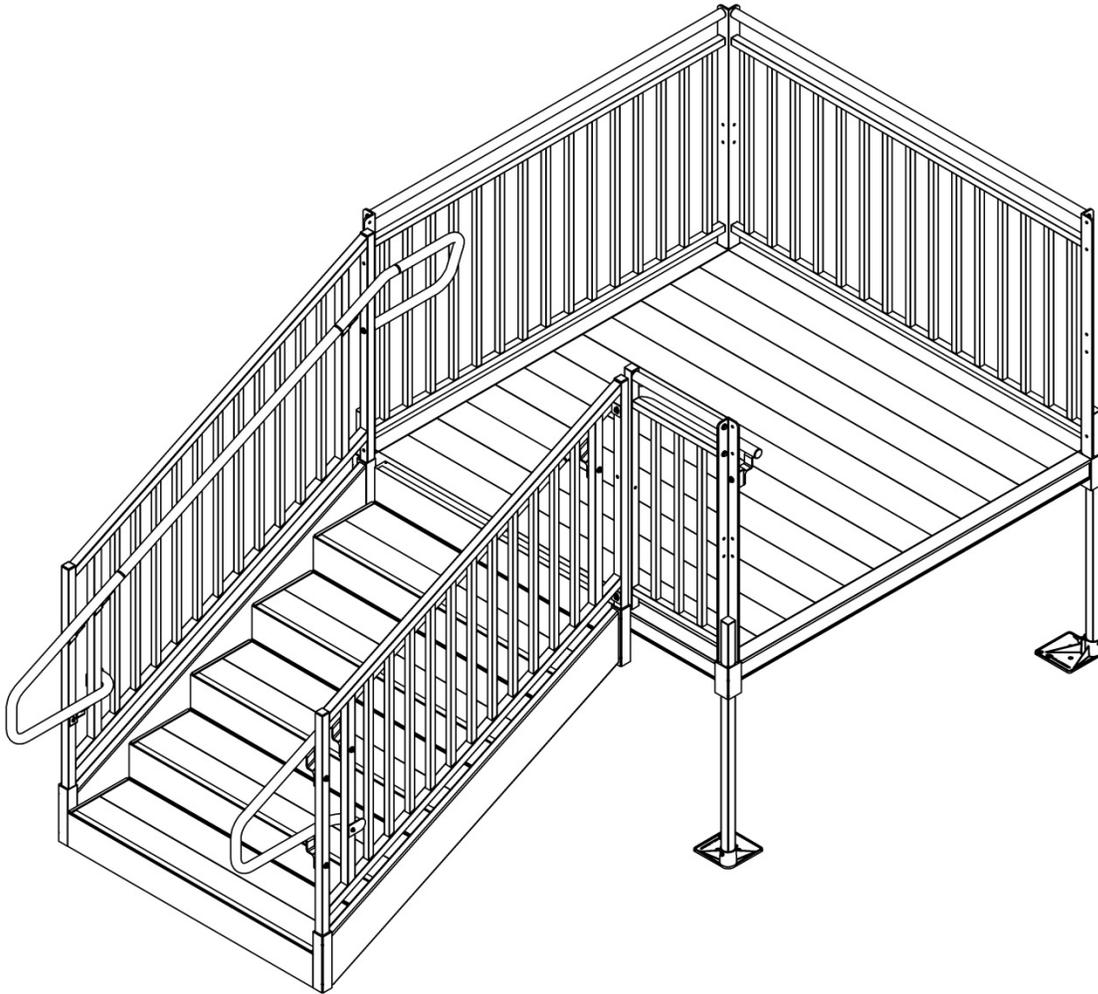




# TITAN™ Code Compliant Modular Access System

## Installation Supplement for TITAN™ Steps

*Use this Supplement alongside the TITAN™ Code Compliant Modular Access System Installation Manual*



3-YEAR WARRANTY. Please register at [www.ezaccess.com/warranty-satisfaction](http://www.ezaccess.com/warranty-satisfaction).

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Manufactured in the USA

18542 02-28-2020



## INTRODUCTION

This supplement addresses the installation of TITAN™ Steps, a component that attaches to the TITAN™ Code Compliant Modular Access System but can also be installed on most existing landings. Refer to the TITAN™ Code Compliant Modular Access System Installation Manual for instructions relevant to ramps, platforms, and their related components. Throughout this document, the TITAN Steps are also referred to as “step”, “steps”, and “system”. For more information, please call customer service at 1-800-258-8503.

## SYMBOL MEANINGS

- ⚠ The **WARNING** symbol indicates a potentially hazardous condition/situation. The safety warnings throughout this manual, and on your equipment, if any, are for the protection of people and property. Failure by any operator to abide by safety warnings will result in a waiver of all liabilities, loss of your warranty, and could result in equipment damage and or failure, property damage, risk of serious bodily injury, and or death. The symbol may appear in various colors and in conjunction with other symbols and with or without the written word “WARNING”.
- 👉 The **NOTE** symbol indicates important information. Failure to obey all notes could result in improper operation, less-than-optimum equipment performance, and at the sole discretion of the equipment manufacturer, may void your warranty. The symbol may appear in various colors and in conjunction with other symbols and with or without the written word “NOTE”.

## WARNINGS

- ⚠ STAIR Uniform Live Load Rating: 100 pounds per square foot and a concentrated vertical load of 300 pounds over an area of 4 square inches. Do not exceed Uniform Live Load Rating.
- ⚠ PLATFORM Rated Load: 100 lbs. psf live load, 300 lbs. concentrated. Do not exceed Rated Load.
- ⚠ Read, understand, and follow the Installation Manual, Supplements, and Addendums, if any, in their entirety. Learn and understand the location and function of all features, Rated Load, safety devices, and labels before use. If you do not understand which manuals apply, or their content, do not use the system and call 1-800-258-8503 for further information.
- ⚠ Always follow all warnings and safety directives.
- ⚠ Maintaining all labels and manuals in legible condition is required by the system owner and is essential for safe operation. Do not remove product safety labels. If any labels are missing, damaged, or become illegible, they must be replaced. An illegible label will fail to alert individuals on or around the system of a procedure or hazardous operating conditions. To obtain replacement copies of instructions, warnings, and labels, call 1-800-258-8503.
- ⚠ Professional installation by an EZ-ACCESS approved technician is required.
- ⚠ Do not use the system for anything other than its intended purpose of providing access to individuals moving from one landing to another.
- ⚠ Always use handrails for added stability.
- ⚠ Use only components supplied or approved by EZ ACCESS with the system.
- ⚠ Never place on, under, or attach to the system anything the manufacturer did not supply. Do not use any part of the system to support, attach, or hang planters, baskets, lights, ropes, cords, decoration, fabrics, or other ornaments or furnishings.
- ⚠ Proper maintenance and upkeep to the system is vital. Call 1-800-258-8503 to inquire about inspections and service.
- ⚠ Before each use, visually inspect the system to ensure that all parts are in good condition and that the system is free of any damage. If any part of the system appears damaged, loose, or missing, do not use until repaired by an EZ ACCESS approved technician.
- ⚠ Annually (more frequent in harsher environments) inspect all fasteners and verify all nuts, bolts, screws, and other fasteners are undamaged and secure. If any part of the system appears damaged, loose, or missing, DO NOT USE until repaired by an EZ ACCESS approved technician.
- ⚠ Do not tamper with, attempt to repair, or modify any portion of the system. Only EZ-ACCESS approved technicians may provide service.
- ⚠ The system must be installed and maintained as specified in this manual and per your applicable local codes. Ask your local contractor or your Authority Having Jurisdiction (AHJ) for information.

## **WARNINGS, CONT'D.**

- ⚠ This system is made from aluminum. Aluminum is electrically conductive. Do not lay power cords on or across electrically conductive materials, such as this system. Do not use system near exposed wiring or hang lights or extension cords from system.
- ⚠ Use caution when using the system. Ensure hair, clothing, shoelaces, jewelry, and other personal items are not and do not catch on anything that may create a hazard.
- ⚠ Do not lean on, walk on, or otherwise bear weight on the system until installation is complete.
- ⚠ Use system only with a qualified helper.
- ⚠ Before each use, remove dirt, leaves, and all other items and debris that may have accumulated. Sweeping will often suffice, but for more concentrated cleaning, use a garden hose and a damp cloth or soft brush with mild soap and water (avoid alkaline detergents). Rinse well and use extra caution when system surface is wet.
- ⚠ If snow and or ice is present on the system, remove accumulations before use. Please refer to 'DEICING' section for more information.
- ⚠ Before each use, confirm the system is level and positioned securely. Periodically check for ground shifts and make any necessary adjustments.
- ⚠ Do not sit, stand, or climb on guards, gates, or handrails.
- ⚠ Only walk on the step. Never play, run, jump, or climb, on or around.
- ⚠ Properly support and restrain the system in transit or storage.
- ⚠ For additional care, usage, or general safety information, please call 1-800-258-8503.

## **ATTENTION INSTALLER and END USER**

- ⚠ Prior to use, read and understand this manual and all other applicable manuals, including supplements and addendums, if any, and warning labels, in their entirety. Learn and understand the location and function of all features, Rated Loads, safety devices, and labels before use. If you do not understand which manuals apply, or their content, do not use the TITAN™ Code Compliant Modular Access System and call 1-800-451-1903 for further information.
- ⚠ Leave this Installation Manual with the end user.
- 👉 Fill out online warranty registration.

## **IMPORTANT SHIPPING INFORMATION**

- 👉 The shipment contains a packing list. Confirm all items are present before starting installation. Open shipping boxes and inspect for damage or missing parts. If damaged or missing parts are noted, DO NOT INSTALL OR USE.
- 👉 Check for shipping damage immediately upon receipt and note any freight damage on freight bill while driver is still present. Contact shipper right away with any freight damage concerns. In most cases, freight damage claims will not be allowed unless noted on the freight bill. Pictures of damage before the unit is unpacked can be very helpful.

## **TOOLS TYPICALLY REQUIRED**

- |                                |                                     |                 |
|--------------------------------|-------------------------------------|-----------------|
| ✓ POWER DRILL                  | ✓ TORPEDO OR CARPENTER'S LEVEL      | ✓ PLIERS        |
| ✓ 7/16" SOCKET OR 7/16" WRENCH | ✓ #2 PHILLIPS HEAD SCREWDRIVER      | ✓ HACKSAW       |
| ✓ 1/2" SOCKET OR 1/2" WRENCH   | ✓ 1/8", 3/8", AND 13/32" DRILL BITS | ✓ C-CLAMPS      |
| ✓ 5/16" SOCKET OR 5/16" WRENCH | ✓ 5/32" AND 3/16" ALLEN WRENCHES    | ✓ BOX KNIFE     |
| ✓ RAT TAIL AND FLAT FILE       | ✓ 25' TAPE MEASURE                  | ✓ RUBBER MALLET |

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## 1. GETTING STARTED

1.1. Before beginning the assembly process, install the TITAN™ Code Compliant Modular Access System, except DO NOT install a platform guard or two-line rail on the side of a platform where the step will be installed.

✎ When a step is installed on the 5' side of a platform, center the step on the platform and use upper loops on both sides of the step. When installed on wider platforms, place the step to one side of the platform and use an upper loop only on the side closest to the platform angle post and use a closure on the other side. For placement in any other location on a platform, custom components may be required.

⚠ The platform to which the step attaches to must be stable and level.

⚠ The surface on which the step rests must also be stable and level. If ground is not stable and level, create a surface that is stable and level at the proper height by digging or filling.

✎ Leveling feet come with the system. When adjusting the step, be mindful of applicable building codes and ADA guidelines. EZ-ACCESS will not be responsible for any costs or liabilities resulting from use of the leveling feet. The ground must be leveled at the proper height with respect to the platform.

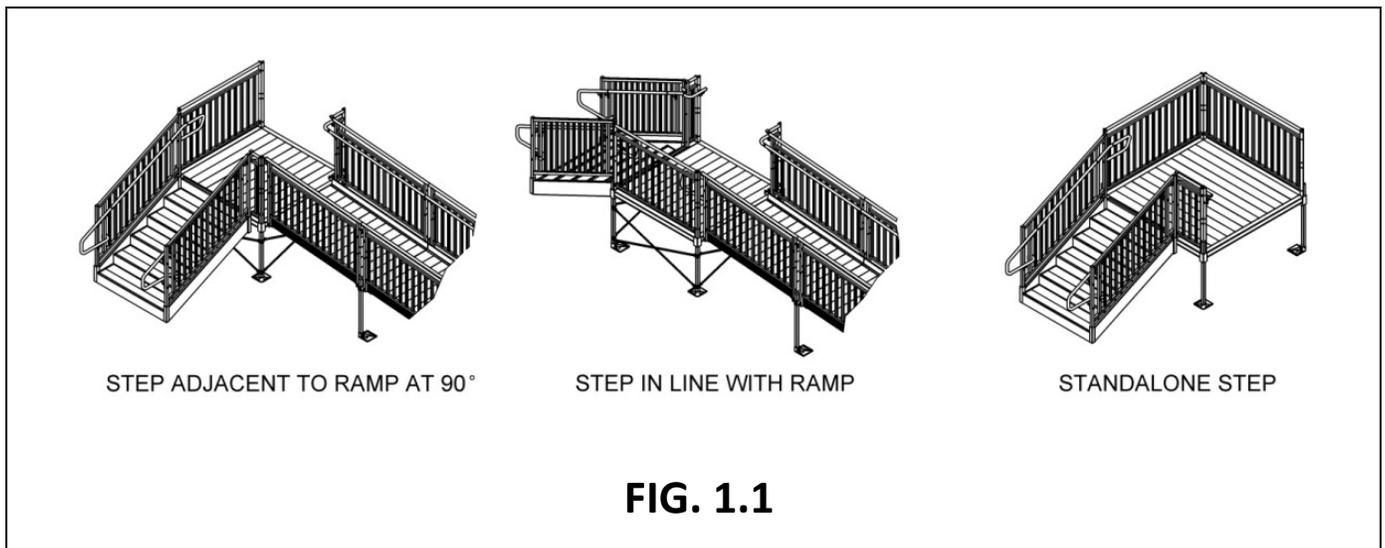
1.2. There are three common configurations for step use (FIG. 1.1). For situations other than those shown, consult the project drawings for the specific arrangement.

1.2.1. Adjacent to ramp at 90° (an “inside” corner turn).

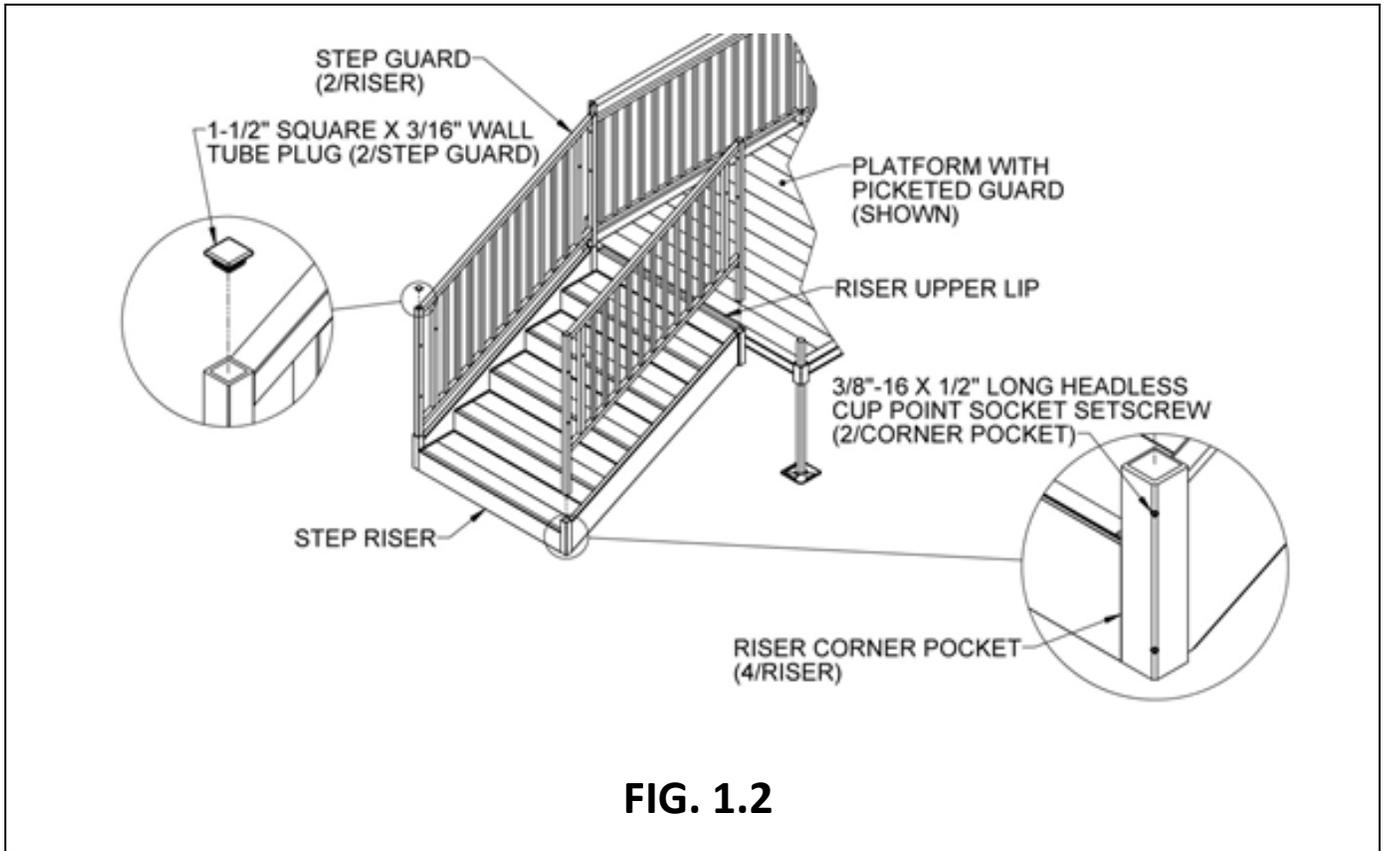
1.2.2. In-line on the opposite side of a ramp.

