

# Chief EZ Liner 25 Series

**Models Included:**

**EZ Liner 25**

**EZ Liner Classic 25**

**EZ Liner Extra 25**

**EZ Liner Extra 25 (Wide Deck)**

## OWNERS MANUAL



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Chief Automotive Systems, Inc.  
Attn: Returned Goods Dept.  
1924 E. Fourth St.  
P.O. Box 1368  
Grand Island, NE 68802-1368  
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Chief Automotive Systems, Inc.  
Representative

## CHIEF EZ LINER 25 SERIES

This owners manual is written to familiarize operators with the safe and efficient operation of the Chief EZ Liner 25 systems. The EZ Liner 25 systems feature a unique multiple/simultaneous pulling method to return the vehicle's damaged structure and sheet metal to its original position. The EZ 25 systems can be outfitted with two to three pulling towers at the front and one or two optional towers at the rear providing 360 degree access to the vehicle.


The EZ Liner 25 (narrow deck) and EZ Liner Classic 25 (wide deck) machines tilt hydraulically at one end to allow for drive on or winch positioning of the vehicle. The machines can then be elevated to a 28 inch (711 mm) working height. The entire surface of the EZ Liner Extra 25 machines can be lowered to the floor for drive on or winch positioning of the vehicle and then elevated to eight different working heights up to 34 inches (864 mm) high.

**IMPORTANT:** Lifting capacity for all EZ Liner 25 systems is 5,000 lbs. (2,270 k.g.).

Although the EZ Liner 25 machines function basically the same as other EZ Liner systems, there are some differences. The EZ Liner 25 systems have no pedestal and towers have individual pivot points on or adjacent to permanent crossmembers. An electric hydraulic pump is housed under a protective lid at base of front stiff leg assembly (EZ Liner 25 and EZ Liner Classic 25) and in a nearby cabinet (EZ Liner Extra 25). The EZ Liner 25 and EZ Liner Classic 25 have no portafume which, coupled with the unique routing of hydraulic hoses, allows technicians greater access to the underside of the mainframe.

**IMPORTANT:** When using auxiliary ram with EZ Liner Extra 25 systems, DO NOT exceed 4,000 PSI when auxiliary ram is positioned at extreme corners of machine...first three rows of tie down holes from ends of machine. This precaution prevents minor deflection of mainframe.

This manual is not intended to replace Chief Automotive training. For information concerning training, contact Chief Automotive Systems, Inc.

**IMPORTANT:** 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.

### CAUTION:

- 1) DO NOT attempt to operate Chief EZ Liner 25 systems without first reading this entire manual.
- 2) Qualified service personnel must check operational capacity of EZ Liner 25 systems prior to initial use and at intervals of no more than one year. Contact Chief Automotive Systems, Inc. representative.
- 3) Maintain a free space of 20 inches (50cm) minimum around all moving parts on machine.
- 4) Persons operating EZ Liner 25 repair systems must be at least 18 years of age, must be trained in operation of EZ Liner 25 systems, and must have demonstrated their qualifications to the employer. They must also be specifically assigned to operate EZ Liner 25 systems by the employer and this assignment must be made in writing.

## HYDRAULIC SYSTEM COMPONENTS

Each EZ Liner 25 system is powered by an electrically operated hydraulic pump which is operated by a remote control switch. The components of this pump are identified in Figure 1 and its inset.

Hydraulic pressure is distributed to tower rams, auxiliary rams, and lift ram. The flow of hydraulic fluid to each ram is controlled by a valve and hydraulic pressure is monitored by a pressure gauge. On EZ 25 and EZ Classic 25 machines a movable gauge can be mounted to a tower. (See Figure 2.) On EZ Extra 25, gauges are mounted permanently to two of the towers. To exert hydraulic pressure, press 'up' button on hand-held control switch and to release pressure, press 'down' button. (See Figure 3.)

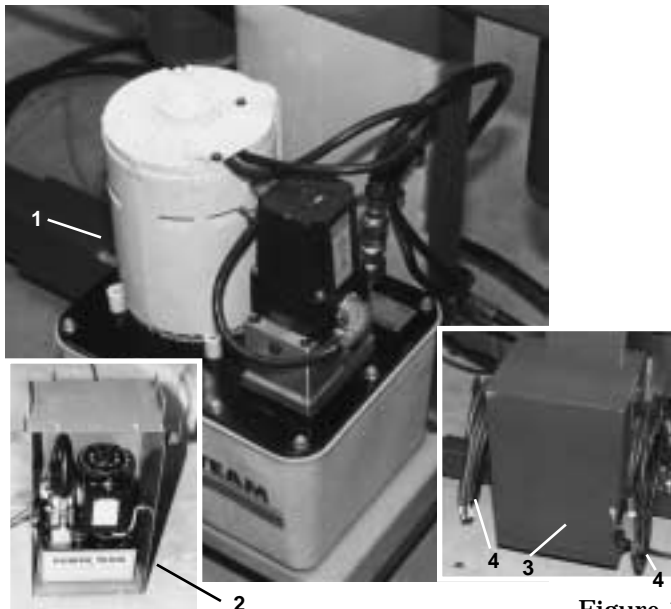


Figure 1

- 1 — Hydraulic pump assembly
- 2 — Pump Cabinet (EZ Extra 25)
- 3 — Pump lid (EZ 25 /EZ Classic 25)
- 4 — Auxiliary hoses



Figure 2

### IMPORTANT:

- 1) Tower rams and auxiliary rams can be operated simultaneously (with equal hydraulic pressure) or individually. Lift ram must be operated individually. When using hydraulic system, close all valves where hydraulic pressure is not required.
- 2) On EZ 25 and EZ Classic 25 machines, auxiliary lines are mounted directly to hydraulic pump. On EZ Extra 25 machines, auxiliary lines can be attached to auxiliary hose couplings on foot lever. (See Figure 4.)

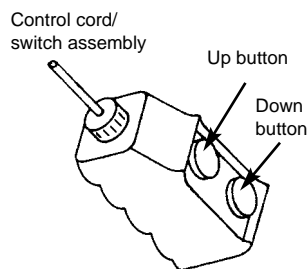


Figure 3



Figure 4

To operate hydraulic system:

1. Open valves to the hydraulic ram(s) to be used. Close valves to all other hydraulic rams. (See Figures 5-7.)

**NOTE:** To open, turn valve 1/2 turn to left (counterclockwise). To close, turn valve to right (clockwise). DO NOT overtighten. Overtightening can damage valve's needle and seat.

