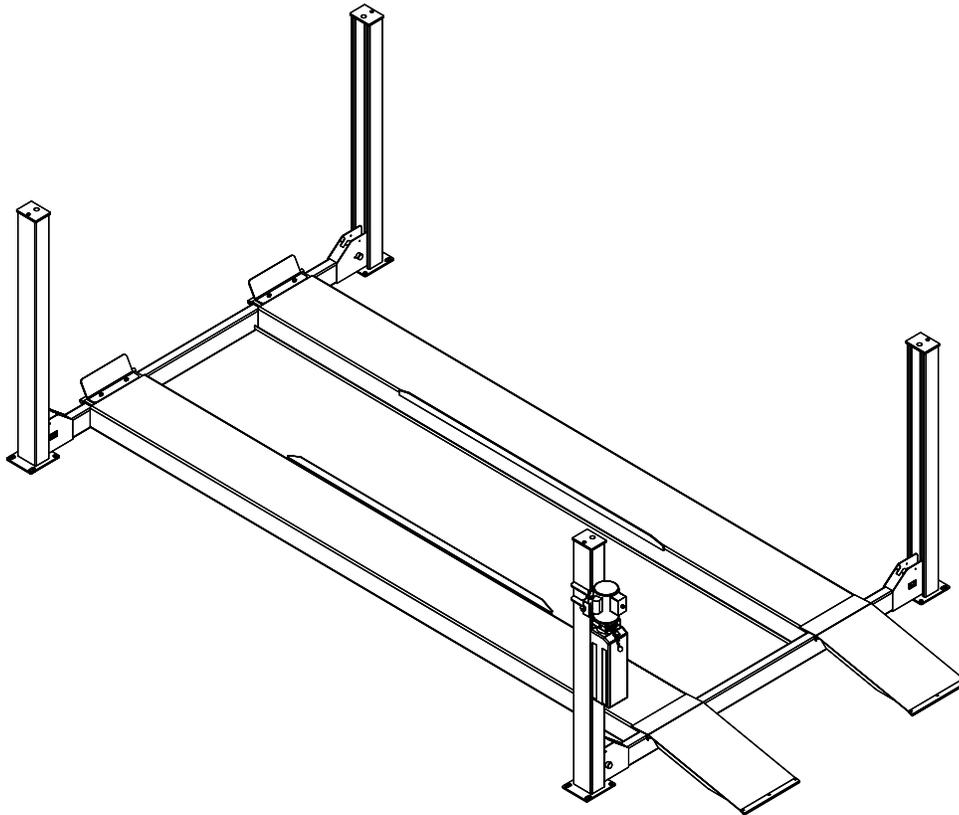


# INSTALLATION, OPERATION & MAINTENANCE MANUAL

## Four Post Surface Mounted Lift



## Model 40000

**Closed Front  
(12,000 lb Capacity)**

200 Cabel Street, P.O. Box 3944 Louisville, Kentucky 40201-3944  
Email: [sales@challengerlifts.com](mailto:sales@challengerlifts.com) Web site: [www.challengerlifts.com](http://www.challengerlifts.com)

**Office 800-648-5438 / 502-625-0700 Fax 502-587-1933**

**IMPORTANT: READ THIS MANUAL COMPLETELY BEFORE  
INSTALLING or OPERATING LIFT**

Model 40000 Closed Front  
Installation, Operation and Maintenance

GENERAL SPECIFICATIONS

MODEL: 40 [E OR X] [A OR F] [O OR X]

[LENGTH] [ALIGN OR FLAT DECK] [OPEN OR CLOSED FRONT]

SPECIFICATIONS	40NFX	40SFX	40EFX	40XFX	40EAX	40XAX
<b>A</b> Length Overall	18' 3 1/2"	18' 3 1/2"	20' 4 1/2"	22' 8"	20' 4 1/2"	22' 8"
<b>B</b> Width Overall	10' 3/4"	10' 10 3/4"				
<b>C</b> Inside Columns	106"	116"				
<b>D</b> Between Columns	14' 3"	14' 3"	16' 4"	18' 7 1/2"	16' 4"	18' 7 1/2"
<b>E</b> Height of Columns	90 1/2"					
<b>F</b> Height of Runways	7"					
<b>G</b> Width of Runways	20"					
<b>H</b> Width Between Runways	40 or 43"					
<b>I</b> Maximum Wheelbase *	157 1/2"	157 1/2"	182 1/2"	210"	182 1/2"	210"
<b>J</b> Max. 2 Wheel Alignment	N/A				166 1/2"	194"
<b>K</b> 4 Wheel Alignment	N/A				88" - 158"	
<b>L</b> Rise Height	78"					
Lifting Capacity	12,000 lbs.					
Air Supply Required	85-115 psi Clean & Dry					
Motor	2HP					
Voltage (Single Phase Std.) **	208v-230v					
Speed of Rise	70 Seconds (approximate)					
Min. Recommended Bay Size	11' x 22'	12' x 22'	12' x 24'	12' x 26'	12' x 24'	12' x 26'

\* Wheelbase is based on a tire diameter of 30"

\*\* Optional 3 phase, 50/60Hz, 208, 230 or 460V available.

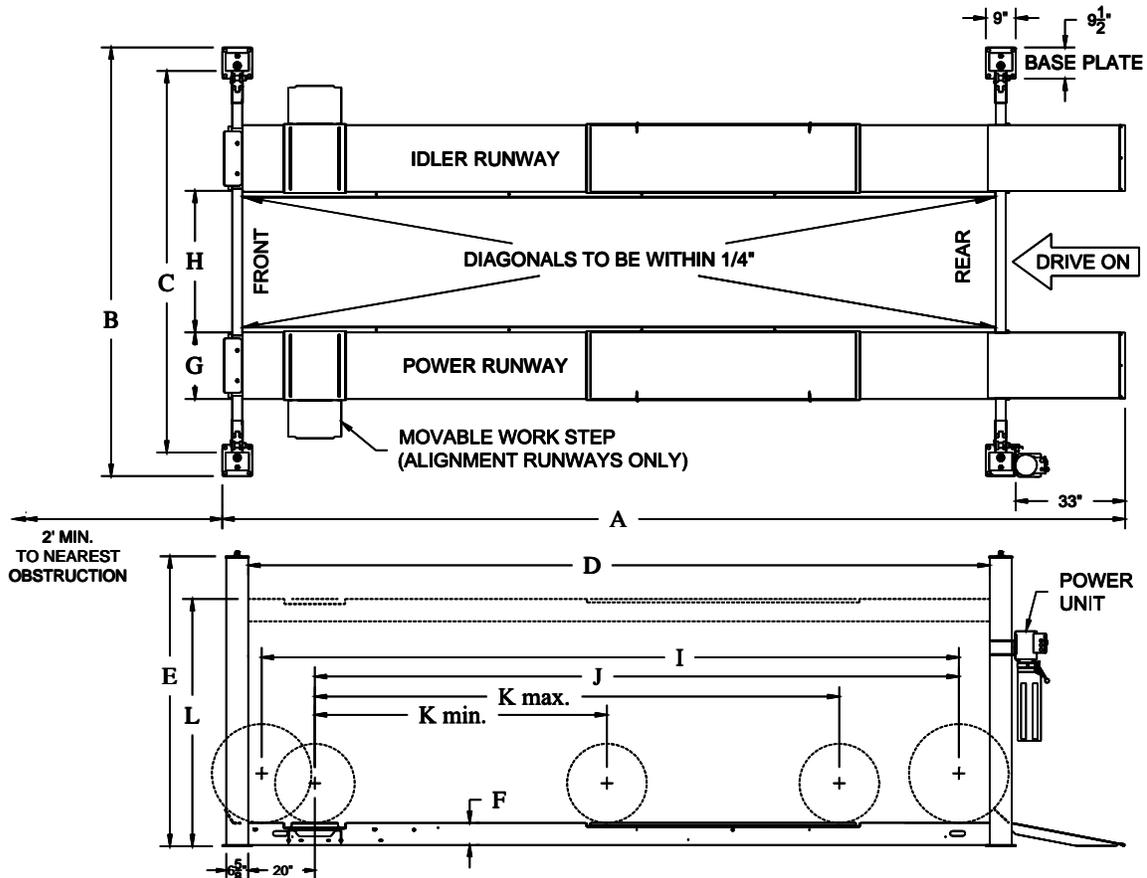


Fig 1 – General Specifications and Service Bay Layout

## VERTICAL CLEARANCE

Check the height of the area where the lift is to be installed. Clearance should be calculated based on the full raised height of the lift.



**WARNING** Failure by purchaser to provide adequate clearance could result in unsatisfactory lift performance, property damage, or personal injury.

## FLOORING

Be certain you have the proper concrete floor to properly handle the loaded lift. Floor should be in generally good condition with no large cracks, spalling or deterioration.

**Minimum requirements for concrete are 4 inches minimum depth, with steel reinforcement, 3500 psi, cured for 28 days per local commercial practice.** This lift is designed to accommodate a 3 inch total variation in elevation at the base of the four posts. Floor should be level within 1/2 inch from side-to-side and 2 1/2 front-to-rear to avoid special shimming. No anchors should be installed within 8 inches of any crack, edge, or expansion joint. If these conditions cannot be met, a pad may be poured to accommodate the lift.

Check with local building inspectors and/or permits office for any special instructions or approvals required for your installation.



**WARNING** Failure by purchaser to provide the recommended mounting surface could result in unsatisfactory lift performance, property damage, or personal injury.

## ELECTRICAL REQUIREMENTS

**For lift installation and operation for single phase units, it is necessary to have a dedicated circuit with a double pole 25 amp circuit breaker or time delay fuse.**

## SAFETY NOTICES AND DECALS

For your safety, and the safety of others, read and understand all of the safety notices and decals included here.

**READ ENTIRE MANUAL BEFORE ASSEMBLING, INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT.**

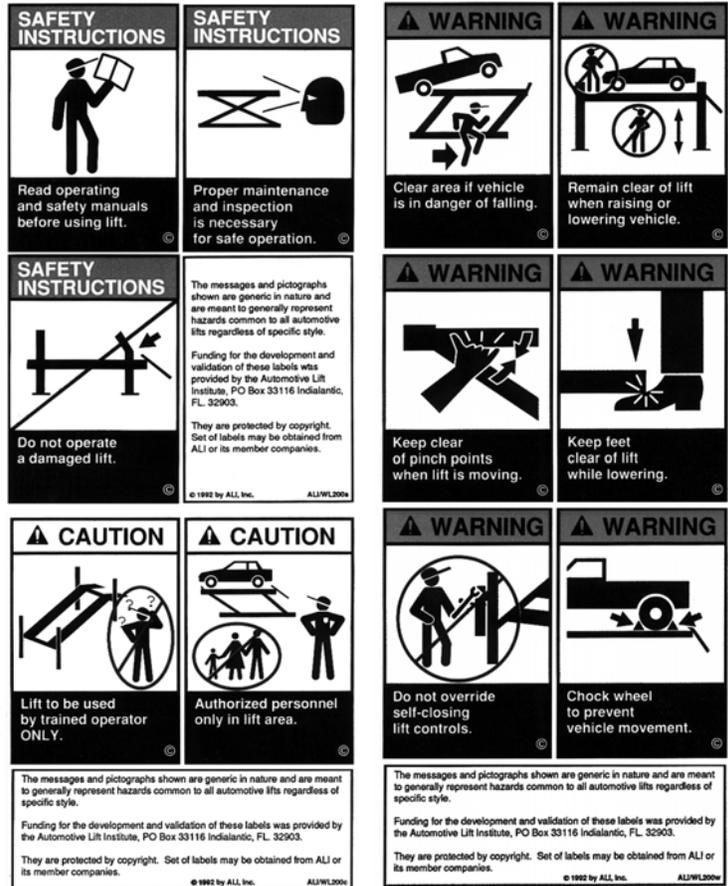
**PROPER MAINTENANCE AND INSPECTION IS NECESSARY FOR SAFE OPERATION.**

**DO NOT OPERATE A DAMAGED LIFT.**

Safety decals similar to those shown here are found on a properly installed lift. Be sure that all safety decals have been correctly installed on the Power Unit reservoir. Verify that all authorized operators know the location of these decals and fully understand their meaning. Replace worn, faded, or damaged decals promptly.



**WARNING** Do not attempt to raise a vehicle on the lift until the lift has been correctly installed and adjusted as described in this manual.



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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 our 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 **Challenger Lifts** AT ONCE if any hidden loss or damage is discovered after receipt.

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT.

File your claim with **Challenger Lifts** promptly. Support your claim with copies of the bill of lading, freight bill, and photographs, if available.

Component Packing List

ITEM #	QTY/ LIFT	DESCRIPTION
1	1	POWER RUNWAY ASS'Y.
2	1	IDLER RUNWAY ASS'Y
3	1	POWER COLUMN ASS'Y
4	3	IDLER COLUMN ASS'Y
5	2	ENTRANCE RAMP WELD
6	2	CROSS BEAM ASS'Y
7	1	POWER UNIT
8	1	HARDWARE BOX
9	2	MOVABLE WHEEL CHOCK
10	2	FRONT WHEEL STOP
11	2	WORK STEP (alignment lifts only)
12	2	SHIPPING BRACKET WELD
13	8	½" SHIPPING HARDWARE

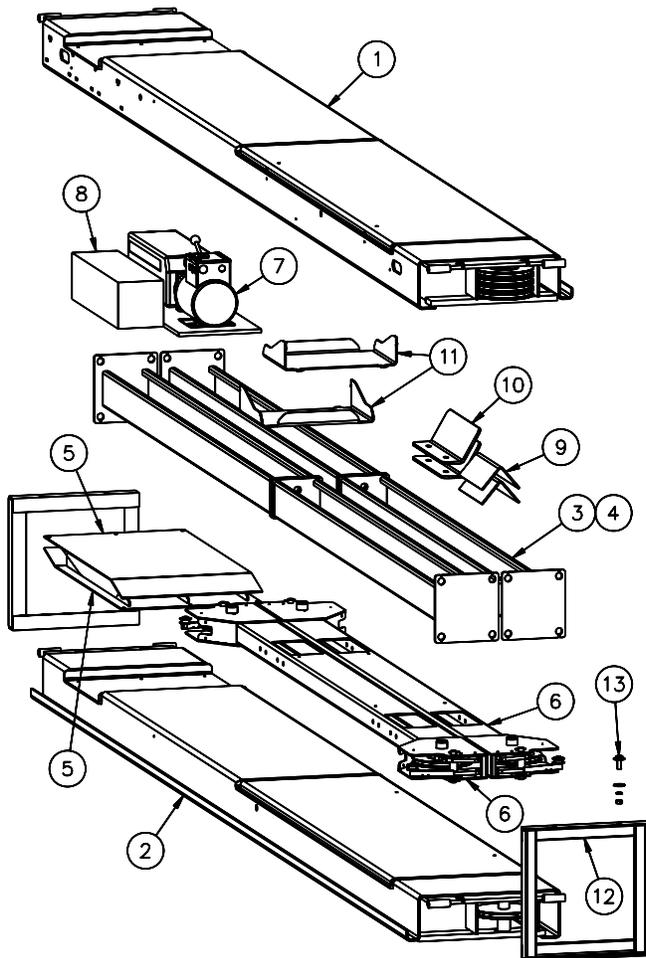


Fig 2 – Package Components

INSTALLATION

IMPORTANT: Always wear safety glasses while installing lift.

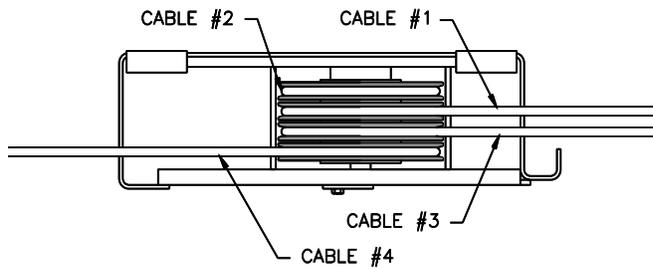
TOOLS (MINIMUM REQUIRED)

- a. Tape measure, 25ft
- b. Chalk line
- c. 4ft level
- d. 10" & 12" adjustable wrench
- e. Standard open end wrenches 3/8", 7/16", 1/2", 9/16", 5/8", (2) 11/16", 3/4", 15/16"
- f. Box knife
- g. Thread locking compound
- h. Thread tape sealant (for air line)
- i. Needle nose pliers
- j. Hammer drill with 3/4" diameter carbide tipped bits
- k. 2lb hammer
- l. Torque wrench: 150 foot pounds minimum with 1 1/8" socket
- m. 8 ft. Step ladder
- n. Blocking – (4) 4x4x30", (4) 1x4x12"
- o. Transit for leveling alignment lift

LAYOUT

- 1) Lay out the service bay according to the architect's plans or owners instructions (**see Fig 1**). Be certain that the proper conditions exist, see page 3.
- 2) Unpack lift. Remove all packaging from Power Runway (power runway has four cable sheaves at rear end) and pull threaded cable ends out. Make sure the cables are in the proper sheaves at the 4-stack, **Fig 3**.

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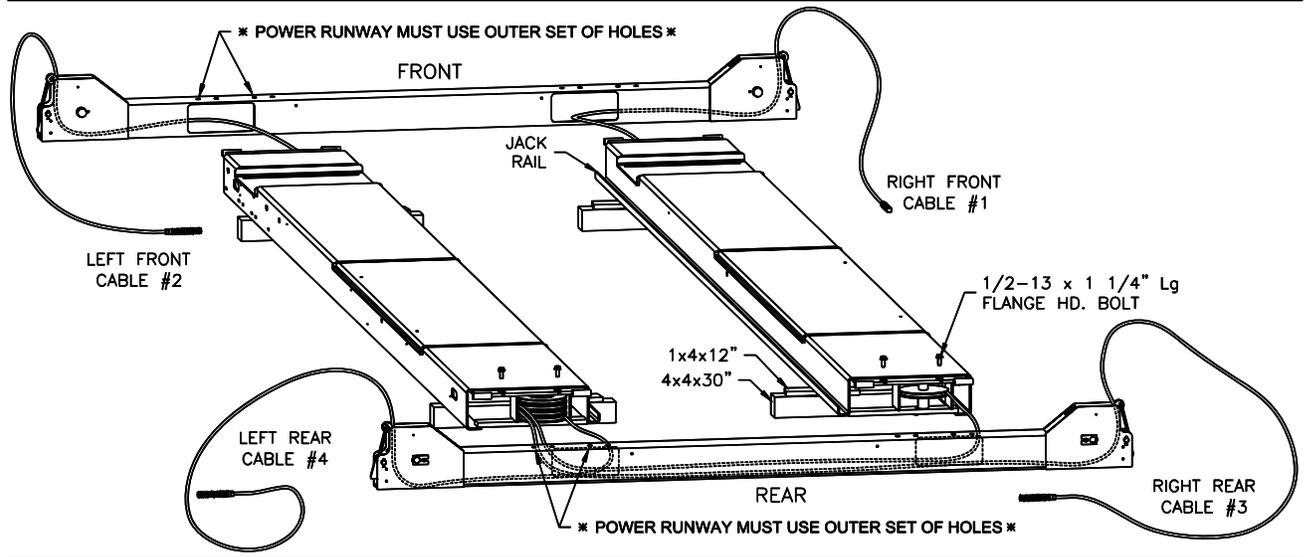


**Fig 3 – Power Runway 4-Stack (rear view)**

- 3) Position runways on blocking (*see Fig 4*) per layout lines established in step 1. Use four 30" long 4x4's spanning the width of the runway and four 12" long 1x4's to shim up the jack-rail

side of the runway. Cable #1, #3, & #4 should be extending out from the rear of the power runway and cable #2 from the front of the power runway, **Fig 4**.

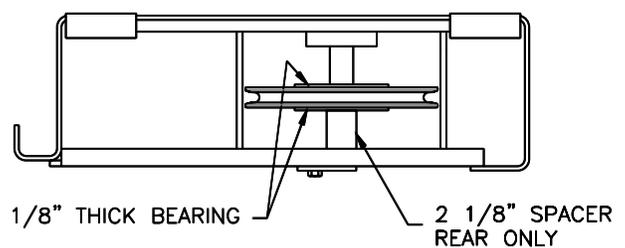
- 4) Position the front and rear cross beams, **Fig 4**. (Both cross beams are identical.)
- 5) Reach in through either of the access holes in the rear cross beam tube and pull out the roll of 1/8" dia. plastic air line connected to the air cylinder at the end of the cross beam. Repeat for opposite access hole and position the cross beam near the end of the runways as in **Fig 4**.



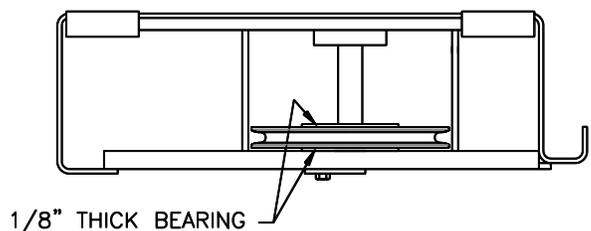
**Fig 4 – Runway Layout**

- 6) Remove the four (4) cross beam sheaves (one sheave from each end) and the two idler runway sheaves (also one sheave from each end). The runway sheave pins do not need to be removed, just lowered enough to remove the sheaves.
- 7) Starting from the bottom of the stack, route cable #4 through the access hole and up out the left end of the rear beam. Repeat for cable #3 out the right end of the rear beam. Route cable #1 through the access hole, and back out the idler side access hole. **Look through the idler end of the cross beam and ensure that cable #1 and #3 have not crossed.**
- 8) Route cable #1 through the idler runway, into the front cross beam access hole, and out the right end of the front beam. (Don't forget to route it up over the cross-braces in the bottom of the runway.)
- 9) Route left front cable #2 through the access hole and up out the left end of the front beam.
- 10) Reinstall the cross beam sheaves (one thin plastic bearing on each side of each sheave) and the idler runway sheaves (2 1/8" long

spacer bushing on the bottom of idler rear sheave only), **Figs 5 & 6**.

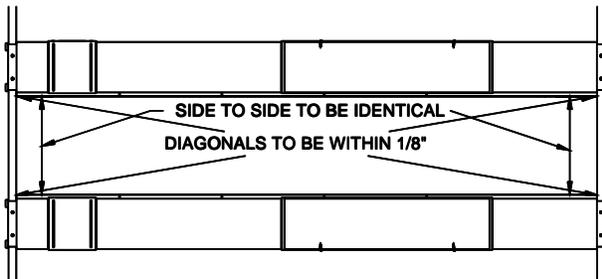


**Fig 5 – Rear Single-Stack (idler runway)**



**Fig 6 – Front Single-Stack (typical for idler and power runways)**

- 11) Attach both cross beams to the runways (**Fig. 4**) with  $\frac{1}{2}$ " x  $1 \frac{1}{4}$ " lg. flange head bolts (two at each end of each runway) being careful not to pinch the air line. Leave the air lines hanging out the bottom of the cross beam access holes at this time, they will be fed in through the runway after the lift is raised. **The outermost power runway slots should be in line with the outermost holes in the top of the cross beam, see Fig. 4.** The idler runway can be installed using the outer or inner sets of cross beam holes, see "Width Between Runways" dimension in Fig. 1. Do not torque bolts yet.
- 12) Check the layout of the lift in the bay. (**This is the last opportunity to reposition the lift.**) Adjust the position of the runways so the distance from power side jack rail to idler side jack rail is the same at the front and the rear and the diagonal measurements from the front tip of one rail to rear tip of the opposite rail are within  $\frac{1}{8}$ ", **Fig 7.**

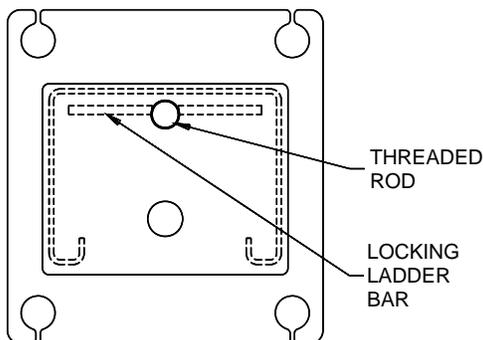


**Fig 7 – Final Runway Positioning**

- 13) Center cross beam bolts with slots in runway and tighten. (Be careful not to move runways.)

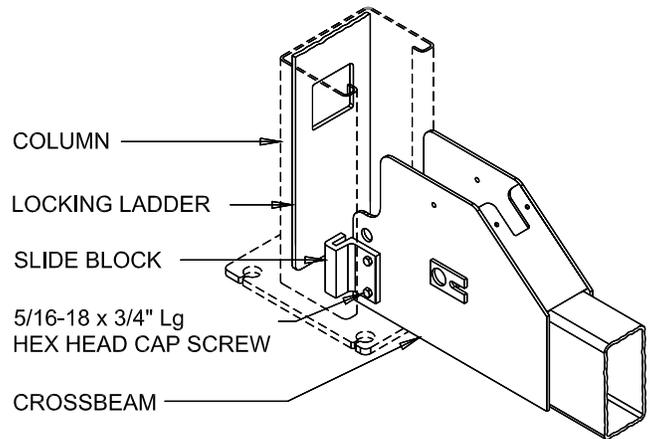
**COLUMNS**

- 14) Stand up a column assembly near each corner of the lift (column with power unit bracket goes at the 4-sheave-stack corner, power rear) and check the locking ladder bar orientation per **Fig 8.** Note that the center of the threaded rod is offset (away from the back of the column) from the center of the ladder. Thread the locking ladder jam nut (located under the column top plate) down approximately 6" to allow the ladder to be lifted freely.



