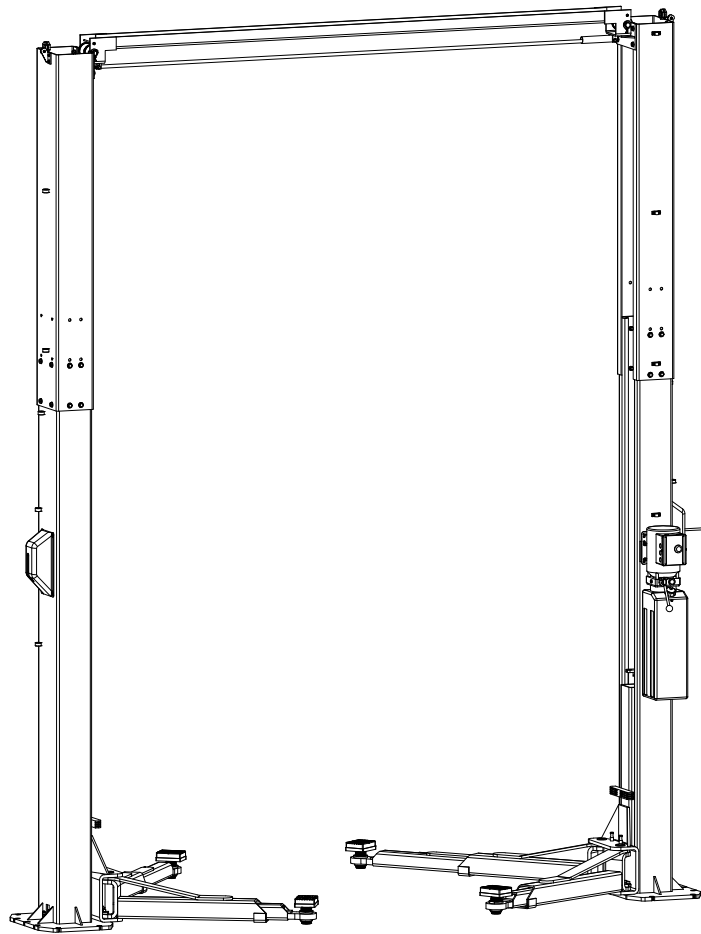


CL Challenger Lifts

INSTALLATION, OPERATION & MAINTENANCE MANUAL

Two Post Surface Mounted Lift



MODEL E12

12,000 LBS. CAPACITY
3000 LBS. PER ARM

200 Cabel Street, P.O. Box 3944 Louisville, Kentucky 40201-3944

Email: sales@challengerlifts.com Web site: 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

See Figure 1	E12
A Rise Height (Screw Pads Highest Position)	78 1/8" (1984 mm)
B Overall Height	13'-10" to 14'-7" (4216 mm to 4445 mm)
C Overall Width	139 3/4" (3550 mm)
D Drive-Thru Clearance	103" (2616 mm)
E Floor to Overhead Switch	13'-3 1/2" to 14'-1/2" (4051 mm to 4280 mm)
F Minimum Arm Reach	35 3/4" (910 mm)
G Maximum Arm Reach	54 1/2" (1386 mm)
H Screw Pad Height	5 1/4" to 7 1/4" (133 mm to 184 mm)
K Inside of Columns	115" (2921 mm)
Lifting Capacity *	12,000 lbs. (5443 kg)
Ceiling Height Required	176" (4470 mm)
Motor	2HP, Single Phase, 60Hz
Voltage	208-230
Speed of Rise **	66 seconds
Max Load Per Arm	3000 lbs (1360 kg)

* Lift capacity ratings are based on loads equally distributed on all four arms.

** Lifting and lowering speeds may vary depending on the weight of the vehicle.

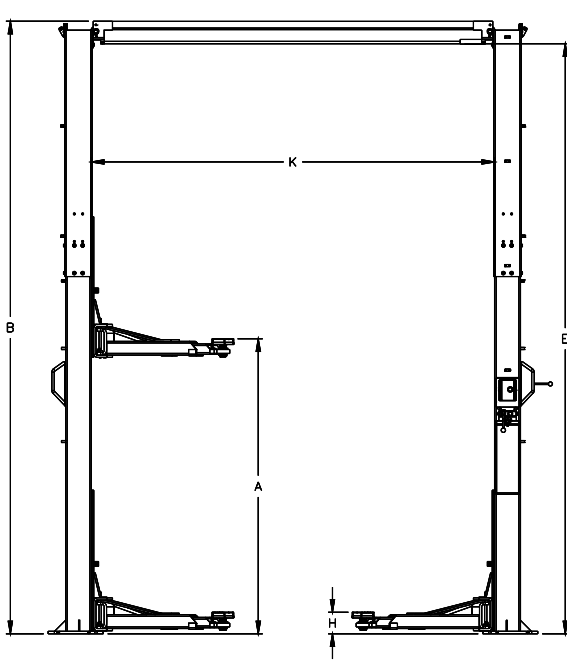


Fig 1a - General Specifications

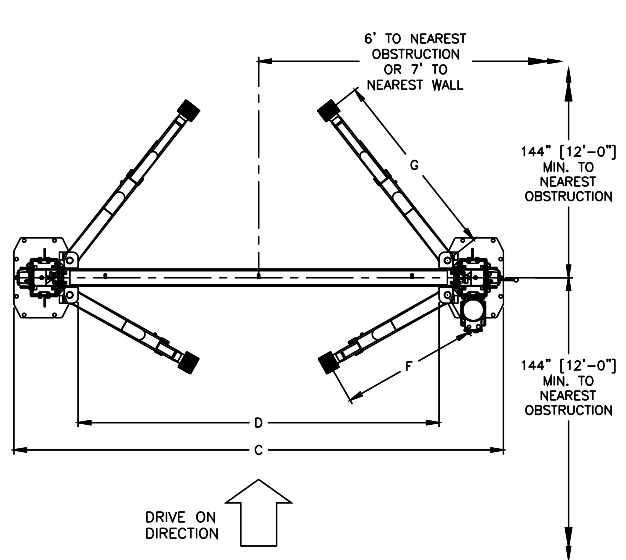


Fig 1b - Service Bay Layout

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. Floor should be level within 3/8 inch over the installation area. 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.

LOCATION

This lift has been evaluated for indoor use only with an operating ambient temp. range of 5 – 40°C (41– 104°F)

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.

