

# P-Lift-50



## SECTION 1 - SITE PREPARATION

### 1.1

The Lift requires a solid, smooth, and level mounting surface with an area at least 12" larger than the lift itself (60" x 66" or 66" x 66" for an adjacent style lift). You should also make sure that the toe plate will land on a solid surface, this will require an addition 12" to 20" on the entrance side of the lift.

The mounting surface must be solid enough to support the lift and its maximum rated load (a total of 880 lb.). A solid wood or concrete deck would be an acceptable mounting surface.

**NOTE: The Lift ships with four 3/8" x 2 3/4" concrete wedge anchors.**

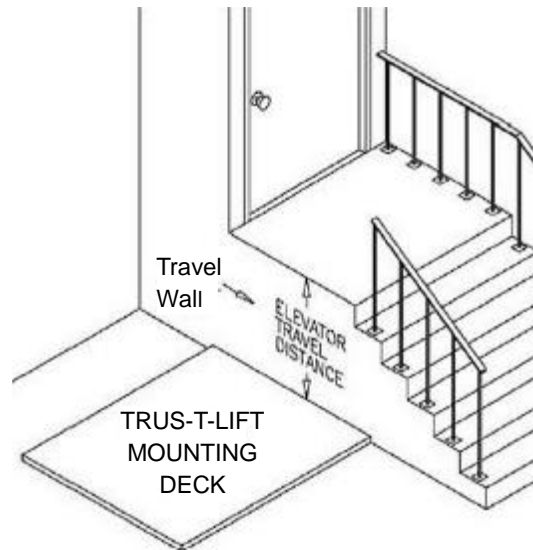
### 1.2

The travel wall is the wall below the upper entrance/exit point of the elevator (Fig. 1). This wall should be vertical, smooth, and free of gaps or protrusions for the entire travel distance of the elevator.

### 1.3

A 110 VAC 15A electrical receptacle must be provided within 6 feet of the tower side of the Lift.

**\*\* All lifts over 52" in travel should be secured to the building for additional support.**



**Figure 1. Typical installation site showing mounting surface and travel wall.**

## SECTION 2 - ASSEMBLY

### 2.1

Position the base frame 3 1/2 inches from the travel van and in line with the upper entrance/exit (Fig. 1).

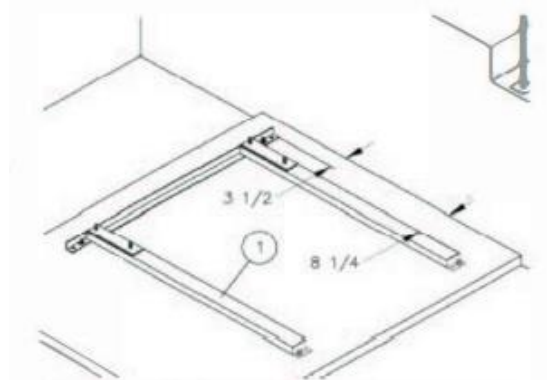


Figure 1. Positioning the base frame.

### 2.2

Adjust the leveling screws to level the base frame (Fig 2)

**NOTE: Do not install the anchors at this time.**

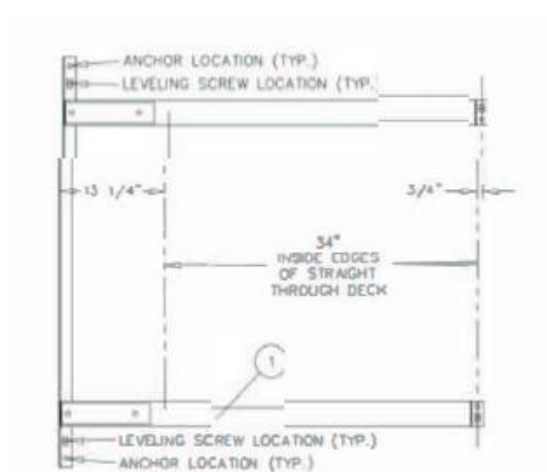


Figure 2. Leveling screw, anchor locations and deck position.

#### MATERIAL LIST

1 Base Frame

#### PART#

FFCTB001

## SECTION 2 - ASSEMBLY

2.3

Secure the main tower to a furniture dolly for ease of handling.

2.4

Position 2" Styrofoam packing blocks in the positions indicated in preparation for installing the main tower (Fig. 4)

2.5

Using the furniture dolly, move the main tower into position over the mounting bolts. The front half of the tower base angles should be supported by the 2" Styrofoam packing blocks (Fig. 4)

2.6

Carefully remove the dolly from the main tower and lower the back half of the tower onto the mounting bolts (Fig. 5).

Remove the 2" Styrofoam packing blocks and lower the front half of the tower on to the mounting bolts (Fig. 6).

Install and tighten the nuts for the tower base angles.

Once the tower is secure to the base frame and is in position remove the guide frame hold down strap (Fig. 3)

**!!DO NOT MOVE THE LIFT FROM THE GUIDE FRAME OR CARRIAGE ONCE THE HOLD DOWN STRAP HAS BEEN REMOVED.**

### MATERIAL LIST

### PART#

- |                                |          |
|--------------------------------|----------|
| 1. Base frame                  | FFCTB001 |
| 2. 2" Styrofoam packing blocks |          |
| 3. Main tower assembly         |          |
| 4. 1/2 - 13 N.C. flange nut    |          |

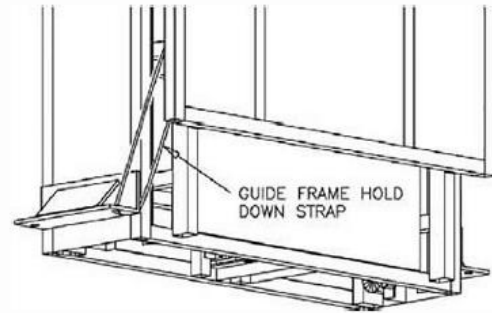


Figure 3. Location of the carriage hold down strap.

