## LIMITED WARRANTY

PERFORMANCE TOOL® extends only the following warranties, and only to original retail purchasers. These warranties give specific legal rights. Except where prohibited by local law, the law of the State of Washington governs all warranties and all exclusions and limitations of warranties and remedies. There may be other rights which vary from state to state.

PERFORMANCE TOOL® warrants the product to be free from defects in materials and workmanship under normal use and service. A defective product may be returned for a free replacement within 90 days from the date of purchase, provided that product is returned to place of purchase immediately after discovery of defect. After 90 days and up to one year from date of purchase, PERFORMANCE TOOL® will replace at no charge any parts which our examination shall disclose to be defective and under warranty. These warranties shall be valid only when a sales receipt showing the date of purchase accompanies the defective product or defective part (s) being returned. For part (s) after 90 days, please remit your request, postage prepaid to:

PERFORMANCE TOOL, P.O. Box 88259 Tukwila, WA 98138

These warranties exclude blades, bits, punches, dies, bulbs, fuses, hoses, and other consumables which must be replaced under normal use and service. These warranties shall not apply to any product or part which is used for a purpose for which it is not designed, or which has been repaired or altered in any way so as to affect adversely its
performance or reliability, nor shall these warranties apply to any product or part which has been subject to misuse, neglect, accident or wear and tear incident to normal use and service.

PERFORMANCE TOOL® does not authorize any other person to make any warranty or to assume any liability in connection with its products.

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The laws on limitation of implied warranties may differ from state to state, so the above limitations may not apply in all cases.

PERFORMANCE TOOL® shall not be liable for consequential, incidental or special damages resulting from or in any manner related to any product, or to the design, use, or any inability to use the product. The sole and exclusive remedy for a defective product or part shall be the repair, or replacement thereof as provided above. The laws on limitation of remedies or on consequential, incidental or special damages may vary from state to state, so the above limitations may not apply in all cases.

