

GETTING STARTED

PLEASE READ THIS MANUAL CAREFULLY BEFORE USING THE EZ LOADER. The safety of all persons installing, using or servicing the EZ Loader is of utmost importance to Bishamon. The EZ Loader is capable of supporting heavy loads and is capable of causing SEVERE PERSONAL INJURY if used improperly or if certain safety precautions are not taken. When properly used and maintained, the EZ Loader will provide many years of safe, trouble free service. If you have any questions about any of the instructions in this manual or about the use of this product, PLEASE contact your DEALER or Bishamon Industries Corporation.

INSPECTION

IMMEDIATELY upon receipt of the EZ Loader, remove all packing and strapping material and visually inspect the unit for damage. Any damage to the unit MUST BE NOTED on the delivery receipt. After the preliminary inspection is conducted, the unit should be thoroughly inspected for any concealed damage that was not readily apparent during the preliminary inspection. Any concealed damage found that was not noted on the delivery receipt should be IMMEDIATELY reported in writing TO THE DELIVERING CARRIER.

SAFETY DEFINITIONS

Bishamon uses the following system to identify the degree of risk associated with hazards and unsafe practices.

DANGER - Immediate hazard which will result in **SEVERE PERSONAL INJURY** or **DEATH**.

WARNING - Hazard or unsafe practice which, if not avoided, could result in **DEATH** or **SEVERE PERSONAL INJURY** and **PROPERTY DAMAGE**.

CAUTION - Hazard or unsafe practice which, if not avoided, could result in **MINOR** or **MODERATE PERSONAL INJURY** and **PROPERTY DAMAGE**.

GENERAL WARNINGS

WARNING

1. READ THIS MANUAL COMPLETELY BEFORE USING AND THOROUGHLY UNDERSTAND AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. The EZ Loader is designed for use with stable, uniformly distributed loads on a solid level floor. **DO NOT** concentrate the load at one point on the pallet or platform. **ALWAYS** uniformly distribute each layer of load over the supporting surface. **DO NOT** use the EZ Loader for any purpose other than its intended use.
3. **SHEARING HAZARD. ALWAYS** keep hands and feet clear of the scissor mechanism and all moving components. **DO NOT** put hands under the platform when in use. **SEVERE PERSONAL INJURY** could result.
4. **CRUSHING HAZARD. ALWAYS** keep hands and feet clear of all moving components. **DO NOT** put feet on the base frame when in use. **SEVERE PERSONAL INJURY** could result.
5. **PINCH POINT HAZARD. ALWAYS** keep hands and fingers clear of the underside of the rotator ring. **SEVERE PERSONAL INJURY** could result.
6. **NEVER** sit, stand or ride on the platform or rotating surface. Moving components could cause loss of balance. **SEVERE PERSONAL INJURY** could result.
7. **NEVER** go under the platform until the load is removed and the scissor mechanism is blocked. **SEVERE PERSONAL INJURY** could result.
8. **NEVER** place any load on the EZ Loader with the scissor mechanism blocked. **SEVERE PERSONAL INJURY** and **PROPERTY DAMAGE** could result.
9. **DO NOT** overpressurize or overload the EZ Loader. **ALWAYS** stay within the designated pressure and capacity ratings. **SEVERE PERSONAL INJURY** and **PROPERTY DAMAGE** could result.

10. When removing a loaded pallet, **ALWAYS** raise the load until the bottom of the pallet clears the top of the EZ Loader before backing up. **ALWAYS** stay well clear of the load while it is being removed from the EZ Loader. **SEVERE PERSONAL INJURY** and **PROPERTY DAMAGE** could result.
11. **ALWAYS** ensure all safety warning labels are in place and legible. If not, remove the EZ Loader from service and replace the required labels. Refer to Figure 1 for label descriptions and locations.
12. **DO NOT** inflate the air spring when removed from the EZ Loader. Pressurizing the unrestricted air spring may cause assembly to burst. **SEVERE PERSONAL INJURY** and **PROPERTY DAMAGE** could result.
13. **NEVER** leave the EZ Loader unattended in the hold down position. **ALWAYS** position the Hold Down / Release handle to the release position allowing the EZ Loader to extend to the full upright position when unattended.
14. Stay clear of the elevating platform. **ALWAYS** ensure everyone is clear of the platform before turning the Hold Down / Release handle to the release position.

! CAUTION

1. **ALWAYS** use clean dry air to pressurize the system.
2. **ALWAYS** securely anchor the EZ Loader base frame to floor to ensure maximum stability.
3. The optional Semi-Live Portability is designed for use with an unloaded EZ Loader. **ALWAYS** remove the load before engaging the portability wheels. **NEVER** apply load with the portability wheels engaged.

