Kattsafe Height access and fall protection

INSTALLATION MANUAL

# NON-PENETRATING GUARDRAIL SYSTEM

GR37



**⚠ WARNING**

Read this manual before installing, maintaining or allowing personnel to use the product. If it is necessary to deviate from the instructions in this manual, contact Kattsafe to ensure that is does not compromise the safety and integrity of the installation.

This manual contains important use and maintenance information. Leave this manual with the facility manager/owner.

Improper selection, installation, maintenance, or use of this product presents a risk of serious injury or death.

**IMPORTANT SAFETY INFORMATION**

Improper selection, installation, maintenance or use of this equipment presents a risk of serious injury or death. To reduce these risks, follow the instructions in this document, as well as the following precautions:

**Qualifications**

1. A competent person or structural engineer must evaluate the integrity and suitability of the fixing and support structure to which this system will be attached and ensure that the structure will sustain the necessary design loads. Remove decorative coating sand coverings to ensure correct evaluation of structure.

2. Installers must be competent persons trained (including OSHA 10 or 30 hour courses) in the selection, installation, use and maintenance of access and fall protection systems. This includes possessing valid industry licenses and having comprehensive knowledge of the relevant standards, codes, and guidelines (including relevant OSHA standards).

3. Ensure that the product is used and maintained by authorized, competent, trained personnel only.

4. Any re-routing of electrical or other services must be carried out by qualified and authorized personnel.

**Preparing for a Safe Installation**

1. The Installer is responsible for following all applicable requirements for occupational safety and health during installation, including:
    a. Conducting an initial work/risk assessment
    b. Completing all necessary safety documentation, such as a job safety analysis or work method statement
    c. Taking appropriate precautions during the installation of this product, and
    d. Obtaining consent from a responsible person at the workplace prior to work
    e. Any re-routing of electrical and/or other services must be carried out by qualified or authorized personnel

2. Use appropriate temporary access and safety equipment during installation, such as platform ladders or scaffolding and fall protection anchorage points.

3. At least two installers must be present during installation, in case of emergency.

**Installation Requirements**

Ensure support structure to which system is attached or installed on, will sustain necessary design loads. (Prior approval may be required from a qualified engineer unless it is clear to a competent person that the structure is adequate).

Guardrail must never be used for tie off purpose or in anyway different from its intended use.

Specific to Kattsafe GR37 Freestanding Guardrail

a. Kattsafe GR37 Freestanding Guardrail cannot be installed on roof slopes of 1:12 or greater. Large, sloped membrane roofs with a gutter edge can generate large volumes of water run-off during adverse weather. The GR36 system is best suited for these applications.
b. When there is no parapet or small wall, the GR37 Bases should be set back at least 2ft from the roof edge.
c. Roof surfaces must be evaluated prior to install to ensure the bases are not installed on top of gravel or slippery surfaces
d. An end kit must be placed at the end of any open ended guardrail system regardless of length. If there is no end kit, the rail must be securely terminated and fastened into either a wall, ladder or other equipment.
e. Weighted bases must never be used for tie off purposes or in anyway different from their intended use
f. Do not install the weighted base when there is ice or snow on the roof. Ensure the surface is cleared and dry before locating in position
g. We do not recommend the GR37 System being installed on roofs 60ft or higher where there is no parapet or wall. The GR36 system should be used in these applications. Contact our sales office for applications exceeding 60ft in height.
h. Due to increased wind resistance, Toe board is not recommended on GR37 systems where there is no parapet or small wall due to the increased wind resistance.
i. Never mount anything additional to the GR37 system unless approved by the manufacturer.
j. Standard wind load rating* is 70mph. Do not use if potential exists for exposure to wind gusts greater than 70mph. Specific engineering can be performed and provided on a per project basis where higher wind load ratings are required. A cost may apply. The GR37.HL system is suited for higher wind loads of up to 110mph.

*For the GR37.IN and GR37.CW systems.

**Modification**

Do not modify or remove any element of the support structure without prior authorization by the manufacturer or a qualified engineer. There should be no item or system mounted, connected, or supported by these guardrail systems.

Do not tamper with, modify, alter or remove any part of this product unless authorized by Kattsafe.

Kattsafe instructions and recommendations, drawings and diagrams, and all other documentation are copyright, errors and omissions excepted, and must be carefully read and implemented. Any assistance or guidance given is without prejudice, and Kattsafe cannot be held responsible for any inaccuracy or misinterpretation whatever. Failure to follow site installation requirements and warnings, may result in serious injury or death. Kattsafe accepts no direct or indirect responsibility and/or consequential liability whatever, for any products and systems incorrectly installed or certified. Kattsafe cannot warrant the integrity or suitability of the structure to which the products may be attached. Prior assessment must be made by a qualified structural engineer, unless the structure is authorized or approved by a competent person.

**Product Use**

Do not use when working alone, in case of an emergency that requires help. If the guardrail is subjected to abnormal loading, do not use until replaced or re-certified by a competent person.

**Must Read Prior to Use**

In order to maintain the product warranty, Kattsafe labels must be placed at points of access or in highly visible areas. There are (2) labels provided with every installation kit.

**Kattsafe GR37 Installation Kit**

Please note that a 'Kattsafe Fixing Kit' is supplied with every guardrail system. This kit includes a 5/16" nut setter, file, mid-rail installation brackets, labels and a base spacer (for GR37 system).

**Kattsafe Expansion Joint Kit**

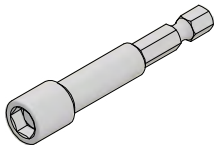
Please note that a 'Kattsafe Expansion Joint Kit (GR.EXP)' is supplied with every guardrail system starting at 30ft. This kit includes a top rail and mid rail expansion joint and (4) tek screws. Please reference page 46 for the number of expansion joints required for your system. GR.EXP installation instructions start on page 45.

**Tools Required**

Wrench (provided)



5/16" (8mm) nut driver (provided)



Straight blade screwdriver



15mm socket



File (provided)



Hex shank socket adapter 3/8"



7 1/4" circular saw with aluminum cutting blade



1/4" impact driver



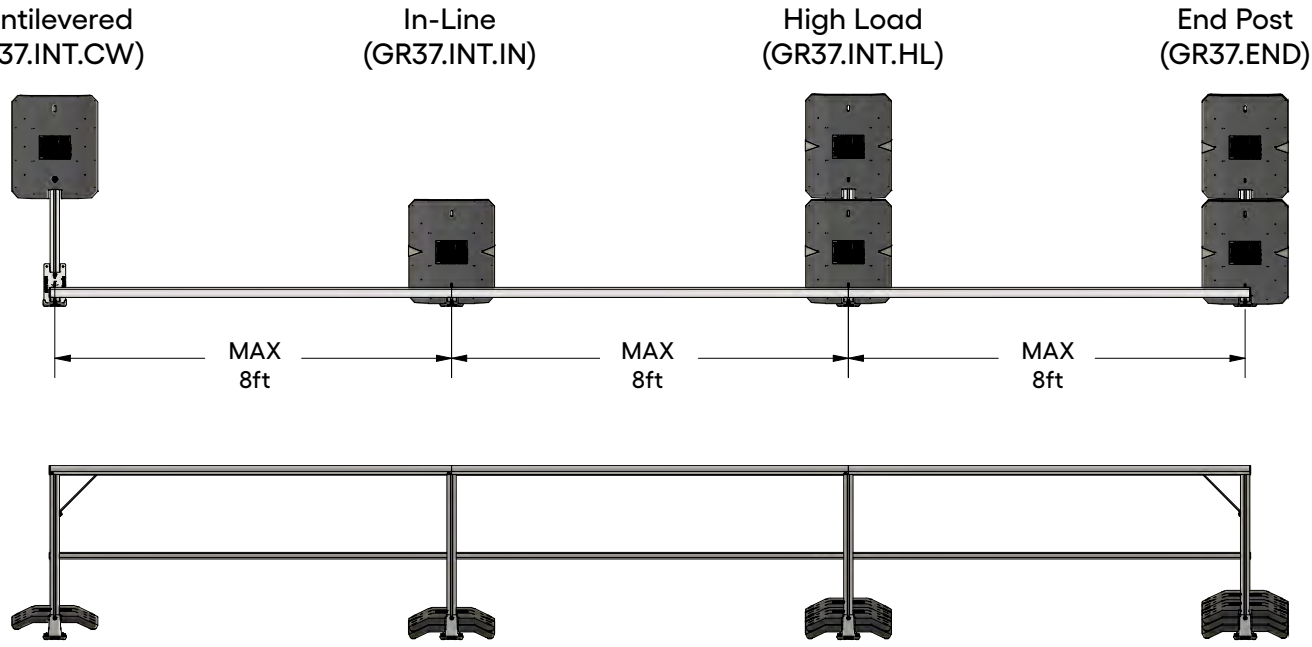
Level



**Warranty**

Scan to view the warranty on our website.

