



SafeRack G4 SAS Gangway



OWNER'S MANUAL

SafeRack G4 Self-Adjusting Stair (SAS) Gangway

THIS PRODUCT AND/OR IT'S COMPONENTS MAY BE COVERED BY ONE OR MORE PATENTS. SEE WWW.SAFERACK.COM/PATENTS



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G4 SAS GANGWAY



INTRODUCTION:

Thank you for purchasing a SafeRack G4 SAS Gangway.

Your new SafeRack gangway has been manufactured using the latest technologies, along with only the highest quality materials to ensure dependable service for years to come.

SafeRack's G4 SAS gangways are more ergonomic and last longer. Tested in the most critical applications, these gangways outperform all others. In addition to multiple lengths, the SAS gangway is available in 24", 36", 48", 60" and 72" widths. Adding fall protection cages is easy, and customized designs are available to meet difficult applications.

Please take care, to follow all guidelines and installation instructions to ensure your gangway performs as designed.

For further questions or concerns, please contact Customer Support at 866.761.7225

Thanks again for choosing SafeRack!

G4 SAS GANGWAY

IMPORTANT NOTES AND SPECIFICATIONS



Read carefully and understand all instructions before starting installation. Adhere to all instructions in manual.
FAILURE TO FOLLOW ALL INSTRUCTIONS MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.



DANGER! Electrical hazard; Unit is conductive.

Equipment should not be altered or modified from its original design without consultation with the manufacturer.

Equipment which is damaged or becomes damaged during use, handling, or shipping should be set aside and not used.

Unit is designed for a total load capacity of 500 lbs., handrails designed for 200 lbs., midrails designed for 100 lbs.

Available working range of 45° above horizontal to 40° below horizontal.



WARNING! This product can expose you to chemicals including cadmium, which is known to the State of California to cause cancer, and/or birth defect or other reproductive harm. For more information go to www.P65warnings.ca.gov

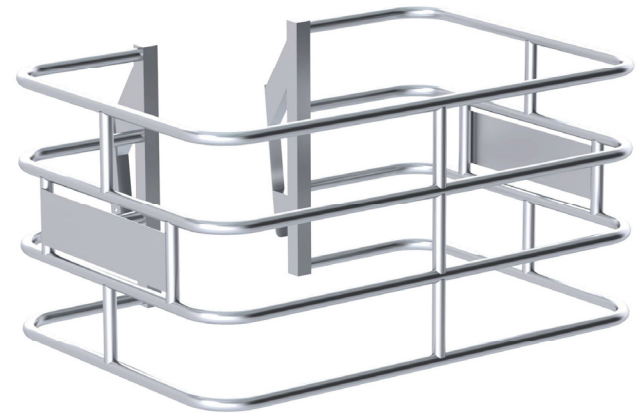
COMPONENTS



G4 SAS GANGWAY



CONTAINER OF
HARDWARE



OPTIONAL CAGE

PRE-ASSEMBLY



CONTAINER OF
HARDWARE

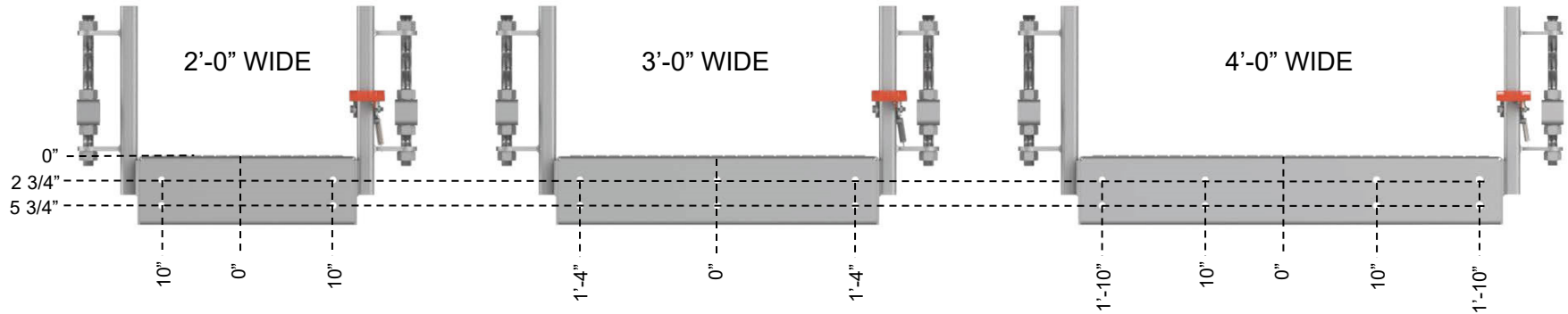


FORKLIFT

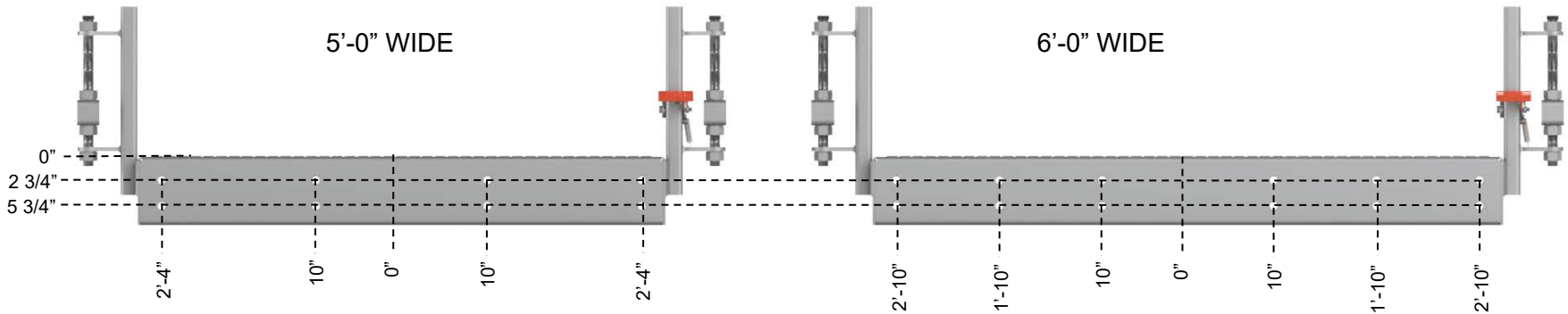
All hardware needed for assembly is located in a 5 gallon bucket shipped with the gangway. Inside you will find all hardware boxed and marked as to its proper location. It is recommended that a forklift, hoist, crane or other suitable lifting device be used for proper and safe assembly.

Please take a moment to inspect your new gangway. Please look for shipping damage or any loose banding which might indicate a missing part. Please check packing list against your unit to ensure all parts have arrived without damage.

STANDARD MOUNTING TEMPLATES



ALL MOUNTING HOLES
13/16" DIA. FOR 3/4" A325 BOLTS

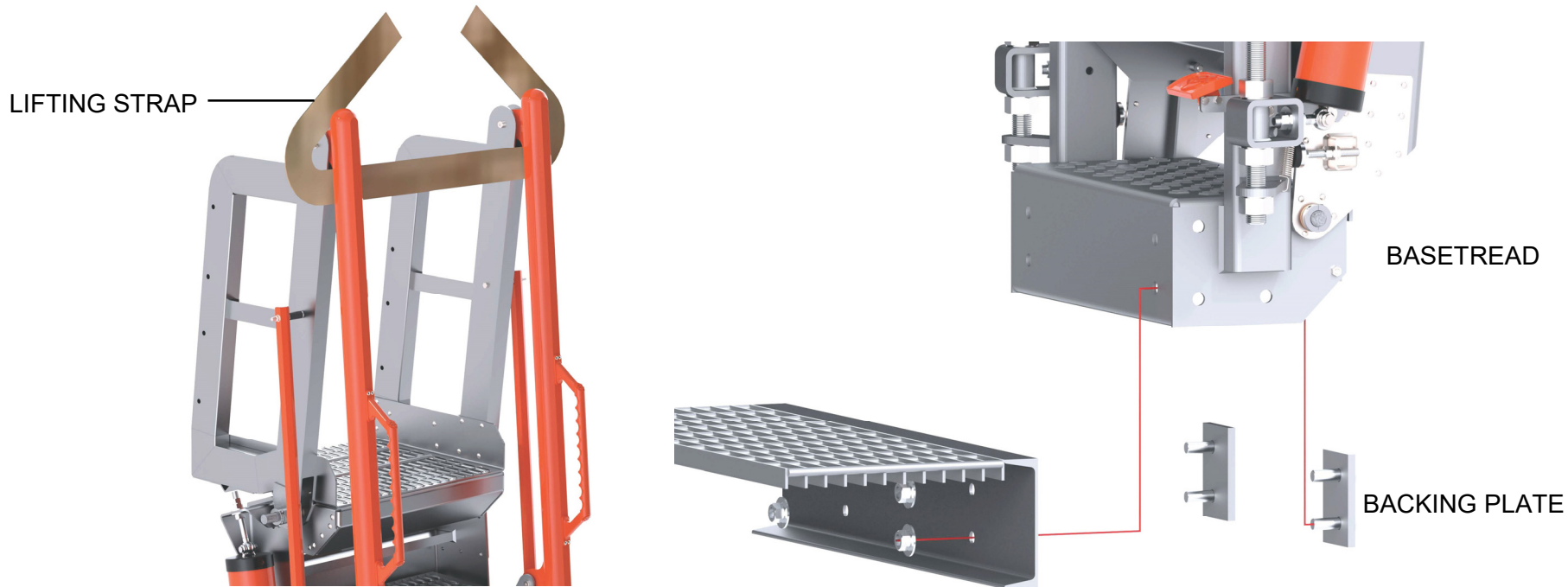


All bolt holes should be used when mounting gangway and backing plates should be used at each set of bolt holes.



