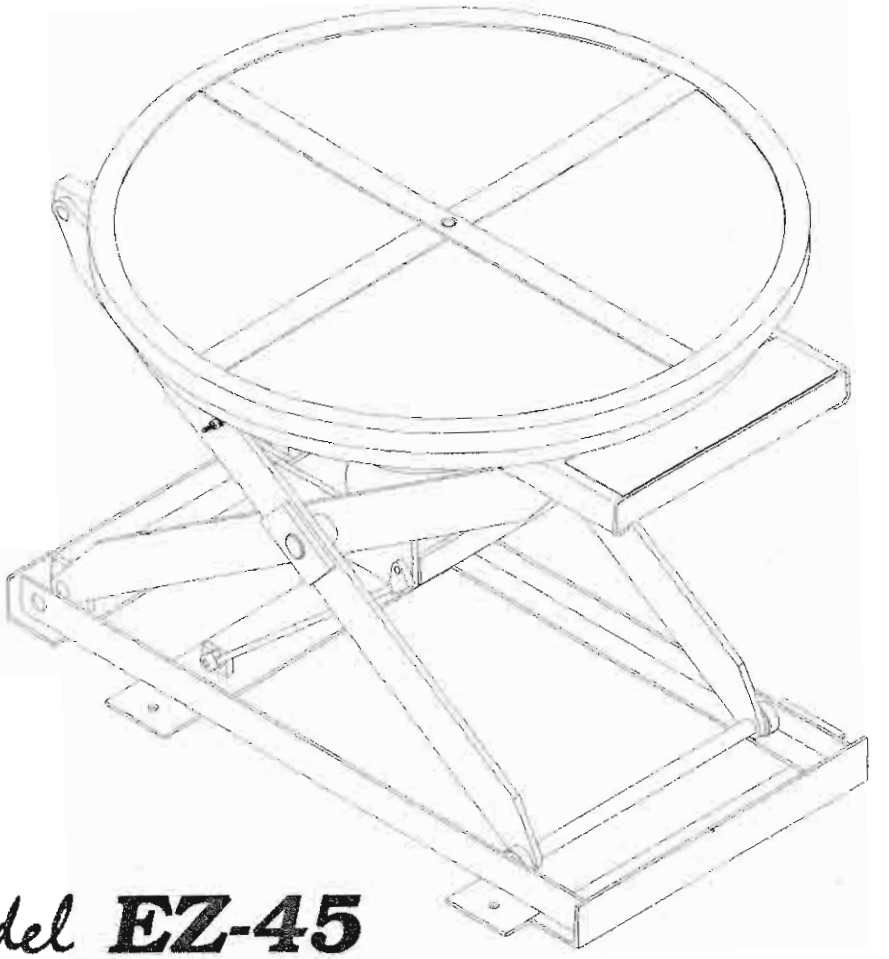
EZ LOADER

By Bishamon



Model EZ-45

Service Manual

BISHAMON INDUSTRIES CORPORATION
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PATENT PENDING

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Date Placed in Service _____

Serial Number _____

Dealer _____

GETTING STARTED

PLEASE READ THIS MANUAL CAREFULLY BEFORE USING THE EZ LOADER.

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.

GENERAL WARNINGS

⚠ WARNING ⚠

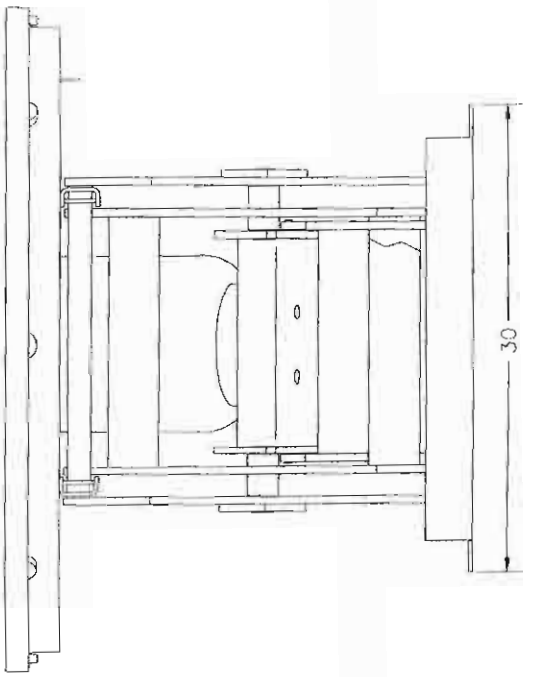
1. READ COMPLETE SERVICE MANUAL BEFORE USING AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. KEEP HANDS AND FEET CLEAR OF ALL MOVING COMPONENTS. PERSONAL INJURY COULD RESULT.
3. NEVER GO UNDER PLATFORM OR SERVICE LIFT UNTIL LOAD IS REMOVED AND SCISSOR MECHANISM IS SECURELY BLOCKED IN RAISED POSITION.
4. KEEP HANDS CLEAR OF UNDERSIDE OF ROTATOR RING. PERSONAL INJURY COULD RESULT.
5. NEVER STAND ON PLATFORM. MOVING COMPONENTS COULD CAUSE LOSS OF BALANCE.
6. NEVER OVERPRESSURIZE THE SYSTEM. MAXIMUM SYSTEM PRESSURE SHOULD NOT EXCEED 65 PSI IN THE EXTENDED POSITION.
7. ALWAYS USE CLEAN DRY AIR TO PRESSURIZE THE SYSTEM.
8. ALWAYS SECURELY ANCHOR BASE FRAME TO FLOOR TO ENSURE MAXIMUM STABILITY. (SEE INSTALLATION INSTRUCTIONS ON PAGE 4)
9. THE EZ LOADER IS DESIGNED FOR USE WITH BALANCED LOADS. DO NOT CONCENTRATE THE LOAD AT ONE POINT ON THE PALLET OR PLATFORM. UNIFORMLY DISTRIBUTE EACH LAYER OF LOAD OVER 80% OF THE PALLET OR PLATFORM SURFACE.
10. DO NOT INFLATE AIR SPRING WHEN REMOVED FROM EZ LOADER. PRESSURIZING THE UNRESTRICTED AIR SPRING MAY CAUSE ASSEMBLY TO BURST CAUSING PROPERTY DAMAGE OR SEVERE PERSONAL INJURY.
11. IF THE EZ LOADER IS EQUIPPED WITH OPTIONAL SEMI-LIVE PORTABILITY, ALWAYS REMOVE THE LOAD BEFORE ENGAGING THE PORTABILITY WHEELS. SEE PORTABILITY INSTRUCTIONS PAGE 12.
12. 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.

