

AVPL VERTICAL LIFT

Installation Manual

12/4/2019



4120 Doctor Greaves Rd.
Grandview, MO 64030
816 997 9317

This Installation Manual has been written to provide clear and precise instructions for proper Installation procedures of the AVPL Vertical Platform Lift. Please refer to the *Owner's Manual* For warranty information and operating instructions. The Owner's Manual must be given to the Owner of the lift before it is put into service. Any alterations to the equipment without written Authorization by American Access Industries and Services will void the warranty.

If you have questions concerning the installation or service of the AVPL lift, please contact the Service Department.....

American Access Industries and Services
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Grandview, MO 64030
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Depending on the specific model, package and equipment ordered, the equipment marked "optional" below may or may not be involved in your installation.

IMPORTANT

It is imperative that this manual be read and understood

Prior to attempting installation of the AVPL lift.

Also, please observe all cautions and warnings in this manual,

As well as labels on the equipment.

1. PRELIMINARY CHECKS

A. INSTALLATION SITE REQUIREMENTS

- 115 VAC, 50/60 Hz, 15 AMP circuit
(Optional: 220VAC 50/60 Hz 10 AMP circuit)

- 4" (102mm) thick, level 3,500 PSI
Reinforced concrete pad

B. TOOLS/MATERIALS REQUIRED

The following is a list of the recommended tools for installation of the AVPL lift.

- Set of screwdrivers(slotted and Phillips)
- Tape measure
- 3/8" reversible hammer drill
- wire strippers
- Allen wrenches
- Socket set
- Screw Gun
- Hoist
- Multi-meter
- Heyco Pliers
- Safety glasses
- Fall protection equipment
- 48" level

- Wire crimpers
- Loctite thread locker
- Center punch
- Flexible conduit and fittings

- Masonry drill bits

- Standard drill bits

- 4-wheel dolly

- Framing Square

- Butt connectors

- Pop rivet gun

- Plumb line

- All-purpose cleaner and rags

Note: Depending on options and site conditions, all tools Listed above may not be needed. There may be other tools needed that are not listed.

C. ASME/ANSI A18 CODE REQUIREMENTS

The AVPL lift is designed to meet the ASME/ANSI A18 2017 code Requirements for the USA. However, field installation and optional equipment are the responsibility of the installer. In which case, the installer must comply with local and national codes.

WARNING

Do not operate the lift until it is securely anchored into place, except as required to complete the installation.

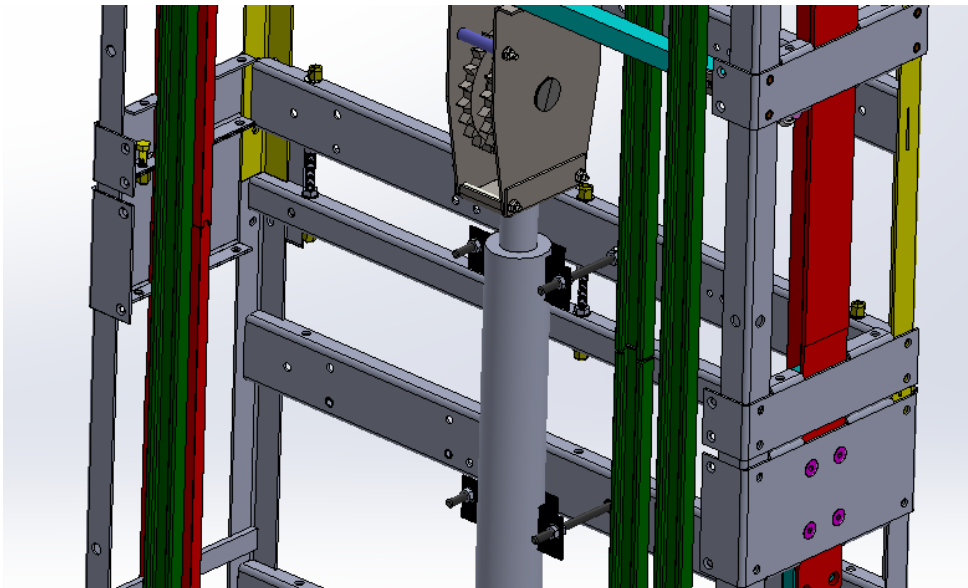
Do not ride on the platform until the unit is securely anchored into place and the platform is fastened to the lift weldment.

Note: If a customized presentation drawing is provided with the unit being installed, the dimensions and other information on the presentation drawing supersede this installation manual.

2. INSTALLATION PROCEDURES

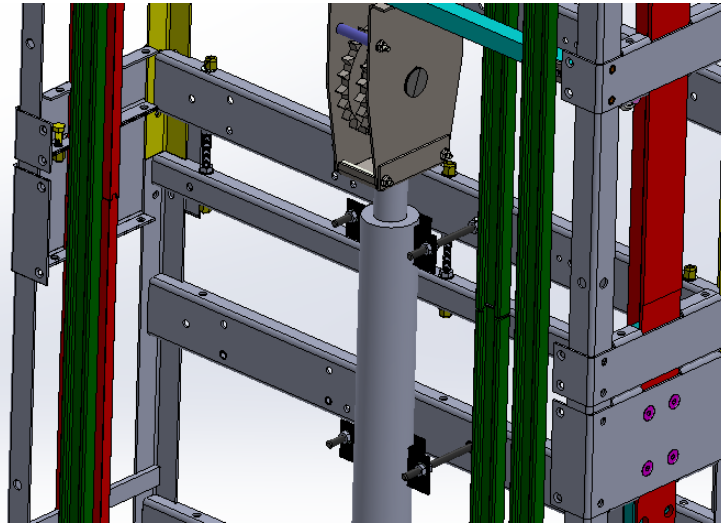
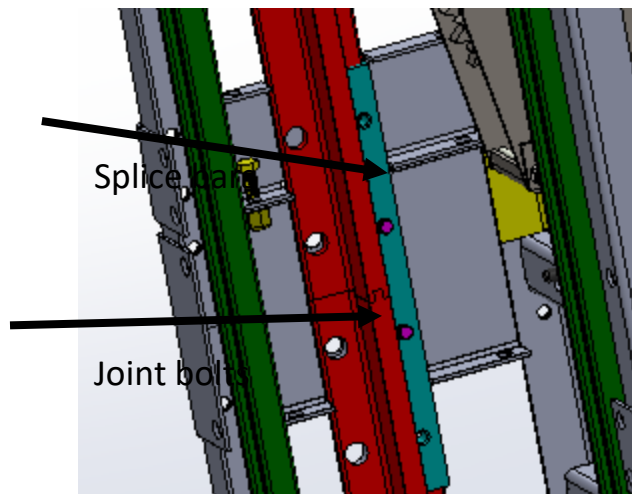
A. PREPARING THE UNIT FOR INSTALLATION

1. Move the unit as close as possible to the installation area. If possible, leave the unit on the shipping skid.
2. Remove any carton containing parts and set them in an out of the way location.
3. Remove the platform, guard rails, tower extension, and other parts from the skid and set in an out of the way location.
4. Remove the bolts fastening the tower base assembly to the skid.
5. Carefully move the tower base assembly off the shipping skid.
6. Move the tower base assembly into its approximate final position.
7. Units with lift heights greater than 50" will have a modular tower extension.
8. Use appropriate lifting equipment and safety equipment when installing the modular tower extension.
9. 144 units will have shipping bolts holding the cylinder in place. The bolts can be left in place.