SAFETY WARNING LABEL LOCATIONS

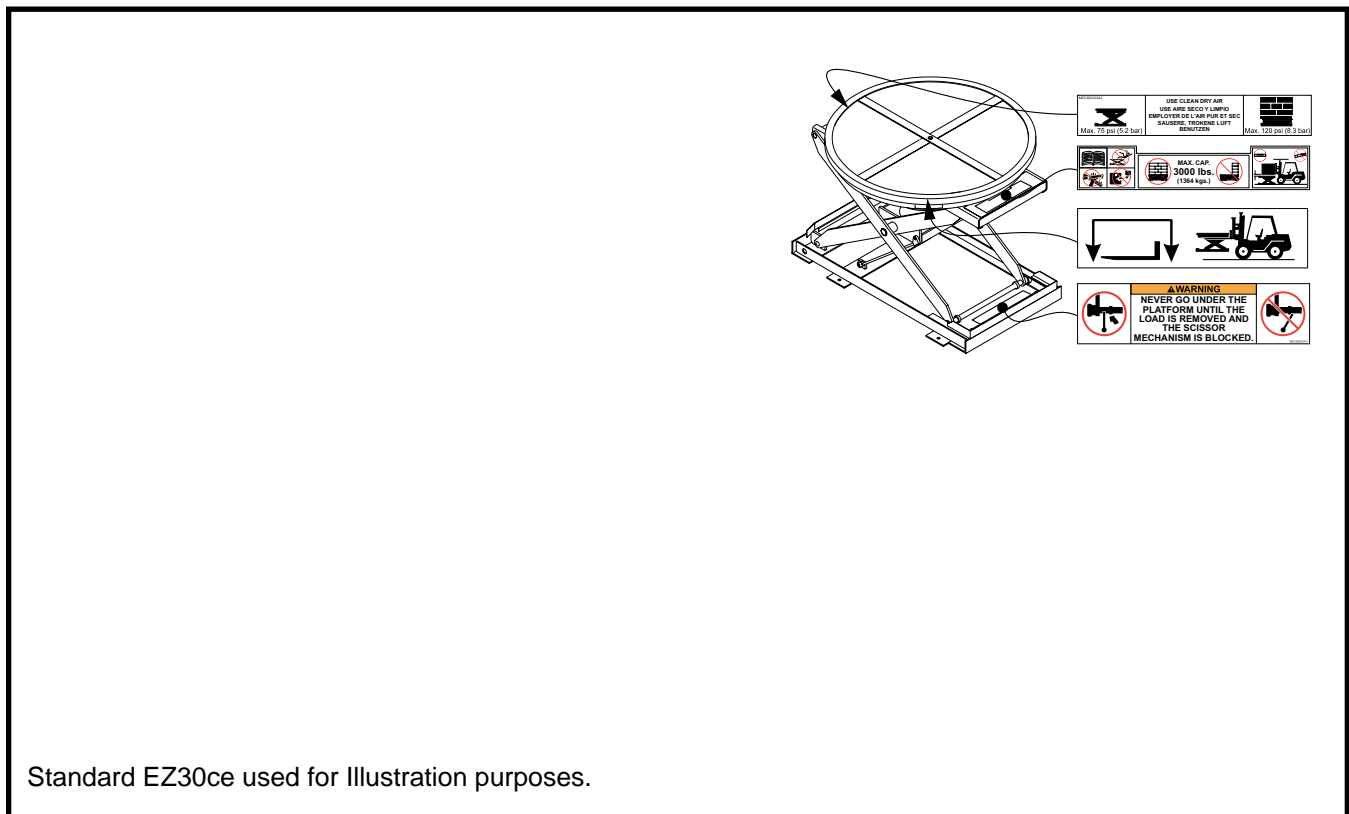


Figure 1 - Safety Warning Label Locations

SPECIFICATION AND SPECIFICATION DRAWING

SPECIFICATIONS:

EZ-30 & EZ-45

1. MAXIMUM CAPACITY-	EZ-30 3000 lbs. (1364 kgs.)
	EZ-45 4500 lbs. (2045 kgs.)
2. MINIMUM CAPACITY*	EZ-30 450 lbs. (205 kgs.)
	EZ-45 850 lbs. (386 kgs.)
3. EXTENDED HEIGHT	30 in. (762 mm)
4. COLLAPSED HEIGHT	8.75 in. (222.5 mm)
5. WEIGHT	EZ-30 350 lbs. (159 kgs.)
	EZ-45 375 lbs. (171 kgs.)
6. AIR REQUIREMENTS	75 psi. (5.2 Bar) Dry Shop Air
7. MAXIMUM INTERNAL AIR PRESSURE	120 psi. (8.3 Bar)
8. RELIEF VALVE SETTING	135 psi. (9.3 Bar)
9. AIR SPRING	Two Ply Fabric Reinforced Rubber
10. SOUND PRESSURE LEVEL	<70 dB(a)
11. OPERATING ENVIRONMENT	Indoors.
12. LIGHTING REQUIREMENT	Good General Lighting
13. OPERATING ENVIRONMENT TEMPERATURE	+30 to +120°F.
	(-1.1°C to 48.9°C)

*At collapsed capacities less than 450 lbs. (205 kgs.) for the EZ-30 and 850 lbs. (386 kgs.) for the EZ-45, the internal volume of air is not capable of extending the platform to the maximum extended height.

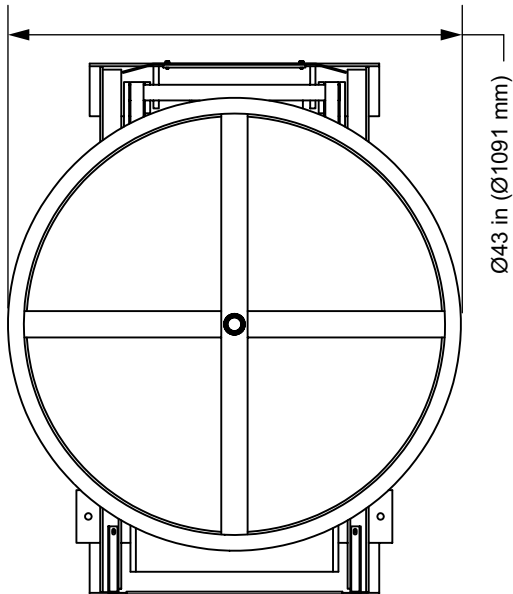
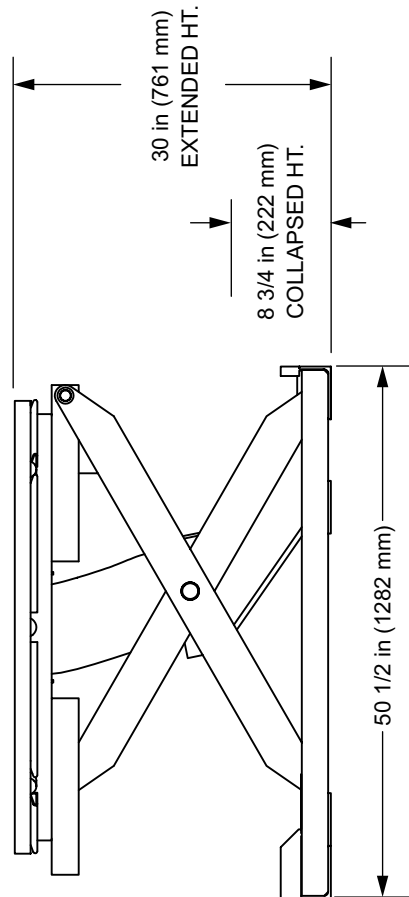
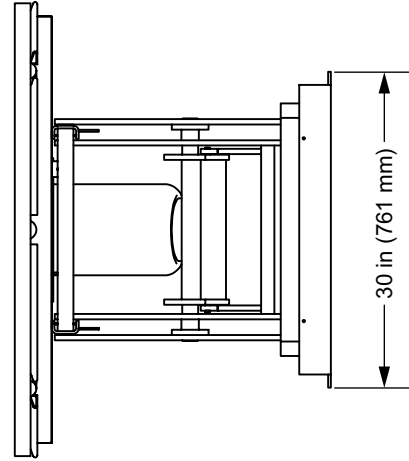