<p>SAFETY INSTRUCTIONS Read operating and safety manuals before using lift.</p>	<p>SAFETY INSTRUCTIONS Proper maintenance and inspection is necessary for safe operation.</p>	<p>If attachments, accessories or configuration modifying components that are located in the load path, affect operation of the lift, affect the lift electrical listing or affect intended vehicle accommodation are used on this lift and, if they are not certified for use on this lift, then the certification of this lift shall become null and void. Contact the participant for information pertaining to certified attachments, accessories or configuration modifying components.</p> <p>SAFETY INSTRUCTIONS</p> <p>www.autolift.org ©2007 by ALI, Inc. ALI/WLSIAO1</p>
<p>SAFETY INSTRUCTIONS Do not operate a damaged lift.</p>	<p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.</p> <p>Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indianapolis, FL 32903</p> <p>They are protected by copyright. Set of labels may be obtained from ALI or its member companies.</p> <p>© 1992 by ALI, Inc. ALI/WLSIAO1</p>	

<p>CAUTION Lift to be used by trained operator only.</p>	<p>CAUTION Authorized personnel only in lift area.</p>	<p>WARNING Clear area if vehicle is in danger of falling.</p>	<p>WARNING Position vehicle with center of gravity midway between adapters.</p>
<p>CAUTION Use vehicle manufacturer's lift points.</p>	<p>CAUTION Always use safety stands when removing or installing heavy components.</p>	<p>WARNING Remain clear of lift when raising or lowering vehicle.</p>	<p>WARNING Avoid excessive rocking of vehicle while on lift.</p>
<p>CAUTION Use height extenders when necessary to ensure good contact.</p>	<p>CAUTION Auxiliary adapters may reduce load capacity.</p>	<p>WARNING Do not override self-closing lift controls.</p>	<p>WARNING Keep feet clear of lift while lowering.</p>
<p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.</p> <p>Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indianapolis, FL 32903.</p> <p>They are protected by copyright. Set of labels may be obtained from ALI or its member companies.</p> <p>© 1992 by ALI, Inc. ALI/WLSIAO1</p>		<p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.</p> <p>Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indianapolis, FL 32903.</p> <p>They are protected by copyright. Set of labels may be obtained from ALI or its member companies.</p> <p>© 1992 by ALI, Inc. ALI/WLSIAO1</p>	

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

PART #	QTY/ LIFT	DESCRIPTION
JSJ6-02-00	1	Power Column Assembly
JSJ6-02-00f	1	Idler Column Assembly
JSJ6-03-00	1	Overhead Assembly
E12-HW-A	1	Hardware Box
JSJ6-02-02-00	1	Power Column Extension
JSJ6-02-02-00f	1	Idler Column Extension
JSJ6-09-00	4	Arm Assemblies
JSJ6-04-00	2	Synchronizer Cable Assembly
E12-HP	1	Hydraulic Hose Pack
JSJ5-02-14A	2	Lock Cover

INSTALLATION

IMPORTANT: Always wear safety glasses while installing lift.

TOOLS (MINIMUM REQUIRED)

- Tape measure, 16ft
- Chalk line
- 4ft level
- 10" adjustable wrench
- Metric open end wrenches 10mm, 13mm, 14mm, 15mm, 17mm, 18mm, 19mm and 24mm
- Metric Allen Wrenches 4mm, 5mm, 6mm, and 8mm.
- Needle Nose pliers
- Snap Ring pliers
- Hammer drill with 3/4" diameter carbide tipped bits
- 2lb hammer
- Torque wrench: 150 foot pounds minimum with 1 1/8" socket
- 12 ft. Step ladder
- Anti-Seize lubricant (for arm pins and foot pad screw threads and stop rings)

LAYOUT

- Layout the service bay according to the architect's plans or owners instructions (**see Fig 1b**). **Failure to install in this orientation can result in personal and property damage.** Be certain that the proper conditions exist, see page 3.
- Assemble column extension to column using M12 x 30 Hex bolts. Repeat for opposite column and extension. Install power column extension on power column. NOTE: install with nut and washer on the exterior of the column.
- Using the Overall Width (C) Dimension from **Fig 1**, chalk two parallel lines on the floor within 1/8" tolerance. Erect both column assemblies. Align the base plate edges to the chalk lines.

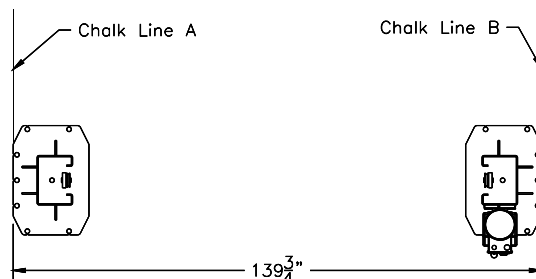


Fig 1 – Column Layout

ANCHORING

- 4) The anchor bolts must be installed at least 8" from any crack, edge, or expansion joint.
- 5) 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.**
- 6) Recheck "Inside of Columns" dimension, **Fig 1**. 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.
- 7) Vacuum dust from the hole for proper holding power.
- 8) Shim both columns to plumb using the shims provided as shown in **Fig 2**. DO NOT shim more than 1/2" at any given point. Use a level no less than 24" in length to plumb columns.
- 9) Assemble washer and nut to anchor with nut just below impact section of bolt. Drive anchor into hole until nut and washer contact base.

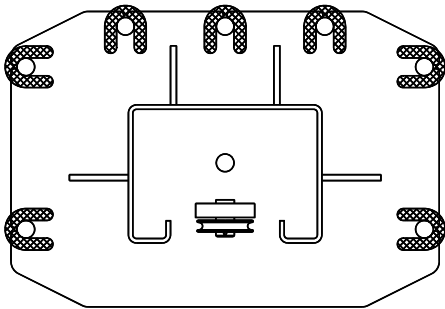


Fig 2 – Column Shimming

- 10) Tighten power column anchors and recheck column for plumb. Re-shim if necessary. Torque to 150 foot-pounds to set anchors.

OVERHEAD

- 11) Raise and install Overhead Assembly using M12 x 30 Hex Bolts.
- 12) Install Overhead Limit Switch under the Overhead Assembly on the Power Side. Route cable around outside of column as shown in **Fig. 6**.
- 13) Check idler column shimming. Use additional shims (*see Fig. 2*) to remove any gaps that may have been created while installing overhead beam. Tighten anchor bolts and re-check column for plumb. Torque to 150 foot-pounds.

SYNCHRONIZER CABLES

- 14) Manually raise each carriage into the second lock position.
- 15) At the upper beam sheave locations disassemble and reassemble the cable trapping rod to install the cable onto the sheave, See **Fig 3**. To install the cable bottom sheave will need to be removed then reassembled.