# GR37 SYSTEM OVERVIEW

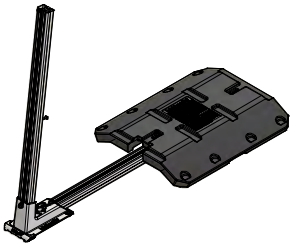



## Cantilevered (GR37.INT.CW)

This intermediate post/base kit is the **standard** configuration used in all GR37 Kits.

It consists of:

- (1) Base
- (1) Horizontal support
- (1) Vertical post
- (1) Post Foot
- Hardware

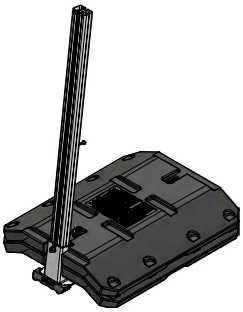


## In-Line (GR37.INT.IN)

This intermediate post/ base kit is an optional configuration for areas where space is limited.

It consists of:

- (2) Bases (stacked)
- (2) 2-Stack base clips
- (1) Vertical post
- (1) Post Foot
- Hardware

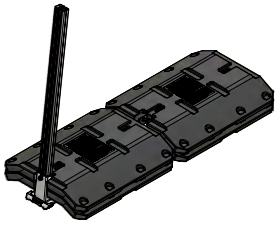


## High Load (GR37.INT.HL)

This intermediate post/base kit is used for applications where higher loads are required. For example, California is subject to Cal OSHA standards which requires a higher load rating.

It consists of:

- (4) Bases (double stacked)
- (4) 2-stack base clips
- (1) Horizontal support
- (1) Vertical post
- (1) Post Foot
- Hardware

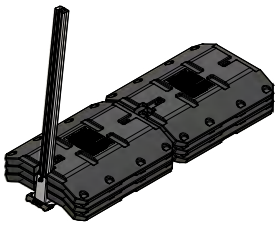


## End Post (GR37.END)

This intermediate post/base kit is used to terminate any system regardless of length.

It consists of:

- (6) Bases (triple stacked)
- (4) 3-stack base clips
- (1) Horizontal support
- (1) Vertical post
- (1) Post Foot
- Hardware



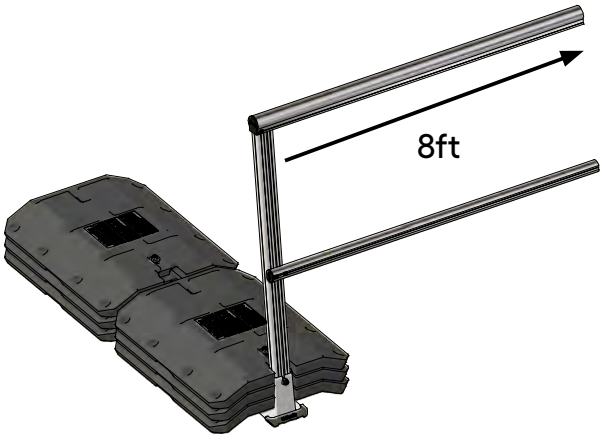
# TERMINATIONS (START/END OF A SYSTEM)

Any guardrail system regardless of length must have one of the two configurations below:

### End Kit (GR37.END)

A GR37.END kit placed at the end of the guardrail to ensure a flush finish.

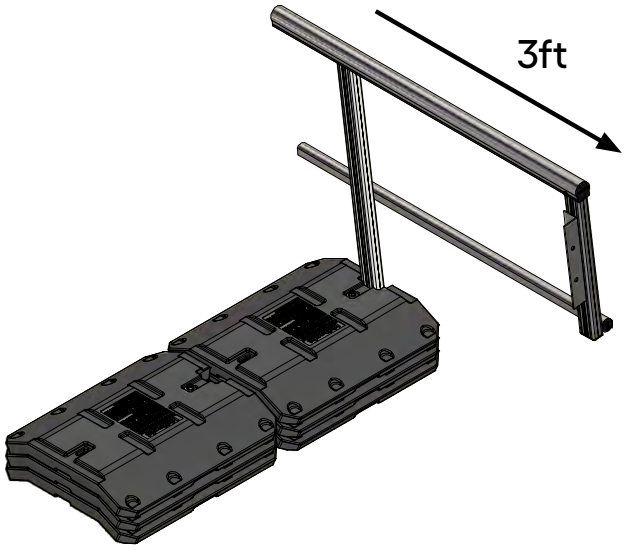
This would be a maximum of 8ft from the intermediate kit.




### Wall Kit (GW351LW)

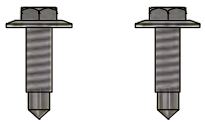
The top rail and mid rail to be fastened into the wall or structure using the GW351LW connection kit.

The closest intermediate should be no further than 3ft from the wall/ structure.

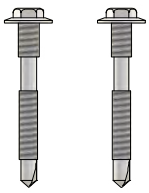


# COMPONENT & HARDWARE KITS

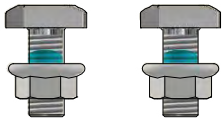
SD907.20
3/4" (20mm)



SD907.48
2" (48mm)



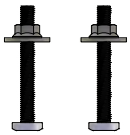
KB005
1" (25mm)



SD1056
1.6" (42.5mm)



SD1057
2-5/16" (58mm)