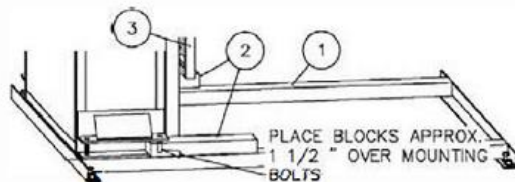


Figure 4. Supporting the front of the main tower on Styrofoam packing blocks.

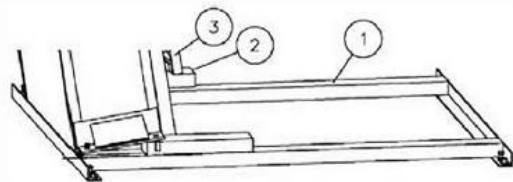


Figure 6. Lowering the rear of the main tower on to the mounting bolts.

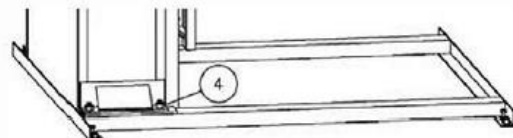


Figure 5. Installing the nuts on the main tower mounting bolts.



## SECTION 2 - ASSEMBLY

2.7

Plug the main tower in to a 110 VAC electrical outlet and raise guide frame to a height of at least 14 inches (FIG. 7).

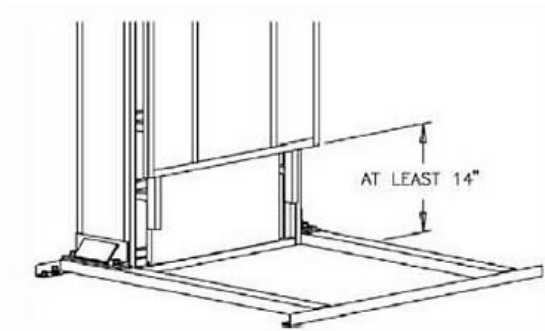


Figure 7. Raising the guide frame to allow room to install the carriage.

2.8

Slide the carriage in to place on the base frame (Fig. 8), be careful not to scratch the base frame.

Hint!! Use packing foam from shipping crate to protect base frame when installing carriage.

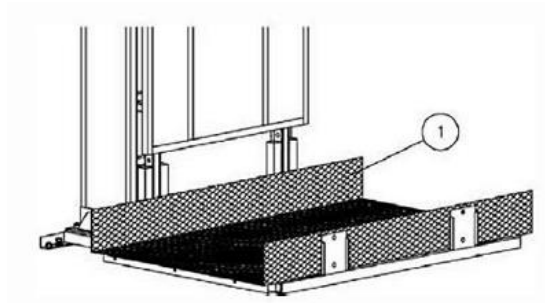


Figure 8. Sliding the carriage in to position.

2.9

Lower the guide frame to line up bolt holes on the carriage, and install the bolts (Fig. 9).

NOTE: Do not over tighten the bolts

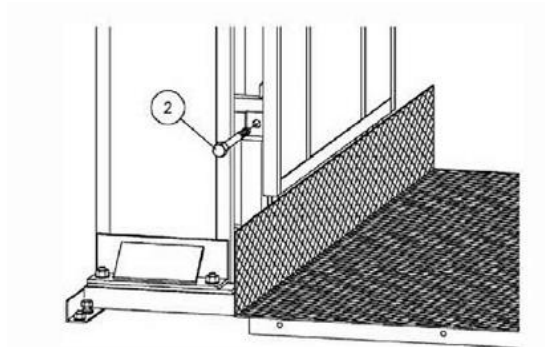


Figure 9. Bolting the carriage to the guide frame.

### MATERIAL LIST

1. Carriage
2. 1/2 - 13 X 3 bolt

## SECTION 2 - ASSEMBLY

2.10

Install the toe plate guide on the same side as the toe plate and tighten all the screws (Fig. 10).

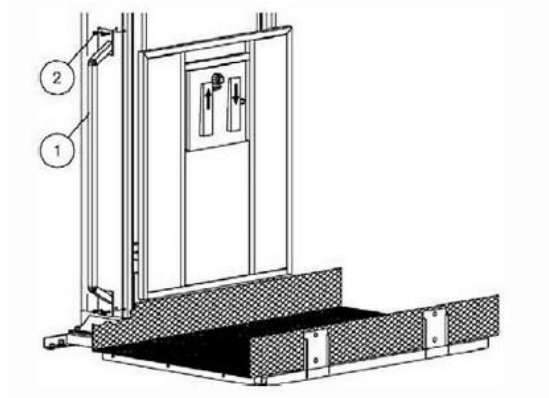


Figure 10. Installing the toe plate guide.

2.11

Install the handrail and tighten the bolts (Fig. 11).

### MATERIAL LIST

1. Toe plate guide/grab rail
2. 10-32 x 3/4 lg. pan head screw
3. Handrail
4. 5/16 N.C. x 1 3/4 lg. bolt c/w lock nut & washer

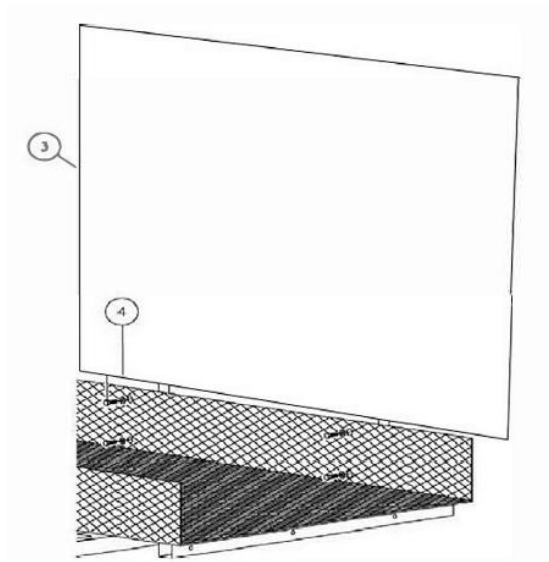


Figure 11. Installing the handrail.