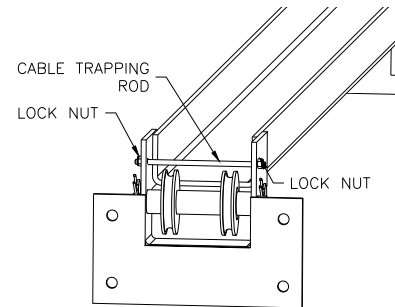


Fig 3-Cable Trapping

- 16) Attach one end of synchronizing cable to carriage. See **Fig 4** for proper attachment.
- 17) Route cable up and over sheave in overhead. Follow across to other sheave on opposite column. Route down through carriage to sheave in bottom of column. Route under sheave and up to cable attachment. Use **Fig 4** for proper attachment.
- 18) Repeat for opposite side.

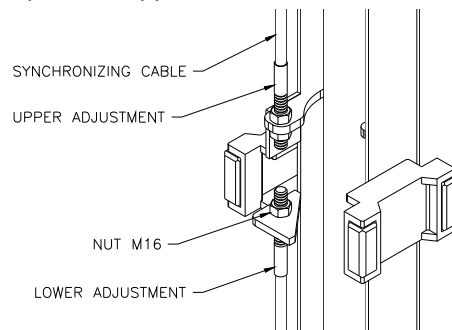


Fig 4 – Synchronizing Cables

POWER UNIT & HYDRAULIC LINES

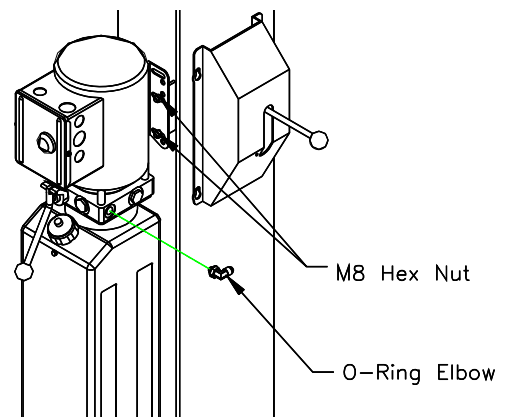


Fig 5 – Power Unit Mounting

- 19) Mount Power Unit to power column as shown in **Fig 5**. The mounting hardware, (4) M8 hex nuts, are pre-installed on power unit mounting bracket.
- 20) Attach Hydraulic elbow fitting threading the O-Ring end into the power unit.
- 21) The hydraulic hose from the idler cylinder to the tee fitting are slightly larger and have a different size fitting. Note during installation to attach the hoses in the correct end of the tee. **Fig 6**.

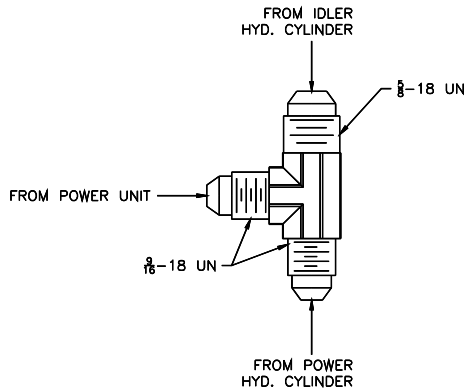


Fig 6 – Hyd. Tee Fitting

- 22) **IMPORTANT – To insure proper hose fitting seal without damage to the fitting follow this procedure for each hose connection:** Screw flared fitting on finger tight. Rotate flared fitting 1 ½ flats or 90 degrees. Back the flared fitting off one full turn and repeat.
- 23) Thread power unit hose (short) to elbow in power on power unit.
- 24) Note: If lift is set to the tallest column height an 18½” extension hose must be used at the base of the Idler hydraulic cylinder. Beginning on the idler side start with the Idler Column Hose (long) up the backside of the column through the two capture rings and guide at the top of the extension. Continue across the overhead through each of the guides as shown and down the backside of the power column. **See Fig 7**.

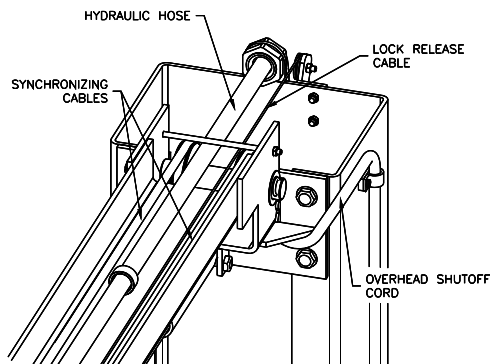
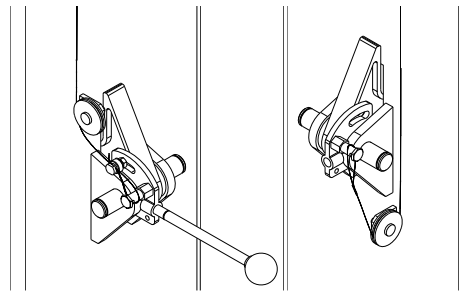


Fig 7 – Hose Routing (Power Side)

- 25) Route the remaining Power column hose beginning at the elbow fitting at the base up the backside of the column. Join the three hoses with the supplied union tee.
- 26) **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.**

LOCK RELEASE

- 27) Install Lock Release Stud and Knob to the Powre Column Lock using one M10 Nut.
- 28) Attach Mechanical Lock Release Cable Assembly to each lock pawl. **See Fig 8**.



POWER SIDE

IDLER SIDE

Fig 8 – Lock Assembly

THE LOCK RELEASE CABLE ADJUSTMENT IS NOT COMPLETE UNTIL THE LIFT HAS BEEN LOWERED AND “FINAL ADJUSTMENTS” HAVE BEEN MADE.

ARM INSTALLATION

- 29) Lubricate the arm pin or carriage arm pin hole with “anti-seize” and install the arms. Insure that the arm restraint gears engage and disengage properly. Arm restraints should disengage when lift is fully lowered. If any binding occurs, insure that the large gear mounted to the arm has been factory installed tight against the arm pin.
- 30) Extend the foot pad to both extents and apply anti-seize to the three retaining rings and where the double screw makes contact with the base of the foot pad.

ELECTRICAL

- 31) Refer to **Fig 10 Wiring Diagram** for all steps under this heading.

Single Phase

- 32) Connect the Overhead Limit Switch Cord to Power Unit as shown.
33) Connect Power Unit to suitable electrical source as shown.

