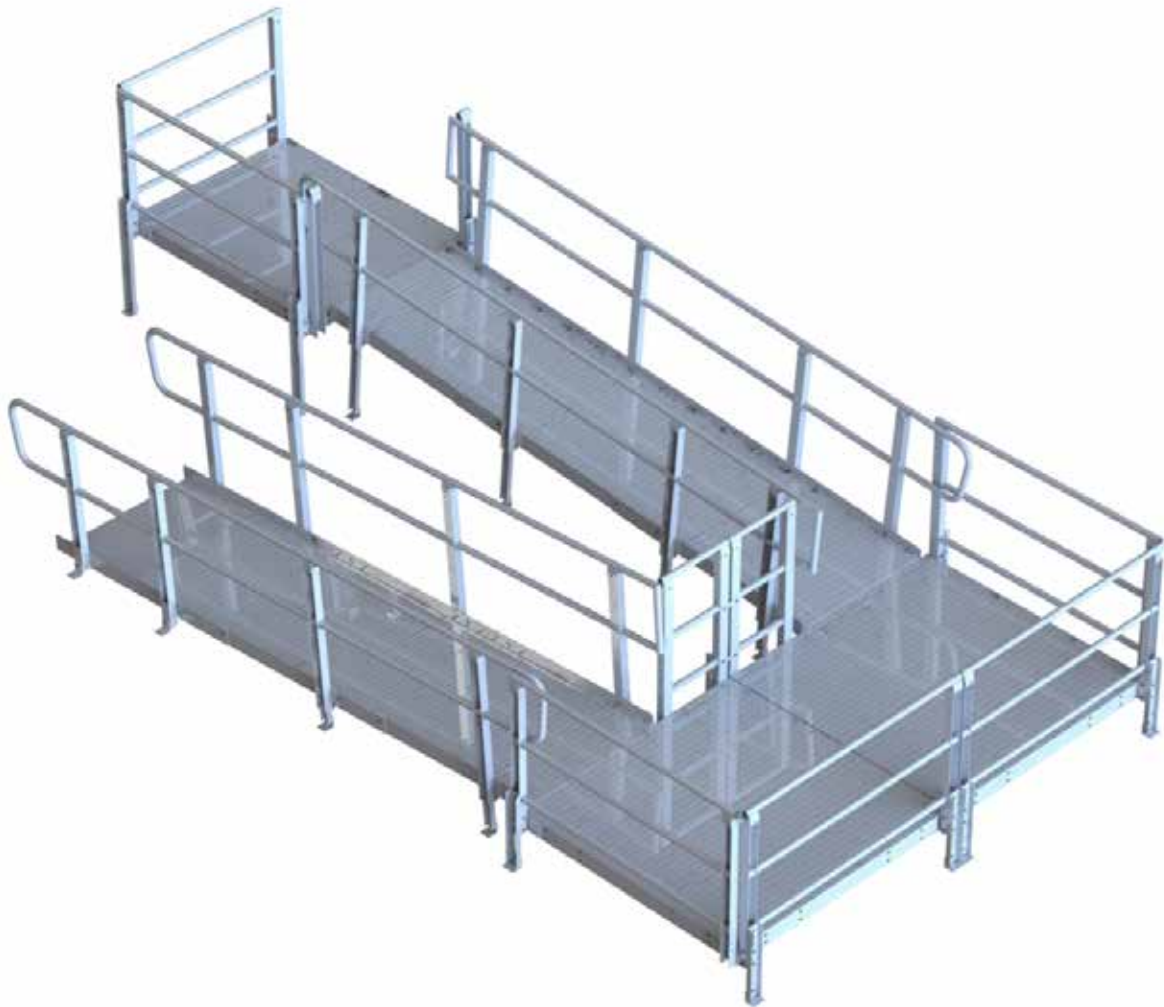


Prairie View Industries

Modular XP Ramp Assembly Manual



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Overview

Appearance: The PVI Modular Ramp System with handrails has a clean uncluttered appearance that will fit in most surroundings.

Low Maintenance: The all aluminum design has lifetime durability in all kinds of climates without periodic painting or renewal of preservatives. The aluminum alloys used are resistant to salt corrosion (we still recommend noncorrosive or pet safe salt). The modular ramp system may even be used in coastal areas and cold climates that use deicers.

Permanent but moveable: The PVI Modular Ramp System serves the purpose as well or better than a permanent concrete ramp, but can still go along with the user if they move, or can be removed and resold when no longer needed. This ramp system is designed to be freestanding and totally independent of the existing structure. In many areas this simplifies compliance with local codes and in many cases eliminates permit requirements.

Flexible Modular Components: If or when the ramp is moved it is easy to add to, subtract from, or reconfigure the modular components at a new location. This feature makes the system attractive to lease/rental opportunities that may be available with insurance companies serving rehabilitation needs. It is best to use standard and/or existing components if possible. Custom designs add cost to the ramp and delay delivery. There are times when special components must be used and PVI is ready to provide the design and production assistance required.

Quick, Easy Assembly and Installation: The modular components of the PVI ramp are designed to be quickly and easily assembled with simple hand tools and set in place without the need for construction equipment. A van, pickup or small trailer is all that is needed to transport the ramp components (or shop assembled components) to the job site.

Quick and Economical Shipping: The modular components are stocked and warehoused so an order can be filled and shipped on short notice. The lightweight aluminum design and plant location make it economical to ship to any part of the country. Shipping cartons can be handled with ease.

Standard Components:

Ramps

Width: 36" Standard width; custom widths are optional.

Length: Minimum length of 3'.

Ramp Surface: Aluminum planking with lateral grooves, and a knurled surface.

Curbing: 2" high curb-standard

Slope: Adjustable from 1:12 to 3:12

Platforms turn or straight configurations

Dimensions: 48"x60", 60"x60" standard sizes; custom sizes are optional.

Height: minimum height of 4", maximum height of 60"

Load Capacity: 100 lb. / sq. ft.

180 Degree turn or straight through platform

Dimensions: 60"x96" or 60"x120" Standard.

Height: minimum height of 4", maximum height of 60"

Load Capacity: 100 lb. / sq. ft.

Overview, cont...

Slopes, Handrails and Layout Considerations

NOTE: ADA COMPLIANCE IS USUALLY OPTIONAL (GUIDELINE ONLY) FOR RAMPS TO PRIVATE HOMES

Slopes: The ADA recommended slope of 1:12 is preferred when possible. However, when space is limited or other considerations require a steeper ramp, the PVI modular system will accommodate slopes up to 3:12 (3:12 slope is not recommended). Any slope selected must consider the capabilities and safety of the users and their equipment.

Handrails: ADA requires handrails on any ramp with a rise of 6" or more. The PVI Modular Ramp System is available with or without handrail; however, we recommend handrails on all but the shortest ramps unless other provisions are made for the safety and assistance of the user. Some codes mandate handrail spacing and/or vertical slats. Call PVI on designs with special handrail requirements.

Layout Considerations: The usable width of a standard ramp is 36", the overall width of the ramp (from leg to leg) is 41 ¼". The length of the individual ramp segments are as follows: 3', 4', & 5'. The segments are used in combinations to make lengths from 6' and longer in 1' increments.

Shipping

Freight Line and Freight Charges: PVI uses a combination of truck lines. Freight charges vary depending on the size and scope of the ramp system and destination. Call PVI for a price quote on a particular ramp.

Handling: All components are shipped in packages light enough to be handled with ease.

Assembly

Ramp and Platform Assembly: Complete detailed assembly instructions are included with each ramp. Assembly time for ramps is approximately one man hour per 8 foot of ramp length. Assembly time for platforms is approximately 1 man hour. Ramps can be assembled in sub assemblies for easy transport to the job site. Site preparation, transport time and anchoring time is not included.

NOTE: During assembly do not tighten hardware all of the way until assembly is complete.

Footing and Anchoring: The PVI Modular Ramp Systems are designed to be freestanding, independent structures that do not have to be permanently attached to the building it serves. Each supporting leg is independently adjustable so any settling or heaving of the supporting surface can be adjusted quickly and easily with a single ½" ratchet. The ramps are also designed to be disassembled, moved and reassembled at a new site in a new configuration and length. Platforms must have a minimum of one leg anchored on each of the two opposite sides. Each ramp must be anchored at the upper and lower end. Secure anchoring for the first pair of post at the bottom is especially important because this adds necessary strength to the lower end of the handrails. Anchoring may consist of lag screws or bolts into existing concrete, precast pads, patio pavers or poured in place.

NOTE: PVI does not provide anchoring for ramp systems.

Overview, cont...

Modular Ramp System Assembly

Step #1: Unpack all components and make sure all parts on packing list are present.

Step #2: Start by assembling the platform at the entrance door (Top Platform).

(A) Select the platform configuration from the configuration list.

(B) Assemble using platform parts in Section 2.2.

(C) Set in place, level, and install leg braces if required.

Step #3: Assemble first ramp section using parts in Section 2.1. (Ramp#1)

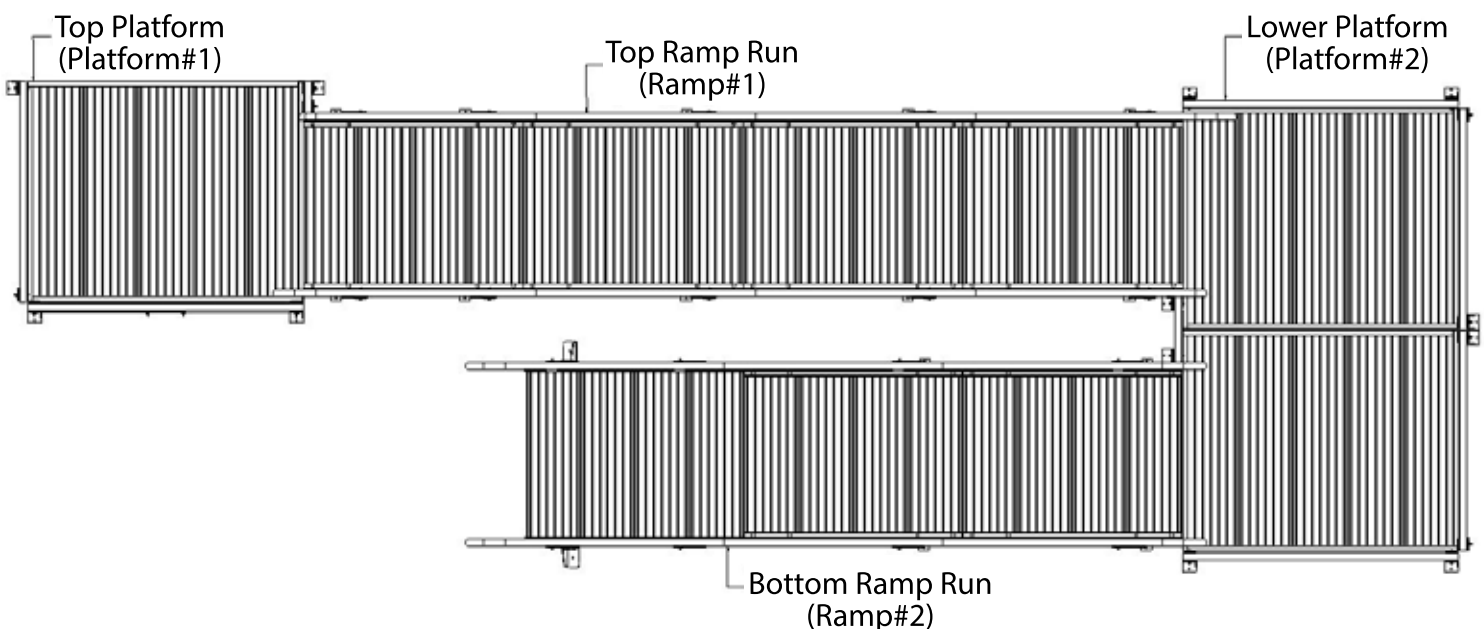
Step #4: Assemble next platform same as (A) (B) (C) of the top platform. (Platform#2)

Step #5: Assemble next ramp section. (Ramp#2)

Step #6: Check all bolts and make sure all bolts are tightened.

Step #7: Anchor ramp system to pavers or concrete.

NOTE: Some systems may only require one platform and one ramp if so skip steps 4-5.



1.1 Recommended Tools

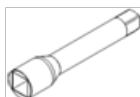
- Ratchet
- 1/2" Deep Well Socket
- Socket Extension
- 1/2" Wrench
- Hacksaw
- Tin Snips
- Cordless Drill
- #2 Phillips Drill Bit
- Tape Measure
- Saw Horses (two pair are recommended)
- 1/4" Masonry Bit (for anchoring into concrete)
- 5/32 Allen Wrench



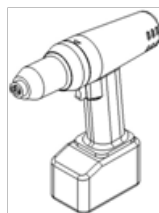
Ratchet



1/2" Deep Well Socket



Socket Extension



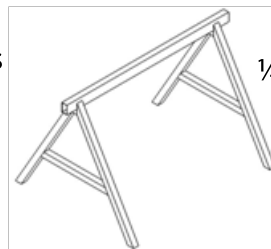
Cordless Drill



#2 Phillips Bit



Tape Measure



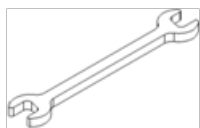
Saw Horse



1/4" Masonry Bit



5/32 Allen Wrench



1/2" Wrench



Hawksaw



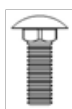
Tin Snips

1.2 Hardware List

- 5/16 x 1 Carr. Bolt
- 5/16 x 2 1/2 Carr. Bolt (attaching top handrail to ramp and platform post)
- 5/16 Self Locking Nut
- 5/16 Jam Nut (attaching ramp post to ramp)
- 5/16 Flat Washer
- Handrail Splice
- Handrail Bolt Sleeve
- #10-16 Self Tapping Screw (post corner kit & ramp attachment clips platforms)



5/16 x 3/4 Hex Bolt



5/16 x 1 Carriage Bolt



5/16 Self Locking Nut



#10-16 Self Tapping Screw



5/16 x 2 1/2 Carriage Bolt



5/16 Jam Nut



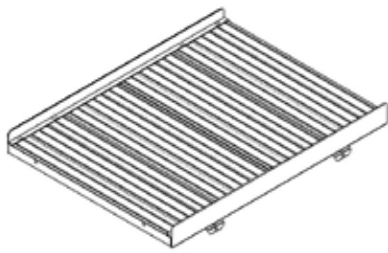
5/16 Flat Washer



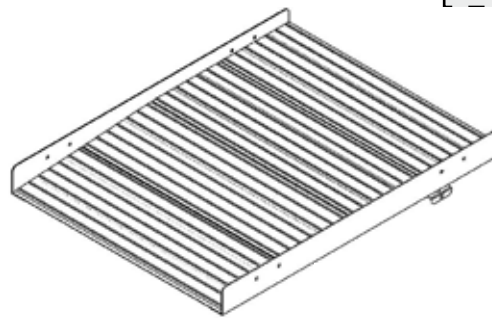
Handrail Splice

*Note: Items listed here are for reference purposes.
Please refer to system parts list for quantities.*