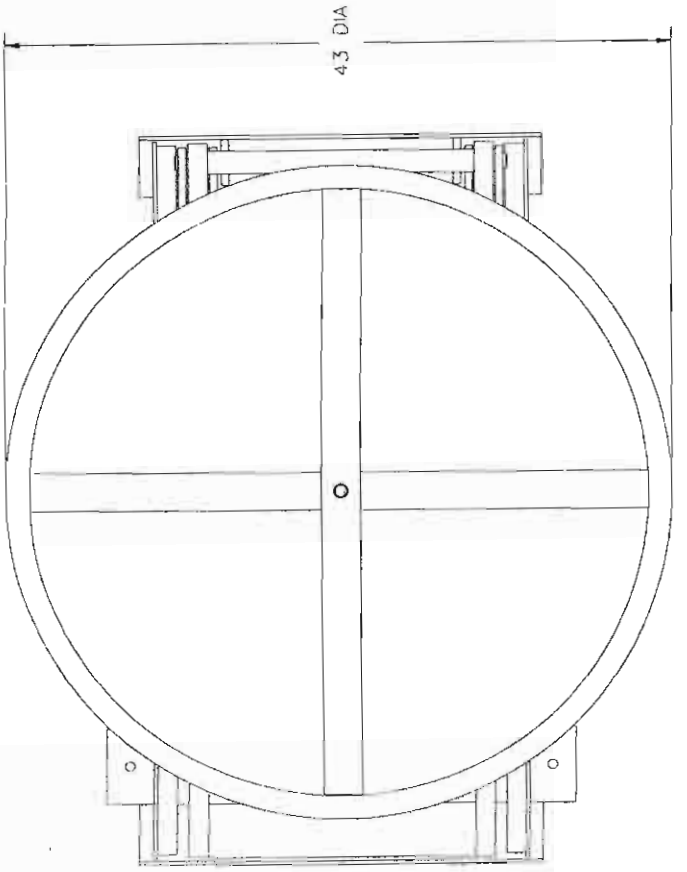
SPECIFICATIONS:

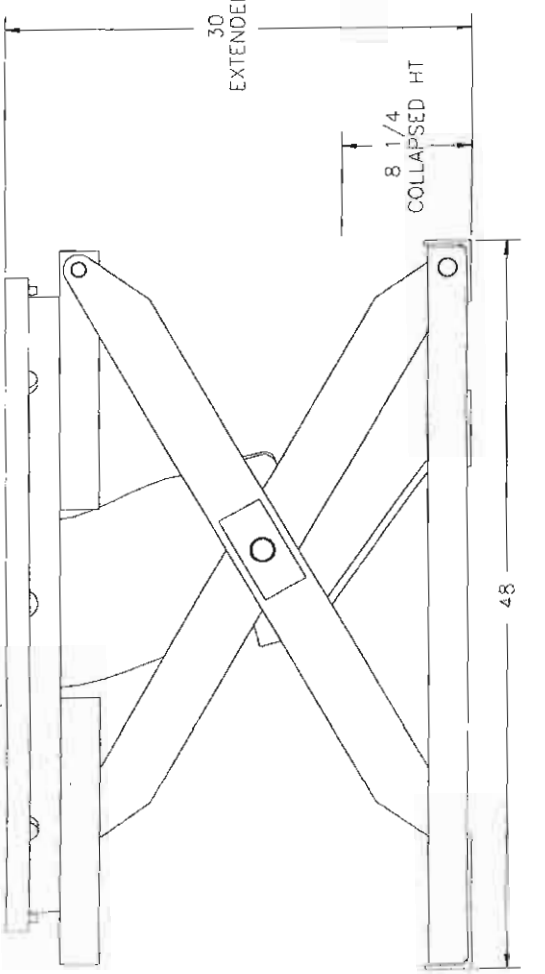
EZ-45

1. MAXIMUM CAPACITY-4500 lbs.
2. MINIMUM CAPACITY* - 850 lbs.
3. EXTENDED HEIGHT - 30 in.
4. COLLAPSED HEIGHT - 8.25 in.
5. WEIGHT - 375 lbs.
6. AIR REQUIREMENTS -Shop air (65 psi).
7. MAXIMUM INTERNAL AIR PRESSURE -120 psi.
8. RELIEF VALVE SETTING -135 psi.
9. AIRSPRING - two ply fabric reinforced rubber.
10. OPERATING ENVIRONMENT - Indoors.
11. OPERATING TEMPERATURE -+30 to +120F.

*At collapsed capacities less than 850 lbs. the internal volume of air is not sufficient enough to extend the platform to the maximum extended height.