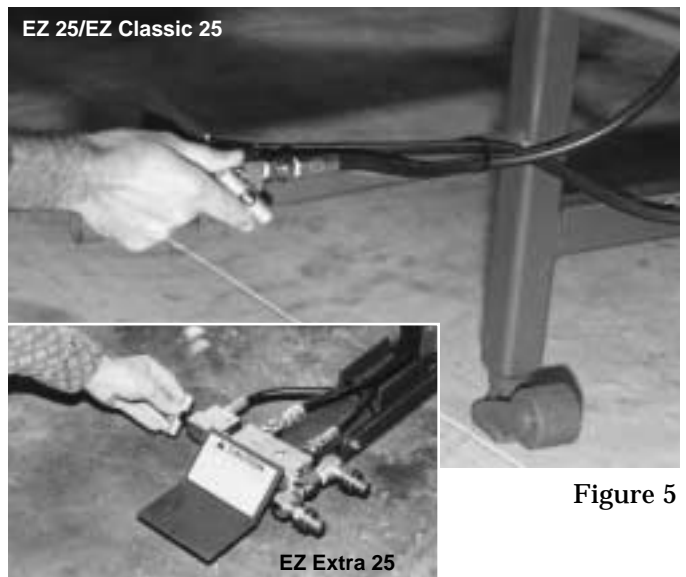


Figure 5

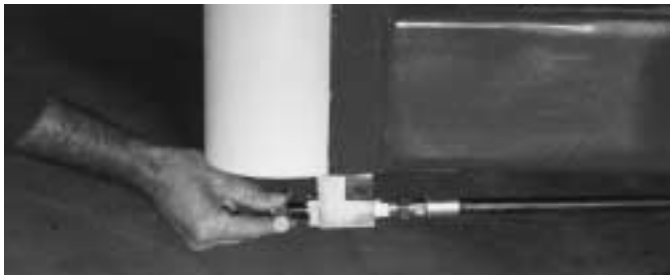


Figure 6

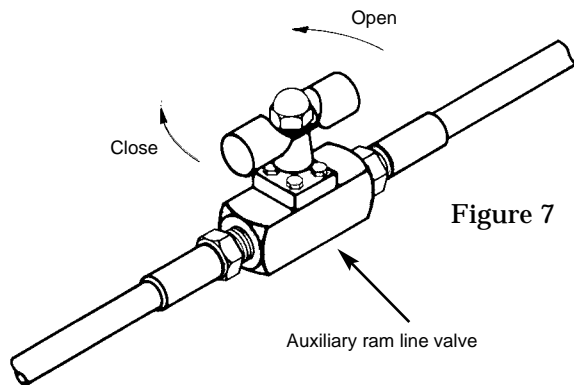


Figure 7



Figure 8



Figure 9

2. Press 'up' button on remote control switch to exert hydraulic pressure and press 'down' button to release hydraulic pressure.
3. Monitor pressure gauge whenever exerting hydraulic pressure. The gauge shows amount of hydraulic fluid pressure in the lines. Readings represent pounds per square inch (psi) or barometers (bar).

**NOTE:** Pounds per square inch (psi) readings are used to determine amount of pressure each ram applies to its respective chain (and vehicle). Such pressure is measured in tons (kilo Newtons).

**EZ 25 and EZ Classic 25 machines:** For every 1,000 psi (70 bar) of pressure showing on pressure gauge, there is 1 ton (9kN) of pressure exerted on chain (and vehicle). Each ram that is in use will exert this amount of pressure.

**EZ Extra 25 machines:** For every 1,000 psi (70 bar) of pressure showing on pressure gauge, there is 1/2 ton (4.5 kN) of pressure exerted on tower chain (and vehicle). Each tower ram in use exerts this amount of pressure.

**IMPORTANT:** Monitor pressure gauge continually during repair. Even though EZ Liner 25 machines are capable of making strong pulls — 5 ton (45 kN) maximum rating, most repairs can be made at 2,000 psi (140 bar) or less by using multiple pulls and proper stress relieving of work hardened (folded) metal.

### MOVABLE CROSSMEMBERS

The EZ Liner 25 systems feature two movable crossmembers that mount to channels on inner edges of mainframe. They can be used in front, center or rear sections of machine.

The primary use of movable crossmembers in front or rear sections is to support and secure towers at ends of machine. They can also be used as a base for making hydraulic pulls or pushes when auxiliary rams are positioned perpendicular (90 degrees) with top or bottom of crossmember.

To remove crossmember from machine, hold it secure while turning it counterclockwise. (See Figure 8.) To reinstall crossmember, reverse the procedure making sure both sides of crossmember engage channels on inner edges of machine.

**IMPORTANT:** EZ Liner 25 crossmembers feature safety crossmember latches that must be lifted when removing crossmember from machine. (See Figure 9.) After crossmember is reinstalled, safety crossmember latches must be lowered into position.

When movable crossmembers are used, crossmember locks (see Figure 10) must be used to prevent unintentional movement.

**⚠ CAUTION:**

- 1) DO NOT use movable crossmembers as a step.
- 2) DO NOT use movable crossmembers 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) During removal and installation:
  - a. Hold crossmember securely with both hands.
  - b. Slide crossmember slowly.
  - c. Install crossmember locks after moving crossmember to another location on mainframe. Crossmember locks prevent unintentional movement; however, they are not designed to secure crossmember as a base for hydraulic pulling/pushing.

**IMPORTANT:** When crossmember is installed in center section of EZ Liner Extra 25, position it in front of the rear leg linkage prior to lowering machine. This will prevent interference with lift system components.

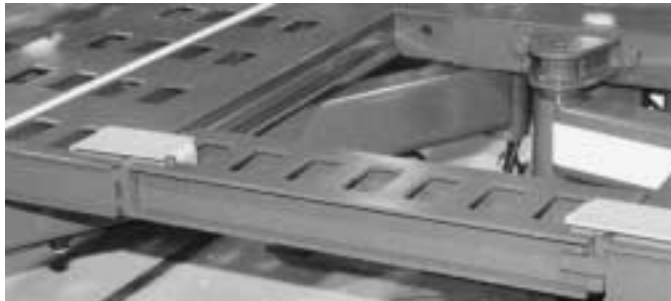


Figure 10

## LOADING RAMPS

The loading ramps provided with EZ Liner 25 systems (see Figure 11) pivot into an angled position when elevating machine. They also pivot into a reclined position when lowering machine to floor for vehicle loading or unloading.

To remove ramps lift them upward until support brackets disengage from mounting slots at end of mainframe. (See Figure 12.)

**⚠ CAUTION:** When raising and lowering machine with vehicle aboard, put vehicle in park (if automatic transmission), engage its parking brake and block its wheels using wood blocks or optional wheel chocks (see page 8). Keep vehicle's wheels blocked whenever it is not anchored to mainframe.

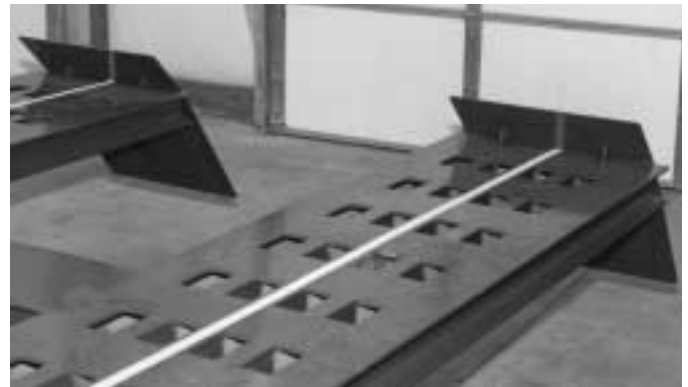


Figure 11



Figure 12

## TOWERS

EZ Liner 25 systems can be outfitted with two to three pulling towers at the front and one or two towers at the rear providing 360 degree access to the vehicle. Multiple pulls can be set up quickly and are controlled by tower valves and a hand-held control switch. Lateral and elevated pulling angles can be made or changed in just a fraction of a minute.

