



**ANCRA
CARGO**®

Decking System Installation Guide

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**Patent Number
8,172,494 United States
Other Patents Pending**

INTRODUCTION

The purpose of this manual is to describe the typical steps required to install an Ancra Cargo integrated decking system. Prior to installation, read through this manual in its entirety to familiarize yourself with common system components, trailer layouts, and install procedures.

The Ancra Cargo integrated decking systems may be used in decking applications to support a second level of cargo above the trailer floor or in cargo shoring applications to ensure cargo does not shift while in transit.

In Decking applications, beams support a removable second deck that carries cargo above the main deck. When not in use, beams are moved up to the ceiling for easy and secure storage.

In Shoring applications, the Vers-A-Deck and Lift-A-Deck II patented swivel foot design allows for diagonal positioning and versatile movement.

CONTACT ANCRA USING THE FOLLOWING RESOURCES

FAX AT (800) 347-2627

TELEPHONE AT (800) 233-5138

EMAIL AT CARGO-SALES@ANCRA.COM

GENERAL SAFETY GUIDELINES

- During all installation and repair activities, use proper personal protective equipment:
 - ANSI-approved safety eyewear with side shields
 - ANSI-approved steel-toed shoes
 - ANSI-approved face shields (during cutting operations or where a hazard exists from flying objects)
 - Appropriate cut-resistant gloves
 - Appropriate hearing protection (ear plugs or earmuffs)
 - Appropriate knee pads where the risk of foreign bodies (drill shavings, metal slivers, and rivet bodies) is present
- Always maintain good housekeeping by keeping tripping hazards such as airlines, waste materials, parts, and tools away from the walking and working areas.
- NEVER use damaged or defective hand tools and/or power tools.
- Use only sharp and properly dressed drill bits, chisels, and knives.
- When using knives, always cut away from the body.
- To prevent eye injury, NEVER use compressed air to clean the trailer floor.
- NEVER stand on the top or the next-to-top rung of a ladder.
- NEVER attempt to “walk” a ladder instead of getting down and properly repositioning it.
- To prevent over exertion injuries to the back, shoulders, hands, and arms, GET HELP to move, place, or reposition panels and panel components.

IF IT CANNOT BE DONE SAFELY, DO NOT DO IT!

TRACK LAYOUT

Pallet sizes and trailer manufacture configurations differ greatly in the industry. It is important to take these conditions into consideration when laying out your system. When installing your system, you must ensure structural integrity by attaching system track to vertical posts of the trailer or, through the walls in plate and composite trailers. Each decking system track comes predrilled with mounting holes. Use fasteners at every mounting hole location.

24" TRACK SPACING

For trailers with 24" track spacing, utilizing Double and Single track, alternate the single and double tracks as shown in Fig 1. This is known as Double-Single-Double configuration or D/S/D.

For trailers with 24" track spacing, utilizing only Single track, space the single tracks as shown in Fig 2. This is known as Single-Single-Single configuration or S/S/S.



Fig 1



Fig 2

TRACK LAYOUT, CONT.

16" TRACK SPACING

For trailers with 16" track spacing, utilizing Double and Single track, use double track on every third post as shown in Fig 3. This is known as Double-Single-Single-Double configuration or D/S/S/D.

For trailers with 16" track spacing, utilizing only Single track, space the single tracks as shown in Fig 4. This is known as Single-Single-Single-Single configuration or S/S/S/S.