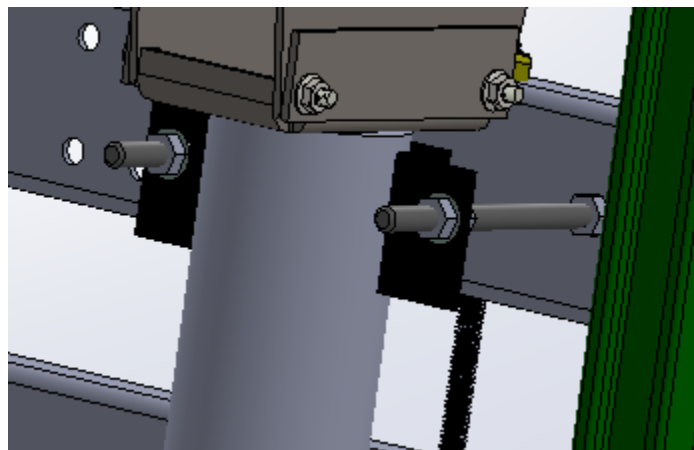


10. To help getting the tower extension to slide into the tower base you can use a ratchet strap to squeeze the bottom front part of the tower extension. Do not squeeze it more than ½”.

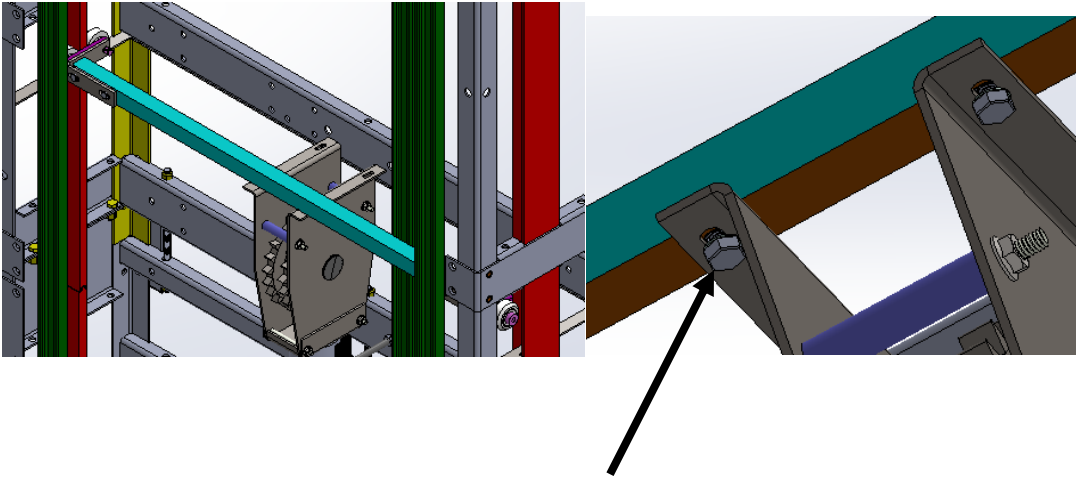
11. Once the tower extension is set in place, install the splice bars and joint bolts. The back joint bolts can be used to help plumb the tower.



12. Install the threaded rods in the upper cylinder mount bracket.

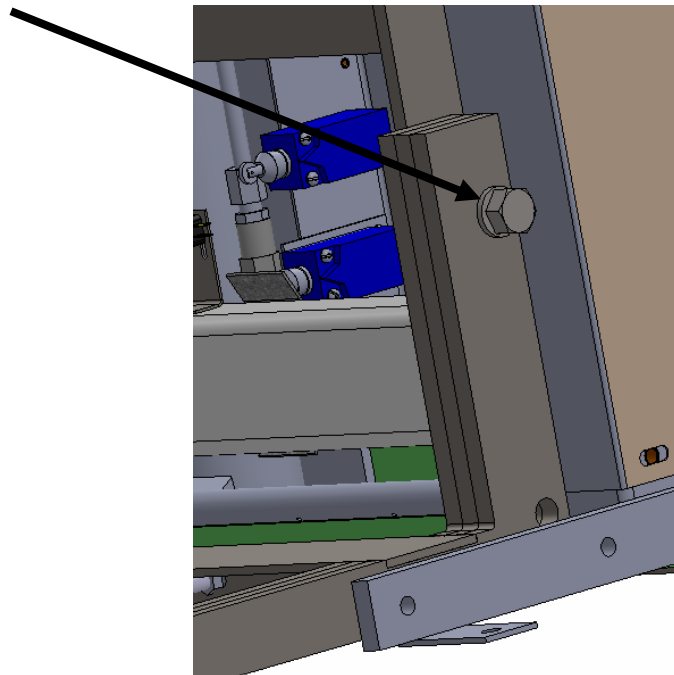


13 Install the cylinder head cross bar. Using the 2 ¼-20 bolts that will be found screwed into the cross bar. Leave the bolts loose.