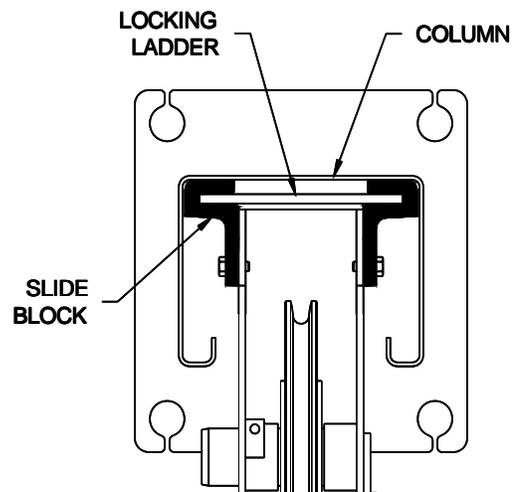
**Fig 8 – Locking Ladder Orientation**

- 15) Slide power side column onto cross beam until the 5/16-18NC threaded holes in the side of the beam are just exposed. Position slide blocks as shown in **Fig 9** and attach with 5/16x3/4 bolts (apply thread locking compound before installing).



**Fig 9 – Slide Block Installation**

- 16) Raise the locking ladder, push the column against the slide blocks, and lower the ladder into the slide blocks, **Fig 10.**



**Fig 10 – Locking Ladder Orientation**

- 17) Repeat for remaining three columns.

**ANCHORING**

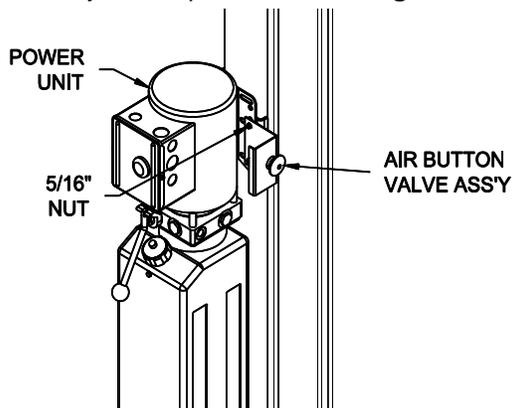
- 18) The anchor bolts must be installed at least 8" from any crack, edge, or expansion joint.
- 19) Use a concrete hammer drill with a 3/4 inch carbide bit. Tip diameter should conform to ANSI Standard B94.12-1977 (.775 to .787). Do not use excessively worn bits or bits which have been incorrectly sharpened. A core bit may be necessary if an obstruction is encountered. **Never substitute with shorter anchor.**

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- 20) Drill the anchor holes using the base plate as a template. Drill through the floor if possible or to a depth of 5 inches minimum.
- 21) Vacuum dust from the hole for proper holding power.
- 22) Shim columns to plumb using the shims provided or steel washers. DO NOT shim more than 1/2" at any given point. Use a level no less than 24" in length to plumb columns.
- 23) Assemble washer and nut to anchor with nut just below impact section of bolt. Drive anchor into hole until nut and washer contact base. Tighten anchor bolts and recheck column for plumb. Re-shim as required.

**NOTE: Level bubble should not only be between the lines, the bubble should be centered between the lines. If the provided shims do not allow sufficient centering of the bubble, it is best to lean the rear columns in the direction toward each other and the front columns in the direction toward each other.**

- 24) Install the four cable ends with one flat washer, one load nut, and one jam nut.
- 25) Install the power unit and the air button valve assembly on the power column, **Fig 11**.



**Fig 11 – Air Button & Power Unit Mounting**

- 26) Install O-Ring end of 90 degree hydraulic elbow (9/16-18 O-Ring x 37° Male JIC) to power unit output port. The hydraulic hose is pre-installed to the hydraulic cylinder and secured inside the runway. Pull loose end out through 1 1/2" x 4 1/2" slot in the side of the power runway near the power unit and attach to the elbow fitting.

**Do Not Use Teflon Tape or Pipe Dope** on fittings.

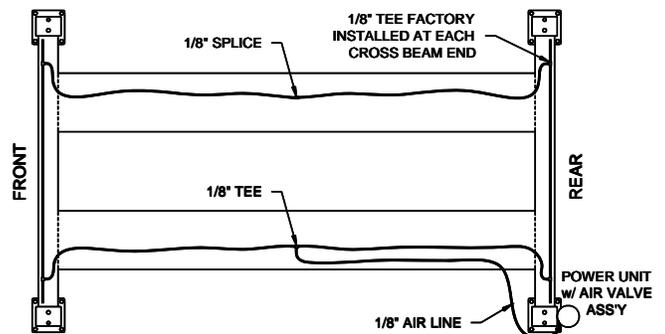
- 27) Have a certified electrician connect the power unit to a suitable electrical power source. The standard power unit is 208/230 volt 60 Hz single phase requiring a dedicated 25 amp double poll, double throw circuit breaker to operate lift at full capacity.

- 28) **BE CERTAIN ALL FITTINGS AND CONNECTIONS ARE TIGHT. IT IS THE INSTALLERS RESPONSIBILITY TO INSURE SYSTEM IS LEAK-FREE.** Fill the Power Unit with three gallons of clean 10wt anti-foam anti-rust hydraulic oil or Dexron III ATF. **Do NOT USE OILS WITH DETERGENTS.**

- 29) Energize the power unit and raise the lift approximately 1 ft off the ground and look underneath the power runway to verify that the cable lugs are resting firmly against the cylinder pull bar.
- 30) For flat deck style runways, level the runways and crossbeams using a 4 ft. level. With the lift resting in its locks, find the highest corner and adjust the other three column ladder bars until the runways are level front-to-rear and side-to-side. Tighten jam nut against bottom side of each column top plate. For alignment style runways, use a transit for leveling runways placing the target in the center of the turn plate and the center of the rear slip plate (with lift lowered into locks, adjusting the lock ladders as needed). Refer to alignment equipment for leveling tolerance.

- 31) Adjust cables until all four locks are synchronized when lift is raised. Tighten cable jam nuts against adjustment nuts.

- 32) Install 1/8" air line from air valve assembly thru opening in runway to Tee. **Fig 12**



**Fig 12 – Lock Release Air Line Routing**

- 33) Route power side front and rear cross beam air lines through power runway to Tee. Route idler side front and rear cross beam air lines through idler runway and connect together with 1/8" air line splice provided. Use provided adhesive tabs and plastic cable ties to secure air lines inside runways.

- 34) Connect the button valve to a source of **clean, dry air (filter, regulator, lubricator)** using the hose barb and clamp provided. **Failure to provide clean, dry air will void warranty on pneumatic components.**

**Air pressure required 90/120 psi.**

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- 35) Energize air valve assembly and insure that all air cylinders are working properly.
- 36) Raise and lower lift several times to bleed hydraulic cylinder. Hydraulic cylinder is self bleeding. Lower lift and check fluid level in reservoir. Add fluid as needed.
- 37) Run lift to full rise and continue running motor approximately 5 more seconds. Check hydraulic hose and connections for leaks. Retighten fitting if leaking.
- 38) Raise lift approximately half way. Slowly jog power unit until you hear one of the locks engage. Adjust locking ladder until it just barely raises the crossbeam end. Back off 1/2 turn. Repeat for each column.

ALIGNMENT RUNWAYS

- 39) Lower lift and raise to check for lock engagement. The locks should engage simultaneously (clicking noise). Re-adjust cables as needed to synchronize locks.
- 40) Position Front Turn Plates (SOLD SEPARATELY) and install Guide Bars to runway using (3) #10-24 x 1" Socket Head Cap Screws and lock nuts provided. Ensure that the Turn Plates will slide freely and tighten Guide Bars.

- 41) Attach Work Step to each runway. (The Work Step may be located in three different positions on each runway.)
- 42) Install Handle to Drop-In Spacer and position behind rear Guide Bar. The Drop-In Spacer is provided for "Roll Back" alignment.

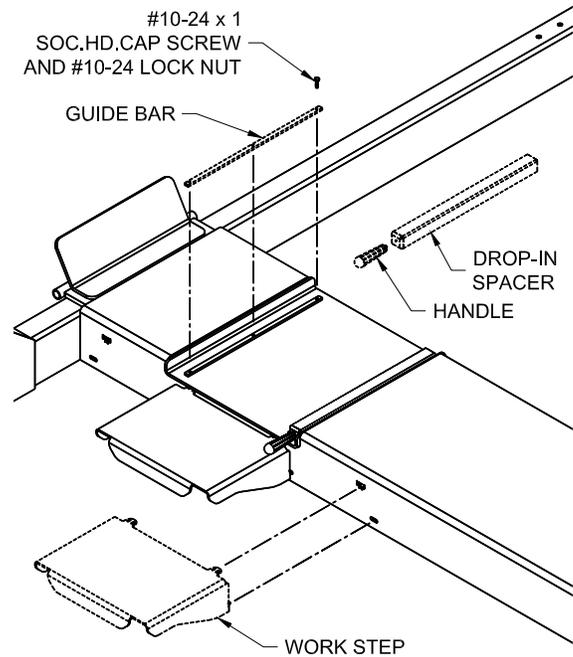


Fig 16 – Alignment Turn Plate Installation

### **Owner/Operator Checklist**

**SAVE THESE INSTRUCTIONS** deliver them to owner/user/employee along with other materials furnished with this lift.

Demonstrate the operation of the lift to the owner/operator and review correct and safe lifting procedures using the **Lifting It Right** booklet as a guide.

Complete the Installation Checklist/Warranty Validation questionnaire with the owner. Review the terms of the warranty registration card, and return the card and a copy of the questionnaires to:

*Challenger Lifts, Inc.*  
200 Cabel Street  
Louisville, KY. 40206

### **Safety Notices and Decals**

This product is furnished with graphic safety warning labels, which are reproduced on page 3 of these instructions. Do not remove or deface these warning labels, or allow them to be removed or defaced. For your safety, and the safety of others, read and understand all of the safety notices and decals included.

### **Owner/Employer Responsibilities**

This lift has been designed and constructed according to ANSI/ALI ALCTV-1998 standard. The standard applies to lift manufactures, as well as to owners and employers. The owner/employer's responsibilities as prescribed by ANSI/ALI ALOIM-2000, are summarized below. For exact wording refer to the actual standard provided with this manual in the literature pack.

***The Owner/Employer shall*** insure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions; ALI/SM 93 - 1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

***The Owner/Employer shall*** establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the

employer shall insure that the lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

***The Owner/Employer shall*** establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the employer shall insure that the lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

***The Owner/Employer shall*** maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.

***The Owner/Employer shall*** display the lift manufacturer's operating instructions; ALI/SM 93 - 1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lift, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts; in a conspicuous location in the lift area convenient to the operator. Demonstrate the operation of the lift to the owner and review correct and safe lifting procedure, using the "Lifting It Right " booklet as a guide.

### Important Safety Instructions

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

- 1 Read all instructions.
- 2 Care must be taken as burns can occur from touching hot parts.
- 3 To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
- 4 Adequate ventilation should be provided when working on operating internal combustion engines.
- 5 Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
- 6 To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
- 7 Use only as described in this manual. Use only manufacturer's recommended attachments.

### Save These Instructions

#### LIFTING A VEHICLE

Drive vehicle onto lift. Set parking brake and/or use wheel chocks that are provided with lift.

When the vehicle has reached the desired working height, release the power pack button, and lower the vehicle until the safety locks are engaged. The vehicle should remain level when all locks are engaged. If one side engages and the other continues to descend, stop lowering the vehicle, raise it several inches, and try again to engage locks.

**IMPORTANT**, Before walking under the lift insure that all locks are properly engaged.

It is not safe to work under the vehicle unless all locks are engaged, and the vehicle is level.

#### LOWERING A VEHICLE

Insure that the area under the vehicle is clear of personnel and tools.

Raise the vehicle until locks are free.

Disengage the locks by depressing the palm button and holding it.

Lower the vehicle by depressing the lowering valve handle. Watch lift to insure that the lift is lowering evenly. If not, raise lift and check all locks to insure they are disengaged before trying to lower lift again.

Continue to lower the vehicle until the crossbeams stop against the base plate. It is important to fully lower the lift to release hydraulic pressure on the system.

#### MAINTENANCE

To avoid personal injury, permit only qualified personnel to perform maintenance on this equipment.

The following maintenance points are suggested as the basis of a preventive maintenance program. The actual maintenance program should be tailored to the installation. See ANSI/ALI ALOIM booklet for periodic inspection checklist and maintenance log sheet.

- If lift stops short of full rise or chatters, check fluid level and bleed both cylinders per Installation Instructions.
- Replace all Safety, Warning or Caution Labels if missing or damaged.

#### Daily

- Keep lift components clean. **To keep alignment lifts with rear slip plates working properly use compressed air to blow out any debris from the bearing area.**
- Check for loose or broken parts.
- Check hydraulic system for fluid leaks.
- Check lock release activation.

#### Weekly

- Check cables and sheaves for wear or damage. Replace as required with genuine Challenger Lifts parts.
- Inspect lock mechanism for proper function.

#### Monthly

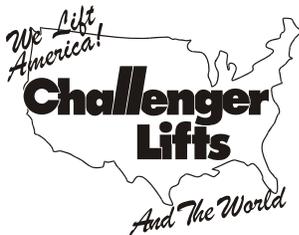
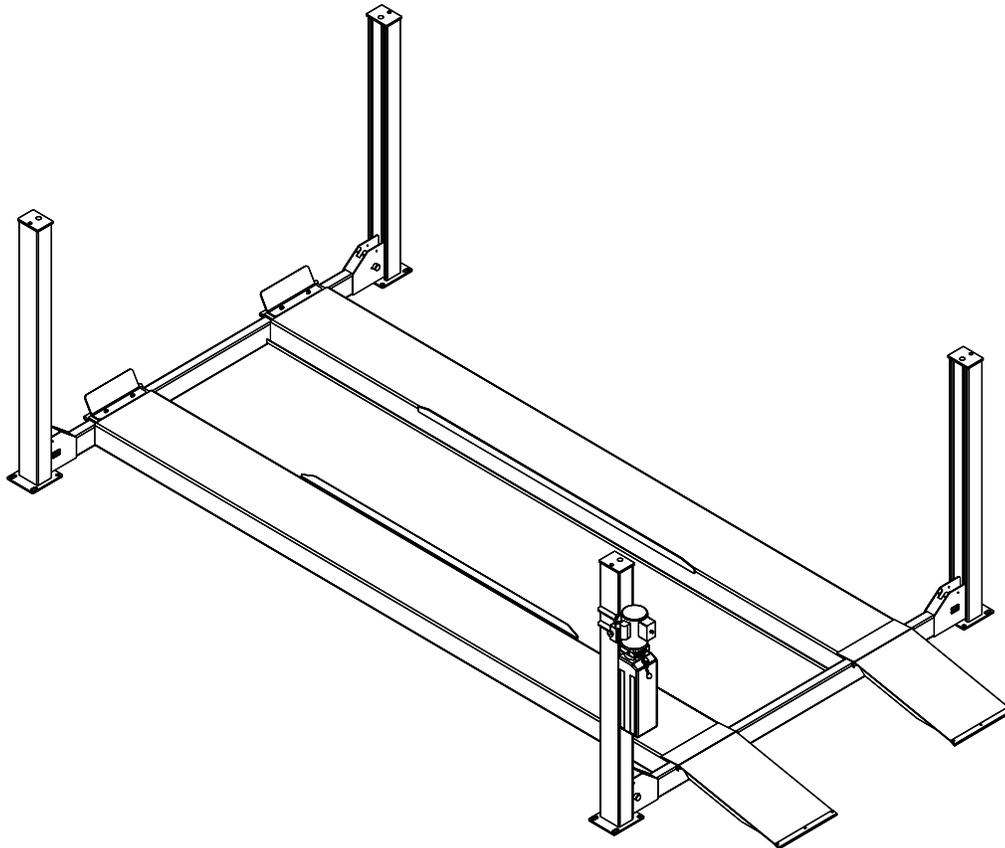
- Torque concrete anchor bolts to 80 ft-lbs.
- Clean and inspect cables and sheaves for wear or damage. Lubricate cables and sheaves with light oil.

**IMPORTANT ! Failure to keep lift free of corrosive agents and solvents will lead to reduced service life, which could result in property damage and/or personal injury.**

**If any problems are encountered, contact your local service representative Maintenance**

# Parts Breakdown

## Model 40000 Closed Front

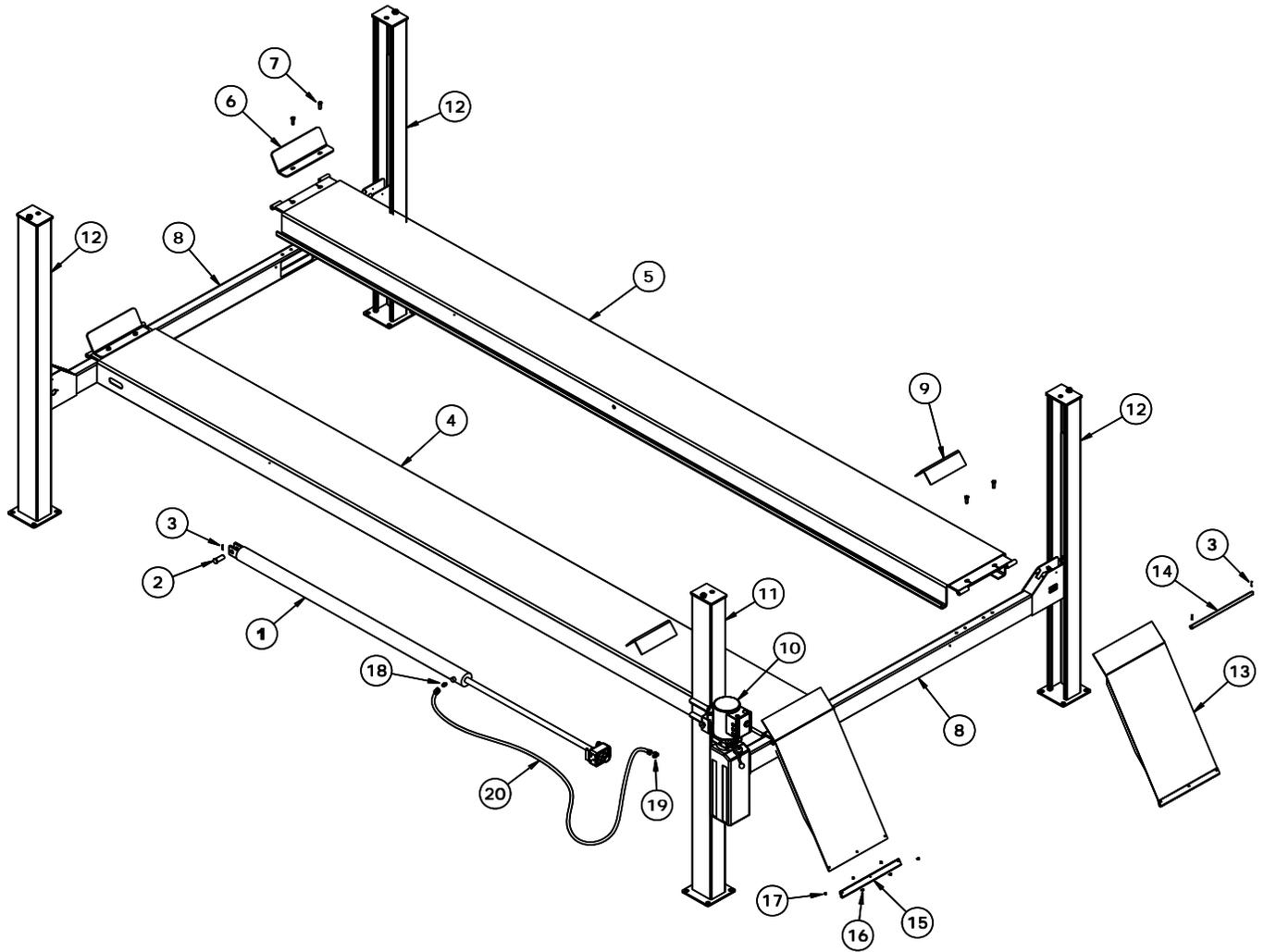


### IMPORTANT!!!

**Replace all worn or broken parts with genuine *Challenger Lifts Inc.* parts. Contact your local *Challenger Lifts* parts distributor for pricing and availability. Call 502-625-0700 for the closet parts distributor in your area.**

# Parts Breakdown

*Fig A. General Layout*



Model 40000 Closed Front  
Installation, Operation and Maintenance

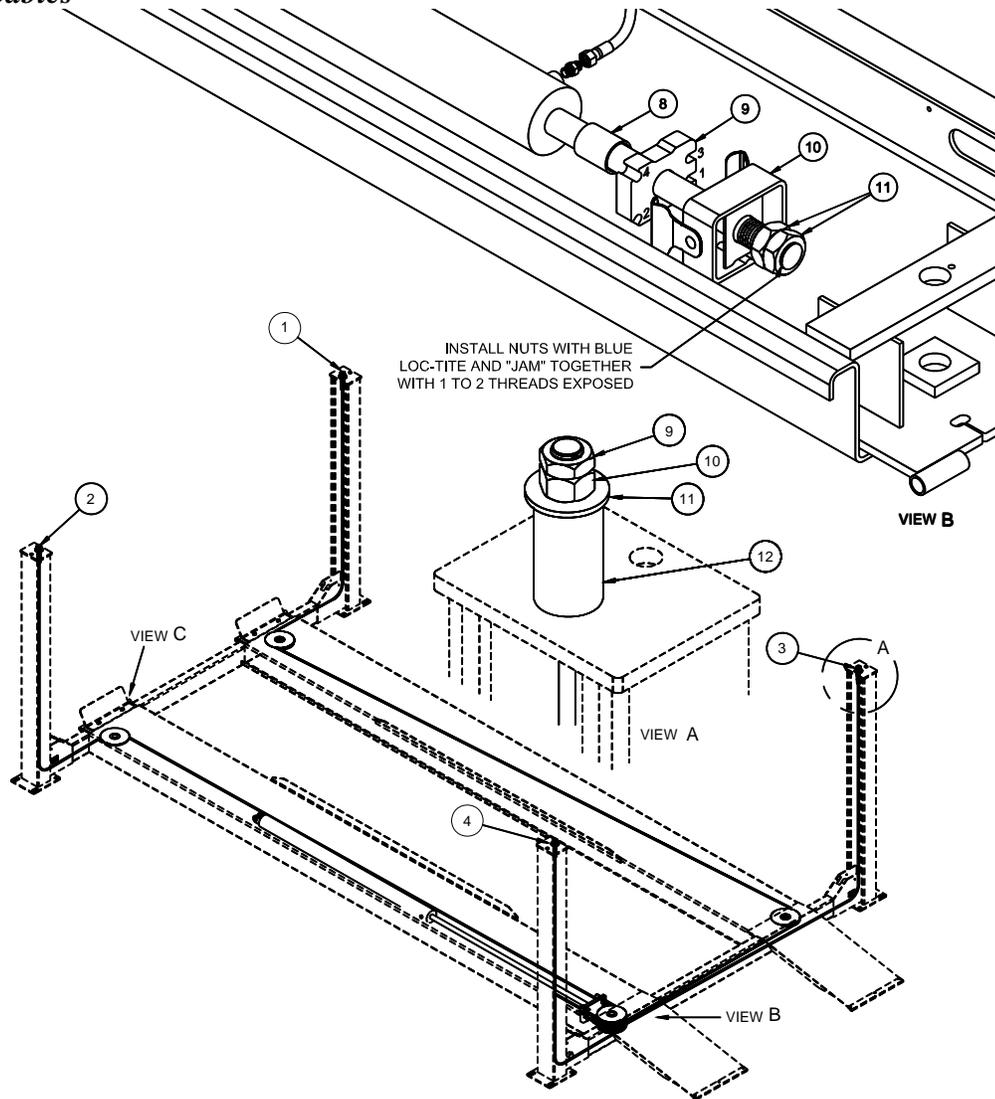
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	44011	1	HYDRAULIC CYLINDER
2	40082	1	CLEVIS PIN
3	40126	5	1/8 x 1 1/2" Lg. COTTER PIN
4	40391	1	FLAT DECK POWER RUNWAY (40XF)
	40381		FLAT DECK POWER RUNWAY (40EF)
	40396		ALIGNMENT POWER RUNWAY (40XA)
	40386		ALIGNMENT POWER RUNWAY (40EA)
5	40393	1	FLAT DECK IDLER RUNWAY (40XF)
	40383		FLAT DECK IDLER RUNWAY (40EF)
	40398		ALIGNMENT IDLER RUNWAY (40XA)
	40388		ALIGNMENT IDLER RUNWAY (40EA)
6	40266	2	WHEEL STOP
7	40083	8	1/2-13NC x 1 1/4" Lg. HEX.FLG.HD.CAP SCREW
8	40460	1	CROSS BEAM ASSEMBLY (Models 40X, 40E, & 40S)
	40460N		CROSS BEAM ASSEMBLY (Model 40N)
9	40265	2	WHEEL CHOCK
10	31368 - 19	1	POWER UNIT 1 PHASE, 60Hz, 208-230VAC
	31355 - 19		POWER UNIT 3 PHASE, 230/460VAC
11	40449 - P	1	POWER COLUMN ASSEMBLY
12	40449 - I	3	IDLER COLUMN ASSEMBLY
13	40161	2	ENTRANCE RAMP
14	40165	2	RAMP HINGE PIN
15	40168	2	RAMP SLIDE
16	31062	6	1/4-20NC x 3/4" Lg. PAN HEAD SCREW
17	40085	6	1/4-20NC HEX FLANGE NUT
18	A1121	1	UNION ADAPTER #6 O-RING x #6 JIC 37 deg FLARE
19	16167	1	90 DEGREE ADAPTER ELBOW – MALE #6 O-RING x MALE #6 J.I.C.
20	40349	1	HYDRAULIC HOSE – FEMALE #6 J.I.C. BOTH ENDS

