INSTALLATION AND OPERATION MANUAL

MODELS: T10000-2OH-33

2 Post Automotive Lift

Maximum Lifting Capacity 10,000 lbs. / 4525 kg

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Keep this operation manual near the machine at all times. Make sure all users read this manual.

⚠WARNING:

INSTRUCTIONS TO READ THE MANUAL(S) THOROUGHLY BEFORE INSTALLING, OPERATING, SERVICING, OR MAINTAINING THE LIFT.

PLEASE **READ THE ENTIRE CONTENTS OF THIS MANUAL AND THE ANSI/ALI ALIS, SAFETY REQUIREMENTS FOR INSTALLATION AND SERVICE FOR AUTOMITIVE LIFTS LITERATURE**, PRIOR TO INSTALLATION AND OPERATION. BY PROCEEDING WITH THE LIFT INSTALLATION AND OPERATION YOU AGREE THAT YOU FULLY UNDERSTAND THE FULL CONTENTS OF THIS MANUAL. THIS MANUAL MUST BE READ BY ALL USERS. FAILURE TO OPERATE THIS EQUIPMENT AS DIRECTED MAY CAUSE INJURY OR DEATH**.**

ORIGINAL INSTRUCTIONS IN ENGLISH LANGUAGE

RECEIVING
The shipment should be thoroughly inspected as soon as it is received. The signed Bill of Lading is acknowledgement by the shipping carrier as receipt of this product as listed in your invoice as being in a good condition of shipment. If any of these goods listed on this Bill of Lading are missing or damaged, do not accept goods until the shipping carrier makes a notation on the freight bill of the missing or damaged goods. Do this for your own protection.

⚠WARNING:

Questions, problems, missing parts? Before returning to your retailer, call our customer service department at 1-888-448-6746 (1-888-44 TORIN), 8 a.m.- 5 p.m., PST, Monday-Friday.

Read carefully and understand all **ASSEMBLY AND OPERATION INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

READ THIS ENTIRE MANUAL BEFORE INSTALLATION & OPERATION BEGINS

IMPORTANT

Before You Begin Register This Product.
For future reference, record the model name, model number, serial numbers, date of manufacture and purchase date of this product. You can find this information on the product.

Model Name	
Model Number	
ALI Gold Label Serial #	
Lift Serial #	
Date of Manufacture	
Date of Purchase	
Power Unit Model #	
Power Unit Date of Mfg.	
Power Unit Serial #	

Save the receipt, warranty and these instructions. **This information is required when calling for parts or warranty issues. Warranty is non-transferable. To be able to make a claim under a written warranty, the manufacturer requires you to register the product by filling in and returning a warranty card or by registering the product online at www.torin-usa.com.**

TO VALIDATE YOUR LIFT WARRANTY
Register online before first use at www.torin-usa.com

SAVE THESE INSTRUCTIONS

OWNER / USER RESPONSIBILITY

DO NOT OPERATE OR REPAIR THIS PRODUCT WITHOUT READING THIS MANUAL.
Read and follow the safety instructions. Keep Instructions readily available for operators. Make certain all operators are properly trained and understand how to safely and correctly operate the product. By proceeding you agree that you fully understand and comprehend the full contents of this manual. Failure to operate this product as intended may cause injury or death. The manufacturer is not responsible for any damages or injury caused by improper use or neglect. Allow product operation only with all parts in place and operating safely. Use only genuine replacement parts. Service and maintain the product only with authorized or approved replacement parts; negligence will make the product unsafe for use and will void the warranty. Carefully inspect the product on a regular basis and perform all maintenance as required. Store these instructions in a protected dry location. Keep all decals on the product clean and visible. Do not modify and/or use for any application other than that for which this product was designed. If you have any questions relative to a particular application, DO NOT use the product until you have first contacted the distributor or manufacturer to determine if it can or should be performed on the product.

SHIPPING DAMAGE CLAIMS

Once the equipment/product has been shipped, bill of sale passes to the Purchaser. Materials damaged in shipment claims must be made by the Purchaser against the Freight Carrier at the time of shipment arrival. Any freight damage must be noted on the freight bill before signing and reported to the freight carrier with a freight claim established. Manufacturer is not responsible for freight claims. Identify the components and check for shortages. If shortages are discovered, please contact the Distributor / Sales Representative in your area for service. It is the customer's responsibility to arrange for unloading of products shipped.

SHIPPING FREIGHT

This item is shipped via "truck freight" (common carrier or flat-bed, not UPS). Truck freight companies do NOT require their drivers to unload shipments. An additional "Lift Gate" fee will apply if the driver unloads the merchandise. The shipping carrier will call and schedule delivery, at which time, you may request a "Lift Gate" (provided the weight and dimensions of the product fits the criteria for lift gate service) and arrange payment with the carrier for that service.

GENERAL SAFETY RULES

 **WARNING: Read and understand all instructions.** Failure to follow all instructions listed below may result in serious injury.

 **CAUTION: Do not allow persons to operate or assemble this product until they have read this manual and have developed a thorough understanding of how the product works.**

 **WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur.** It must be understood by the operator that common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.

HAZARD DESCRIPTIONS

Use alertness and prudence in a hazardous situation; care; wariness.
Identify the hazard levels used in this manual with the following definitions and signal words:

⚠ **DANGER:**
Immediate hazards which will result in severe liability or exposure to personal injury or death.

⚠ **WARNING:**
Hazards or unsafe practices which could result in severe personal injury or death.

⚠ **CAUTION:**
Hazards or unsafe practices which may result in personal injury, product or property damage.

IMPORTANT INFORMATION:

This lift is designed for indoor use only, and should not be installed in a pit or uneven surface. Manufacturer recommends the floor on which the lift is to be installed must be 6" inch minimum thickness concrete, with a minimum compressive strength of 3000 psi, and reinforced with steel bar, and a minimum edge distance of 8 inches. (Contact your building architect for information before installing on Pre-stressed concrete.)

The lift has specific electrical requirements as described in the Installation Instructions section of this manual. This lift has a minimum ceiling height requirement as described in the Installation Instructions section of this manual. **Failure by the owner to provide the recommended shelter, mounting surface, electrical supply, and ceiling height could result in unsatisfactory lift performance, property damage, or personal injury.**

IMPORTANT SAFETY INSTRUCTIONS

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

1. Read all instructions. Study, understand, and follow all instructions before operating this device.
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate equipment, with a damaged cord or if the equipment has been dropped or damaged - until it has been examined by a qualified service person.
4. Do not let a cord hang over the edge of the table, bench, or counter or come in contact, with hot manifolds or moving fan blades.
5. If an extension cord is necessary, a cord, with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
6. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
7. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
8. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
9. Adequate ventilation should be provided when working on operating internal combustion engines.
10. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
11. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
12. Use only as described in this manual. Use only manufacturer's recommended attachments.
13. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
14. To reduce the risk of injury, close supervision is necessary when this product will be used around children. (Pertains to cabinets only.)
15. To reduce the risk of injury, never overload the drawers or shelves. Refer to loading instructions.
16. To reduce the risk of electric shock or fire, never overload receptacles. Refer to markings for the proper load on receptacles.
17. Do not exceed rated capacity.
18. Use only on hard, level surfaces with less than 3 degrees of slope.
19. Do not move or dolly the vehicle while on the lift.
20. Lift only on areas of any vehicle as specified by the vehicle manufacturer.
21. No alterations shall be made to this product.
22. Only attachments and/or adapters supplied by the manufacturer shall be used.
23. Do not get under or allow anyone under the vehicle until it has been supported with auxiliary jack stands on both the front and rear of the vehicle.
24. Center load on lifting arms and saddles prior to lifting.
25. Secure vehicle to ensure no shifting, movement, or tipping will occur when performing maintenance on any vehicle.
26. Verify that safety locks are engaged on the arms and lifting carriages before performing any work.
27. NEVER use lift with a motorcycle, lawn mower, or lawn tractor.
28. Do not use this product for any use other than the manufacturer specified usage. Failure to heed these warnings may result in personal injury and/or property damage. The distributor is not responsible for any damages or injury caused by improper use or neglect.
29. Do not use wood blocks or any other non-approved load sustaining devices or any other non-approved lifting devices for a means of lifting a vehicle, stabilizing, securing, spacing, adding additional height, or load being raised. The manufacturer only warrants loads to be sustained by adapters or accessories validated by the manufacturer. Failure to head these warnings may cause injury or death.
30. Do not adjust power unit pressure relief valve, any tampering will void warranty and may cause catastrophic failure. Failure to head these warnings may result in injury or death.

IMPORTANT SAFETY CONSIDERATIONS

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

- Inspect the product for proper operation and function before each use.
- Do not modify the product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment. There are specific applications for which the product was designed.
- Always check for damaged or worn out parts before using the lift. Broken parts will affect the equipment operation. Replace or repair damaged or worn parts immediately.
- Keep instructions readily available for equipment operators.
- Make certain all equipment operators are properly trained; understand how to safely and correctly operate the unit.
- Allow unit operation only with all parts in place and operating properly.
- Use only genuine replacement parts.
- Service and maintain the unit only with authorized or approved replacement parts; negligence will make the product unsafe for use and void the warranty.
- Carefully inspect the unit on a regular basis and perform all maintenance as required.
- Keep all decals on the unit clean and visible.

⚠ GENERAL SAFETY INSTRUCTIONS:

Training - Do not allow anyone who has not read this manual, and/or does not understand the requirements to use the product.

Spectators - Do not allow bystanders around the lift or under the load supported. Do not allow anyone in a vehicle while the lift is in use or is supporting a load. Keep all bystanders away from lift when in use.

Operators - Not for use by children or people with reduced mental capacity. Not for use under the influence of drugs or alcohol.

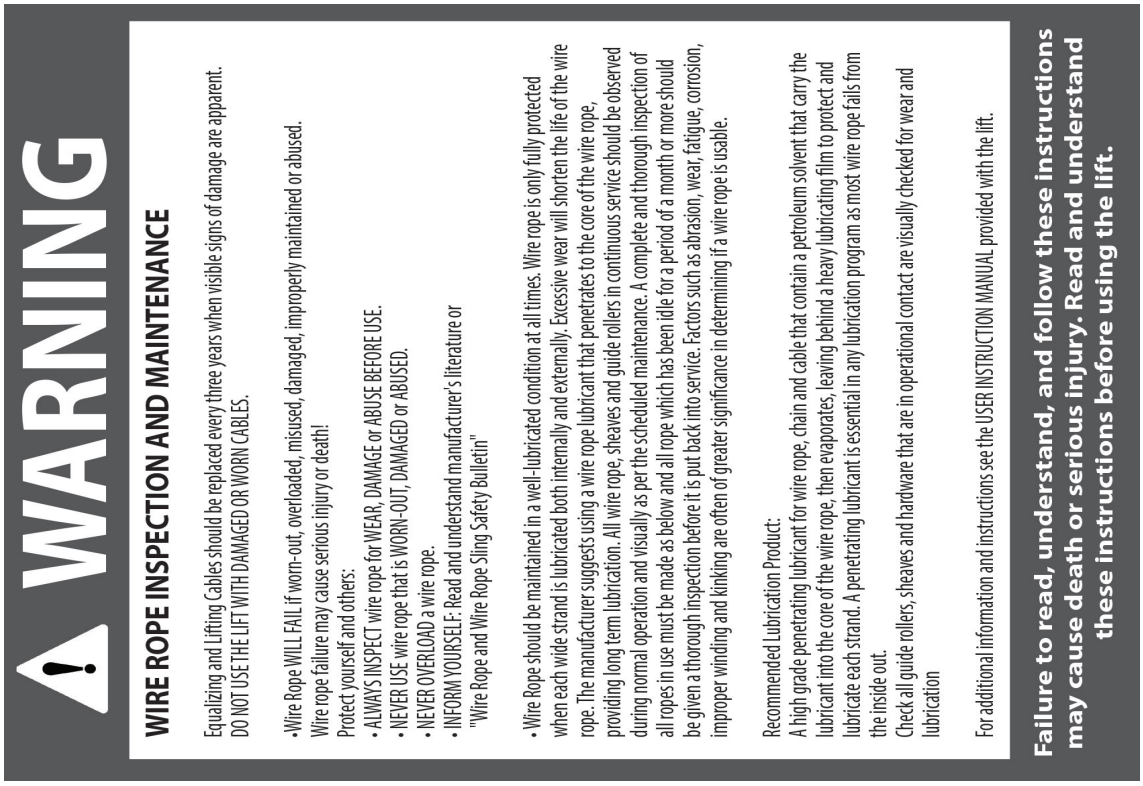
Inspection - Inspect the product carefully before each use. Ensure the product is not damaged, excessively worn, or missing parts. Do not use the lift unless it is properly lubricated. Using a lift that is not in good clean working condition or properly lubricated may cause serious injury.

SAFETY STICKER IDENTIFICATION

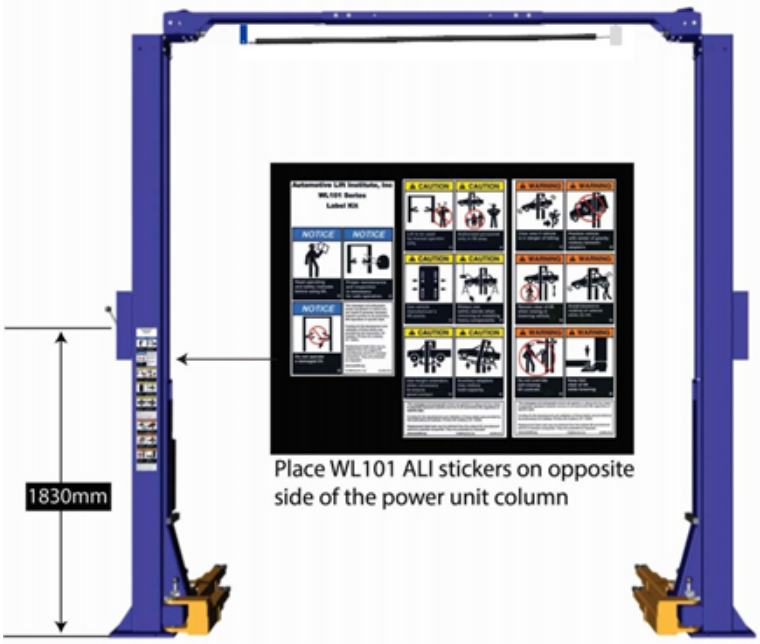
Use care when identifications and markings are on lift. These identifications are put in place to help with your safety and the safety of others. Always use caution when working around vehicle lift. Replace labels if damaged or torn.

WIRE ROPE INSPECTION LABEL

(LABEL TO BE ATTACHED BY MANUFACTURER)



Customer Recommended ALI WL101 Safety Lift Label Location



ANSI/ALI SAFETY WARNING LABELS
(LABEL TO BE ATTACHED BY CUSTOMER)

POWER UNIT WARNING LABELS
(LABEL TO BE ATTACHED BY MANUFACTURER)

CAUTION
PRECAUCIÓN / ATTENTION

RISK OF ELECTRICAL SHOCK.

Do Not Remove Cover. No User-Serviceable Parts Inside. Refer Servicing To Qualified Service Personnel. Disconnect All Sources Of Supply Prior To Servicing.

RIESGO DE DESCARGA ELÉCTRICA.

No retire la cubierta. Sin usuario pueda reparar piezas en el interior. La reparación al personal de servicio cualificado. Desconecte todas las fuentes de para la revisión de la oferta.

RISQUE DE CHOC ÉLECTRIQUE.

Ne pas retirer le boîtier. No User-réparable Pièces Inside. TECHNICIENS QUALIFIÉS du personnel de service. Débranchez toutes les sources de Fourniture Avant l'entretien.

DO NOT USE BELOW GARAGE FLOOR OR GRADE LEVEL.
NO DEBE UTILIZARSE DEBAJO DEL PISO DEL GARAGE O DEL GRADO.
NE PAS UTILISER A UN NIVEAU INFERIEUR A CELUI DU PLANCHER DU GARAGE OU DU SOL.

WARNING/ADVERTENCIA/ATTENTION

Hydraulic oil should only be changed when equipment is fully lowered. Use only recommended ISO AW32 or AW46 hydraulic oils. Oil must be changed after the first week of operation and once every 12 months or as needed.

El aceite hidráulico debería cambiarse únicamente cuando el equipo ha sido completamente descendido. Utilice únicamente aceites hidráulicos recomendados ISO AW32 o AW46. El aceite debe cambiarse después de la primera semana de funcionamiento y una vez cada 12 meses o cuando sea necesario.

L'huile hydraulique ne devrait être changée que lorsque l'équipement est complètement abaissé. Utilisez seulement des huiles hydrauliques recommandées ISO AW32 ou AW46. L'huile doit être changée après la première semaine de fonctionnement et tous les 12 mois ou au besoin.

YXBS-01 REV151022

WARNING/ADVERTENCIA/ATTENTION

Always allow a minimum 2-second delay between motor starts. Failure to comply may cause switch and/or motor to burnout. This could cause serious damage to the equipment and/or personal property. Power unit must be wired by a qualified electrician. This power unit should be located at least 18 inches (460 mm) above the floor.

Asigne siempre un lapso mínimo de 2 segundos entre arranques del motor. Si no se respetara este tiempo podrían recalentarse el interruptor y/o el motor. Esto podría provocar serios daños al equipo y/o otros daños materiales. El cableado de la unidad de energía debe ser realizado por un electricista calificado. Esta unidad de energía debería estar ubicada al menos a 18 pulgadas (460 mm) sobre el nivel del suelo.

Il faut toujours prévoir un délai minimum de 2 secondes entre les démarrages du moteur. Ne pas respecter ce délai pourrait provoquer le grillage de l'interrupteur et/ou du moteur. Ceci pourrait gravement endommager votre équipement et/ou provoquer des dommages matériels. L'installation électrique de l'unité d'alimentation doit être faite par un électricien qualifié. Cette unité d'alimentation devrait être place au moins 18 pouces (460 mm) au-dessus du sol.

MBS-01 REV160527

Press Button (ON) ⬆

CAUTION

If connected to a circuit protected by fuses, use time delay fuses with this equipment.

Press Lever to Lower ⬇

USE SUPPLY WIRES SUITABLE FOR 105° C (221°F)
USE CABLES DE ALIMENTACIÓN CONVENIENTE PARA 105°C (221°F)
EMPLOYER DES FILS D'ALIMENTATION POUR 105° C (221°F)

⚠ CAUTION
(1)MINIMUM CIRCUIT AMPACITY OF CONDUCTOR IS 15 A
(2) IF CONNECTED TO A CIRCUIT PROTECTED BY FUSES, USE TIME-DELAY FUSE MARKED "D"

⚠ PRECAUCIÓN
(1)CIRCUITO DE MÍNIMO AMPACIDAD CONDUCTOR ES DE 15 A
(2) SI ESTÁ CONECTADO A UN CIRCUITO PROTEGIDO POR FUSIBLES, USE ALARMAS DE RETARDO FUSE EN LA LETRA "D"

⚠ ATTENTION
(1) COURANT ADMISSABLE MINIMAL DE LA DERIVATION 15 A
(2) IF RELIÉ À UN CIRCUIT PROTÉGÉ PAR DES FUSIBLES, TIME-DELAY UTILISATION FUSE MARQUÉ "D"

DANGER / PELIGRO

Risk Of Explosion. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. This Equipment Has Internal Arcing Or Sparking Parts Which Should Not Be Exposed To Flammable Vapors. It Should Not Be Located In A Recessed Area Or Below Floor Level.

Risque d'explosion. Existe riesgo de explosión. Este equipo tiene partes internas de cebado o de producción de chispas que no deberían estar expuestas a vapores inflamables. No debe ser situado en una zona rebajada o por debajo del nivel de piso.

Cet equipement a courber interne ou pieces d'etincellement qui ne devralent pas etre exposes aux vapeurs inflammables. Il ne devrait pas etre situe dans un secteur enfonce ou au-dessous du niveau de plancher.

AIR PURGE PROCEDURE LABEL
(LABEL TO BE ATTACHED BY MANUFACTURER)

Hydraulic Cylinder Air Purge Procedure

1. Without any weight on the lift raise the cylinders 2 feet off the ground just high enough to clear locking mechanisms. Slowly loosen the bleed screws located at the top of each cylinder. (One or two turns should be all that is needed to remove the air). DO NOT REMOVE BLEED SCREW COMPLETELY.
Listen for air to release and watch for clean fluid to escape from each cylinder.

2. Continue to raise the cylinders one full rotation and lower the lifting arms to an un-locked position 2 feet off the ground. Slowly loosen the bleed screws located at the top of each cylinder. (One or two turns should be all that is needed to remove the air). DO NOT REMOVE BLEED SCREW COMPLETELY.
Listen for air to release and watch for clean fluid to escape from each cylinder.
Repeat steps if air is still in the cylinder.

NOTE: If cylinder continues to shake or vibrate when lifted or lowered repeat steps until trapped air is removed from cylinders. (Use a ladder for safety.)

PINCH POINT LABEL
(LABEL TO BE ATTACHED BY MANUFACTURER)

TCE SERIAL PLATE
(LABEL TO BE ATTACHED BY MANUFACTURER)

TCE T2OH-2 OPTIONAL HEIGHT SERIAL PLATE
(LABEL TO BE ATTACHED BY CUSTOMER)

ANSI/ALI ACCESSORIES, ATTACHMENTS, AND COMPONENTS LABELS
(LABEL TO BE ATTACHED BY CUSTOMER)
(To be place BESIDE ALI GOLD LABEL)

ALI/MET GOLD LABEL
(LABEL TO BE ATTACHED BY MANUFACTURER)

OPERATING INSTRUCTION LABEL
(LABEL TO BE ATTACHED BY MANUFACTURER

OPERATING INSTRUCTIONS

T10000-2OH rev160229

ONLY AUTHORIZED PERSONNEL ARE TO OPERATE LIFT.
BEFORE OPERATING LIFT READ OPERATING MANUAL AND SAFETY DOCUMENTS SUPPLIED WITH THE LIFT. ONLY TRAINED and AUTHORIZED PERSONNEL should operate the lift. Do not allow customers or unauthorized personnel to operate the lift or remain in the lift area during use.

WARNING THIS MOTOR HAS INTERNAL ARCING AND SPARKING PARTS. TO MINIMIZE THE RISK OF EXPLOSION, DO NOT EXPOSE TO FLAMMABLE VAPORS. Use only recommended ISO AW32 or AW46 hydraulic oils.
Power Unit Motor duty cycle is one full lifting operation 10 minutes, this will include the lifting and lowering time.

OPERATING CONDITIONS: Lift is not intended for outdoor use and has an operating temperature rating between 40°F – 105°F (4°C - 41°C)

DO NOT install on asphalt or other similar unstable surface. Columns are supported only by anchoring to concrete floors. Manufacturer will not be held responsible for any concrete that may not meet slope requirements and will not be responsible for any charges relating to new concrete slabs pouring or leveling or damage.

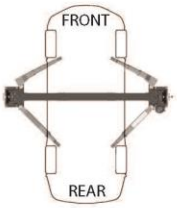
INSPECT THE LIFT DAILY. Do not operate if potential problems have been identified or lift malfunctions. Do not operate if lift has damaged or broken components. Check all moving parts for any type of damage that may affect misalignment or operation of lift. Inspect all anchors bolts and retighten if necessary. Re-torque as needed. See installation manual for instructions.

ALWAYS ensure the safeties are engaged before any attempt is made to work on or near the vehicle.
DO NOT operate the lift while batteries are charging
DO NOT raise/lower only one side of the vehicle
NEVER leave lift in elevated position unless the safeties are engaged.
NEVER operate the lift with any person or equipment below the vehicle.
DO NOT attempt to work on the vehicle or go near vehicle when lift is being raised or lowered.
NEVER exceed the rated lift capacity.

ALWAYS position lifting arms, ramps, adapters and accessories properly out of the way before pulling the vehicle into or out of the bay. Failure to do so could damage the vehicle and/or the lift.

⚠ DANGER:
NEVER lift any vehicle in any manner with less than all four (4) arms. Rated capacity of each lift arm is no greater than one fourth (1/4) of the overall lift capacity.

⚠ DANGER:
Refer to the vehicle manufacturer recommended lifting points, beforelifting any vehicle.



TO RAISE THE LIFT:

1. Adjust the lifting arms so that the vehicle is positioned with the center of gravity midway between the lift pads. (Use truck adapters as needed.)

⚠ **DANGER: NEVER** use the lift pad assemblies without the rubber pads in place.

2. Press the power "on" button.
3. A clicking sound will be heard as the lift raises. These are the carriage locks that will securely hold a vehicle.
4. Once the desired height has been achieved slightly raise the carriage and lift arms just above the last latch position and slowly lower the load on the safety locks.
5. Verify that both Safety Carriage locks have been engaged before beginning work.
6. Use of jack stands or other load supporting devices will help in preventing load shifts. Manufacturer suggests that jack stands or other load supporting devices are used at all times for additional security. Use additional lifting equipment or stands when removing or installing heavy vehicle components.
7. Make sure the vehicles center of gravity is always safe before raising vehicle. Any points of contact on vehicle that are not in good contact with lifting pads or contact with lift should always be double checked. Always make sure the vehicle is secure before lifting using only your vehicle manufacturers' recommended lifting points.

TO LOWER THE LIFT:

6. To lower the lift, first raise the lift to clear the safety latches, press the power "on" button, then pull down the safety release handle to lower the lift. The carriages should now be in the free UN-LOCKED position.
7. Simultaneously hold the Safety Carriage Locks in the UN-LOCKED Position and press the lowering control valve on the power unit.
8. Lower the lift slowly until reach the lowest retracted position.
9. Retract the lifting arms to the shortest position.
10. Place any arm extension adapters on column storage brackets.

⚠ **WARNING:** Questions, problems, missing parts?
Before returning to your retailer, call our customer service department at 1-888-448-6746 (1-888-44 TORIN), 8 a.m.- 5 p.m., PST, Monday-Friday.
Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

TCE TORIN COMMERCIAL EQUIPMENT

TCE TWO YEAR WARRANTY

INTENDED USE

This two-post car lift is designed to lift and raise light duty vehicles under 10,000-lbs. Our 2 post car lifts offer variable lifting configurations, for unobstructed floor space while repairing vehicles.

TECHNICAL SPECIFICATIONS

Description	US Imperial (in) (lbs)		Metric (mm) (kg)
Lift Capacity	10,000 lbs.		4525-kg
Max Rise from the ground	72.75		1848mm
Lifting Range	68.70		1745mm
Lowest Clearance from the ground	4.05		103mm
Narrow Drive-Thru Clearance	88.15		2239mm
Narrow Overall Width	140.43		3567mm
Narrow Width Inside of Columns	111.42		2830mm
Medium Drive-Thru Clearance	94.06		2389mm
Medium Overall Width	146.34		3717mm
Medium Width Inside of Columns	117.32		2980mm
Wide Drive-Thru Clearance	99.96		2539mm
Wide Overall Width	152.24		3867mm
Wide Width Inside of Columns	123.23		3130mm
Front Arm Reach	19.3 to 41.85		492 to 1063mm
Rear Arm Reach	37.3 to 60.20		948 to 1529mm
Standard Overall Height	143.7in	11.97ft	3650mm
Standard Ceiling Height Requirements	144in	12ft	3658mm
Tall Overall Optional Height – not included	***166in***	***13.89ft***	***4235mm***
Tall Ceiling Height Requirements – not included	***168in***	***14ft***	***4267mm***
Width Arms Open Symmetric Setting	122.09		3101mm
Width Arms Asymmetric Setting	82.64		2099mm
Width Arms Centered	34.45		875mm
Max Load Per Arm	2500-lbs.		1136-kg
Shipping Dimensions L x W x H	141.93x22.44x37.6		3605 x 570 x 955 mm
Shipping Weight	1893.26-lbs		860-kg

Description	Specifications
Lock Mechanism	Manual
Motor Phase(s)	1 Phase
Volts	208-240
Hertz	50/60
Amps	16Amps (2.2 kw)
Time to Full Rise (seconds)	60
Maximum operating hydraulic pressure developed upon lifting the rated capacity	2450 psi / 168.92 bar
Manufacturer Warranty	2 Years Limited

Optional: Height Extension Kit
Additional Height:
24in
609.6mm
Shipping Dimensions:
30.31in x 17.32in x 16.93in
770mm x 440mm x 430mm
Shipping Weight
167.55-lbs / 76-kg

OVERALL HEIGHT CONSIDERATION:

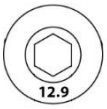
Standard Ceiling Height Requirements: 144-in
Tall Ceiling Height Requirements w/Optional 2FT Extension: 168-in

Safe Operating Temperature is between 40°F **–** 105°F (4°C - 41°C)

Manufacturer recommends using a 25-amp circuit for operating lift

FASTENER TORQUE RECOMMENDATIONS

Values are stated in foot pounds (ft-lbs)

HHCS SHCS CSCS (SAE)	**HHCS SHCS CSCS (Metric)**	 **SAE Grade 2** **Class 5.8**	 **SAE Grade 5** **Class 8.8**	 **SAE Grade 8** **Class 10.9**	 **Socket Head Cap Screw** **Class 12.9**	 **Socket Head Cap Screw** **Class 12.9**
¼-20	M6 X 1.0	6	10	14	7.1	11.6
5/16-18	M8 X 1.25	12	19	29	17	29
3/8-16	M10 X 1.50	20	33	47	34	57
7/16-14	NA	32	54	78	NA	NA
½-13	M12 X 1.75	47	78	119	59	99
9/16-12	M14 X 2.00	69	114	169	94	158
5/8-11	M16 X 2.00	96	154	230	146	250
¾-10	M18 X 2.50	155	257	380	210	341
7/8-9	M22 X 2.5	206	382	600	NA	559
¾ Anchor Bolts		150 ft-lbs (for Simpson Anchors provided)				

For national, state, and local building codes requiring CLASS C anchoring requirements, please refer to ASTM C881 / C881M - 15 Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete

CONCRETE FOUNDATION ANCHORING SPECIFICATIONS AND REQUIREMENTS

Manufacturer recommends installation on 2-Post Models use a concrete pad 6 Inch Min. Thickness / 3,000 PSI (4,000 PSI Recommended)
Before installing your new lift, check the following:

Select Lift Location: Always use architects building plans when available. Check layout dimension against floor plan requirements making sure that adequate space is available.

Floor Requirements: The lift should be located on a relatively level floor of less than **3 degrees' slope**. If slope is questionable, consider a survey of the site and/or the possibility of pouring a new level concrete slab. Failure to do so could cause personal injury or death.

Ceiling Requirements: The area where the lift will be located should be free of overhead obstructions such as heaters, building supports, electrical lines, etc.…

Defective Concrete: Visually inspect the site where the lift is to be installed and check for cracked or defective concrete. If site is in question, contact a local inspection agency before installing lift.
DO NOT install on asphalt or other similar unstable surface. Columns are supported only by anchoring to concrete floors.
Manufacturer will not be held responsible for any concrete that may not meet slope requirements and will not be responsible for any charges relating to new concrete slabs pouring or leveling or damage.
For national, state, and local building codes requiring CLASS C anchoring requirements, please refer to ASTM C881 / C881M - 15 Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete

IMPORTANT INFORMATION AND GENERAL NOTES FOR EXPANSION ANCHORS

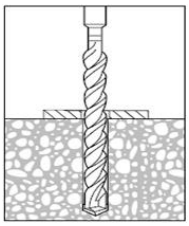
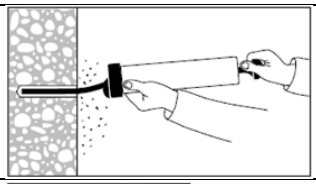
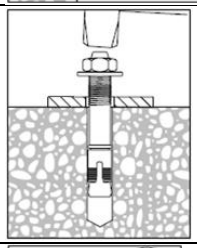
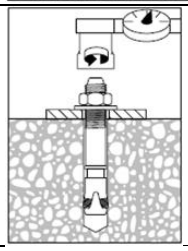
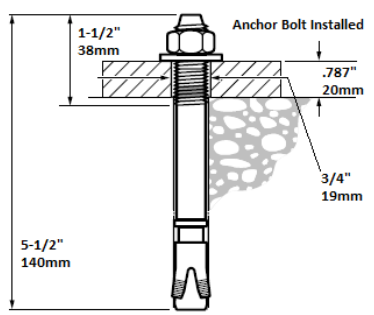
General Instructions for Installing Concrete Anchors

- These general instructions for the installer are provided to ensure the proper selection and installation of Anchor Products and must be followed carefully. These general instructions are in addition to the specific design and installation instructions and notes provided for each particular product, all of which should be consulted prior to and during the installation Anchor Products.
- Use proper safety equipment.
- Most concrete mixes are designed to obtain the desired properties within 28 days after being cast (28-day cure).
- Concrete shall have compression strength of at least 3,000 PSI and a minimum thickness of 6" in order to achieve a minimum anchor embedment. NOTE: When using the standard supplied ¾" x 5 ½" anchors; if the top of the anchor exceeds 2 ¼" above the floor grade you DO NOT have enough embedment.
- Maintain a 8" minimum distance from any slab edge or seam. Hole to hole spacing should be a minimum 6 ½" in any direction. Hole depth should be a minimum of 6".
- Do not modify Mechanical Wedge Anchor products. The performance of modified products may be substantially weakened. Manufacturer will not warrant or guarantee the performance of such modified products.
- Do not alter installation procedures from those set forth in this Manual.
- Drill holes for mechanical anchors with carbide-tipped drill bits meeting the diameter requirements of ANSI B212.15. A properly-sized hole is critical to the performance of mechanical anchors.
- Rotary-hammer drills with light, high frequency impact are recommended for drilling holes.
- Do not use excessively worn bits or bits which have been incorrectly sharpened.
- Please note that the use of oversized holes' is NOT permitted for anchoring any lift. DO NOT USE Anchor Adhesive to fill spacing of oversize holes'. Move lift location or fill holes with Anchor Adhesive and Re-drill to correct Hole Specification. (See manufacturer for proper anchor adhesive curing times.)

EXPANSION ANCHOR INSTALLATION INSTRUCTIONS ¾” X 5-1/2”

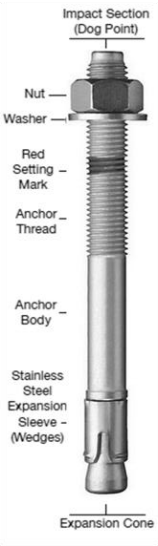
Anchor size is same as drill bit size (.775" to .787“)

Use a hammer drill with a Carbide tip, 3/4" diameter, solid drill bit. The bit tip diameter should be to ANSI Standard B212.15-1994. The Simpson-Tie Strong Bolt 2 wedge anchor is used to resist static, wind and seismic tension and concrete loads in cracked and uncracked concrete applications, with a compressive strength of 3,000psi to 8,500psi. Supports Compliance with 2015, 2012, 2009, and 2006, 2003 International Building Code (IBC); and International Residential Code (IRC). The Strong-Bolt 2 wedge anchors are torque-controlled, mechanical expansion anchors consisting of an anchor body, expansion clip, nut, and washer.

1. 	Hammer Drill a hole to the same nominal diameter as the expansion anchor. The hole depth must exceed the anchor embedment at least ¼”. Use the baseplate as a drilling template to ensure proper anchor locations. (Drill completely through the concrete floor in case movement of the lift is required.)
2. 	Clean hole completely. Remove dirt and dust with the use of a shop vac. or an air compressor.
3. 	Assemble the flat washer and nut flush on the anchor bolt. Drive the expansion anchor into the hole using a hammer. If shimming is required, make sure to leave threads exposed for proper shimming.
4. 	Tighten the nut to the recommended installation torque.
5. 	Installation complete.

Do not disturb, bolt up, or apply load to adhesive anchors prior to the full cure of any adhesive.
Metal anchors and fasteners will corrode and may lose load-carrying capacity when installed in corrosive environments or exposed to corrosive materials. There are many environments and materials which may cause corrosion including ocean salt air, fire-retardants, fumes, fertilizers, preservative-treated wood, dissimilar metals, and other corrosive elements.
Finished Diameters for Rotary and Rotary Hammer Carbide Tipped Concrete Drills per ANSI B212.15

Do not cut or drill through a post tension cable! (Locate any post tension cables before you drill.)



PRE-INSTALLATION PROCEDURES

Before beginning your installation make sure you read the installation manual and insure all instructions and safety guidelines are fully understood. Check that all component parts are accounted for. Locate the installation area, identify the center line of the bay and mark the floor. Also mark the center of bay entrance door. Connect these two points with a short chalk line in the area where lift will be located. Draw a second chalk line at 90° to locate the positions of both lift columns. (Refer to lift dimensions on this page)
Keep this manual with lift at all times.

DO NO INSTALL LIFT ON ASPHALT OR ANY OTHER SURFACE THAN A CONCRETE FLOOR CONFORMING TO THE MINIMUM REQUIREMENTS DETAILED IN THIS MANUAL. DO NOT INSTALL THIS LIFT ON CONCRETE WITH SEAMS OR CRACKS OR DEFECT. IF YOU HAVE ANY QUESTIONS AND CONCERNS WITH THE LIFT LOCATION SELECTED CONTACT YOUR LOCAL ARCHITECT.

Use safety protective clothing and protective wear when installing lift.

Installation Tools Required:

- 16ft. Measuring tape
- Chalk line and chalk
- Heavy duty metal wire cutters
- 3 ft. Crow bar
- Full set of metric wrenches and ratchet set
- Full set SAE wrenches and ratchet set
- Full set metric and SAE Allen keys
- 1-1/8” Socket and Calibrated Torque Wrench
- Hammer
- Sledge hammer (for installing anchor bolts)
- Rubber mallet
- Phillip screwdrivers
- Flat blade screwdrivers
- Snap ring pliers
- (2) 12 ft. Step ladders
- (1) 4 ft. Level
- (1) rotary hammer drill with 3/4” diameter masonry drill bit
- Lifting devices: Use proper lifting devices such as cranes or a forklift.
- 4” x 4” wooden blocks (use for unpacking)
- Additional help
- Gloves

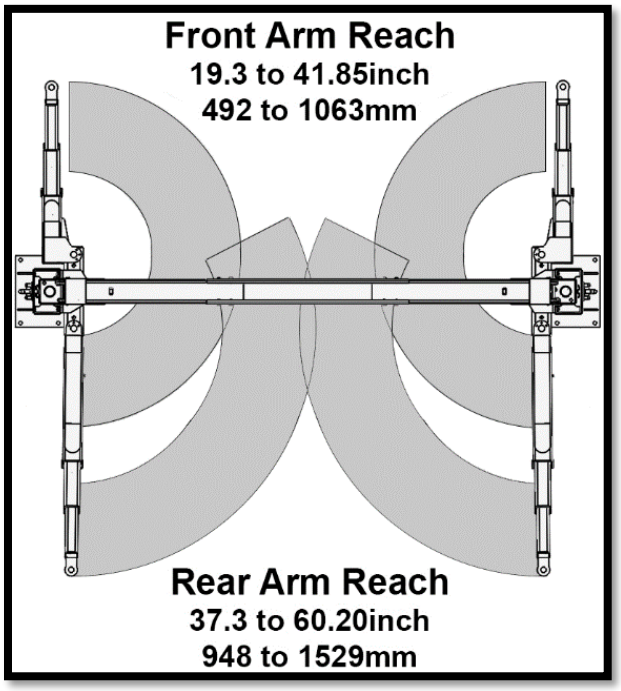
List of items included in shipment:

- 1– Power Side Column
- 1– Non-Power Side Column
- 2—Lifting Carriages
- 2– Cylinders
- 1– Crossover Beam Assembly
- 1– Long Hydraulic Hose
- 1– Medium Hydraulic Hose
- 1– Short Hydraulic Hose
- 1—Power Unit
- 1—Limit Switch Box
- 4—Lifting Arms
- 4—Drop Pins
- 4—Lifting Pads
- 4—Lift Pad Extension
- 1 – Dampener Pad
- 2– Safety Latch Assemblies
- 2– Safety Covers
- 2—Boxes Hardware
- 10—Expansion Anchor Bolts 3/4” X 5 –1/2”
- 1—Installation Manual
- 4—Safety Labels

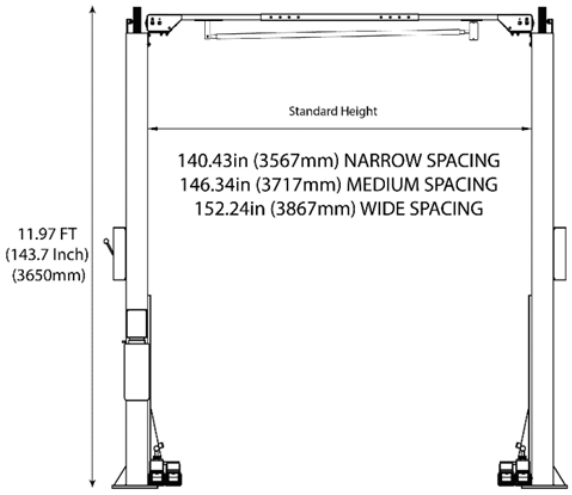
A qualified person should be consulted to address seismic loads and other local or state requirements.

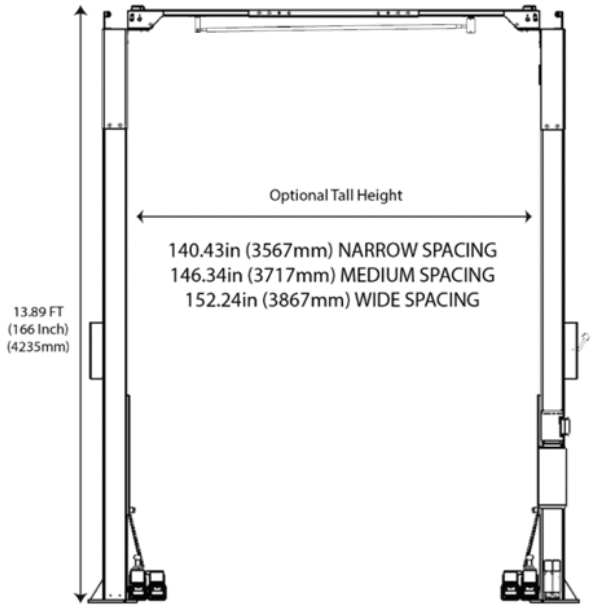
This car lift is designed for indoor installation, prohibiting outdoor installation of this lift. Approved only for indoor installation.