### ⚠ CAUTION:

- 1) The normal working range of 3/8 inch (10mm) tower chain and tie down chain is 500 to 3,650 psi (35 to 250 bar) on pressure gauge with applied force to the chain of 7,400 lbs. (33kN).
- 2) On EZ 25 and EZ Classic 25 machines, DO NOT exceed 4,000 psi (280 bar) hydraulic pressure when collar assembly is positioned 18 inches (460 mm) or less from top of tower.  
On EZ Extra 25 machines, DO NOT exceed 6,500 psi (455 bar) hydraulic pressure when collar assembly is positioned 18 inches (460mm) or less from top of tower.
- 3) DO NOT use any towers to make pulls until vehicle is secured to mainframe. Also, DO NOT use towers to anchor vehicle to mainframe.

To operate towers:

**NOTE:** Tower operation requires use of tower pins or tower tie bolts. The following procedures reference use of tower pins. Tower tie bolt applications appear on Pages 7 and 8.

1. Position tower at desired pulling angle and pin it to mainframe or movable crossmember. (See Figure 13.) Tower pin can be used in any tie down hole or along edge of machine. (See Figure 14.) DO NOT position tower pin in front of or at rear of movable crossmember as it will apply excessive stress to crossmember locks. Instead, install tower pin through crossmember tie down hole. (See Figure 13.) Tower pin must be fully seated in lower pinning hole to avoid damage to top pinning hole. (See Figure 15.)

**⚠ CAUTION:** When positioning tower at rear of machine, remove loading ramp only if necessary. Reinstall ramp immediately after moving tower away from or through the area.

### IMPORTANT:

1. When pinning tower to movable crossmember, crossmember must be at end of machine and be secured with crossmember locks.
2. When pinning rear tower(s) to sides of machine for vehicle loading and unloading, use small inset pins to secure tower(s) to outermost holes identified by white arrows. (See Figure 16.) Inset pins do not

extend above mainframe so as not to interfere with vehicle loading or unloading.

3. If machine is equipped with two rear towers, secure one tower to each side of the mainframe before lowering machine.



Figure 13

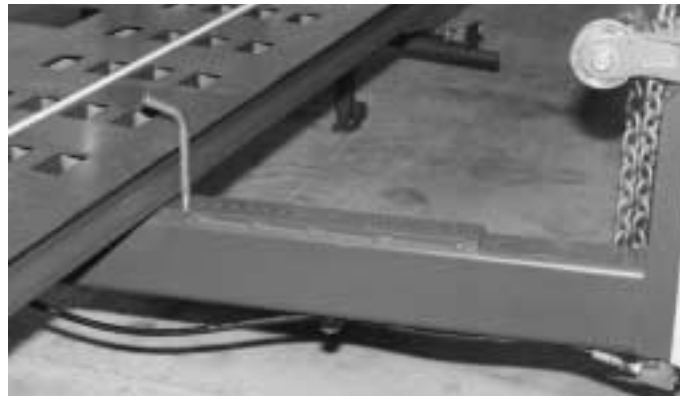


Figure 14

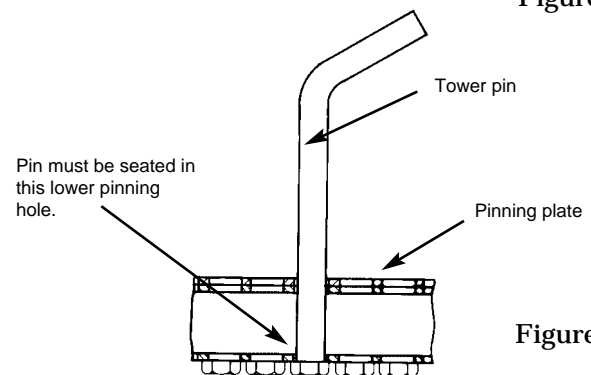


Figure 15



Figure 16

2. To adjust slack tower chain, grip chain on each side of tower. (See Figure 17.) Lift out 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.

3. Support collar with one hand while loosening collar locking knob with opposite hand. Then position collar approximately 3 inches (75 mm) above desired pulling height and retighten collar locking knob. (See Figure 18.)

**NOTE:** Make sure there is enough slack chain before loosening collar. After loosening locking knob, it might be necessary to turn collar slightly to disengage it from tower pipe.

4. Let tower chain hang free momentarily to remove twist. Then, without twisting chain, attach hook to vehicle. Pull on tail end of chain to remove slack and then lower collar. (See Figure 19.)

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

5. Open tower valve. Then press 'up' button to exert pressure and 'down' button to release pressure.

**CAUTION:** DO NOT stand close to or in line with chains, clamps or other accessories while pressure is applied to this system.

**IMPORTANT:** DO NOT tighten collar locking knob while pressure is applied to system as it will be impossible to loosen knob without pressure on the system. If it has been tightened by error while pressure is on the system, reapply pressure and loosen knob.

6. When tower is no longer needed, close tower valve, disengage tower chain hook, and store collar using one of the three methods shown in Figure 20.

**CAUTION:**

- 1) Collar locking knob must be tightened before removing tower chain 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.