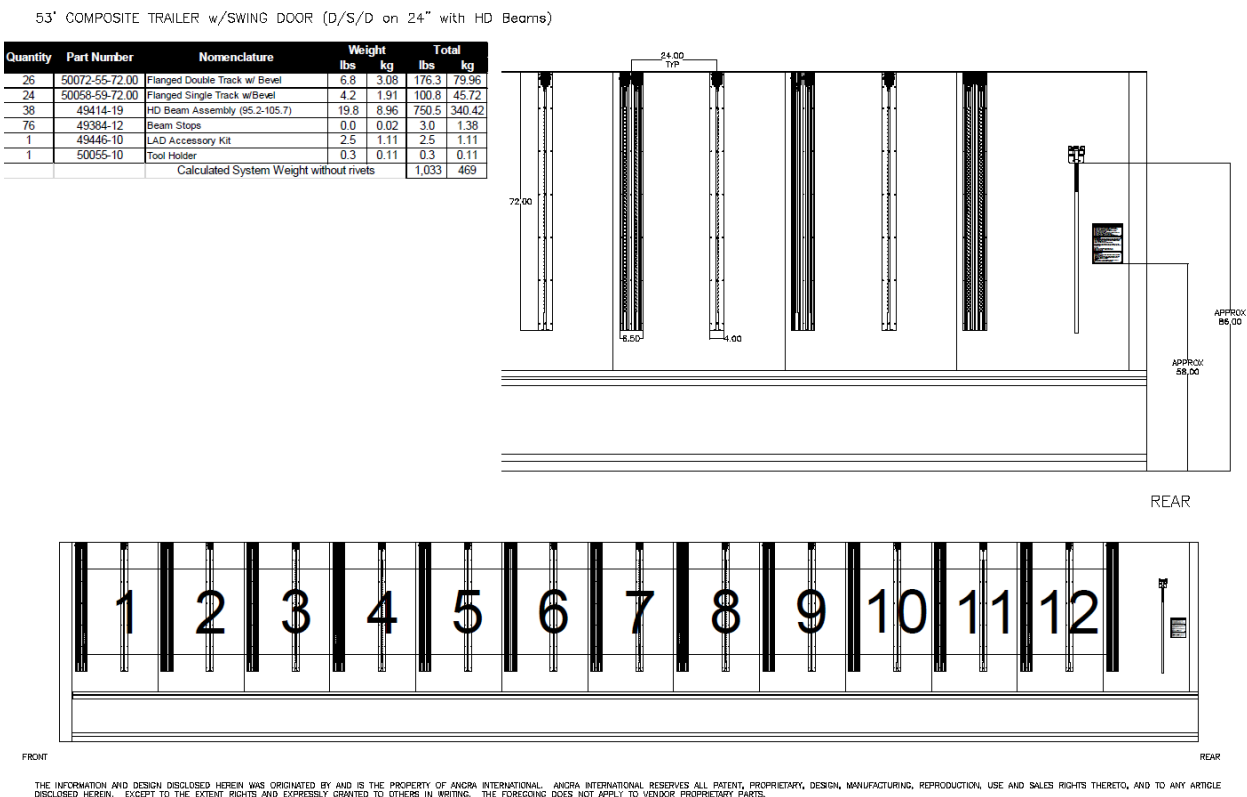
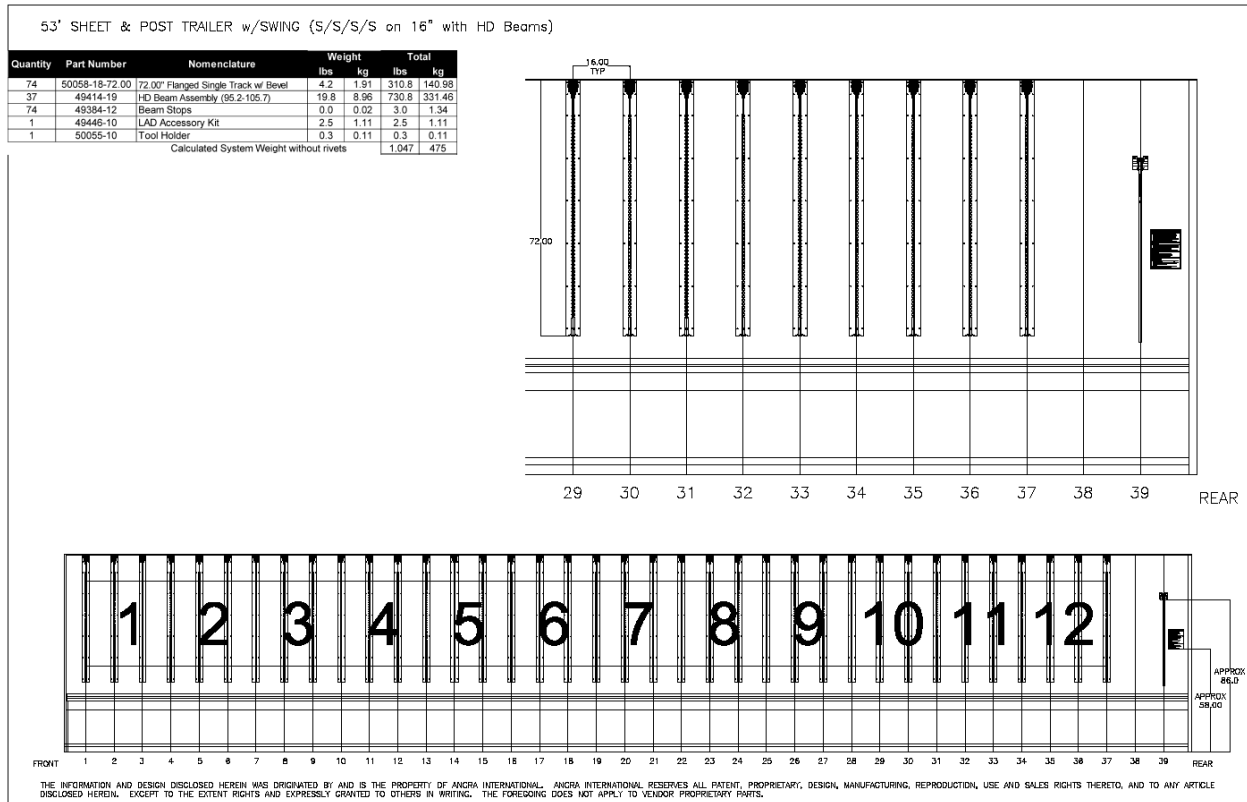


