

# 20ft / 22ft USERS MANUAL



### **CHIEF'S LIMITED ONE-YEAR WARRANTY & LIABILITY**

Chief Collision Technology warrants for one year from date of installation and/or purchase any components of its PHOENIX Repair System which do not perform satisfactorily due to defect caused by faulty material or workmanship. Chief's obligation under this warranty is limited to the repair or replacement of products which are defective and which have not been misused, carelessly handled, or defaced by repair or repairs made or attempted by others.

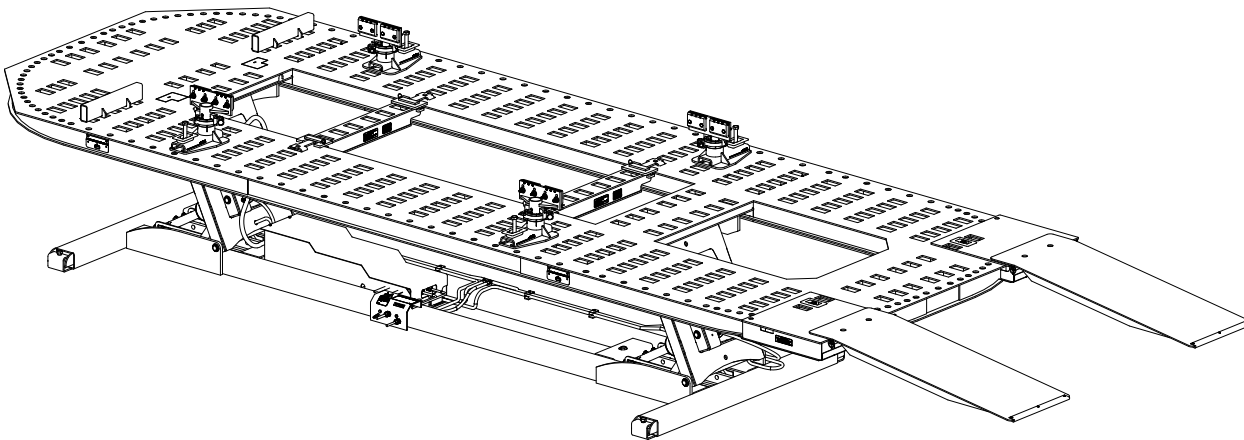
**CHIEF COLLISION TECHNOLOGY DOES NOT ASSUME RESPONSIBILITY FOR ANY DEATH, INJURY OR PROPERTY DAMAGE RESULTING FROM THE OPERATOR'S NEGLIGENCE OR MISUSE OF THIS PRODUCT OR ITS ATTACHMENTS. CHIEF MAKES NO WRITTEN, EXPRESS OR IMPLIED WARRANTY WHATSOEVER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE REGARDING THE EQUIPMENT OR ANY PART OF THE PRODUCT OTHER THAN THE LIMITED ONE-YEAR WARRANTY STATED ABOVE.**

Phoenix Model #'s:

PARTS LIST		
PART NUMBER	DESCRIPTION	INPUT VOLTAGE SPECS
451321	Phoenix 20 Series - 22 ft.	115VAC 50/60 HZ Single Phase
451322	Phoenix 20 Series - 20 ft.	115VAC 50/60 HZ Single Phase
451331	Phoenix 30 Series - 22 ft.	115VAC 50/60 HZ Single Phase
451332	Phoenix 30 Series - 20 ft.	115VAC 50/60 HZ Single Phase
451341	Phoenix 40 Series - 22 ft.	115VAC 50/60 HZ Single Phase
451342	Phoenix 40 Series - 20 ft.	115VAC 50/60 HZ Single Phase
451421	Phoenix 20 Series - 22 ft.	208VAC 50/60 HZ Single Phase
451422	Phoenix 20 Series - 20 ft.	208VAC 50/60 HZ Single Phase
451431	Phoenix 30 Series - 22 ft.	208VAC 50/60 HZ Single Phase
451432	Phoenix 30 Series - 20 ft.	208VAC 50/60 HZ Single Phase
451441	Phoenix 40 Series - 22 ft.	208VAC 50/60 HZ Single Phase
451442	Phoenix 40 Series - 20 ft.	208VAC 50/60 HZ Single Phase

Notes:

- 20 Series = 2 towers; 30 Series = 3 towers; 40 Series = 4 towers
- The only differences between model #'s are the quantity of towers and the power unit.



**This machine is shipped with hydraulic oil in the reservoir. Confirm fluid level is within 1" (25mm) of the fill port using SUS215 viscosity @ 100°F (38°C) 10W hydraulic oil prior to operating. Lower machine and towers to lowest position before adding any fluids.**


This users manual is written to familiarize operators with the safe and efficient operation of the Chief PHOENIX. The PHOENIX machine features unibody and full frame repair capabilities with 360 degree pulling access around the vehicle.

Two towers are provided with the PHOENIX and up to two more can be added as optional equipment. Each tower mounts to the bottom plate of the mainframe. A unique tower roller design allows easy movement around the machine and a "Sure-Lock" force clamp secures the tower to the mainframe when making a pull. Each tower is equipped with one 10-ton hydraulic ram operated by an electric over hydraulic pump. The machine is hydraulically positioned at various working heights, and tilts hydraulically for either drive-on or winch-on positioning of vehicles.

**NOTE:** Illustrations shown in this manual may vary slightly from actual product.

This manual is not intended to replace Chief Collision Training. For information concerning Training, contact Chief Collision Technology.

#### **IMPORTANT:**

1. DO NOT attempt to operate the Chief PHOENIX without first reading this entire manual.
2. Complete safety information is highlighted throughout this manual and is identified by: 

This safety alert symbol identifies safety information. Operator injury could result if these CAUTION notes are not followed.

3. Qualified service personnel must check operational capacity of the PHOENIX system prior to its initial use and at intervals of no more than one year. Contact Chief Collision Technology or contact your authorized Chief Collision Technology representative.
4. Persons operating the PHOENIX repair system must be at least 18 years of age, must be trained in the operation of the PHOENIX system, and must have demonstrated their qualifications to the employer. They must also be specifically assigned to operate the PHOENIX system by the employer and this assignment must be made in writing.

## IMPORTANT SAFETY INSTRUCTIONS






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

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. 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 ledge 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. Keep hair, loose clothing, fingers and all parts of the body away from moving parts.
10. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
11. Use only as described in this manual. Use only manufacturer's recommended attachments.
12. **ALWAYS WEAR SAFETY GLASSES.** Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.





**SAVE THESE INSTRUCTIONS**

## General Safety Tips



### General

-  DO NOT operate this machine unless:
  - 1) You are authorized by your employer.
  - 2) All towers are properly locked and secured to machine.
  - 3) Vehicle's wheels are blocked and parking brake is set.
  - 4) Load is 12,000 lbs or less.
  - 5) Field of motion of load carrying device is free of persons and obstructions.
-  Persons operating the PHOENIX repair system must be at least 18 years of age, must be trained in the operation of PHOENIX system, and must have demonstrated their qualifications to the employer.
-  DO NOT attempt to operate the PHOENIX pulling system without first reading this entire manual.
-  Always wear safety glasses when using the PHOENIX machine or any of its accessories.
-  Maintain a free space of 20 inches (50cm) minimum around all moving parts and pinch points on machine.

### Crossmember

-  DO NOT use crossmember as a step.
-  DO NOT use crossmember to make angular pushes or pulls.
-  During removal and reinstallation of crossmember, hold crossmember firmly to support its weight. Use a helper if needed. Following installation, install support pins at each end of crossmember to prevent accident disengagement.
-  To Avoid Damage to the lift assemblies or mainframe, crossmember must be installed and located properly when raising or lowering equipment, always place crossmember in center of rack before vehicle enters or exits.



### Tower Collar

-  To avoid accidental dropping of tower collar, tighten collar locking knob and/or lower collar to bottom of tower.
-  Collar locking knob must be tightened before removing tower chain from vehicle.

### Tower Movement

#### **WARNING!**



Fully engage "Sure-Lock" force clamp with pinning hole on mainframe to prevent tower movement during the pull or during a raising or lowering procedure.

-  When pushing tower, keep one hand on tower lever and the other on the tower pipe above the collar. Also, keep hands away from all pinch points...i.e. roller assemblies on bottom mainframe plate and force clamp pinning location on top mainframe plate.
-  When engaging "Sure-Lock" force clamp, keep hands away from all pinch points...i.e. roller assemblies on bottom mainframe plate and force clamp pinning location on top mainframe plate. NOTE: Hoses may need to be disconnected when moving towers around the front and rear of machine.




### Pulling

#### **WARNING!**


To avoid severe personal injury to yourself and others: DO NOT position yourself close to, or in line with chains, clamps, or other accessories while pressure is applied to this system.

-  To prevent personal injury from flying objects:
  - Check all bolts, nuts and clamps for deformation or elongation prior to each use.
  - Deformed or elongated materials must be replaced.
  - If materials look deformed, they are deformed. Replace them.
-  Remove twist in chain before applying pressure to the chain.

### Raise / Lower Machine









-  When raising or lowering machine, secure towers to front of mainframe. The "Sure-Lock" force clamps must firmly engage pinning holes at that location and tower levers must be down.
-  Lifting of persons is prohibited.
-  Keep feet and objects clear of mainframe when lowering machine.

## General Safety Tips (continued)



-  To Avoid Personal Injury or Damage to Equipment:
  - Before operating the machine make sure:
    - Persons and objects are clear of machine
    - Hoses and other objects are free of the lift legs.
  - Oil spills must be cleaned up immediately to prevent slipping.
  - Hoses on the floor can create a tripping hazard.

### Loading / Unloading Machine







Prior to driving or winching vehicle on or off the machine make sure loading ramps are installed correctly and crossmembers are returned to center of mainframe.

-  When driving or winching a vehicle on or off machine, use helper to guide you. If vehicle's brakes are inoperable, use a Chief Winch and refer to instructions packaged with that accessory.
-  Immediately after positioning vehicle on mainframe, put vehicle in park (if automatic transmission), apply vehicles emergency brake, and have helper install wheel chocks at "front" of front tire and at "rear" of rear tire. Install wheel chocks as close to the tires as possible to prevent vehicle movement and keep wheel chocks installed whenever vehicle is not anchored to mainframe.
-  Position vehicle far enough onto mainframe so that wheels do not rest on loading ramps. DO NOT use ramps to lift or hold a load off of the floor.
-  Before lowering machine, put vehicle in park (if automatic transmission), apply vehicles parking brake, and install wheel chocks. Then check to make sure loading ramps are installed correctly.
-  DO NOT run over air hoses or hydraulic lines when loading or unloading vehicles.
-  DO NOT exceed the machine's 12,000 lbs. (5,443 kg.) lifting capacity.
-  When raising or lowering machine with vehicle aboard, DO NOT walk behind rear of machine.
-  Always install wheel chocks when raising or lowering machine with a vehicle aboard.