Figure 2 - Specification Drawing

RECOMMENDED FLOOR AREA

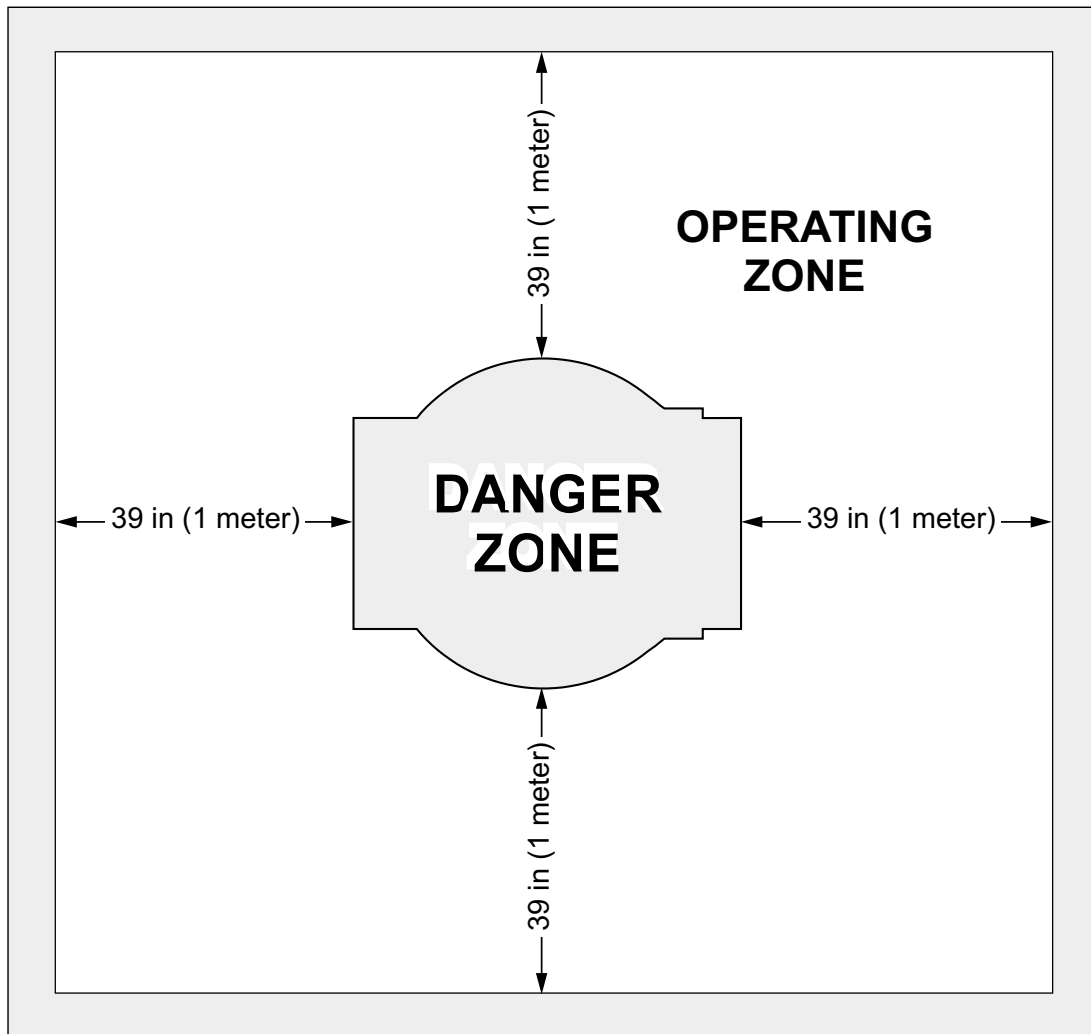


Figure 3 - Recommended Floor Area

The EZ Loader's recommended floor area, shown in Figure 3, identifies the "Danger Zone" and the "Operating Zone". The Danger Zone is the area inside the base frame and under the platform structure. The recommended Operating Zone is a distance of 39 inches (1 meter) extending beyond the danger zone on all sides.

FUNCTIONAL DESCRIPTION

The EZ Loader is a pneumatic load elevator designed to assist the operator when manually loading or unloading a palletized load. As the load weight increases or decreases the EZ Loader gradually lowers or raises to maintain the top of the load at a comfortable working height, eliminating operator strain due to bending and stretching.

The EZ Loader hold down option gives the user the added flexibility of maintaining the Ez Loader in a near collapsed position. The hold down option required the addition of a fluid reservoir, fluid mixture, shut off valve and check valve to the air system. Near the collapsed position, the internal volume of the airspring is reduced such that the air has been totally evacuated and the fluid mixture occupies the remaining volume. At the collapsed height, the internal volume has been further reduced, forcing the fluid through the shut off valve and into the fluid reservoir. Closing the valve at the collapsed position divides the system and prevents the air in the air reservoirs from returning to the airspring. When the load is removed the EZ Loader will rise three to five inches and stop. The EZ Loader will stay at this near collapsed position until the shut off valve is opened, allowing the air to the airspring