# 2 TON FOLDING ENGINE CRANE

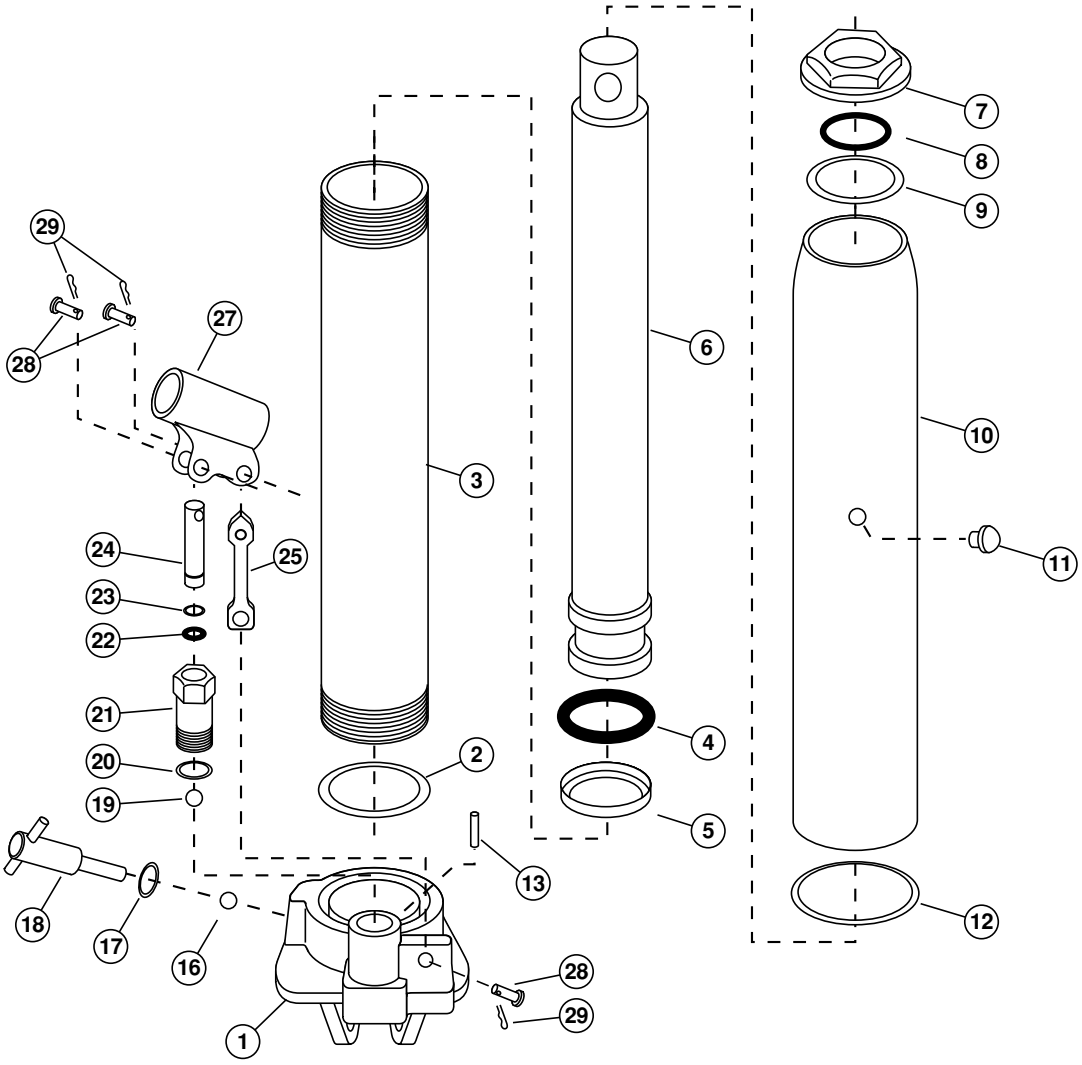
Item Number W41029

## OWNER'S MANUAL

Performance Tool®

Please read these instructions carefully and retain them for future use.

## HYDRAULIC RAM ASSEMBLY




| # | Description | Qty. | # | Description | Qty. | # | Description | Qty. |
|---|---|---|---|---|---|---|---|---|
| 1 | Valve Body | 1 | 10 | Oil Chamber | 1 | 21 | Pump Cylinder | 1 |
| 2 | Copper Washer | 1 | 11 | Oil Plug | 1 | 22 | O-ring | 1 |
| 3 | Cylinder | 1 | 12 | Seal Ring | 1 | 23 | Back-up Ring | 1 |
| 4 | O-ring | 1 | 13 | Tube | 1 | 24 | Plunger | 1 |
| 5 | O-ring Retainer | 1 | 16 | Steel Ball | 1 | 25 | Link Pin | 1 |
| 6 | Ram | 1 | 17 | Seal Ring | 1 | 27 | Handle Socket | 1 |
| 7 | Top Nut | 1 | 18 | Release Valve | 1 | 28 | Connecting Pin | 3 |
| 8 | O-Ring | 1 | 19 | Steel Ball | 1 | 29 | Cotter Pin | 3 |
| 9 | Sealing Gasket | 1 | 20 | Copper Washer | 1 | | | |

## MAINTENANCE and INSPECTION

1. Visual inspection must be made before each use of the crane, checking for cracks, cracked welds and missing and/or damaged parts. Any crane that appears to be damaged in any way must be removed from service immediately.
2. BECAUSE OF THE POTENTIAL HAZARDS ASSOCIATED WITH THE MISUSE OF EQUIPMENT OF THIS TYPE, NO MODIFICATIONS SHALL BE MADE TO THE PRODUCT.
3. Store crane with boom in fully lowered position and hydraulic ram valve closed when not in use to prevent machined surfaces from exposure. Keep all moving parts clean and well lubricated.
4. Replace worn or damaged parts with Performance Tool replacement parts. Be sure that only qualified personnel perform repairs.

## SPECIFICATIONS

**Max. Capacity:** ..... 4,000 lbs.
**Base length:** ..... 72-3/8 in.
**Base Width:** ..... 40-1/4 in.
**Max. Height:** (1/2 ton)..... 95-1/4 in.
**Max. Height:** (2 ton)..... 82-1/2 in.

**Specifications are subject to change without notice**

## IMPORTANT SAFETY INFORMATION

Read all safety warnings before operation.

