



by **herkules**

VLA03 PIT BOSS TANDEM-LOW RISE



Made in USA

OWNERS MANUAL



INSTRUCTIONS

This manual contains important information concerning the installation and operation of the gun washers listed above. Read manual thoroughly and keep for future reference



Herkules Patent Numbers

These products have patent protection under one or more of the following patent numbers:

9422142, 8733508, 8714524, 866247.8052120, 7070167, 5485860, 5193561, 5174317, 4960142, 4793369 and Patents Pending

M0965-03 (VLA Tandem Air Lift System).xlsx

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Herkules Equipment Corporation

A U.S.-based manufacturer, Herkules Equipment Corporation offers a diverse line of products that support multiple industries by improving efficiency, productivity, ergonomics, comfort, and safety in the work environment. The company consists of the three product lines: Herkules, Enkon and BossLifts.

Since 1985, Herkules has designed, engineered and manufactured quality products at our Walled Lake, Michigan facility. Our company supports our products after delivery, with U.S. based customer service, and replacement parts, enabling our customers to proceed with confidence.

To learn more about Herkules, visit <http://herkules.us>. Contact us at info@herkules.us with any questions or concerns.

Thank you for purchasing a Herkules product!

Warranty

IMPORTANT NOTICE: if you have a problem with your Herkules product,

DO NOT RETURN TO PLACE OF PURCHASE

Contact Herkules: by phone 1-800-444-4351; by email, info@herkules.us; or on the web at herkules.us/contact-us.

At Herkules we take great pride in the construction of our American-made products, and we stand behind their reliability. The limited liability warranty applies to the pneumatic chambers of our Herkules lifts and to the initial user against defective materials for a period of five years from the proof of purchase date. The limited liability warranty applies to other components of our Herkules lifts to the initial user against defective materials for a period of one year from the proof of purchase date.

This warranty does not apply to equipment damaged from accident, abuse, overload, misuse, negligence, improper installation, abrasive or corrosive materials, or shipping damage.

In the event of product failure, the defective item must be returned, freight prepaid, to the Herkules manufacturing plant for repair or replacement. If repairs are required, Herkules will not be liable for these repairs to take place in the field regardless of the application. Proof of purchase and date of purchase must be confirmed. An RGA* (Returned Goods Authorization) and written approval from Herkules must be obtained before any goods can be shipped to Herkules. We reserve the right to Determine whether failure is due to defective material, normal wear, and / or other causes.

There are no warranties which extend beyond the description on the face hereof. Herkules disclaims any warranty of merchantability or fitness for a particular purpose in connection with the Buyer's purchase of any Product under this agreement. Damages are limited to the sales price of the Herkules system. The terms and conditions herein represent the entire agreement between Herkules and the Buyer. Any prior / future representations do not apply.

*To obtain a RGA, contact Herkules at 1-800-444-4351 and have the item model, serial numbers, and invoice number if applicable.

Upon receipt of your equipment, please write your purchase information below. Please retain this manual for your records.

Serial Number	_____	Model Number	_____
Purchase Date	_____	Distributor (if applicable)	_____

Warning Symbol




This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.


Caution Symbol




This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

	www.enkon.pro	www.herkules.us	1-800-444-4351
GENERAL OPERATING INSTRUCTIONS			
<ol style="list-style-type: none"> 1 The equipment is designed solely in accordance with buyer's specifications and technical operating parameters. By using the equipment, buyer acknowledges and agrees that it has inspected the equipment; is satisfied that the equipment is of the size, design, capacity, description and manufacture selected by buyer; compliant with buyer's specifications and technical operating parameters; and solely fit for its intended purposes. Buyer acknowledges and agrees that the manufacturer shall not be liable to buyer, or any operator, for any injury, loss, damage, or expense of any kind or nature caused, directly or indirectly, by the use, operation, or maintenance of the equipment which has been modified or is otherwise not in compliance with the equipment specifications and technical operating parameters, and buyer agrees to indemnify and hold the manufacturer harmless from any such claims. 2 Read and understand all warnings, cautions, and instructions in the manual and tags before operating equipment. 3 Inspect equipment prior to use; repair or replace damaged or broken components. Keep system lubricated for proper function. 4 This lift is designed and engineered to be operated at a predetermined amount of duty cycles per day as specified in the manual or the Herkules approval drawing. 5 This lift is designed and engineered to be exclusively center loaded unless otherwise specifically specified in the manual or the Herkules approval drawing. 6 Secure loads to lift in order to prevent moving or tipping of load. 7 Install lift system only on flat, level surfaces as noted in the installation instructions. If improperly installed, lift system is subject to excessive wear, reduced life span, and lift failure. 8 Do not operate lift until unit has been correctly installed and adjusted as described in the manual. 9 Ensure proper function of safety and maintenance devices regularly. 10 See manual for proper use of maintenance stops. 11 It is the responsibility of the owner/operator to maintain legibility of all safety and instruction labels. 12 Herkules is not responsible for any personal injury or property damage resulting from owner/operator failure to follow instructions, cautions, and warnings. 13 See additional operating instructions, cautions, and warnings tags. 			
Warnings and Cautions — see other side of tag			1006355

I. Tag - Operating Instructions (P/N 1006355) Back

	www.enkon.pro	www.herkules.us	1-800-444-4351
⚠ CAUTION			
<ol style="list-style-type: none"> 1 Keep clear of lift while in motion. 2 Do not operate lift while person(s) are on lift, unless it is a Herkules-engineered operator lift. 3 Use only manufacturer-provided replacement parts. 4 Maintenance stops are used for external lubrication maintenance only, lift must be unloaded. 5 Do not exceed rated load capacity. 6 This lift system was designed for a specified application. Personal injury and/or property damage may result if used outside of the original specification. 7 If this lift system is used outside the specification, it may not include all appropriate safety devices for your application. Compliance with all federal, state, OSHA, and local laws or codes are the responsibility of the end user. 			
⚠ WARNING			
<ol style="list-style-type: none"> 1 Lift can fail if damaged, misused, or overloaded. Use only if trained. 2 Death or injury can occur from improper use or care. 3 Inspect before use and observe rated load to avoid death or personal injury. 4 Always keep lift system free of all obstructions and debris. 5 Non-portable systems must be anchored to the ground with proper lag bolts; failure to do so could cause system to tip or fall, resulting in serious injury, property damage, or death. 6 Never, for any reason, put limbs or other body parts inside the lift unless safety/maintenance stops are properly engaged and overhead rigging is used. 7 Do not alter or modify any part of equipment. 8 Never use a damaged lift. Immediately remove damaged lifts from service until repairs are made. 			
Operating Instructions — see other side of tag			1006355

II. Tag - Operating Instructions - Air (P/N 1006356)

 EnKon ™ by herkules	www.enkon.pro	www.herkules.us	1-800-444-4351
OPERATING INSTRUCTIONS AIR LIFT SYSTEMS			
1 See general operating instructions, cautions, and warnings tag.			
⚠ CAUTION			
1 Do not use an air supply with pressure exceeding 120 PSI. 2 Do not continue to push control lever after lift is fully raised, even though safety valve will prevent over-inflation of air bag. 3 Always use a clean, dry air supply that is properly filtered and regulated.			
⚠ WARNING			
1 Do not modify the pressure relief valve system. 2 Replace the pressure relief valve with a Herkules-supplied valve annually. 3 Regularly inspect air bags and valves for damage. Damaged components could cause sudden failure of the lift system. Worn or damaged components should be replaced immediately with manufacturer-provided parts.			
1006356			

DANGER

If lift is utilized for overhead vehicle work then four quantity
jack stands must be put in place to help support vehicle.
Operators not allowed under lift without the use of jack stands.



Serial Number _____

Model Number _____

Purchase Date _____

Distributor _____

herkules™ PATENT

This product has patent protection under one or more of the following patent numbers:

7070167, 5485860, 5193561, 5174317
4960142, 4793369, 1299468
and Patents Pending

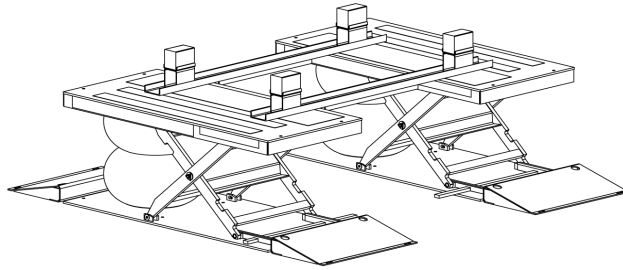
website: www.herkules.us

1002742

Operation

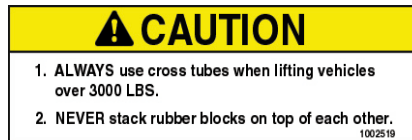
- 1 Must use cross bars with rubber blocks placed on the cross bars for all applications.

Note: Only lift vehicles with cross bars or the lifts will not raise level and damage will occur to lift, operator and vehicle.



- 2 Once vehicle is over lift, slide cross tube into position between both lifts. Four rubber lifting blocks need to be placed on cross tubes at the preferred lifting positions of the vehicle.

a) DO NOT stack rubber blocks on top of each other.



- 3 If operator cannot align lifting blocks to the vehicle frame, due to a large gap between cross tubes and vehicle. Raise the lift slightly to decrease the gap then align the rubber blocks.

- 4 Raise the lift by pressing both levers on the control pedestal to the up position. Release the levers once the vehicle is at the desired height.

Note: Both levers need to be pressed together for both lifts to go up in tandem. By pressing only one lever, only the corresponding lift will go up.

- 5 To lower the lift pull both levers to on the control pedestal to the down position.

Note: Both levers need to be pressed together for both lifts to go down in tandem. By pressing only one lever, only the corresponding lift will go down.

- 6 Lift must be raised passed a determined point so that the two lift modules level out.

- 7 Lift operator must be aware of the "CENTER OF MASS, WEIGHT, PAYLOAD DISTRIBUTION" of the vehicle for the correct and safe operation of lift when raising the vehicle.