Fig 3



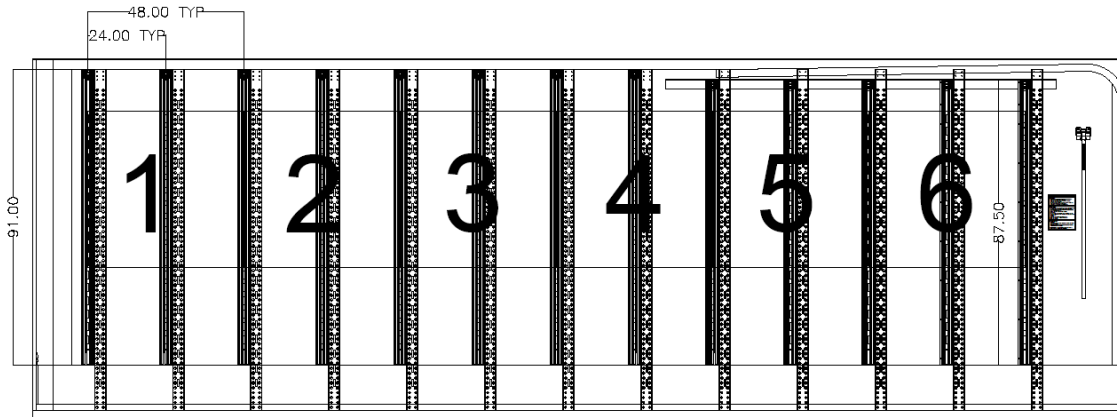
Fig 4

These Engineering layouts are just a few examples of the configurations that the Ankra Cargo integrated decking systems can provide.



28' COMP TRAILER w/ROLLDOOR (S/S/S on 24" with Low-Profile Beams)

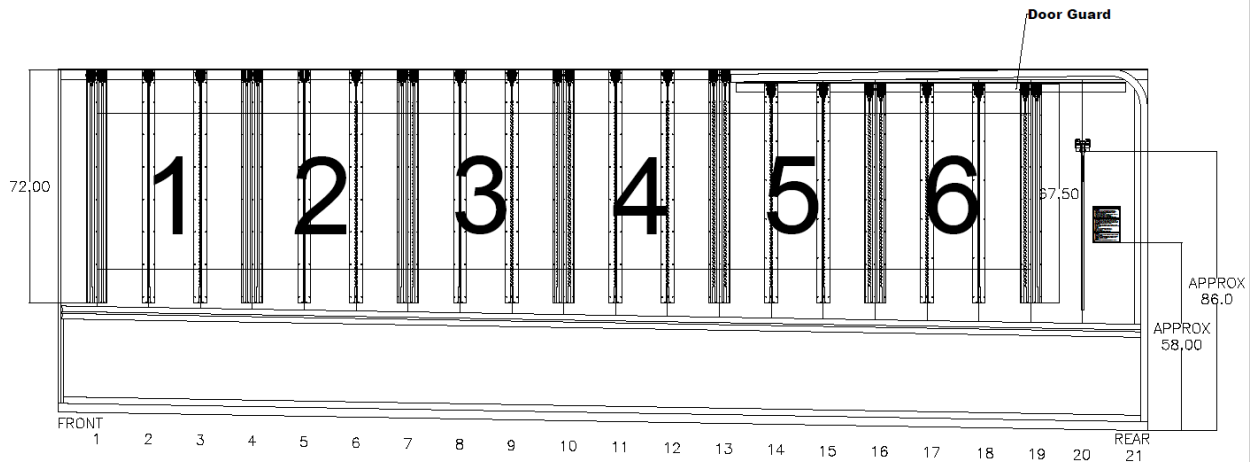
Quantity	Part Number	Nomenclature	Weight		Total	
			lbs	kg	lbs	kg
16	50419-17-91.00	91.00" Surface Mount Versa Deck Track	5.6	2.54	89.6	40.64
10	50419-17-87.50	87.50" Surface Mount Versa Deck Track	5.5	2.49	55.0	24.95
1	50420-10	Low Profile Beam Assy (98.0-113.4)	19.6	8.89	19.6	8.89
Calculated System Weight without rivets					164	74