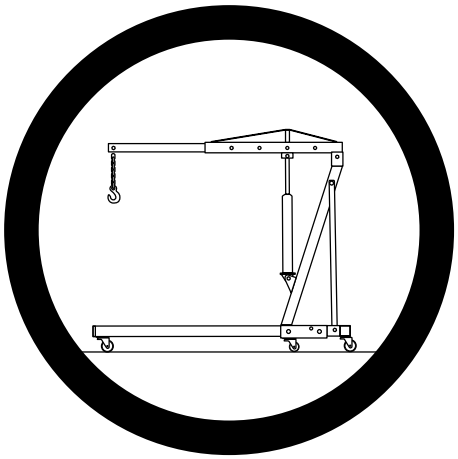
**WARNING!**
**Failure to obey these warnings may result in loss of load, damage to engine crane, and/or engine crane failure resulting in personal injury or property damage.**

**WARNING!**
**Do not overload engine crane beyond rated capacity of each specified boom position. Overloading can cause damage to or failure of the crane.**

**Always use crane on hard, level surface capable of sustaining the load. Use of crane on other than hard level surfaces can result in crane instability and possible loss of load.**

**Boom and load must be in lowest possible position before moving. Move load slowly and smoothly to avoid uncontrolled swinging and possible loss of load.**

**Be sure all personnel are clear of the load before lowering.**



**FRONT LEGS MUST <u>ALWAYS</u> BE LOCKED IN DOWN POSITION BEFORE APPLYING LOAD AND/OR RAISING BOOM (See Figure 2, page 5).**

**BOOM MUST BE IN FULLY LOWERED POSITION BEFORE RAISING LEGS. LEGS MUST NEVER BE RAISED WHEN CRANE IS CARRYING LOAD. LEGS MUST BE LOCKED IN PLACE WHEN RAISED (See Figure 3, page 5).**