Maintenance

- 1 Check clamps and hose connections periodically for tightness to prevent air leakage.
- 2 Make sure all moving parts are clean and unobstructed of foreign objects.
- 3 Clean filter element every 3 months if applicable
- 4 Grease and oil pivot points once every 3 months.
Lubricate daily if lift is in high cycle application
- 5 Use 90-weight gear lube (SAE 85W 140 EP) to lubricate the pivots and shafts once every 3 months or as needed.
- 6 Grease the upper and lower wheel channels.
- 7 Lubricate lock mechanism pivot points.
- 8 Use overhead rigging when anything beyond external lubrication is required
- 9 All rubber parts are to be replaced every 5 years.

Duty Cycle

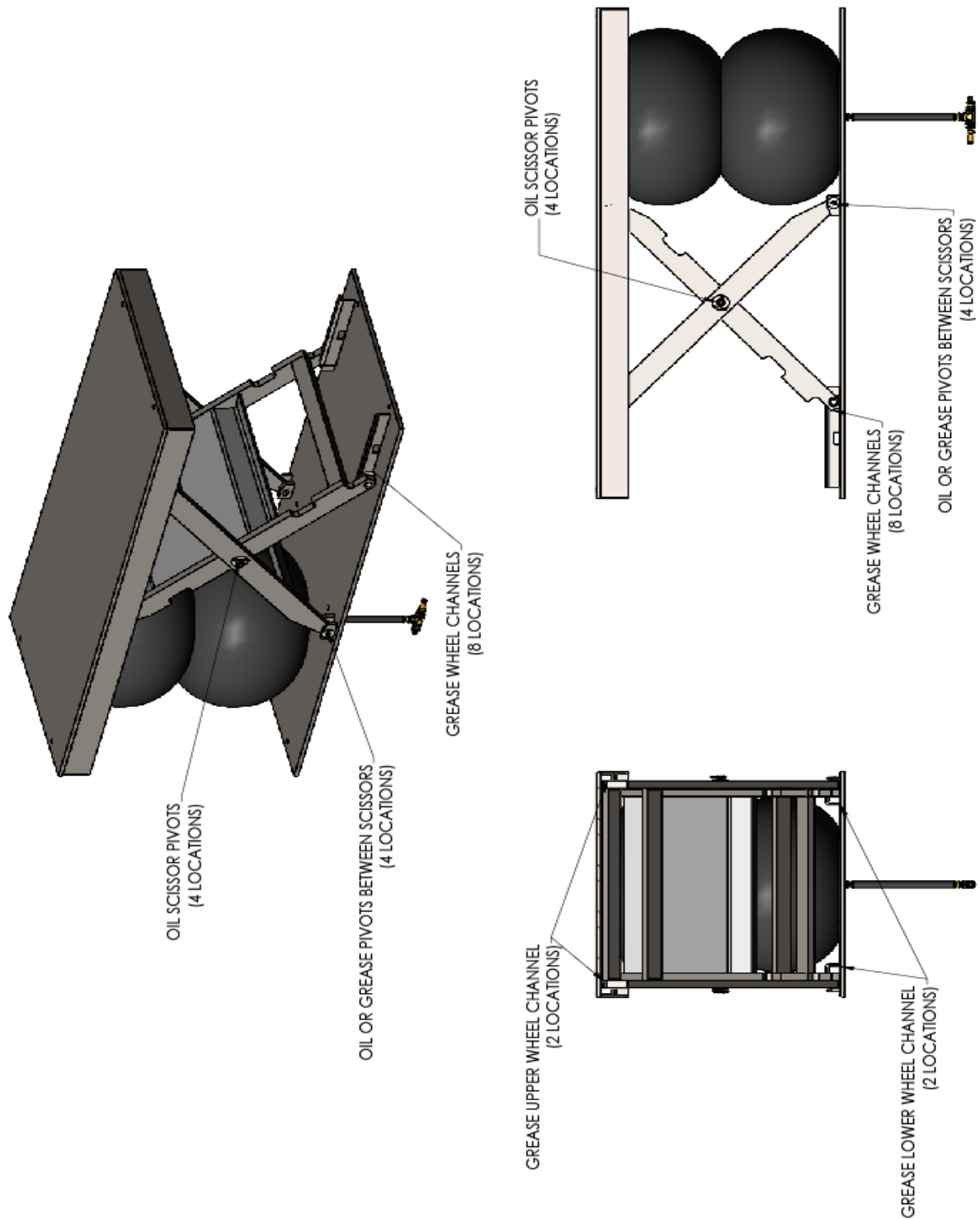
I. Lift Cycle Rating:

This lift is rated for 5-15 cycles per day maximum. For high cycle usage warranty does not apply.

II. Duty Cycle:

This lift is rated for approximately 12,000 - 15,000 cycles between repairs (MTBF). This lift is not rated for high duty cycles. Items that will need repair may include: 1) air bag, 2) safety ratchet, 3) scissors, 4) pivots, and 5) valves. For heavy duty scissor lift systems that requires little maintenance Herkules recommends our Herkules Ball screw or Belt Drive Scissor Lift Systems. These lift systems are designed and manufactured for high duty cycles and long life. Herkules recommends our electric Ball Screw or Belt Drive lift system for high cycle applications.

Maintenance Lubrication Diagram



Installation Tools Required

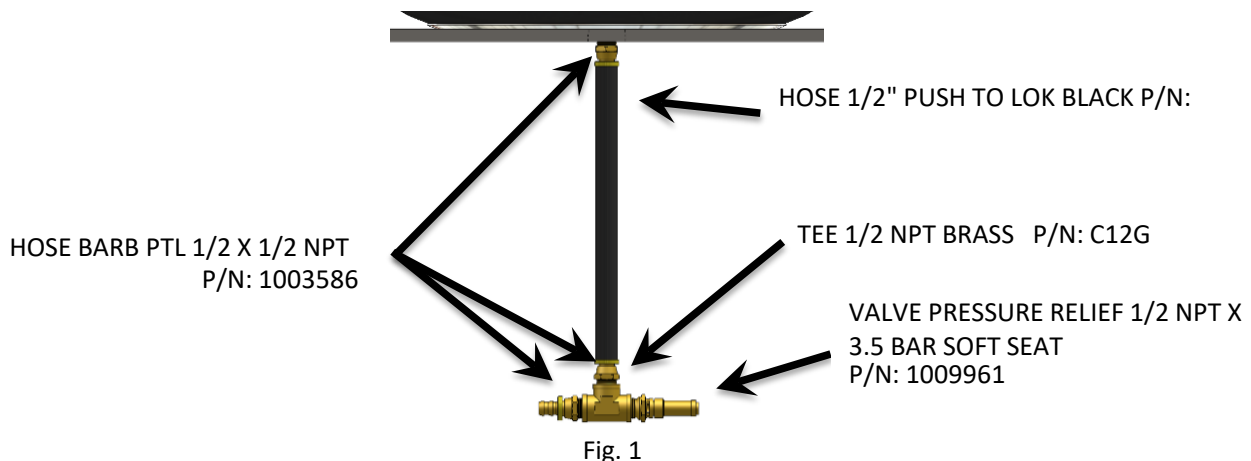
- | | | | |
|---|---|----|-------------------------------|
| 1 | Core Drilling Machine (Drill bits for 1/2 & 1.00) | 8 | Saw (cut off stud ends) |
| 2 | Adjustable wrench | 9 | Grinder (smooth studs) |
| 3 | Flat head screw driver | 10 | Pipe wrench |
| 4 | Two Adjustable Wrench's | 11 | Teflon tape |
| 5 | Wrench (7/16) | 12 | Hose cutter or knife |
| 6 | Wrench (7/8) | 13 | Caulk gun (for epoxy anchors) |
| 7 | Wrench (15/16) | 14 | Tin snips or cutters |

Installation

- STEP 1** Locate lift on a level surface. If lift is not level shim lift table to a level position.
Note: It is recommended that grout or some other solid material be placed under the lifts to ensure that no bending or warping takes place between shims.
- STEP 2** Anchor each lift to floor using 1/2" bolts from anchor kit (6 bolts per lift)
See Instruction pages 17 through 20 for additional information.
- STEP 3** Each bolt should receive a 4" x 4" x 1/4" plate to be used as a washer between the nut and concrete or corrugated portion of the basement ceiling.
- STEP 4** Anchor each ramp to floor using 1/2" bolts from anchor kit (6 bolts per lift)
See page 12 for information about the anchor kit 16547.
- STEP 5** Place control pedestal in desired location and anchor to floor. (Floor hardware not included)
- STEP 6** Assemble the Pressure Relief Tee, use pipe tape at all connections. (See Fig. 1)
*Note: A steel nipple will need to be secured to the bottom lift plate this must be 1/2-NPT
A length of hose along with the supplied hose barb may be substituted if desired.*
- STEP 7** The Pressure Relief Tee must not be more than 12" away from the air bag.
Note: Exceeding the 12" distance may result in injury to operator and/or equipment damage
- STEP 8** Connect 1/2" air hose from each lift to the 1/2" hose barbs on the bottom of the control valves and secure using the hose clamps provided in parts box.
Note: If hoses are to be trimmed, equal amounts of hose will need to be trimmed from each lift.
- STEP 9** Always allow the same distance of hose to each lift; this will keep the lifts running in tandem.
Note: Loop hoses in remote location to keep same length of hose if necessary.
- STEP 10** Connect main air supply to the control pedestal.
- STEP 11** Engine of vehicle must be placed over the air bag portion of the lift.

Installer Supplied Components

DESCRIPTION	QTY.	UNITS.
QUANTITY GIVEN FOR 1 SYSTEM		
PLATE 4 X 4 X 1/4 HRS	12	EA



Installation Instructions Continued

STEP 12

Using two people lift the top of the lift system and insert the yellow block stop to keep the lift in the raised position.
Repeat this step for the second lift.

NOTE: Ensure the stop is positioned evenly in the slot or the lift may fall causing injury.

