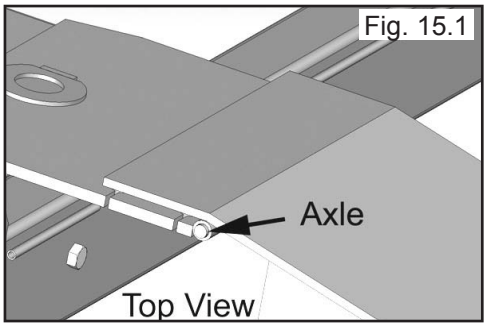


Fig. 15.1

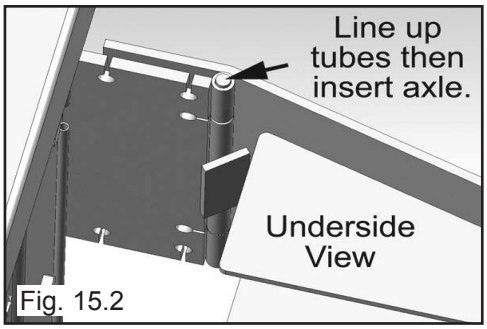


Fig. 15.2

2. Install the front tire stops at the forward end of the lift using the hex bolts, nuts and washers. Torque to 35-45 PSI. (See Fig. 15.3)

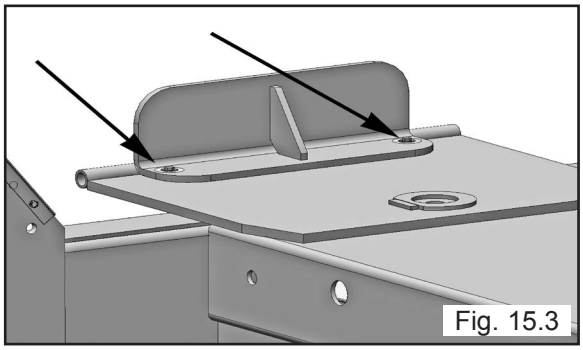


Fig. 15.3

STEP 16

(Leveling / Synchronizing)

1. Using an engineer's automatic Level (transit), locate the Level, at a convenient location in the shop that allows an unobstructed view of all four corners of the runways.

2. Follow the Level manufacturer's instructions for proper setup of the Level. Be sure it is ADJUSTED LEVEL in all directions.

3. Raise the lift approximately 30"- 40". Then lower lift until all locking latches are engaged in each column and the runways are in full down position on locks.

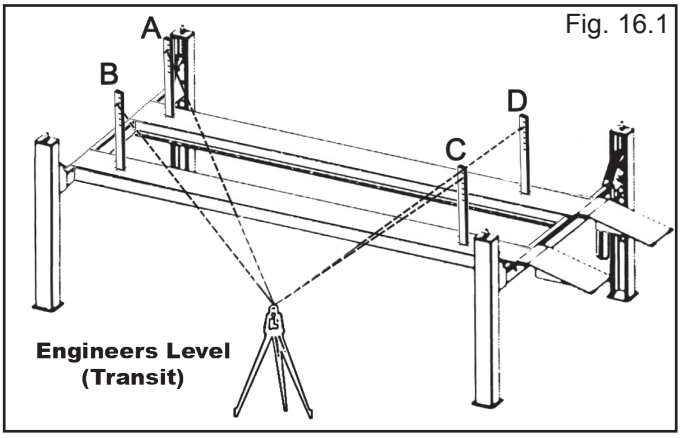
4. Place a Level target on the right/front corner of the runway. (See Fig. 16.1)

5. Beginning with “A” position, sight the level to the target and mark the number or the graduation on the inch scale of the target that aligns to the cross hairs of the Level, (See Fig. 16.1)

Note:

Use a pencil, marking pen or attach a paper clip onto the target scale at the cross hair reference.

Fig. 16.1



6. Next, move the target and place it at point “B” on the runway. (See Fig. 16.1)

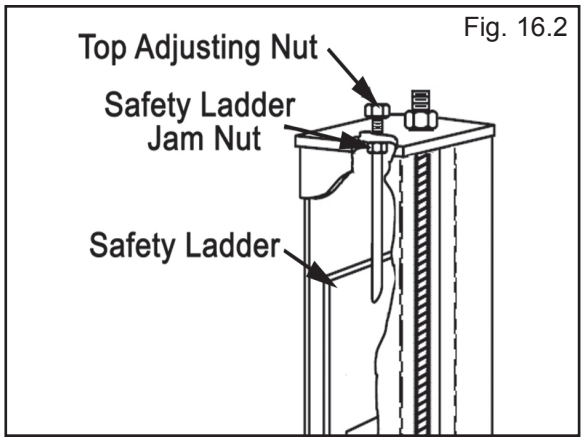
7. Rotate the Level and focus on the target scale.

8. Adjust the adjustment nut on the safety ladder bar at the top of the Column at “B” until the cross hair of the Level align to reference mark on the target scale. (See Fig. 16.1)

9. Repeat steps locating the target assembly at points “C” and “D” and adjusting safety ladders at each corresponding Column until the reference mark on the target scale is on the cross hair of the Level. The runways are now level at all four points. (See Fig. 16.1)

10. To complete the leveling procedures, SNUG EACH SAFETY LADDER JAM NUT against the bottom of the Column Top Plate. Torque to 35-45 PSI. (See Fig. 16.2)

Fig. 16.2



11. Next, load vehicle such as an RV onto the lift.

12. Raise the lift to full height. Listen and watch as the locking latches click in place. SYNCHRONIZE BY ADJUSTING THE CABLES so that all four latches click at the same time. Make necessary adjustments to the cables allowing COMPENSATION FOR STRETCH.

⚠WARNING

Safety locks may not click in at exactly the same time when vehicles are being raised. They should be close. Be sure that all four corners have passed the SAME Safety Ladder Bar slot before lowering lift on the safety locks. NEVER lower lift on different safety lock position or damage to the lift may result.

STEP 17

(Bleeding)

1. Lift must be fully lowered before changing or adding fluid.

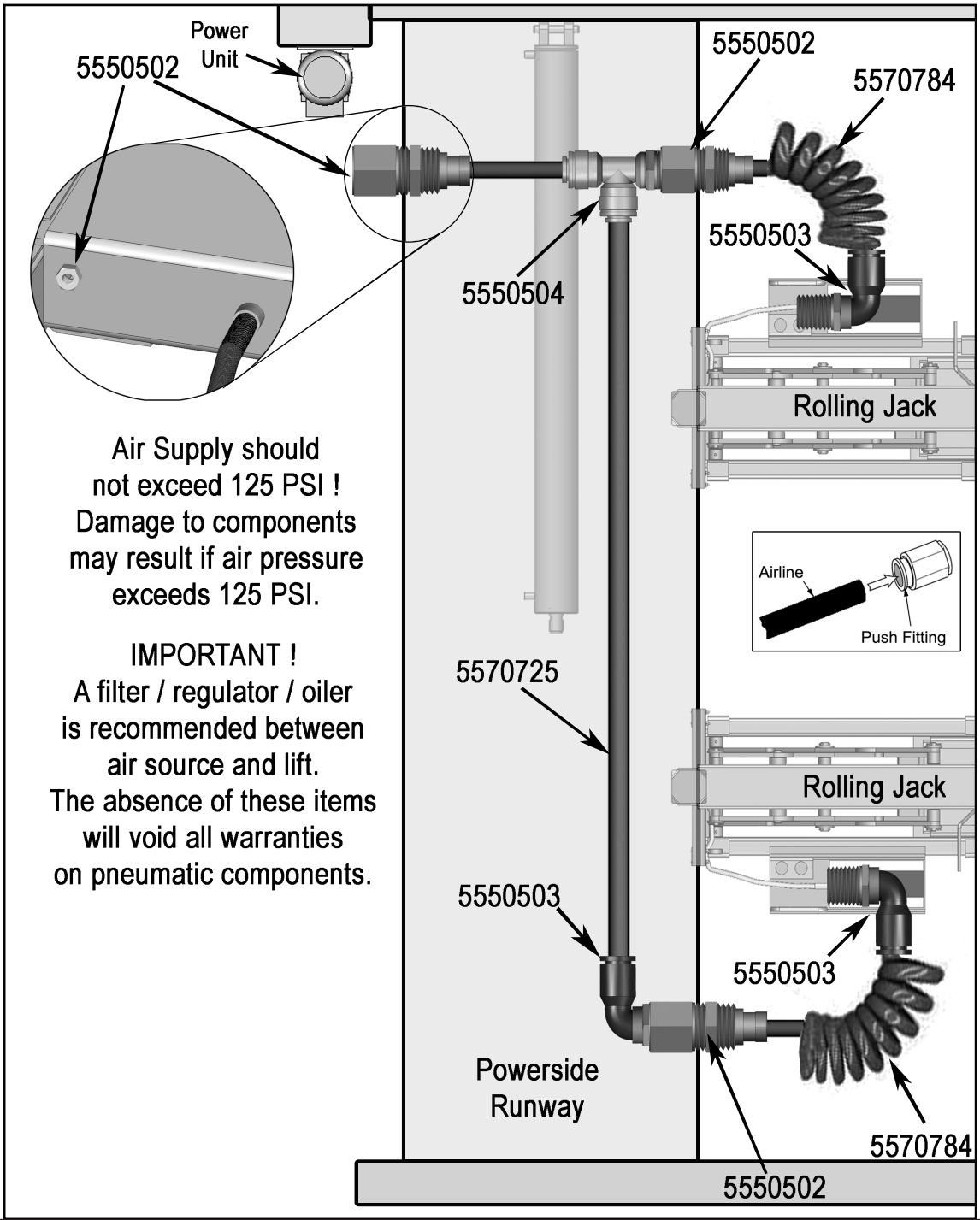
2. Raise and lower lift six times. The cylinder is self-bleeding. After bleeding system, fluid level in power unit reservoir may be down. Add more fluid if necessary to raise lift to full height. It is only necessary to add fluid to allow full height raise.

3. To pressure test, run lift to full rise and run motor for approximately 3-seconds after lift stops. This will place pressure on the hydraulic system. Stop and check all fittings and hose connections. Tighten or reseal if required.

POST-INSTALLATION CHECKLIST

- Columns Properly Shimmed And Stable
- Anchor Bolts Tightened
- Pivot / Sheave Pins Properly Attached
- Electric Power Supply Confirmed
- Cables Adjusted Properly
- Safety Locks Functioning Properly
- Check For Hydraulic Leaks
- Oil Level
- Lubrication of Critical Components
- Check For Overhead Obstructions
- Runways Level
- All Screws, Bolts, and Pins Secured
- Surrounding Area Clean
- Operation, Maintenance and Safety Manuals on Site

HD/HDS-18; 27; 35 Rolling Jack Air Line Kit Installation - Part # 5174010
HD/HDS-18X; 27X; 35X Rolling Jack Air Line Kit Installation - Part # 5174011



5174010	HD/HDS-18; 27; 35 AIR LINE KIT		5174011	HD/HDS-18X; 27X; 35X AIR LINE KIT	
Part #	Description	Qty.	Part #	Description	Qty.
5550502	1/4 Bulkhead Female Straight 3/8 Tube	3	5550502	1/4 Bulkhead Female Straight 3/8 Tube	3
5550503	3/8 Tube Male Elbow 90° 1/4 NPT	3	5550503	3/8 Tube Male Elbow 90° 1/4 NPT	3
5550504	1/4 Male Run Tee 3/8 Tube #PST	1	5550504	1/4 Male Run Tee 3/8 Tube #PST	1
5570784	Ø3/8 x 10ft Long Poly Tube Coil Hose	2	5570784	Ø3/8 x 10ft Long Poly Tube Coil Hose	2
5570725	Ø10mm Poly Flow Tube	290"	5570725	Ø10mm Poly Flow Tube	340"

OPERATION

To Raise Lift;

1. Position vehicle tires in the center of each Runway.

2 Set parking brake or use wheel chock to hold vehicle in position.

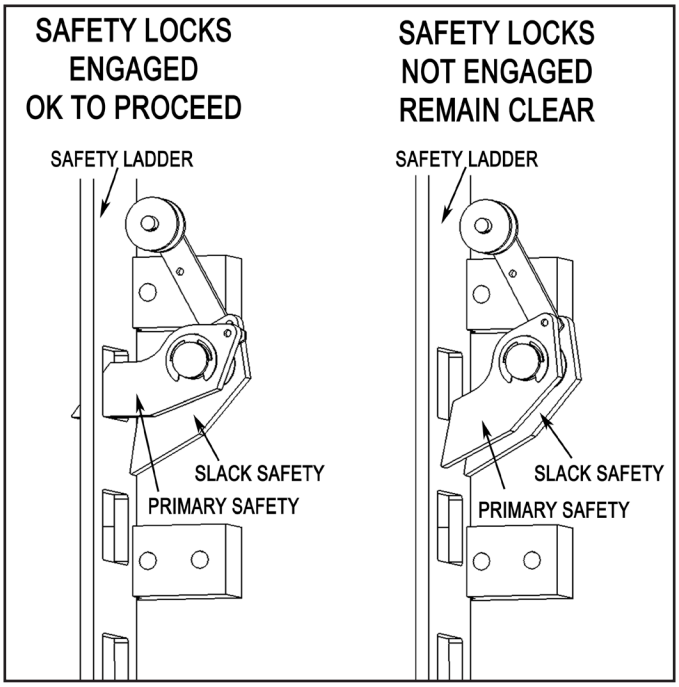
3. Before raising vehicle, be sure all personnel are clear of the lift and surrounding area. Pay careful attention to overhead clearances.

4. Raise the lift to the desired height by pressing the push button on the power unit.

⚠ DANGER

VISUALLY CONFIRM THAT ALL PRIMARY SAFETY LOCKS ARE ENGAGED BEFORE ENTERING WORK AREA.

Suspension components us on this lift are intended to raise and lower lift only and are not meant to be load holding devices. Remain clear of elevated lift unless visual confirmation is made that all primary safety locks are fully engaged and the lift is LOWERED onto the safety locks, Refer to installation /operation manual for proper safety lock procedures and / or further instruction.



5. After vehicle is raised to the desired height, **lower the lift onto the nearest safety lock.** Do not allow cables to become slack. **ALWAYS INSURE SAFETY LOCKS ARE ENGAGED** before entering work area.

To Lower Lift;

1. Before lowering vehicle, be sure all personnel are clear of the lift and surrounding area. Pay careful attention to overhead clearances. Insure all tools and equipment have been cleared from under the lift.

2. Raise the lift off the safety locks by pressing the push button on the power unit. Make sure you raise the lift by at least two inches to allow adequate clearance for the locks to clear.

3. Press the push button air safety valve and HOLD.

4. Push the LOWERING HANDLE on the power unit until the lift has descended completely.

When lowering the lift PAY CAREFUL ATTENTION that all personnel and objects are kept clear. ALWAYS keep a visual line of site on the lift AT ALL TIMES. ALWAYS make sure that all FOUR LOCKS are disengaged. If one of the locks inadvertently locks on descent the lift and/or vehicle may disrupt causing personal injury or death.

WEEKLY MAINTENANCE

1. Lubricate all Sheaves and/or Rollers with 90-WT gear oil or similar heavy lubricant.
2. Check all Cable connections, Bolts and Pins to insure proper mounting.
3. Lubricate Safety Lock Pivot points with general purpose oil or WD-40.

MONTHLY MAINTENANCE

1. Check Safety Locks to insure they are in good operating condition.
2. Thoroughly inspect all cables for wear.
(See pages 28-29.)
3. Make a visual inspection of ALL MOVING PARTS and check for excessive signs of wear.
4. Replace ALL FAULTY PARTS before lift is put back into operation.