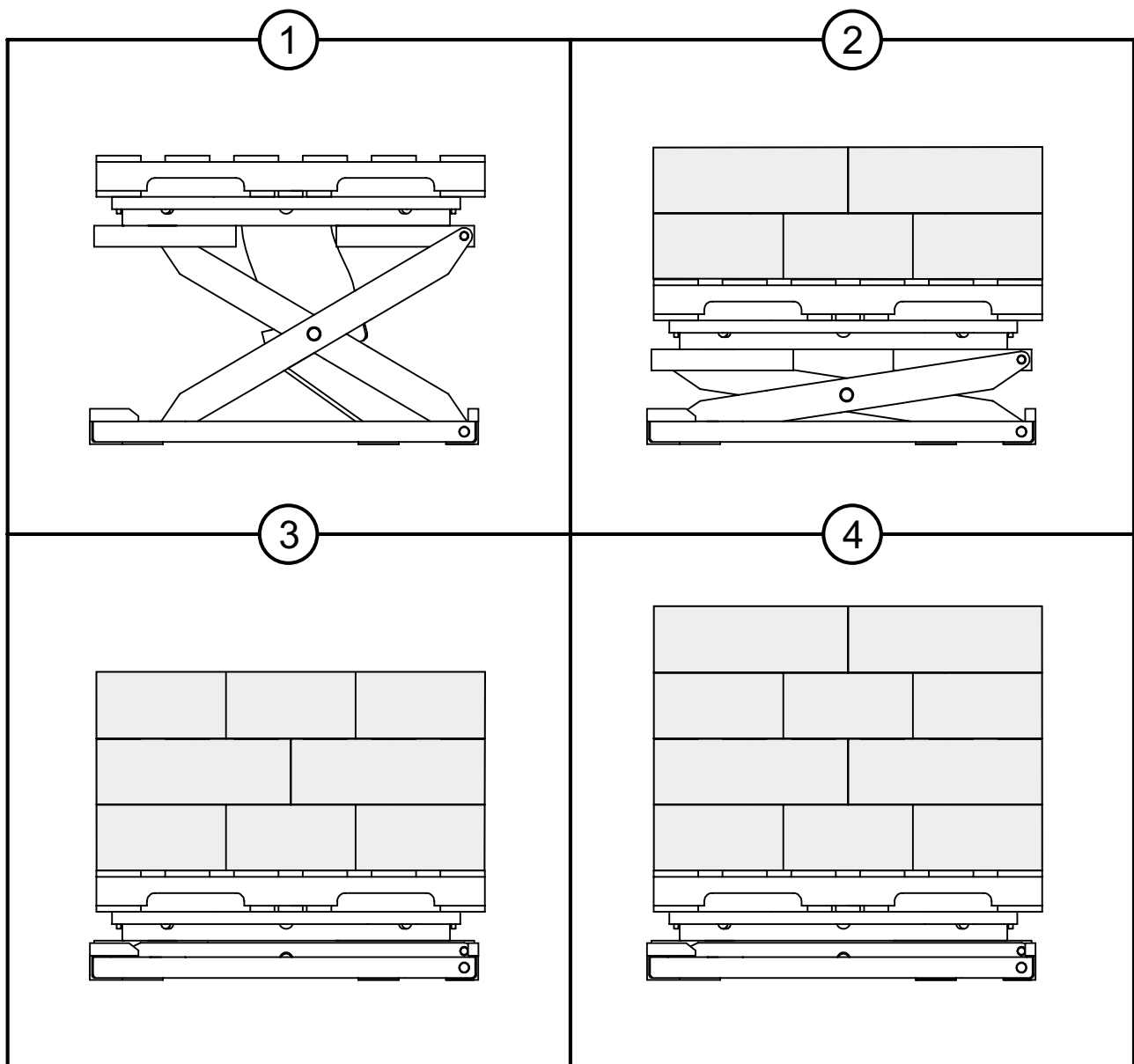


Figure 4 - Functional Drawing

SCISSOR BLOCKING INSTRUCTIONS

To Engage The Maintenance Bars

1. Remove all load from the platform and allow the EZ Loader to extend to its fully raised position.
2. As detailed in Figure 5, rotate the maintenance bars approximately 90° so that the bars are parallel with the scissor legs. The end of the bar should be positioned between the end of the leg and the collar on the roller shaft.

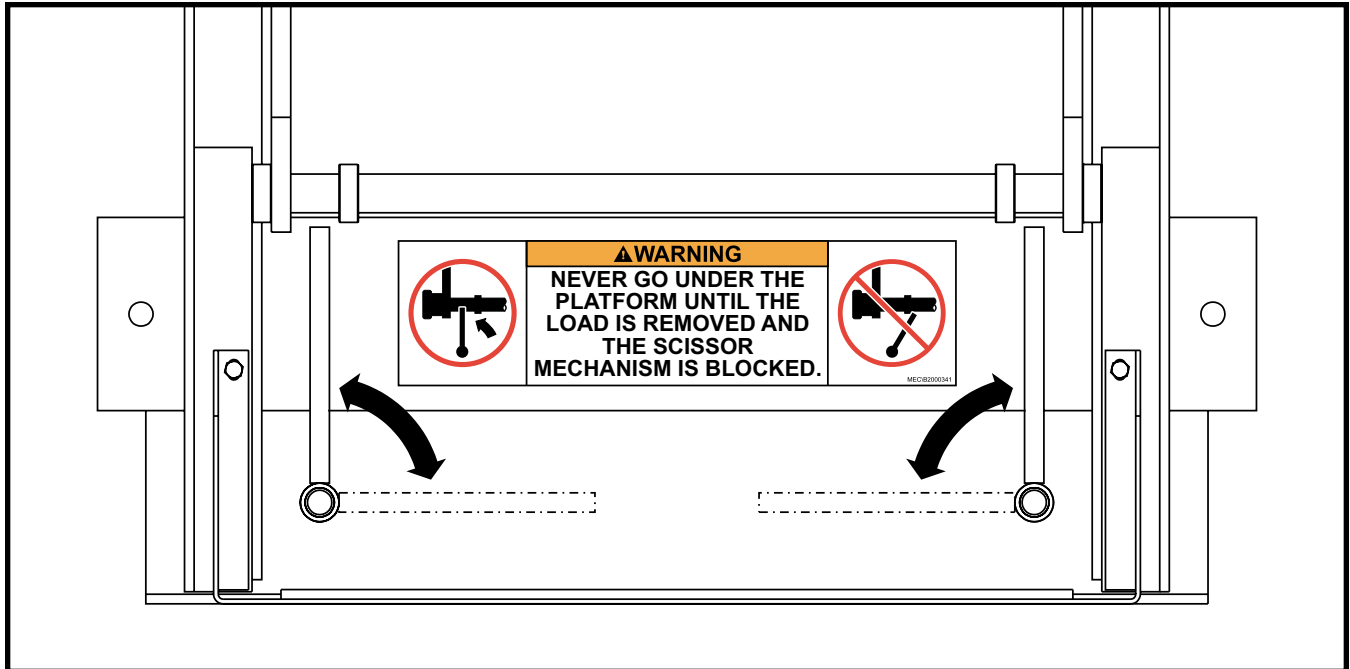


Figure 5 - Maintenance Bar Operation

3. Slowly open the purge valve to release air from the system and allow the scissor mechanism to rest against the maintenance bars. ALWAYS check the position of the bars before going under the platform.

To Disengage The Maintenance Bars

4. Repressurize the EZ Loader to the desired initial pressure or until the EZ Loader is fully raised.
5. Rotate the maintenance bars approximately 90° to their original position.

WARNING

NEVER place any load on the EZ Loader with the scissor mechanism blocked.
SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.

INSTALLATION

Installation of the EZ Loader is a simple process; however, certain precautions must be taken to ensure years of trouble free service. The EZ Loader requires clean, dry, compressed air to operate properly. A filter and regulator with a pressure gauge should be installed on an air line in the installation area before initially charging the system for use.

Before you begin, locate and identify the pneumatic components detailed in Figure 6. These components will be referred to in the Installation and the Set-Up procedures. Make sure you understand the function of each component before proceeding.

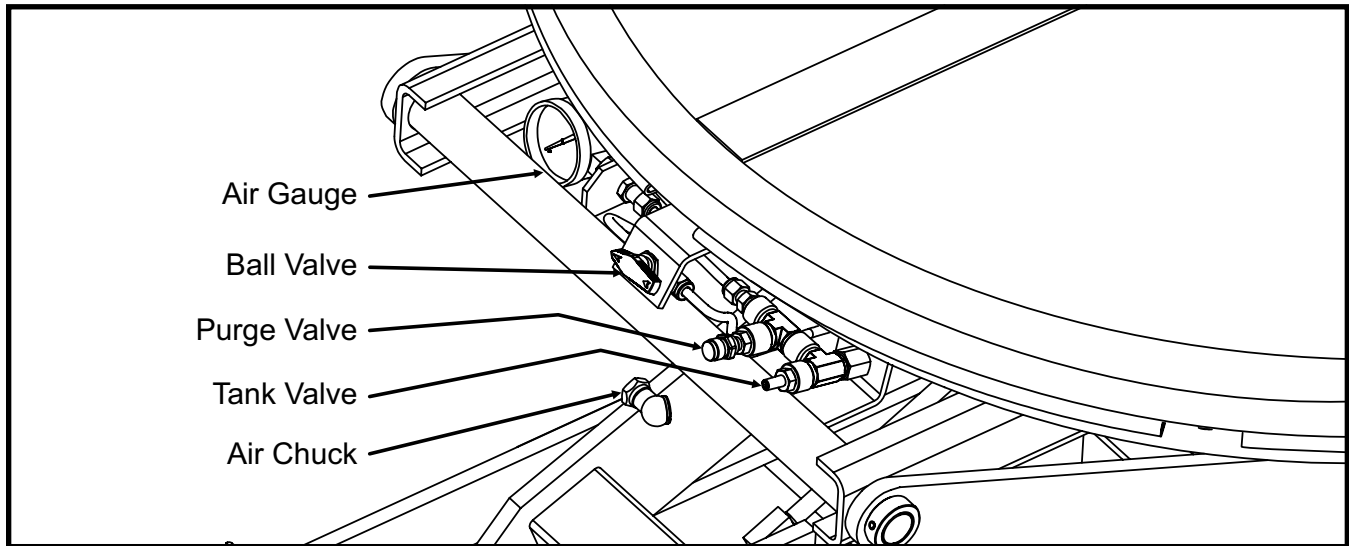


Figure 6 - EZ Loader Pneumatic Components

Air Chuck - The air chuck is supplied with the EZ Loader and is used to charge the EZ Loader with air. The air chuck body is supplied with 1/4 inch female pipe threads and must be attached to the end of the air line extending from the filter/regulator.