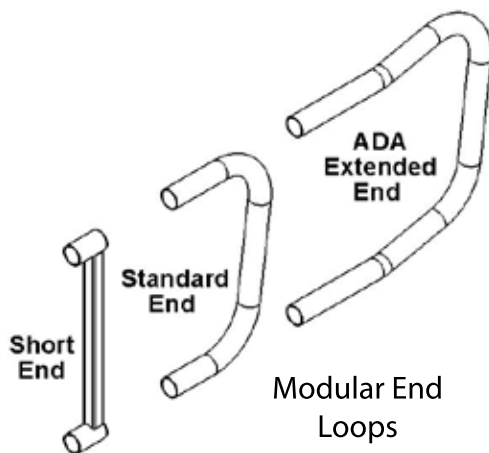
2.1 Standard Ramp Parts



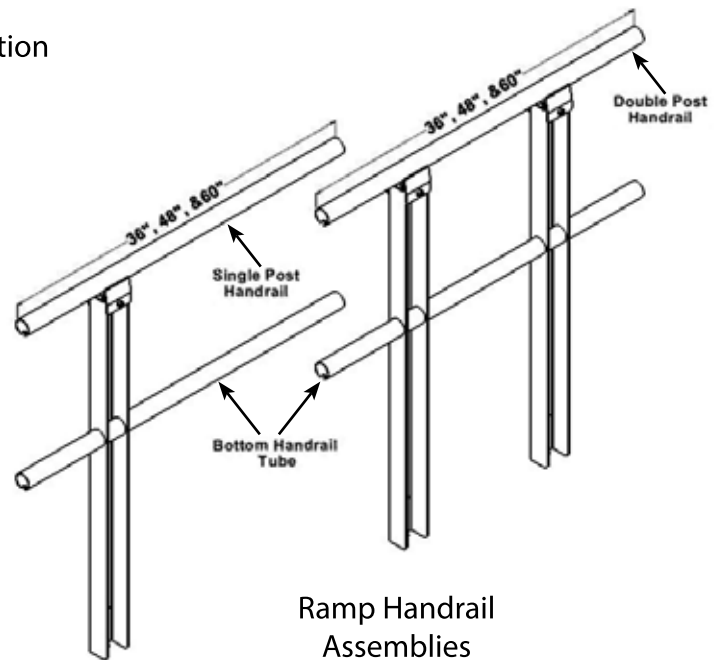
Ramp Section
3', 4', & 5'



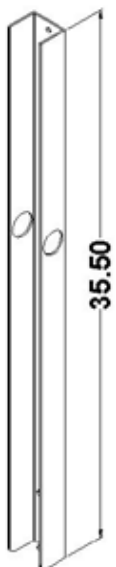
Entrance Section
3', 4', & 5'



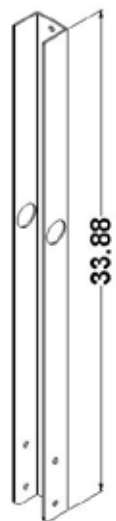
Modular End
Loops



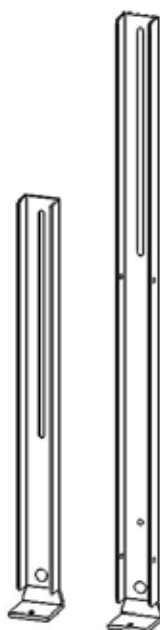
Ramp Handrail
Assemblies



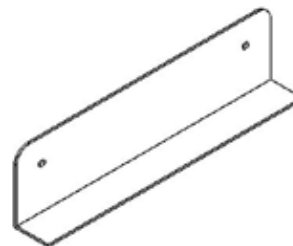
Ramp Post



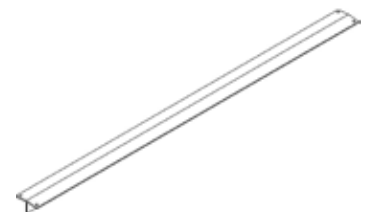
Entrance Post



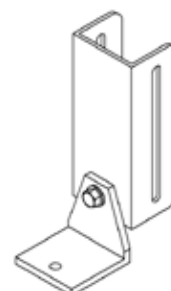
Ramp Leg



Ramp Splice



Upper "T"



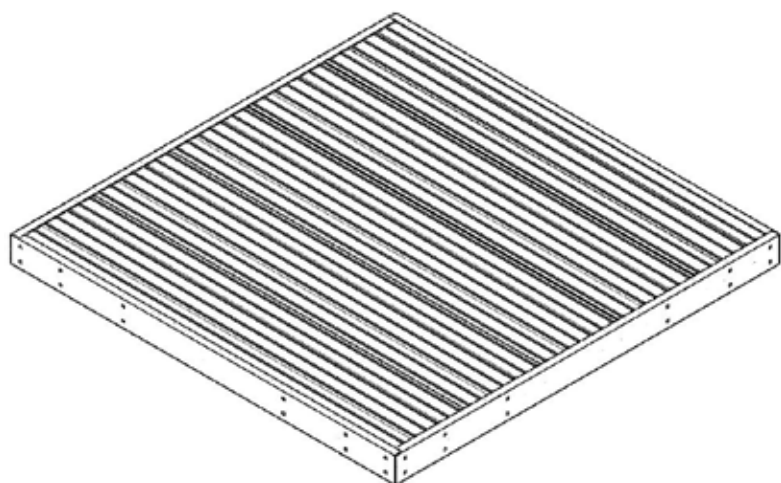
Support Bracket



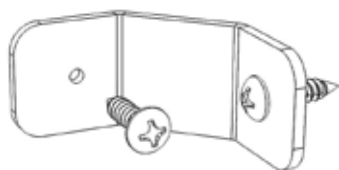
Long Leg Strap

2.2 Standard Platform Parts

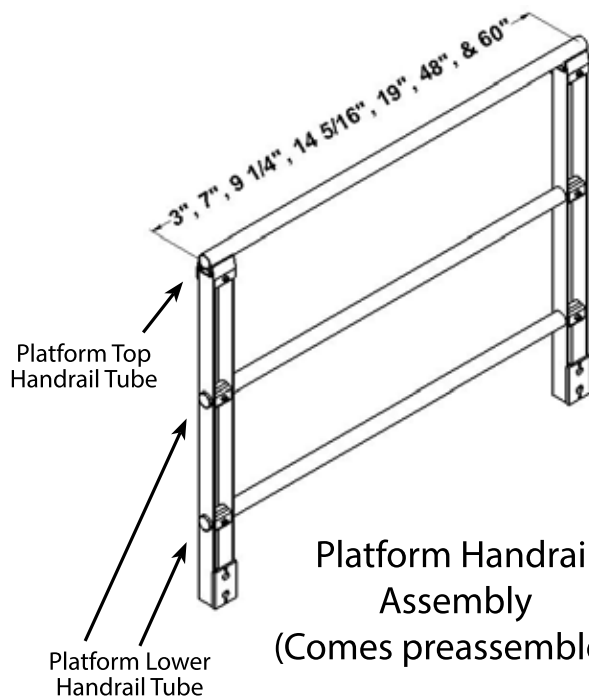
Note: Items listed here are for reference purposes.
Please refer to system parts list for quantities.



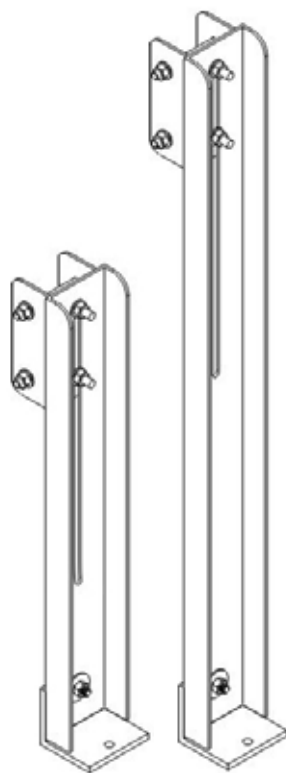
Platform Bases
4'x5' & 5'x5'



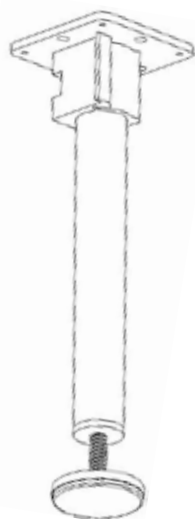
Post Corner Kit



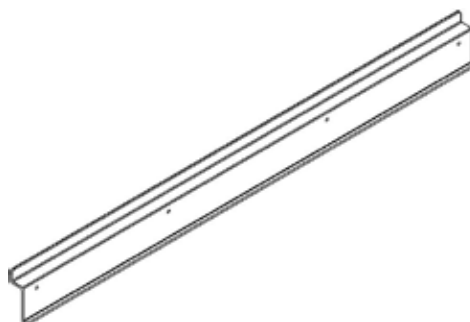
Platform Handrail
Assembly
(Comes preassembled)



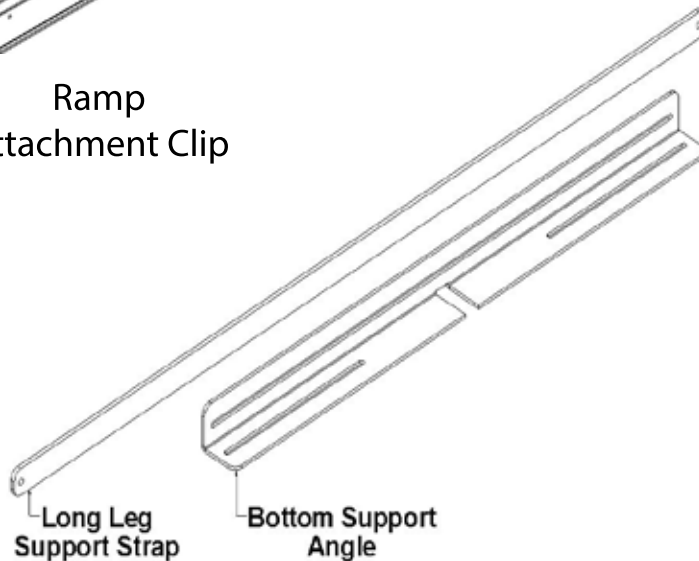
Platform
Legs



Platform
Under-Support



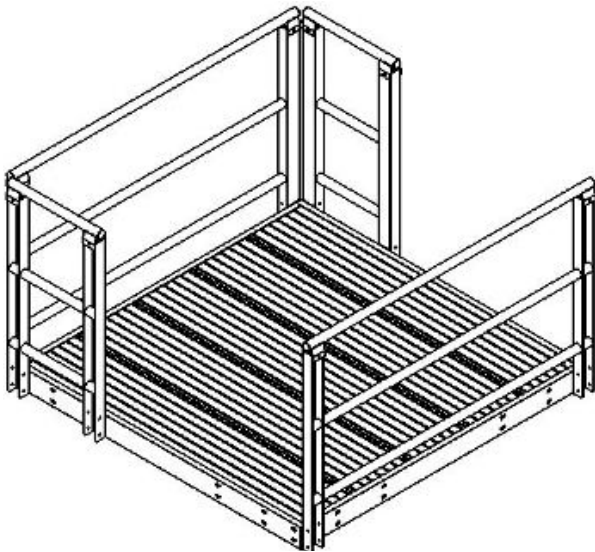
Ramp
Attachment Clip



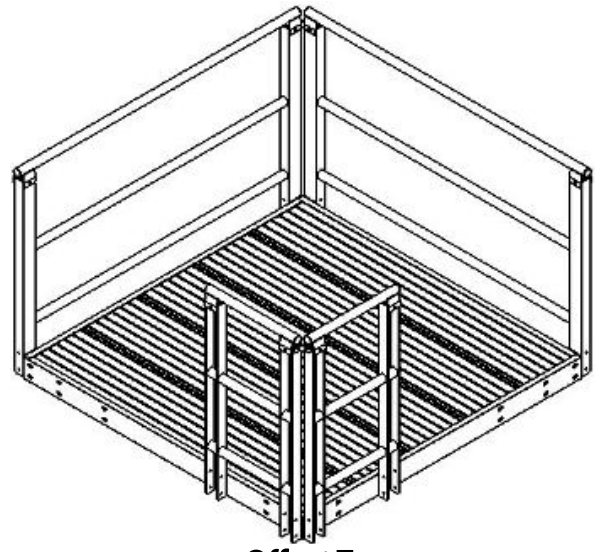
Long Leg
Support Strap

Bottom Support
Angle

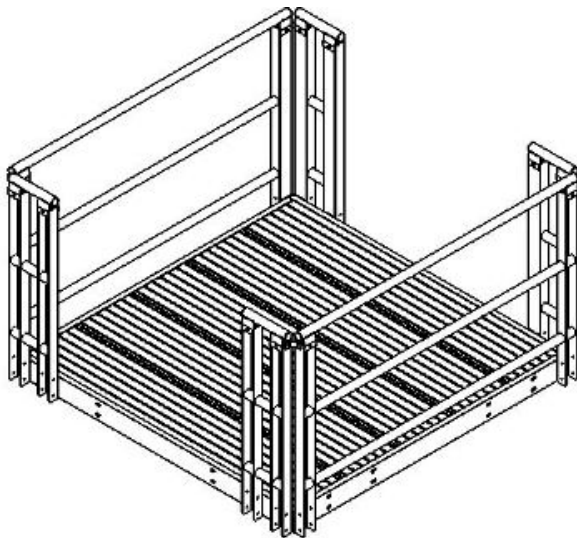
2.3 Standard Platform Configurations



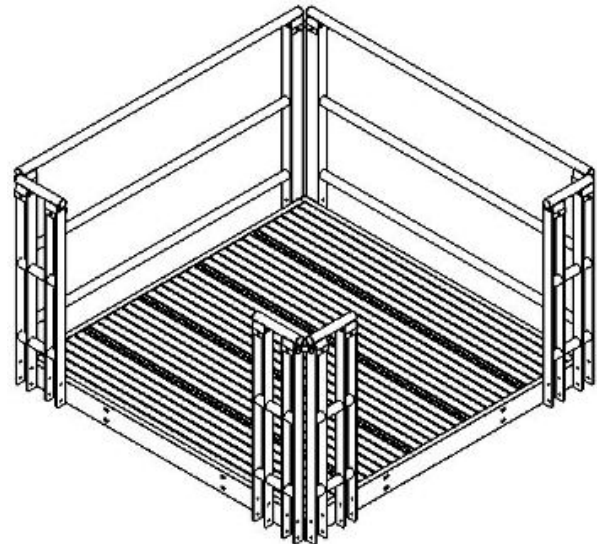
Offset Through



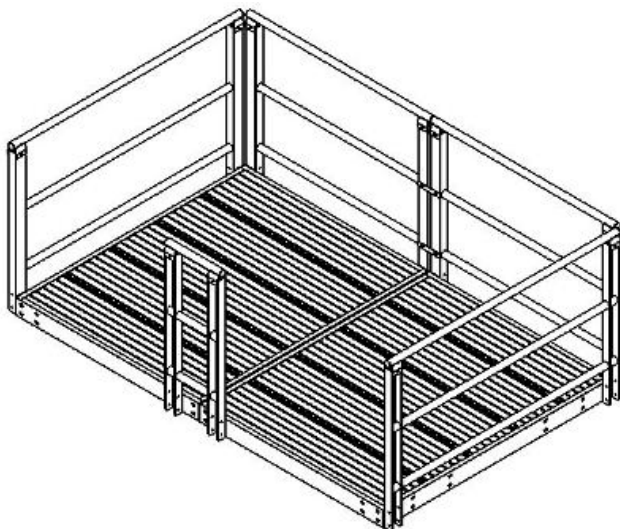
Offset Turn



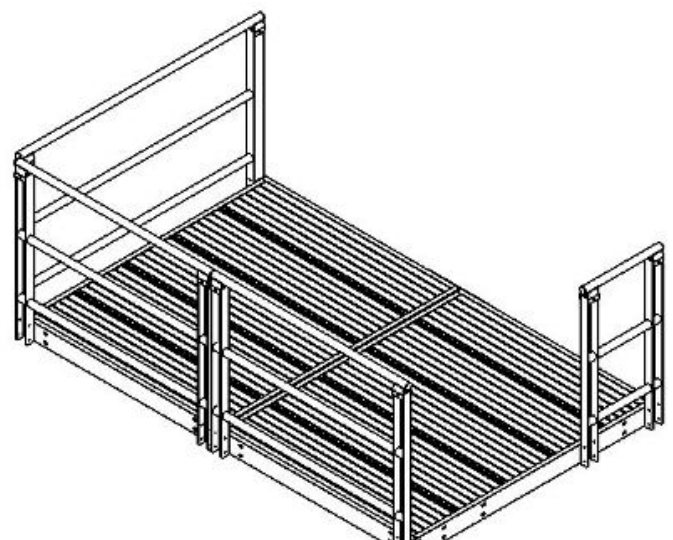
Centered Through



Centered Turn



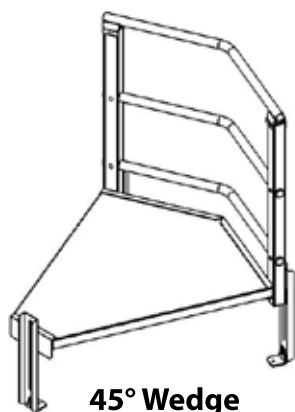
Switch Back



Open Sided

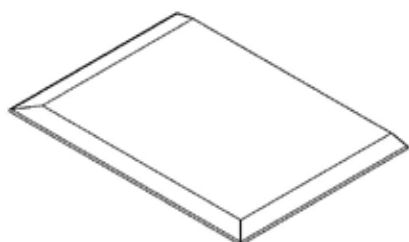
2.4 Optional Parts

*Note: Items listed here are for reference purposes.
Please refer to system parts list for quantities.*