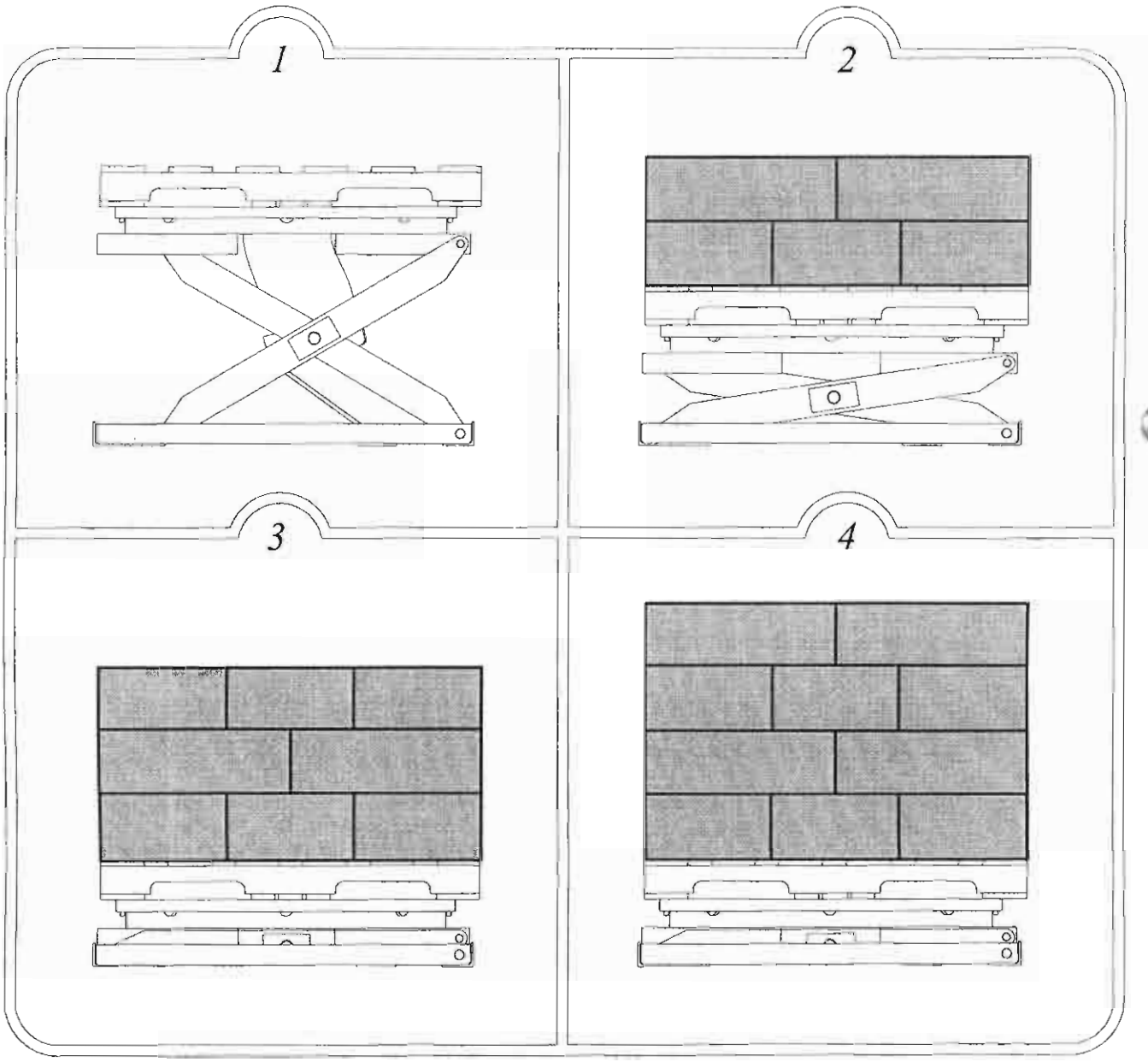




FUNCTIONAL DESCRIPTION

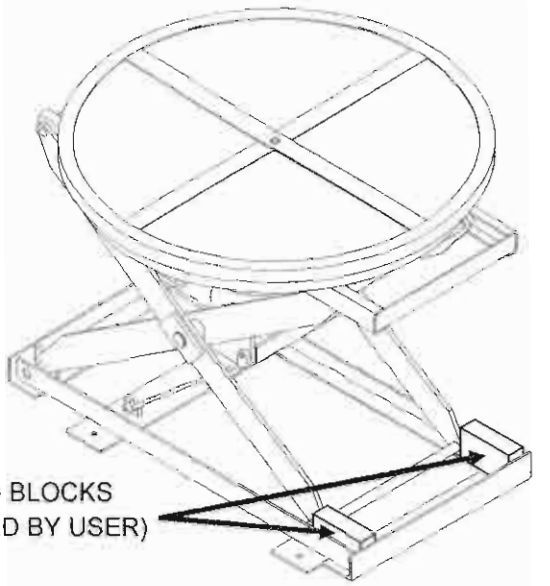
The EZ Loader is a pneumatic load elevator designed to assist the operator when manually loading or unloading a palletized load. As the load weight increases or decreases the EZ Loader gradually lowers or raises to maintain the top of the load at a comfortable working height, eliminating operator strain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

The EZ Loader is completely variable in capacity. Load support is provided by a Firestone Airstroke Actuator in a captive air system. Load capacity and height is determined by the initial system pressure. Initial pressure varies from 12 psi to 65 psi while the collapsed capacity varies from approximately 850 lbs to 3500 lbs respectively. Maximum capacity is 4500 lbs with the final 1000 lbs of load being added to the collapsed unit.



BLOCKING INSTRUCTIONS

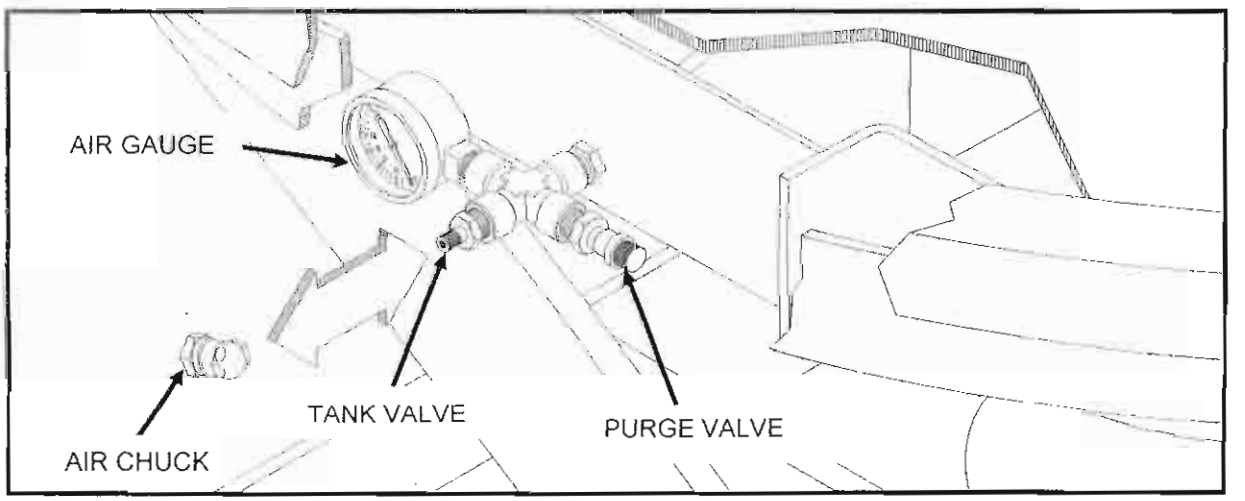
1. REMOVE LOAD FROM LIFT BEFORE BLOCKING.
2. PLACE BLOCKS (2" X 4" X 7") IN FRONT OF SCISSOR LEGS (BOTH SIDES), BLOCKS TO BE SUPPLIED BY USER.
3. SLOWLY OPEN PURGE VALVE TO RELEASE AIR FROM SYSTEM.



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.

1. Make sure the installation area is clean before starting.
2. Place the lift in the location it is to be installed. The installation surface must be level. Otherwise, the base frame should be shimmed to make it level.
3. Attach the air chuck body (supplied with the lift) to the air line extending from the filter/regulator. The air chuck body is supplied with 1/4 in. female pipe threads.



4. Set the regulator to 65 psi and initially charge system by engaging the air line to the EZ Loader. The air spring will inflate and the EZ Loader will gradually extend to its maximum raised height. If escaping air is detected close the purge valve. Allow the system to completely pressurize (65 psi) and disengage the air line from the lift. Block lift in the raised position by following the blocking instructions on page 4.