⚠WARNING

- **NEVER EXCEED THE RATED CAPACITY** of lift.
- **DO NOT USE LIFT** if any component is found to be defective or worn.
- **NEVER OPERATE LIFT** with any person or equipment below.
- **ALWAYS STAND CLEAR** of lift when lowering or raising.
- **ALWAYS INSURE SAFETY LOCKS ARE ENGAGED** before entering work area.
- **NEVER LEAVE LIFT IN ELEVATED CONDITION** unless all four safety locks are engaged.

⚠WARNING

WIRE ROPE INSPECTION AND MAINTENANCE

♦ Lifting cables should be replaced every three - five years or when visible signs of damage are apparent. DO NOT USE LIFT WITH DEFECTIVE / WORN CABLES.

♦ Lifting cables should be maintained in a well-lubricated condition at all times. Wire rope is only fully protected when each wire strand is lubricated both internal and external. Excessive wear will shorten the life of the wire rope. The factory suggested wire rope lubricant that penetrates to the core of the rope and provides long-term lubrication between each individual strand is 90-WT gear oil or ALMASOL® Wire Rope Lubricant. In order to make sure that the inner layers of the rope remain well lubricated, lubrication should be carried out at intervals not exceeding three months during operation.

♦ All sheaves and guide rollers in contact with the moving rope should be given regular visual checks for surface wear and lubricated to make sure that they run freely. This operation should be carried out at appropriate intervals generally not exceeding three months during operation. For all sheave axles, the factory recommends standard wheel bearing grease. For all sheaves and/or guide rollers, the factory recommends 90-WT gear oil or similar heavy lubricant applied by any method including pump / spray dispensing, brush, hand and/or swabbing.

.

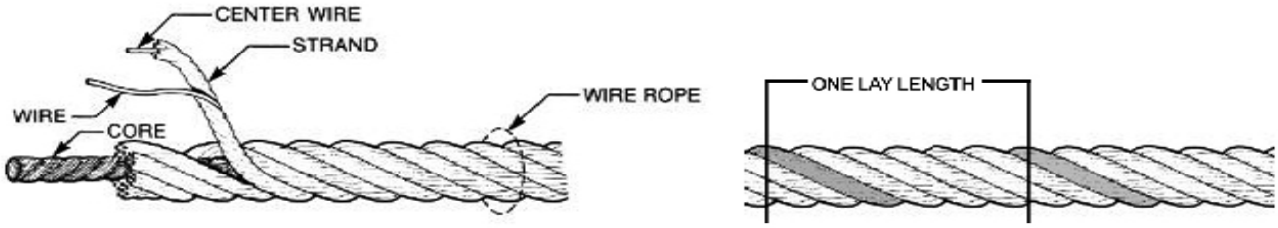
HOW OFTEN TO INSPECT

♦ Lifting cables should be visually inspected at least once each day when in use, as suggested by American Petroleum Institute (API) RP54 guidelines.

♦ Any lifting cables that have met the criteria for removal must be immediately replaced.

WHEN TO REPLACE LIFTING CABLES DUE TO BROKEN WIRES

♦ Lifting cables should be removed from service when you see six randomly distributed broken wires within any one lay length, or three broken wires in one strand within one lay length.



The three basic components of a typical wire rope.

OTHER REASONS TO REPLACE LIFTING CABLES

♦ Corrosion that pits the wires and/or connectors.
♦ Evidence of kinking, crushing, cutting, bird-caging or a popped core.
♦ Wear that exceeds 10% of a wire's original diameter.
♦ Evidence of heat damage.

HOW TO FIND BROKEN WIRES

♦ The first step is to 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.

♦ Flex the rope to expose any broken wires hidden in the valleys between the strands.

♦ 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.

♦ With an awl, probe between wires and strands and lift any wires that appear loose. Evidence of internal broken wires may require a more extensive rope examination.

WARNING

WIRE ROPE INSPECTION AND MAINTENANCE

- Lifting cables should be replaced every three years or when visible signs of damage are apparent. DO NOT USE LIFT WITH DEFECTIVE: WORN CABLES.

- 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 externaly. Excessive wear will shorten the life of the wire rope. The factory suggested wire rope lubricant that penetrates to the core of the rope and provides long term lubrication between each individual strand is AMSOIL Synthetic Open Gear and Wire Rope Compound or 90WT gear oil or similar heavy lubricant. In order to make sure that the inner layers of the rope remains well lubricated, lubrication should be carried out at intervals not exceeding three months during operation.

- All sheaves and guide rollers in contact with the moving rope should be given regular visual checks for surface wear and lubricated to make sure that they run freely. This operation should be carried out at appropriate intervals generally not exceeding three months during operation. For all sheave axles, the factory recommends standard wheel bearing grease. For all sheaves and /or guide rollers, the factory recommends 90 WT gear oil or similar heavy lubricant applied by any method including pump / spray dispensing, brush, hand and /or swabbing.

Failure to read, understand, and follow these instructions may cause death or serious injury. Read and understand these instructions before using lift.

WARNING

WARNING!

WHEN THE CABLE ADJUSTING NUTS BOTTOM OUT ON THE THREADED END OF THE CABLE CONNECTOR AND THERE IS STILL SLACK IN THE CABLES, THE CABLES HAVE STRETCHED BEYOND THE SAFE USEFUL LENGTH AND NEED TO BE REPLACED WITH FACTORY APPROVED CABLE ASSEMBLIES. DO NOT PLACE WASHERS, SPACERS OR OTHER DEVICES TO “SHORTEN” THE EFFECTIVE CABLE LENGTH AS DAMAGE TO THE LIFT OR INJURY TO PERSONS MAY OCCUR.


⚠ WARNING
Clear area if vehicle is in danger of falling.
©
⚠ WARNING
Remain clear of lift when raising or lowering vehicle.
©
⚠ WARNING
Keep clear of pinch points when lift is moving.
©
⚠ WARNING
Keep feet clear of lift while lowering.
©
⚠ WARNING
Do not override self-closing lift controls.
©
⚠ WARNING
Chock wheel to prevent vehicle movement.
©
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 33116 Indialantic, FL. 32903.
They are protected by copyright. Set of labels may be obtained from ALI or its member companies
© 1992 by ALI, Inc. ALI/WL200w


SAFETY INSTRUCTIONS
Read operating and safety manuals before using lift.
©
SAFETY INSTRUCTIONS
Proper maintenance and inspection is necessary for safe operation.
©
SAFETY INSTRUCTIONS
Do not operate a damaged lift.
©
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 33116 Indialantic, FL. 32903.
They are protected by copyright. Set of labels may be obtained from ALI or its member companies.
© 1992 by ALI, Inc. ALI/WL200s
⚠ CAUTION
Lift to be used by trained operator ONLY.
©
⚠ CAUTION
Authorized personnel only in lift area.
©
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 33116 Indialantic, FL. 32903.
They are protected by copyright. Set of labels may be obtained from ALI or its member companies.
© 1992 by ALI, Inc. ALI/WL200c

Safe Lift Operation

Automotive and truck lifts are critical to the operation and profitability of your business. The safe use of this and other lifts in your shop is critical in preventing employee injuries and damage to customer's vehicles. By operating lifts safely you can insure that your shop is profitable, productive and safe.

Safe operation of automotive lifts requires that only trained employees should be allowed to use the lift.

TRAINING SHOULD INCLUDE, BUT NOT LIMITED TO:

- Proper positioning of the vehicle on the runway. (See manufacturers minimize wheel base loading requirements.)
- Use of the operating controls.
- Understanding the lift capacity.
- Proper use of jack stands or other load supporting devices.
- Proper use, understanding and visual identification of safety lock devices and their operation.
- Reviewing the safety rules.
- Proper housekeeping procedures (lift area should be free of grease, oil, tools, equipment, trash, and other debris)
- A daily inspection of the lift should be completed prior to its use. Safety devices, operating controls, lift arms and other critical parts should be inspected prior to using the lift.
- All maintenance and repairs of the lift should be completed by following the manufacturer's requirements. Lift repair parts should meet or exceed OEM specifications. Repairs should only be completed by a qualified lift technician.
- The vehicle manufacturer's recommendations should be used for spotting and lifting the vehicle.

LIFT OPERATION SAFETY

- It is important that you know the load limit. Be careful that you do not overload the lift . If you are unsure what the load limit is, check the data plate found on one of the lift columns or contact the manufacturer.
- The center of gravity should be followed closely to what the manufacturer recommends.
- Always make sure you have proper overhead clearance. Additionally, check that attachments, (vehicle signs, campers antennas, etc.) are not in the way.
- Be sure that prior to the vehicle being raised, the doors, trunk, and hood are closed securely
- Prior to being raised, make sure there is no one standing closer than six feet from the lift
- After positioning the vehicle on the lift runways, set the emergency brake, make sure the ignition is off, the doors are closed, overhead obstructions are cleared, and the transmission is in neutral.
- Double check that the automatic chock devices are in position and then when the lift is raised, observe the chocks
- Put pads or adaptors in the right position under the contact points that have been recommended
- The lift should be raised just until the vehicle's wheels are about one foot off the ground. If contact with the vehicle is uneven or it appears that the vehicle is not sitting secure, carefully lower the lift and readjust.
- Always consider potential problems that might cause a vehicle to slip, i.e., heavy cargo, undercoating, etc.

⚠ DANGER

- Pay attention when walking under a vehicle that is up on the hydraulic lift
- **DO NOT** Leave the controls while the lift is still in motion.
- **DO NOT** stand directly in front of the vehicle or in the bay when vehicle is being loaded or driven into position.
- **DO NOT** Go near vehicle or attempt to work on the vehicle when being raised or lowered. **REMAIN CLEAR** of lift when raising or lowering vehicle.
- **DO NOT** rock the vehicle while on the lift or remove any heavy component from vehicle that may cause excessive weight shift.
- **DO NOT** lower the vehicle until people, materials, and tools are clear
- **ALWAYS INSURE** that the safeties are engaged before any attempt is made to work on or near vehicle.
- Some vehicle maintenance and repair activities may cause the vehicle to shift. Follow the manufacturer's guidelines when performing these operations. The use of jack stands or alternate lift points may be required when completing some repairs.
- **READ AND UNDERSTAND** all safety warning procedures before operating lift.
- **KEEP HANDS AND FEET CLEAR**. Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.
- **ONLY TRAINED OPERATORS** should operate this lift. All non-trained personnel should be kept away from work area. Never let non-trained personnel come in contact with, or operate lift.
- **USE LIFT CORRECTLY**. Use lift in the proper manner. Never use lifting adapters other than what is approved by the manufacturer.
- **DO NOT** override self-closing lift controls.
- **CLEAR AREA** if vehicle is on danger of falling.
- **STAY ALERT**. Watch what you are doing. Use common sense. Be aware.
- **CHECK FOR DAMAGED PARTS**. Check for alignment of moving parts, breakage of parts or any condition that may affect its operation. Do not use lift if any component is broken or damaged.
- **NEVER** remove safety related components from the lift. Do not use lift if safety related components are damaged or missing.
- When the lift is being lowered, make sure everyone is standing at least six feet away.
- Be sure there are no jacks, tools, equipment, left under the lift before lowering.
- Always lower the vehicle down slowly and smoothly.

LIFT WILL NOT RAISE

POSSIBLE CAUSE

1. Air in oil, (1,2,8,13)
2. Cylinder binding, (9)
3. Cylinder leaks internally, (9)
4. Motor run backward under pressure, (11)
5. Lowering valve leaks, (3,4,6,10,11)
6. Motor runs backwards, (7,14,11)
7. Pump damaged, (10,11)
8. Pump won't prime, (1,8,13,14,3,12,10,11)
9. Relief valve leaks, (10,11)
10. Voltage to motor incorrect, (7,14,11)

REMEDY	***INSTRUCTION***
1. Check for proper oil level	The oil level should be up to the bleed screw in the reservoir with the lift all the way down.
2. Bleed cylinders	See Installation Manual
3. Flush- Release valve to get rid of possible contamination.	Hold release handle down and start unit allowing it to run for 15 seconds.
4. Dirty oil	Replace oil with clean Dexron ATF
5. Tighten all fasteners	Tighten fasteners to recommended torques.
6. Check for free movement of release	If handle does not move freely, replace bracket or handle assembly.
7. Check motor is wired correctly.	Compare wiring of motor to electrical diagram on drawing.
8. Oil seal damaged or cocked	Replace oil seal around pump shaft.
9. See Installation Manual	Consult Lift Manufacturer
10. Replace with new part	Replace with new part
11. Return unit for repair	Return unit for repair
12. Check pump-mounting bolts	Bolts should be 15 to 18 ft. lbs.
13. Inlet screen clogged	Clean inlet screen or replace
14. Check wall outlet voltages and wiring	Make sure unit and wall outlet are wired properly.

MOTOR WILL NOT RUN

POSSIBLE CAUSE

1. Fuse blown, (5,2,1,3,4)
2. Limit switch burned out, (1,2,3,4)
3. Microswitch burned out, (1,2,3,4)
4. Motor burned out, (1,2,3,4,6)
5. Voltage to motor incorrect, (2,1,8)

REMEDY	***INSTRUCTION***
1. Check for correct voltage	Compare supply voltage with voltage on motor name tag. Check that the wire is sized correctly. N.E.C. table 310-12 requires AWG 10 for 25 Amps.
2. Check motor is wired correctly	Compare wiring of motor to electrical diagram on drawing.
3. Don't use extension cords	According to N.E.C. : " The size of the conductors…should be such that the voltage drop would not exceed 3% to the farthest outlet for power…" Do not run motor at 115 VAC – damage to the motor will occur.
4. Replace with new part	Replace with new part
5. Reset circuit breaker/fuse	Reset circuit breaker/fuse
6. Return unit for repair	Return unit for repair
7. See Installation Manual	See Installation Manual
8. Check wall outlet voltage and wiring	Make sure unit and wall outlet is wired properly. Motor must run at 208/230 VAC.