### Chain

-  The 1/2" tower chain has a WLL: 20,000 lbs (89 kN).
-  To avoid personal injury or damage to property, DO NOT:
  - Heat chain or hook while repairing vehicle.
  - Tip load chain hook.
  - Pull with twisted chain links.


### Hydraulics

-  Keep pumps far away from excessive heat or flames.
-  Always release hydraulic pressure before disconnecting hydraulic hoses.
-  If pump fails to shut off, disconnect electric supply and contact an authorized Chief Collision Technology Service Representative.
-  All components must be replaced with Chief Collision Technology authorized replacement parts.
-  Improper handling and/or modification of parts is forbidden and may cause a hazardous situation for the user. Such action immediately voids the warranty and releases the manufacturer from all liability.
- 
  1. Fill pump reservoir with all cylinders retracted and deck in lowest working position. (See Maintenance Section - page 19.)
  2. DO NOT overfill pump reservoir.

### Operational Capacity

-  Qualified service personnel must check operational capacity of PHOENIX system prior to its initial use and at intervals of no more than one year. Contact Chief Collision Technology or contact your authorized Chief Collision Technology representative.

### Optional Steps / Ladders

-  Use only approved steps and ladders when working on or around this equipment.

## Hydraulic System Components

### General

The Chief PHOENIX system is powered by an electrically operated hydraulic pump which is controlled by a remote control switch. Refer to the PHOENIX Parts Manual (Chief #IN20855) for component detail.

Hydraulic pressure is distributed to tower cylinders, auxiliary cylinders, and lift cylinders. The flow of hydraulic fluid to tower and auxiliary cylinders is controlled by individual valves located in each auxiliary line. The flow of hydraulic fluid to the lift cylinders is controlled by an electric switch mounted within the Remote Pendant. Hydraulic pressure is monitored by gauges mounted on the towers.

**NOTE:** Although the PHOENIX is a low pressure system, it builds hydraulic pressure quickly. Be aware of this quick reaction when making pulls or lifting vehicles.

### Important:

Tower cylinders and auxiliary cylinders can be operated either simultaneously (with equal hydraulic pressure) or individually. The lift cylinders must not be operated while any tower or auxiliary cylinders are operating. Whenever using the hydraulic system, close all valves where hydraulic pressure is not required.

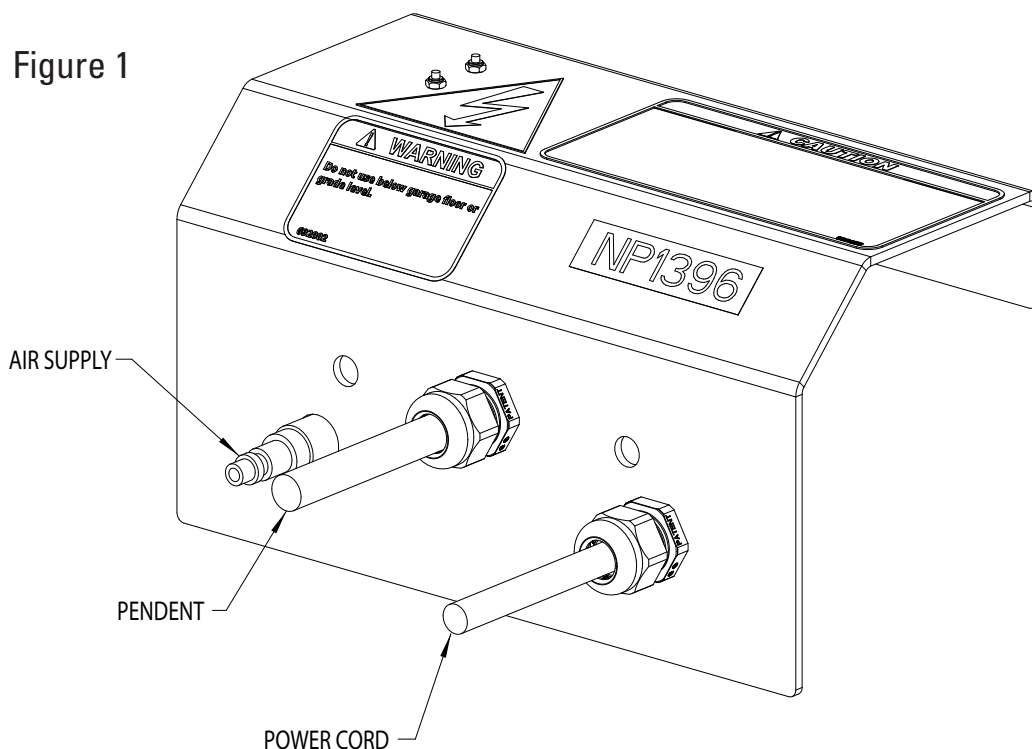


**CAUTION:** To avoid personal injury or damage to property: When disconnecting hydraulic hose from quick coupler, some fluid spillage may occur. Always clean up any hydraulic fluid spillage from floor or work area.

### Initial Setup





The PHOENIX requires (2) outside power sources to activate the safety lock releases and power unit controls. Before using the PHOENIX, it is necessary to install a customer supplied air and electrical supply. The PHOENIX control panel is equipped with a male AirQuick coupler and power cord. (See Figure 1.)

Figure 1




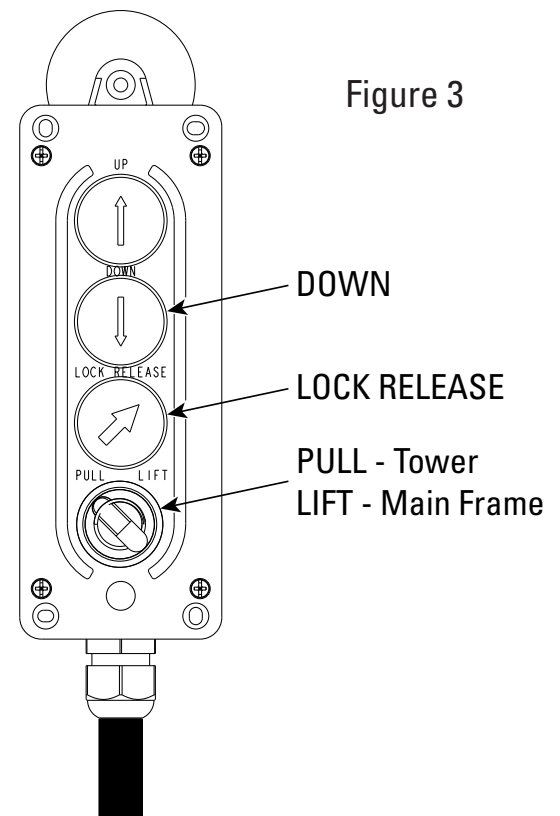
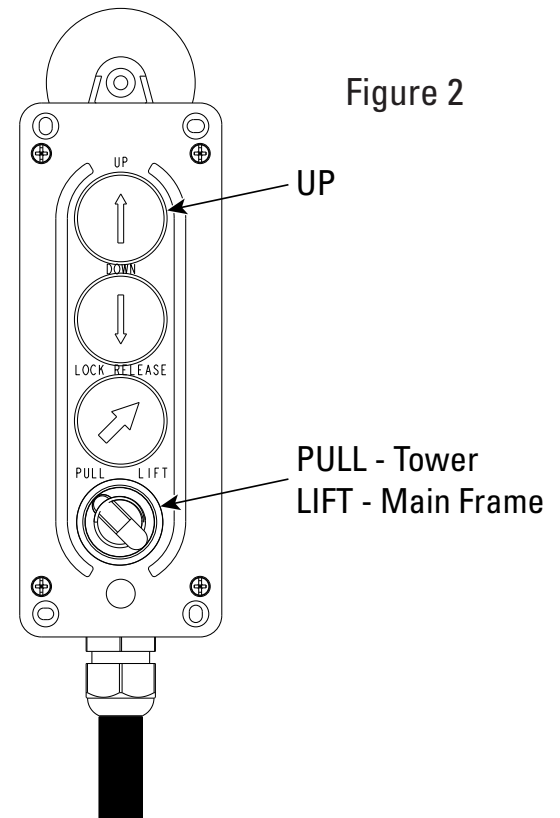
## Pump Usage

**STOP!** This machine is shipped with hydraulic oil in the reservoir. Confirm fluid level is within 1" (25 mm) of the fill port using SUS215 viscosity @ 100°F (38°C) 10W hydraulic oil prior to operating.

1. To activate hydraulic pump to apply pressure to system to raise machine or towers, depress  "UP" button on the hand-held control unit, Figure 2. The pump will build hydraulic pressure in the system to activate lift, tower, or auxiliary hydraulic cylinders.
2. To disengage the hydraulic pump, release  "UP" button on hand-held control unit, Figure 2. This action stops the flow of hydraulic oil to the system being operated: However, the system holds existing hydraulic pressure.
3.  To release hydraulic pressure, depress the  "DOWN" button on the hand-held control unit, Figure 3. This will release the hydraulic pressure in the system and return hydraulic oil to the pump reservoir.

**CAUTION:** To prevent damage to the pump and hydraulic cylinders, DO NOT operate pump when cylinders are fully extended. (If possible, stop supplying pressure before cylinders reach their full extent.)

4. Selector Switch, rotate to designate operation, Figure 3.  
Tower functions: Pull-Lift = Mainframe functions.
5.  Lock Release, used to retract locks during descending travel of mainframe, Figure 3.  
\*To lower mainframe, raise until all locks disengage and release button. Depress Lock Release button and Lower button together while descending travel. Pay close attention to surrounding areas for objects or persons entering the area.  
\*Stop immediately if locks hang or do not retract.




## Towers

The PHOENIX repair system is equipped with pulling towers that can be positioned 360 degrees around the machine. The system can accommodate up to two additional towers. All towers feature telescoping heads, adjustable collars, and a unique roller assembly that not only secures the tower to the bottom of the machine but also allows for 360 degree movement around the machine.

Also unique to this system are the “Sure-Lock” force clamps that secure towers to circular pinning holes along the outer edge of the mainframe. The force clamps secure towers to the mainframe while removing stress from the roller assemblies.

Tower pulls can be set up quickly and are controlled by a hand-held pendant, which controls the flow of hydraulic pressure, and individual tower valves which control the flow of oil to each tower. Lateral and elevated pulling angles can be made or changed in just a fraction of a minute.

 **CAUTION:** The 1/2 inch (13mm) tower chain has a WLL: 20,000 lbs. (89kN).

### To Operate Towers

1. Step on “Sure-Lock” release handle to unlock “Sure-Lock” force clamp from mainframe, Figure 4.
2. Rotate “Sure-Lock” lock handle forward to fully open Sure-Lock, Figure 5.
3. Push tower to desired location on machine, Figure 6.