STEP 13

Obtain assembled lift system and place lift over threaded rod anchored to the floor.

STEP 14

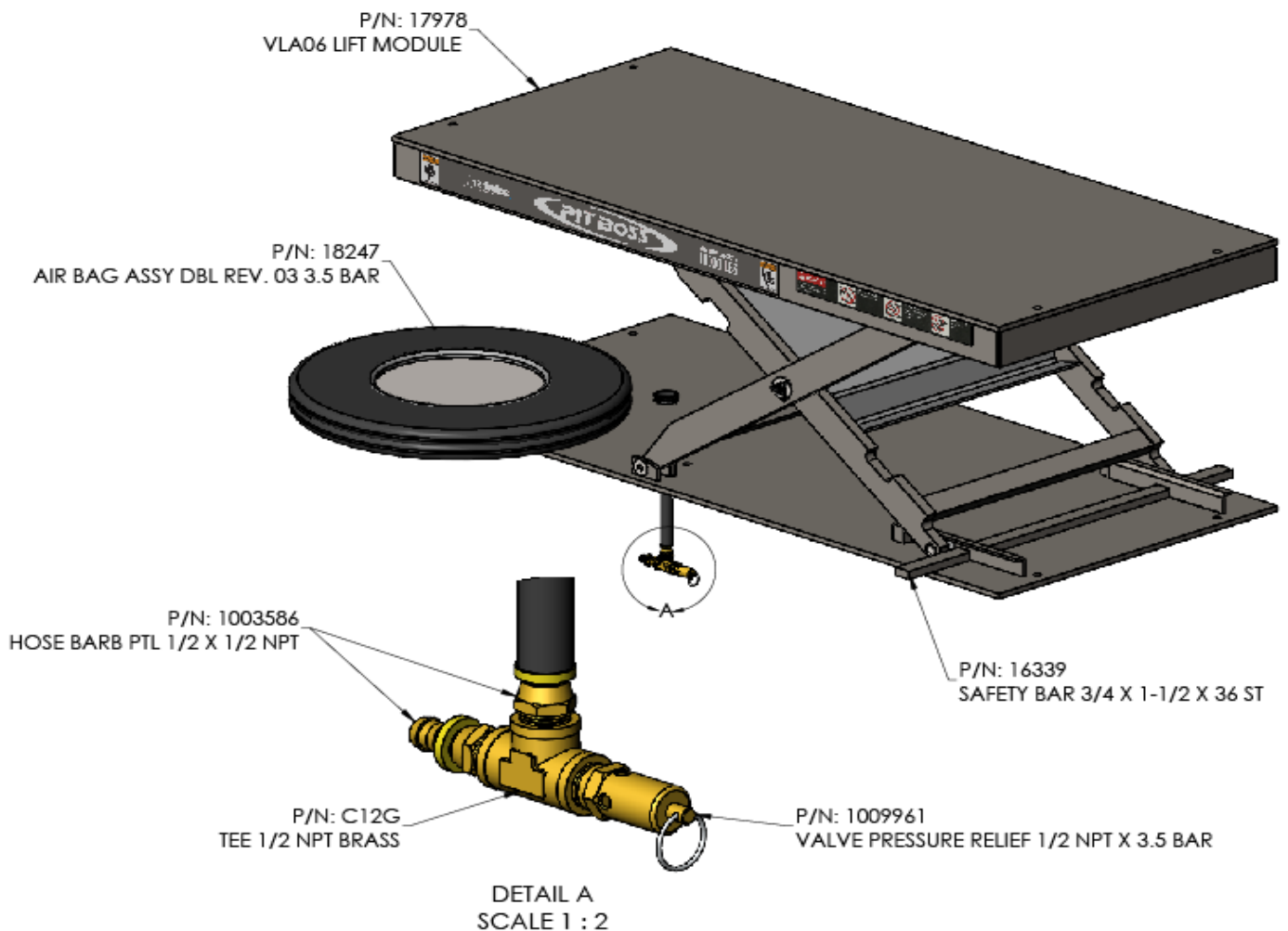
Secure lift into position as shown below on the the Safety bar,

STEP 15

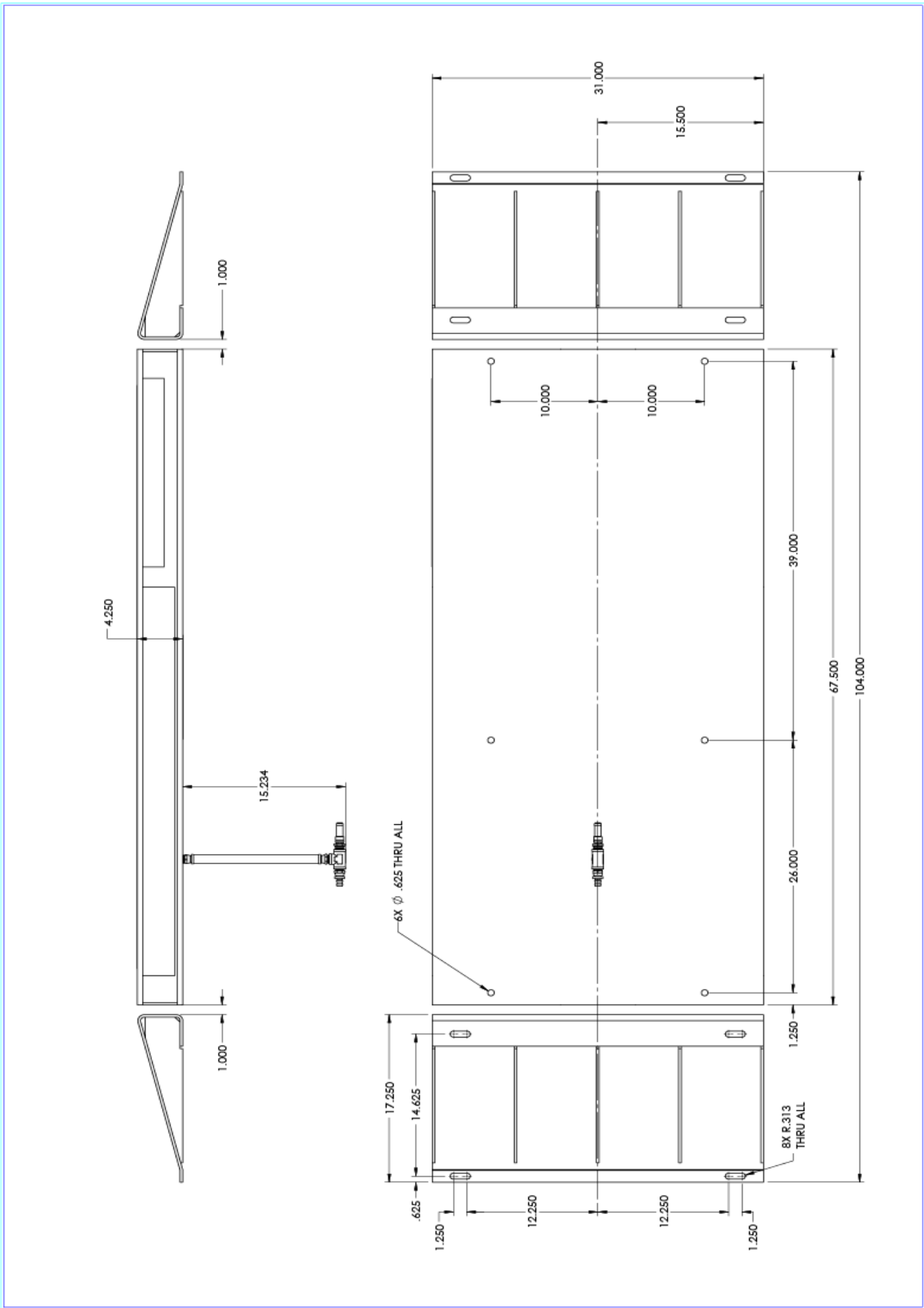
Obtain air bag (18247), and screw it on the STEEL NIPPLE 1-1/2 X .625 FOR AIR CHANNEL

STEP 16

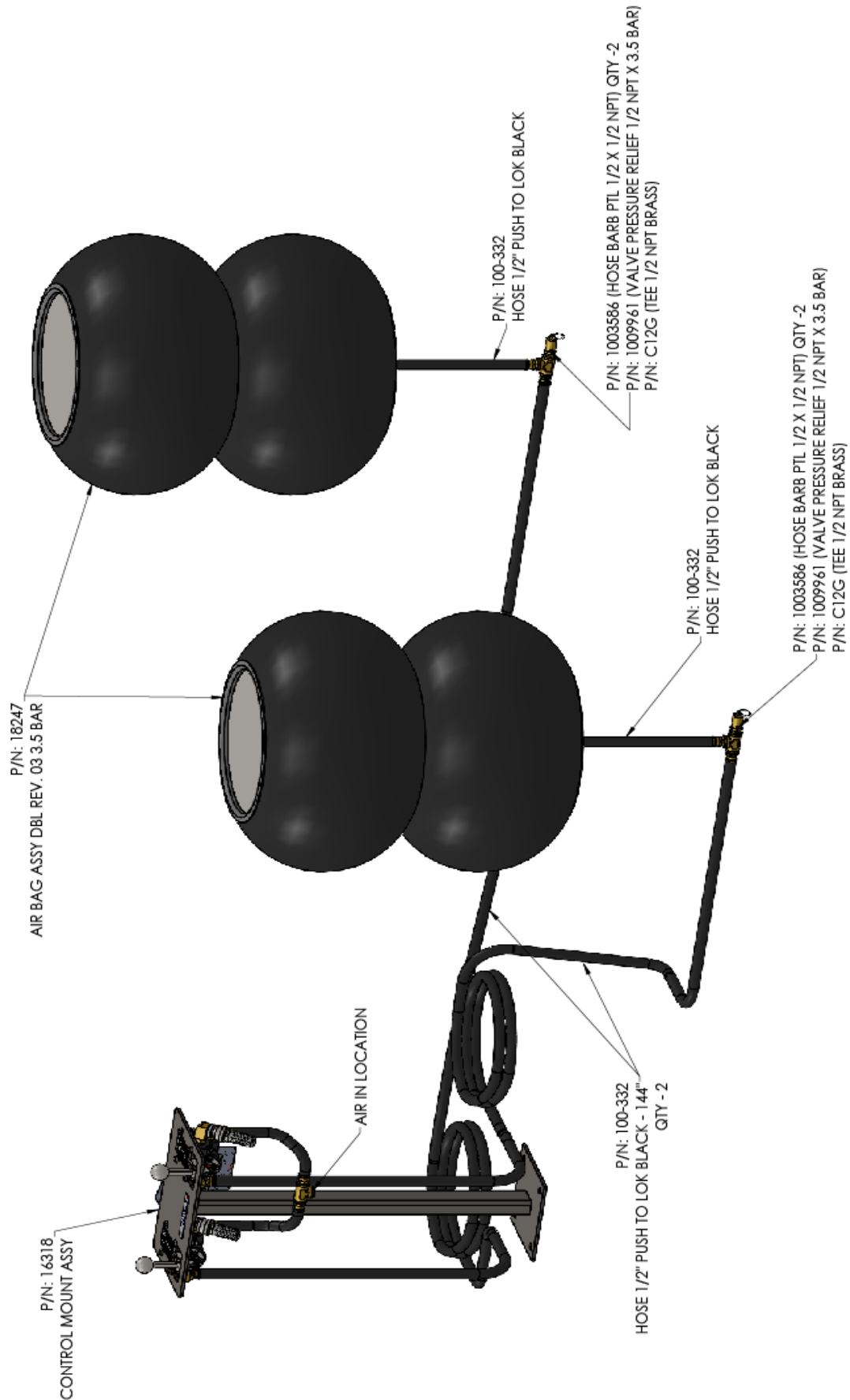
Air up the air bag to full pressure, raised height then remove the safety bar.