## SECTION 2 - ASSEMBLY

### 2.12

Raise the carriage to a comfortable working height, install the toe plate and tighten all the bolts (Fig. 12)

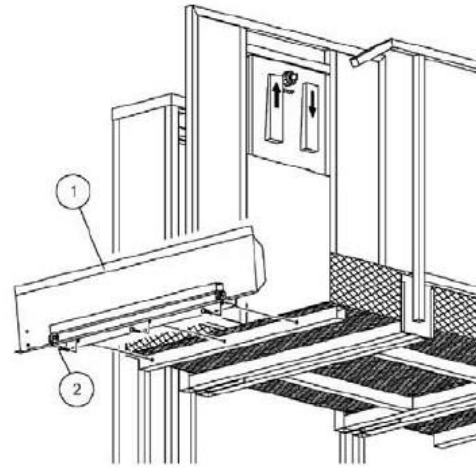


Figure 12. Installing the toe plate.

### 2.13

Install the toe plate roller lever on to the toe plate (Fig. 13)

#### MATERIAL LIST

#### PART#

1. Toe plate assembly
2. 3/8 N.C. x 3/4 lg. bolt c/w lock nut
3. Toe plate roller lever
4. 10-32 x 3/4 lg. pan hd. mach. screw

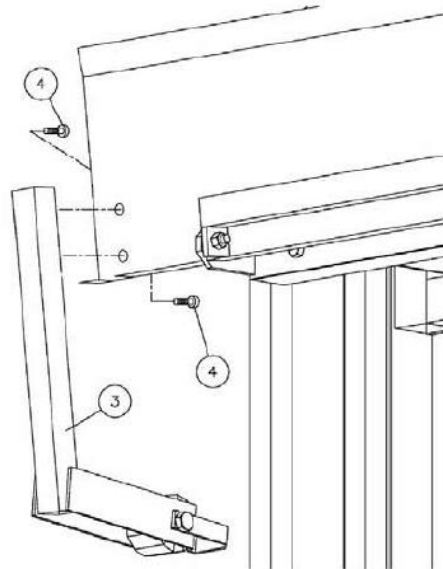


Figure 13. Installing the toe plate roller lever.

## SECTION 2 - ASSEMBLY

### 2.14

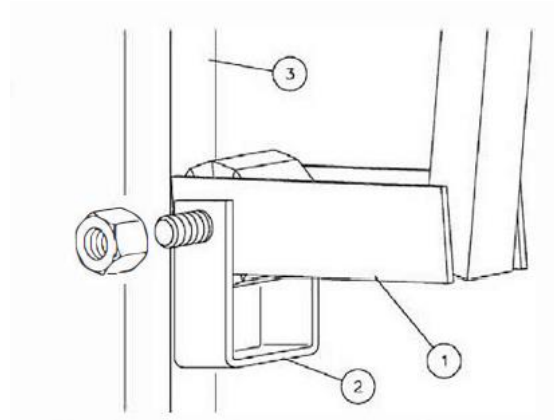
Unfasten one side of the toe plate roller strap (Fig. 14) Loop the strap around the toe plate guide and re-attach it to the toe plate roller level (Fig. 15).

NOTE: Do not over tighten the bolts.

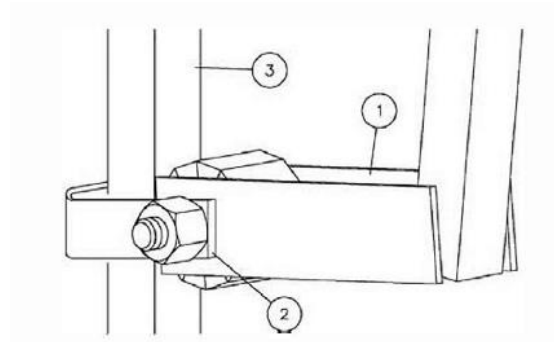
#### MATERIAL LIST

#### PART#

1. Toe plate roller lever
2. Toe plate roller strap
3. Toe plate guide/grab bar



**Figure 14. Installing the toe plate roller strap.**



**Figure 15. Re-attaching the toe plate roller strap after wrapping it around the guide bar.**

## SECTION 2 - ASSEMBLY

2.15

Level the deck with the two leveling screws provided (Fig. 16)

2.16

Adjust the leveling screws in the base frame so that the carriage runs evenly along the travel wall (Fig. 2)

2.17

Install and tighten the 3/8 x 2 /34 concrete wedge anchors (assuming a concrete base is used) (Fig. 2).

2.18

The upper limit adjusting bracket is located on the right side of the front cover plate of the main tower. Use a Robertson screwdriver to loosen and slide this bracket until you achieve the correct height (Fig. 17). Caution: Do not drop the upper limit adjusting bracket down the shaft it is very difficult to retrieve.

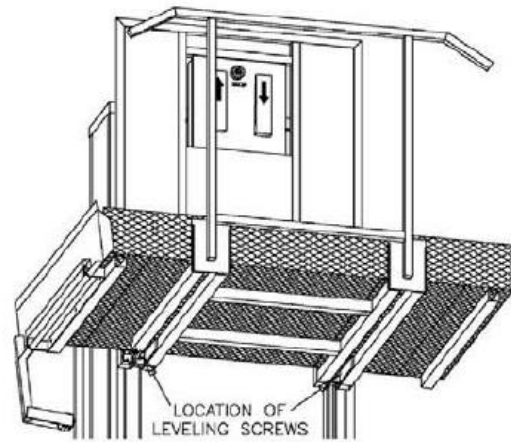


Figure 16. Partial cut-away view showing the location of the leveling screws.