WARNING! Top of gangway basetread should be flush with top of platform walk surface. **FAILURE TO DO SO CAN CREATE TRIPPING HAZARD.**

STANDARD MOUNTING INSTRUCTIONS

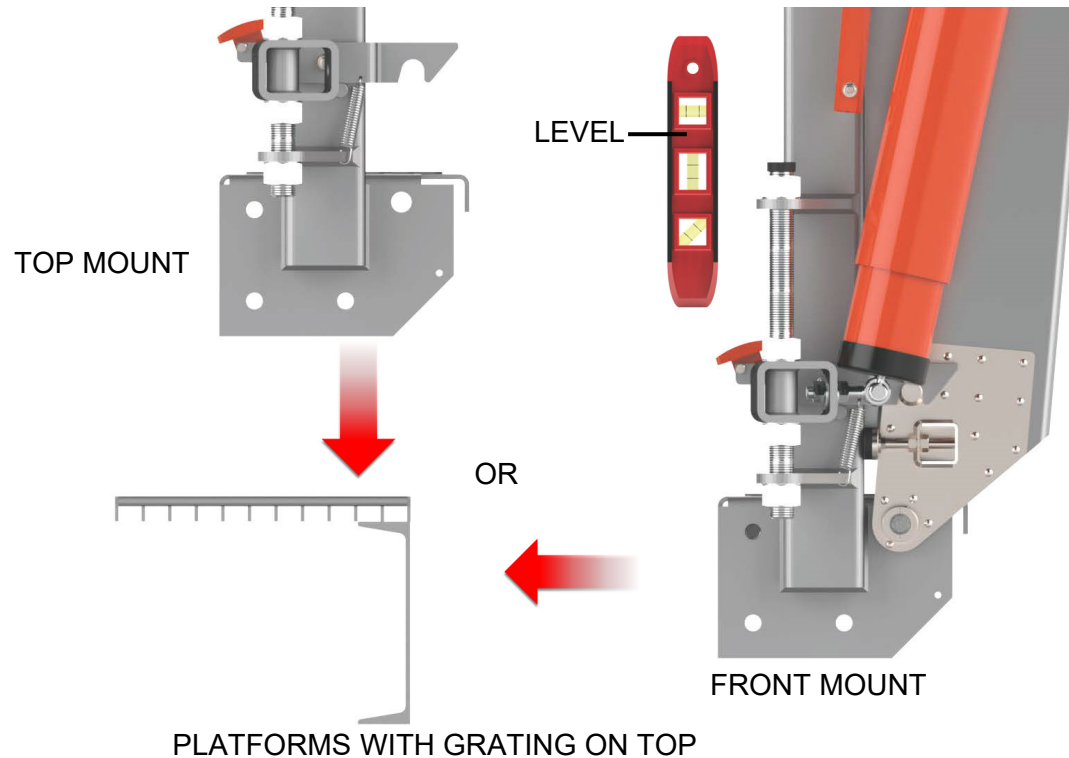


1. Pre-drill 13/16" diameter holes into existing platform using template shown on page 7. (SafeRack platforms will be pre-drilled.)
2. Lift gangway into place using correctly positioned lifting straps (as shown) and forklift, hoist, crane, or other suitable lifting device.
3. Loosely bolt gangway into place using bolts, nuts, washers and backing plate (as shown).
4. Verify gangway is plumb and square, then gangway walk surface should be level with the platform walk surface.
5. Tighten and torque all bolts. Use tightening/torque guide provided in this manual.



WARNING! Top of gangway basetread should be flush with top of platform walk surface. **FAILURE TO DO SO CAN CREATE TRIPPING HAZARD.**

OPTIONAL MOUNTING GUIDE USING SMALL ANGLE CLIP



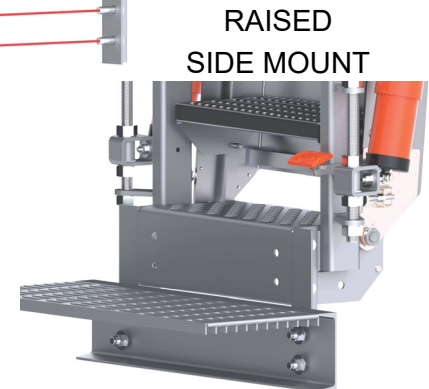
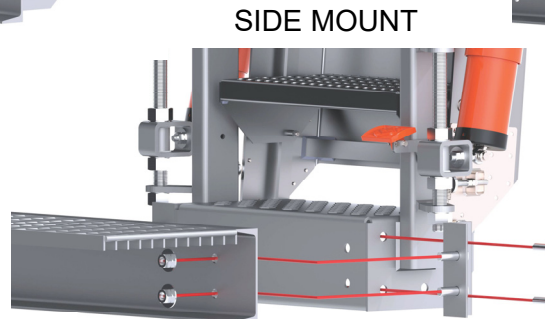
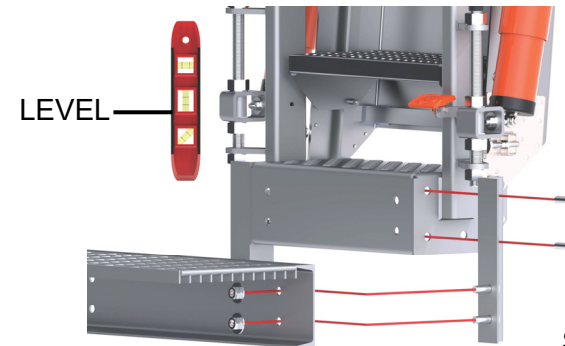
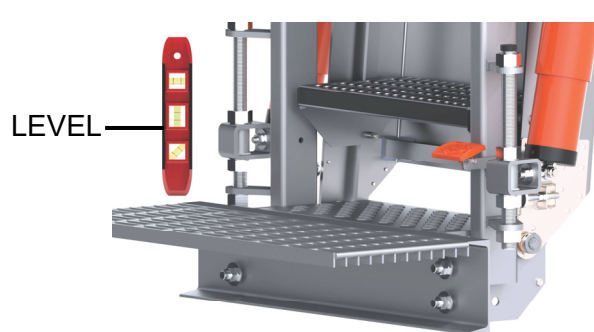
GANGWAY UPRIGHT MUST BE
PLUMB AND LEVEL AND
BASETREAD TOP MUST BE
FLUSH WITH WALK SURFACE

- 8" CHANNEL 1 1/4" GRATING
- 8" CHANNEL 1 1/2" GRATING
- 10" CHANNEL 1 1/4" GRATING
- 12" CHANNEL 1 1/4" GRATING
- 12" CHANNEL 1 1/2" GRATING