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28' SHEET & POST TRAILER w/ROLLDOOR (D/S/S/D on 16" with HD)

Quantity	Part Number	Nomenclature	Weight		Total	
			lbs	kg	lbs	kg
10	50072-14-72.00	72.00" Flanged Double Track w/ Bevel	6.8	3.08	67.8	30.75
4	50072-13-67.50	67.50" Flanged Double Track w/ Bevel	6.4	2.88	25.4	11.54
16	50058-18-72.00	72.00" Flanged Single Track w/ Bevel	4.2	1.91	67.2	30.48
8	50058-17-67.50	67.50" Flanged Single Track w/ Bevel	3.9	1.79	31.5	14.30
2	50030-12	120" Door Guard	9.8	4.45	19.6	8.89
26	49414-19	HD Beam Assembly (95.2-105.7)	19.8	8.96	513.5	232.92
52	49384-12	Beam Stops	0.0	0.02	2.1	0.94
1	49446-10	LAD Accessory Kit	2.5	1.11	2.5	1.11
1	50055-10	Tool Holder	0.3	0.11	0.3	0.11
Calculated System Weight without rivets					730	331



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INSTALLATION

PRE-INSTALLATION

Prior to starting installation, verify that all system components are present and recommended tools are at hand and in good condition. Contact your Ancra Cargo representative for any missing components.

TRACK ATTACHMENT FASTENERS

The customer/installer is required to provide fasteners for installing decking systems track. Use the following table as a guide to select the appropriate fasteners for the type of track used. Commercial equivalents are acceptable provided minimum shear and tensile strength requirements are met. Refer to Alcoa Fastening Systems Magna-Lok or Magna-Bulb blind structural rivets for product data.

RECOMMENDED TOOLS

- Tape measure
- Chalk line
- Size F drill bits
- Drill
- Level/straight edge
- Step stool or ladder
- Rivet gun for blind rivets
- Pneumatic rivet hammer
- 1/4" Cleco style fasteners
 - For temporarily holding components in place.
- Adequate lighting
- Safety equipment
 - ANSI certified face shield
 - Cut resistant gloves
 - Knee pads
 - Hearing protection

RECOMMENDED FASTENERS - (CUSTOMER SUPPLIED)

Mounting Hole Location	Trailer Construction	¼" Diameter Fastener Type	Recommended Fasteners
In Beam Track	Sheet & Post	100° Flush Head	Huck MGL-100-R8-XX*
Flange or Between Beam Tracks	Sheet & Post	Protruding Head	Huck MGLP-R8-XX*
	Composite or Plate	Solid Universal Head	Aluminum Alloy 2117-T4 MS20470-AD8-XX*

* XX = Grip Length. Overall length of rivet is dictated by grip length. Grip length is determined by the distance between the inside track surface to outside surface of post or structural member. Refer to manufacturer's specifications for trailer wall thickness. Add 0.09" for the thickness of the Ancra track.

TRACK INSTALLATION

Track must be installed no more than 1" from the top flange of the upper rail to prevent accidental release of the beam out of the top of the track. If the 1" maximum spacing cannot be achieved, installation of Door Guard is recommended. Leave a 1/8"-1/4" gap between the top of the track and the top rail of the trailer to ensure the beam foot can latch securely into the storage position with no interference.

The construction of trailers varies widely across the industry. With each manufacturer and vintage of trailer, the installation process may be different. Please refer to the Engineering layout for your particular system, or contact your Ancra Cargo representative with any questions.