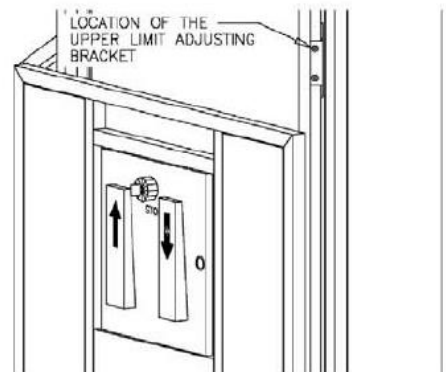


Figure 17. Locating the upper limit adjusting bracket.

### **IMPORTANT:**

ONCE INSTALLATION IS COMPLETE - REMOVE FRONT PLASTIC COVER PANEL AND INSPECT DRIVE NUTS TO INSURE THEY ARE BOTH IN THE CHANNEL AND THE SHEAR SCREW IS NOT BROKEN

## SECTION 2 - ASSEMBLY

2.19

Call stations. Upper Gates and Interlocks terminate at the outside junction box on the bottom left side of the tower (fig. 18).

Remove the cover from the junction box. Inside there is a cable with individual wires labeled with numbered tags.

Number tags are also on the end of the wires coming from the option to be hooked up

Mount the call station. Upper gate and/or interlocks into their respective positions

Run the wires from each option to the outside junction box through conduit

Using the wire nuts provided match the numbers on the wires together to complete the terminations

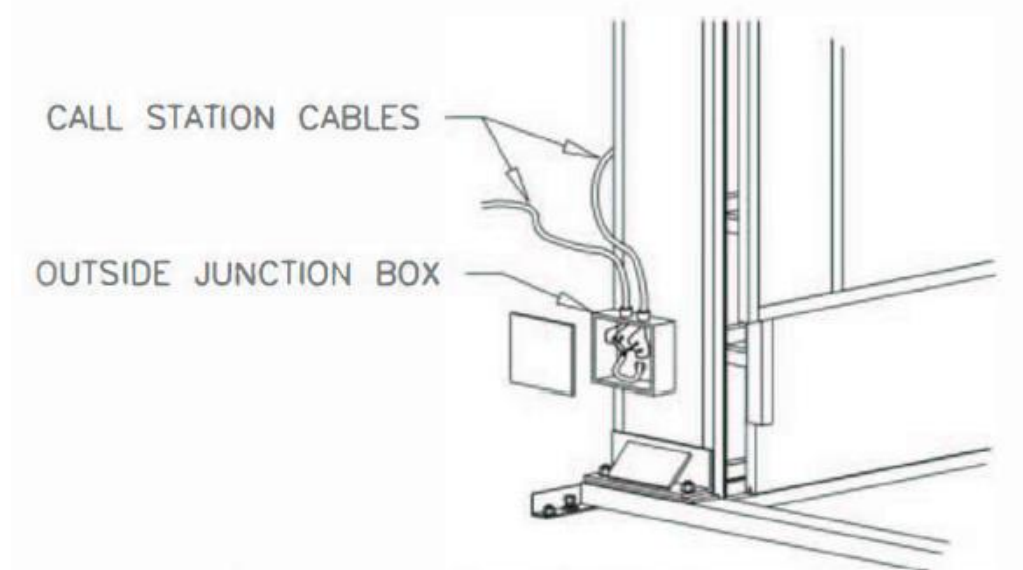


Figure 18. Wiring the call buttons into the outside function box.

## SECTION 3 - MAINTENANCE

### 3.1

The fuses are located in the control panel on the right hand side (Fig.1). Replace the blown fuse with one of the spare fuses provided in the panel, if you use the last fuse be sure to replace it.

**NOTE:** Unplug the lift before opening the control box.

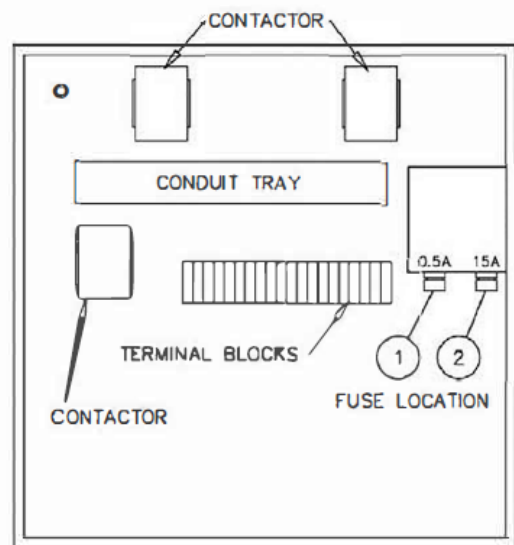


Figure 1. View inside of control panel (door removed for clarity).