5. The base frame of the EZ Loader has 4 pre-drilled holes for lagging the unit securely to the floor. Using the 4 holes as a template, mark the holes on the floor. Shift the position of the lift to allow room for drilling, then drill. When complete, reposition the lift and install anchors lagging the lift securely to the floor. NOTE: Make sure the base angles are fully supported along their entire length with shims or concrete grout.
6. The EZ Loader is now ready for operation. Refer to the set-up procedure to properly set initial pressure for the desired capacity.

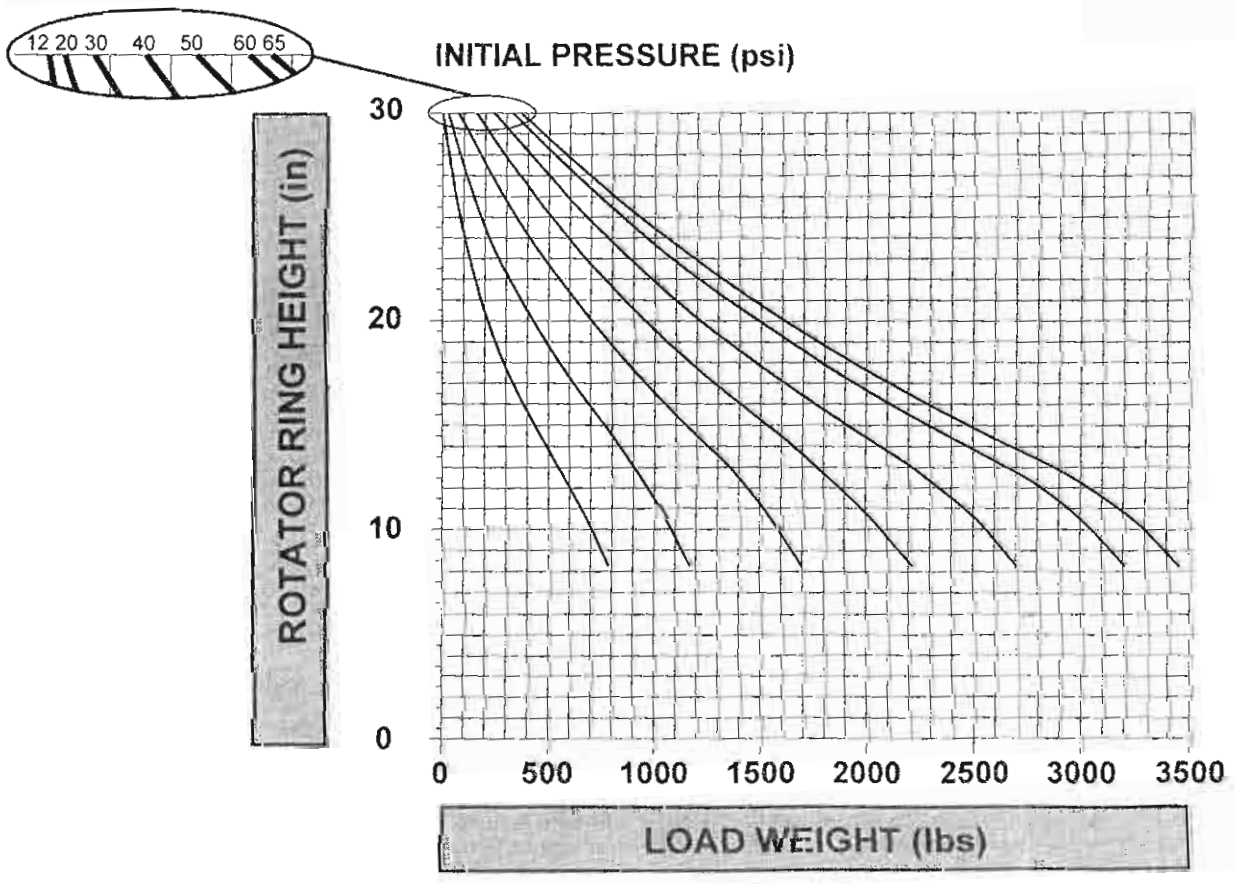
QUICK SET-UP

The EZ Loader is complete variable in capacity and very easy to set-up. Complete installation instructions by following the instructions on page 4. Repressurize the lift to 65 psi and remove the support blocks. Place all or any portion of the load on the EZ Loader, then open purge valve to release air and set the top of the load at the desired working height. Close purge valve finger tight. For a more detailed explanation refer to the following set-up procedure.

SET-UP PROCEDURE

The load capacity and height of the EZ Loader is determined by the initial system pressure in the raised position. Initial pressure for most applications should be between 12 psi and 65 psi. An initial pressure of less than 12 psi can be used; however, the EZ Loader will not extend to its maximum height. A diagram of the rotator ring height as it relates to the load weight for initial pressures of 12, 20, 30, 40, 50, 60 and 65 psi is shown below. As seen below, the load required to completely collapse the lift is between 850 lbs and 3500 lbs respectively. For most applications the lift should be completely collapsed at approximately 75 percent of the total load (load + pallet weight). Maximum capacity is 4500 lbs with the final 1000 lbs of the load being added to the collapsed unit. To set-up the EZ Loader for use, complete steps 1-7 on page 6.

HEIGHT vs WEIGHT DIAGRAM

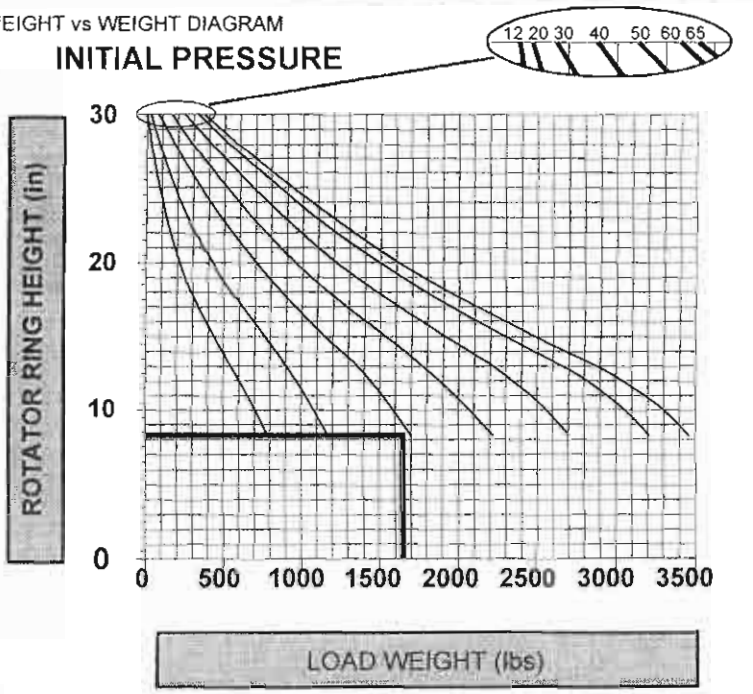


1. The EZ Loader must be properly installed before using. Refer to installation instructions on page 4.
2. Repressurize lift and remove support blocks. Open the purge valve slowly and release the air from the system. The EZ Loader will collapse completely. Close the purge valve (finger tight).
3. If the total is known, use the graph on page 5. 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 an initial pressure of 65 psi should be used.