Three Phase

- 34) Power unit is factory wired for 240 volt. Refer to wiring diagram or motor plate for optional voltages.
35) Connect Contactor Enclosure to column. Mounting hardware should be centered on the column side to side to avoid the path of the slide blocks.
36) Connect Overhead Limit Switch Cord to Contactor as shown.
37) Connect Contactor to Power unit as shown. Connect Contactor to suitable electrical source as shown.

IMPORTANT: AFTER WIRING HAS BEEN COMPLETED, TEST OPERATION OF POWER UNIT & OVERHEAD LIMIT SWITCH. WHILE RAISING LIFT, OPERATE OVERHEAD SHUTOFF BAR. POWER UNIT MOTOR SHOULD STOP WHEN SHUTOFF BAR IS RAISED.

COLUMN DECAL PLACEMENT

- 38) Center decal on idler column, opposite of the power unit.
39) Apply the decal 48" from the top of the base plate, **Fig 9**.

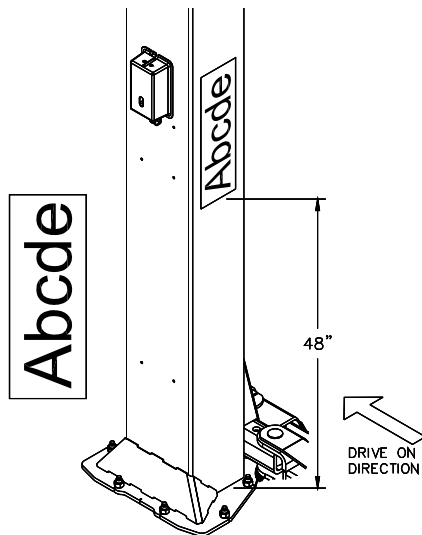


Fig 9 – Decal Placement

FINAL ADJUSTMENTS

HYDRAULICS

- 40) Lower the lift to the floor and raise the lift approximately one foot.

- 41) Start with Idler side first. Slowly and carefully loosen the bleed plug on top side of the cylinder just enough to allow the entrapped air to escape. Repeat for power side.
42) Raise lift 6 inches. Repeat step 32 until no air comes out of cylinder.
43) Pressure test hydraulic system. Energize power unit, raise lift to full rise and continue to run motor for additional 10 seconds. (NOTE: pressure relief will make a high pitch squeal sound for these 10 seconds.) Check hydraulic system for leaks.
44) Energize power unit again for 10 seconds. With a clean rag, wipe down both cylinder rods. (The cylinders are shipped with a small amount of clear anti-corrosive lubricant that will be forced out through the wiper when the lift reaches full rise.) **If lubricant is not wiped clean from the cylinder rod, the cylinder will appear to be leaking.**

SYNCHRONIZING CABLES

- 45) Raise lift and insure carriages lower into same lock position.
46) Adjust synchronizing cables so the tension is equal in both cables and carriages are firmly sitting on locks.
47) Cycle lift to insure that latches operate simultaneously.

LOCK RELEASE CABLE

- 48) Raise lift to a lock position but don't set into the lock. Pull and release Power Column lock release handle while watching Idler Column lock. Adjust Cable tension by removing slack and retightening cable clamp at the power side. **IMPORTANT: IF IDLER SIDE LOCK PAWL DOES NOT FULLY DISENGAGE, DAMAGE MAY RESULT TO IDLER SIDE CARRIAGE AND OR CABLE SYNCHRONIZING SYSTEM.**
49) Tighten and trim wire ties.
50) Remove lock release knob and install both covers. Replace lock release knob.

OWNER/OPERATOR CHECKLIST

- 51) 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.
52) 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

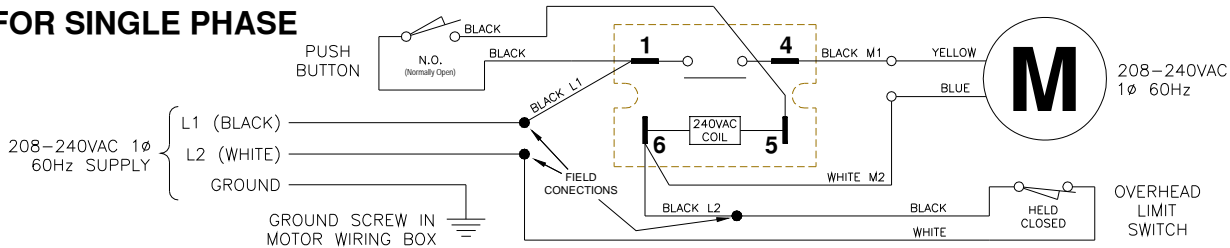
Wiring Diagram

EACH LIFT SHOULD HAVE A DEDICATED CIRCUIT WITH A DOUBLE POLE (THREE POLE FOR 440-480V) BREAKER OR TIME DELAY FUSE SIZED ACCORDING TO THE FOLLOWING CHART

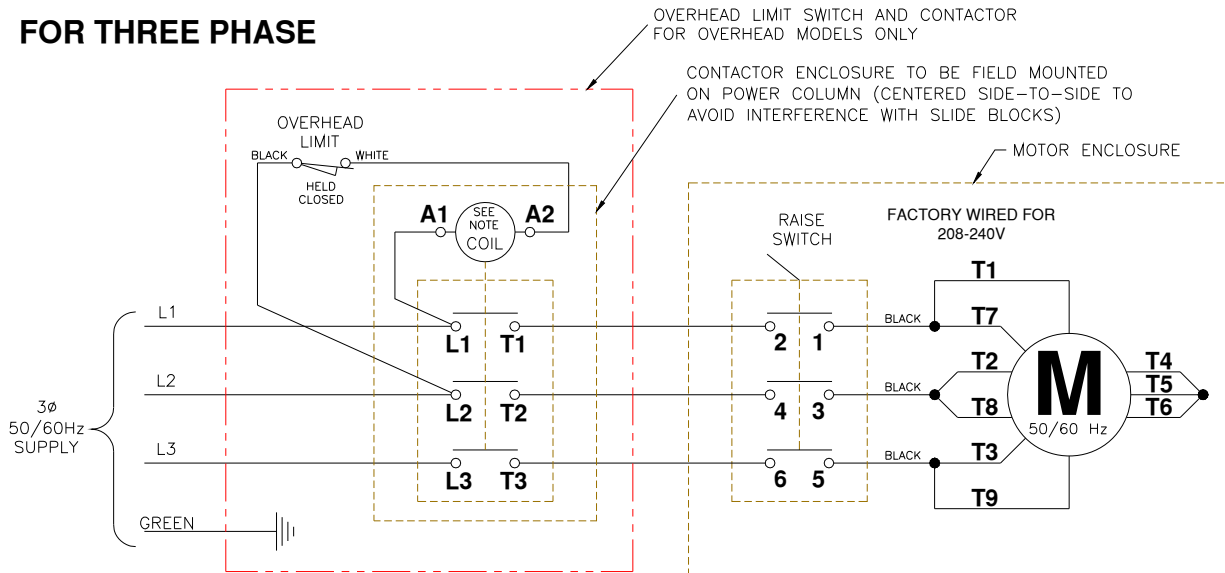
	1 ϕ 208-240V	3 ϕ 208V	3 ϕ 220-240V	3 ϕ 440-480V
2Hp	25amp	15amp	15amp	5amp