Installation/Concrete diagrams



Installation Instructions Continued



INSTALLATION INSTRUCTIONS

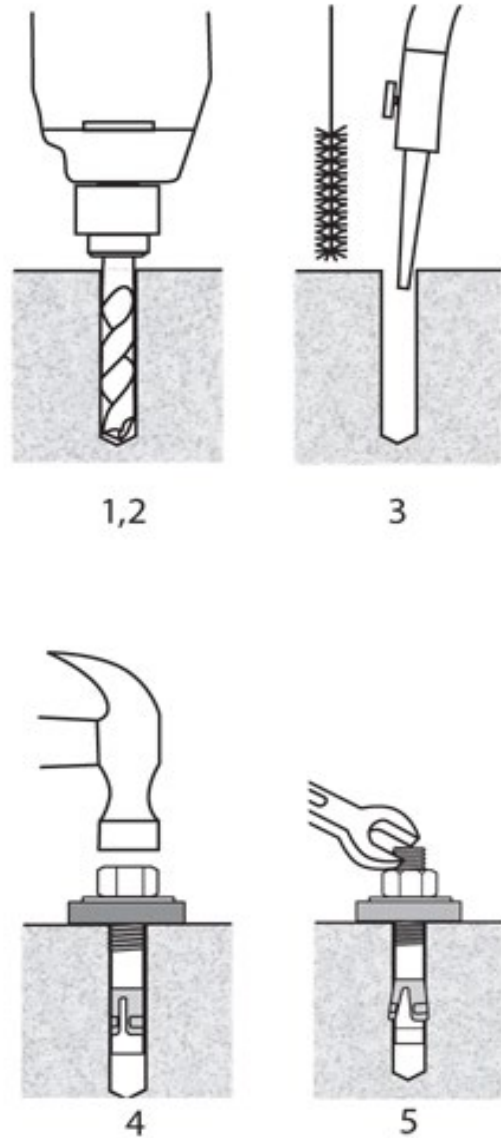
WEDGE STYLE ANCHORS FOR VLA06

Plastic Bag Contents

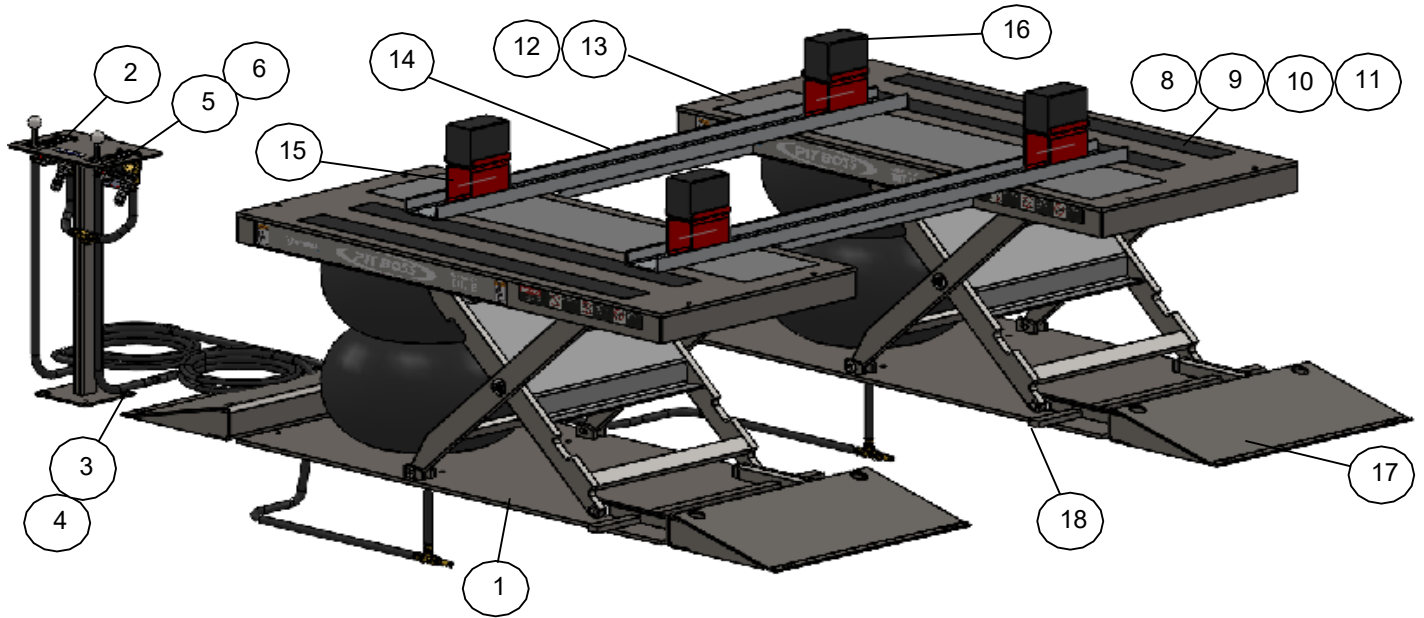
- 1004876 Anchor Wedge 1/2 x 5-1/2 SS Qty 8
- 1004877 Anchor Wedge 1/2 x 2-3/4 SS Qty 16

Installation

1. Drill the hole, whose diameter equals the anchor diameter (1/2"), perpendicular to the work surface. To assure full holding power, do not ream the hole or allow the drill to wobble.
2. Drill the hole deeper than the intended embedment, but not closer than two diameters to the opposite surface of the concrete.
3. A clean hole is necessary for proper performance. Clean the hole using a nylon brush and compressed air.
4. Assemble the nut and washer so that the top of the nut is flush with the top of the anchor. Drive the anchor through the material to be fastened so that the nut and washer are flush with the surface of the material.
5. Tighten the nut, or head, 3 to 5 turns past the hand tight position. (Installing the anchors with a torque wrench to 40 - 50 ft lb. is recommended for optimum performance.)