LIFT LOWERS SLOWLY OR NOT AT ALL

POSSIBLE CAUSE

1. Cylinders binding, (1)
2. Release valve clogged, (5,4,2,3)
3. Pressure fitting too long, (6)

REMEDY	***INSTRUCTION***
1. See Installation Manual	Consult Lift Manufacturer
2. Replace with new part	Replace with new part
3. Return for repair	Return for repair
4. Check oil	Use clean 10-WT hydraulic oil or Dexron-III automatic transmission fluid only. If ATF is contaminated, replace with clean ATF and clean entire system.
5. Clean release valve	Wash release valve in solvent and blow out with air.
6. Replace fitting with short thread lead	Replace fitting with short thread lead

WILL NOT RAISE LOADED LIFT

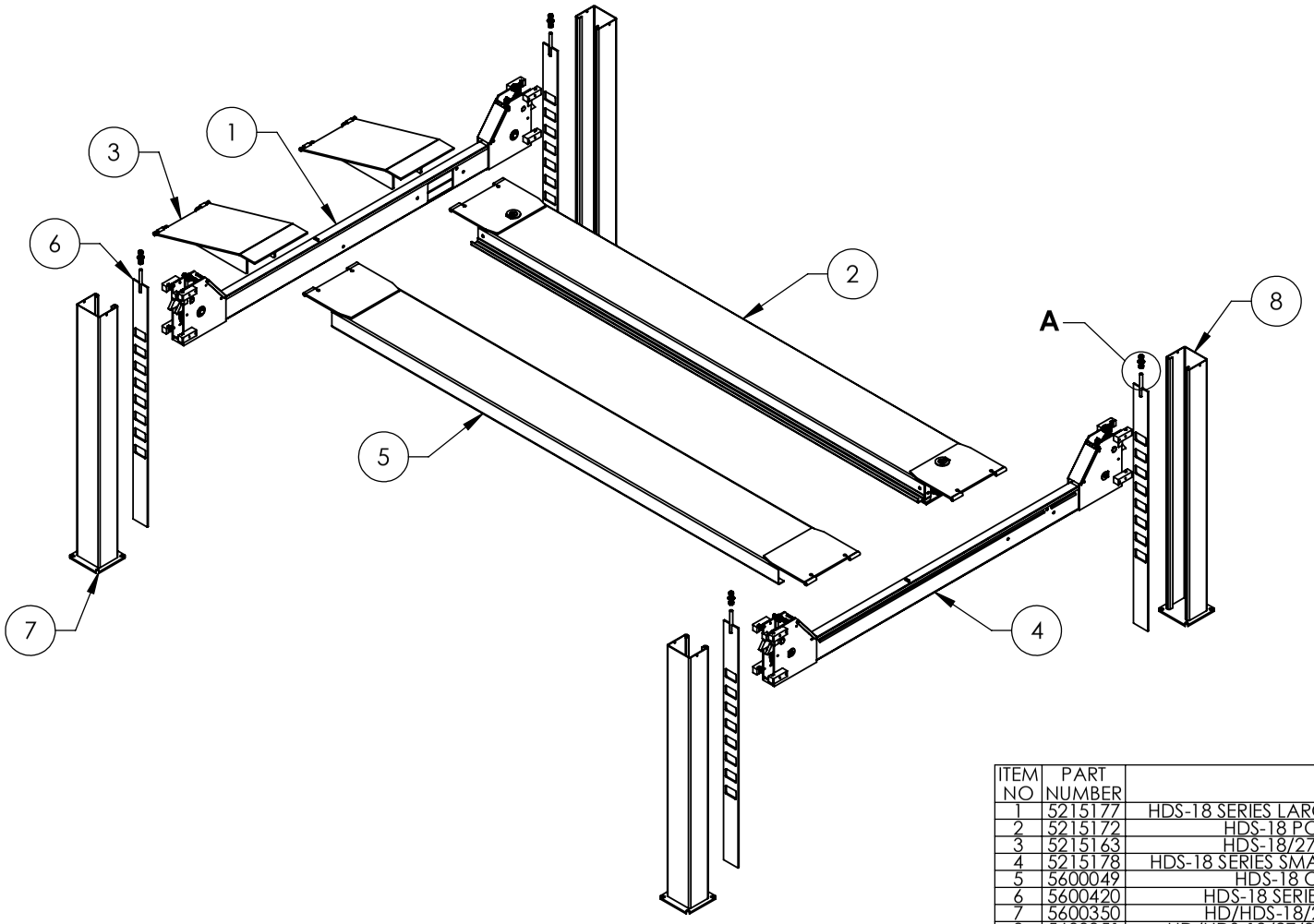
POSSIBLE CAUSE
1. Air in oil, (1,2,3,4)
2. Cylinder binding, (5)
3. Cylinder leaks internally, (5)
4. Lift overloaded, (6,5)
5. Lowering valve leaks, (7,8,1,5,9)
6. Motor runs backwards, (10,12,9)
7. Pump damaged, (5,9)
8. Pump won't prime, (1,2,3,4,5,11,9)
9. Relief valve leaks, (8,5,9)
10. Voltage to motor incorrect, (10,12,5)

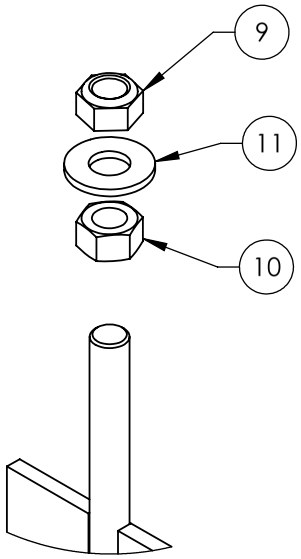
REMEDY	***INSTRUCTION***
1. Check oil level	The oil level should be up to the bleed screw in the reservoir with the lift all the way down.]
2. Check/Tighten inlet tubes	Replace inlet hose assembly.
3. Oil seal damaged or cocked	Replace oil seal and install
4. Bleed cylinders	See Installation Manual
5. See Installation Manual	Consult Lift Manufacturer
6. Check vehicle weight	Compare weight of vehicle to weight limit of the lift.
7. Flush release valve	Hold release handle down and start unit allowing it to run for 15 seconds.
8. Replace with new part	Replace with new part
9. Return unit for repair	Return unit for repair
10. Check motor is wired correctly	Compare wiring of motor to electrical diagram on unit drawing
11. Inlet screen clogged	Clean inlet screen or replace.
12. Check wall outlet voltage and wiring	Make sure unit and wall outlet is wired properly.

LIFT WILL NOT STAY UP

POSSIBLE CAUSE
1. Air in oil, (1,2,3)
2. Check valve leaks, (6)
3. Cylinders leak internally, (7)
4. Lowering valve leaks, (4,5,1,7,6)
5. Leaking fittings, (8)

REMEDY	***INSTRUCTION***
1. Check oil level	The oil level should be up to bleed screw with lift down.
2. Oil seal damaged and cocked	Replaced oil seal around pump shaft.
3. Bleed cylinder	Refer to Installation Manual
4. Flush release valve	Hold release handle down and start unit allowing it to run for 15 seconds.
5. Replace with new valve	Replace with new valve
6. Return unit for repair	Return unit for repair
7. See Installation Manual	Consult Lift Manufacturer
8. Check complete hydraulic system for leaks	





DETAIL A
SCALE 1 : 4

ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5215177	HDS-18 SERIES LARGE WINDOW CROSSTUBE ASSEMBLY	1	G
2	5215172	HDS-18 POWER SIDE RAMP ASSEMBLY	1	K
3	5215163	HDS-18/27 DRIVE UP RAMP ASSEMBLY	2	A
4	5215178	HDS-18 SERIES SMALL WINDOW CROSSTUBE ASSEMBLY	1	G
5	5600049	HDS-18 OFF SIDE RAMP WELDMENT	1	C
6	5600420	HDS-18 SERIES SAFETY LADDER WELDMENT	4	A
7	5600350	HD/HDS-18/27/35 SERIES POST WELDMENT	3	A
8	5600351	HD/HDS-18/27/35 SERIES POWER POST WELDMENT	1	A
9	5535011	NUT M22 x 2.5 NL	4	-
10	5535304	NUT M22 x 2.5	4	-
11	5545345	WASHER M22 x 50mm FLAT	4	-

NOTE: UNLESS OTHERWISE SPECIFIED.
1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. FASTEN NUTS AND WASHERS TO SAFETY LADDERS IN ORDER SHOWN FOR SHIPMENT

NEXT ASSEMBLY
5260305

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	04/27/2011

THIRD ANGLE PROJECTION

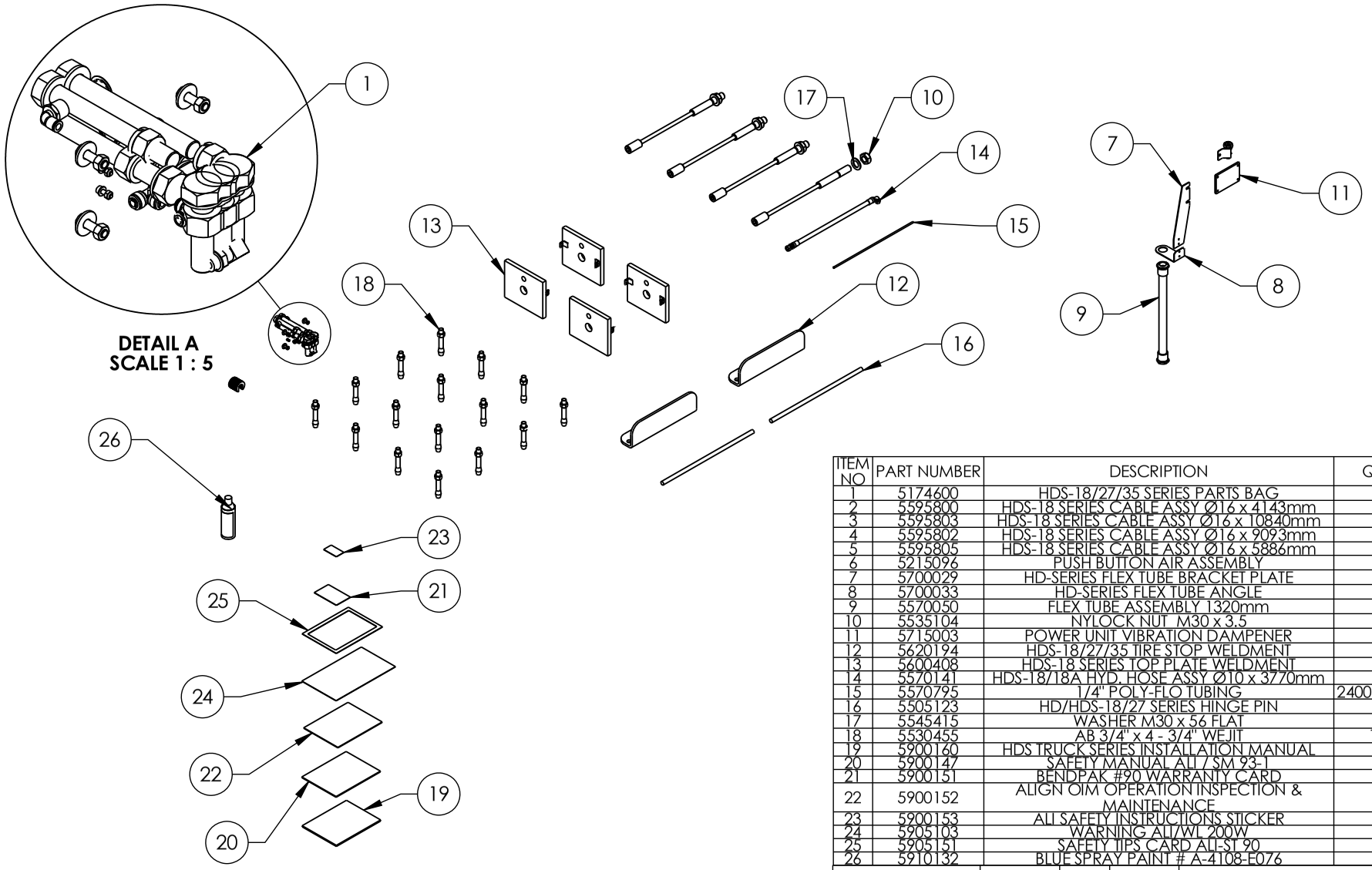
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

TITLE: HDS-18 LIFT SUPERSTRUCTURE

SIZE	DWG. NO.	REV
A	5245300	M

SCALE: 1:50 SHEET 1 OF 1



ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5174600	HDS-18/27/35 SERIES PARTS BAG	1	B
2	5595800	HDS-18 SERIES CABLE ASSY Ø16 x 4143mm	1	C
3	5595803	HDS-18 SERIES CABLE ASSY Ø16 x 10840mm	1	D
4	5595802	HDS-18 SERIES CABLE ASSY Ø16 x 9093mm	1	C
5	5595805	HDS-18 SERIES CABLE ASSY Ø16 x 5886mm	1	D
6	5215096	PUSH BUTTON AIR ASSEMBLY	1	D
7	5700029	HD-SERIES FLEX TUBE BRACKET PLATE	1	F
8	5700033	HD-SERIES FLEX TUBE ANGLE	1	E
9	5570050	FLEX TUBE ASSEMBLY 1320mm	1	B
10	5535104	NYLOCK NUT M30 x 3.5	4	-
11	5715003	POWER UNIT VIBRATION DAMPENER	1	B
12	5620194	HDS-18/27/35 TIRE STOP WELDMENT	2	A
13	5600408	HDS-18 SERIES TOP PLATE WELDMENT	4	A
14	5570141	HDS-18/18A HYD. HOSE ASSY Ø10 x 3770mm	1	A
15	5570795	1/4" POLY-FLO TUBING	24000mm*	-
16	5505123	HD/HDS-18/27 SERIES HINGE PIN	2	A
17	5545415	WASHER M30 x 56 FLAT	4	-
18	5530455	AB 3/4" x 4 - 3/4" WEJIT	16	-
19	5900160	HDS TRUCK SERIES INSTALLATION MANUAL	1	-
20	5900147	SAFETY MANUAL ALI / SM 93-1	1	-
21	5900151	BENDPAK #90 WARRANTY CARD	1	-
22	5900152	ALIGN OIM OPERATION INSPECTION & MAINTENANCE	1	-
23	5900153	ALI SAFETY INSTRUCTIONS STICKER	1	-
24	5905103	WARNING ALI/WL 200W	1	-
25	5905151	SAFETY TIPS CARD ALI-ST 90	1	-
26	5910132	BLUE SPRAY PAINT # A-4108-E076	1	-

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. INSERT PARTS BAG INTO PARTS BOX FOR SHIPMENT
3. THREAD 5535104 WITH 5545415 ONTO CABLES FOR SHIPMENT
4. HOSES AND CABLES IN REPRESENTATIONAL FORM
5. (*) LENGTH FOR REFERENCE ONLY

NEXT ASSEMBLY
5260305

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	02/03/2011

THIRD ANGLE PROJECTION

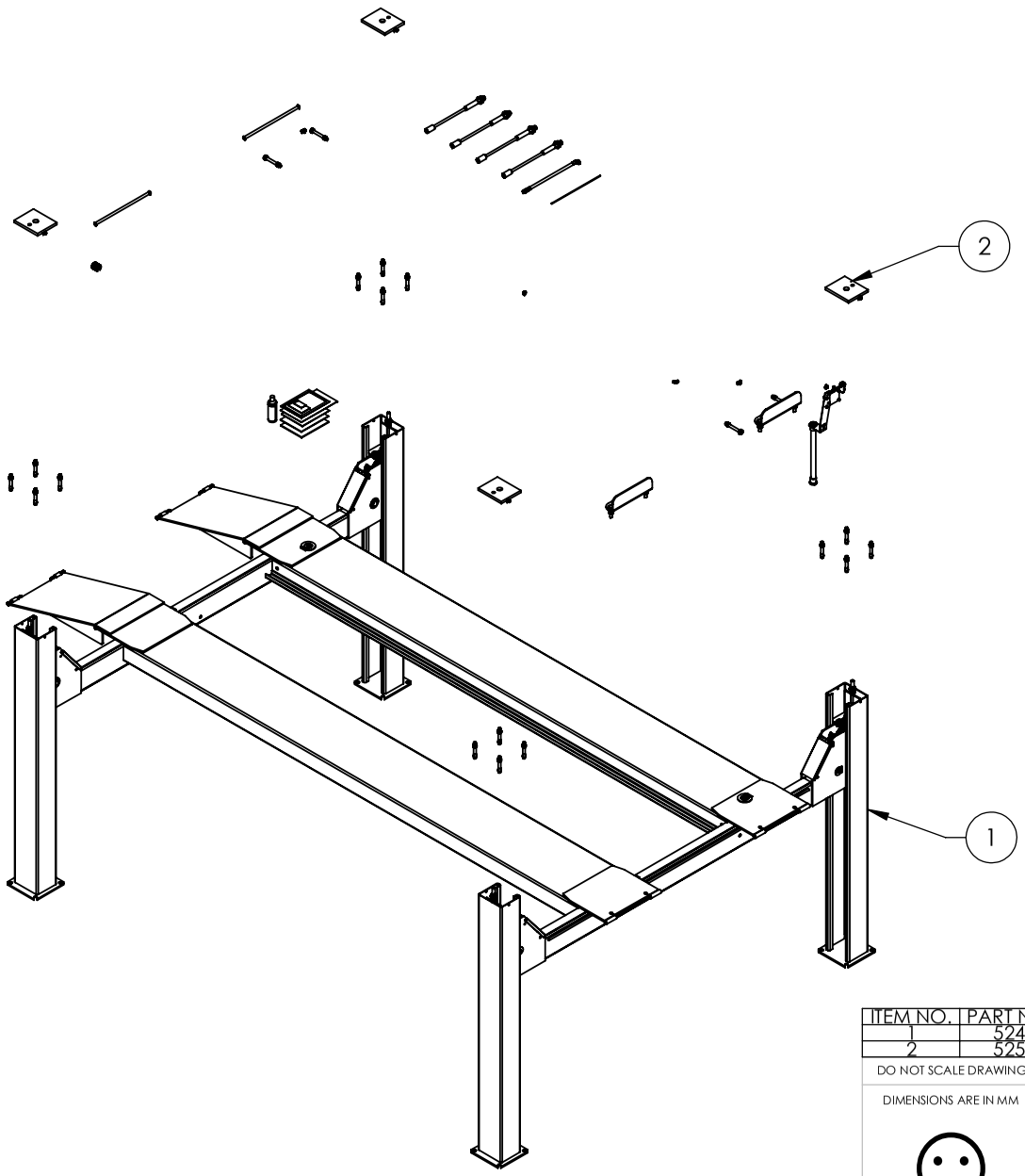
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. 1645 LEMONWOOD DR. SANTA PAULA, CA 93060