 **CAUTION:** When pushing tower, keep one hand on “Sure-lock” lock handle and other hand on tower pipe above collar. Also, keep hands away from all pinch points...i.e. roller assemblies on bottom of mainframe plate and force clamp pinning locations on top mainframe plate.



Figure 4

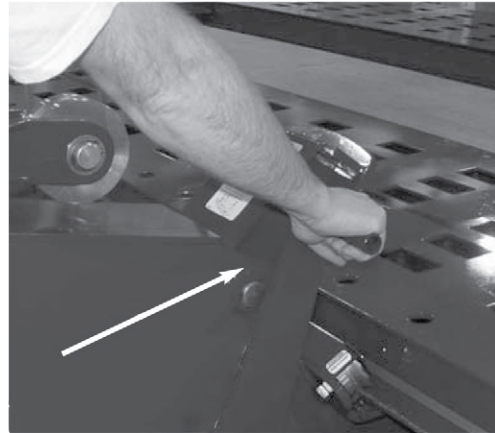


Figure 5




Figure 6

## To Operate Towers (continued)

4. To secure tower to mainframe, rotate "Sure-lock" lock lever back and down to engage "Sure-Lock" force clamp with mainframe pinning hole, Figure 7. Fully lock "Sure-Lock" by stepping on lock lever. "Sure-Lock" force clamp is fully engaged when outer tower rollers are raised above the outer track, Figure 8.

### **WARNING!**

Fully engage "Sure-Lock" force clamp with pinning hole on mainframe to prevent tower movement during the pull or during a raising or lowering procedure.

-  **CAUTION:** When engaging "Sure-Lock" force clamp, keep hands away from all pinch points...i.e. roller assemblies on bottom mainframe plate and force clamp pinning location on top mainframe plate.

5. To adjust slack tower chain, grip chain on each side of the tower. Lift out on tail of chain until it is approximately 45 degrees from tower. Then disengage chain from tower head and pull chain to either increase or decrease amount of slack, Figure 9.
6. Support collar with one hand while loosening collar locking knob with opposite hand. Then position collar approximately three inches (75mm) above desired pulling height and retighten collar locking knob, Figure 10.
7. Let tower chain hang free momentarily to remove twist. Then without twisting chain, attach hook to the vehicle. Pull on tail end of chain to remove slack, Figure 11. and then lower collar.

**IMPORTANT:** Remove twist from chain before lowering collar. Make sure that chain links between collar roller and hook align.

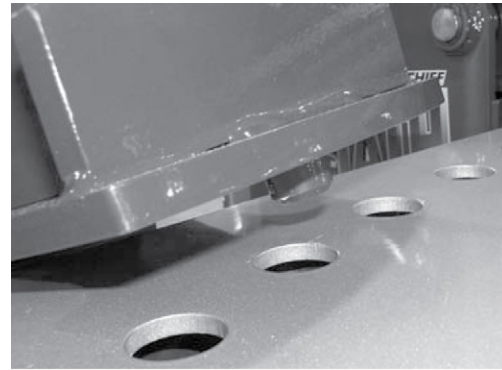


Figure 7

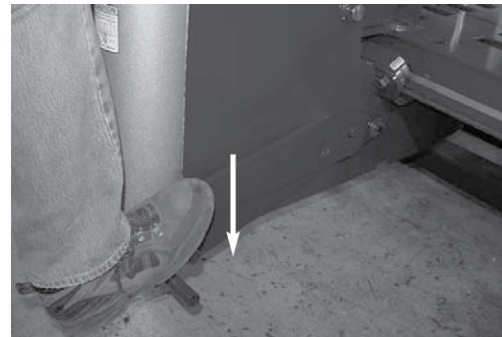


Figure 8

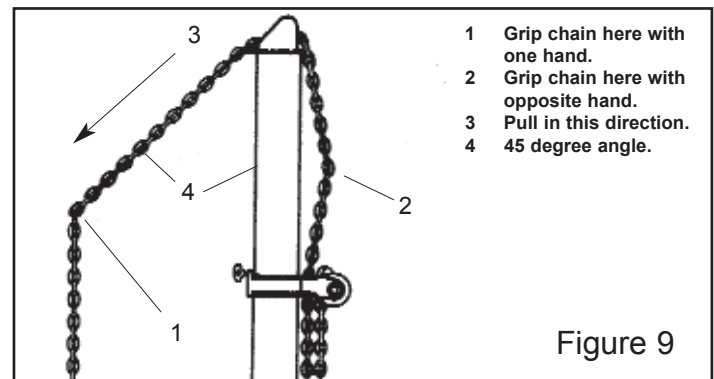


Figure 9

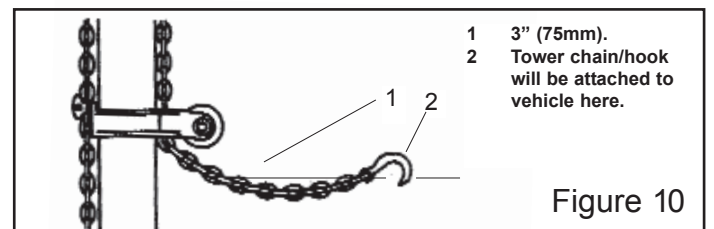


Figure 10

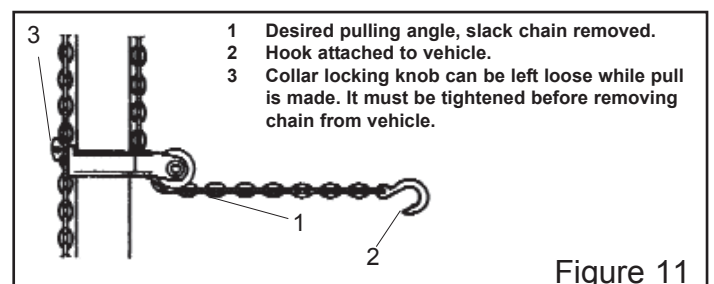


Figure 11

## To Operate Towers (continued)

### IMPORTANT:

ALWAYS relieve hydraulic pressure on tower hoses before connecting or disconnecting couplings.

8. Attach hydraulic hose from tower to quick coupler on mainframe, Figure 12.
9. To operate pump, follow usage procedures on page 9.



### CAUTION:

1. To prevent damage to tower assembly, pulls must not exceed a 45 degree angle from tower base, Figure 13.
2. To avoid personal injury or damage to equipment, DO NOT:
  - Heat chain hook while repairing vehicle.
  - Tip load chain hook.
  - Pull with twisted chain links.



### WARNING!

To avoid severe personal injury to yourself and others: DO NOT position yourself close to, or in line with chains, clamps, or other accessories while pressure is applied to this system.

### IMPORTANT:

1. DO NOT tighten collar locking knob while pressure is applied to system because it will be impossible to loosen the knob without pressure on the system.
  2. DO NOT wrap tower chain around track nor attach tower hook to track. Damage to track will impede tower usage.
10. When tower is no longer needed, disconnect hydraulic hose from mainframe quick coupler, remove tower chain and hook from vehicle and store collar using one of the two methods shown in Figures 14 and 15.



### CAUTION:

1. Collar locking knob must be tightened before removing tower chain and hook from vehicle.
2. Collar locking knob must be tight when collar is not in use.
3. Store collar at bottom of tower pipe or support collar with tower chain.

Figure 12

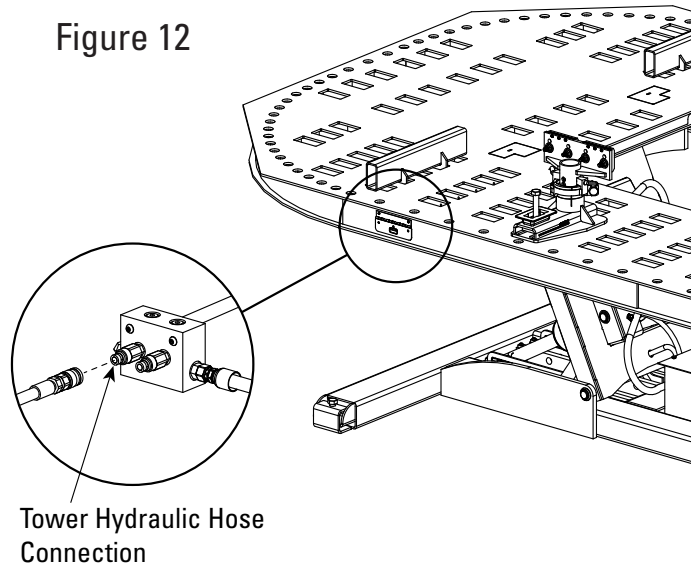
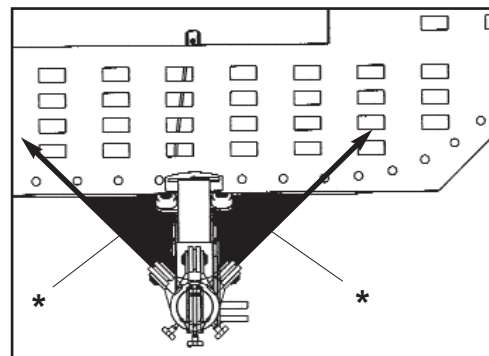


Figure 13



\* Pulling Angle Must Not Exceed 45 Degree Range From Tower Base.

Figure 14

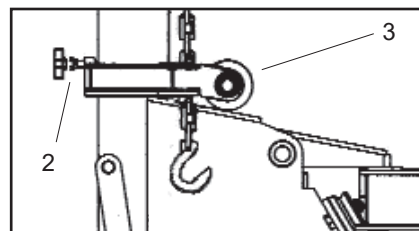
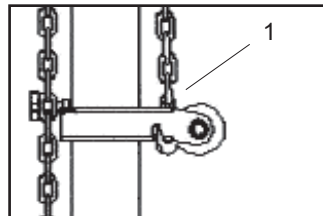


Figure 15

- 1 Collar supported by Tower Chain.
- 2 When collar and chain are stored this way, collar locking knob must be tightened before removing tower chain and hook from vehicle.
- 3 Collar rests on tower

## Crossmember

### General

The crossmember mounts to the inside edges of the treadway and can be moved forward or rearward as needed, Figure 16. The crossmember does not lock to the machine; however, support pins prevent it from being accidentally disengaged, Figure 18.

The primary use of the crossmember is to support perpendicular pulls and pushes. In both instances, the auxiliary ram must be positioned perpendicular with top or bottom of crossmember.

To install the crossmember, hold it secure while rotating it into position, Figure 17. Both ends of the crossmember must engage top mainframe plate. Then secure support pins at each end of the crossmember, Figure 18.



### CAUTION:

1. DO NOT use movable crossmember as a step.
2. DO NOT use movable crossmember as a base to make a hydraulic pull or push unless auxiliary ram is positioned perpendicular (90 degrees) with top or bottom of crossmember.
3. Each time crossmember is removed from mainframe and reinstalled, reinstall support pins at each end of the crossmember to prevent accidental disengagement.
4. DO NOT make angular pulls or pushes from the crossmember.