1.2.3. On a landing platform without a ramp (standalone).

⚠ Never place a step directly across from a down sloping ramp without a gate or other device to prevent the person descending the ramp from unintentionally continuing forward down the steps.



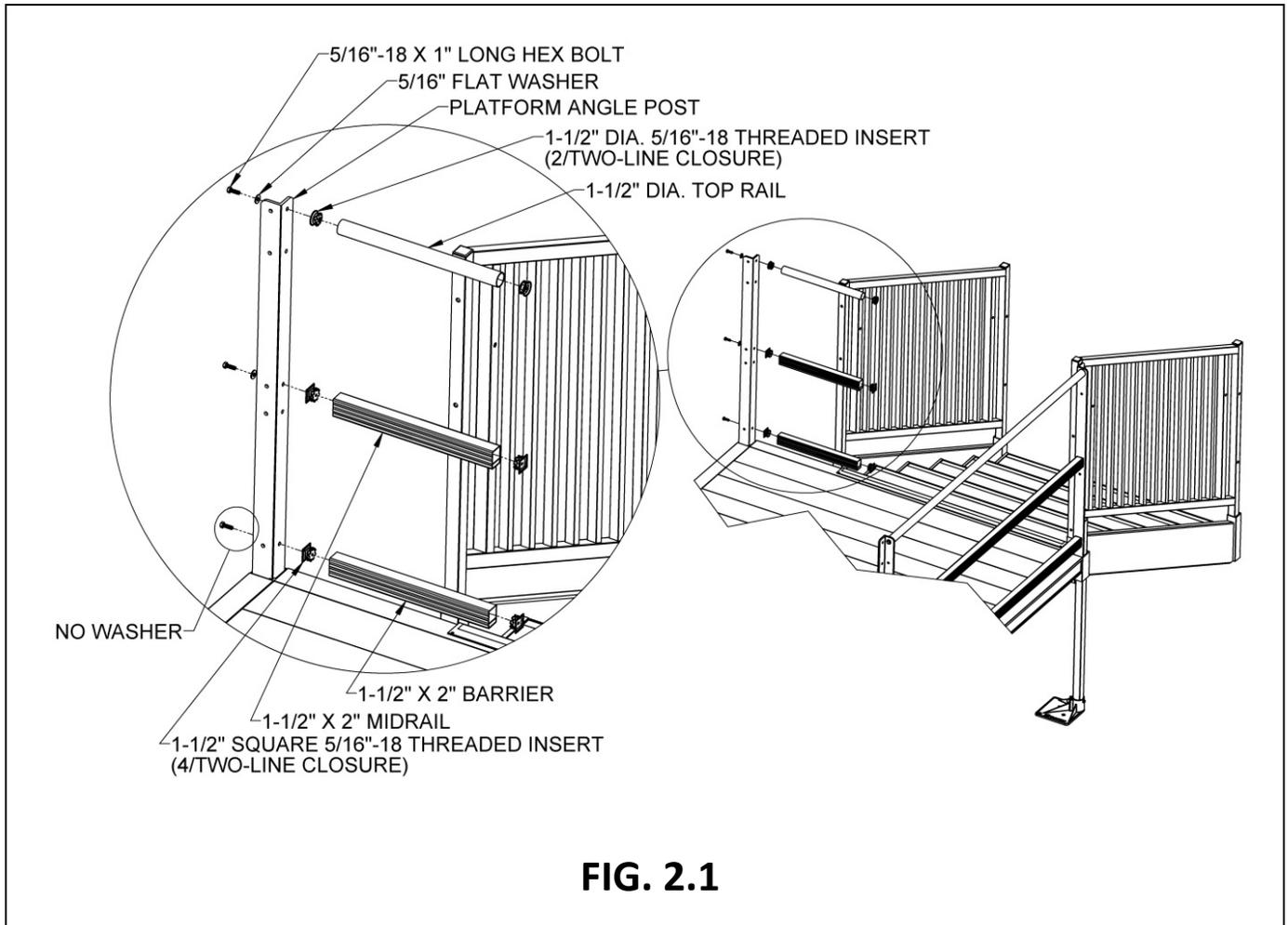
- 1.3. Set the upper lip of the riser onto the platform in the desired location (FIG. 1.2).
  - ⚠ Do not lean, walk, or otherwise bear weight on the step until installation is complete.
- 1.4. Install two step guards into the corner pockets of the step until the lower post rests on the ground or aligns with the bottom of the lower corner pockets (FIG. 1.2).
- 1.5. Tighten two 3/8"-16 x 1/2" long headless cup point socket setscrews in each corner pocket securely (FIG. 1.2).
- 1.6. Install 1-1/2" square x 3/16" wall tube plugs in the tops of the 1-1/2" step guard posts. Use a rubber mallet or similar tool to fully seat as needed (FIG. 1.2).
- 1.7. If installing a step on the 5-ft. (nominal) side of a TITAN platform, skip to 'STEP HANDRAILS' section.



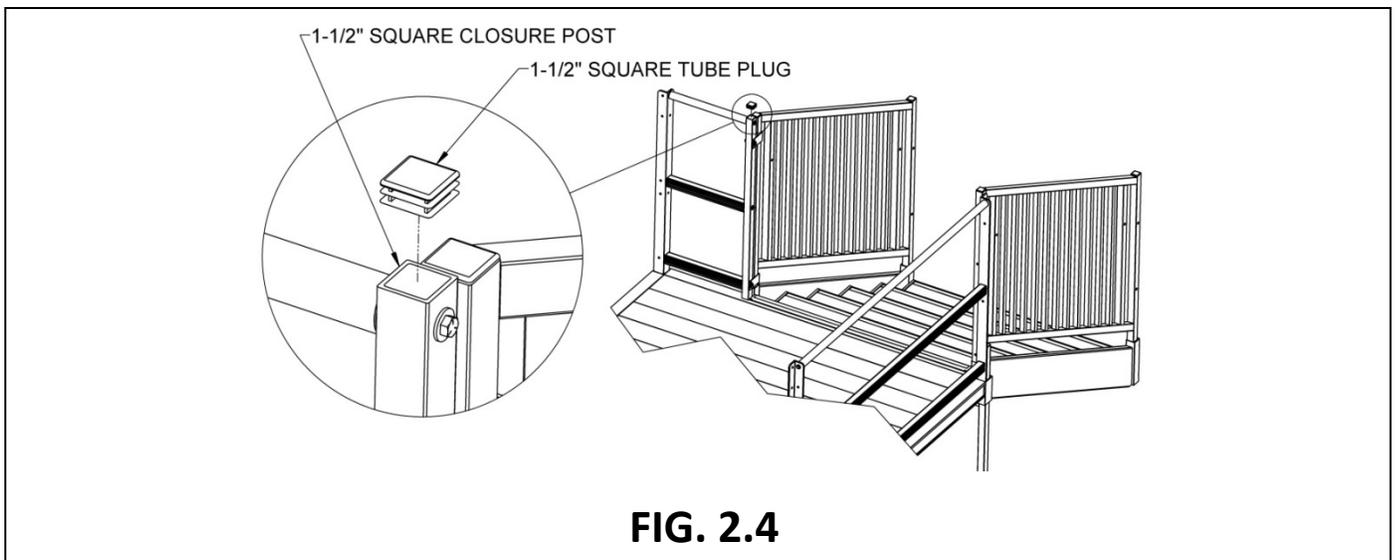
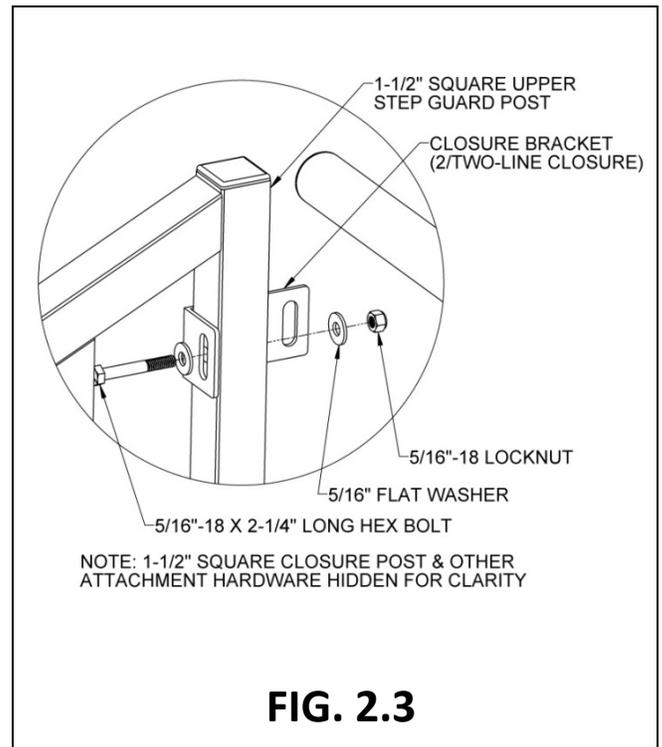
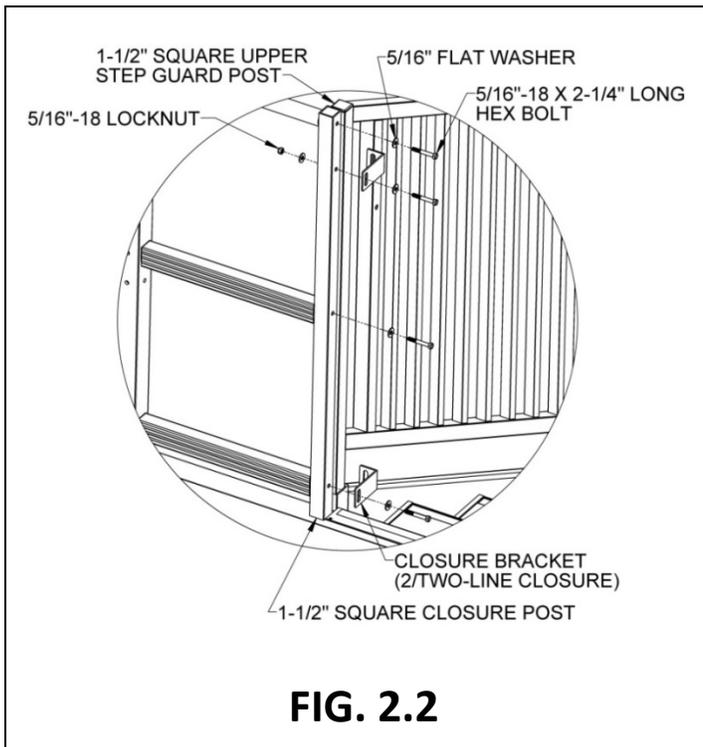
**FIG. 1.2**

## 2. TWO-LINE RAIL CLOSURE

- 2.1. Install a platform angle post in the open corner pocket where the two-line rail will be attached (FIG. 2.1). Secure in place as described in the 'HANDRAILS' section of the TITAN Code Compliant Modular Access System Installation Manual.
- 2.2. Insert 1-1/2" diameter 5/16"-18 threaded inserts in both ends of the 1-1/2" diameter top rail and 1-1/2" square 5/16"-18 threaded inserts in both ends of the midrail and barrier. Use a rubber mallet or similar tool to fully seat as needed (FIG. 2.1).
  - ✎ The top rail, midrail, and barrier are specific to the platform size and should not require trimming.
- 2.3. Connect the top rail, midrail, and barrier to the platform angle post using 5/16"-18 x 1" hex bolts and 5/16" flat washers in the locations shown (FIG. 2.1).
  - ✎ Do not use a washer with the lowermost bolt.

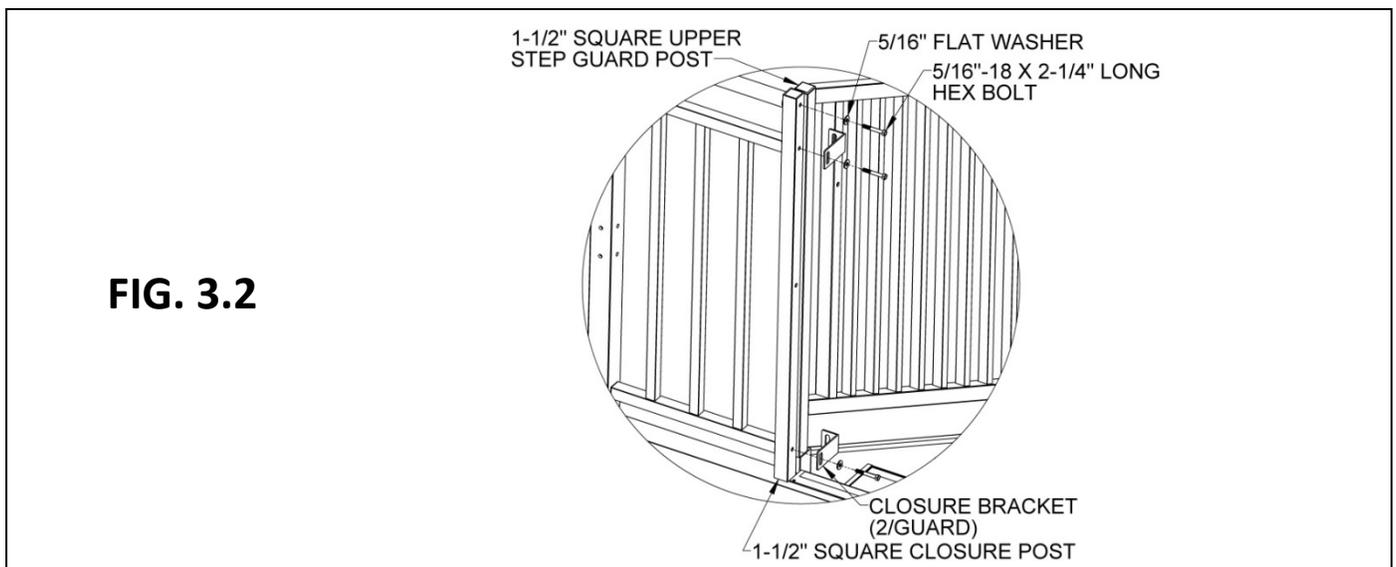
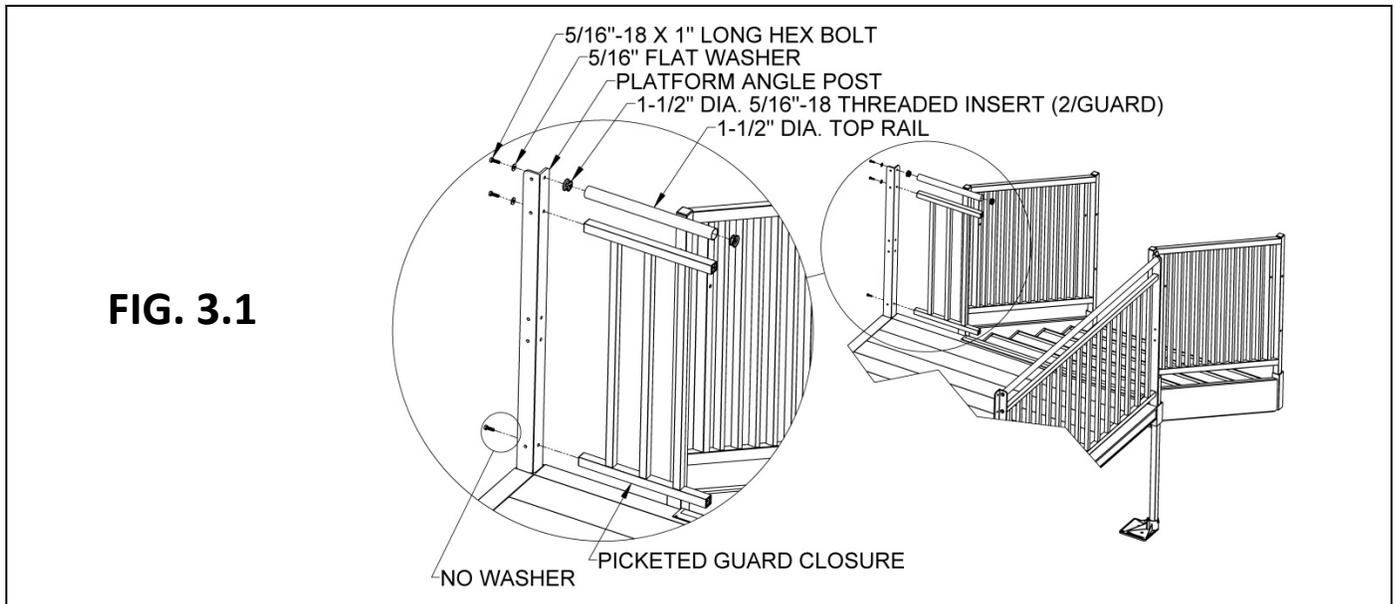


- 2.4. Attach 1-1/2" square closure post to the top rail and midrail using a 5/16"-18 x 2-1/4" hex bolt and 5/16" flat washer. Do not tighten fully at this time (FIG. 2.2).
- 2.5. Attach the upper closure bracket to the 1-1/2" square closure post using a 5/16"-18 x 2-1/4" hex bolt, 5/16"-18 locknut, and 5/16" flat washer through the second hole from the top. Do not tighten fully at this time. Orient the bracket as shown with respect to the closure post and the upper step guard post (FIG. 2.2).
- 2.6. Attach lower closure bracket to the 1-1/2" square closure post and barrier using 5/16"-18 x 2-1/4" hex bolt and 5/16" flat washer through the post and bracket into the threaded inserts in the barrier. Orient the bracket as shown with respect to the closure post and the upper step guard post (FIG. 2.2).
- 2.7. Attach the two closure brackets to the upper step guard post using 5/16"-18 x 2-1/4" hex bolts, 5/16"-18 locknuts, and 5/16" flat washers (FIG. 2.3).
- 2.8. Install a 1-1/2" square tube plug in the top of the 1-1/2" square closure post. Use a rubber mallet or similar tool to fully seat as needed (FIG. 2.4).
- 2.9. Tighten all fasteners securely.