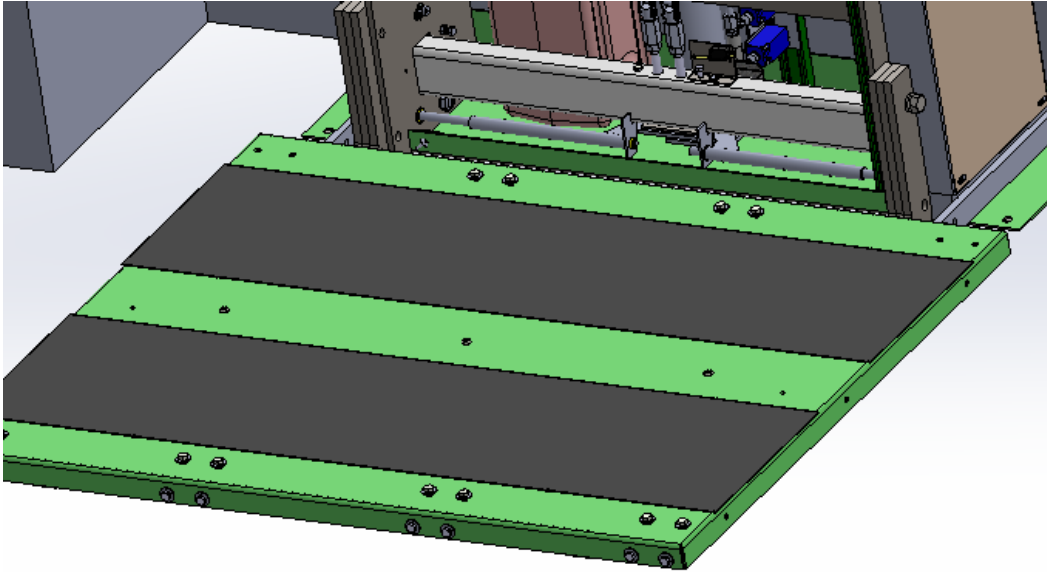


13. Verify the cylinder is plumb.

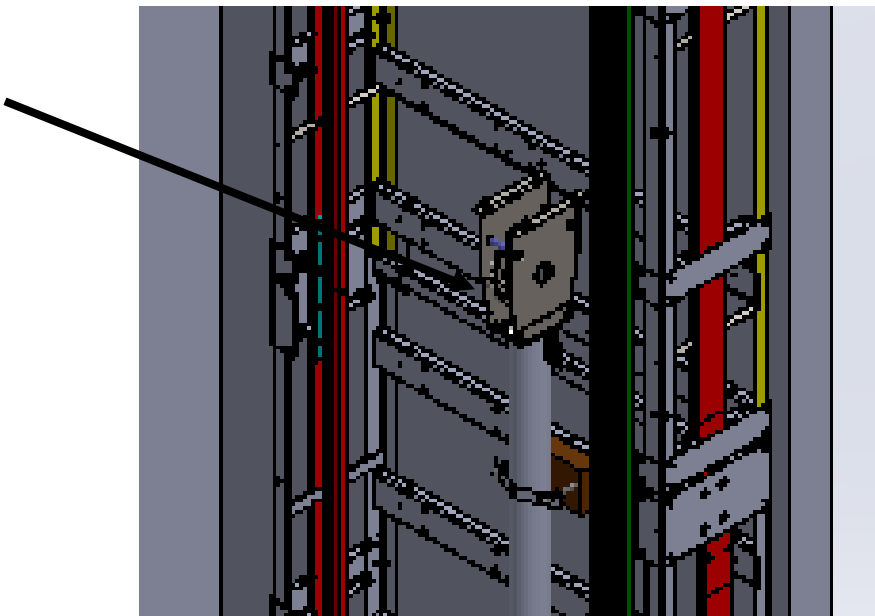
14. Install the platform pick up weldment using the 4 bolts and lock washers that will be found in the tower pick up assembly.



15. Install the platform. Shift the tower as needed to get the proper clearances for the platform.



16. Once the proper clearances have been set then anchor the tower to the wall and floor. Make sure tower is plumb and level. The unit must be anchored to the wall at the highest cross brace to the final lift height and at the joint on units with tower extensions.



7.

17. At this time, you can use the pendant control to run the platform.

Note: the pendant bypasses all safety functions. Turn on the disconnect switch Located on the side of the lower battery tray.

18. Power connections.

WARNING: DISCONNECTING THE UNIT FROM THE 115VAC SERVICE DOES NOT STOP THE UNIT FROM RUNNING. The motor, limit switches, interlocks, and all controls are powered from the batteries. The battery must be disconnected to keep the unit from running.

Connect a 115 vac 50/60 Hz. power supply to the lower connection box. The box can be moved to the other side of the tower if needed.

WIRE COLOR	CONNECT TO
BLACK	SUPPLY HOT WIRE
WHITE	SUPPLY NEUTRAL WIRE
GREEN	SUPPLY GROUND

19. Call and Lock wiring.

The call and lock wiring will be connected to the corresponding connection box on the side of the tower. The top box is for the top landing. The middle or next box down is for the middle landing and the last box is for the bottom landing. The boxes can be moved to the opposite side of the tower if necessary.

Use 18 awg. Stranded wire for call and lock wiring.

Once the field wiring is completed for each interlock. Remove the appropriated Lock jumper on the bottom of the controller and plug in the lock harness.

Once the field wiring is completed for the calls. Remove the call jumper on the bottom of the controller and plug in the call harness.

8.

WIRE COLOR	CONNECT TO
BLACK	CALL KEY OR COMMON
RED	CALL TOP
YELLOW	CALL MIDDLE
BLUE	CALL BOTTOM
WHITE	E-STOP connect to purple if not used
PURPLE	E-STOP connect to white if not used
ORANGE	ALARM
BROWN	ALARM

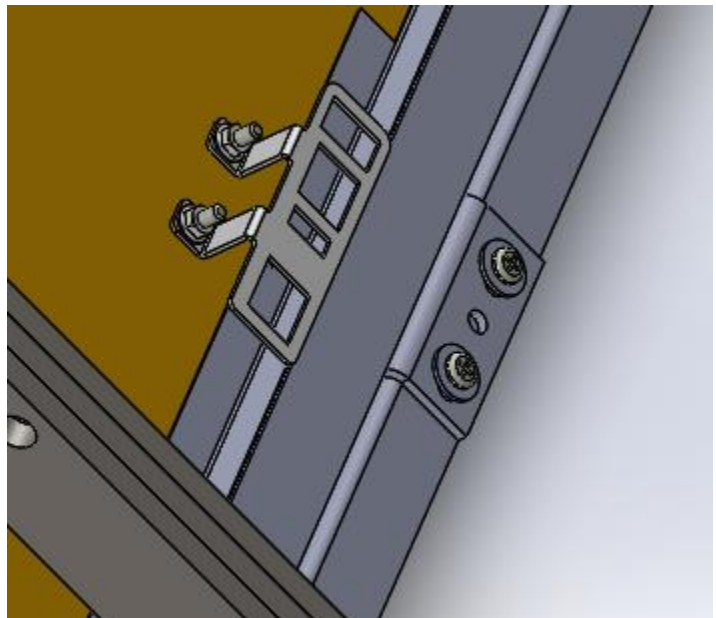
WIRE COLOR	CONNECT TO
RED	TOP DOOR OPENER SIGNAL 1
RED	TOP DOOR OPENER SIGNAL 2
YELLOW	MID DOOR OPENER SIGNAL 1
YELLOW	MID DOOR OPENER SIGNAL 2
BLUE	BOTTOM DOOR OPENER SIGNAL 1
BLUE	BOTTOM DOOR OPENER SIGNAL 2

WIRE COLOR	CONNECT TO
BLACK	SOLENOID
GREEN	SOLENOID
WHITE	DOOR LOCKED
BLUE	DOOR LOCKED
ORANGE	DOOR CLOSED
RED	DOOR CLOSED