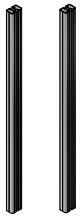
SD1031
Label



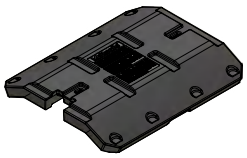

KB1840
AL753 End cap




AL753
Aluminum extrusion



FP10329



CK1076
Base Spacer



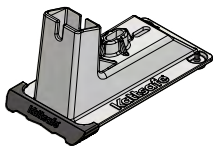
SD1059
Clip for 2 bases



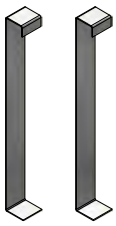
SD1060
Clip for 3 bases



GR37.FOOT



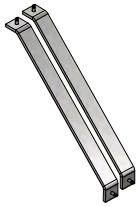
GW386
Mid Rail Spacing Brackets



CK1025
End Cap Kit



CK1026
Top Brace Kit



GW374
Top Rail Extrusion



GW375
Mid Rail Extrusion



Kattsafe Height access and fall protection

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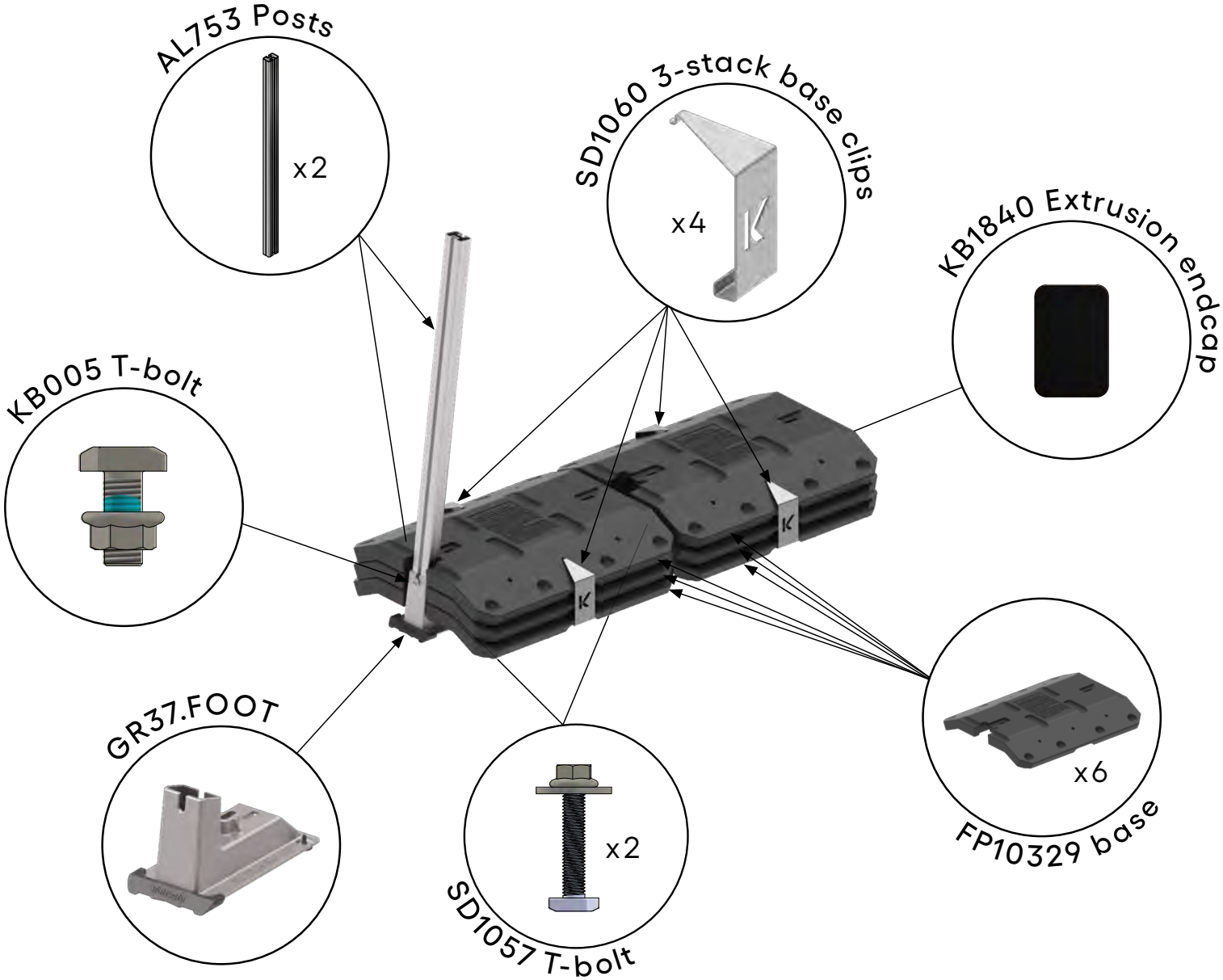
# END CONFIGURATION

GR37.END



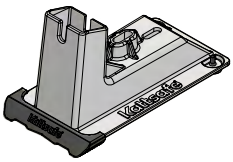
## GR37.END KIT

# END (EVERY CONFIGURATION)




Hardware kit: HK1060

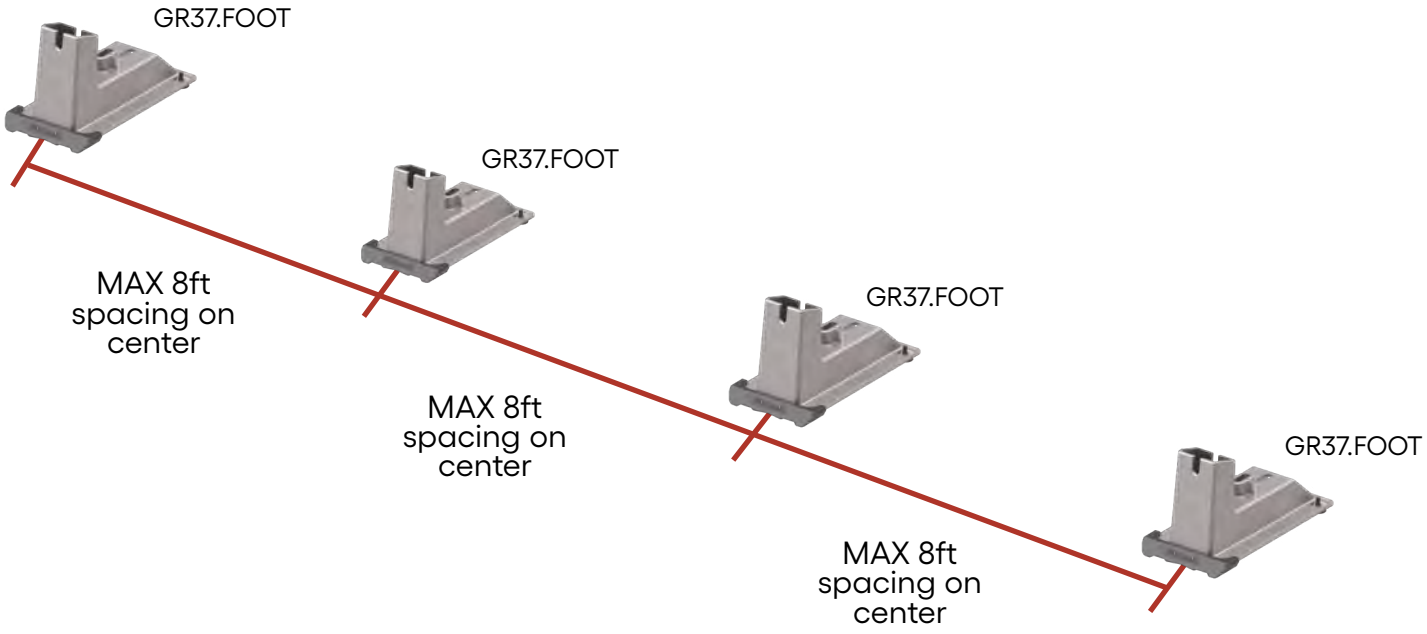
# 5



GR37.FOOT



Measuring tape/tool



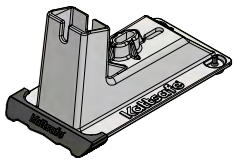

# 5a

**To start spacing the GR37.END...**
Place the foot (GR37.FOOT) on the ground and measure a maximum of 8ft out to where the next foot will be positioned. Mark the spacing using a chalk line.

**TIP**: Marking the spacing first, will make it easier later when putting together the complete system.

**IMPORTANT NOTE**:
GR37 kits are sold in 10ft increments. Spacing between posts could be less than 8ft depending on kit length and setup configuration.