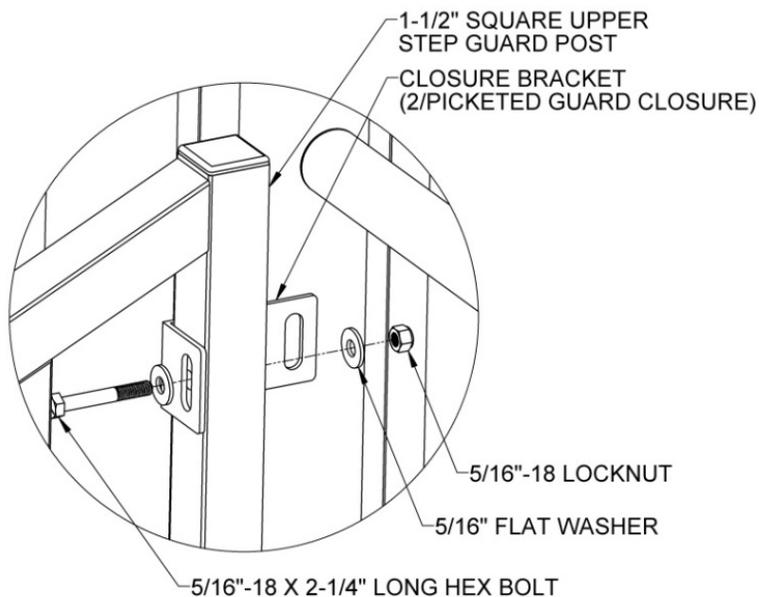
### 3. PICKETED GUARD CLOSURE

- 3.1. Install a platform angle post in the open corner pocket where the picketed guard closure will be attached (FIG. 3.1).
  - 3.1.1. Secure in place as described in the 'HANDRAILS' section of the TITAN Code Compliant Modular Access System Installation Manual.
- 3.2. Insert 1-1/2" diameter 5/16"-18 threaded inserts in both ends of the 1-1/2" diameter top rail. Use a rubber mallet or similar tool to fully seat as needed (FIG. 3.1).
  - ✎ The top rail and picketed guard closure are specific to the platform size. Because the picketed guard closure is symmetric, it can be installed with either end up.
- 3.3. Connect the top rail and picketed guard closure to the platform angle post using 5/16"-18 x 1" hex bolts and 5/16" flat washers in the locations shown (FIG. 3.1).
  - ✎ Do not use a washer with the lowermost bolt (FIG. 3.1).
- 3.4. Attach the 1-1/2" square closure post to the top rail using a 5/16"-18 x 2-1/4" hex bolt and 5/16" flat washer. Do not tighten fully at this time (FIG. 3.2).
- 3.5. Attach closure brackets to the 1-1/2" square closure post and to the picketed guard closure using 5/16"-18 x 2-1/4" hex bolts and 5/16" flat washers through the post and closure brackets, into the threaded inserts in the picketed guard closure top and bottom rails. Do not tighten fully at this time (FIG. 3.2).



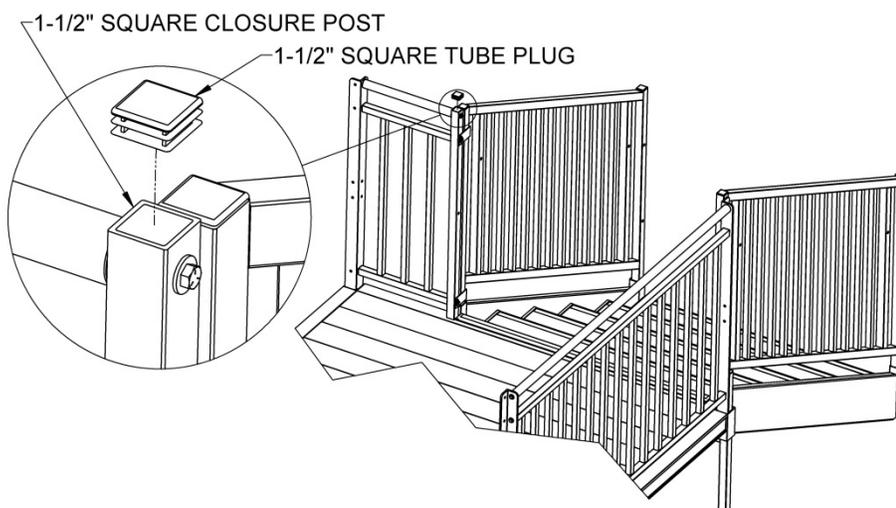
- 3.6. Attach two closure brackets to the upper step guard post using 5/16"-18 x 2-1/4" hex bolts, 5/16"-18 locknuts, and 5/16" flat washers (FIG. 3.3).
- 3.7. Install a 1-1/2" square tube plug in the top of the 1-1/2" square closure post. Use a rubber mallet or similar tool to fully seat as needed (FIG. 3.4).
- 3.8. Tighten all fasteners securely.

**FIG. 3.3**



NOTE: 1-1/2" SQUARE CLOSURE POST, PICKETED GUARD CLOSURE & OTHER ATTACHMENT HARDWARE HIDDEN FOR CLARITY

**FIG. 3.4**



## 4. STEP HANDRAILS

4.1. This section discusses the various loops and handrail components that are available for the step.

FIG. 4.1a Lower Loop Left Hand

FIG. 4.1b Lower Loop Right Hand

FIG. 4.1c Extended Lower Loop Left Hand



Extended lower loops are intended for use in localities where code requires the lower loop to extend 12" level in addition to the one tread depth at the slope of the step

FIG. 4.1d Extended Lower Loop Right Hand

FIG. 4.1e Upper Transition Bend Left Hand

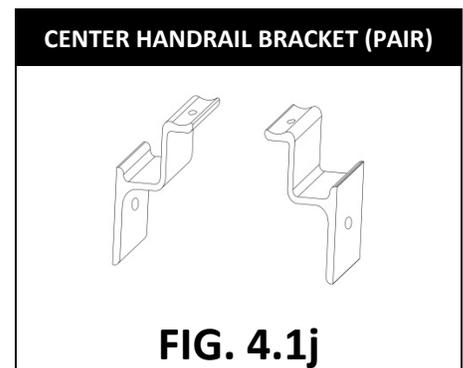
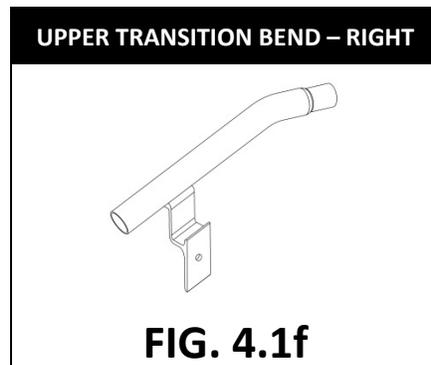
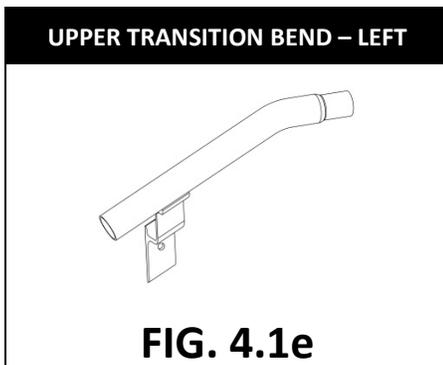
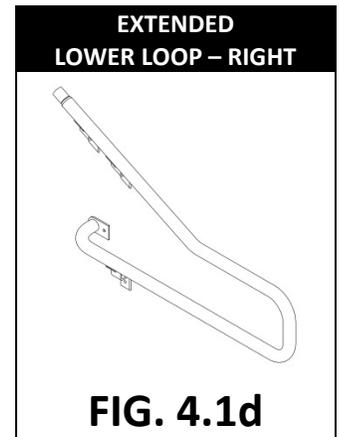
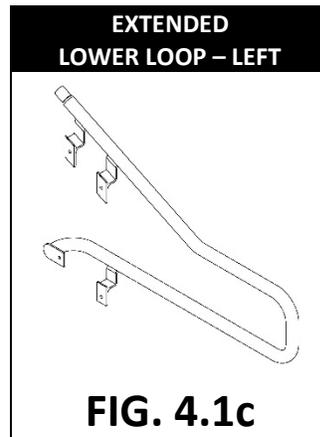
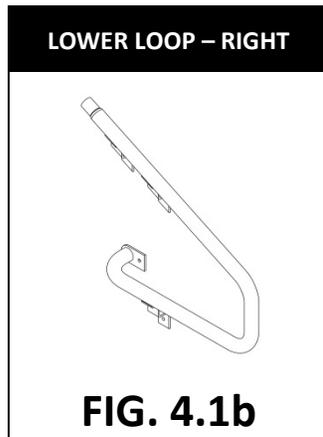
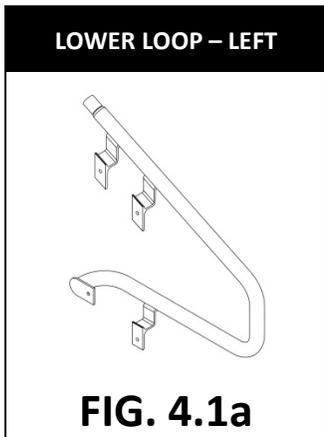
FIG. 4.1f Upper Transition Bend Right Hand

FIG. 4.1g Upper Loop

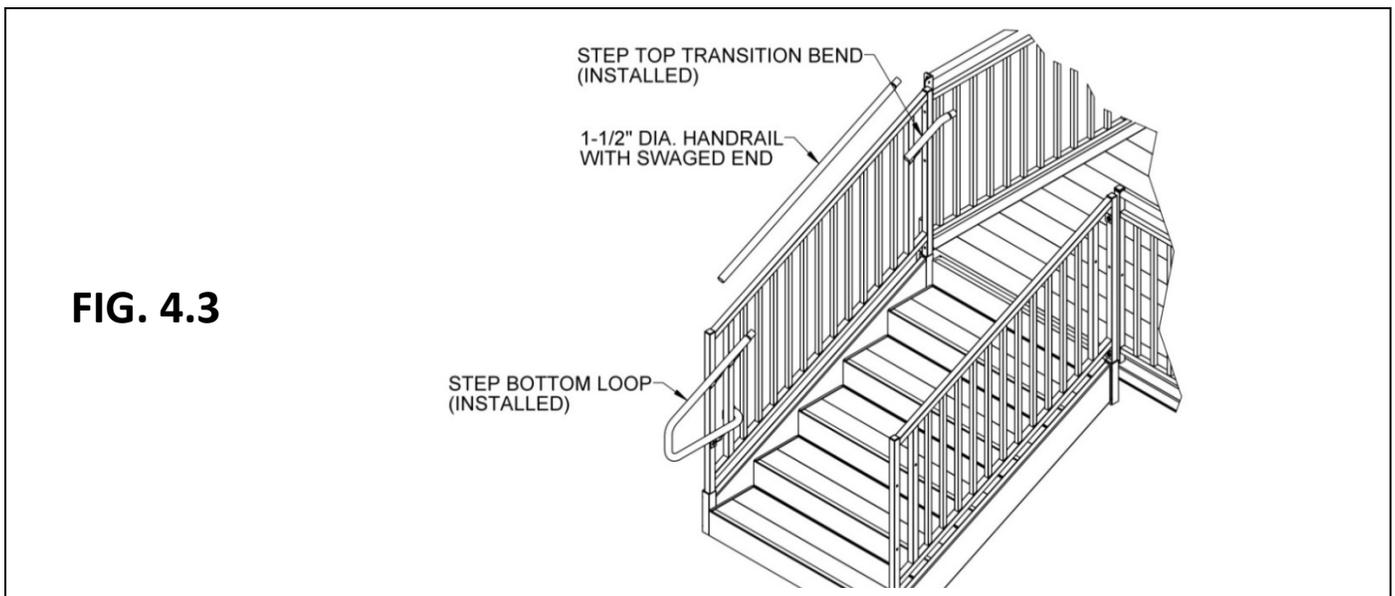
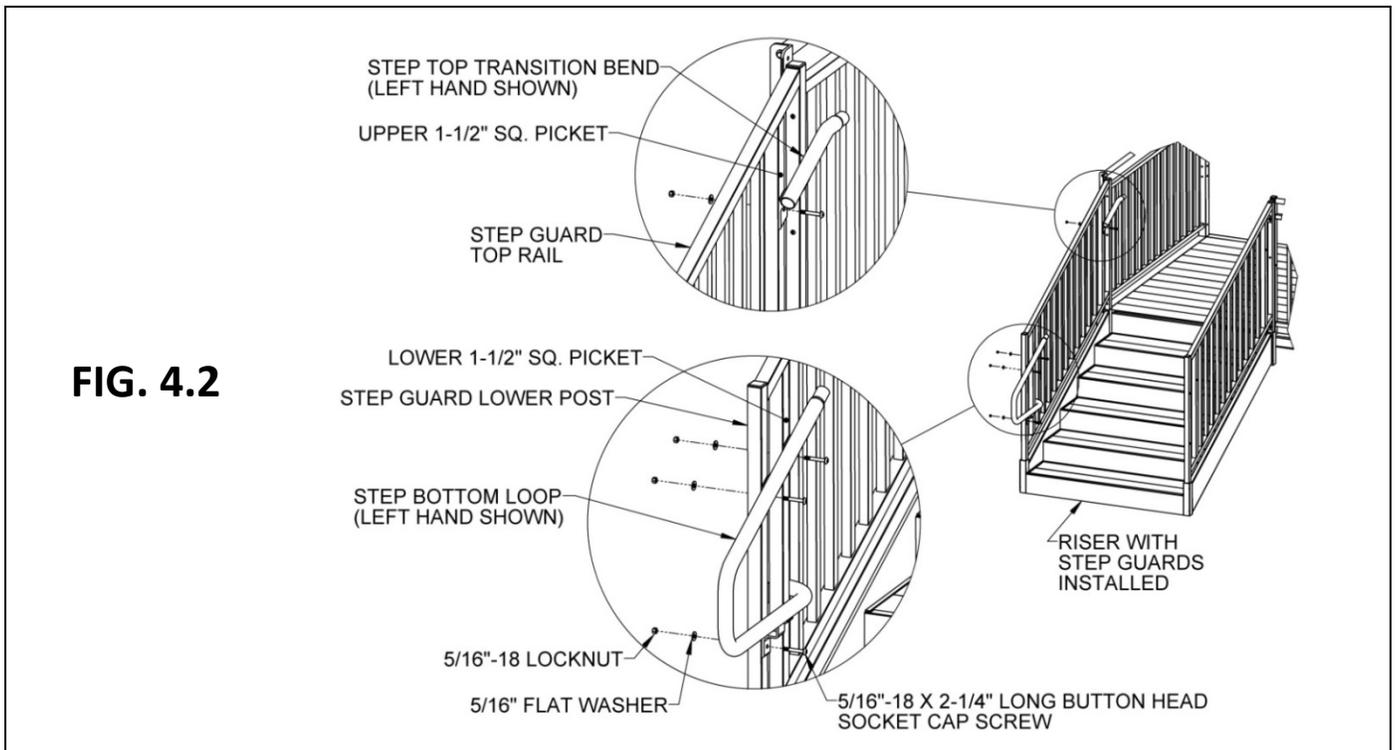
FIG. 4.1h 90° Bend is available in 13-1/4", 26-1/2", and 38-3/4" lengths (field-trim as needed)