Replace all worn or broken parts with genuine **Challenger Lifts Inc.** parts.  
Contact your local Challenger Lifts Parts Distributor for pricing and availability.  
**(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)**

Model 40000 Closed Front  
Installation, Operation and Maintenance

PARTS BREAKDOWN (continued)

*Fig B. Cables*



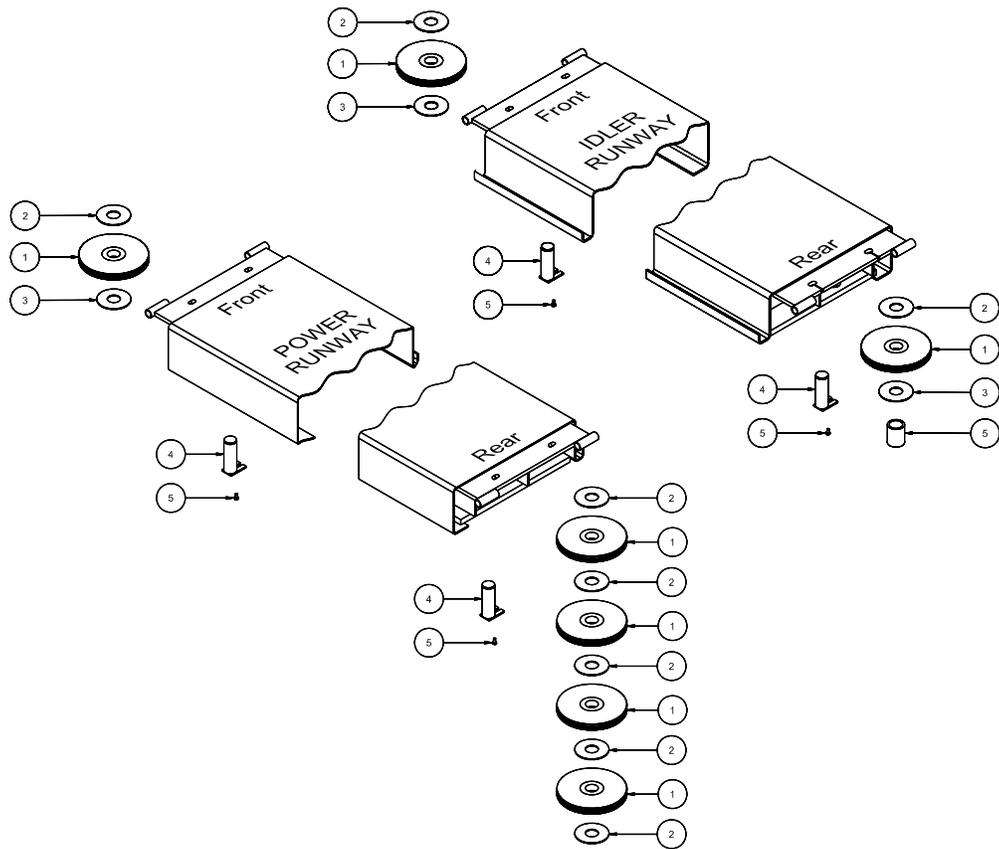
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40372-X1	1	RIGHT FRONT CABLE #1 (40X)
	40372-E1		RIGHT FRONT CABLE #1 (40E)
	40372-S1		RIGHT FRONT CABLE #1 (40S & 40N)
2	40372-X2	1	LEFT FRONT CABLE #2 (40X)
	40372-E2		LEFT FRONT CABLE #2 (40E)
	40372-S2		LEFT FRONT CABLE #2 (40S & 40N)
3	40472-3	1	RIGHT REAR CABLE #3
4	40472-4	1	LEFT REAR CABLE #4
5	40147	4	7/8-9NC HEX NUT
6	40148	4	7/8-9NC HEX JAM NUT
7	40149	4	7/8 FLAT WASHER
8	40438-R	1	2 1/8" SPACER
9	40473	1	CABLE PULL BAR
10	40474	1	CABLE RETAINER WELD
11	44015	2	1 3/8-12NF JAM NUT
12	40186	4	Cable Spacer (40N only)

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Model 40000 Closed Front  
Installation, Operation and Maintenance

PARTS BREAKDOWN (continued)

Fig C. Runway Sheaves



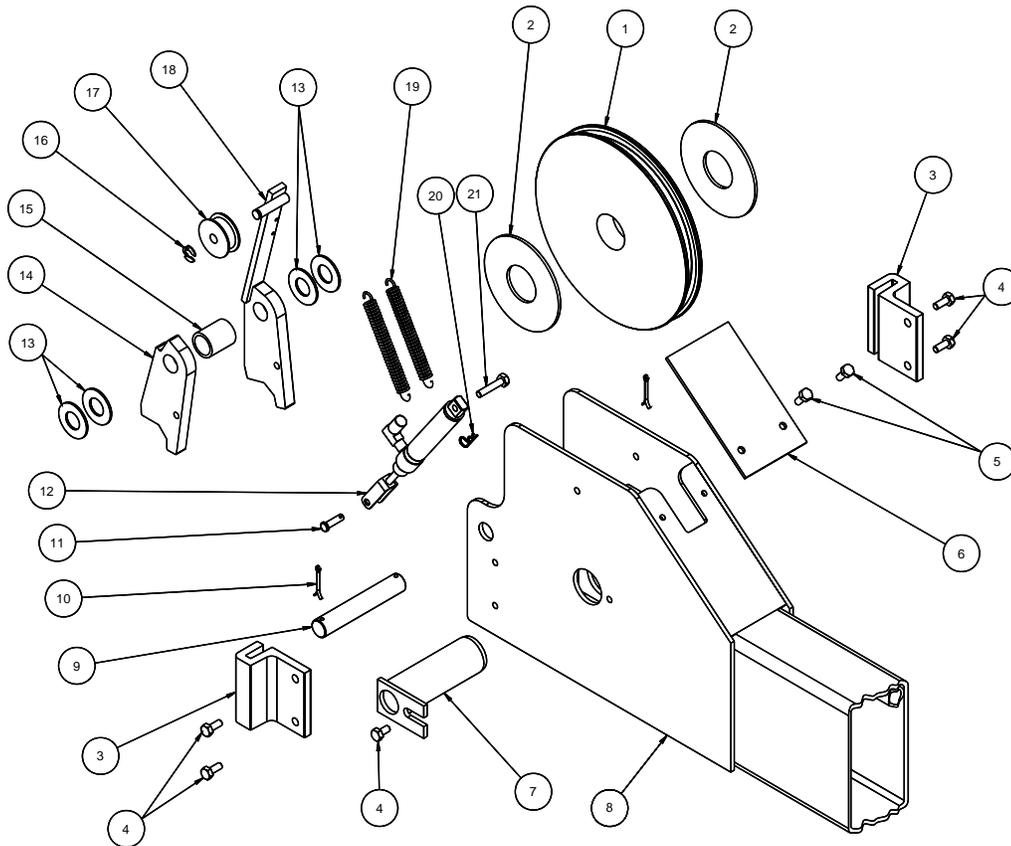
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40050	10	SHEAVE
2	40053	11	1/8" THICK BEARING
3	40055	4	SHEAVE PIN WELD (RUNWAY)
4	31188	16	5/16-18NC x 3/4 Lg. HEX.HD.CAP SCREW
5	40438-R	1	RUNWAY SHEAVE SPACER

Replace all worn or broken parts with genuine **Challenger Lifts Inc.** parts.  
Contact your local Challenger Lifts Parts Distributor for pricing and availability.  
**(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)**

Model 40000 Closed Front  
Installation, Operation and Maintenance

PARTS BREAKDOWN (continued)

**Fig D. Cross Beam**



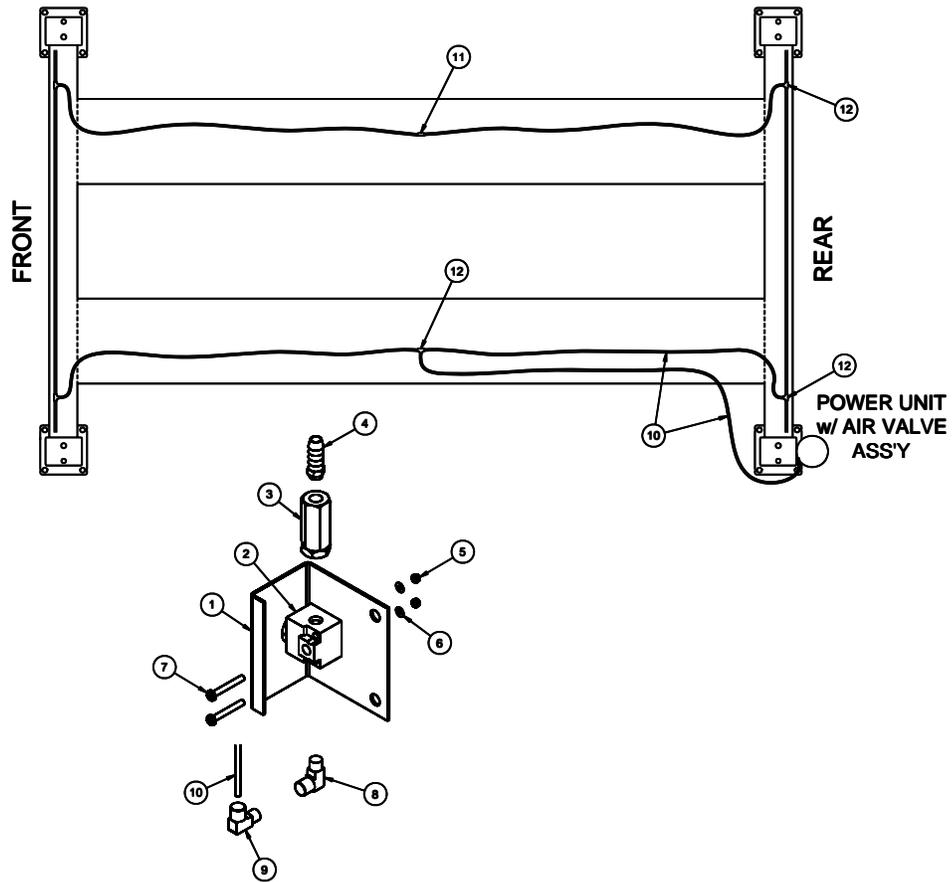
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40050	10	SHEAVE
2	40054	8	1/16" THIN BEARING
3	40118	4	SLIDE BLOCK
4	31188	16	5/16-18NC x 3/4 Lg. HEX.HD.CAP SCREW
5	40120	8	1/4-20NC x 1/2" Lg. SELF TAPPING SCREW
6	40122	2	RUBBER SHEAVE GUARD (REAR)
7	40116	4	SHEAVE PIN (CROSS BEAM)
8	40461	1	REAR CROSS BEAM WELD
9	40127	4	LOCK PIVOT PIN
10	40126	8	1/8" x 1 1/2" Lg. COTTER PIN
11	40123	4	CLEVIS PIN
12	40141	4	AIR CYLINDER ASSEMBLY
13	40128	16-28	3/4" WASHER - (1.5 O.D. x .13 THICK NOMINAL)
14	40131	4	PRIMARY LOCK PAWL
15	40132	4	SPACER BUSHING
16	40137	2	RETAINING RING
17	40135	2	ROLLER
18	40134	2	SLACK CABLE LATCH
19	40139	8	EXTENSION SPRING
20	40124	4	HAIR PIN COTTER PIN
21	40125	4	1/4" DIA. x 3/4" Lg. SHOULDER BOLT

Replace all worn or broken parts with genuine **Challenger Lifts Inc.** parts.  
Contact your local Challenger Lifts Parts Distributor for pricing and availability.  
**(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)**

Model 40000 Closed Front  
Installation, Operation and Maintenance

PARTS BREAKDOWN (continued)

*Fig F. Air Lock Release*



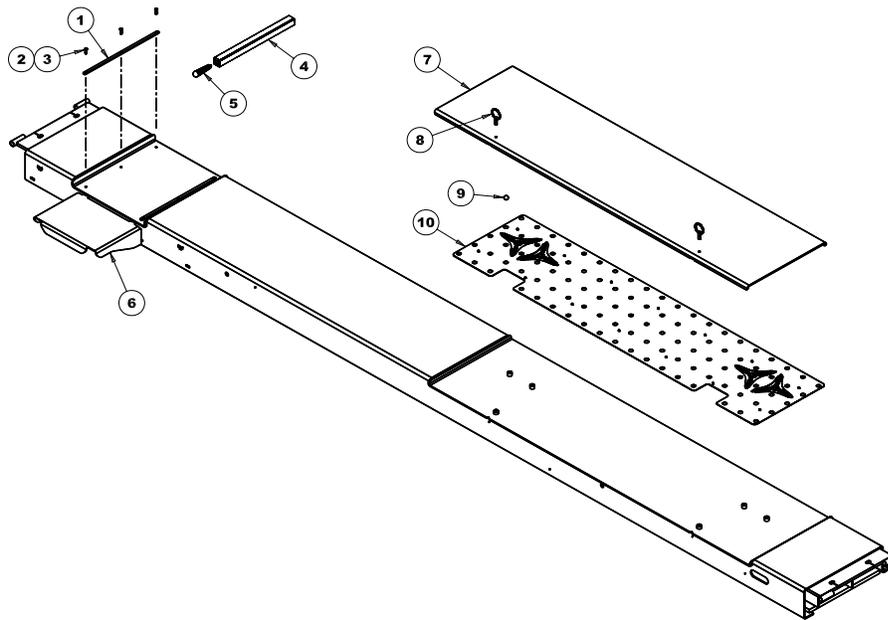
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	37015	1	BUTTON VALVE BRACKET
2	37016	1	AIR VALVE
3	40091	1	IN-LINE AIR FILTER
4	37021	1	HOSE BARB
5	37023	2	#8-32 HEX NUT
6	37024	2	#8 LOCK WASHER
7	37022	2	#8-32 x 1 1/4" Lg. PAN HD. SCREW
8	37020	1	1/8" NPT STREET ELBOW
9	37019	1	1/8" NPTM x 1/8" PUSH-LOCK 90 DEGREE ELBOW
10	00901	60 ft.	1/8" DIA. PLASTIC AIR LINE
11	40445	1	1/8" STRAIGHT UNION
12	37032	3	1/8" UNION TEE

Replace all worn or broken parts with genuine **Challenger Lifts Inc.** parts.  
Contact your local Challenger Lifts Parts Distributor for pricing and availability.  
**(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)**

Model 40000 Closed Front  
Installation, Operation and Maintenance

PARTS BREAKDOWN (continued)

*Fig G. Alignment Equipment*



ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40291	4	GUIDE BAR
2	40299	12	#10-24 x 1" SOC.HD.CAP SCREW
3	055-127	12	#10-24 HEX LOCK NUT
4	40296	2	DROP-IN SPACER
5	40295	2	HANDLE
6	40506	2	WORK STEP
7	40530	2	REAR SLIP PLATE WELDMENT
8	40220	4	PIN ASSEMBLY
9	40211	196	3/4" DIA. BALL
10	40525	2	BALL RETAINER ASSEMBLY
	40526	2	BALL RETAINER SHEET
	40527	28	STAND-OFF PIN
	40528	28	STAND-OFF SPACER (GROMMET)
	40221	24	1/2" DIA. EXTENSION SPRING
	40219	8	7/8" INTERNAL TOOTH LOCK WASHER

Replace all worn or broken parts with genuine **Challenger Lifts Inc.** parts.  
Contact your local Challenger Lifts Parts Distributor for pricing and availability.  
**(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)**



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MODEL 24006  
6000 LB  
Rolling Air Jack

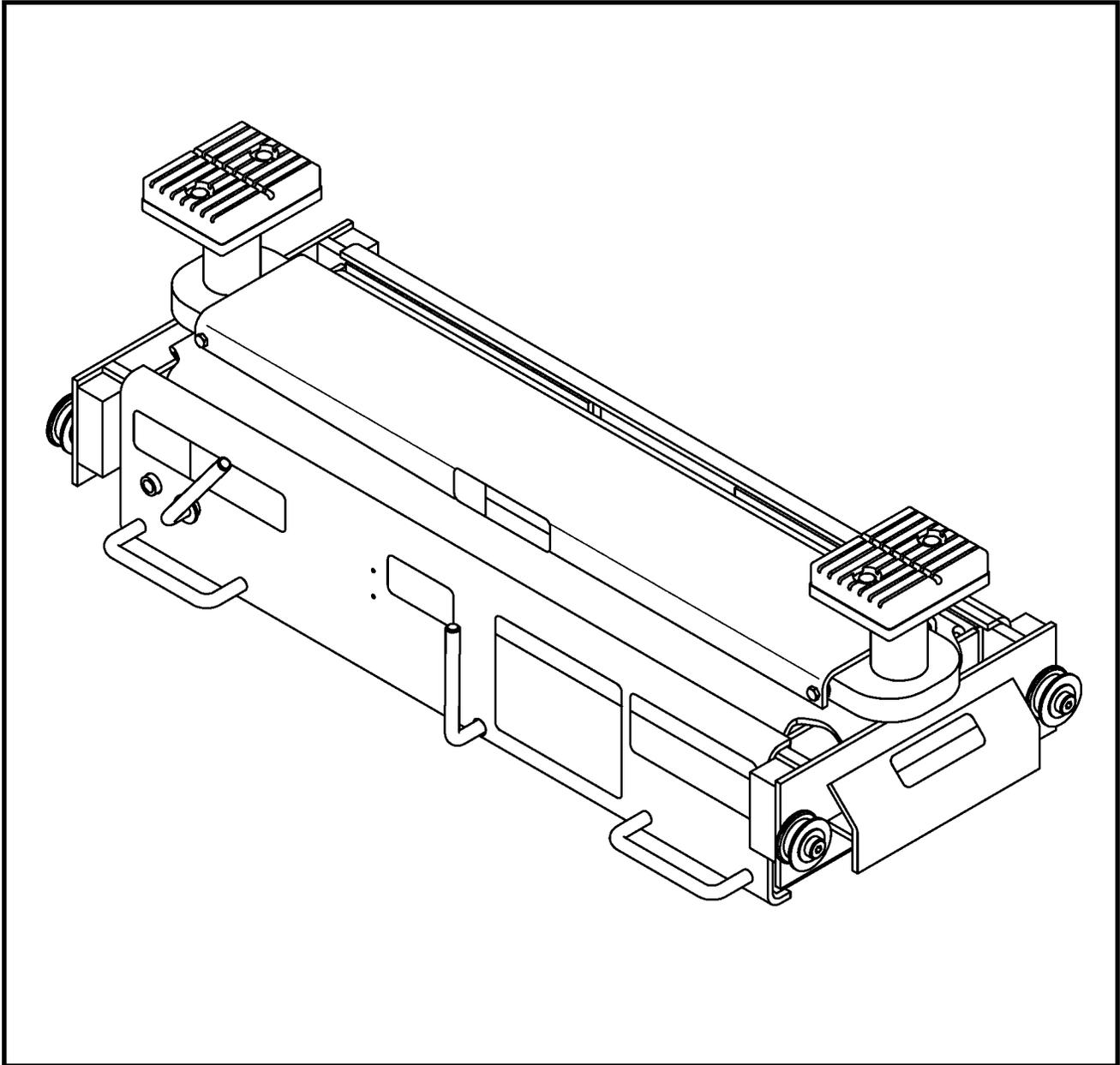
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Installation, Operation  
and Repair Parts  
Information

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**Challenger Lifts, Inc.**



**NOTICE -  
AIR SUPPLY MUST HAVE IN-LINE FILTER/REGULATOR/LUBRICATOR  
(NOT INCLUDED) TO VALIDATE THE ROLLING AIR JACK WARRANTY**

Challenger Lifts, Inc. • 200 Cable Street • P.O. Box 3944 • Louisville, Kentucky 40201-3944

P/N: 81-0023

# CAUTION

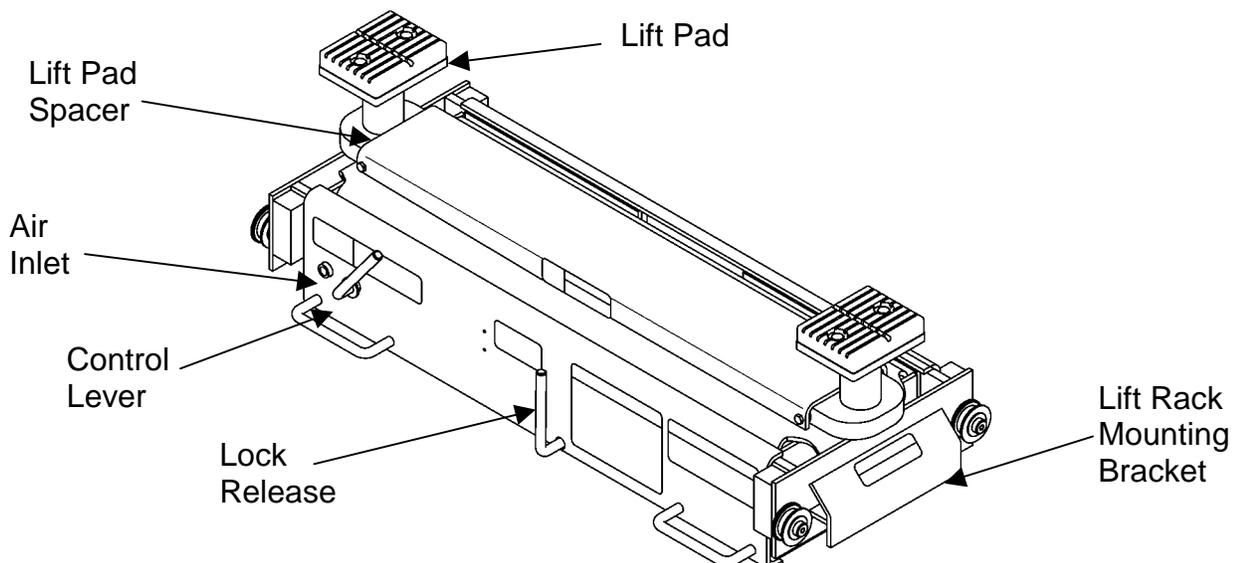
- ◆ Before using this product, read and fully understand the operating instructions and all decals on the product. This is necessary to prevent injury to the operator and damage to the product.
- ◆ Roll jack forward before moving vehicle on or off lift.
- ◆ Do not attempt to use this jack for anything other than it's intended purpose.
- ◆ If jack begins to tilt as the vehicle is raised, STOP! Lower the jack and reposition the vehicle.
- ◆ Do not use this jack if it is visibly worn, distorted or damaged.
- ◆ Maximum air operating pressure not to exceed 120 p.s.i. Air supply must have in-line filter/regulator/lubricator.
- ◆ Always wear appropriate eye protection.

# WARNING

- ◆ Maximum lift capacity of this jack is 6000 lbs. (2722 kg)  
Exceeding this could result in severe personal injury or death.
- ◆ Lift vehicle at manufacturer's recommended pick-up points only.  
Vehicle weight must be evenly distributed on each jack lift pad.
- ◆ Keep fingers and hands clear of all pinch points at all times.

## SPECIFICATIONS

Lift Capacity.....	6000 lbs. (2722 kg)
Maximum Air Pressure.....	120 p.s.i. (8.25 bar)
Lift Height.....	10 inches (254 mm)
Lift Pad Spread.....Min.....	33 inches (838 mm)
Max.....	50 inches (1270 mm)



## **INSTALLATION**

- 1) Install a 1/4 NPT male quick-disconnect coupling (not included) in air inlet to match shop fittings. Install an in-line filter/regulator/lubricator (not included) within 20 feet of jack. Operating pressure 80-120 p.s.i.
- 2) Install lift rack mounting brackets per instructions included with brackets.

### **NOTE:**

Check each jack Mounting Bracket application decal to be certain the Mounting Brackets and the model lift rack on which it is installed are compatible.

- 3) Place jack assembly on lift rack rails.

## **OPERATION**

### **NOTE:**

Before lifting a vehicle, operate the jack through a couple of cycles to become familiar with the controls.