CAR LIFT DIMENSIONS

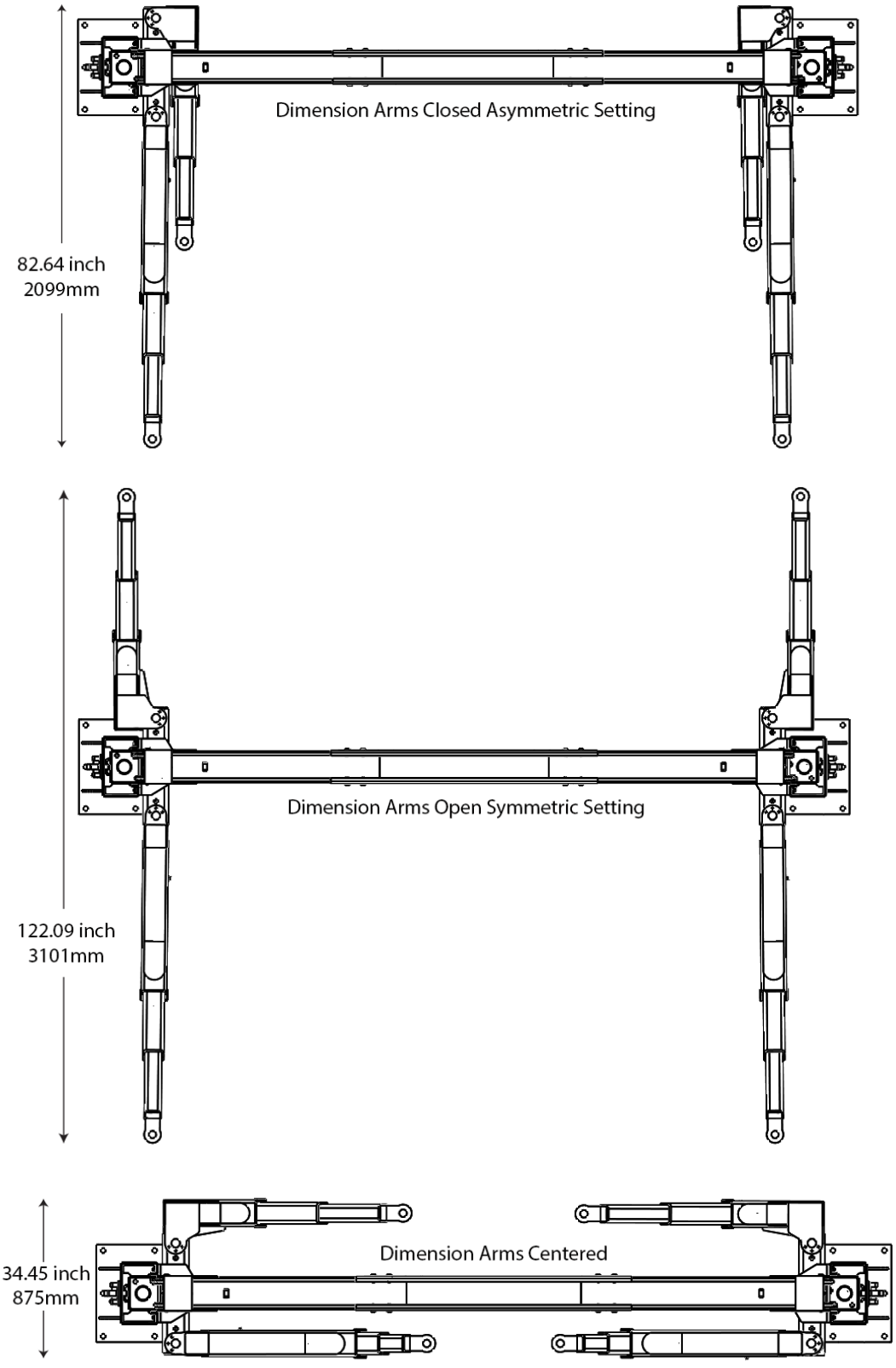


- **IMPORTANT: WIDE SETTING should only be used for specialty fabrication. Not recommended for standard use.**
- **It is recommended to use the Narrow and Middle spacing, these are the best application for most vehicles new lite duty trucks and narrow vehicles.**

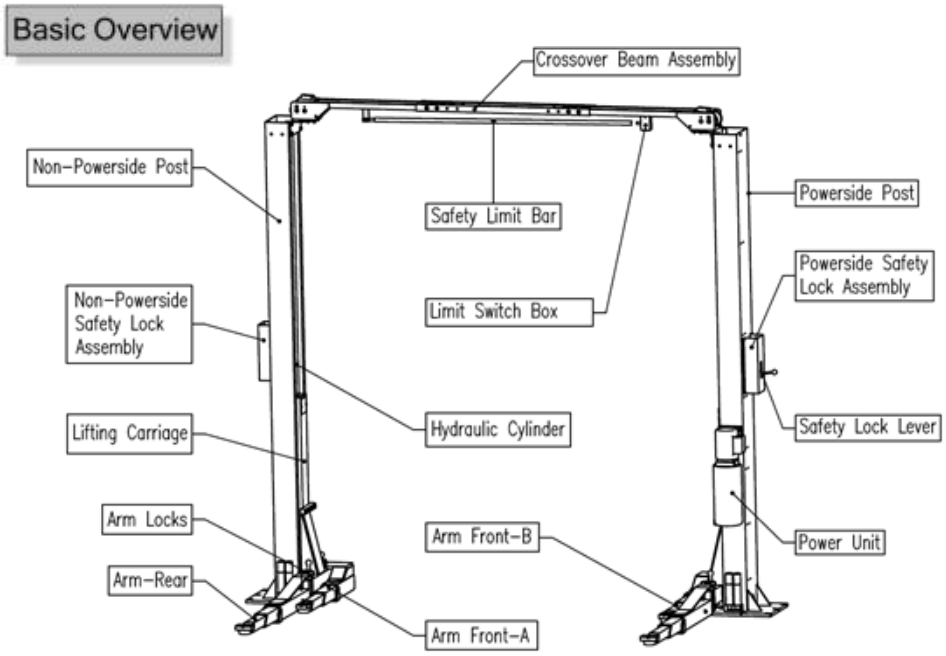


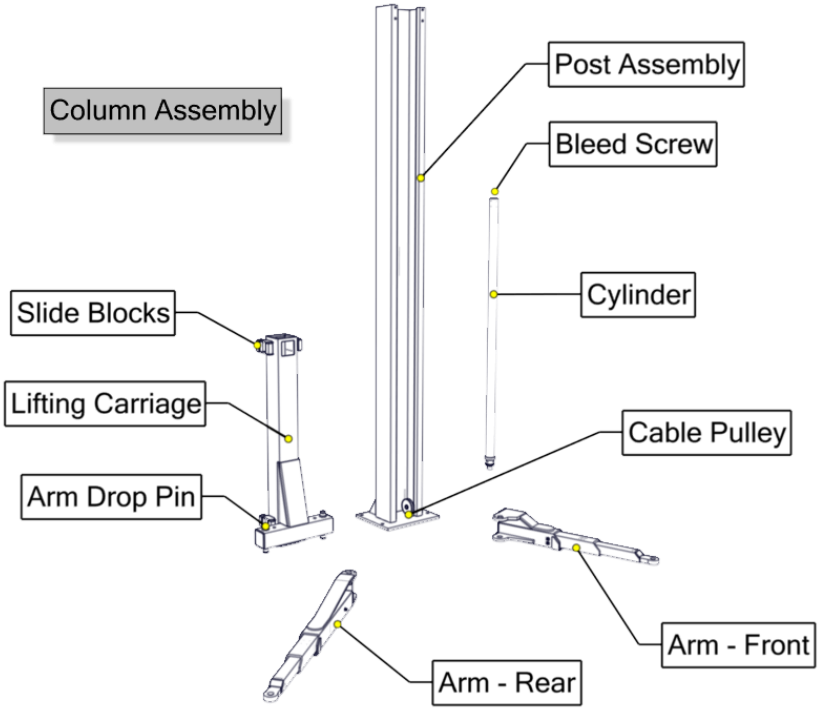


CAR LIFT DIMENSIONS



CAR LIFT GENERAL ASSEMBLY COMPONENTS





INSTALLATION PROCEDURE WHAT'S INCLUDED:

GENERAL PARTS LIST

Index #	Item Number	Item Description	Quantity
1	QJY245DX.1.1	COLUMN POWERSIDE ASSEMBLY	1
2	QJY245DX.2.1	COLUMN NON-POWERSIDE ASSEMBLY	1
10	GB5783 M10X60mm	HHCS M10X60mm	2
	GB97 M10	WASHER M10	2
	GB93 M10	LOCK WASHER M10	2
	QJY245DX.9-04	M10 THREADED L-BRACKET FOR SAFETY BAR	2
11	GB5783 M12X35mm	HHCS M12X35mm	8
	GB97 M12	WASHER M12	16
	GB889 M12	NYLON INSERT HEX LOCK NUT M12	8
12	QJY245DS.9-04	ASSEMBLY ATTACHMENT CROSS BEAM- A	1
12	QJY245DS.9-05	ASSEMBLY ATTACHMENT CROSS BEAM- B	1
13	GB5783 M10X30mm	HHCS M10X30mm	8
	GB97 M10	WASHER M10	16
	GB889 M10	NYLON INSERT HEX LOCK NUT M10	8
14	GB5783 M12X25mm	HHCS M12X25mm	8
	GB97 M12	WASHER M12	16
	GB889 M12	NYLON INSERT HEX LOCK NUT M12	8
15	QJY245DS.9.2	OVERHEAD CROSSBEAM ASSEMBLY	1
18	QJY245DX.9-02	SAFETY BAR	1
	QJY245DX.9-03	SAFETY BAR FOAM COVER	1
19	SP-1447-14	MERCURY LIMIT SWITCH (W/14' 12-2 AWG CORD)	1
22	QJY245DS-13	SAFETY COVER POWERSIDE	1
23	QJY245DX-03	SAFETY LOCK LEVER	1
	GB84141 M10X25mm	HANDLE BALL M10X25mm	1
	GB6170 M10	HEX NUT M10	1
24	GB70 M8X12mm	SHCS M8X12mm	8
25	QJY245DS-14	SAFETY COVER NON-POWERSIDE	1
29	QJY245DS-16	ADAPTER BRACKET	2
30	GB70 M8X12mm	SHCS M8X12mm	4
	GB97 M8	WASHER M8	4
31	QJY245DX-12	EXTENSION, ADAPTER, 1 1/2 in, 38mm	4
32	QJY245DS-18	EXTENSION, ADAPTER, 3 in, 75mm	4
33	QJY245DS-05	EXTENSION, ADAPTER, 6in, 180mm	4
40	QJY245DX.3-03	SLIDE BLOCK SHIM	10
46	QJY245DX-02	ARM PIN	4
47	GB894 M38	EXTERNAL RETAINING RING M38	4
48D	QJY245DX.4D	SHORT ARM ASSEMBLY (FRONT DRIVER SIDE)	1
48P	QJY245DX.4P	SHORT ARM ASSEMBLY (FRONT PASSENGER SIDE)	1
49	QJY245DX.5	LONG ARM ASSEMBLY (REAR ARM)	2
62-1	QJY245DX.4A	ARM LIFT PAD COMPLETE ASSEMBLY	4
63	STB2-75512	SIMPSON SEISMIC/CRACKED AND UNCRACKED WEDGE-TYPE EXPANSION ANCHOR	10

INSTALLATION PROCEDURE WHAT'S INCLUDED:

EQUALIZER CABLES

Index #	Item Number	Item Description	Quantity
500	QJY245DX-01	EQUALIZING CABLE 10,110mm	2
501	QJY245DX-05	EQUALIZER CABLE EXTENDER	4
39	GB6170 M18	HEX NUT M18	8

HYDRAULICS

Index #	Item Number	Item Description	Quantity
301	QJY245DX.8-01	HYDRAULIC HOSE MEDIUM 1,110mm	1
302	QJY245DX.8-02	HYDRAULIC HOSE SHORT 230mm	1
303	QJY245DX.8-03	HYDRAULIC HOSE EXTENDER FITTING	1
304	QJY245DX.8-04	HYDRAULIC HOSE LONG 9,130mm	1
305	QJY245DX.8-05	CYLINDER HYDRAULIC FITTING 125mm ¼NPT	2
306	QJY245DS.7	HYDRAULIC CYLINDER 1775.5mm (69.9")	2
307	QJY245DS.8-06	T-FITTING #6 JIS	1
308	QJY245DS.8-05	PUMP FITTING #6 BOSS FITTING (SAE TO JIS)	1
309	JB982-77	O-RING ASSEMBLED WASHER (FOR PUMP	1
310	GB5783 M8X22mm	HHCS M8X22mm	4
311	GB97 M8	WASHER M8	4
312	GB889 M8	NYLON INSERT HEX LOCK NUT M8	4
313	YBZ6-F2.1E3H1/AMQOT	WUXI POWER UNIT	1
67	GB70 M6X10mm	SHCS M6X10mm (FOR HYDRAULIC HOSE COVERS)	28
68	GB97 M6	WASHER M6 (FOR HYDRAULIC HOSE COVERS)	28

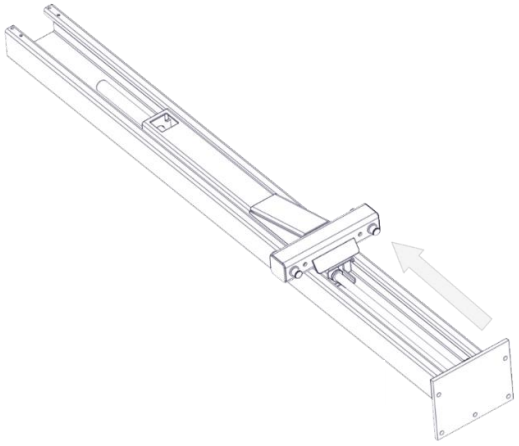
SAFETY CABLE SYSTEM

Ind	Item Number	Item Description	Quan
700	QJY245DX.10-01 SAFETY CABLE (Ø2mm X 7,800mm)	QJY245DX.10-01 SAFETY CABLE (Ø2mm X 7,800mm)	1
701	QJY245DX.10-02	HHCS SAFETY SCREW M8X45mm	1
702	GB6170 M8	HEX NUT M8	4
703	GB5782 M8X35mm	HHCS M8X35mm	1
706	GB97	WASHER M8	2
707	QJY245DS.11	SAFETY CABLE BRACKET	2
708	QJY245DS-03	SAFETY PULLEY 35mm	2
709	GB70 M8X30mm	SHCS M8X30mm	4
710	GB889 M8	NYLON INSERT HEX LOCK NUT M8	4
711	GB70 M8X12mm	SHCS M8X12mm	4
712	QJY245DS.1-02	SAFETY PULLEY SEAT	2
713	QJY245DS-12	SAFETY PULLEY 42mm	2
716	GB70 M6X10mm	SHCS M6X10mm	8
717	GB97 M6	WASHER M6	8

INSTALLATION PROCEDURE

Make sure you have extra help or heavy duty lifting equipment when unloading and assembling the lift. Manufacturer will assume no liability for loss or damage of any kind, expressed or implied resulting from improper installation or use of this product. Do not attempt to install equipment unless you have been trained on installation procedures. Never attempt to lift components without proper lifting tools such as forklift or cranes. Stay clear of any moving parts that can fall and cause injury.

1. After unloading the lift, place it near the intended installation location.
2. Remove the shipping bands and packing materials from the lift. The power unit will be unpacked from the top. Note: Be careful not to drop power unit on heavy end
3. Open the wrapping, remove the parts and parts boxes from the packaging. Unbolt the structure from the shipping brackets. (Use proper lifting devices, cranes or a forklift to lift off of shipping brackets.)
4. Slide each carriage 60-70" towards top of columns to expose base of cylinders.
5. Open the oil port of each cylinder by unscrewing the black plastic cap.
6. Install the hydraulic long fittings. Make certain the oil port faces the backside of the column.
7. Once installed align the cylinder rod with the notch in the base plate, the cylinder will fit into the hole in the center of the base plate for proper alignment. (The cylinder fitting may have been previously pre-installed at the factory, if so skip this step. DO NOT remove the stop plug from the cylinder at this time if the hydraulic fittings have already been installed.)
   NOTE: Use Teflon Tape on Hydraulic fitting NPT threads that connects to cylinder port side, <u>DO NOT USE ON TEFLON TAPE ON HYDRAULIC HOSE SIDE.</u>



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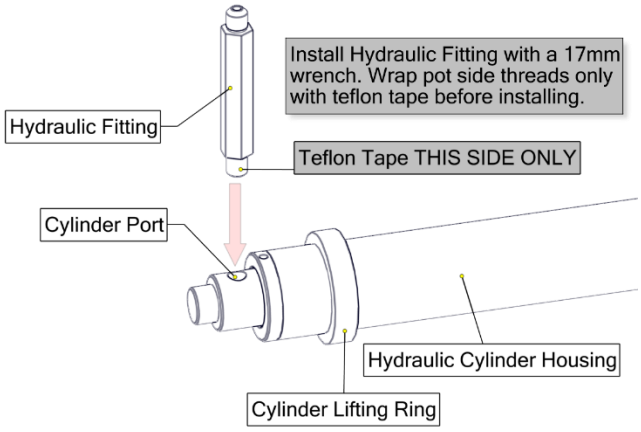

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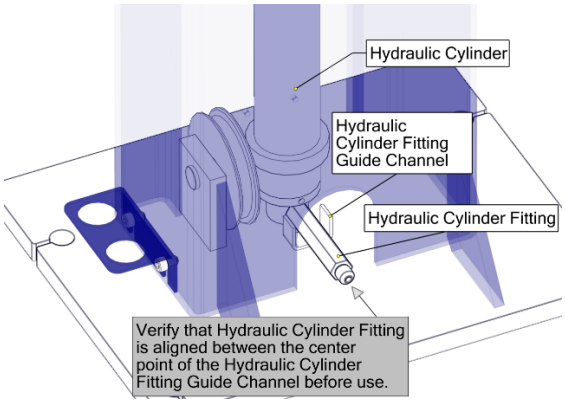

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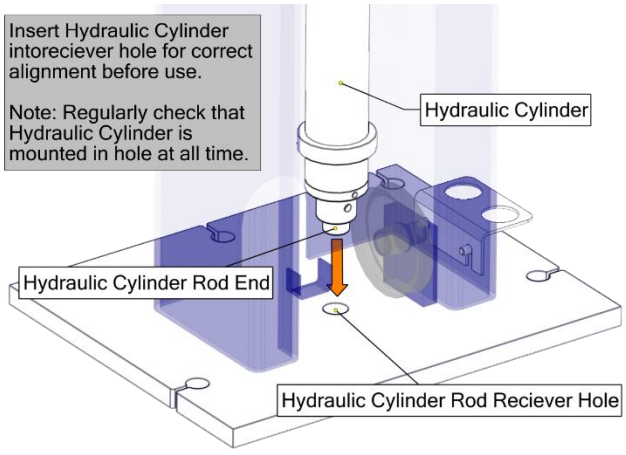
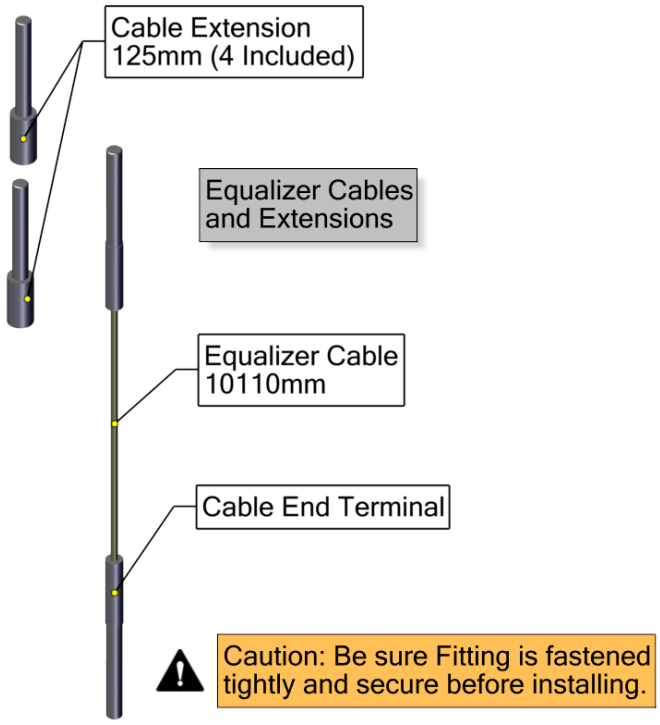
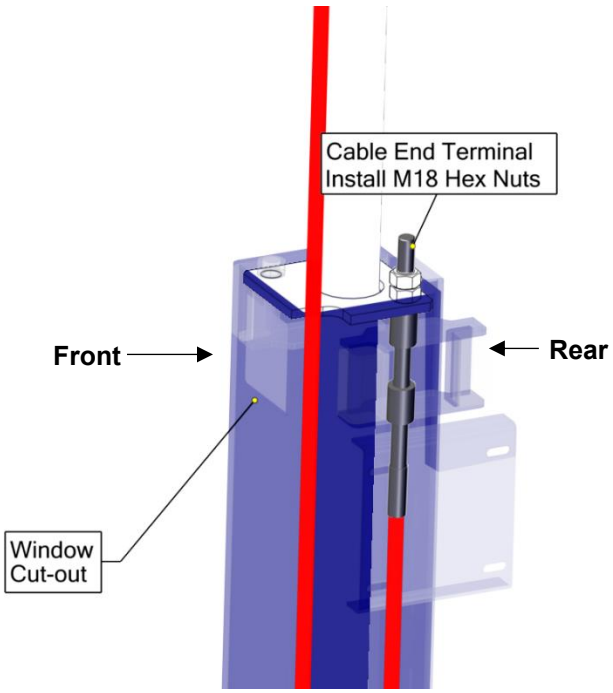


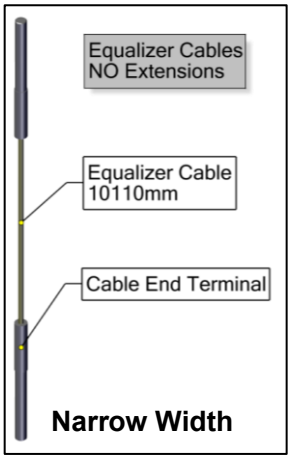
#7

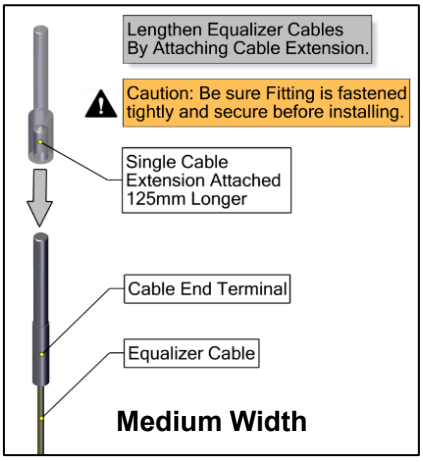
8. To lengthen Equalizer Cables for wider configurations, use the images below as a guide.
9. Install Cable extensions on rear side of the carriage and tighten securely before installing.

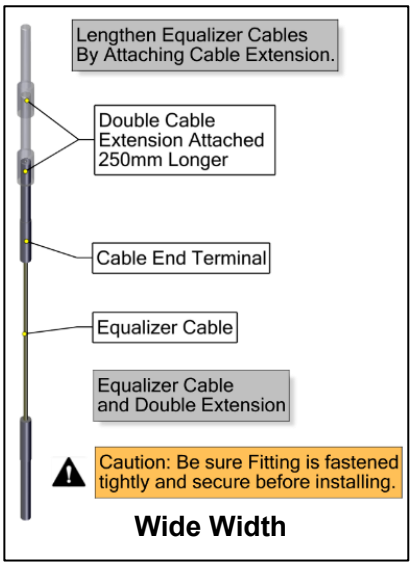




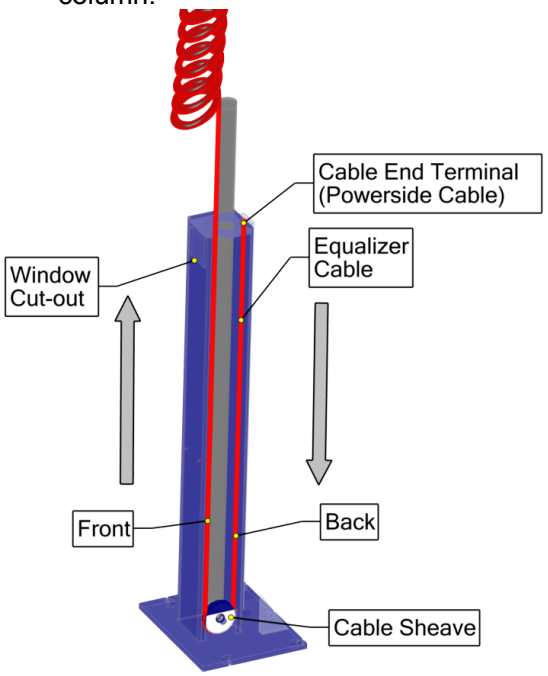
Cable Width Configurations:







10. Before raising the columns route the cables in each column cables as illustrated below. The stop connector will seat on the rear upper stop plate. Make sure the cable is routed down toward the pulley on the base plate then routed back up towards the front of the carriage. Remove all the cable slack by lowering the lifting carriage and pulling the cable tight. Wind the remaining cable into the column. This will make installing the cables easier before raising columns.
    a) Connect the equalizing cables as shown in the cable diagram below. Do not tighten at this stage of assembly. **Note: make sure not to cross cable over the hydraulic cylinder.**
    b) If an access panel is provided, remove the access panel on the front of the carriage.
    c) Feed the equalizer cable down through the rear top mounting of carriage and around lower sheave. Be sure to pull the cable all the way through until sitting flush on top mounting point.
    d) Remove the bottom sheave so the cable will seat, wrap cable around sheave and replace sheave with cable. Re-install after cable has been routed.
    e) Push the equalizer cables up through the bottom of the carriage. The cable must run through that front hole on the same side and out the top of the carriage. Wrap remaining portion of cable inside column.



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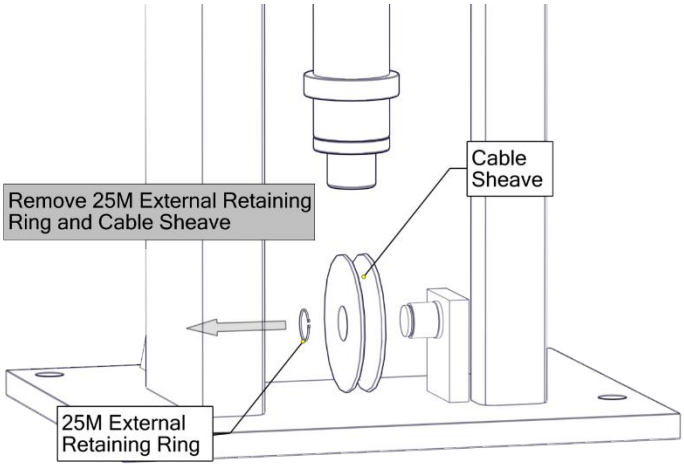


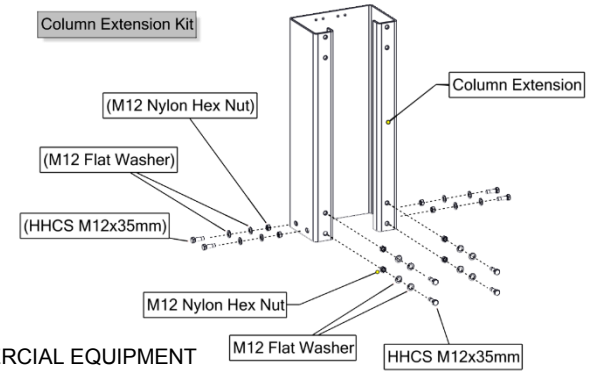
#D

***OPTIONAL HEIGHT EXTENSION KIT INSTALLATION

(NOT INCLUDED) ***If you do not have this option skip to Step 11.***

STEPS (i to ii) is an additional assembly process. For ease of the optional installation this assembly process has been added between steps (10 and 11).

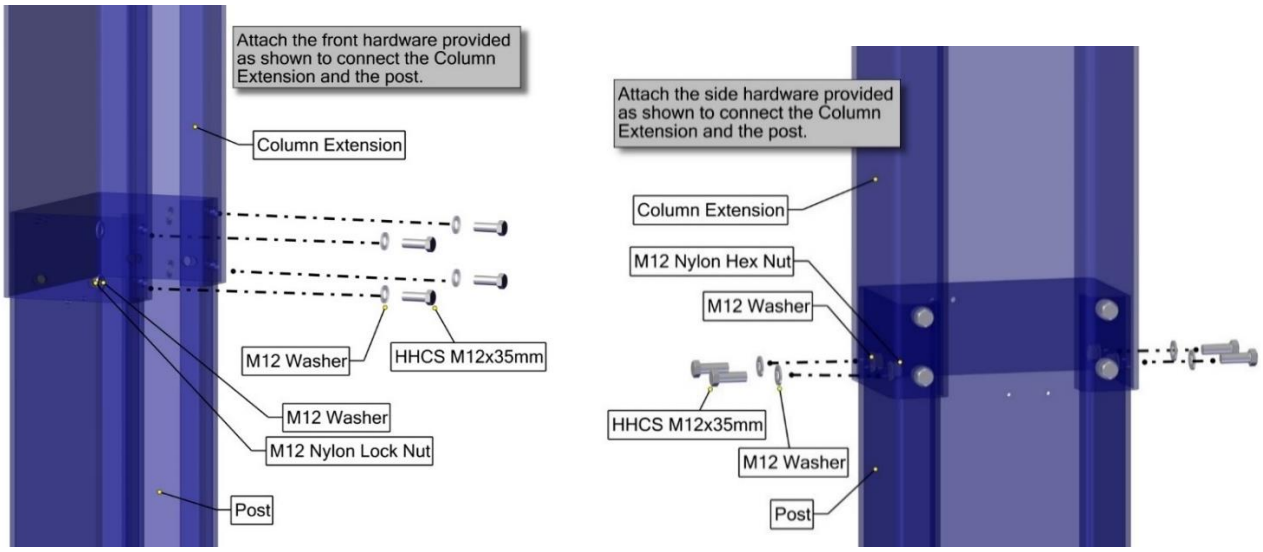
Kit includes:
(2) 2 Foot Column Extensions
(2) Extra Long Equalizer Cables 11,320mm
(1) Extra Long Hydraulic Hose 10,320mm
(1) Safety Cable 9,000mm
(16) HHCS M12X35mm
(16) M12 Nylon Hex Nut
(32) M12 Flat Washer



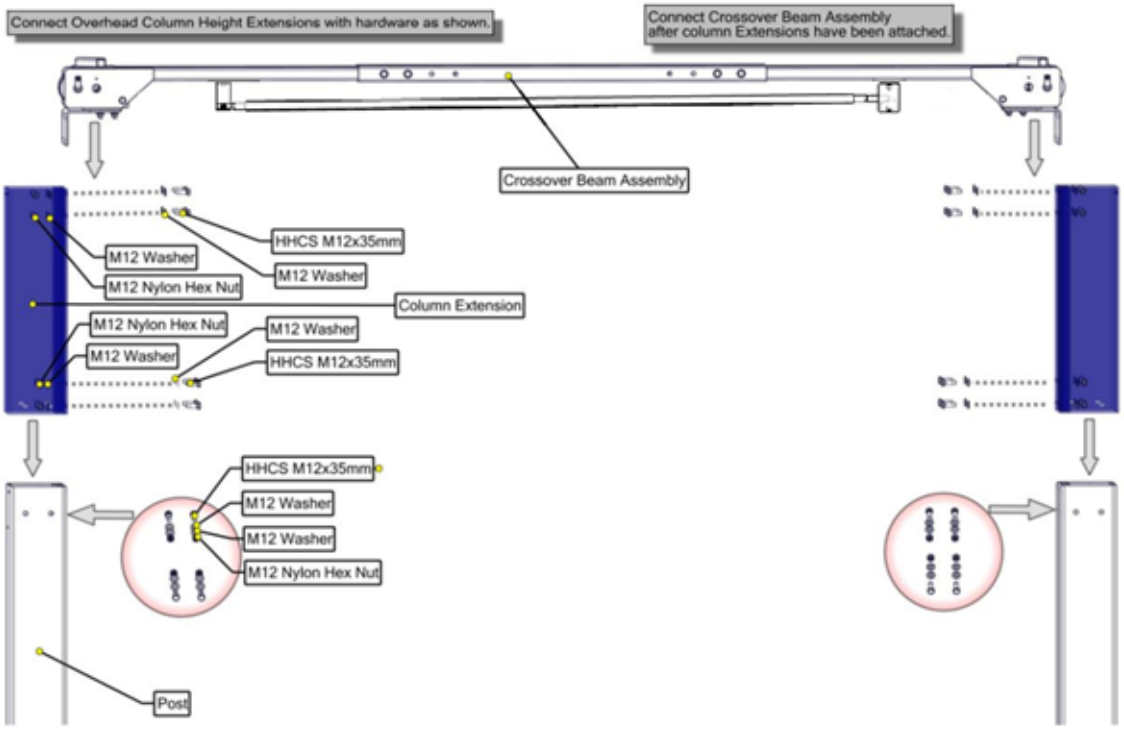
***OPTIONAL HEIGHT EXTENSION KIT INSTALLATION

(NOT INCLUDED) ***If you do not have this option skip to Step 11***

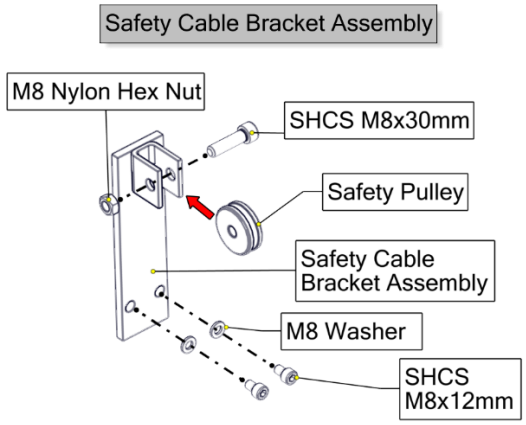
i. Install the height extension, by sliding the extension column over the post and attaching both the front and side hardware as shown. Use HHCS M12x35mm, Washer M12, and M12 Nylon Hex Nut to complete these steps.



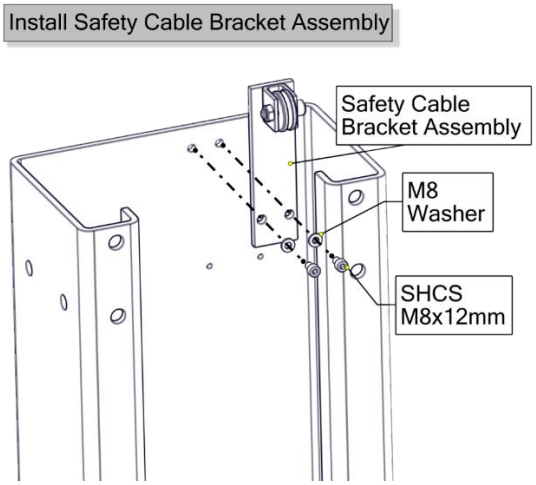
ii. In the image show here in this step is an overview of the height extension complete assembly. This will also be explained in the following steps (10 to 21).



11. Install the safety cable bracket on both columns.

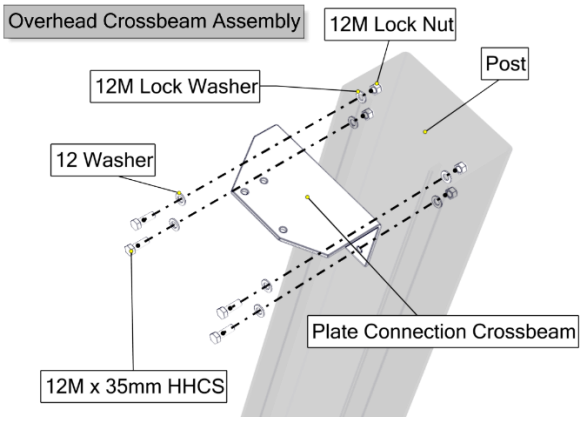


#11

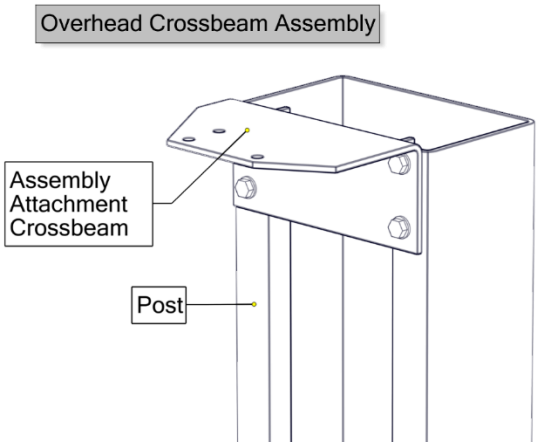


#11

12. Install the crossover beam plate connection.



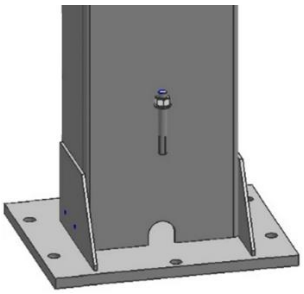
#12



#12

13. Raise the columns and position the columns facing each other. The outside base plates measurements are as shown in the image below. Square using a chalk line and measuring from rear points on base plates (mark your positioning within 1/16”).

14. ***<u>**ONLY ANCHOR ONE POST WITH (1) ANCHOR FOR ALIGNMENT AT THIS TIME ONLY**</u>***
The remaining anchors will be installed after the overhead crossbeam has been installed.
(See concrete requirements before anchoring lift.)



Installation Instruction for Expansion Anchors.

For additional detailed information on foundation requirements see **(See Foundation, Anchoring Requirements, and Anchoring Tips Instructions.)**

CAUTION: Anchors must be at least 8" from the edge of the slab or any seam.

A. *Measure Lift Placement. (Recommended using columns as a template before drilling and marking holes.)*
B. *Keep the drill in a perpendicular line while drilling.*

C. *Let the drill do the work. Do not apply excessive pressure. Lift the drill up and down occasionally to remove residue to reduce binding.*

D. *Drill the hole to depth equal to the length of anchor. Note: Drilling all the way through the concrete (recommended) will allow the anchor to be driven through the bottom of foundation if the threads are damaged or if the lift will need to be relocated. (Example A.1)*

E. *After drilling blow the dust from the holes. (Example A.2)*

F. ***Repeat Steps 1 through 5 (Qty x 10) after the overhead crossbeam has been installed.***

G. *Move column into place carefully. Then complete the following steps.*

1) *Place flat washer and hex nut over threaded end of 3/4" x 5 1/2" wedge anchor, leaving approximately 1/16 inch of thread exposed carefully tap anchor (use a hammer). Do not damage threads. Tap anchor into the concrete until nut and flat washer are against base plate.*

2) *Using the horseshoe shims provided, shim each column base as required until each column is plumb. If one column has to be elevated to match the plane of the other column, add shim plates. Torque anchors to 150 ft.-lbs. Shim thickness MUST NOT exceed ½" when using the 5 ½" long anchors provided with the lift. Adjust the column extensions plumb.*

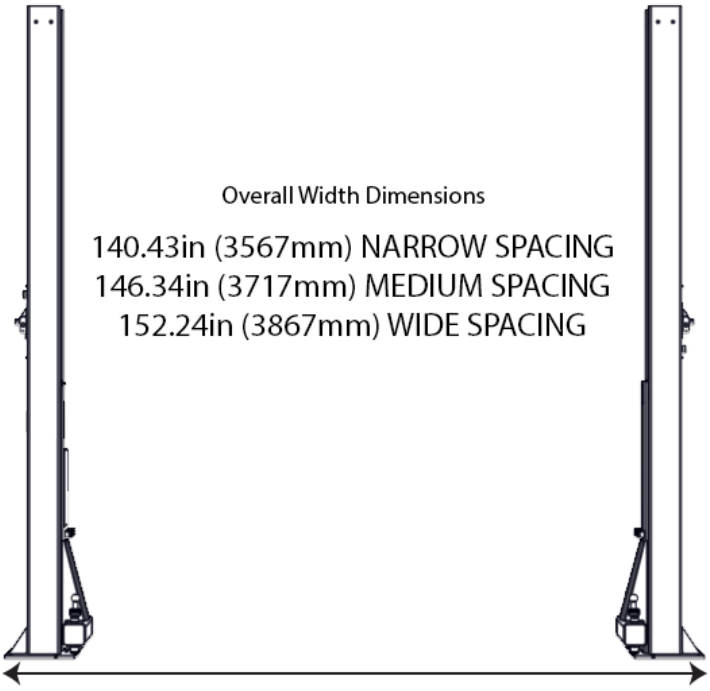
3) *Tighten the nut, two or three turns. Check each anchor bolt with torque wrench set to 100 foot pounds' torque.*

4) *Mechanical Anchors: Tighten the expansion anchors several hours after the initial installation. The anchors should be checked with the daily inspection to make sure they are properly maintained.*

5) *For mechanical anchors that require a specific installation torque: Failure to apply the recommended installation torque can result in excessive displacement of the anchor under load or premature failure of the anchor. These anchors will lose pre-tension after setting due to pre-load relaxation.*

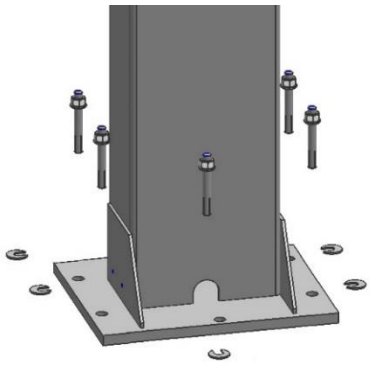
6) ***If anchors do not tighten to 150 ft.-lbs. installation torque, replace the concrete under each column base with a 4' x 4' x 6" thick (Recommended 4,000 PSI) 3000psi minimum concrete pad keyed under and flush with the top of existing floor. Allow concrete to cure before installing lifts and anchors (typically 28 days).***

15. Use your measurement markings to center and locate lift. Once this has been accomplished, the column base plate will be used as a guide for drilling the 3/4" diameter holes into the concrete. **DRILL THE ANCHOR HOLES ONLY FOR THE "POWERSIDE COLUMN"**, installing anchors as you go. NOTE: Drill through concrete slab (recommended) this will allow the anchor to be driven through the bottom of slab, if the threads are damaged or if the lift will need to be relocated.
(See Foundation, Anchoring Requirements, and Anchoring Tips Instructions.)



#15

16. Using a level, check column for side-to-side plumb and front-to-back plumb. If needed, use shims provided by placing shims underneath the base plate and around the anchor bolt. (Shim thickness must not exceed 1/2") This will prevent bending the column bottom plates. Tighten the (2) 3/4" anchor bolts 2 to 3 turns.



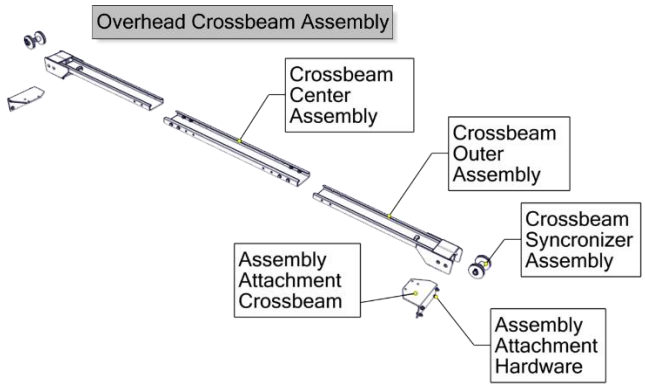
#16

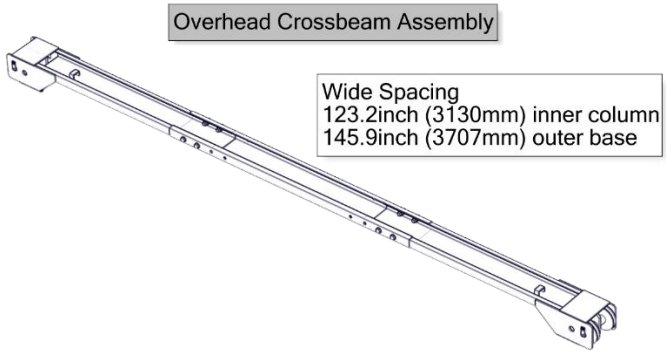
17. Using a tape measure, measure from back corner of the base to the opposite back corner to insure columns are square. After confirming dimensions, install the Overhead Crossbeam

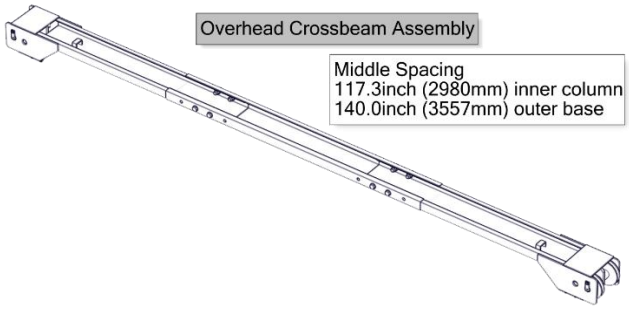
18. **DO NOT ANCHOR THE NON-POWERSIDE COLUMN AT THIS TIME.**
Note: (Verify column is secure standing alone before beginning next procedures. If needed have another team member secure column standing before performing next steps.)