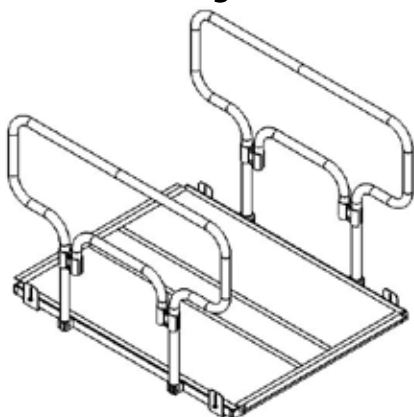
45° Wedge

30°, 45°, and 60° Wedges are used when a platform is needed, but does not have the space required to use a platform or make a 90° turn.



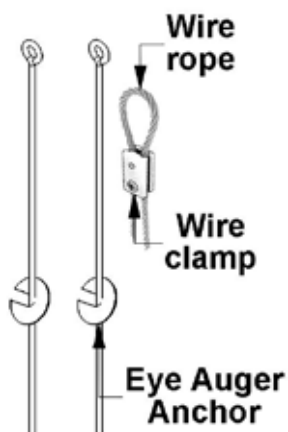
Landing Pad

Landing pads are used when bottom ramp ending surface is not suitable for accessing the bottom ramp of a modular ramp system, it is not recommended to use this as the only anchor point for a bottom ramp.



Platform Transition

Platform Transitions are used when the entrance/door off of the top platform requires a level bridge from the platform to the door. Platform transitions are to only be used at minimal height, and always be level.

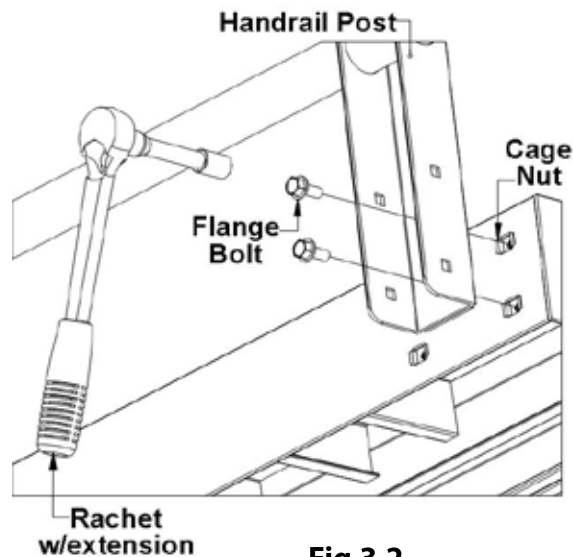
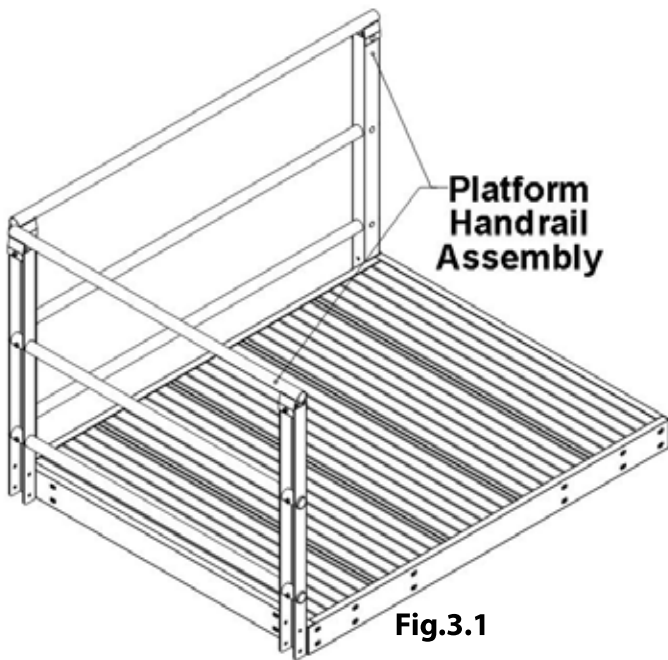


Hurricane Kit

Hurricane Kits are used when required in applications where local building codes require that the modular ramp system be anchored to the ground.

3.1 Handrail to Platform Attachment

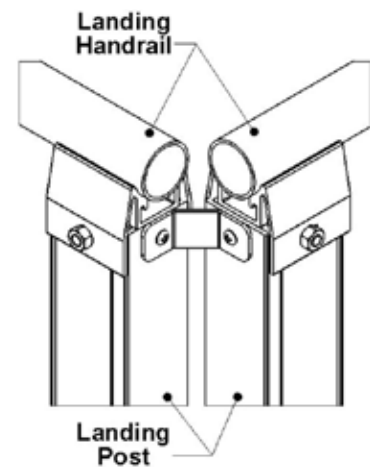
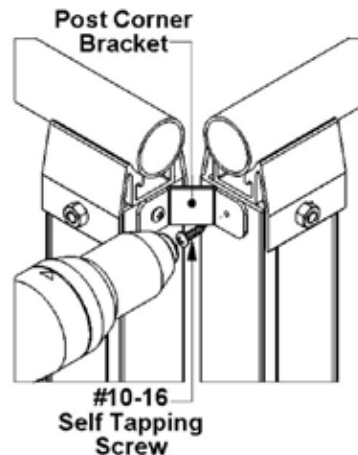
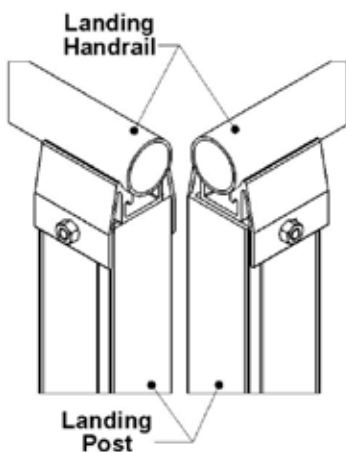
Note: If your platform requires long leg supports, install Bottom Support Angle first (Section 3.8; page 15).



No Platform?
Skip to Section 4
Found on
page 17.

3.1 Handrail to Platform Attachment: Align the holes at the bottom of handrail post with the pre-installed cage nuts in the landing base. Place a 5/16x3/4 flange bolt through the holes in the handrail post and thread into the cage nut, do not fully tighten flange bolts until each flange bolt has been started (**Fig.3.2**). Repeat this process for each handrail. *NOTE: setting the platform base on saw horses will make the attachment of handrail quicker and easier.*

3.2 Post Corner Bracket Install



3.2 Post Corner Bracket Install: Once all handrail has been attached to platform the post corner brackets will need to be installed in all corners where handrail meet (**Fig.3.3**). Place bracket in the corner with the pilot hole in the bracket centered on the platform post, and the edge flush up against the handrail bracket attached to the platform post. Using a self tapping screw and cordless drill attach the post corner bracket to the first post (**Fig.3.4**). Attach the post corner bracket to the second post using the same method. The corners may not line up perfectly it may be necessary to force the second post into the proper position.

3.3 Platform Leg Attachment

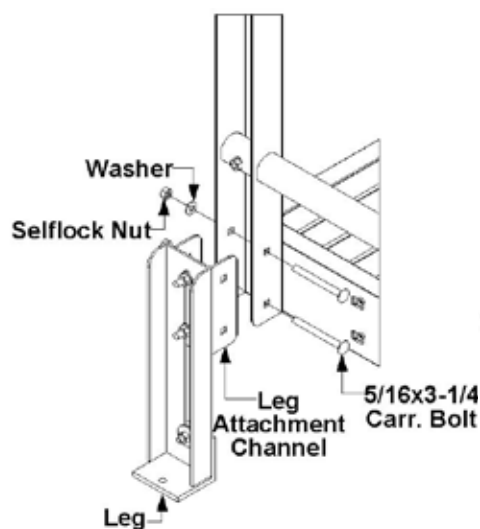


Fig.3.6

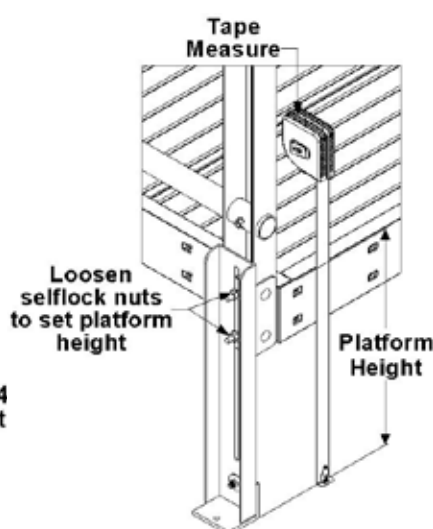


Fig.3.7

3.3 Platform Leg Attachment: To attach the legs to the platform place the leg attachment channel over the handrail post with one edge of the attachment channel on the inside of the handrail post and one to the outside of the handrail post. Align the holes in the handrail post and the leg attachment channel, place a 5/16 x 3 1/4" hex bolts through all and fasten with a washer and self locking nut (**Fig.3.6**). To adjust the leg height, loosen the self locking nuts on the inside of the leg channel and set landing height and retighten the self locking nuts (**Fig.3.7**). *NOTE: When adjusting platform height pressure may need to be applied to leg when re-tightening self locking nuts to hold the carriage bolts in place.*

3.4 Platform Under-Support Attachment

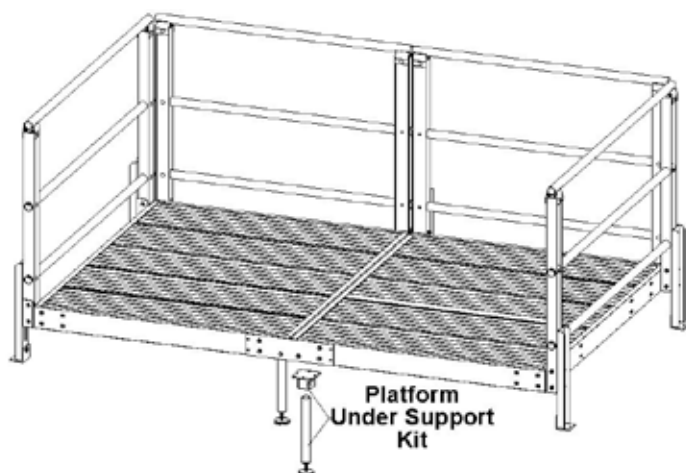


Fig.3.8

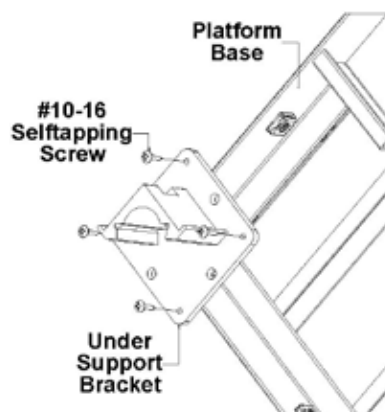


Fig.3.9

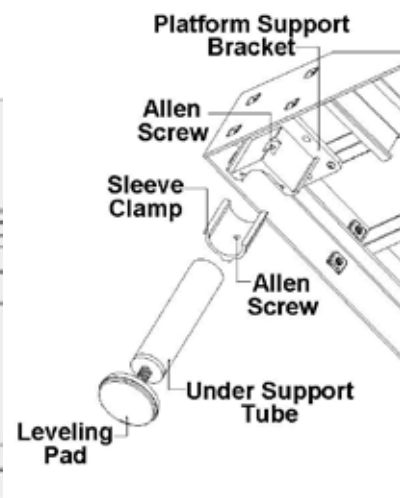


Fig.3.10

3.4 Platform Under-Support Attachment: Locate platform corners that will require a Platform under support kit (**Fig.3.8**). Place under support bracket flush in the underside corner of platform base. Attach using four #10-16 self tapping screws (**Fig.3.9**). Slide the Sleeve Clamp into the under support bracket, then insert under support tube all the way into the created pocket (**Fig.3.10**). Using a 5/32 allen wrench, tighten the set screw all the way down. The leveling pad can be adjusted for minor height differences; however, if major adjustments are necessary, cut down the under support tube using a saw or tube cutter.