EXAMPLE

Total Load = 2200 lbs
75 % Total Load = 1650 lbs

The EZ Loader should be completely collapsed at approximately 1650 lbs. Move along the bottom of the Height vs Weight Diagram to the line corresponding to 1650 lbs. Now move up the 1650 line to the desired rotator ring height, which in this case is 8.25 in. This point is slightly below the 30 psi curve. Therefore, an initial pressure of 30 psi should be used as a starting point.



4. Set the air regulator to the required initial pressure and completely pressurize the Loader. Disengage the air line from the lift.
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 and snug finger tight. Do not overtighten as leakage may occur.
6. Remove the loaded pallet and the EZ Loader will return to its extended height. If a dedicated air line is being used, set the air regulator to the initial pressure on the gauge.
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.

⚠ WARNING ⚠

WHEN REMOVING LOAD, ALWAYS RAISE LOAD UNTIL THE PALLET CLEARS THE ROTATOR RING BEFORE BACKING UP.

ROUTINE MAINTENANCE

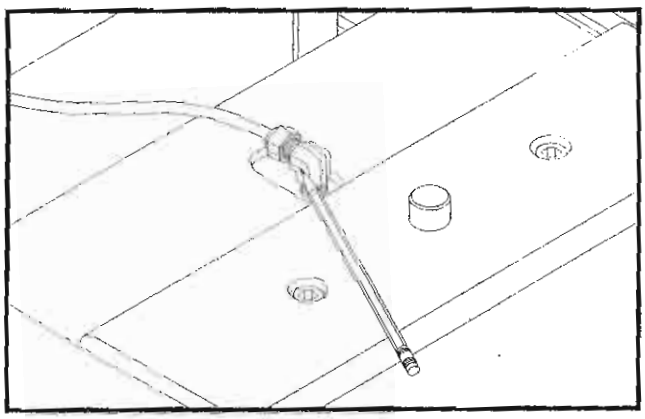
The EZ Loader is designed to provide years of trouble free service and requires very little maintenance. However, a routine inspection and maintenance program will prevent costly replacement of parts and or downtime.

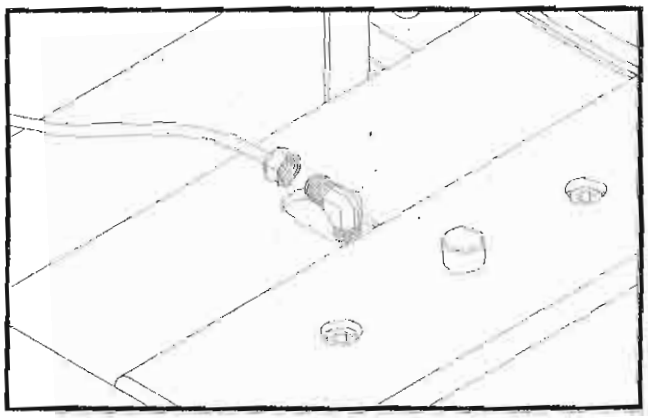
WARNING

NEVER GO UNDER THE PLATFORM OR SERVICE THE LIFT UNTIL THE LOAD IS REMOVED AND THE SCISSOR MECHANISM IS SECURELY BLOCKED IN THE RAISED POSITION.

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.