* WIRING MUST COMPLY WITH ALL LOCAL ELECTRICAL CODES *

FOR SINGLE PHASE

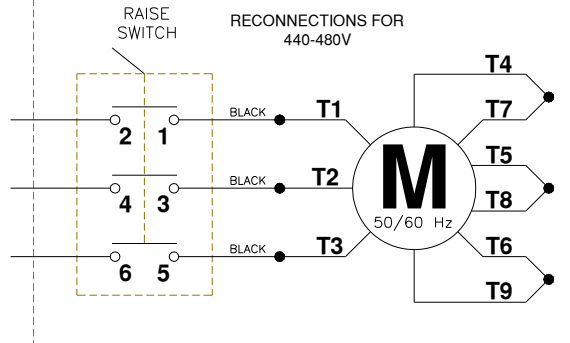


FOR THREE PHASE



NOTES:

- 1) MOTOR IS FACTORY WIRED FOR 208V OR 220-240V SUPPLY
- 2) MOTOR CONNECTIONS MUST BE RECONFIGURED PER THIS DIAGRAM FOR 440-480V SUPPLY
- 3) CONTACTOR COIL RATING MUST MATCH SUPPLY VOLTAGE (208V, 220-240V, OR 440-480V)
- 4) CONTACTOR MUST BE FIELD MOUNTED ON POWER COLUMN (CENTERED SIDE-TO-SIDE TO AVOID INTERFERENCE WITH SLIDE BLOCKS)
- 5) MOTOR ROTATION IS COUNTER CLOCKWISE FROM TOP OF MOTOR



P/N 31366 1/05/02

Fig 10 – Electrical Wiring Diagram

OPERATION PROCEDURE

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-2006 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.

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. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
5. Use only as described in this manual. Use only manufacturer's recommended attachments.
6. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.

SAVE THESE INSTRUCTIONS

LIFTING A VEHICLE

- 1) Insure that the lifting arms are parked, out to full drive thru position.
- 2) Position the vehicle in the service bay so that the vehicle's center of gravity is on a line between the two columns, and so the vehicle is centered between the two columns.

DO NOT EXCEED 2500 POUNDS PER ARM.

DO NOT ATTEMPT TO LIFT THE VEHICLE WITH ONLY TWO ARMS, AS THIS WILL VOID THE WARRANTY

INSURE THAT THE HIGHEST POINT ON THE VEHICLE WILL CONTACT THE OVERHEAD LIMIT SWITCH BAR.

DO NOT PLACE THE VEHICLE IN THE SERVICE BAY BACKWARDS.

REFER TO THE VEHICLE MANUFACTURERS SERVICE MANUAL, TECHNICAL BULLETINS, "VEHICLE LIFTING POINTS GUIDE" (ALI/LP-GUIDE) OR OTHER PUBLICATIONS TO LOCATE THE RECOMMENDED LIFTING POINTS.

- 3) Position the arms and adapters so all four pads contact the vehicle simultaneously.

The vehicle should remain level during lifting.

- 4) Raise the lift until all four wheels are off the ground. Test the stability of the vehicle by attempting to rock the vehicle. Check adapters for secure contact with vehicle lift points. If the vehicle seems unstable, lower the lift and readjust the arms. If the vehicle is stable, raise the vehicle to a height a few inches above the desired working height.
- 5) Lower the vehicle until the safety latches on both columns engage. The vehicle should remain level when both latches 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 both latches.

Always lower lift into locks before entering the area beneath the vehicle.

Always use safety stands when removing or installing heavy components.

LOWERING A VEHICLE

- 1) Insure that the area under the vehicle is clear of personnel and tools.
- 2) Raise the vehicle until both latches are free.
- 3) Disengage the latches by pulling down and holding the lock release lever.
- 4) Lower the vehicle by depressing the lowering valve handle.
- 5) Continue to lower the vehicle until the carriages stop against the base plate. Retract the extension arms, and park them.

MAINTENANCE

To avoid personal injury, permit only qualified personnel to perform maintenance on this equipment. Maintenance personnel should follow lockout/tagout instructions per ANSI Z244.1.

The following maintenance points are suggested as the basis of a routine 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 (**See Installation instructions page 3.**)

Daily

- Keep lift components clean.
- Check for loose or broken parts.
- Check hydraulic system for fluid leaks.
- Check adapters for damage or excessive wear. Replace as required with genuine Challenger Lifts parts.
- Check lock release activation. When properly adjusted, the idler column lock should rest firmly against the back of the column when engaged and pull clear of the column back when disengaged.

Weekly

- Check synchronizer cables and sheaves for wear. Replace as required with genuine Challenger Lifts parts.
- Check lock release cable adjustment per Installation Instructions step 39.

IMPORTANT: IF IDLER SIDE LOCK PAWL DOES NOT FULLY DISENGAGE, DAMAGE MAY RESULT TO IDLER SIDE CARRIAGE AND OR CABLE SYNCHRONIZING SYSTEM.