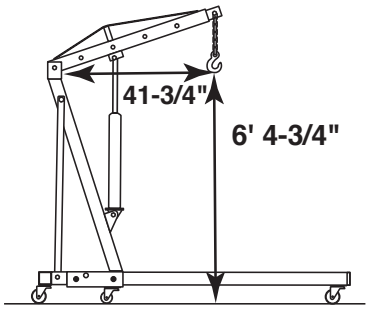
**NEVER WORK UNDER LOAD.**

# Table of Contents

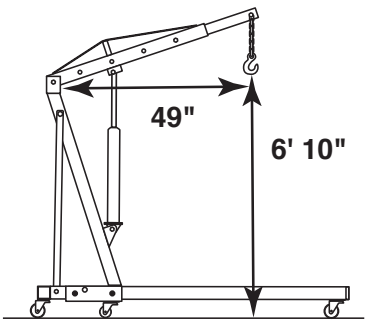


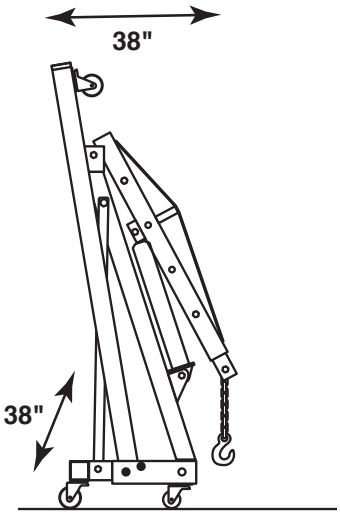
## CONFIGURATIONS

### 2 TON

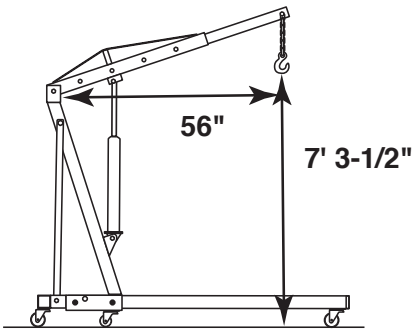



### 1-1/2 TON

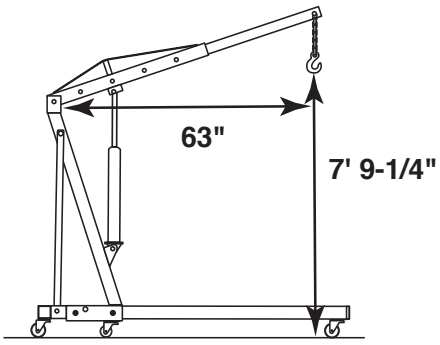



### 1 TON




### 1/2 TON



## TROUBLESHOOTING

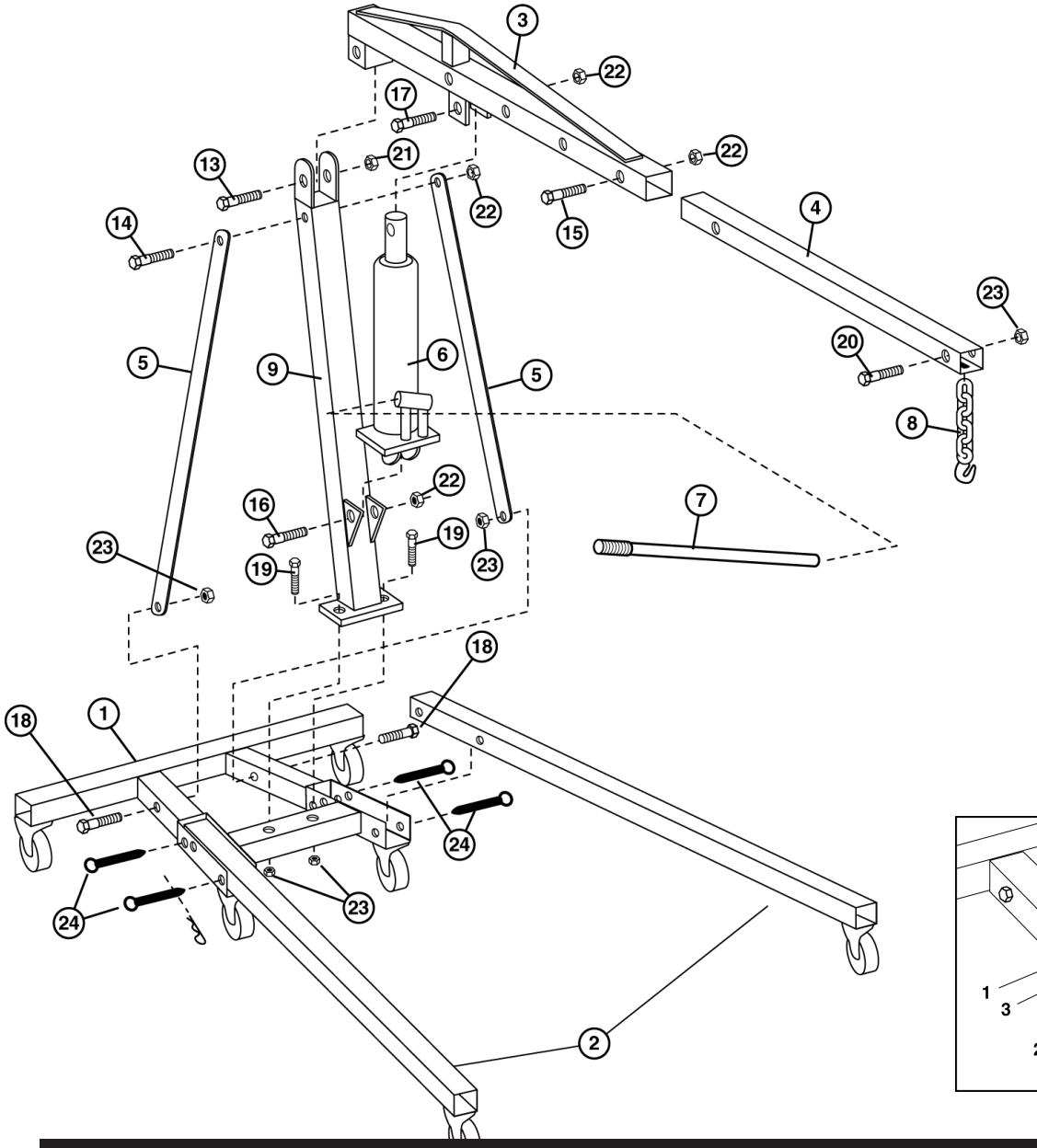
Your Performance Tool Engine Crane was constructed with quality materials and workmanship and will give you many years of trouble free use when cared for as described in the "Care & Maintenance" section on page 6. However, as with any mechanical device, periodic adjustments are necessary to maintain a peak level of performance. Should your crane hydraulic ram be displaying any of the following symptoms, the simple procedures shown below should correct the problem.