VLA06 BOM

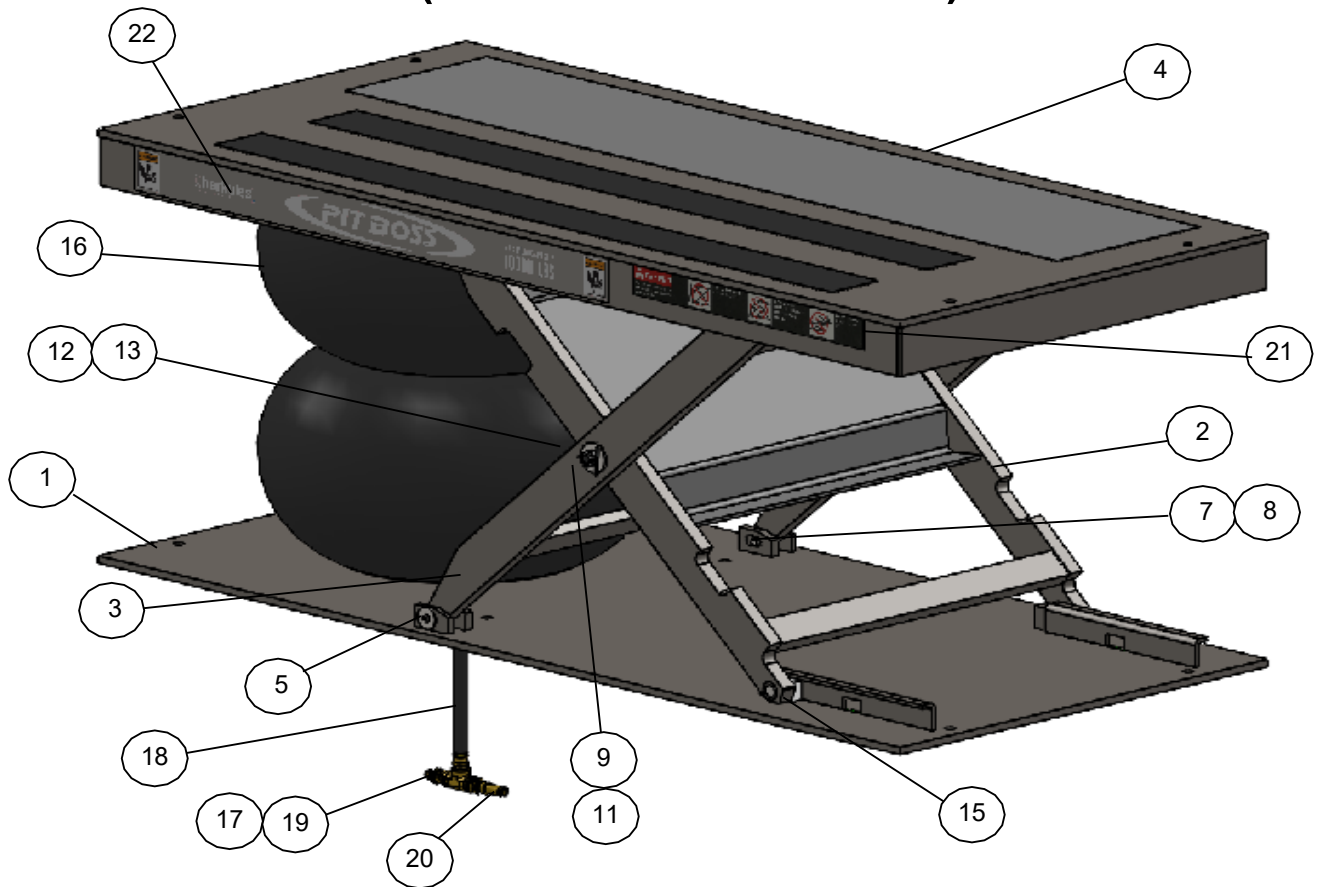


ITEM #	Part No.	Description	Qty	Unit
1	17978	VLA06 LIFT MODULE 31 X 67.5	2	EA
2	16318	CONTROL MOUNT ASSY VERT 2X LIFT W/EXH	1	EA
3	100-332	HOSE 1/2" PUSH TO LOK BLACK	144	INCH
4	100-332	HOSE 1/2" PUSH TO LOK BLACK	144	INCH
5	1006355	TAG OPERATING INSTRUCTIONS (GENERAL)	1	EA
6	1006356	TAG OPERATING INSTRUCTIONS (AIR)	1	EA
7	1006323	STICKER BOX MODEL & SERIAL	1	Not Shown
8	1002205	TAPE 4" NON-SLIP BLACK	52	INCH
9	1002205	TAPE 4" NON-SLIP BLACK	52	INCH
10	1002205	TAPE 4" NON-SLIP BLACK	52	INCH
11	1002205	TAPE 4" NON-SLIP BLACK	52	INCH
12	1002534	TAPE 12" NON-SLIP BLACK AND YELLOW	60	INCH
13	1002534	TAPE 12" NON-SLIP BLACK AND YELLOW	60	INCH
14	1004743	CROSS TUBE WELDMNT ALUMINUM	2	EA
15	15020	HEIGHT EXTENDER WLDMT 4 X 6 X 6 ST	4	EA
16	1006207	BLOCK RUBBER 3-3/4 X 4-3/4 X 6-3/16	4	EA
17	1006958	RAMP 17-1/4 X 31 X 4-1/4 ST	4	EA
18	16339	SAFETY BAR 3/4 X 1-1/2 X 36 ST	2	EA
19	16547	KIT ANCHOR WEDGE FOR LSA29 TANDEM LIFT	1	Not Shown
20	18256	HERKULES SERIAL TAG	1	Not Shown

16547 (KIT ANCHOR WEDGE FOR LSA29 TANDEM LIFT) BOM

ITEM #	Part No.	Description	Qty	Unit
1	1004876	ANCHOR WEDGE 1/2 X 5-1/2 SS	12	EA
2	1004877	ANCHOR WEDGE 1/2 X 2-3/4 SS	16	EA
3	1004985	INSTALLATION MANUAL FOR 14988	1	EA

17978 (VLA06 LIFT MODULE) BOM



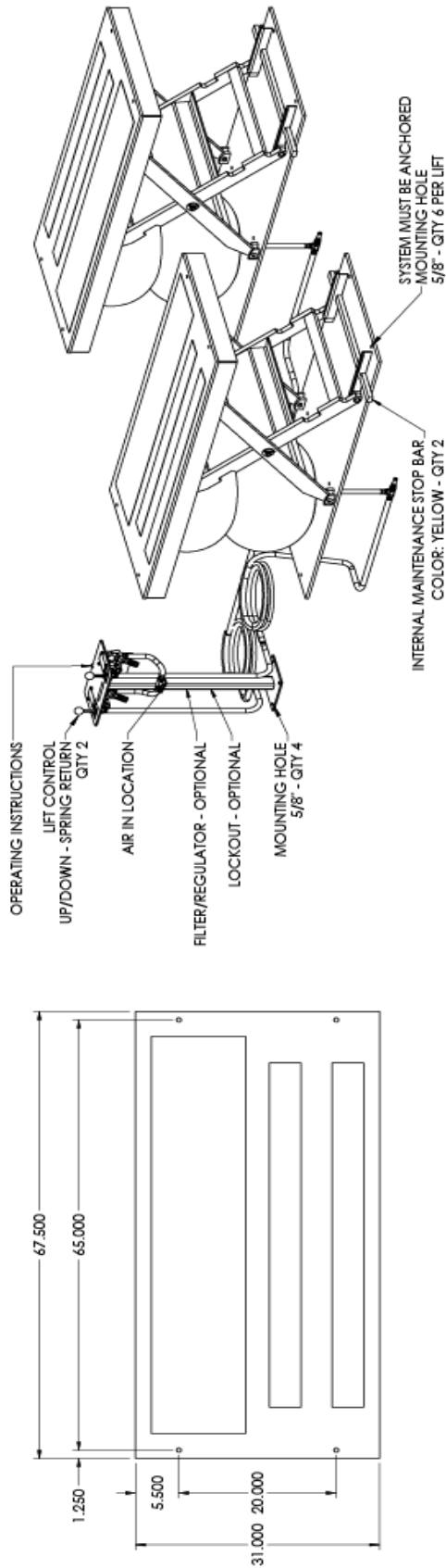
ITEM #	Part No.	Description	Qty	Unit
1	16312	PLATE BOTTOM WELDMENT 31 X 67-1/2	1	EA
2	16315	SCISSOR INNER WELDMENT C#D 26 X 39	1	EA
3	16314	SCISSOR OUTER WELDMENT A#B 29 X 39	1	EA
4	16313	PLATE TOP WELDMENT 31 X 67-1/2	1	EA
5	1002627	PIN .750 OD X 2.125 CRS	4	EA
6	1007981	WASHER SHIM 25MM ID X 36MM OD X 0.5MM	8	Not Shown
7	001-705	WASHER FLAT 1/4 USS	4	Not Shown
8	1000116	BOLT HEX 1/4-20 X 5/8 GD 5 Z	4	EA
9	009-125	WASHER FLAT 2 OD X .8125 ID X 3/4 USS Z	4	EA
10	1002473	WASHER FLAT 3 OD X 1.313 ID X .1 Z	2	Not Shown
11	12125	BOLT ASSY 5/8-11 X 3 DRILL	2	EA
12	1001480	NUT SLOTTED HEX 5/8-11 Z	2	EA
13	1001481	COTTER PIN 5/32 X 1.25 ZINC	2	EA
14	1002626	TUBE 1.244 OD X .75 ID X 2.10 CRS	2	Not Shown
15	1007642	SLIDER BLOCK 1.6 X 1.6 X .87 PET	4	EA
16	18247	AIR BAG ASSY DBL REV. 03 3.5 BAR	1	EA
17	1003586	HOSE BARB PTL 1/2 X 1/2 NPT	3	EA
18	100-332	HOSE 1/2" PUSH TO LOK BLACK	12	INCH
19	C12G	TEE 1/2 NPT BRASS	1	EA
20	1009961	VALVE PRESSURE RELIEF 1/2 NPT X 3.5 BAR SOFT SEAT	1	EA
21	1002882	STICKER DANGER NO HAND/LEG UNDERTOP	2	EA
22	1004676	STICKER BOSSLIFT/CAPACITY/WARNING - 10000LB	2	EA
23	1000070	DECAL HERKULES 1.1875 X 7	2	Not Shown

Troubleshooting

Problem	Solution
Lift will not go up	<ol style="list-style-type: none"> 1 Check that air inlet is connected to the controller. 2 Check to ensure lockout is not engaged (if purchased option). 3 Check air hoses to ensure no kinks or cuts in the line. 4 Check to ensure no debris is preventing wheels from rolling in track. 5 Check regulator gauge (if purchased) set to minimum of 80psi
Lift is making a hissing noise	<ol style="list-style-type: none"> 1 Check all air lines to ensure they are properly connected and no leaks. 2 Check pressure relief valve. If pressure relief valve is "leaking" lower lift immediately, the bags are in a state of over pressurization. 3 Check air bag for cuts or holes.
Only 1 lift is functioning	<ol style="list-style-type: none"> 1 Check all air lines to ensure they are properly connected and no leaks. 2 Check air hoses to ensure no kinks or cuts in the line. 3 Check air bag for cuts or holes.
Lift is making a squeaking noise	<ol style="list-style-type: none"> 1 Lubricate center joint and wheel tracks
Lift system raises load unevenly	<ol style="list-style-type: none"> 1 Load is uncentered, recenter the vehicle and repeat lift process 2 Hose lengths are not correct. Verify proper hose lengths as stated in steps 58 - 71 in the "Plumbing Instructions" section of the manual.