FIG. 4.1i 1-1/2" Diameter Handrail (field-trim to length)

FIG. 4.1j Center Handrail Bracket Pair (used on steps 42" and higher only)

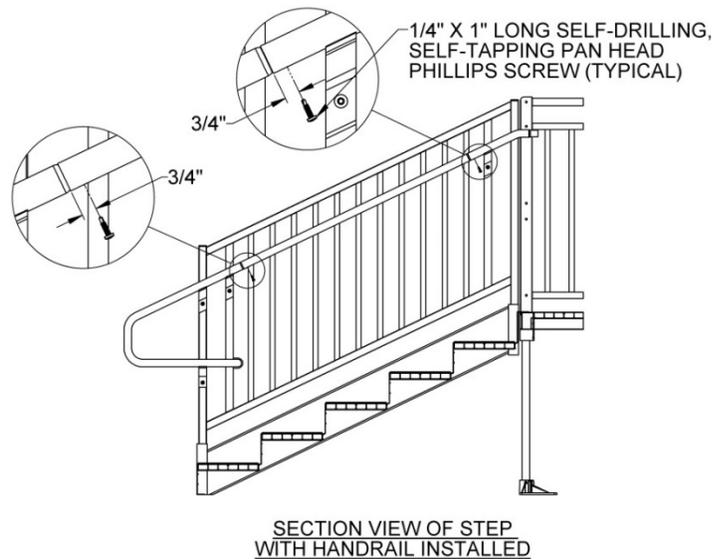


- 4.2. Attach lower loops to lower step guard posts and 1-1/2" square pickets using 5/16"-18 x 2-1/4" button head socket cap screws, 5/16"-18 locknuts, and 5/16" flat washers oriented as shown. Do not tighten fully at this time (FIG. 4.2).
- 4.3. Attach (or clamp securely in the correct location) the top transition bends to the upper 1/2" square pickets using 5/16"-18 x 2-1/4" button head socket cap screws, 5/16"-18 locknuts, and 5/16" flat washers oriented as shown (FIG. 4.2). Do not tighten fully at this time.
- 4.4. The handrail comes in a length which may cover two or more riser heights. Orient the swaged end toward the top transition bend, then trim the non-swaged end until the handrail fits snugly between the lower loop and the top transition bend with the swaged end extending into the top transition bend as far as possible and the swaged end of the lower loop extending as far as possible into the non-swaged end of the handrail. This may require removing and reinstalling the top transition bend more than once for the best fit (FIG. 4.3).
  - 4.4.1. Use a file to deburr all sharp edges from trimming handrail.
- 4.5. Securely tighten the fasteners attaching the lower loop and top transition bend.

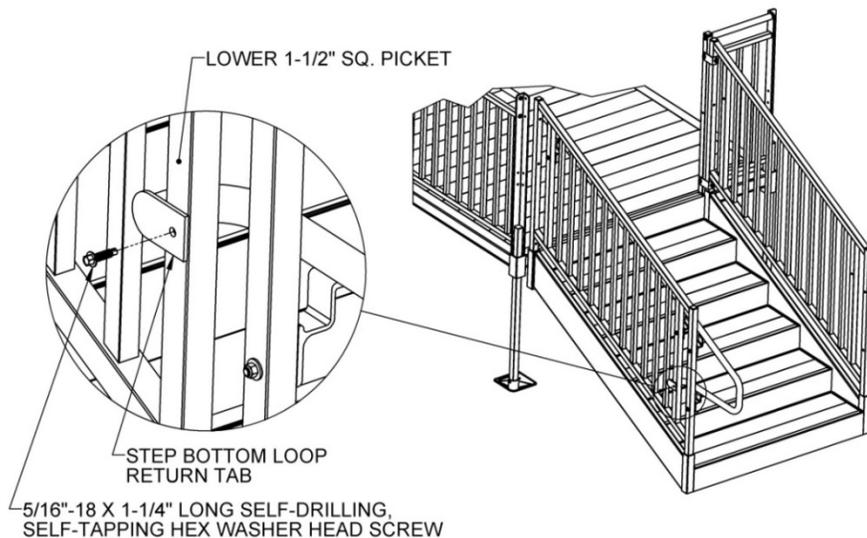


- 4.6. Drill two 1/8" pilot holes:
  - 4.6.1. One on the underside of the handrail.
  - 4.6.2. One on the underside of the top transition bend at 3/4" from the non-swaged ends, through one wall of the handrail or top transition bend and the swaged ends where they overlap (FIG. 4.4).
- 4.7. Install 1/4" x 1" self-drilling, self-tapping pan head Phillips screw through each pilot hole (FIG. 4.4).
- 4.8. Attach the lower loop return tab to the lower 1-1/2" square picket using a 5/16"-18 x 1-1/4" long hex washer head screw (FIG. 4.5).
- 4.9. Tighten all fasteners securely.
- 4.10. Repeat the same process for installing the handrail on the opposite side of the step.
- 4.11. If the installation includes a step that is 42" or higher, the guards will include a center 1-1/2" square picket and come with a pair of center handrail brackets. Steps below 42" high generally do not have a 1-1/2" square center picket. If the 1-1/2" square center picket is not included, then center handrail brackets are not required.
  - ✎ For center handrail brackets on a 60" step rise, refer to '60" RISE STEP GUARD REINFORCEMENT' section.

**FIG. 4.4**

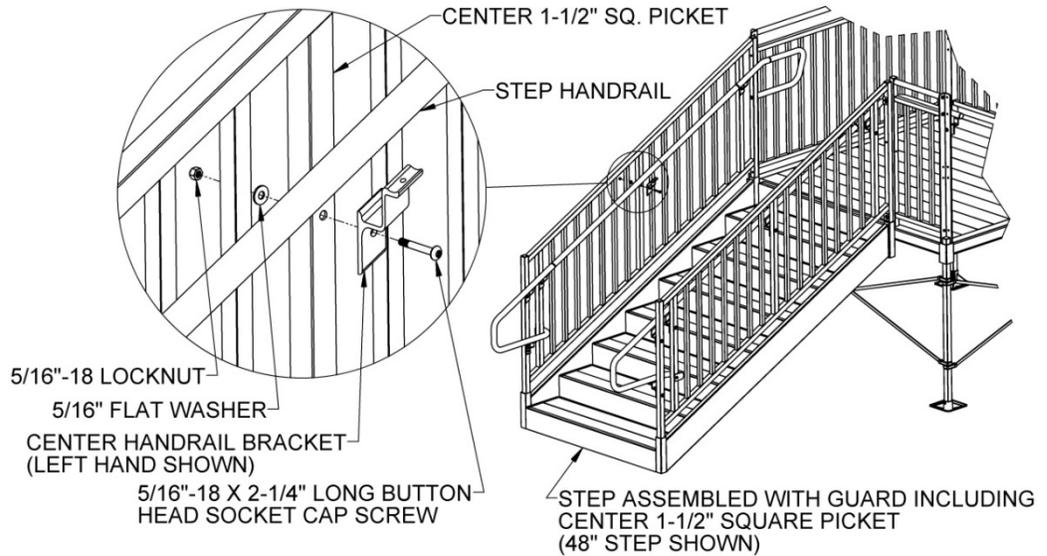


**FIG. 4.5**

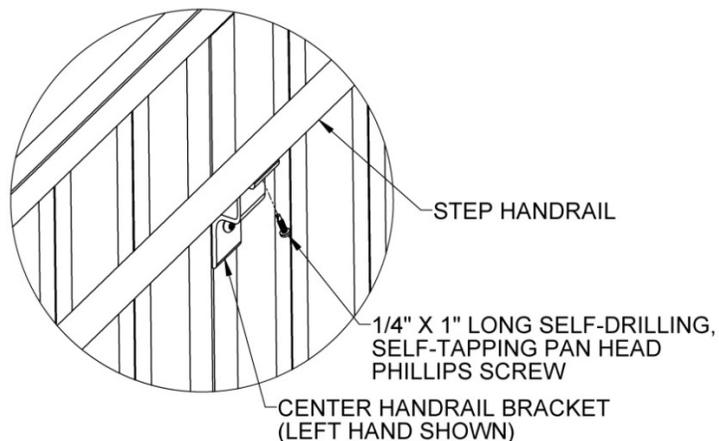


- 4.12. Attach center handrail brackets to center 1-1/2" square pickets using 5/16"-18 x 2-1/4" button head socket cap screws, 5/16"-18 locknuts, and 5/16" flat washers oriented as shown (FIG. 4.6). Tighten securely.
- 4.13. Attach center handrail bracket to the step handrail using a 1/4" x 1" long self-drilling, self-tapping pan head Phillips screw (FIG. 4.7).
- 4.14. Tighten all fasteners securely.
- 4.15. Repeat the process for installing the center handrail bracket on the opposite side of the step.
- 4.16. If installing a step on the 5-ft (nominal) side of a TITAN platform, skip to 'RETURNING HANDRAIL AT CLOSURE' section.

**FIG. 4.6**

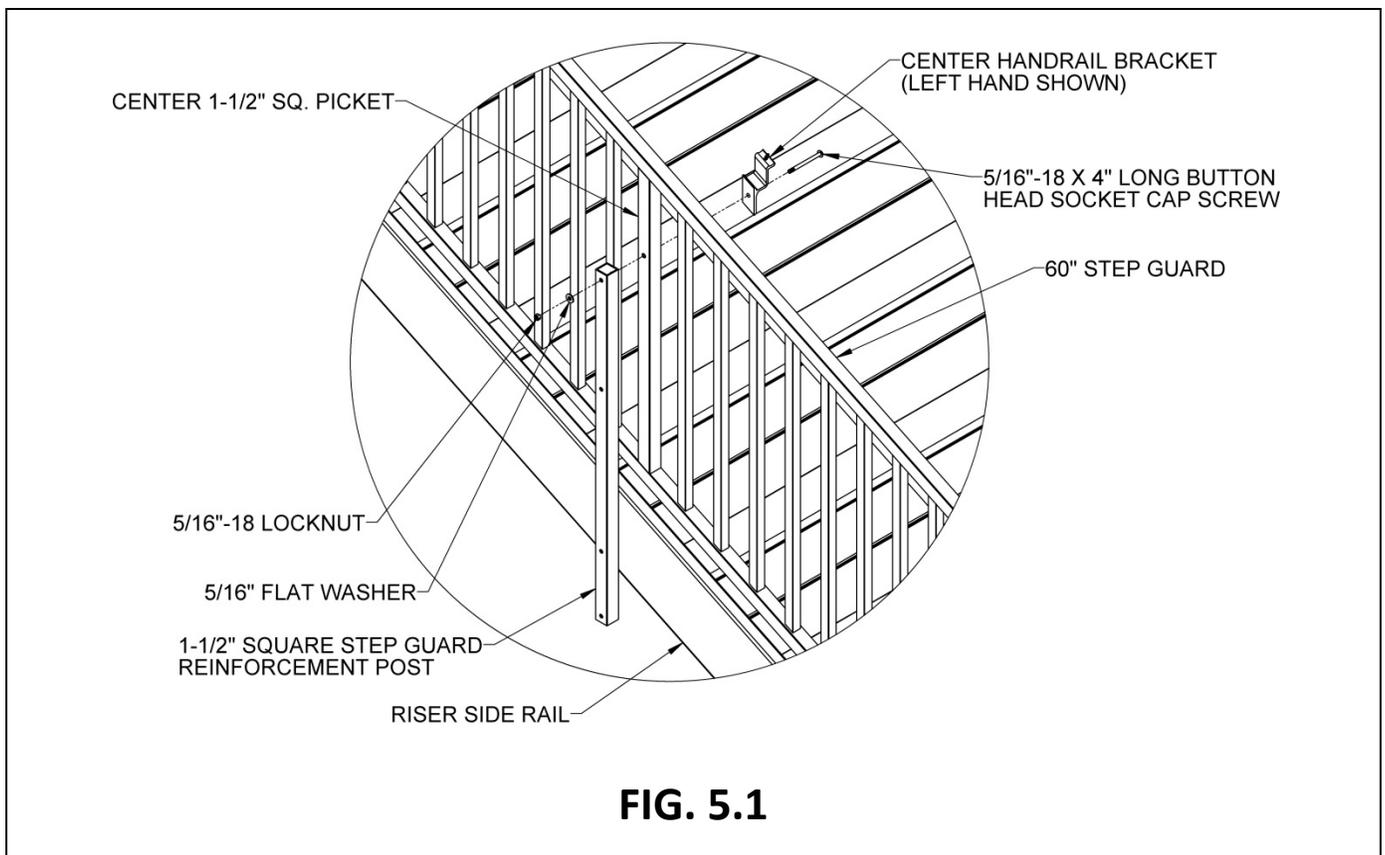


**FIG. 4.7**

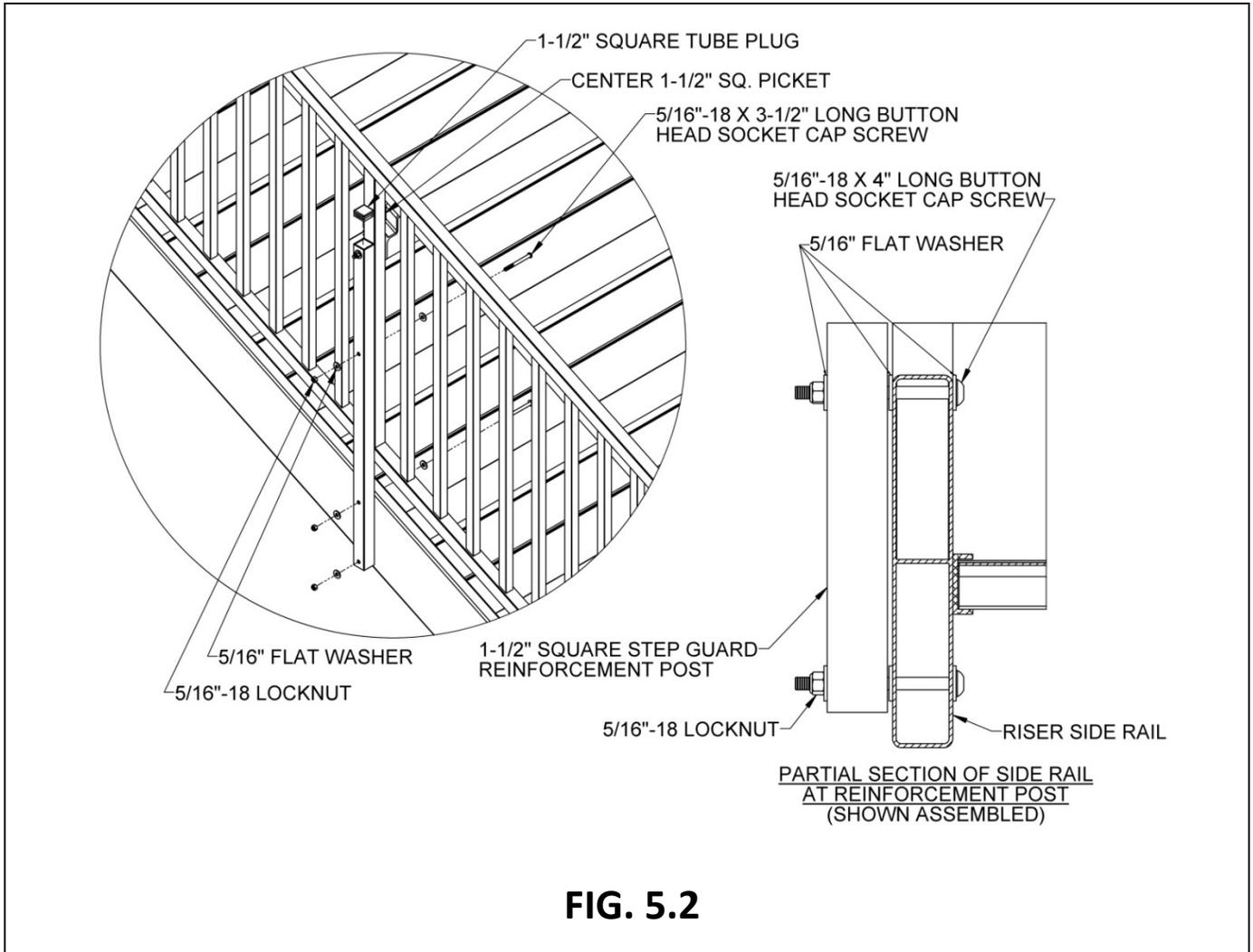


## 5. 60" RISE STEP GUARD REINFORCEMENT

- 5.1. The 60" step includes two 1-1/2" square step guard reinforcement posts ("reinforcement posts") and the required hardware to reinforce the guards at the center 1-1/2" square pickets.
- 5.2. Install the center handrail brackets and the reinforcement posts to the center 1-1/2" square pickets using 5/16"-18 x 4" button head socket cap screws, 5/16"-18 locknuts, and 5/16" flat washers, oriented as shown (FIG. 5.1).
  - 5.2.1. Orient the reinforcement posts so that the two lower holes at 7-1/4" apart are in contact with the side rail (FIG. 5.1). Do not fully tighten at this time.
    - ✎ The lower hole should be approximately 1-1/8" vertically from the bottom of the side rail when the upper hole is aligned with the center handrail bracket mounting hole. If the two lower holes in the reinforcement post are not positioned so they can be used as a template to drill holes in the riser side rail, or the second hole from the bottom is not on the side rail, the post is upside down. Flip 180-degrees and reassemble in the correct orientation.
- 5.3. Using the reinforcement post as a template, drill three 3/8" holes through both the center 1-1/2" square picket and the side rail (FIG. 5.1). Rotate the 1-1/2" square reinforcement posts out of the way or disassemble if needed.