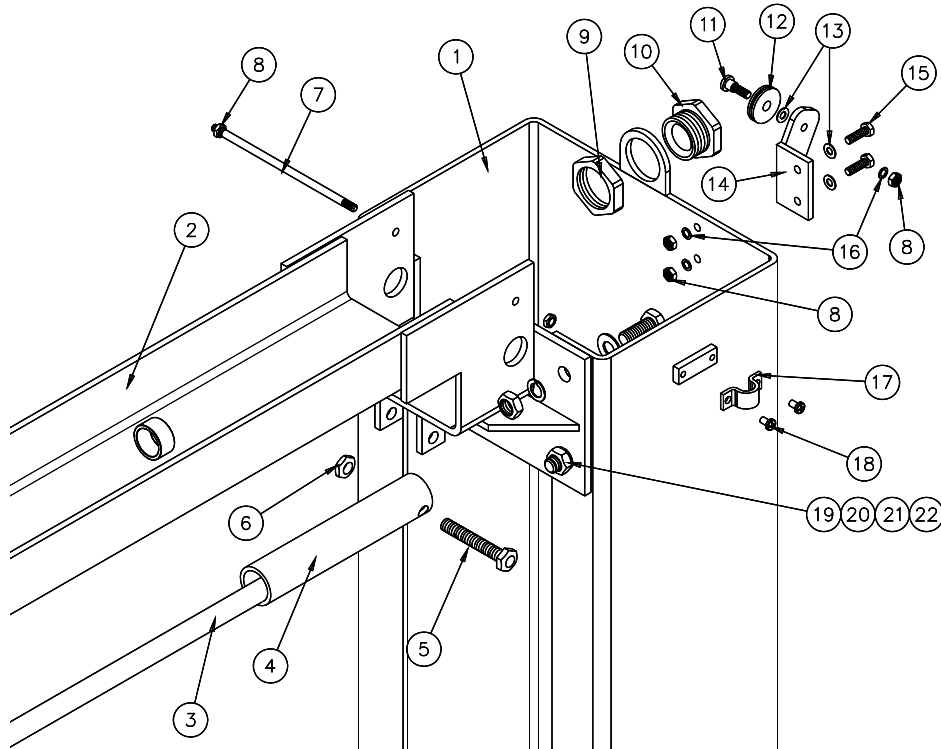
- Check synchronizer cable tension per Installation Instructions. Adjust if necessary.

Monthly

- Torque concrete anchor bolts to 80 ft-lbs.
- Check overhead shutoff switch. While raising lift, operate overhead shutoff bar. Power Unit motor should stop when bar is raised.
- Lubricate carriage slide tracks with heavy viscous grease. (Grease all (4) corners of both columns.)
- Visually inspect concrete floor for cracks and/or spalls within 12" of base plate

If any problems are encountered, contact your local service representative.

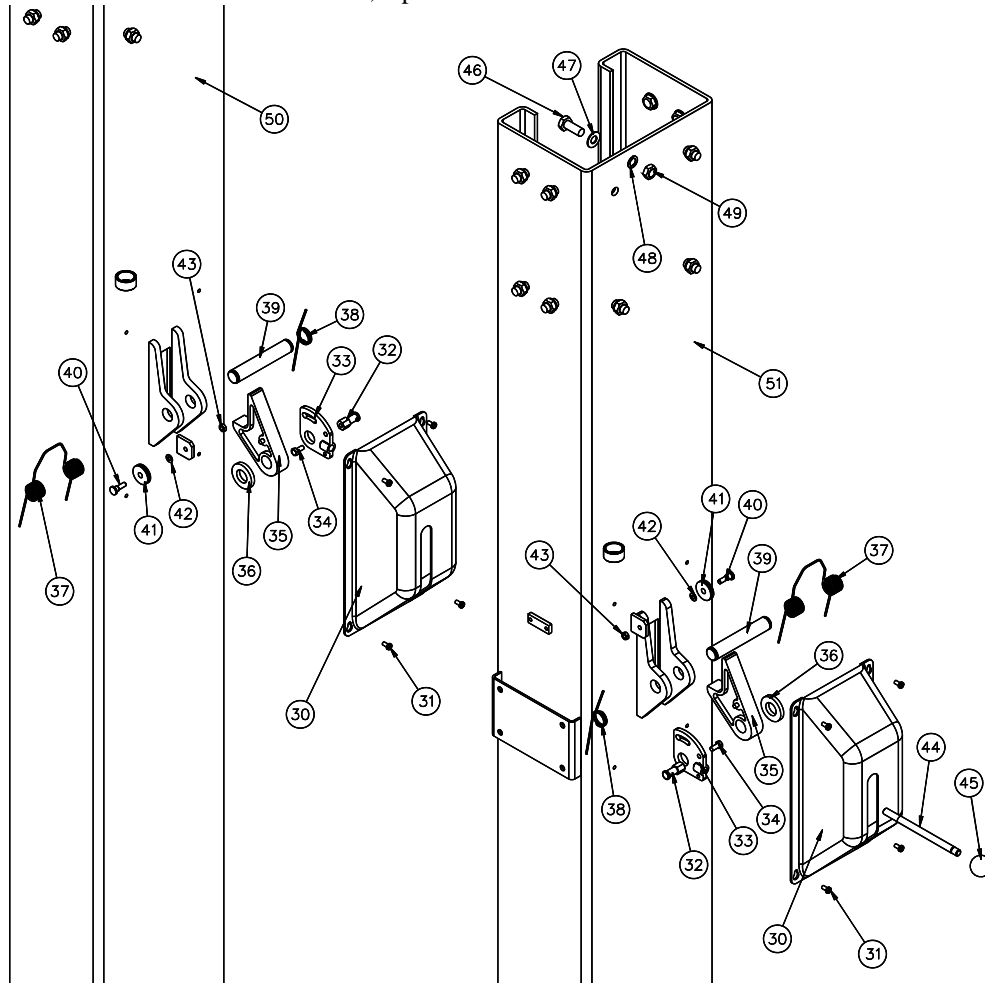
Model E12
Installation, Operation and Maintenance
PARTS BREAKDOWN



ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	JSJ6-02-02-00	1	POWER COLUMN EXTENSION
	JSJ6-02-02-00f	1	IDLER COLUMN EXTENSION (<i>NOT SHOWN</i>)
2	JSJ6-03-01-00	1	OVERHEAD WELD
3	JSJ6-03-02	1	OVERHEAD SHUT OFF BAR
4	12045	1	LIMIT SWITCH
5	X10-060	1	M10 x 65mm BOLT, POWER COLUMN
	X10-053	1	M10 x 45mm BOLT, IDLER COLUMN (<i>NOT SHOWN</i>)
6	X10-019	2	M10 NUT
7	JSJ5-03-07ch	2	CABLE TRAPPING ROD
8	X10-034	10	M6 NUT
9	JSJ4-02-18	2	HOSE GUIDE NUT
10	JSJ4-02-17	2	HOSE GUIDE
11	JSJ4-02-08	2	LOCK RELEASE SHEAVE PIN, M6
12	JSJ4-02-09	2	LOCK RELEASE SHEAVE
13	X10-032	6	M6 WASHER
14	JSJ4-02-11-00f	1	LOCK RELEASE SHEAVE BRACKET, POWER COLUMN
	JSJ4-02-11-00	1	LOCK RELEASE SHEAVE BRACKET, IDLER COLUMN
15	X10-051	4	M6 x 20mm BOLT
16	X10-033	6	M6 LOCK WASHER
17	JSJ5-02-02-03	3	OVERHEAD SHUT OFF CORD CLAMP
18	X10-049	6	M5 x 8mm PAN HEAD SCREW
19	X10-037	8	M12 x 30mm BOLT
20	X10-038	8	M12 WASHER
21	X10-039	8	M12 LOCK WASHER
22	X10-040	8	M12 NUT