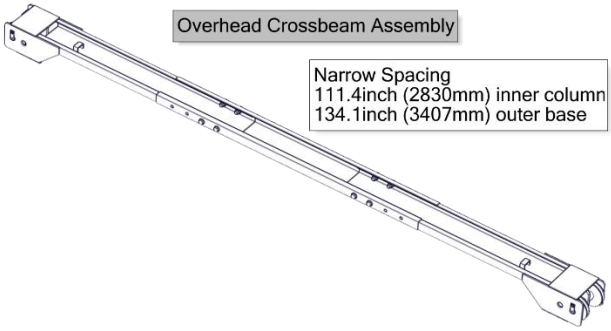
Overhead Crossover Beam

19. Assemble the overhead crossover beam. The final width configuration must be completed at this time. Use the Images on this page to complete the overhead crossbeam assembly.

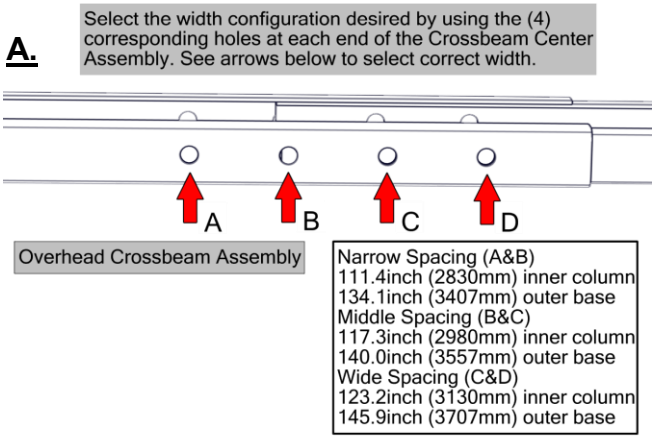




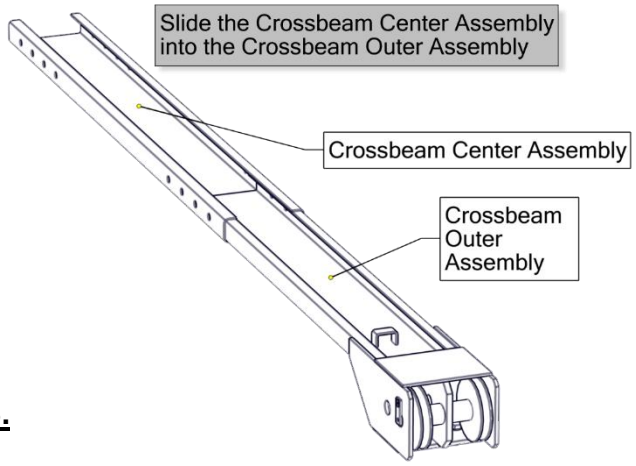




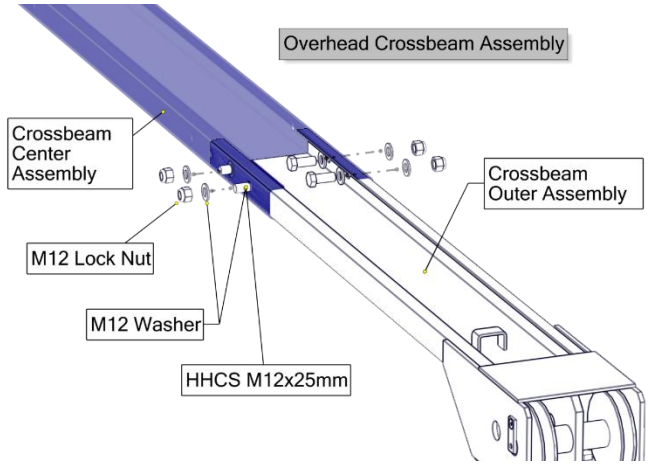
A.



B.

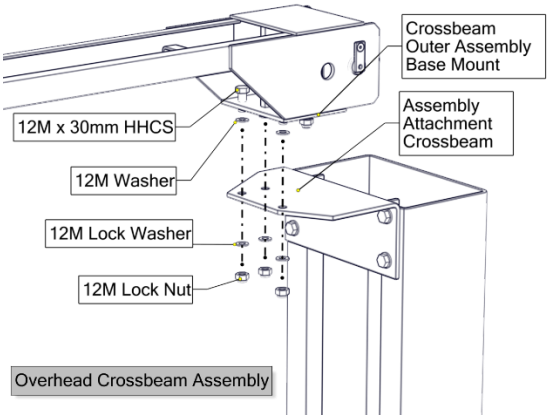


C.

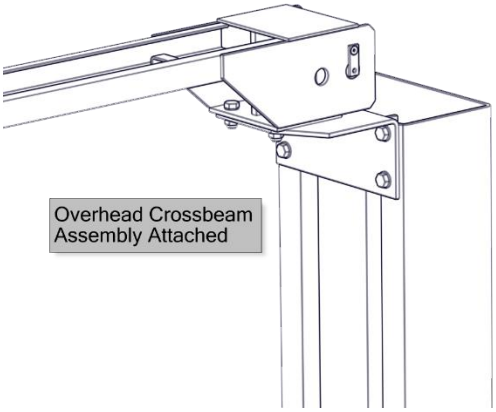


Verify 'hardware' is facing outward when fastening. Install (4) HHCS M12x25MM, M12 Washer, and M12 Lock Washers to each side of the crossbeam assembly sections.

20. Install the overhead crossover beam using (3) HHCS M10x30MM, M10 Washer, M10 Lock Washer, and M10 Lock Nut.
21. Tighten all assembly hardware once the installation of the overhead crossbeam is complete.

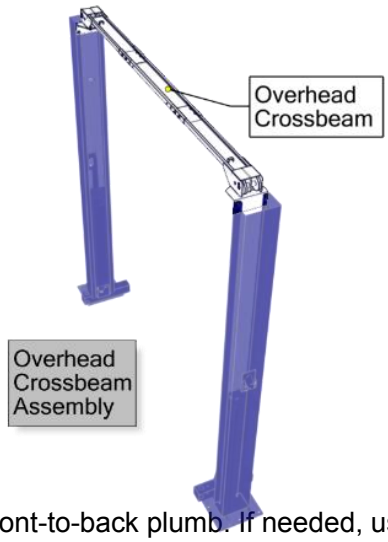


#21

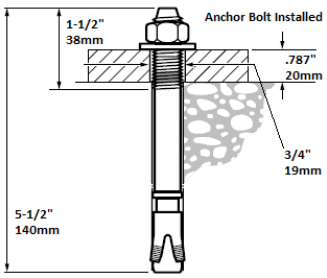


#21

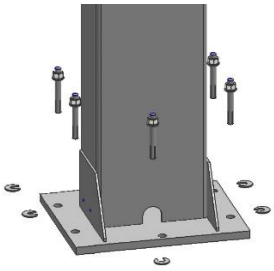
DANGER: #18
Raise the crossover beam and install on the column mounting points to your proper configuration. Make sure to use proper lifting devices (cranes, forklift, ect.), also **USE HELPERS** to install crossover beam. Make sure to use extreme caution when installing the crossover beam. **CROSSBEAM IS TOP HEAVY.** Hardware must be installed from inside the post facing out. This is to avoid interference with the cables and pulleys when operating the lift.



22. Using a level, check both columns for side-to-side plumb and front-to-back plumb. If needed, use shims provided by placing shims underneath the base plates and around the anchor bolt. (Shim thickness must not exceed 1/2") This will prevent bending the column bottom plates and installation on an uneven surface. Do not exceed 3 degrees on the foundation of slope between the two columns.



#22



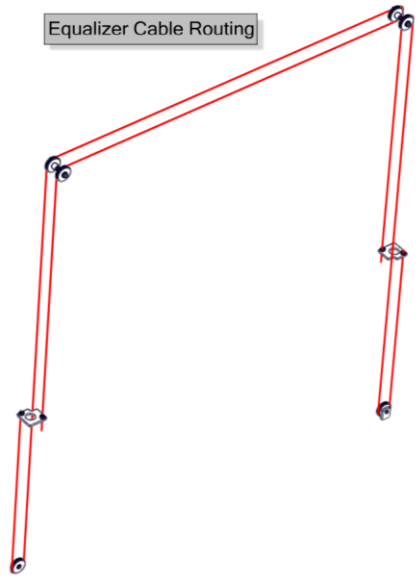
#22

23. Complete the installation of the remaining anchor bolts by drilling and installing the anchors on the on both posts as shown in Steps 12 to 14. Hand tighten all the anchor bolts at this time.

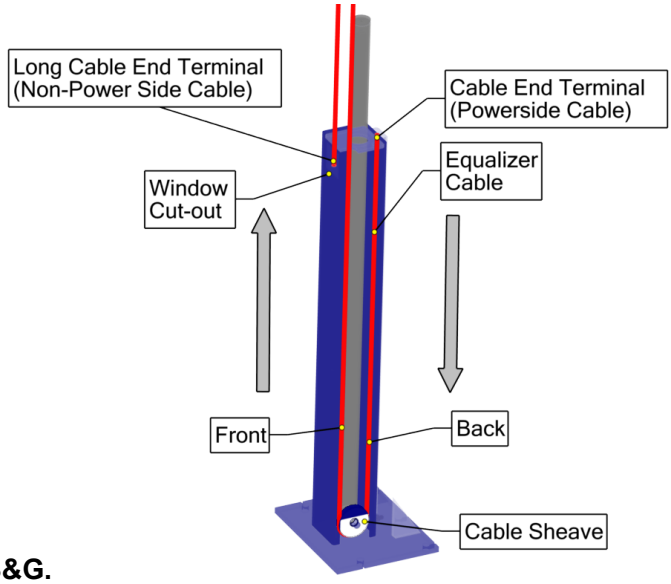
24. **Route the Equalizer Cables**

a. Connect the equalizing cables as shown in the diagram below. Do not tighten completely at this stage of assembly. Leave cables hand tight.
b. If applicable remove the access panel on the front of the carriage.
c. Remove the top sheaves so the cable will seat.
d. Route cable through crossover beam sheaves.
   ⚠ **CAUTION: make sure not to cross cables over each other when cable is routed back down opposite side column.**
e. Fasten cable facing down on opposite side column front mounting point.
f. Fasten cable end with hex nut on end of cable until 1/2" of threads are showing above hex nut. Pull back down through carriage until properly seated.
g. Repeat steps A through G for off side cable.

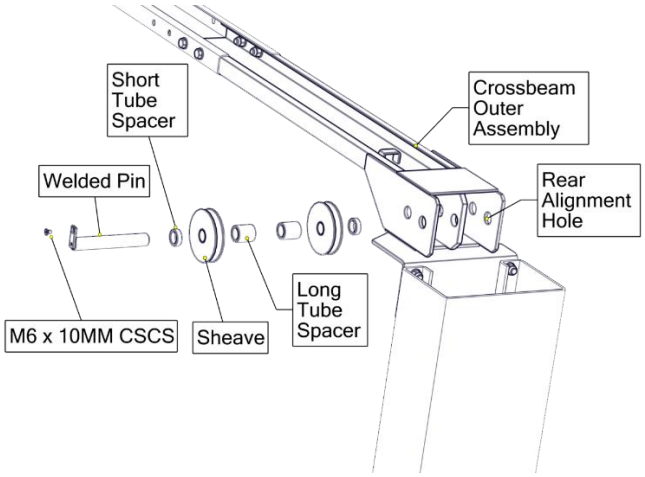
A.



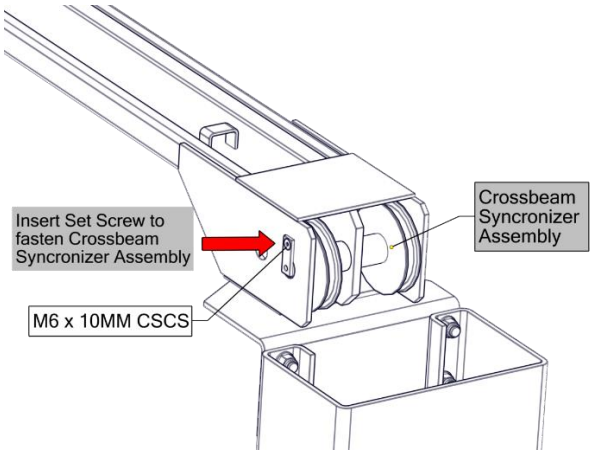
B&G.



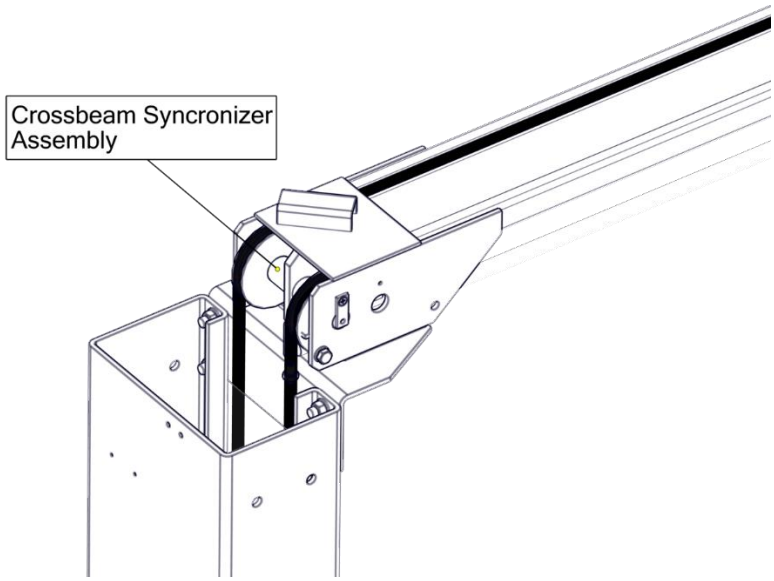
D.



D.

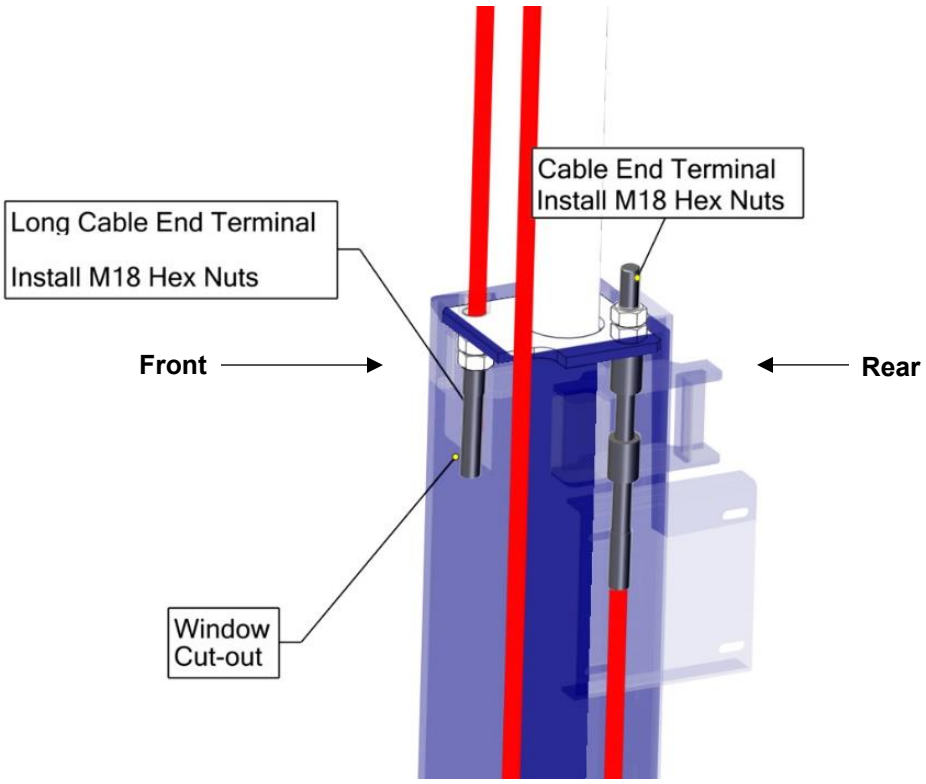


25. Check that the cables are correctly wrapped over all sheaves before completely adjusting cables or operating lift.



#25

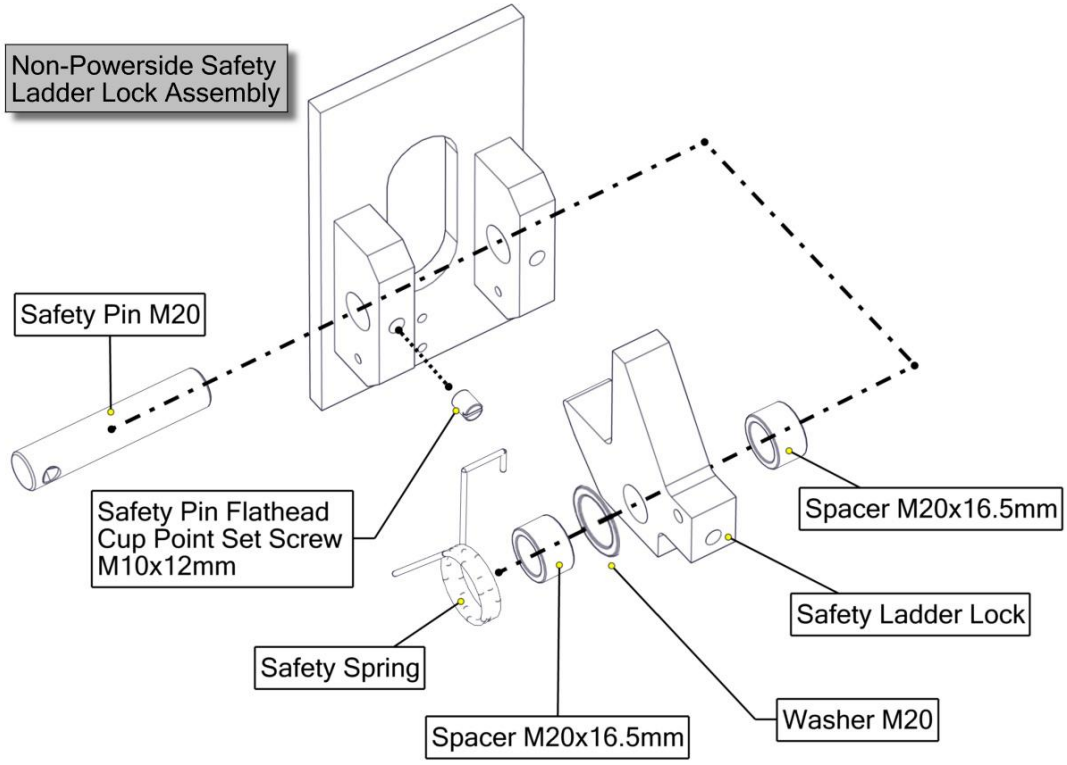
26. Adjust the carriage cable tension. This is accomplished by tightening the (2) M18 tie off hex nuts on each connector the carriage to the cables. Adjust each cable to approximately 1/2” side-to-side play.
Note: The left post carriage nut adjusts the right column carriage.
Note: The right column carriage nut adjusts the left column carriage.



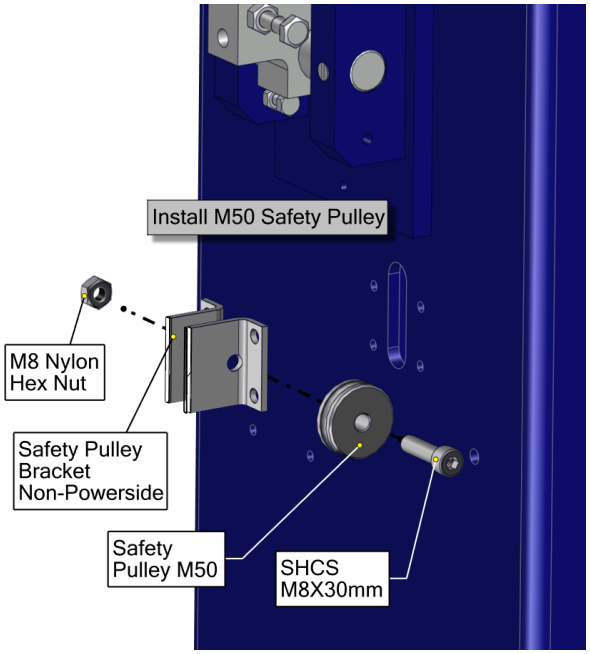
#26

Safety Latches and Safety Cable

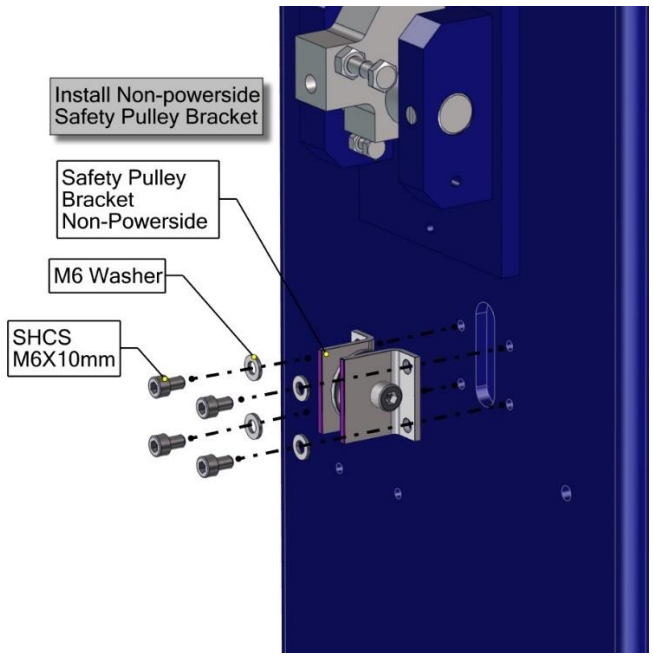
27. Install Non-Powerside Safety Latch System. See steps I-III below.



I.

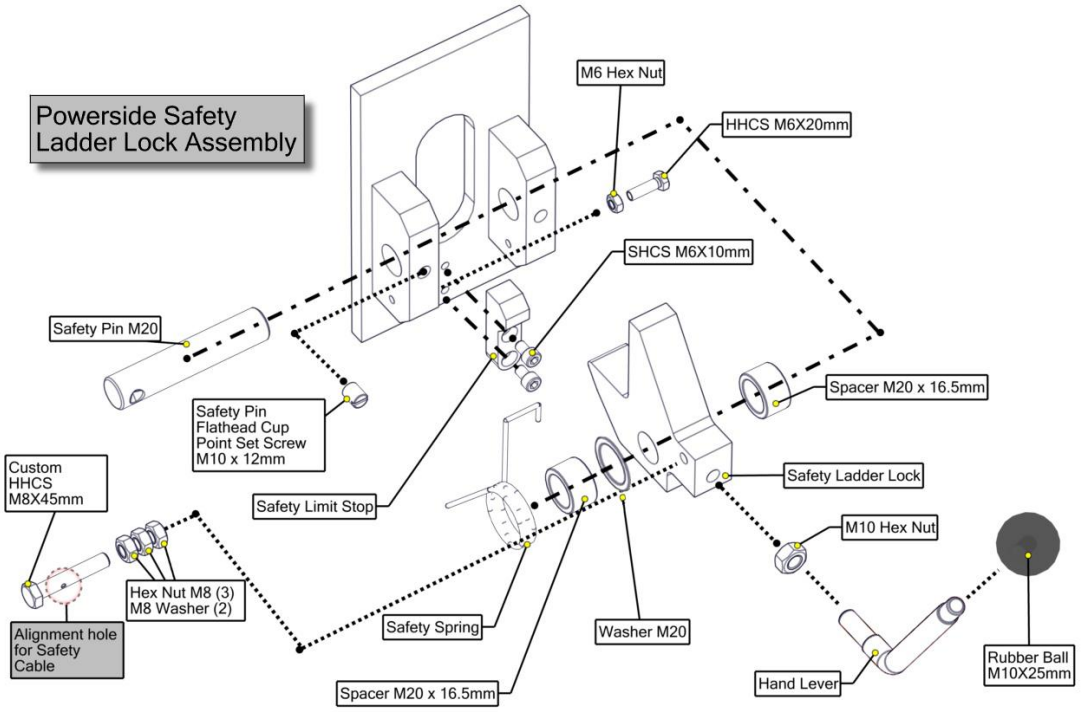


II.

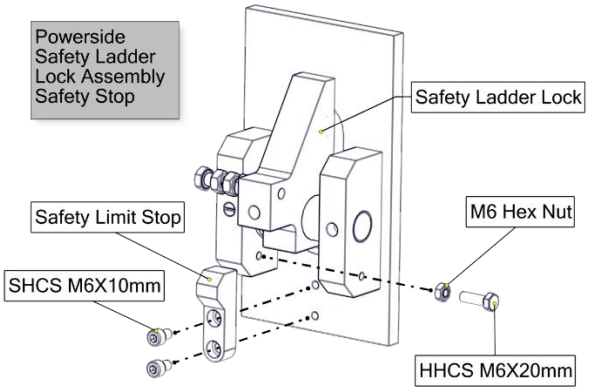


III.

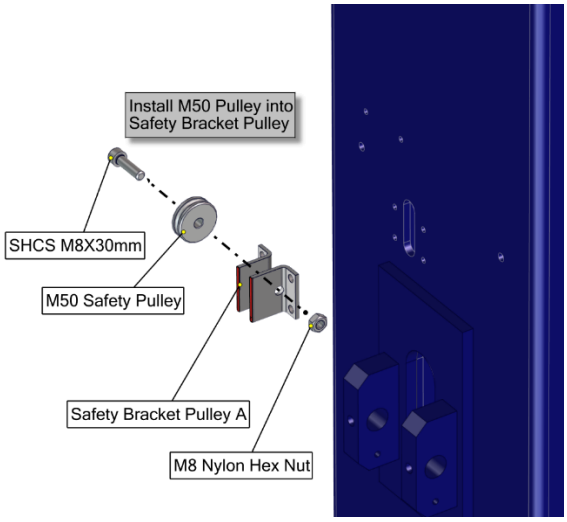
28. Install Powerside Safety Latch System. See steps IV-VII below.



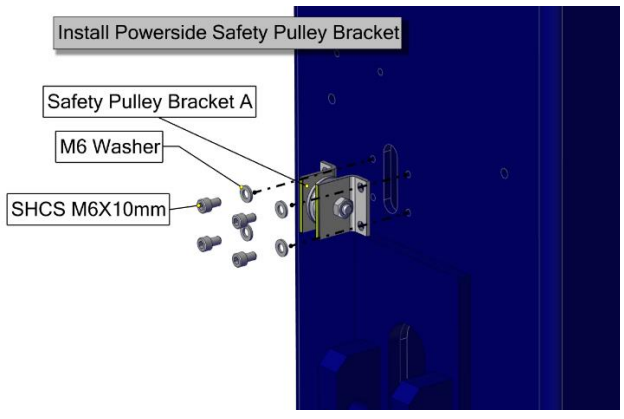
IV.



V.

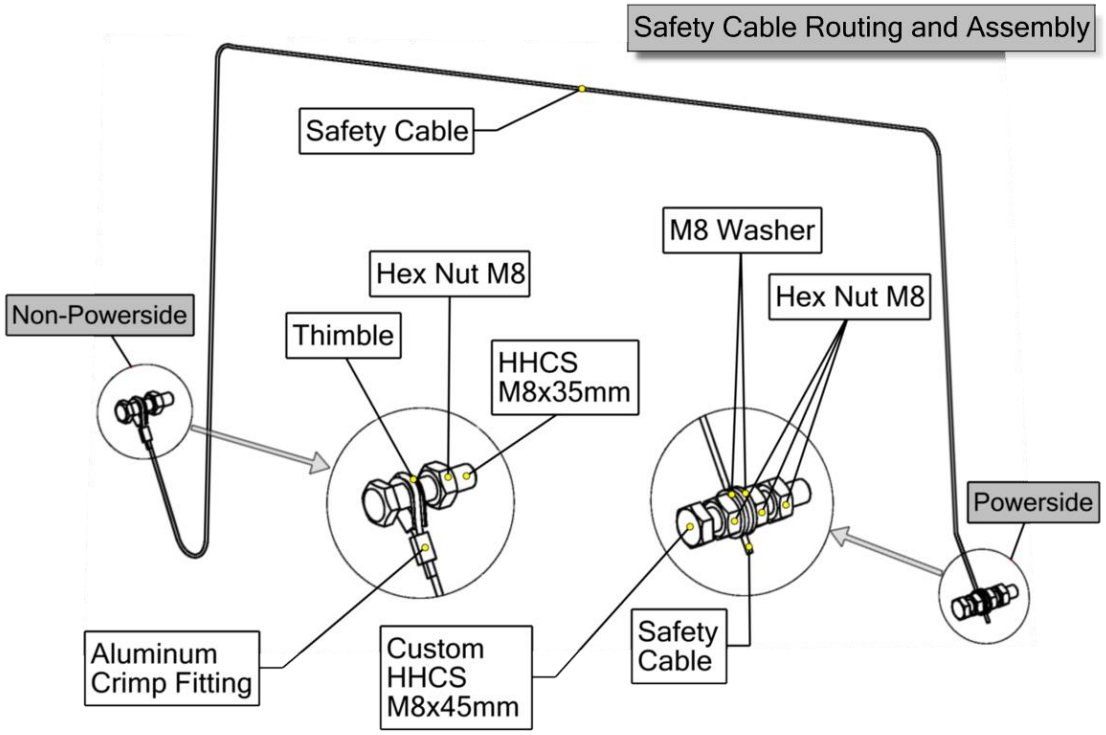


VI.

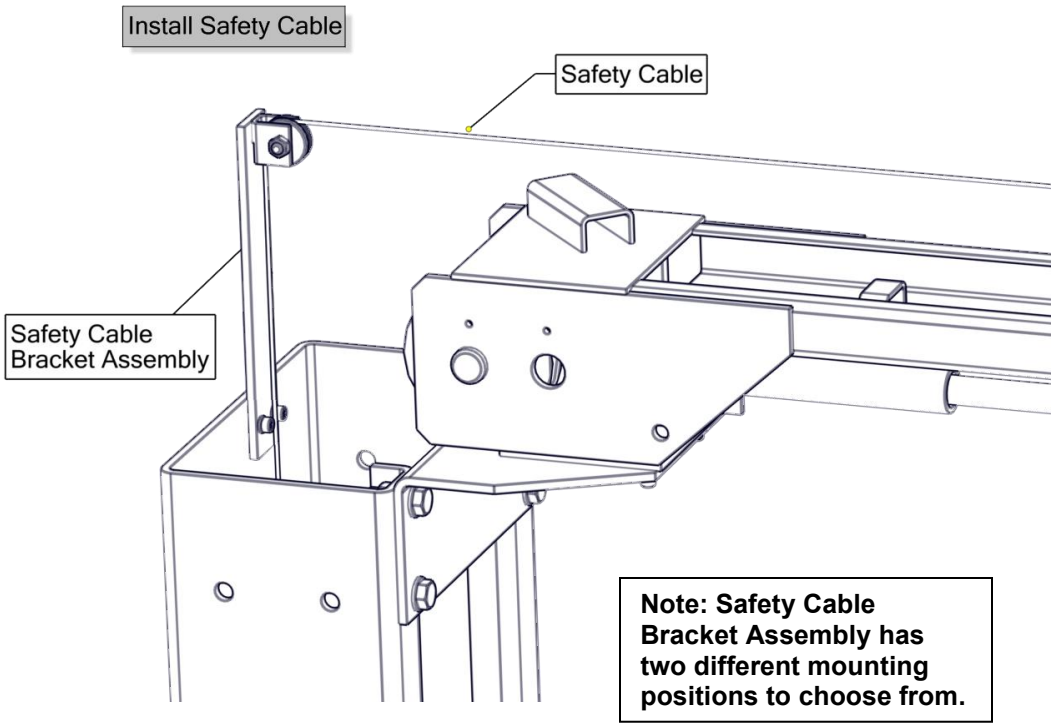


VII.

29. Install and route the safety cable on the inside of the columns.



#29



Note: Safety Cable Bracket Assembly has two different mounting positions to choose from.

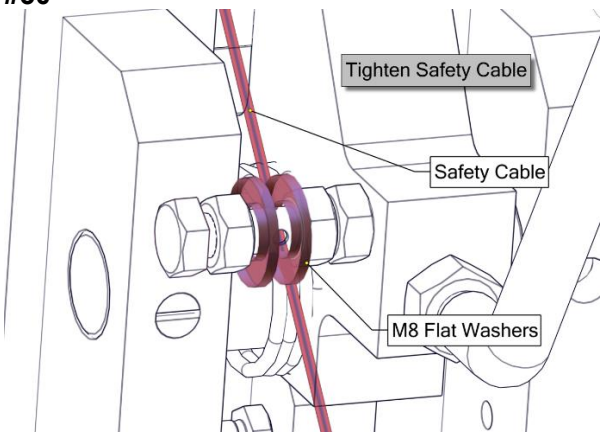
#29

30. Route the safety cable through the Custom M8x45mm HHCS and attach to Powerside safety latch assembly by tightening the M8 Hex Nuts and the M8 Flat washers together.
    Note: Before tightening check that cable is routed over all safety sheaves.
31. Verify the connection of the safety cable between the two latches. Check that the tension of the cable is tight. Pull the safety release handle several times and check the tension again by making sure both latches are adjusted correctly by pulling down on the power side Safety Lock Lever. The safety release locks will need to click at the same time when the handle is pulled and released. Retighten as needed until adjusted properly.
    Note: Do not over tighten as this will result in a malfunction of locking mechanisms.

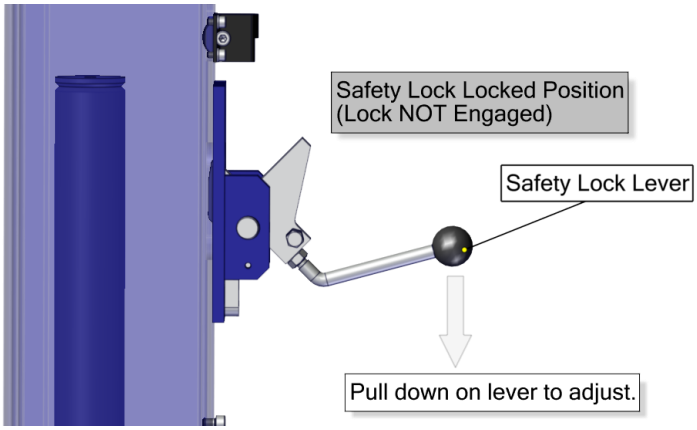
    Note: The safety cable will need to be adjusted periodically. The cable will stretch with-in the first few uses.

    ⚠ **CAUTION: Always verify that Both Safety Latches are released before lowering vehicle.**