- 8" CHANNEL
- 10" CHANNEL
- 12" CHANNEL
- 15" CHANNEL

OPTIONAL MOUNTING CLIP

SIDE MOUNTING / RAISED MOUNTING



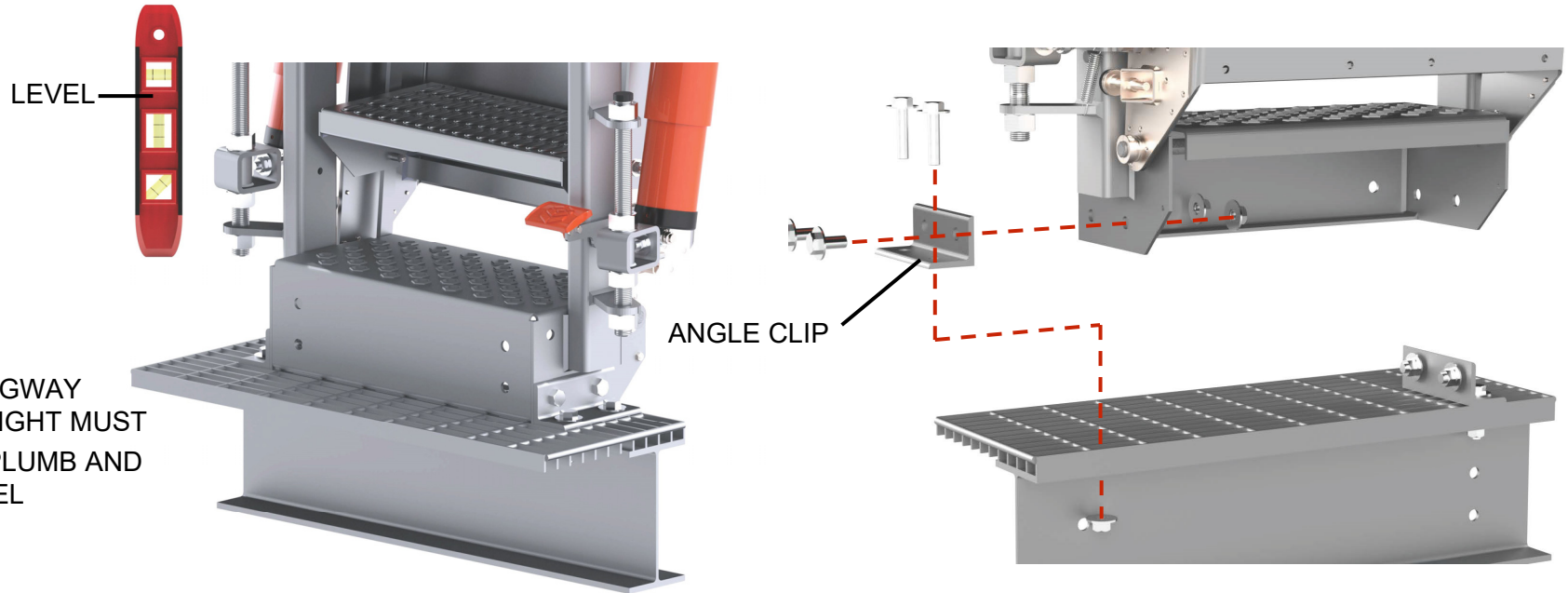
GANGWAY UPRIGHT MUST BE PLUMB AND LEVEL AND BASETREAD TOP MUST BE FLUSH WITH WALK SURFACE

1. Pre-drill 13/16" diameter holes into existing platform using mounting clips provided or refer to erection drawings (if applicable) for mounting pattern. (SafeRack platforms will be pre-drilled.)
2. Lift gangway into place using correctly positioned lifting straps (as shown on sheet 8) and forklift, hoist, crane, or other suitable lifting device.
3. Loosely bolt gangway into place using bolts, nuts, washers and backing plate (as shown).
4. Verify gangway is plumb and square, then gangway walk surface should be level with the platform walk surface.
5. Tighten and torque all bolts. Use tightening/torque guide provided in this manual.



WARNING! Top of gangway basetread should be flush with top of platform walk surface. **FAILURE TO DO SO CAN CREATE TRIPPING HAZARD.** (NOT APPLICABLE ON RAISED MOUNTING).

OPTIONAL MOUNTING CLIP TOP MOUNTING



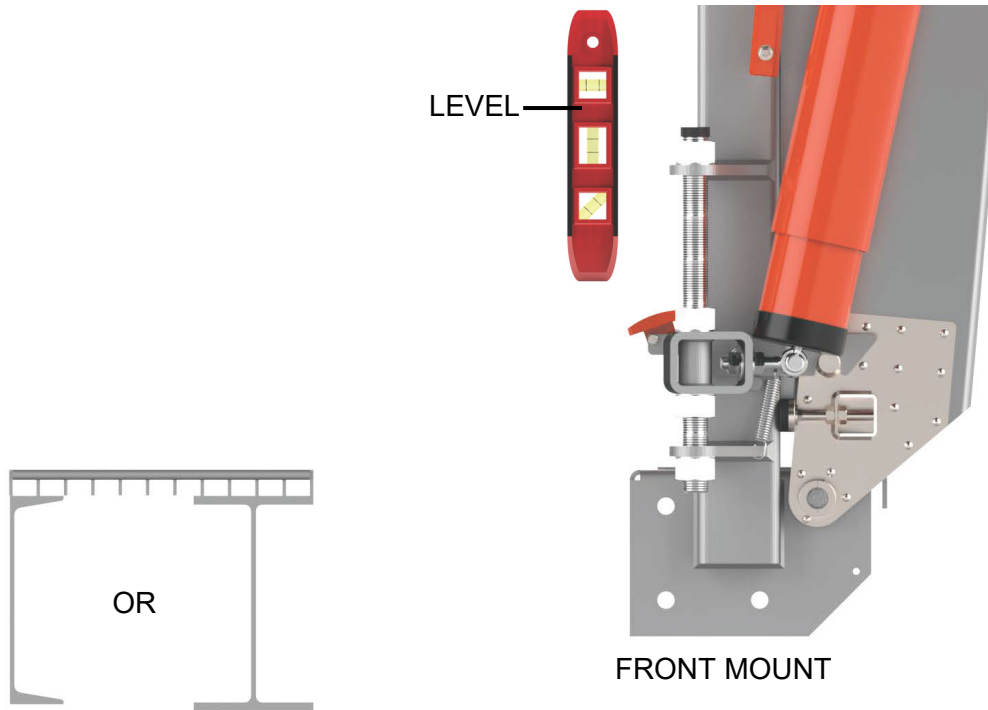
GANGWAY
UPRIGHT MUST
BE PLUMB AND
LEVEL

1. Pre-drill 13/16" diameter holes into existing platform using mounting clips provided or refer to erection drawings (if applicable) for mounting pattern. (SafeRack platforms will be pre-drilled.)
2. Mount angle clips to gangway as shown using 3/4" x 2 1/4" bolts, nuts and washers.
3. Verify gangway is plumb and square.
4. Use 3/4" bolts, nuts and washers to connect gangway to platform.
5. Tighten and torque all bolts. Use tightening/torque guide provided in this manual.



WARNING! BOLTS MUST BE ATTACHED TO STRUCTURAL MEMBER NOT JUST WALK SURFACE. SOME EXISTING PLATFORMS MAY REQUIRE ADDITIONAL SUPPORT FOR GANGWAY. REFER TO ENGINEERING DRAWING SPECIFICATION.

OPTIONAL MOUNTING GUIDE USING UNIVERSAL ANGLE CLIP



GANGWAY UPRIGHT MUST BE PLUMB AND LEVEL AND BASETREAD TOP MUST BE FLUSH WITH WALK SURFACE

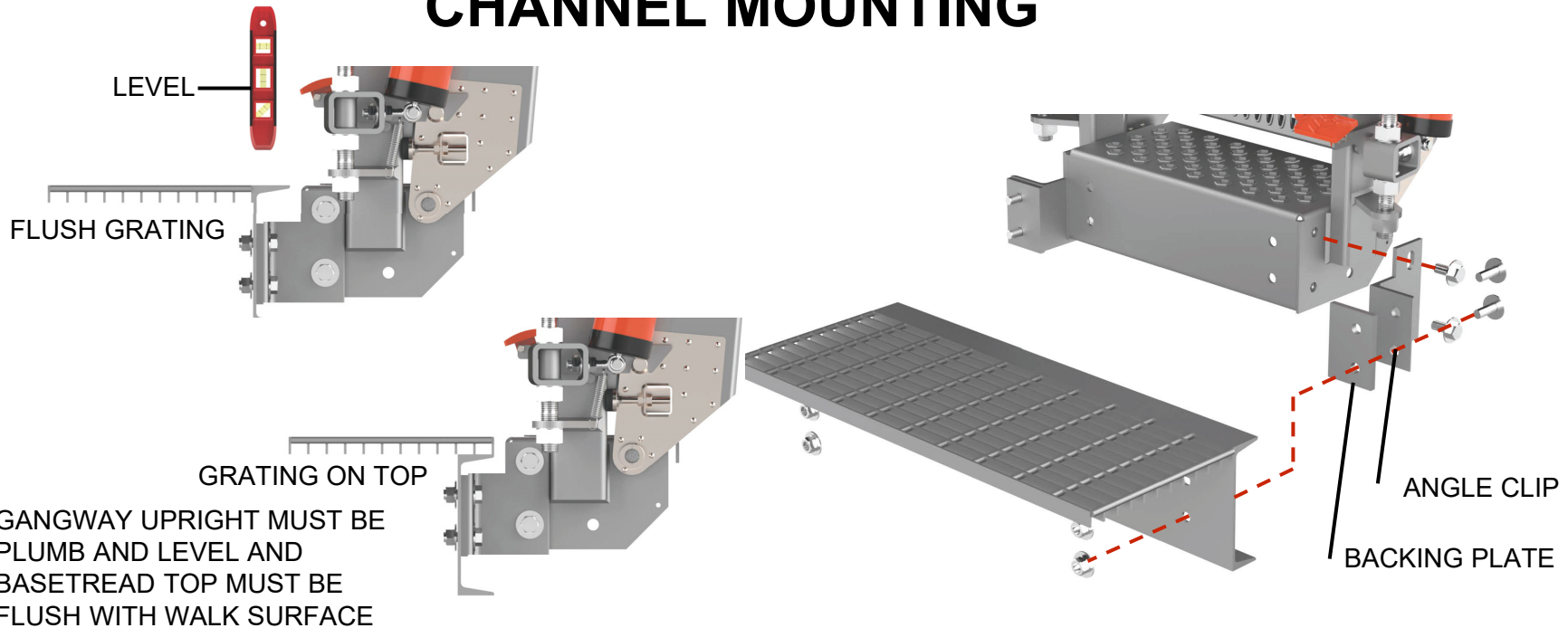
PLATFORMS WITH GRATING ON TOP

PLATFORMS WITH RECESSED GRATING

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • 8" CHANNEL 1 1/4" GRATING • 8" CHANNEL 1 1/2" GRATING • 10" CHANNEL 1 1/4" GRATING • 12" CHANNEL 1" GRATING • 12" CHANNEL 1 1/4" GRATING | <ul style="list-style-type: none"> • 8" BEAM 1 1/4" GRATING • 8" BEAM 1 1/2" GRATING • 10" BEAM 1 1/4" GRATING • 10" BEAM 1 1/2" GRATING (UP TO AND INCLUDING W10x30) | <ul style="list-style-type: none"> • 12" BEAM 1 1/4" GRATING • 12" BEAM 1 1/2" GRATING (UP TO AND INCLUDING W12x35) |
|--|---|---|