WIRE COLOR	CONNECT TO
	TWO CONDUCTOR CABLE
BLACK	CALL E-LIGHT NEG
WHITE OR RED	CALL E-LIGHT POS

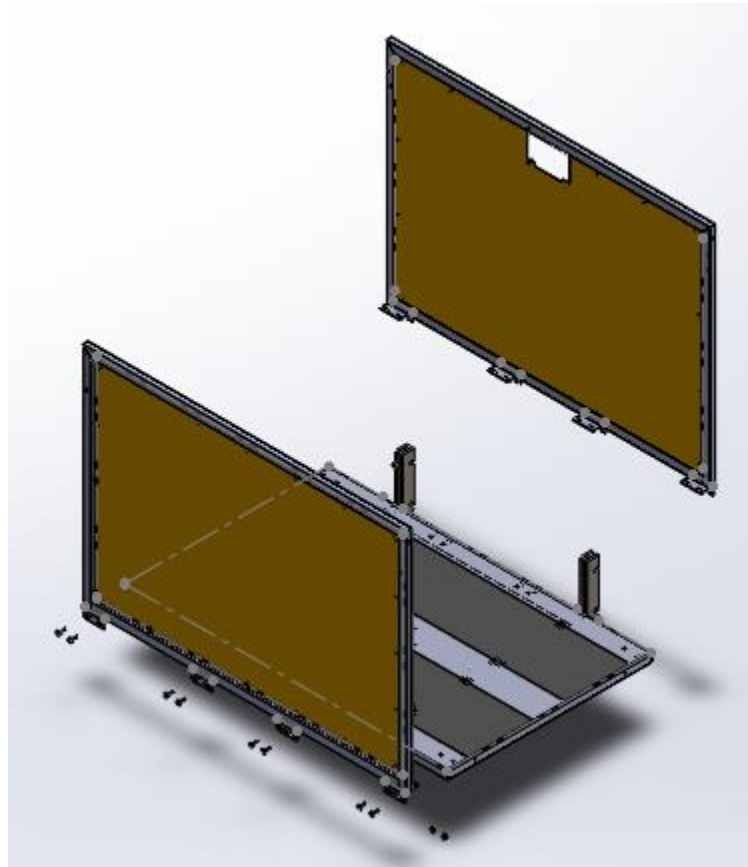
20. Platform guard panels.

- A. Attach the travel cable bracket to the unit control / Rear guard panel with 2 ¼-20 X ½” Phillips drive, Truss Head bolts and ¼-20 whiz nuts. (travel cable not shown for clarity) This can be done after the guard panel is attached to the platform.



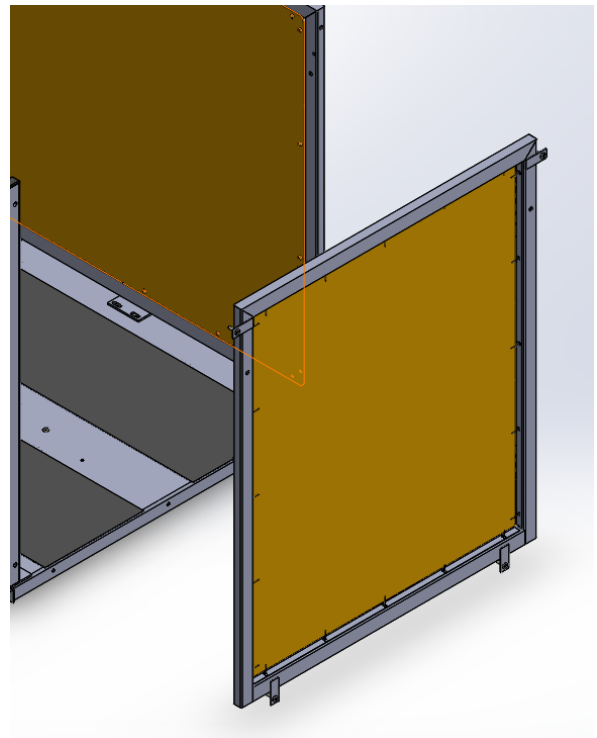
9.

- B. Install the front and rear-guard panels on the platform using $\frac{1}{4}$ -20 X 1.25" Phillips drive, Truss head stainless steel screws with washers and nuts.

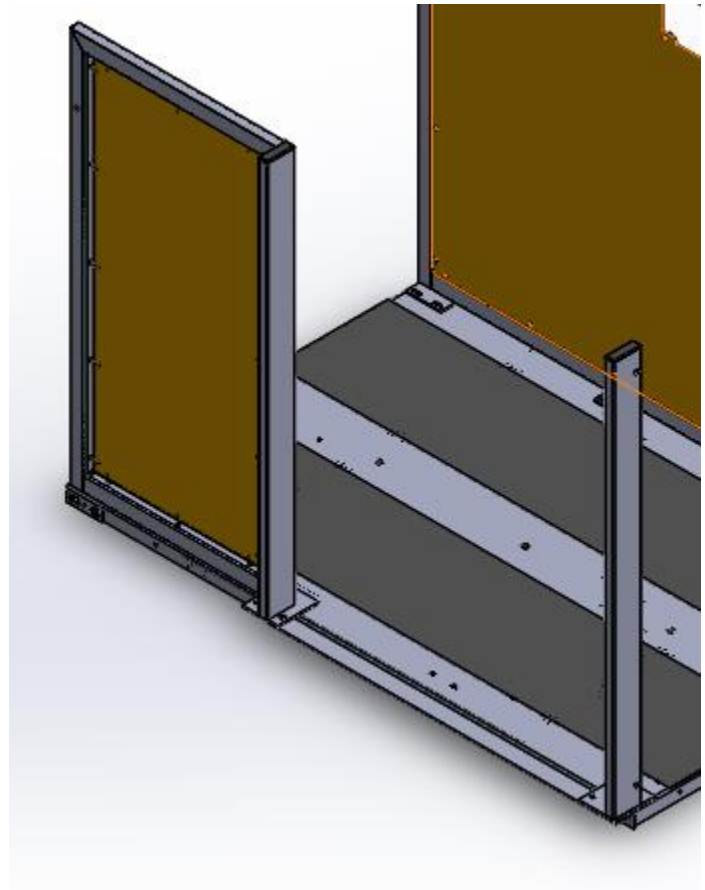


Optional Enter/Exit panel.

Install with 4 $\frac{1}{4}$ -20 Phillips drive, Truss head Stainless Steel screws and 2 nuts.