- 1) Roll jack forward before moving vehicle on lift rack. Be sure vehicle is centered on rack, apply parking brake and chock wheels.
- 2) Roll jack to the vehicle manufacturer's recommended pick-up points. Extend Lift Pad Arms to proper lift points. Use Lift Pad Spacers if necessary.



- 3) Raise jack by moving the Control Lever to the "RAISE" position.



- 4) Raise vehicle to desired height.
- 5) To lower jack, hold the Lock Release Lever to the left while moving the Control Lever to the "LOWER" position. If jack does not lower, raise it slightly while holding the Lock Release Lever to the left until you feel the lock move past the detent, then continue to lower jack.
- 6) Lower jack completely, slide Lift Pad Arms in and remove Lift Pad Spacers (if used). Roll jack forward before moving vehicle off rack.

## ***MAINTENANCE***

**DAILY** - Inspect jack and it's components for damage or excessive wear. Replace parts as required (see repair parts).

**DAILY** - Inspect air/hydraulic system for leaks.  
Check in-line lubricator oil level.

**ANNUALLY** - Check hydraulic pump fluid level (see below).

## ***FLUID LEVEL CHECK & FILL PROCEDURE***

- 1) Raise jack all the way up.
- 2) Locate the two 1/4" spring pins in the pivot pin blocks. Using a 1/4" punch, drive the spring pins into the pivot pins. Remove the pivot pins and be sure to punch the spring pins out and save for reassembly (Fig. 1).
- 3) Remove the two 1/2" allen head screws (Fig. 1).
- 4) Remove the top section of the jack.
- 5) Completely lower the jack lift arms.
- 6) Block up the "cylinder end" of jack about 6 inches.
- 7) Wipe area around filler plug to prevent contamination of oil. Remove filler plug and check oil level (Fig. 2). Oil level should be at the top of the filler plug hole.
- 8) Fill as required with ATF, Dextron II, or 5605 oil. Take care to prevent contamination during fill.
- 9) Remove blocks and level jack. Top off fluid to the top of filler plug hole. Reinstall plug, **hand tighten only**.

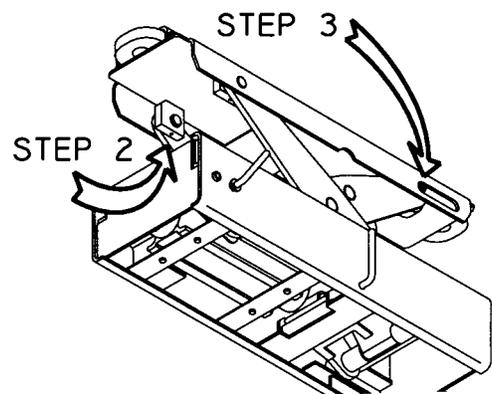


Fig. 1

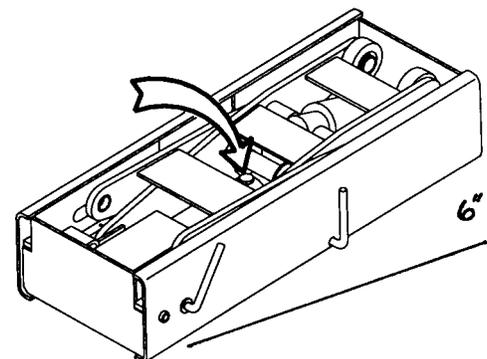
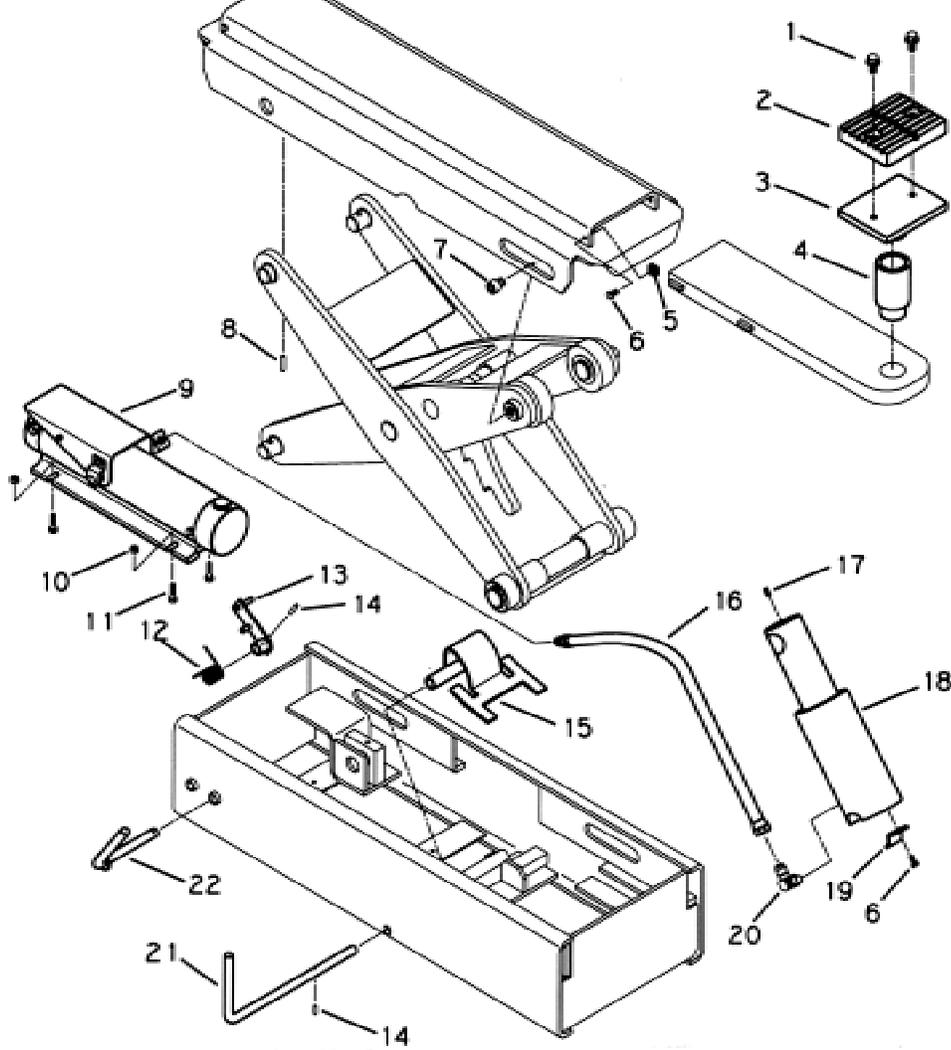
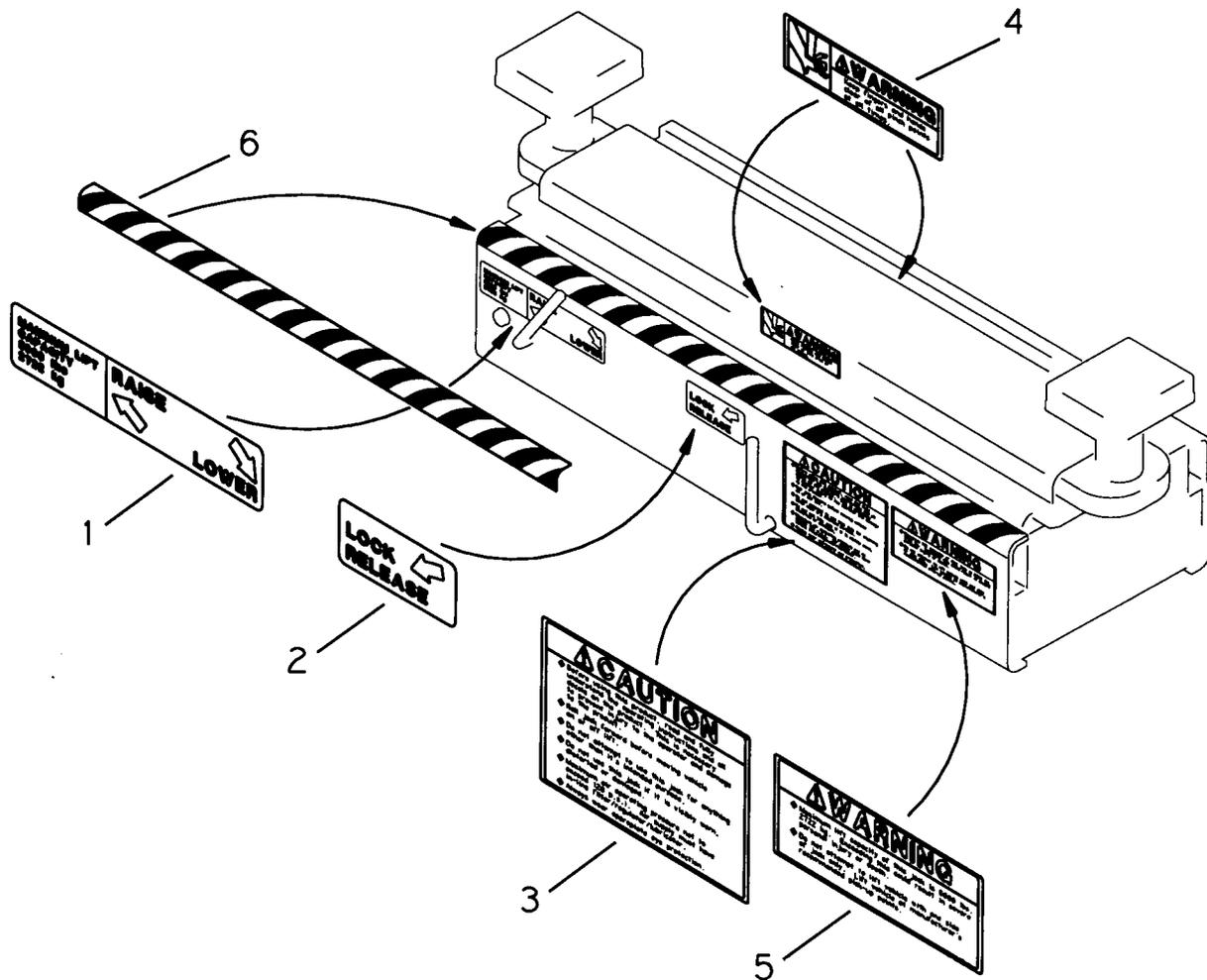


Fig. 2



## ROLLING AIR JACK REPAIR PARTS

ITEM	PART NO	QTY	DESCRIPTION
1	50-0065	4	3/8-16 X 3/4 Serrated Hex Head Flange Screw
2	10-0017	2	Rubber Lift Pad
3	03-0131	2	Lift Pad
4	73-0349	2	Lift Pad Spacer
5	51-0016	4	1/4-20 Heavy Square Nut
6	028-132	5	1/4-20 X 1/2 Hex Head Cap Screw
7	50-0043	2	1/2-13 X 1/2 Hex Socket Head Cap Screw
8	061-091	4	1/4 X 7/8 Spring Pin
9	63-0005	1	Air/Hydraulic Pump
10	055-160	4	1/4-20 Nylon Hex Lock Nut
11	028-141	4	1/4-20 X 1 Hex Head Cap Screw
12	55-0012	1	Torsion Spring
13	03-0126	1	Linkage Bar
14	061-032	2	1/8 X 3/4 Spring Pin
15	03-0132	1	Latch
16	62-0002	1	Hydraulic Hose
17	50-0066	1	1/4-20 X 3/8 Set Screw
18	63-0004	1	Hydraulic Cylinder
19	73-0343	1	Retainer Tab
20	60-0023	1	90 Degree Male Elbow Fitting
21	73-0332	1	Latch Pivot Rod
22	03-0129	1	Linkage Rod



### INSTRUCTIONAL DECALS

ITEM	PART NO	QTY	DESCRIPTION
1	80-0078	1	Raise/Lower Decal
2	80-0079	1	Lock Release Decal
3	80-0080	1	Caution Decal
4	80-0083	2	Warning Decal
5	80-0084	1	Warning Decal
6	M00-003	128"	Caution Stripe Tape

# ***NOTES***

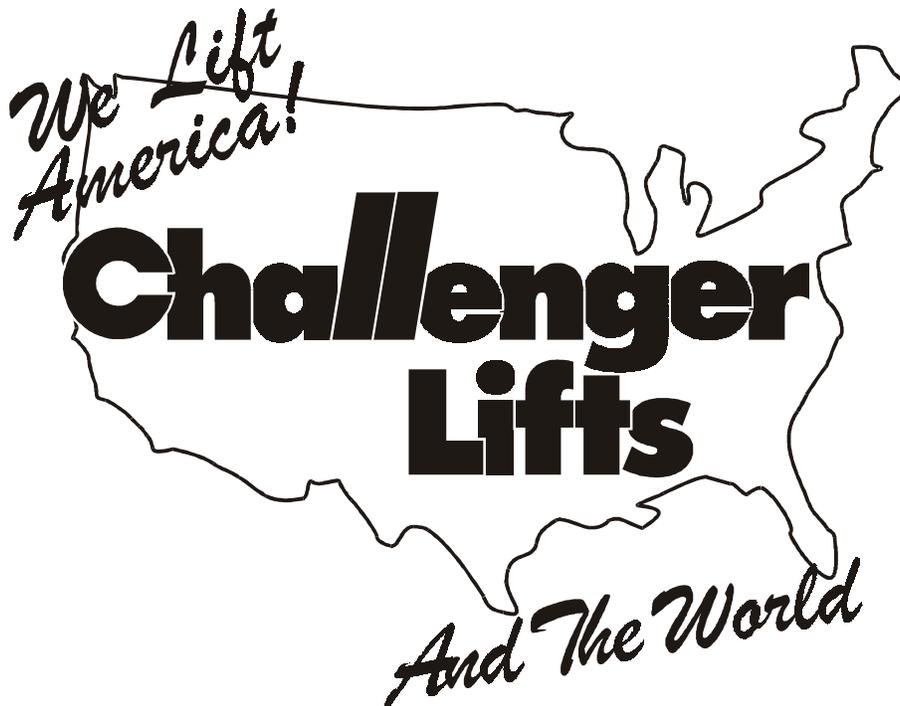
# Challenger Lifts, Inc.

Part Number 40230

## AIR LINE ACCESSORY KIT

For Model 40000 Series

### INSTALLATION, OPERATION & MAINTENANCE MANUAL



### IMPORTANT !!!

**READ THIS MANUAL COMPLETELY BEFORE INSTALLING OR  
OPERATING THE LIFT**

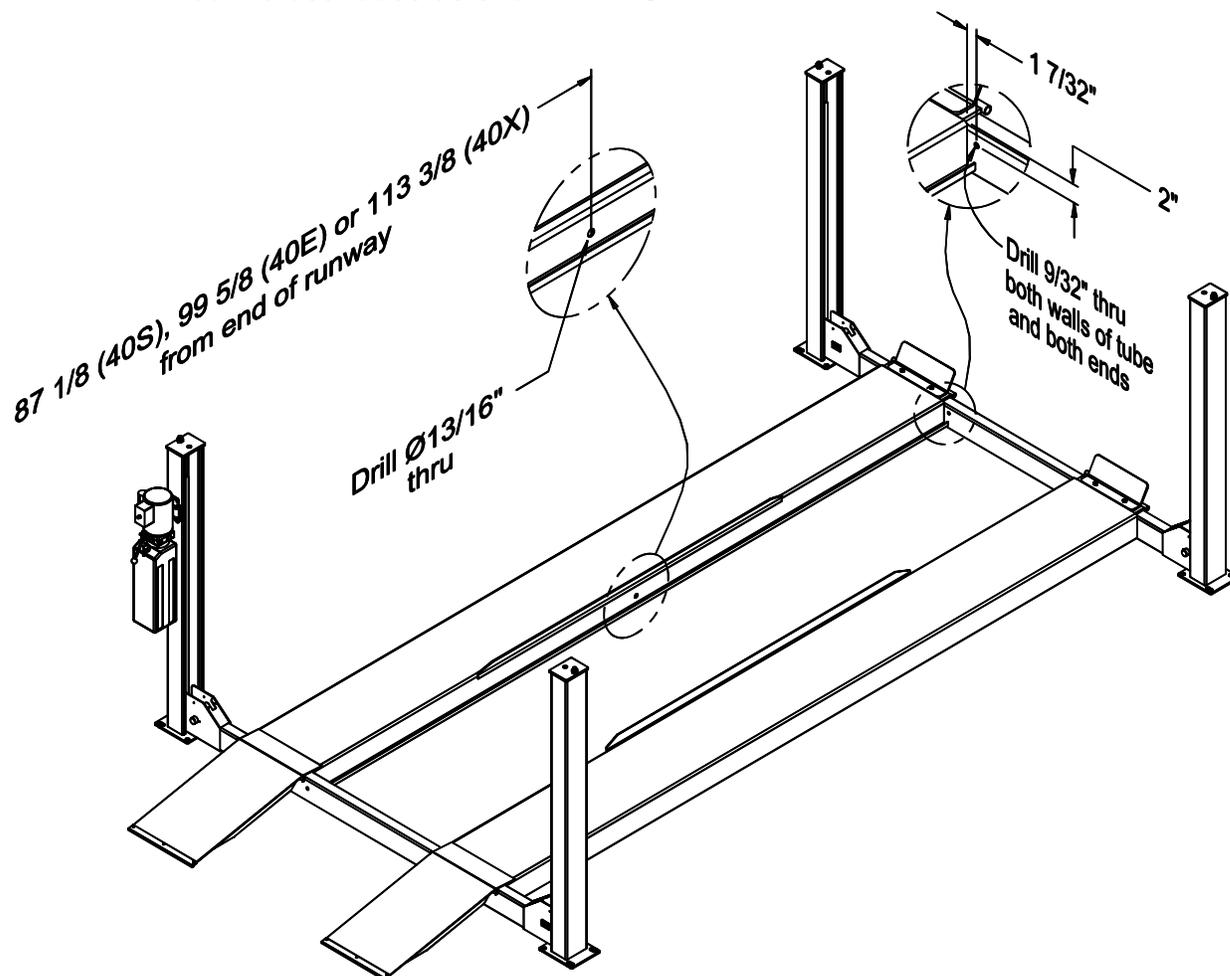
200 CABEL STREET, P.O. BOX 3944  
LOUISVILLE, KENTUCKY 40201-3944  
*E-Mail - sales@challengerlifts.com*  
*Web Site - www.challengerlifts.com*

**OFFICE (502) 625-0700**

**FAX (502) 587-1933**

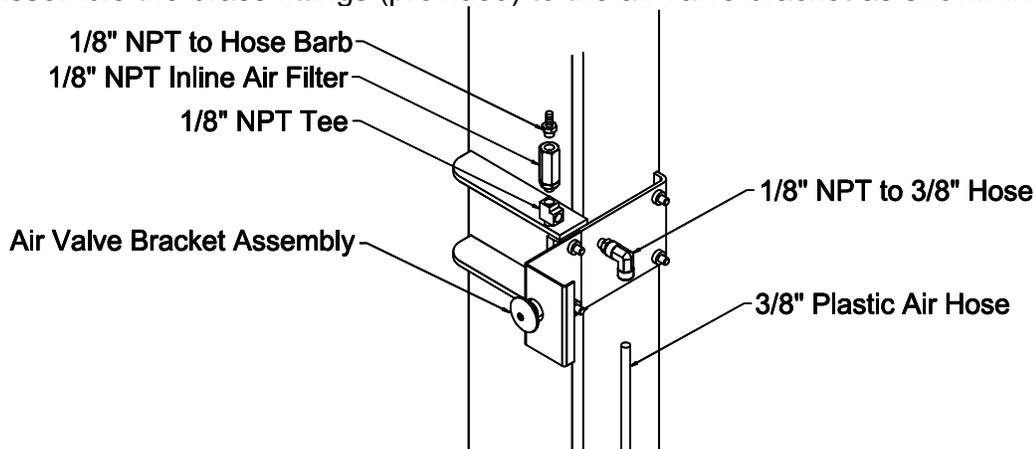
**Note:** On current production lifts the holes for the Air Accessory Kit should be pre-drilled.

- 1)
  - a. Raise lift to comfortable working height and rest in lock.
  - b. Drill (1) 13/16" diameter hole in the power runway.
  - c. Drill (2) 9/32" diameter holes in the crossbeam (one per side of the tube). Drill both cross tubes as shown in **FIG 1**.



**FIG 1**

- 2) Assemble the brass fittings (provided) to the air valve bracket as shown in **FIG 2**.



**FIG 2**

- 3)
  - a. Route the 3/8" hose through opening in runway. Route hose down side of runway to end of hydraulic cylinder. **See FIG 3.**
  - b. Attach hose clamp and position to where it does not interfere with cables. Drill 7/32" hole through runway and use 1/4-20 x 1/2" lg self tap screw provided.
  - c. Route hose across inside of runway to opposite wall using caution that the hose does not interfere with cables.
  - d. Attach hose clamp and position. Drill 7/32" hole through runway and use 1/4-20 x 1/2" lg self tap screw provided.
  - e. Assemble Anchor coupling in 13/16" hole previously drilled. Washer and 3/4-16 hex nut goes on inside of runway. Attach 1/4" NPT swivel elbow.
  - f. Cut excess hose and attach to swivel elbow.

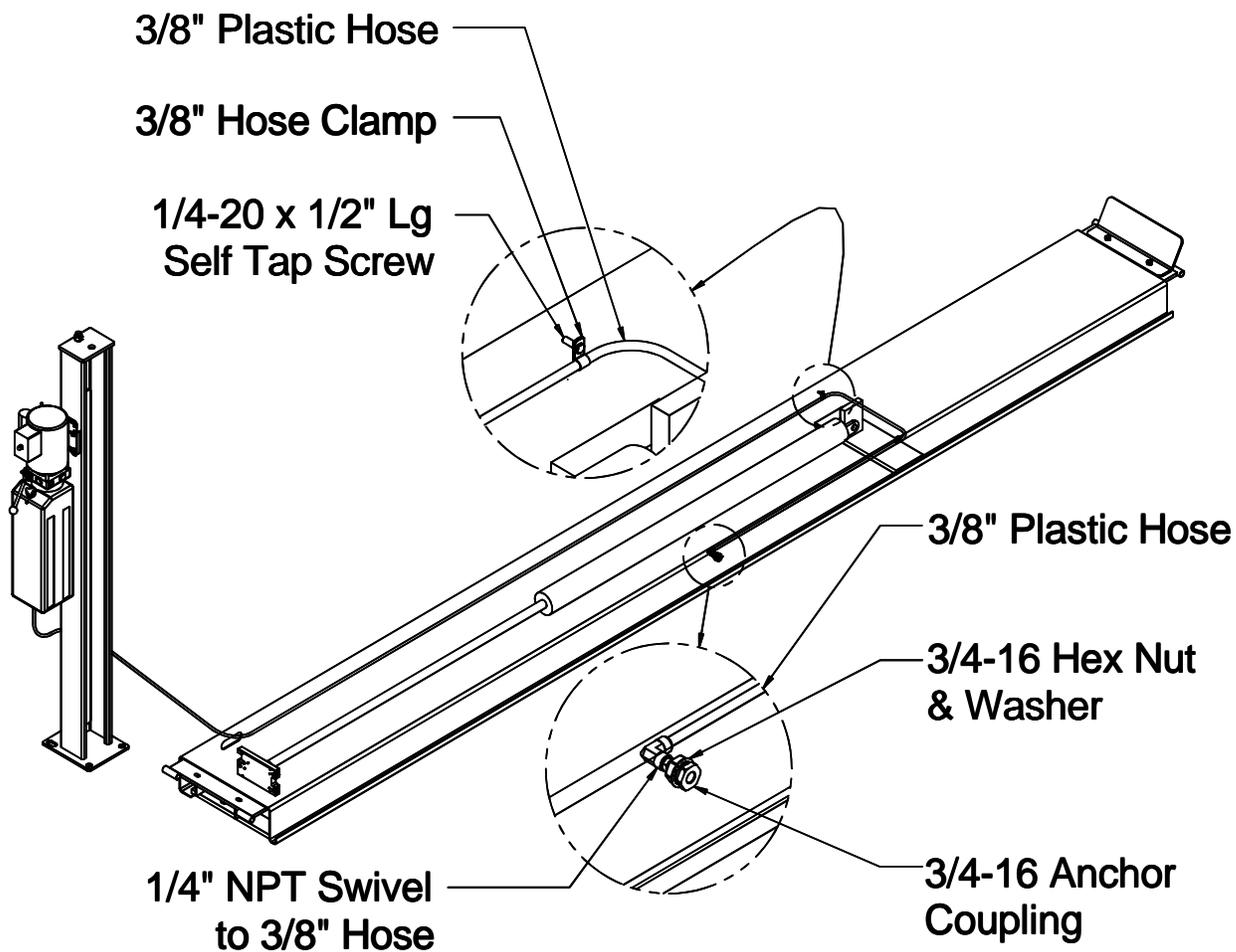


FIG 3

- 4)
  - a. Run one end of the 1/8" diameter cable through the 9/32" hole in the cross beam and put washer and 1/4-20 lock nut on.
  - b. Run the other end of the 1/8" cable through the coil of the 3/8" air hose. Insure that the swivel end of the air hose (*longer straight piece*) is facing towards middle of the lift. If running two jacks insure that both swivel ends are facing towards middle of lift. Run other end of 1/8" cable to opposite crossbeam and put washer and lock nut on.
  - c. Adjust cable tension (do not over tighten). ***Important:*** Cut excess cable stud length flush with edge of nut and deburr.
  - c. Attach 1/4" NPT Tee to anchor coupling. Attach swivel end of 3/8" air hose to 1/4" NPT Tee.
  - d. Install the 1/2-13 bolt using (3) lock washers per bolt with the head up in the jack track holes closest to the center of the lift. ***Important,*** do not use more than the (3) washers provided to avoid damage to the rollers on the jack.