### Reverse Usage - Crossmember

If additional height is required for lifting high ground clearance vehicles, the crossmember can be turned upside down to provide a higher platform, Figure 19. Bridging the treadways in this fashion provides an additional 5 inches of height.



### CAUTION:

1. When crossmember is installed as shown in Figure 19, use extreme caution.
2. Use this setup only when mainframe is in level position.
3. Center crossmember evenly from side to side.
4. Remove crossmember before lowering machine.
5. Use this setup for perpendicular lifting only. DO NOT use this setup for any type of pull.
6. DO NOT position yourself close to or underneath the crossmember when lifting the vehicle.
7. Take caution to position crossmember when raising and lowering machine so that it does not damage the lift arm or pump.

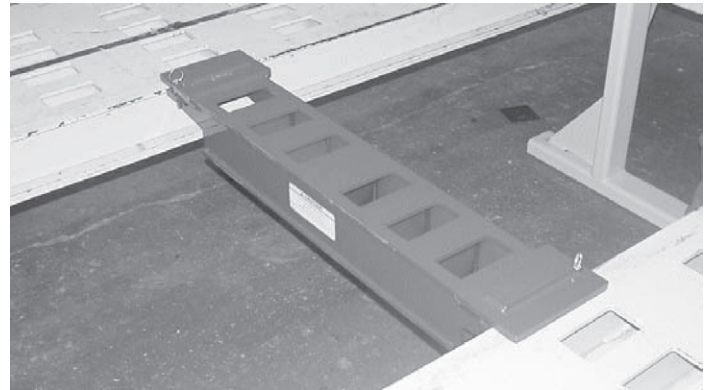


Figure 16



Figure 17

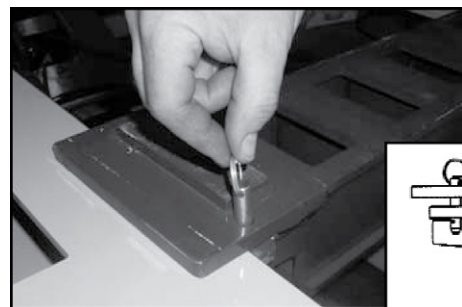


Figure 18

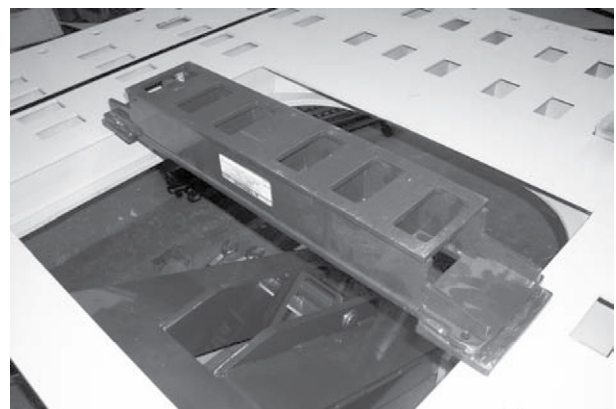
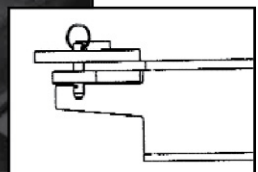


Figure 19

## Lowering / Raising Machine

### General

When lowering or raising a machine with a vehicle aboard observe the following precautions.



### CAUTION:

1. When driving or winching vehicle on or off machine, use a helper to guide you, Figure 20. If vehicle's brakes are inoperable, use a Chief Winch and refer to instructions packaged with that accessory.
2. When vehicle is on mainframe, all wheels must clear the loading ramps. DO NOT attempt to lift machine with vehicle's wheels on the loading ramps or if fastener plates and hardware are not in place, Figure 21. Ramp removal is optional before raising machine.
3. Immediately after positioning vehicle on mainframe, put vehicle in park (if automatic transmission), and apply vehicles emergency brake. Continue to press brake pedal until helper installs wheel chocks at "front" and "rear" of machine, Figure 22 and Figure 23.
4. Prior to lowering machine, put vehicle in park (if automatic transmission), apply vehicles emergency brake, and install wheels chocks at front of front tires and rear of rear tires Then install loading ramps at rear of machine.
5. Keep vehicles wheels blocked during raising and lowering procedures and whenever vehicle is not anchored to mainframe.
6. When raising or lowering machine with vehicle aboard, DO NOT walk behind machine.
7. DO NOT exceed 12,000 lbs. (5,443 kg) lifting capacity of PHOENIX system.



Figure 20

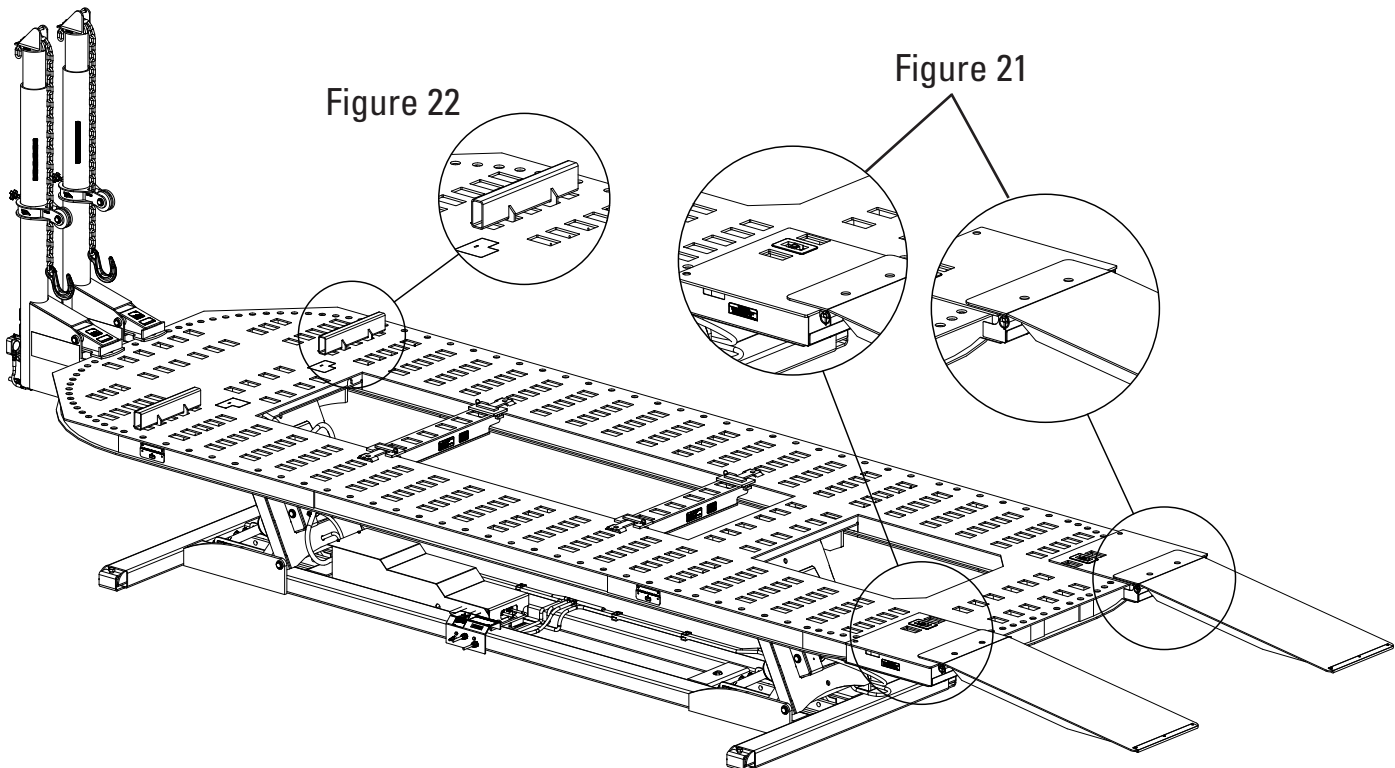
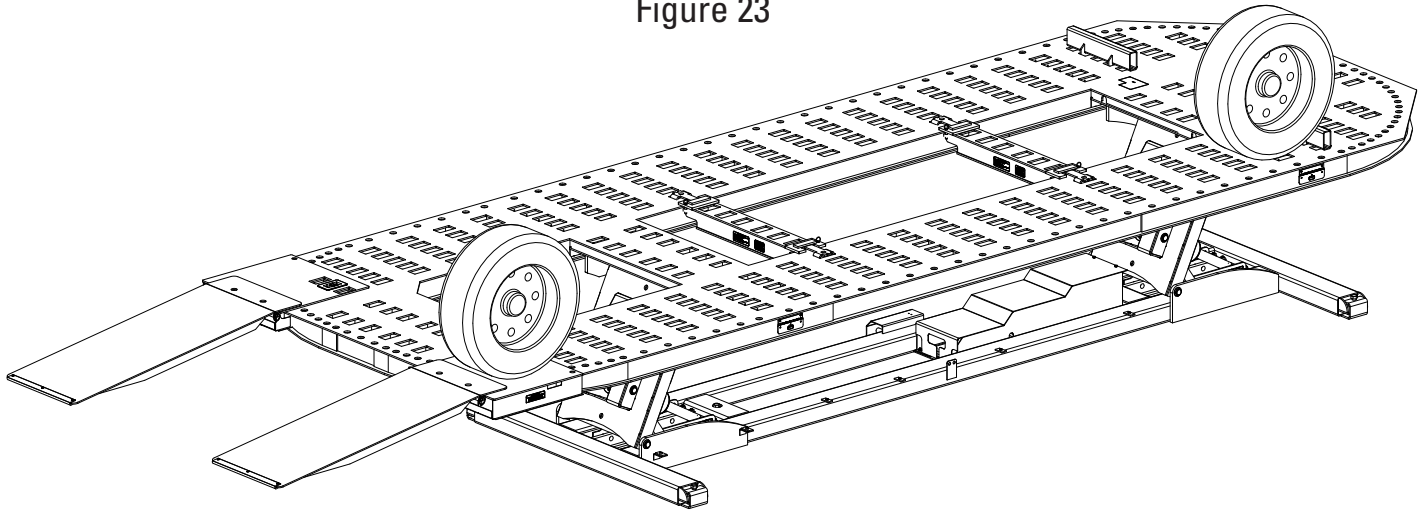