**WARNING - Remove jack from service before making adjustments**

| | | | |
|---|---|---|---|
| Will not lift load | ● | ● | ● |
| Will not hold load | | | ● |
| Will not lift to full height | ● | ● | |
| Pump feels "spongy" under load | ● | ● | |
| Handle raises under load | | | ● |
| Handle lowers under load | | | ● |
| | Power unit may be low on fluid. With jack on level surface and in down position, remove filler plug and add clean hydraulic jack fluid to level of filler hole. | Power unit may be air bound. Open the release valve a minimum of 2 full turns. Pump the handle a minimum of 20 full strokes to purge air from the system. | Valves may not be closing completely. To seat valves:<br>a.) Close release valve.<br>b.) With jack in fully lowered position, manually raise lifting arm as high as possible.<br>c.) Open release valve and allow jack to descend to lowered position. |

**NOTE:** Problems listed above with more than one solution may have a combination of causes. Please be sure that all solutions listed for each problem have been checked to eliminate the possibility of further trouble.

## ASSEMBLY DIAGRAM




**Carton 1 Contents**

| # | Description | Qty. |
|---|---|---|
| 1 | Frame Base | 1 |
| 6 | 8 Ton Hydraulic Ram | 1 |
| 7 | Pump Handle | 1 |

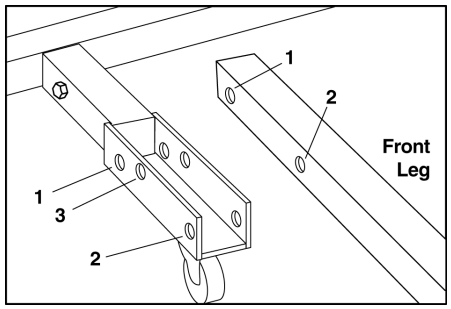
**Carton 2 Contents**

| | | |
|---|---|---|
| 2 | Front Leg | 2 |
| 3 | Boom | 1 |
| 4 | Boom Extension | 1 |
| 5 | Support Strap | 2 |
| 8 | Hook & Chain Assembly | 1 |
| 9 | Main Support Post | 1 |
| | Hardware Box | |

**Hardware Box Contents**

| | | |
|---|---|---|
| 13 | Bolt M18 x 110 | 1 |
| 14 | Bolt M16 x 120 | 1 |
| 15 | Bolt M16 x 90 | 1 |
| 16 | Bolt M16 x 85 | 1 |
| 17 | Bolt M16 x 70 | 1 |
| 18 | Bolt M14 x 110 | 2 |
| 19 | Bolt M14 x 100 | 2 |
| 20 | Bolt M14 x 80 | 1 |
| 21 | Nut M18 | 1 |
| 22 | Nut M16 | 4 |
| 23 | Nut M14 | 5 |
| 24 | Frame Pin w/Hair Pin | 4 |

**Figure 1**




## ASSEMBLY INSTRUCTIONS

NOTE: All fasteners should be only "hand tight" until step 11.

1. Attach Front Legs (2) to Frame Base (1) using all four Frame Pins (24) as follows:
   On each leg, insert one pin through Frame Base and Front Leg at rear hole #1 (See figures 1 & 2). This pin serves as a pivot pin and remains in hole #1 permanently. Insert a second pin through the Frame Base and Front Leg at forward hole #2. This serves as a Lock Pin to lock leg in down position (Figure 2).
2. Insert Hair Pins through Frame Pins to secure in place.
3. Attach Main Support Post (9) to Frame Base using bolts (19) and nuts (23).
4. Attach Support Straps (5) to top of Main Support Post using bolt (14) and nut (22).
5. Connect Support Straps to Frame Base using bolts (18) and nuts (23).
6. Connect bottom of Hydraulic Ram (6) to Main Support Post using bolt (16) and nut (22).
7. Connect Boom (3) to Main Support Post using bolt (13) and nut (21).
8. While helper holds Boom up, connect top of Hydraulic Ram to Boom using bolt (17) and nut (22).
9. Slide Boom Extension (4) into Boom making sure that slot for chain & hook faces down. Secure at desired capacity position with bolt (15) and nut (22).
10. Install Chain & Hook Assembly (8) with bolt (20) and nut (23).
11. Tighten all fasteners.