# 1



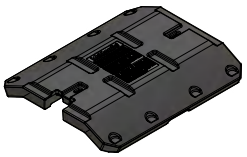
GR37.FOOT



AL753



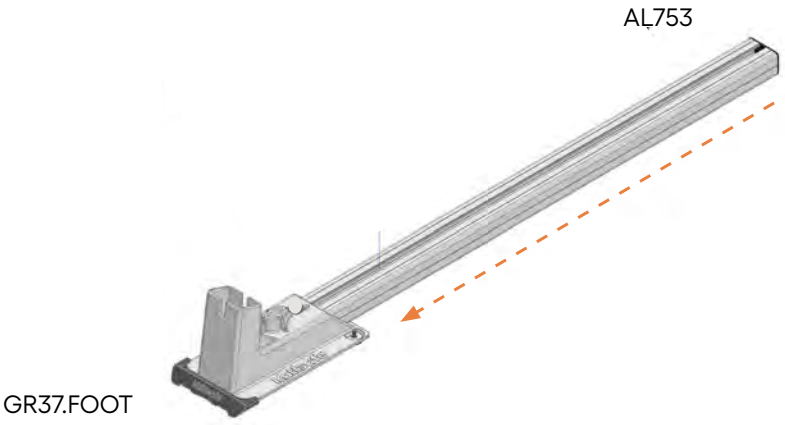
SD1057



FP10329

# 1a

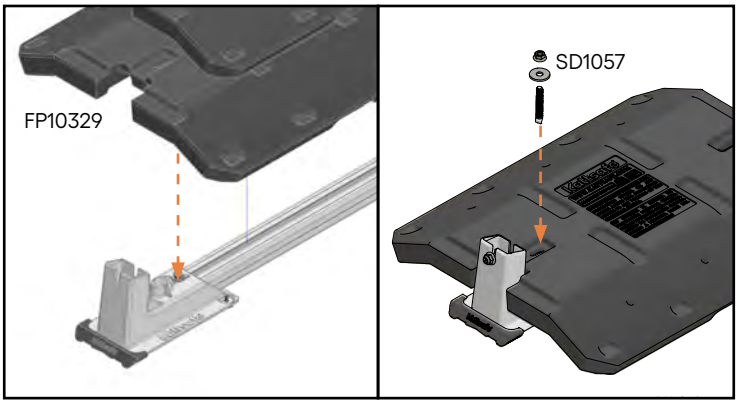
**Start every system with the end kit.**
Insert horizontal slotted extrusion (AL753) into the foot (GR37.FOOT).



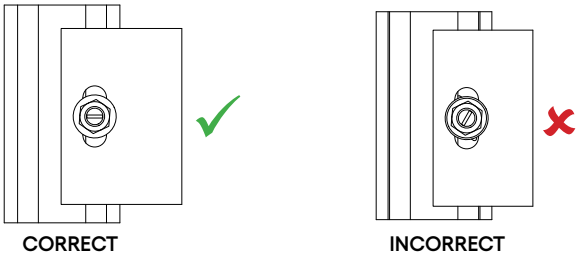

# 1b

Place (1) weighted bases (FP10329) onto the horizontal extrusion, flush against the foot. Secure with (1) (SD1057) T-bolt.

See graphic A for correct T-bolt fastening method.




**Graphic A: T-bolt Fastening**



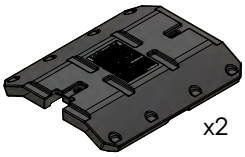

**IMPORTANT**: ensure the t-bolt connects all the way through to the extrusion post

# 2



x2

SD1060

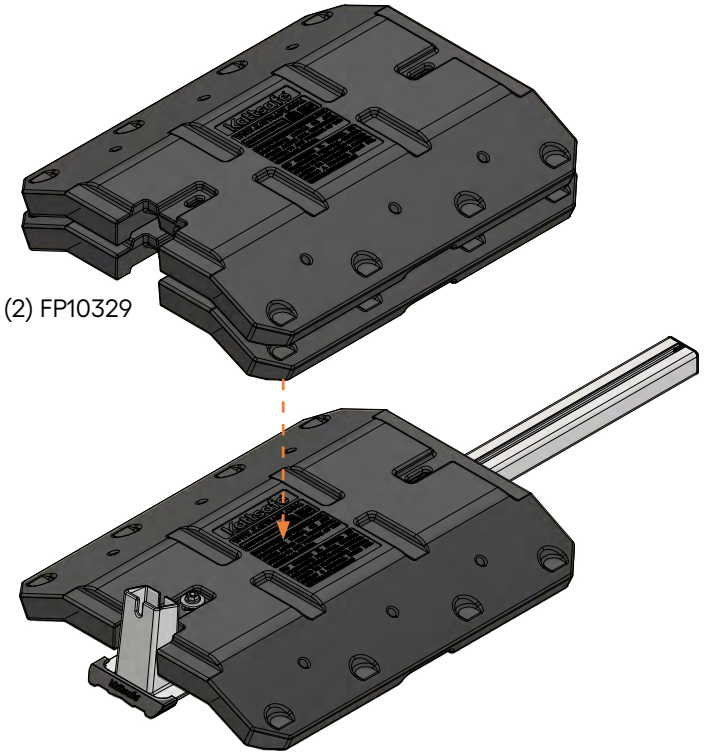


x2

FP10329

## 2a

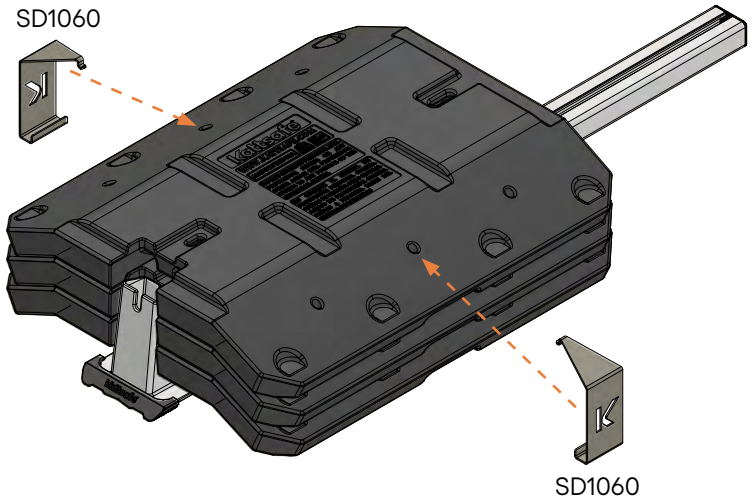
Stack (2) weighted bases (FP10329) onto the first base.



(2) FP10329

## 2b

Once the three bases are stacked, secure them in place with (2) clips (SD1060) on each side of the bases - ensuring they are clipped in the middle hole as seen in the image.



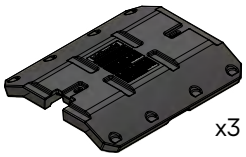
SD1060

SD1060

# 3


x2

SD1060


x3

FP10329

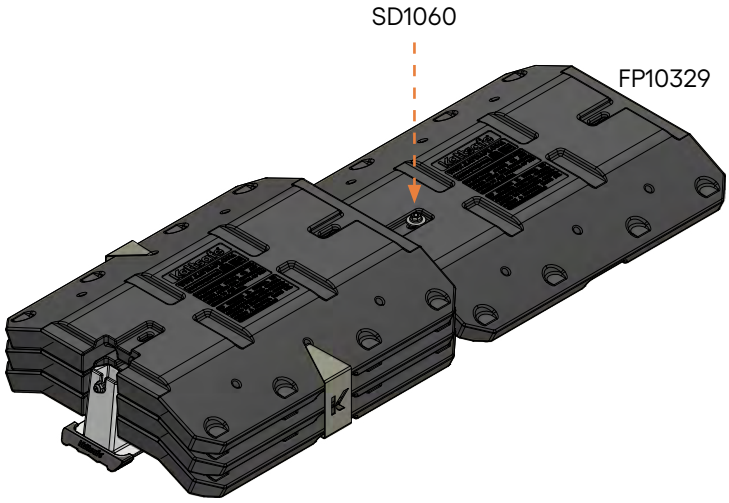


SD1057

## 3a

Repeat steps 1-2 for the next stack of bases.
Place (1) weighted bases (FP10329) onto the horizontal extrusion, flush against the first stack of bases. Secure with (1) (SD1057) T-bolt.