Air Gauge - The air gauge indicates the EZ Loader's internal system pressure. The yellow band indicates the maximum pressure range for the EZ Loader in the raised position. The red mark indicates the maximum pressure for the EZ Loader in the collapsed position.

Purge Valve - The purge valve is a manual one way valve used to release air from the EZ Loader. Turning the valve counter-clockwise opens the valve and releases air from the system. Turn the valve clockwise to close. The valve should be closed with finger tight pressure. **DO NOT** use a wrench to close the valve, leakage may occur if over-tightened.

Tank Valve - The tank valve is a one way valve used to charge the EZ Loader with air. The end of the tank valve is designed to mate with the air chuck. Pressing the air chuck against the end of the tank valve allows air to enter the system.

INSTALLATION INSTRUCTIONS

Installation of the EZ Loader is a simple process; however, certain precautions must be taken to ensure years of trouble free service. The EZ Loader requires clean, dry, compressed air to operate properly. A filter and non-relieving style regulator with a pressure gauge must be installed in the air supply line before connecting the air source to the EZ Loader.

1. Make sure the installation area is clean before starting. Check the installation surface to ensure it is relatively smooth and level. Otherwise, the EZ Loader base frame should be shimmed to make it level.
2. Using a fork lift or similar equipment, move the palletized EZ Loader to the location it is to be installed.
3. Remove the steel bands securing the EZ Loader to the pallet. Next, remove all packing material and place it off to the side.

HEIGHT vs. WEIGHT DIAGRAM

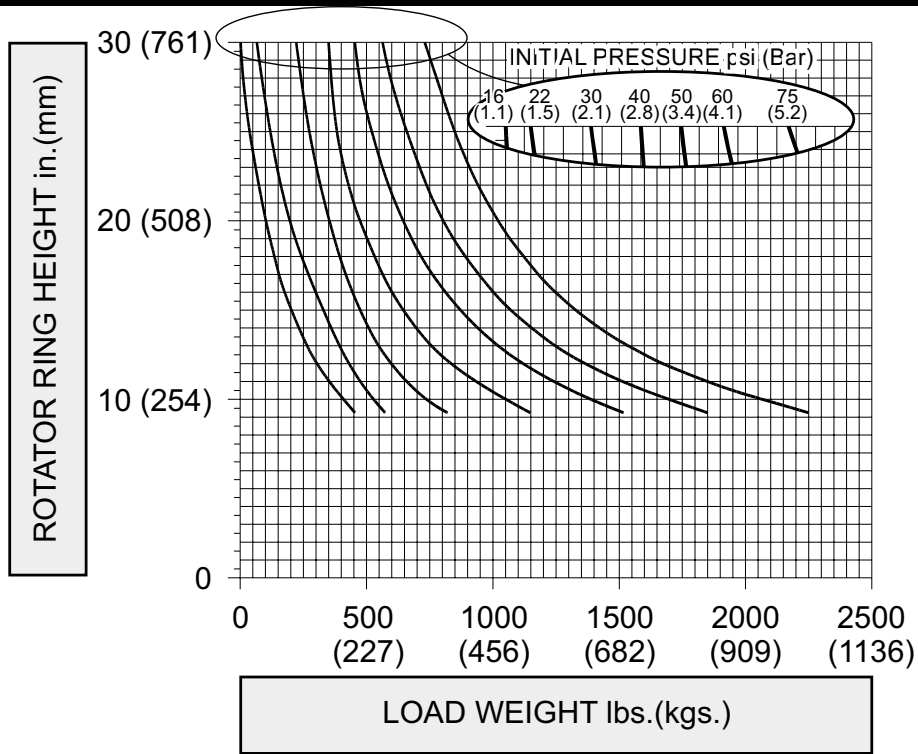


Figure 8 - EZ-30 Height vs. Load Diagram

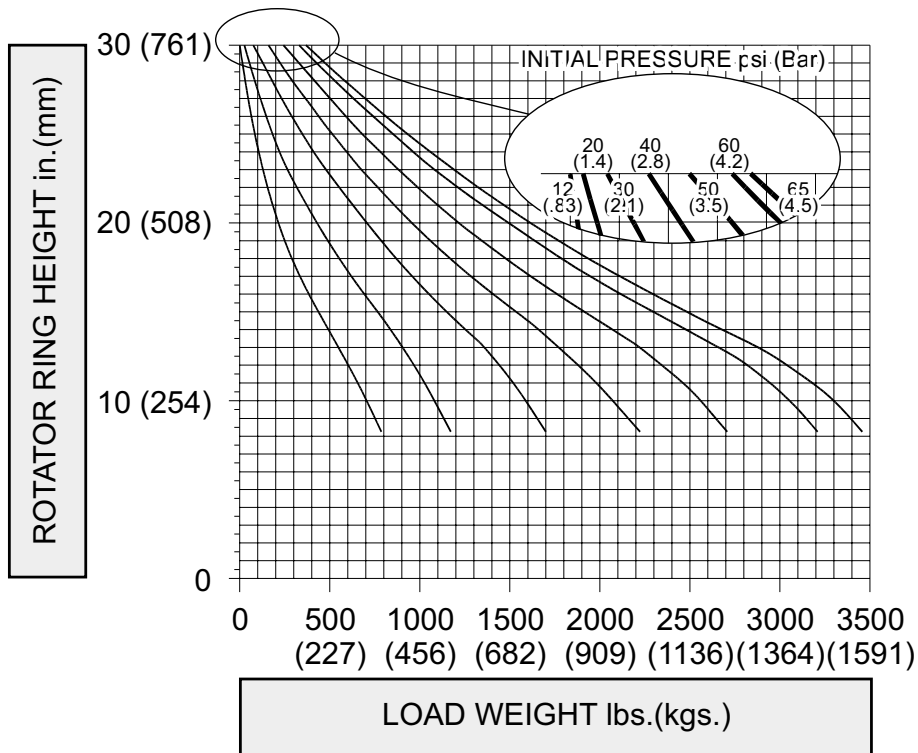


Figure 9 - EZ-45 Height vs. Load Diagram

1. The EZ Loader must be properly installed before using. Refer to installation instructions on pages 7 and 8.
2. Pressurize the EZ Loader and disengage the maintenance bars if required. Otherwise, slowly open the purge valve to release the air from the system. The EZ Loader will completely collapse. Close the purge valve.
3. If the total is known, use the appropriate Height Vs Load diagram and locate the initial pressure curve that corresponds to a collapsed capacity that is 75 percent of the total load. To start, always use an initial pressure that is slightly higher than required. If the total load is unknown the maximum initial pressure should be used.