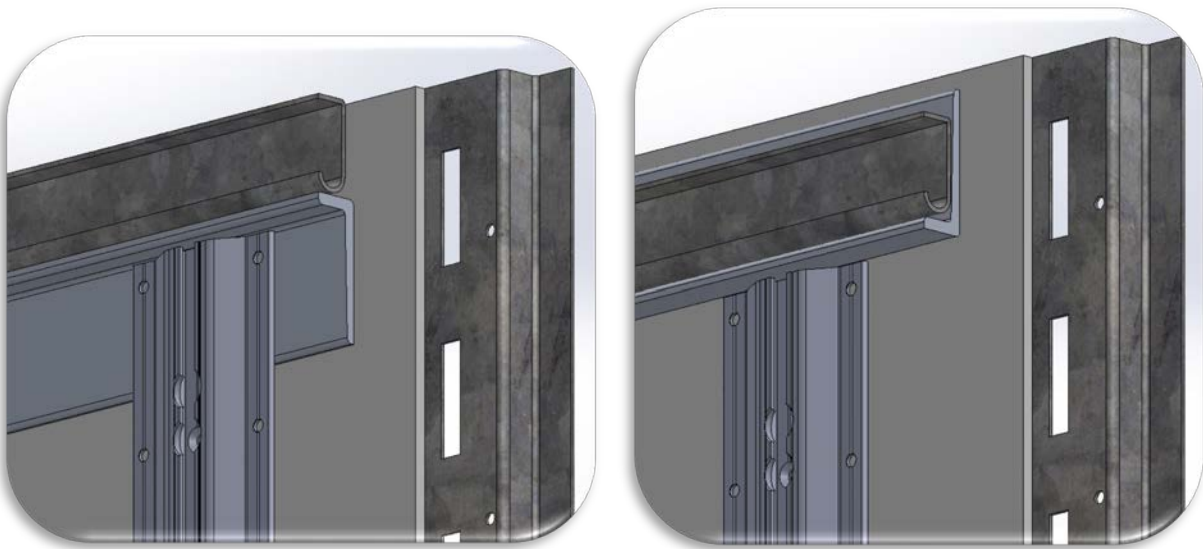
1. To install the track, place the top end of the track, spaced 1/8"-1/4" from flange of upper rail, over the centerline of the vertical post for Sheet and Post trailers. For Composite trailers the track should be attached to the side wall. Avoid seams between composite panels. Ensure the Beam Insertion Slot is oriented toward the bottom of track.
 - a. For trailers with roll up rear door. Find the lowest point of the door track. Position the track and door guard in position and measure from the bottom of the track to the floor. Use this measurement to position all the tracks the same distance from the floor. A scribe line, or chalk line is recommended.
2. Transfer drill holes through trailer support post or plate wall and attach track to post through wall, at each end of track (top and bottom) using selected fasteners.
3. Continue installation by transfer drilling and installing fasteners to remaining mounting hole locations within the remaining tracks.

DOOR GUARD INSTALLATION

Door guard can be installed under the roll-up door track and behind the decking system track or behind the roll-up door track and the decking system track directly on the wall/post. Deflection of the track as it overlaps the door guard is acceptable.

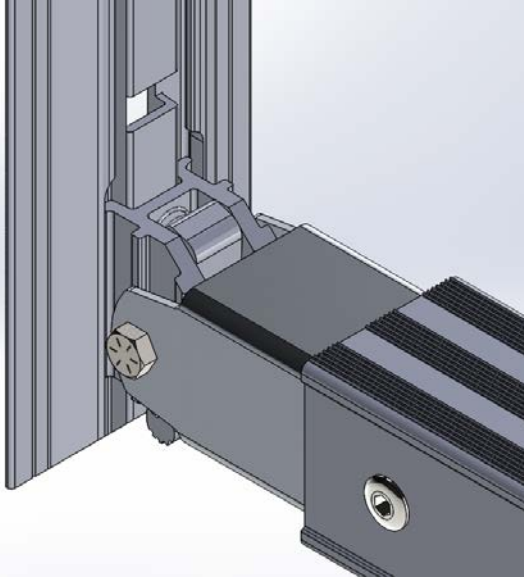
No mounting holes are pre drilled in the door guard. Position the door guard as best fits the application, then drill holes for mounting using the appropriate fastener for the wall thickness.

Refer to images below for proper orientation of the door guard.

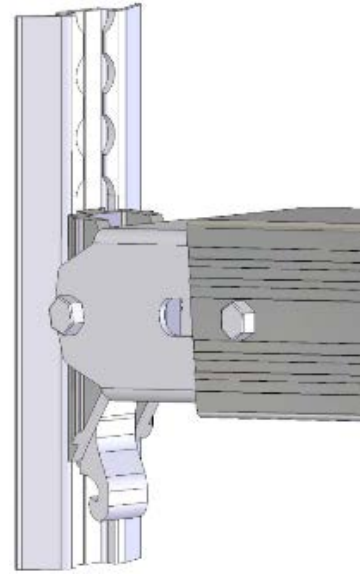


BEAM INSTALLATION

1. To install beams, slide foot assembly into the beam installation/removal slot (bottom end of track) at each side of the trailer.