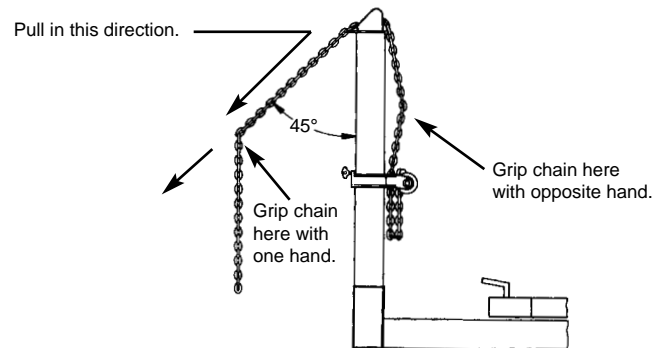


Figure 17

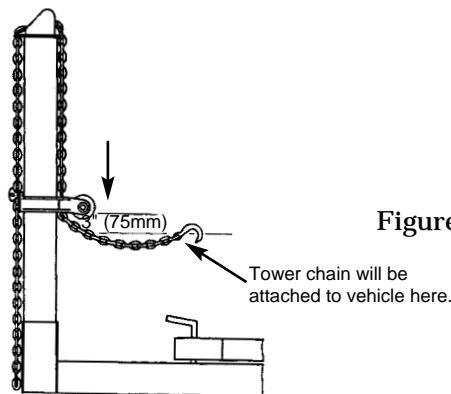


Figure 18

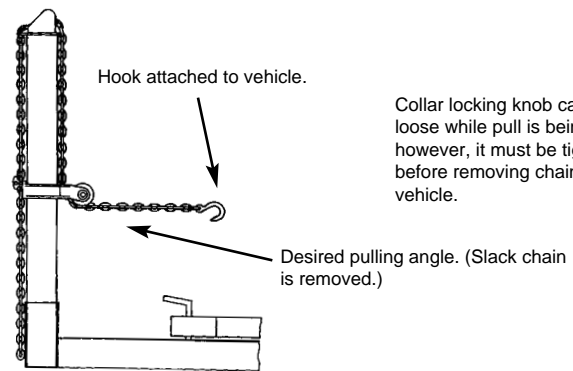


Figure 19

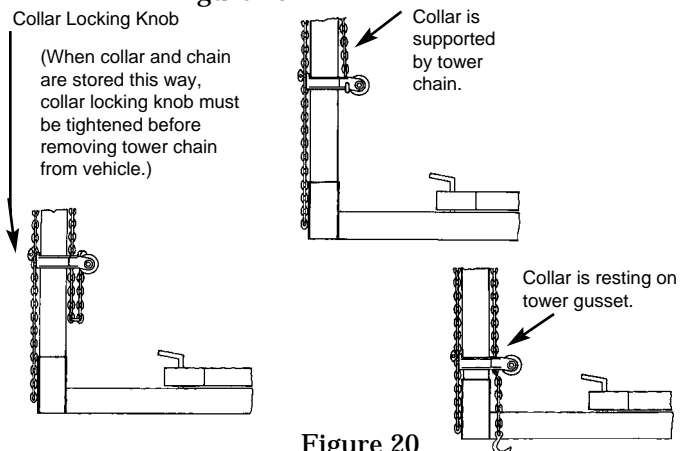


Figure 20



## TOWER TIE BOLT APPLICATIONS

Certain pulling and/or pushing situations necessitate use of tower tie bolts in place of tower pins. Tower tie bolts must be inserted through one of the outer tie down holes on mainframe (or movable crossmembers) and be threaded into one of the pinning holes on tower arm. Tower tie bolts must be tightened to between 120 — 150 foot pounds (160 — 200 Nm) of torque.

### IMPORTANT:

- 1) When bolting tower to movable crossmember, crossmember must be at end of machine and be secured with crossmember locks.
- 2) When using tower tie bolts, position them at ends of tie down hole that's nearest the pull. (See Figures 21 and 22.) This prevents tower movement when hydraulic pressure is applied.



Figure 21



Figure 22

Tower tie bolts must be installed when the following situations exist:

1. Tower does not lift up firmly against underside of mainframe when making a pull, for example, when pulling upward at 45 degree angle or less. (See Figure 23.)

**NOTE:** Tower will not lift in this situation and will be forced down if tower tie bolt is not installed.

2. Auxiliary ram is used to push from tower to vehicle. (See Figure 24.) Tower will be forced down in this situation unless tower tie bolt is installed.

### ⚠ CAUTION:

- 1) DO NOT attempt this setup without reading Auxiliary Ram Owners Manual.
- 2) DO NOT tip load chain hook when positioning it in tie down hole for Figure 24 setup or any other setup. Figures 25 and 26 show incorrect and correct way to position chain hook in tie down hole.

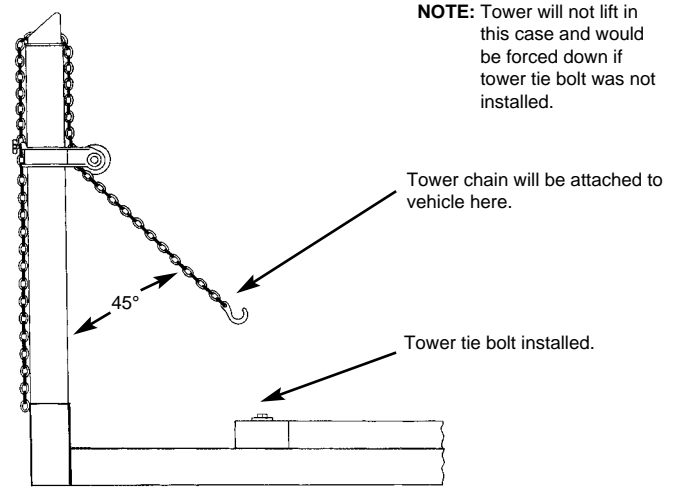


Figure 23

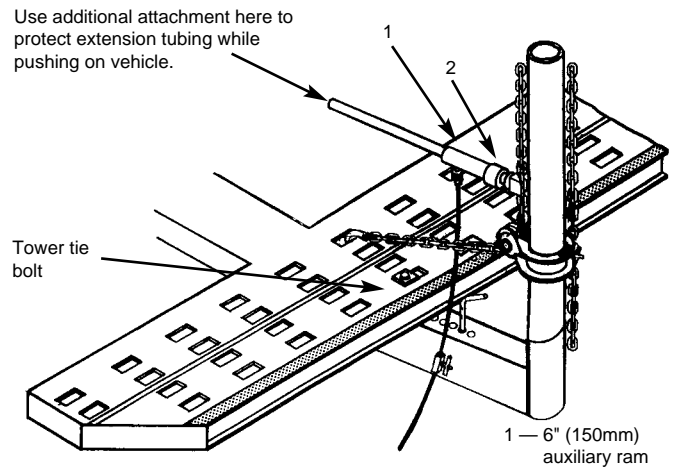


Figure 24

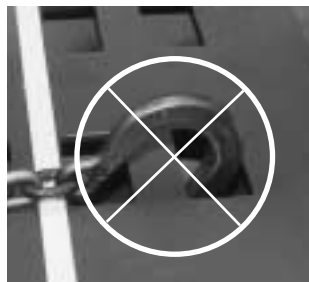


Figure 25



Figure 26

- Pull from side of tower exceeds 22.5 degree angle from tower arm. (See Figure 27.) This situation does not necessarily force tower up or down, but instead causes tower to twist.

**NOTE:** The higher collar is on tower, the more severe the twisting action.

When tower chain is used in this area, tower tie bolt is not required. It is required beyond this point.

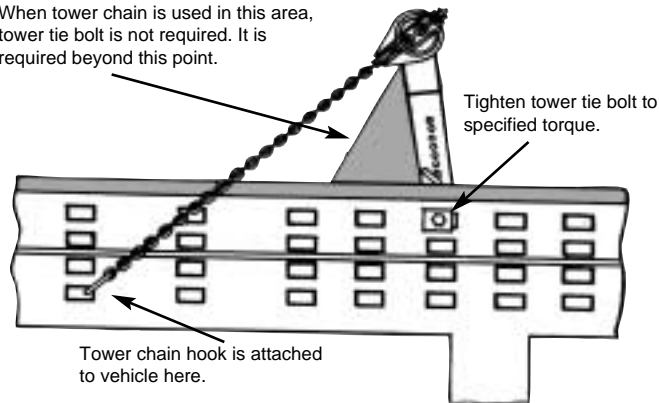


Figure 27

## LOWERING / RAISING MACHINE

EZ 25/EZ Classic 25 machines and EZ Extra 25 machines have different raising and lowering procedures. The following CAUTION statements apply to all machines except where noted. The statements are followed by specific raising and lowering instructions for EZ 25 and EZ Classic 25 machines (pages 8-9) and EZ Extra 25 machines (pages 9-11).