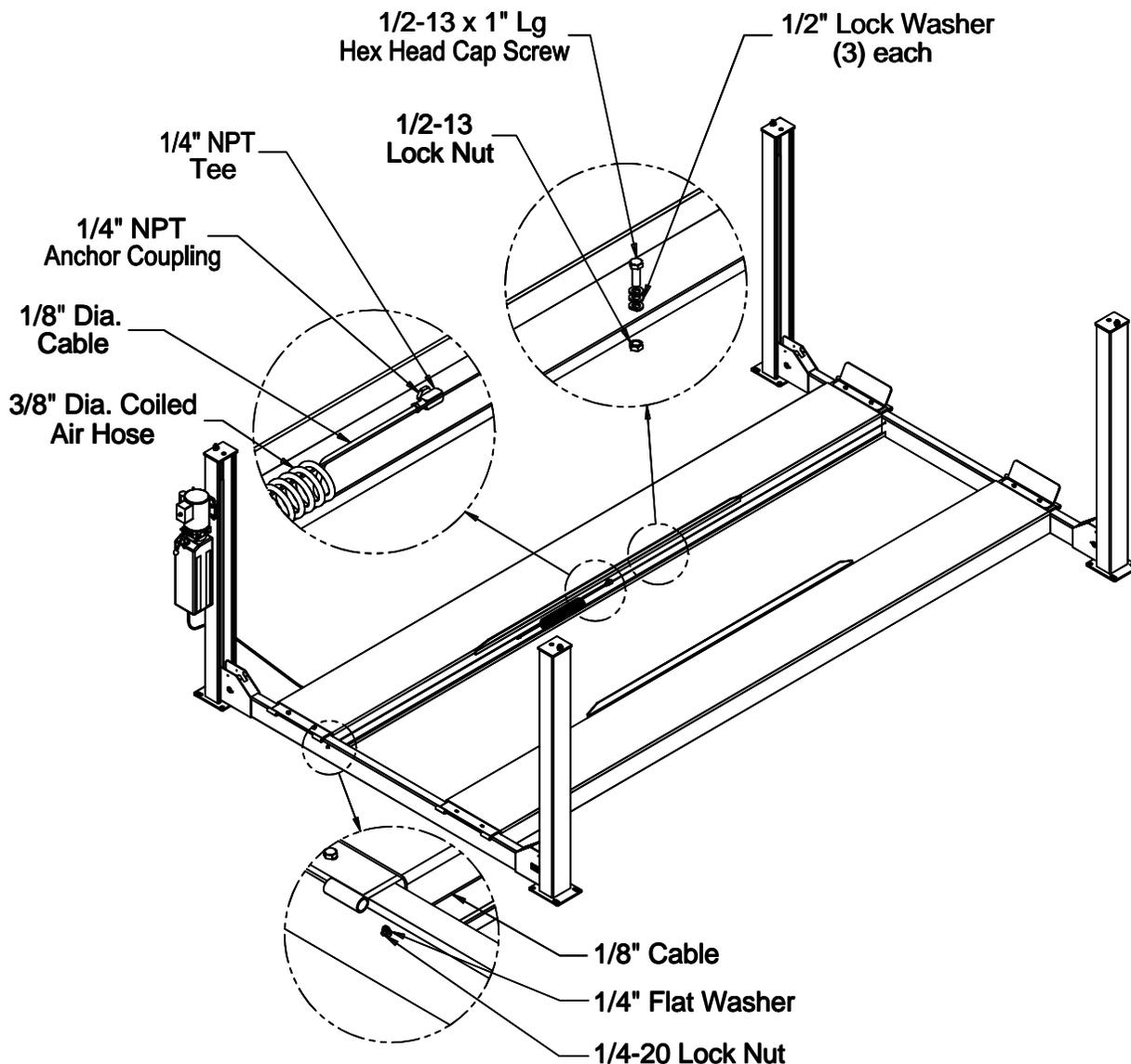
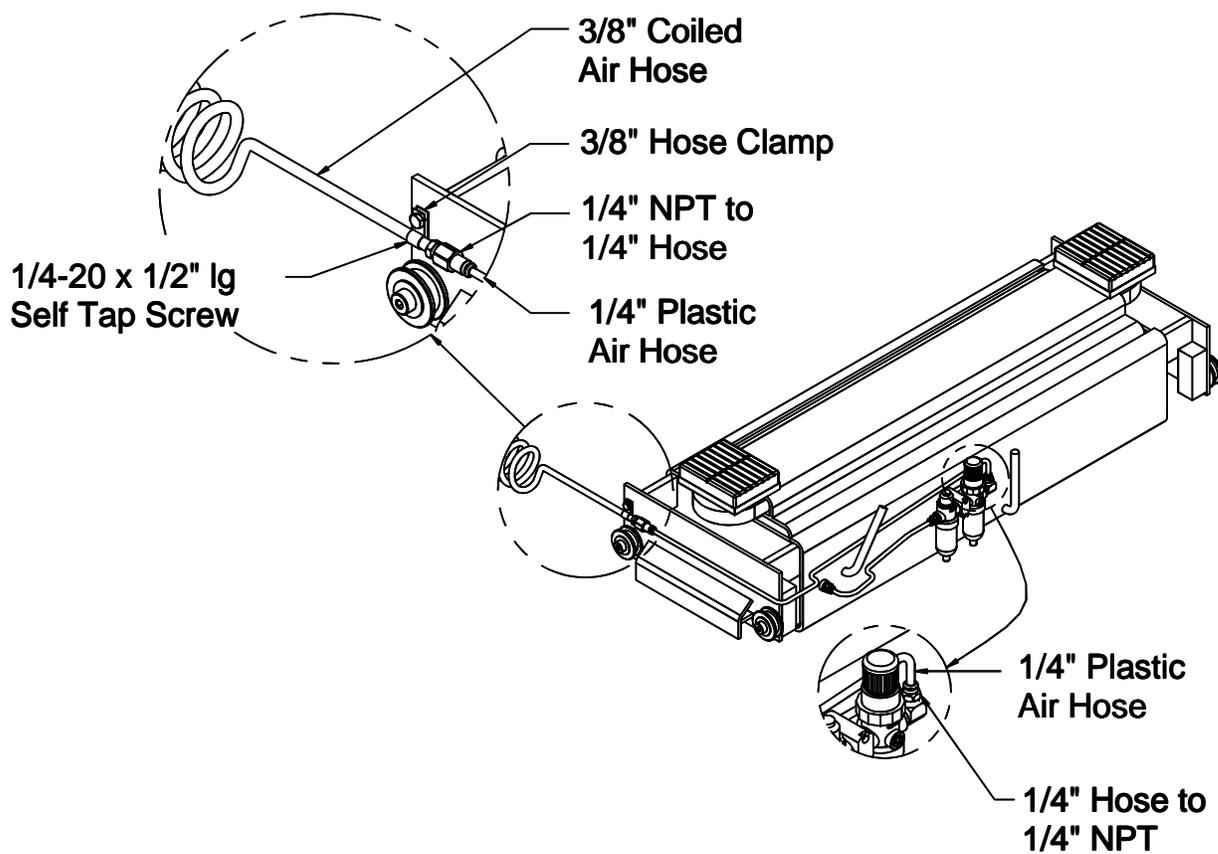
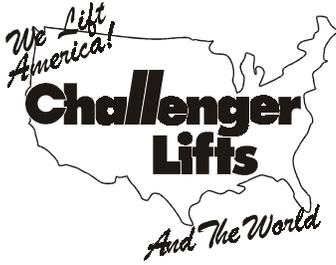


FIG 4

- 5)
  - a. Position the jack(s) on the runway and lock the side members down after positioning.
  - b. Hook-up the F.L.R. (Filter, Lubricator, Regulator) provided with jack.
  - c. Attach the 1/4 NPT to 1/4" hose fitting to the 1/4" NPT brass elbow provided with F.L.R. kit. Insert the 1/4" plastic hose in the fitting and route around the jack as shown in **FIG 5** below.
  - d. Attach the 1/4" NPT to 1/4" hose fitting to the 3/8" coiled hose. Insert the 1/4" hose. Attach the 3/8" hose clamp to the 3/8" coiled hose and position on the side member away from the rollers. Drill 7/32" hole through and screw 1/4-20 x 1/2" lg self tap screw.

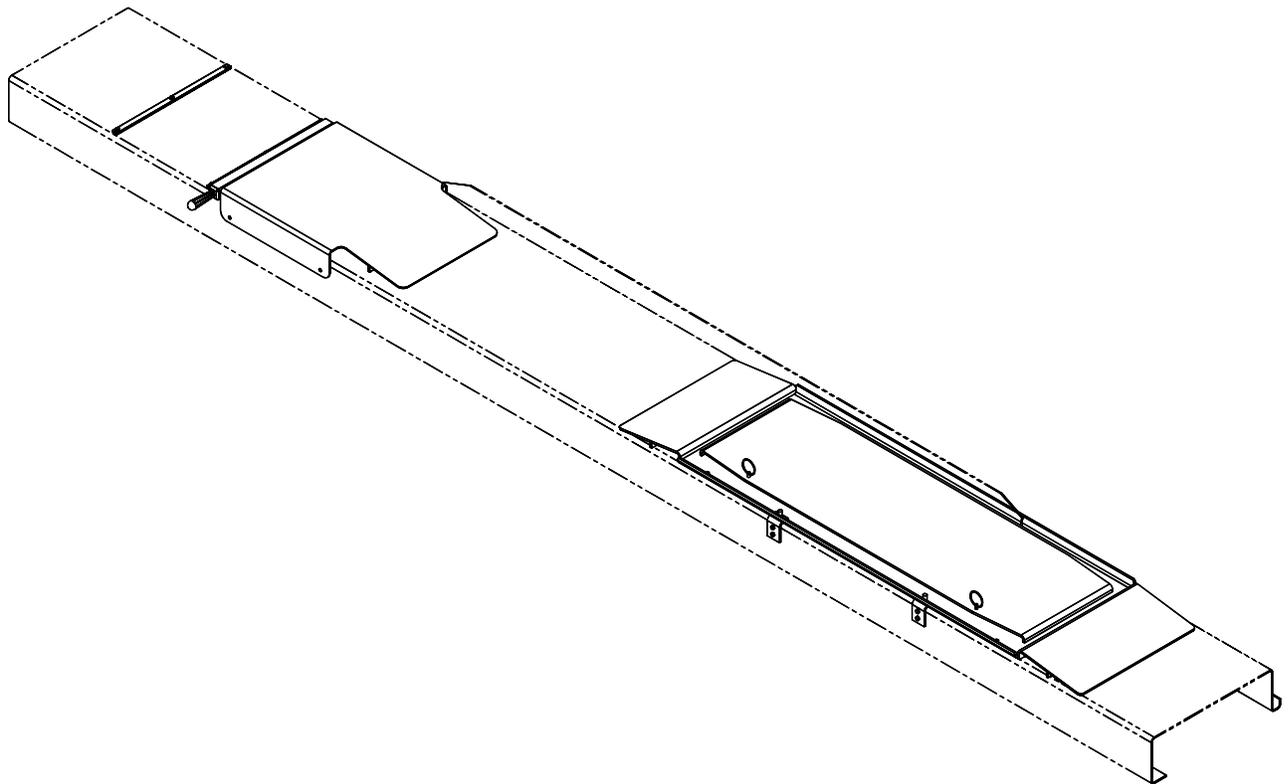


**FIG 5**



# INSTALLATION & OPERATION MANUAL SUPPLEMENT

Bolt-On Alignment Kit  
(P/N 40200-3D)  
with 3-D Alignment Roll-Back  
FOR MODEL 40000 4-POST LIFT



200 Cabel Street, P.O. Box 3944 Louisville, Kentucky 40201-3944  
Email: [sales@challengerlifts.com](mailto:sales@challengerlifts.com) Web site: [www.challengerlifts.com](http://www.challengerlifts.com)

**Office 800-648-5438 / 502-625-0700 Fax 502-587-1933**

**IMPORTANT: READ THIS MANUAL COMPLETELY BEFORE  
INSTALLING or OPERATING LIFT**

GENERAL SPECIFICATIONS AND LAYOUT

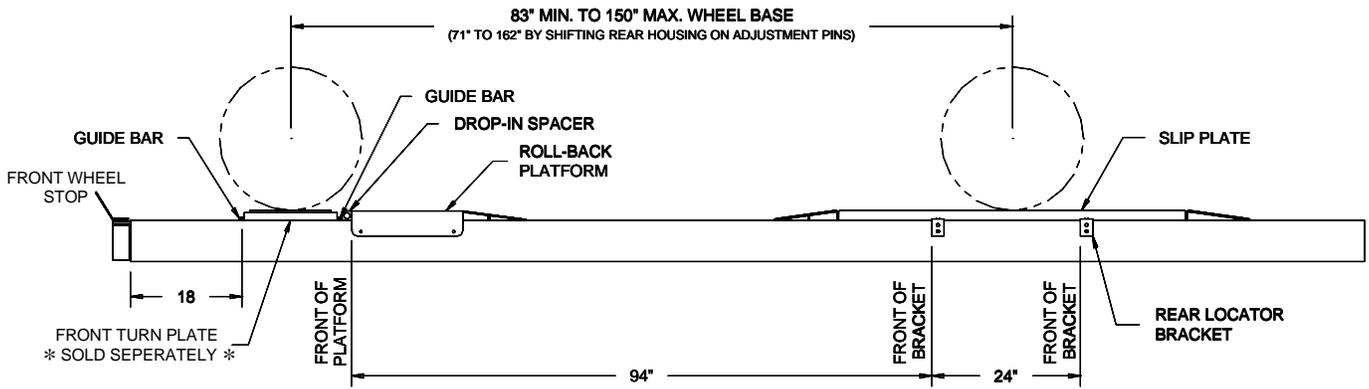


Fig 1 – General Specifications and Layout

**READ ENTIRE MANUAL BEFORE ASSEMBLING, INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT. PROPER MAINTENANCE AND INSPECTION IS NECESSARY FOR SAFE OPERATION. DO NOT OPERATE A DAMAGED LIFT.**

LAYOUT

- 1) Raise the lift to a comfortable work height and lay out the Bolt-On Alignment Kit components on the lift runways, see Fig 1. (Note: all left and right components are identical except the Front Roll-Back Platforms)

**IMPORTANT:** Locations illustrated in Fig 1 are only suggested and may be repositioned to better suit specific needs. If Front Turn Plates are positioned less than 18" from the front cross beam, ensure the alignment equipment will clear the front wheel stop.

**INSTALLATION**

FOR NEW LIFT OR RETRO-FIT INSTALL

TOOLS (MINIMUM REQUIRED FOR RETRO-FIT)

- a. Standard open end wrenches 3/8", 9/16"
- b. 5/32" allen wrench
- c. Drill with 7/32" & 13/32" bits
- d. Carpenter's square (2 ft.)
- e. Straight edge (8 ft.)

FRONT TURN PLATE

- 2) Locate and drill three 7/32" holes in the Power Runway 18" back from the Front Cross Beam as indicated in Fig 2. Use the front Guide Bar as a template and use a 2' carpenter's square to ensure Guide Bar is square with runway.

**IMPORTANT:** Drill bit **must not** touch cables located inside Power Runway.

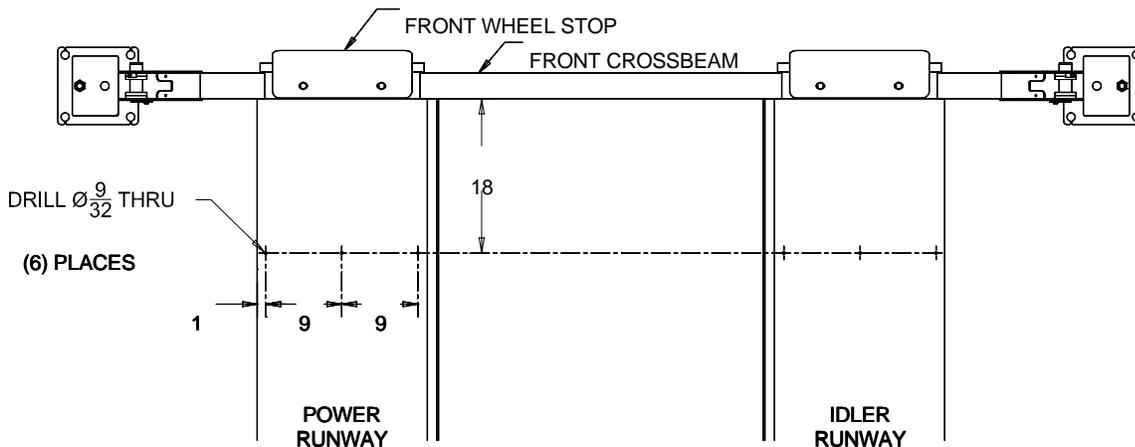


Fig 2 – Front Guide Bar Location

Bolt-On Alignment Kit (3-D)  
Installation & Operation Supplement

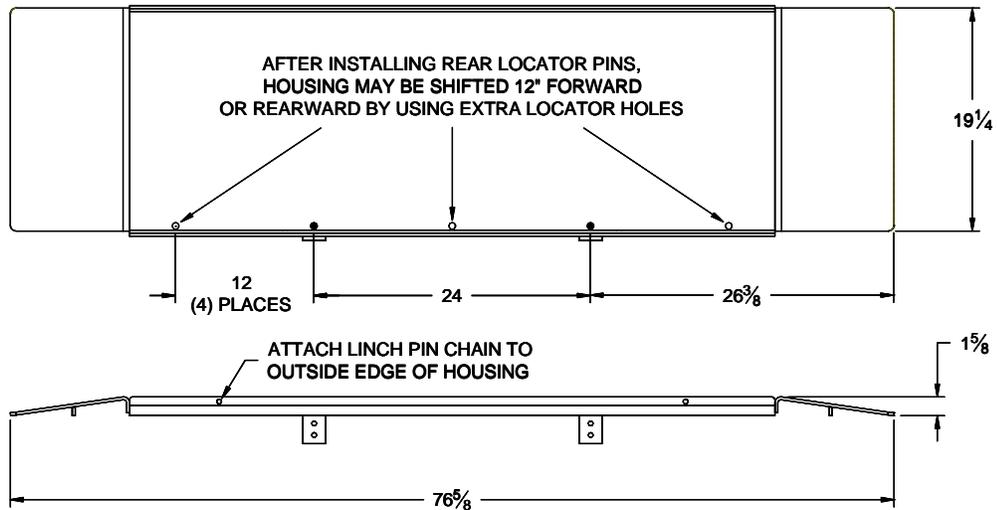
- 3) Attach Guide Bar to runway using (3) #10-24NC Socket Head Cap Screws and lock nuts provided. Use square to check position.
- 4) Locate front Guide Bar on Idler runway using a straight edge aligned with the Power runway Guide Bar and attach in the same manner.
- 5) Position the Front Turn Plate (SOLD SEPERATELY) against the fixed front Guide Bar and mount a second Guide Bar against the back of the Front Turn Plate.
- 6) Position the Drop-In Spacer and the Roll-Back Platform, **Fig 1**. Using the holes in the side of the Roll-Back Platform as a template, drill (2) 13/32" holes for both runways. Mount platforms using 3/8" flange bolts and nuts provided.

REAR SLIP PLATE

The following procedures are the same for the Power and Idler Runway.

- 7) Locate the front edge of the Rear Locator 94" back from the front edge of the Roll-Back Platform, see **Fig 1**. Using the holes in the Rear Locator, drill (2) 13/32" holes through the side of the runway. Bolt the rear locator using the 3/8" flange bolts and nuts provided.
- 8) Measure 24" from the front edge of the rear locator to the front edge of the second rear locator and repeat the previous procedure Position Rear Slip Plate Housing on locator pins, **Fig 3**.
- 9) Attach Linch Pin chain strap to Slip Plate Housing, **Fig 3**.

**Note:** The Slip Plate Housing has (5) 9/16" holes spaced 12" apart to fit over the Rear Locator Pins. The housing may be shifted (without the use of any tools) forward or rearward 12" to accommodate a wider range of wheelbases.



**Fig 3 – Rear Slip Plate Housing Locations**

# PARTS BREAKDOWN

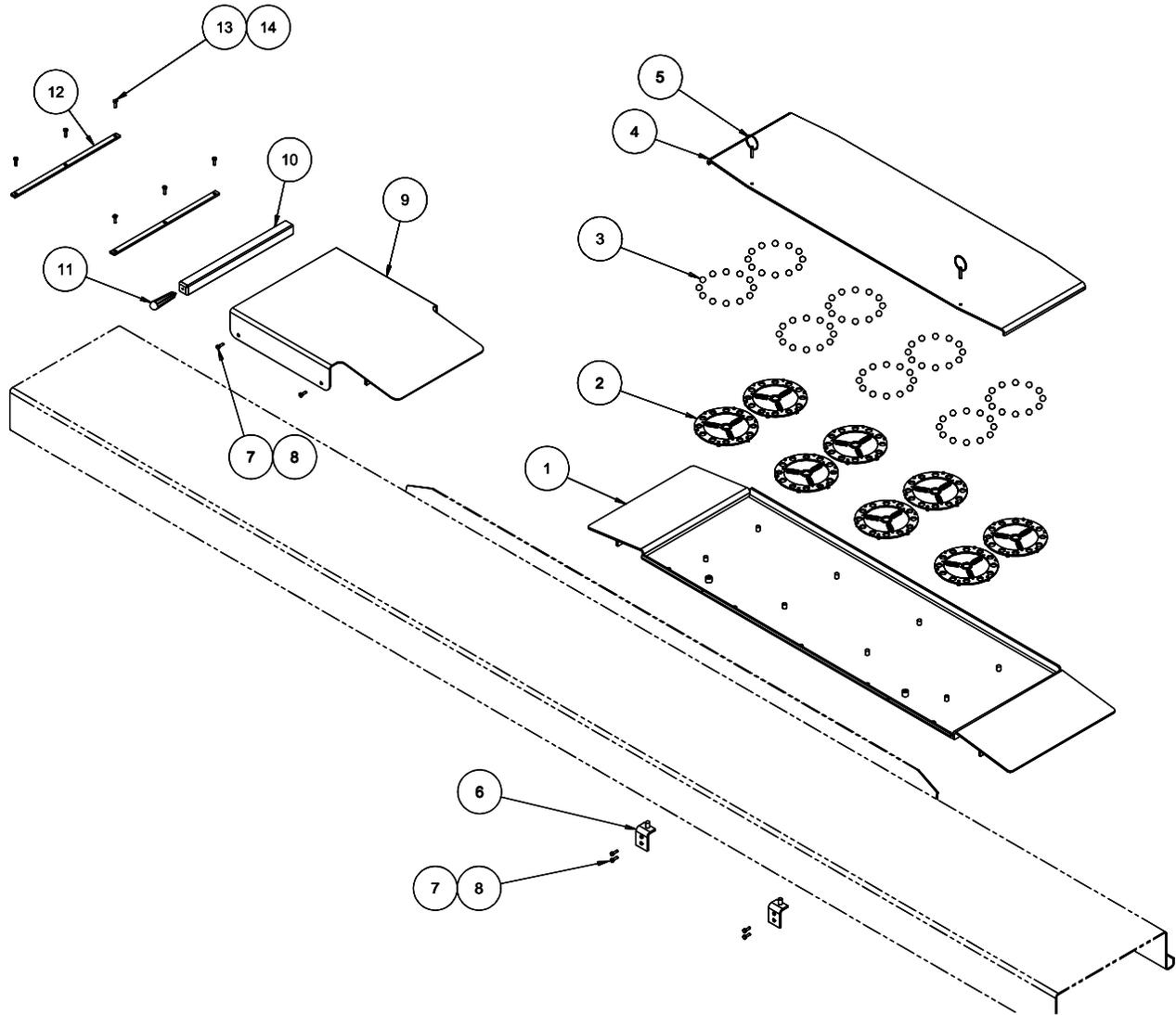
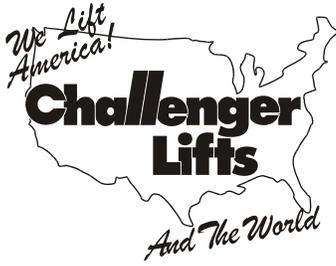