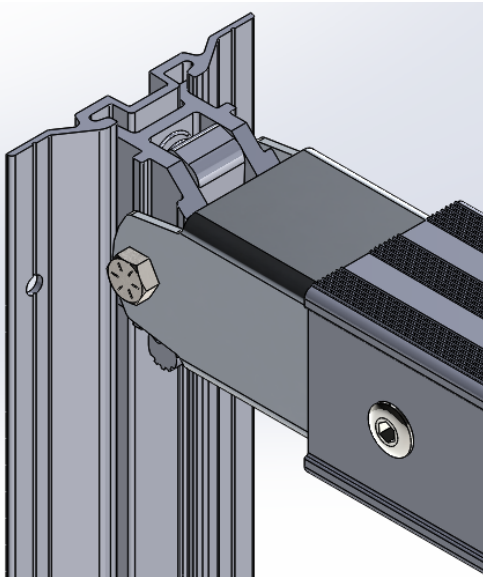


VERS-A-DECK

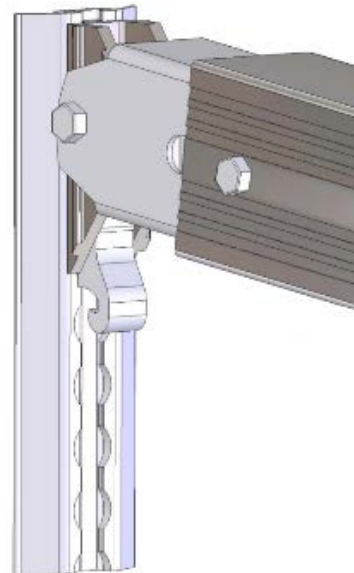


LIFT-A-DECK II

2. Push up on beams until fully engaged in track holes. Beams should ratchet up when pushed upward. Push beams up to top “storage holes” in track.



VERS-A-DECK



LIFT-A-DECK II

LIFT-A-DECK II TRACK STOP INSTALLATION

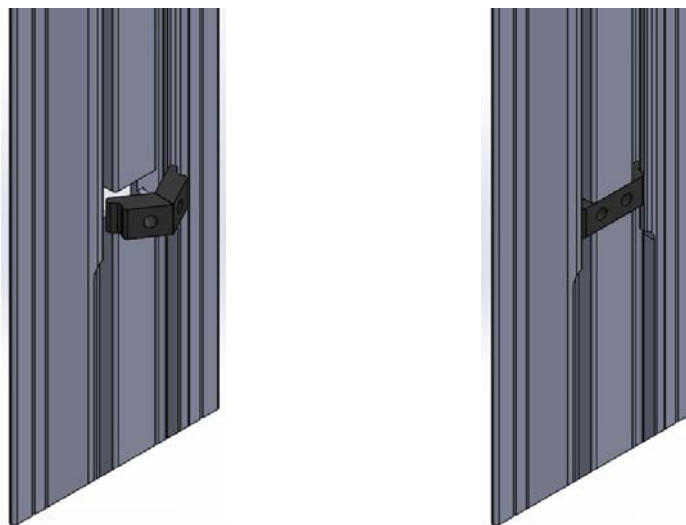
Place track stops into track, above the installation/removal slot as shown below. Using a 5/32" Allen Wrench, seat screw and tighten an additional quarter turn. Torque track stop screws to a maximum of 20-25 in-lbs. **Do not over torque track stop screws.**

WARNING: DO NOT OPERATE DECKING SYSTEM UNTIL ALL TRACK STOPS ARE IN PLACE.



VERS-A-DECK TRACK STOP INSTALLATION

Pinch track stop to form a V shape. Insert rubber stop into machined slot above insertion slot and press firmly to seat. Proper installation will have the track stop flush with the top surface of the aluminum track.



LOAD LIMIT

DECKING: Do not exceed the following weight per beam to allow for dynamic G-Forces:

Part #	Nomenclature	Decking	Shoring
49414-15	LAD Standard Duty Beam	550 lbs.	2,200 lbs.
49414-19	LAD Heavy Duty Beam	750 lbs.	2,500 lbs.
50080-11	LAD Heavy Duty Beam, Wide Flanged	1,000 lbs.	Not Recommended
50312-10	LAD Heavy Duty Beam, Reinforced Wide Flanged	1,000 lbs.	2,500 lbs.
49414-17	LAD High Rise Standard Duty Beam	450 lbs.	1,450 lbs.
49419-23	LAD High Rise Heavy Duty Beam	550 lbs.	1,450 lbs.
50420-10	VAD Low Profile Beam	750 lbs.	2,000 lbs.
50587-10	VAD Low Profile Beam, Wide Flanged	750 lbs.	Not Recommended