**CAUTION:** When lowering or raising a machine with vehicle aboard, observe the following:

- Prior to driving or winching vehicle on or off machine, install loading ramps and use helper to guide you. If brakes are inoperable, use a Chief Winch and refer to instructions packaged with the accessory. On EZ Extra 25 systems, center vehicle side to side on mainframe or to the side that is opposite of the pulls.**
- Immediately after positioning vehicle on mainframe, put vehicle in park (if automatic transmission), apply parking brake, and have helper block wheels and/or install optional wheel chocks at both front and rear of vehicle. Wheel chocks (see Figure 28) must fit securely within tie down holes on mainframe with wheel chock label facing tire.**
- Prior to lowering machine, put vehicle in park (if automatic transmission), apply**

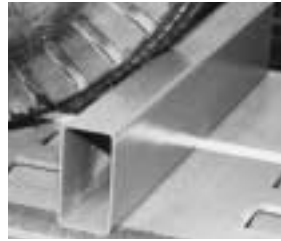


Figure 28

**vehicle's parking brake, and block vehicle's wheels and/or install optional wheel chocks.**

- Keep vehicle's wheels blocked during raising and lowering procedures and whenever vehicle is not anchored to mainframe.**
- When raising or lowering machine with vehicle aboard, DO NOT walk behind machine.**

## Lowering EZ 25 and EZ Classic 25

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

- Secure front towers to front movable crossmember using tower pins. Secure rear tower(s) to side(s) of machine using inset pins positioned in outermost tie down hole(s) identified by white arrows. (See Figure 29.) If machine is equipped with two rear towers, secure one tower to each side of mainframe before lowering machine. Install loading ramps if they are not already installed.

**NOTE:** If vehicle's tires prevent access to rear pinning locations, move vehicle fore or aft slightly. Then resecure vehicle for lowering purposes – see preceding precautions.



Figure 29

- Open lift valve half turn to left. Then close all other ram valves.

- Press 'up' button on control switch to lift machine until there is no weight on stiff legs. Then swing stiff legs forward (using handle on left side of machine) until they are at 30 degree angle from their vertical position. (See Figure 30.)



Figure 30



**CAUTION**

DO NOT Open This Valve Unless:

- You are authorized to use this machine.
- All towers are properly pinned to the machine.
- Vehicle's wheels are blocked, and parking brake is set.
- Load is 5,000 lbs. (2,270 k.g.) or less.
- Field of motion of load carrying device is free of persons and obstructions.

- Press 'down' button on control switch to lower rear of machine to floor.



**CAUTION:** Field of motion of load carrying device must be free of persons and obstructions.

- Close lift valve half turn to right.

**IMPORTANT:** DO NOT lay control switch on mainframe after lowering machine.

**Raising EZ 25 and EZ Classic 25**

**IMPORTANT:** Observe preceding precautions (see Page 8) when raising machine with vehicle aboard.

- Open lift valve half turn to left. Then close all other ram valves.
- Press 'up' button on control switch to lift machine until stiff legs are in vertical position. Then press 'down' button to position stiff leg feet on floor.



**CAUTION:** Field of motion of load carrying device must be free of persons and obstructions.

- Close lift valve half turn to right.

**IMPORTANT:** Lift valve must be closed when using towers and auxiliary rams.

**Lowering EZ Extra 25**

**IMPORTANT:**

- Observe preceding precautions (see page 8) when lowering machine with vehicle aboard.
- The EZ Extra 25 machine can be positioned at nine different levels ranging from the floor to 34 inches (864 mm) high. The floor level is used for vehicle loading and unloading only. At floor level, the mainframe tilts slightly rearward. (See Figure 30.)
- Prior to lowering EZ Extra 25 to floor level remove auxiliary line(s). Also, if crossmember is installed in center section, position it in front of the rear leg linkage prior to lowering machine. (See Figure 31.)



Rear Leg Linkage

Figure 31

- Position front towers at front of machine and secure them to movable crossmember using tower pins. Then pin rear tower(s) to sides of machine using outermost tie down holes identified by white arrows. (See Figure 29 - page 8.) If machine is equipped with two rear towers, secure one tower to each side of mainframe before lowering machine. Install loading ramps if they are not already installed.

**NOTE:** If vehicle's tires prevent access to rear pinning locations, move vehicle fore or aft slightly. Then resecure vehicle for lowering purposes – see precautions, page 8.

- Open lift valve half turn to left. (See Figure 32.) Then close all other ram valves.



Figure 32

3. Press **'up' button** on remote control switch to release the safety lock arms from the lock arm stops to which they engage. (See Figure 33.)

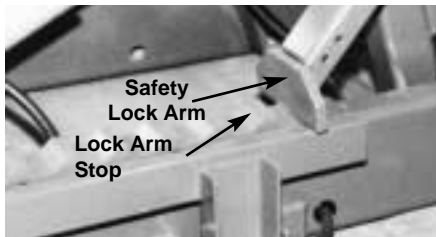


Figure 33

4. Gently step on **safety lock arm lever** (see Figure 34) to elevate lock arm for downward movement. Then press 'down' button to lower mainframe to a different height. Then release 'down' button when mainframe is at the desired height and release foot lever to engage safety lock arms with lock arm stops. (See Figure 35.)

**CAUTION:**

- 1) When lowering mainframe make certain safety lock arm engages appropriate lock arm stop. (See Figure 35.)
- 2) Field of motion of load carrying device must be free of persons and obstructions.

**IMPORTANT:**

- 1) When lowering machine to its lowest position, mainframe will tilt slightly toward the rear.
- 2) DO NOT entangle remote control switch cord and/or hydraulic lines in lift mechanism.
- 3) DO NOT lay control switch on mainframe after lowering machine.
- 4) To prevent damage, disconnect and remove auxiliary lines prior to lowering mainframe to floor level.

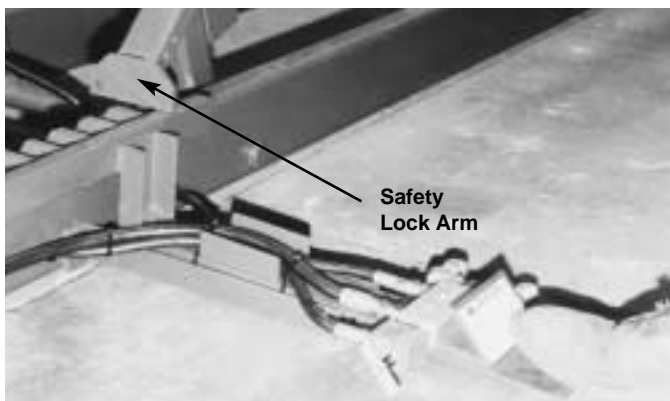


Figure 34

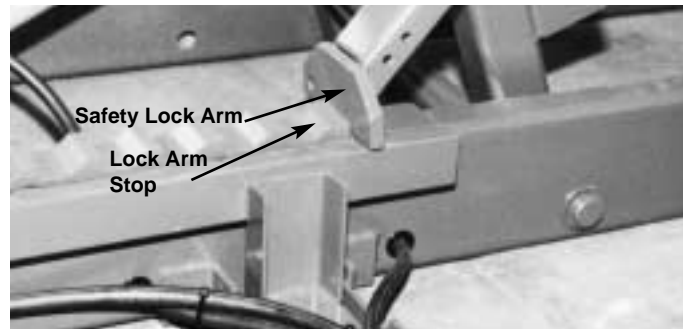


Figure 35

5. Close lift valve half turn to right.

**Raising EZ Extra 25**

**IMPORTANT:**

- 1) Observe preceding precautions (see page 8) when raising machine with vehicle aboard.
- 2) The EZ Extra 25 machine can be positioned at nine different levels ranging from floor to 34 inches (864 mm) high. The floor level is used for vehicle loading and unloading only. At floor level, the mainframe tilts slightly rearward.