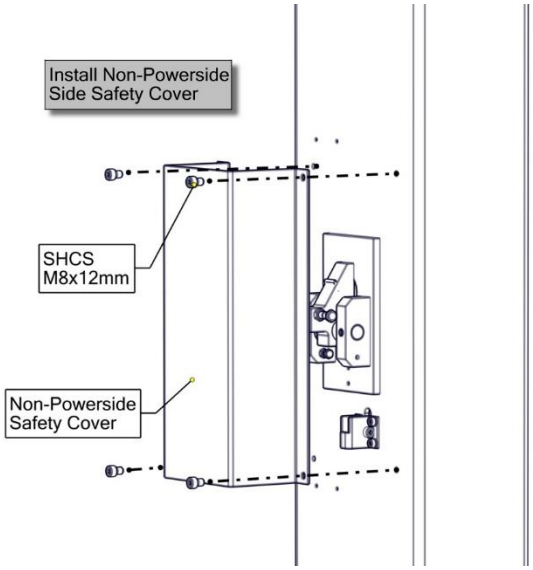
#30



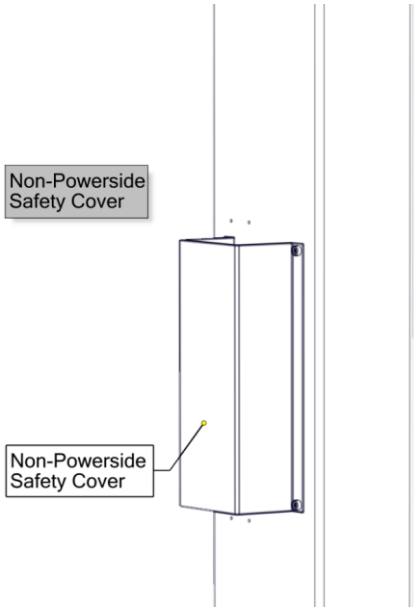
#31



32. Install Non-powerside safety cover.

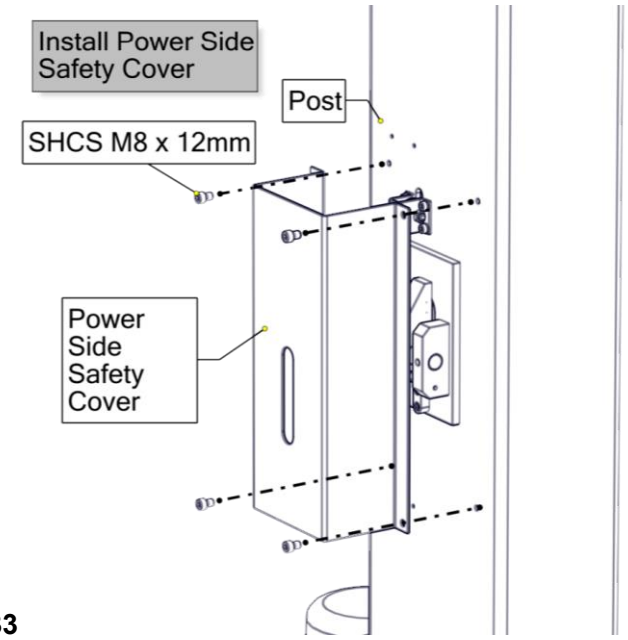


#32

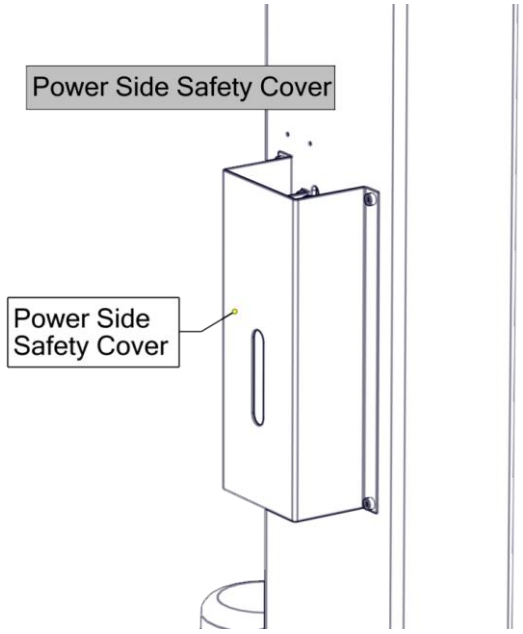


#32

33. Install Powerside safety cover.

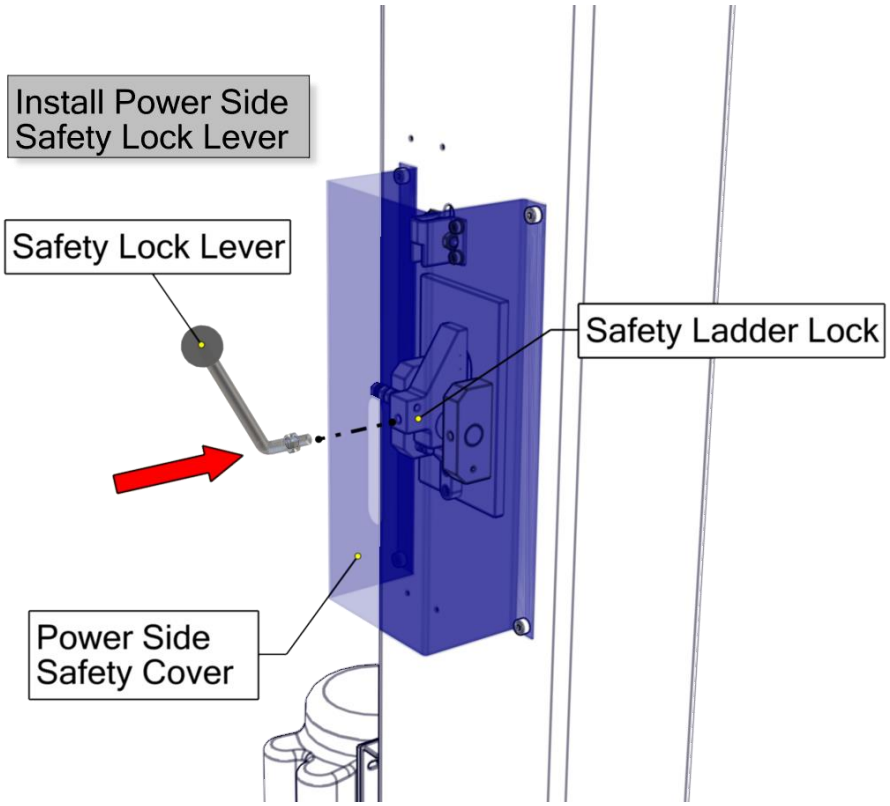


#33



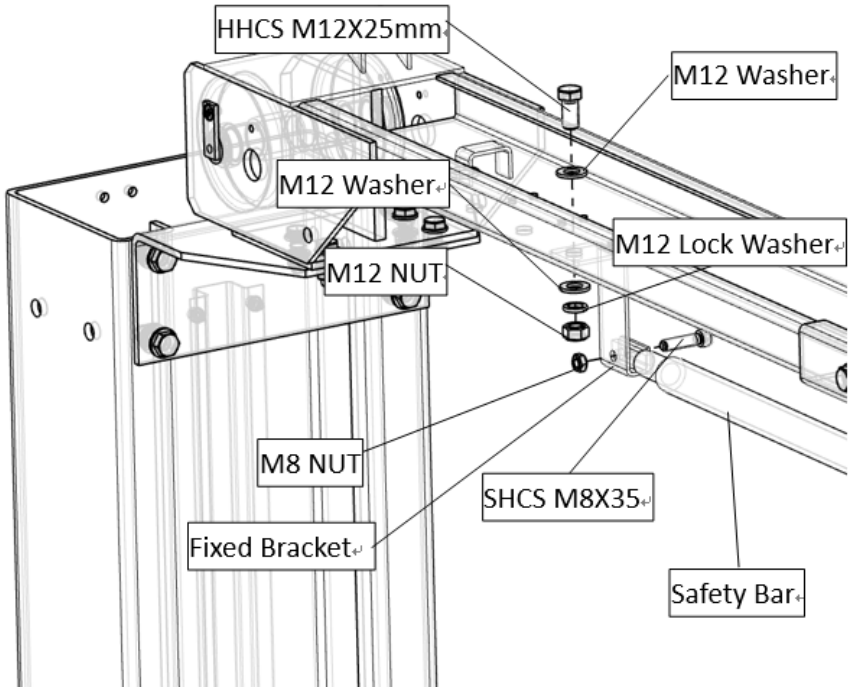
#33

34. Install Powerside Safety Lock Lever.

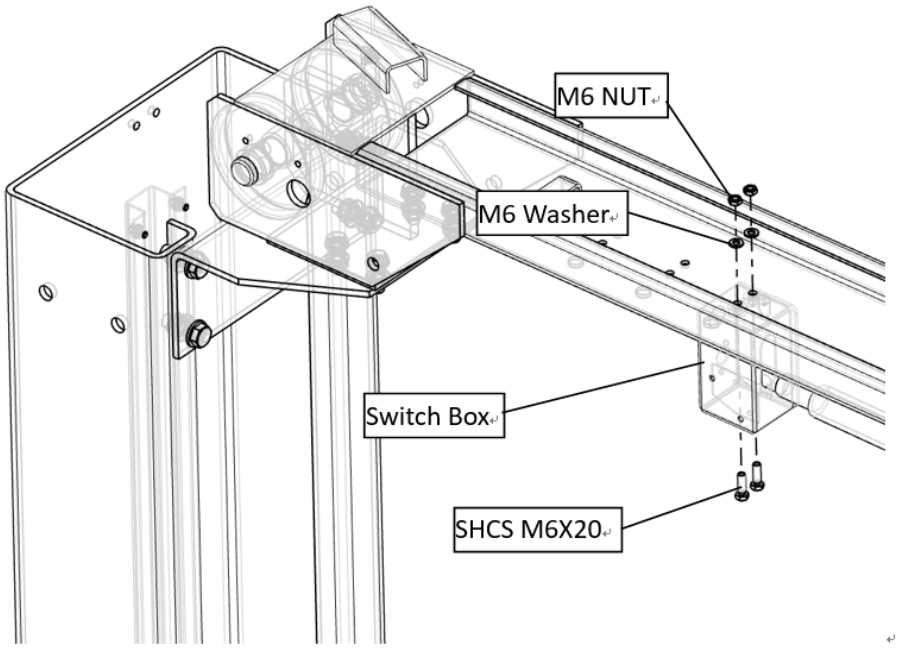


#34

35. Install the Safety Bar on the Non-Powerside.



36. Install Safety Bar and Mercury Limit Switch on the Powerside.

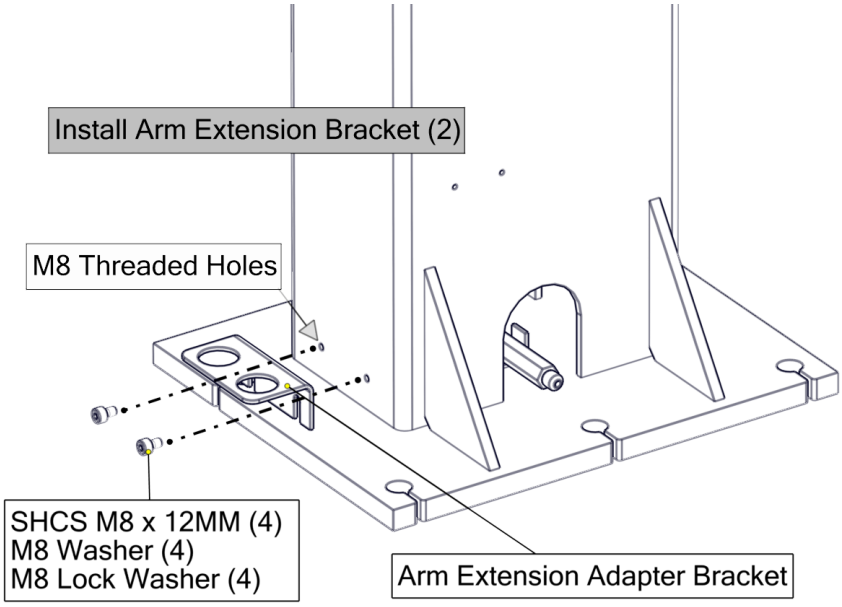


#36

37. Route Electrical Cable down outside of Powerside post. Leave wire to be connected to power unit.

38. Install the arm extension brackets on each post as shown below.

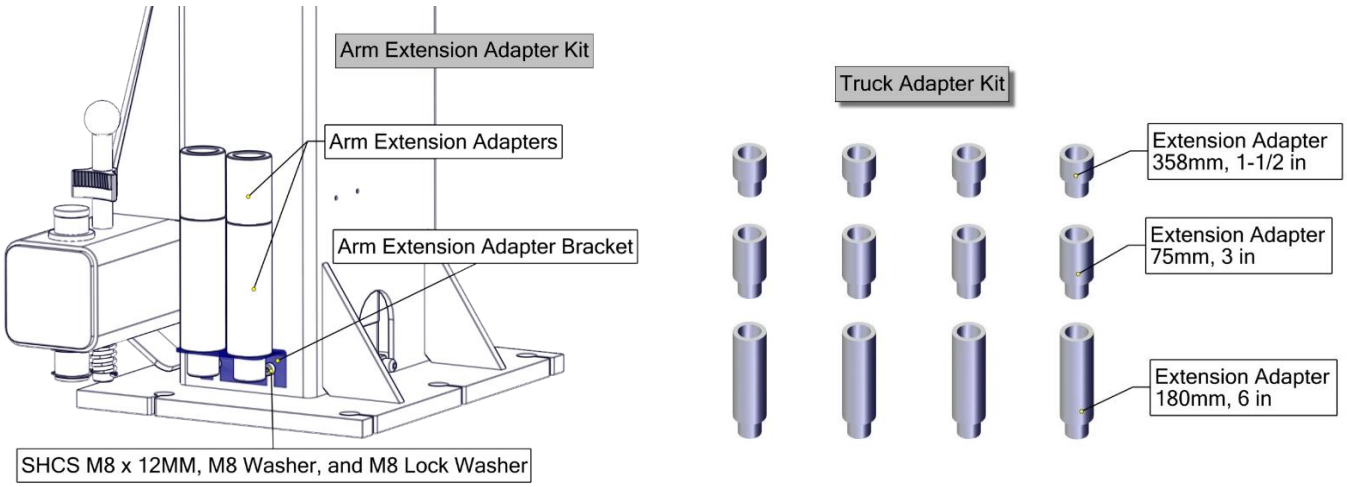
39. There is (1) bracket set to be installed on both the Powerside and Non-Powerside Posts.



#38

40. Place the Arm Extension Adapters into the arm extension adapter brackets on both the Power and Non-Powerside Posts.

    ✓ Truck Adapter kit included:
    (4) – 1.5 inch
    (4) – 3 inch
    (4) – 6 inch

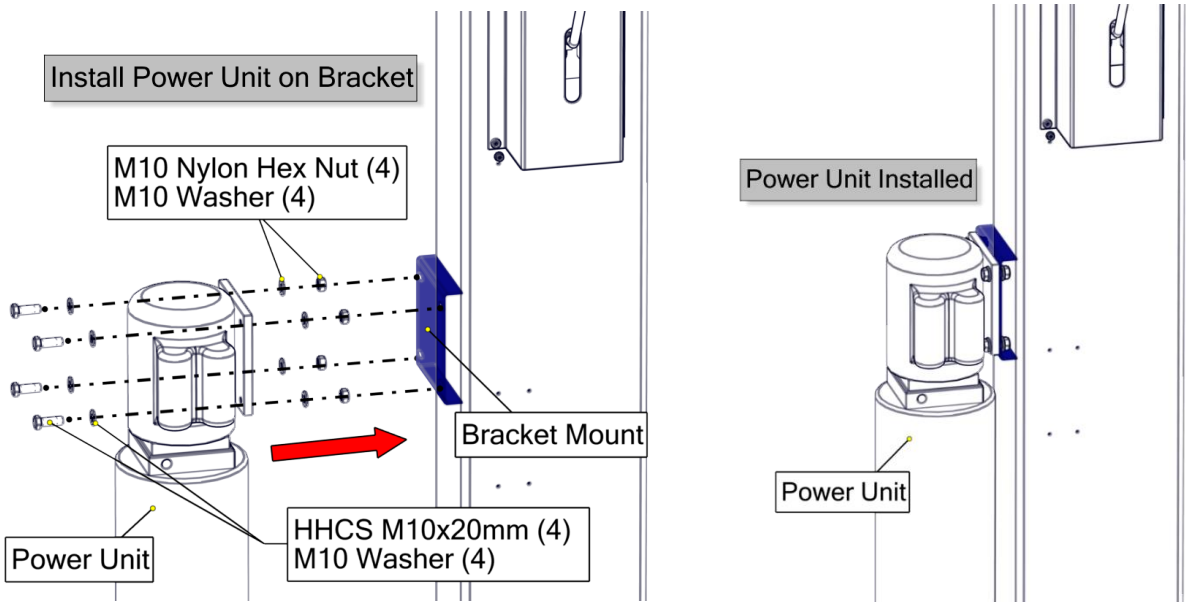


#40

Power Unit and Hydraulic System

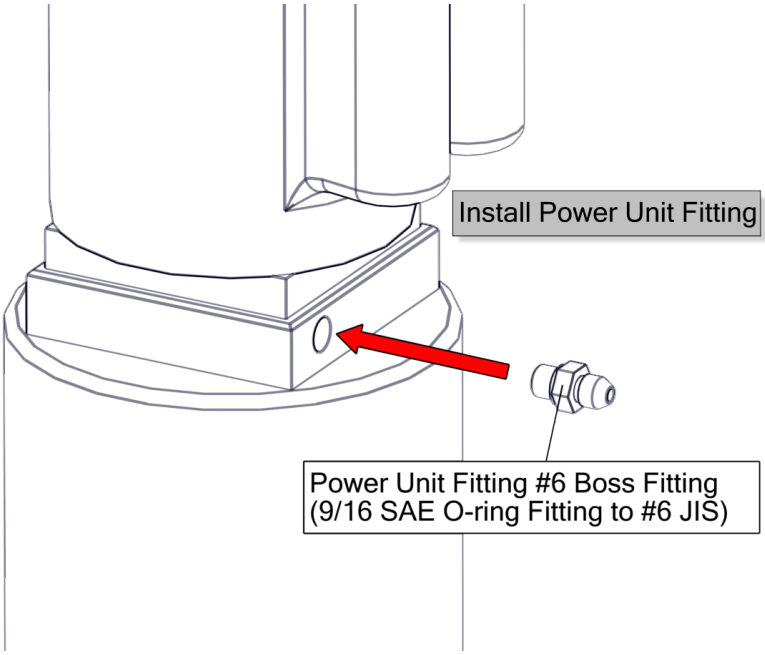
41. Install power unit.

42. Mount the power unit on the power side column bracket using the four M8 x 22mm HHCS, M8 washers, and M8 nylon lock nuts.



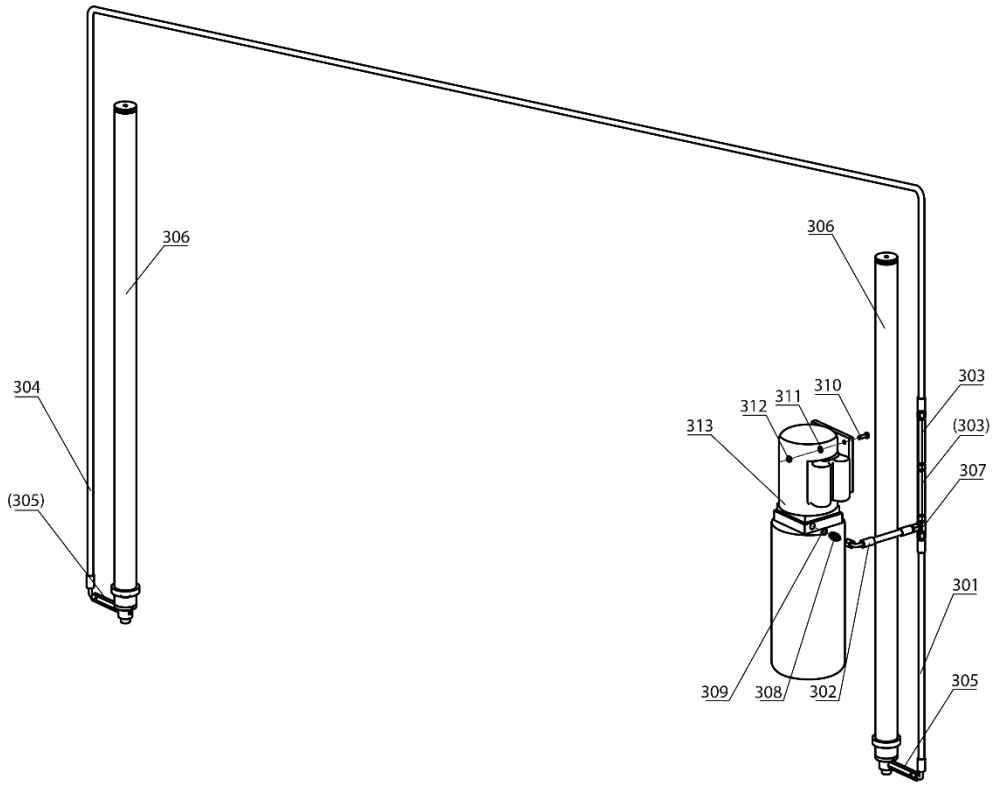
#42

43. Install the #6 SAE O-ring fitting on the power port.

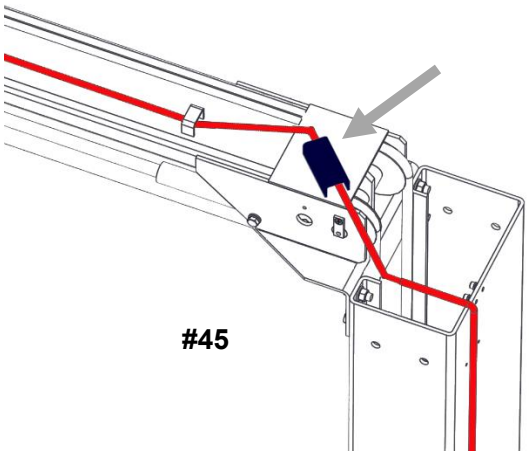


#43

44. Install the Hydraulic Hoses as shown in the routing image below.
NOTE:
If you have chosen to use the Medium width configuration (qty-1) Part - 303 “hydraulic hose extender” will need to be used on the power side connected above the t-fitting.
If you have chosen to use the Wide width configuration (qty-2) Part - 303 “hydraulic hose extender” will need to used on the power side connected above the t-fitting.

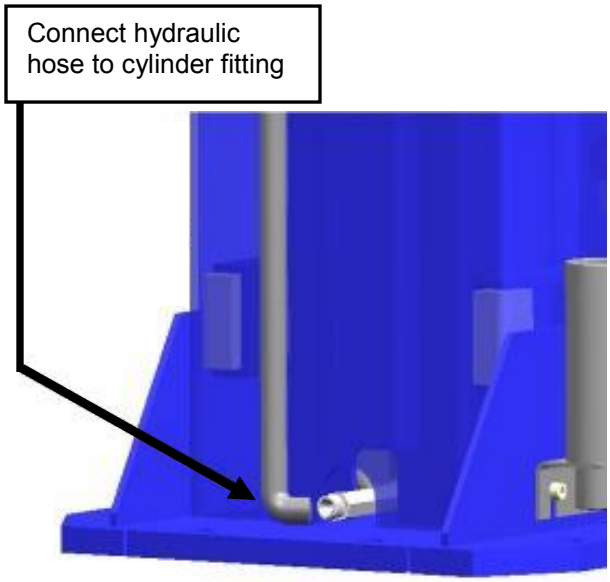


45. Route the long hose along the back of the columns and as shown in the crossover beam assembly. This will be completed on both the left and right sides. Hose must be routed through the brackets as shown to avoid any potential binding with the equalizer cables.



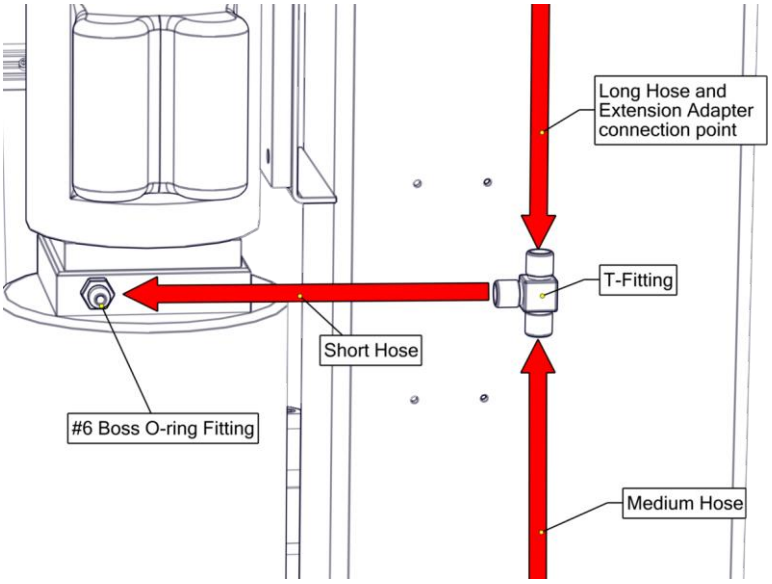
#45

46. Connect the long hose and the medium hoses to the hydraulic cylinder fitting.



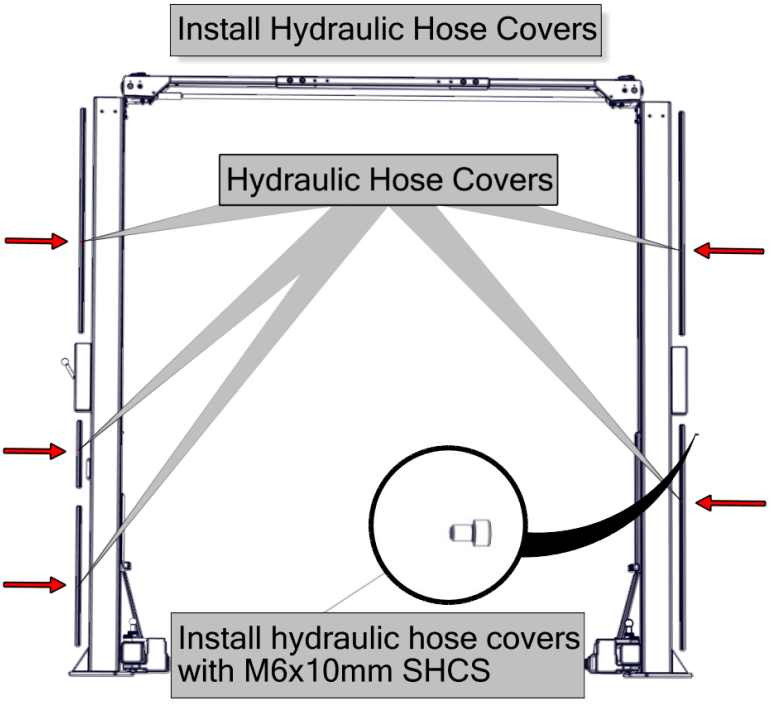
#46

47. Connect the power unit hose to the power unit fitting.
48. Connect the power unit hose to “T-fitting”.
49. Connect the long and medium hydraulic hoses to the “T-fitting”.
50. Secure the hoses and make sure all the connection fittings are tight.
51. Important: Make sure the long hose does not interfere with equalizing cable or safety cable.
    NOTE: DO NOT USE TEFLON TAPE WITH JIS FITTINGS IT WILL DAMAGE THE FITTINGS AS WELL AS CAUSE FAILURES AND OIL LEAKAGE.



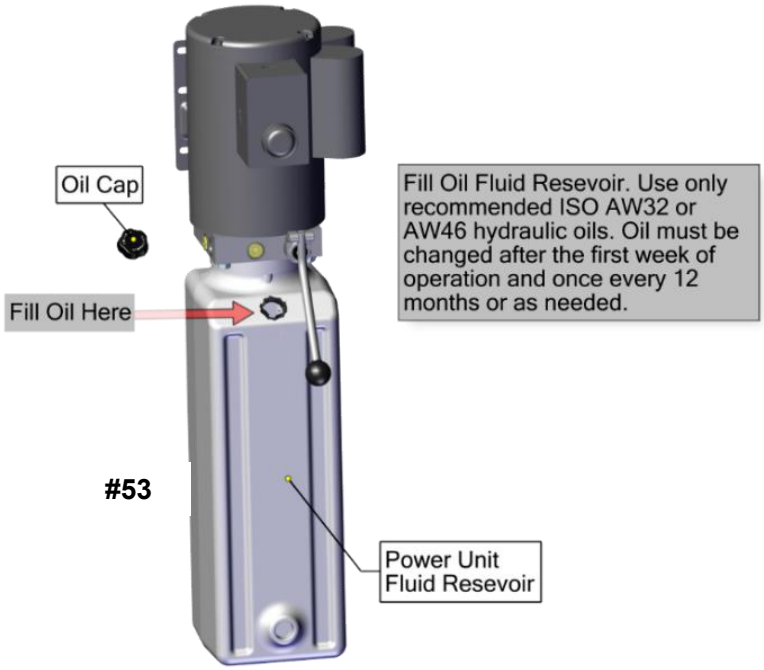
#47-51

52. Install the Hose Covers. There will be (5) sections to be installed. Follow diagram to install. Use the (26) M6x10mm SHCS to install hose covers.
    Note: Cover both the hydraulic hoses and Limit Switch Box Wire with the covers.



#52

53. Fill the Power Unit with hydraulic oil. Remove the oil vent cap from the power unit and fill the reservoir. Use a non-foaming, non-detergent hydraulic fluid Ten Weight (Hydraulic Oil ISO AW32). The unit will hold approximately 4 to 5 gallons depending on tank size different amounts of fluid may be required.



Hydraulic Oil ISO AW32 Attributes:

Flash Point (°F):	350
ISO Viscosity Grade (ISO-VG):	32
Maximum Operating Temperature (°F):	300
Plastic Safe:	Yes
Pour Point (°F):	-30

IMPORTANT POWER-UNIT INSTALLATION NOTES

⚠ DO NOT run power unit without oil. Damage to pump can occur.
⚠ The power unit must be kept dry. Damage to power unit caused by water or other liquids such as detergents, acid etc., is not covered under warranty.
⚠ Improper electrical connection can damage motor and will not be covered under warranty.
⚠ Motor works with both 50Hz and 60Hz.
⚠ Use a separate breaker for each power unit.
⚠ Protect each circuit with time delay fuse or circuit breaker.
⚠ For 208-230 volt, single phase, manufacturer recommends using a 25-amp fuse.

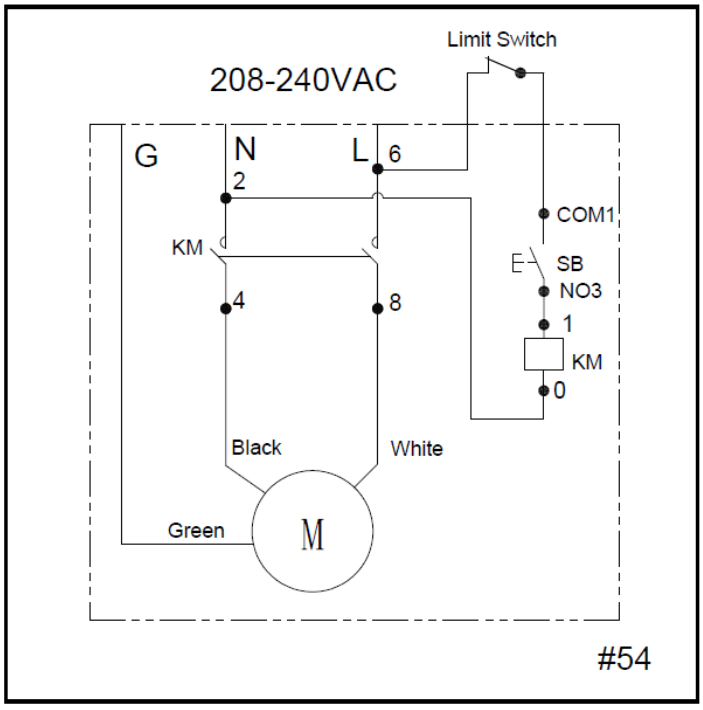
INSTALLATION AND ADJUSTMENT.

⚠ DO NOT attempt to raise vehicle until a thorough operation check has been completed.
⚠ ALL WIRING MUST BE PERFORMED BY A CERTIFIED ELECTRICIAN ONLY.
⚠ SEE WIRING INSTRUCTIONS AFFIXED TO MOTOR FOR PROPER WIRING INSTRUCTIONS.

54. Connect the Electrical hookup to the power unit; 208-240VAC Single Phase. Use wire capable of supporting a 25-amp circuit. Longer Electrical Runs may require a larger diameter electrical wire.

⚠ **WARNING: A certified electrician must install any and all electrical wiring. Protect each circuit with a time delay fuse or circuit breaker; 208v-240v single phase 50/60 Hz 25 amp. Requires AWG 10 Wire. Do not adjust power unit pressure relief valve, any tampering will void warranty and may cause catastrophic failure. Failure to head these warnings may result in injury or death.**

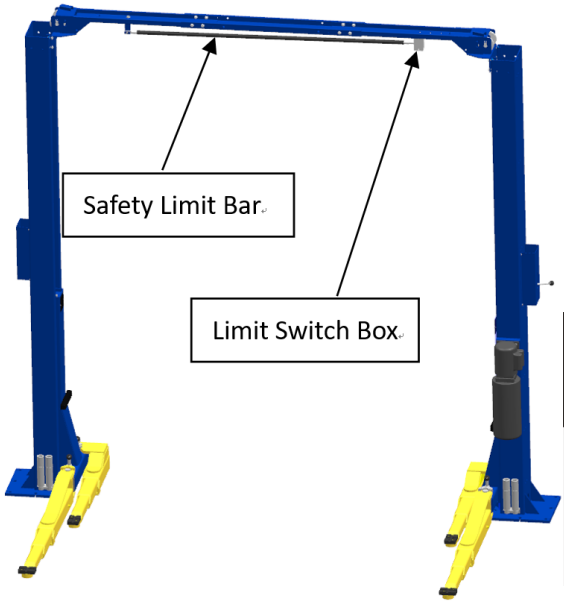
Wiring Schematics for Overhead Mercury Safety Switch (Use Motor option that applies.)



55. **Test Power to Lift**, verify power unit is functioning properly. Raise the lifting carriages 18 inches and lower to the resting position. **Review the "How to Operate Lift" section**.

56. **VERIFY AND TEST OPERATION** of the Limit Switch Box.
57. While pressing press the power “on” button, use a long stick to push upward on the Safety Limit Bar. Verify that the mercury switch is operating correctly. Operate lift and apply pressure to mercury switch with a piece of non-conductive material to push down on switch. A chance of shock could occur if wiring has been installed incorrectly. This will insure motor shuts off prior to any part of vehicle coming in contact with overhead crossbeam or preset height restrictions mercury switch location.
58. The power unit should automatically TURN OFF.
59. When motor shuts off while pushing “ON” button the motor will stop automatically.
60. The lift is now operating properly.

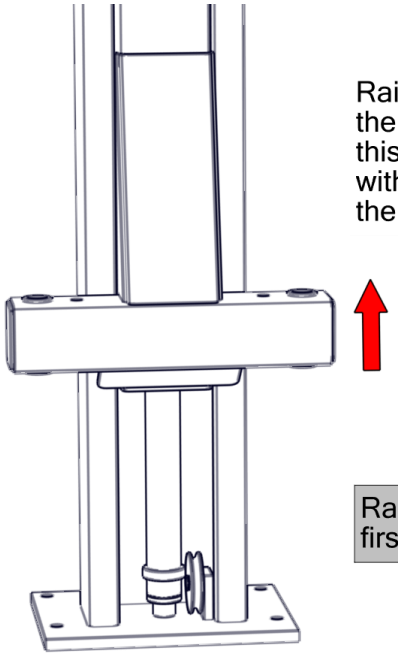
⚠ **WARNING:**
Lock Out electrical supply before installing any electrical components or performing maintenance on the lift. Do not ever allow power supply to be connected when working on or repairing lift.



#56 to #60

LIFT ARMS

61. Install Lift arms.
62. Raise both lifting carriages at the same time once power has been turned onto the power unit.

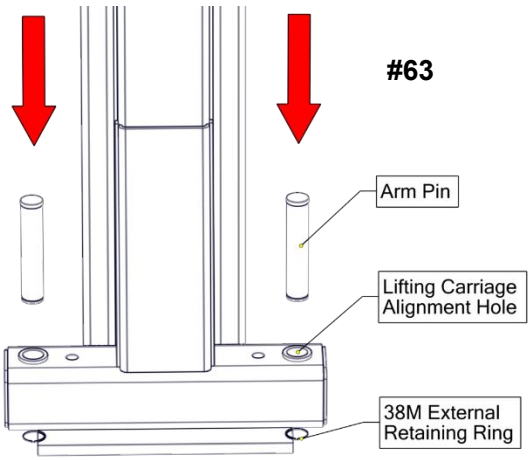


Raise Both Lifting Carriages at the same time. It is best to do this once you have full power without any weight or vehicle on the arms.

Raise both lifting carriages to first lock latch.

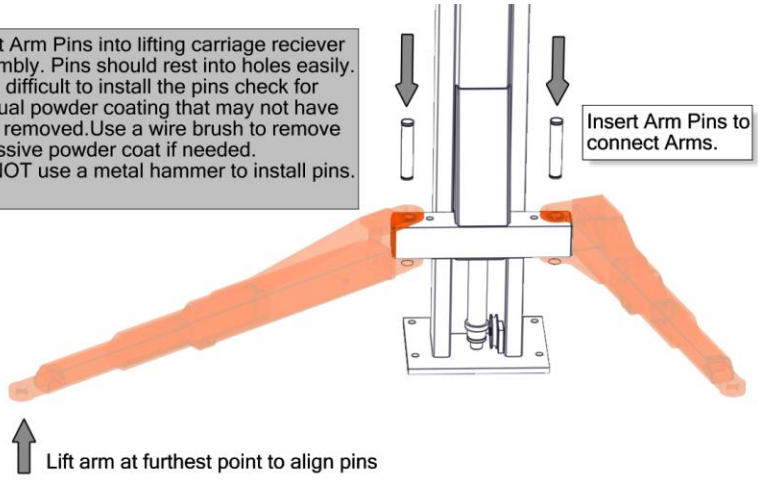
#62

63. To install the lifting carriage arm, drop pins, first test fit the Arm Pins into the lifting carriage receiver assembly without the arms. The arms pins should rest in the holes easily. If arm pins are fitting to tight remove the residual powder coating by using a wire brush to clean the holes. The drop pins should then slide easily and fit snug.
    Note: Do not use a grinder to clean the holes, this could cause an over-sizing of the holes which would result in the arm pins not fitting securely and safely.

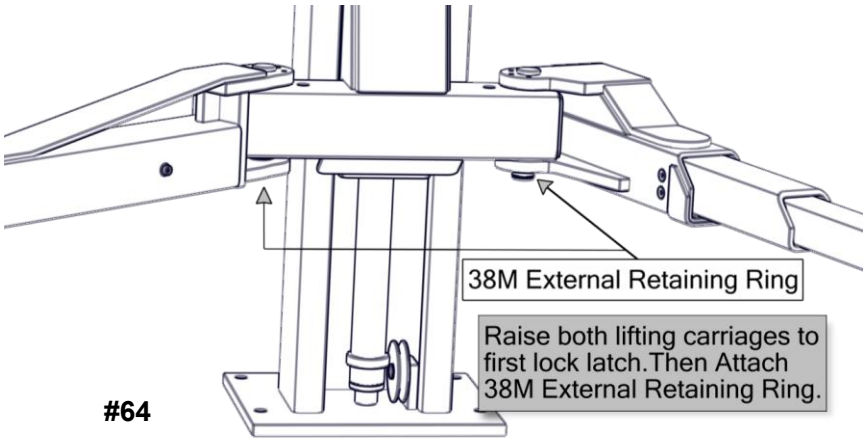


#63

Insert Arm Pins into lifting carriage reciever assembly. Pins should rest into holes easily. If it is difficult to install the pins check for residual powder coating that may not have been removed.Use a wire brush to remove excessive powder coat if needed.
DO NOT use a metal hammer to install pins.



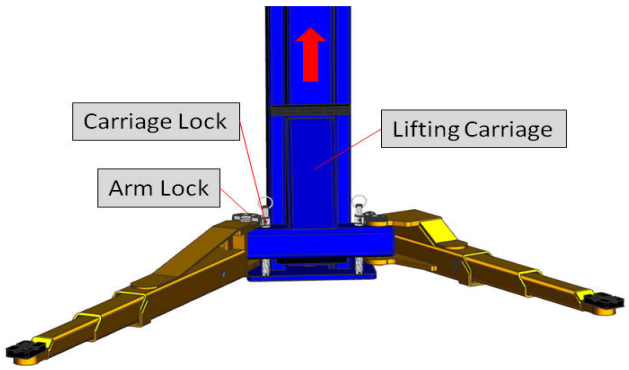
64. Install 38M External Retaining Ring on all lift arm drop pins.



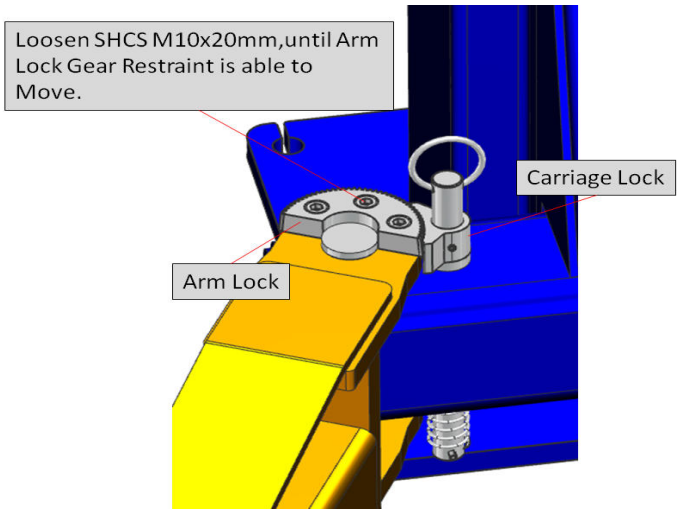
#64

65. Check the fitment of the “half-moon” gear restraints on each lifting arm are already installed. Position the lifting arms on the carriages. Check for proper engagement of the arm restraints (arm locks). The safety gear restraints should fully engage the gear restraints on the arm. After checking that the safety gear restraints and arm gear engage properly. Verify that Allen Bolts on gear restraints are tight and secure.

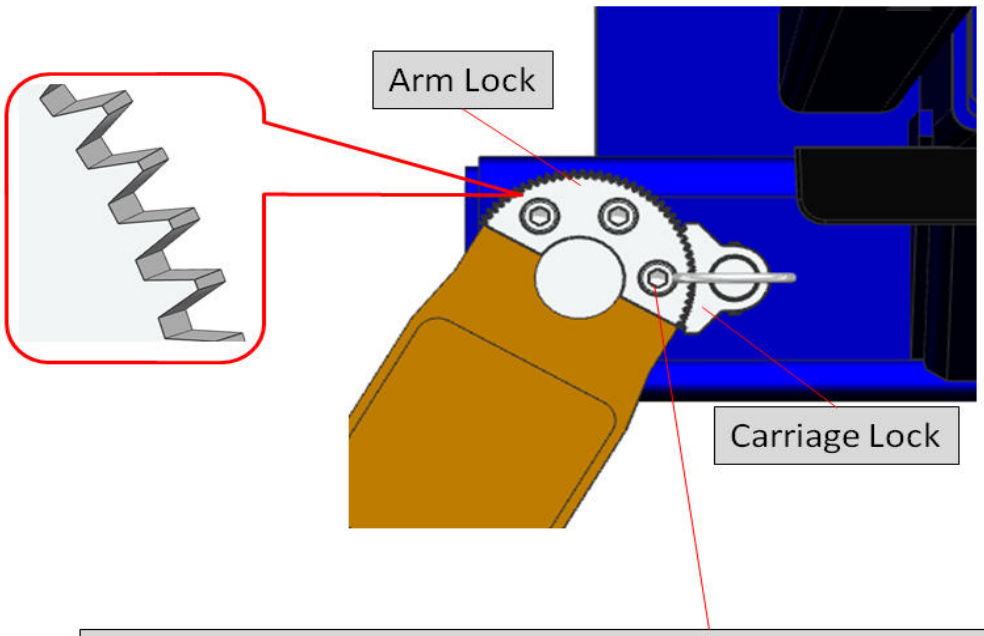
a.



b.



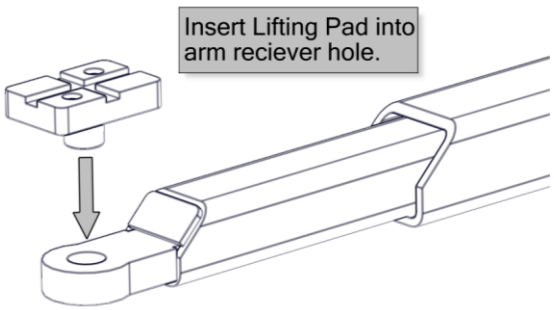
Align “Arm Locks” with “Carriage Locks”. Once both locks Are aligned re-tighten HHCS M10x20mm.HHCS M10x20mm.



Check and verify “Arm Lock” and “Carriage Lock” alignment in various Positions for proper alignment. Then Loosen and re-tighten HHCS M10x20mm If needed. Used proper torque specs advised in this manual HHCS.

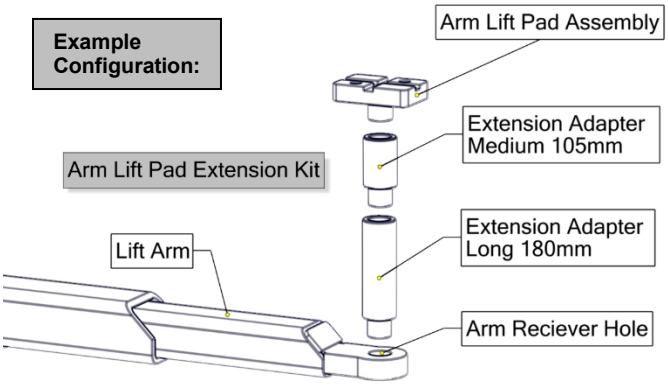
c.

66. Attach Lift Pad to Lift Arms, by inserting the lift pad into the arm receiver hole.



#66

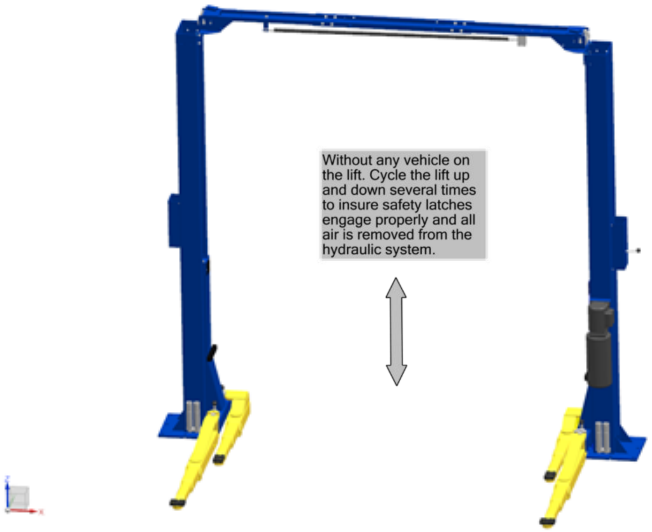
67. Test fit all Truck Adapters and return to storage locations when complete.



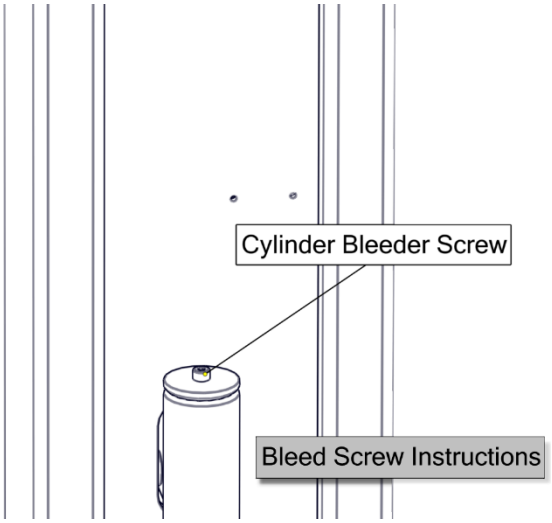
#67

Air Purge Procedure

68. Without any weight on the lift raise the cylinders 2 feet off the ground just high enough to clear locking mechanisms. Slowly loosen the bleed screws located at the top of each cylinder. (One or two turns should be all that is needed to remove the air). DO NOT REMOVE BLEED SCREW COMPLETELY. Listen for air to release and watch for clean fluid to escape from each cylinder.
69. Continue to raise the cylinders one full rotation and lower the lifting arms to an unlocked position 2 feet off the ground. Slowly loosen the bleed screws located at the top of each cylinder. (One or two turns should be all that is needed to remove the air). DO NOT REMOVE BLEED SCREW COMPLETELY. Listen for air to release and watch for clean fluid to escape from each cylinder. Repeat steps if air is still in the cylinder.
    NOTE: If cylinder continues to shake or vibrate when lifted or lowered repeat steps until trapped air is removed from cylinders. (Use a ladder for safety.)



#68



Hydraulic Cylinder Air Purge Procedure

1. Without any weight on the lift raise the cylinders 2 feet off the ground just high enough to clear locking mechanisms. Slowly loosen the bleed screws located at the top of each cylinder. (One or two turns should be all that is needed to remove the air). DO NOT REMOVE BLEED SCREW COMPLETELY.
Listen for air to release and watch for clean fluid to escape from each cylinder.

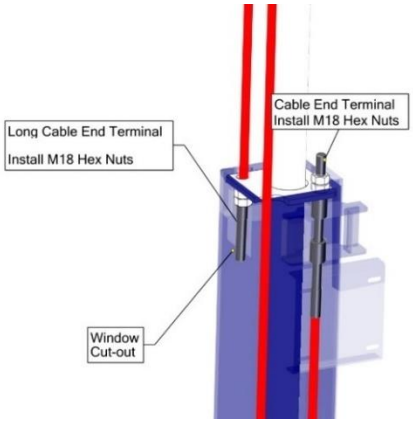
2. Continue to raise the cylinders one full rotation and lower the lifting arms to an un-locked position 2 feet off the ground. Slowly loosen the bleed screws located at the top of each cylinder. (One or two turns should be all that is needed to remove the air). DO NOT REMOVE BLEED SCREW COMPLETELY.
Listen for air to release and watch for clean fluid to escape from each cylinder.
Repeat steps if air is still in the cylinder.