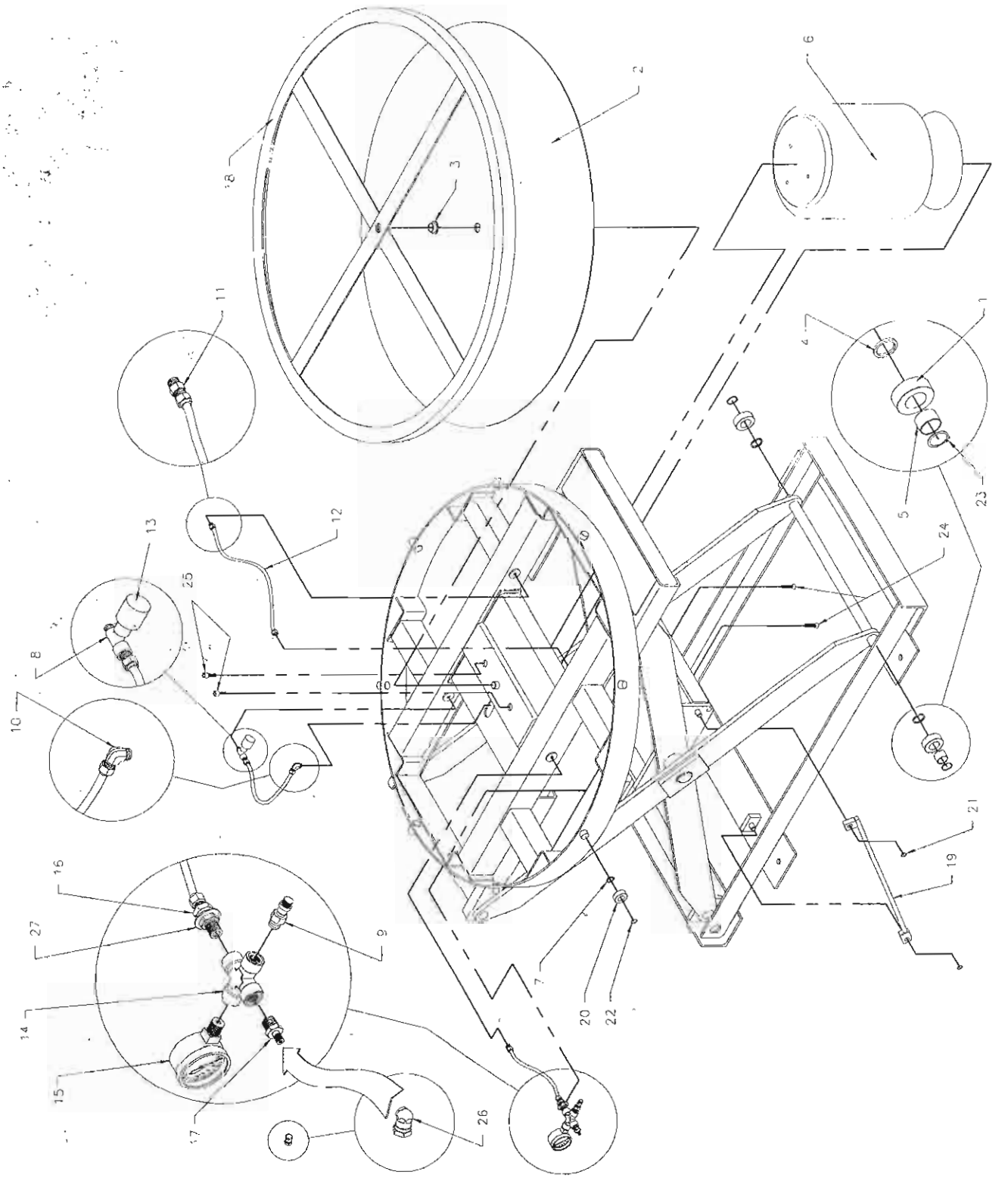




WARNING

DO NOT INFLATE AIR SPRING WHEN REMOVED FROM EZ LOADER. PRESSURIZING THE UNRESTRICTED AIR SPRING MAY CAUSE ASSEMBLY TO BURST CAUSING PROPERTY DAMAGE OR SEVERE PERSONAL INJURY.

EXPLODED VIEW



SEE PAGE 9 FOR PARTS DESCRIPTION

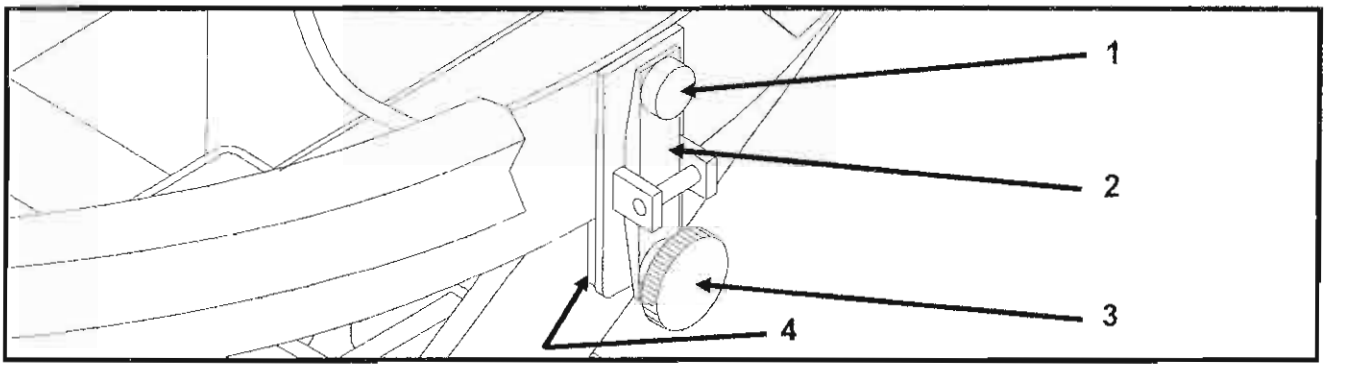
EZ-45 PARTS LIST

Item No.	Part No.	Description	Qty.
1	EZL\B5000096	Scissor Roller	4
2	MEC\B2000129	Cover Plate	1
3	MEC\B2000083	Bushing	1
4	MEC\B2000019	Thrust Washer	4
5	MEC\B2000084	Bushing	4
6	HYD\B4000011	Airspring	1
7	MEC\B2000020	Washer (Flat)	8
8	HYD\B4000012	Street Tee	1
9	HYD\B4000013	Purge Valve	1
10	HYD\B4000014	Male Elbow	1
11	HYD\B4000015	Male Connector	4
12	HYD\B4000016	Tubing - 1/4 OD Nylon	28"*
13	HYD\B4000017	Relief Valve	1
14	HYD\B4000018	Cross	1
15	HYD\B4000019	Air Gauge	1
16	HYD\B4000020	Bulkhead	1
17	HYD\B4000021	Tank Valve	1
18	EZL\B7000052	Rotator Ring	1
19	EZL\B7000045	Linkage	2
20	MEC\B2000087	Bearing	8
21	MEC\B2000041	Retaining Ring 1/2" External	4
22	MEC\B2000044	Retaining Ring 20mm External	8
23	MEC\B2000045	Retaining Ring 1" External	4
24	MEC\B2000056	Flat Head Cap Screw - 1/2-13 x 1 lg	2
25	MEC\B2000063	Socket Head Cap Screw - 3/8-16 x 3/4 lg	2
26	HYD\B4000022	Air Chuck	1
27	MEC\B2000073	Washer (Flat)	1

* TOTAL REQUIRED

OPTIONAL EQUIPMENT

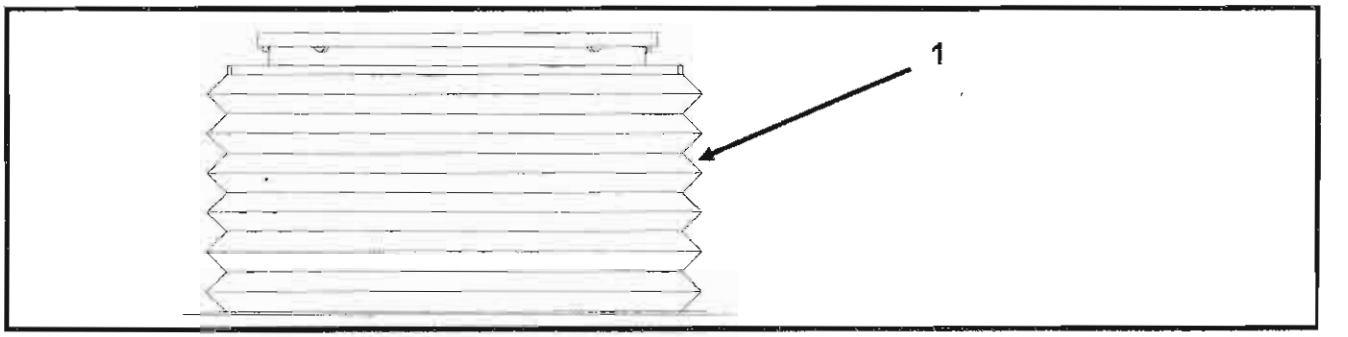
BRAKE



BRAKE PARTS LIST

Item No.	Part No.	Description	Qty.
1	MEC\B2000160	Pad	1
2	EZL\B7000074	Brake	1
3	MEC\B2000161	Knob	1
4	MEC\B2000057	Socket Head Cap Screw - 1/4- 20 x 1/2	1