1. Check location of towers making sure they are secured to machine as noted in Step 1 – To Lower EZ Extra 25. (See page 9.) Then open lift valve half turn to left and close all other ram valves.
2. Press 'up' button on remote control switch to lift mainframe to desired height. Then lower mainframe slightly to engage safety lock arm against lock arm stop. (See Figure 35.)

**CAUTION:**

- 1) When raising mainframe to a different height make certain safety lock arm engages appropriate lock arm stop.
  - 2) Field of motion of load carrying device must be free of persons and obstructions.
- IMPORTANT:** DO NOT entangle control switch cord and/or hydraulic lines in lift mechanism.

- 3) Close lift valve half turn to right.
- IMPORTANT:** Lift valve must be closed when using towers and auxiliary rams.

## LEVELING MACHINE

Following initial installation and/or repositioning of an EZ Liner 25 machine, it is important to level the machine. This procedure requires a carpenter's level and wrench.

The height of the EZ 25 and EZ Classic 25 is adjusted using the 1 inch (25 mm) jam nuts located at bottom of rear stiff legs and machine's front feet. (See Figures 36 and 37, respectively.)



Figure 36



Figure 37

The mainframe of the EZ Extra 25 is adjusted for level using the 3/4 inch (18 mm) leveling screws located along the front and rear base plates of the portaframe. (See Figure 38.)

When making adjustments to any EZ 25 machine, the goal is to level the machine from side to side and from front to rear. This requires positioning the level on each treadway and on each permanent crossmember and making adjustments for level at each location.

**IMPORTANT: DO NOT** position the level on movable crossmembers.



Figure 38

## ROUTING HYDRAULIC HOSE

On EZ Extra 25 machines, the hydraulic hose linking pump to lift valve must be routed correctly through portaframe at front of machine. Correct routing is aided by correct positioning of hydraulic pump cabinet at front corners of machine.

**CAUTION:** Hydraulic pump cabinet must be positioned at front corners of machine, approximately 6 feet (1.8m) away from machine.

If hydraulic pump cabinet is positioned at left front corner of machine (see identified area – Figure 39), hydraulic hose must extend through hole at front of portaframe.

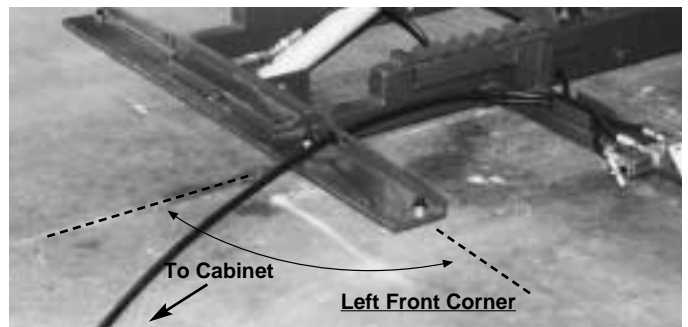


Figure 39

If hydraulic cabinet is positioned at right front corner of machine (see identified area – Figure 40), hydraulic hose must extend through hole at front of portaframe and through steel tubing.

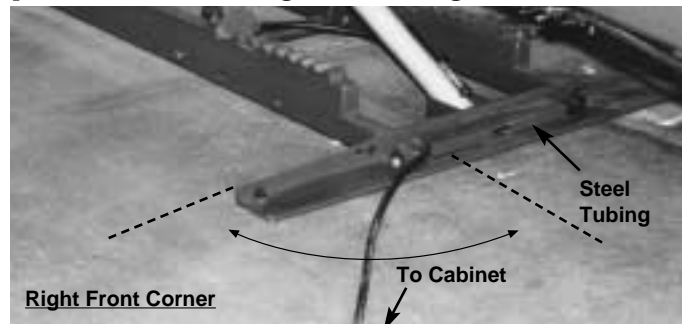


Figure 40

**CAUTION: DO NOT** allow hydraulic hose to overlap portaframe (see Figure 41) or to become entangled in lift system components.



Figure 41

**IMPORTANT:** Each time hydraulic pump cabinet is moved from one front corner to the other, reroute hydraulic hose as needed.

## MACHINE MAINTENANCE

### Check And Inspect Monthly And Anytime Problems Are Suspected

#### **Tower Chains, Tie-Down Chains**

Chains supplied with EZ Liner 25 systems are high quality, high strength chains that meet or exceed NACM Standards for 80 Grade. Tower chain hooks are high quality hooks that are AISI 8622 Steel Alloy Heat Treated.

#### **⚠ CAUTION:**

- 1) DO NOT heat chain or hook while repairing vehicle — 600° F (316C) of heat weakens chain.
- 2) DO NOT tip load chain hook. Tip loading chain hook stresses hook beyond its designed capability and could cause it to fail. (See related photos — Page 7.)
- 3) DO NOT pull with twisted chain links. Pulling with twisted chain links stresses chain links beyond their designed capability and could cause them to fail.

Inspect tower chains for wear, nicks, gouges, stretched and bent links. If found, replace chain.

Inspect tower chain hooks for twist and stretched openings. If found, replace chain hooks.

#### **Power and Control Cords**

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

#### **Tower To Mainframe Gap**

Measure gap between top of pinning plate and bottom of mainframe. If gap exceeds 3/8 inch (9.5mm), contact authorized Chief Automotive Service Representative.

#### **Cleaning and Lubricating**

Clean and lubricate components as specified for troublefree and extended service using:

Oil - Use motor oil for components requiring oil.

Grease — Use SUS750 Lithium type grease (lubricate #630-2) for components requiring grease.

#### **Tower Heads**

Grease tower heads every six months.

1. Remove tower chain from tower head.
2. Extend tower head as far as possible.
3. Clean dirt from tower head pipe.
4. Apply thin film of grease to tower head pipe.
5. Lower tower head and reinstall tower chain.

#### **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. Apply grease on roller pin between roller and collar ears (each side). Then turn roller a few times. Roller must turn freely.

#### **Lift Jack**

Grease lift jack every six months.

1. Clean dirt and excess grease from pivot points.
2. Using grease gun or oiler, apply grease or oil to pivot points.

#### **Stiff Leg Assembly**

Oil pivot points and rollers every two months.