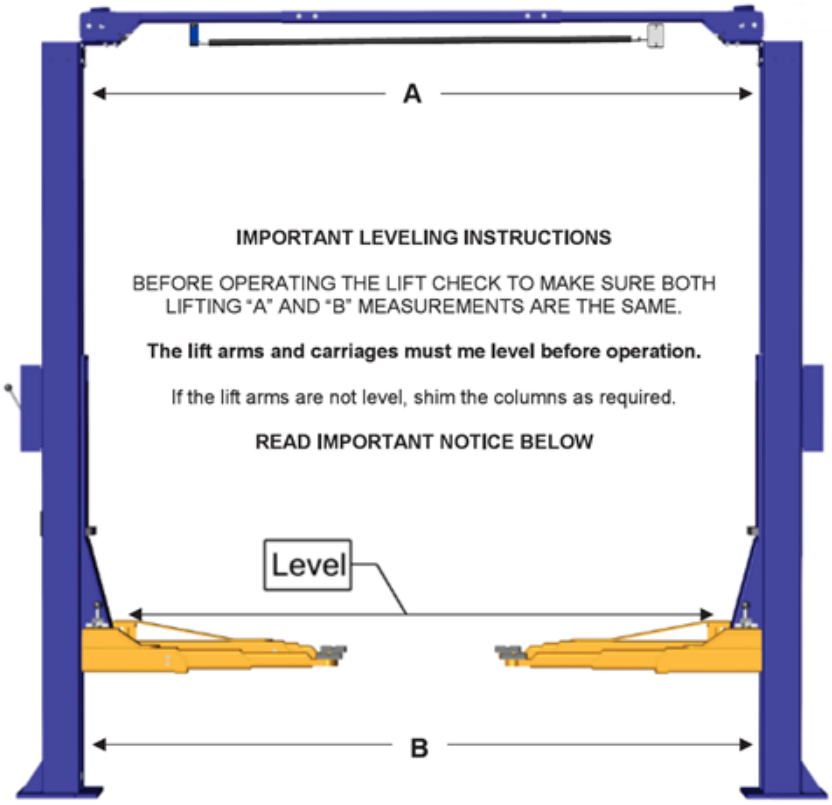
NOTE: If cylinder continues to shake or vibrate when lifted or lowered repeat steps until trapped air is removed from cylinders. (Use a ladder for safety.)

Synchronizing Equalizing Cables and Locks

70. Without any vehicle on the lift. Cycle the lift up and down several times to insure safety latches engage properly and all air is removed from the hydraulic system. To lower the lift, first raise the lift to clear the safety latches, then pull down the safety release handle to lower the lift.
71. Raise lift and **LISTEN**. You will hear the lock latches begin to hit and release as the lift is being raised. After 3 or 4 clicks you will hear the latches synchronizing at the same time. If the safety latches are out of synchronization you will have to re-adjust the equalizing cables.
72. If safety latches are out of sync, adjust the cable on the latch that engages first.
73. To adjust, tighten the Long Cable End Terminal on the latch that is engaging first. This could be either the Powerside or Non-Powerside Posts.
74. The safety lock latches and cables should now be synchronized.

⚠ WARNING





#69 to #75

⚠ WARNING:

75. **Equalizing Cables Important Notice: Equalizing Cables must be checked with each daily inspection for equal tension. The cables should always be adjusted so that they are equal tension when resting on the safety locks. Failure keep cables synchronized could cause DANGER and will cause uneven lifting. Equalizing cables should always be adjusted so that safety latches are in sync. Always check that both safety latches are engaging on the appropriate latch.**

76. Lubricate the four inside corners of the columns with heavy duty bearing grease.

77. Complete Post Installation Procedure.

78. WITHOUT ANY WEIGHT ON THE LIFT TEST CYCLE THE LIFT TO VERIFY LIFT IS OPERATING AS INTENDED.

- SEE “OPERATOR TRAINING and SAFE PRACTICES” and “HOW TO OPERATE LIFT” prior to first use.

POST INSTALLATION PROCEDURE:

✓ Check boxes to verify work has been completed

	Electric wired by a professional technician.
	Power unit functioning properly.
	With the in lift in the lowered position, check that the hydraulic fluid level is full. If needed, add oil as described in the Installation Instruction section of this manual.
	Check for “no” hydraulic leaks.
	Check that all posts are square and plumb.
	Lubricate posts with grease. Lubricate the four inside corners of the columns with heavy-duty bearing grease as needed.
	Inspect lifting arms making sure they are functioning properly.
	Visually inspect safeties for proper operation. Check all arm adjusting locks for proper operation.
	Check lifting carriage gear restraints securely fastened.
	Inspect all arms pins making sure they are properly secure.
	Inspect that arm pads are in good condition.
	Check that lift arms are level and synchronized.
	Check equalizer cable tension, and adjust if necessary, see manual instructions.
	Check all cables connections, bolts and pins to ensure proper mounting and torque.
	Check safety latch synchronization: Safety latches should click at the same time. If necessary, adjust equalizing cables as described in the Installation Instruction section of this manual.
	Lubricate all Cable Sheaves.
	Check tightness of all bolts, nuts, pins, and hardware. Re-tighten as needed. See installation manual torque specified ratings.
	Inspect all anchors bolts and retighten if necessary. Re-torque as needed. See installation manual for instructions.
	Inspects all roll pins and sheave pins are in proper alignment and secured.
	Make a visual inspection of all moving parts and check for excessive signs of wear.
	Check for no overhead obstructions.
	If lift is equipped with an overhead stop bar, check for proper operation.
	Test mercury switch operation.
	Check all warning labels and power unit safety stickers are in good condition. Replace all caution, warning or safety related decals on the lift if unable to read or missing. Reorder labels from manufacturer.
	All components functioning properly.
	All integral moving parts lubricated.
	Working area clean.
	Operation, maintenance and safety manuals in designated location.

INSTRUCTIONS TO READ THE MANUAL(S) THOROUGHLY BEFORE INSTALLING, OPERATING, SERVICING, OR MAINTAINING THE LIFT.

PLEASE **READ THE ENTIRE CONTENTS OF THIS MANUAL AND THE ANSI/ALI ALIS, SAFETY REQUIREMENTS FOR INSTALLATION AND SERVICE FOR AUTOMITIVE LIFTS LITERATURE**, PRIOR TO INSTALLATION AND OPERATION. BY PROCEEDING WITH THE LIFT INSTALLATION AND OPERATION YOU AGREE THAT YOU FULLY UNDERSTAND THE FULL CONTENTS OF THIS MANUAL. THIS MANUAL MUST BE READ BY ALL USERS. FAILURE TO OPERATE THIS EQUIPMENT AS DIRECTED MAY CAUSE INJURY OR DEATH.

OPERATOR TRAINING AND SAFE PRACTICES

Owner/Employer/User :

- **SHALL** ensure 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 10-1, ALI Lifting it Right Safety Manual; AL-ST-10 ALI Safety Tips Card; ANSI/ALI ALOIM-2020 American National Standard for Automotive Lifts - Safety Requirements for Operation, Inspection and Maintenance, ALI/WL Series, ALI Uniform Warning Label Decals/Placards and in the case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

- **SHALL** establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ ALI ALOIM-2020 American National Standard for Automotive Lifts - Safety Requirements for Operation, Inspection and Maintenance; and The Employer Shall ensure that lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

- **SHALL** establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2020 American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and The Employer Shall ensure that lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

- **SHALL** maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM- 2020 American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.

- **SHALL** display the lift manufacturer's operating instructions; ALI/SM 10-1, ALI Lifting it Right safety manual; AL-ST-10 ALI Safety Tips card; ANSI/ALI ALOIM-2020 American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lifts, 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

- **SHALL** provide necessary Lockout/Tagout means for energy sources per ANSI Z244.1-2003 (R2014), Safety Requirements for the Lockout/Tagout of Energy Sources, before beginning any lift repairs.

- **SHALL** not modify the lift in any manner without the prior written consent of the manufacturer

- **WILL NOT** modify the lift in any manner without the prior written consent of the manufacturer.

- Manufacturer has provided Labels that follow the guidance of ANSI Z535.1, *American National Standard for Safety Color Code.*

OPERATOR TRAINING AND SAFE PRACTICES, CONT.

- Manufacturer has provided Label symbols that follow the guidance of ANSI Z535.3, *American National Standard, Criteria for Safety Symbols.*
- Manufacturer has provided Labels designs that follow the guidance of ANSI Z535.4, *American National Standard for Product Safety Signs and Labels.*
- **Precautions and Safety should always be followed when installing and operating this lift.**
- **ONLY TRAINED** and **AUTHORIZED PERSONNEL** should operate the lift. Do not allow customers or unauthorized personnel to operate the lift or remain in the lift area.
- **Review regularly** the safety rules and guidelines with personnel. All non-trained personnel should be kept away from work area. Never let non-trained personnel come in contact with, or operate lift.
- **Be aware. Watch what you are doing. Use common sense.**
- **Understand** the vehicle lift operating controls before use.
- **DO NOT** leave the operational controls while the lift is still in motion.
- **DO NOT** stand in front of the vehicle or in the bay when vehicle is being loaded or driven into position.
- **DO NOT** attempt to work on the vehicle or go near vehicle when lift is being raised or lowered.
- **ALWAYS** stay clear of lift when raising or lowering vehicle.
- **ALWAYS** clear the area if a vehicle is in danger of falling.
- **KEEP** hands and feet clear. Remove hands and feet from any moving parts. Keep feet clear of lift when lifting or lowering to avoid bodily harm or any pinch points.
- **DO NOT** raise a vehicle on the lift until the installation is completed as described in this manual.
- **DO NOT raise or lower the vehicle unless tools, materials and people are clear. Clean up grease and oil spills immediately.** When the lift is being lowered, make sure everyone is standing at least six feet away. Be sure there are no jacks, tools, or equipment, left under the lift before lowering. Always lower the vehicle down when the area is safe and clear.
- **INSPECT THE LIFT DAILY.** Do not operate if potential problems have been identified or lift malfunctions. Do not operate if lift has damaged or broken components. Check all moving parts for any type of damage that may affect misalignment or operation of lift.
- **NEVER** walk under or work under the lift unless all safety locks are completely engaged.
- A daily inspection of the lift should be completed prior to any use. Safety mechanisms, operating controls, lifting arms, ramps and any other critical parts should be inspected prior to using the lift.

OPERATOR TRAINING AND SAFE PRACTICES, CONT.

- **ALWAYS KNOW YOUR LOAD LIMIT.** Use caution so that you do not overload the lift. It is important that you know the load limit. To check the rated capacity, decals are located on one of the lift columns or contact the manufacturer for replacements labels. The hydraulic system on this lift is not designed to be a load holding device. Mechanical safety locks must be engaged before proceeding under the lift, with vehicle servicing, or system maintenance. Never override operating controls. This is unsafe and will void the warranty, before driving a vehicle between the columns, position all arms to insure unobstructed entry. Do not hit or run over arms as this could damage the lift and/or vehicle.

- **ALWAYS make sure you have proper overhead clearance.**

- **WARNING! RISK OF EXPLOSION.** This equipment has internal arcing or sparking parts which should not be exposed to any flammable vapors.

- **DO NOT** locate this machine in a recessed area or below floor level. ALLOW FOR PROPER DRAINAGE.

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

- Positioning the vehicle is very important. Only trained technicians should position the vehicle on the lift. Never allow anyone to stand in the path of the vehicle as it is being positioned.

- Keep the area around the lift clean and free of debris.

- Some vehicle maintenance and repair activities may cause the vehicle to shift. Follow the manufacturer's guidelines when performing these operations. The use of jack stands or alternate lift points may be required when completing some repairs. Special care must be used when lifting light duty trucks. Optional truck adapters may be required for each manufacturer's recommended lifting points. Always use these lifting points. Running boards and other installed accessories may also require optional adapters**.** Insure vehicle is balanced when lifting light duty trucks, failure to do so can cause injury and/or death.

- Removal or installation of heavier parts can change the vehicle's center of gravity on the lift resulting in a critical load shift. The vehicle may then be unstable. Plan ahead for this possibility to insure continued safety and refer to the vehicle manufacturers' service manual for recommended procedures.

- **DO NOT** remove any heavy component from vehicle that may cause excessive weight shift.

- **ALWAYS** keep the lift area free of obstructions and debris.

- **NEVER** raise a vehicle with passengers inside. Before lowering a vehicle, check the lift and lift area and remove all obstructions. Before removing vehicle from the lift or lift area, position arms to the drive through position and confirm an unobstructed exit.

- Use of jack stands or other load supporting devices will help in preventing load shifts. Manufacturer suggests that jack stands or other load supporting devices are used at all times for additional security. Use additional lifting equipment or stands when removing or installing heavy vehicle components.

OPERATOR TRAINING AND SAFE PRACTICES, CONT.

- **ALWAYS** Make sure the vehicle's center of gravity is always safe before raising vehicle. Any points of contact on vehicle that are not in good contact with lifting pads or contact with lift should always be double checked. Always make sure the vehicle is secure before lifting using vehicle manufacturers' recommended lifting points.

- Large vehicles, such as limousines, RV's, and long wheelbase vehicles, may not be suitable for lifting on this equipment.

- **DO NOT** rock or tip the vehicle while working on or around lift.

- **VERIFY** that all safety latches are engaged and lowered on to the safety ladders before any attempt is made to work on or near vehicle.

- **NEVER** override self-operating lift controls.

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

- **DO NOT** block open or override self-closing lift controls; they are designed to return to the "Off" or Neutral position when released.

- **DO NOT** remove or disable arm restraints.

- **DO NOT** hit or run over lift arms or adapters. This could damage lift or vehicle. Before driving vehicle into lift bay, position arms and adapters to provide unobstructed entrance onto lift.

- **USE THE LIFT ONLY AS DESCRIBED IN THIS MANUAL.**

- Use only manufacturer's recommended attachments.

- The troubleshooting and maintenance procedures described in this manual can be done by the lift's owner/employer. Any other procedure should only be performed by trained lift service personnel. These restricted procedures include, but are not limited to, the following: cylinder replacement, carriage and safety latch replacement, arm replacement, overhead structure replacement, or electrical troubleshooting/repair.

- **NEVER** use the lift on curved or tubular bumper. Do not lift curved bumpers as this will result in slipping off and falling, causing serious injury or death. A bumper lift will lift most vehicles with curved bumpers or plastic bumpers.

- **PAY ATTENTION** when walking under a vehicle that is raised on the vehicle lift.

OPERATOR TRAINING AND SAFE PRACTICES, CONT.

 **DANGERS:**

- To reduce the risk of personal injury, keep hair, loose clothing, fingers, and all body parts away from moving parts.
- To reduce the risk of electric shock, do not use the lift when wet. The lift should not be exposed to the rain.
- To reduce the risk of fire, do not operate equipment in the close proximity of open containers containing flammable liquids (example: Gasoline, flammable solvents).
- Anyone who will be in the vicinity of the lift when it is in use should familiarize themselves with following Caution, Warning, and Safety related decals supplied with this lift and replace them if they are illegible or missing.
- Anyone who will be in the vicinity of the lift when it is in use should read and refer to publications supplied with this lift.

HOW TO OPERATE THE LIFT

1. Familiarize yourself with the lift before use.
2. Precautions and Safety should always be followed when operating this lift.
3. **ONLY TRAINED** and **AUTHORIZED PERSONNEL** should operate the lift. Do not allow customers or unauthorized personnel to operate the lift or remain in the lift area during use.
4. Understand the vehicle lift operating controls before use. Make sure all operators have been trained and review the OPERATOR TRAINING AND SAFE PRACTICES of this manual before using lift.
5. Always allow a minimum 2-second delay between motor starts. Failure to comply may cause switch and/or motor to burnout. This could cause serious damage to the equipment and/or personal property. Power unit must be wired by a qualified electrician. This power unit should be located at least 18 inches (460 mm) above the floor. Motor duty cycle is one full lifting operation 10 minutes.
6. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors.
7. Use only recommended ISO AW32 or AW46 hydraulic oils. Oil must be changed after the first week of operation and once every 12 months or as needed. Add extra oil as needed.
8. See the instructions in the maintenance section of this manual how to add oil to the Power Unit.
9. Have a complete understanding of the carriage safety lock mechanisms.
   - ✓ The “LOCKED position” will be used when raising the lift. This function should always work automatically.
   - ✓ The “UN-LOCKED position” will be used when lowering a lift or adjust

   Note: DO NOT remove or tamper with the design of the locking assembly.
   Failure to use locks as designed or forcing a lock to stay in the open position during use will be grounds for immediate termination of this warranty and any manufacturer liabilities.
10. **ALWAYS** ensure the safeties are engaged before any attempt is made to work on or near the vehicle.
11. **NEVER** leave lift in elevated position unless the safeties are engaged.
12. **NEVER** operate the lift with any person or equipment below the vehicle.
13. **NEVER** exceed the rated lift capacity.
14. **DO NOT PERMIT ELECTRIC MOTOR TO GET WET!** Motor damage caused by dampness is not covered under warranty.
15. **NEVER** lift any vehicle in any manner with less than all four (4) arms. Rated capacity of each lift arm is no greater than one fourth (1/4) of the overall lift capacity.
16. **ALWAYS** position lifting arms, ramps, adapters and accessories properly out of the way before pulling the vehicle into or out of the bay. Failure to do so could damage the vehicle and/or the lift.
17. After positioning the vehicle, set the emergency brake, make sure the ignition is off, the doors are closed, overhead obstructions are cleared.

⚠ **Warning:**

18. Make sure vehicle is not front or rear heavy. The center of balance should be midway between adapters.

⚠ **DANGER:**

19. **DO NOT RAISE OR LOWER ANY VEHICLE UNLESS TOOLS, MATERIALS AND PEOPLE ARE CLEAR. CLEAN UP GREASE AND OIL SPILLS IMMEDIATELY.** When the lift is being lowered, make sure everyone is standing at least six feet away. Be sure there are no jacks, tools, or equipment, left under the lift before lowering. Always lower the vehicle down when the area is safe and clear.

⚠ **DANGER:**

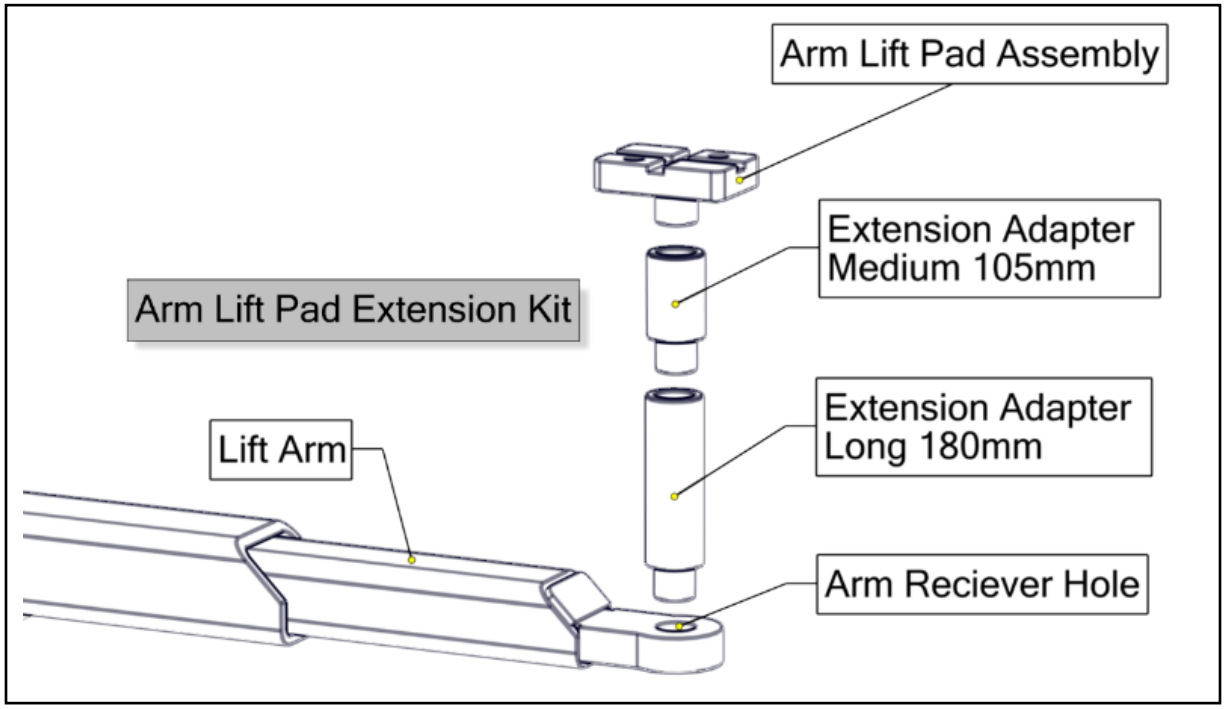
20. Check the fitment of the “half-moon” gear restraints on each lifting arm. Check for proper engagement of the arm restraints (arm locks) before raising a vehicle. The safety gear restraints should fully engage the gear restraints on the arm automatically.
    Note: Regularly verify that Allen Bolts on gear restraints are tight and secure.

NOTE:

21. Many specialty or modified vehicles cannot be raised on a two-post frame engaging lift. Contact YOUR vehicle manufacturer for raising or jacking details.

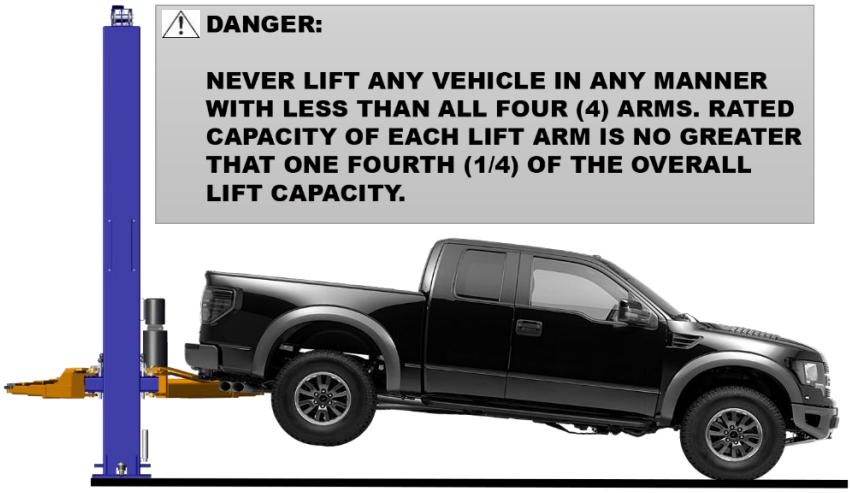
22. **ALWAYS** load vehicle on lift carefully. Position the lifting arms, ramps, adapters and accessories to the vehicle manufacturer’s recommended pickup points. Raise the lift until contact is made with the vehicle. Make sure that the lifting arms, ramps, adapters and accessories have properly engaged the vehicle before raising the lift to a working height.

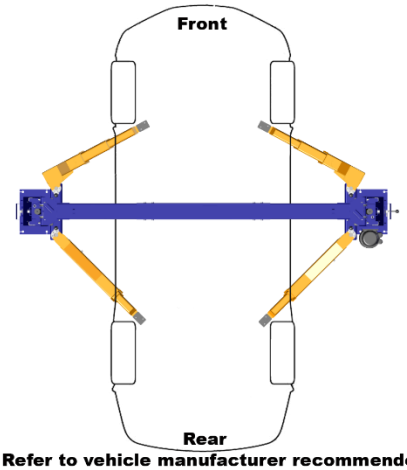
⚠ **DANGER:** Check adapters for secure contact with vehicle before operating.



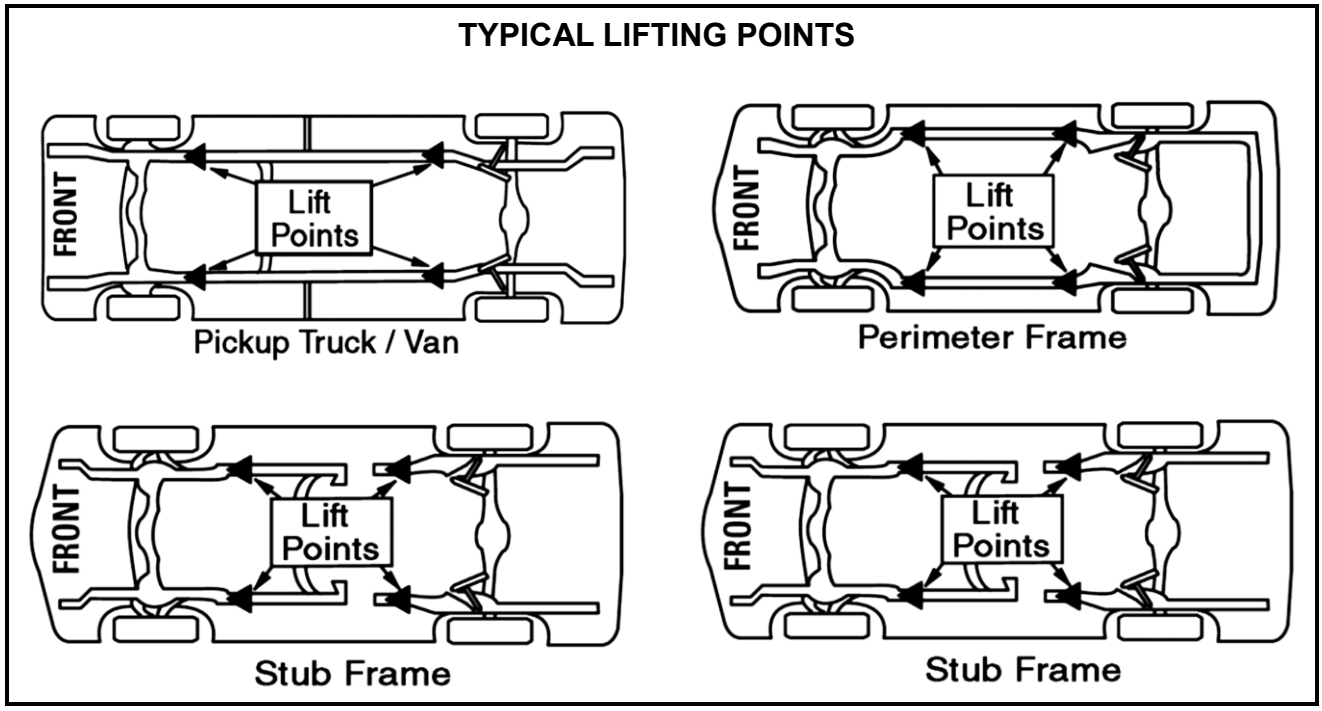
⚠ **DANGER:**

23. Use all 4 arms to raise a vehicle or make sure vehicle is positioned correctly so all four corners of vehicle are stationary with wheel stops. Position all lift pads to contact vehicle manufacturers' recommended lifting points. **Raise lift slowly until all pads contact the vehicle. Check all pads for complete and secure contact with the vehicle. Check all arm restraints to insure they are engaged properly. Check that the vehicle is stable on the lift.** Only after confirming these procedures, raise the lift to desired working height.





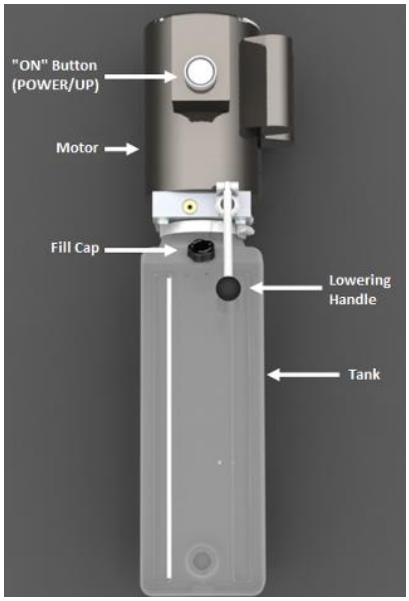
Refer to vehicle manufacturer recommended lifting points, before lifting any vehicle.



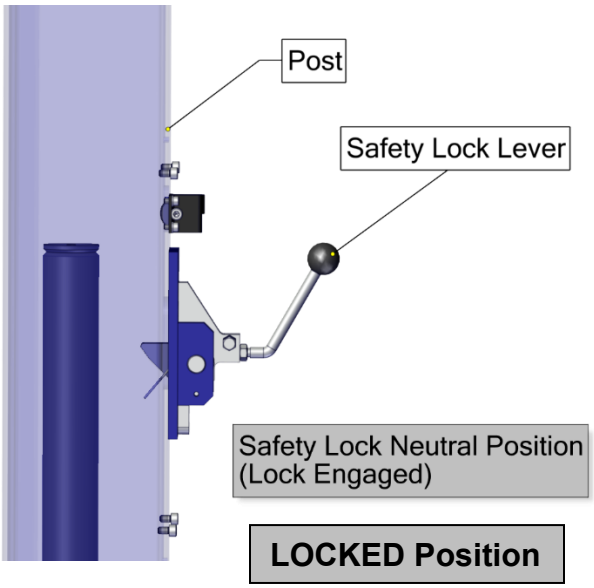
24. Some vehicles may have the manufacturer's Service Garage Lift Point locations identified by triangle shape marks on the undercarriage (reference ANSI/SAE J2184). Also, there may be a label located on the right front door jamb area showing specific vehicle lift points.
Note: Also provided with your purchase is a copy of the ALI LP - QUICK REFERENCE GUIDE VEHICLE LIFTING POINTS FOR FRAME ENGAGING LIFTS, this is a guide for basic lifting point locations on your vehicle. For actual vehicle recommended lifting points consult your vehicle manufacturer.

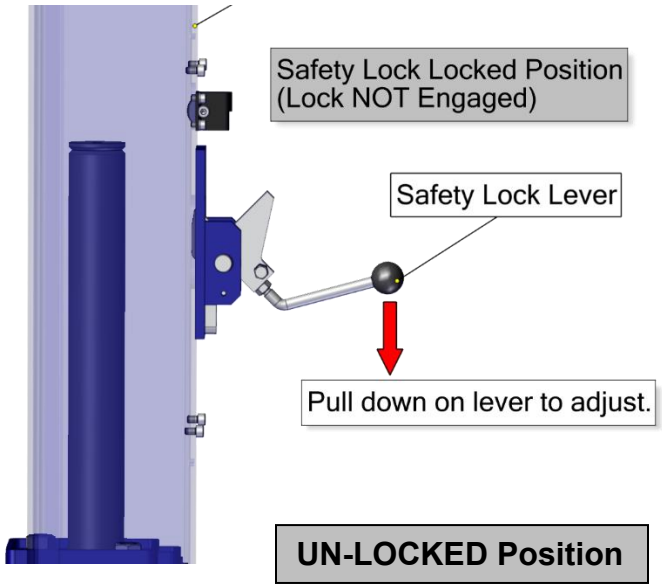
DESCRIPTION OF LIFT CONTROLS

Description:	Purpose:
Safety Release Handle	Used to release safety latches when lowering vehicle.
Power “ON” Button	Controls electrical power to the hydraulic power unit. Push to turn-on.
Lowering Handle	Used to relieve hydraulic pressure when pressed to lower lifting carriages.
Fill Cap	Power unit fill Cap for the power unit fluid reservoir. Remove to add fluid.
Tank	Used to store hydraulic fluid.

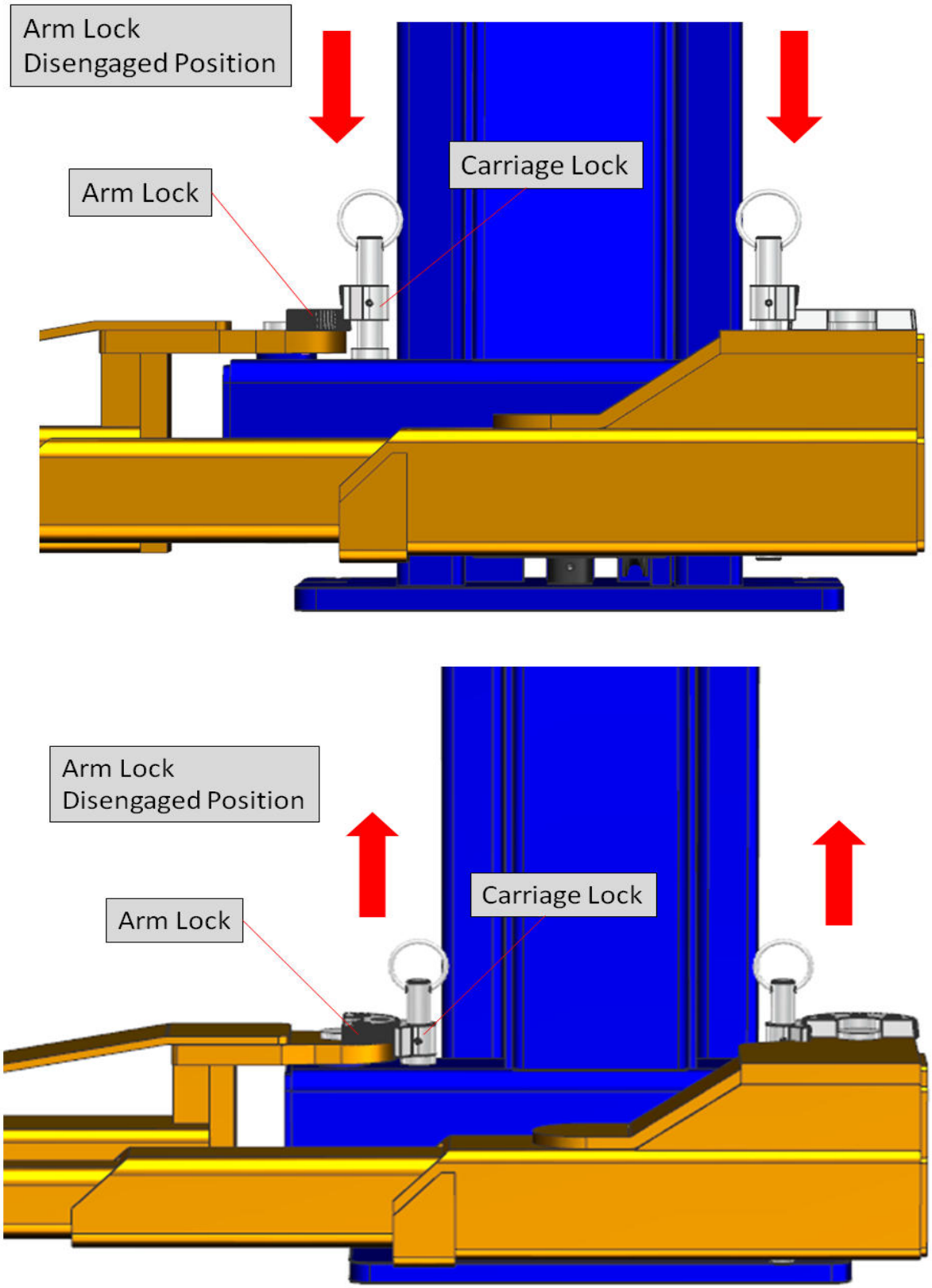


CARRIAGE LOCK CONTROLS





ARM LOCK ENGAGEMENT



TO RAISE THE LIFT,

25. Adjust the lifting arms so that the vehicle is positioned with the center of gravity midway between the lift pads. (Use truck adapters as needed.)
    ⚠ **DANGER: NEVER** use the lift pad assemblies without the rubber pads in place.

26. Press the power “on” button.

27. A clicking sound will be heard as the lift raises. These are the carriage locks that will securely hold a vehicle.

28. Once the desired height has been achieved slightly raise the carriage and lift arms just above the last latch position and slowly lower the load on the safety locks.

29. Verify that both Safety Carriage locks have been engaged before beginning work.

30. Use of jack stands or other load supporting devices will help in preventing load shifts. Manufacturer suggests that jack stands or other load supporting devices are used at all times for additional security. Use additional lifting equipment or stands when removing or installing heavy vehicle components.

31. Make sure the vehicles center of gravity is always safe before raising vehicle. Any points of contact on vehicle that are not in good contact with lifting pads or contact with lift should always be double checked. Always make sure the vehicle is secure before lifting using only your vehicle manufacturers’ recommended lifting points.

TO LOWER THE LIFT,

32. To lower the lift, first raise the lift to clear the safety latches, press the power “on” button, then pull down the safety release handle to lower the lift. The carriages should now be in the free UN-LOCKED position.

33. Simultaneously hold the Safety Carriage Locks in the UN-LOCKED Position and press the lowering control valve on the power unit.

34. Lower the lift slowly until reach the lowest retracted position.

35. Retract the lifting arms to the shortest position.

36. Place any arm extension adapters on column storage brackets.

CUSTOMER DAILY MAINTENANCE INSPECTION RECORD DATE: _____

✓ Check boxes to verify work has been completed

	Power unit functioning properly.
	With the lift in the lowered position, check that the hydraulic fluid level is full. If needed, add oil as described in the Installation Instruction section of this manual.
	Check for “no” hydraulic leaks
	Check that all posts are square and plumb.
	Lubricate posts with grease. Lubricate the four inside corners of the columns with heavy-duty bearing grease as needed.
	Inspect lifting arms making sure they are functioning properly.
	Visually inspect safeties for proper operation. Check all arm adjusting locks for proper operation.
	Check that all lifting carriage gear restraints are securely fastened, and that screws are tightened.
	Inspect all arms pins making sure they are properly secure.
	Inspect that arm pads are in good condition, replace if worn.
	Check that lift arms are level and synchronized.
	Check equalizer cable tension, and adjust if necessary, see manual instructions.
	Check all cables connections, bolts and pins to ensure proper mounting and torque.
	Inspect all cables for any damage, breaks, worn out, or corrosion. Replace cables if needed.
	Check safety latch synchronization: Safety latches should click at the same time. If necessary, adjust equalizing cables as described in the Installation Instruction section of this manual.
	Lubricate all Cable Sheaves.
	Check tightness of all bolts, nuts, pins, and hardware. Re-tighten as needed. See installation manual torque specified ratings.
	Inspect all anchors bolts and retighten if necessary. Re-torque as needed. See installation manual for instructions.
	Inspects all roll pins and sheave pins are in proper alignment and secured
	Make a visual inspection of all moving parts and check for excessive signs of wear.
	Check for no overhead obstructions
	If lift is equipped with an overhead stop bar, check for proper operation.
	Test mercury switch operation
	Check all warning labels and power unit safety stickers are in good condition. Replace all caution, warning or safety related decals on the lift if unable to read or missing. Reorder labels from manufacturer.
	All components functioning properly
	All integral moving parts lubricated
	Working area clean
	Operation, maintenance and safety manuals in designated location

⚠ **DANGER**: If anchor bolts are loose or any component of the lift is found to be defective**, DO NOT USE THE LIFT.**

• **ALWAYS** keep lift components clean.
• **ALWAYS** if oil leakage is observed, place lift out of service and contact Customer Service.
• **ALWAYS** contact a local service representative if electrical problems develop.
• **ALWAYS** keep bolts tight.
• **ALWAYS** replace ALL FAULTY PARTS before lift is put back into operation.
• Refer to ANSI/ALI ALOIM booklet for periodic inspection checklist and maintenance log sheet.

Replace damaged, broken or wearing parts with lift manufacturer’s approved OEM parts only.

NOTES:_____

_____

_____

PRINT COPY PAGES FOR DAILY RECORDS

CUSTOMER MAINTENANCE INSPECTION AND LUBRICATION

If you use and maintain your equipment properly, it will give you many years of service. Follow the maintenance instructions carefully to keep your equipment in good working condition. Never perform any maintenance on the equipment while it is under a load. Refer to the CUSTOMER DAILY MAINTENANCE INSPECTION RECORD for proper inspections to be completed by user daily.

Inspection
You should inspect the product for damage, wear, broken or missing parts (e.g.: pins) and that all components function before each use. Follow lubrication and storage instructions for optimum product performance.

Cleaning
If the moving parts of the equipment are obstructed, use cleaning solvent or another good degreaser to clean the equipment. Remove any existing rust, with a penetrating lubricant.

Lubrication
This equipment will not operate safely without proper lubrication. Using the equipment without proper lubrication will result in poor performance and damage to the equipment. Some parts in this equipment are not self-lubricating. Inspect the equipment before use and lubricate when necessary. After cleaning, lubricate the equipment using a high grade penetrating lubricant.
Use a good lubricant on all moving parts.
For light duty use, lubrication is needed once a month.
For heavy and constant use, lubrication is recommended every week.
NEVER USE SANDPAPER OR ABRASIVE MATERIAL ON THESE SURFACES!
See the Wire Rope Section for details on lubrication wire ropes and cables.

Rust Prevention:
Check hydraulic cylinder ram assemblies daily for any signs of rust or corrosion. Without a load lift the equipment as high as it goes and look under and behind all components. If signs of rust are visible clean as needed.

Grease Fittings
Some models contain grease fittings that will regularly need to be greased and lubricated.

Additional Lubrication:
1. Periodically check the hydraulic cylinders for signs of rust or corrosion. Clean as needed and wipe with an oil cloth. NEVER USE SANDPAPER OR ABRASIVE MATERIAL ON THESE SURFACES!
2. When not in use, lower the lift to the fully retracted position. Failure to do so can cause rust and corrosion to degrade the life of the hydraulic cylinders.

CUSTOMER MAINTENANCE

TO ADD HYDRAULIC OIL:

1. Lower the lift to its lowest resting position.
2. Remove the oil plug.
3. Fill the oil case until oil level is just beneath the lower rim of the oil fill hole.
4. Replace oil plug.
5. Perform the Air Purge Procedure.

TO REPLACE HYDRAULIC OIL:

Hydraulic oil should only be changed when equipment is fully lowered. Use only recommended ISO AW32 or AW46 hydraulic oils. Oil must be changed after the first week of operation and once every 12 months or as needed.

1. Lower the lift to its lowest resting position.
2. Remove power unit from lift.
3. Remove the oil fill plug.
4. Turn the power unit on its side to drain old oil from the oil fill hole.
5. Ensure the tank is clean before refilling.
6. Remount the power unit on the lift. Fill the oil case until oil level is just beneath the lower rim. Keep dirt and other foreign materials clear when pouring.
7. Replace oil plug.
8. Perform Air Purge Procedure.

⚠ **ADDITIONAL WARNINGS:**

- ✓ DO NOT USE MOTOR OIL, HYDRAULIC BRAKE FLUID, ALCOHOL, GLYCERINE, DETERGENT, OR DIRTY OIL, TURBINE OIL, TRANSMISSION FLUID, OR GLYCERIN. IMPROPER FLUID CAN CAUSE FAILURE OF THE HYDRAULIC SYSTEM AND HAS THE POTENTIAL FOR SUDDEN AND IMMEDIATE LOSS OF LOAD.
- ▪ ALWAYS ONLY USE A HIGH GRADE ANTI-FOAMING HYDRAULIC OIL.
- ▪ USE OF A NON-RECOMMENDED FLUID CAN CAUSE DAMAGE TO THE HYDRAULIC SYSTEM.
- ✓ AVOID MIXING DIFFERENT TYPES OF FLUID AND DISPOSE OF HYDRAULIC FLUID IN ACCORDANCE WITH LOCAL REGULATIONS.