### MATERIAL LIST

1. 0.5 Amp fuse
2. 15 Amp fuse

### 3.1a:

The newer model uses Electrical Breaker instead of Fuses, which will automatically reset itself after 5 seconds (As shown in Figure 1.a)

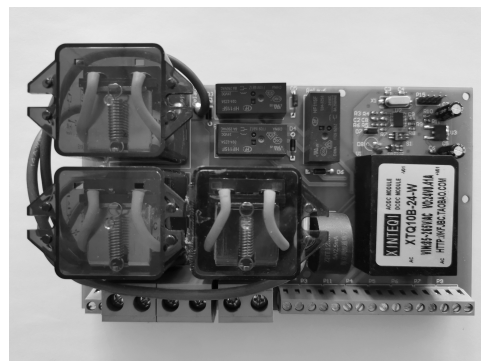
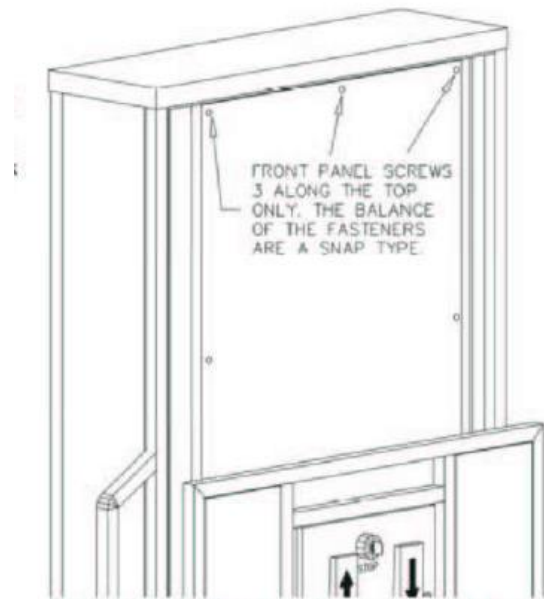


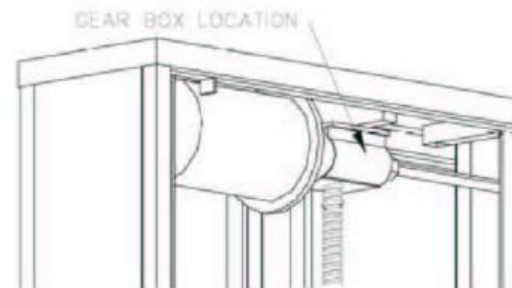
Figure 1.a the Electrical Breaker

## SECTION 3 - MAINTENANCE

3.2 The Lift should be Inspected and maintained annually. (See Drive Nut Safety Bulletin) In addition to inspecting the drive nuts, the drive screw should be cleaned and re-lubricated at least once a year. In order to access the screw drive you must remove the main front panel (Fig. 2 & 3). The gear box is oil filled and should be checked for leaks. Remove the top breather plug to check that the gear box fluid level is at least 10 the center of the motor-manual crank shaft



**Figure 2. Locating the screws that attach the main front panel.**



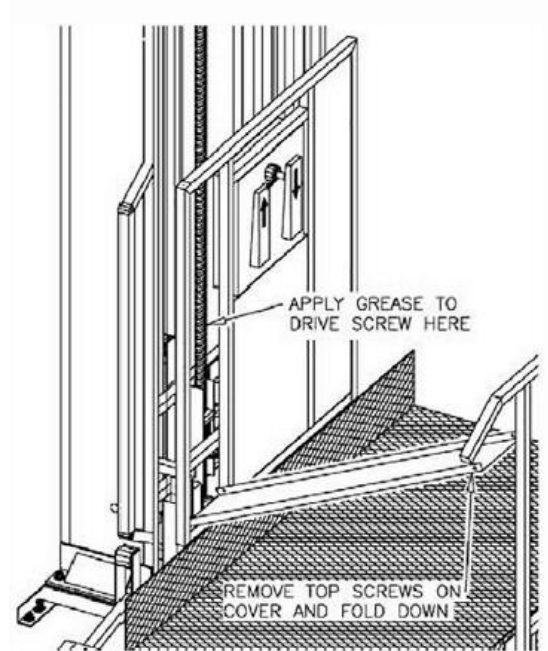
**Figure 3. Gear reducer location.**



## SECTION 3 - MAINTENANCE

### 3.2

In order to lubricate the drive screw you must remove the main front panel and a carriage guide frame panel (Fig. 2 & 4). Liberally apply grease on the drive screw by hand, replace the covers and run the lift up and down a few times.



**Figure 4. Applying grease to the drive screw.**

## SECTION 3 - MAINTENANCE

### 3.3

In the event that the lifting nuts move down past the lower limit switch you may hear a loud snap indicating that the shear pin has broken. Use the following procedure to put them back into place (Fig. 5):

- Remove the carriage from the guide frame (make sure to remove the toe plate roller strap).
- Remove the main front panel from the tower and the center panel from the guide frame.
- Lift the guide frame up about 12 inches and brace in place.
- Spin the lifting nuts into place as per Fig. 5, make sure that the flat sides of the lifting nuts fit between the guide frame bracket angles.
- Lower the guide frame until it is supported by the upper lifting nut.
- Make sure that the lower travel limit switch is in the relaxed position and is below the lifting nuts. **See Drive Nut Safety Bulletin for installation of the back up safety bracket.**
- Replace the broken 10-32 x 1/2 Lg. Pan Head screw shear pin.
- Replace the covers and the carriage.