1. Clean dirt from pivot points.
2. Place a few drops of oil at each pivot point and on roller pins.

#### **Tower Pivot Pins**

Clean and oil tower pivot pins every six months.

#### **Eliminating Air In Hydraulic System**

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

#### **Bleeding Air From System Beyond Quick Coupler**

Contact an authorized Chief Automotive Systems, Inc. Service representative.

## TROUBLESHOOTING

PROBLEM	CAUSE	POSSIBLE SOLUTION
<b>PUMP DOES NOT:</b>		
Operate	Power cord disconnected. Poor electrical connector. Circuit breaker tripped or blown fuse. Broken wires in control cord. Defective motor.	Plug in. Replace male or female plug. Reset circuit breaker or replace fuse. Replace control cord. Replace pump.
Build Pressure	Hydraulic fluid is low.  Release valve open all the time.	Fill fluid reservoir to within 1 inch (25mm) of top with SUS215 viscosity @ 100°F (38C)10W hydraulic oil with all rams down and reservoir sitting level.  Contact Chief Automotive Service rep.
Hold Pressure	Contamination in valve.  Hydraulic oil leak.	Operate pump and release pressure several times to flush valve.  Check hoses, fittings, and quick couplers, and tighten or replace.
Operate Efficiently	Extension cord is too long or wire is too small.  Facility wiring is inadequate.	Use 12 gauge wire extension cord with ground wire up to 25' (7.5m) only.  Rewire facility to comply with local electric code.
<b>RAM:</b>		
Jumps	Air in hydraulic system.	Bleed air from system. See Machine Maintenance, Page 10.
Does Not Extend	Valve not open. Loose quick coupler. (Aux. Ram only) Pump will not build pressure.	Open valve one half turn. Tighten quick coupler. (Aux. Ram only) See pump problems in this section.
Does Not Retract	Loose quick coupler. (Aux. Ram only) Dirt in quick coupler. (Aux. Ram only)  Ram piston is bent.	Tighten quick coupler. (Aux. Ram only) Disconnect quick coupler and clean male and female halves. (Aux. Ram only)  Contact Chief Automotive Service representative.
Leaks Hydraulic Oil	Hose leaking. Loose quick coupler. (Aux. Ram only) Loose fitting. Inadequate sealant in pipe threads.	Replace hose. Tighten. (Aux. Ram only) Tighten. Apply teflon tape to pipe threads after properly cleaning and retighten.

PROBLEM	CAUSE	POSSIBLE SOLUTION
<b>MACHINE DOES NOT:</b>		
Lift	<p>Too much weight at rear of machine. Vehicle is too heavy.</p> <p>Inadequate hydraulic pressure.</p>	<p>Move vehicle forward on machine. Lift capacity of machine is 5,000 lbs. (2,270 kg.)</p> <p>Check pressure gauge to see if 5,000 psi (345 bar) of hydraulic pressure is being used. If system does not develop 5,000 psi (345 bar) of hydraulic pressure, contact Chief Automotive Service representative.</p>
Lower	<p>Lift valve not open.</p> <p>Restrictor valve orifices are contaminated.</p> <p>Object under lift mechanism.</p>	<p>Open 1/2 turn.</p> <p>Contact Chief Automotive Service representative.</p> <p>Raise machine and remove object.</p>
<b>TOWER:</b>		
Swings Hard	<p>Pivot pins need grease.</p> <p>Damaged pivot pin bearing(s) and/or nylatron washer(s)</p>	<p>Clean and regrease. See Machine Maintenance, Page 10.</p> <p>Contact Chief Automotive Service representative.</p>
Mainframe Gap Exceeds 3/8 inch (9.5mm)	<p>Improper use.</p> <p>Bearing wear.</p>	<p>Contact Chief Automotive Service representative.</p> <p>Contact Chief Automotive Service representative.</p>
<b>COLLARS:</b>		
Jump Under Load	Improper fit between collar and tower pipe.	Refit. Contact Chief Automotive Service representative.
Jump When Pressure Is Released	Improper fit between collar and tower pipe.	Contact Chief Automotive Service representative.

FOR ADDITIONAL TROUBLESHOOTING INFORMATION OR A SERVICE REPRESENTATIVE, CONTACT CHIEF AUTOMOTIVE SYSTEMS, INC., 1-800-445-9262 (TOLL FREE).




## PARTS INFORMATION

To order replacement parts for Chief EZ Liner 25 systems, contact Chief Automotive Systems, Inc. 800-445-9262. (If outside the United States, contact nearest Chief Automotive Systems, Inc. representative.)

When contacting Chief Automotive Systems, Inc. by telephone or mail, provide the following information: name, name of shop, shop telephone number, and shop address. Additional information needed when ordering: description of part(s) and part number(s). Also indicate the EZ Liner 25 Model for which the part is intended.

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

 **CAUTION:** Always use Chief authorized parts (or equivalent) with EZ Liner 25 systems. If replacing electrical and hydraulic components, bolts/fasteners and/or chain, make certain parts meet following standards (minimum requirements).

### Electrical Components

All electrical components must be replaced with Chief authorized parts or their equivalent and be UL approved.

The three-wire power cord and the four-wire control cord must be 12 gauge minimum.

### Hydraulic Hoses

All hydraulic components must be replaced with Chief authorized parts or their equivalent.

The two-wire braid 1/4 inch (6.3 mm) inner diameter hydraulic hoses must have a minimum burst pressure of 20,000 psi (1,400 bar) and a minimum working pressure of 5,000 psi (350 bar) (as per SAE Standard 100 R2A). They must be in lengths equal to factory installed hoses.

### Bolts/Fasteners

All bolts and fasteners must be replaced with Chief authorized parts or their equivalent and must not be less than Grade 5 (Class 8.8).

Any bolt used in a pulling clamp that is frequently tightened must be a Grade 8 (Class 10.9).

All bolt lengths and diameters must be equal to those installed at the factory.