Fig A. Bolt-On Alignment Kit #40200-3D

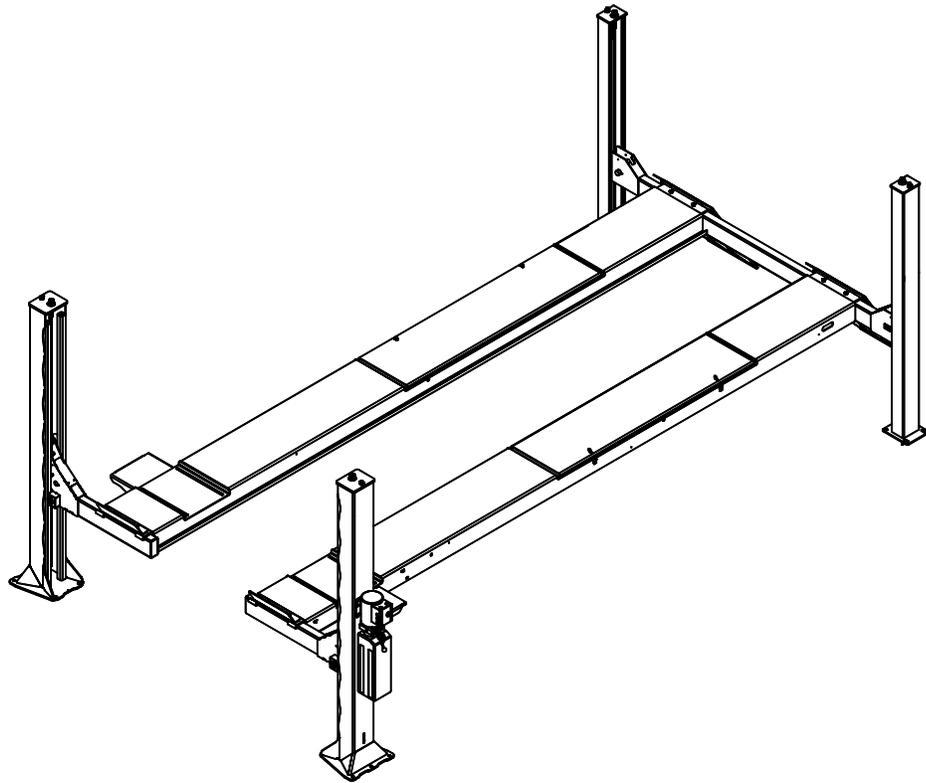
## PARTS BREAKDOWN

ITEM #	PART #	QTY/ LIFT	DESCRIPTION
1	40290	2	SLIP PLATE HOUSING
2	40222	16	BALL RETAINER SUB-ASSEMBLY
3	40211	192	DELFIN BALL
4	40214	2	SLIP PLATE
5	40220	4	LINCH PIN
6	40216	4	REAR LOCATOR
7	A1153	12	3/8-16NC x 3/4Lg HEX.FLG.HD.CAP SCREW
8	A1154	12	3/8-16NC HEX.FLG.NUT
9	40292	2	ROLL-BACK PLATFORM
10	40296	2	DROP-IN SPACER
11	40295	2	HANDLE
12	40291	4	GUIDE BAR
13	40299	12	#10-24NC x 1"Lg SOC.HD.CAP SCREW
14	055-127	12	#10-24NC HEX.LOCK NUT



# INSTALLATION, OPERATION & MAINTENANCE MANUAL

## Four Post Surface Mounted Lift



## Model 40000

**Open Front  
(12,000 lb Capacity)**

200 Cabel Street, P.O. Box 3944 Louisville, Kentucky 40201-3944  
Email: [sales@challengerlifts.com](mailto:sales@challengerlifts.com) Web site: [www.challengerlifts.com](http://www.challengerlifts.com)

**Office 800-648-5438 / 502-625-0700 Fax 502-587-1933**

**IMPORTANT: READ THIS MANUAL COMPLETELY BEFORE  
INSTALLING or OPERATING LIFT**

Model 40000 Open Front  
Installation, Operation and Maintenance

GENERAL SPECIFICATIONS

MODEL: 40 [E OR X] [A OR F] [O OR X]

[LENGTH] [ALIGN OR FLAT DECK] [OPEN OR CLOSED FRONT]

SPECIFICATIONS	40EAO	40XAO	40EFO	40XFO
<b>A</b> Length Overall	20' 9"	23'	20' 9"	23'
<b>B</b> Width Overall	11' 10" front - 10' 10 3/4" rear			
<b>C</b> Inside Columns	120" front - 116" rear			
<b>D</b> Between Columns	16' 3"	18' 6 1/2"	16' 3"	18' 6 1/2"
<b>E</b> Height of Columns	99 1/2" front - 90 1/2" rear			
<b>F</b> Height of Runways	7"			
<b>G</b> Width of Runways	20"			
<b>H</b> Width Between Runways	43"			
<b>I</b> Maximum Wheelbase *	182 1/2"	210"	182 1/2"	210"
<b>J</b> Max. 2 Wheel Alignment	166 1/2"	194"	N/A	
<b>K</b> 4 Wheel Alignment	88" - 158"		N/A	
<b>L</b> Rise Height	78"			
Lifting Capacity	12,000 lbs.			
Air Supply Required	85-115 psi Clean & Dry			
Motor	2HP			
Voltage (Single Phase Std.) **	208v-230v			
Speed of Rise	70 Seconds (approximate)			
Min. Recommended Bay Size	12' x 24'	12' x 26'	12' x 24'	12' x 26'

\* Wheelbase is based on a tire diameter of 30"

\*\* Optional 3 phase, 50/60Hz, 208, 230 or 460V available.

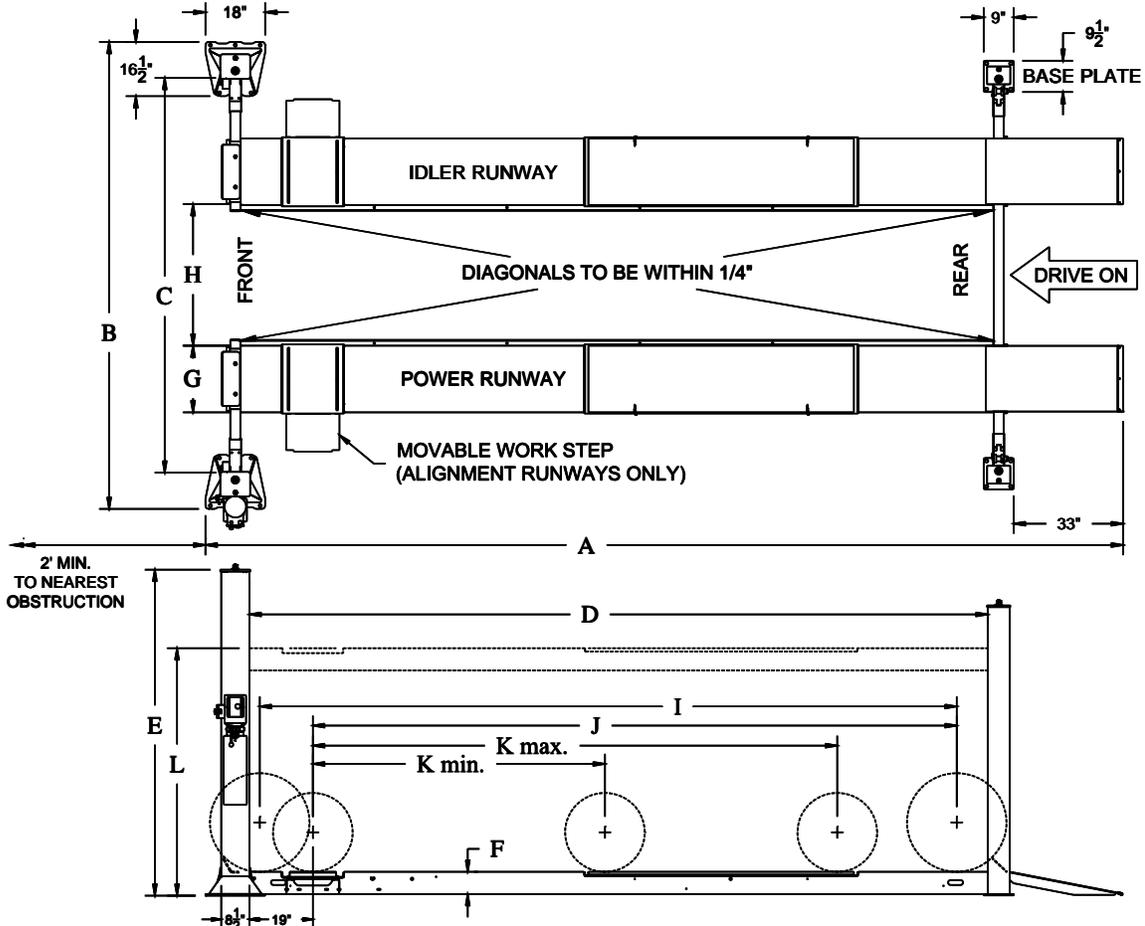


Fig 1 – General Specifications and Service Bay Layout

## VERTICAL CLEARANCE

Check the height of the area where the lift is to be installed. Clearance should be calculated based on the full raised height of the lift.



**WARNING** Failure by purchaser to provide adequate clearance could result in unsatisfactory lift performance, property damage, or personal injury.

## FLOORING

Be certain you have the proper concrete floor to properly handle the loaded lift. Floor should be in generally good condition with no large cracks, spalling or deterioration.

**Minimum requirements for concrete are 4 inches minimum depth, with steel reinforcement, 3500 psi, cured for 28 days per local commercial practice.** This lift is designed to accommodate a 3 inch total variation in elevation at the base of the four posts. Floor should be level within 1/2 inch from side-to-side and 2 1/2 front-to-rear to avoid special shimming. No anchors should be installed within 8 inches of any crack, edge, or expansion joint. If these conditions cannot be met, a pad may be poured to accommodate the lift.

Check with local building inspectors and/or permits office for any special instructions or approvals required for your installation.



**WARNING** Failure by purchaser to provide the recommended mounting surface could result in unsatisfactory lift performance, property damage, or personal injury.

## ELECTRICAL REQUIREMENTS

**For lift installation and operation for single phase units, it is necessary to have a dedicated circuit with a double pole 25 amp circuit breaker or time delay fuse.**

## SAFETY NOTICES AND DECALS

For your safety, and the safety of others, read and understand all of the safety notices and decals included here.

**READ ENTIRE MANUAL BEFORE ASSEMBLING, INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT.**

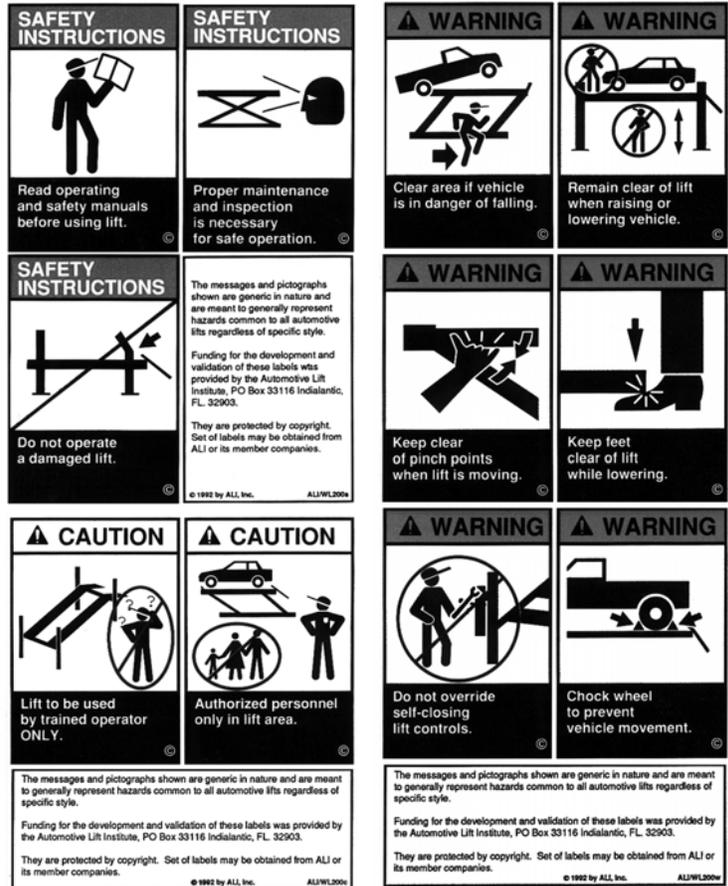
**PROPER MAINTENANCE AND INSPECTION IS NECESSARY FOR SAFE OPERATION.**

**DO NOT OPERATE A DAMAGED LIFT.**

Safety decals similar to those shown here are found on a properly installed lift. Be sure that all safety decals have been correctly installed on the Power Unit reservoir. Verify that all authorized operators know the location of these decals and fully understand their meaning. Replace worn, faded, or damaged decals promptly.



**WARNING** Do not attempt to raise a vehicle on the lift until the lift has been correctly installed and adjusted as described in this manual.



## 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 our 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 **Challenger Lifts** AT ONCE if any hidden loss or damage is discovered after receipt.

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT.

File your claim with **Challenger Lifts** promptly. Support your claim with copies of the bill of lading, freight bill, and photographs, if available.

## Component Packing List

ITEM #	QTY/ LIFT	DESCRIPTION
1	1	POWER RUNWAY ASS'Y.
2	1	IDLER RUNWAY ASS'Y
3	2	FRONT COLUMN ASS'Y
4	2	REAR COLUMN ASS'Y
5	2	ENTRANCE RAMP WELD
6	1	FRONT POWER CROSS BEAM
7	1	FRONT IDLER CROSS BEAM
8	1	REAR CROSS BEAM ASS'Y
9	1	POWER UNIT
10	1	HARDWARE BOX
11	2	MOVABLE WHEEL CHOCK
12	2	FRONT WHEEL STOP
13	2	WORK STEP (alignment lifts only)
14	2	SHIPPING BRACKET WELD
15	8	1/2" SHIPPING HARDWARE

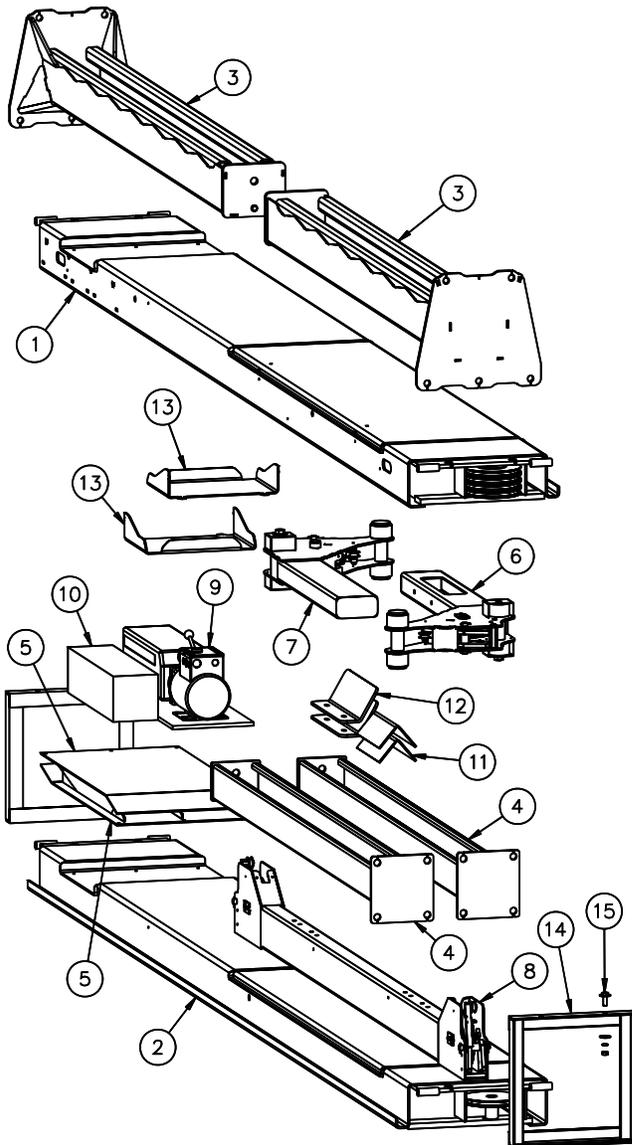


Fig 2 – Package Components

## INSTALLATION

IMPORTANT: Always wear safety glasses while installing lift.

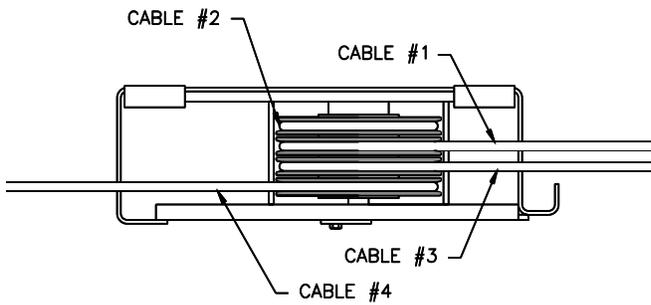
### TOOLS (MINIMUM REQUIRED)

- a. Tape measure, 25ft
- b. Chalk line
- c. 4ft level
- d. 10" & 12" adjustable wrench
- e. Standard open end wrenches 3/8", 7/16", 1/2", 9/16", 5/8", (2) 11/16", 3/4", 15/16"
- f. Box knife
- g. Thread locking compound
- h. Thread tape sealant (for air line)
- i. Needle nose pliers
- j. Hammer drill with 3/4" diameter carbide tipped bits
- k. 2lb hammer
- l. Torque wrench: 150 foot pounds minimum with 1 1/8" socket
- m. 8 ft. Step ladder
- n. Blocking – (4) 4x4x30", (4) 1x4x12"
- o. Transit for leveling alignment lift

### LAYOUT

- 1) Lay out the service bay according to the architect's plans or owners instructions (**see Fig 1**). Be certain that the proper conditions exist, see page 3.
- 2) Unpack lift. Remove all packaging from Power Runway (power runway has four cable sheaves at rear end) and pull threaded cable ends out. Make sure the cables are in the proper sheaves at the 4-stack, **Fig 3**.

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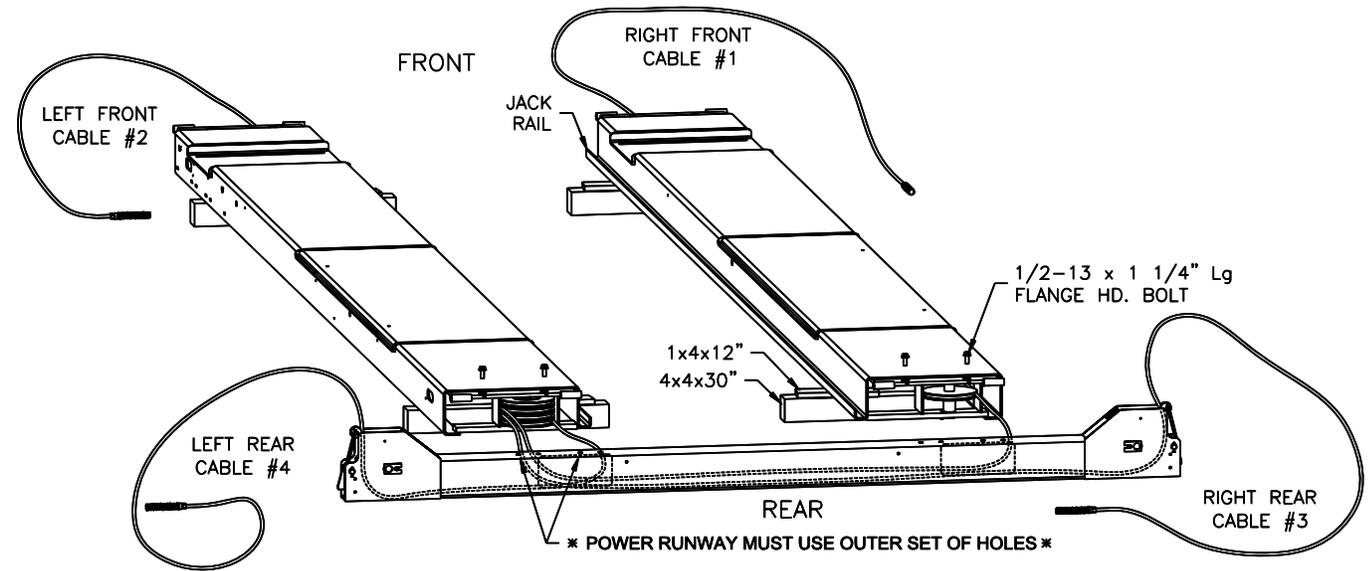


**Fig 3 – Power Runway 4-Stack (rear view)**

- 3) Position runways on blocking (see Fig 4) per layout lines established in step 1. Use four 30"

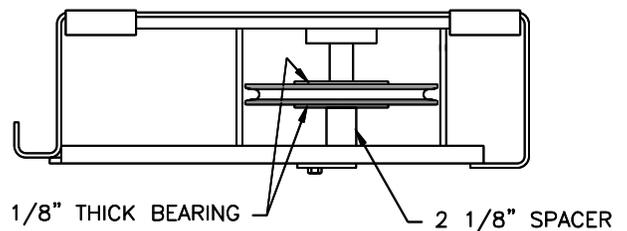
long 4x4's spanning the width of the runway and four 12" long 1x4's to shim up the jack-rail side of the runway. Cable #1, #3, & #4 should be extending out from the rear of the power runway and cable #2 from the front of the power runway, Fig 4.

- 4) Reach in through either of the access holes in the rear cross beam tube and pull out the roll of 1/8" dia. plastic air line connected to the air cylinder at the end of the cross beam. Repeat for opposite access hole and position the cross beam near the end of the runways as in Fig 4.



**Fig 4 – Runway Layout**

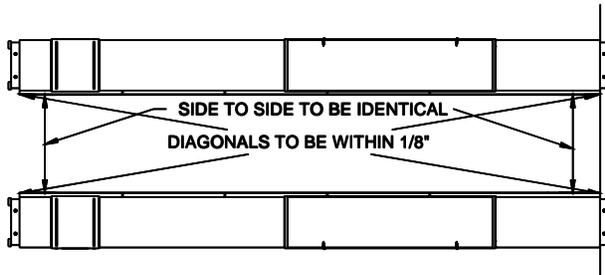
- 5) Remove the two sheaves from the rear cross beam and the two sheaves from the idler runway. The runway sheave pins do not need to be removed, just lowered enough to remove the sheaves.
- 6) Starting from the bottom of the stack, route cable #4 through the access hole and up out the left end of the beam. Repeat for cable #3 out the right end of the beam. Route cable #1 through the access hole, and back out the idler side access hole. **Look through the idler end of the cross beam and ensure that cable #1 and #3 have not crossed.** Route cable #1 through the idler runway (don't forget to route it up over the cross-braces in the bottom of the runway).
- 7) Reinstall the cross beam sheaves (one thin plastic bearing on each side of each sheave) and the idler runway sheaves (2 1/8" long spacer bushing on the bottom then 1/8" thick bearing, sheave, and 1/8" thick bearing, Fig 5).



**Fig 5 – Runway Single-Stack (typical for front of power runway and front & rear of idler)**

- 8) Attach the rear cross beam to the runways (Fig. 4) with 1/2" x 1 1/4" lg. flange head bolts being careful not to pinch the air line. Leave the air lines hanging out the bottom of the cross beam access holes at this time, they will be fed in through the runway after the lift is raised. **The outermost runway slots should be in line with the outermost holes in the top of the cross beam, see Fig. 4.** Do not torque bolts yet.

- 9) Check the layout of the lift in the bay. **(This is the last opportunity to reposition the lift. If there is any question about where the front column anchors or power unit are going to end up, complete steps 21 - 24 first and come back to this step).** Adjust the position of the runways so the distance from power side jack rail to idler side jack rail is the same at the front and the rear and the diagonal measurements from the front tip of one rail to rear tip of the opposite rail are within  $\frac{1}{4}$ ", **Fig 6.**

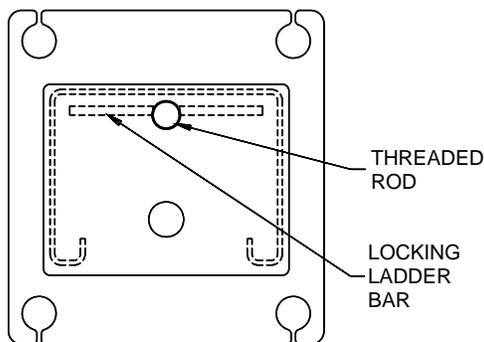


**Fig 6 – Final Runway Positioning**

- 10) Center rear cross beam bolts with slots in runway and tighten. (Be careful not to move runways.)

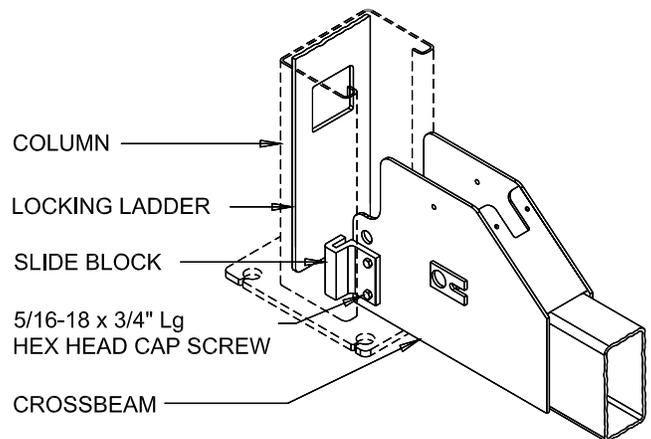
REAR COLUMNS

- 11) Stand up both rear (small) column assemblies near the rear corners of the lift and check the locking ladder bar orientation per **Fig 7**. Note that the center of the threaded rod is offset (away from the back of the column) from the center of the ladder. Thread the locking ladder jam nut (located under the column top plate) down approximately 6" to allow the ladder to be lifted freely.