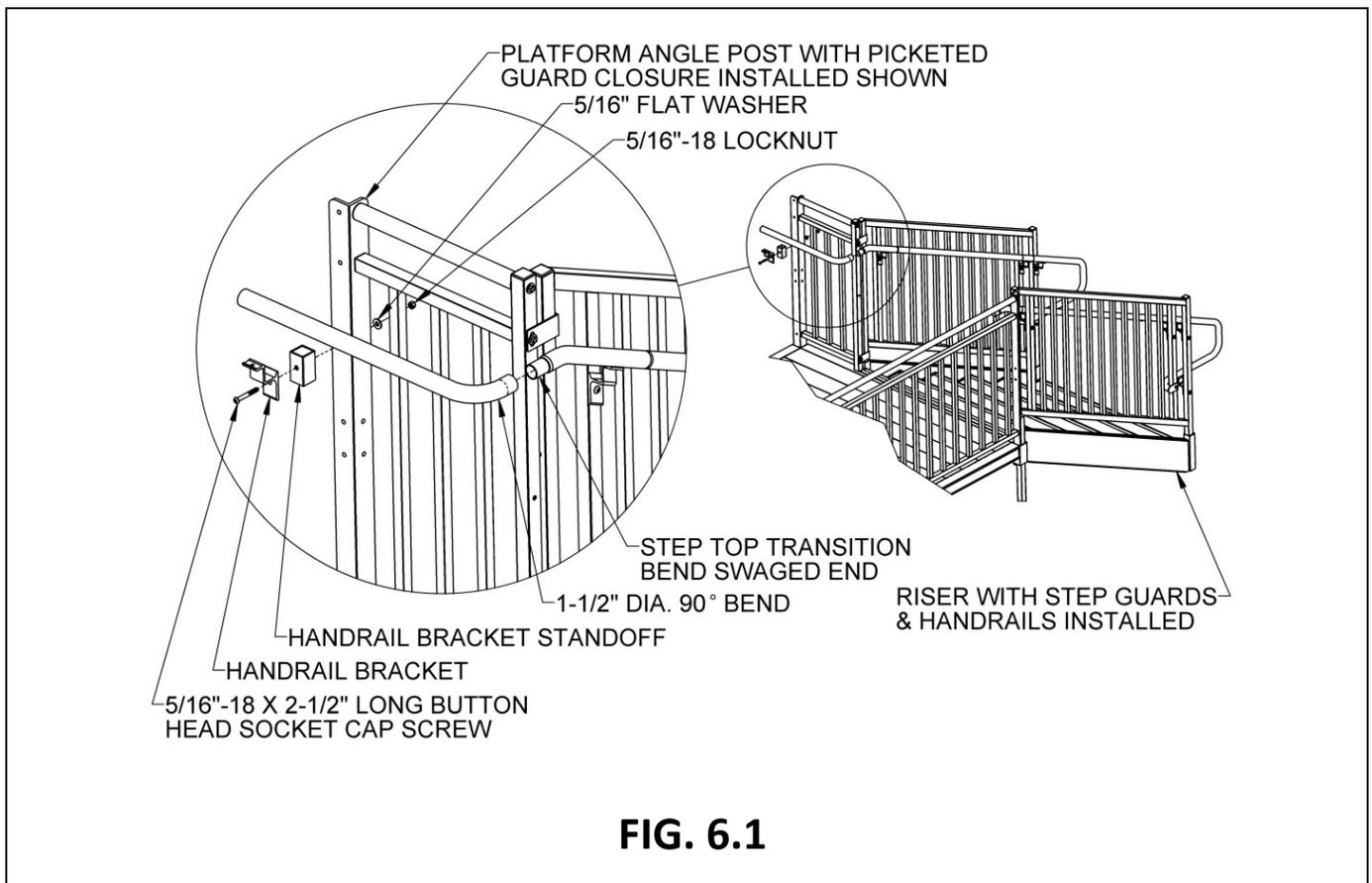


- 5.4. Attach reinforcement post to riser side rail using 5/16"-18 x 4" button head socket cap screws, 5/16"-18 locknuts, and 5/16" flat washers oriented as shown with one washer placed under the screw head, one used as a spacer between the reinforcement post and the riser side rail, and one washer under the locknut (FIG. 5.2).
- 5.5. Attach reinforcement post to the center 1-1/2" square picket using 5/16"-18 x 3-1/2" long button head socket cap screws, 5/16"-18 locknuts, and 5/16" flat washers oriented as shown with one washer under the head of the cap screw and the other on the outside under the locknut (FIG. 5.2).
- 5.6. Install a 1-1/2" square tube plug in the top of the 1-1/2" square closure post. Use a rubber mallet or similar tool to fully seat as needed (FIG. 5.2).
- 5.7. Attach the center handrail bracket to the step handrail using a 1/4" x 1" long self-drilling, self-tapping pan head Phillips screw (refer back to FIG. 4.7).
- 5.8. Tighten all fasteners securely.
- 5.9. Repeat the process for installing the reinforcement post on the opposite side of step.



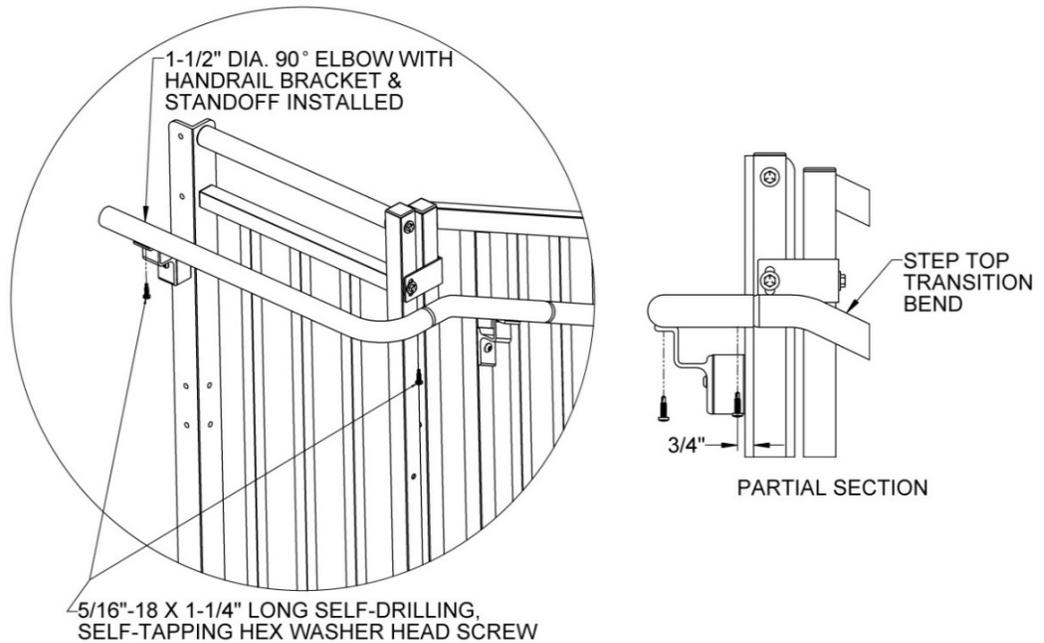
## 6. RETURNING HANDRAIL AT CLOSURE

- 6.1. Align the lower hole in the handrail bracket with the hole in the handrail bracket standoff. Hold (clamp if needed) the assembly on the side of the platform angle post, then trim the short leg of the 1-1/2" diameter 90° bend ("90° bend") until the long leg of the 90° bend aligns with saddle of the handrail bracket while the short leg extends over the swaged end of the top transition bend as far as possible (FIG. 6.1).
  - ✎ If the step handrail continues and is connected to another handrail component, such as a ramp handrail or the handrail from another step, do not follow the instructions in this section but skip ahead to 'CONNECT STEP HANDRAIL TO RAMP HANDRAIL' SECTION.
  - ✎ The procedure for installing the handrail return at the closure is the same for two-line rails and picketed guard closures.
- 6.2. Use a file to deburr all sharp edges from trimming.
- 6.3. Level the long leg of the 90° bend with respect to the platform and hold in place (clamp if needed).
- 6.4. Make sure the saddle of the handrail bracket is still in contact with the underside of the 90° bend (remove and re-clamp if needed), then use the hole in handrail bracket/handrail bracket standoff assembly as a template to mark and drill a 3/8" hole through the platform angle post.
- 6.5. Attach the handrail bracket/handrail bracket standoff assembly to the platform angle post using a 5/16"-18 x 2-1/2" button head socket cap screw, 5/16"-18 locknut, and 5/16" flat washer oriented as shown (FIG. 6.1).
- 6.6. Tighten all fasteners securely.

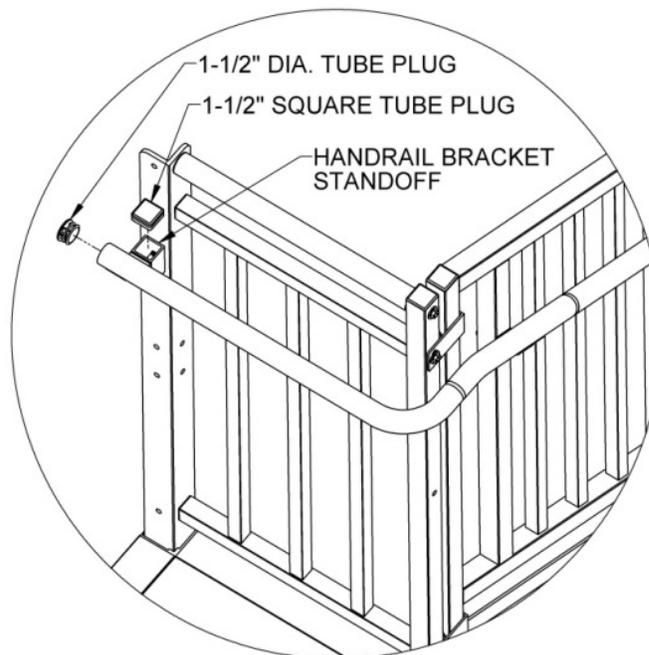


- 6.7. Drill a 1/8" pilot hole on the underside of the short leg of the 90° bend at 3/4" from the end, through one wall of both the 90° bend and the swaged end of the top transition bend (FIG. 6.2).
- 6.8. Attach saddle of the handrail bracket to 90° bend and attach the 90° bend to the top transition bend using 1/4" x 1" long self-drilling, self-tapping pan head Phillips screws (FIG. 6.2).
- 6.9. Trim the long leg of the 90° bend until it aligns (approximately) with the edge of the platform.
- 6.10. Use a file to deburr all sharp edges from trimming.
- 6.11. Install a 1-1/2" square plug in the top of the handrail bracket standoff and a 1-1/2" diameter plug in the end of the 90° bend. Use a rubber mallet or similar tool to fully seat as needed (FIG. 6.3).
- 6.12. Tighten all fasteners securely.

**FIG. 6.2**



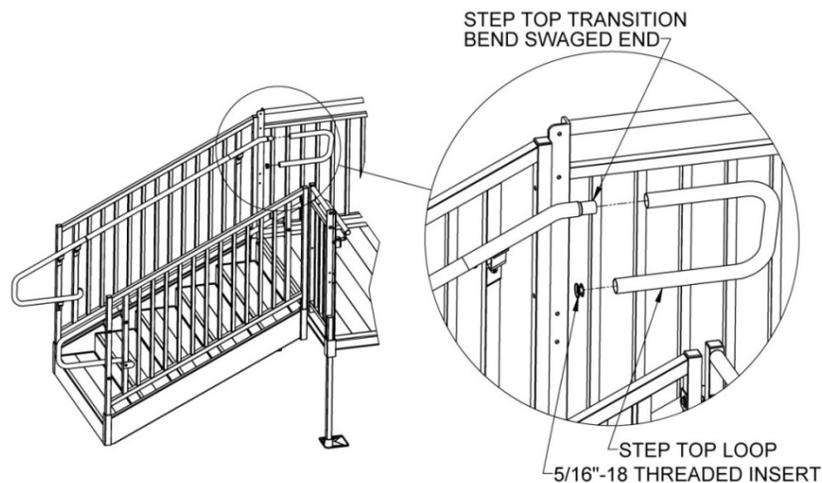
**FIG. 6.3**



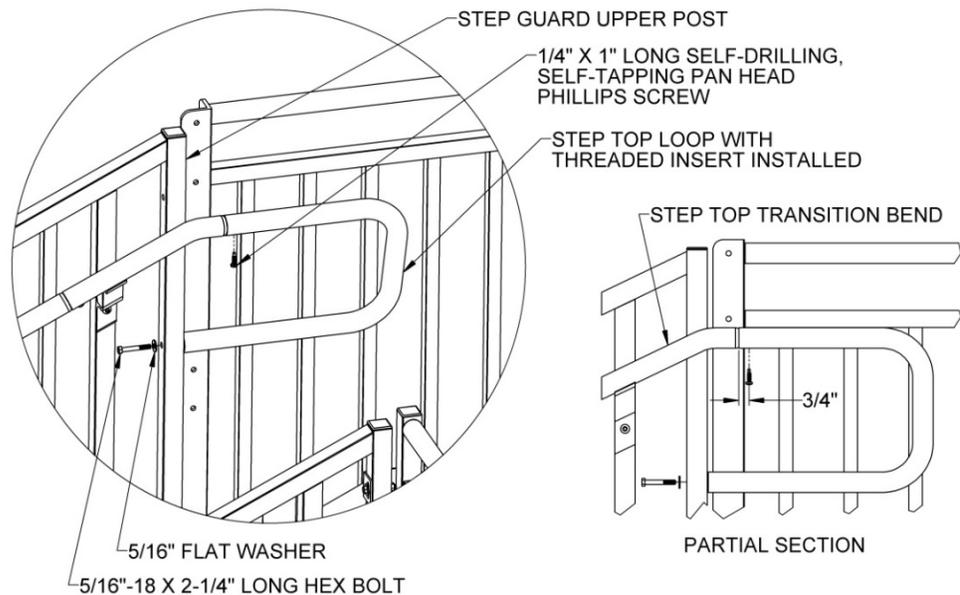
## 7. UPPER LOOP

- 7.1. Upper loops are commonly used to terminate the handrail on the opposite side of the step from the closure or on both sides of the step when used with step on a 5-ft (nominal) platform side. Upper loops are also used on both sides of the step when used with a platform extender.
- 7.2. Install 1-1/2" diameter 5/16"-18 threaded insert in the lower leg of the upper loop (the upper leg is the shorter leg). Use a rubber mallet or similar tool to fully seat as needed (FIG. 7.1).  
✎ Test fit the upper loop on the top transition bend before installing threaded insert. If the lower leg does not come close to contacting the upper step guard post, then the loop is upside down.
- 7.3. Connect the lower leg of the upper loop to the upper step guard post using a 5/16"-18 x 2-1/4" hex bolt and 5/16" flat washer through the post and into the threaded insert installed in the previous step. Tighten the bolt securely (FIG. 7.2).
- 7.4. Drill a 1/8" pilot hole on the underside of the upper leg of the upper loop at 3/4" from the end, through one wall of both the upper loop and the swaged end of the top transition bend (FIG. 7.2).
- 7.5. Install a 1/4" x 1" self-drilling, self-tapping pan head Phillips screw in drilled hole (FIG. 7.2). Tighten securely.
- 7.6. If the step is being installed on the 5' (nominal) side of a platform, or the step is being used with a platform extender (see 'OPTIONAL EQUIPMENT – STEPS ON PLATFORM EXTENDER' for more information), repeat the preceding procedures on the opposite side of the step and complete the remaining step(s) in this section. Otherwise, proceed to the next section.