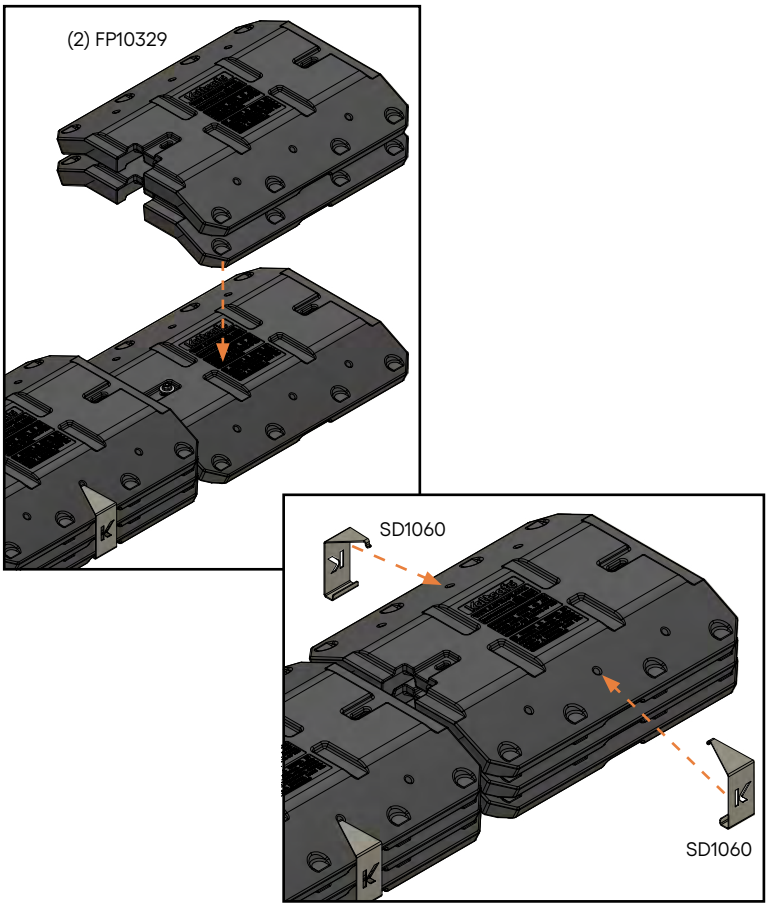
See graphic A for correct T-bolt fastening method.




## 3b

Stack (2) weighted bases (FP10329) onto the first base.

Once the three bases are stacked, secure them in place with (2) clips (SD1060) on each side of the bases - ensuring they are clipped in the middle hole as seen in the image.



# 4



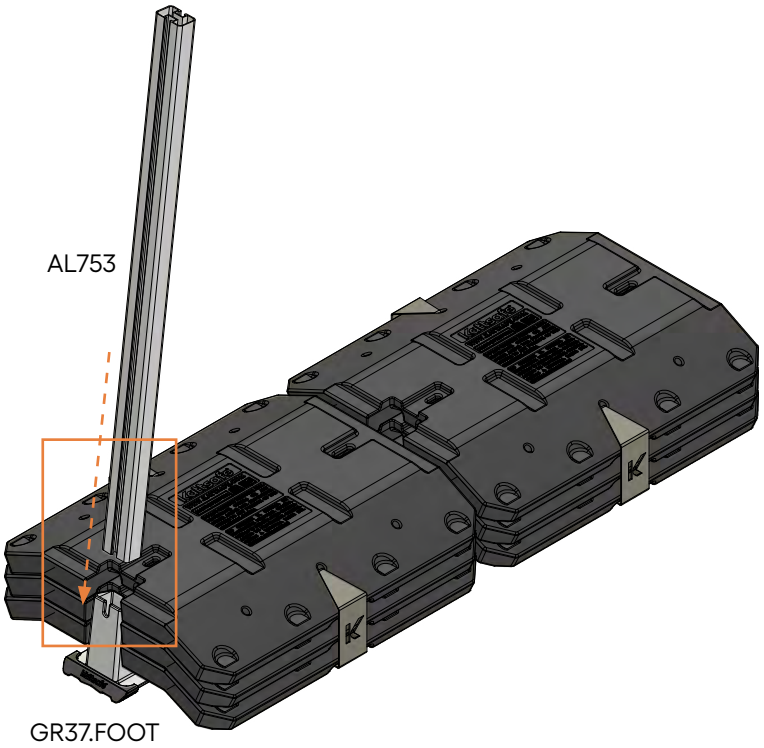
AL753



KB005

## 4a

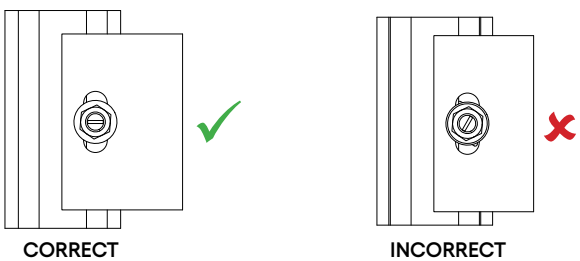
Insert the AL753 extrusion vertically into the top of the foot (GR37. FOOT).

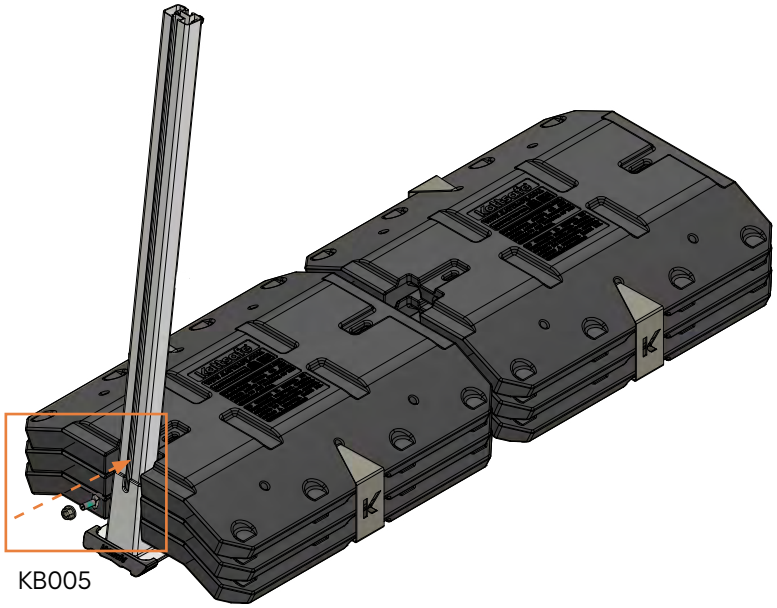



## 4b

Secure in place with (1) T-bolt (KB005). See graphic A for correct T-bolt fastening method.