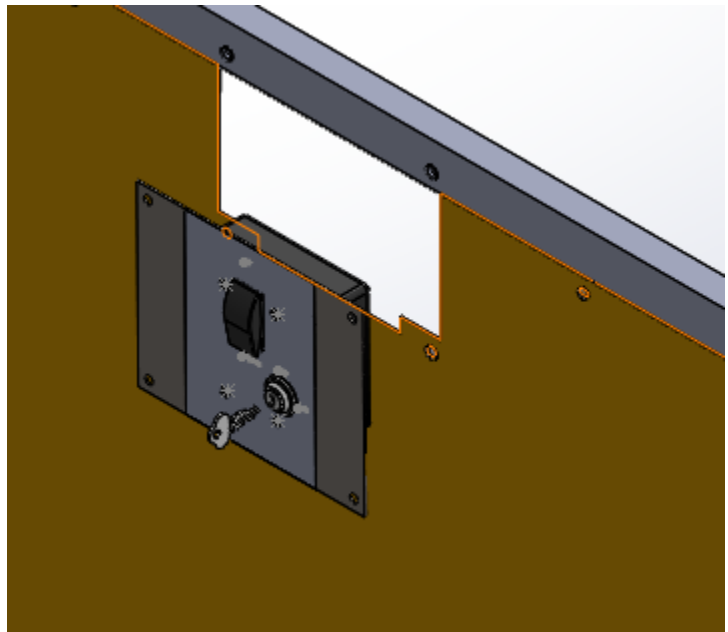


C. Optional 90 Deg. panels. LH show. RH opposite. Uses same bolts as guard rails.



21. Unit Control.

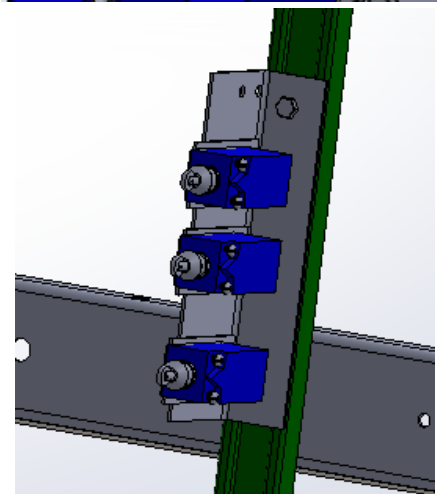
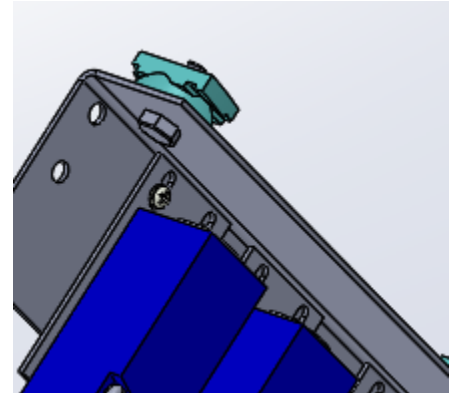
Route the unit control cables through the cutout in the rear guard. Attach with the 4 screws that will be found in the guard panel. Plug the cables into the travel cable plugs.



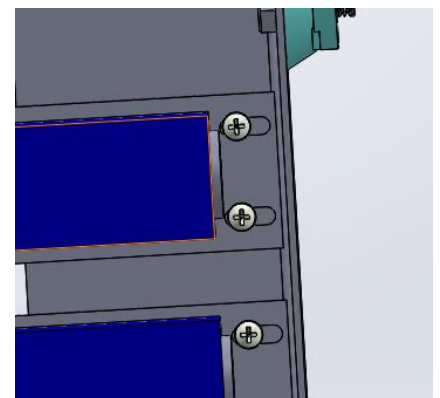
22. Limit Switch Adjustment.

For units above 50" lift you need to plug in the limit switch harness running to the upper and on 3 stop unit the mid limit switches.

The limit switch brackets mount to the limit switch channel with 2 Unistrut nuts. Loosen the bolts then slide the bracket up or down to adjust the platform stop location.

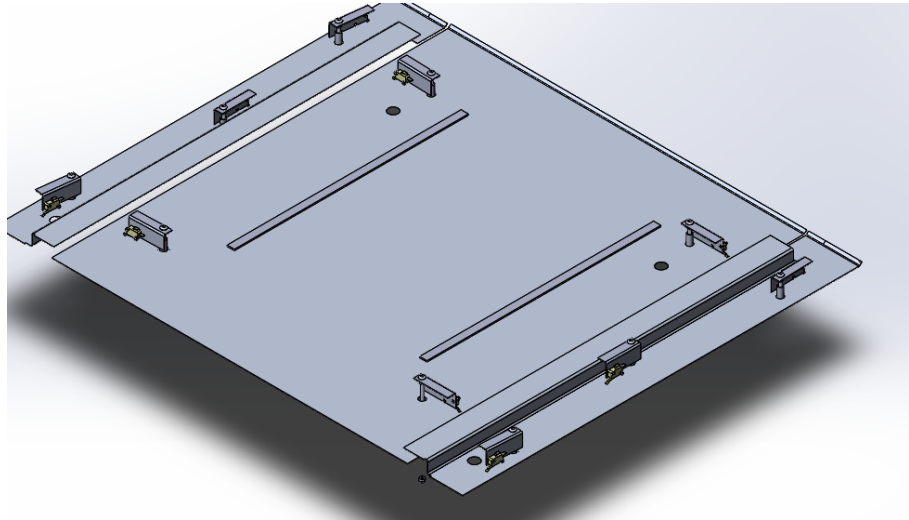


Check for proper switch activation. The limit switches can be adjusted closer to the limits switch trigger bracket by loosening the 2 screws holding the switch in place. **Warning: if the switches are moved out too far the switch will be broken.**

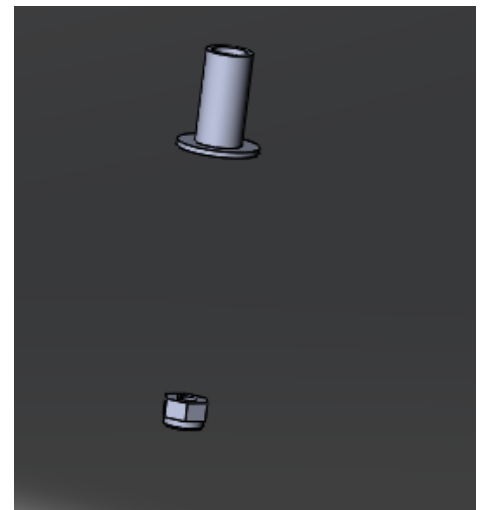


23.Optional Safety Pan.