HEIGHT vs WEIGHT DIAGRAM

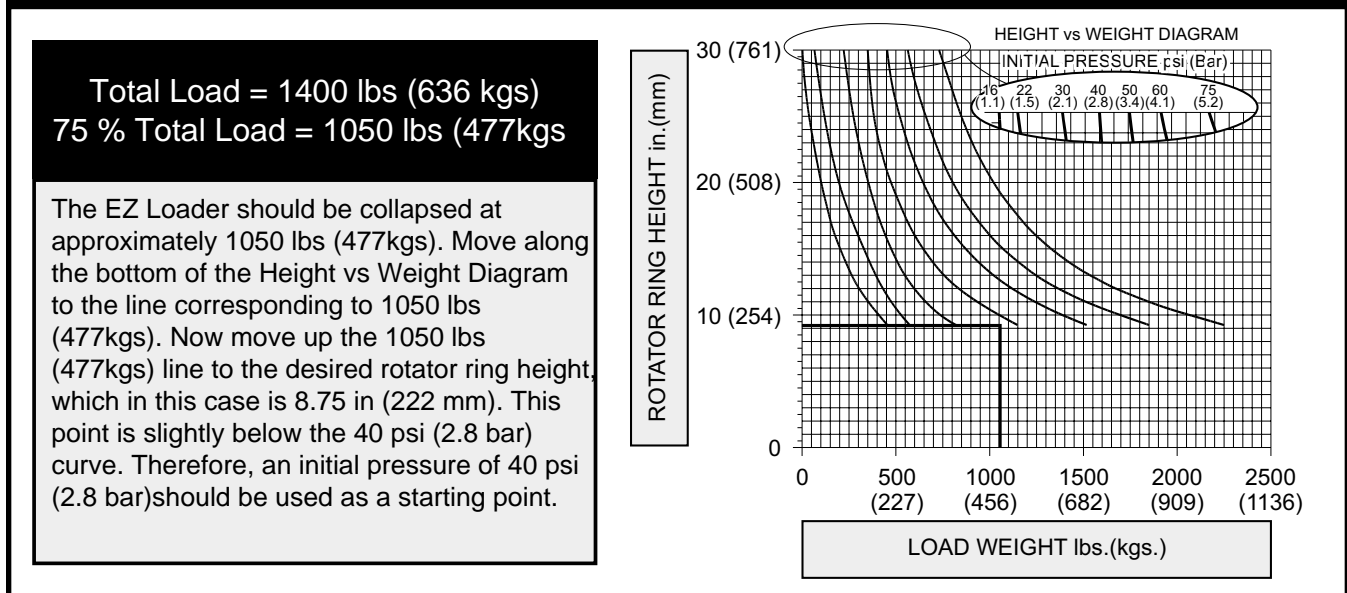


Figure 10 - EZ-30 Height vs Weight Example

4. Set the air regulator to the required initial pressure and completely pressurize the EZ Loader. Check the pressure gauge on the EZ Loader to ensure the system pressure is the same as the regulator setting. Disengage the air chuck from the tank valve and store the air line in a convenient location.
5. Place the pallet and 75 percent of the total load on the EZ Loader. Check the platform height. If the EZ Loader is not completely collapsed, open the purge valve slowly and release air until the minimum height is obtained. Close the purge valve.
6. Using a fork lift, remove the loaded pallet and allow the EZ Loader to return to its raised position. If a dedicated air line is being used, set the air regulator to the initial pressure on the gauge. Otherwise, record the setting for future use.
7. The EZ Loader is now ready for use. Should the load capacity vary, adjustments in the load height or collapsed capacity can easily be made by adding or removing air from the system.

NOTE: The EZ Loader is a captive air system much like an automotive tire and will lose small amounts of air over a period of time. Therefore, air will have to be occasionally added to the system.

OPERATION INSTRUCTIONS FLUID HOLD DOWN

The EZ Loader must be properly installed and set-up before using. Refer to the installation and set-up instructions, pages 7-8. Note: The HOLD DOWN / RELEASE handle must be in the RELEASE position during set-up procedure.

1. To start, the EZ Loader should be in the fully extended position. However, if the EZ Loader is collapsed, slowly turn the HOLD DOWN / RELEASE handle to the RELEASE position (fig. 8) and allow the EZ Loader to fully extend. Note: When the EZ Loader is extended, the HOLD DOWN / RELEASE handle may be in either position (HOLD DOWN or RELEASE).
2. Place the pallet on the EZ Loader and begin the loading process. The EZ Loader will gradually lower as the load weight increases maintaining a comfortable working height.
3. Upon completion of the loading process, with the EZ Loader fully lowered, ensure the HOLD DOWN / RELEASE handle is in the HOLD DOWN position (fig. 9).
4. Using a fork lift or similar equipment remove the load from the EZ Loader. The EZ Loader will rise 3 to 5 inches and stop. This initial rise is due to contraction of the airspring diameter and varies with the initial pressure of the system.
5. If so desired, an empty pallet may be placed on the EZ Loader at this time.
6. To allow the EZ Loader to return to the fully extended position, slowly turn the HOLD DOWN / RELEASE handle to the release position. The EZ Loader is now ready for the next loading cycle.