**Graphic A: T-bolt Fastening**



# ONCE END KIT IS INSTALLED

Go to the following pages to install the configuration(s) needed for your project:


- GR37.INT.CW Cantilevered (standard). . . . . pg. 15
- GR37.INT.IN In-line . . . . . pg. 22
- GR37.INT.HL . . . . . pg. 27
- GR37.CNR Corner Configuration. . . . . pg. 33
- Top and Mid Rail Posts . . . . . pg. 35
- Expansion Joints. . . . . pg. 45
- GR37 Self-Closing Gate . . . . . pg. 49
- GR37 Toe Board . . . . . pg. 60
- Termination to Wall or Flat Bar . . . . . pg. 64

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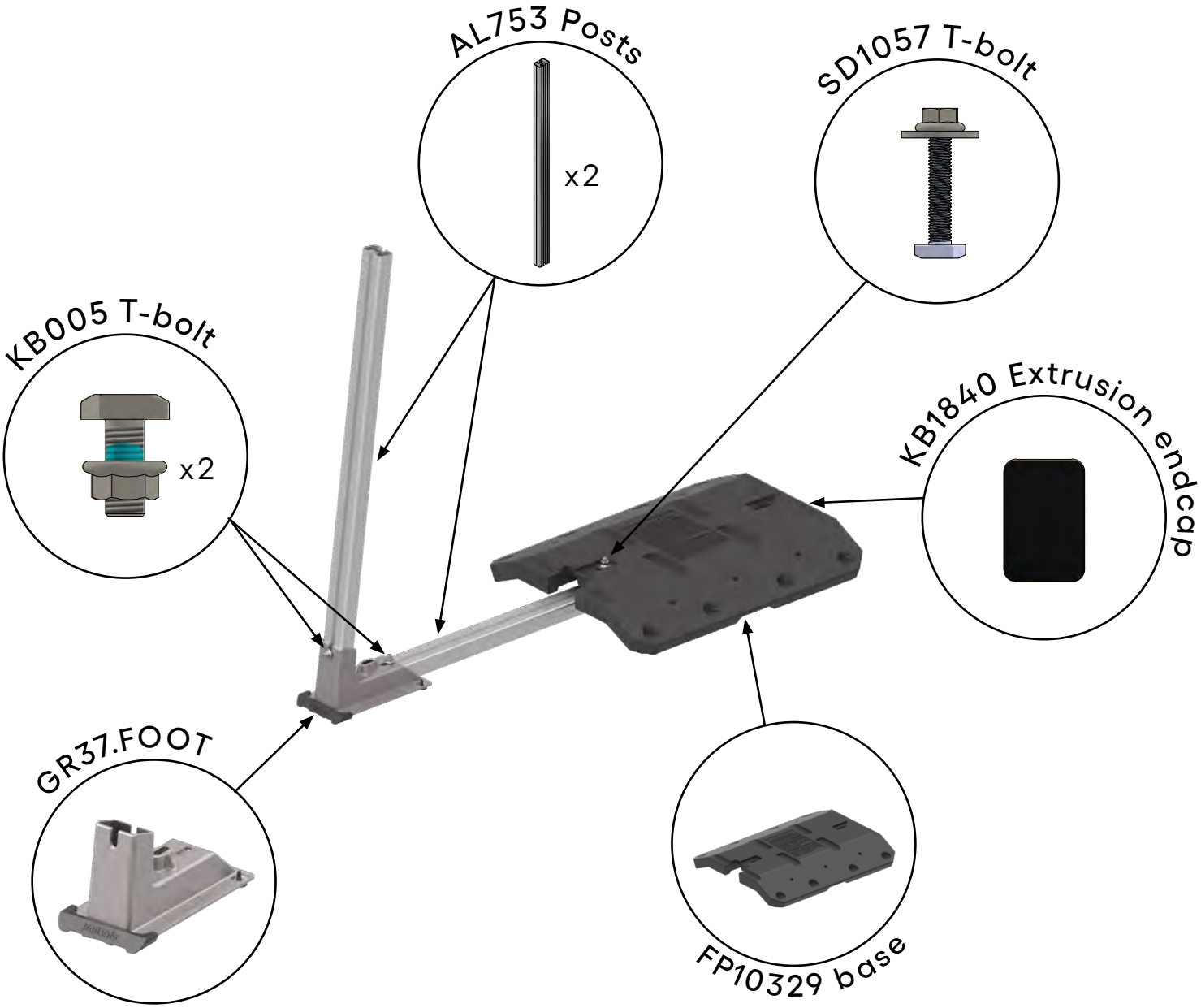
# CANTILEVERED CONFIGURATION

GR37.INT.CW



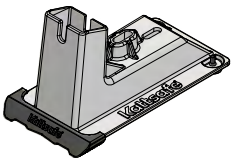
## GR37.INT.CW KIT

# CANTILVERED (STANDARD)




Hardware kit: HK1062

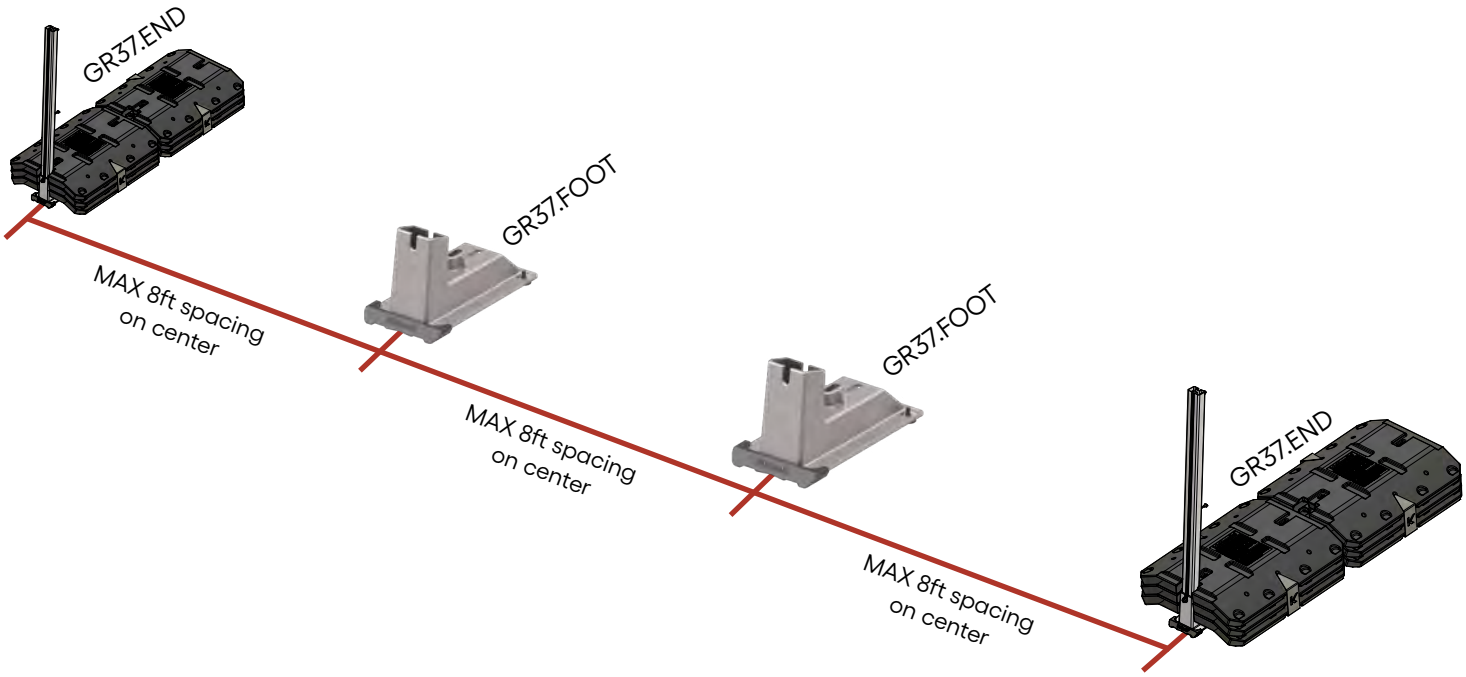
# 5



GR37.FOOT



Measuring tape/tool




# 5a

**To start spacing the intermediate posts...**
Place the foot (GR37.FOOT) on the ground and measure a maximum of 8ft out to where the next foot will be positioned. Mark the spacing using a chalk line.

**TIP**: Marking the spacing first, will make it easier later when putting together the complete system.

**IMPORTANT NOTE**:
GR37 kits are sold in 10ft increments. Spacing between posts could be less than 8ft depending on kit length and setup configuration.