TITLE: PARTS BOX HDS-18

SIZE	DWG. NO.	REV
A	5250100	F

SCALE: 1:25 SHEET 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5245300	HDS-18 LIFT SUPERSTRUCTURE	1	M
2	5250100	PARTS BOX HDS-18	1	F

		NAME	DATE
DO NOT SCALE DRAWING			
DIMENSIONS ARE IN MM	DRAWN	GJZ	10/29/2008
	CHECKED	MT	04/27/2011

THIRD ANGLE PROJECTION

MATERIAL: ---

SIZE: ---

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. IMPROVING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

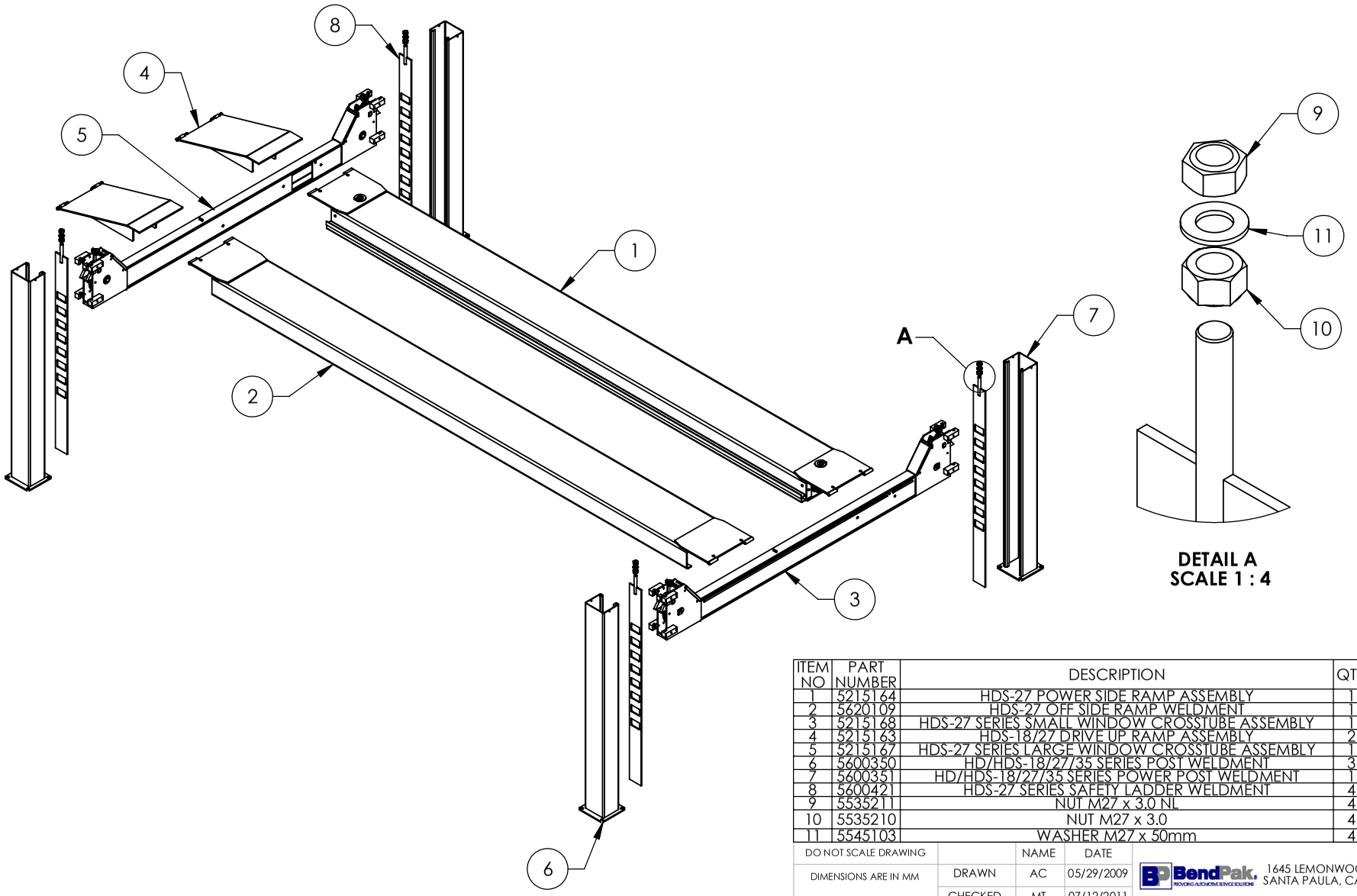
TITLE:
HDS-18 RECEIVED LIFT VER.A

SIZE	DWG. NO.	REV
A	5260305	P

SCALE: 1:50 SHEET 1 OF 2

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING



DETAIL A
SCALE 1 : 4

ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5215164	HDS-27 POWER SIDE RAMP ASSEMBLY	1	J
2	5620109	HDS-27 OFF SIDE RAMP WELDMENT	1	C
3	5215168	HDS-27 SERIES SMALL WINDOW CROSSTUBE ASSEMBLY	1	G
4	5215163	HDS-18/27 DRIVE UP RAMP ASSEMBLY	2	A
5	5215167	HDS-27 SERIES LARGE WINDOW CROSSTUBE ASSEMBLY	1	G
6	5600350	HD/HDS-18/27/35 SERIES POST WELDMENT	3	A
7	5600351	HD/HDS-18/27/35 SERIES POWER POST WELDMENT	1	A
8	5600421	HDS-27 SERIES SAFETY LADDER WELDMENT	4	A
9	5535211	NUT M27 x 3.0 NL	4	-
10	5535210	NUT M27 x 3.0	4	A
11	5545103	WASHER M27 x 50mm	4	-

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	07/12/2011

THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. 1645 LEMONWOOD DR. SANTA PAULA, CA 93060

TITLE: HDS-27 LIFT SUPERSTRUCTURE

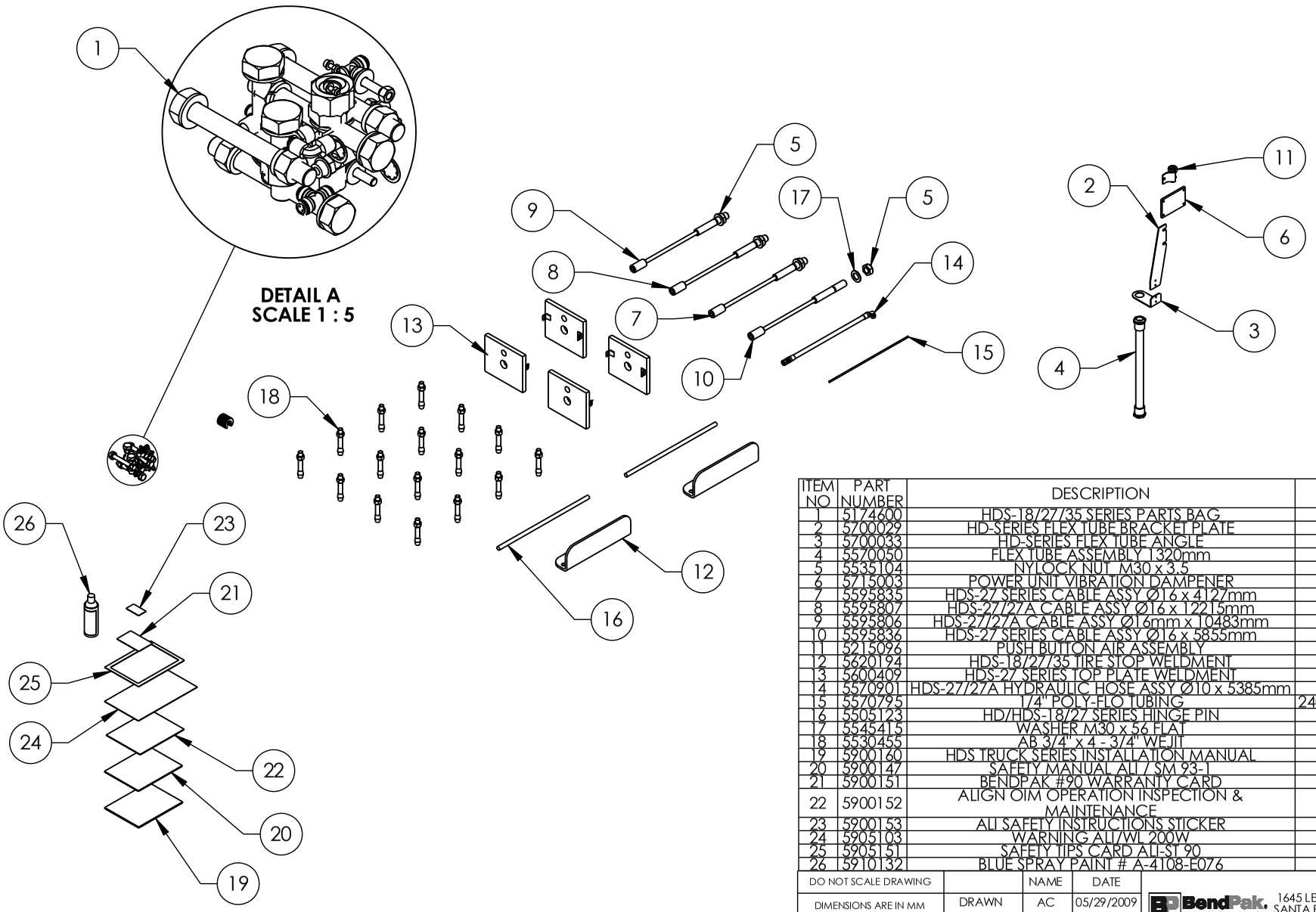
SIZE	DWG. NO.	REV
A	5245302	L

SCALE: 1:50 SHEET 1 OF 1

NEXT ASSEMBLY 5260307

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. FASTEN NUTS AND WASHERS TO SAFETY LADDERS IN ORDER SHOWN FOR SHIPMENT



ITEM NO	PART NUMBER	DESCRIPTION	QTY.	REV
1	5174600	HDS-18/27/35 SERIES PARTS BAG	1	B
2	5700029	HD-SERIES FLEX TUBE BRACKET PLATE	1	F
3	5700033	HD-SERIES FLEX TUBE ANGLE	1	E
4	5570050	FLEX TUBE ASSEMBLY 1320mm	1	B
5	5535104	NYLOCK NUT M30 x 3.5	4	-
6	5715003	POWER UNIT VIBRATION DAMPENER	1	B
7	5595835	HDS-27 SERIES CABLE ASSY Ø16 x 4127mm	1	A
8	5595807	HDS-27/27A CABLE ASSY Ø16 x 12215mm	1	D
9	5595806	HDS-27/27A CABLE ASSY Ø16mm x 10483mm	1	C
10	5595836	HDS-27 SERIES CABLE ASSY Ø16 x 5855mm	1	A
11	5215096	PUSH BUTTON AIR ASSEMBLY	1	D
12	5620194	HDS-18/27/35 TIRE STOP WELDMENT	2	A
13	5600409	HDS-27 SERIES TOP PLATE WELDMENT	4	A
14	5570901	HDS-27/27A HYDRAULIC HOSE ASSY Ø10 x 5385mm	1	B
15	5570795	1/4" POLY-FLO TUBING	24000mm*	-
16	5505123	HD/HDS-18/27 SERIES HINGE PIN	2	A
17	5545415	WASHER M30 x 56 FLAT	4	-
18	5530455	AB 3/4" x 4 - 3/4" WEJIT	16	-
19	5900160	HDS TRUCK SERIES INSTALLATION MANUAL	1	-
20	5900147	SAFETY MANUAL ALI / SM 93-1	1	-
21	5900151	BENDPAK #90 WARRANTY CARD	1	-
22	5900152	ALIGN OIM OPERATION INSPECTION & MAINTENANCE	1	-
23	5900153	ALI SAFETY INSTRUCTIONS STICKER	1	-
24	5905103	WARNING ALI/WL 200W	1	-
25	5905151	SAFETY TIPS CARD ALI-ST 90	1	-
26	5910132	BLUE SPRAY PAINT # A-4108-E076	1	-

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. INSERT PARTS BAG INTO PARTS BOX FOR SHIPMENT
3. THREAD 5535104 WITH 5545415 ONTO CABLES FOR SHIPMENT
4. HOSES AND CABLES IN REPRESENTATIONAL FORM
5. (*) LENGTH FOR REFERENCE ONLY