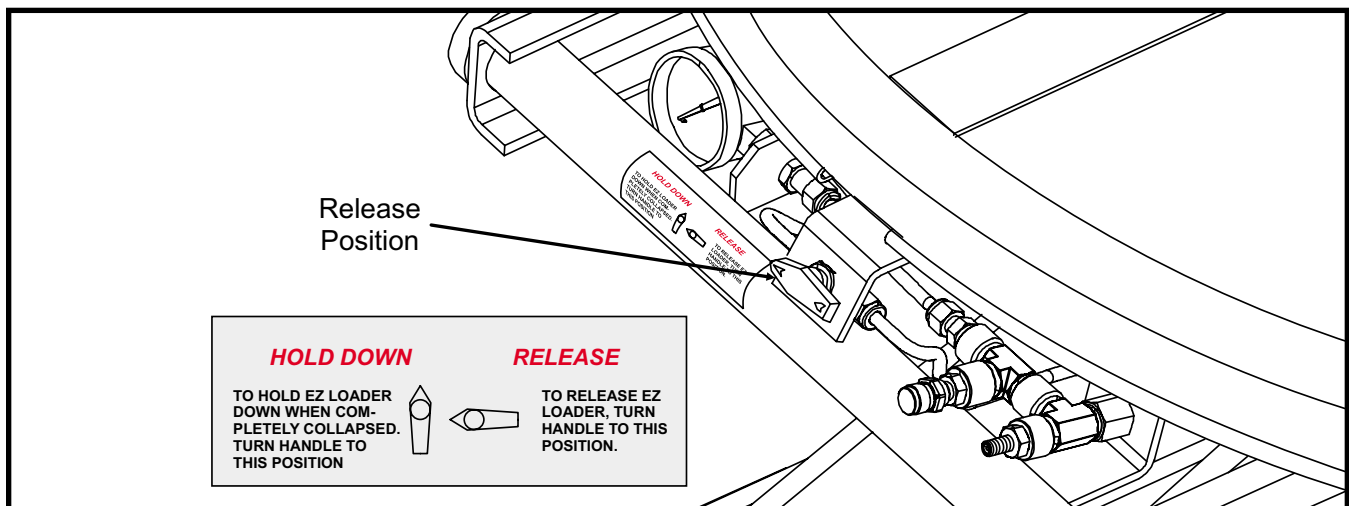


Figure 11 - Ball Valve in the Release Position

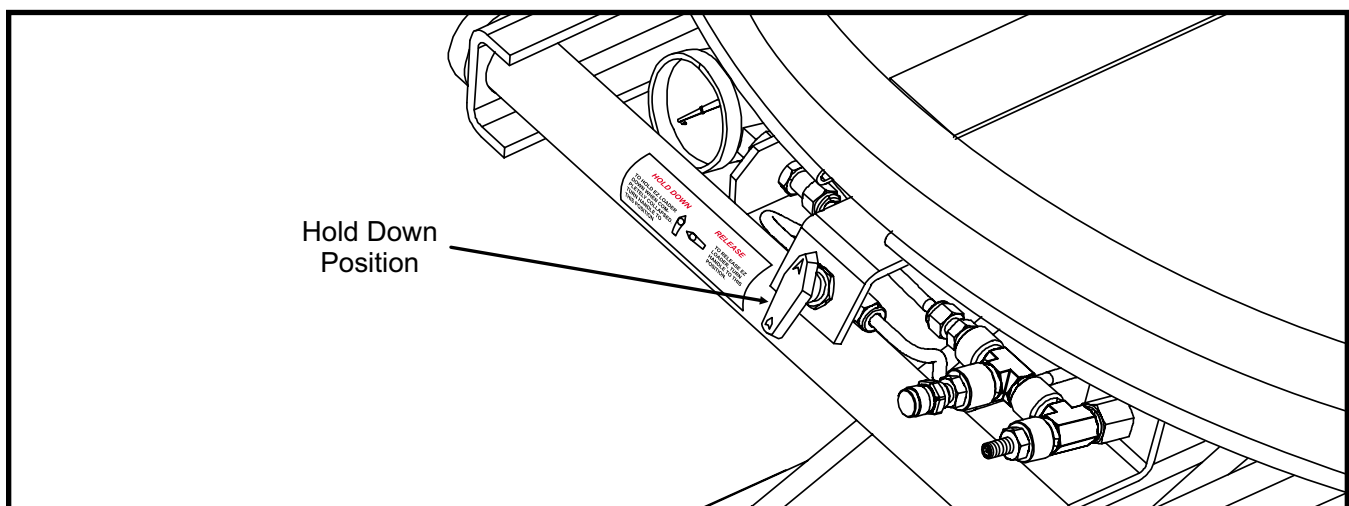


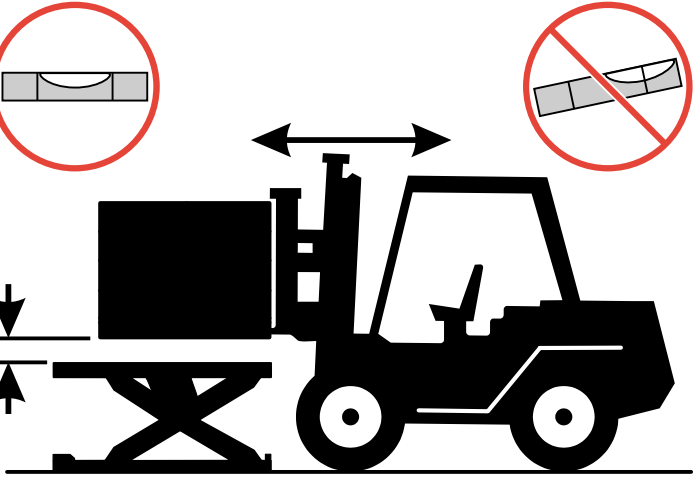


Figure 12 - Ball Valve in the Hold Down Position

	⚠ WARNING	
<p>The EZ Loader is designed for use with stable, uniformly distributed loads on a solid level floor. DO NOT concentrate the load at one point on the pallet or platform. ALWAYS uniformly distribute each layer of load over the supporting surface. DO NOT use the EZ Loader for any purpose other than its intended use.</p>		

	⚠ WARNING
<p>When removing a loaded pallet, ALWAYS raise the load until the bottom of the pallet clears the top of the EZ Loader before backing up. ALWAYS stay well clear of the load while it is being removed from the EZ Loader. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.</p>	

HANDLING INSTRUCTIONS

Bishamon recommends securing the EZ Loader to the floor for maximum stability. However, certain applications require the EZ Loader to be relocated frequently. Handling the EZ Loader can be easily accomplished as follows:

1. Remove all load from the platform and allow the EZ Loader to extend to its fully raised position.
2. Using a fork lift, position the forks under the platform structure, as detailed in Figure 7.
3. Slowly lift the EZ Loader until the base frame clears the floor. The EZ Loader can now be moved to the next location.

⚠ WARNING
<p>NEVER go under the platform until the load is removed and the scissor mechanism is blocked. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.</p>

ROUTINE MAINTENANCE FLUID HOLD DOWN

The EZ Loader is designed to provide years of trouble free service and requires very little maintenance. However, a routine inspection and maintenance program will prevent costly replacement of parts and or downtime.

The EZ Loader fluid hold down utilizes an anti-freeze/water mixture within the air system for the hold down operation. The fluid level is factory set and should not be altered. The anti-freeze/water mixture provides corrosion protection.

WARNING

1. ALWAYS block the lift and release the air from the system before servicing.
2. DO NOT alter the fluid level in this reservoir. The fluid level is critical to the proper function of this product. To replace the fluid refer to the fluid replacement instructions in the service manual.
3. DO NOT inflate the airspring when it has been removed from the EZ Loader. Pressurizing the unrestricted airspring may cause the assembly to burst. SEVERE PERSONAL INJURY and PROPERTY DAMAGE could result.

Monthly inspection should consist of the following:

1. Inspect snap rings at all rollers and linkage assemblies. If not in place and/or secure, replace or repair at once.
2. Inspect all rollers for signs of wear. Replace as necessary. Rollers and axles have lifetime lubricated bearings; therefore, they do not need to be greased or lubricated.
3. Inspect the air spring retaining screws for tightness. Tighten if necessary.
4. Inspect the rotator ring bearings for ease of operation. Replace if necessary.
5. Should removal of the air lines be required, mark the initial position before removing the fitting nut. When reinstalling, first tighten the nut by hand, then using a wrench rotate the nut to the original position. Tighten the nut an additional 1/8 turn. Do not overtighten as air leakage may occur.