3.5 Multiple Platform Base Open Side Assembly

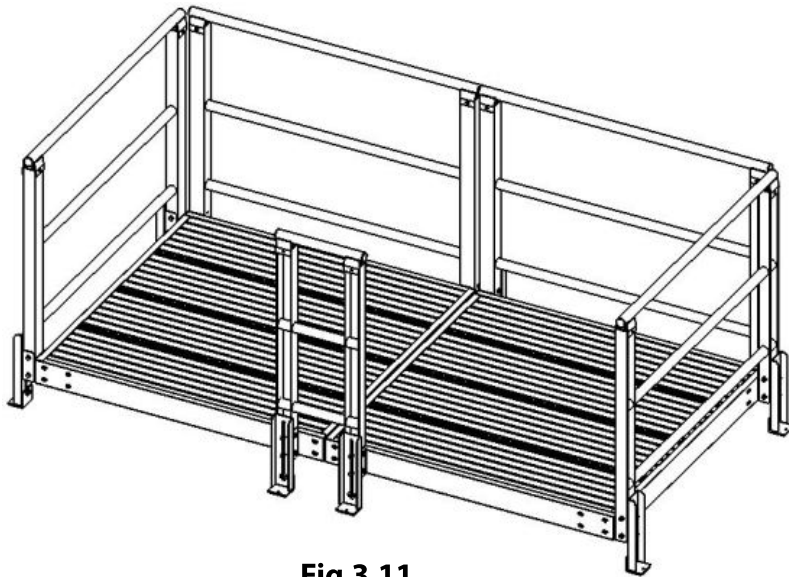


Fig.3.11

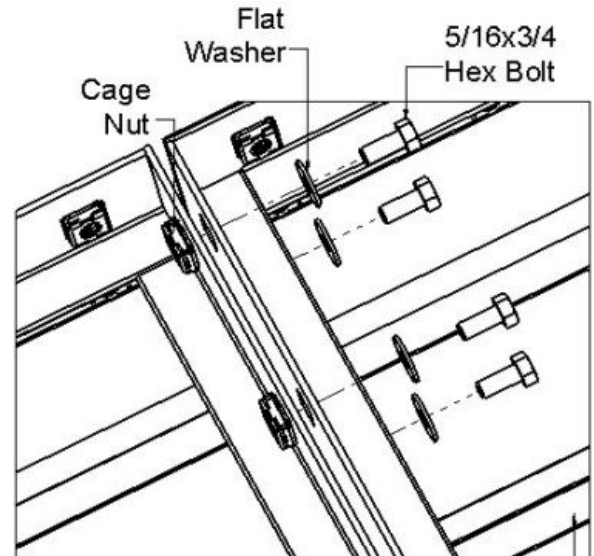


Fig.3.12

3.5 Multiple Platform Base Open Side Assembly: To connect platform bases remove cage nuts from one of the platforms at the seam. Place a 5/16x3/4 hex bolt with washer through the square hole on the inside of the landing channel and thread hex bolt into the aligning cage nut on the opposite platform (**Fig.3.12**). It is not necessary to connect at every cage nut location. Depending on the platform rise this connection can either be made before or after attaching the handrail and legs. It is recommended that platform applications with a rise greater than 24" be connected after installing the handrail and legs.

3.6 Multi-platform Leg Attachment

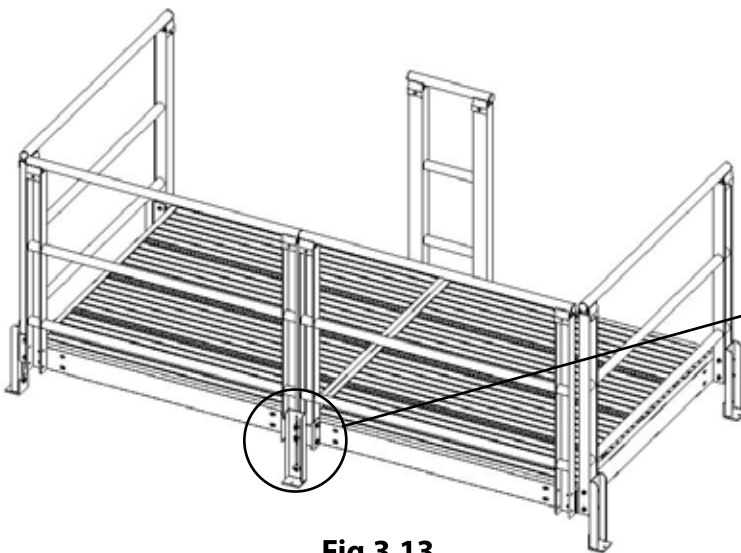


Fig.3.13

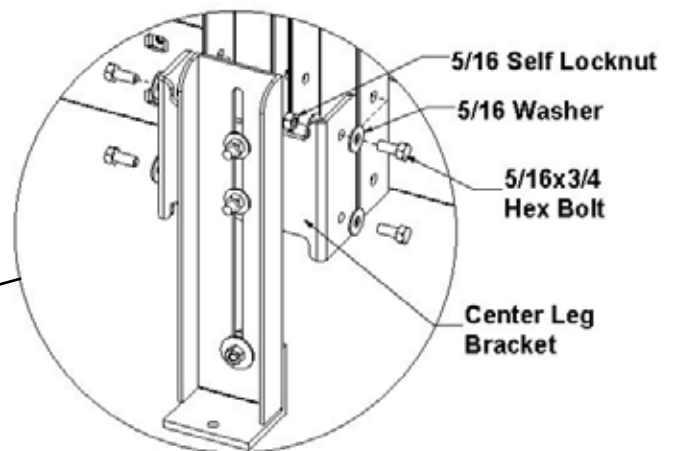


Fig.3.14

3.6 Multi-platform Leg Attachment: After the platforms have been combined together and the handrail has been attached, find the Center Leg Bracket. To secure in place, have the bracket cup the posts of the handrail. Place a 5/16 x 3/4 hex bolt with 5/16 washer through the hole on the outside of the Center Leg Bracket. Use a 5/16 self locknut on the opposite side of the handrail to secure into place (**Fig.3.14**). Note for lower landing heights: It may be easier to attach this bracket by tipping the combined platforms on their side..

3.7 Multiple Platform Base Assembly

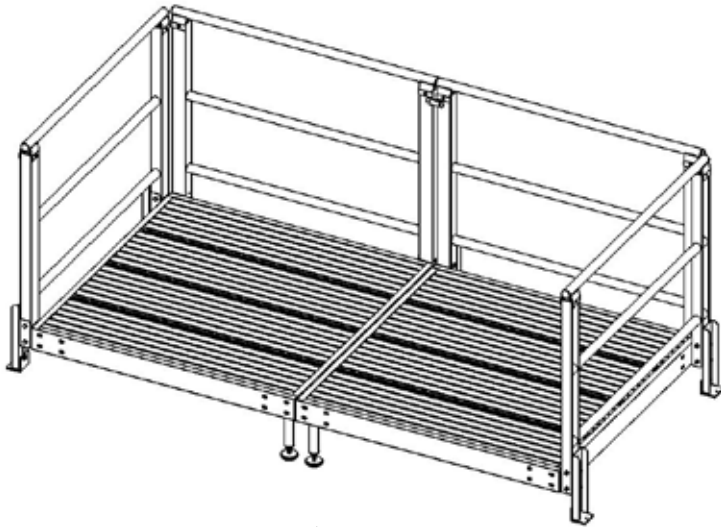


Fig.3.15

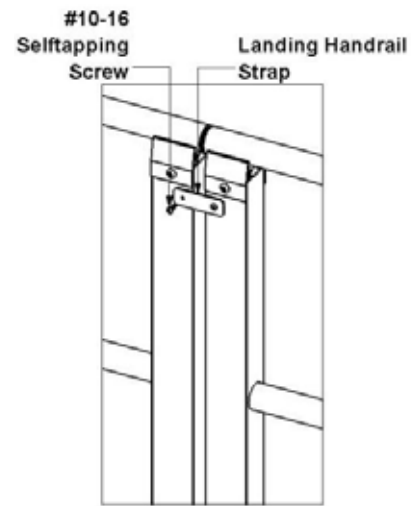


Fig.3.16

3.7 Multiple Platform Base Assembly: With both platform bases completely assembled and connected at the seam, (**Fig.3.15**) attach the landing handrail strap to the landing post. Position and attach landing handrail strap on center with landing post just below the top handrail using a #10-16 selftapping screw (**Fig.3.16**).

3.8 Platform Long Leg Support

Note: Long Leg Supports are required on any platform with a rise of 27" or greater.

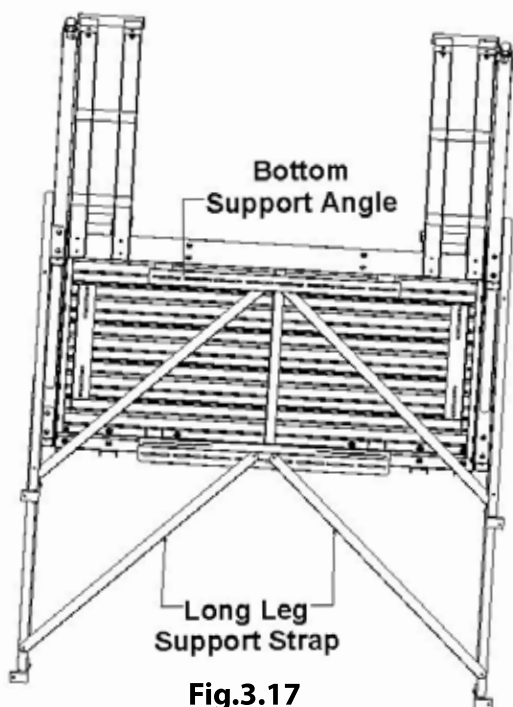


Fig.3.17

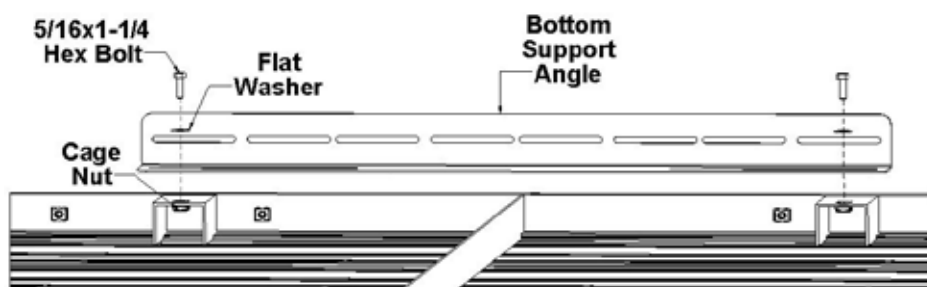


Fig.3.18

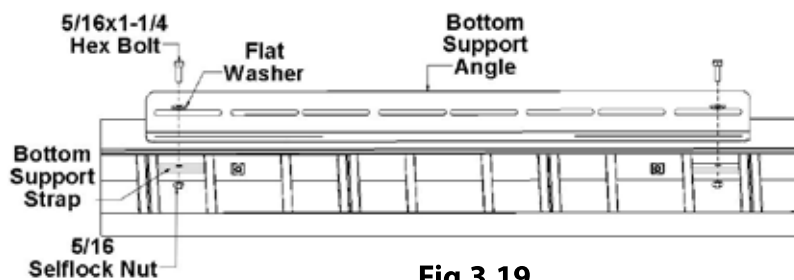


Fig.3.19

3.8 Platform Long Leg Support : Platform applications with a rise of 27" or greater require long leg supports. If the platform application requires long leg supports, attach the bottom support angles before assembling the platform. Turn the platform upside down and attach the bottom support angles centered on all four sides of the platform approximately 1 ½" from the edge of platform. The face of the bottom support bracket with the two long slotted holes should be against the underside of the platform plank, with the opposite side of the bottom support bracket facing out. On either side of the platform will be two welded support channels with pre-installed cage nuts in them (**Fig.3.18**). Place two of the bottom support angles across these support channels and fasten into place with a 5/16x1-¼ hex bolt and flat washer. On the two remaining sides, place two bottom support straps (a total of 4, 2 on each side) between the ribs of the plank and secure into place by rotating the bottom support straps onto the edge of the rib. Place the last two bottom support angles onto the bottom support straps and fasten either side into place with 5/16 x 1 hex bolt, flat washer and selflock nut (**Fig.3.19**).

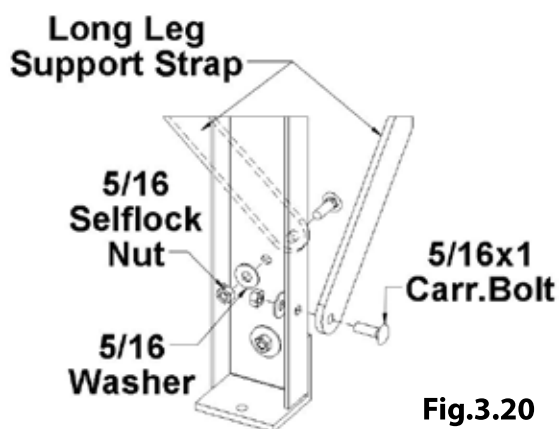


Fig.3.20

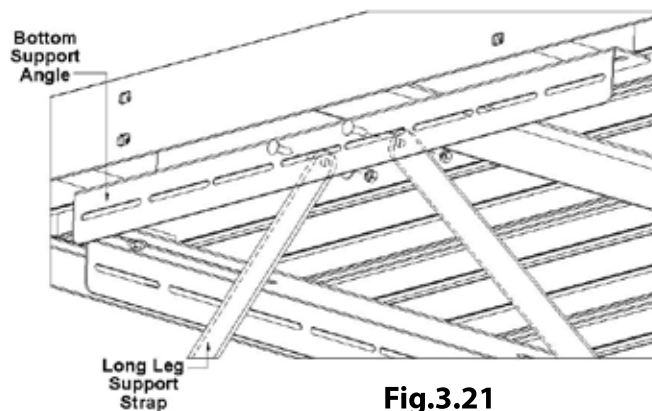


Fig.3.21

The legs and handrail will need to be attached to the platform before the long leg support installation can be completed. With platform assembly completed attach long leg support straps to legs using the holes in the leg channel; fasten with 5/16x1 carriage bolt, flat washer, and selflock nut (**Fig.3.20**). Next select a slotted hole in bottom support angle best suited for the platform application and fasten with a 5/16x1 carriage bolt, flat washer, and selflock nut (**Fig.3.21**). Some applications may require drilling into the leg channel to attach long leg support straps.

3.9 Ramp to Platform Attachment

*Note: The ramp attachment clip is **not** to be used to support the ramp.*

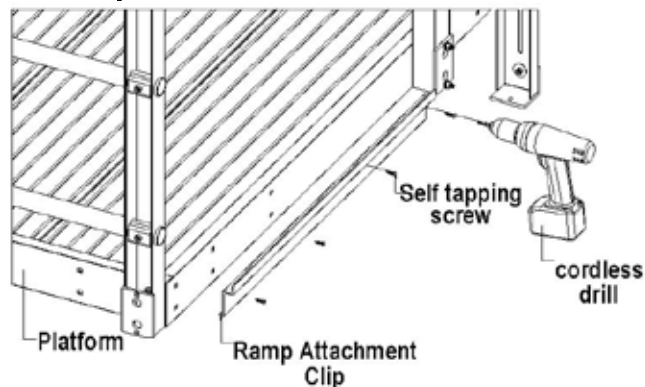


Fig.3.22

3.9 Ramp to Platform Attachment: When the opening sides of the platform have been determined, attach the ramp attachment bracket to the platform base using self-tapping screws, space the ramp attachment clip centered to the opening of the platform being used (**Fig.3.22**). Now it is time to assemble ramp sections, continue to **section 4**.