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	02/03/2011

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

THIRD ANGLE PROJECTION

MATERIAL: ---

SIZE: ---

NEXT ASSEMBLY 5260307

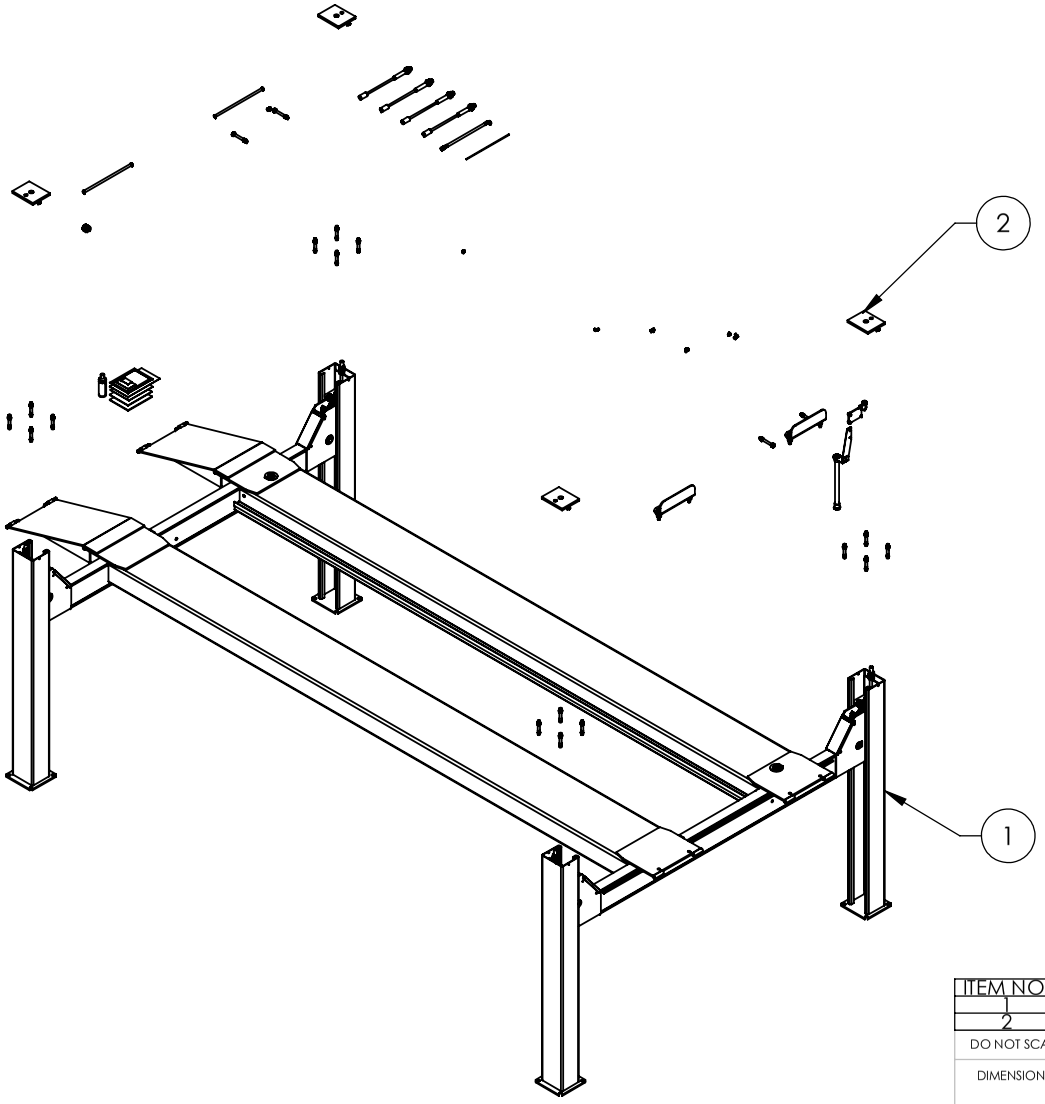
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. 1645 LEMONWOOD DR. SANTA PAULA, CA 93060

TITLE: PARTS BOX HDS-27

SIZE	DWG. NO.	REV
A	5250102	G

SCALE: 1:25 SHEET 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5245302	HDS-27 LIFT SUPERSTRUCTURE	1	L
2	5250102	PARTS BOX HDS-27	1	G

	NAME	DATE
DRAWN	GJZ	10/24/2008
CHECKED	MT	07/12/2011

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

THIRD ANGLE PROJECTION

MATERIAL: ---

SIZE: ---

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

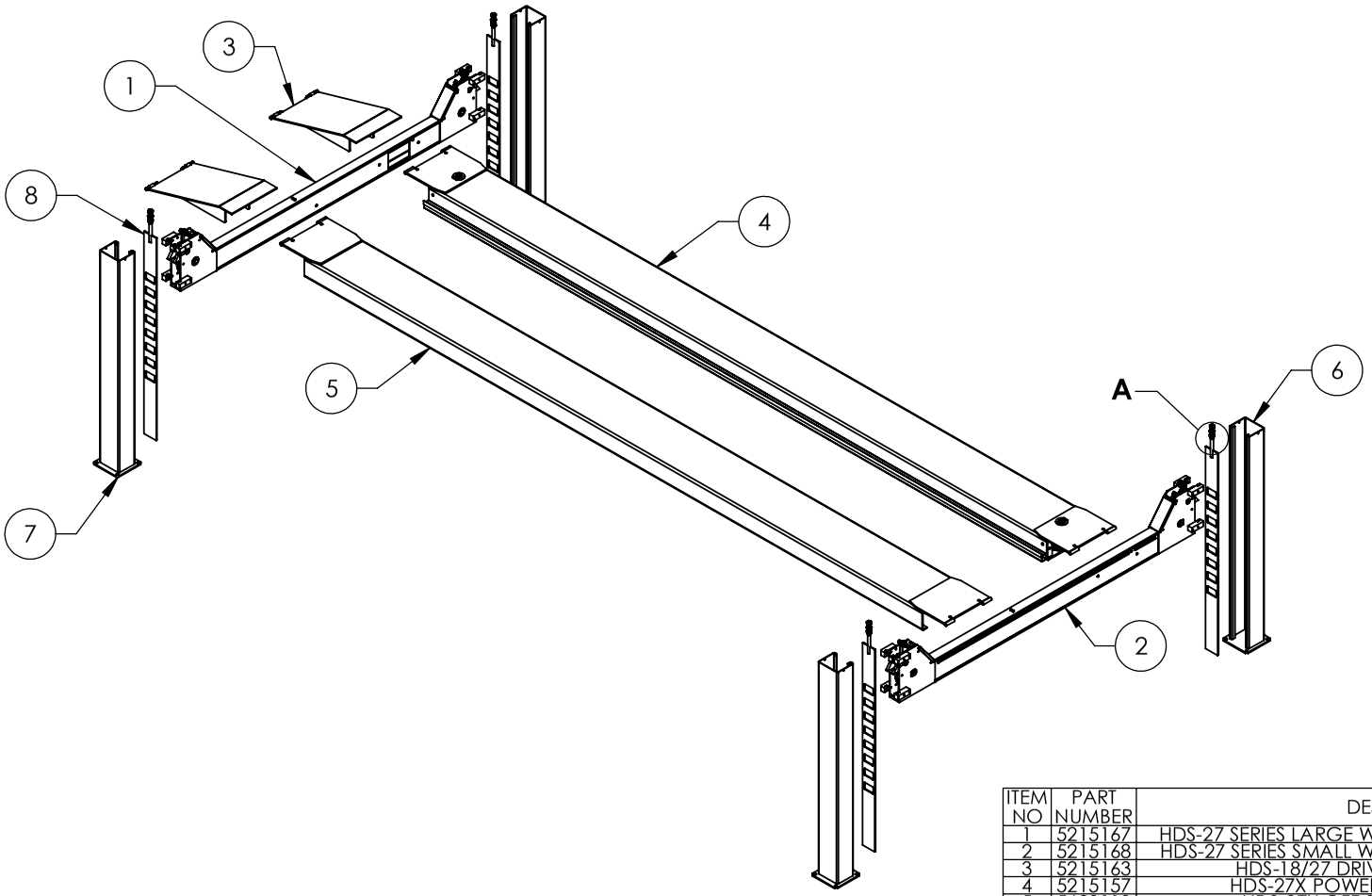
TITLE:
HDS-27 RECEIVED LIFT VER.A

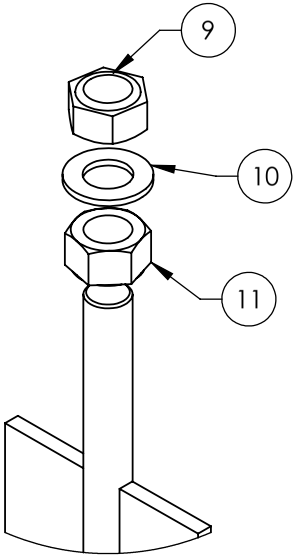
SIZE	DWG. NO.	REV
A	5260307	Q

SCALE: 1:60 SHEET 1 OF 2

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING





DETAIL A
SCALE 1 : 4

ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5215167	HDS-27 SERIES LARGE WINDOW CROSSTUBE ASSEMBLY	1	G
2	5215168	HDS-27 SERIES SMALL WINDOW CROSSTUBE ASSEMBLY	1	G
3	5215163	HDS-18/27 DRIVE UP RAMP ASSEMBLY	2	A
4	5215157	HDS-27X POWER SIDE RAMP ASSEMBLY	1	J
5	5620110	HDS-27X OFF SIDE RAMP WELDMENT	1	C
6	5600351	HD/HDS-18/27/35 SERIES POWER POST WELDMENT	1	A
7	5600350	HD/HDS-18/27/35 SERIES POST WELDMENT	3	A
8	5600421	HDS-27 SERIES SAFETY LADDER WELDMENT	4	A
9	5535211	NUT M27 x 3.0 NL	4	-
10	5545103	WASHER M27 x 50mm	4	-
11	5535210	NUT M27 x 3.0	4	A

NOTE: UNLESS OTHERWISE SPECIFIED.
1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. FASTEN NUTS AND WASHERS TO SAFETY LADDERS IN ORDER SHOWN FOR SHIPMENT

NEXT ASSEMBLY
5260309

		NAME	DATE
DO NOT SCALE DRAWING			
DIMENSIONS ARE IN MM	DRAWN	AC	05/29/2009
	CHECKED	MT	07/12/2011
THIRD ANGLE PROJECTION			
MATERIAL: ---			
SIZE: ---			

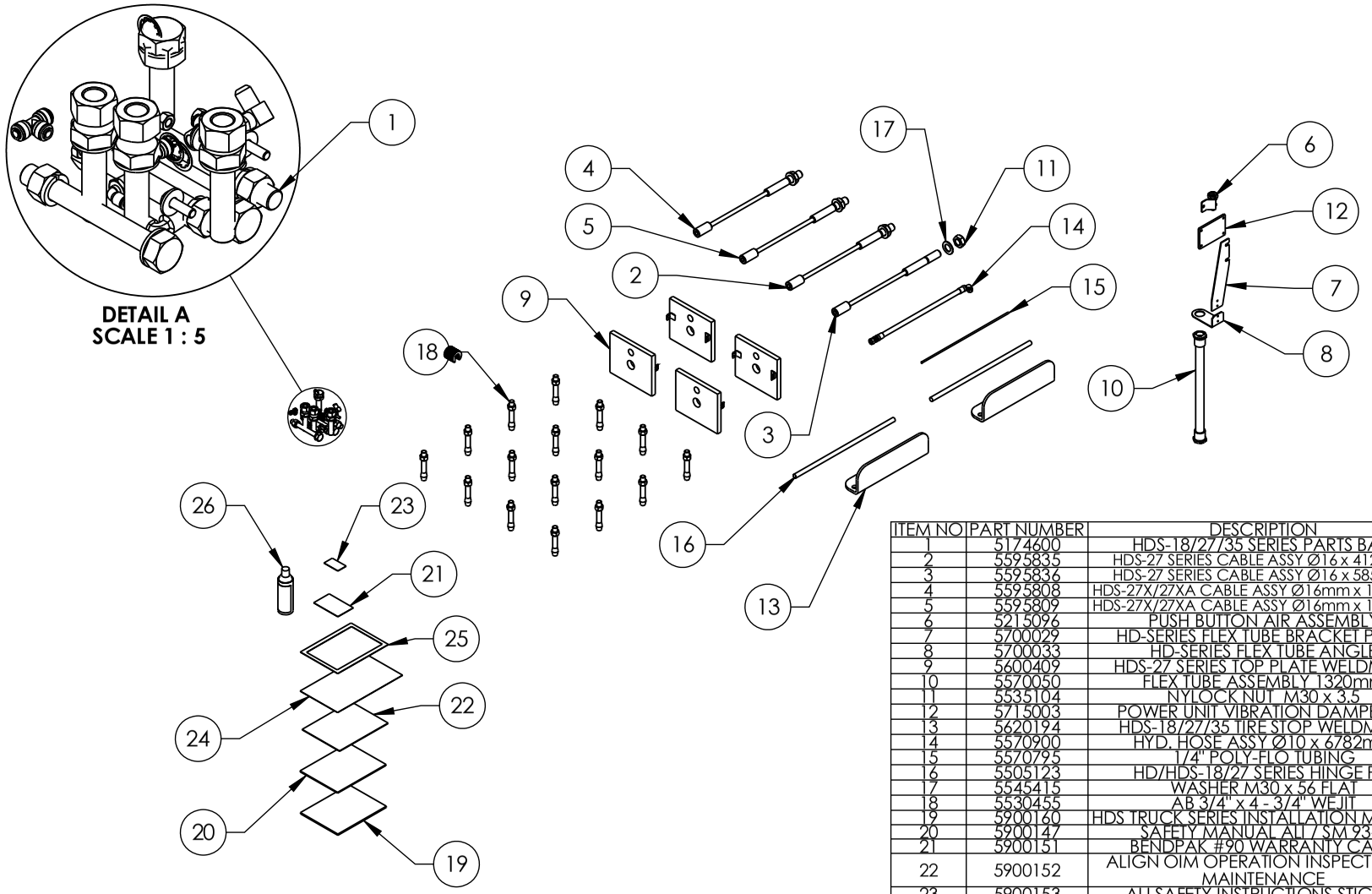
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

TITLE: HDS-27X LIFT SUPERSTRUCTURE

SIZE	DWG. NO.	REV
A	5245304	L

SCALE: 1:60 SHEET 1 OF 1



ITEM NO	PART NUMBER	DESCRIPTION	QTY.	REV
1	5174600	HDS-18/27/35 SERIES PARTS BAG	1	B
2	5595835	HDS-27 SERIES CABLE ASSY Ø16 x 4127mm	1	A
3	5595836	HDS-27 SERIES CABLE ASSY Ø16 x 5855mm	1	A
4	5595808	HDS-27X/27XA CABLE ASSY Ø16mm x 12007mm	1	D
5	5595809	HDS-27X/27XA CABLE ASSY Ø16mm x 13739mm	1	D
6	5215096	PUSH BUTTON AIR ASSEMBLY	1	D
7	5700029	HD-SERIES FLEX TUBE BRACKET PLATE	1	F
8	5700033	HD-SERIES FLEX TUBE ANGLE	1	E
9	5600409	HDS-27 SERIES TOP PLATE WELDMENT	4	A
10	5570050	FLEX TUBE ASSEMBLY 1320mm	1	B
11	5535104	NYLOCK NUT M30 x 3.5	4	-
12	5715003	POWER UNIT VIBRATION DAMPENER	1	B
13	5620194	HDS-18/27/35 TIRE STOP WELDMENT	2	A
14	5570900	HYD. HOSE ASSY Ø10 x 6782mm	1	A
15	5570795	1/4" POLY-FLO TUBING	24000mm*	-
16	5505123	HD/HDS-18/27 SERIES HINGE PIN	2	A
17	5545415	WASHER M30 x 56 FLAT	4	-
18	5530455	AB 3/4" x 4 - 3/4" WEJIT	16	-
19	5900160	HDS TRUCK SERIES INSTALLATION MANUAL	1	-
20	5900147	SAFETY MANUAL ALI / SM 93-1	1	-
21	5900151	BENDPAK #90 WARRANTY CARD	1	-
22	5900152	ALIGN OIM OPERATION INSPECTION & MAINTENANCE	1	-
23	5900153	ALI SAFETY INSTRUCTIONS STICKER	1	-
24	5905103	WARNING ALI/WL 200W	1	-
25	5905151	SAFETY TIPS CARD ALI-ST 90	1	-
26	5910132	BLUE SPRAY PAINT # A-4108-E076	1	-

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. INSERT PARTS BAG INTO PARTS BOX FOR SHIPMENT
3. THREAD 5535104 WITH 5545415 ONTO CABLES FOR SHIPMENT
4. HOSES AND CABLES IN REPRESENTATIONAL FORM
5. (*) LENGTH FOR REFERENCE ONLY