Figure 22

Figure 21

Figure 23



**To Lower Machine For Loading**

**IMPORTANT:** Observe preceding precautions when lowering machine with vehicle aboard.

1. Position towers at front of machine and secure the "Sure-Lock" force clamps to front pinning holes, Figure 24.

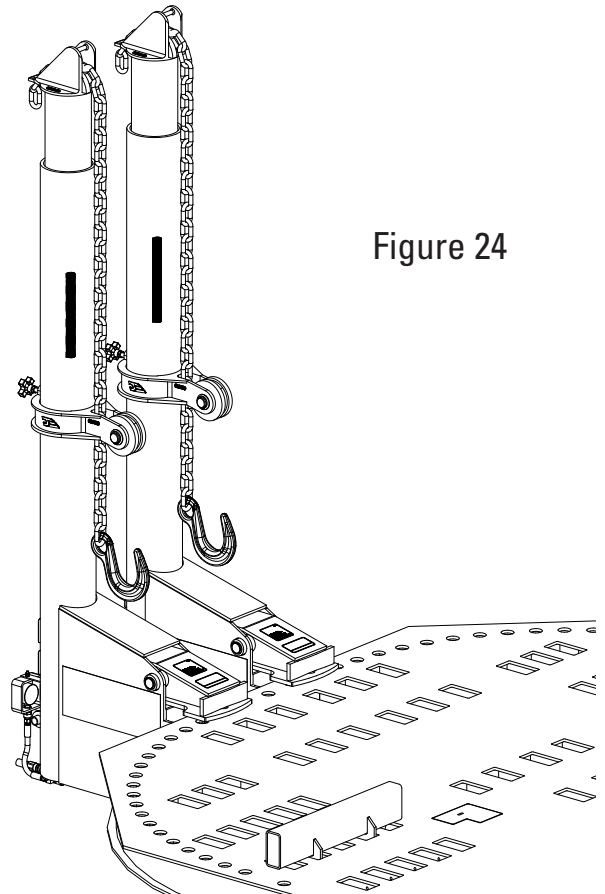


Figure 24

2. Turn off all auxiliary line valves or disconnect all tower and auxiliary cylinders from system, Figure 25.
3. Rotate switch on pendant to "LIFT" position, Figure 26.
4. Depress and hold the "UP" button on pendant to raise machine until it is level and both safety lock arms are released, Figure 27.
5. Activate lock arm release by depressing and holding the "LOCK RELEASE" button on the pendant, Figure 28.
6. Depress and hold the "DOWN" button on the hand-held pendant. The machine will automatically tilt into the loading position, Figure 29.



**CAUTION:**

1. Before lowering machine, clear all obstacles from under and around machine.
2. DO NOT allow anyone or anything to ride on machine or be under machine during lowering procedures.
3. Position cross-member immediately ahead of rear fixed crossmember to avoid damage to the machine.

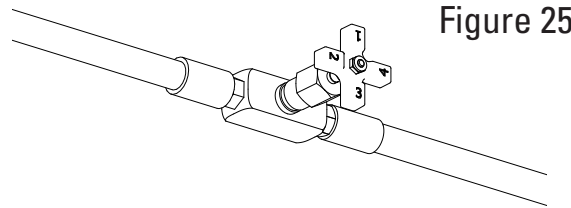


Figure 25

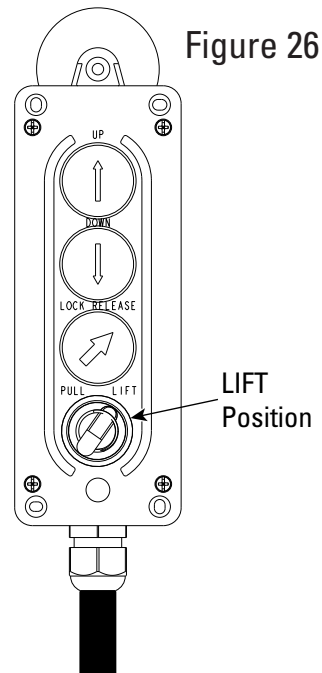


Figure 26

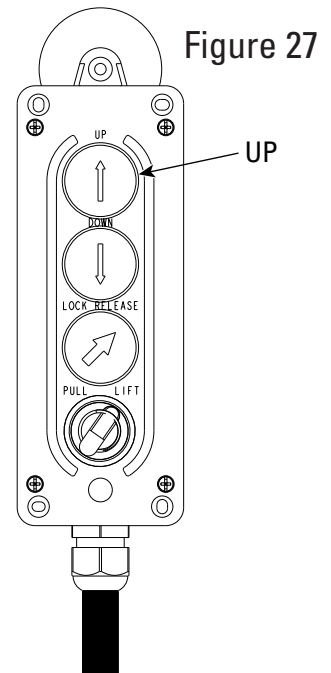


Figure 27

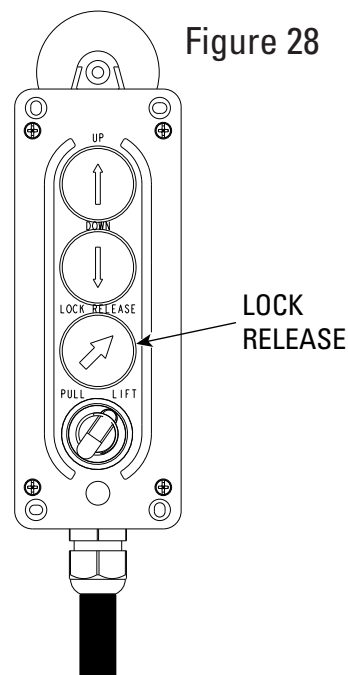


Figure 28

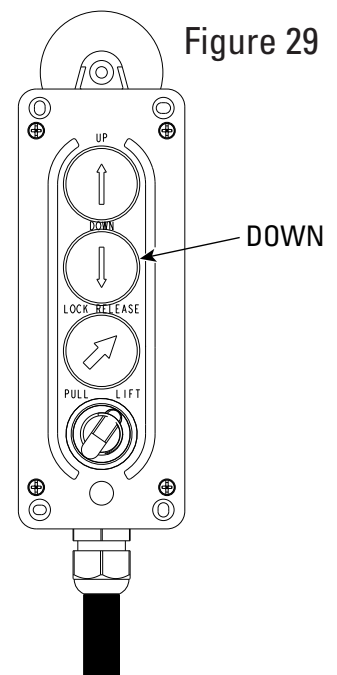


Figure 29

### To Raise Machine After Loading

1. Turn off all auxiliary line valves or disconnect all tower and auxiliary cylinders from system, Figure 30.
2. Rotate switch on pendant to "LIFT" position, Figure 31.
3. Activate pump by depressing and holding "UP" button on hand-held pendant. Rear cylinder will rise until machine is level. Once machine is level, both cylinders will rise together, Figure 32.
4. After machine is above desired working height, release "UP" button on hand-held pendant to stop flow of hydraulic fluid from pump. Depress and hold "DOWN" button on hand-held pendant to lower machine into mechanical stops, Figure 33.

Figure 30

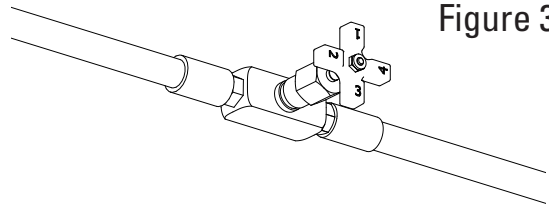


Figure 31

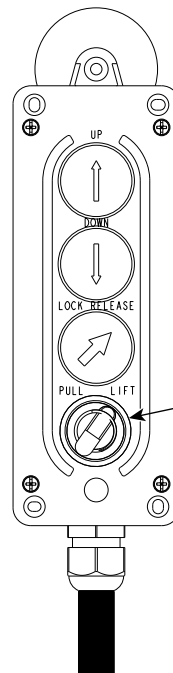


Figure 32

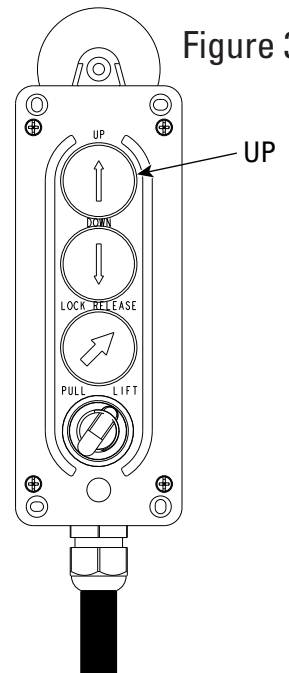
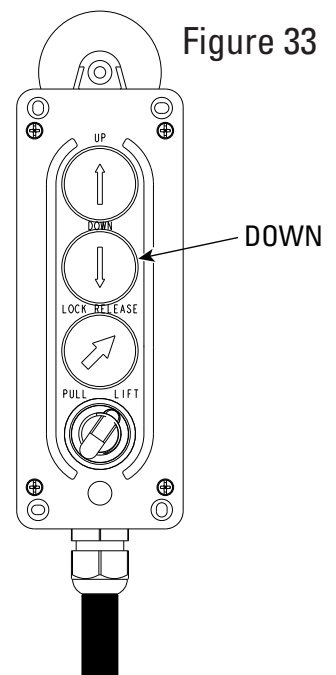


Figure 33



### **CAUTION:**

1. Before raising machine, verify that vehicle parking brake is set and automatic transmission is in park (if equipped).
2. DO NOT walk behind machine during raising procedures.
3. Install wheel chocks at front of front tire and rear of rear tire.

### Adjust Working Heights

The PHOENIX has four (4) working heights from 19 inches (480mm) to 40 inches (1010mm).

### To Raise Machine Working Height

1. Turn off all auxiliary line valves or disconnect all tower and auxiliary cylinders from system, Figure 34.
2. Rotate switch on pendant to "LIFT" position, Figure 35.
3. Activate pump by depressing and holding "UP" button on hand-held pendant. Raise machine until both cylinders are above desired working height, Figure 36.
4. Depress and hold "DOWN" button on hand-held pendant to lower machine into mechanical stops, Figure 38.

### To Lower Machine Working Height

1. Turn off all auxiliary line valves or disconnect all tower and auxiliary cylinders from system, Figure 34.
2. Rotate switch on pendant to "LIFT" position, Figure 35.
3. Activate pump by depressing and holding "UP" button on hand-held pendant. Raise machine until both lock arms are released, Figure 36.
4. Disengage lock arms by depressing and holding "LOCK RELEASE" button on pendant. Figure 37.
5. Depress and hold the "DOWN" button on hand-held pendant until machine is slightly above desired working height, Figure 38.
6. Release "LOCK RELEASE" button on pendant to release lock arms. Continue to depress "DOWN" button on hand-held pendant until machine settles into locks.