3.10 Platform Anchoring

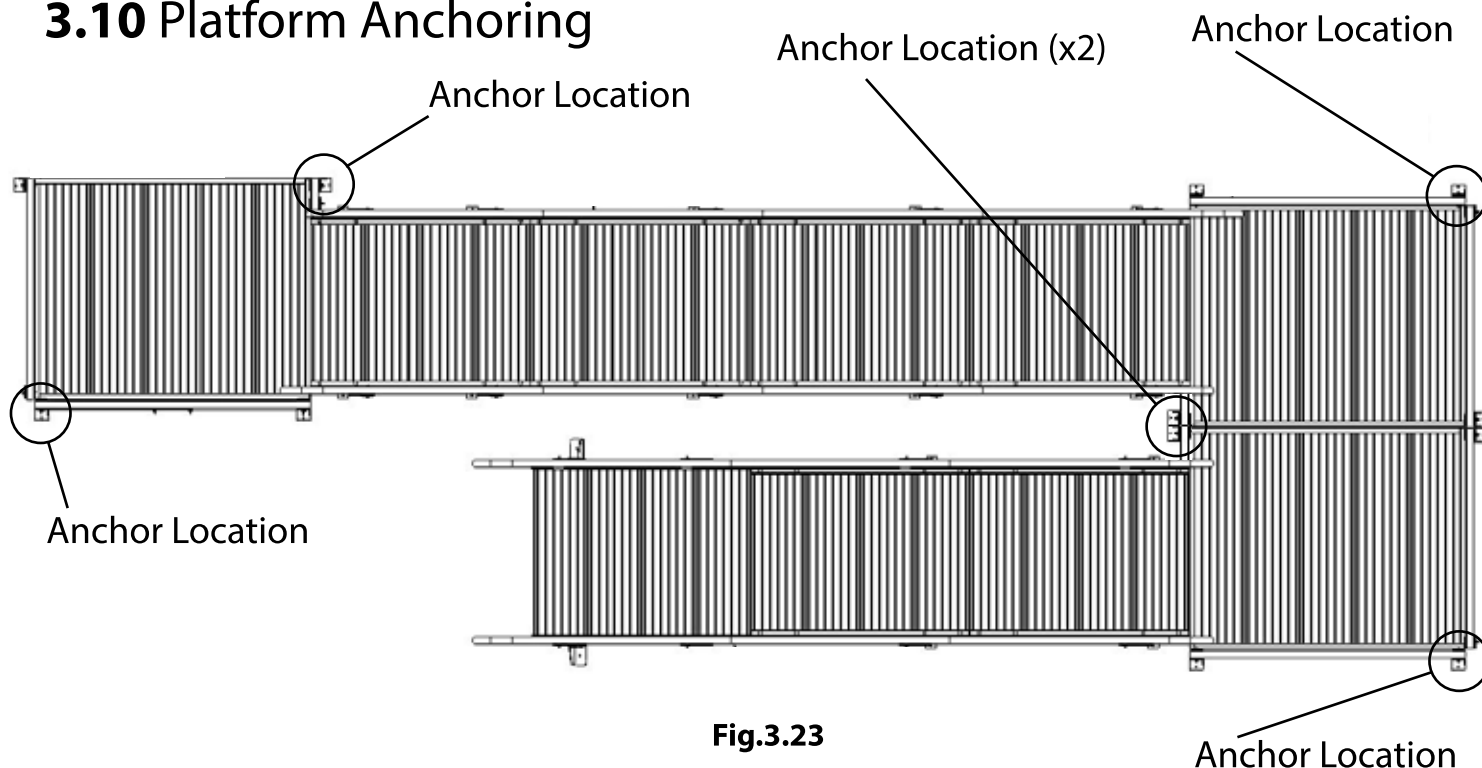


Fig.3.23

3.10 Platform Anchoring: Locate platform corners that will require anchoring as shown above (**Fig.3.23**). Platforms must have a minimum of one leg anchored on each of the two opposite sides. Switchback platforms require a minimum of four anchor points.

4.1 Ramp Section Assembly (top ramps)

*Note: When assembling ramp sections, refer to **Overview** found on page 5.*

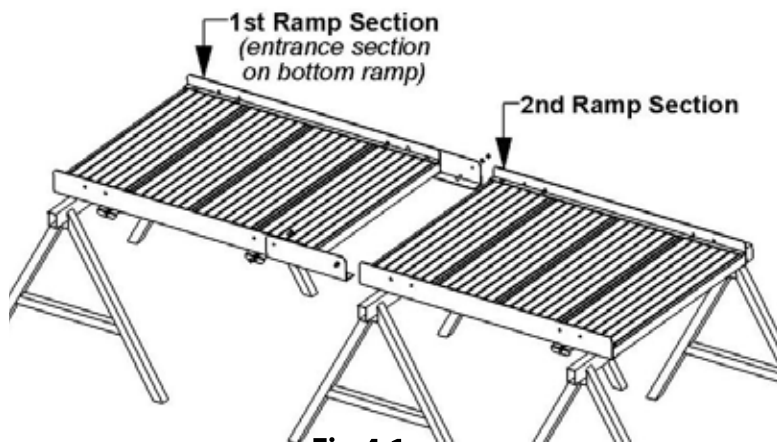


Fig.4.1

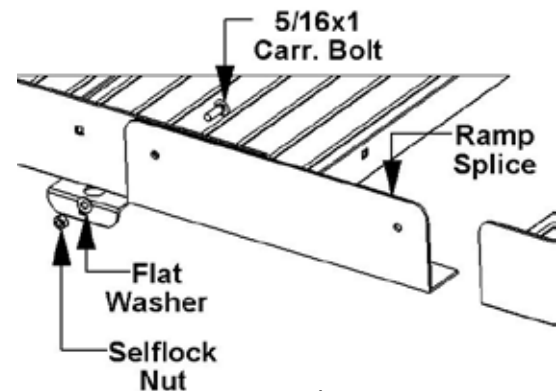


Fig.4.2

4.1 Ramp Section Assembly: If system has platforms assemble platforms first and set in place before assembling ramps. Start by setting the first ramp section (**shortest ramp section**) of the ramp run across a set of saw horses. (**Fig.4.1**) If assembling a bottom ramp run start with the entrance section. Attach a ramp splice to each side of the first section of ramp using the square holes in the ramp frame rail closest to the end of ramp section. Place ramp splice over the ramp frame rail and align the holes of the ramp splice and ramp frame rail (**Fig.4.2**). Place carriage bolt through the holes making sure to keep the head of the bolt to the inside of ramp section. Place washer over bolt and fasten with self locking nut. Position the next section of ramp and attach using the same method. Repeat this process until entire ramp run has been spliced together.

4.2 Ramp Post Attachment

*Note: Place Entrance Posts at base of bottom ramp as shown in **Fig.4.6** found on page 18.*

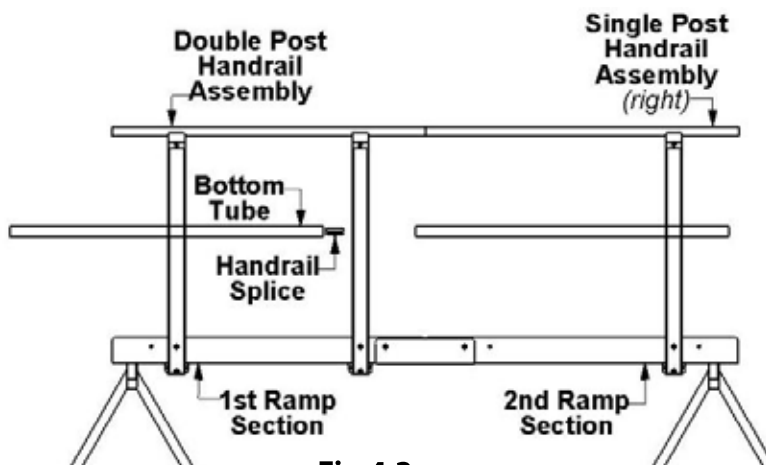


Fig.4.3

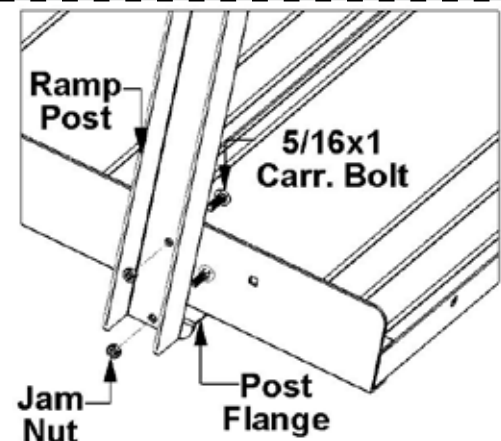


Fig.4.4

4.2 Ramp Post Attachment: Attach handrail after an entire ramp run has been spliced together. First, layout all ramp handrails along the sides of the ramp run. Starting with the shortest ramp section, attach the double post handrail assembly. Attach each post by aligning the bottom post hole to the post flange hole then run a carriage bolt through both holes and fasten with a jam nut. Next run a carriage bolt through the ramp frame and ramp post and fasten with a jam nut (**Fig.4.4**). *Note: to align top set of holes, complete post to flange attachment first then hold ramp post with one hand and apply downward pressure to run carriage bolt through with the other hand.*

Before attaching the single post handrail assemblies, nest a handrail splice into the top double post handrail tube as illustrated in **Fig.4.9** on page 19. Line top tube of the single post handrail over the splice and then continue attaching single post handrail assemblies the same way as the double post handrail assemblies. Repeat this process at each ramp post location. After all posts have been attached, slide the bottom handrail tubes until they are even with the top tubes and splice together (**Fig.4.9**, pg.19). After all handrails have been attached to the ramp, go back through and tighten the set screw in all of the splices.

4.2.1 Entrance Assembly (bottom ramps)

Note: Entrance assembly will only be necessary on bottom ramp runs.

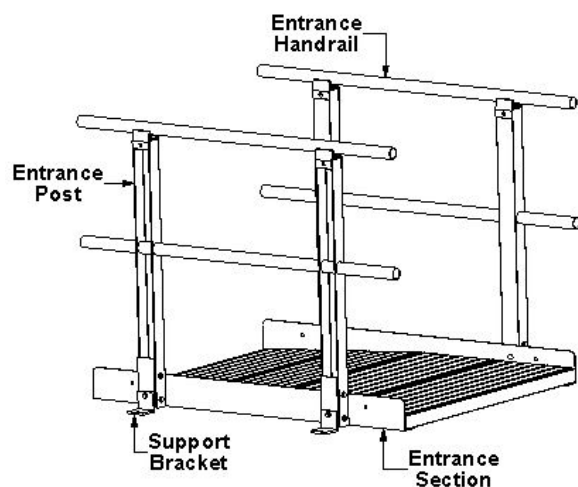


Fig.4.5

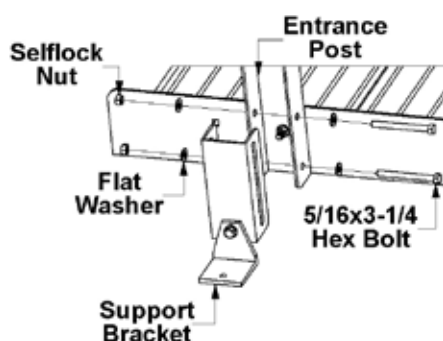


Fig.4.6

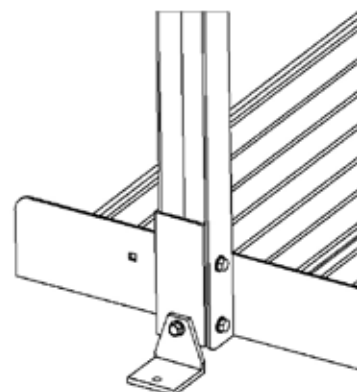


Fig.4.7

4.2.1 Entrance Assembly: Locate the left and right entrance handrail assemblies. Match the entrance posts with single hole at the beginning of entrance section (**Fig.4.6**) and attach in the same manner as all handrail posts (found in **Section 4.2**, pg. 17). Continue installing any additional handrail assemblies for bottom ramp run (go to **Section 4.2 & 4.3**; repeat as needed). To attach the support bracket to the entrance post place the support bracket channel over entrance post. With one side of the support bracket channel sitting to the inside of the entrance post and the other to the outside of the entrance post, align the slotted holes in the support bracket with the two holes in the entrance post; run a 5/16x3-1/4 hex bolt through all and fasten with a washer and selflock nut on both sides (**Fig.4.6**), do not tighten all of the way down.

After ramp has been positioned in its final resting place, adjust support brackets so they are setting flat on the resting surface (**Fig.4.7**). Tighten hardware all of the way down. Using the hole in angle of the support bracket, anchor the ramp down into resting surface. Securing ramp to resting surface will provide the strength needed for the entrance post.

4.3 Handrail Splice Installation

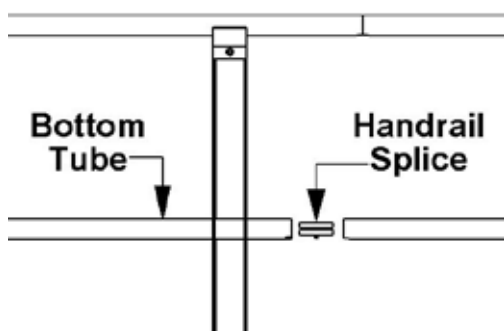


Fig.4.8

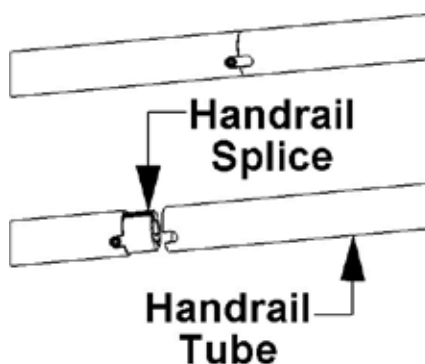


Fig.4.9

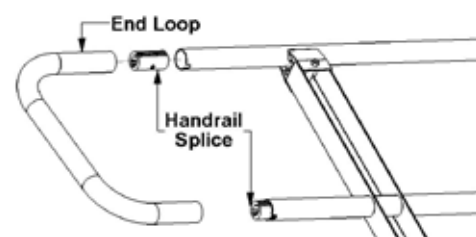


Fig.4.10

4.3 Handrail Splice Installation: The handrail splice will be used at each handrail tube transition to connect the handrail tubes together giving the handrail the look and feel of one continuous tube. With the handrail splice in place, nest the set screw inside the notch in the bottom of the tube, pull handrail tubes together. Using an allen wrench, tighten the set screw in the handrail splice (**Fig.4.9**). To attach any of the various end loops slide a handrail splice in each tube at the end of the ramp and slip the end loop over the handrail splice, making sure there is no gap between the handrail tube and the end loop (**Fig.4.10**). Tighten down set screw.

4.4 Ramp to Landing Attachment

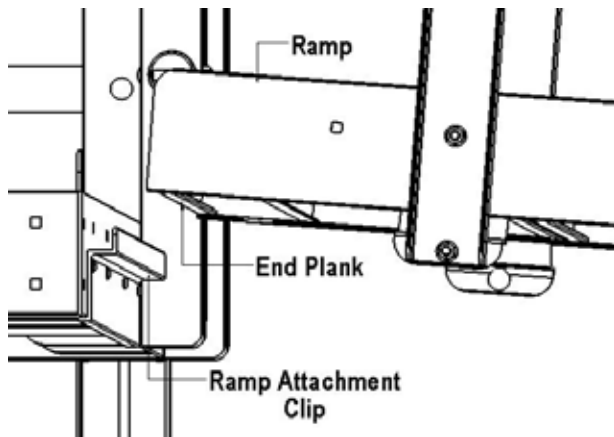


Fig.4.11

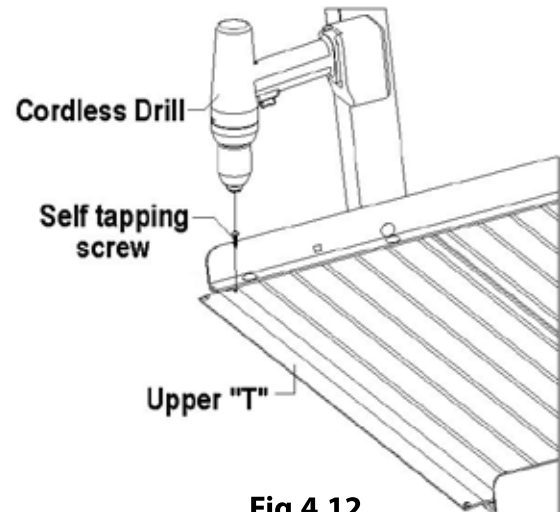


Fig.4.12

4.4 Ramp to Landing Attachment: Before attaching ramp to platform, make sure **Section 3.8** on page 17 has been completed. Place the end plank of ramp over the ramp attachment clip (**Fig.4.11**). Going in an upward direction, any ramp to platform transition will create a gap. Place Upper "T" between the platform and ramp to cover this gap. Attach upper "T" in all four corners using self-tapping screws and cordless drill.