NEXT ASSEMBLY
5260309

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	02/03/2011

THIRD ANGLE PROJECTION

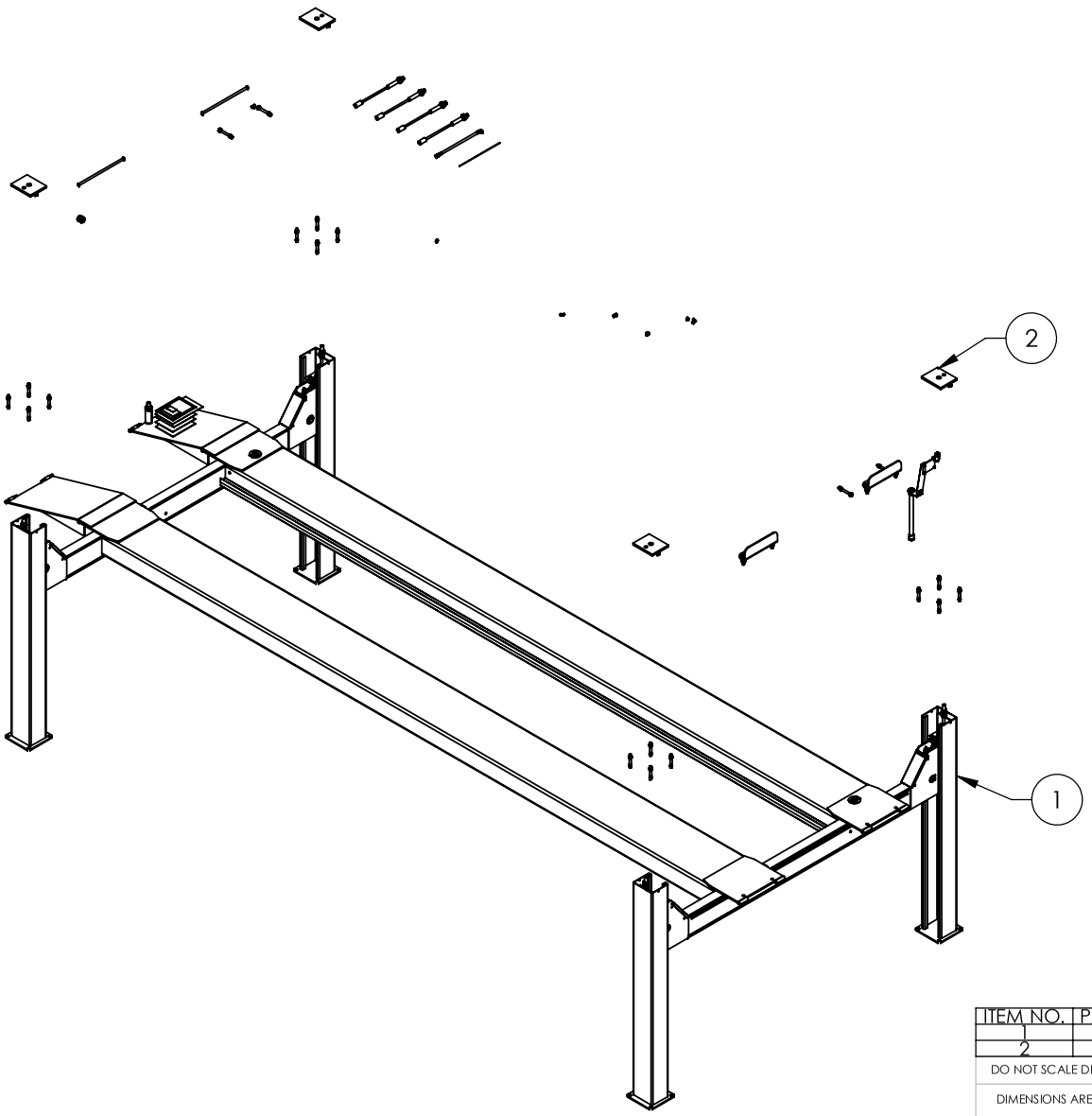
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BENDPAK INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC. IS PROHIBITED.

BendPak. 1645 LEMONWOOD DR. SANTA PAULA, CA 93060

TITLE: PARTS BOX HDS-27X

SIZE	DWG. NO.	REV
A	5250104	F

SCALE: 1:25 SHEET 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5245304	HDS-27X LIFT SUPERSTRUCTURE	1	L
2	5250104	PARTS BOX HDS-27X	1	F

		NAME	DATE
DRAWN		GJZ	10/23/2008
CHECKED		MT	07/12/2011

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

THIRD ANGLE PROJECTION

MATERIAL: ---

SIZE: ---

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

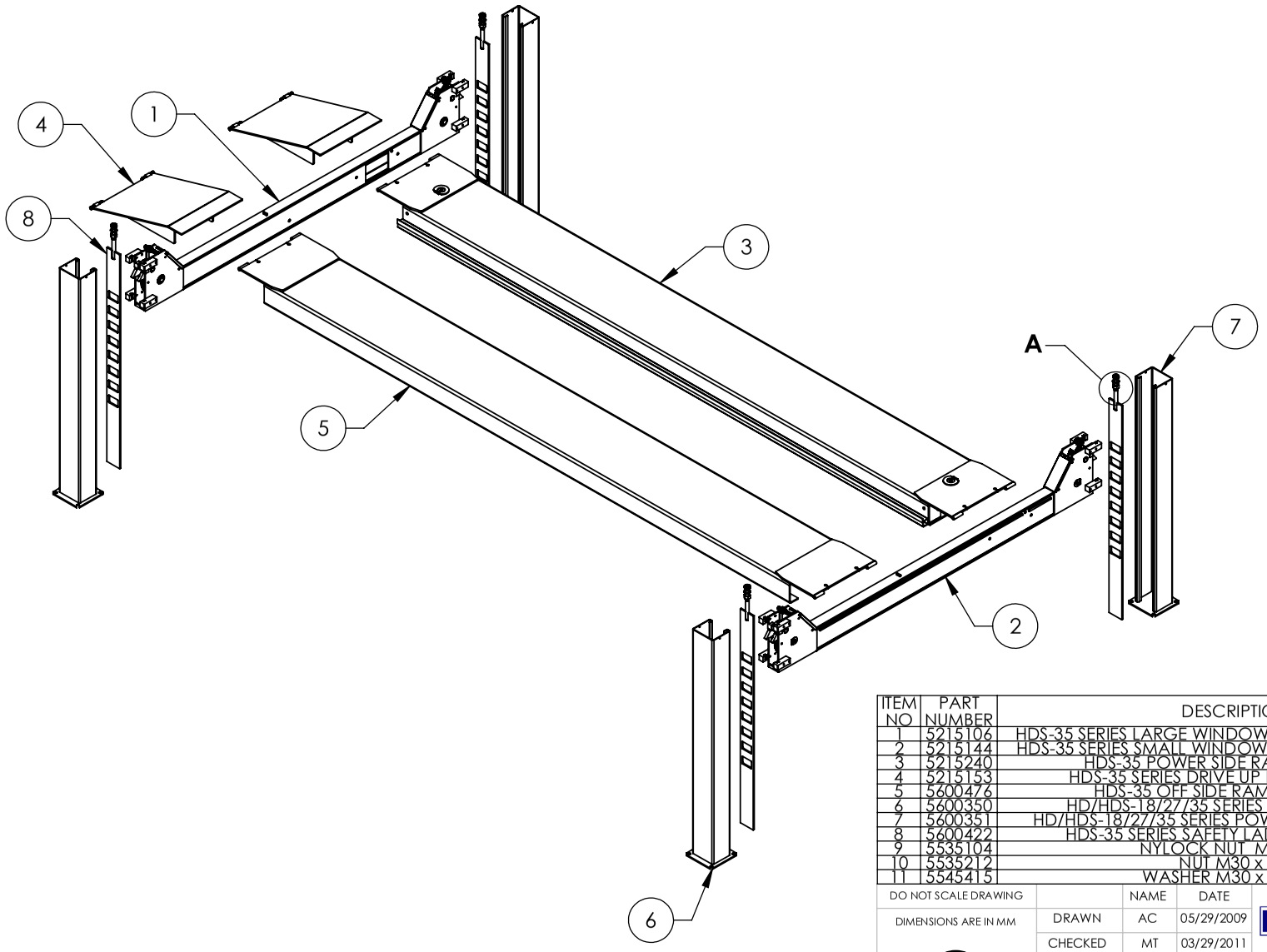
TITLE:
HDS-27X RECEIVED LIFT VER.A

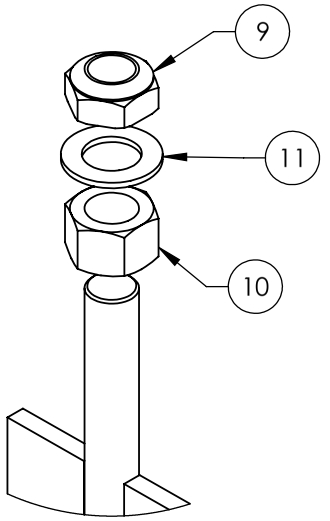
SIZE	DWG. NO.	REV
A	5260309	P

SCALE: 1:60 SHEET 1 OF 2

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING





DETAIL A
SCALE 1 : 4

ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5215106	HDS-35 SERIES LARGE WINDOW CROSSTUBE ASSEMBLY	1	F
2	5215144	HDS-35 SERIES SMALL WINDOW CROSSTUBE ASSEMBLY	1	F
3	5215240	HDS-35 POWER SIDE RAMP ASSEMBLY	1	H
4	5215153	HDS-35 SERIES DRIVE UP RAMP ASSEMBLY	2	A
5	5600476	HDS-35 OFF SIDE RAMP WELDMENT	1	D
6	5600350	HD/HDS-18/27/35 SERIES POST WELDMENT	3	A
7	5600351	HD/HDS-18/27/35 SERIES POWER POST WELDMENT	1	A
8	5600422	HDS-35 SERIES SAFETY LADDER WELDMENT	4	A
9	5535104	NYLOCK NUT M30 x 3.5	4	-
10	5535212	NUT M30 x 3.5	4	-
11	5545415	WASHER M30 x 56 FLAT	4	-

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. FASTEN NUTS AND WASHERS TO SAFETY LADDERS IN ORDER SHOWN FOR SHIPMENT

NEXT ASSEMBLY
5260311

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	03/29/2011

THIRD ANGLE PROJECTION

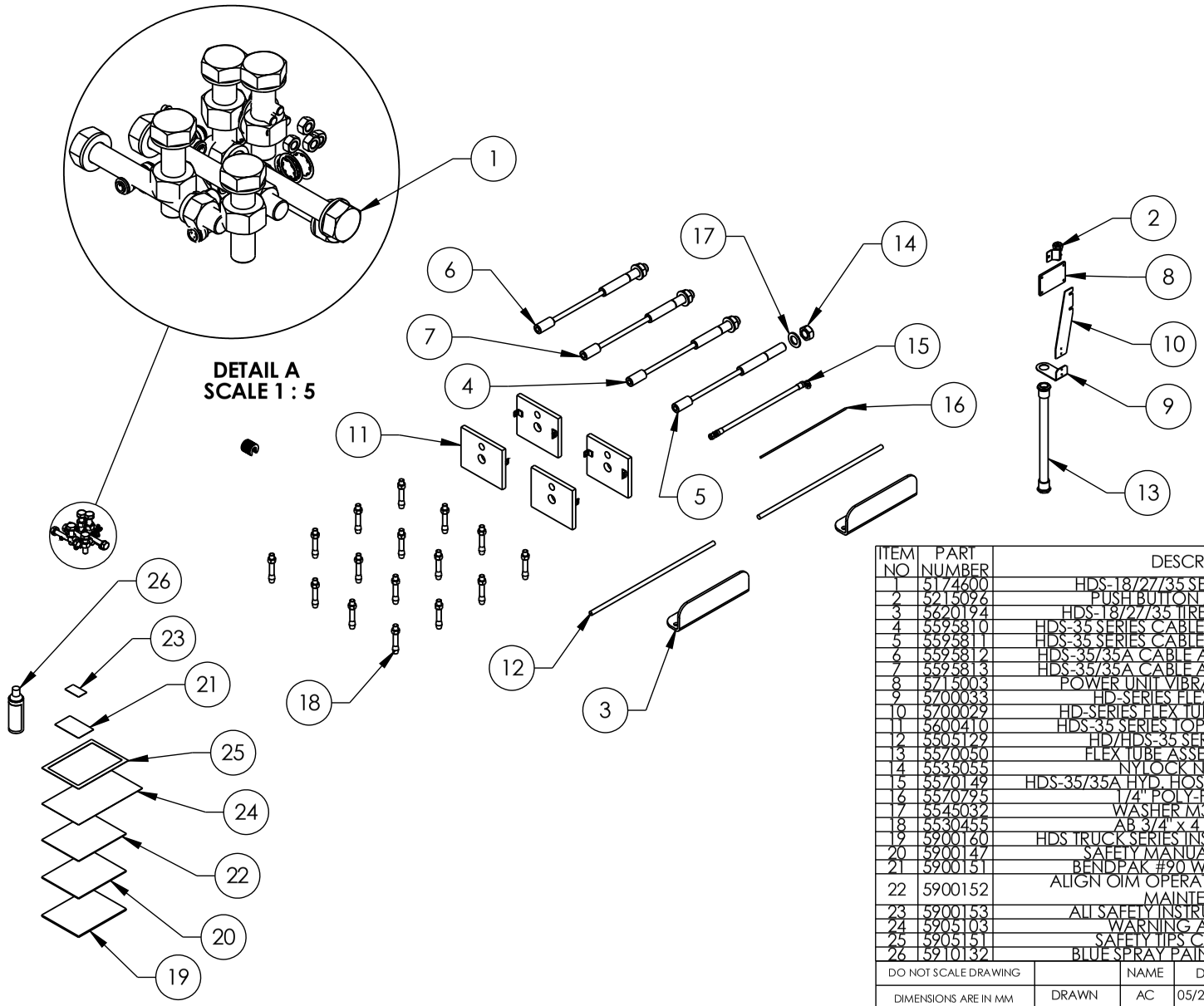
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

TITLE: HDS-35 LIFT SUPERSTRUCTURE

SIZE	DWG. NO.	REV
A	5245306	K

SCALE: 1:50 SHEET 1 OF 1



ITEM NO	PART NUMBER	DESCRIPTION	QTY.	REV
1	5174600	HDS-18/27/35 SERIES PARTS BAG	1	B
2	5215096	PUSH BUTTON AIR ASSEMBLY	1	D
3	5620194	HDS-18/27/35 TIRE STOP WELDMENT	2	A
4	5595810	HDS-35 SERIES CABLE ASSY Ø19 x 4102mm	1	D
5	5595811	HDS-35 SERIES CABLE ASSY Ø19 x 5836mm	1	D
6	5595812	HDS-35/35A CABLE ASSY Ø19 x 10452mm	1	D
7	5595813	HDS-35/35A CABLE ASSY Ø19 x 12167mm	1	D
8	5715003	POWER UNIT VIBRATION DAMPENER	1	B
9	5700033	HD-SERIES FLEX TUBE ANGLE	1	E
10	5700029	HD-SERIES FLEX TUBE BRACKET PLATE	1	F
11	5600410	HDS-35 SERIES TOP PLATE WELDMENT	4	A
12	5505129	HD/HDS-35 SERIES HINGE PIN	2	A
13	5570050	FLEX TUBE ASSEMBLY 1320mm	1	B
14	5535055	NYLOCK NUT M36 x 4	4	-
15	5570149	HDS-35/35A HYD. HOSE ASSY Ø10 x 5385mm	1	A
16	5570795	1/4" POLY-FLO TUBING	24000mm*	-
17	5545032	WASHER M36 x 66 FLAT	4	-
18	5530455	AB 3/4" x 4 - 3/4" WEJIT	16	-
19	5900160	HDS TRUCK SERIES INSTALLATION MANUAL	1	-
20	5900147	SAFETY MANUAL ALI / SM 93-1	1	-
21	5900151	BENDPAK #90 WARRANTY CARD	1	-
22	5900152	ALIGN OIM OPERATION INSPECTION & MAINTENANCE	1	-
23	5900153	ALI SAFETY INSTRUCTIONS STICKER	1	-
24	5905103	WARNING ALI/WL 200W	1	-
25	5905151	SAFETY TIPS CARD ALI-ST 90	1	-
26	5910132	BLUE SPRAY PAINT # A-4108-E076	1	-