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

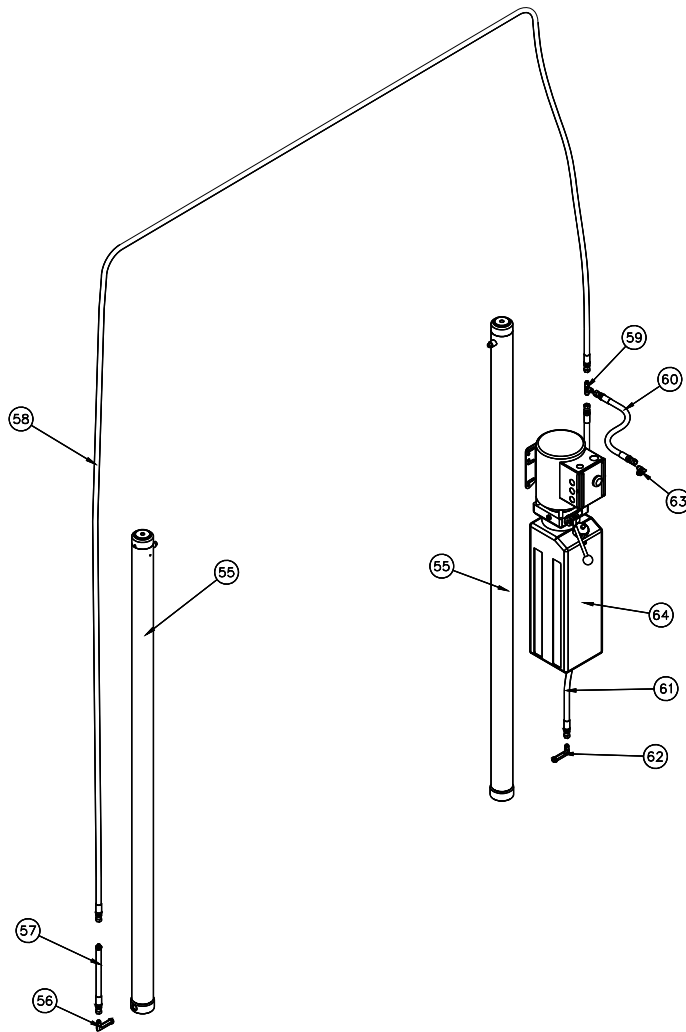
Model E12
Installation, Operation and Maintenance



ITEM #	PART #	QTY/LIFT	DESCRIPTION
30	JSJ5-02-14A	2	LOCK RELEASE COVER
31	X10-065	8	M5 x 10 PHILLIPS PAN HEAD SCREW
32	JSJ5-02-12	2	LOCK RELEASE WIRE PIN
33	JSJ5-02-10	2	LOCK RELEASE CAM
34	X10-026	2	M6 x 14mm BOLT
35	JSJ5-02-03	2	LOCK PAWL
36	X10-029	2	M20 WASHER
37	JSJ5-02-07	2	LOCK RELEASE SPRING #1
38	JSJ5-02-13	2	LOCK RELEASE SPRING #2
39	JSJ5-02-04	2	LOCK RELEASE SHAFT
40	JSJ4-02-08	2	LOCK RELEASE SHEAVE PIN, M6
41	JSJ4-02-09	2	LOCK RELEASE SHEAVE
42	X10-032	2	M6 WASHER
43	X10-034	2	M6 NUT
44	JSJ5-02-06	1	LOCK RELEASE HANDLE SHAFT
45	X10-017	1	LOCK RELEASE KNOB
46	X10-037	24	M12 x 30mm BOLT
47	X10-038	24	M12 WASHER
48	X10-039	24	M12 LOCK WASHER
49	X10-040	24	M12 NUT
50	JSJ6-02-01-00F	1	IDLER COLUMN WELD
51	JSJ6-02-01-00	1	POWER COLUMN WELD

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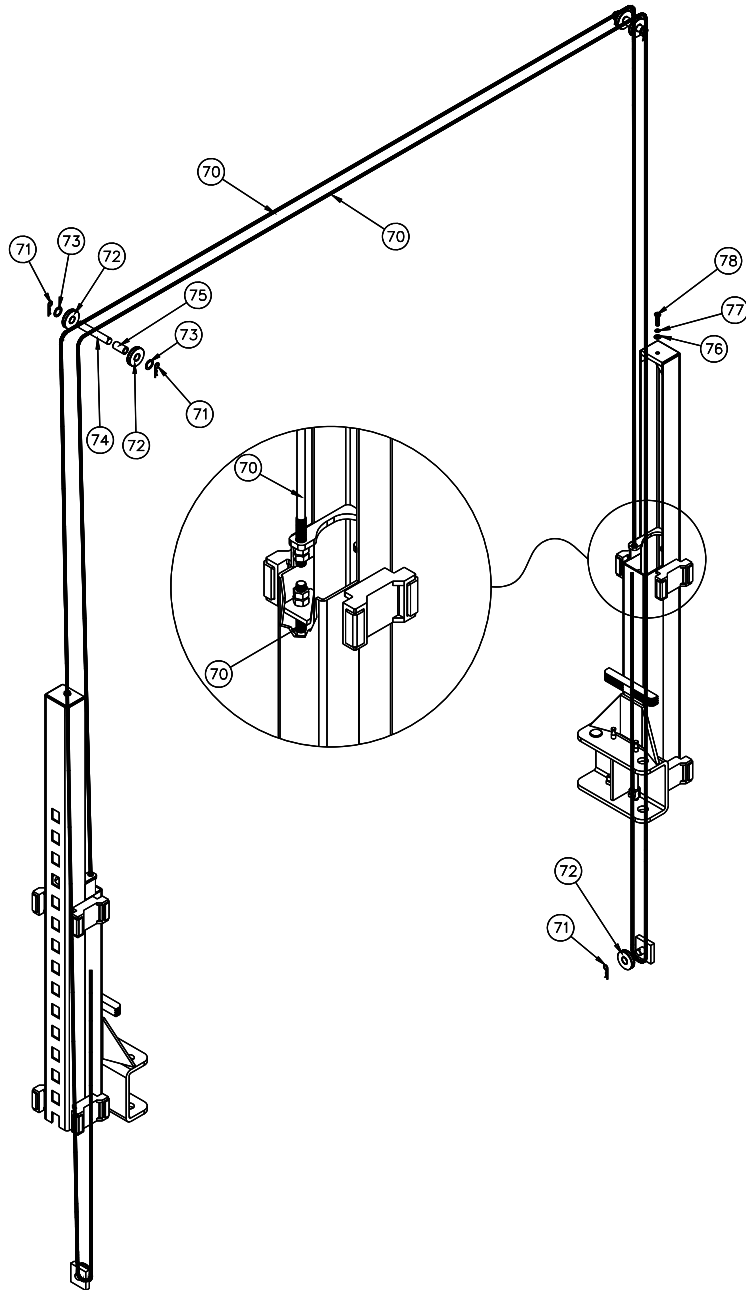
Model E12
Installation, Operation and Maintenance