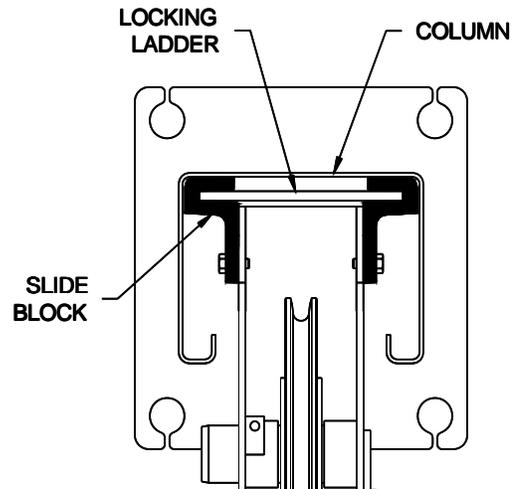
**Fig 7 – Locking Ladder Orientation**

- 12) Slide power side column onto cross beam until the 5/16-18NC threaded holes in the side of the beam are just exposed. Position slide blocks as shown in **Fig 8** and attach with 5/16x3/4 bolts (apply thread locking compound before installing).



**Fig 8 – Slide Block Installation**

- 13) Raise the locking ladder, push the column against the slide blocks, and lower the ladder into the slide blocks, **Fig 9.**



**Fig 9 – Locking Ladder Orientation**

- 14) Repeat for idler side rear column.

ANCHORING (**rear columns only at this time**)

- 15) The anchor bolts must be installed at least 8" from any crack, edge, or expansion joint.
- 16) Use a concrete hammer drill with a 3/4 inch carbide bit. Tip diameter should conform to ANSI Standard B94.12-1977 (.775 to .787). Do not use excessively worn bits or bits which have been incorrectly sharpened. A core bit may be necessary if an obstruction is encountered. **Never substitute with shorter anchor.**
- 17) Drill the anchor holes using the base plate as a template. Drill through the floor if possible or to a depth of 5 inches minimum.
- 18) Vacuum dust from the hole for proper holding power.

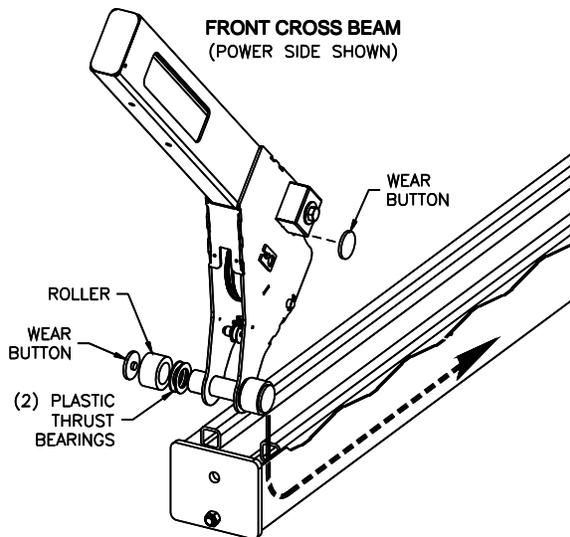
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- 19) Shim columns to plumb using the shims provided or steel washers. DO NOT shim more than 1/2" at any given point. Use a level no less than 24" in length to plumb columns.
- 20) Assemble washer and nut to anchor with nut just below impact section of bolt. Drive anchor into hole until nut and washer contact base. Tighten anchor bolts and recheck column for plumb. Re-shim as required.

**NOTE:** Level bubble should not only be between the lines, the bubble should be centered between the lines. If the provided shims do not allow sufficient centering of the bubble, it is best to lean the rear columns in the direction toward each other and the front columns in the direction away from each other.

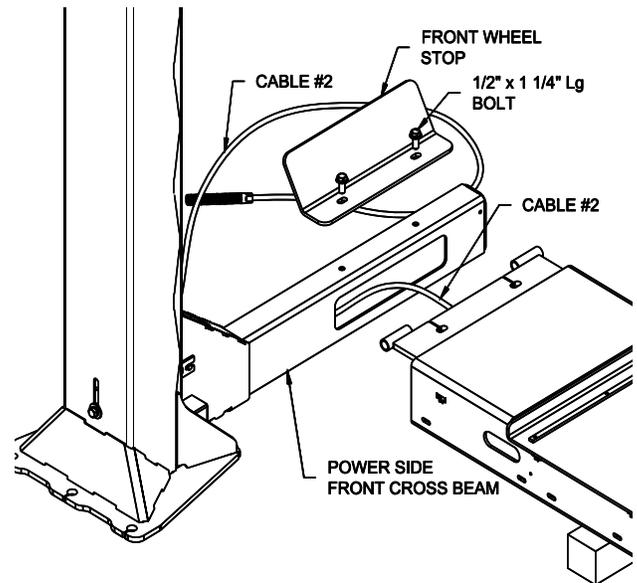
FRONT COLUMNS

- 21) Position the two front columns near the front corners of the lift and insert the front cross beams as shown in **Fig 10**. Notice that the front columns are identical, but the cross beams are not.



**Fig 10 – Front Cross Beam Installation**

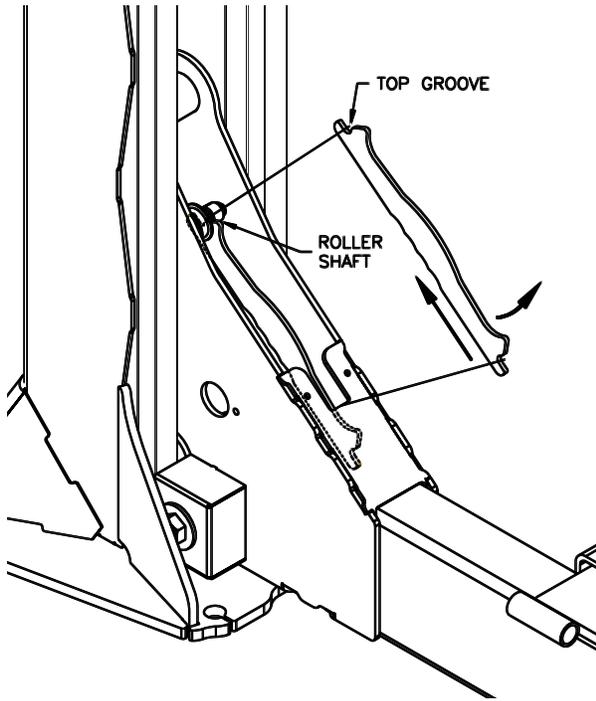
- 22) Ensure that the power side front cross beam is touching the power column base plate and stand the column up. Move the column into position and remove the cross beam sheave. Reach in through the access hole in the cross beam tube and pull out the 6 ft. roll of 1/8" dia. plastic air line connected to the air cylinder at the end of the cross beam. Feed cable #2 into the cross beam access hole and back out the top, **Fig 11**.



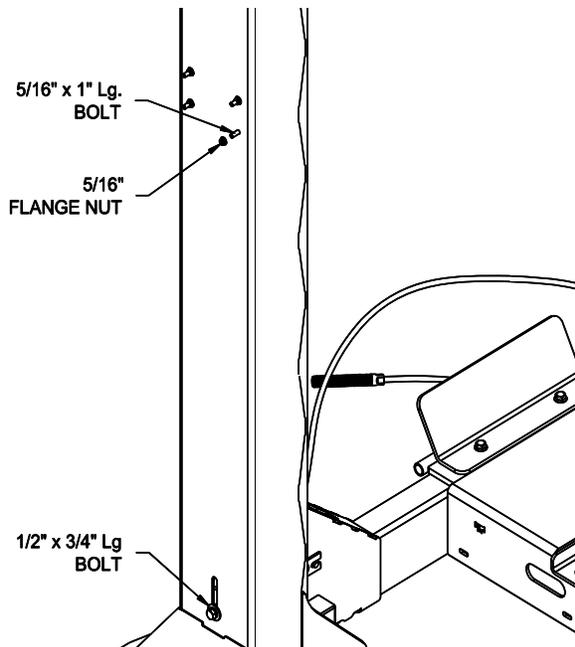
**Fig 11 – Front Cross Beam Installation**

- 23) Attach the cross beam to the runway with 1/2" x 1 1/4" lg. flange head bolts being careful not to pinch the air line. (Leave the air line hanging out the bottom of the cross beam access holes at this time, it will be fed in through the runway after the lift is raised.) Center the cross beam bolts with slots in runway while squaring the cross tube with the runway (gap between the front of the runway and cross tube should be the same on both sides of the runway). Torque runway bolts to 60-80 foot pounds.
- 24) Repeat for idler side cross beam.
- 25) Insert stack cable latch disengaging tool inside power side front cross beam and engage the groove at the top end of the tool with the latch roller shaft as shown in **Fig 12**. Push the slack lock latch back into the column while rotating the bottom of the tool upward and engage the bottom groove of the tool in the cross beam. This will allow the column to be moved into position without resistance from the slack lock.
- 26) **POWER COLUMN ONLY** – Thread the front power side locking ladder jam nut (located under the column top plate) down approximately 1/2". Remove 1/2" x 3/4" lg. lock ladder securing bolt from bottom of column and rock the ladder to one side to allow access to power unit mounting holes and insert two 5/16" x 1" flange head bolts from the inside out and secure with 5/16" flange nut, **Fig 13**. Shift ladder to opposite side and install remaining two power unit bolts. Reinstall lower ladder bolt.

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**Fig 12 – Slack Cable Latch Disengaging Tool**



**Fig 13 – Power Unit Mounting Bolts**

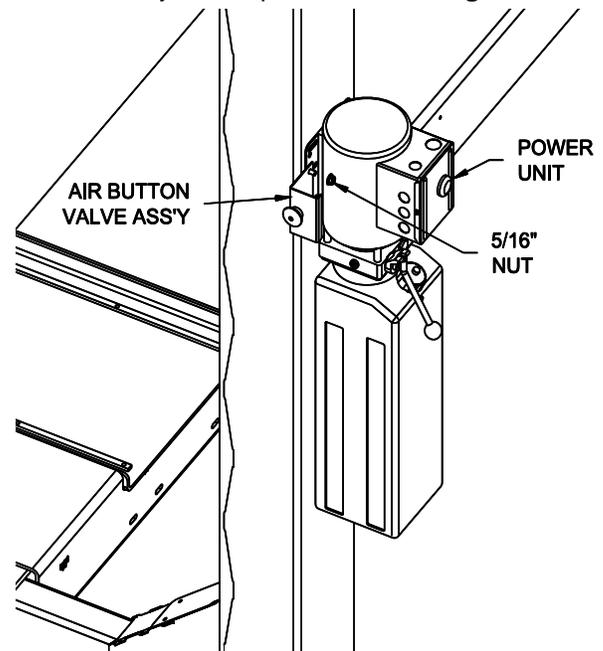
- 27) Push the power column against the two roller wheels located on the lower portion of the cross beam. The upper roller wheels should not be touching the column at this time. If they are, roughly shim the column plumb, then shim up the blocking on the jack-rail side of the runway.
- 28) Recheck the four measurements from **Fig 6**.
- 29) After ensuring column is touching lower wheels and not the upper wheels, drill and install anchors per steps 15-21.

- 30) After properly shimming column plumb, loosen anchors and add one shim to both of the two inside anchors to lean the column outward slightly. Make sure lower roller wheels are in contact with column and torque anchor bolts to 150 foot pounds.



**Fig 14 – Front Column Shimming**

- 31) Repeat steps 25-30 (excluding step 26) for idler side.
- 32) Install the four cable ends with one flat washer, one load nut, and one jam nut.
- 33) Install the power unit and the air button valve assembly on the power column, **Figs 13 & 15**.



**Fig 15 – Air Button & Power Unit Mounting**

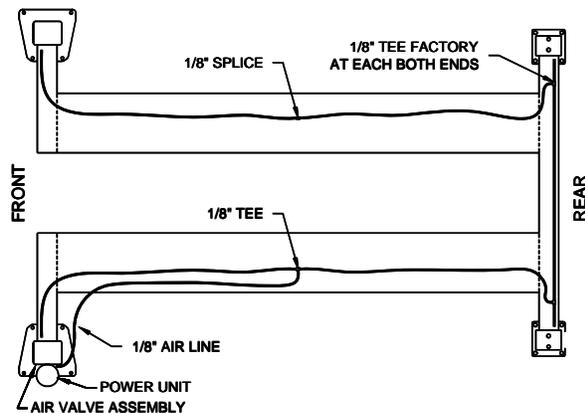
- 34) Install O-Ring end of 90 degree hydraulic elbow (9/16-18 O-Ring x 37° Male JIC) to power unit output port. The hydraulic hose is pre-installed to the hydraulic cylinder and secured inside the runway. Pull loose end out through the opening and attach to the elbow fitting.

**Do Not Use Teflon Tape or Pipe Dope** on fittings.

- 35) Have a certified electrician connect the power unit to a suitable electrical power source. The standard power unit is 208/230 volt 60 Hz single phase requiring a dedicated 25 amp double poll, double throw circuit breaker to operate lift at full capacity.

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- 36) **BE CERTAIN ALL FITTINGS AND CONNECTIONS ARE TIGHT. IT IS THE INSTALLERS RESPONSIBILITY TO INSURE SYSTEM IS LEAK-FREE.** Fill the Power Unit with three gallons of clean 10wt anti-foam anti-rust hydraulic oil or Dexron III ATF. **Do NOT USE OILS WITH DETERGENTS.**
- 37) Energize the power unit and raise the lift approximately 1 ft off the ground and look underneath the power runway to verify that the cable lugs are resting firmly against the cylinder pull bar.
- 38) For flat deck style runways, level the runways and crossbeams using a 4 ft. level. With the lift resting in its locks, find the highest corner and adjust the other three column ladder bars until the runways are level front-to-rear and side-to-side. Tighten jam nut against bottom side of each column top plate. For alignment style runways, use a transit for leveling runways placing the target in the center of the turn plate and the center of the rear slip plate (with lift lowered into locks). Refer to alignment equipment for leveling tolerance.
- 39) Adjust cables until all four locks are synchronized when lift is raised. Tighten cable jam nuts against adjustment nuts.
- 40) Install 1/8" air line from air valve assembly thru opening in runway to Tee. **Fig 16**



**Fig 16 – Lock Release Air Line Routing**

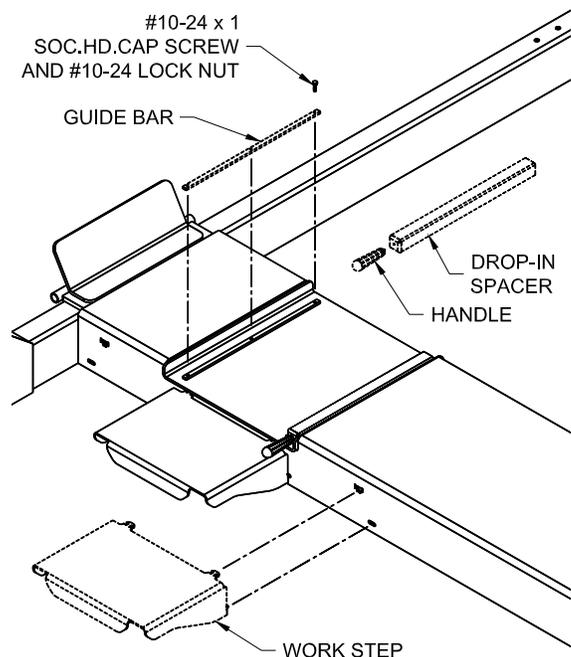
- 41) Route power side front and rear cross beam air lines through power runway to Tee. Route idler side front and rear cross beam air lines through idler runway and connect together with 1/8" air line splice provided. Use provided adhesive tabs and plastic cable ties to secure air lines inside runways.
- 42) Connect the button valve to a source of **clean, dry air (filter, regulator, lubricator)** using the hose barb and clamp provided. **Failure to provide clean, dry air will void warranty on pneumatic components.**

**Air pressure required 90/120 psi.**

- 43) Energize air valve assembly and insure that all air cylinders are working properly.
- 44) Raise and lower lift several times to bleed hydraulic cylinder. Hydraulic cylinder is self bleeding. Lower lift and check fluid level in reservoir. Add fluid as needed.
- 45) Run lift to full rise and continue running motor approximately 5 more seconds. Check hydraulic hose and connections for leaks. Retighten fitting if leaking.
- 46) Raise lift approximately half way. Slowly jog power unit until you hear one of the locks engage. Adjust locking ladder until it just barely raises the crossbeam end. Back off 1/2 turn. Repeat for each column.

ALIGNMENT RUNWAYS

- 47) Lower lift and raise to check for lock engagement. The locks should engage simultaneously (clicking noise). Re-adjust locking ladders as needed.
- 48) Position Front Turn Plates (SOLD SEPARATELY) and install Guide Bars to runway using (3) #10-24 x 1" Socket Head Cap Screws and lock nuts provided. Ensure that the Turn Plates will slide freely and tighten Guide Bars.
- 49) Attach Work Step to each runway. (The Work Step may be located in three different positions on each runway.)
- 50) Install Handle to Drop-In Spacer and position behind rear Guide Bar. The Drop-In Spacer is provided for "Roll Back" alignment.



**Fig 16 – Alignment Turn Plate Installation**

### **Owner/Operator Checklist**

**SAVE THESE INSTRUCTIONS** deliver them to owner/user/employee along with other materials furnished with this lift.

Demonstrate the operation of the lift to the owner/operator and review correct and safe lifting procedures using the **Lifting It Right** booklet as a guide.

Complete the Installation Checklist/Warranty Validation questionnaire with the owner. Review the terms of the warranty registration card, and return the card and a copy of the questionnaires to:

*Challenger Lifts, Inc.*  
200 Cabel Street  
Louisville, KY. 40206

### **Safety Notices and Decals**

This product is furnished with graphic safety warning labels, which are reproduced on page 3 of these instructions. Do not remove or deface these warning labels, or allow them to be removed or defaced. For your safety, and the safety of others, read and understand all of the safety notices and decals included.

### **Owner/Employer Responsibilities**

This lift has been designed and constructed according to ANSI/ALI ALCTV-1998 standard. The standard applies to lift manufactures, as well as to owners and employers. The owner/employer's responsibilities as prescribed by ANSI/ALI ALOIM-2000, are summarized below. For exact wording refer to the actual standard provided with this manual in the literature pack.

***The Owner/Employer shall*** insure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions; ALI/SM 93 - 1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

***The Owner/Employer shall*** establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the

employer shall insure that the lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

***The Owner/Employer shall*** establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALIOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the employer shall insure that the lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

***The Owner/Employer shall*** maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.

***The Owner/Employer shall*** display the lift manufacturer's operating instructions; ALI/SM 93 - 1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lift, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts; in a conspicuous location in the lift area convenient to the operator. Demonstrate the operation of the lift to the owner and review correct and safe lifting procedure, using the "Lifting It Right " booklet as a guide.

### Important Safety Instructions

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

- 1 Read all instructions.
- 2 Care must be taken as burns can occur from touching hot parts.
- 3 To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
- 4 Adequate ventilation should be provided when working on operating internal combustion engines.
- 5 Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
- 6 To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
- 7 Use only as described in this manual. Use only manufacturer's recommended attachments.

### Save These Instructions

#### LIFTING A VEHICLE

Drive vehicle onto lift. Set parking brake and/or use wheel chocks that are provided with lift.

When the vehicle has reached the desired working height, release the power pack button, and lower the vehicle until the safety locks are engaged. The vehicle should remain level when all locks are engaged. If one side engages and the other continues to descend, stop lowering the vehicle, raise it several inches, and try again to engage locks.

**IMPORTANT**, Before walking under the lift insure that all locks are properly engaged.

It is not safe to work under the vehicle unless all locks are engaged, and the vehicle is level.

#### LOWERING A VEHICLE

Insure that the area under the vehicle is clear of personnel and tools.

Raise the vehicle until locks are free.

Disengage the locks by depressing the palm button and holding it.

Lower the vehicle by depressing the lowering valve handle. Watch lift to insure that the lift is lowering evenly. If not, raise lift and check all locks to insure they are disengaged before trying to lower lift again.

Continue to lower the vehicle until the crossbeams stop against the base plate. It is important to fully lower the lift to release hydraulic pressure on the system.

#### MAINTENANCE

To avoid personal injury, permit only qualified personnel to perform maintenance on this equipment.

The following maintenance points are suggested as the basis of a preventive maintenance program. The actual maintenance program should be tailored to the installation. See ANSI/ALI ALOIM booklet for periodic inspection checklist and maintenance log sheet.

- If lift stops short of full rise or chatters, check fluid level and bleed both cylinders per Installation Instructions.
- Replace all Safety, Warning or Caution Labels if missing or damaged.

#### Daily

- Keep lift components clean. **To keep alignment lifts with rear slip plates working properly use compressed air to blow out any debris from the bearing area.**
- Check for loose or broken parts.
- Check hydraulic system for fluid leaks.
- Check lock release activation.

#### Weekly

- Check cables and sheaves for wear or damage. Replace as required with genuine Challenger Lifts parts.
- Inspect lock mechanism for proper function.

#### Monthly

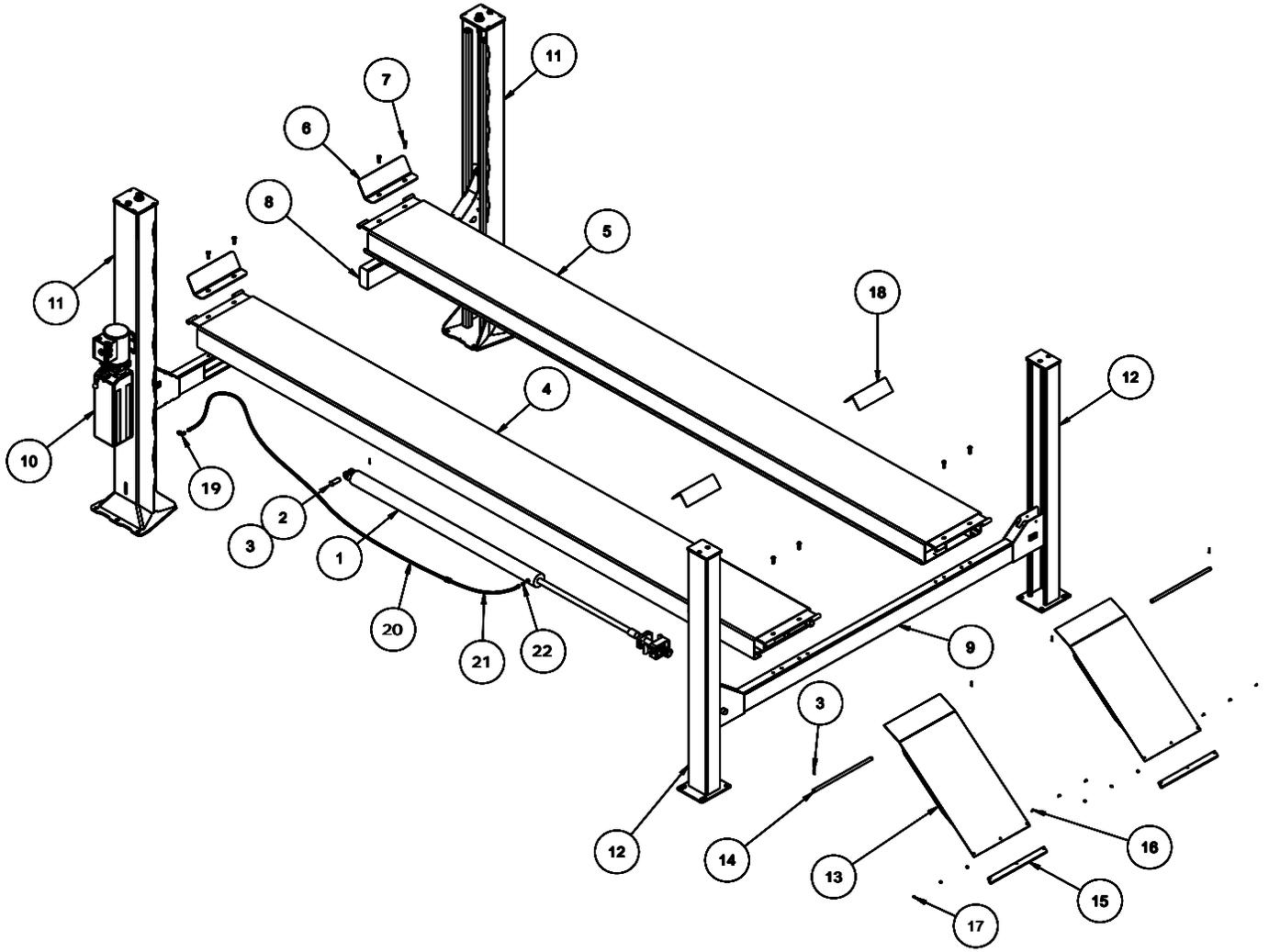
- Torque concrete anchor bolts to 80 ft-lbs.
- Clean and inspect cables and sheaves for wear or damage. Lubricate cables and sheaves with light oil.