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. INSERT PARTS BAG INTO PARTS BOX FOR SHIPMENT
3. THREAD 5535055 WITH 5545032 ONTO CABLES FOR SHIPMENT
4. HOSES AND CABLES IN REPRESENTATIONAL FORM
5. (*) LENGTH FOR REFERENCE ONLY

NEXT ASSEMBLY
5260311

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	02/03/2011

THIRD ANGLE PROJECTION

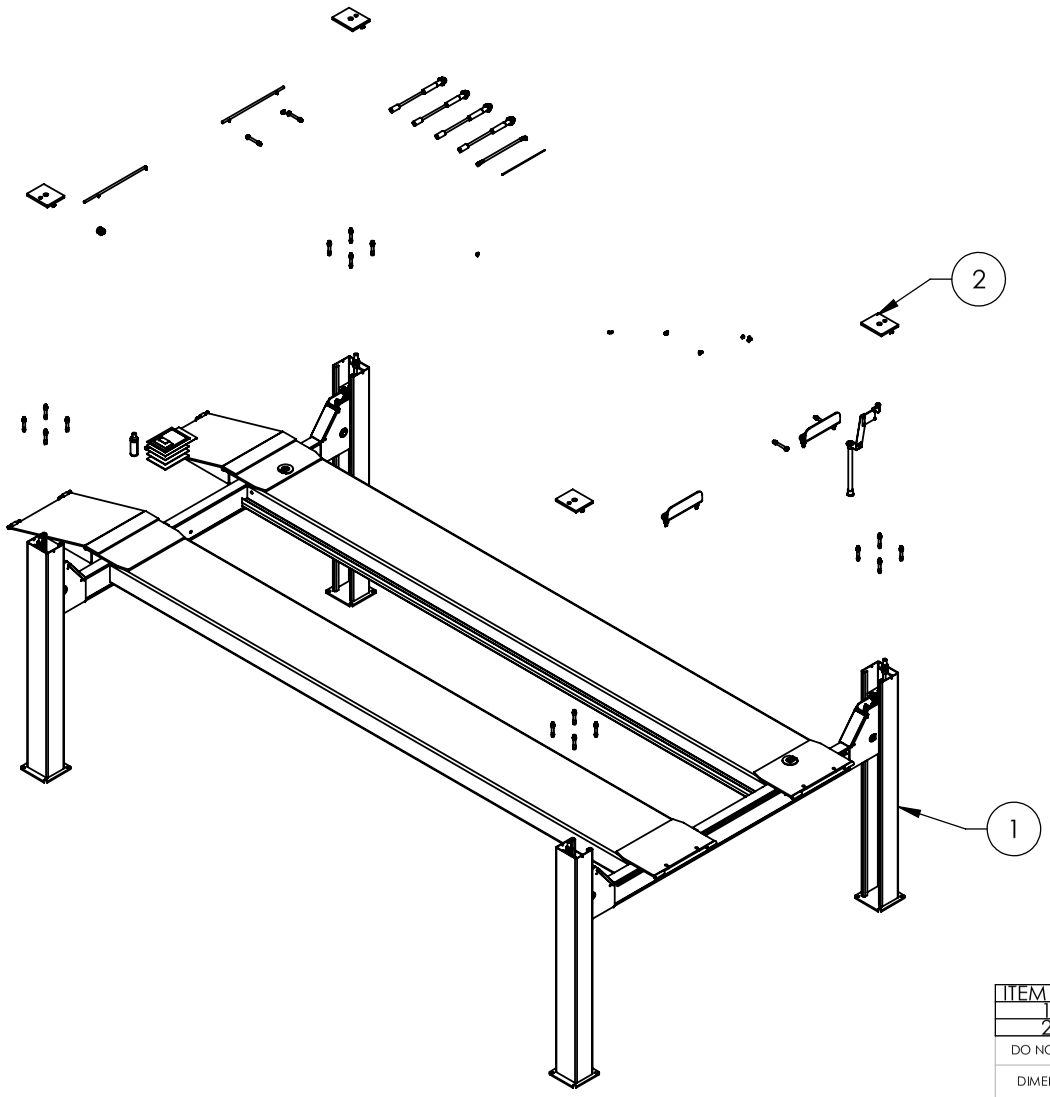
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BENDPAK INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC. IS PROHIBITED.

BendPak. 1645 LEMONWOOD DR. SANTA PAULA, CA 93060

TITLE: PARTS BOX HDS-35

SIZE	DWG. NO.	REV
A	5250106	F

SCALE: 1:25 SHEET 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5245306	HDS-35 LIFT SUPERSTRUCTURE	1	K
2	5250106	PARTS BOX HDS-35	1	F

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	GJZ	10/20/2008
CHECKED	MT	03/29/2011

THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

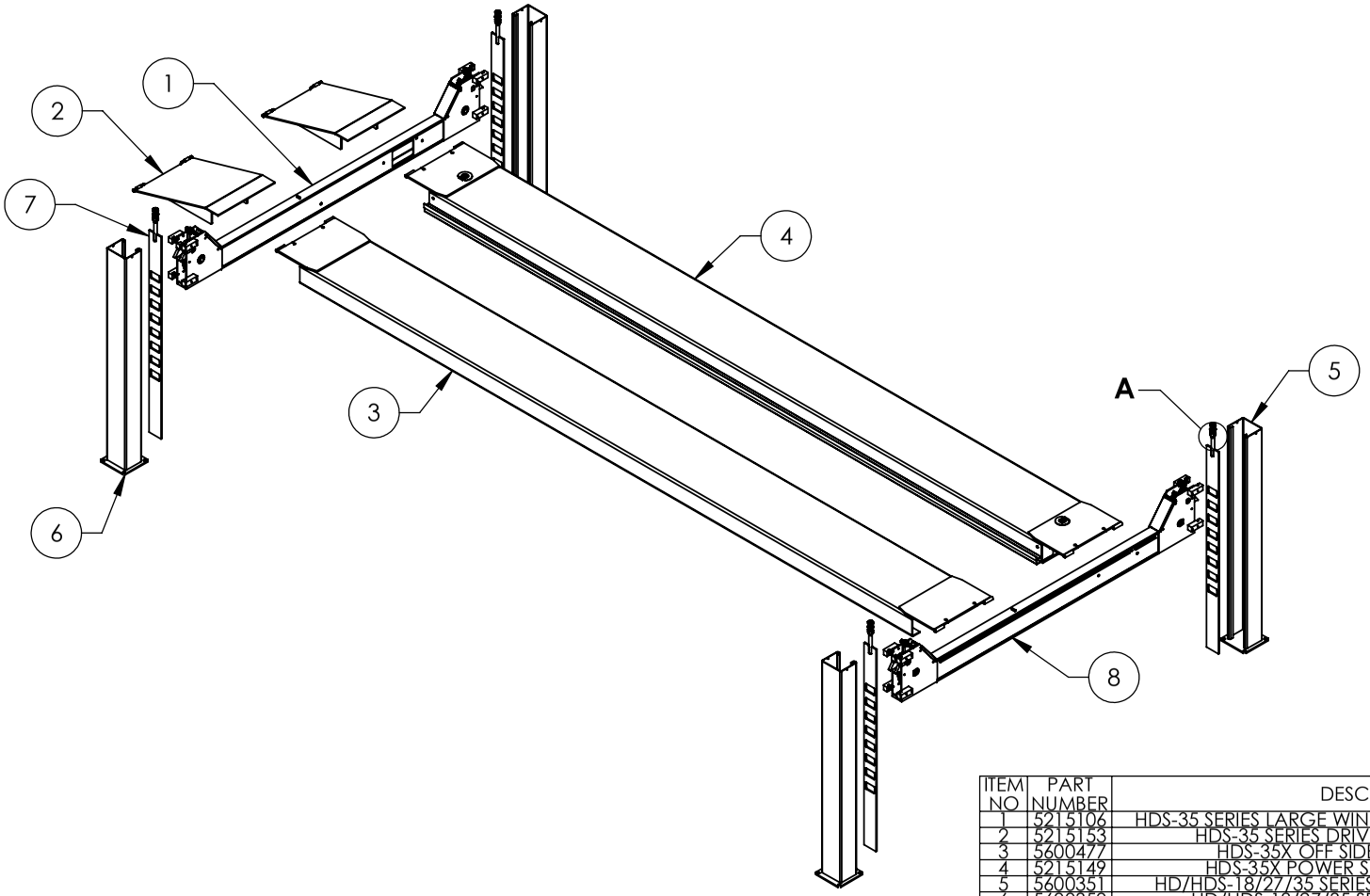
TITLE:
HDS-35 RECEIVED LIFT VER.A

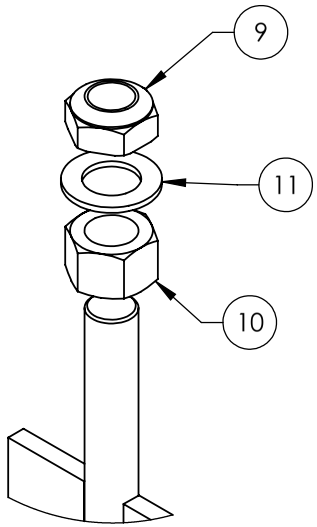
SIZE	DWG. NO.	REV
A	5260311	N

SCALE: 1:60 SHEET 1 OF 2

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING





DETAIL A
SCALE 1 : 4

ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5215106	HDS-35 SERIES LARGE WINDOW CROSSTUBE ASSEMBLY	1	F
2	5215153	HDS-35 SERIES DRIVE UP RAMP ASSEMBLY	2	A
3	5600477	HDS-35X OFF SIDE RAMP WELDMENT	1	D
4	5215149	HDS-35X POWER SIDE RAMP ASSEMBLY	1	H
5	5600351	HD/HDS-18/27/35 SERIES POWER POST WELDMENT	1	A
6	5600350	HD/HDS-18/27/35 SERIES POST WELDMENT	3	A
7	5600422	HDS-35 SERIES SAFETY LADDER WELDMENT	4	A
8	5215144	HDS-35 SERIES SMALL WINDOW CROSSTUBE ASSEMBLY	1	F
9	5535104	NYLOCK NUT M30 x 3.5	4	-
10	5535212	NUT M30 x 3.5	4	-
11	5545415	WASHER M30 x 56 FLAT	4	-

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

	NAME	DATE
DRAWN	AC	05/29/2009
CHECKED	MT	03/29/2011

THIRD ANGLE PROJECTION

MATERIAL: ---

SIZE: ---

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

TITLE: HDS-35X LIFT SUPERSTRUCTURE

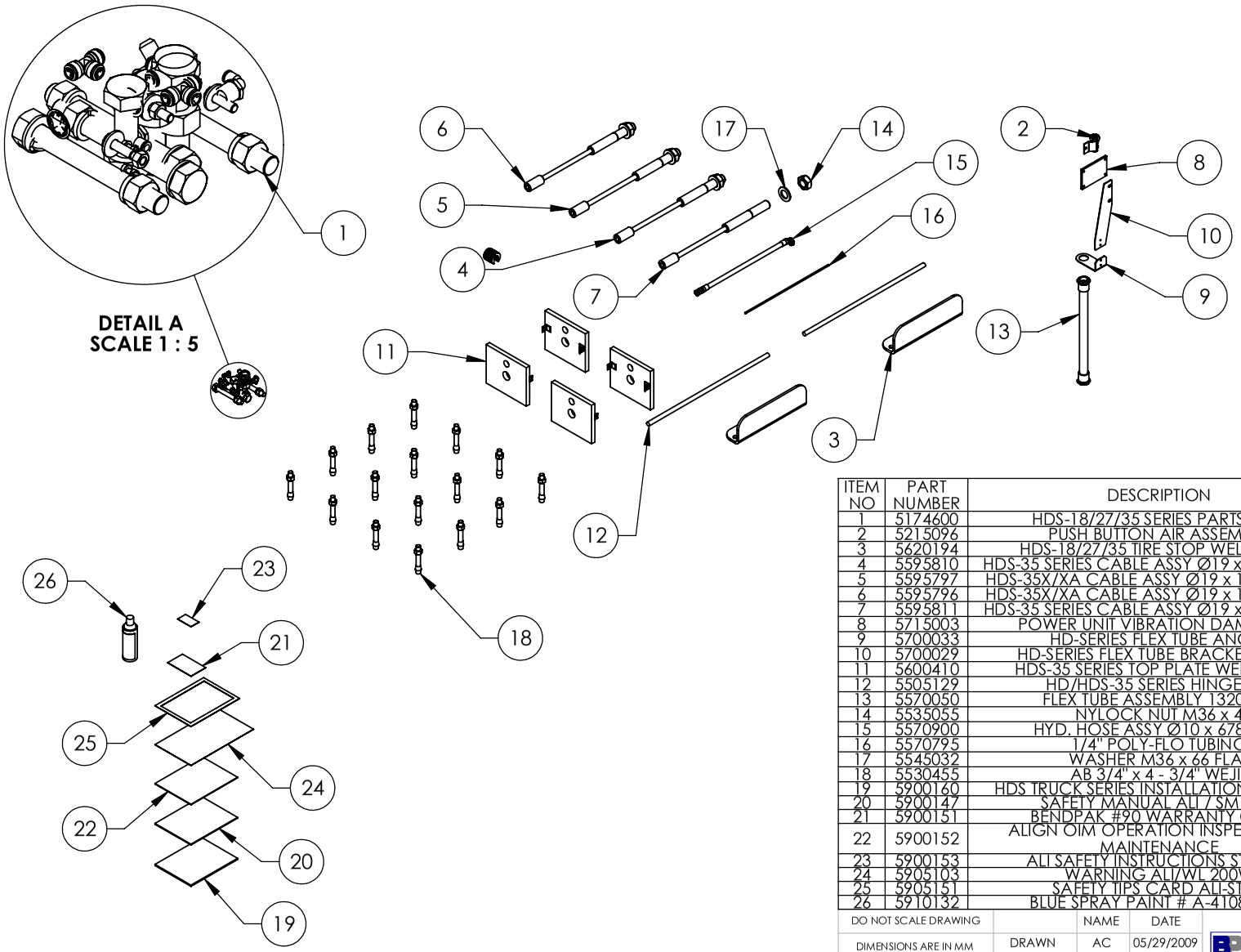
SIZE	DWG. NO.	REV
A	5245308	K

SCALE: 1:60 SHEET 1 OF 1

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. FASTEN NUTS AND WASHERS TO SAFETY LADDERS IN ORDER SHOWN FOR SHIPMENT