- 10" CHANNEL
- 12" CHANNEL
- 15" CHANNEL
- 10" BEAM
- 12" BEAM

UNIVERSAL MOUNTING CLIP CHANNEL MOUNTING



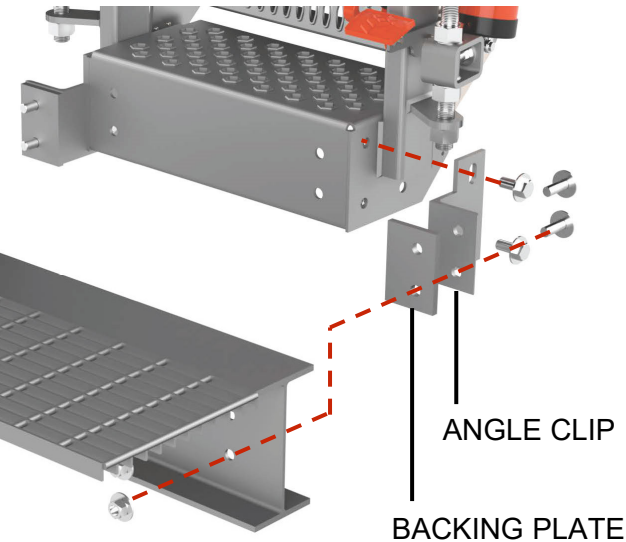
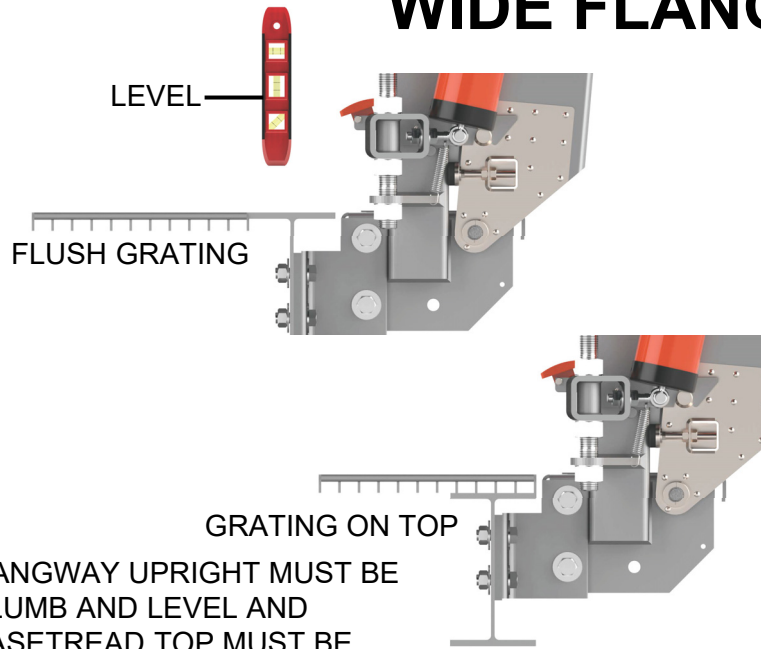
GANGWAY UPRIGHT MUST BE
PLUMB AND LEVEL AND
BASETREAD TOP MUST BE
FLUSH WITH WALK SURFACE

1. Pre-drill 13/16" diameter holes into existing platform using mounting clips provided or refer to erection drawings (if applicable) for mounting pattern. (SafeRack platforms will be pre-drilled.)
2. Mount angle clips to gangway as shown using 3/4" x 2 1/4" bolts, nuts and washers.
3. Verify gangway is plumb and square.
4. Gangway walk surface should be level with the platform walk surface.
5. Use 3/4" bolts, nuts and washers to connect gangway to platform.
6. Tighten and torque all bolts. Use tightening/torque guide provided in this manual.



WARNING! Top of gangway basetread should be flush with top of platform walk surface. **FAILURE TO DO SO CAN CREATE TRIPPING HAZARD.**

UNIVERSAL MOUNTING CLIP WIDE FLANGE MOUNTING



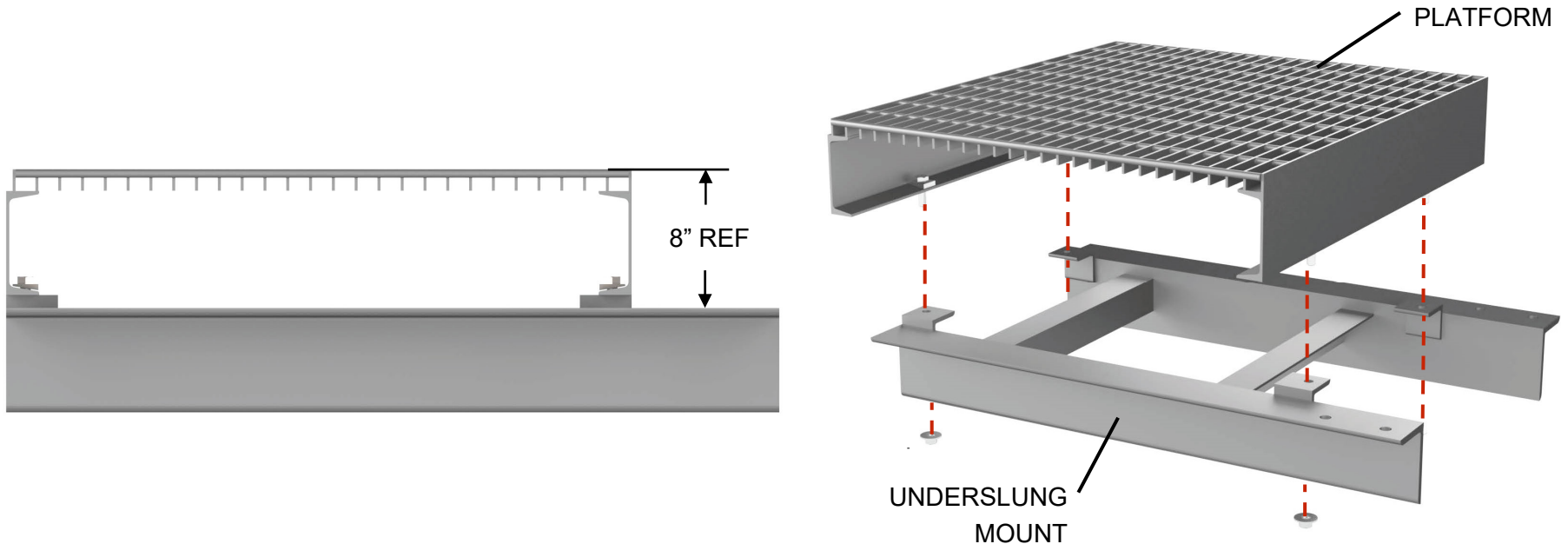
GANGWAY UPRIGHT MUST BE
PLUMB AND LEVEL AND
BASETREAD TOP MUST BE
FLUSH WITH WALK SURFACE

1. Pre-drill 13/16" diameter holes into existing platform using mounting clips provided or refer to erection drawings (if applicable) for mounting pattern. (SafeRack platforms will be pre-drilled.)
2. Mount angle clips to gangway as shown using $\frac{3}{4}$ " x 2 $\frac{1}{4}$ bolts, nuts and washers.
3. Verify gangway is plumb and square.
4. Gangway walk surface should be level with the platform walk surface.
5. Use $\frac{3}{4}$ " bolts, nuts and washers to connect gangway to platform.
6. Tighten and torque all bolts. Use tightening/torque guide provided in this manual.