Lift Drawings

Part # VLA06

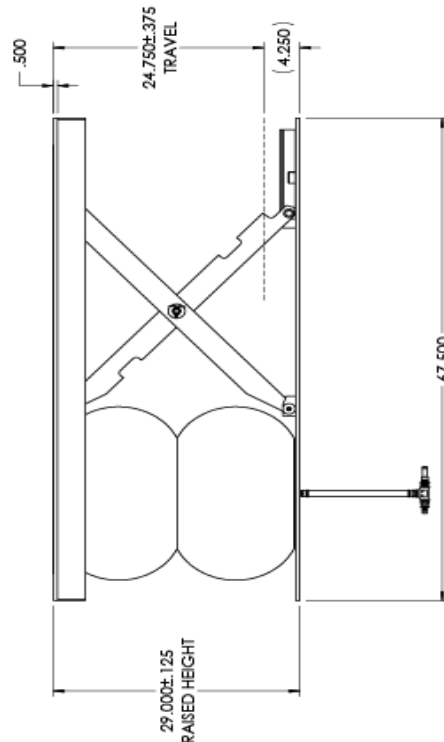


SPECIFICATIONS - STANDARD

CAPACITY: SYSTEM: 10,000 LBS, LIFT: 5,000 LBS
ALL LOADS MUST BE EVENLY DISTRIBUTED
LIFT MAY NOT RAISE TO FULL HEIGHT
WITH MAXIMUM CAPACITY LOAD

CONTROLLER: HAND
CONTROLLER MOUNT: PEDESTAL
INTERNAL VALVE: NONE
AIR FEED LINE: 1/2\"/>

COLOR: LIFT: HERKULES SAFETY RED
SCISSORS: HERKULES SAFETY WHITE
PEDESTAL: HERKULES SAFETY RED
SAFETY FEATURES: PRESSURE RELIEF VALVE - QTY. 2
CHECK VALVE - NONE
MAINTENANCE STOP BAR - QTY. 2



THE NEED FOR SAFETY DEVICES VARIES WITH EACH APPLICATION OF THE PRODUCT. THIS DRAWING MAY NOT INCLUDE ALL APPROPRIATE SAFETY DEVICES FOR YOUR APPLICATION.

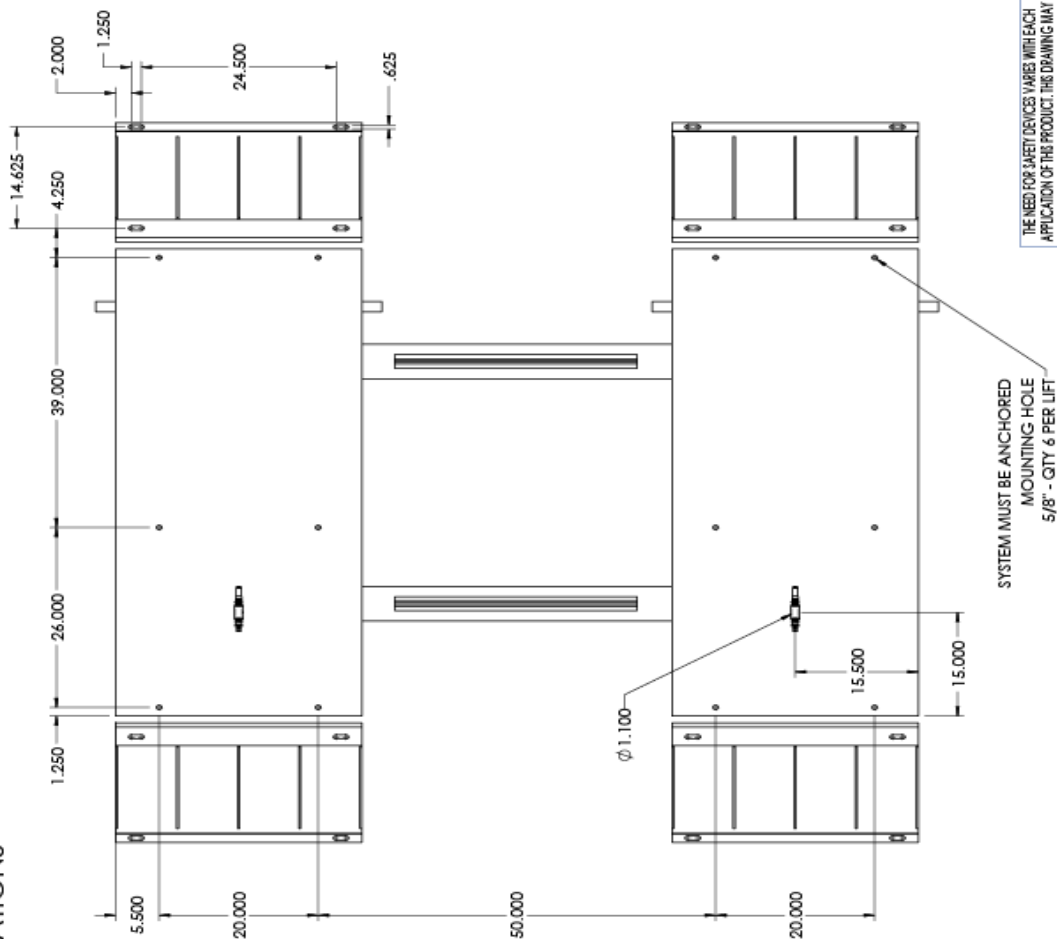
CONFIDENTIAL

THE INFORMATION CONTAINED ON THIS DRAWING IS BOTH CONFIDENTIAL AND PROPRIETARY. IT IS THE SOLE PROPERTY OF HERKULES EQUIPMENT CORPORATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HERKULES EQUIPMENT CORPORATION IS

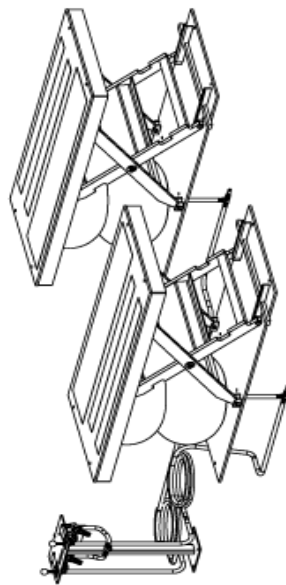
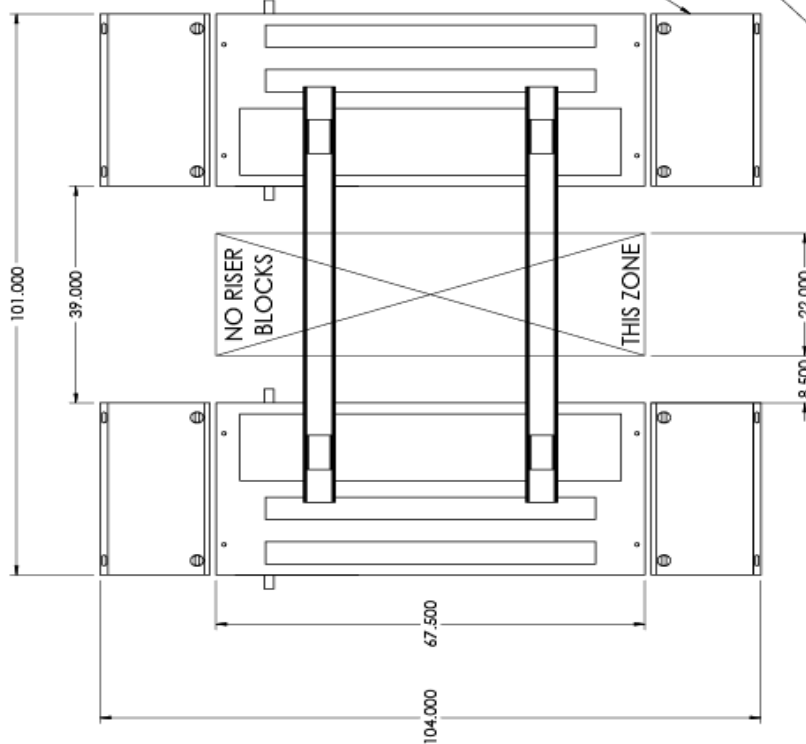


TOLERANCES UNLESS OTHERWISE NOTED	2000 HERCULES CO. CONF. • INHALED USE IN 4000-100 • WWW.HERKULES.COM
FINISHES X1 ± .250 X2 ± .125 X3 ± .000 X4 ± .000 X5 ± .000 X6 ± .000 X7 ± .000 X8 ± .000 X9 ± .000 X10 ± .000	DESCRIPTION: TANDEM VEHICLE LIFT SYSTEM - AIR
DATE: 3/11/2011	PART NO.: VLA06
REV: 1	REV: 1

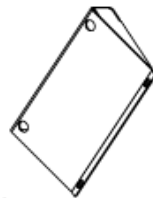
LIFT MOUNTING HOLE LOCATIONS



<p>THE NEED FOR SAFETY DEVICES VARIES WITH EACH APPLICATION OF THIS PRODUCT. THIS DRAWING MAY NOT INCLUDE ALL APPROPRIATE SAFETY DEVICES FOR YOUR APPLICATION.</p>	<p>TOLERANCES UNLESS OTHERWISE NOTED X.X ± .030 X.XX ± .015 X.XXX ± 0.005 X.XXX ± 0.005 ANGLE ± 1°</p>	<p>CONFIDENTIAL THE INFORMATION CONTAINED ON THIS DRAWING IS BOTH CONFIDENTIAL AND PROPRIETARY. IT IS THE SOLE PROPERTY OF HERKULES EQUIPMENT CORPORATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HERKULES EQUIPMENT CORPORATION IS PROHIBITED AND MAY BE UNLAWFUL.</p>	
		<p>DATE: 3/16/2018 DWN: SW CHKD BY: VLA06 DWG NO.: 20183966 REV: 2 of 6</p>	<p>Boss Lifts™ herkules 2700 ROSEMOUNT COURT • WAUWATAMA, WI 53096-1400 • WWW.HERKULES.COM DESCRIPTION: TANDEM VEHICLE LIFT SYSTEM - AIR</p>



RAMP 17-1/4 X 31 X 4-1/4 ST
P/N 1006958



BLOCK RUBBER 3-3/4 X 4-3/4 X 6-3/16
P/N 1006207



HEIGHT EXTENDER WELDMENT 4 X 6 X 6 ST
P/N 15020



CROSS TUBE WELDMENT ALUMINUM
P/N 1004743



NOTES:

1. ALUMINUM CROSS TUBES (SET OF 2) RATED FOR LOAD CAPACITY OF THE LIFT, 10,000 LBS.
2. WEIGHT OF SINGLE ALUMINUM CROSS-MEMBER IS APPROXIMATELY 15 LBS.
3. ALWAYS USE CROSS TUBES ON VEHICLES WEIGHING MORE THAN 3,000 LBS.
4. DO NOT STACK RUBBER BLOCKS ON TOP OF EACH OTHER.