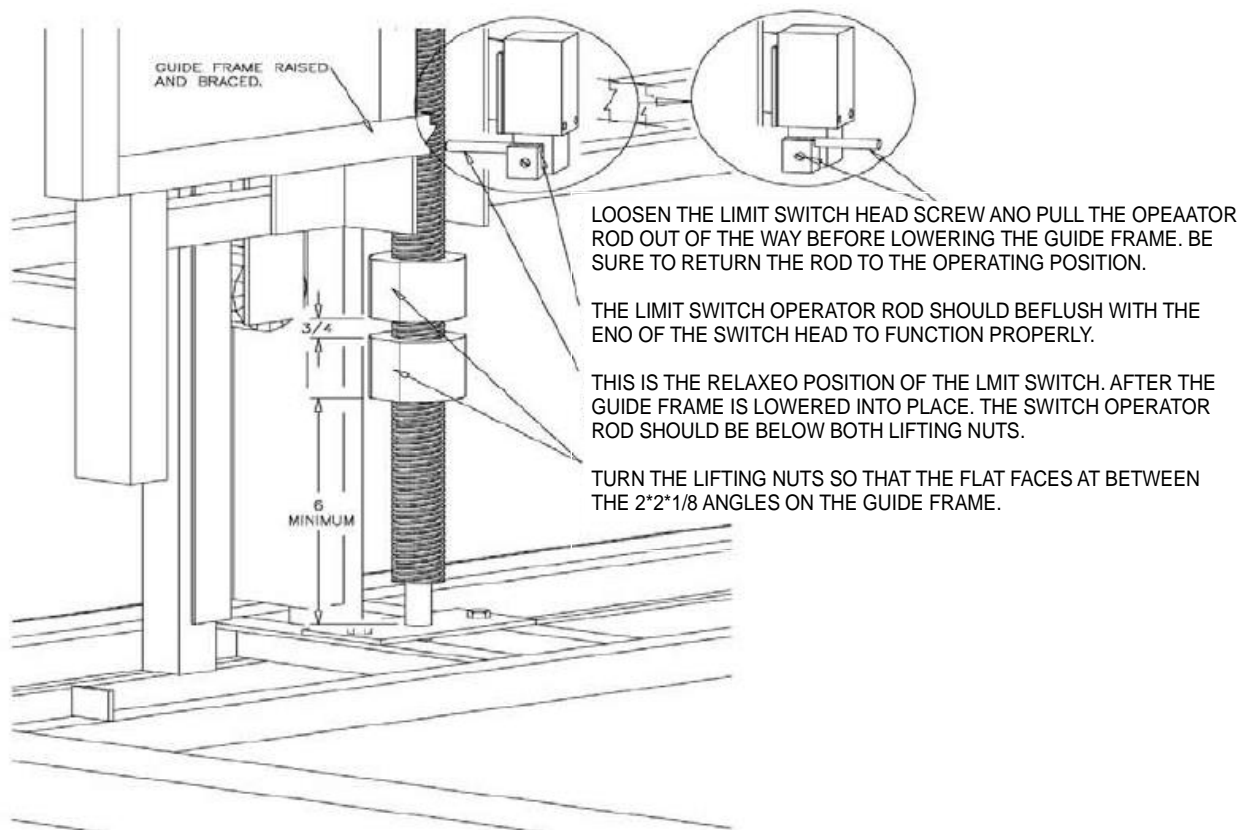
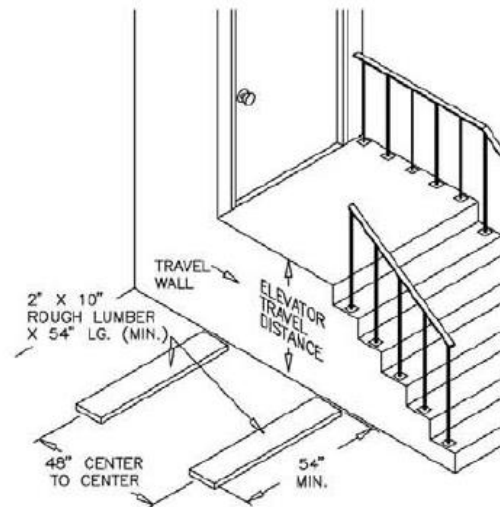


Figure 5. Adjusting the lifting nuts.

## SECTION 3 - TEMPORARY INSTALLATIONS

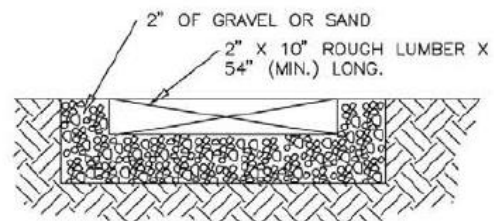
4.1

An alternate installation method, which is ideal for temporary installations, is to provide 2 - 2 x 10 rough lumber supports that are embedded in 2" of gravel or sand. (Fig. 1 & Fig. 2).



**Figure 1. Alternate installation with 2 - 2" x 10" rough lumber supports.**

**\*\*All lifts over 52" in travel should be secured to the building for additional support.**



**Figure 2. Placing the supports into the prepared gravel or sand bed.**

# APPENDIX

## CONTENTS

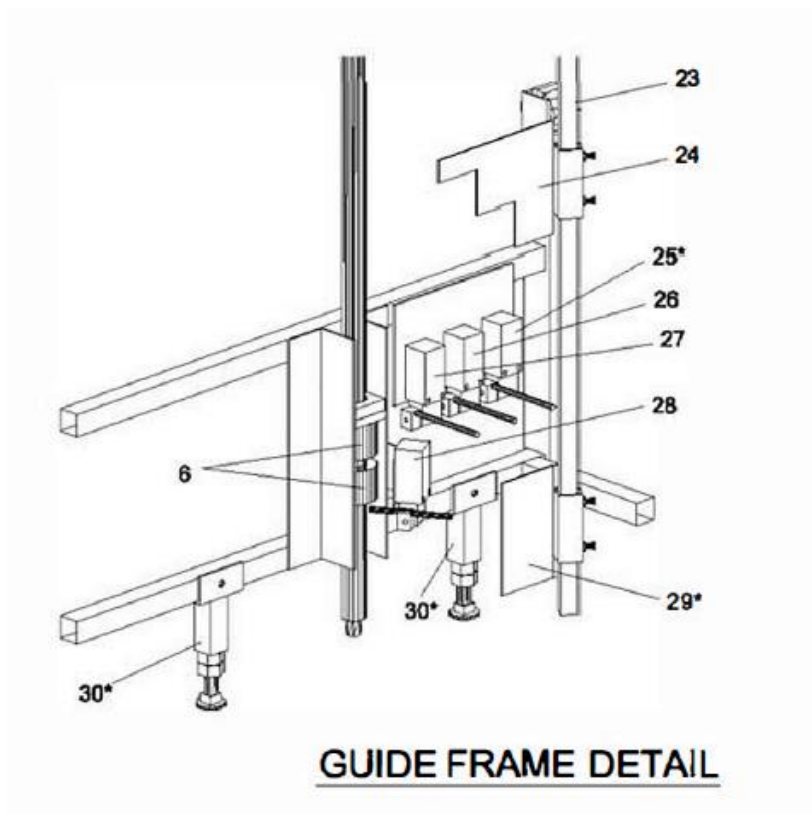
- Exploded view of Lift
- Drive nut safety bulletin
- Troubleshooting guide
- Schematics and wiring diagrams