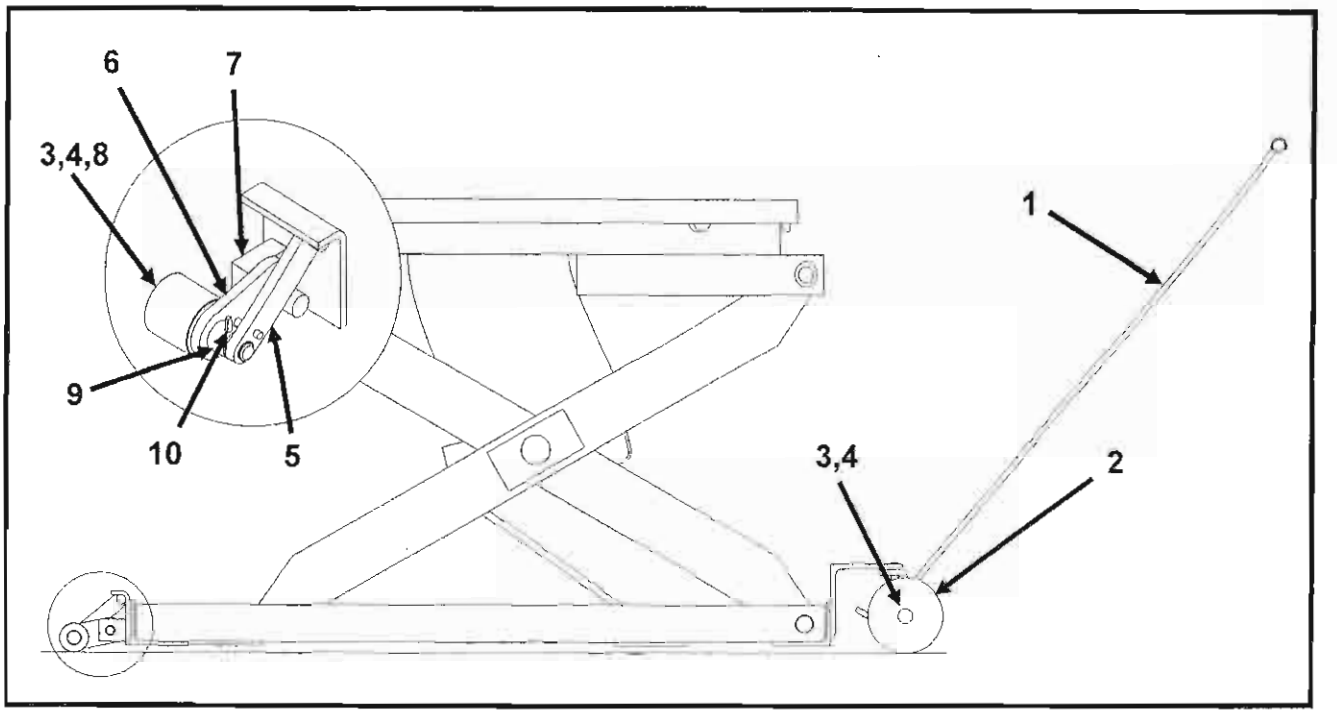
BELLOWS



BELLOWS PARTS LIST

Item No.	Part No.	Description	Qty.
1	MEC\B2000130	Bellows	1

PORTABILITY



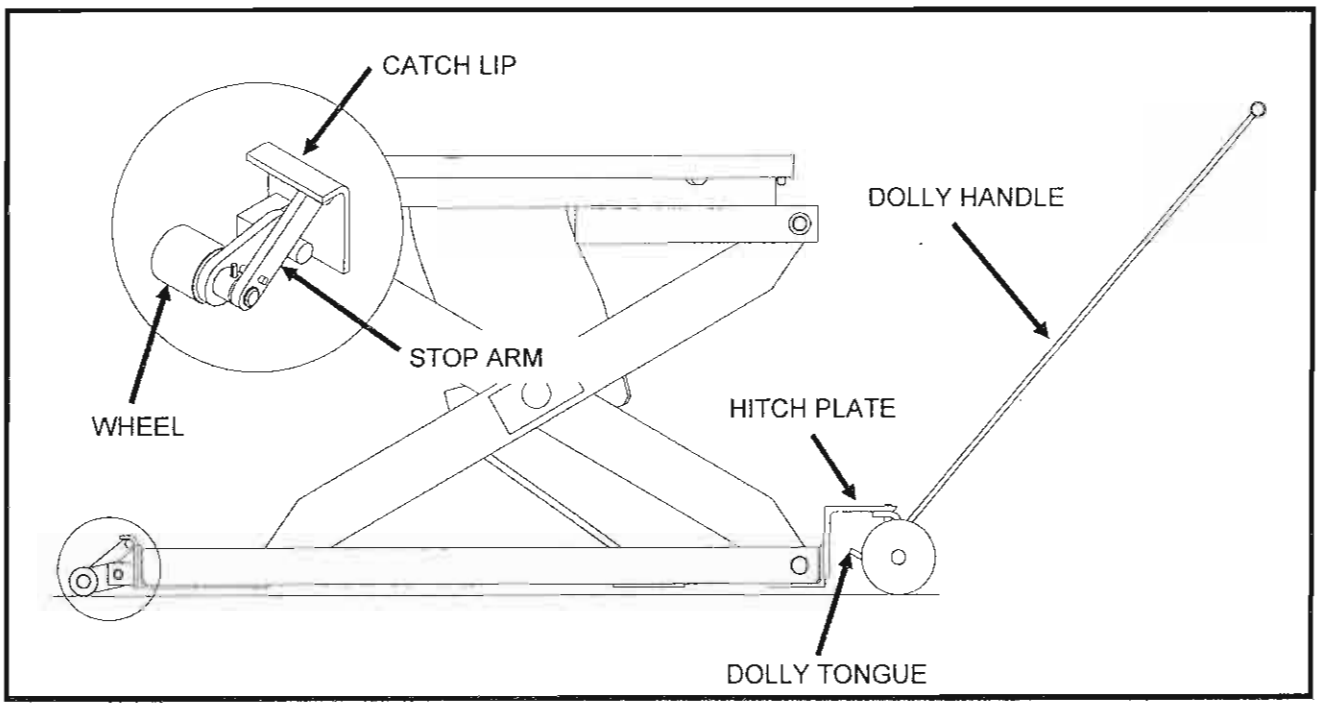
PORTABILITY PARTS LIST

Item No.	Part No.	Description	Qty.
1	EZL\B7000079	Dolly Handle	1
2	EZL\B8000070	Dolly Wheels	2
3	MEC\B2000074	Washer	4
4	MEC\B2000042	Retaining Ring 5/8" External	6
5	EZL\B8000068	Stop Arm	2
6	EZL\B7000076	Wheel Arm	2
7	MEC\B2000043	Retaining Ring 3/4" External	2
8	MEC\B2000150	Load Wheels	2
9	EZL\B5000158	Sleeve	2
10	MEC\B2000038	Roll Pin 3/16" x 1 1/8"	2