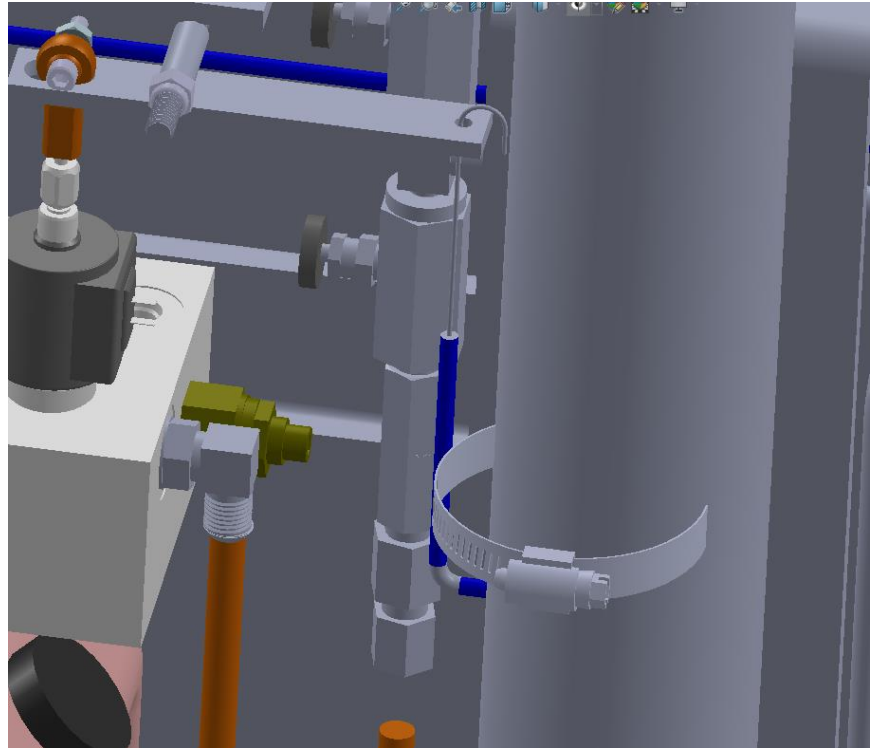
The safety pan switch brackets will come attached to the underside of the platform.



Slide the safety pans over the attaching bolts. Then slide the sleeve on to the bolt and secure with the ¼-20 nyloc nut. Thread the nut on till it is flush with the end of the bolt. Check operation of the safety pan. If necessary, gently bend the arm of the any switch that is not actuating properly.



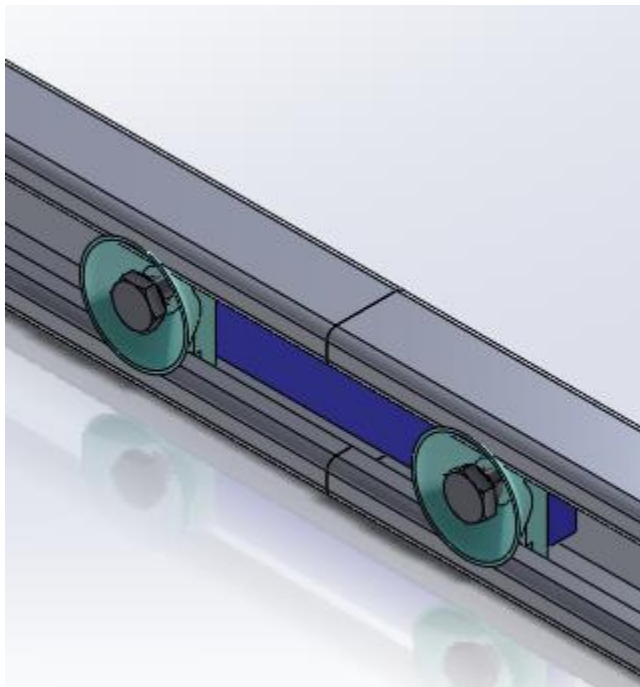
Manual lowering cable. Route the cable into the tower and then to the manual release pull bar. Cable must be routed in a flowing radius. Do not kink the cable. Cut to required length then bend the cable end into a hook after passing through the manual pull bar. Clamp the cable to the cylinder with the holes clamp. Check for proper operation.

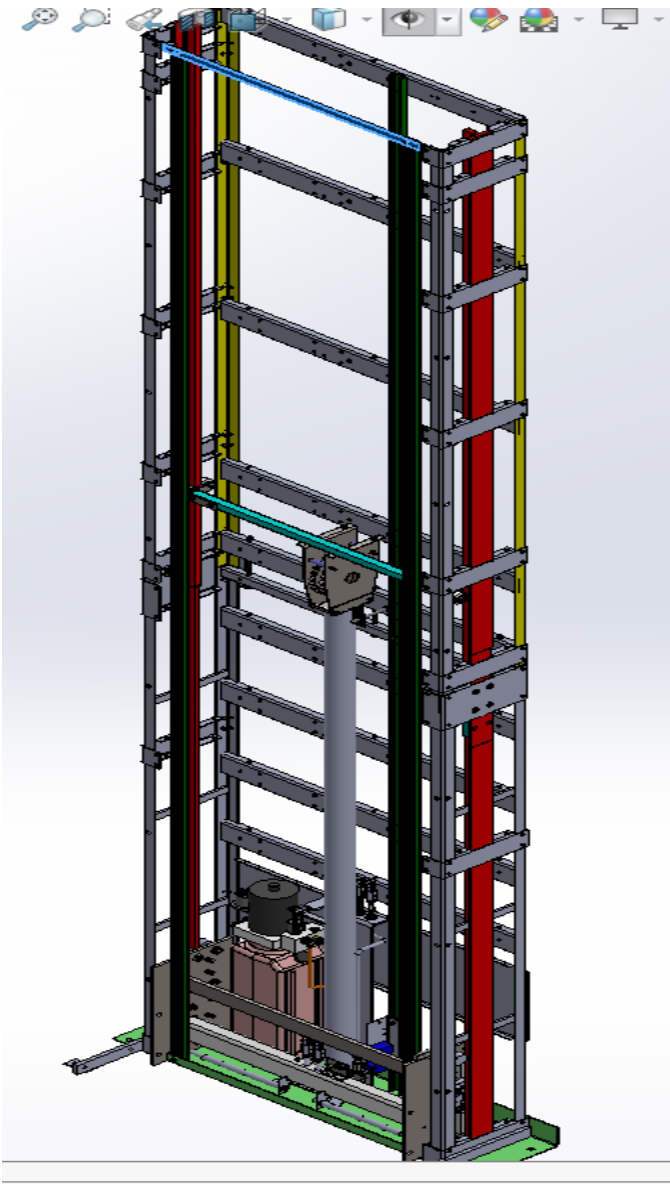


24. Installing the front cover supports.

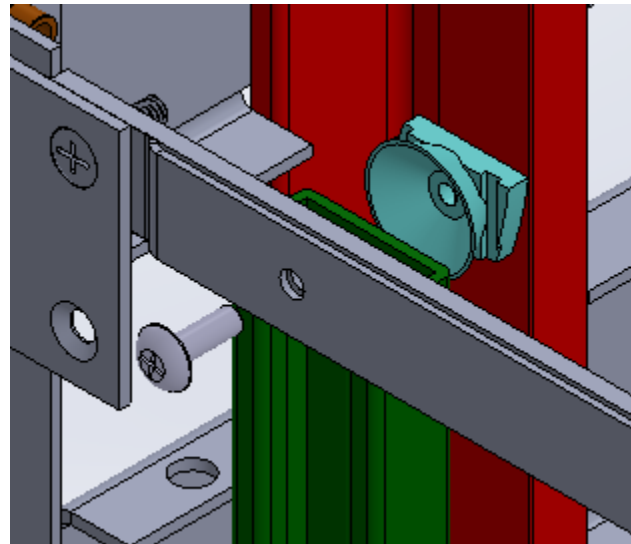
AVPL 50 will have these mounted in place. All other units will have the Unistrut shiped in pieces that will need to be joined then installed.