If your ramp attaches to a preexisting landing then attach upper "T" centered to the top of ramp using self tapping screws and cordless drill (**Fig.4.12**). Then securely position ramp on preexisting landing using upper "T".

4.5 Leg Attachment & Adjustment

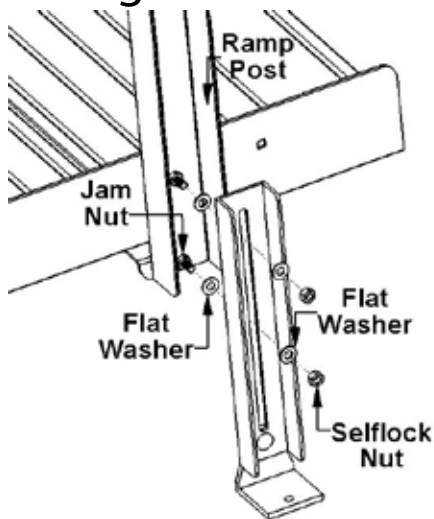


Fig.4.13

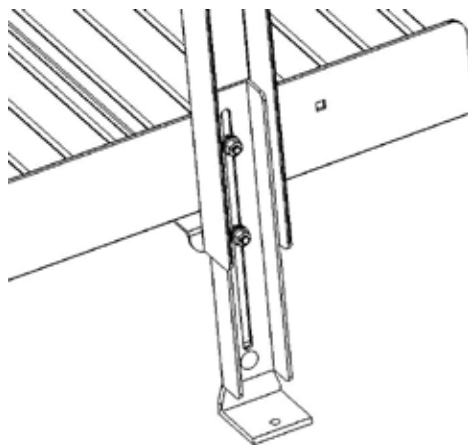


Fig.4.14

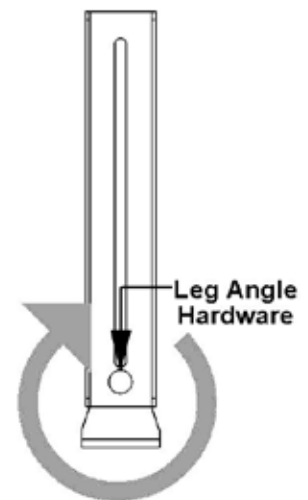


Fig.4.15

4.5 Leg Attachment & Adjustment: With the ramp run completely assembled and positioned in the final resting location the legs can now be attached and adjusted. Place a washer over the carriage bolts and jam nuts used to attach the ramp post, place leg inside of the ramp post with carriage bolts coming through the slotted hole of the ramp leg, and fasten with another flat washer and self locking nut (**Fig.4.13**). Slide the leg down until the angle of the leg makes solid contact with the resting surface, loosen the leg angle hardware so it sits flush on the resting surface and re-tighten all hardware.

4.6 Long Leg Supports (ramps)

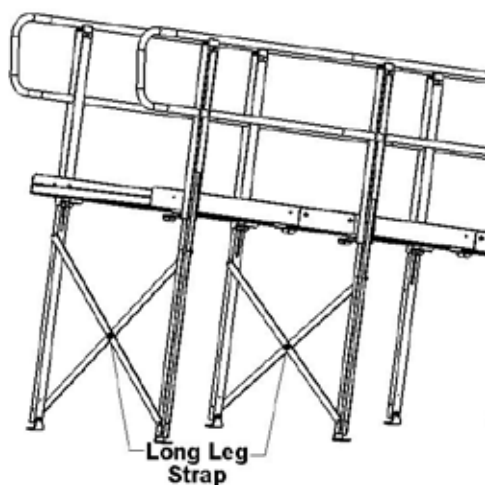


Fig.4.16

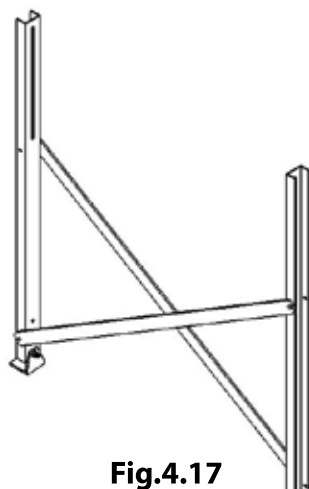


Fig.4.17

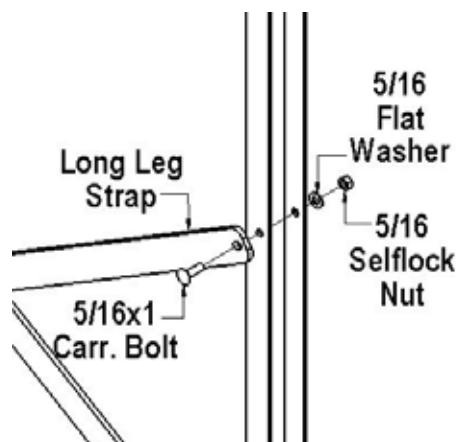


Fig.4.18

4.6 Long Leg Support: Long Leg Supports are required on any ramp with a rise of 27" or greater. Two leg brace straps will be required at each location requiring long leg supports. Attach the first leg brace strap to the leg channel, using the slotted hole at the end of the leg brace strap and the round hole punched in the leg channel, run a carriage bolt through both and fasten with washer and self locking nut on the inside of the leg channel (**Fig.4.18**). Finger tighten only, and attach the next strap on the other side of the ramp at the opposite end of the leg. Once hardware has been installed at both ends of the leg brace strap tighten hardware all of the way down (**Fig.4.17**). Repeat these steps on the other side of the legs running the straps the opposite direction so that the leg brace straps form an X between the ramp legs.

4.7 Ramp Anchoring

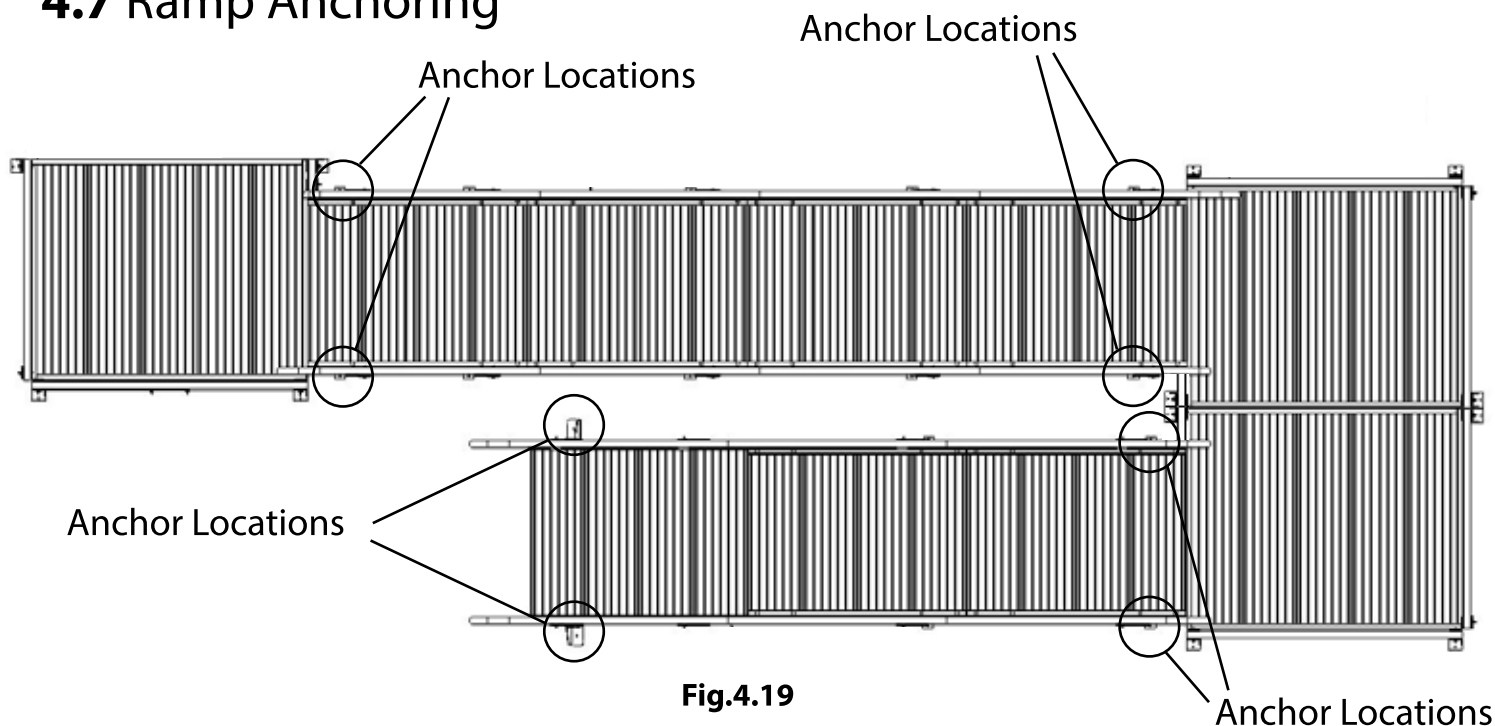


Fig.4.19

4.7 Ramp Anchoring: Ramps must be anchored at the upper and lower ends (**Fig.4.19**). Secure anchoring for the first pair of posts at the bottom is especially important because this adds necessary strength to the lower end of the handrails.

5.1 Hurricane Tie Down Kit (Platforms)

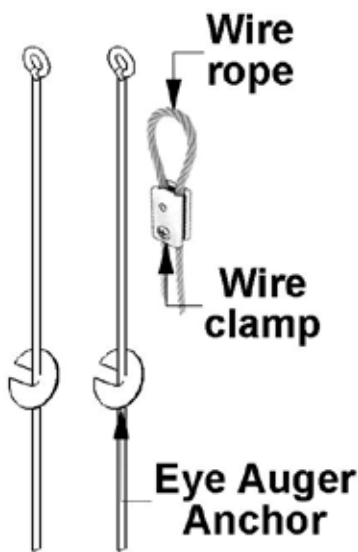


Fig.5.1

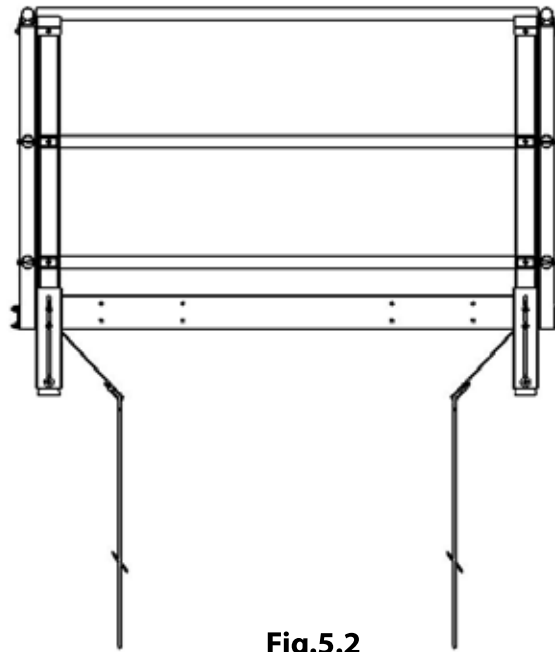


Fig.5.2

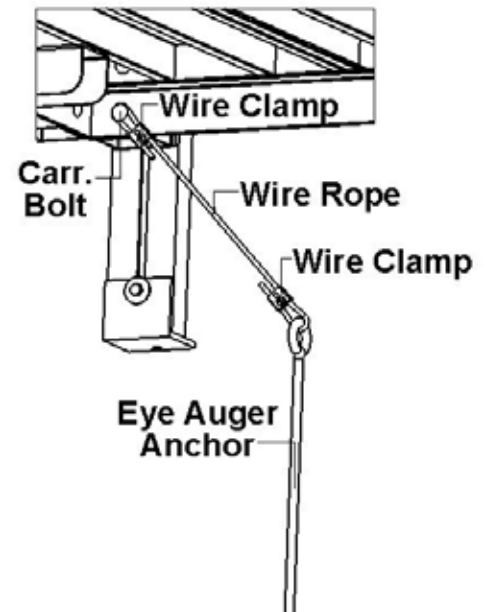


Fig.5.3

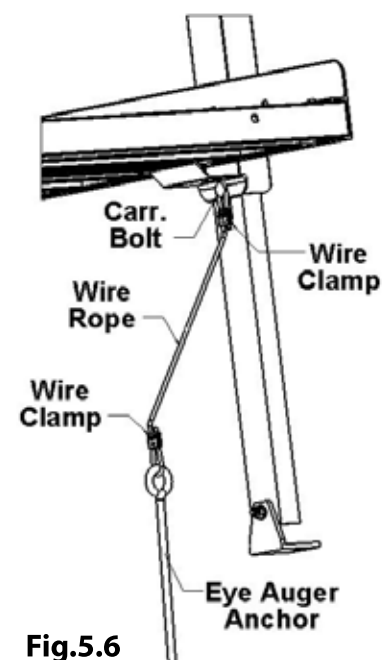
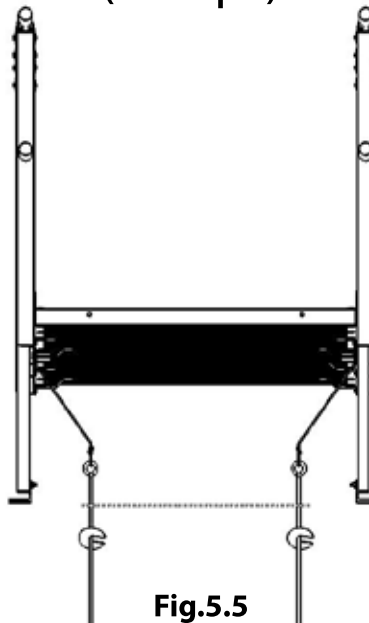
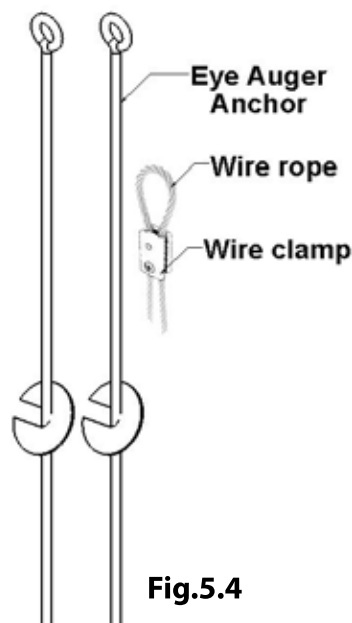
5.1 Hurricane Tie down Kit (Platforms): The field conditions will determine the location of the tie downs. Generally the anchors should be installed opposite from one another. The PVI Modular Ramp System will have to be fully assembled and installed to determine the exact anchor locations; it may be necessary to temporarily reposition components to install the anchors. For platforms an anchor needs to be installed at each corner, by loosening the lower carriage bolt at the corner post location. Run the wire rope through the wire clamp to form a loop, place the loop around the head of the carriage bolt securing the wire rope between the carriage bolt and platform, cinch wire rope and retighten hardware. Install the auger into the ground as vertical as possible, using a ½" steel rod or similar item to screw the anchor into the ground. Turn anchor into ground until only the eye is exposed (**Fig.5.2**). Run the wire rope through the wire clamp and the eye of the anchor forming a loop through the anchor. Run wire rope back through the wire clamp (**Fig.5.3**). Pull wire rope tight and tighten the screws in the wire clamp. Cut off excess wire. Tape off the ends of the wire rope to ensure the wire will not fray, using electrical tape.