**IMPORTANT ! Failure to keep lift free of corrosive agents and solvents will lead to reduced service life, which could result in property damage and/or personal injury.**

**If any problems are encountered, contact your local service representative  
Maintenance**

# Parts Breakdown

*Fig A. General Layout*



Model 40000 Open Front  
Installation, Operation and Maintenance

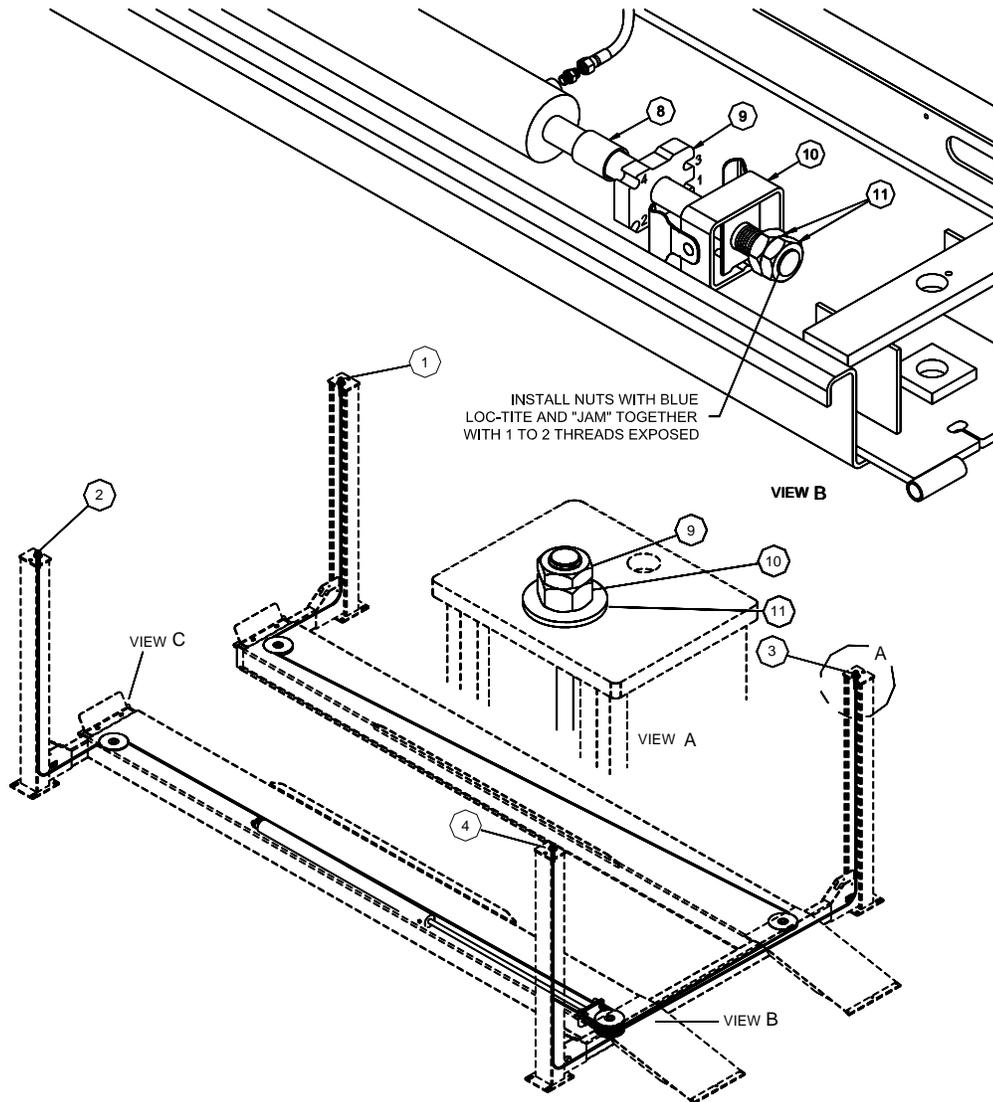
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	44011	1	HYDRAULIC CYLINDER
2	40082	1	CLEVIS PIN
3	40126	5	1/8 x 1 1/2" Lg. COTTER PIN
4	40391	1	FLAT DECK POWER RUNWAY (40XFO)
	40381		FLAT DECK POWER RUNWAY (40EFO)
	40396		ALIGNMENT POWER RUNWAY (40XAO)
	40386		ALIGNMENT POWER RUNWAY (40EAO)
5	40393	1	FLAT DECK IDLER RUNWAY (40XFO)
	40383		FLAT DECK IDLER RUNWAY (40EFO)
	40398		ALIGNMENT IDLER RUNWAY (40XAO)
	40388		ALIGNMENT IDLER RUNWAY (40EAO)
6	40266	2	WHEEL STOP
7	40083	8	1/2-13NC x 1 1/4" Lg. HEX.FLG.HD.CAP SCREW
8	40408 - P	1	FRONT POWER CROSS BEAM ASSEMBLY
	40408 - I	1	FRONT IDLER CROSS BEAM ASSEMBLY
9	40460	1	REAR CROSS BEAM ASSEMBLY
10	31368 - 19	1	POWER UNIT 1 PHASE, 60Hz, 208-230VAC
11	40409	2	FRONT COLUMN ASSEMBLY
12	40449 - I	2	REAR COLUMN ASSEMBLY
13	40161	2	ENTRANCE RAMP
14	40165	2	RAMP HINGE PIN
15	40168	2	RAMP SLIDE
16	31062	6	1/4-20NC x 3/4" Lg. PAN HEAD SCREW
17	40085	6	1/4-20NC HEX FLANGE NUT
18	40265	2	WHEEL CHOCK
19	16167	1	90 DEGREE ADAPTER ELBOW – MALE #6 O-RING x MALE #6 J.I.C.
	40349	1	HYDRAULIC HOSE – FEMALE #6 J.I.C. BOTH ENDS
21	39101 - 024	1	HYDRAULIC HOSE EXTENSION – 2 ft (Model 40E)
	39101 - 048		HYDRAULIC HOSE EXTENSION – 4 ft (Model 40X)
22	A1121	1	UNION ADAPTER #6 O-RING x #6 JIC 37 deg FLARE

Replace all worn or broken parts with genuine **Challenger Lifts Inc.** parts.  
Contact your local Challenger Lifts Parts Distributor for pricing and availability.  
**(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)**

Model 40000 Open Front  
Installation, Operation and Maintenance

PARTS BREAKDOWN (continued)

*Fig B. Cables*



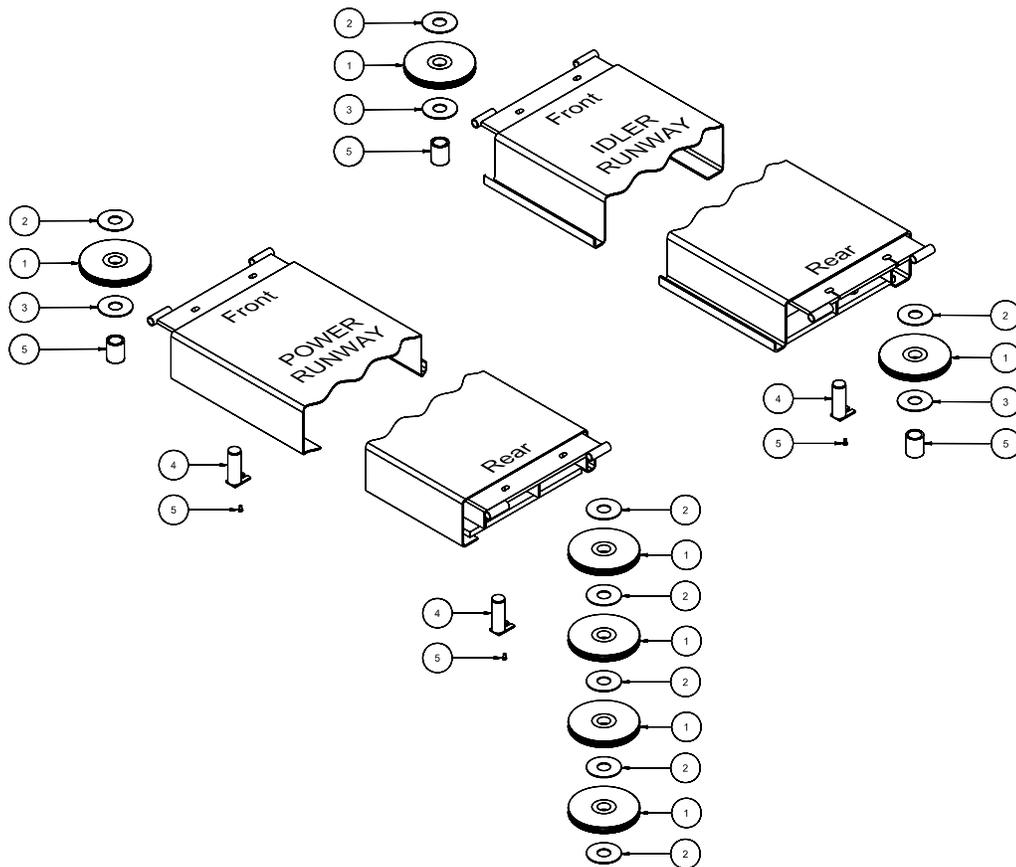
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40472-X1	1	RIGHT FRONT CABLE #1 (40X)
	40472-E1		RIGHT FRONT CABLE #1 (40E)
2	40472-X2	1	LEFT FRONT CABLE #2 (40X)
	40472-E2		LEFT FRONT CABLE #2 (40E)
3	40472-3	1	RIGHT REAR CABLE #3
4	40472-4	1	LEFT REAR CABLE #4
5	40147	4	7/8-9NC HEX NUT
6	40148	4	7/8-9NC HEX JAM NUT
7	40149	4	7/8 FLAT WASHER
8	40438-R	1	2 1/8" SPACER
9	40473	1	CABLE PULL BAR
10	40474	1	CABLE RETAINER WELD
11	44015	2	1 3/8-12NF JAM NUT

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Model 40000 Open Front  
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PARTS BREAKDOWN (continued)

Fig C. Runway Sheaves



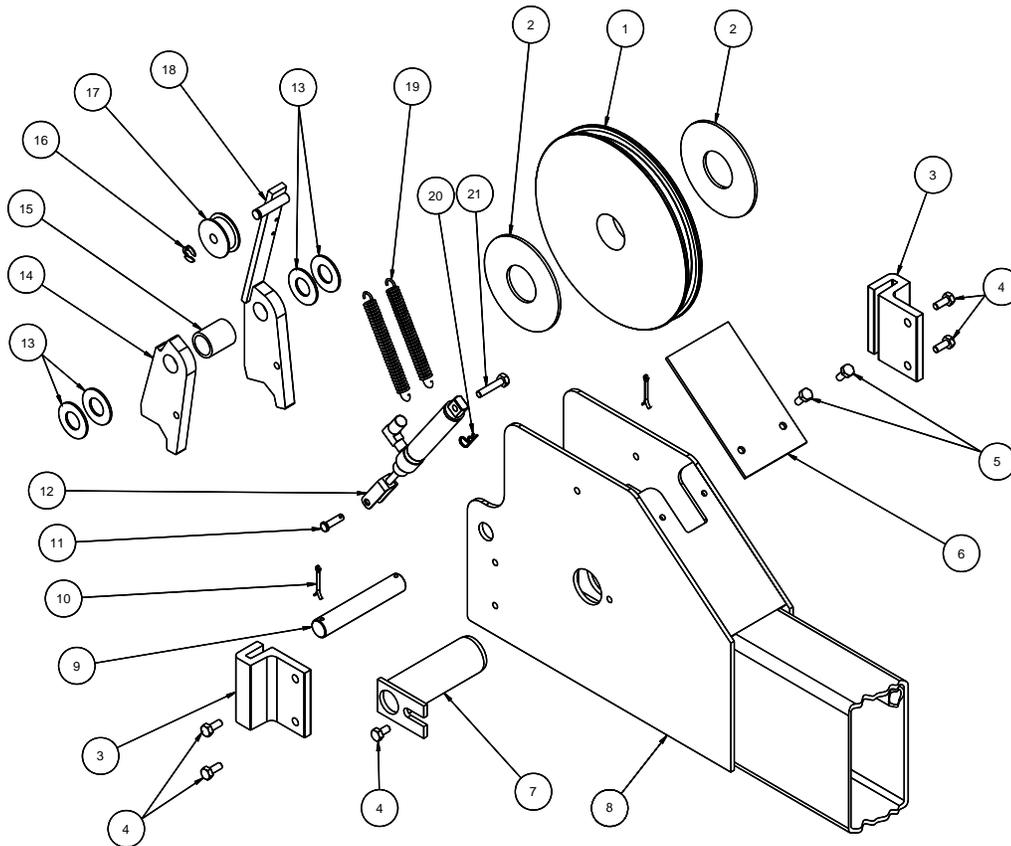
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40050	10	SHEAVE
2	40053	11	1/8" THICK BEARING
3	40055	4	SHEAVE PIN WELD (RUNWAY)
4	31188	16	5/16-18NC x 3/4 Lg. HEX.HD.CAP SCREW
5	40438-R	3	RUNWAY SHEAVE SPACER

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Model 40000 Open Front  
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PARTS BREAKDOWN (continued)

**Fig D. Rear Cross Beam**



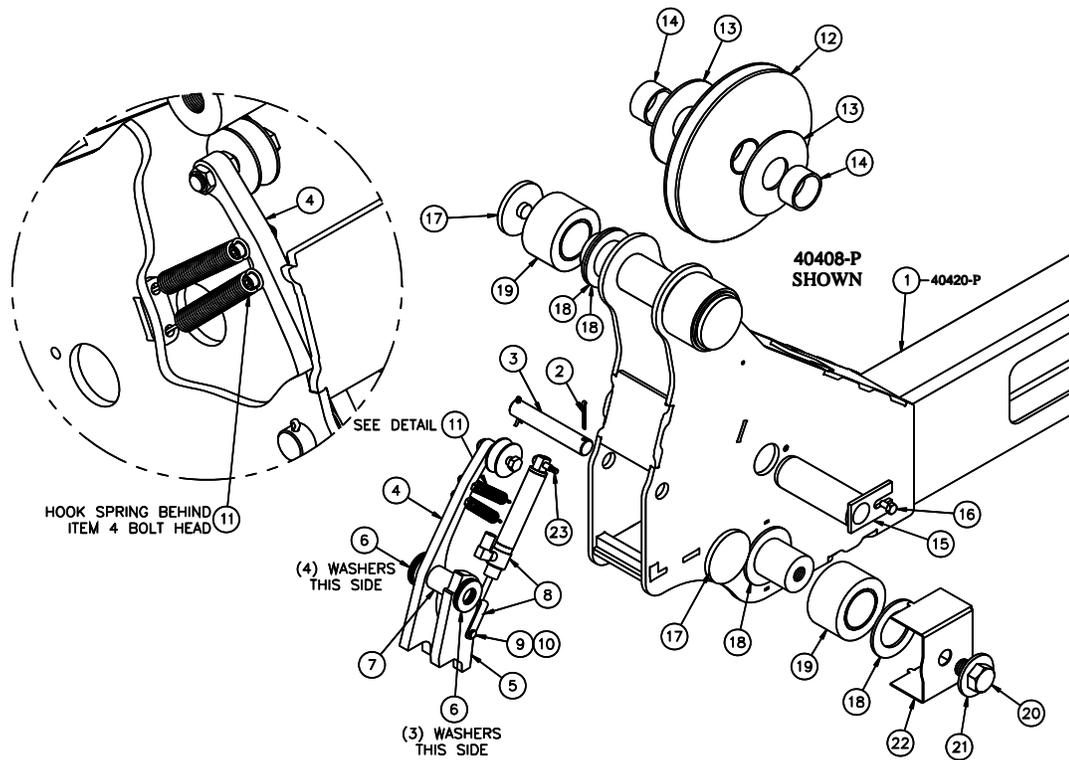
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40050	10	SHEAVE
2	40054	4	1/16" THIN BEARING
3	40118	4	SLIDE BLOCK
4	31188	16	5/16-18NC x 3/4 Lg. HEX.HD.CAP SCREW
5	40120	8	1/4-20NC x 1/2" Lg. SELF TAPPING SCREW
6	40122	2	RUBBER SHEAVE GUARD (REAR)
7	40116	4	SHEAVE PIN (CROSS BEAM)
8	40461	1	REAR CROSS BEAM WELD
9	40127	4	LOCK PIVOT PIN
10	40126	8	1/8" x 1 1/2" Lg. COTTER PIN
11	40123	4	CLEVIS PIN
12	40141	4	AIR CYLINDER ASSEMBLY
13	40128	16-28	3/4" WASHER - (1.5 O.D. x .13 THICK NOMINAL)
14	40131	4	PRIMARY LOCK PAWL
15	40132	4	SPACER BUSHING
16	40137	2	RETAINING RING
17	40135	2	ROLLER
18	40134	2	SLACK CABLE LATCH
19	40139	8	EXTENSION SPRING
20	40124	4	HAIR PIN COTTER PIN
21	40125	4	1/4" DIA. x 3/4" Lg. SHOULDER BOLT

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Model 40000 Open Front  
Installation, Operation and Maintenance

PARTS BREAKDOWN (continued)

*Fig E. Front Cross Beam*



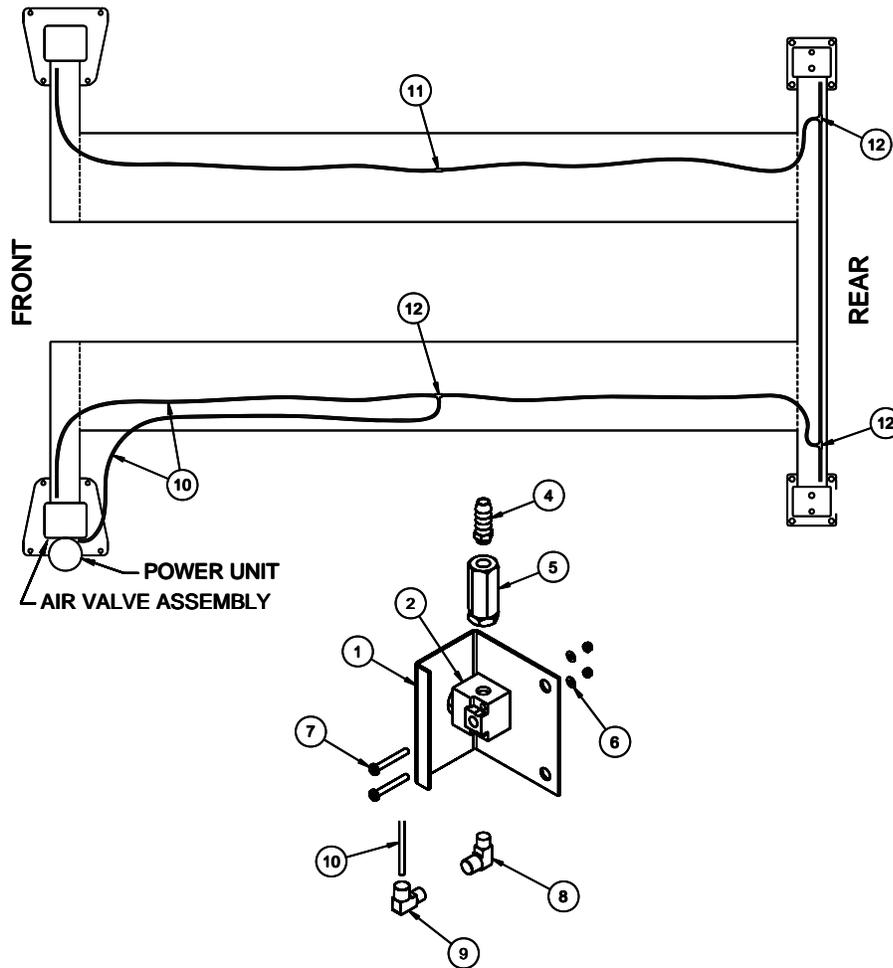
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40420-P	1	CROSS BEAM WELD (POWER SIDE)
	40420-I	1	CROSS BEAM WELD (IDLER SIDE)
2	40126	8	1/8" x 1 1/2" Lg. COTTER PIN
3	40127	4	LOCK PIVOT PIN
4	40440	2	SLACK LOCK ASSEMBLY
5	40131	4	PRIMARY LOCK PAWL
6	40128	16-28	3/4" WASHER - (1.5 O.D. x .13 THICK NOMINAL)
7	40132	4	SPACER BUSHING
8	40141	4	AIR CYLINDER ASSEMBLY
9	40123	4	CLEVIS PIN
10	40124	4	HAIR PIN COTTER PIN
11	40139	8	EXTENSION SPRING
12	40050	10	SHEAVE
13	40053	11	1/8" THICK BEARING
14	40438-X	4	SHEAVE SPACER BUSHING (CROSS BEAM)
15	40116	4	SHEAVE PIN (CROSS BEAM)
16	31188	16	5/16-18NC x 3/4 Lg. HEX.HD.CAP SCREW
17	40425	8	WEAR BUTTON
18	40426	16	THRUST BEARING
19	40430	8	ROLLER WHEEL ASSEMBLY
20	40433	4	3/4-10NC x 1" Lg. HEX.HD.CAP SCREW
21	40434	4	3/4" PLAIN WASHER (13/16" I.D. x 2" O.D.)
22	40435	4	ROLLER COVER
23	40125	4	1/4" DIA. x 3/4" Lg. SHOULDER BOLT
24	40443	2	METAL SHEAVE GUARD (FRONT)
25	40120	8	1/4-20NC x 1/2" Lg. SELF TAPPING SCREW

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Model 40000 Open Front  
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PARTS BREAKDOWN (continued)

*Fig F. Air Lock Release*



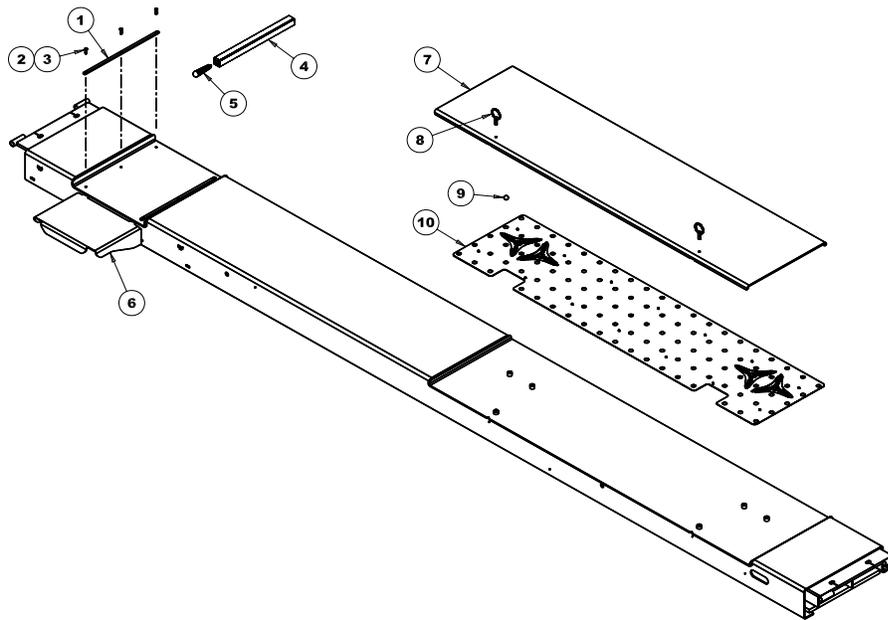
ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	37015	1	BUTTON VALVE BRACKET
2	37016	1	AIR VALVE
3	40091	1	IN-LINE AIR FILTER
4	37021	1	HOSE BARB
5	37023	2	#8-32 HEX NUT
6	37024	2	#8 LOCK WASHER
7	37022	2	#8-32 x 1 1/4" Lg. PAN HD. SCREW
8	37020	1	1/8" NPT STREET ELBOW
9	37019	1	1/8" NPTM x 1/8" PUSH-LOCK 90 DEGREE ELBOW
10	00901	60 ft.	1/8" DIA. PLASTIC AIR LINE
11	40445	1	1/8" STRAIGHT UNION
12	37032	3	1/8" UNION TEE

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Model 40000 Open Front  
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PARTS BREAKDOWN (continued)

*Fig G. Alignment Equipment*



ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	40291	4	GUIDE BAR
2	40299	12	#10-24 x 1" SOC.HD.CAP SCREW
3	055-127	12	#10-24 HEX LOCK NUT
4	40296	2	DROP-IN SPACER
5	40295	2	HANDLE
6	40506	2	WORK STEP
7	40530	2	REAR SLIP PLATE WELDMENT
8	40220	4	PIN ASSEMBLY
9	40211	196	3/4" DIA. BALL
10	40525	2	BALL RETAINER ASSEMBLY
	40526	2	BALL RETAINER SHEET
	40527	28	STAND-OFF PIN
	40528	28	STAND-OFF SPACER (GROMMET)
	40221	24	1/2" DIA. EXTENSION SPRING
	40219	8	7/8" INTERNAL TOOTH LOCK WASHER

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