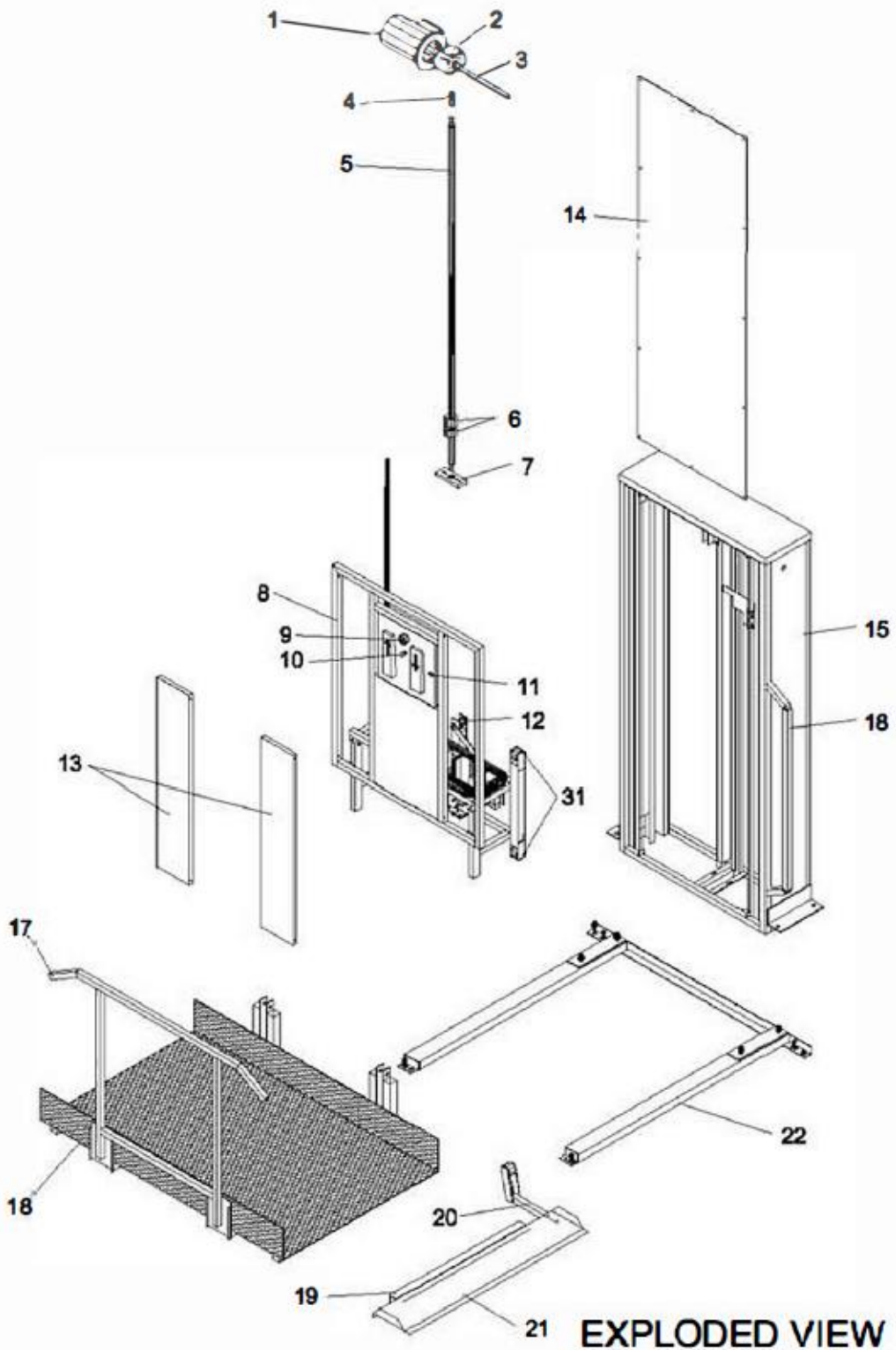
## PART LIST

- |                              |                                  |
|------------------------------|----------------------------------|
| 1 Motor                      | 17 HandRall                      |
| 2 Gearbox                    | 18 Lifting Platform              |
| 3 Manual Crank Extension     | 19 Toe Plate Angle               |
| 4 Coupler                    | 20 Toe Plate Roller Arm Assembly |
| 5 Drives Screw               | 21 Toe Plate                     |
| 6 Drive Nuts                 | 22 Base Frame                    |
| 7 Lower Gulde Plate          | 23 Limit Switch Tube             |
| 8 Gulde Frame Assembly       | 24 Limit Switch Plate            |
| 9 Emergency Stop Button*     | 25 Bypass Limit Switch* .        |
| 11 Control Box Lock          | 26 Upper Limit Switch            |
| 12 Top & Bottom Rear Rollers | 27 Upper Final Limit Switch      |
| 13 Side Panels               | 28 Lower Limit Switch            |
| 14 Tower Front Cover         | 29 Lower Bypass Plate*           |
| 15 Tower                     | 30 Lower Mechanical Stops        |
| 16 Grab Bar                  | 31 Side Rollers                  |

**Notes:**

\*-Denotes that part is not required on all lift configurations.