!!WARNING!! Prior to installing the anchors into the ground, ensure that any underground electrical conductors, natural gas lines, water/drain lines and/or other interferences are located and will not hinder the installation.

!!WARNING!! Do not use concrete anchors in asphalt. Asphalt is not considered a suitable anchoring surface. If installing on asphalt, holes will have to be made in asphalt, and the anchor auger installed into the ground.

!!WARNING!! Regularly inspect installation for any loose wire, fasteners, auger anchors, etc.

5.2 Hurricane Tie Down Kit (Ramps)



5.1 Hurricane Tie down Kit (Ramps): Ramp section will require a tie down on each side of the ramp section across from one another, at the lower post location of each ramp section. Start by loosening the carriage bolt at the lower post location. Run the wire rope through the wire clamp to form a loop, place the loop around the head of the carriage bolt securing the wire rope between the carriage bolt and ramp flange, cinch wire rope and retighten hardware. Install the auger into the ground as vertical as possible, using a ½" steel rod or similar item to screw the anchor into the ground. Turn anchor into ground until only the eye is exposed (**Fig. 5.5**). Run the wire rope through the wire clamp, and the eye of the anchor forming a loop through the anchor. Run wire rope back through the wire clamp (**Fig. 5.6**). Pull wire rope tight and tighten the screws in the wire clamp. Cut off excess wire. Tape off the ends of the wire rope to ensure the wire will not fray, using electrical tape.

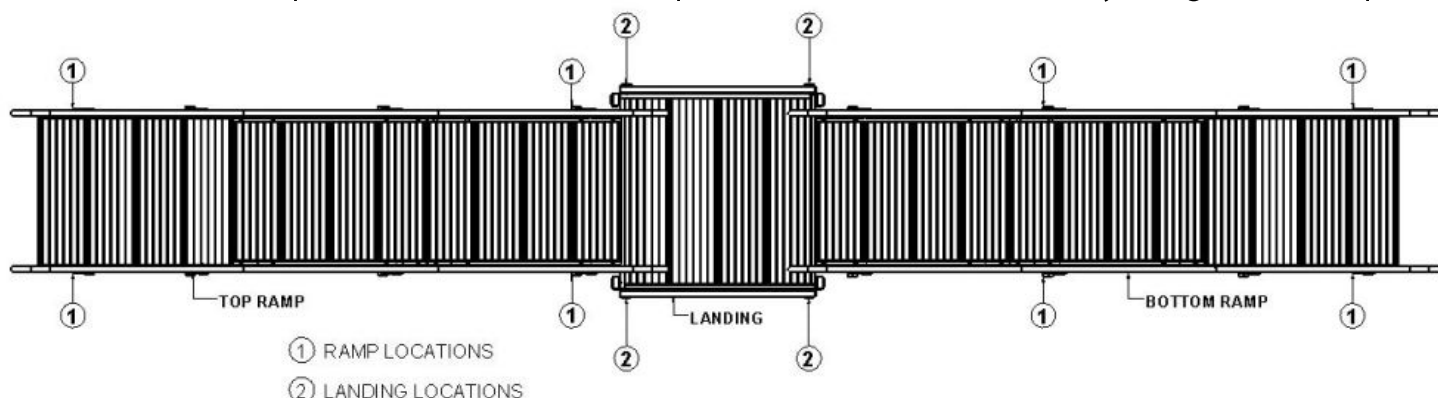


Fig. 5.7

!!WARNING!! Prior to installing the anchors into the ground, ensure that any underground electrical conductors, natural gas lines, water/drain lines and/or other interferences are located and will not hinder the installation.

!!WARNING!! Do not use concrete anchors in asphalt. Asphalt is not considered a suitable anchoring surface. If installing on asphalt, holes will have to be made in asphalt, and the anchor auger installed into the ground.

!!WARNING!! Regularly inspect installation for any loose wire, fasteners, auger anchors, etc.

5.3 Gate Assembly

Parts List

- 1 - XP Ramp Gate Assembly 34 1/2"
- 1 - XP Landing Gate Bracket
- 1 - Latch w/base
- 1 - Latch

Hardware List

- 4 - Flanged Hex Head Bolt 5/16" x 3/4"
- 2 - Hex Bolt 5/16" x 2 1/2"
- 6 - 5/16" Lock nuts
- 4 - 5/16" Washer
- 6 - Machine Screw 10/32 x 3/8"

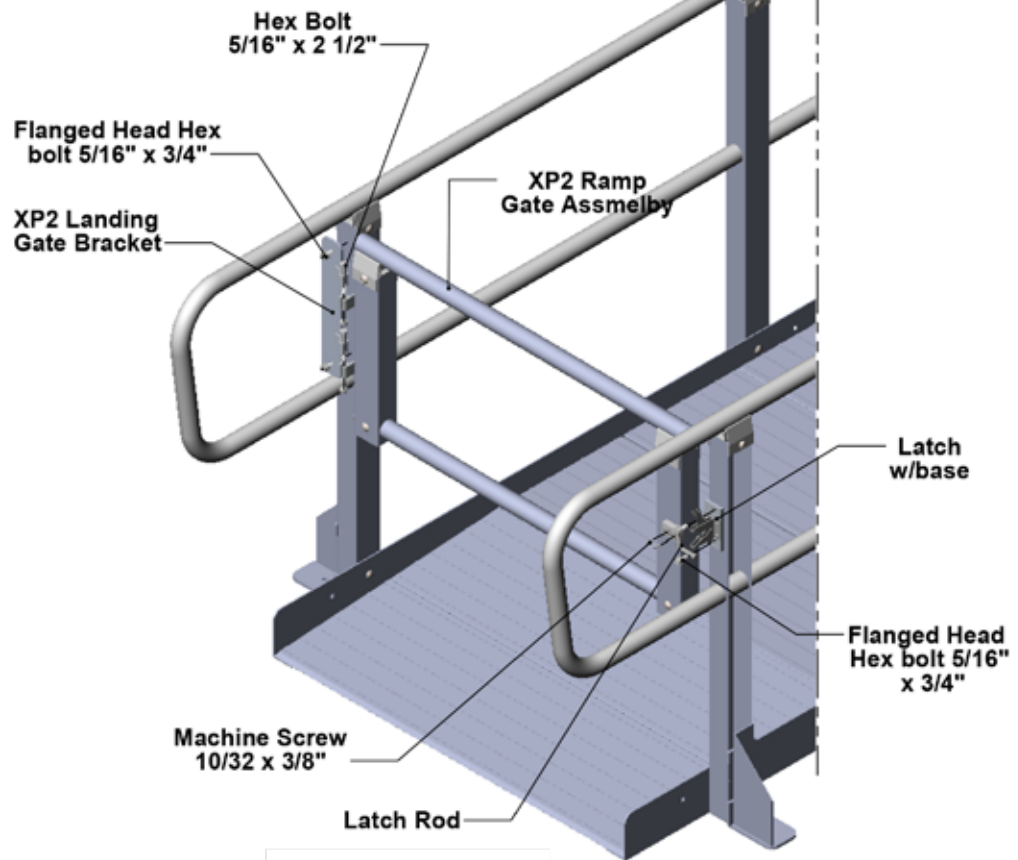


Fig.5.8

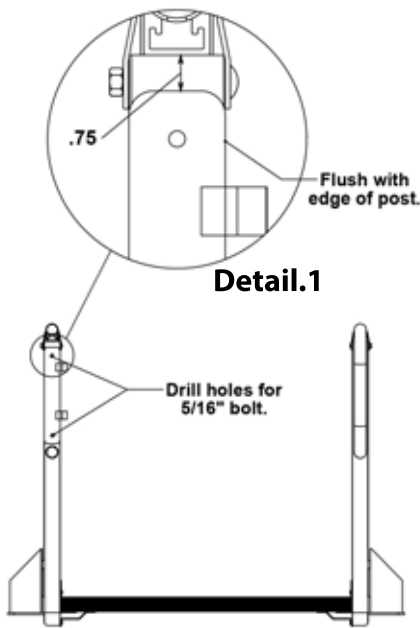


Fig.5.9

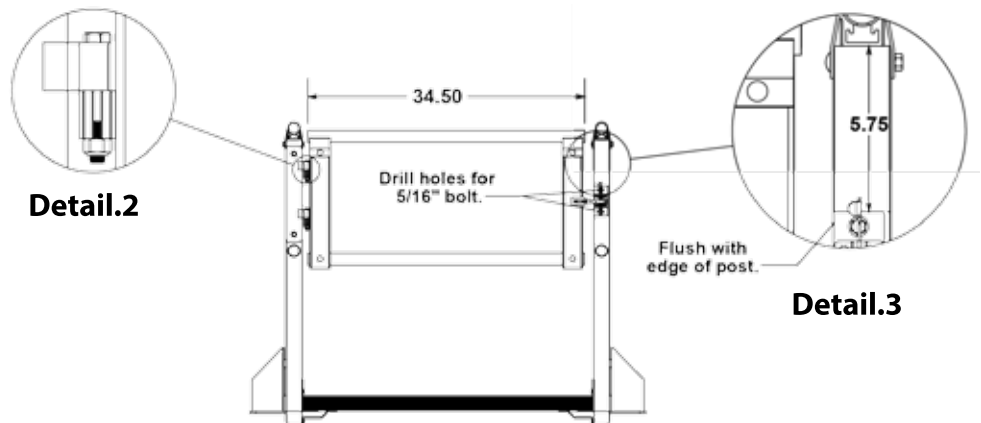


Fig.5.10

5.3 Gate Assembly: Place XP landing gate bracket 3/4" down and flush with edge of post (**Detail.1**). Mark holes and drill holes in post for a 5/16" bolt. Attach with 5/16" x 3/4" flanged hex head bolts, washers, and lock nuts. When attaching be sure hinges on brackets face to the inside of ramp section (**Fig.5.9**). Attach latch rod to gate assembly with 10/32 x 3/8" machine screws. Attach gate assembly to bracket with 5/16" x 2 1/2" hex head bolts and lock nuts (**Detail.2**). Gate should swing freely. Do not over tighten. Place latch with base on post approximately 5 3/4" down and flush with edge of post (**Detail.3**). Swing gate over to be sure latch rod engages latch. You may have to move latch up or down to line up properly. Mark holes and drill holes in post for a 5/16" bolt. Attach with 5/16" x 3/4" flanged hex head bolts, washers, and lock nuts (**Fig.5.8**).

5.4 Single Stair Installation

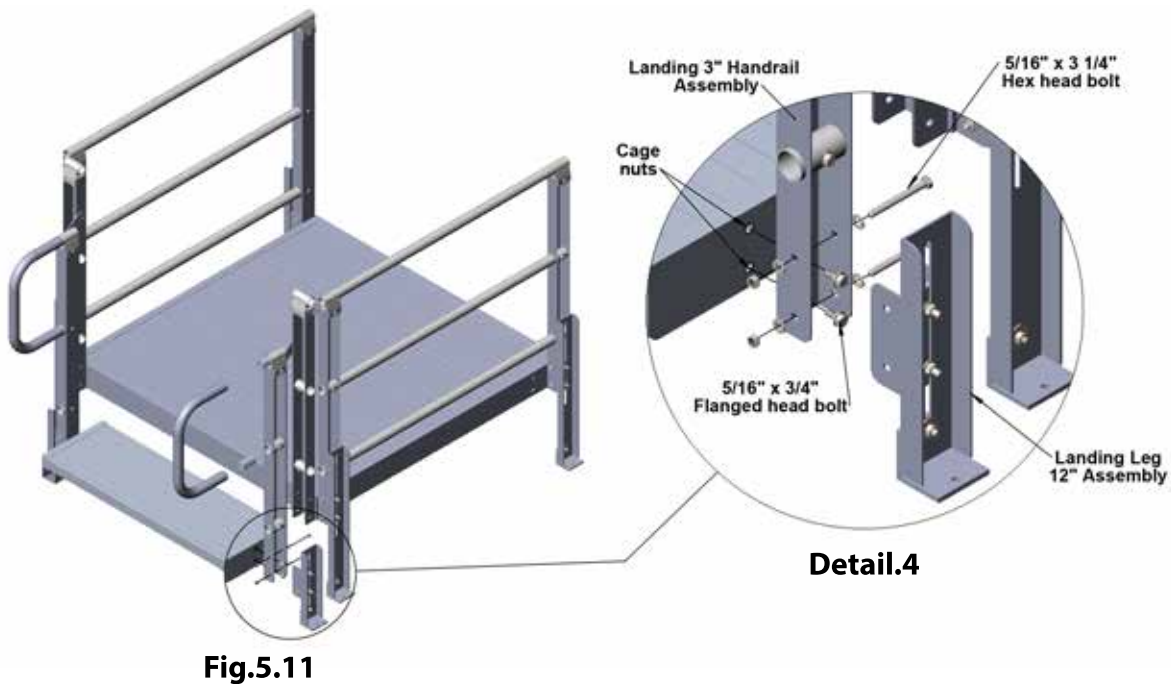


Fig.5.11

Parts List

- 1 - XP 1 Step Plank Assembly
- 2 - Landing 3" Handrail Assembly
- 2 - Landing Leg 12" Assembly
- 2 - XP 1 Step Stair Bracket Left and Right

Hardware List

- 4 - 5/16" x 3 1/4" Hex Head Bolt
- 8 - 5/16" x 3/4" Flanged Hex Head Bolt
- 16 - 5/16" Lock nuts
- 16 - 5/16" Washer
- 4 - Handrail Splice

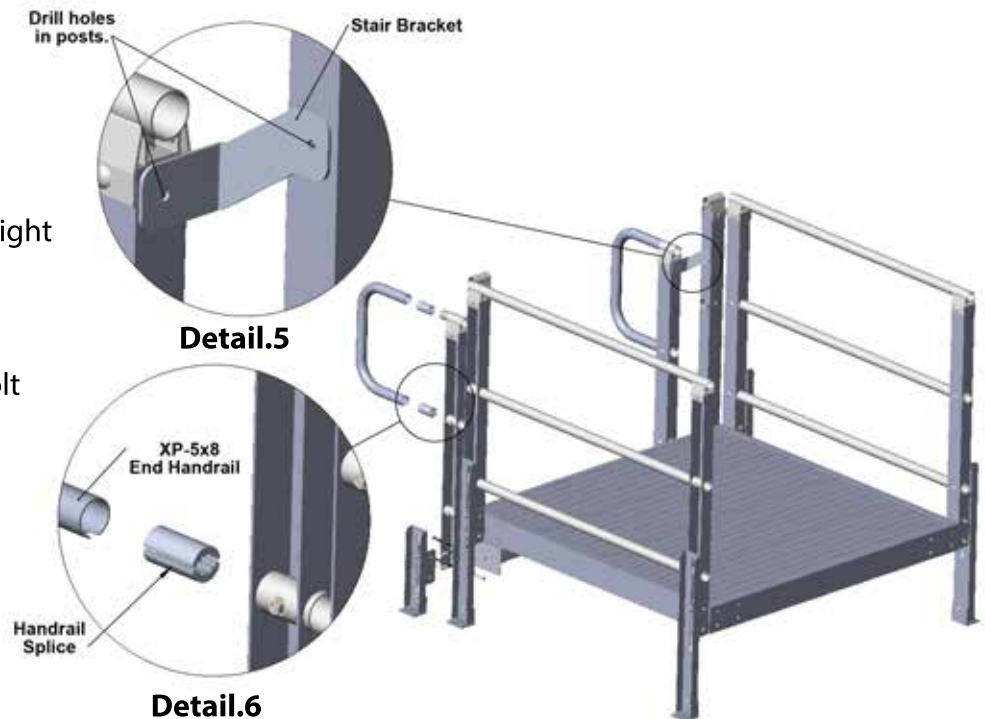


Fig.5.12

5.4 Single Stair Installation: Attach post to plank with 5/16" x 3/4" flanged hex head bolts. Attach leg assemblies to posts with 5/16" x 3 1/4" hex head bolts, washers, and lock nuts (**Detail.4**). Adjust legs to the height required and tighten down. Line up step in front of opening on landing. Place stair brackets, left and right, at location shown and mark where holes are. Drill holes for 5/16" hardware at marked locations on posts. Attach brackets with 5/16" x 3/4" flanged hex head bolts, washers, and locknuts (**Detail.5**). Attach end handrail to posts on step with handrail splice. Tighten down set screws in handrail splice (**Detail.6**). Final step is to secure step to ground through holes in leg base.