## OPERATION

**REFER TO VEHICLE MANUFACTURER'S APPROVED SERVICE MANUAL FOR PROPER ENGINE REMOVAL PROCEDURE.**

Be aware of load weight. Always position boom extension at correct location for the load you are lifting; 1/2 Ton, 1 Ton, 1-1/2 Ton or 2 Ton.

This folding crane features an easy to use Frame Pin locking system. The rear Frame Pin acts as a Pivot Pin (See Figure 2) and is a permanent fixture after being installed. The forward Frame Pin acts as a Lock Pin to safely lock the legs in the Down/Operational position (Figure 2) or to lock the legs in the Up/Storage position (Figure 3).

**Figure 2**

**Leg Locked in Down Position**

**Crane is ready for Operation**

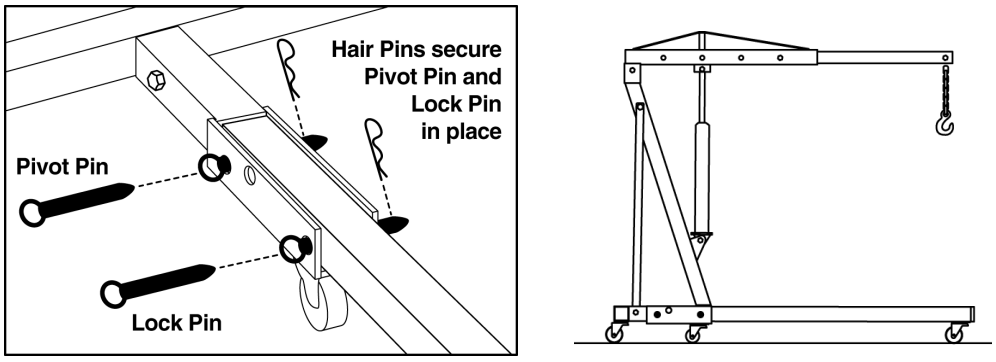
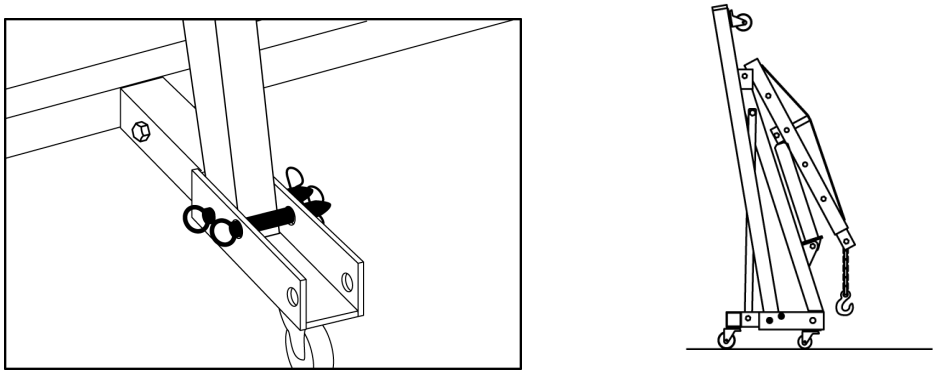



**Figure 3**

**Leg Locked in Up Position**

**Crane is ready for storage**



1. **FRONT LEGS MUST <u>ALWAYS</u> BE LOCKED IN DOWN POSITION BEFORE APPLYING LOAD AND/OR RAISING BOOM (See Figure 2).**
2. To raise load, close release valve and pump handle to raise boom to desired height.
3. To lower load, **SLOWLY** turn release valve counter-clockwise.
4. **BOOM MUST BE IN FULLY LOWERED POSITION BEFORE RAISING LEGS. LEGS MUST NEVER BE RAISED WHEN CRANE IS CARRYING LOAD. LEGS MUST BE LOCKED IN \ PLACE WHEN RAISED (See Figure 3).**