# Lift

## Drive Nut Safety Bulletin

The following Safety Bulletin is to inform all Lift Installers & owners of a critical safety check of the drive nuts that support the Lift platform. The following safety check must be performed annually on every Lift.

The top bronze drive nut is the main support that raises and lowers the platform. It is made from a low friction bronze bushing material that will wear over time. The lower nut is a safety back-up nut made from the same material intended to protect the platform from freefall should the main nut fail. It must not be used as a main drive nut.

- Bronze drive nuts should be spaced apart by 3/4".
- Both the drive nut and the back-up nut should be positioned in the channel as seen in the photo.

- The Lower drive nut includes a back up safety bracket (red plate as pictured)
- The back up safety bracket is included on all lifts manufactured after May 13/04 (serial # TS 13220 and up)
- *The back up safety bracket can be easily added to existing lifts manufactured prior to May 13/04.*

- The purpose of the safety back up plate is to indicate to the user when the main lifting nut has failed.
- If the main nut fails the lower back-up nut will move up 3/4" resulting in the lower limit Switch becoming activated by the safety plate. The lift will only operate in the up direction until two new drive nuts have been installed.



# LIFT TROUBLESHOOTING GUIDE

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## PROBLEM: "LIFT DOES NOT RUN"

- First inspect manual operating button on M3 relay:
- Button is in → Go to "Not Running Up or Not Running Down" Section
- Button is not in:
  1. Check fuses & power supply with volt meter
    - 0 ohms resistance across good fuses
    - 110-120 Volts across N (Neutral) and terminal #1
  2. If power and fuses are OK, using a 12 inch insulated jumper wire, touch ends of wire to screws #1 & #2 of terminal strip.  
Watch the M3 operating button.
  3. If the button comes in, the UPPER FINAL LIMIT is either activated or it is faulty. → Inspect the UPPER FINAL LIMIT \*\*(If your lift has a CAR GATE, UPPER LANDING GATE, MID LANDING GATE or LOWER LANDING GATE, also check that all Gate and lock contacts are closed)\*\*
  4. If the button does not come in, using the insulated jumper wire, touch ends to screws #2 & #3 of terminal strip.
  5. If the button comes in the EMERGENCY STOP is depressed or the CONTACT BLOCK of EMERGENCY STOP may be sticking. → Inspect the EMERGENCY STOP
  6. If the button does not come in, using the insulated Jumper wire, touch ends to screws #1 & #3 of terminal strip.
  7. If the button comes in, both EMERGENCY STOP and UPPER FINAL LIMIT\*\*(and GATES) are activated.
  8. If the button does not come in, using insulated jumper wire touch screw #1 & M3A1. If the button comes in a control wire has come loose, inspect wires at terminal #1, #2, #3, and M3A1. If the button does not come in the coil for M3 has failed.



**PROBLEM: "THE LIFT WILL GO UP BUT NOT DOWN"**

- QUESTION: Does motor make a sound like it's trying to start?
  - Yes The BACKUP SAFETY NUT has come out and is jamming on bottom plate.  
SEE "RESETTING BACKUP NUT PROCEDURE" in installation manual.
  - No Using a 12" insulated jumper wire, touch ends of wire on screw #4 & #5 on terminal strip - at same time push the DOWN PUSHBUTTON.
    1. If the lift runs then LOWER LIMIT SWITCH is either activated by the BACKUP SAFETY NUT or it has failed. -)Remove front cover & inspect switch. \*\*(If your lift has a SAFETY PAN also check that all 5 safety pan switches are not activated and that the safety pan plug is in and locked)\*\*
    2. If lift does not run, then using a 12" insulated jumper wire, touch ends of wire on screws# 5 & #7 of the terminal strip.
      - If lift runs, then DOWN PUSHBUTTON or KEY SWITCH are not operating properly - remove & inspect
      - If lift does not run, then touch ends of insulated jumper wire to screws #4 & #7 of the terminal strip.
        1. If lift runs, then both the LOWER LIMIT SWITCH, DOWN PUSHBUTTON or KEY SWITCH have failed → inspect
        2. If lift does not run, either coil for M1 has failed or M2 NC Contact has failed. Jump from #4 to M1A1, if lift runs then replace the M2. If lift does not run then replace the M1 and/or check power supply again.

## **PROBLEM: "LIFT WILL GO DOWN BUT NOT UP"**

• Using a 12" insulated jumper wire, touch ends of wire to screws #4 & #6 of terminal strip and press UP PUSHBUTTON.

1. If lift goes up, then the UPPER LIMIT SWITCH is either stuck in the on position or has failed. → Remove front cover and inspect
  
2. If lift does not move, then using the jumper wire, touch ends to screws #6 & #8 of the terminal strip.
  - If lift goes up then UP PUSHBUTTON or KEY SWITCH is not operating properly → Inspect
  - If lift does not move, using the jumper wire touch ends to screws #4 & #8 of terminal strip.
    - If lift goes up, then either UP PUSHBUTTON or KEY SWITCH and UPPER LIMIT SWITCH have failed → Inspect
    - If lift doesn't go up, either coil for M2 has failed or M1 NC contact has failed. Jump from #4 to M2A1, if lift runs replace the M1. If lift still does not run, replace M2 and check power supply again.

**\*\*\*NOTE:** The above Trouble Shooting guide pertains to basic operation problems. For additional problems not covered in this guide please contact technical support at

**Warning:** Be sure you have no pinch points. As the platform travels up and down check to see if there is anywhere a person's foot, hand, finger or other could be pinched in the process of the platform traveling up or down. There should not be anywhere this could happen. If there is it **MUST** be addressed or changed to eliminate the pinch point.