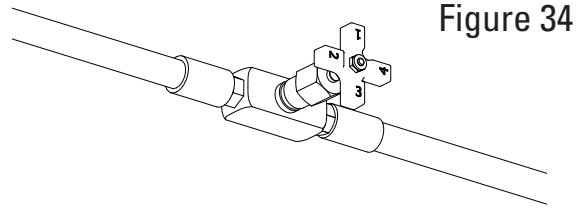


Figure 34

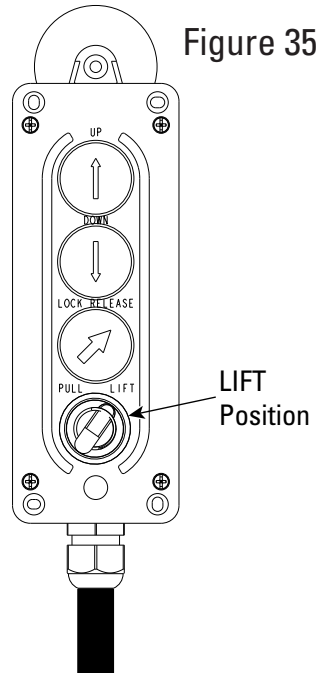


Figure 35

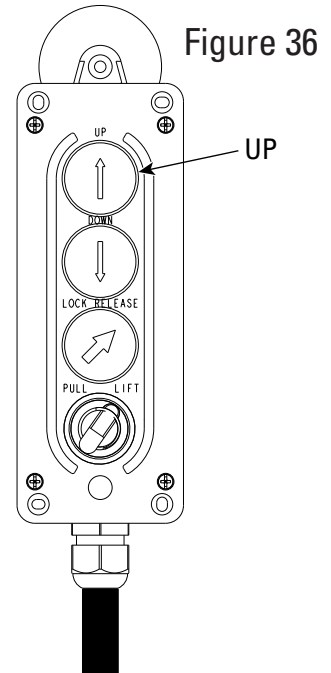


Figure 36

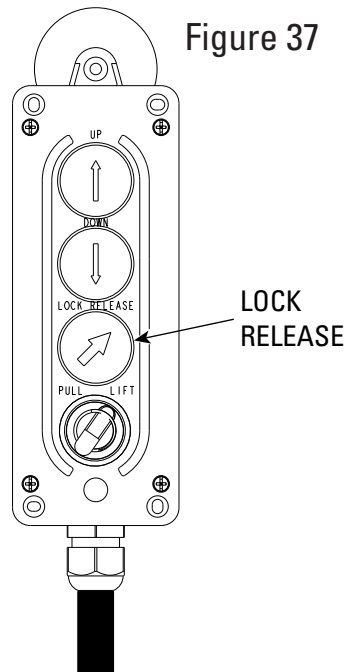


Figure 37

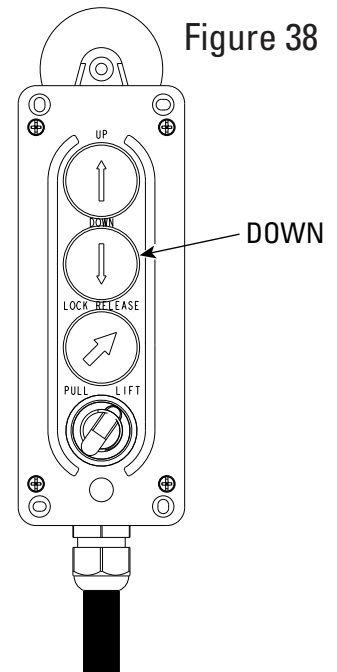


Figure 38

## Machine Maintenance

### Check And Inspect

These components should be checked prior to use and anytime a problem is suspected.



**CAUTION:** To avoid personal injury when performing any maintenance function, always wear safety glasses and safety shoes.

### Tower Chains, Tie-Down Chains

The tower chains/hooks and tie-down chains/hooks supplied with the Chief PHOENIX are high quality, high strength chains/hooks. If replacement is required, purchase only the original Chief product from an authorized Chief Collision Technology representative.



**CAUTION:** To avoid personal injury or damage to property:

- DO NOT Heat chain or hook while repairing vehicle.
- DO NOT Tip load chain hook. Tip loading chain hook will stress hook beyond its designed capability and could cause hook to fail.
- DO NOT Pull with twisted chain links. Pulling with twisted links will stress chain links beyond their designed capability and could cause chain to fail.

Tower chains must be inspected for wear, nicks, gouges, stretched and bent links. If found, replace chain.

Tower chain hooks must be inspected for twist and stretched openings. If found, replace them.

### Loading Ramps

Inspect loading ramps making sure loading ramp pins mate with pinning holes at rear of machine and all hardware is securely in place each time mainframe is raised or lowered.

### Tower Rollers

Inspect inside and outside tower roller wheels for damage. The inside and outside roller bearings are lubrication free. Use compressed air to clean. DO NOT lubricate.

### Power and Control Cords

Inspect power and control cords for worn insulation or other damage. If found, replace cord(s).

### Cleaning and Lubricating

These components should be cleaned and lubricated as specified for trouble free operation and extended service. When lubricating use the following:

Oil — Use 30 weight motor oil for all components requiring oil.

Grease — Use a SUS750 Lithium type grease such as lubricate #630-2 for all components requiring grease.

### Tower Heads

Clean tower heads annually.

1. Remove tower chain from tower head.
2. Remove tower head from tower pipe.
3. Clean dirt from tower head pipe and where tower head pipe rubs on inside of tower pipe.
4. Apply grease to tower head pipe.
5. Reinstall tower head and tower chain.

### Tower Collars

Clean and lubricate collars monthly.

1. Use compressed air to blow out dirt or dust that collects between collar ears and rollers.



**CAUTION:** Wear safety glasses while using compressed air to blow out dirt and dust.

2. Place a few drops of oil on roller pin between roller and collar ears (each side). Then turn roller a few times. Roller must turn freely.

### Eliminating Air In Hydraulic System

All air has been removed from hydraulic system at the factory, but if hydraulic system is opened to replace a system component, it is necessary to bleed air from system prior to using it.

### Bleeding Air In System At Tower Cylinder

1. Connect tower auxiliary line to mainframe and open auxiliary line valve.
2. Remove tower head and chain.
3. Fully extend tower cylinder by depressing and holding "UP" button on hand-held pendant until tower gauge shows 5 tons of pressure on system.
4. While holding rag over the top of the cylinder to prevent oil spray, use a 3/16" T-handle allen wrench, loosen cylinder top bolt 1/2 turn.
5. Rapid, side-to-side motion of the T-handle may be necessary to unseat the seal washer at the top of the cylinder.



**CAUTION:** Wear safety glasses to protect eyes from hydraulic oil in the event it squirts past rag.

6. Trapped air or trapped air/oil mixture (indicated by foam in the oil) should escape from top of cylinder. Wipe up any escaping oil with rag.
7. When cylinder is completely bled, only clean oil should escape from top of cylinder.

**NOTE:** It may be necessary to tighten top cylinder bolt and repressurize the system to 5 tons and repeat procedure.

8. Replace tower head and chain. Lower tower cylinder and refill reservoir to within 1/2" of fill port with all cylinders in retracted position.

## Machine Maintenance (cont.)

### Refill Hydraulic Fluid Reservoir

The hydraulic pump reservoir contains 12 quarts (13 liters) of hydraulic oil. When refilling or adding oil, fill to within 1/2" (12mm) of fill port using SUS 215 viscosity @ 100°F (38°C) 10W Hydraulic Oil, Figure 39.

#### **Caution:**

1. Fill pump reservoir with all cylinders retracted and deck at lowest working height.
2. DO NOT overfill pump reservoir.

### Lift & Port-a-frame Assembly

All lift leg and porta-frame pivot points are permanently lubricated and do not require maintenance except for occasional cleaning.

### Outer Track

Using compressed air, blow dirt and debris from outer track. If necessary, use stiff brush to remove build-up of dust and paint on outer track surface.

Visually inspect outer track for damage. Although small dents or upsets in the outer track may not affect the operation of the tower, they might indicate tower adjustment is necessary.

### Sure-Lock

With normal use, the pivots on the Sure-Lock clamping system should stay free of dirt and operate smoothly and quietly. Extended periods of non-use or damp environments may adversely affect the operation of the Sure-Lock.

Use compressed air to blow dirt and debris from Sure-Lock pivot points. Apply a few drops of oil to Sure-Lock pivot pin and handle shaft pivots and work mechanism.

**NOTE:** It may be necessary to remove the handle shaft retainer bolt and washer to lubricate both sides of the handle shaft. Refer to Parts Manual exploded view for details on removal of handle shaft retainer components.



**Caution:** Wear safety glasses while using compressed air to blow out dirt and dust.

The rotational motion of the Sure-Lock handles is transmitted to the Sure-Lock linkage via a 1/4" key. The key is retained by a 1/4-20 bolt. Verify that the bolt is tightened correctly.

Visually inspect the internal Sure-Lock linkage to verify that the Tower Linkage Driver bar is centered on the Sure-Lock handle shaft. With the Sure-Lock clamp in the locked position, inspect the engagement of the tower float linkage bars to the handle shaft.

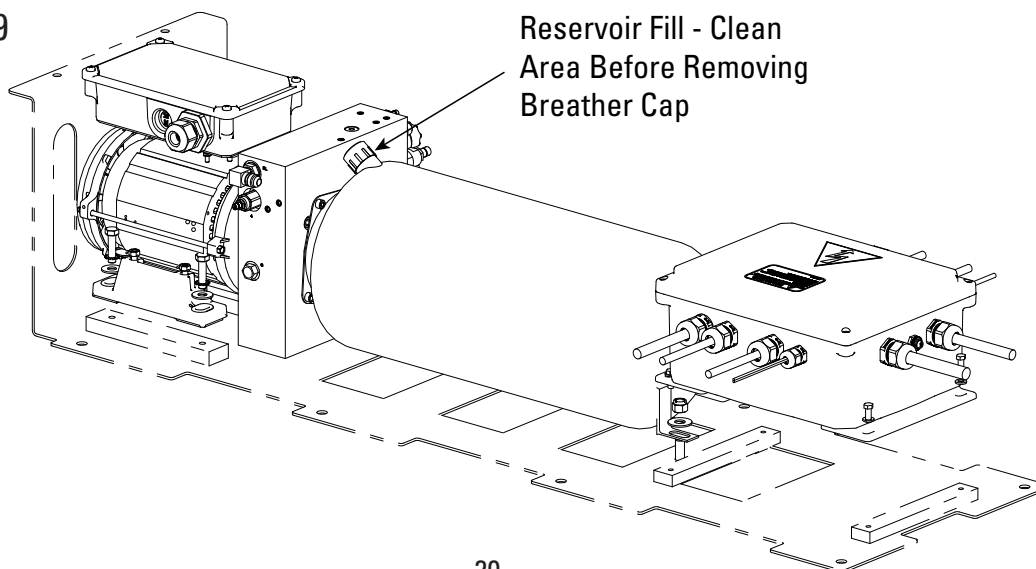
### Tower Rollers

Using compressed air, blow dirt and debris from the tower outside wheel assemblies. Visually inspect the bolts retaining the outside wheels to the tower weldment and the outside roller guard for damage.