### Chain

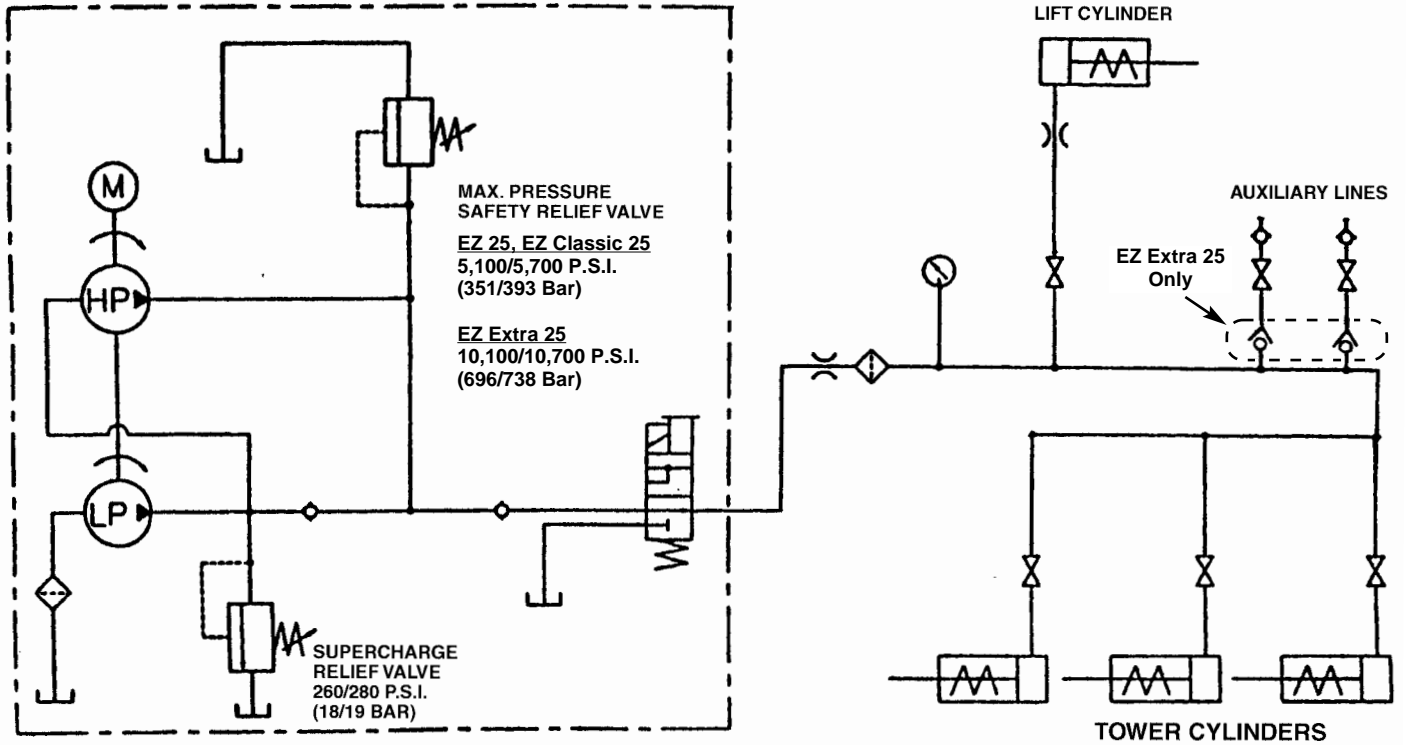
All EZ Liner 25 chains must be replaced with Chief authorized chain or an equivalent.

Both tower and accessory chain must be NACM Standard for 80 Grade 3/8 inch (10mm) alloy chain, proof tested to 20,000 pounds (90 kN) and have a workload of 10,000 pounds (45kN). It must be in a length and size equal to factory installed chain.

### Labels

CAUTION, WARNING, and OTHER labels — Replacement labels are available and some labels are also available in some foreign languages. To order, contact Chief Automotive Systems, Inc. 800-445-9262.

HYDRAULIC DIAGRAM (EZ LINER 25)



## EZ Liner 25 Specifications

	<u>EZ 25</u>	<u>EZ Classic 25</u>
Weight (30 Series) . . . . .	3,760 lbs. (1,692 kg.)	. . . . 4,000 lbs. (1,800 kg.)
Weight (2 Tower Kit) . . . . .	1,030 lbs. (464 kg.)	. . . . 1,030 lbs. (464 kg.)
Weight (1 Tower Kit) . . . . .	515 lbs. (232 kg.)	. . . . 515 lbs. (232 kg.)
Power Required . . . . .	120 v, 15 amp, 60 hz.	. . . . 120 v, 15 amp, 60 hz.
Hydraulic Power . . . . .	5 tons per tower	. . . . 5 tons per tower
Hydraulic Fluid . . . . .	5.7L SUS 215 viscosity, 100°F (38C), 10W hydraulic fluid	. . . . 5.7L SUS 215 viscosity, 100°F (38C), 10W hydraulic fluid
Controls . . . . .	One hand-held unit on 18' (5.5m) of cord	. . . . One hand-held unit on 18' (5.5m) of cord
Length . . . . .	17' (5.18m) 22' 4" (6.7m) – towers at each end	. . . . 17' (5.18m) 22' 4" (6.7m) – towers at each end
Width . . . . .	6'4" (1.93m) 13'4" (4m) – towers to both sides 7'11" (2.41m)	. . . . 7'4" (2.19m) 13'4" (4m) – towers to both sides 7'11" (2.41m)
Height . . . . .	8'9" (2.67m) with tower rams extended up	. . . . 8'9" (2.67m) with tower rams extended up . . . . 2' (.6m) recommended on all sides
Clearance . . . . .	2' (.6m) recommended on all sides	. . . . 28" (711mm)
Working Height . . . . .	28" (711mm)	. . . . 242
Tie Down Openings . . . . .	170	. . . . 5,000 lbs. (2,270 kg.)
Lift Capacity . . . . .	5,000 lbs. (2,270 kg.)	

	<u>EZ Extra 25</u>	<u>EZ Extra 25 (Wide Deck)</u>
Weight (30 Series) . . . . .	4,200 lbs. (1890 kg.)	. . . . 4,440 lbs. (1,998 kg.)
Weight (2 Tower Kit) . . . . .	1,030 lbs. (464 kg.)	. . . . 1,030 lbs. (464 kg.)
Weight (1 Tower Kit) . . . . .	515 lbs. (232 kg.)	. . . . 515 lbs. (232 kg.)
Power Required . . . . .	120v, 15 amp, 60 hz.	. . . . 120v, 15 amp, 60 hz.
Hydraulic Power . . . . .	5 tons per tower	. . . . 5 tons per tower
Hydraulic Fluid . . . . .	5.7L SUS 215 viscosity, 100°F (38C), 10W hydraulic fluid	. . . . 5.7L SUS 215 viscosity, 100°F (38C), 10W hydraulic fluid
Controls . . . . .	One hand-held unit on 18' (5.5m) of cord	. . . . One hand-held unit on 18' (5.5m) of cord
Length . . . . .	17' (5.18m)* 22' 4" (6.7m) – towers at each end	. . . . 17' (5.18m)* 22' 4" (6.7m) – towers at each end
Width . . . . .	6'4" (1.93m) 13'4" (4m) – towers to both sides	. . . . 7'4" (2.19m) 13'4" (4m) – towers to both sides
Height . . . . .	8'5" (2.53m) 9'2" (2.75m) with tower rams extended up, maximum	. . . . 8'5" (2.53m) 9'2" (2.75m) with tower rams extended up, maximum
Clearance . . . . .	2' (.6m) recommended on all sides	. . . . 2' (.6m) recommended on all sides
Working Height . . . . .	**	. . . . **
Tie Down Openings . . . . .	170	. . . . 242
Lift Capacity . . . . .	5,000 lbs. (2,270 kg.)	. . . . 5,000 lbs. (2,270 kg.)

\* EZ Extra 25 mainframe moves 19" (483mm) forward when lowered from its maximum height to floor level.

\*\* EZ Extra 25 has eight different working heights ranging from 17" (432mm) to 34" (864mm). It can also be lowered to floor level for vehicle loading and unloading.



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and/or package components without notice.**