HYDRAULIC OIL PERFORMANCE ADDITIVES:

Description: Add (1-qt)
Additives perform to Lower friction for some hydraulic systems
Attributes: Relieves "stick-slip" on noisy hydraulic cylinders (eg. Humming noise or exxecssive vibrating),
Recommended Application: .95-liter bottle recommended. Used as a friction modifier to help reduce noise level.
Caterpillar Equipment part number: 1U-9891

SYSTEM AIR PURGE PROCEDURE

⚠ **IMPORTANT: BEFORE FIRST USE** perform the following Air Purge Procedure to remove any air that may have been introduced into the hydraulic system. This step is to be completed without any weight or vehicles on the lift.

- Refer to page 40 for additional information.

SERVICE MAINTENCE AND SERVICE CALLS

The manufacturer can provide on-site service to your lift product by a qualified lift service technician. The owner may be responsible for all costs and direct payment to the contractor at the time the work is completed. It is the owner's responsibility to return any parts to the manufacturer for warranty validation. Repairs should only be completed by a qualified lift technician.

For additional lift maintenance and issues please contact a TORIN CUSTOMER SERVICE REPRESENTATIVE or a LOCAL TRAINED LIFT SERVICE TECHNICIAN.

DO NOT assume how to repair lift.

If product is "Binding" contact a customer service agent.

Binding

If the product binds while under a load, use equipment with equal or a larger load capacity to lower the load safely to the ground. After un-binding; clean, lubricate and test that equipment is working properly. Rusty components, dirt, or worn parts can be causes of binding clean and lubricate the equipment as indicated in the lubrication section. Test the equipment by lifting without a load. If the binding continues, contact Customer Service.

ELECTRICAL LOCKOUT PROCEDURE

Purpose

This procedure establishes the minimum requirements for the lockout of energy that could cause injury to personnel by the operation of lifts in need of repair or being serviced. All employees shall comply with this procedure. See ANSI/ASSE Z244.1-2003 (R2014) Control of Hazardous Energy Lockout/Tagout and Alternative Methods for additional information.

Responsibility

The responsibility for assuring that this procedure is followed is binding upon all employees and service personnel from outside service companies (i.e., authorized installers, contactors, etc.). All employees shall be instructed in the safety significance of the lockout procedure by the facility owner/manager. Each new or transferred employee along with visiting outside service personnel shall be instructed by the owner/manager (or assigned designee) in the purpose and use of the lockout procedure.

Preparation

Employees authorized to perform lockout shall ensure that the appropriate energy isolating device (i.e., circuit breaker, fuse, disconnect, etc.) is identified for the lift being locked out. Other such devices for other equipment may be located in close proximity of the appropriate energy isolating device. If the identity of the device is in question, see the shop supervisor for resolution. Assure that proper authorization is received prior to performing the lockout procedure.

Sequence of Lockout Procedure

1. Notify all affected employees that a lockout is being performed for servicing or maintenance and that the lift must be shut down and locked out to perform the servicing or maintenance
2. Unload the subject lift (remove vehicle). Shut it down and assure the disconnect switch is “OFF” if one is provided on the lift.
3. The authorized lockout person operates the main energy isolation device removing power to the lift being taken out of service. Stored or residual energy (such as capacitors, springs, elevated machine members, hydraulic systems, air, or etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc. If this is a lockable device, the authorized lockout person places the assigned padlock on the device to prevent its unintentional reactivation. An appropriate tag is applied stating the person’s name, at least 3” x 6” in size, an easily noticeably color, and states not to operate device or remove tag. If this device is a non-lockable circuit breaker or fuse, replace circuit with a “dummy” device and tag it appropriately as mentioned above.
4. Ensure that the equipment is disconnected from the energy sources’ by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating controls’ or by testing to make certain the equipment will not operate. Be sure to return any switches to the “OFF” position.
5. The equipment is now locked out and ready for the required maintenance or service.

Restoring Equipment to Service

1. Check the lift and the immediate area around the lift to ensure that nonessential items have been removed (clear all tools, vehicles and personnel) and that the completion of all lift components are operationally intact.
2. The authorized person can now remove the lock (or dummy circuit breaker or fuse) and tag. Activate the energy isolating device so that the lift may again be placed into operation.

Rules for Using Lockout Procedure

All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout. The authorized employees are required to perform the lockout in accordance with this procedure. All employees, upon observing a piece of lifting equipment which is locked out to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment. The Lockout Procedure should be used whenever the lift is being repaired or serviced, waiting for repair when current operation could cause possible injury to personnel, or for any other situation when unintentional operation could injure personnel. No attempt shall be made to operate the lift when the energy isolating device is locked out.

WIRE ROPE INSPECTION, USE, AND CARE

The following information is NOT a complete discussion of wire rope.
WHAT FOLLOWS IS A BRIEF OUTLINE OF THE BASIC INFORMATION REQUIRED TO SAFELY USE WIRE ROPE AND WIRE ROPE SLINGS.

Equalizing and Lifting Cables should be replaced every three years when visible signs of damage are apparent. DO NOT USE THE LIFT WITH DAMAGED OR WORN CABLES.

Wire Rope should be maintained in a well-lubricated condition at all times. Wire rope is only fully protected when each wide strand is lubricated both internally and externally. Excessive wear will shorten the life of the wire rope. The manufacturer suggests using a wire rope lubricant that penetrates to the core of the wire rope, providing long term lubrication. All wire rope, sheaves and guide rollers in continuous service should be observed during normal operation and visually as per the scheduled maintenance. A complete and thorough inspection of all ropes in use must be made as below and all rope which has been idle for a period of a month or more should be given a thorough inspection before it is put back into service. Factors such as abrasion, wear, fatigue, corrosion, improper winding and kinking are often of greater significance in determining if a wire rope
is usable.

1. Wire rope WILL FAIL IF WORN OUT, OVERLOADED, MISUSED, DAMAGED or IMPROPERLY MAINTAINED.
2. In service, wire rope loses strength and work capability. Abuse and misuse increase the rate of loss.
3. The NOMINAL STRENGTH, sometimes called CATALOG strength, of a wire rope applies ONLY to a NEW, UNUSED rope.
4. The Nominal Strength of a wire rope SHOULD BE CONSIDERED the straight line pull which will ACTUALLY BREAK a new, UNUSED rope. The Nominal Strength of a wire rope should NEVER BE USED AS ITS WORKING LOAD.
5. WIRE ROPES WEAR OUT. The strength of a wire rope begins to decrease when the rope is put in use, and continues to decrease with each use.
6. NEVER OVERLOAD A WIRE ROPE. This means NEVER USE the rope where the load applied to it is greater than the working load determined by dividing the Nominal Strength of the rope by the appropriate Design Factor.
7. NEVER "SHOCK LOAD" a wire rope. A sudden application of force or load can cause both visible external damage and internal damage. There is no practical way to estimate the force applied by shock loading a rope. The sudden release of a load can also damage a wire rope.
8. Lubricant is applied to the wires and strands of a wire rope when it is manufactured. This lubricant is depleted when the rope is in service and should be replaced periodically.
9. Regular, periodic INSPECTIONS of the wire rope, and keeping of PERMANENT RECORDS. The purpose of inspection is to determine whether or not a wire rope may continue to be safely used on that application. Inspection criteria, including number and location of broken wires, wear and elongation, should be recorded. IF IN DOUBT, REPLACE THE ROPE. An inspection should include verification that none of the specified removal criteria for this usage are met by checking for such things as:

- Surface wear: Normal and unusual.
- Broken wires: Number and location.
- Reduction in diameter.
- Rope stretch (elongation).
- Integrity of end attachments.
  In addition, an inspection should include the condition of sheaves, drums and other apparatus with which the rope makes contact.

10. When a wire rope has been removed from service because it is no longer suitable for use, IT MUST NOT BE RE-USED ON ANOTHER APPLICATION.
11. Every wire rope user should be aware of the fact that each type of fitting attached to a wire rope has a specific efficiency rating which can reduce the working load of the rope assembly or rope system, and this must be given due consideration is determining the capacity of a wire rope system.
12. Some conditions that can lead to problems in a wire rope system include:

- Sheaves that are too small, worn or corrugated cause damage to a wire rope.
- Broken wires mean a loss of strength.
- Kinks permanently damage a wire rope and must be avoided.
- Wire ropes are damaged by knots, and wire ropes with knots must never be used.
- Environmental factors such as corrosive conditions and heat can damage a wire rope.
- Lack of lubrication can significantly shorten the useful service life of a wire rope.
- Contact with electrical wires and the resulting arcing will damage a wire rope.

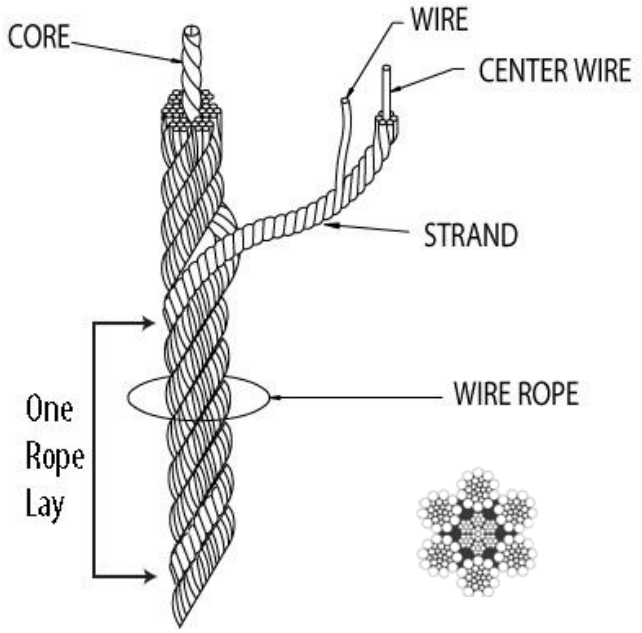
Recommended Lubrication Product:
A high-grade penetrating lubricant for wire rope, chain and cable that contain a petroleum solvent that carry the lubricant into the core of the wire rope, then evaporates, leaving behind a heavy lubricating film to protect and lubricate each strand. A penetrating lubricant is essential in any lubrication program as most wire rope fails from the inside out.
Check and lubricate all guide rollers, sheaves and hardware that are in operational contact are visually checked for wear and lubrication

HOW OFTEN TO INSPECT

- Lifting cables should be visually inspected at least once each day when in use, as suggested by American Petroleum Institute (API) RP54 guidelines.
- Any lifting cables that have met the criteria for removal must be immediately replaced.

WHEN TO REPLACE LIFTING CABLES DUE TO BROKEN WIRES

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



OTHER REASONS TO REPLACE WIRE ROPE

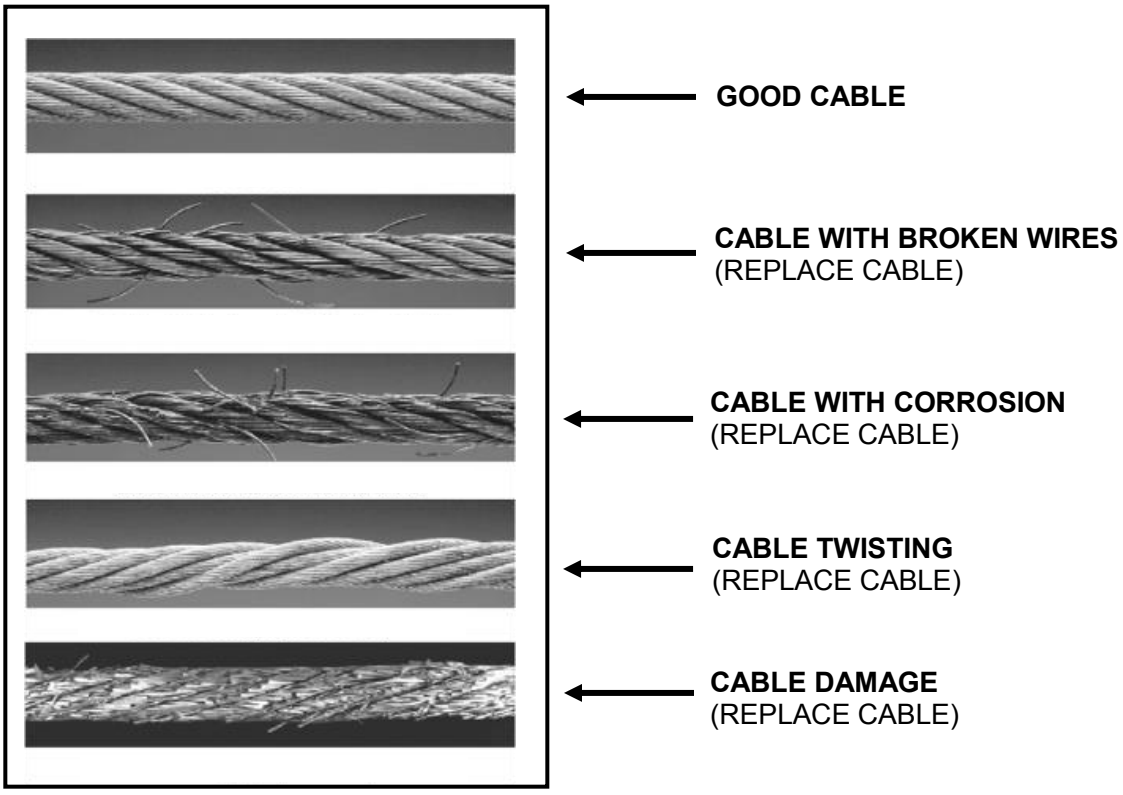
- Corrosion that pits the wires and/or connectors.
- Evidence of kinking, crushing, cutting, bird-caging or a popped core.
- Wear that exceeds 10% of a wire's original diameter.
- Evidence of heat damage.

HOW TO INSPECT WIRE ROPE

I. Relax the rope to a stationary position and move the pick-up points off the sheaves. Clean the surface of the wire rope with a cloth this will allow you to see breaks. (Use a stiff wire brush, if necessary.)
II. Flex the rope to expose any broken wires hidden in the channels between the strands.
III. Visually check for any broken wires. One way to check for crown breaks is to run a cloth along the rope to check for possible snags.
IV. With an awl tool, probe between wires and strands and lift any wires that appear loose. Evidence of internal broken wires may require a more extensive rope examination. (IF IN DOUBT REPLACE CABLES)
V. Check for layer to layer crushing or individual wires that may have been displaced from their normal position.
VI. Check Sheaves for deeply corrugated sheaves that may also be causing damage to wire ropes. Replace sheaves if needed.
VII. Replace wire rope if any failing condition is found.

- A lubricant suited to the conditions under which the rope is operating should then be applied. Several methods are suggested, and the one most suited to the installation and lubricant being used may be chosen. It is better to lubricate lightly and frequently than heavily and infrequently. For best results lubricate to core of cables.
- Improve rope performance and overall effectiveness
- Check all guide rollers, sheaves and hardware that are in operational contact are visually checked for wear and lubrication.
- Visually Inspect and Apply lubricants to all contact points using a heavy weight lubricant using the methods as described: spray, pump, brush or hand lubrication.

For Additional Information see "Wire Rope User's Manual 4th Ed.".
Failure to read, understand, and follow these instructions may cause death or serious injury. Read and understand these instructions before using the lift.



TROUBLESHOOTING

LIFT WILL NOT RAISE

	Air is in the oil	• Check for proper oil level. The oil level should be up to the bleed screw in the reservoir with the lift all the way down. • Bleed cylinders. See Installation Manual • Oil seal damaged or cocked. Replace oil seal around pump shaft. • Inlet screen clogged. Clean inlet screen or replace
	Cylinder is binding	• Contact Customer Service.
	Cylinder leaks internally	• Contact Customer Service
	Lift does not raise and lower smoothly	• Reposition vehicle for a more even weight distribution • Check the four inside corners of the two columns for roughness. Any rust or burrs must be removed with emery cloth. • Lubricate the four corners with heavy duty bearing grease. • Use a level to check the columns for vertical alignment both side to side and front to back. Shim the columns as necessary per the Installation Instruction section of this manual. • Check the oil level • Inspect that there is no air in the hydraulic lines. Bleed the hydraulic system as described in the Installation Instruction section of this manual.
	Lowering valve is leaking	• Contact Customer Service
	Motor runs backwards	• Check if motor is wired correctly. Compare wiring of motor to electrical diagram on drawing. • Check wall outlet voltages and wiring. Make sure unit and wall outlet are wired properly. • Contact Customer Service
	Motor run backward under pressure	• Contact Customer Service
	Power Unit will not stop running	• Switch is damaged. Turn off power to the lift and replace switch
	Pump is damaged	• Contact Customer Service
	Pump will not prime	• Check for proper oil level. The oil level should be up to the bleed screw in the reservoir with the lift all the way down. • Flush release valve to get rid of. Hold release handle down and start unit allowing possible contamination it to run for 15 seconds. • Oil seal damaged or cocked. Replace oil seal around pump shaft. • Replace with new part. • Check pump-mounting bolts. Bolts should be 15 to 18 ft. lbs. • Inlet screen clogged. Clean inlet screen or replace. • Check wall outlet voltages and wiring. Make sure unit and wall outlet are wired properly. • Contact Customer Service
	Relief valve leaks	• Contact Customer Service
	Voltage to the motor is incorrect	• Check if motor is wired correctly. Compare wiring of motor to electrical diagram on drawing. • Check wall outlet voltages and wiring. Make sure unit and wall outlet are wired properly. • Contact Customer Service
	The power unit does not run	• Check electrical supply breaker or fuse • Check to see if limit switch is being contacted by a tall vehicle • Check micro-switch and connections in motor control box • Check voltage to the motor • Check micro-switch and connections on the overhead switch
	The power unit runs but does not raise the lift	• Check the oil level • Check that the lowering valve is not stuck open • Check the connections and components on the suction side of the pump
	The power unit raises the lift empty but will not lift a vehicle	• Make sure the vehicle is not above the rated capacity of the lift • Make sure the vehicle is positioned properly • Clean the lowering valve by running the power unit for 20 seconds while holding the lowering valve open • Check the motor voltage

TROUBLESHOOTING

MOTOR WILL NOT RUN

	Fuse is blown	• Check for correct voltage. Compare supply voltage with voltage on motor name tag. Check that the wire is sized correctly. Requires AWG 10 for 30 Amps. • Check motor is wired correctly. Compare wiring of motor to electrical diagram on drawing. • Don't use extension cords. The size of the conductors should be such that the voltage drop would not exceed 3% to the farthest outlet for power. Do not run motor at 115 VAC – damage to the motor will occur. • Reset circuit breaker/fuse. Reset circuit breaker/fuse. • Contact Customer Service.
	Limit switch is burned out	• Check for correct voltage. Compare supply voltage with voltage on motor name tag. Check that the wire is sized correctly. Requires AWG 10 for 30 Amps. • Check motor is wired correctly. Compare wiring of motor to electrical diagram on drawing. • Don't use extension cords. The size of the conductors should be such that the voltage drop would not exceed 3% to the farthest outlet for power. Do not run motor at 115 VAC – damage to the motor will occur. • Contact Customer Service.
	Mercury switch is burned out	• Check for correct voltage. Compare supply voltage with voltage on motor name tag. Check that the wire is sized correctly. Requires AWG 10 for 30 Amps. • Check motor is wired correctly. Compare wiring of motor to electrical diagram on drawing. • Don't use extension cords. The size of the conductors should be such that the voltage drop would not exceed 3% to the farthest outlet for power. Do not run motor at 115 VAC – damage to the motor will occur. • Contact Customer Service
	Motor is burned out	• Check for correct voltage. Compare supply voltage with voltage on motor name tag. Check that the wire is sized correctly. Requires AWG 10 for 30 Amps. • Check motor is wired correctly. Compare wiring of motor to electrical diagram on drawing. • Don't use extension cords. The size of the conductors should be such that the voltage drop would not exceed 3% to the farthest outlet for power. Do not run motor at 115 VAC – damage to the motor will occur. • Replace with a new part. • Contact Customer Service
	Voltage to the motor is not correct	• Check for correct voltage. Compare supply voltage with voltage on motor name tag. Check that the wire is sized correctly. Requires AWG 10 for 30 Amps. • Check motor is wired correctly. Compare wiring of motor to electrical diagram on drawing. • Check wall outlet voltage and wiring. Make sure unit and wall outlet is wired properly. Motor must run at 208/230 VAC.

LIFT LOWERS SLOWLY OR NOT AT ALL

	Lift lowers slowly down	• Check for oil leaks • Clean the lowering valve by running the power unit for 20 seconds while holding the lowering valve open. Repeat this procedure a few times • Clean the check valve seat
	The cylinders are binding	• Contact Customer Service.
	The release valve is clogged	• Check the hydraulic oil. Use a clean hydraulic oil, Use only a recommended ISO AW32 or AW46 hydraulic oil. If the hydraulic oil is contaminated, replace with a clean hydraulic oil and clean entire system. • Clean the release valve. Thoroughly wash the release valve in solvent and blow out with air. • Contact Customer Service.
	The lift will only lower completely to 1" from the floor	• Adjust cable as needed to assure that cables have not been over tightened and check that both safety latches are disengage. • Check that the safety latches are disengaged

TROUBLESHOOTING

WILL NOT RAISE LOADED LIFT

	Lift is overloaded	• Check the weight of the vehicle. Compare the weight of vehicle to weight limit of the lift. • Contact Customer Service.
	Slow Lifting and/or oil foaming up	• Check that oil used meets the specification in the Installation Instruction section of this manual • Tighten all suction line fittings • Not enough oil in tank and air has been transferred into the hoses and cylinder. (Complete bleed system and replace oil.)
	There is air is in the oil	• Check the oil level. The oil level should be just below the fill cap in the reservoir with the lift at its lowest resting position. • Check and tighten all hydraulic fittings. Check that hydraulic hose assembly is not clogged with debris. • The oil is seal damaged or cracked. Replace the oil seal and re-install. • Bleed cylinders. See Instruction Manual.
	The cylinder is binding	• Contact Customer Service.
	The cylinder leaks internally,	• Contact Customer Service.
	Lowering valve leaks	• Check the oil level. The oil level should be just below the fill cap in the reservoir with the lift at its lowest resting position. • Flush the release valve. To do this hold release valve handle down and start unit. Allow the power unit to run for 15 seconds. • Contact Customer Service.
	The motor runs backwards	• Check that the motor is wired correctly. Compare the wiring of motor to electrical diagram on power unit drawing. • Check the outlet voltage and wiring. Make sure that the power unit and the wall outlet are wired properly. • Contact Customer Service.
	The pump is damaged	• Contact Customer Service.
	The pump will not prime	• Check the oil level. The oil level should be just below the fill cap in the reservoir with the lift at its lowest resting position. • Check and tighten all hydraulic fittings. Check that hydraulic hose assembly is not clogged with debris. • The oil seal is damaged or cracked. Replace the oil seal and re-install. • Bleed cylinders. See Instruction Manual. • The inlet screen is clogged. Clean the inlet screen or replace the screen. • Contact Customer Service.
	The relief valve leaks	• Contact Customer Service.
	Voltage to the motor is not correct	• Contact Customer Service. • Check that the motor is wired correctly. Compare the wiring of motor to electrical diagram on power unit drawing. • Check the outlet voltage and wiring. Make sure that the power unit and the wall outlet are wired properly.

LIFT WILL NOT STAY UP

	Air in is the oil	• Check the oil level. The oil level should be just below the fill cap in the reservoir with the lift at its lowest resting position. • The oil seal is damaged and cocked. Replace oil seal around the pump shaft. • Bleed cylinder. Refer to Instruction Manual.
	The power unit check valve leaks	• Contact Customer Service.
	Cylinders is leaking internally	• Contact Customer Service.
	Lowering valve leaks	• Check the oil level. The oil level should be just below the fill cap in the reservoir with the lift at its lowest resting position. • Flush the release valve. Hold release handle down and start unit allowing it to run for 15 seconds. • Contact Customer Service.
	Leaking fittings	• Check the entire hydraulic system for leaks. Check that all hydraulics fittings are tightened and inspects all hoses.

TROUBLESHOOTING

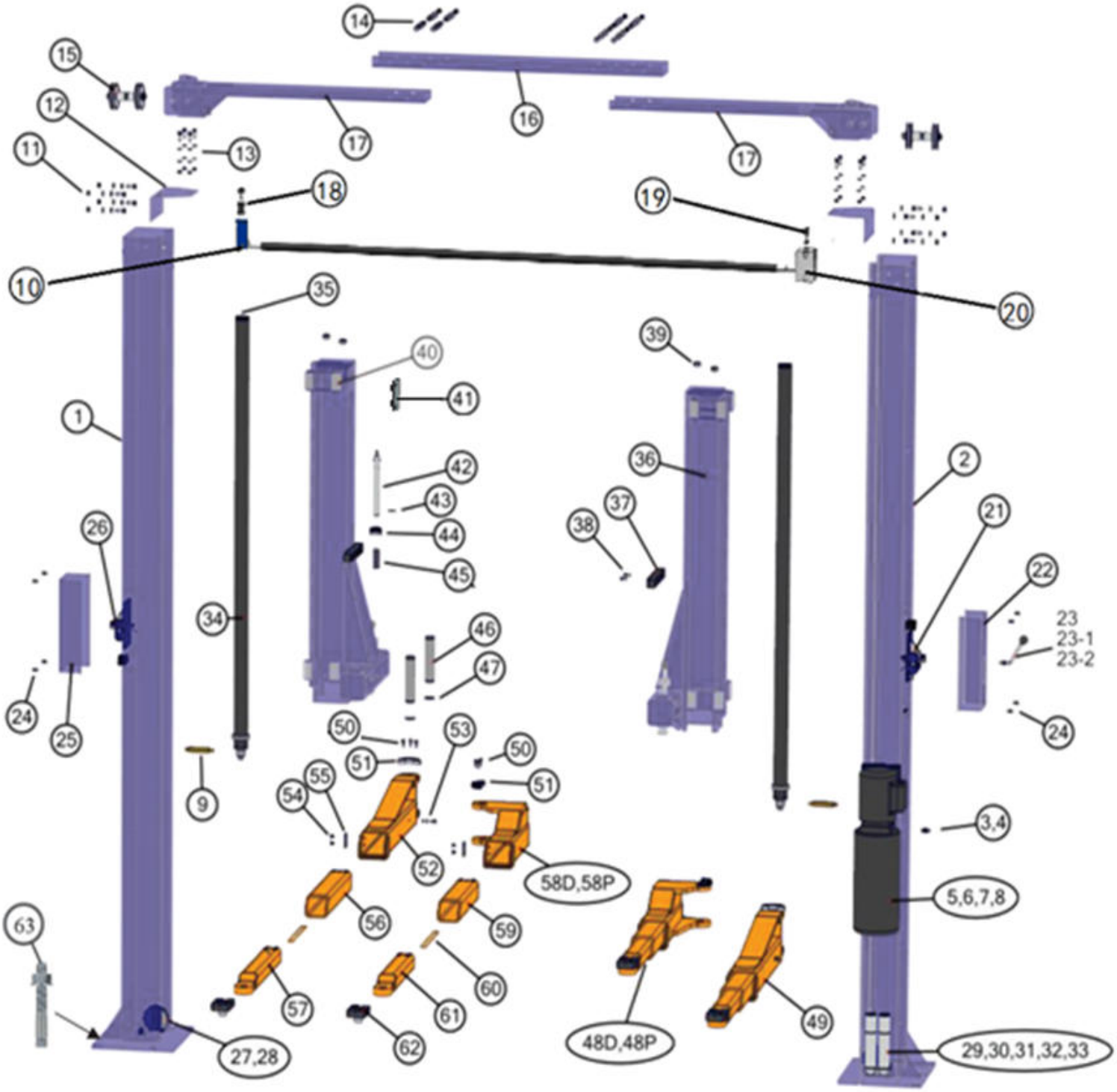
OTHER ISSUES

	Safety lock are out of adjustment	• If the equalization cables are out of adjustment, the carriages are out of sync. When the lift is at full rise, one of the safety latches may not have the clearance to disengage and allow the lift to lower. Read adjust cables as described in manual.
	At full rise the safety latch will not disengage and the lift cannot be lowered	• Check oil level • If the equalization cables are out of adjustment, the carriages are out of sync. When the lift is at full rise, one of the safety latches may not have the clearance to disengage and allow the lift to lower
	Anchors continually work loose	• If holes were drilled too large, relocate the lift per the Installation Instruction section of this manual. • Floor is not sufficient to provide the necessary resistance. Remove an area of concrete and re-pour as described in the Expansion Anchor Installation Instruction section of this manual.
	Humming or vibration coming from cylinders	• Perform Air purge procedure • Add (1qt) of a Hydraulic Oil Performance Additives: Attributes: Relieves "stick-slip" on noisy hydraulic cylinders (eg. Humming noise or exxecssive vibrating), Recommended Application: .95-liter bottle recommended. Used as a friction modifier to help reduce noise level. **Caterpillar Equipment part number: 1U-9891** • Check for leaking cylinders or seal damage

⚠ DANGER:
IF A VEHICLE BECOMES STUCK ON THE LIFT IN THE AIR, FOLLOW ALL OPERATION INSTRUCTIONS AS SHOWN IN THE OPERATING INSTRUCTIONS AND TROUBLESHOOTING SECTION OF THIS MANUAL. IF AFTER OBSERVING THAT ALL MECHANICAL LOCKS ARE RELEASED AND THE LIFT STILL FAILS MOVE FOLLOWING ALL STANDARD OPERATING PROCEDURES, IMMEDIATELY STOP USING THE LIFT AND CONTACT CUSTOMER SERVICE FOR FURTHER INSTRUCTIONS.

For all other issues, questions, or concerns please contact a Customer Support Service Representative. Contact Torin® Customer Service directly by telephone at 1-888-44-TORIN (1-888-448-6746) 8:00am – 5:00pm Pacific Time, Monday – Friday.

GENERAL ASSEMBLY DIAGRAM



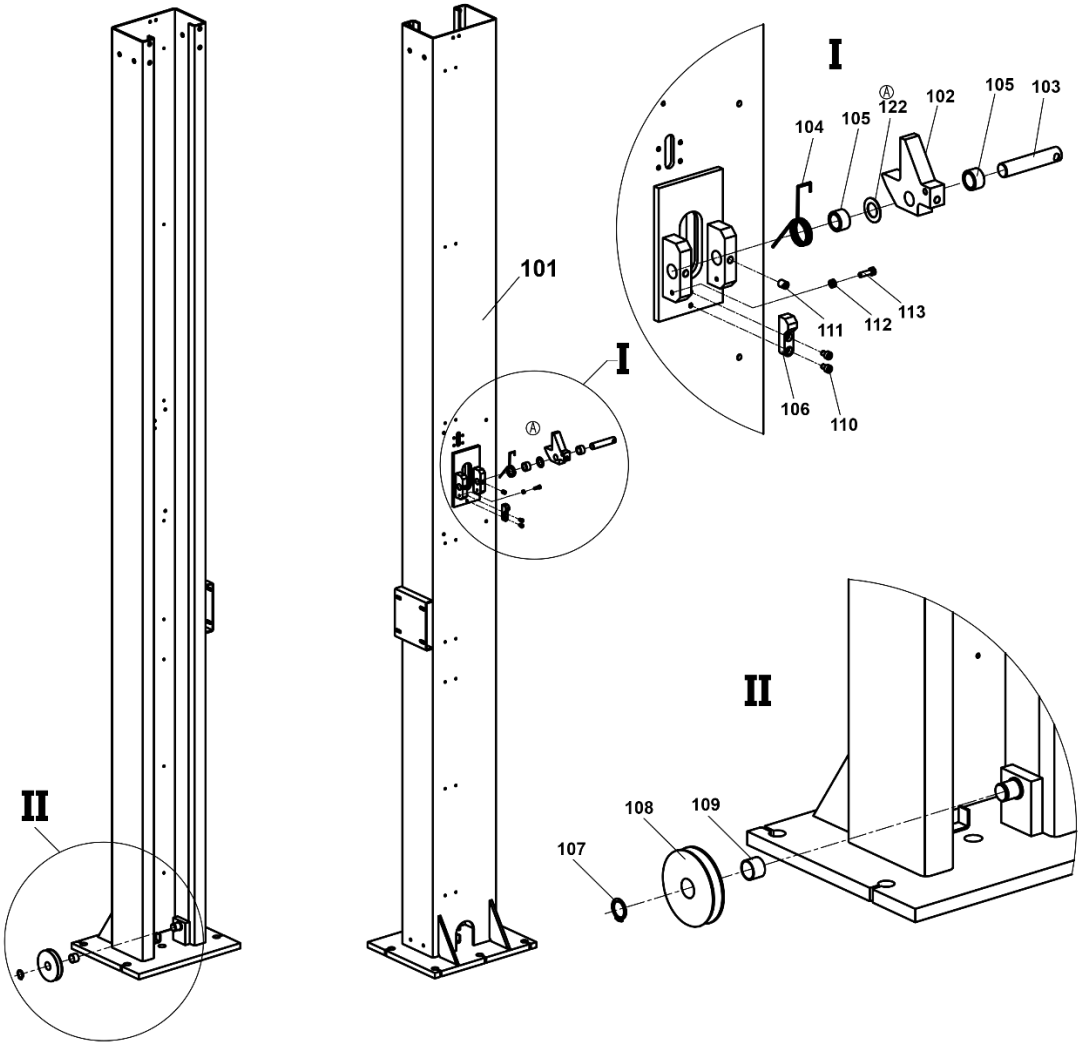
GENERAL ASSEMBLY PARTS LIST

Index #	Item Number	Item Description	Quantity
1	QJY245DX.1.1	COLUMN POWERSIDE ASSEMBLY	1
2	QJY245DX.2.1	COLUMN OFF-SIDE ASSEMBLY	1
3	QJY245DS.8-05	PUMP FITTING	1
4	JB982-77	O-RING ASSEMBLED WASHER (FOR PUMP)	1
5	YBZ6-F2.1E3H1/AMQOT	WUXI POWER UNIT	1
6	GB5783 M8X22mm	HHCS M8X22mm	4
7	GB97 M8	WASHER M8	4
8	GB889 M8	NYLON INSERT HEX LOCK NUT M8	4
9	QJY245DX.8-05	CYLINDER HYDRAULIC FITTING 125mm	2
10	12100102	FIXED PLATE	1
	12100103	LIMIT BAR SHEATH	1
	22100014	LIMIT BAR	1
	GB6170 M8	HEX NUT M8	1
	GB70.1 M8x35mm	SHCS M8x35mm	1
11	GB5783 M12X35mm	HHCS M12X35mm	8
	GB97 M12	WASHER M12	16
	GB889 M12	NYLON INSERT HEX LOCK NUT M12	8
12	QJY245DS.9-04	ASSEMBLY ATTACHMENT CROSS BEAM - A	1
	QJY245DS.9-05	ASSEMBLY ATTACHMENT CROSS BEAM - B	1
13	GB5783 M10X30mm	HHCS M10X30mm	6
	GB97 M10	WASHER M10	12
	GB889 M10	NYLON INSERT HEX LOCK NUT M10	6
14	GB5783 M12X25mm	HHCS M12X25mm	8
	GB97 M12	WASHER M12	16
	GB889 M12	NYLON INSERT HEX LOCK NUT M12	8
15	QJY245DS.9.2	OVERHEAD SHAFT ASSEMBLY	2
	GB819 M6X10mm	FLAT HEAD PHILLIPS MACHINE SCREW M6X10mm	2
	QJY245DX.9-06	OVERHEAD SPACER	4
	QJY245DS-17	CABLE SHEAVE 110mm	4
	SF-2	BUSHING 2520	4
	QJY245DX.9-07	SHORT OVERHEAD SPACER	4
16	QJY245DX.9-01	CROSS BEAM CENTER ASSEMBLY	1
17	QJY245DX.9.1	CROSS BEAM OUTER ASSEMBLY	2
18	WASHER M12	GB97 M12	1
	NYLON INSERT HEX LOCK NUT M12	GB889 M12	1
	HHCS M12x35mm	GB5783 M12x35mm	1
	LOCK WASHER M12	GB93 M12	1
19	GB5783 M6x20mm	HHCS M6x20Mm	2
	GB6170 M6	HEX NUT M6	2
	GB97 M6	WASHER M6	2
20	QJY245DX.9a.2	LIMIT SWITCH BOX	1
21		SEE POWER COLUMN ASSEMBLY AND SAFETY CABLE	
22	QJY245DS-13	SAFETY COVER POWERSIDE	1
23	QJY245DX-03	SAFETY LOCK LEVER	1
	GB84141 M10X25mm	HANDLE BALL M10X25mm	1
	GB6170 M10	HEX NUT M10	1
24	GB70 M8X12mm	SHCS M8X12mm	8
25	QJY245DS-14	SAFETY COVER NON-POWERSIDE	1
26		SEE NON-POWER COLUMN ASSEMBLY AND SAFETY CABLE SYSTEM	
27	QJY245DS-17	CABLE SHEAVE 110mm	2
	SF-2	BUSHING 2520	2
28	GB894 M25	EXTERNAL RETAINING RING M25	2
29	QJY245DS-16	ADAPTER BRACKET	2
30	GB70 M8X12mm	SHCS M8X12mm	4
	GB97 M8	WASHER M8	4
31	QJY245DX- 12	EXTENSION, ADAPTER, 1 1/2 in, 38mm	4

GENERAL ASSEMBLY PARTS LIST

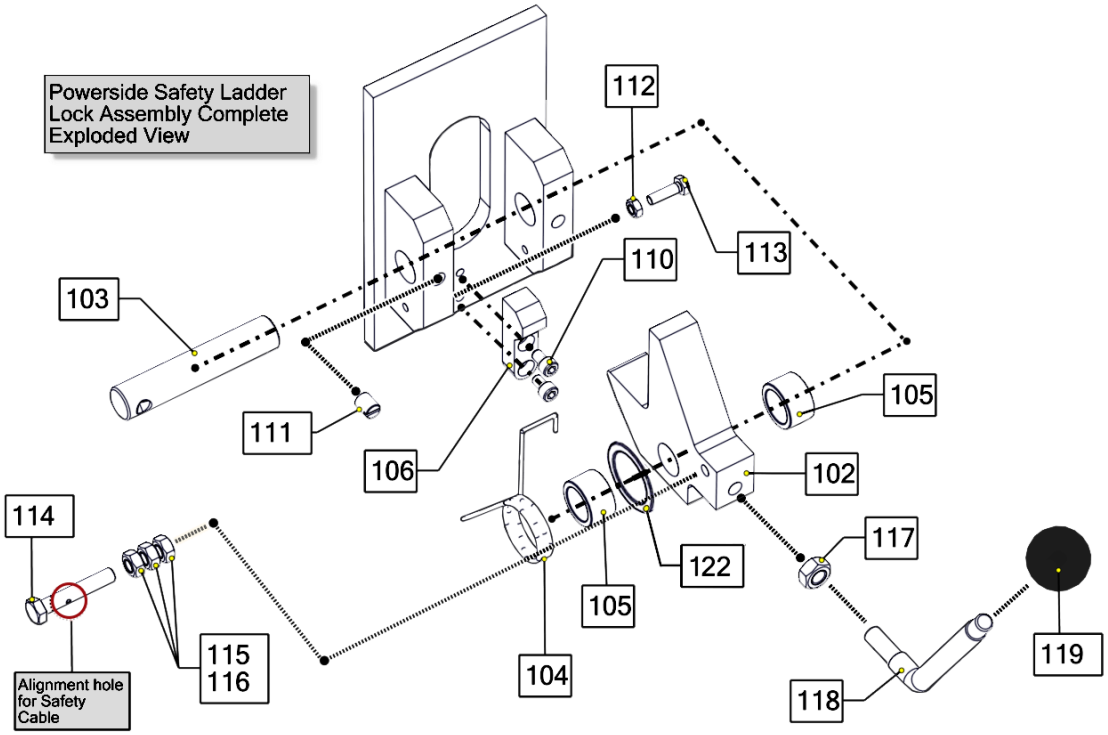
32	QJY245DS-18	EXTENSION, ADAPTER, 3 in, 75mm	4
33	QJY245DS-05	EXTENSION, ADAPTER, 6in, 180mm	4
34	QJY245DS.7	HYDRAULIC CYLINDER 1775.5mm (69.9”)	2
35	JB-1001-77 M8	BLEEDER SCREW M8	2
36	QJY245DX.3	CARRIAGE ASSEMBLY	2
37	QJY230CY.2-01a	DOOR STOP	2
38	GB70 M8X20mm	SHCS M8X20mm	4
39	GB6170 M18	HEX NUT M18	8
40	QJY245DX.3-01	SLIDE BLOCK (UHMW)	16
	QJY245DX.3-03	SLIDE BLOCK SHIM (MAY NOT TOTAL 16)	16
41	QJY245DX.3-05	CARRIAGE COVER	2
42	QJY250DX.3.2	CARRIAGE RESTRAINT PIN	4
43	GB879 M5X35mm	SLOTTED SPRING PIN M5X35mm (UPPER AND LOWER)	8
44	QJY230C.2-02	CARRIAGE ARM GEAR RESTRAINT	4
45	QJY230C.2-04	SPRING 65Mn 28X92X2.5mm	4
46	QJY245DX-02	ARM PIN	4
47	GB894 M38	EXTERNAL RETAINING RING M38	4
48D	QJY245DX.4D	SHORT ARM ASSEMBLY (FRONT DRIVER SIDE)	1
48P	QJY245DX.4P	SHORT ARM ASSEMBLY (FRONT PASSENGER SIDE)	1
49	QJY245DX.5	LONG ARM ASSEMBLY (REAR ARM)	2
50	GB70 M10X20mm	SHCS M10X20mm (3 EACH ARM)	12
51	QJY230C.4-04	ARM GEAR RESTRAINT	4
ARM STRUCTURE ASSEMBLIES			
52	QJY245DX.5.1	LONG BACK ARM ASSEMBLY	1
53	GB70 M10X20mm	SHCS M10X20mm	1
	GB97 M10	FENDER WASHER M10	1
	GB93 M10	LOCK WASHER M10	1
54	GB2673 M10X12mm	FLAT HEAD TORX SCREW M10X12mm	2
55	QJY230C.4-02	ARM STOP	1
56	QJY245DX.5.2	LONG MIDDLE ARM ASSEMBLY	1
57	QJY245DX.5.3	LONG FRONT ARM ASSEMBLY	1
58D	QJY245DX.4.1D	SHORT BACK ARM ASSEMBLY (DRIVER SIDE)	1
58P	QJY245DX.4.1P	SHORT BACK ARM ASSEMBLY (PASSENGER SIDE)	1
59	QJY245DX.4.2	SHORT MIDDLE ARM ASSEMBLY	1
60	QJY245DX.4-01	RING, LIMITER, ARM EXTENSION	1
61	QJY245DX.4.3	SHORT FRONT ARM ASSEMBLY	1
62	QJY245DX.4A	ARM LIFT PAD COMPLETE ASSEMBLY	4
62-1	QJY230C.4-03	RUBBER LIFT PAD (PAD ONLY)	2
62-2	QJY245DX.4.4	ARM LIFT PAD WELDMENT	2
62-3	GB70 M8X12mm	SHCS M8X12mm	8
63	STB2-75512	SIMPSON SEISMIC/CRACKED AND UNCRACKED WEDGE-TYPE EXPANSION ANCHOR	10
PARTS NOT PICTURED			
64	QJY245DX-10	HYDRAULIC HOSE COVER SHORT 400mm	1
65	QJY245DX-09	HYDRAUILC HOSE COVER MEDIUM 830mm	1
66	QJY245DX-11	HYDRAULIC HOSE COVER LONG 1350mm	3
67 & 68	GB70 M6X10mm	SHCS M6X10mm (FOR HYDRAULIC HOSE COVERS)	28
	GB97 M6	WASHER M6 (FOR HYDRAULIC HOSE COVERS)	28
69	GB894 M38	HW EXTERNAL RETAINING RING M38 FOR ARM PIN	4
70	QJY245DX-7-KIT	COMPLETE 69” CYLINDER O-RING KIT	2