THE NEED FOR SAFETY DEVICES VARIES WITH EACH APPLICATION OF THIS PRODUCT. THIS DRAWING MAY NOT INCLUDE ALL APPROPRIATE SAFETY DEVICES FOR YOUR APPLICATION.

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TheKules
200 REGENCY COURT • WALDEN, MA 02081-1402 • www.theKules.us

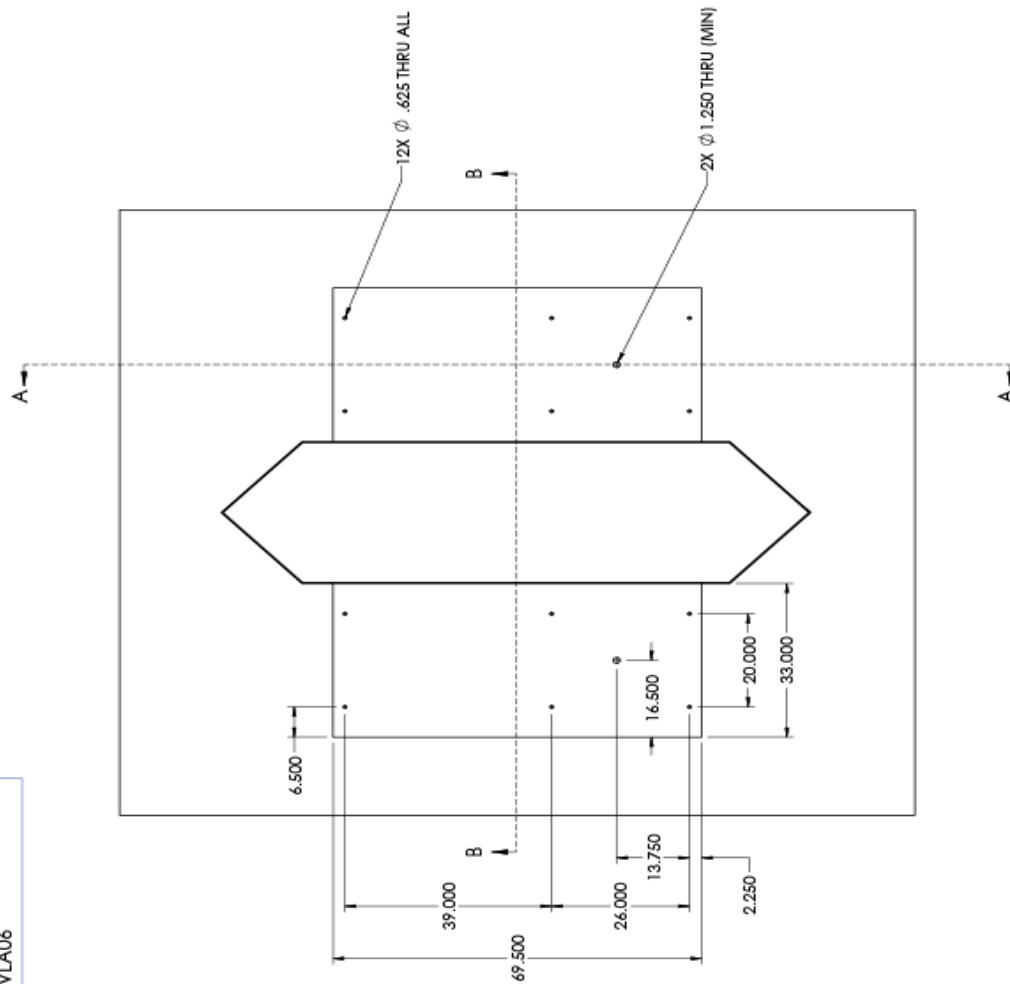
DESCRIPTION: TANDEM VEHICLE LIFT SYSTEM - AIR

PART NO.: VLA06

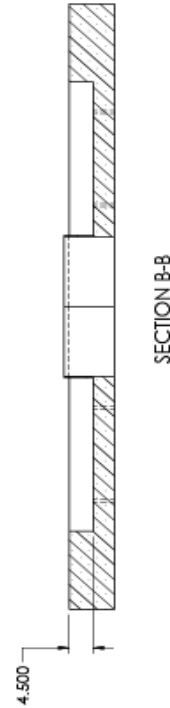
DATE: 3/16/2018

REV: 20183966

PAGE: 3 of 6



SECTION A-A



SECTION B-B

NOTES:

1. LOCATE LIFT ON A LEVEL SURFACE.
2. ANCHOR LIFT TO FLOOR USING 1/2" WEDGE ANCHORS (6 PER LIFT).
3. THE INSTALLATION DRAWING IS SHOWN USING A 30" PIT WIDTH AS A MODEL.
4. PLACE CONTROL PEDESTAL IN DESIRED LOCATION AND ANCHOR TO THE FLOOR.
5. DIMENSIONS FOR PIT INCLUDE A 1" CLEARANCE AROUND THE LIFT MODULE.
6. THE (QTY 2) 1-1/4" HOLES ARE USED FOR ROUTING AIR LINES THROUGH THE FLOOR INTO THE BASEMENT FOR EACH LIFT.
7. IF ANCHOR BOLTS CANNOT BE USED, THE LIFT MUST BE ANCHORED THROUGH THE CONCRETE FLOOR WITH A MINIMUM OF 4" X 4" X 1/4" PLATE USED AS A BACKING PLATE TO THE CONCRETE.
8. SURFACE MOUNT HAS SAME MOUNTING PATTERN. INSTALLER TO PROVIDE THE FOLLOWING:
 1. NIPPLE 1/2 NPT X (DISTANCE OF CONCRETE) - QTY 2.
 2. ANY COVER PLATES NEEDED.
 3. LAG HARDWARE FOR PEDESTAL.

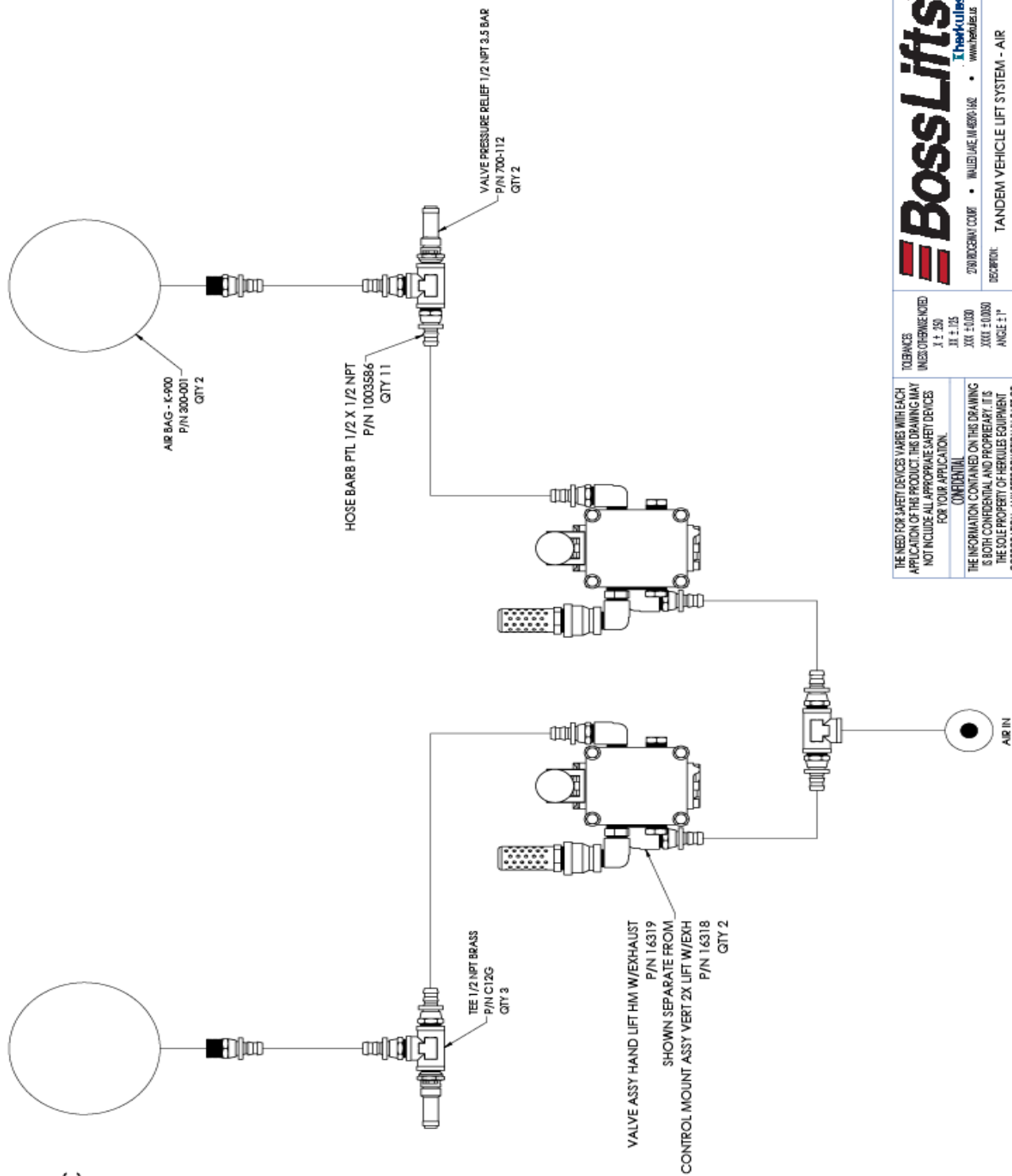
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TOLERANCES UNLESS OTHERWISE NOTED	DESCRIPTION: TANDEM VEHICLE LIFT SYSTEM - AIR
X ± .250	PART NO.: VLA06
X/16 ± .125	DATE: 3/16/2018
X/32 ± .0030	DWG NO.: 20183966
ANGLE ± 1°	REV: 4 of 6