**FIG. 7.1**

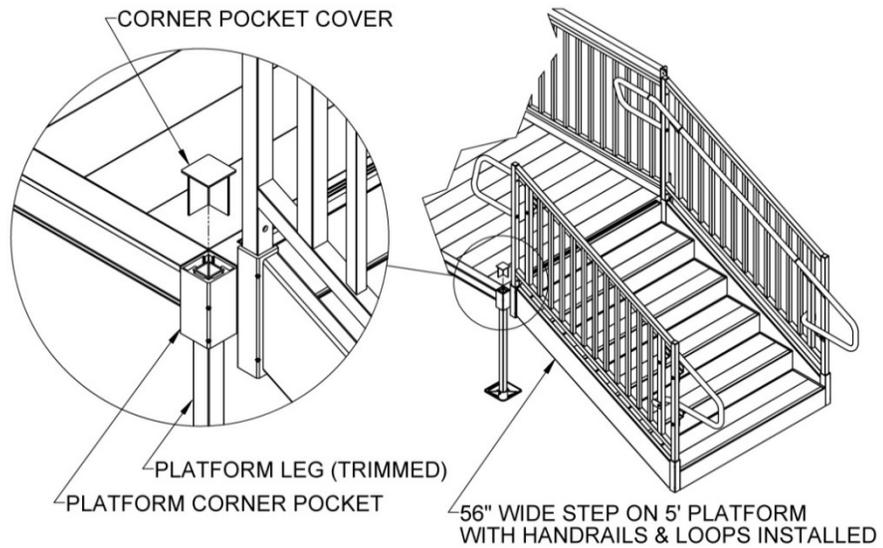


**FIG. 7.2**



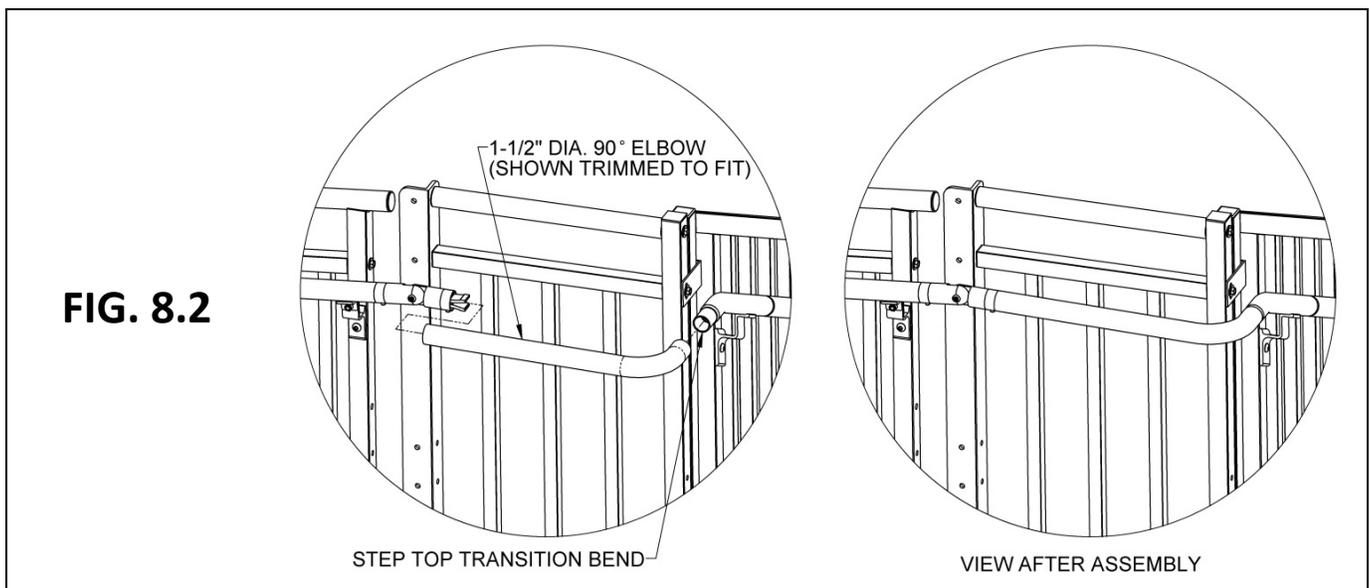
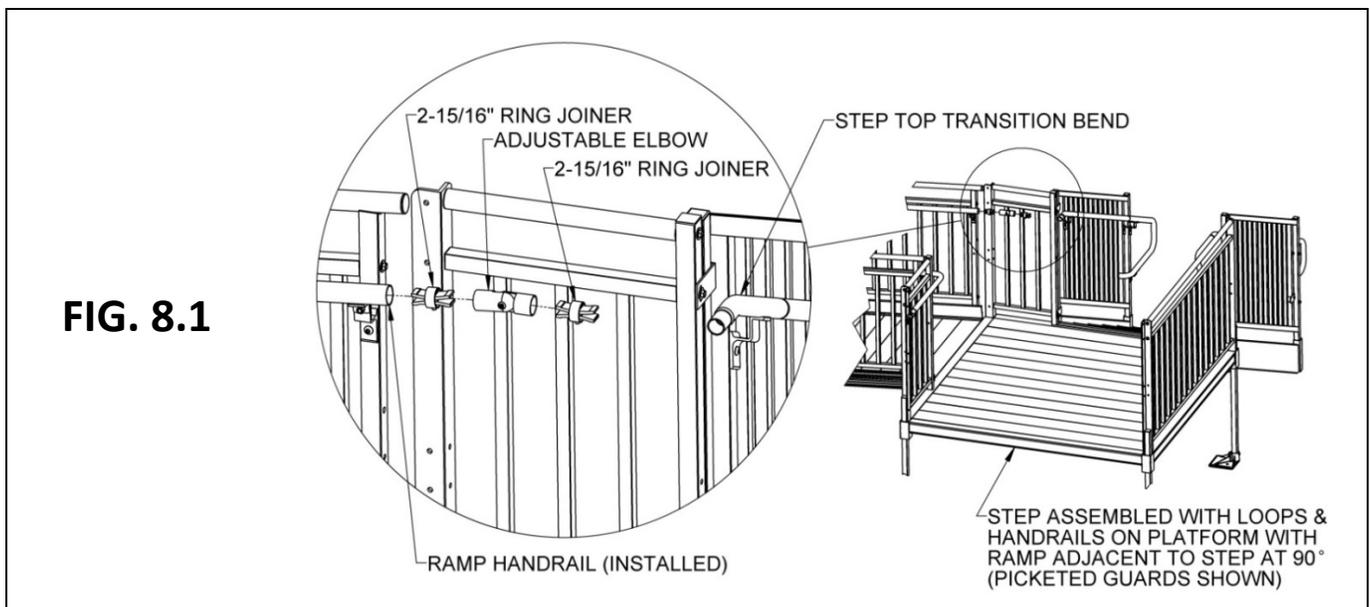
- 7.7. In the one platform corner pocket where no platform angle post is installed, trim the platform leg flush or slightly below the walking surface, then install a corner pocket cover (FIG. 7.3). Refer to 'PLATFORMS' section in the main TITAN™ Code Compliant Modular Access System Instruction Manual for securing the corner pocket cover in place.
- ✎ There will not be an open corner pocket when using a platform extender. Proceed to next section.

**FIG. 7.3**

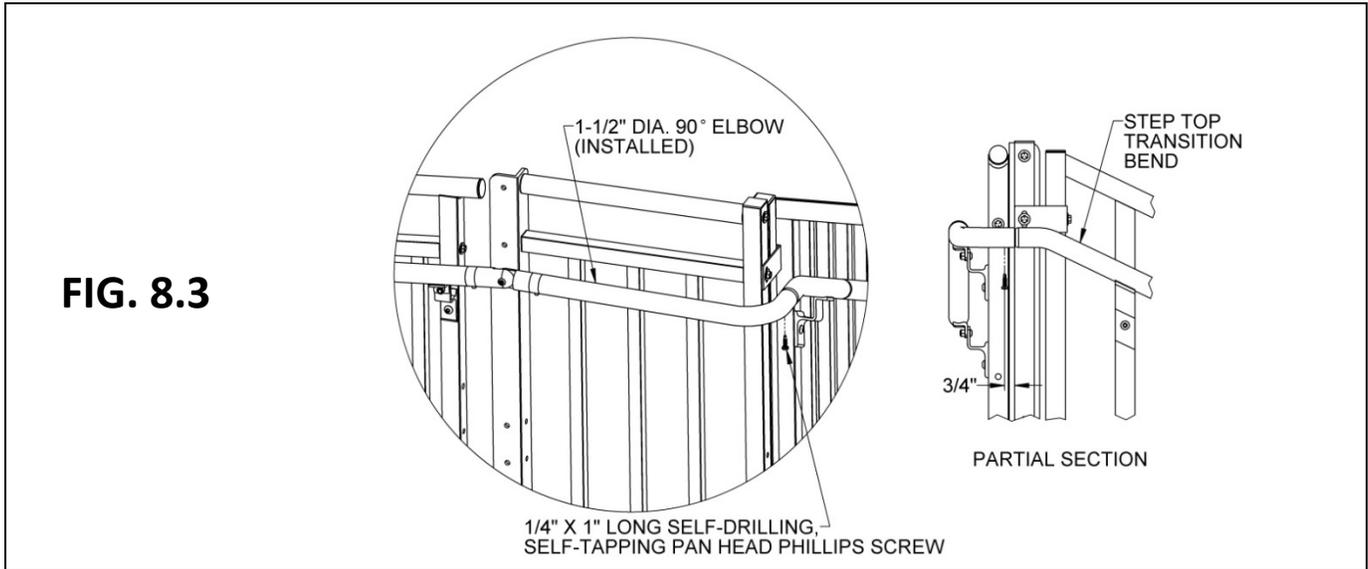


## 8. CONNECT STEP HANDRAIL TO RAMP HANDRAIL

- 8.1. Assemble and set all ramps, ramp guards or two-line rails, platforms, and platform guards or two-line rails as described in the TITAN™ Code Compliant Modular Access System Installation Manual.
- 8.2. Complete the step assembly, including handrail installation.
- 8.3. Insert a 2-15/16" ring joiner into the end of the ramp handrail (adjacent to the step at 90°), followed by an adjustable elbow, and then another 2-15/16" ring joiner. Orient the ring joiner setscrews toward the underside of the handrail.
- 8.4. Tighten the setscrews and the elbow assembly screw enough to hold the components in place but do not fully tighten at this time (FIG. 8.1).
  - ✎ The procedure for connecting a step handrail to a ramp handrail at the closure is the same for two-line rails and picketed guard closures.
- 8.5. Trim the short leg of the 90° bend (if needed) until the long leg aligns with the 2-15/16" ring joiners and adjustable elbow while the short leg extends over the swaged end of the top transition bend as far as possible. Trim the long leg of the 90° bend until it fits snugly between the top transition bend and the closest 2-15/16" ring joiner (FIG. 8.2).
- 8.6. Use a file to deburr all sharp edges from trimming.
- 8.7. Install trimmed 90° bend onto closest 2-15/16" ring joiner and tighten ring joiner setscrews securely. This may require disassembling/reassembling the halves of the adjustable elbow (FIG. 8.2).

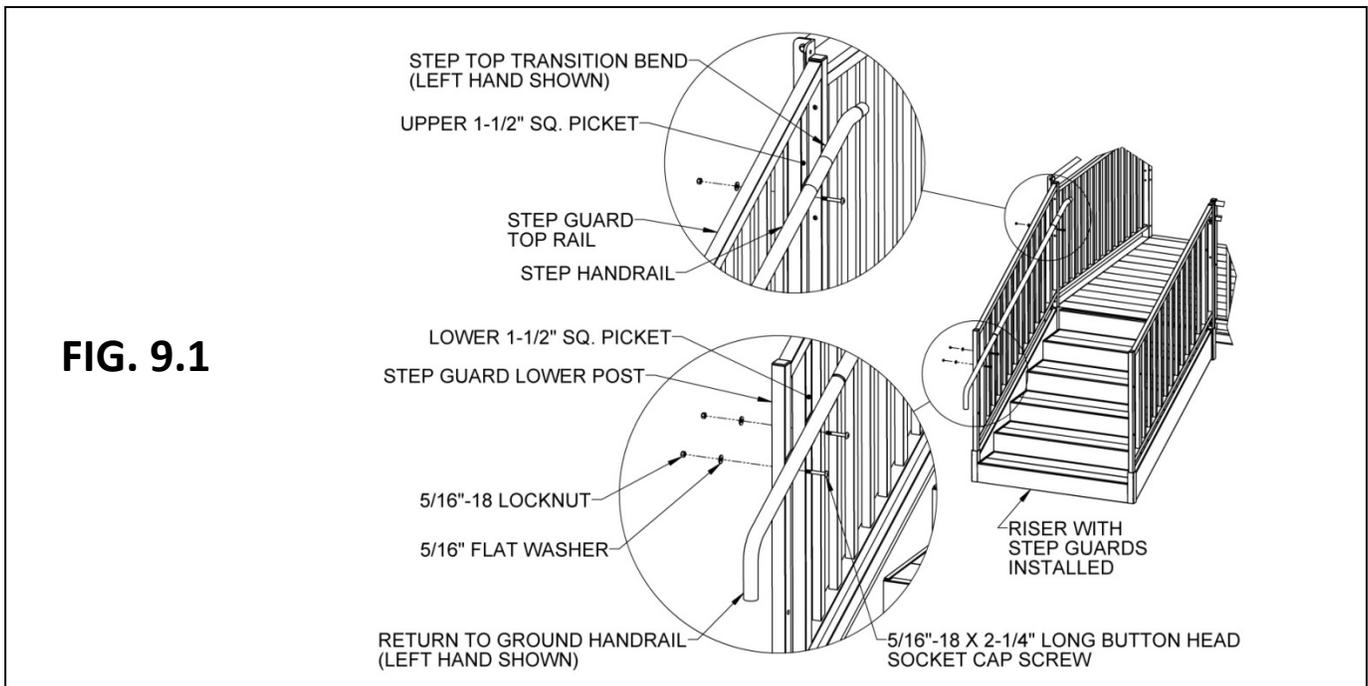


- 8.8. Drill a 1/8" pilot hole on the underside of the 90° bend at 3/4" from the end, through one wall of both the elbow and the swaged end of the top transition bend.
- 8.9. Insert a 1/4" x 1" self-drilling, self-tapping pan head Phillips screw into drilled hole (FIG. 8.3). Tighten securely.
- 8.10. Complete the steps in 'UPPER LOOP' section.
- 8.11. Tighten all fasteners securely.



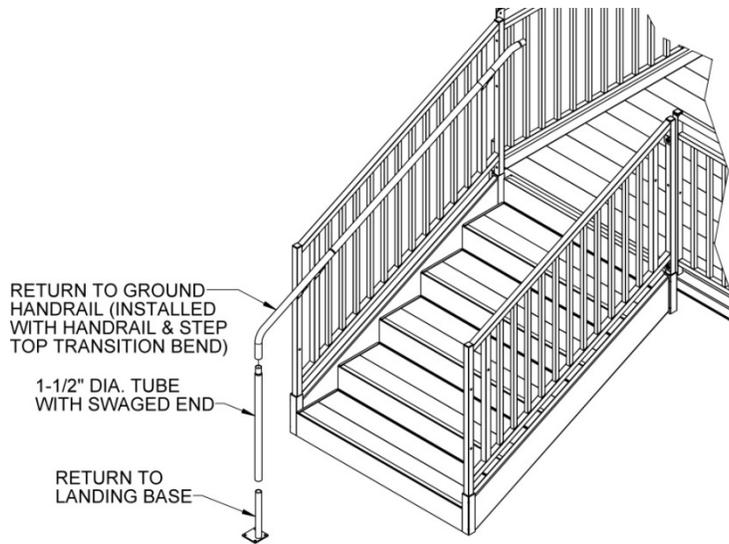
## 9. OPTIONAL EQUIPMENT – RETURN TO GROUND HANDRAIL

- 9.1. The step is available with an option to return the handrail to the ground. Attaching the return to ground handrail ("return to ground") is similar to attaching lower loops. Attach the return to ground to the lower step guard posts and 1-1/2" square pickets using 5/16"-18 x 2-1/4" button head socket cap screws, 5/16"-18 locknuts, and 5/16" flat washers oriented as shown (FIG. 9.1). Do not tighten fully at this time.
- 9.2. Attach top transition bend and install step handrail (FIG. 9.1) per 'STEP HANDRAILS' section.
- 9.3. If present, attach center handrail bracket per 'STEP HANDRAILS' section.