PORTABILITY INSTRUCTIONS

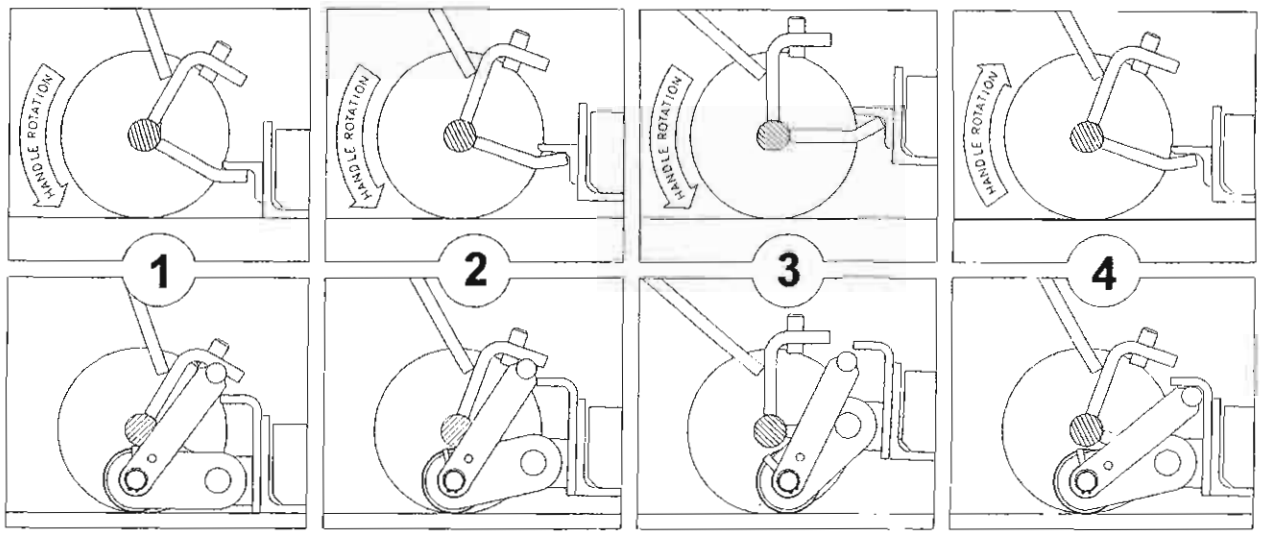
WARNING

ALWAYS REMOVE THE LOAD BEFORE ENGAGING THE PORTABILITY WHEELS.

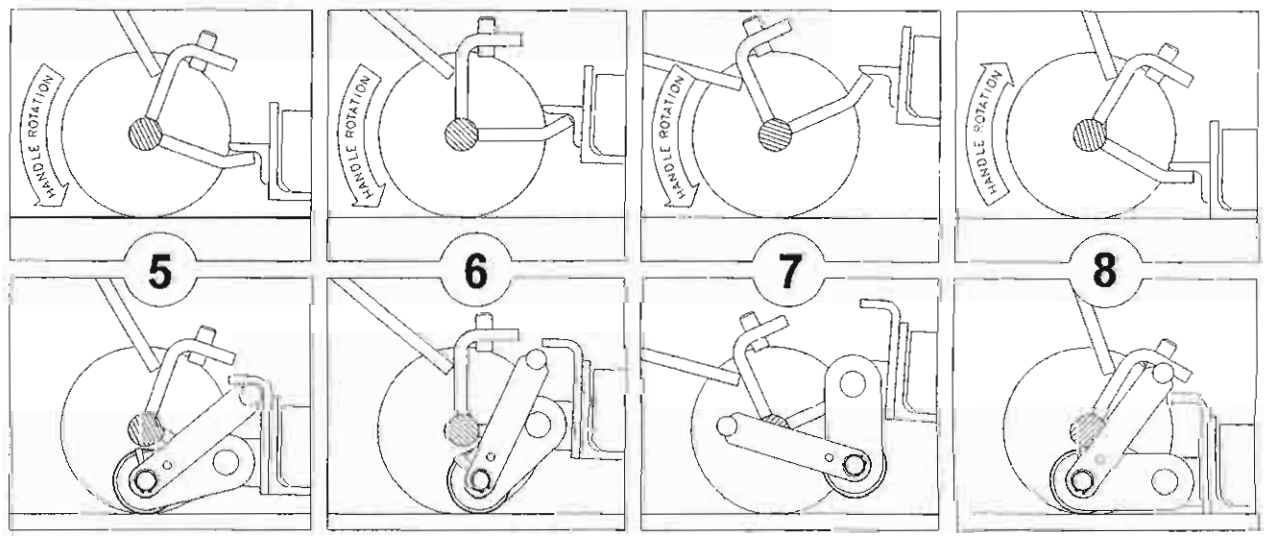


TO ENGAGE PORTABILITY WHEELS:

1. Position dolly tongue under the base lift plate. (fig. 1)
2. Slowly raise the base frame by rotating the handle until the stop arm clears the catch lip. (fig. 2 & 3)
3. Lower the base until the stop arm completely engages the catch. (fig. 4)
4. Position the dolly under the hitch plate at the opposite end of the base frame. Be sure that the dolly pin completely engages the hole in the hitch plate.



5. Complete the engagement by rotating the handle to lift the base frame clear of the floor.
6. This type of portability is designed for PULLING the EZ Loader. Use caution when pushing.



TO DISENGAGE PORTABILITY WHEELS:

7. Lower the base frame and remove the dolly from the hitch plate.
8. Reposition the dolly tongue under the base lift plate. (fig.5)
9. Slowly raise the base frame until the stop arm falls backwards. (fig 6 & 7)
10. Lower slowly until the base frame sets completely on the floor. (fig. 8)