WARNING! Top of gangway basetread should be flush with top of platform walk surface. **FAILURE TO DO SO CAN CREATE TRIPPING HAZARD.**

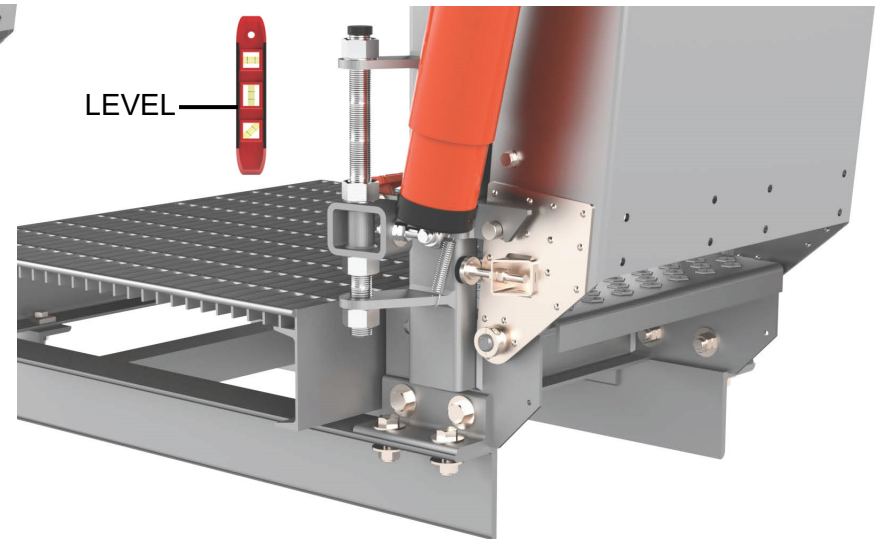
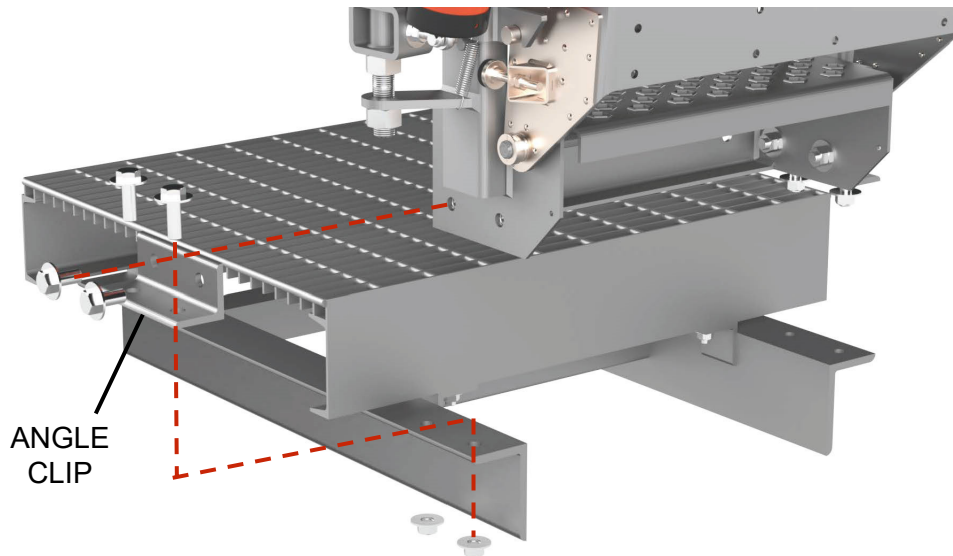
OPTIONAL MOUNT FOR UNDERSLUNG MOUNTING



1. Pre-drill 11/16" diameter holes into bottom flanges of existing platform using the underslung mount provided. Lift underslung mount in place under the platform using forklift, hoist, crane, or other suitable lifting device.
2. Loosely bolt mount into place using (4) 5/8" x 2" bolts, nuts, flat and bevel washers.
3. Verify mount is plumb and square. The top of the mount should be 8" below the platform walk surface.
4. Tighten and torque all bolts. Use tightening/torque guide provided in this manual.

(CONTINUED ON NEXT PAGE)

OPTIONAL MOUNT FOR UNDERSLUNG MOUNTING



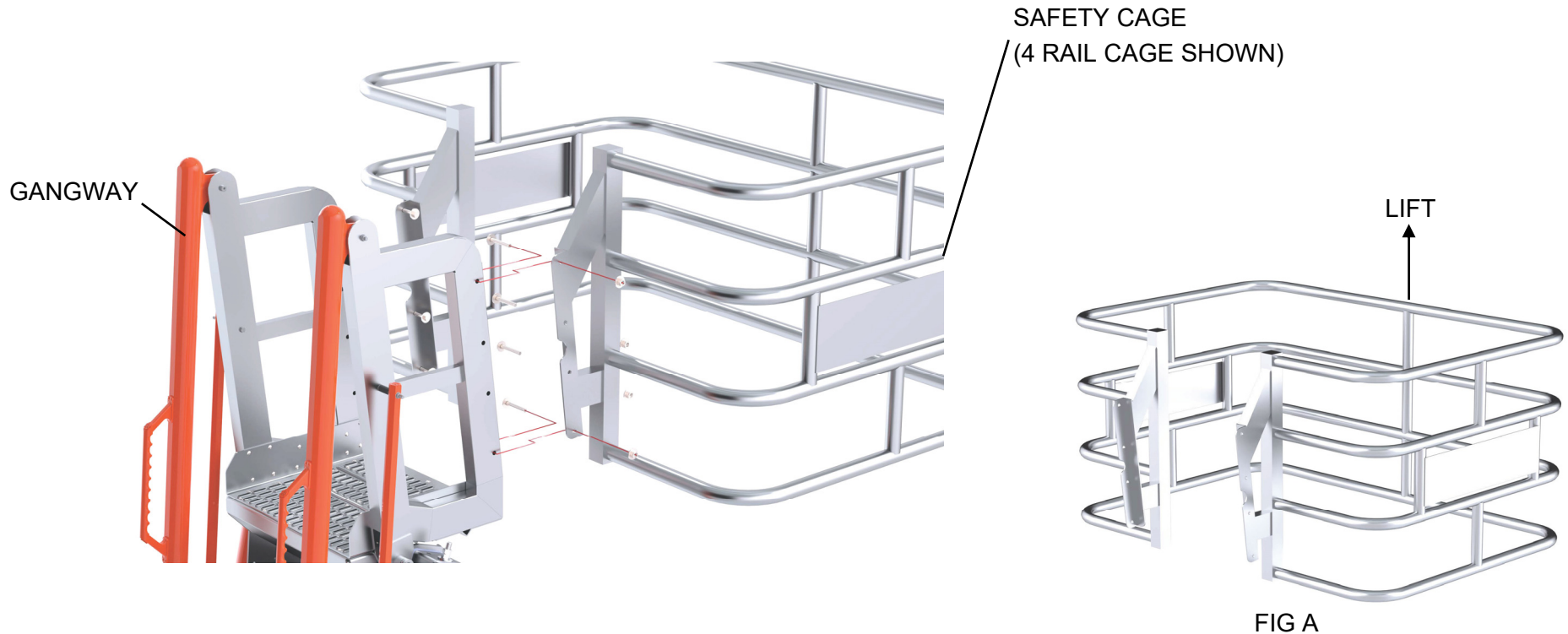
GANGWAY UPRIGHT MUST BE PLUMB AND LEVEL AND BASETREAD TOP MUST BE FLUSH WITH WALK SURFACE

6. Attach mounting clips to each side of gangway basetread using (4) 3/4" x 2 1/4" bolts, nuts, and washers.
7. Lift gangway in place using correctly positioned lifting straps and forklift, hoist, crane, or other suitable lifting device.
8. Loosely bolt gangway into place using remaining (4) 3/4" x 2 1/4" bolts, nuts, flat and bevel washers.
9. Verify gangway is plumb and square. The gangway walk surface should be level with the platform walk surface.
10. Tighten and torque all bolts. Use tightening/torque guide provided in this manual.