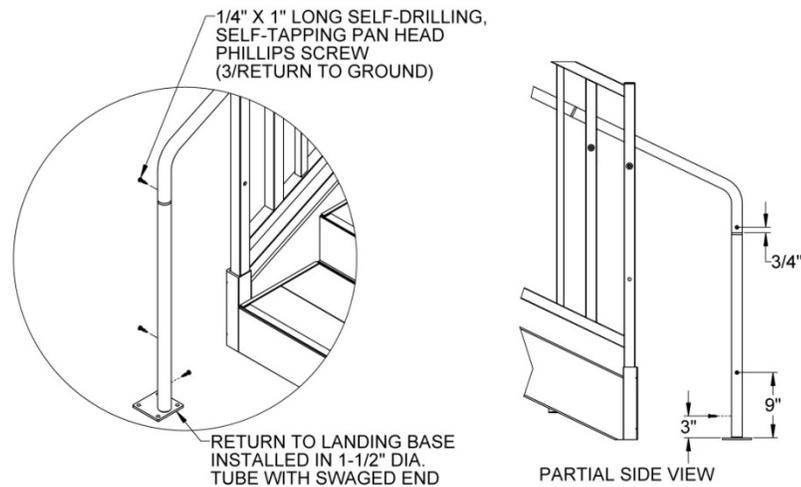


- 9.4. Insert a 1-1/2" diameter tube with swaged end into return to ground with the swaged end extending as far as possible into the return to ground, and then insert a return to landing base into the lower end of the 1-1/2" diameter tube with swaged end.
- 9.5. Trim the 1-1/2" diameter tube with swaged end until the lower end of the tube clears the welded area of the return to landing base, approximately 1/4" above the base plate (FIG. 9.2).
- 9.6. Drill a 1/8" pilot hole on the outside of the return to ground at 3/4" from the end, through one wall of both the return to ground and the swaged end of 1-1/2" diameter tube with swaged end (FIG. 9.3).
- 9.7. Orient return to landing base away from the walking area, and then drill two 1/8" pilot holes, one on the outside and one on the riser side at 90° apart, through one wall of both the 1-1/2" diameter tube with swaged end and one wall of the return to landing base as follows (FIG. 9.3):
  - 9.7.1. Drill one hole 3" above the return to landing base plate.
  - 9.7.2. Drill one hole 9" above the return to landing base plate.
- 9.8. Install 1/4" x 1" self-drilling, self-tapping pan head Phillips screws into drilled holes (FIG. 9.3). Tighten securely.
- 9.9. Attach the return to landing base to the ground using the fasteners (not included) appropriate for the landing surface.
- 9.10. Repeat on the opposite side of the riser if needed.

**FIG. 9.2**



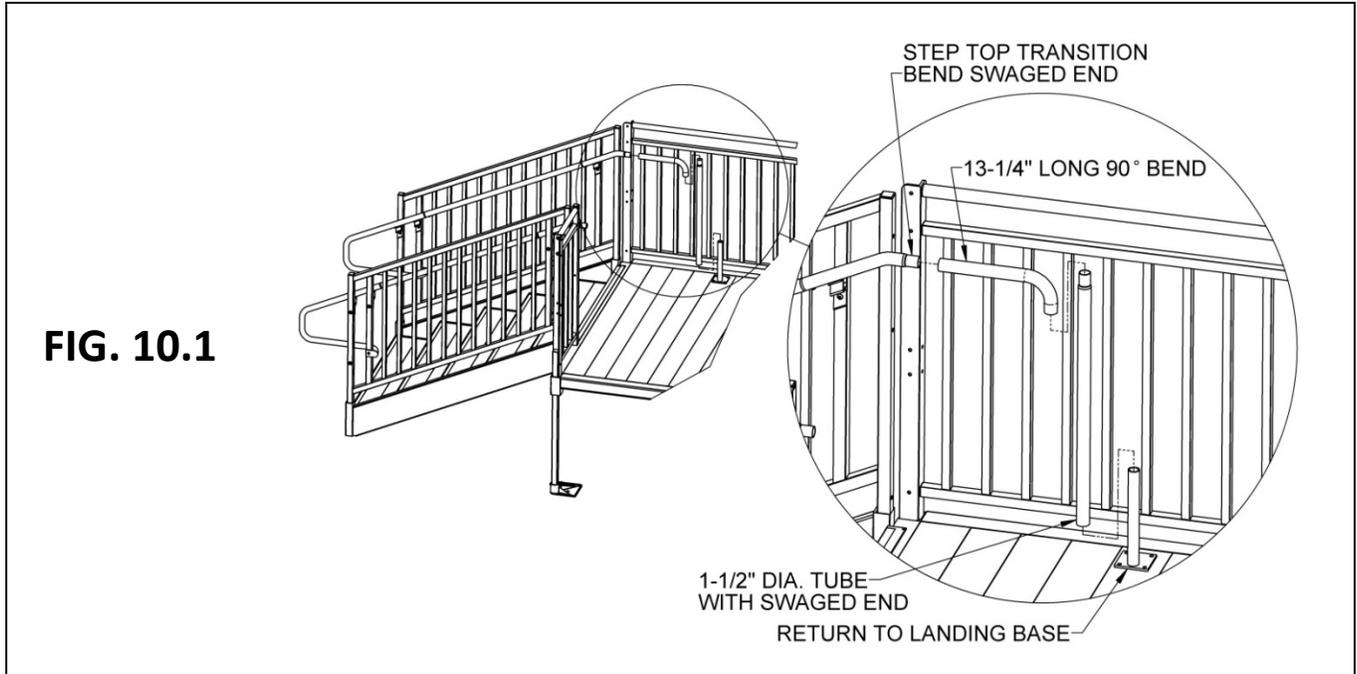
**FIG. 9.3**



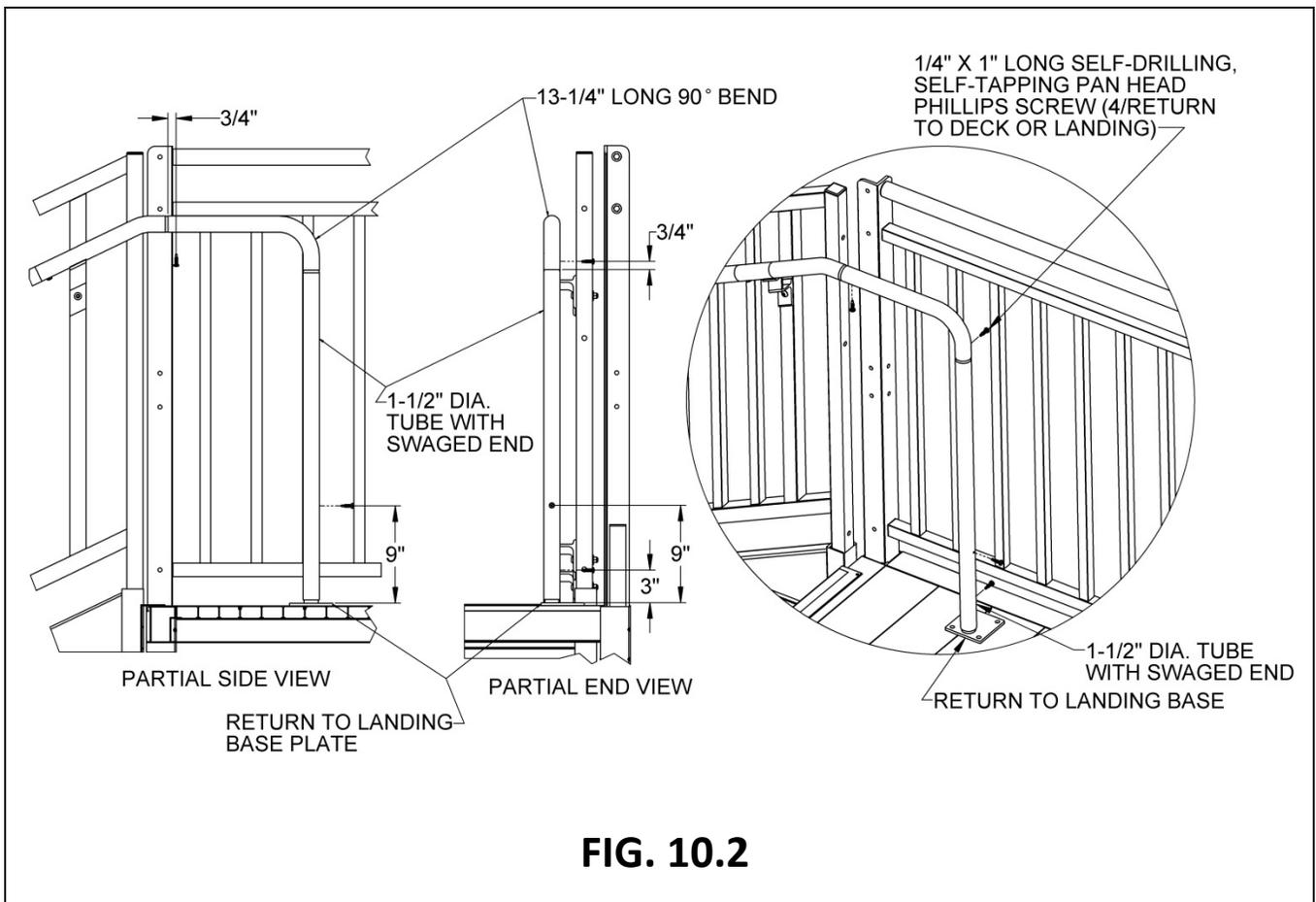
## 10. OPTIONAL EQUIPMENT – RETURN TO LANDING HANDRAIL

In addition to the return to ground at the bottom of the step, the step is also available with options to return the handrail to a landing or to an existing surface at the top of the step. There are options to continue (extend) the handrail parallel to the step or turn 90° before returning to the landing or existing surface.

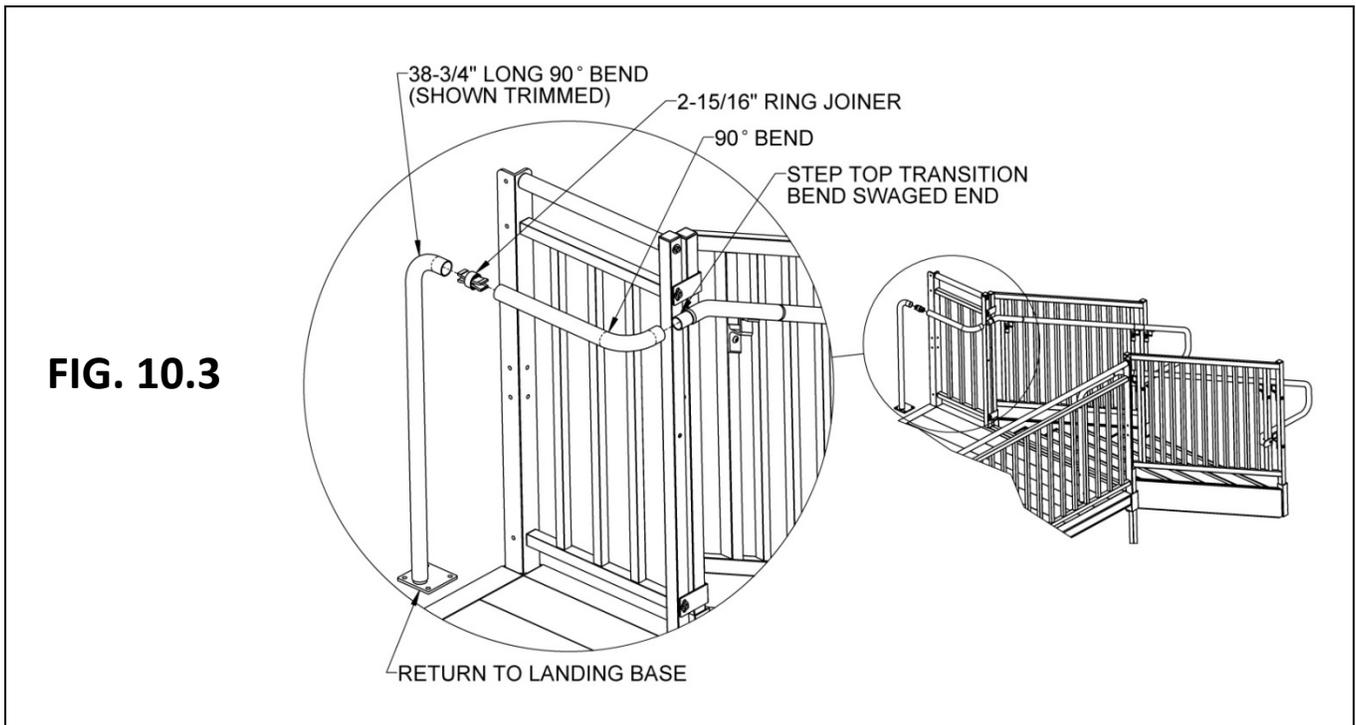
- 10.1. Assemble the riser, guards, and handrails as described in this manual.
- 10.2. If installing the return to landing handrail (“return to landing”) in line with the step handrail, install the long leg of the 13-1/4” long 90° bend over the swaged end of the top transition bend with the short leg oriented downward (FIG. 10.1).



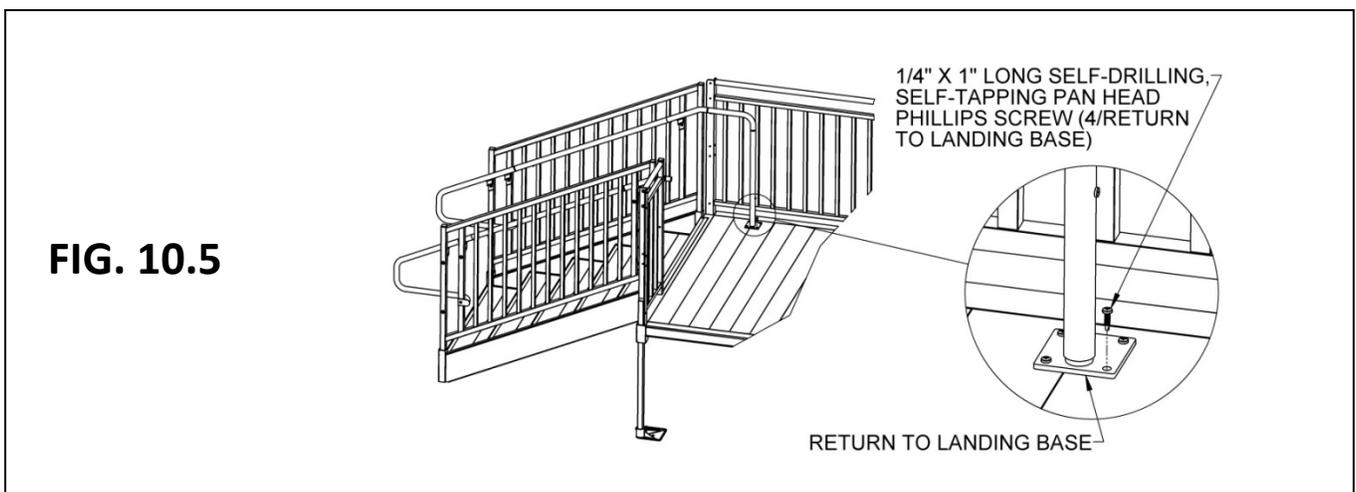
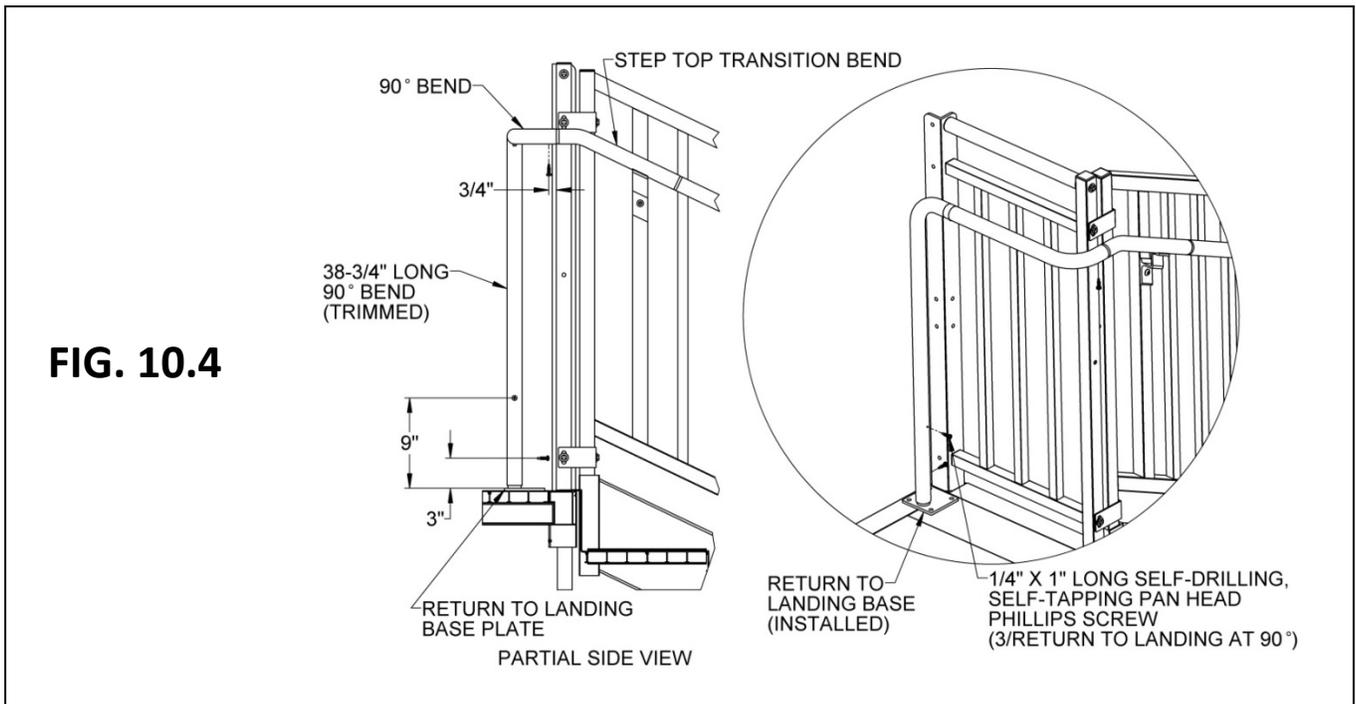
- 10.3. Insert a 1-1/2" diameter tube with swaged end into the short leg of the 13-1/4" long 90° bend with the swaged end extending as far as possible into the elbow and insert a return to landing base into the lower end of the 1-1/2" diameter tube with swaged end. Trim the 1-1/2" diameter tube with swaged end until the lower end of the tube clears the welded area of the return to landing base, approximately 1/4" above the base plate (FIG. 10.2).
- 10.4. Drill a 1/8" pilot hole on the underside of the long leg of the 13-1/4" long 90° bend at 3/4" from the end of the 13-1/4" long 90° bend through one wall of both the 13-1/4" long 90° bend and the swaged end of the top transition bend (FIG. 10.2).
- 10.5. Drill another 1/8" pilot hole on the outside of the short leg of the 13-1/4" long 90° bend at 3/4" from the end of the 13-1/4" long 90° bend through one wall of both the 13-1/4" long 90° bend and the swaged end of the 1-1/2" diameter tube with swaged end (FIG. 10.2).
- 10.6. Orient return to landing base away from the walking area then drill two 1/8" pilot holes, one on the outside and one on the riser side at 90° apart, through one wall of both the 1-1/2" diameter tube with swaged end and one wall of the return to landing base as follows (FIG. 10.2):
  - 10.6.1. Drill one hole 3" above the return to landing base plate.
  - 10.6.2. Drill one hole 9" above the return to landing base plate.
- 10.7. Install 1/4" x 1" self-drilling, self-tapping pan head Phillips screws in drilled holes (FIG. 10.2). Tighten all fasteners securely.