5.5 Stair Frame Assembly

Note: a 2 Step Stair is illustrated, but assembly is the same for 3 & 5 step stairs.

Place two lower frame angles, right and left, on floor with 1 1/2" lip of angles facing each other. Place two post tread planks in-between with single hole on post tread plank toward the back. Line holes up with holes in lower frame angles. Insert a 5/16" x 3/4" hex bolt with 5/16" washer into each of the holes connecting lower frame angles to post tread plank. Finish with a 5/16" washer and lock nut on opposite side. (See **Fig.5.13**)

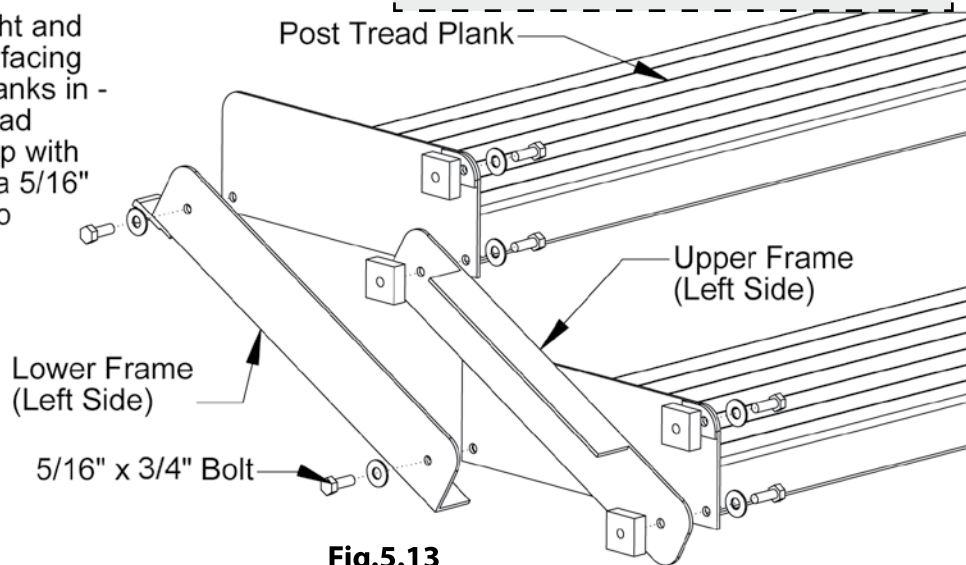


Fig.5.13

With post tread plank connected to lower frame angle, connect the post tread plank to the upper frame angle. Place one upper frame angle on each side of stairs with larger notch facing down and 1 1/2" lip on top facing out. (See **Fig.5.13**)

Align upper frame angle with bottom hole towards the front of post tread plank. Insert a 5/16" x 3/4" hex bolt with a 5/16" washer into each of the holes connecting upper frame angles to post tread plank. Finish with a slide nut on opposite side. Insert a 5/16" x 3/4" hex bolt in remaining holes, with a 5/16" washer, and slide nut on opposite side. (See **Fig.5.13**) Now you should have successfully assembled the basic stair frame.

Next, install the 35 1/2" post. Four posts will be located at all four areas where two slide nuts line up together. With screw on post facing to the inside, slip the slide nut into the groove of post. Continue sliding post down into other slide nut until screw on post sits directly on top of post tread plank. (See **Fig.5.14**) Repeat steps with remaining three posts. You may tighten only top bolts on post tread plank that connect post to post tread plank.

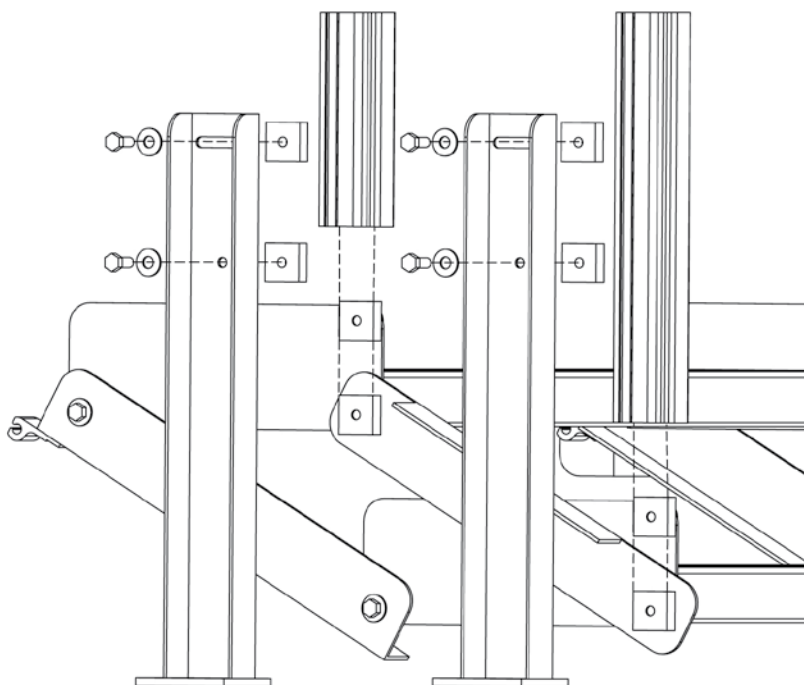


Fig.5.14

Next, install legs. With channels of leg facing you, insert a 5/16" x 3/4" hex bolt with a 5/16" washer into slot of leg. Place slide nut on opposite side. Repeat these steps on remaining three legs. (See **Fig.5.14**)

The longer legs, if different, will always go on the back 35 1/2" posts. Now line up the slide nuts with grooves on posts. Begin sliding the legs up posts inserting the second slide nut when you get to it. Once attached, you may temporarily tighten them to keep them in place. Repeat these steps on the opposite side. (See **Fig.5.14**)

5.6 Stair Handrail Assembly

Next, install lower 1 1/2" x 3/4" handrail tube. Insert 5/16" x 1 1/2" hex bolt in holes with a 5/16" washer and slide nut on opposite side. With shorter end of tube towards bottom of stairs, line slide nuts on lower handrail up with inside groove of 35 1/2" post. (NOTE: Remove cap at top of each post to install handrail.) Slide lower handrail down until approximately half way down post. Tighten a little so it does not slide down. (See **Fig.5.15**) Next, take the two upper handrails and insert a 5/16" x 3/4" hex bolt with a 5/16" washer into both holes of each bracket, from the outside and place a slide nut on each bolt. Leave the slide nuts loose. Position the handrail so the short end is located at the bottom of the stairs.

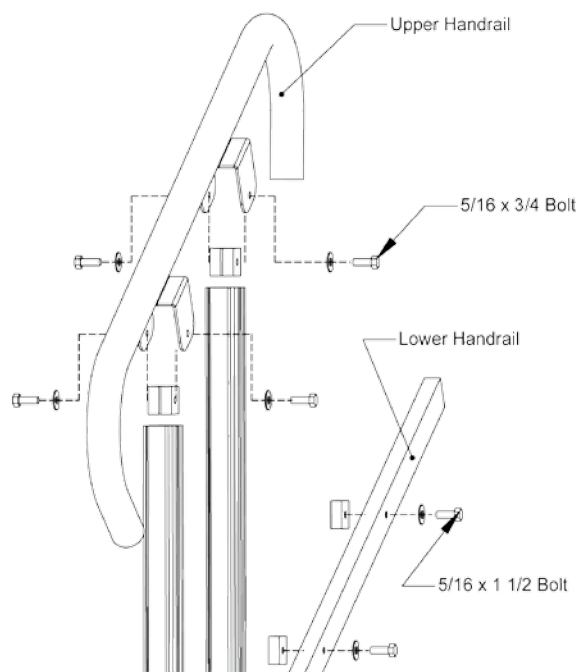
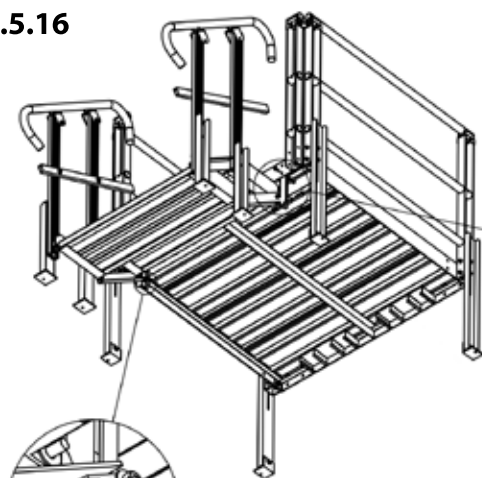


Fig.5.15

5.7 Stair to Landing Attachment

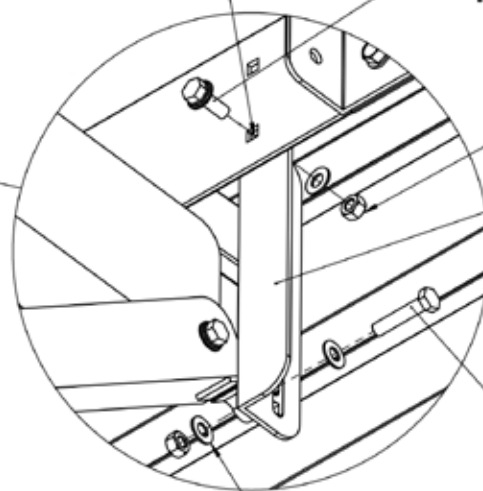
Fig.5.16



Detail.7

Hinge on stair assembly.

Remove cage nut or mark and drill hole at this location-both sides.



Detail.8

5/16" Washer

5.7 Stair to Landing Attachment: Attach stair/landing attachment angles to hinge on stair with a 5/16" x 1 1/2" hex bolts, washers, and lock nuts (**Detail.7**). Do not tighten down. Move stair assembly into position on landing. Center stair assembly in opening and adjust stair/landing attachment angle up and to the inside of the landing. Line up hole in angle with square hole in side of landing. Remove cage nut at that location. If no hole exists at this location, mark where hole is in angle on landing. Drill hole for a 5/16" bolt. Attach angle with a 5/16" x 3/4" flanged hex bolt, washer, and lock nut (**Detail.8**). Level and adjust stairs and tighten down bolts. Anchor legs down to the ground.

Notes:

PRAIRIE VIEW INDUSTRIES, INC.
LIMITED WARRANTY

1. LIMITED LIFETIME WARRANTY—THE FOLLOWING APPLIES TO ALL END PURCHASERS OTHER THAN RESIDENTS OF THE STATE OF CALIFORNIA*:

PRAIRIE VIEW INDUSTRIES, INC. warrants to the original end purchaser of the product that the product is free from defects in material and workmanship under normal use and service. This warranty does not apply to any product that has been subject to misuse, abuse, neglect, alteration, accident, usage not in accordance with product instructions, acts of God, or improper installation, or that has been used for rental purposes or repaired by someone other than PRAIRIE VIEW INDUSTRIES, INC. This warranty does not cover normal deterioration of the product due to wear and exposure.

*(FIVE YEAR WARRANTY—THE FOLLOWING APPLIES TO RESIDENTS OF THE STATE OF CALIFORNIA: For a period of five years after the purchase of the product by the original end purchaser of the product, PRAIRIE VIEW INDUSTRIES, INC. warrants to the original end purchaser of the product that the product is free from defects in material and workmanship under normal use and service. This warranty does not apply to any product that has been subject to misuse, abuse, neglect, alteration, accident, usage not in accordance with product instructions, acts of God, or improper installation, or that has been used for rental purposes or repaired by someone other than PRAIRIE VIEW INDUSTRIES, INC. This warranty does not cover normal deterioration of the product due to wear and exposure.)

2. This warranty is limited to repairing or replacing, at the option of PRAIRIE VIEW INDUSTRIES, INC., any product that is returned to PRAIRIE VIEW INDUSTRIES, INC. and is reasonably determined by PRAIRIE VIEW INDUSTRIES, INC. to be defective. The repair or replacement of a defective product under this warranty will be made by PRAIRIE VIEW INDUSTRIES, INC. without charge for parts or labor. This excludes shipping or delivery charges to and from PRAIRIE VIEW INDUSTRIES, INC.'s place of business. If the product has been discontinued, PRAIRIE VIEW INDUSTRIES, INC. may replace the product with a new product of comparable value and function. PRAIRIE VIEW INDUSTRIES, INC. also reserves the right to refund the purchase price as its exclusive warranty remedy.

3. Any claim alleging that the product fails to conform to this warranty may be made only by the original end purchaser and only while such purchaser owns the product. A defective product that is covered by this warranty must be returned, at the purchaser's expense, along with proof of date of original purchase (such as receipt, check or other document PRAIRIE VIEW INDUSTRIES, INC. deems acceptable that shows the date of purchase and the identity of the product and purchaser), along with a description of the alleged defect, to PRAIRIE VIEW INDUSTRIES, INC., 2620 Industrial Drive, Fairbury, Nebraska 68352.

4. EXCEPT AS SET FORTH HEREIN, PRAIRIE VIEW INDUSTRIES, INC. MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, AND PRAIRIE VIEW INDUSTRIES, INC. DISCLAIMS AND NEGATES ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, CONFORMITY TO MODELS OR SAMPLES, OR ANY WARRANTIES OR INDEMNITIES AGAINST INTELLECTUAL PROPERTY INFRINGEMENT.

SOME STATES DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, SO THESE LIMITATIONS MAY NOT APPLY TO YOU. IN NO EVENT WILL PRAIRIE VIEW INDUSTRIES, INC. BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR FOR ANY LIABILITY IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT.

5. Before using the product, the purchaser must first determine the suitability of the product for its intended use, and the purchaser assumes all risk and liability whatsoever in connection therewith.

6. No person, agent, distributor, dealer or company is authorized to change, amend or modify the terms of this warranty.

7. This warranty gives the purchaser specific legal rights, and the purchaser may also have other rights that vary from state to state.

8. The purchaser may not assign the purchaser's rights or obligations under this warranty without the prior written consent of PRAIRIE VIEW INDUSTRIES, INC.

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