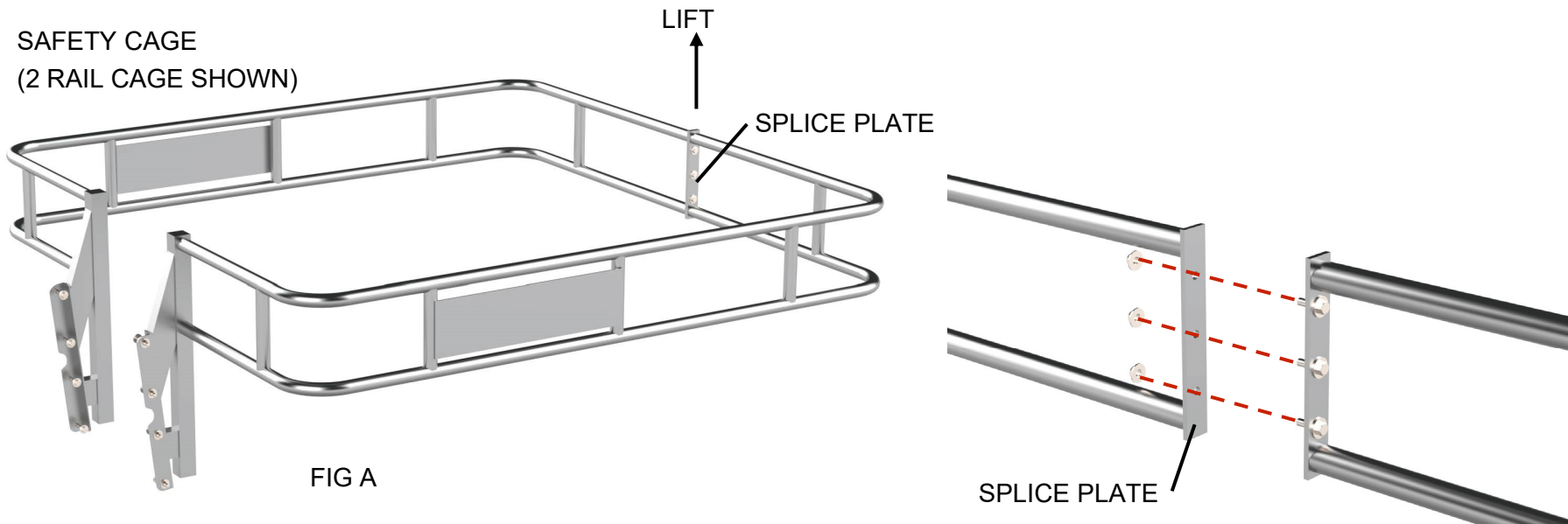
WARNING! Top of gangway basetread should be flush with top of platform walk surface. **FAILURE TO DO SO CAN CREATE TRIPPING HAZARD.**

OPTIONAL CAGE MOUNTING INSTRUCTIONS



1. Lift cage up to gangway.
2. Align holes in cage bracket with holes in gangway upright.
3. Use supplied s/s bolts w/ nuts and washers to attach cage as shown. Use anti-seize to help prevent s/s hardware from galling.
4. If cage appears to sag, loosen bolts, lift cage up from the front outside edge "off-level" and then retighten bolts. (FIG A)

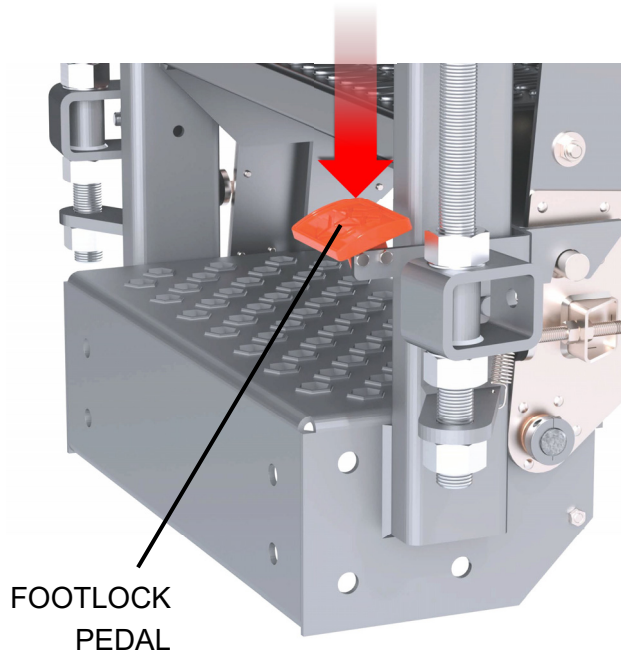
OPTIONAL CAGE INSTRUCTIONS



Some larger cages are spliced (as shown) and will need to be pre-assembled before attaching to gangway.

1. Align holes in cage splice plate located on the front of the cage.
2. Use supplied s/s bolts w/ nuts and washers to assemble cage. Be sure to tighten bolts during assembly.
3. Mount to gangway as shown on previous page.

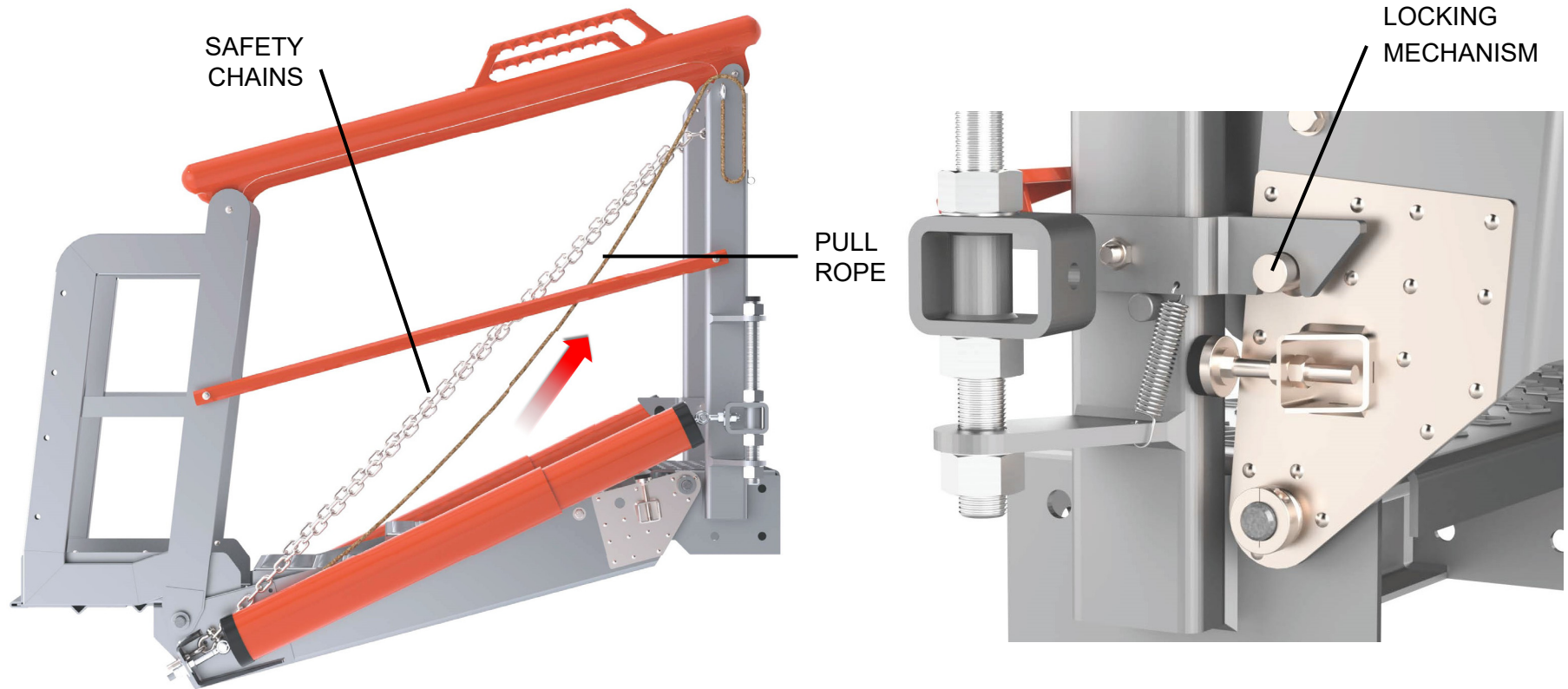
OPERATING INSTRUCTIONS TO LOWER GANGWAY



1. Check area around gangway to ensure that objects and equipment are clear of articulating path of gangway.
2. Verify safety chains are fully released (fully slack) before operation gangway.
3. Depress footlock pedal located on the right side of the base tread to unlock gangway unit.
4. Slowly lower the gangway using handles on top handrail. Lower unit until gangway end tread is approximately level with surface to be assessed.
5. Pull safety chains through basetread uprights and lock into keyhole tabs.
6. Ensure safety chains on both sides of gangway are secure before using.

Note: Chain can be twisted at each link to ensure a tight, even connection at each keyhole tab.

OPERATING INSTRUCTIONS TO RAISE GANGWAY



1. Check area around gangway to ensure that objects and equipment are clear of articulating path of gangway.
2. Raise gangway by pulling up on the nylon ropes attached to the left side of the gangway body.
3. Locking mechanism on right side of gangway will engage when gangway reaches stored position.
4. Pull safety chains through bassetread uprights and lock into keyhole tabs.

Note: When storing, verify that the locking mechanism is fully engaged before leaving gangway.

OPERATIONAL HAZARDS

WARNINGS

WHEN LOWERING UNIT:



- Keep both hands on the handles on top handrails.
- Keep hands away from pivoting parts.

See sheet 27 for potential pinch points.



- Do not ride gangway while in motion.
- Keep personnel and/or equipment clear of traveling area while unit is in motion.