- 10.8. If installing the return to landing so that it turns 90° at the upper landing, install the short leg of the 90° bend over the swaged end of the top transition bend with the long leg oriented in the direction of the turn desired.
- 10.8.1. The long leg of the 90° bend may need to be trimmed, depending on where you want the return to landing handrail to terminate. Hold the long leg of the 90° bend level until the installation is complete (FIG. 10.3).
- 10.9. Insert a 2-15/16" ring joiner into the long leg of the 90° bend and the short leg of a 38-3/4" long 90° bend onto the opposite end of the joiner. Orient the long leg of the 38-3/4" long 90° bend downward toward the landing, then trim the long leg until it clears the welded area of a return to landing base (approximately 1/4" above the base plate) and insert the return to landing base into the cut end of the 90° bend. Remove the trimmed 90° bend from the ring joiner and reassemble as needed (FIG. 10.3).
- 10.10. Use a file to deburr all sharp edges from trimming.
- 10.11. Orient the ring joiner setscrew toward the underside of the handrail then, using a 5/32" allen wrench, tighten the joiner setscrew securely.

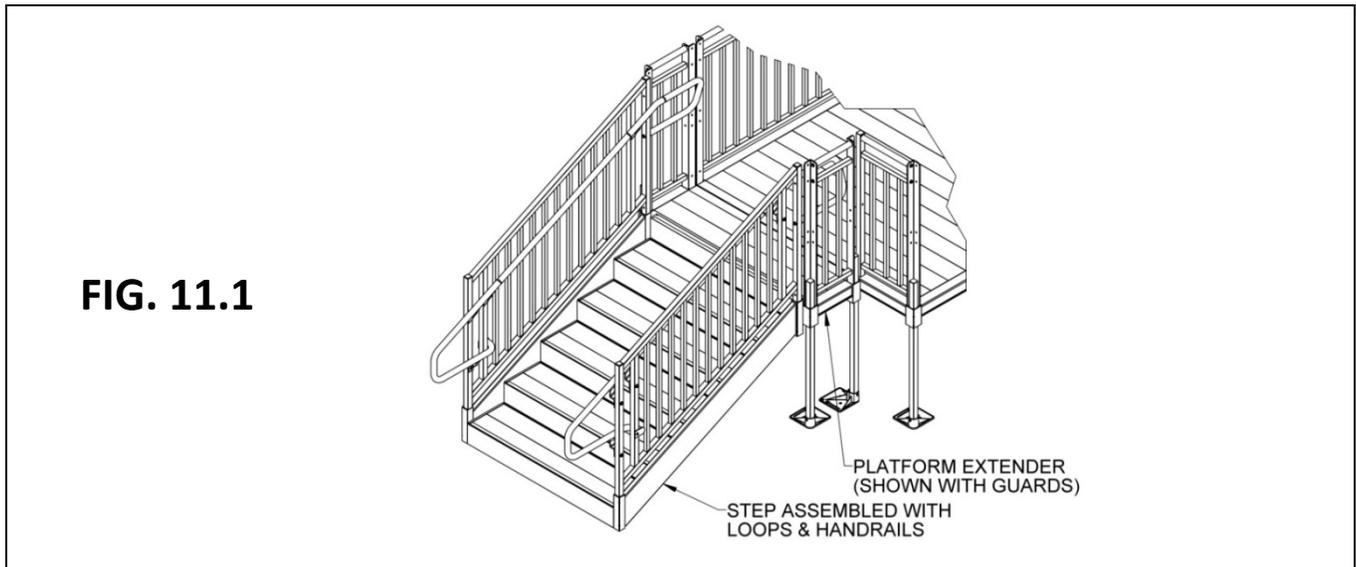


- 10.12. Drill a 1/8" pilot hole on the underside of the short leg of the 90° bend at 3/4" from the end of the 90° bend, through one wall of both the 90° bend and the swaged end of the top transition bend (FIG. 10.4).
- 10.13. Orient return to landing base away from the walking area, then drill two 1/8" pilot holes, one on the outside and one on the riser side at 90° apart, through one wall of both the 1-1/2" diameter tube with swaged end and one wall of the return to landing base as follows (FIG. 10.4):
  - 10.13.1. Drill one 3" above the return to landing base plate.
  - 10.13.2. Drill one 9" above the return to landing base plate.
- 10.14. Install 1/4" x 1" self-drilling, self-tapping pan head Phillips screws into drilled holes (FIG. 10.4). Tighten securely.
- 10.15. If the return to landing base attaches to a TITAN platform, install four 1/4" x 1" long self-drilling, self-tapping hex washer head screws through the holes in the base plate (FIG. 10.5). Tighten securely.
- 10.16. If the return to landing base attaches to an existing surface, attach the return to landing base using fasteners (not included) appropriate for the landing surface you are attaching to.



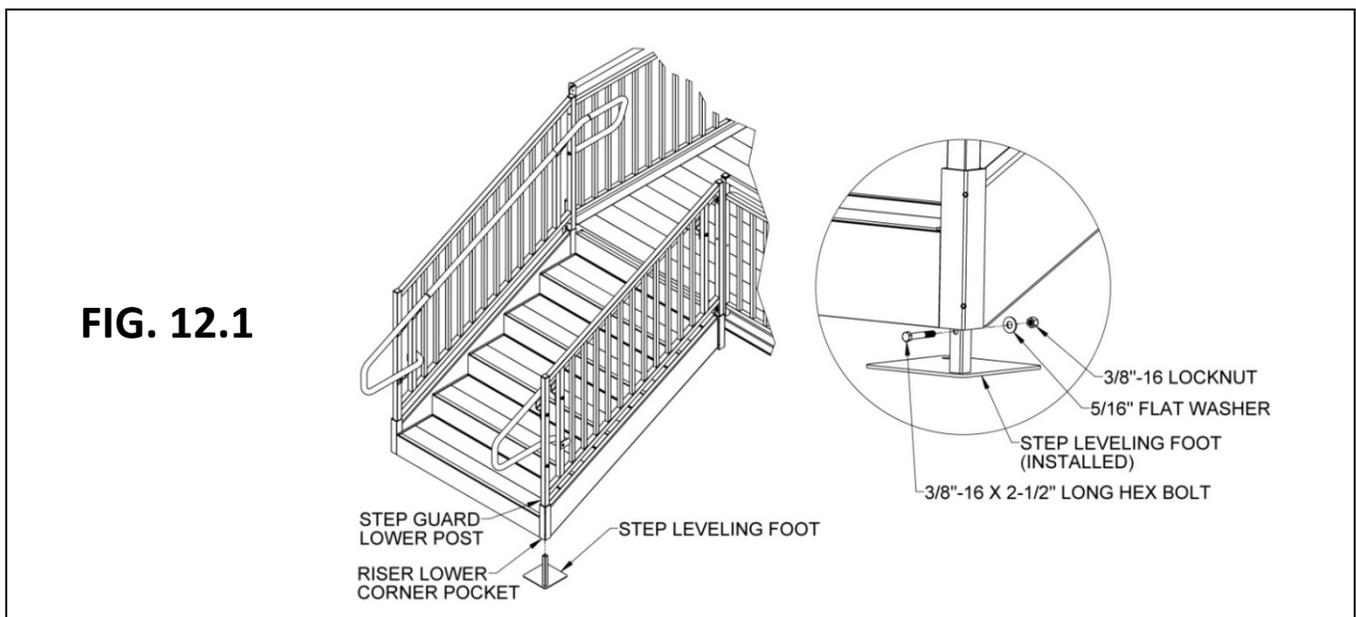
## 11. OPTIONAL EQUIPMENT – STEPS ON PLATFORM EXTENDER

- 1.1. Assemble and set all platforms and platform guards or two-line rails (including the platform extender and platform extender closure) as described in the main TITAN Code Compliant Modular Access System Installation Manual.
- 1.2. Assemble the step as described in this manual with upper loops on both sides of the step and the step centered on the 1-ft x 5-ft platform extender (FIG. 11.1).



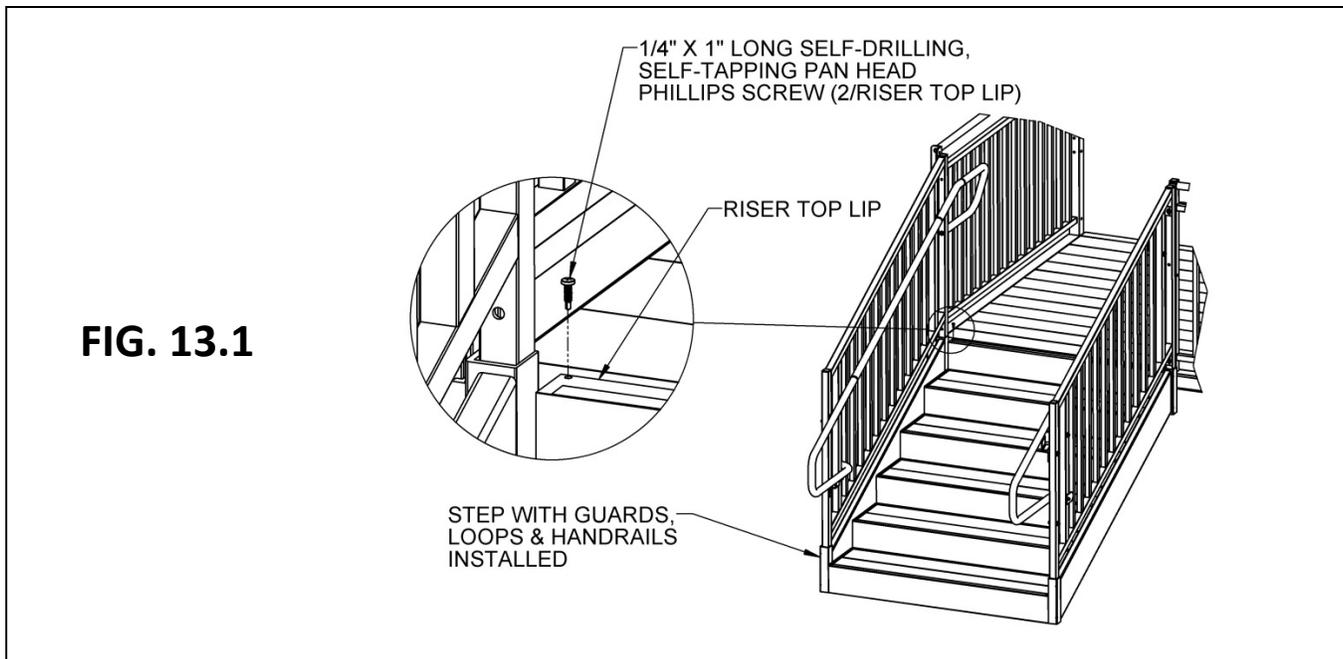
## 12. LEVELING FEET

- 12.1. Leveling feet are provided with the system step. When adjusting the system step, be mindful of applicable building codes and ADA guidelines. The ground must be leveled at the proper height with respect to the platform.
  - ⚠ EZ-ACCESS will not be responsible for any costs or liabilities resulting from use of the leveling feet.
- 12.2. Insert a leveling foot into the bottom of the lower step guard post, oriented so the foot is under the riser and sitting on the ground (FIG. 12.1). This may require lifting the step.
- 12.3. Drill a 13/32" hole through the leg of the leveling foot, directly under the step lower corner pocket and parallel to the step. Insert 3/8"-16 x 2-1/2" long hex bolt, 3/8"-16 locknut, and 3/8" flat washer, oriented as shown, through the drilled hole (FIG. 12.1). Tighten securely.
- 12.4. Repeat on the opposite side of the step, if needed.



### 13. FINAL STEPS AND CHECKS

- 13.1. Attach the top lip of the step to platform side rail using two 1/4" x 1" self-drilling, self-tapping pan head Phillips screws (FIG. 13.1).
- 13.2. Ensure all fasteners are in place and secure.
- 13.3. Walk on the assembled system, checking for any undue movement. If undue movement is discovered, review the entire assembly process to ensure no processes were missed.
- 13.4. Remove any debris and metal chips.
- 13.5. Ensure that the level and slope has not shifted during installation.



### 14. DEICING

- 14.1. Always follow the deicing agent manufacturer's directions.
  - ⚠ For the safety of all users, it is important to keep your system clear of snow, ice, and other debris.
  - ⚠ EZ-ACCESS® will not be held responsible for any injuries or damages that arise from the information provided. Always check with the deicing product's manufacturer or your local supplier to determine which method is best for your situation. Manufacturers of deicing products may make changes to their products as well as recommended functions and usage requirements. The deicing method you choose should be researched with your deicer supplier so you can determine which method is best for you.
  - ⚠ After the snow and/or ice threat has cleared, be sure to clean the tread surface with mild soap and water (avoid alkaline detergents) to remove deicing residue.

PRODUCT	MINIMUM WORKING TEMP (°F)	SPEED OF ACTION	DAMAGES CONCRETE & METAL	HARMFUL TO PLANTS
MAGNESIUM CHLORIDE	-13	VERY FAST	NO	MODERATE
CALCIUM CHLORIDE	5	FAST	YES	YES
SODIUM CHLORIDE (SALT)	18	MODERATE	YES	YES
POTASSIUM CHLORIDE	25	SLOW	OK ON OLD CONCRETE	MODERATE
CALCIUM MAGNESIUM ACETATE (CMA)	25	SLOW	NO	NO

Information in the above table is taken from Fact Sheet FS707, Cooperative Extension Service, University of Maryland at College Park, University of Maryland Eastern Shore and was up to date at the time of this manual's publication.