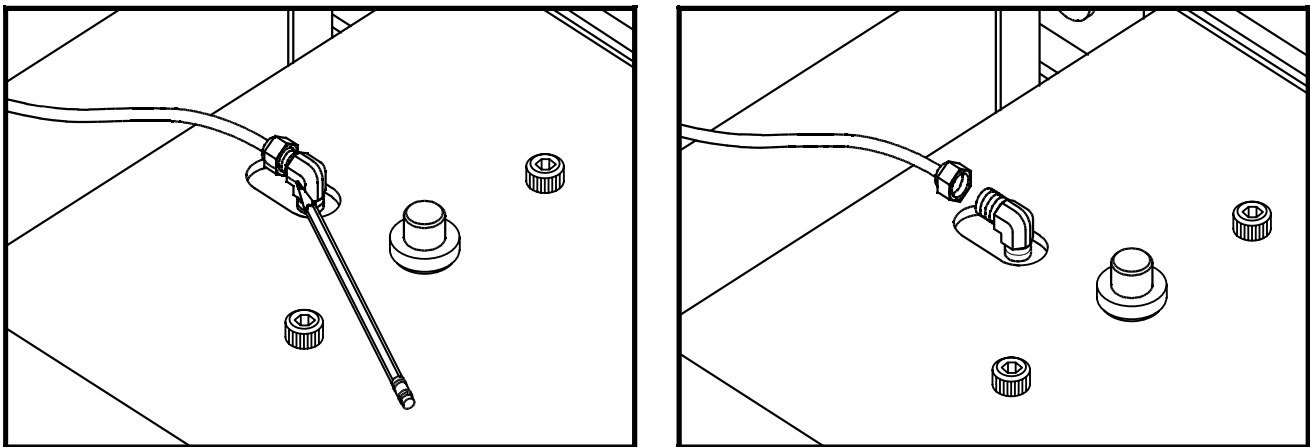


Figure 13 - Air Line Removal

6. Inspect valve actuator plate screws (?) for tightness. Tighten if necessary.
7. Inspect automatic pilot valve (?) for tightness. Tighten if necessary. Ensure the pilot valve is properly adjusted so that the valve actuator plate depresses the pilot valve ball a minimum of 3/16 inch.

FLUID REPLACEMENT INSTRUCTIONS

For item location refer to replacement parts drawing on pages?.

1. Block EZ Loader in the raised position and release the air from the system. In the raised position, all of the fluid is contained in the airspring. The fluid reservoir (?) will be empty.
2. Note the position of the airspring elbow and mark the initial position of the fitting nut as shown in figure ?. Disconnect the air line from the elbow as shown in figure?.
3. Remove the lower airspring mounting screws and the upper airspring mounting screws.
4. Remove the airspring from the EZ Loader frame. Use caution not to spill the fluid. The airspring contains slightly more than One (1) gallon of anti-freeze/water mixture.
5. Pour the old fluid from the airspring into a suitable container and dispose of properly.
6. Remove the airspring elbow from the airspring port and thoroughly flush the airspring with clean water.
7. Reassembly the airspring into the EZ Loader frame and securely tighten the upper and lower mounting screws.
8. Fill the airspring with the required quantity of fluid. See Table 1 for the required fluid quantity.
9. Apply teflon tape or equivalent to the elbow and reinstall in the airspring port. Tighten elbow sufficiently to ensure an air tight closure with the final position being the same as before removal.

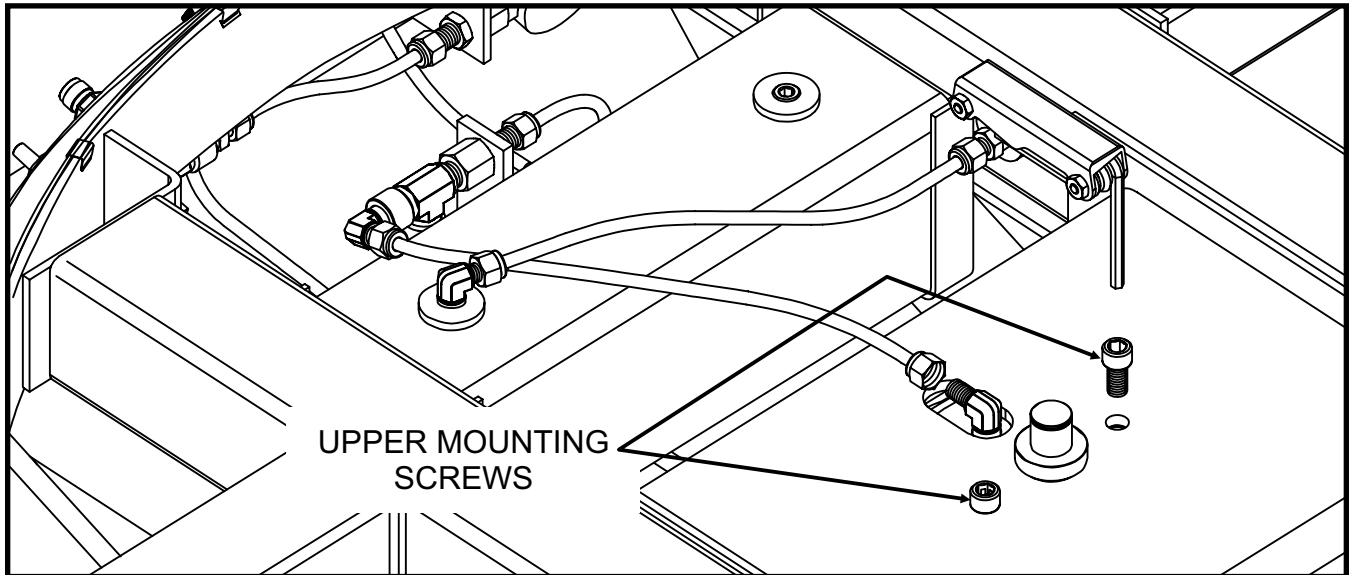


Figure 14 - Reconnection

10. Reconnect the air line to the elbow. First, tighten the nut by hand, then using a wrench rotate the nut to the original position. Tighten the nut an additional 1/8 turn to ensure a leak-proof connection.
11. The EZ Loader is now ready to be recharged with air. Refer to the set-up on page ?.

ANTI-FREEZE CAPACITY TABLE

MODEL	SYSTEM FLUID CAPACITY	RECOMMENDED FLUID
EZ-30	4 1/2 QUARTS MINIMUM	50/50 ANTI-FREEZE
EZ45	5 1/4 QUARTS MINIMUM	WATER MIXTURE

Figure 15 - Anti-freeze Table

REPLACEMENT PARTS

Bishamon has carefully selected the components used in the manufacture of the EZ Loader. In the event replacement parts are required, ALWAYS use genuine EZ Loader components provided by Bishamon. These parts can be obtained from your Bishamon DEALER or by contacting Bishamon Industries Corp.