Lay the Unistrut pieces on floor. Slide the splice bar into the Unistrut. Install the 2 Unistrut nuts with bolts near the end of the splice bar. Center the splice bar on the joint. Use a straight edge on the side of the Unistrut to keep it straight. Tighten the bolts



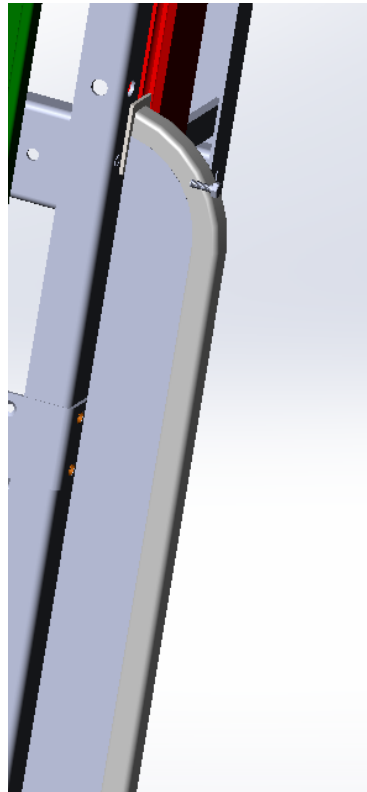


Install the 2 front cover supports
Using the ¼-20 1" bolt and Unistrut nuts at each
end.

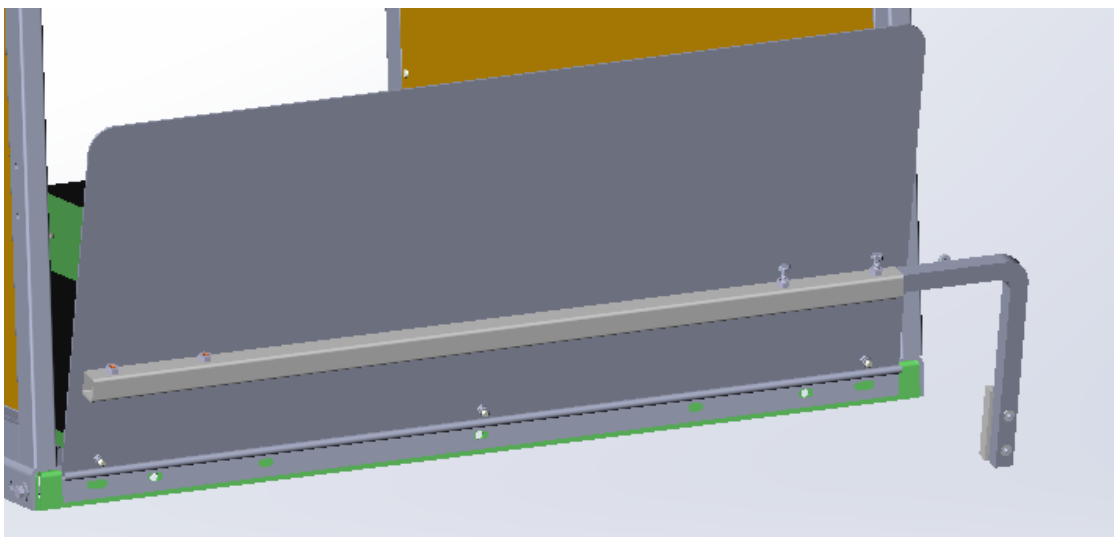


25. Optional Mechanical Ramp

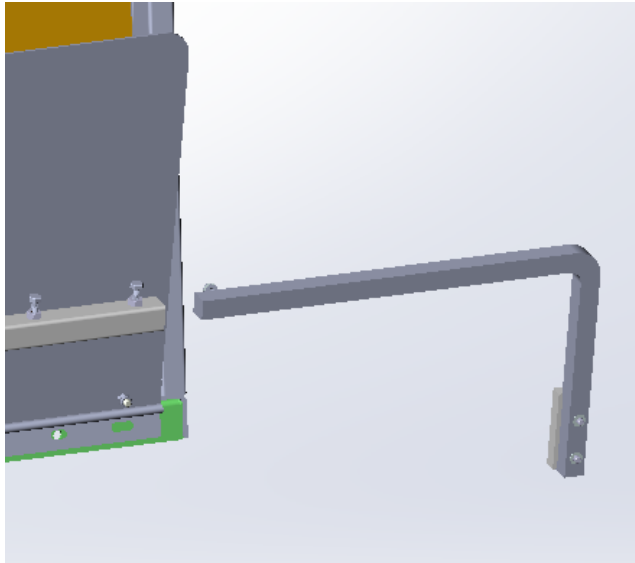
Attach the ramp actuator to the side of the tower with 2 $\frac{1}{4}$ -20 x $\frac{3}{4}$ " bolts. For unit with a platform gate these bolts will be $\frac{1}{4}$ -20 x 2.75". 50" lift towers will have this attached for you.



Attach the ramp to the platform with 3 $\frac{1}{4}$ -20 x $\frac{3}{4}$ bolts and whiz nuts. For unit with platform gates you will use the platform gate hardware.



Insert the ramp arm into the ramp tube and adjust to line up with the ramp actuator.



Run the loft to verify proper clearances and function of Mechanical Ramp.

26. Optional Power Fold Ramp

Attach the ramp to the platform with 3 ¼-20 bolts and nuts.

Attach the ramp actuator bracket to the guard rail with 2 ¼-20 x 1 ¾" bolts and nylock nuts.

Attach the actuator bracket to the ramp. Then lift the ramp and attach it to the actuator.

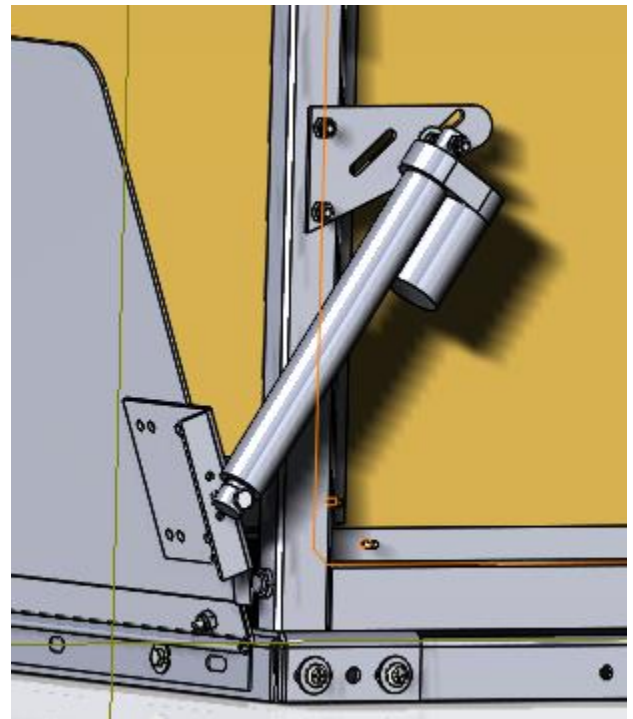
Adjust the ramp up sensor bracket if necessary

Have the unit off the lower limit switches and plug in the 2 wire harness to the travel cable harness with the same color tape on it.