# 6



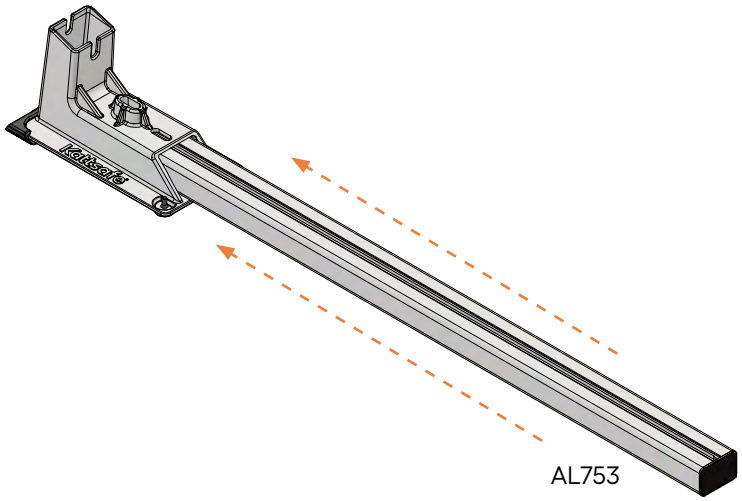
AL753



KB005

## 6a

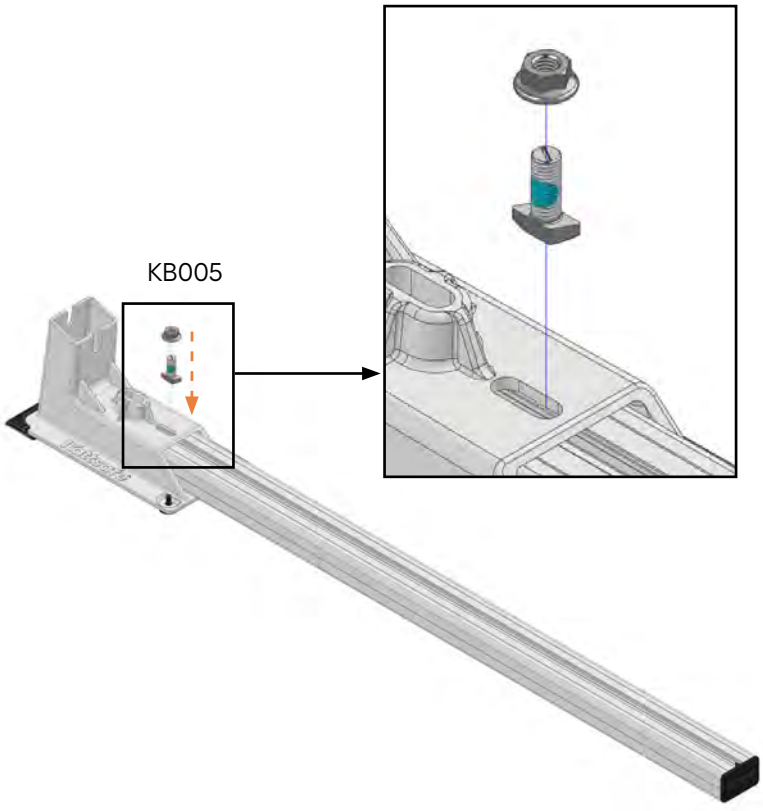
**Installing the standard GR37.INT.CW.** Slide the horizontal K-60 extrusion (AL753) into the foot's opening. Secure with a T-bolt (KB005) into the designated opening as shown above.



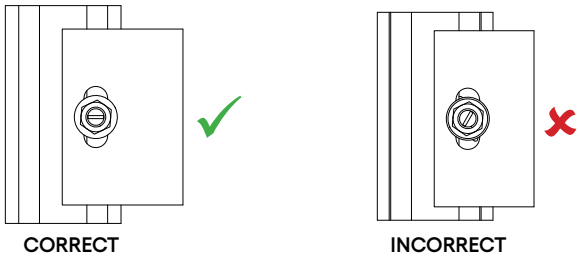

## 6b

Secure with a T-bolt (KB005) into the designated opening as shown above.

See Graphic A for correct T-bolt fastening method.




**Graphic A: T-bolt Fastening**

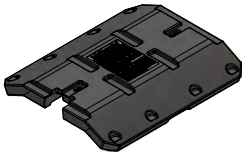


CORRECT INCORRECT

# 7



SD1057



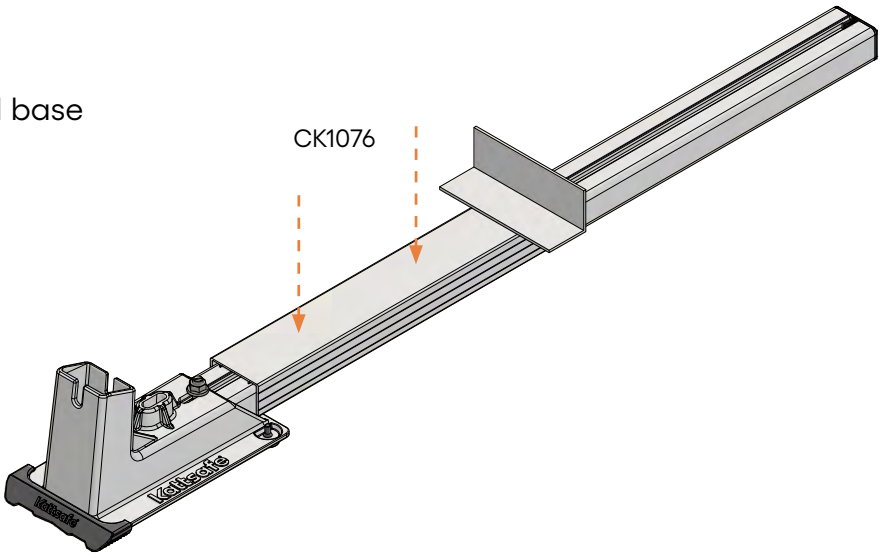
FP10329



CK1076

# 7a

Use the base spacer (CK1076) to accurately position the weighted base 16in from the foot.



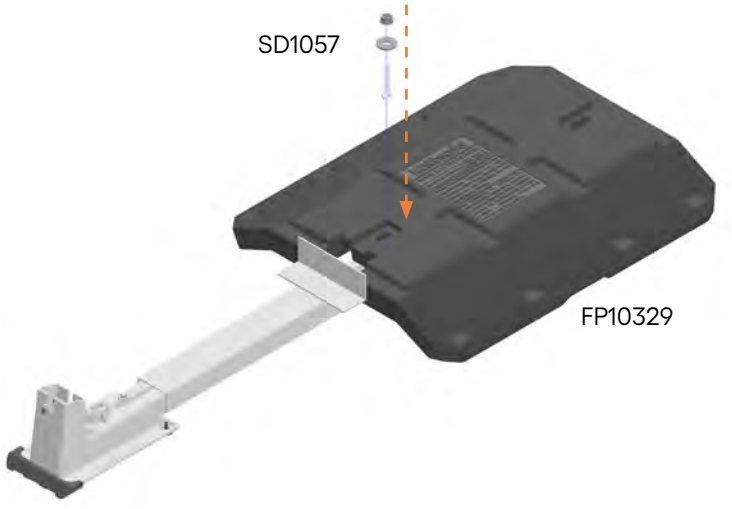

# 7b

Position the weighted base (FP10329) onto the extrusion (AL753) flush against the base spacer (CK1076).

Secure the base using one T-bolt (SD1057).

This step will help stabilize the system for the next step.

You can remove the base spacer after securing the position of the base.



# 8



AL753



KB005

# 8a

Insert the vertical K-60 extrusion (AL753) into the top opening of the foot. Secure it with a T-bolt (KB005) on the top of the heel of the foot.



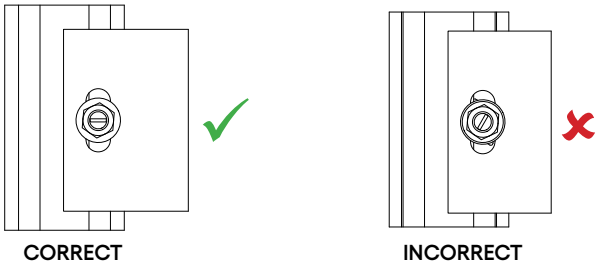

# 8b

Secure it with a T-bolt (KB005) on the top of the heel of the foot.