Verify that the four bolts retaining the tower hook to the inside end of the 360 tower are not loose. Verify that the two bolts holding the tower outrigger block are tight.

**NOTE:** Refer to Parts Manual for detailed exploded views of referenced parts. Contact Chief Collision Technology with any questions regarding the usage or maintenance of the PHOENIX system.

Figure 39



## Leveling Machine

1. Position towers at front of machine and secure the Sure-Lock force clamps to front pinning holes.
2. Raise machine to top working height and settle into mechanical stops.
3. Place level across front stabilizer bar and adjust left and right leveling bolts until front bar is level, Figure 40.

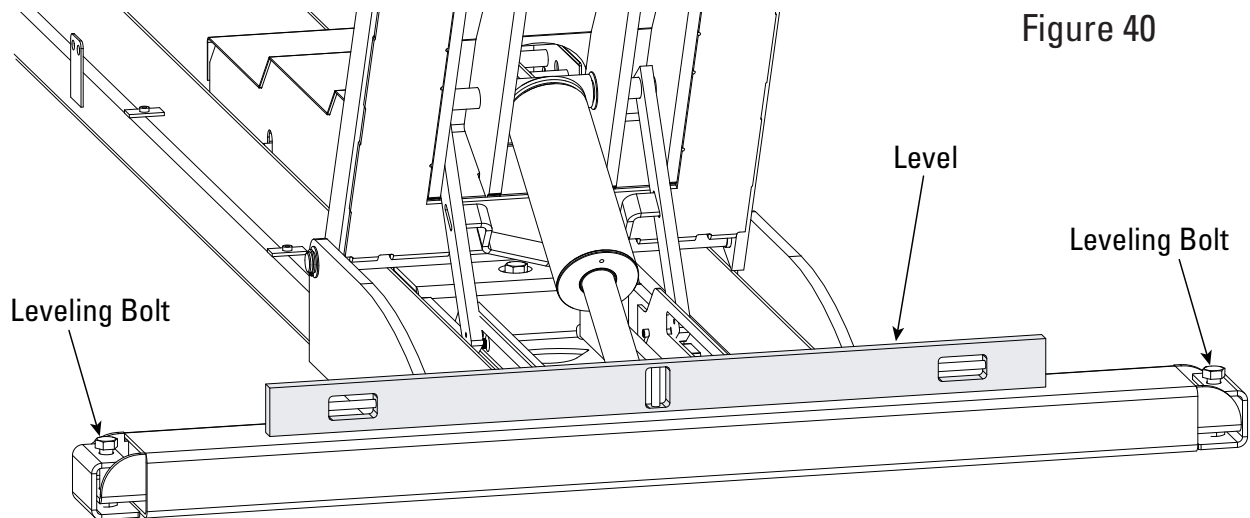


Figure 40

4. Place level on right longitudinal tube. Adjust right rear leveling bolt until longitudinal tube is level, Figure 41.
5. Place level on left longitudinal tube. Adjust left rear leveling bolt until longitudinal tube is level, Figure 41
6. Adjust inside leveling bolts until inside leveling feet contact floor. Then adjust an additional 1/4 turn, Figure 42.

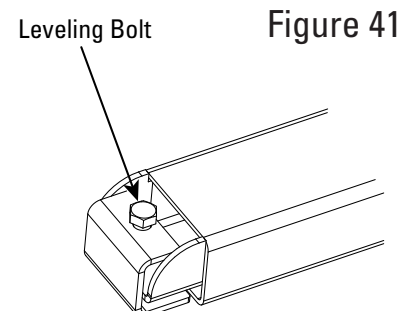


Figure 41

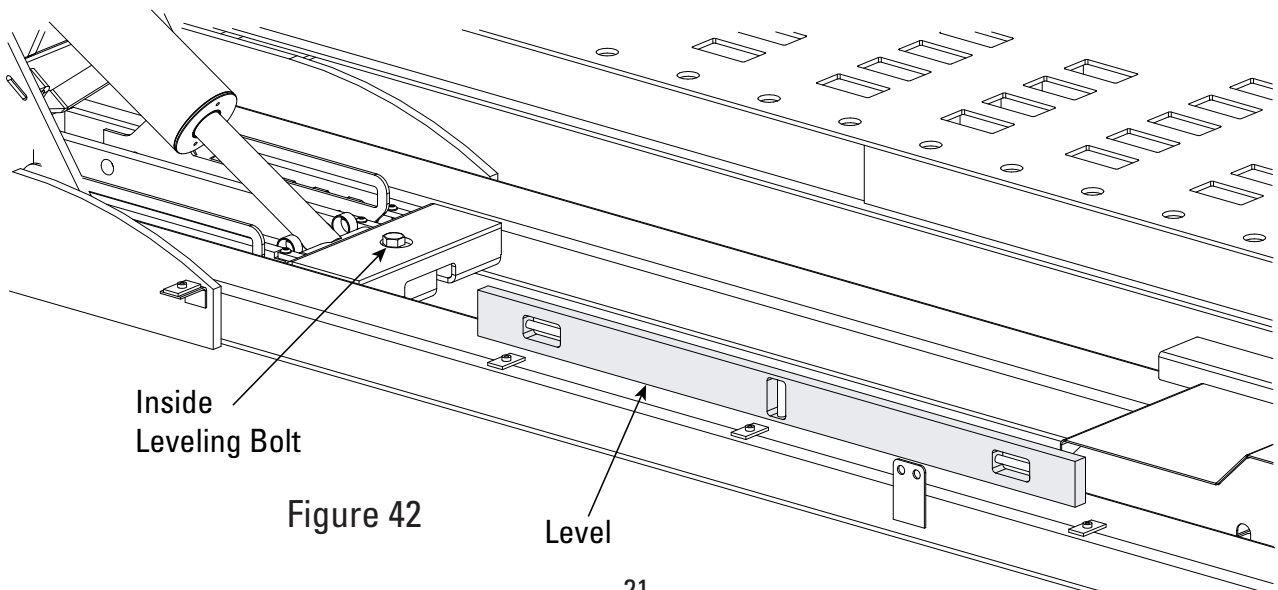
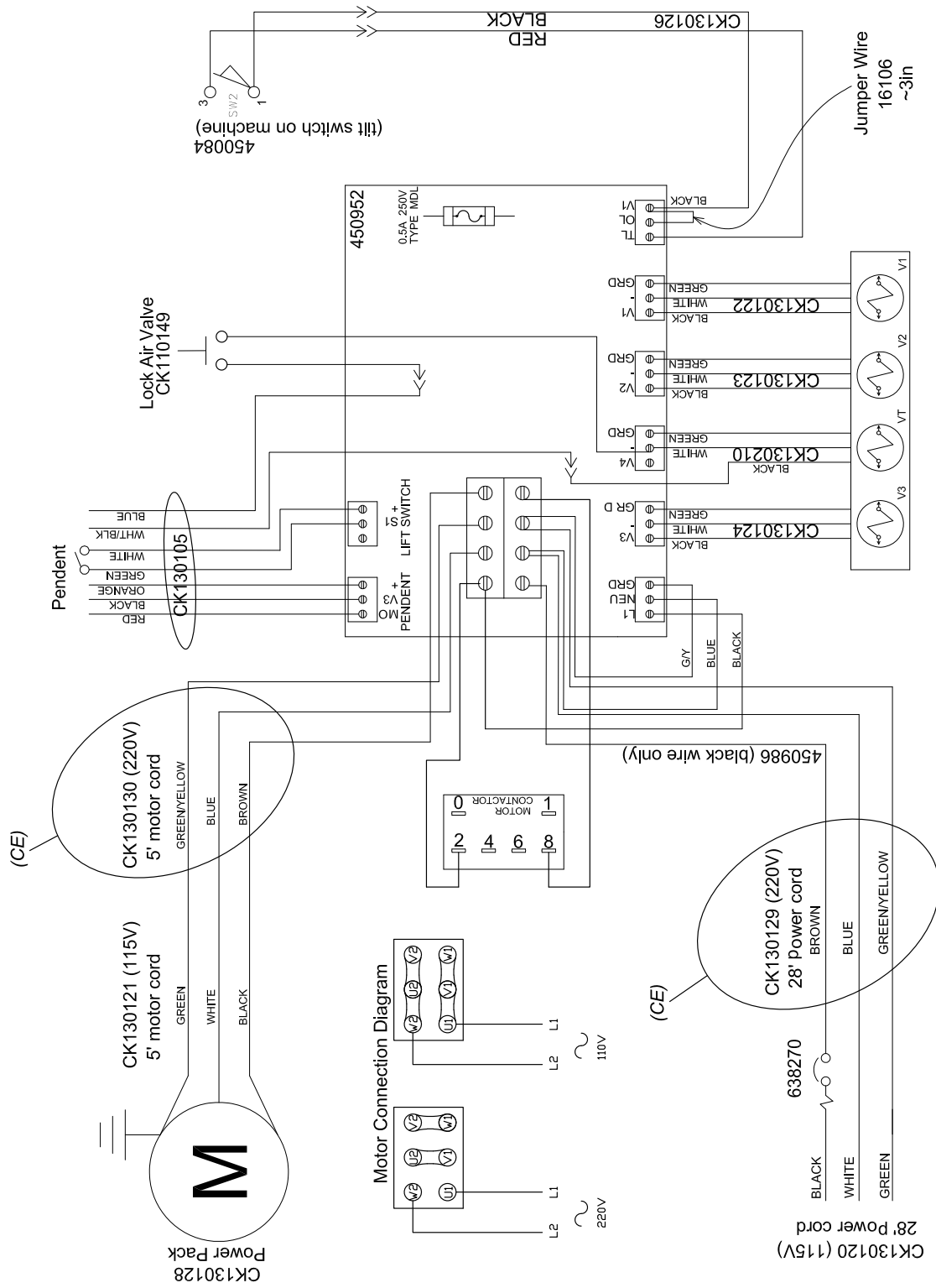
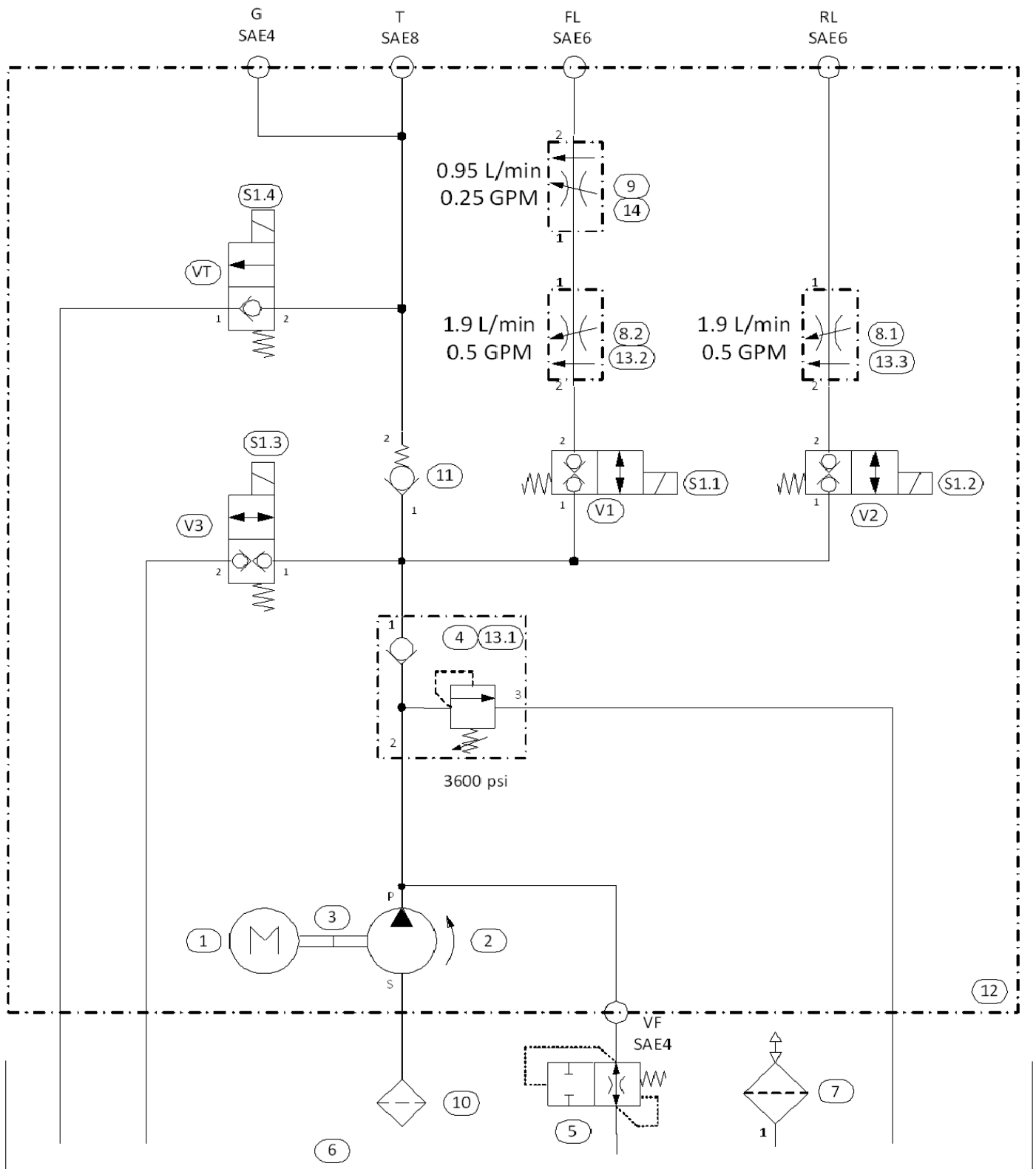