NEXT ASSEMBLY
5260313



ITEM NO	PART NUMBER	DESCRIPTION	QTY.	REV
1	5174600	HDS-18/27/35 SERIES PARTS BAG	1	B
2	5215096	PUSH BUTTON AIR ASSEMBLY	1	D
3	5620194	HDS-18/27/35 TIRE STOP WELDMENT	2	A
4	5595810	HDS-35 SERIES CABLE ASSY Ø19 x 4102mm ST	1	D
5	5595797	HDS-35X/XA CABLE ASSY Ø19 x 13691mm ST	1	D
6	5595796	HDS-35X/XA CABLE ASSY Ø19 x 11976mm ST	1	D
7	5595811	HDS-35 SERIES CABLE ASSY Ø19 x 5836mm ST	1	D
8	5715003	POWER UNIT VIBRATION DAMPENER	1	B
9	5700033	HD-SERIES FLEX TUBE ANGLE	1	E
10	5700029	HD-SERIES FLEX TUBE BRACKET PLATE	1	F
11	5600410	HDS-35 SERIES TOP PLATE WELDMENT	4	A
12	5505129	HD/HDS-35 SERIES HINGE PIN	2	A
13	5570050	FLEX TUBE ASSEMBLY 1320mm	1	B
14	5535055	NYLOCK NUT M36 x 4	4	-
15	5570900	HYD. HOSE ASSY Ø10 x 6782mm	1	A
16	5570795	1/4" POLY-FLO TUBING	24000mm*	-
17	5545032	WASHER M36 x 66 FLAT	4	-
18	5530455	AB 3/4" x 4 - 3/4" WEJIT	16	-
19	5900160	HDS TRUCK SERIES INSTALLATION MANUAL	1	-
20	5900147	SAFETY MANUAL ALI / SM 93-1	1	-
21	5900151	BENDPAK #90 WARRANTY CARD	1	-
22	5900152	ALIGN OIM OPERATION INSPECTION & MAINTENANCE	1	-
23	5900153	ALI SAFETY INSTRUCTIONS STICKER	1	-
24	5905103	WARNING ALI/WL 200W	1	-
25	5905151	SAFETY TIPS CARD ALI-ST 90	1	-
26	5910132	BLUE SPRAY PAINT # A-4108-E076	1	-

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
2. INSERT PARTS BAG INTO PARTS BOX FOR SHIPMENT
3. THREAD 5535055 WITH 5545032 ONTO CABLES FOR SHIPMENT
4. HOSES AND CABLES IN REPRESENTATIONAL FORM
5. (*) LENGTH FOR REFERENCE ONLY

NEXT ASSEMBLY
5260313

		NAME	DATE
DO NOT SCALE DRAWING			
DIMENSIONS ARE IN MM	DRAWN	AC	05/29/2009
	CHECKED	MT	02/03/2011
	THIRD ANGLE PROJECTION		
MATERIAL: ---			
SIZE: ---			

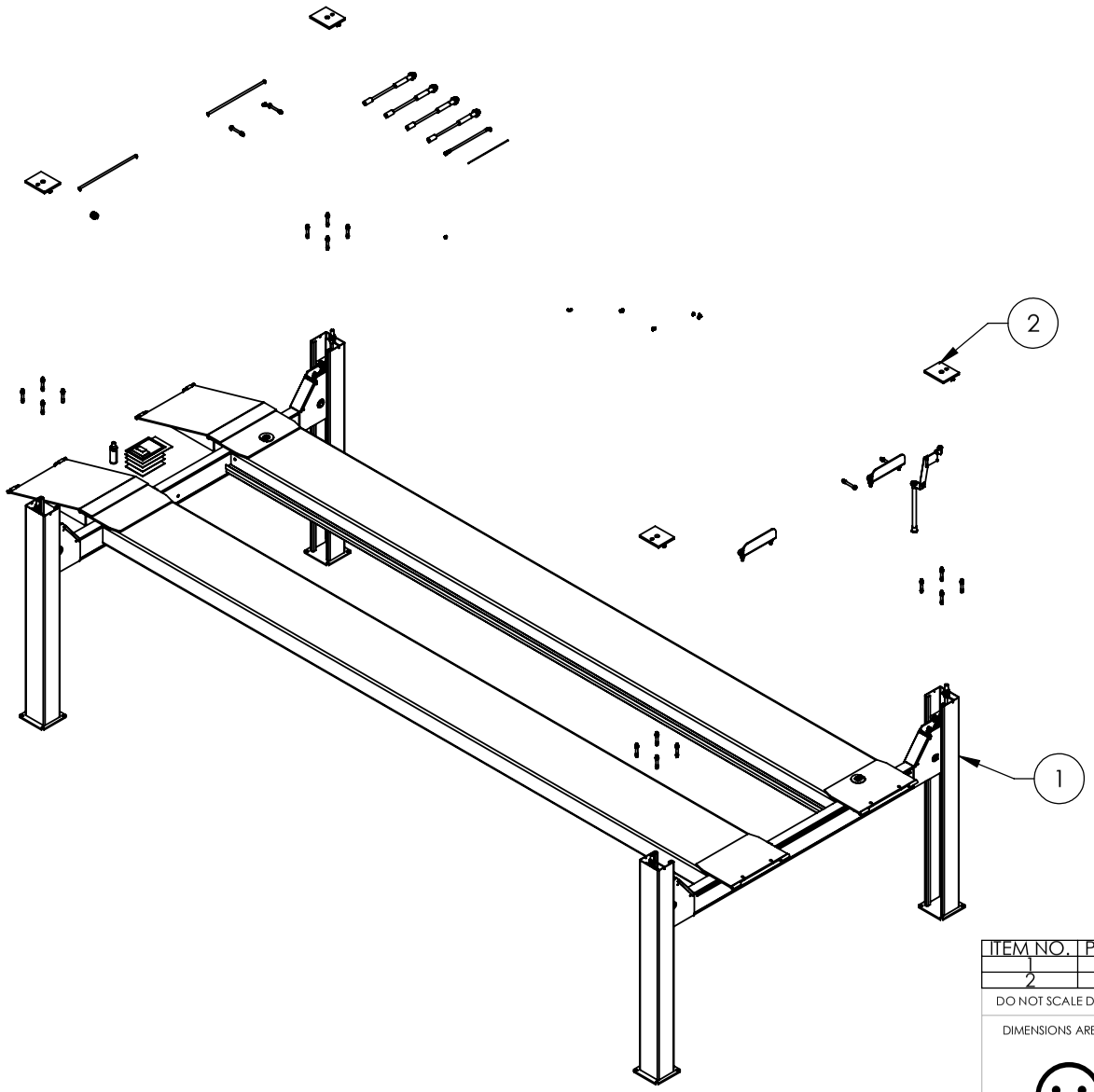
PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

TITLE: PARTS BOX HDS-35X

SIZE	DWG. NO.	REV
A	5250108	F

SCALE: 1:25 SHEET 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5245308	HDS-35X LIFT SUPERSTRUCTURE	1	K
2	5250108	PARTS BOX HDS-35X	1	F

		NAME	DATE
DO NOT SCALE DRAWING	DRAWN	GJZ	10/17/2008
DIMENSIONS ARE IN MM	CHECKED	MT	03/28/2011
THIRD ANGLE PROJECTION			

MATERIAL: ---

SIZE: ---

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

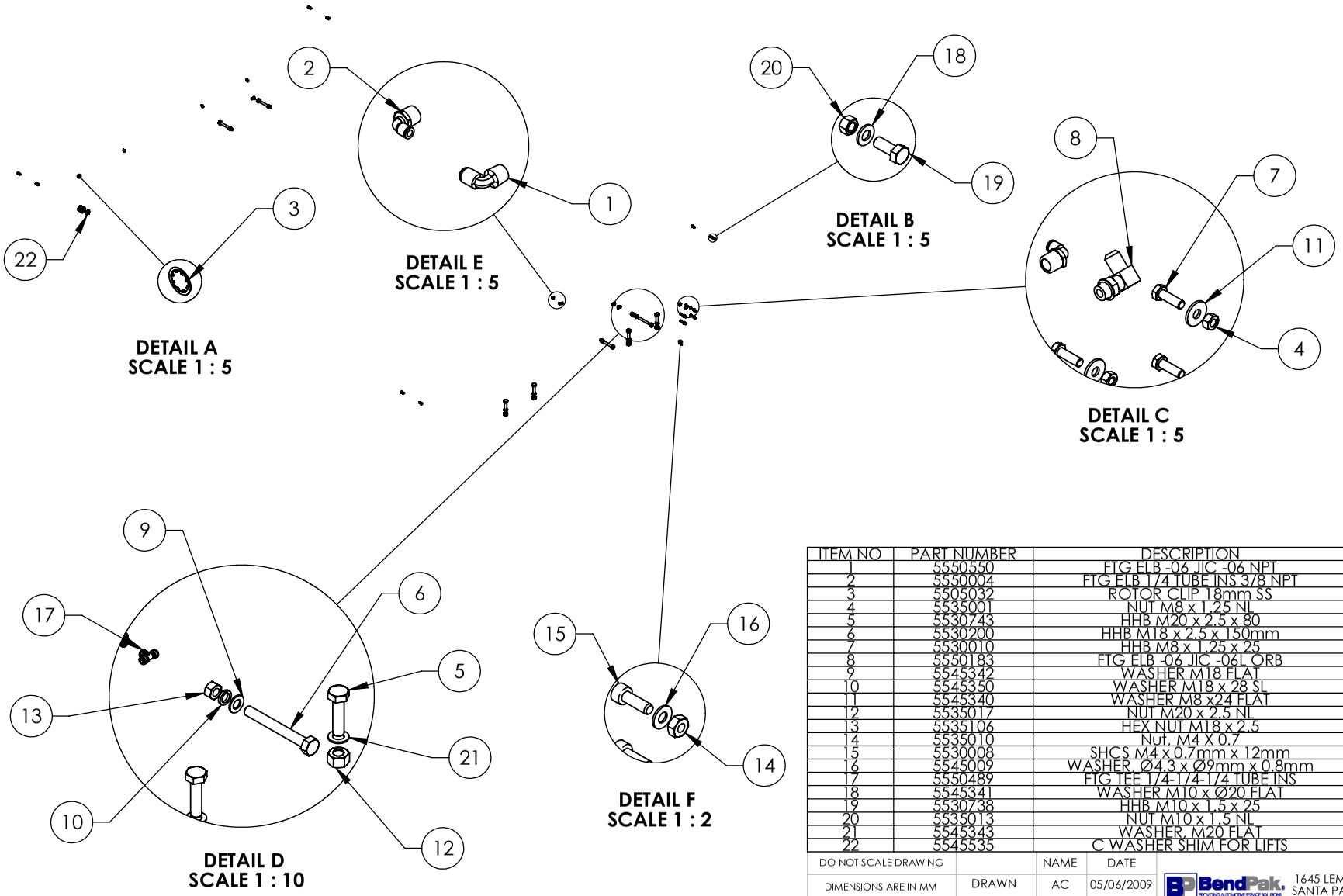
TITLE:
HDS-35X RECEIVED LIFT VER.A

SIZE	DWG. NO.	REV
A	5260313	N

SCALE: 1:60 SHEET 1 OF 2

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING



ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5550550	FTG ELB -06 JIC -06 NPT	1	-
2	5550004	FTG ELB 1/4 TUBE INS 3/8 NPT	2	-
3	5505032	ROTOR CLIP 18mm SS	4	-
4	5535001	NUT M8 x 1.25 NL	4	A
5	5530743	HHB M20 x 2.5 x 80	4	A
6	5530200	HHB M18 x 2.5 x 150mm	4	-
7	5530010	HHB M8 x 1.25 x 25	4	-
8	5550183	FTG ELB -06 JIC -06L ORB	1	-
9	5545342	WASHER M18 FLAT	4	-
10	5545350	WASHER M18 x 28 SL	4	-
11	5545340	WASHER M8 x24 FLAT	4	A
12	5535017	NUT M20 x 2.5 NL	4	-
13	5535106	HEX NUT M18 x 2.5	4	-
14	5535010	Nut, M4 X 0.7	2	-
15	5530008	SHCS M4 x 0.7mm x 12mm	2	-
16	5545009	WASHER, Ø4.3 x Ø9mm x 0.8mm	2	-
17	5550489	FTG TEE 1/4-1/4-1/4 TUBE INS	3	-
18	5545341	WASHER M10 x Ø20 FLAT	8	-
19	5530738	HHB M10 x 1.5 x 25	8	-
20	5535013	NUT M10 x 1.5 NL	8	-
21	5545343	WASHER, M20 FLAT	4	-
22	5545535	C WASHER SHIM FOR LIFTS	20	-

NEXT ASSEMBLY
5250100
5250102
5250104
5250106
5250108

DO NOT SCALE DRAWING

DIMENSIONS ARE IN MM

MATERIAL: ---

SIZE: ---

	NAME	DATE
DRAWN	AC	05/06/2009
CHECKED	TM	12/31/2009

THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **BENDPAK INC.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **BENDPAK INC.** IS PROHIBITED.

BendPak. PROVIDING AUTOMOTIVE SERVICE SOLUTIONS
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

TITLE: HDS-18/27/35 SERIES PARTS BAG

SIZE	DWG. NO.	REV
A	5174600	B

SCALE: 1:50 SHEET 1 OF 1

NOTE: UNLESS OTHERWISE SPECIFIED.

1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING

INSTALLATION FORM

Customer Name:	Date of Installation:	
Company Name:		
Street Address:		
City:	State:	Zip:
Phone:	Fax:	

Pre-Install Agreement

I, (the undersigned) acting as the owner of the business listed above assume responsibility for any permits required, either state or county mandated, related to the installation and/or operation of this equipment. I assume responsibility for the concrete floor and condition thereof, now or later, where the above equipment model(s) are installed. I will assume all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with, or to have arisen out of the condition and/or drilling of the concrete near or adjacent to the equipment model(s) listed above. If my employee(s) offer assistance of any kind during installation of the above equipment model(s) I hold the manufacturer and installation company harmless of all liability for losses, damages, expenses, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with the installation of the above equipment model(s).

I understand that the lifts above are supplied with concrete fasteners meeting the criteria of the American National Standard "Automotive Lifts - Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-1998, and that I will be responsible for all charges related to 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).

Customer Signature: Print Name: Date:

Post-Installation Check-Off

☐ Base and Columns Properly Shimmed And Stable	☐ Lubrication of Critical Components
☐ Anchor Bolts Tightened	☐ Lift Adapters
☐ Runways Properly Attached and Secured	☐ Check For Overhead Obstructions
☐ Electric Power Supply Confirmed	☐ Runways Level
☐ Cables / Chains Adjusted Properly	☐ All Screws, Bolts, and Pins Secured
☐ Safety Locks Functioning Properly	☐ Surrounding Area and Lift Clean In Appearance
☐ Check For Hydraulic Leaks	☐ Proper Operation, Maintenance and Safety Explained
☐ Oil Level	☐ Operation and Safety Manual(s) Left at Site

I, (the undersigned) confirm that the above installation procedure(s) were completed. I understand that I will be responsible for maintaining this equipment as outlined in the accompanied ***Installation and Operation Manual*** and ***ANSI/ALI ALOIM Safety Requirements for Operation, Inspection and Maintenance***. I understand that personal injury and/or damage to property can occur if the above equipment model(s) are not maintained or used improperly and take full responsibility for training my employees on proper use and maintenance of this equipment. I hold the manufacturer and installation company harmless of all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or related to improper use, improper training, or lack of required maintenance. I understand that the warranty does not cover replacement of parts worn or damaged due to normal use or lack of required maintenance

Customer Signature: Print Name: Date:

Installer Signature:	Print Name:	Date:
Installer Company Name:		
Street Address:		
City:	State:	Zip:
Phone:	Phone (Other):	

MAINTENANCE RECORDS

MAINTENANCE RECORDS



For Parts Or Service
Contact:

BendPak Inc. / Ranger Products
1645 Lemonwood Dr.
Santa Paula, CA. 93060

Tel: 1-805-933-9970
Toll Free: 1-800-253-2363
Fax: 1-805-933-9160

www.bendpak.com
www.rangerproducts.com

pn# 5900160