ITEM #	PART #	QTY/LIFT	DESCRIPTION
55	JSJ6-07-00	2	HYDRAULIC CYLINDER
56	JSJ6-21	1	5/8-18 UN 90 DEGREE ELBOW
57	JSJ6-20	1	5/8-18 UN HOSE EXTENSION (18 1/2" LONG)
58	JSJ6-18	1	5/8-18 UN HOSE (411" LONG)
59	JSJ6-15	1	9/16-18 UN x 9/16-18 UN x 5/8-18 UN TEE FITTING
60	JSJ5-17	1	9/16-18 UN POWER UNIT HOSE
61	JSJ4-16	1	9/16-18 UN POWER CYLINDER HOSE
62	JSJ6-19	1	9/16-18 UN 90 DEGREE ELBOW
63	X10-044	1	O-RING x 9/16-18 UN 90 DEGREE ELBOW
64	31368-19	1	POWER UNIT

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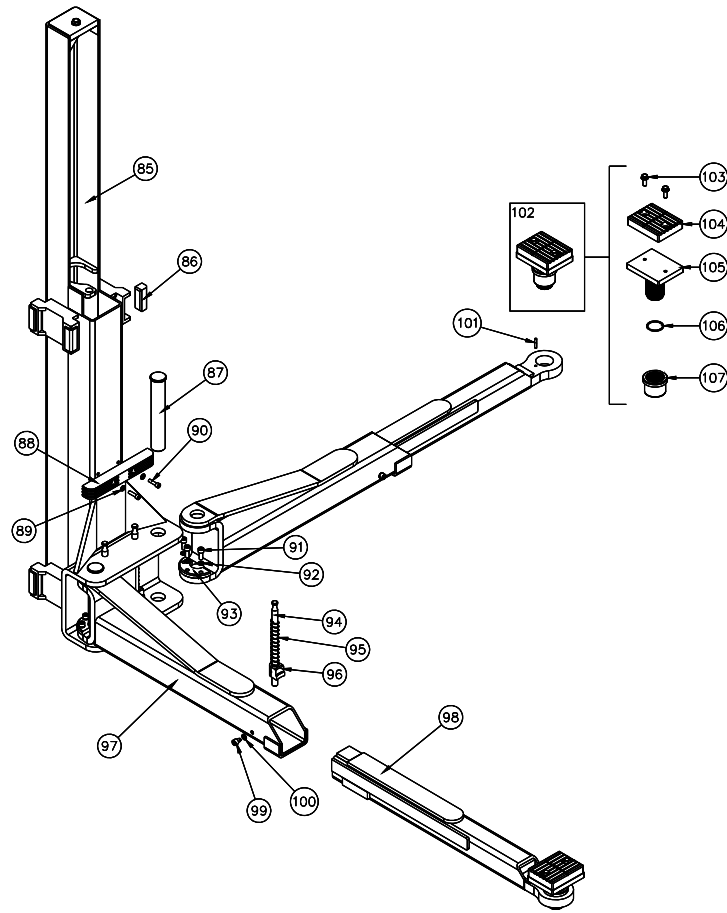
Model E12
Installation, Operation and Maintenance



ITEM #	PART #	QTY/LIFT	DESCRIPTION
70	JSJ6-04-00	2	SYNCHRONIZER CABLE
71	E12-002	6	HAIRPIN COTTER PIN
72	JSJ6-03-08	6	CABLE SHEAVE
73	E12-001	4	26mm WASHER
74	JSJ6-03-03	2	CABLE SHEAVE PIN
75	JSJ6-03-05	2	SHEAVE SPACER
76	X10-038	2	M12 WASHER
77	X10-039	2	M12 LOCK WASHER
78	X10-053	2	M12 x 45mm BOLT

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Model E12
Installation, Operation and Maintenance



ITEM #	PART #	QTY/LIFT	DESCRIPTION
85	JSJ6-08-00	2	CARRIAGE
86	X10-085	16	SLIDE BLOCKS
87	JSJ6-11	4	ARM PIN
88	JSJ4-05-ch	2	DOOR GUARD
89	X10-087	4	M8 WASHER
90	X10-088	4	M8 x 30mm Lg. SOCKET HEAD BOLT
91	X10-077	12	M10 x 25mm Lg. SOCKET HEAD BOLT
92	X10-074	12	M10 LOCK WASHER
93	JSJ6-09-07	4	INNER GEAR
94	JSJ6-13	4	ARM RESTRAINT SHAFT
95	JSJ6-14	4	ARM RESTRAINT SPRING
96	JSJ6-12	4	OUTER GEAR
97	JSJ6-09-01-00	4	FEMALE ARM WELD
98	JSJ6-09-02-00	4	MALE ARM WELD
99	JSJ4-09-08	4	M10 STOP BOLT, DOG POINT
100	X10-073	4	M10 WASHER
101	B2211	4	M6 ROLL PIN
102	B12062-12	4	FOOT PAD ASSEMBLY – 12K
103	B12568	8	M10 x 25 FLG. HEAD BOLT
104	482365	4	PAD – BOLT ON
105	B12063	4	ADAPTER PAD WELD
106	B17257	4	3 x 45mm RETAINING RING
107	B17276-1	4	ADAPTER BASE

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