Recommended Maximum Cargo Weight per Pallet Position	Beam Type	24" Centers (lbs.)		16" Centers (lbs.)	
		S-S-S	D-S-D	S-S-S-S	D-S-S-D
	Standard Duty	1100	1650	1650	2200
	Heavy Duty	1500	2250	2250	3000
	Reinforced Wide	2000	3000	3000	4000
	VAD Low Profile	2250	N/A	3000	N/A

WARNING

1. Improper use may result in personal injury or cargo damage.
2. Do not overload, the trailer may become top heavy and unstable.
 - a. 500 lbs maximum per a linear ft of trailer is a good rule of thumb.
3. Do not attempt to position beams when loaded.
4. Ensure that both trigger locks are fully latched into track holes.
5. Do not rest beams on track stops.
6. Raise and lower beams manually; do not use a forklift to move the beam.
7. Refer to the operation and warning decal for additional information.

MAINTENANCE

The ANCRA Decking systems are designed to provide many years of operation if properly used and maintained. Periodic inspection and basic maintenance of system components is required to ensure smooth operation. Follow the general safety guidelines and use good shop practices when completing inspection and repairs.

Refer to Lift-A-Deck II or Vers-A-Deck Repair and Parts Manuals for complete maintenance instructions

LUBRICATION:

1. Track does not require lubrication.
2. The LAD II System has been designed for a minimum service life of five years, under normal conditions. To significantly extend expected track service life, Penetro 90® (Schaeffer's Specialized Lubricants, St. Louis, MO) is recommended. This should only be used in the slot portion of the track, following the manufacturer's instructions.
3. Moving parts of end fittings do **not** require lubrication. End fittings should **not** be lubricated as it is unnecessary, and some types of lubricants can gum up the mechanism and cause additional wear.

INSPECTION:

Periodically inspect beams, tracks or components for damage and excessive wear. If excessive wear is noted, replace or repair as necessary to ensure proper functioning.

Do not load the beam if you find any of the following:

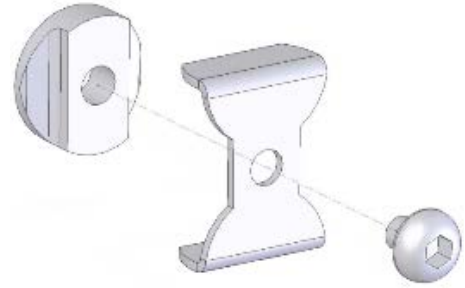
1. *Missing Track flange lugs.*
2. *Trigger lock does not spring back and set into track.*
3. *Warped or bent decking beams.*
4. *Missing, improper or loose track fasteners.*
5. *Any other damage that makes you unsure of structural integrity.*

SPARE PARTS LIST

TRACK STOPS

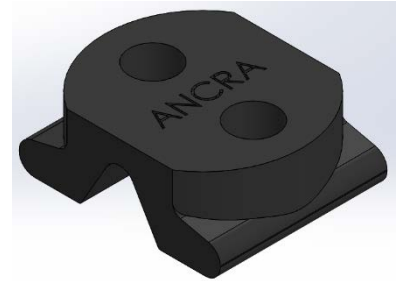
49384-12 LIFT-A-DECK II

The Track Stop inserts snugly into bottom of track above the beam installation/removal slot. Refer to page 12 for instructions.



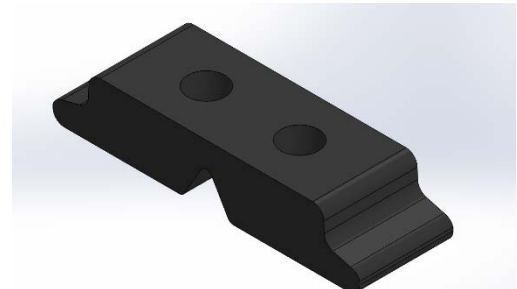
50486-10 LIFT-A-DECK II

Track stop is a toolless installation.



50446-10 VERS-A-DECK

Track stop is a tool less installation. Refer to page 12 for instructions.



⚠ WARNING

Personal Injury May Occur

DO NOT USE BEAMS WITHOUT TRACK STOPS IN PLACE. If Track Stop is damaged or missing, contact Ancra Customer Service for replacement.