Plug in the ramp up sensor to the travel cable plug with the same color tape on it.

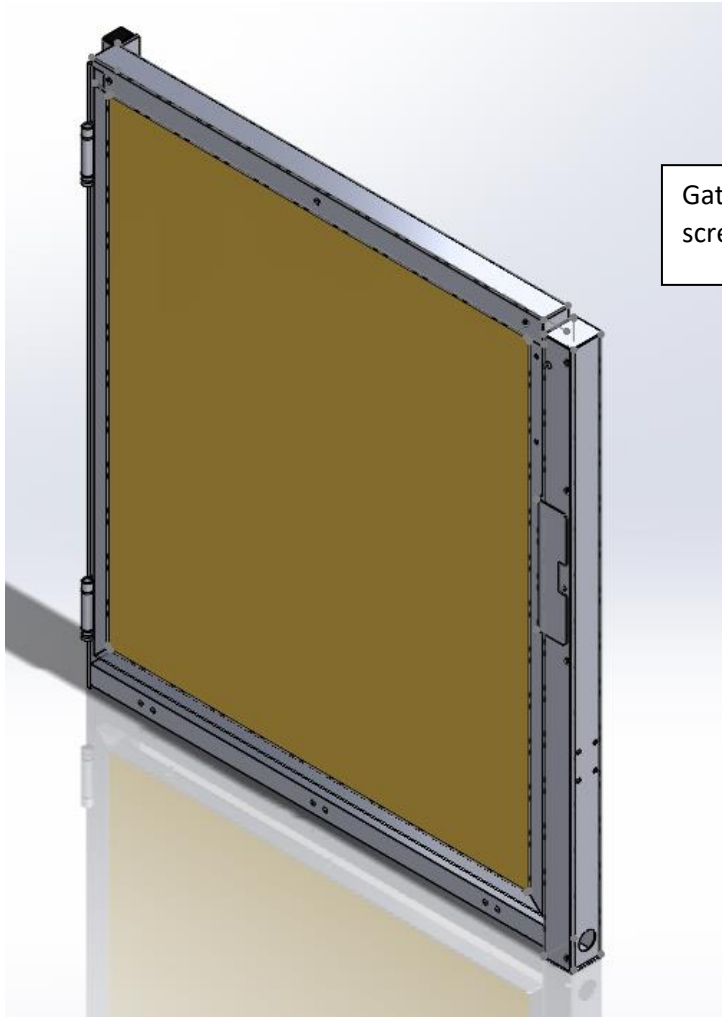
Move the unit to the lower floor and the ramp will lower.

Push the up button. Once the ramp is up the unit will start moving up.



Optional Platform Gate.

Install the Platform gate on the platform with the supplied hardware.



Gate handle attached with 2- $\frac{1}{4}$ -20 x 2.5" screws.

Use 1- $\frac{1}{4}$ -20 x 3" screw hinge side top. 3- $\frac{1}{4}$ -20x 2.5" screws across the bottom and on the latch side top. The latch side top will screw into a nutsert inserted into the platform guard rail. The other bolts will use a nylock nut.

Optional Battery Gauge.



1. Scan from "F" to "E" when connected with power.
2. The meter will automatically distinguish the current battery power when the meter connected to the battery.
3. When the battery voltage is lower than the current bar and keeps for 155S, 1 bar drops on the meter. The working way is that the voltage level is declining one LED bar by one LED bar. The delay time among each bar is 155 seconds.
4. When the battery voltage is bigger than the charging voltage of current bar, it means the charging is going on. The charging status refers to the first bar to the current bar. The working way of charging is that the voltage level is ascending one LED bar by one LED bar. The delay time among each bar is 200seconds.
5. When disconnect with battery and reconnected to battery, the meter will retest the current battery power and display the related voltage bar.

Completion Procedures.

A. Completion checklist.

The following features must be verified as operational before the AVPL Lift can be released to the customer for use:

Wiring

- Verify unit is properly grounded.
- Wiring meets national and local code requirements.

Hardware:

- Verify all hardware, fasteners, etc. are securely tightened.
- Verify the unit is securely anchored.
- Verify the limit switch brackets are securely fastened.
- Verify all tower panels have been replaced and secured.

Hydraulics:

- Verify there are no hydraulic leaks.

Operation:

- Turn the platform key switch (if equipped) to the "OFF" position, verify the platform controls are inoperable.
- Turn the platform key switch (if equipped) to the "ON" position, verify the platform controls work both up and down.
- Verify the platform has adequate clearance from wall, fascia, or other obstructions.
- Verify the upper limit stops the platform level with the upper landing.
- With the platform at the upper landing, verify the platform gate or lower landing door is locked and the top landing gate/door is unlocked.
- With the platform at each landing and that landing door/gate is open, verify all controls are inoperable.
- If equipped, verify that when the emergency stop button is pressed, the unit is inoperable from all controls and the alarm is sounded.
- If equipped, verify proper operation of the call controls.

Gates:

- Verify all doors/gates close completely on their own.
- Verify all gates lock before 2" of travel away from landing.

Safety Pan:

- Verify the safety pan will stop downward travel of the platform when an obstruction is encountered.
- Verify the platform will travel upward when the safety pan is actuated.

B. Before Leaving Job Site

The following should be completed before leaving the jobsite:

Replace tower panel(s).

Clean up work area.

Assist customer on orientation ride.

Demonstrate proper operation and maintenance procedures to the Customer.

Give customer a copy of the Owner's Manual for reference with the order number and serial number noted inside.

C. Maintenance Requirements

Regular maintenance is essential in keeping the AVPL lift in proper operating condition. To assure proper operating condition for this lift, the following items must be inspected and/or serviced every 6 to 12 months:

Tighten all fastening anchors.

Inspect ramp for proper operation.

- Lubricated gate hinges.
- Inspect all travel cables for excessive wear or damage. Replace if any damage is seen.
- Check the hydraulic plumbing for leaks.
- Check the level of hydraulic fluid with the platform at the lower landing.
- Verify the operation of the slack chain device.
- With the battery charger disconnected, verify the voltage of the batteries is at least 24 VDC.

IMPORTANT: The 115vac power must be connected to the unit at all times to prevent the batteries from draining. If the 115vac power is not available; the batteries must be disconnected.