FAILURE TO DO SO MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

BEFORE WALKING ON UNIT:



- Verify that the chain stops on both sides of the gangway are set.
- Unit must be supported on the vehicle or by the chain stops.
- Do not use the cage as a means of supporting the gangway. This can damage and/or break the cage.

FAILURE TO PROPERLY SUPPORT GANGWAY MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

WHEN RAISING UNIT:



- Grab the pull rope securely.
- Keep hands away from pivoting parts.

See sheet 27 for potential pinch points.

- When storing, make sure locking mechanism fully engages.

TROUBLE SHOOTING GUIDE

1. UNIT IS HARD TO LOWER OR RAISE.
 - A. Check for obstructions.
 - B. Use pull rope.
 - C. Check for gangway damage.
 - D. Springs need to be adjusted. (Refer to spring adjustment page)
2. UNIT FALLS TOO FAST WHEN LOWERING.
 - A. Spring attachment is broken.
 - B. Missing hardware.
 - C. Springs need to be adjusted. (Refer to spring adjustment page)
3. FOOTLOCK NOT ENGAGING.
 - A. Check for obstructions.
 - B. Spring stretched or broken.
 - C. Lock and/or pin is bent.
 - D. Check for gangway damage.
4. GANGWAY LEANING AWAY FROM PLATFORM.
 - A. Check for obstructions.
 - B. Bolts loose on mounting bracket/basetread mount.
 - C. Check for gangway damage.
5. SAFETY CAGE LEANING AND/OR SAGGING.
 - A. Check for obstructions.
 - B. Bolts loose where connected to gangway.
 - C. Cage bent or broken.
 - D. Check for gangway damage.
 - E. Bolts loose on mounting bracket/basetread mount.
6. SAFETY CHAINS WON'T ENGAGE
 - A. Check for obstructions.
 - B. Verify chains have not been replaced with ones that do not match original chain size/length.

MAINTENANCE

MONTHLY:

1. Check all bolted connections to ensure that they are properly tightened.
2. Inspect gangway for damage that may have occurred while in use, that may affect operation.
3. Inspect chain and spring connections. See spring hardware inspection.

BIANNUAL:

1. Lubricate all pivot points with a multi-purpose white lithium grease.
2. Inspect chain and shackle connections to insure there are no damage and/or missing pins.
3. Inspect all spring connections to insure there are no damaged and/or hardware.

NOTE: Spring tension is set at the manufacturing facility. Field adjustments should not be required. However, if the gangway becomes difficult to raise or lower, refer to the spring adjustment instructions in this manual. If the gangway is still difficult to operate, please contact SafeRack for assistance.

SPRING AND CHAIN HARDWARE INSPECTION

INSPECT CHAIN AND SPRING CONNECTIONS MONTHLY TO ENSURE THERE IS NO DAMAGED AND/ OR MISSING HARDWARE.

ROD ENDS, EYEBOLTS, SHACKLES, AND/ OR PINS CAN WEAR FROM USAGE (SEE IMAGES). IF SO, HARDWARE SHOULD BE REPLACED PERIODICALLY.

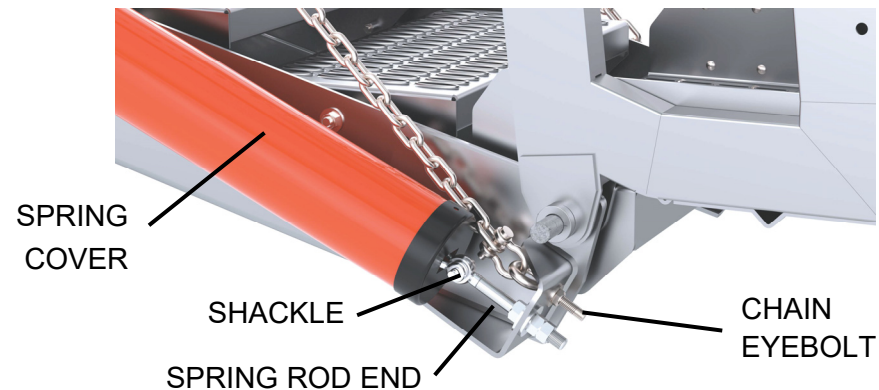
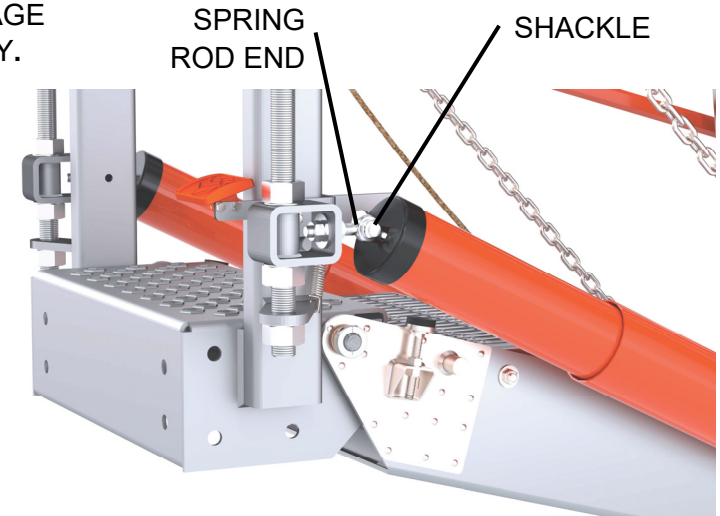
REPLACEMENT INSTALLATION (SPRING HARDWARE):

- 1) Raise the gangway to the upright, stored position and make sure it is locked in place.
NOTE: Verify that the chain stops on both sides of the gangway are set.
- 2) Remove bolt that holds spring cover in place, slide cover up/ down to expose shackle / eyebolt connection.
- 3) Remove worn hardware and replace with new hardware – mount in the same position as existing hardware. (Refer to spring assembly). Note: mark location of eyebolt on bracket before removing it to ensure proper location of new eyebolt.
- 4) Replace spring cover and bolt back in place in the original position.

REPLACEMENT INSTALLATION (CHAIN HARDWARE):

- 1) Remove existing worn shackle from locking tab on gangway.
- 2) Verify chain is not twisted.
- 3) Connect new shackle to chain and locking tab. Verify pin and cotter pin are secure.

NOTE: For chain replacement, verify chains match the original chain size and length.



SPRING ADJUSTMENT

NOTE: Any change in the weight of the gangway or cage can dramatically affect the gangway operation. If the gangway is supposed to have a cage and the cage has not been attached, do not operate the gangway until the cage is attached. The spring tension is set at the SafeRack factory and normally does not need adjustment. If necessary, try the tension adjustment procedures. If the gangway still does not operate in an acceptable manner, call SafeRack at 803-774-7225.

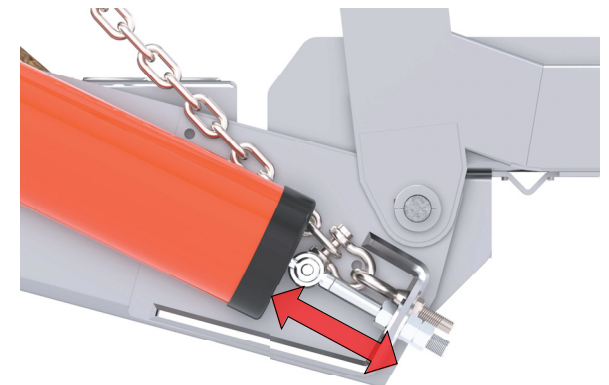
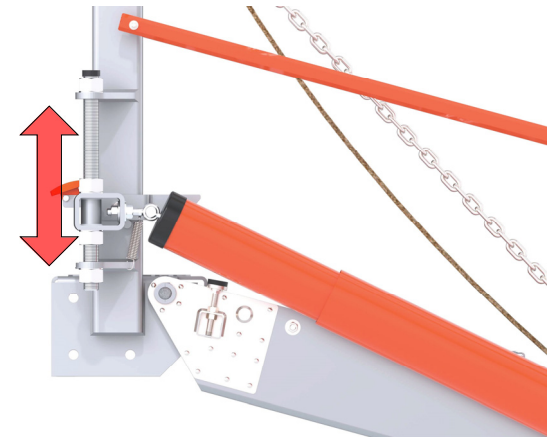
SPRING TENSION ADJUSTMENT

If the gangway is hard to lift, increase the spring tension as follows:

1. Raise the gangway to the upright, stored position and make sure the locking mechanism is fully engaged.
2. The main spring adjustment is on the threaded rod at the base of the handrail uprights.
3. Raise the upper jam nut on the spring bracket about $\frac{1}{2}$ " on each side.
4. Raise the lower jam nut and spring bracket tight to the new position.
5. Test the gangway, if necessary, repeat these steps.

If the gangway is hard to lower or will not stay down at the vehicle height, decrease the spring tension as follows:

1. Raise the gangway to the upright, stored position and make sure the locking mechanism is fully engaged.
2. The main spring adjustment is on the threaded rod at the base of the handrail uprights.
3. Lower the bottom jam nut on the spring bracket about $\frac{1}{2}$ " on each side.
4. Lower the upper jam nut and spring bracket tight to the new position.
5. Test the gangway, if necessary, repeat these steps.