PNEUMATIC SCHEMATIC



THE NEED FOR SAFETY DEVICES VARIES WITH EACH APPLICATION OF THE PRODUCT. THIS DRAWING MAY NOT INCLUDE ALL APPROPRIATE SAFETY DEVICES FOR YOUR APPLICATION.	TOLERANCES UNLESS OTHERWISE NOTED X ± .001
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NOTES:

1. LIFT SYSTEM TYPE:
LOW PROFILE AIR-OPERATED SCISSOR LIFT SYSTEM
2. CYCLE SPEED:
AMOUNT OF LIFT MOVEMENT 24.750 INCHES
SPEED UP 30-60 SECOND (APPROX.)
SPEED DOWN 30-60 SECOND (APPROX.)
CUSTOMER RESPONSIBLE FOR VALVES. THEREFORE, SPEEDS CAN VARY.
3. DUTY CYCLE:
SHIFTS / DAY 1
HOURS / SHIFT 8
DAYS / WEEK 5
CYCLES / DAY 15
WEEKS / YEAR 50
CYCLES / YEAR 750
4. LIFT MUST HAVE EVENLY DISTRIBUTED LOADS.
5. LIFT IS PERMANENTLY RESTRICTED (STOPS WELDED IN PLACE) TO 24.750" OF TRAVEL AND MUST NOT BE TAKEN TO POP-OFF PRESSURE WHEN RAISING LOAD TO THE FULL UP POSITION.
6. REPEATEDLY TAKING PRESSURE RELIEF VALVE TO POP-OFF PRESSURE ONCE THE LIFT HAS REACHED THE RAISED HEIGHT WILL CAUSE DAMAGE TO THE LIFT.
7. VALVES:
FILL VALVE INCLUDED
EXHAUST VALVE INCLUDED
8. AIR BAG DRIFT:
HERKULES AIR BAG IS PERMEABLE, LIFT WILL DRIFT APPROXIMATELY 2 INCHES OVER A 12 HOUR PERIOD.
9. MAINTENANCE STOPS ARE PROVIDED QTY - 2. MUST REMOVE THE LOAD AND USE OVERHEAD RIG TO BEGIN ANY INSPECTIONS OR WORK ON THE UNIT.
10. SAFETY FEATURES:
INTERNAL MAINTENANCE STOP BAR QTY - 2
PRESSURE RELIEF VALVE QTY - 2
11. LIFTS WILL MOUNT TO THE FLOOR, MOUNTING HOLES 5/8" (QTY - 12).
12. TESTING PLAN:
a. CYCLE TESTING WITH RATED LOAD FOR MINIMUM OF 10 CYCLES.
13. ESTIMATED WEIGHT IS APPROXIMATELY 2,200 POUNDS.

14. OVER PRESSURIZATION OF THE LIFT AT FULL EXTENT WILL RESULT IN DAMAGE.
15. SAFETY INTERLOCKING/DESCENDING SYSTEM DESCRIPTION:
a. SAFETY INTERLOCKING/DESCENDING SYSTEM IS USED TO ACHIEVE A SLOW CONTROLLED DESCENT SHOULD THE AIR BAG SUDDENLY LOSE PRESSURE. WITHOUT THIS OPTION A SUDDEN LOSS OF AIR FROM THE AIR BAGS WILL CAUSE THE SYSTEM TO DROP RAPIDLY TO THE LOWERED HEIGHT.
b. THIS LIFT IS NOT EQUIPPED WITH A SAFETY INTERLOCKING/DESCENDING SYSTEM.
16. WHEN PLUMBING THE LIFT ON-SITE, AIR HOSES FROM CONTROLLER TO EACH LIFT MUST BE THE SAME LENGTH.
17. SYSTEM MUST BE SECURELY ANCHORED TO THE FLOOR OR DAMAGE WILL OCCUR TO THE LIFT SYSTEM.



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TOLERANCES
UNLESS OTHERWISE NOTED
X1 ± .005
X2 ± .010
X3 ± .015
X4 ± .020
X5 ± .030
X6 ± .040
X7 ± .050
X8 ± .060
X9 ± .070
X10 ± .080
X11 ± .090
X12 ± .100
X13 ± .120
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X19 ± .400
X20 ± .450
X21 ± .500
X22 ± .550
X23 ± .600
X24 ± .650
X25 ± .700
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X742 ± 36.550
X743 ± 36.600
X744 ± 36.650
X745 ± 36.700
X746 ± 36.750
X747 ± 36.800
X748 ± 36.850
X749 ± 36.900
X750 ± 36.950
X751 ± 37.000
X752 ± 37.050
X753 ± 37.100
X754 ± 37.150
X755 ± 37.200
X756 ± 37.250
X757 ± 37.300
X758 ± 37.350
X759 ± 37.400
X760 ± 37.450
X761 ± 37.500
X762 ± 37.550
X763 ± 37.600
X764 ± 37.650
X765 ± 37.700
X766 ± 37.750
X767 ± 37.800
X768 ± 37.850
X769 ± 37.900
X770 ± 37.950
X771 ± 38.000
X772 ± 38.050
X773 ± 38.100
X774 ± 38.150
X775 ± 38.200
X776 ± 38.250
X777 ± 38.300
X778 ± 38.350
X779 ± 38.400
X780 ± 38.450
X781 ± 38.500
X782 ± 38.550
X783 ± 38.600
X784 ± 38.650
X785 ± 38.700
X786 ± 38.750
X787 ± 38.800
X788 ± 38.850
X789 ± 38.900
X790 ± 38.950
X791 ± 39.000
X792 ± 39.050
X793 ± 39.100
X794 ± 39.150
X795 ± 39.200
X796 ± 39.250
X797 ± 39.300
X798 ± 39.350
X799 ± 39.400
X800 ± 39.450
X801 ± 39.500
X802 ± 39.550
X803 ± 39.600
X804 ± 39.650
X805 ± 39.700
X806 ± 39.750
X807 ± 39.800
X808 ± 39.850
X809 ± 39.900
X810 ± 39.950
X811 ± 40.000
X812 ± 40.050
X813 ± 40.100
X814 ± 40.150
X815 ± 40.200
X816 ± 40.250
X817 ± 40.300
X818 ± 40.350
X819 ± 40.400
X820 ± 40.450
X821 ± 40.500
X822 ± 40.550
X823 ± 40.600
X824 ± 40.

Torque Charts

FASTENER TORQUE CHARTS

	BOLT CLAMP LOADS Suggested Assembly Torque Values										
	USS/SAE GRADE 5					USS/SAE GRADE 8					
	DIAMETER & THREADS PER INCH	TENSILE STRENGTH MIN. PSI	PROOF LOAD LB	CLAMP LOAD LB	TORQUE DRY FT LB	LUBRICATED FT LB	TENSILE STRENGTH MIN. PSI	PROOF LOAD LB	CLAMP LOAD LB	TORQUE DRY FT LB	LUBRICATED FT LB
1/4-20	120,000	2,700	2,020	8	6.3	150,000	3,800	2,850	12	9	
28	120,000	3,100	2,320	10	7.2	150,000	4,350	3,250	14	10	
5/16-18	120,000	4,450	3,340	17	13	150,000	6,300	4,700	24	18	
24	120,000	4,900	3,700	19	14	150,000	6,950	5,200	27	20	
3/8-16	120,000	6,600	4,950	30	23	150,000	9,300	6,980	45	35	
24	120,000	7,450	5,600	35	25	150,000	10,500	7,900	50	35	
7/16-14	120,000	9,050	6,780	50	35	150,000	12,800	9,550	70	50	
20	120,000	10,100	7,570	55	40	150,000	14,200	10,650	80	60	
1/2-13	120,000	12,100	9,050	75	55	150,000	17,000	12,750	110	80	
20	120,000	13,600	10,200	85	65	150,000	19,200	14,400	120	90	
9/16-12	120,000	15,500	11,600	110	80	150,000	21,800	16,350	150	110	
18	120,000	17,300	12,950	120	90	150,000	24,400	18,250	170	130	
5/8-11	120,000	19,200	14,400	150	110	150,000	27,100	20,350	210	160	
18	120,000	21,800	16,350	170	130	150,000	30,700	23,000	240	180	
3/4-10	120,000	28,400	21,300	260	200	150,000	40,100	30,100	380	280	
16	120,000	31,700	23,780	300	220	150,000	44,800	33,500	420	310	
7/8-9	120,000	39,300	29,450	430	320	150,000	55,400	41,600	600	450	
14	120,000	43,300	32,450	470	350	150,000	61,100	45,800	670	500	
1-8	120,000	51,500	38,600	640	480	150,000	72,700	54,500	910	680	
14	120,000	57,700	43,300	720	540	150,000	81,500	61,100	1,020	760	

Metric Steel Bolts Torque Specifications

Bolt Size Millimeters	Coarse Thread Pitch	Standard Dry Torque in Foot-Pounds			
		Standard 5D 71,160 psi Med. Carbon Steel	Standard 8G 113,800 psi Med. Carbon Steel	Standard 10K 142,000 psi Med. Carbon Steel	Standard 12K 170,674 psi Med. Carbon Steel
6mm	1.00	5	6	8	10
8mm	1.00	10	16	22	27
10mm	1.25	31	40	45	49
12mm	1.25	34	54	70	86
14mm	1.25	55	89	117	137
16mm	2.00	83	132	175	208
18mm	2.00	111	182	236	283
22mm	2.50	182	284	394	464
24mm	3.00	261	419	570	689

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.