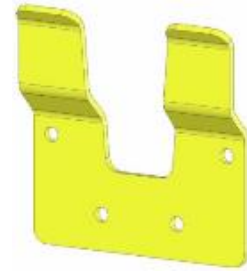
BEAM RELEASE BAR, 49445-12:

The Beam Release Bar is used to operate each beam up and down the track and release it from its storage location. Weight: 2.45lbs.



BEAM RELEASE BAR HOLDER, 50055-10:

The Beam Release Bar Holder is used to store the Beam Release Bar when not in use. Weight: 0.25lbs.



OPERATION AND WARNING DECAL

Each Ancra Decking System in service should have an Operation and Warning decal applied to the inside of the trailer. The location of the Decal should be in an area where the operator can easily reference the instructions. Do **Not** operate, or place into service, your Ancra Decking System without this decal in place. If your System is missing this Decal or, if your Decal has become unreadable, please contact Ancra Customer Service for replacement.

LIFT-A-DECK II

49438-14

VERS-A-DECK

50459-10

WARNING
FAILURE TO COMPLY WITH THESE SAFETY INSTRUCTIONS MAY RESULT IN INJURY OR DEATH.

- Inspect beam, beam ends and track for damage before use. Do not use if beams, beam ends or track are bent or damaged.
- Never exceed trailer manufacturer decking load limits. Do not create an unstable, top heavy trailer. Load heavier items on trailer floor.
- Do not move under beam when it is loaded or being loaded or unloaded or while releasing the trigger lock.
- Make sure the beams are level and both ends locked in the track before loading.
- Do not attempt to move beams once they are loaded.
- Use only the beam release tool designed for the LAD II system to release and move beams. Do not use any other tools or equipment, such as dock hooks or shovels to move beams. Never use a forklift or other mechanical device to forcefully move beams.
- When not in use, store beams as close to the ceiling as possible to avoid damage from forklift mast contact.
- Use additional cargo restraint as needed to secure cargo against shifting and falling from the deck.
- Distribute loads uniformly. Do not exceed recommended Cargo Weight Limits.

BEAM TYPE	24" SPACING		16" SPACING	
	S-S-S	D-S-D	S-S-S	D-S-D
Standard	1100	1650	1650	2200
Heavy Duty	1500	2250	2250	3000
Reinforced Wide	2000	3000	3000	4000

NOTE: A decking position is typically made up of two pallets.

LUBRICATION

- Track does not normally require lubrication. If needed, use a high performance penetrating oil. Penetro 90 (Schaeffer's Specialty Lubricants, St. Louis, MO) is recommended.
- End fittings should **NOT** be lubricated as it is unnecessary and some lubricants can gum up the mechanism.

REPAIR:

- Replace or repair damaged components as necessary to maintain proper function.
- See Lift-A-Deck II Repair & Parts Manual for details. (Doc. #307)

MAINTENANCE

49438-14_REV J

WARNING
FAILURE TO COMPLY WITH THESE SAFETY INSTRUCTIONS MAY RESULT IN INJURY OR DEATH.

- Inspect beam, beam ends and track for damage before use. Do not use if beams, beam ends or track are bent or damaged.
- Never exceed trailer manufacturer decking load limits. Do not create an unstable, top heavy trailer. Load heavier items on trailer floor.
- Do not move under beam when it is loaded or being loaded or unloaded or while releasing the trigger lock.
- Make sure the beams are level and both ends locked in the track before loading.
- Do not attempt to move beams once they are loaded.
- Use only the beam release tool designed for the Vers-A-Deck system to release and move beams. Do not use any other tools or equipment, such as dock hooks or shovels to move beams. Never use a forklift or other mechanical device to forcefully move beams.
- When not in use, store beams as close to the ceiling as possible to avoid damage from forklift mast contact.
- Use additional cargo restraint as needed to secure cargo against shifting and falling from the deck.
- Distribute loads uniformly. Do not exceed recommended Cargo Weight Limits.

BEAM TYPE	24" SPACING	16" SPACING
	Low Profile & Wide Top	2250 lbs
Low Profile	1020 kgs	1360 kgs

NOTE: A decking position is typically made up of two pallets.

LUBRICATION

- Track does not normally require lubrication. If needed, use a high performance penetrating oil. Penetro 90 (Schaeffer's Specialty Lubricants, St. Louis, MO) is recommended.
- End fittings should **NOT** be lubricated as it is unnecessary and some lubricants can gum up the mechanism.

REPAIR:

- Replace or repair damaged components as necessary to maintain proper function.
- See Vers-A-Deck Repair & Parts Manual for details.

MAINTENANCE

50459-10B



2685 Circleport Dr
Erlanger, KY 41018
800-929-2627
Cargo-sales@ancra.com

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