POWERSIDE COLUMN ASSEMBLY PARTS LIST



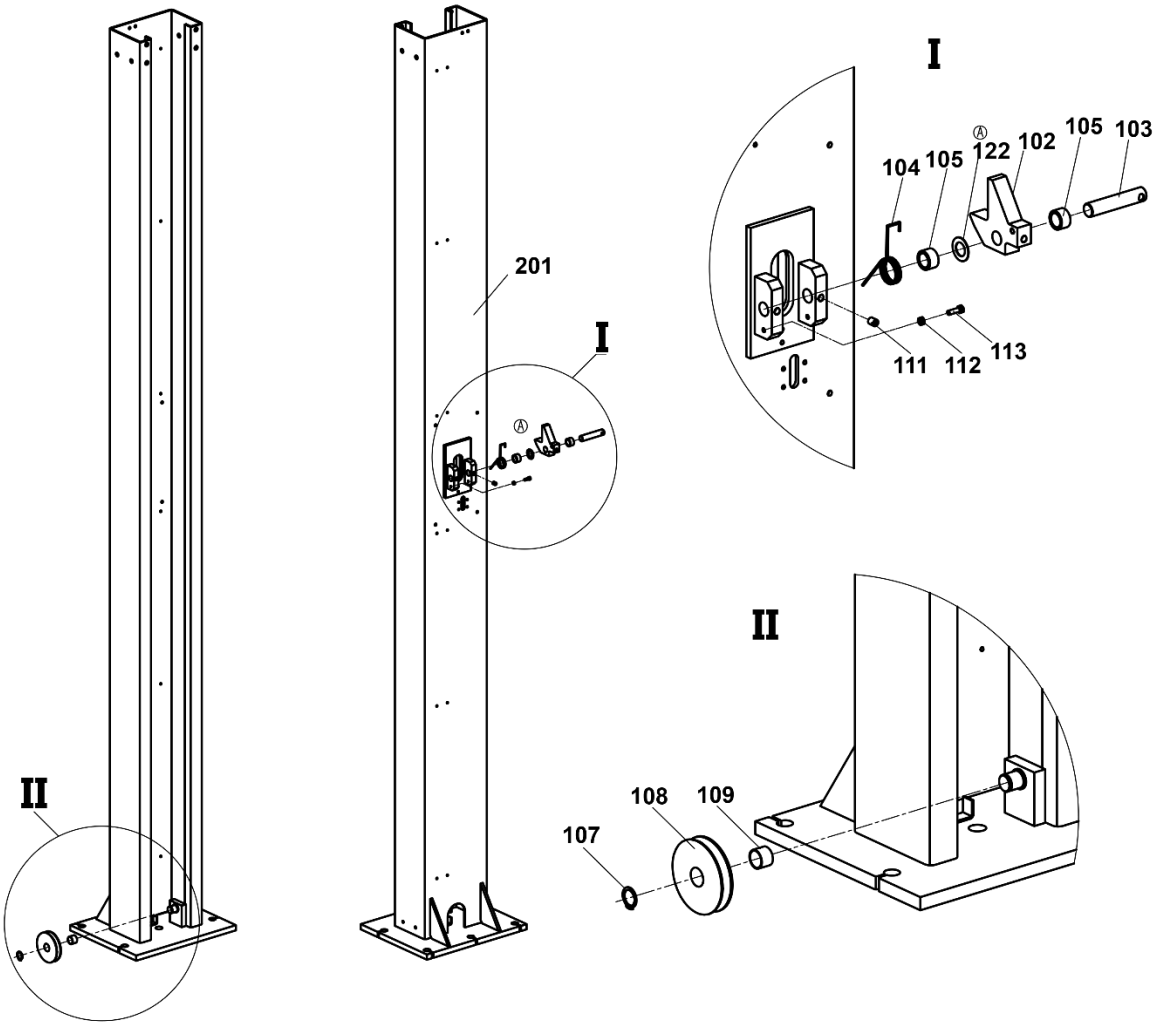
Index #	Item Number	Item Description	Quantity
101	QJY245DX.1.1	COLUMN POWERSIDE ASSEMBLY	1
102	QJY245DX.1-01	SAFETY LATCH	1
103	QJY245DX.1-02	SAFETY PIN M20	1
104	QJY245DX.1-03	SAFETY SPRING	1
105	QJY245DS-20	TIE BAR SPACER	2
106	QJY245DS-02	SAFETY LATCH LIMIT STOP	1
107	GB894 M25	EXTERNAL RETAINING RING M25	1
108	QJY245DS-17	CABLE SHEAVE 110mm	1
109	SF-2	BUSHING 2520	1
110	GB70 M6X10mm	SHCS M6X10mm	2
111	GB71 M10X12	CUP POINT ALLEN HEAD SET SCREW M10X12mm	1
112	GB6170 M6	HEX NUT M6	1
113	GB5783 M6X20mm	HHCS M6X20mm	1
122	QJY245DX.1-04	WASHER M20X1mm	1

SAFETY LOCK ASSEMBLY PARTS LIST



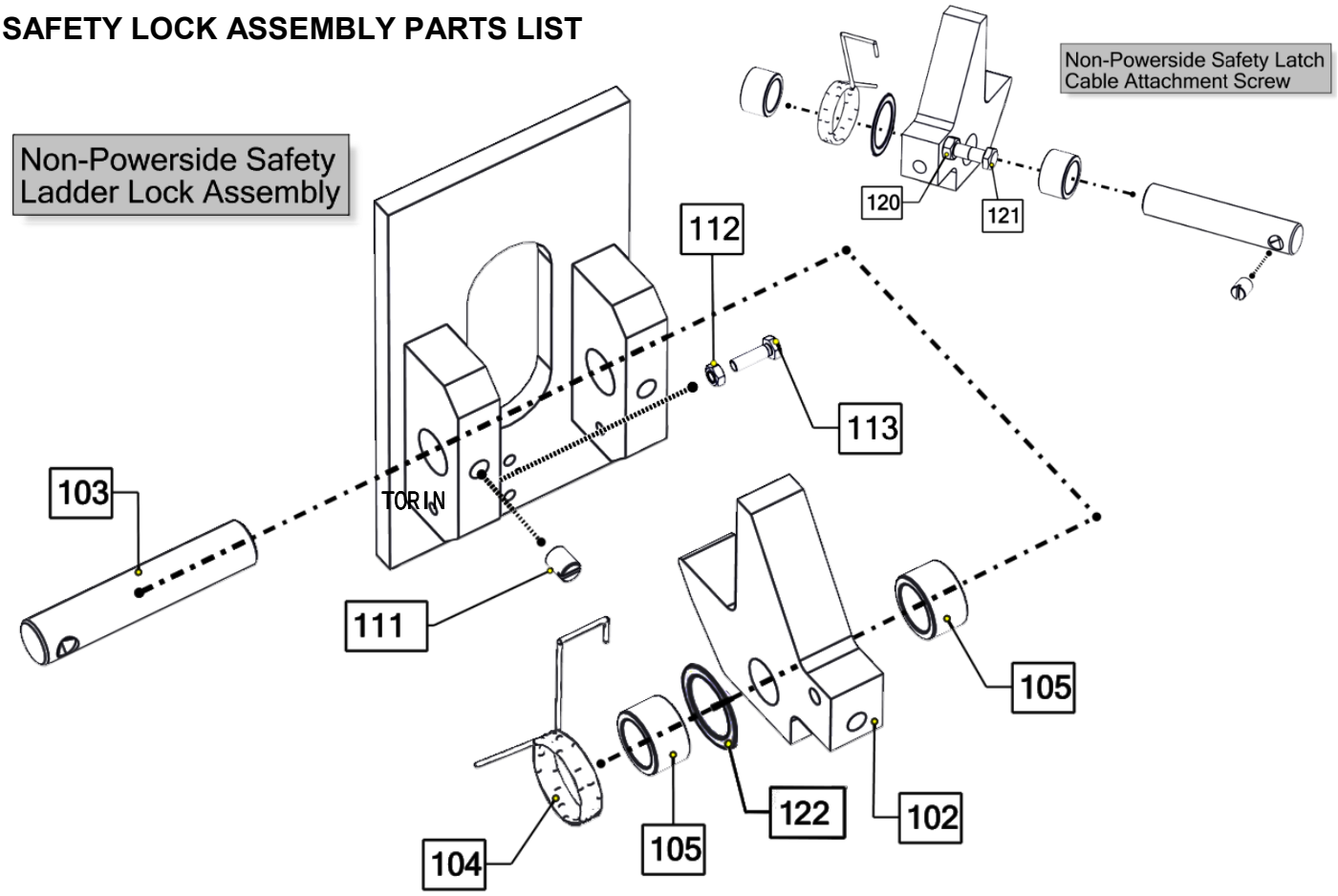
Index #	Item Number	Item Description	Quantity
102	QJY245DX.1-01	SAFETY LATCH	1
103	QJY245DX.1-02	SAFETY PIN M20	1
104	QJY245DX.1-03	SAFETY SPRING	1
105	QJY245DS-20	TIE BAR SPACER	2
106	QJY245DS-02	SAFETY LATCH LIMIT STOP	1
107	GB894 M25	EXTERNAL RETAINING RING M25	1
108	QJY245DS-17	CABLE SHEAVE 110mm	1
109	SF-2	BUSHING 2520	1
110	GB70 M6X10mm	SHCS M6X10mm	2
111	GB71 M10X12	CUP POINT ALLEN HEAD SET SCREW M10X12mm	1
112	GB6170 M6	HEX NUT M6	1
113	GB5783 M6X20mm	HHCS M6X20mm	1
114	GB5783 M8X45mm CUSTOM	CUSTOMER HHCS M8X45mm	1
115	GB6170 M8	HEX NUT M8	3
116	GB97.1 M8	WASHER M8	2
117	GB6170 M10	HEX NUT M10	1
118	QHY245DX-03	HAND LEVER (THREADED M10 BOTH SIDES)	1
119	GB84141.11-84	HW HANDLE BALL M10X25	1
120	GB5783 M8X35mm	HHCS M8X35mm	1
121	GB6170 M8	HEX NUT M8	1
122	QJY245DX.1-04	WASHER M20X1mm	1

NON-POWERSIDE COLUMN ASSEMBLY PARTS LIST



Index #	Item Number	Item Description	Quantity
201	QJY245DX.2.1	COLUMN NON-POWERSIDE ASSEMBLY	1
102	QJY245DX.1-01	SAFETY LATCH	1
103	QJY245DX.1-02	SAFETY PIN M20	1
104	QJY245DX.1-03	SAFETY SPRING	1
105	QJY245DS-20	TIE BAR SPACER	2
107	GB894 M25	EXTERNAL RETAINING RING M25	1
108	QJY245DS-17	CABLE SHEAVE 110mm	1
109	SF-2	BUSHING 2520	1
111	GB71 M10X12	CUP POINT ALLEN HEAD SET SCREW M10X12mm	1
112	GB6170 M6	HEX NUT M6	1
113	GB5783 M6X20mm	HHCS M6X20mm	1
122	QJY245DX.1-04	WASHER M20X1mm	1

SAFETY LOCK ASSEMBLY PARTS LIST

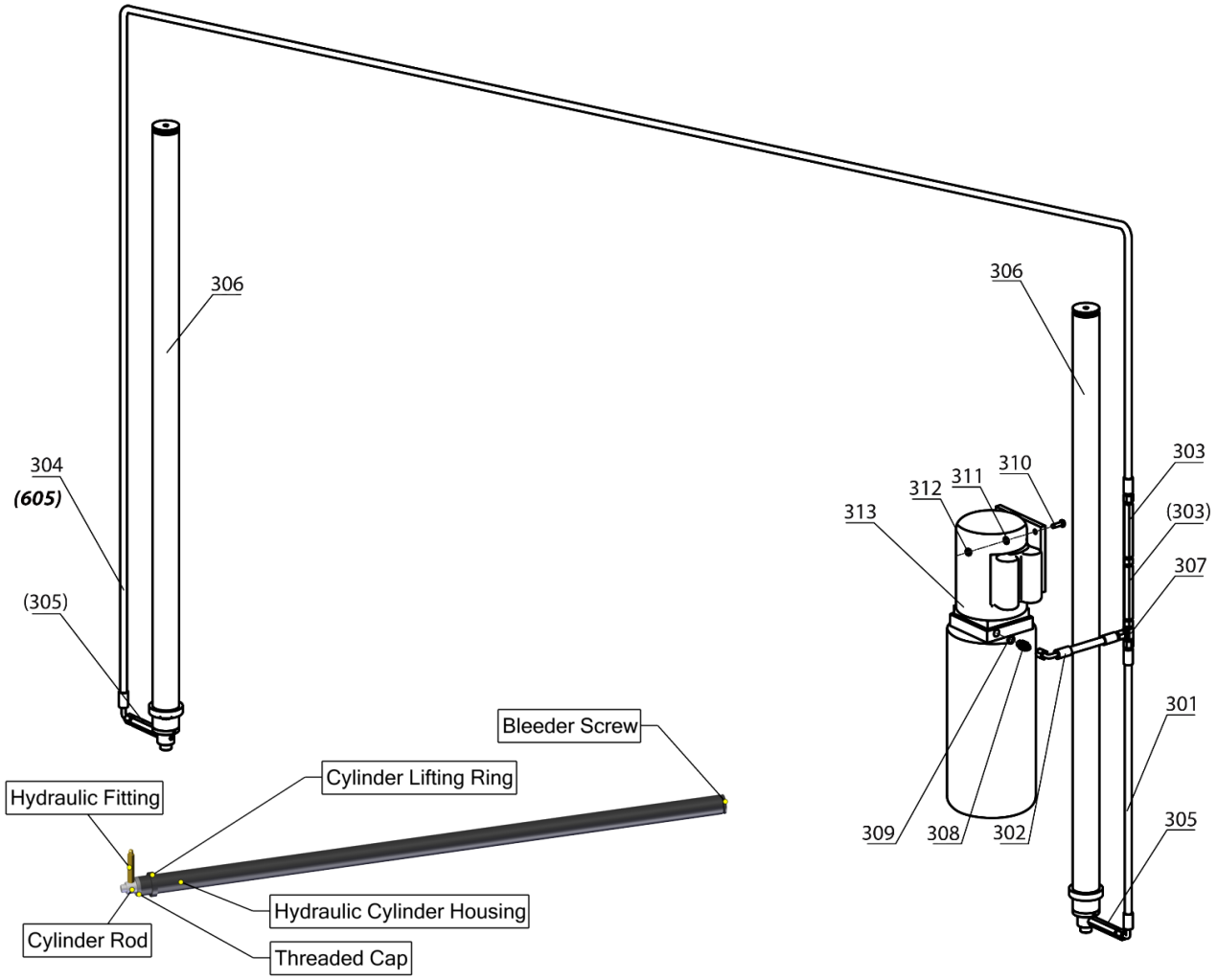


Index #	Item Number	Item Description	Quantity
102	QJY245DX.1-01	SAFETY LATCH	1
103	QJY245DX.1-02	SAFETY PIN M20	1
104	QJY245DX.1-03	SAFETY SPRING	1
105	QJY245DS-20	TIE BAR SPACER	2
106	QJY245DS-02	SAFETY LATCH LIMIT STOP	1
110	GB70 M6X10mm	SHCS M6X10mm	2
111	GB71 M10X12	CUP POINT ALLEN HEAD SET SCREW M10X12mm	1
112	GB6170 M6	HEX NUT M6	1
113	GB5783 M6X20mm	HHCS M6X20mm	1
114	GB5783 M8X45mm CUSTOM	CUSTOMER HHCS M8X45mm	1
115	GB6170 M8	HEX NUT M8	3
122	QJY245DX.1-04	WASHER M20X1mm	1

ADDITION # 120 AND 121

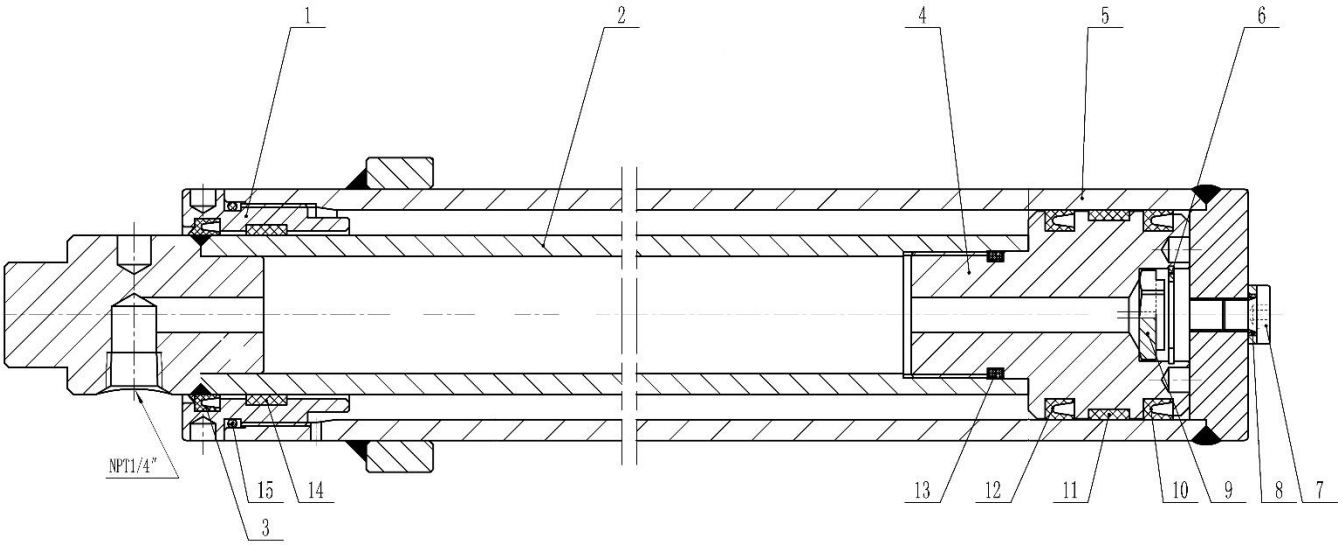
120 GB5783 M8X35mm HHCS M8X35mm 1
121 GB6170 M8 HEX NUT M8 1

HYDRAULIC SYSTEM ASSEMBLY PARTS LIST



Index #	Item Number	Item Description	Quantity
301	QJY245DX.8-01	HYDRAULIC HOSE MEDIUM 1,110mm	1
302	QJY245DX.8-02	HYDRAULIC HOSE SHORT 230mm	1
303	QJY245DX.8-03	HYDRAULIC HOSE EXTENDER FITTING	1
304	QJY245DX.8-04	HYDRAULIC HOSE LONG 9,130mm	1
305	QJY245DX.8-05	CYLINDER HYDRAULIC FITTING 125mm ¼NPT TO #6JIS	2
306	QJY245DX.7	HYDRAULIC CYLINDER 1775.5mm (69.9”)	2
307	QJY245DS.8-06	T-FITTING #6 JIS	1
308	QJY245DS.8-05	PUMP FITTING #6 BOSS FITTING (SAE TO JIS)	1
309	JB982-77	O-RING ASSEMBLED WASHER (FOR PUMP	1
310	GB5783 M8X22mm	HHCS M8X22mm	4
311	GB97 M8	WASHER M8	4
312	GB889 M8	NYLON INSERT HEX LOCK NUT M8	4
313	YBZ6-F2.1E3H1/AMQOT	WUXI POWER UNIT	1

HYDRAULIC CYLINDER PARTS LIST

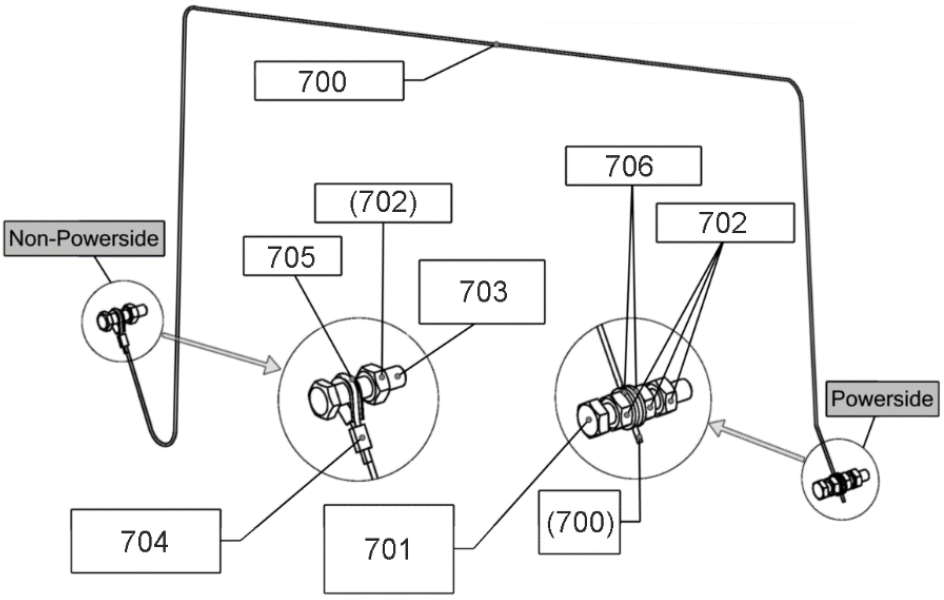


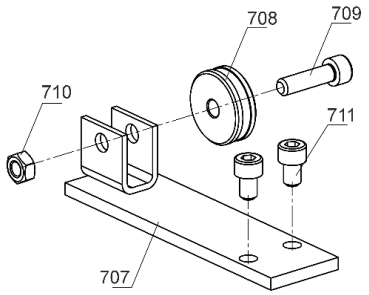
Index #	Item #	Item Number	Item Description	Quantity (Each Cylinder)
314	1	QJY245DS.7-01	THREADED END CAP	1
315	2	QJY245DX.7.1	PISTON ROD ASSEMBLY	1
316	4	QJY245DS.7-04	CYLINDER PISTON	1
317	5	QJY245DS.7.1	CYLINDER WELDMENT (CYLINDER HOUSING)	1
318	6	GB/T 893.1-86	ØM22xTHK1mm EXTERNAL RETAINING RING	1
319	9	YG-50x1755-B-10	HYDRAULIC FLUIDER SPEED LIMITER THROTTLE VALVE	1

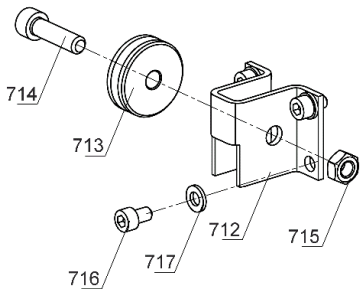
HYDRAULIC CYLINDER SEAL KIT (REPAIR KIT COMPLETE FOR TWO CYLINDERS)

Index #	Item Number		Item Description	Quantity
320	QJY245DX.7-SEALKIT		HYDRAULIC CYLINDER SEAL KIT	1
	Item #	*Item Number (Part of Kit)*	*Item Description*	*Quantity (In Kit)*
	3	LBH 38	Ø38xØ46x6.5MM POLYURETHENE WIPER SEAL	2
	7	JB 1001-77	M8x1 SOCKET HEAD SPECIAL-BLEEDER SCREW WITH UNDERCUT	2
	8	JB 982-77	ØM8 COMBINATION SEALING WASHER OIL RESISTANT RUBBER A2 FOR BLEEDER SCREW	2
	10	TTU 40x50x6	Ø40xØ50x6mm PISTON U-CUP SEAL POLYURETHANE	2
	11	POM	Ø45xØ50x9.5mm PISTON GUIDE WEAR RING	2
	12	UHS 40x50x6	Ø40xØ50x6mm PISTON U-CUP NITRILE RUBBER SEAL	2
	13	GDS-II	Ø24.5xØ30x3.5mm PISTON ROD AND PISTON SEALING RING	2
	14	POM	Ø38xØ43x9.5mm WEAR RING	2
	15	GB1235-76	ODØ54xTHKØ2.65mm END CAP HEAD STATIC SEAL	2

SAFETY CABLE ASSEMBLY PARTS LIST







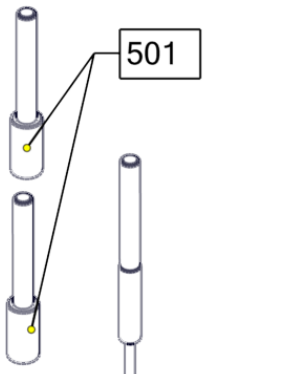
703 IS A KIT

120	GB5782 M8X35mm	HHCS M8X35mm	1
121	GB6170 M8	HEX NUT M8	1

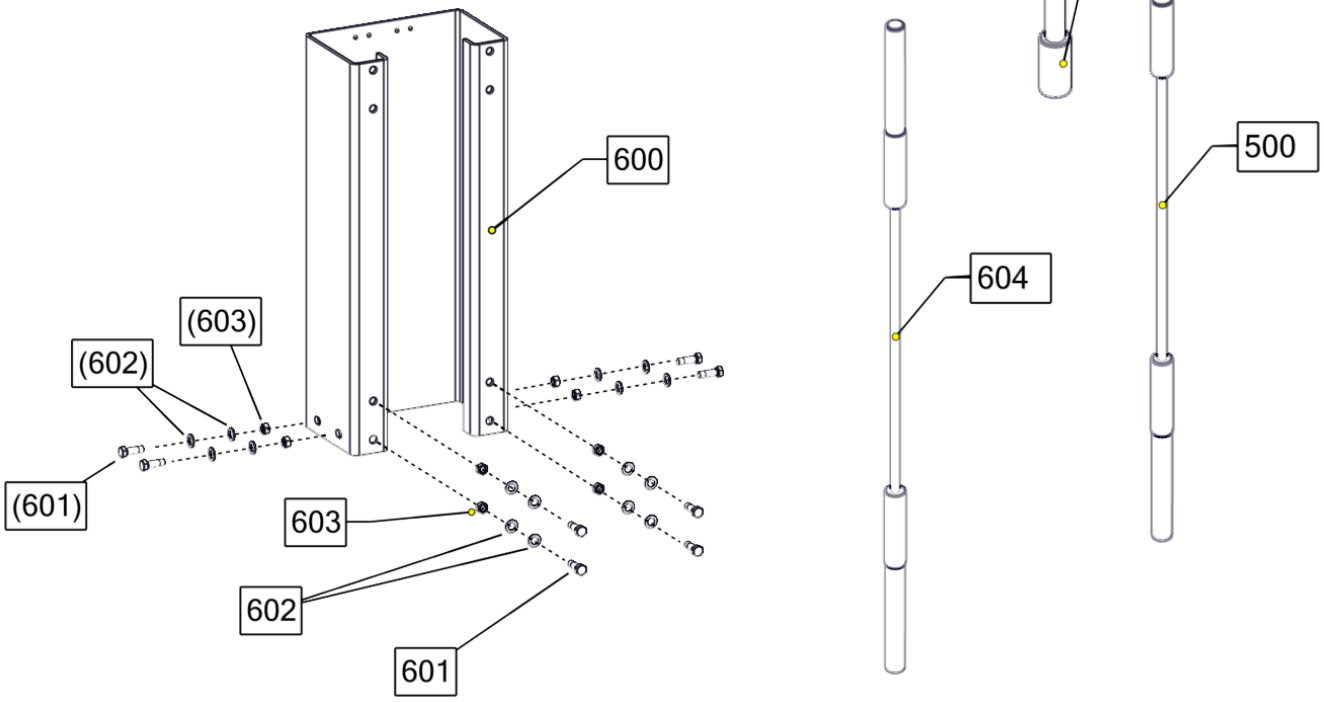
Index #	Item Number	Item Description	Quantity
700	QJY245DX.10-01	SAFETY CABLE (Ø2mm X 7,800mm)	1
701	QJY245DX.10-02	HHCS SAFETY SCREW M8X45mm	1
702	GB6170 M8	HEX NUT M8	4
703	GB5782 M8X35mm	HHCS M8X35mm	1
704	QJY245DS.17-02	ALUMINUM CRIMP FITTING	1
705	QJY245DS.17-04	THIMBLE	1
706	GB97	WASHER M8	2
707	QJY245DS.11	SAFETY CABLE BRACKET	2
708	QJY245DS-03	SAFETY PULLEY 35mm	2
709	GB70 M8X30mm	SHCS M8X30mm	2
710	GB889 M8	NYLON INSERT HEX LOCK NUT M8	2
711	GB70 M8X12mm	SHCS M8X12mm	4
712	QJY245DS.1-02	SAFETY PULLEY SEAT	2
713	QJY245DS-12	SAFETY PULLEY 42mm	2
714	GB70 M8X30mm	SHCS M8X30mm	2
715	GB889 M8	NYLON INSERT HEX LOCK NUT M8	2
716	GB70 M6X10mm	SHCS M6X10mm	8
717	GB97 M6	WASHER M6 (FOR SAFETY PULLEY BRACKET)	8

EQUALIZER CABLE ASSEMBLY PARTS LIST

Index #	Item Number	Item Description	Quantity
500	QJY245DX-01	EQUALIZING CABLE 10,110mm	2
501	QJY245DX-05	EQUALIZER CABLE EXTENDER	4



OPTIONAL HEIGHT EXTESION KIT INSTALLATION PART LIST
(NOT INCLUDED)



Index #	Item Number	Item Description	Quantity
600	QJY245DX-FJ.1-01	EXTENSION COLUMN 710mm	2
601	GB5783 M12X35mm	HHCS M12X35mm	16
602	GB97 M12	WASHER M12	32
603	GB889 M12	NYLON INSERT HEX LOCK NUT M12	16
604	QJY245DX-FJ-01	EQUALIZING CABLE EXTRA LONG 11,320mm	2
NOT PICTURED			
605	QJY245DX-FJ-02	HYDRAULIC HOSE EXTRA LONG 10,340mm	1
606	QJY245DX-FJ.2-01	SAFETY CABLE EXTRA LONG 9,000MM	1
607	QJY245DX-FJ-03	HYDRAULIC HOSE COVER	2
67	GB70 M6X10mm	SHCS M6X10mm (FOR HYDRAULIC HOSE	12
68	GB97 M6	WASHER M6 (FOR HYDRAULIC HOSE COVERS)	12

14 FOOT OVER HEIGHT EXTENSION KIT INCLUDES (OPTIONAL KIT NOT INCLUDED IN STANDARD LIFT ASSEMBLY):

(2) 2 Foot Column Extensions
(2) Equalizing Cable Extra Long 11,320mm
(1) Extra Long Hydraulic Hose 10,340mm
(1) Safety Cable 9,000mm
(16) HHCS M12X35mm
(16) M12 Nylon Hex Nut
(32) M12 Flat Washer

MISCELLANEOUS PARTS LIST (NOT PICTURED)

INDEX	ITEM NUMBER	ITEM DESCRIPTION	QUANTITY
800	QJY245DX-100	COMPLETE PARTS BOX 1 (CABLES, HOSE)	1
801	QJY245DX-101	COMPLETE PARTS BOX 2 (HARDWARE 1)	1
802	QJY245DX-102	COMPLETE PARTS BOX 3 (HARDWARE 2)	1
901	QJY245DX-901	T10000-2OH-33 MANUAL	1
902	QJY245DX-903	WARRANTY CARD TORIN	1
903	QJY245DX-916	TCE T10000-20H-33 ALI SAFETY BOOK	1
904	ALI10001	T10000-2OH-33 ALI SAFETY BOOK KIT	1
		ALI LIFTING POINTS GUIDE	
		ALI LIFTING IT RIGHT SAFETY MANUAL	
		ALI ANSI/ALI ALOIM STANDARD (R2013)	
		ALI SAFETY TIPS CARD	
908	ALI-WL101	ALI WARNING DECALS (2 POST LIFTS) (3-	1
909	ALI-WLSIA01	ALI ATTACHMENTS AND ACCESSORIES	1
910	QJY245DX-906	OPERATING INSTRUCTIONS T10000-20H-33	1
911	QJY245DX-907	TCE LIFT LOGO STICKERS	4
912	QJY245DX-908	AIR PURGE PROCEDURE STICKER	2
913	QJY245DX-909	WIRE ROPE INSPECTION STICKER	2
914	QJY245DX-910	PINCH POINT WARNING STICKER	4
924	QJY245DX-07	SHIM 3MM THICKNESS	1
925	QJY245DX-08	SHIM 1.5MM THICKNESS	1

POWER UNIT (SEE DIAGRAM NEXT PAGE)

INDEX	ITEM NUMBER	ITEM DESCRIPTION	QUANTITY
2001	YBZ-SLYX-12L-L-B	(1) TANK PLASTIC (BLACK)	1
2002	YBZ-E2D311/1-10	(2) SUCTION FILTER	1
	AM61-3HAM-3BA14R	(3) AC MOTOR 208-240V, UL 277V 25A	N/A
2003	LHRV-08-42	(4) RELIEF VALVE 2740PSI(+1-100PSI), FIXED	1
2004	YBZ-E2D311/1-02	(5) RELEASE VALVE	1
2005	YBZ-E2D31111-03	(6) CHECK VALVE	1
	YBZ-E2D311/1-05A	(7) BUFFER VALVE	N/A
	CBK-F2.1F	(8) GEAR PUMP	N/A
2006	BSB-MS1-A	(9) START BUTTON	1
2007	HLR6100-2ATNBCF	(10) RELAY	1
2008	LBZ-T1KK-1	(11) END HEAD	N/A
2009	YBZ3-EH1/1-04	(12) SEE INDEX #3 AND #4	1
NOT PICTURED			
2010	NOT LISTED	HONEYWELL SWITCH	1
2011	NOT LISTED	RELAY CONTROL BOX	1
2012	NOT LISTED	LEVER	1
2013	NOT LISTED	LEVER BALL	1

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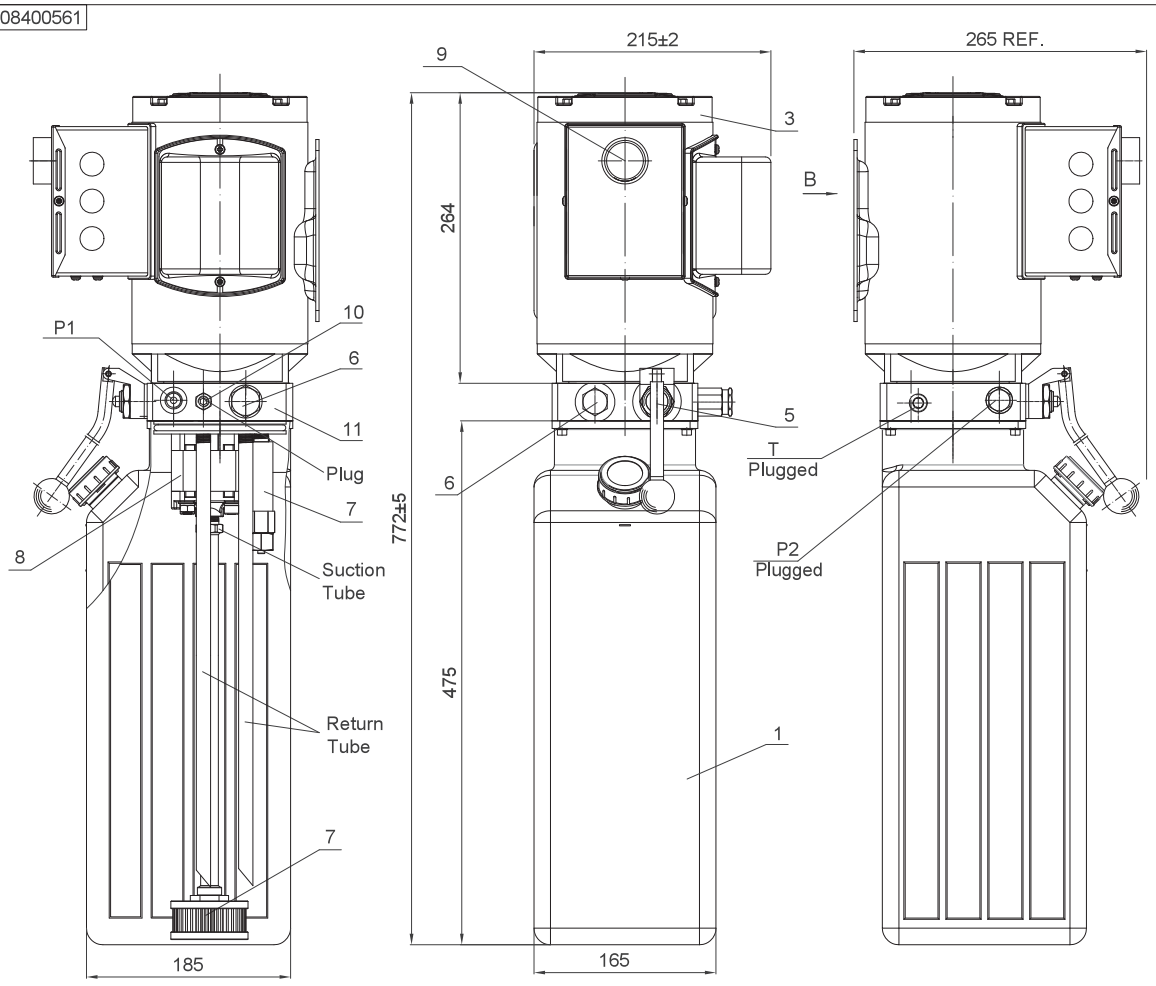
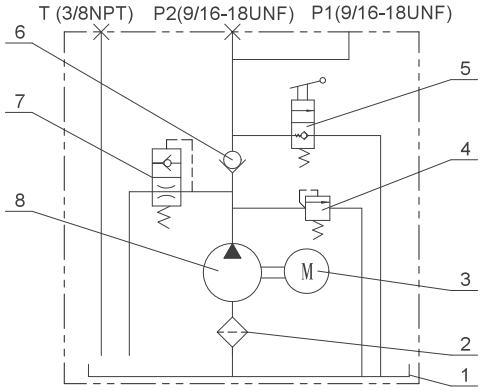
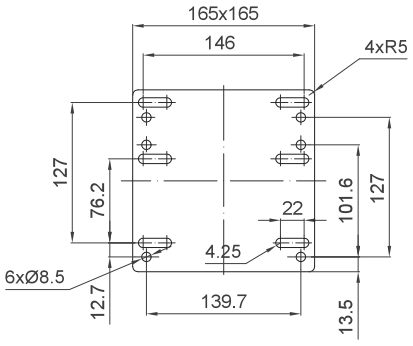
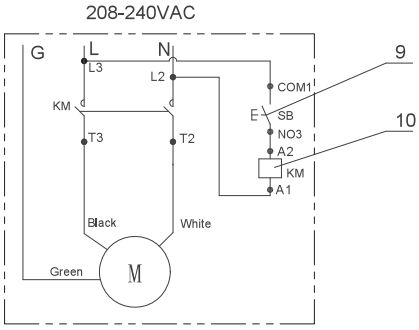




Hydraulic Schematic



View B



Electrical Schematic

Notes: This power unit is ETL approved,

No.	Description	P/N	Technical data
11	Endhead	LBZ-T1KK-1	
10	Contactor	TMC-18-230V	208-240V,UL
9	Start button	BSB-MS1-A	277V 25A
8	Gear Pump	CBKA-F2.1F	2.11cc/r
7	Buffer valve	YBZ-E2D3I1/1-05A	
6	Check valve	YBZ-E2D3I1/1-03	
5	Release valve	YBZ-E2D3I1/1-02	
4	Relief valve	LHRV-08-42	2740PSI(+/-100PSI), Fixed
3	AC Motor	AM61-3HAM-3BA42R-00	208-240V, 1PH, 50/60Hz, 2850/3450rpm, 3HP,UL certification
2	Suction Filter	YBZ-E2D3I1/1-10	
1	Tank	YBZ-SLYX-12L-L-B	12L Usable Plastic (Black)

Designed by	Checked by	Reviewed by	Approved by

Name: Hydraulic Power Unit

P/N : YBZ5-F2.1E3H1/AMQOT6

A/N : E2740 Rev. : A

Bucher Hydraulics(Wuxi) Co., Ltd.

Contents

Thank you for choosing a Bucher Hydraulics Co., Ltd power unit.
Please fill out the information box below before installing power unit.
Keep this document in a secure location, making it available for future reference

Power unit model number: _____

Power Unit serial number: _____

Relief valve setting: _____ *Installation date:* _____

Auto lift manufacturer: _____ *Auto lift model number:* _____

Auto lift serial number: _____

1. Preface

In order to use our products safely and effectively, this manual introduces and explains matters needing attention, maintenance, adjustment methods, schematic and outline dimension. Please read this manual carefully before operating the equipment. Ensure the operator is adhering to the proper method of use.

This product applies to auto hoist and scissor lift applications. Please read this manual and other related manuals carefully before installing and operating.

As our products are updated constantly, we reserve the right to amend this manual as needed, please kindly understand. Contact equipment manufacturer for an up to date manual if needed.

Bucher Hydraulics(Wuxi) Co., Ltd reserves the copyright and right of final explanation for the content, drawings and sheets of this manual as well as all the related data. Copying or citing this manual without prior authorization is forbidden.

Please read manual thoroughly before attempting to install and/or operate power unit. Failure to do so may result in property, equipment and/or serious personal injury.

2. Installation and Assembly

2.1 Before installation

- The individual who installs, uses or maintains this power unit should be familiar with basic hydraulic knowledge.
- Please read all warning labels in this manual and on power unit carefully before use.
- Clean all the Hydraulic parts before installing the power unit. Contamination of the fluid may occur, which can result in poor performance or unit failure.
- Do not open electrical cabinet or conduit/junction box when equipment is in use.
- Always use hydraulic hoses intended for use on that equipment and application to avoid hose failure, which can result in personal and/or property damage.

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E-mail:info.wuxi@bucherhydraulics.com

2.2 Notice during installation

- Power unit must be wired by a qualified electrician.
- Ensure the power being supplied is shut off and locked out when wiring the power unit.
- Maximum acceptable voltage drop is 10% of rated voltage.
- Use the wire of which the diametre is more than 2.5mm to reduce voltage drop. Also shortening the length of the wire will help.
- Starting at a lower than acceptable voltage will lead to poor performance and motor failure.
- Install all fitting on power unit before installation.
- When using three-phase power unit, motor rotating direction should be checked by jog running after wiring to supplied power.
- Lubricate all o-rings on fittings with hydraulic fluid before installation.
- Do not over bend hydraulic hoses and electric wire (bending radius should be more than nine times outer diameter).
- Do not rout hydraulic or electrical lines around or across sharp objects. Failure to follow instruction can result in personal and property damage.
- Don't strike or damage the exposed parts when carrying, assembling or storing power unit. Failure to conform to this will cause poor performance and/or damage the equipment.

2.3 Notice in use

- Ensure there is no person under the lift equipment when operating. Failure to comply can result in severe injury or even death.
- Don't adjust preset pressure of relief valve without prior authorization.
  Consult equipment manufacturer for authorization. After permission has been granted, adjust the relief valve according to adjustment method in this manual.
  Please note that adjusting the relief valve will not increase flow.
- Never crack hydraulic lined when system is under pressure and in operation.
- Repetitive motor activation will result in premature switch and possible motor failure.