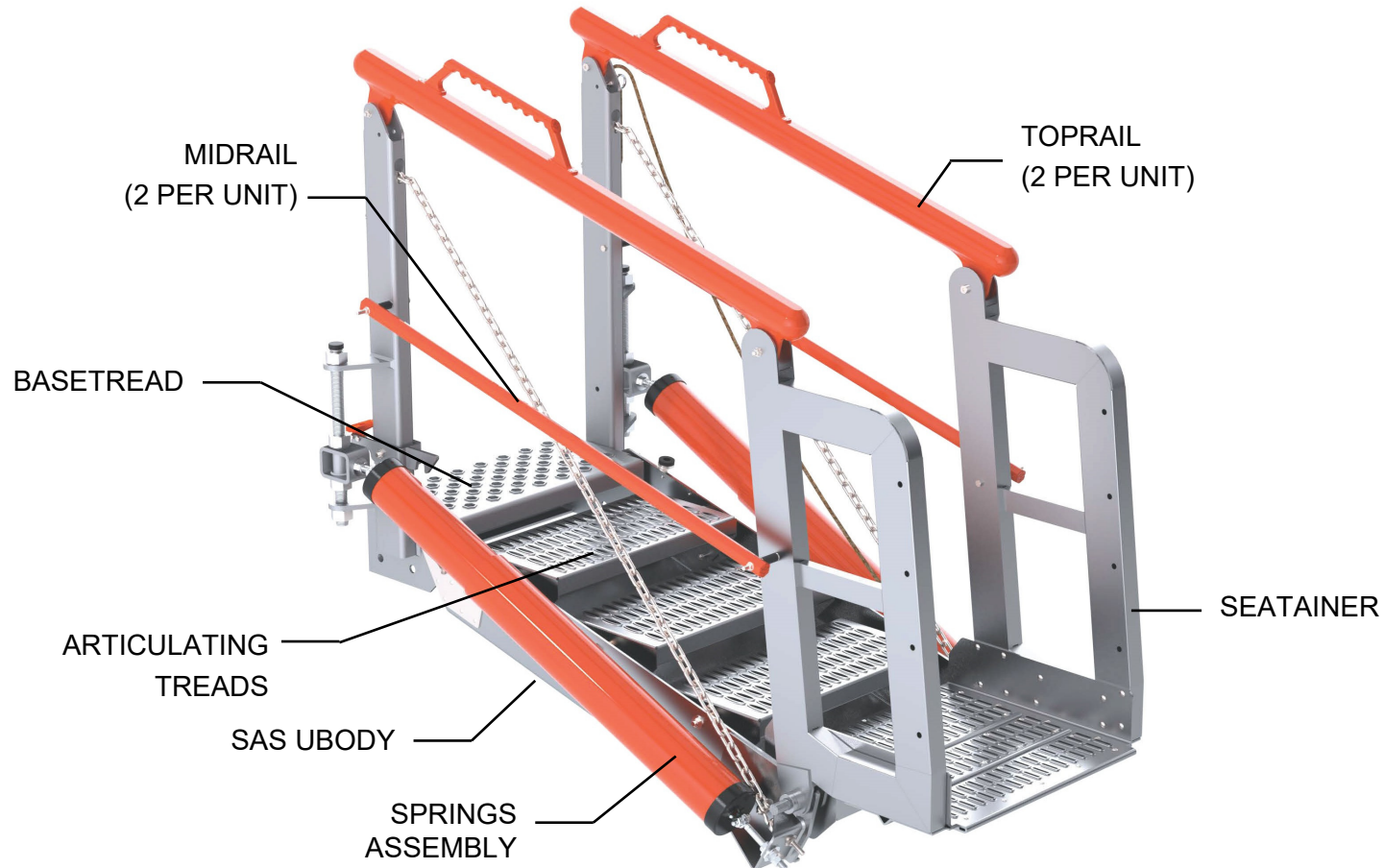
TIGHTENING/TORQUING BOLT GUIDE

TURN-OF-NUT METHOD:

- Bolts shall be installed in all holes of the connections and brought to a snug-tight condition. Snug tight is defined as the tightness that exist when the plies if the joint are in firm contact. This may be attained by a few impacts of an impact wrench or the full effort of a an using an ordinary spud wrench. Following this initial operation, all bolts in the connection shall be tightened further by the applicable amount of rotation specified in the table below. During the tightening operation, there shall be no rotation of the part not turned by the wrench.
- Nut rotation is relative to bolt regardless of the element (nut or bolt) being turned. For bolts installed by 1/2 turn or less, the tolerance should be +/- 30 degrees; for bolts installed by 2/3 turn and more, the tolerance should be +/- 45 degrees.
- Applicable only to joints in which all material within the grip is steel.
- Beveled washers not used.
- NOTE: Information from AISC Steel Manual, Section A14 – ASO bolt Specification.

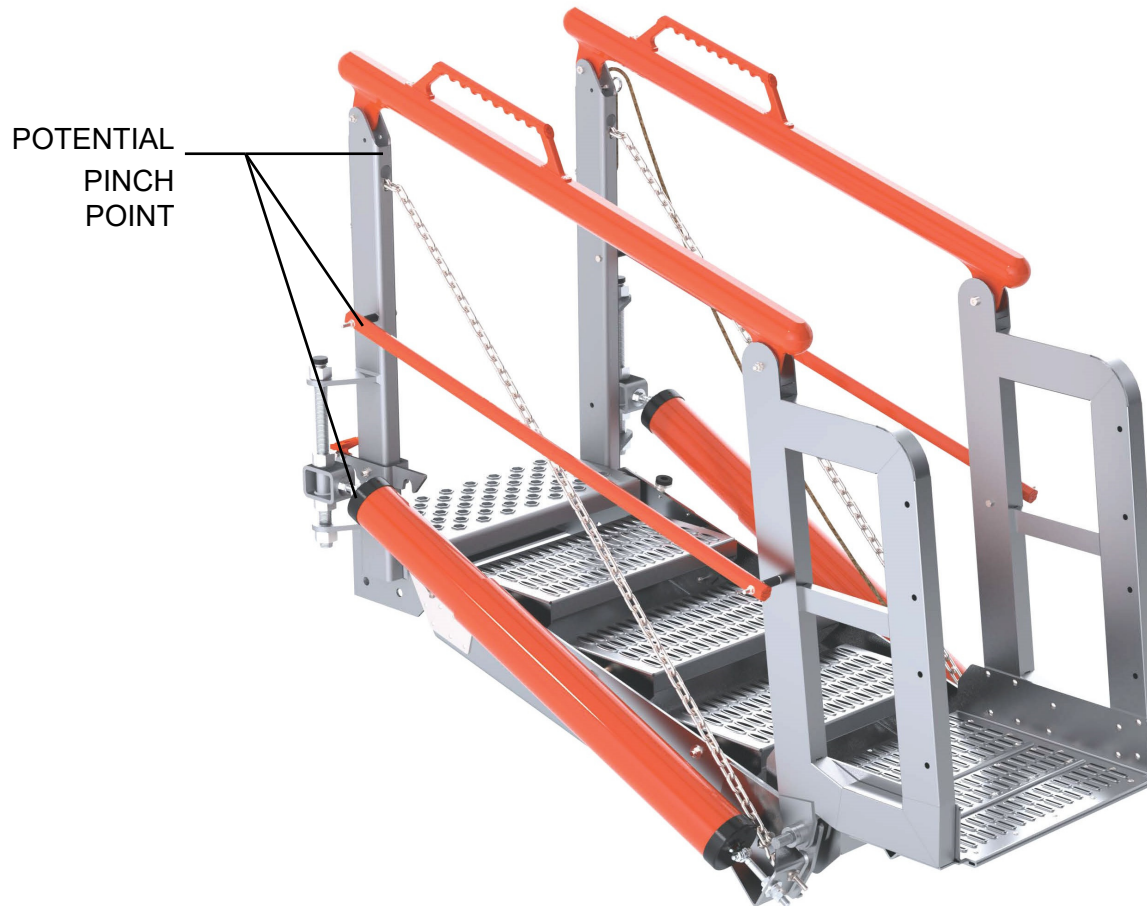
BOLT LENGTH	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS AND OTHER SLOPED NOT MORE THAN 1:20	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO THE BOLT AXIS
NOT MORE THAN 4 DIAMETERS	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4 DIAMETERS BUT NOT MORE THAN 8 DIAMETERS	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8 DIAMETERS BUT NOT MORE THAN 12 DIAMETERS	2/3 TURN	5/6 TURN	1 TURN

REPLACEMENT PARTS



ALL REPLACEMENT PARTS REQUIRE MODEL NUMBER AND SERIAL NUMBER FROM UNIT.

PINCH POINT / MOVING PARTS



WARNING! Keep hands away from pinch points or moving parts during operation.