Figure 42

# WIRING DIAGRAM PHOENIX P/U, HORZ





<b>Troubleshooting</b>		
<b>Problem</b>	<b>Possible Cause</b>	<b>Possible Solution</b>
<b>Pump will not run</b>	Power cord disconnected	Plug in power cord
	<i>Circuit breaker tripped or blown fuse</i>	<i>Reset circuit breaker or replace fuse</i>
	Blown control board fuse	Remove and inspect fuse. Replace if necessary
	Bad motor start relay	Replace motor start relay. Contact Chief Collision Technology service representative for replacement
	<i>Power cord damaged</i>	<i>Inspect power cord for damage. Contact Chief Collision Technology service representative for repair or replacement if necessary</i>
	Bad pendant	Inspect pendant. Contact Chief Collision Technology service rep. for repair or replacement if necessary.
	<i>Damaged pendant cord</i>	<i>Inspect pendant cord for damage. Contact Chief Collision Technology service representative for repair or replacement if necessary.</i>
<b>Pump will not build pressure or builds pressure slowly</b>	Hydraulic fluid low	Fill reservoir to within 1/2" of fill port with SUS215 Viscosity @ 100° F (38° C) 10W hydraulic oil with all cylinders in retracted position
	<i>Contamination in control manifold startup valve</i>	<i>Remove and clean valve. Contact Chief Collision Technology service representative</i>
	<i>Contamination in pump unload valve</i>	<i>Remove and inspect pump unload valve (V3). Contact Chief Collision Technology service representative</i>
<b>Pump will not hold pressure</b>	Hydraulic fluid leak	Check hoses, fittings and quick couplers for leaks. Tighten or replace if necessary
	<i>Contamination in control manifold check valve</i>	<i>Clean and inspect check valve. Replace if necessary. (refer to parts manual)</i>
	Contamination in control manifold V3 valve	Clean and inspect V3 valve. Replace if necessary (refer to parts manual)
	<i>Contamination in pump unload valve</i>	<i>Remove and inspect unload valve (V3). (Refer to parts manual). Contact Chief Collision Technology service representative</i>
<b>Pump stalls or will not start under pressure</b>	Facility wiring inadequate	Rewire facility to comply with local electrical code. Add dedicated line with 30 amp breaker
	<i>Extension cord too long or wire gauge too small</i>	<i>Use extension cord rated for 25 amps at 120 volts with ground wire up to 25 feet (7.5m) long</i> <b>IMPORTANT: Extension cord use is not recommended. If used, extension cords must meet standards (listed above) and be used only on a short term basis</b>
<b>Tower cylinder jumps</b>	Air in hydraulic system	Bleed hydraulic system
<b>Tower cylinder will not extend</b>	<i>Auxiliary line valve closed</i>	<i>Open auxiliary line valve one turn</i>
	Auxiliary line not connected to mainframe	Connect auxiliary line to mainframe
	<i>Pump will not build pressure</i>	<i>See pump problems above</i>
	Lift switch turned to "LIFT"	Rotate switch to "PULL"
<b>Tower cylinder will not retract</b>	<i>Auxiliary line valve closed</i>	<i>Open auxiliary line valve one turn</i>
	Auxiliary line not connected to mainframe	Connect auxiliary line to mainframe
	<i>Contamination in control manifold unload</i>	<i>Clean and inspect V3. Replace if necessary. (refer to parts manual)</i>
	Directional valve "DOWN" coil not working	Replace coil. Contact Chief Collision Technology service representative

Troubleshooting (continued)		
Problem	Possible Cause	Possible Solution
<b>Rear lift will not raise</b>	Lift switch off	Rotate switch to "LIFT"
	<i>Auxiliary line valve open</i>	<i>Close all auxiliary line valves</i>
	Too much weight at rear of machine	Move vehicle forward on deck
	Mainframe control cord	Inspect mainframe control cord. Inspect cord for damage. Contact Chief Collision Technology for repair or replacement if necessary
	<i>Pump not building pressure</i>	<i>See pump troubleshooting</i>
	Contamination in control manifold rear lift valve	Remove and inspect V2 valve. Contact Chief Collision Technology for repair or replacement if necessary
	<i>Bad rear lift valve coil</i>	<i>Check for magnetic field at V2 coil. Contact Chief Collision Technology for repair or replacement if necessary</i>
<b>Front lift will not raise</b>	Lift switch off	Rotate switch to "LIFT"
	<i>Auxiliary line valve open</i>	<i>Close auxiliary line valves</i>
	Tilt switch not operating	Inspect tilt for damage. Contact Chief Collision Technology for repair or replacement if necessary
	<i>Machine overloaded in front</i>	<i>Move vehicle rearward on deck</i>
<b>Towers roll hard</b>	<i>Dirt on outer track</i>	<i>Clean outer track</i>
	Dirt in outer tower roller bearings	Clean outer tower roller bearings
	<i>Tower shimmed incorrectly</i>	<i>Re-shim tower. Contact Chief Collision Technology service representative</i>
	Damaged inner roller	Replace inner roller. Contact Chief Collision Technology service representative
	<i>Damaged track</i>	<i>Repair track. Contact Chief Collision Technology service representative</i>
<b>Sure-Lock difficult to engage</b>	Dirt on deck	Clean deck
	<i>Dirt in Sure-Lock pivots</i>	<i>Clean Sure-Lock pivots. Apply a few drops of oil to pivot and operate Sure-Lock mechanism</i>
	Sure-Lock out of adjustment	Re-shim Sure-Lock. Contact Chief Collision Technology service representative
<b>Sure-Lock difficult to disengage</b>	<i>Dirt in Sure-Lock pivots</i>	<i>Clean Sure-Lock pivots. Apply a few drops of oil to pivots and operate Sure-Lock mechanism</i>
	Sure-Lock out of adjustment	Re-shim Sure-Lock. Contact Chief Collision Technology service representative
<b>Collars jump under load</b>	<i>Improper fit between collar and tower pipe</i>	<i>Refit collar. Contact Chief Collision Technology service representative</i>

## PHOENIX Specifications

<b>Weight (2-Tower)</b>	7,100 lbs (3,220 kg) Min. Floor Strength Min. 3000psi 4-1/4" in depth
<b>Weight (3-Tower)</b>	7,750 lbs. (3,515 kg) Floor Strength Min. 3000psi 4-1/4" in depth
<b>Power Required</b>	115 vac, 50/60 Hz, 20 amp Single Phase Dedicated Line 208 vac, 50/60 Hz, 20 amp Single Phase Dedicated Line
<b>Hydraulic Power</b>	10 Tons
<b>Hydraulic Fluid</b>	12 qts (13L)-SUS215 Viscosity 100 degrees F (38 degrees C) 10W hydraulic fluid
<b>Radius of Pull</b>	360 Degrees
<b>Controls</b>	Internal with hand-held pendant
<b>Deck Length</b>	22' (6,706 mm) 20' (6,096 mm)
<b>Maximum Length (Footprint)</b>	22 ft machine 28' 3" (8,611 mm) 20 ft machine 26' 3" (8,001 mm)
<b>Deck Width</b>	7'8" (2,337mm)
<b>Maximum Width (Footprint)</b>	11' 8" (3,556 mm)
<b>Treadway Width</b>	2' 4" (711mm)
<b>Width between treadways</b>	0' 36" (915mm)
<b>Maximum Height</b>	9' 4" (2,840 mm)
<b>Pulling Force Per Tower</b>	10 Tons (at the hook)
<b>Clearance (recommended on all sides)</b>	2' 6" (762mm)
<b>Working Height (Floor to Top of Deck)</b>	Four (4) Stops From 19" to 40" (483 mm - 1,016mm)
<b>Tie Down Openings</b>	22 ft 280 with crossmember 20 ft 264 with crossmember
<b>Lift Capacity</b>	12,000 lbs (5,400 kg)
<b>Optional:</b>	Removal crossmember Additional towers (2)

## Notes



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**Chief reserves the right to alter product specifications  
and/or package components without notice.**