- Always pause a minimum of 2 seconds before between lift activations.
- The working temperature for the power unit is −13°Fto 140°F (-25℃ to 60℃).
- The power unit should never be exposed to rain or snow.
- Severe vibration and electromagnetic interference should be avoided.
- The power unit is rated for S3 duty cycle, which can only be worked intermittently, (1 minute on and 9 minutes off) Failure to operate according to the power units duty rating will cause poor performance or even damage to the equipment.
- Check the fluid level in the tank after the initial running of the power unit.

3. Hydraulic Fluid

Hydraulic fluid selection & regular fluid inspection is very important to increase the life of your hydraulic system. The function of hydraulic fluid is to transfer power from the gear pump to the actuator. In this application the actuator is a cylinder.

3.1 Fluid Recommendations

- L-HM46 hydraulic oil is recommended.
- Fluid viscosity should be between 15-46 cst.
- ATF Dexron III is acceptable.
- If using biodegradable, fluid must be compatible with Buna o-rings and have anti wear properties.
- Motor oil is not to be used in hydraulic system.

3.2. Fluid maintenance

- Hydraulic system should be clean and free of contamination.
- Fluid should be kept at a level in the tank. Normally the working temperature
- Clean hydraulic lines and tanks when changing hydraulic Fluid.
- Change hydraulic fluid and clean the filter and reservoir after the initial 100 hours of operation. Afterwards change hydraulic fluid every 3000 hours.

4. Power Unit Maintenance

4.1 Maintenance

- Disconnect or terminate power to equipment and lower platform before attempting to access power unit for maintenance.
- Ensure that electric wire and hoses are of the same specifications as originals when replacing.
- Ensure that other components are of the same specifications when replacing.
- Ensure the hydraulic system as been depressurized before cracking hydraulic lines.
- Often clean the equipment and the environment around equipment.

Hydraulic system can be influenced by natural environment, human factors and life of system parts. Regular maintenance will reduce the possibility of failure.

4.2 Inspection

▶ Daily inspection ◀

- Operate equipment through one cycle ensuring unit holds and releases load when needed.
- Listen for any abnormal noises during operation.
- Check motor temperature periodically, ensuring motor is not operating at a higher temperature than normal -13° Fto140°F (-25°c to 60°c).
- Check all hydraulic connections for leaks and wear, tighten or replace hoses or fittings if necessary.

▶ Monthly inspection ◀

- Inspect hydraulic hoses for cracks abrasion and leaks, replace if needed
- If unit is equipped with power cord inspect insulation for cracks, abrasions and cuts.
- Check fluid cleanliness if fluid has changed color replace fluid and flush system.
- Check fluid level when equipment is at its lowest at rest position. Add fluid if needed.

4.3 Troubleshooting

Failures	Possible causes	Solutions
Motor runs but the cylinder doesn't rise	1. Wrong wire connection leads to motor rotating in wrong direction	1. Correct the wire connection
	2. Insufficient hydraulic fluid in the tank	2. Add hydraulic fluid into the tank
	3. Suction tube is damaged	3. Replace the suction tube
	4. Coupling is damaged	4. Replace the coupling
	5. Suction filter clogged	5. Clean or replace the suction filter
	6. Release valve is blocked by contamination	6. Inspect valve and clean or replace it
	7. The seal in buffer valve failed	7. Inspect valve and clean or replace it
	8. Relief valve is contaminated	8.Inspect valve and clean or replace the relief valve
	9. Relief valve's setting pressure is low	9. Reset the valve
	10. The emergency device of the electric release valve is not closed	10. Close the emergency lowering device
	11. Gear pump is damaged	11. Change the pump
	12. Cylinder is damaged	12. Repair or replace cylinder
	13. The emergency release valve is not fully closed	13. Inspect valve and clean or replace it
Motor runs but the cylinder rises slowly	1. Insufficient fluid in the reservoir	1. Add fluid into the tank
	2. Suction tube is damaged	2. Replace the suction tube
	3. Suction filter clogged	3. Clean or replace the suction filter
	4. Release valve is blocked by contamination	4. Inspect valve and clean or replace it
	5. The seal in buffer valve failed	5. Inspect valve and clean or replace it

Failures	Possible causes	Solutions
Motor runs but the cylinder rises slowly	6. Relief valve is contaminated	6.Inspect valve and clean or replace the relief valve
	7. Relief valve's setting pressure is low	7. Reset the valve
	8. Hydraulic fluid is deteriorated or contaminated	8. Change hydraulic fluid as well as cleaning suction filter and reservoir
	9. Gear pump is damaged	9. Change the pump
	10. Cylinder is damaged	10. Repair or replace cylinder
	11. The emergency release valve is not fully closed	11. Inspect valve and clean or replace it
	12. Hydraulic fluid temperature is too high	12. Stop running and cool down
Platform comes down automatically	1. The poppet of check valve is stuck open by contamination	1. Clean the poppet of check valve or replace it with a new one
	2. The poppet of release valve is stuck open by contamination	2. Clean the valve or change it
	3. Poor outlet tube connection leads to leakage	3. Tighten the pipe joint or change the seal
	4. Hydraulic fluid is deteriorated or contaminated	4. Change the fluid as well as cleaning suction filter and tank
Platform comes down slowly	1.Throttle valve is not adjusted rightly	1.Readjust the throttle valve according to P9
	2. The poppet of release valve is clogged with contamination	2. Clean the valve or change it
	3. Release valve is blocked by contamination	3. Inspect valve and clean or replace it
Platform doesn't come down.	1. Release valve is blocked by contamination	1. Inspect valve and clean or replace it
	2. The coils is damaged or voltage is too low	2. Change the coil and check the power supply
Abnormal noise	1. The motor is damaged	1. Change the motor
	2. Insufficient hydraulic fluid in the tank	2. Add hydraulic fluid into the tank

Failures	Possible causes	Solutions
Abnormal noise	3. Motor is overloaded	3.Reduce load or increase the relief valve setting pressure(if manufacturer allows)
	4. Suction filter clogged	4. Clean or replace the suction filter
	5. Gear pump is damaged	5. Change the pump
	6. Hydraulic fluid is deteriorated or contaminated	6. Change hydraulic fluid as well as cleaning suction filter and reservoir
	7. Relief valve is damaged	7. Change the relief valve
Abnormal start up	1. Power supply voltage is insufficient	1. Configure regulator
	2. The cable is too long	2. Shorten the cable as well as configure regulator
	3. The thin diameter of the wire leads to voltage loss	3. Use strong wire and configure regulator
	4. Start capacitor is damaged	4. Change the start capacitor

5. Adjustment method

Power unit settings have been determined by the equipment manufacturer's engineers. Adjustment other than what is specified by the equipment manufacturer can result in catastrophic failure and even death. Always consult equipment manufacturer before making any adjustments.

5.1 Adjustment for preset pressure of relief valve

- Remove the screw cap and turn the adjustable piston to reset the pressure of the relief valve.
- Always use pressure gage when setting relief valve. Turning the adjustment screw 45° in CW direction can increase the pressure by approximately 175psi and vice versa. Tighten the cap after pressure setting.
- Release the pressure and pressurize several times ensuring you have achieved the factory recommended pressure setting.

5.2 Lowering speed adjustment

Lowering speed of the platform can be increased/decreased by turning the corresponding adjustable valve needle in CCW/CW direction.
Turning the needle 15°each time.
Tighten the lock nut after setting.

5.3 Emergency descent when power cut

Electric power unit has a separate emergency lowering valve, generally no need to use the solenoid valve with emergency lowering device.

- Descent through independent emergency release valve in the end head.

Unscrew the cap of the emergency release valve cap nuts then slowly counterclockwise loosen the screw and the lowering movement will be achieved. When the actuator gets back to the original location, tighten the screw and the cap.

- Descent through the electric release valve with emergency device.

Tighten the emergency device (as the drawing shows) on the top of the solenoid release valve, turn 30 degrees in CCW direction then the load will be released.
When the lowering function is achieved, clockwise rotate 30 degrees, it will be recovered.

6. Model specifications

YBZ□-□□□□□□ / □□□□□□

Product name: Hydraulic power units

Series No.,which would be changed once there comes big improvement of the whole power units.It comes into 1,2,3,4....Especially,5 represents the manifold made of extruded aluminium and 6 represents the manifold made of die-cast aluminium

Relief valve setting pressure
- D - 10Mpa
- E - 16Mpa
- F - 20Mpa
- G - 25Mpa

Rated pump displacement (CBK series pumps)
- 0.63 -0.63ml/r
- 0.8 - 0.8ml/r
- 1.2 - 1.2 ml/r
- 1.6 - 1.6ml/r
- 2.1 - 2.1 ml/r
- 2.5 - 2.5ml/r
- 2.7 - 2.7 ml/r
- 3.2 - 3.2ml/r
- 3.7 - 3.7 ml/r
- 4.2 - 4.2ml/r
- 5 - 5 ml/r
- 6 - 6 ml/r
- 8 - 8 ml/r

Tank capacity
- A - 3L/4L
- B - 5L/6L
- S - 7L
- C - 8L
- D - 10L
- E - 12L
- Q - 13L
- F - 14L
- G - 16L
- H - 20L
- I - 22L
- J - 25L
- R - 30L
- K - 35L
- L - 50L

Motor voltage (AC Motors)
- 3 - 220V
- 4 - 380V
- 5 - 110V
- 6 - 415V
- 7 - 230/460V
- 8 - 115/230V
- 11 - 200V
- 14 - 220/380V
- 15 - 230/400V
- 16 - 460V
- 17 - 400V
- 18 - 240V
- 19 - 120V
- 21 - 230V
- 20 - 190/208-230/380/460V
- 22 - 440V
- 23 - 100V

Motor power (AC Motors)
- C - 0.37KW
- D - 0.55KW
- E - 0.75KW
- Q - 0.85KW
- F - 1.1KW
- G - 1.5KW
- R - 1.8KW
- H - 2.2KW
- I - 3.0KW
- J - 4.0KW

Hydraulic circuit No. is selected by manufacturer

Design NO. is selected by manufacturer, may be 1,2,3 or A,B,C.

Manifold model is selected by manufacturer.

Solenoid valve voltage
- A - 12VDC,without manual override function.
- B - 24VDC,without manual override function.
- C - 24VAC,without manual override function.
- D - 110VAC,without manual override function.
- E - 220VAC,without manual override function.
- H - 12VDC,with manual override function.
- J - 24VAC,with manual override function.
- K - 110VAC,with manual override function.
- L - 220VAC,with manual override function.
- O - No solenoid valve.
- T - The solenoid valve with special requirements.

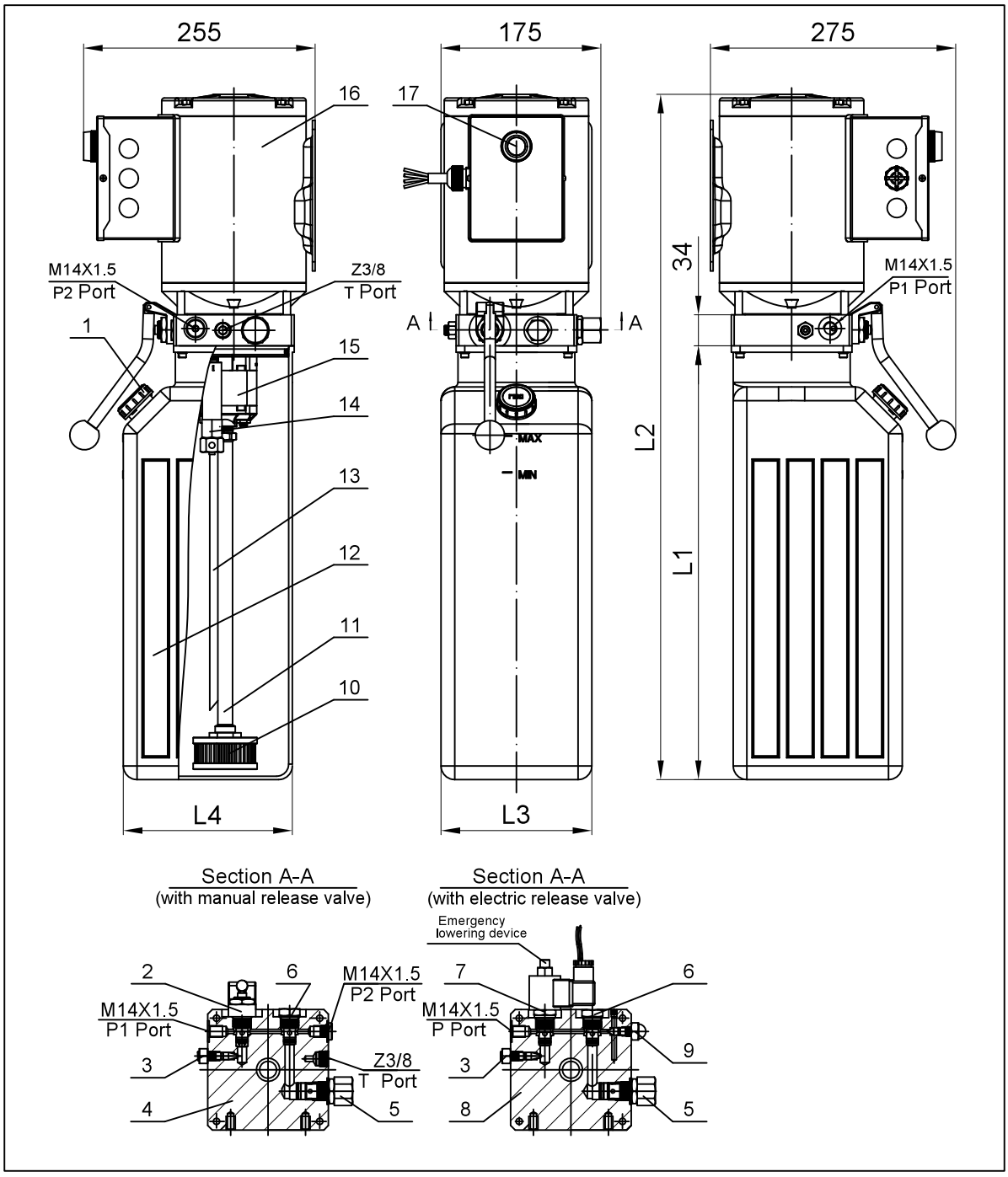
Tank appearance
- A - Neck i.d Ø120,steel,round, horizontal.
- B - Neck i.d Ø120,steel,round, vertical.
- C - Neck i.d Ø120,steel,rectangle, horizontal.
- D - Neck i.d Ø120,steel,rectangle, vertical.
- P - Neck i.d Ø120,blow-molded plastic, rectangle, horizontal.
- Q - Neck i.d Ø120,blow-molded plastic, rectangle, vertical.
- U - Neck i.d Ø120,injection molded plastic, rectangle, horizontal.
- V - Neck i.d Ø120,injection molded plastic, rectangle, vertical.
- O - Non-tank
- T - The tank with special requirements

Motor speed
- ① AC motor,50HZ
- B - 1450RPM
- C - 2880RPM
- D - 1450/2880RPM
- ②AC motor,60HZ
- K - 1750RPM
- L - 3450RPM
- ③AC motor,50HZ/60HZ
- M - 2880/3450RPM
- N - 1450/1750RPM
- O - Non- motor
- T - The motor with special requirements

Motor type
- A - Steel housing,vertical & horizontal,9T Spline,the center distance of the mounting hole is 113x113.
- B - Steel housing,vertical(without feet),9T Spline,the center distance of the mounting hole is 113x113.
- L - Die-cast aluminum housing,vertical & horizontal, 9T Spline,the center distance of the mounting hole is 113x113.
- M - Die-cast aluminum housing,vertical (without feet),9T Spline,the center distance of the mounting hole is 113x113.
- O - Non- motor
- T - The motor with special requirements

7. Outline dimension

The following outline dimensions are mainly for the power units with 3-phase steel housing motors and rectangle plastic oil tanks.

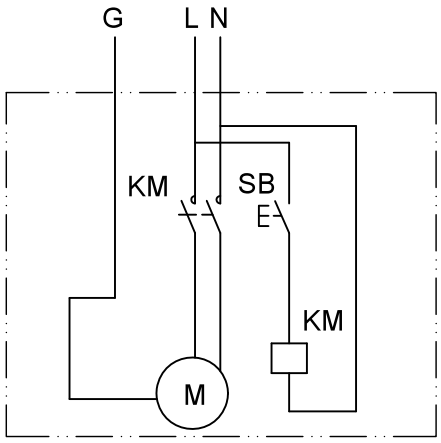


1	Breather	2	Manual release valve	3	Throttle valve	4	Manifold
5	Relief valve	6	Check valve	7	Electric release valve	8	End Head
9	Emergency release valve	10	Suction filter	11	Suction tube	12	Tank
		13	Return tube	14	Buffer valve	15	Gear pump
16	AC motor	17	Start button				

Tank capacity（L）	L1（mm）	L2（mm）	L3（mm）	L4（mm）
6	335	611	175	185
8	415	691	165	185
10	470	746	165	185
12	540	816	165	185
14	605	881	175	185

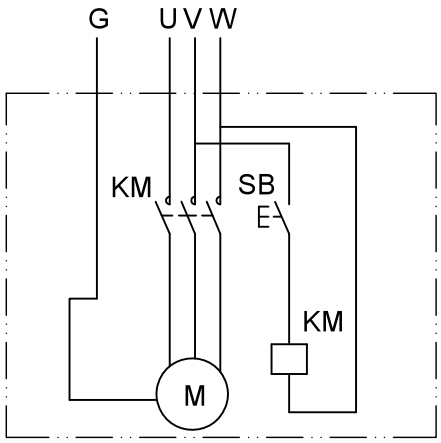
8. Electrical schematic

8.1 Single-phase electrical schematic



- Parts description:
  KM--Contactor
  SB--Start Button
- Start up
  Pressing the start button switch SB will energize the coil of the contactor, thus close the main contact of KM and get the motor running at the same time. The motor has only one rotating direction.
- Stop
  Releasing the start button switch will de-energize the coil of the contactor, thus open the main contact of KM and get the motor stopped at the same time.

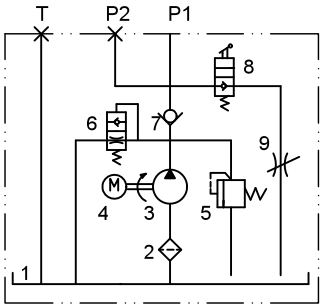
8.2 Three-phase electrical schematic



- Parts description:
  KM--Contactor
  SB--Start Button
- Start up
  Pressing the start button switch SB will energize the coil of the contactor, thus close the main contact of KM and get the motor running at the same time.
- Stop
  Releasing the start button switch will de-energize the coil of the contactor, thus open the main contact of KM and get the motor stopped at the same time

9. Hydraulic schematic

9.1 Manual release valve hydraulic schematic



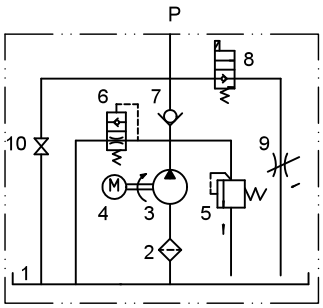
▶ **Parts description**:

1–Reservoir	6--Buffer valve
2–Suction filter	7--Check valve
3–Gear pump	8–Manual release valve
4–Motor	
5–Relief valve	9--Throttle valve

▶ **Lift cycle**

When AC motor [part 4] is started, the air in the pump [part 3] and tube will be released through buffer valve[part 6] reducing the amount of load the motor will start against and then the buffer valve[part 6] will close. Meanwhile, the oil flows past the check valve [part 7] and port P1 to the lift cylinder, thus raising the car on the lift. When the motor stops,the check valve [part 7] and manual release valve [part 8] will hold the pressure in the cylinder, keeping the cylinder in the position it is. If the cylinder rises to the limited position or the load is above the preset pressure of the relief valve [part 5], it will overflows and prevent the machine from working overload. Pushing the handle of the manual release valve [part 8] will lower the cylinder. The lowering speed is controlled by the throttle valve [part 9] in the return line.

9.2 Electric release valve hydraulic schematic



▶ **Parts description:**

1--Reservoir	7--Check valve
2--Suction filter	8--Electric release valve
3--Gear pump	9–Throttle valve
4--Motor	10--Emergency lowering valve
5--Relief valve	
6--Buffer valve	

▶ **Lift cycle**

When AC motor [part 4] is started, the air in the pump [part 3] and tube will be released through buffer valve[part 6] reducing the amount of load the motor will start against and then the buffer valve [part 6] will close. Meanwhile, the oil flows past the check valve [part 7] and port P1 to the lift cylinder, thus raising the car on the lift. When the motor stops,the check valve [part 7] and electric release valve [part 8] will hold the pressure in the cylinder, keeping the cylinder in the position it is. If the cylinder rises to the limited position or the load is above the preset pressure of the relief valve [part 5], it will overflows and prevent the machine from working overload. Pushing the handle of the electric release valve [part 8] will lower the cylinder. The lowering speed is controlled by the throttle valve [part 9] in the return line.

When the cylinder rises to a high position but the power supply is cut, release the oil in P port through the emergency lowering valve [part 10], thus lowering the cylinder.

AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be

Applicant:	Bucher Hydraulics (Wuxi) Co., Ltd.	**Manufacturer:**	Bucher Hydraulics (Wuxi) Co., Ltd.
Address:	No. 225, Xitai Rd., New District, Meicun, Wuxi, Jiangsu Province, 214112	**Address:**	No. 225, Xitai Rd., New District, Meicun, Wuxi, Jiangsu Province, 214112
Country:	CHINA	**Country:**	CHINA

Party Authorized To Apply Mark: Same as Manufacturer
Report Issuing Office: Intertek Testing Services Shanghai Limited

Control Number: *4009069* **Authorized by:** _____
for L. Matthew Snyder, Certification Manager

RECOGNIZED COMPONENT
C ETL LISTED US
Intertek

This document supersedes all previous Authorizations to Mark for the noted Report Number.

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

Standard(s):	Garage Equipment [UL 201:2015 Ed.3+R:18Mar2022] Motor-Operated Appliances (Household and Commercial) (R2019) [CSA C22.2#68:2018 Ed.8+U1]
Product:	Power Unit
Brand Name:	BUCHER
Models:	YBZ followed by 5 or 6; followed by -E or -F; followed by 0.8, 1.2, 1.6, 1.8, 2.1, 2.5 or 2.7; followed by B3H, C3H, D3H, E3H, F3H, B6H, C6H, D6H, E6H, F6H, B8F, C8F, D8F, E8F, F8F, H3H, H6H or J6H; followed by 0, 1 or 2; followed by /AMQOT, /AMQBT, /AMQPT, /ACQOT, /ACQBT, /ACQPT, /AMDOT, /AMDBT, /ACDOT, /AMDPT, /ACDBT or /ACDPT; followed by 4, 5, 6, 7, 8, 9, 10, 11, 12 or 13; may be followed by A, M or AM. YBZ5-G2.1D21I2/ACQIT1, YBZ5-G2.1D21I2/ALQIT1. YBZ5-E3.2F20H202A/AMDIT1.

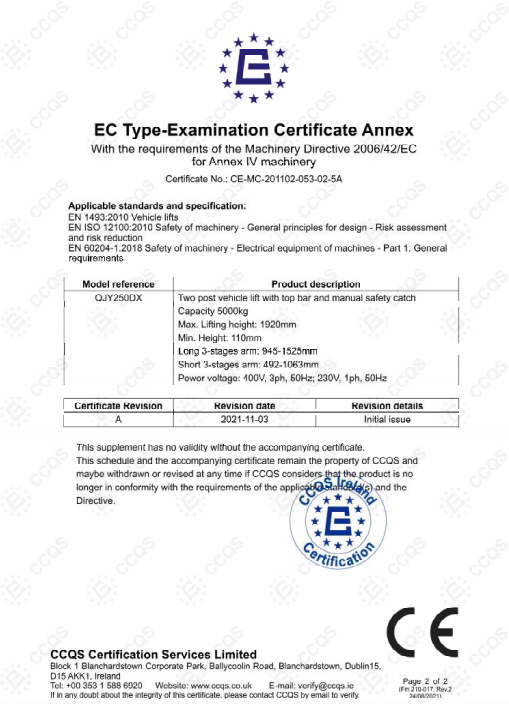
DECLARATION OF CONFORMITY – EC TYPE-EXAMINATION CERTIFICATE

The technical file, accompanying documentation and the equipment which they describe have been found to be in compliance with the requirements of the Machinery Directive.2006/42/EC.

Certificate No.: CE-C-0806-15-84-10-5A
Date of Issue: May 9, 2016
Technical File Reference: TF-C-0806-15-84-10-5A

The following harmonized standards have been used for certification and validated:

- EN ISO 12100: 2010 Safety of machinery – General principles for design - Risk assessment and risk reduction
- EN 1493: 2010 Vehicle Lifts
- EN 60204-1: 2006 + A1 :2009 Safety of machinery – Electrical equipment of machines - Part 1: General requirements



EC Type-Examination Certificate Annex

With the requirements of the Machinery Directive 2006/42/EC for Annex IV machinery

Certificate No.: CE-MC-201102-053-02-5A

Applicable standards and specification:
EN 1493:2010 Vehicle lifts
EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2018 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

Model reference	Product description
QJY250DX	Two post vehicle lift with top bar and manual safety catch Capacity 5000kg Max. Lifting height: 1920mm Min. Height: 110mm Long 3-stages arm: 945-1525mm Short 3-stages arm: 492-1063mm Power voltage: 400V, 3ph, 60Hz; 230V, 1ph, 60Hz

Certificate Revision	Revision date	Revision details
A	2021-11-03	Initial issue

This supplement has no validity without the accompanying certificate.
This schedule and the accompanying certificate remain the property of CCQS and maybe withdrawn or revised at any time if CCQS considers that the product is no longer in conformity with the requirements of the applicable Standard(s) and the Directive.

CCQS Certification Services Limited
Block 1 Blanchardstown Corporate Park, Ballycoolin Road, Blanchardstown, Dublin15, D15 AKK1, Ireland
Tel: +00 353 1 588 6020 Website: www.ccqs.co.uk E-mail: verify@ccqs.ie
If in any doubt about the integrity of this certificate, please contact CCQS by email to verify.

Page 2 of 2
IFH-210-017, Rev.2

Name and Address of the Manufacturer:
Changshu Tongrun Lift Equipment Co., Ltd
New Longteng Industrial Park,
Changshu Economic Development Zone,
Jiangsu Province, P.R. China

Description of Equipment:
Capacity 5,000kg, Two-Post Vehicle Lift with Top Bar, Manual Safety Catch

A sample of this machinery has been presented to and approved by Notified Body number 1105.
CCQS UK Ltd.
Level 7, Westgate House, Westgate Rd., London W5 1YY UK
CCQS UK Ltd. has issued an examination certificate number: CE-C-0806-15-84-10-5A

The equipment in respect of which this declaration is made conforms to the example to which that certificate relates, and that certificate remains valid. This declaration of conformity is issued under the sole responsibility of the manufacturer.

CE MARKING

DECLARATION OF CONFORMITY - ANSI/ALI ALCTV

The technical file, accompanying documentation and the equipment which they describe have been found to be in compliance with the requirements of ANSI/ALI ALCTV:

Certification Record

Listing# E114171
Original Certification: August 22, 2018
Revised Certification: N/A

MET Laboratories, Inc.
First in Certification

This Certification is issued to:
Torin Inc.
4355 E. Brickell St.
Ontario, CA 91761
USA

CERTIFIED AUTOMOTIVE LIFT
ALI CERTIFIED
To the provisions of
ANSI/ALI ALCTV-2017
SAFETY REQUIREMENTS FOR CONSTRUCTION, TESTING AND VALIDATION
Automotive Lift Institute
ANSI Accredited Certification Program | Accreditation Number 0584
Certification Label Serial Number

For the product:
Two Post, Surface, Frame Engaging Lifts
T10000-2OH-33 Model Series

Has been certified to the following standards:
UL 201 3rd Edition: Safety for Garage Equipment, Rev March 31, 2015
CSA C22.2 No. 68, 7th Edition: Motor-Operated Appliances (Household and Commercial), Rev September 2010
ANSI/ALI ALCTV: 2017 – American National Standard for Automotive Lift Safety Requirements for Construction, Testing and Validation; January 24, 2017

David Coleman
Automotive Lift Safety Engineer,
Safety Laboratory

All changes proposed in the previously identified product that affects the above information must be submitted to MET for evaluation prior to implementation to assure continued MET Certification status.

The covered product(s) shall be subject to follow-up inspections to ensure that the Certified product(s) are identical to the product sample evaluated by MET Laboratories, Inc. and that all manufacturer's responsibilities are being fulfilled as specified in the Manufacturer's Responsibility section of the Certification report. The applicant named above has been authorized by MET Laboratories, Inc. to represent the product(s) listed in this record as "MET Certified" and to mark this/these product(s) according to the terms and conditions of the MET Applicant Contract, MET Listing Reports, and the applicable marking agreements. Only the product(s) bearing the MET Mark and under a follow-up service are considered to be included in the MET Certification program. This certification has been granted under a System 3 program as defined in ISO Guide 67.

MET Laboratories, Inc. is accredited by OSHA and the Standards Council of Canada.
The Nation's First Nationally Recognized Testing Laboratory

NRTL

SAFJ TEMP-130-2, Classification Certification Record 04-21-14 Page 1 of 1

NOTES:

NOTES:

TORIN INC. INSTALLATION AGREEMENT

Pre-Installation Agreement

I, (the undersigned) acting as the installer listed assume responsibility for any permits required for city, state or county mandated, related to the installation and/or operation of this equipment. I assume responsibility for the concrete floor and condition thereof, now or later, where the purchased equipment model(s) are installed. I will assume all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with, or to have arisen out of the condition and/or drilling of the concrete near or adjacent to the equipment model(s) purchased. If anyone offers assistance of any kind during the installation of the purchased equipment model(s) I will not hold the manufacturer and installation company responsible for any liability for losses, damages, expenses, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with the installation of the purchased equipment model(s).

I understand that the lifts purchased are supplied with concrete fasteners meeting the criteria of the ICC-ES compliance, and that I will be responsible for all charges related to any special regional structural and/or seismic anchoring requirements specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC). *This addendum also covers lifts installed in other distributor markets that included the European Unions, Mexico, South America, Africa, Russia, and Australia under CE Ref. no. EN1493-2010 European Standard for Vehicle Lifts and North American Standards.*

Post-Installation Agreement

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

Miscellaneous Terms

- No Other Agreement. Except as otherwise mutually agreed in writing, this Installation Agreement and the incorporated Purchase Order are the complete agreement of the parties and supersede all other agreements or understandings, written or oral.
- Indemnification: Our liability for damage caused by our negligence or that of our subcontractors/agents shall be limited to the applicable policy limits of our liability insurance.
- Terms of Payment. In addition, the terms stated above, you agree to pay all costs of collection, whether or not we enforce a mechanic's lien or otherwise file suit, including without limitation all attorney's fees, filing fees, and court costs as they are billed by us. Such unpaid additional costs shall be subject to interest at 1.5% per month until paid.
- Limitation of Damages. We will not be liable for any delay in performing any work or providing any materials hereunder, or any cessation of or interruption of services, including but not limited to those arising out of fire, flood, explosion, war, strike, power blackout, nature, civil or military authority, inability to obtain labor or materials or reasonable substitutes therefore, terrorist threats or activities or any other cause beyond our reasonable control or acts of God.
- Limitation of action. Except for claims for overdue balances, any other lawsuit hereunder shall be brought within one (1) year of completion of our installation not withstanding any other statute of limitation that would otherwise apply.
- Choice of Law. This Agreement shall be governed by the laws of the State of California, without regard to rules pertaining to conflicts of law. The state courts located in San Bernardino County, California shall have exclusive jurisdiction for any disputes relating to this warranty.
- Successors and assigns. Your rights hereunder may not be assigned to a third party.
- Venue. The parties agree that the state courts located in San Bernardino County, California, shall be the only proper forum and court of competent jurisdiction for any dispute arising hereunder.
- Authorship. The parties agree that this Agreement has been negotiated and drafted by them equally and that neither party shall have the benefit of an adverse inference being drawn against the other party.
- Severability. If any provision herein should, for any reason, be construed by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect and be construed so as to make this Agreement enforceable to the maximum extent allowed by law.
- Counterparts; Facsimile. This Amendment may be executed in counterparts, each of which when so executed and delivered shall be taken together to be an original; but such counterparts shall together constitute one and the same document. Facsimiles shall have the force of an original.

LIMITATION OF REMEDIES AND DISCLAIMER OF WARRANTIES. WE WILL NOT BE LIABLE IN ANY CASE FOR ANY LOSS OF USE, LOST PROFITS, SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR PUNITIVE DAMAGES. IN NO EVENT, SHALL OUR LIABILITY EXCEED REIMBURSEMENT OF ANY MONIES PAID BY YOU UNDER THIS AGREEMENT AND THIS SHALL BE YOUR EXCLUSIVE AND SOLE REMEDY FOR ANY CLAIM HEREUNDER. THE FOREGOING LIMITATION SHALL NOT APPLY TO CLAIMS FOR PERSONAL INJURY. THE LIMITATIONS, EXCLUSIONS AND DISCLAIMERS IN THIS SECTION AND ELSEWHERE IN THESE TERMS OF USE APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW.

WARRANTY NOTICE

This product is covered under a 2-year limited warranty when used as recommended. Only those items listed with a Part # are available for purchase. For assistance with the operation or the availability of replacement parts, contact our Parts and Warranty Department at 1-888-44-TORIN (1-888-448-6746). Please have available a copy of your receipt, the model number of the product, serial number, and specific details regarding your question.

Not all equipment components are available for replacement; illustrations provided are a convenient reference of location and position in the assembly sequence.

ANY PRODUCT THAT IS NOT REGISTERED WITH WILL AUTOMATICALLY DEFAULT TO PRODUCT MANUFACTURED DATE FOR WARRANTY START DATE. CUSTOMER THAT DO NOT REGISTER A PRODUCT MUST PROVIDE PROOF OF PURCHASE AT THE TIME OF WARRANTY CALL.

For online warranty registration please visit: www.torin-usa.com

The manufacturer reserves the rights to make design changes and or improvements to product lines and manuals without notice.

WARRANTY INFORMATION

We want to know If you have any concerns with our products. If so, please call toll-free for Immediate assistance. For additional web customer support help inquiries visit the Customer Service section at: http://www.torin-usa.com.

TCE TWO YEAR LIMITED WARRANTY

Torin Inc.® has been producing quality automotive repair and maintenance products since 1968. All products sold are felt to be of the highest quality and are covered by the following warranty:
With proof of purchase for a period of two years from the date of that purchase, the manufacturer will repair or replace, at its discretion, without charge, any of its products or parts thereof which fail due to a defect in material or workmanship. This warranty does not cover damage or defects caused by improper use, careless use or abuse of the equipment. This warranty does not cover parts normally considered to wear out or be consumed in the normal operation of the equipment. Except where such limitations and exclusions are specifically prohibited by applicable law, (1) the CONSUMERS SOLE AND EXCLUSIVE REMEDY SHALL BE THE REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCTS AS DESCRIBED
ABOVE, and (2) THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGE OR LOSS WHATSOEVER, and (3) THE DURATION OF ANY AND ALL EXPRESSED AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS LIMITED TO A PERIOD OF TWO YEARS FROM DATE OF PURCHASE. Product alteration in any manner by anyone other than us, with the sole exception of alterations made pursuant to product instructions and in a workman like manner. You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.
Always check for damaged or worn out parts before using any product. Broken parts will affect the equipment operation. Replace or repair damaged or worn parts immediately. Do not modify the product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment. There are specific applications for which products are designed and tested during production. Manufacturer provided warranted items are not authorized to be repaired by anyone other than the manufacturer or manufacturer approved repair person. Distributer does not have authorization to amend these statements. You acknowledge and agree that any modification of the product for any purpose other than manufacturer completed repairs is at your own risk. Before using this product, read the owner's manual completely and familiarize yourself thoroughly with the product and the hazards associated with its improper use.
IMPORTANT: BEFORE FIRST USE on any Lift verify that a daily inspection has been completed and that all components are in the proper working order.
This limited warranty gives you specific legal rights, and you also may have other rights, which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of California, without regard to rules pertaining to conflicts of law. The state courts located in San Bernardino County, California shall have exclusive jurisdiction for any disputes relating to this warranty.

Manufacturer reserves the rights to make design changes and or improvements to this product line and manual without notice. We at Torin have taken every effort to ensure complete and accurate instructions have been included in this manual. However, possible product updates, revisions and or changes may have occurred since this printing. Torin Inc. reserves the right to change specifications without incurring any obligation for equipment previously or subsequently sold. Not responsible for typographical errors.

For any warranty support or if your Torin® equipment is not functioning properly contact
Torin® Customer Service directly by telephone at 1-888-44-TORIN (1-888-448-6746)
8:00am – 5:00pm Pacific Time, Monday – Friday
Alternately Customer Service can be reached through www.torin-usa.com or via email at info@torin-usa.com.

Not all equipment components are available for replacement, but are illustrated as a convenient reference of location and position in the assembly sequence. Contact Customer Service for equivalent component. When you contact us, please have your Product’s Model number, Serial Number and Description ready so that we may help you efficiently. This information can be found on a sticker on the product.

Contact Torin® Customer Service directly by telephone at:
1-888-44-TORIN (1-888-448-6746)
8:00am – 5:00pm Pacific Time, Monday – Friday

Comuníquese conel Servicio de Atención al Cliente de Torin® directamente por teléfono al:
1-888-44-TORIN (1-888-448-6746)
De lunes a viernes de 8:00 a. m. a 5 p. m. hora del Pacífico

Communiquez directement avec le Service à la clientèle Torin® au:
1-888-44-TORIN (1-888-448-6746)
De 8 heures à 17 heures, heure du Pacifique, du lundi au vendredi

Torin Inc.
4355 E. Brickell Street Ontario, CA USA
www.torin-usa.com
Made in China - Hecho en China - Fabriqué en Chine

TORIN INC. INSTALLATION AGREEMENT

TORIN Pre-Installation Agreement

I, (the undersigned) acting as the installer listed assume responsibility for any permits required for city, state or county mandated, related to the installation and/or operation of this equipment. I assume responsibility for the concrete floor and condition thereof, now or later, where the purchased equipment model(s) are installed. I will assume all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with, or to have arisen out of the condition and/or drilling of the concrete near or adjacent to the equipment model(s) purchased. If anyone offers assistance of any kind during the installation of the purchased equipment model(s) I will not hold the manufacturer and installation company responsible for any liability for losses, damages, expenses, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with the installation of the purchased equipment model(s).

I understand that the lifts purchased are supplied with concrete fasteners meeting the criteria of the ICC-ES compliance, and that I will be responsible for all charges related to any special regional structural and/or seismic anchoring requirements specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC). *This addendum also covers lifts installed in other distributor markets that included the European Unions, Mexico, South America, Africa, Russia, and Australia under CE Ref. no. EN1493-2010 European Standard for Vehicle Lifts and North American Standards.*

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Miscellaneous Terms

- No Other Agreement. Except as otherwise mutually agreed in writing, this Installation Agreement and the incorporated Purchase Order are the complete agreement of the parties and supersede all other agreements or understandings, written or oral.
- Indemnification: Our liability for damage caused by our negligence or that of our subcontractors/agents shall be limited to the applicable policy limits of our liability insurance.
- Terms of Payment. In addition, the terms stated above, you agree to pay all costs of collection, whether or not we enforce a mechanic's lien or otherwise file suit, including without limitation all attorney's fees, filing fees, and court costs as they are billed by us. Such unpaid additional costs shall be subject to interest at 1.5% per month until paid.
- Limitation of Damages. We will not be liable for any delay in performing any work or providing any materials hereunder, or any cessation of or interruption of services, including but not limited to those arising out of fire, flood, explosion, war, strike, power blackout, nature, civil or military authority, inability to obtain labor or materials or reasonable substitutes therefore, terrorist threats or activities or any other cause beyond our reasonable control or acts of God.
- Limitation of action. Except for claims for overdue balances, any other lawsuit hereunder shall be brought within one (1) year of completion of our installation not withstanding any other statute of limitation that would otherwise apply.
- Choice of Law. This Agreement shall be governed by the laws of the State of California, without regard to rules pertaining to conflicts of law. The state courts located in San Bernardino County, California shall have exclusive jurisdiction for any disputes relating to this warranty.
- Successors and assigns. Your rights hereunder may not be assigned to a third party.
- Venue. The parties agree that the state courts located in San Bernardino County, California, shall be the only proper forum and court of competent jurisdiction for any dispute arising hereunder.
- Authorship. The parties agree that this Agreement has been negotiated and drafted by them equally and that neither party shall have the benefit of an adverse inference being drawn against the other party.
- Severability. If any provision herein should, for any reason, be construed by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect and be construed so as to make this Agreement enforceable to the maximum extent allowed by law.
- Counterparts; Facsimile. This Amendment may be executed in counterparts, each of which when so executed and delivered shall be taken together to be an original; but such counterparts shall together constitute one and the same document. Facsimiles shall have the force of an original.

LIMITATION OF REMEDIES AND DISCLAIMER OF WARRANTIES. WE WILL NOT BE LIABLE IN ANY CASE FOR ANY LOSS OF USE, LOST PROFITS, SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR PUNITIVE DAMAGES. IN NO EVENT, SHALL OUR LIABILITY EXCEED REIMBURSEMENT OF ANY MONIES PAID BY YOU UNDER THIS AGREEMENT AND THIS SHALL BE YOUR EXCLUSIVE AND SOLE REMEDY FOR ANY CLAIM HEREUNDER. THE FOREGOING LIMITATION SHALL NOT APPLY TO CLAIMS FOR PERSONAL INJURY. THE LIMITATIONS, EXCLUSIONS AND DISCLAIMERS IN THIS SECTION AND ELSEWHERE IN THESE TERMS OF USE APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW.

TORIN INC. INSTALLATION AGREEMENT

Email Signed Installation Agreement to info@torin-usa.com
or
Mail Signed Installation Agreement to TORIN INC. 4355 E. Brickell St. Ontario, CA 91761 USA

Pre-Installation Agreement Signatures Required:

Customer Name:		Date of Installation:
Company Name (if applicable):		
Street Address:		
City:	State:	Zip:
Phone:	Fax:	

Customer Signature:	Print Name:	Date:
Product Model Number:	Product Serial Number:	Product Manufactured Date:

Post-Installation Agreement Signatures Required:

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

✓ *Check boxes to verify work has been completed*

- ☐ Base and columns properly shimmed and stable
- ☐ Anchor bolts tightened to 150 ft-lbs torque
- ☐ All screws, bolts, and pins secured
- ☐ Electric power supply confirmed
- ☐ Cables and chains adjusted properly
- ☐ Safety locks functioning properly
- ☐ Checked for hydraulic leaks
- ☐ Oil level is full
- ☐ Lubrication of critical components complete
- ☐ Lift adapters and accessories functioning properly
- ☐ No overhead obstructions
- ☐ Surrounding area and lift clean in appearance
- ☐ Proper operation, maintenance and safety explained
- ☐ Operation and safety manual(s) left at site
- ☐ Runways properly attached and secured (if applicable)
- ☐ Runways level and plumb (if applicable)