See Graphic A for correct T-bolt fastening method.

**IMPORTANT: the t-bolt can be secured through the front OR back of the foot slot**

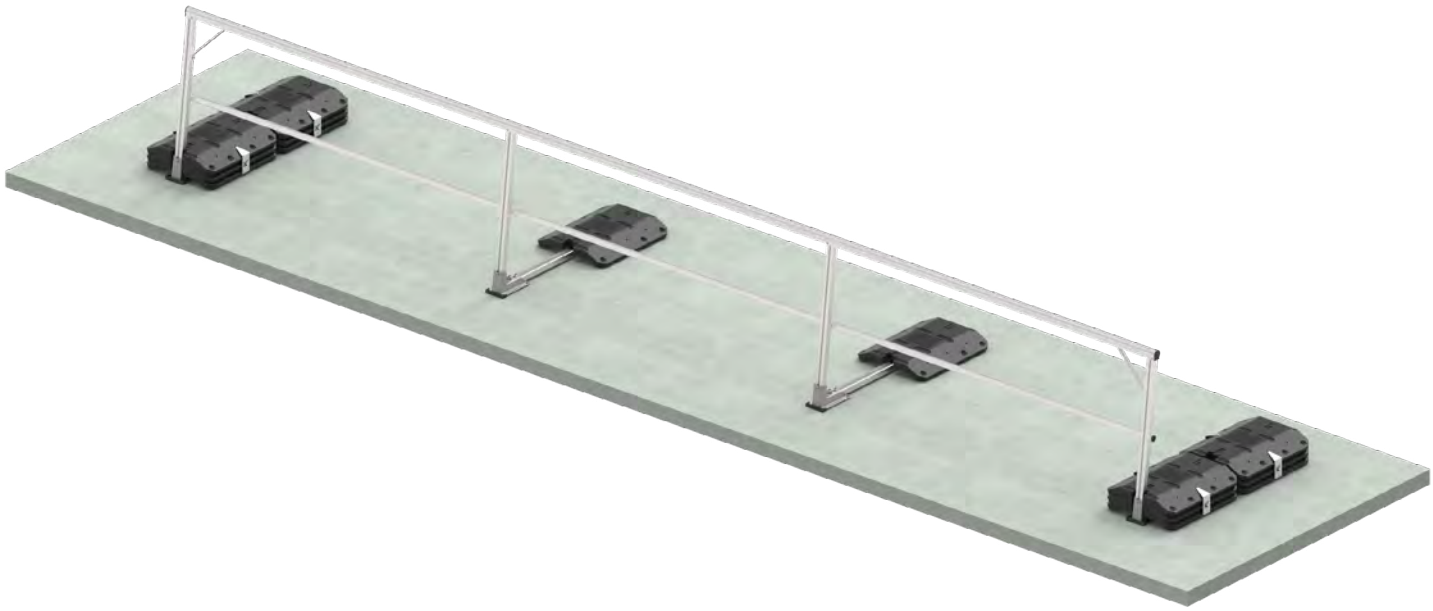
**Graphic A: T-bolt Fastening**



CORRECT INCORRECT



# COMPLETED SYSTEM



Kattsafe Height access and fall protection

INSTALLATION MANUAL

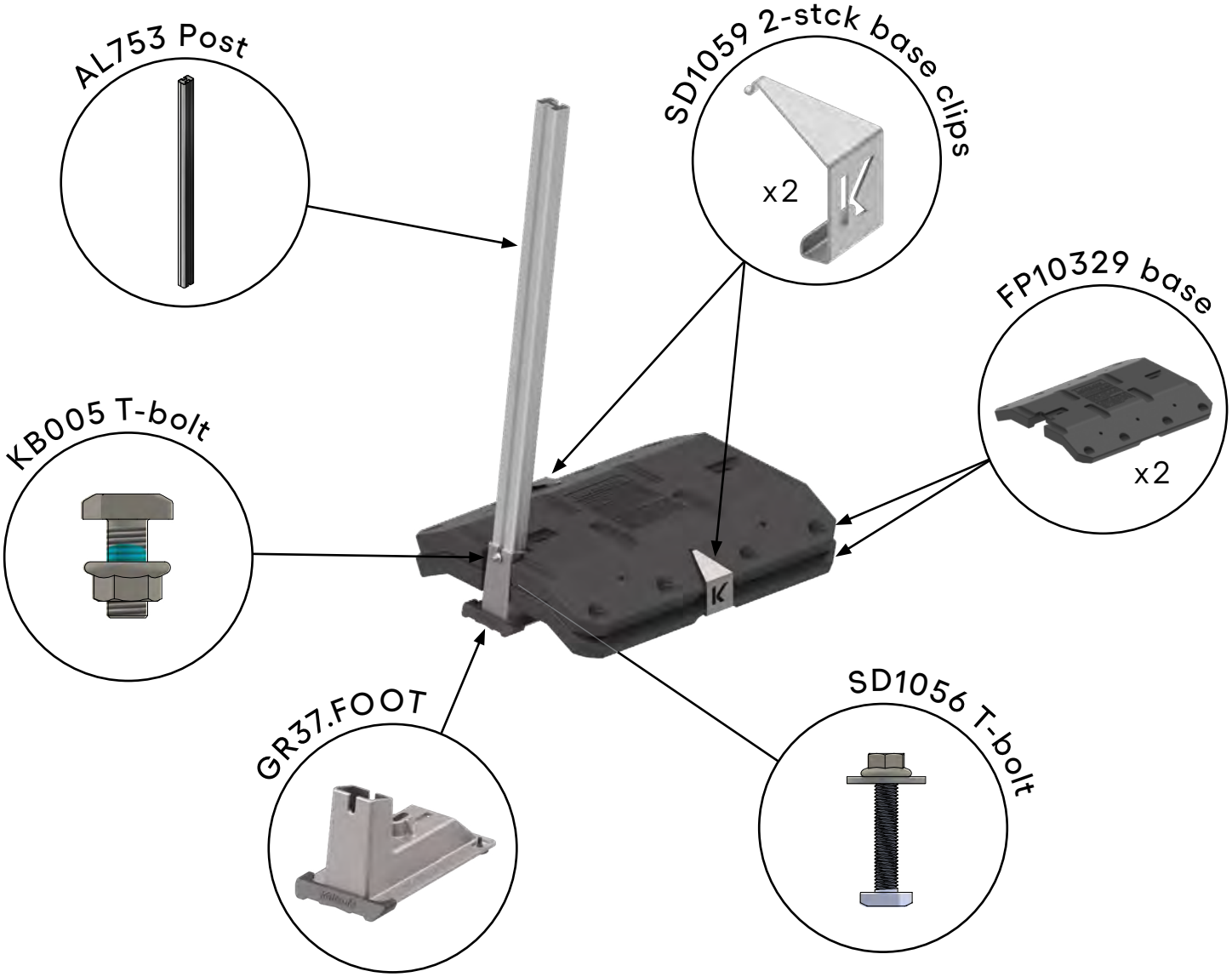
# IN-LINE CONFIGURATION

GR37.INT.IN



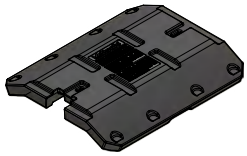
## GR37.INT.IN KIT

# IN-LINE (LOW SPACE PROFILE)

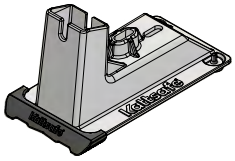



Hardware kit: HK1061

# 7



FP10329



GR37.FOOT



SD1056



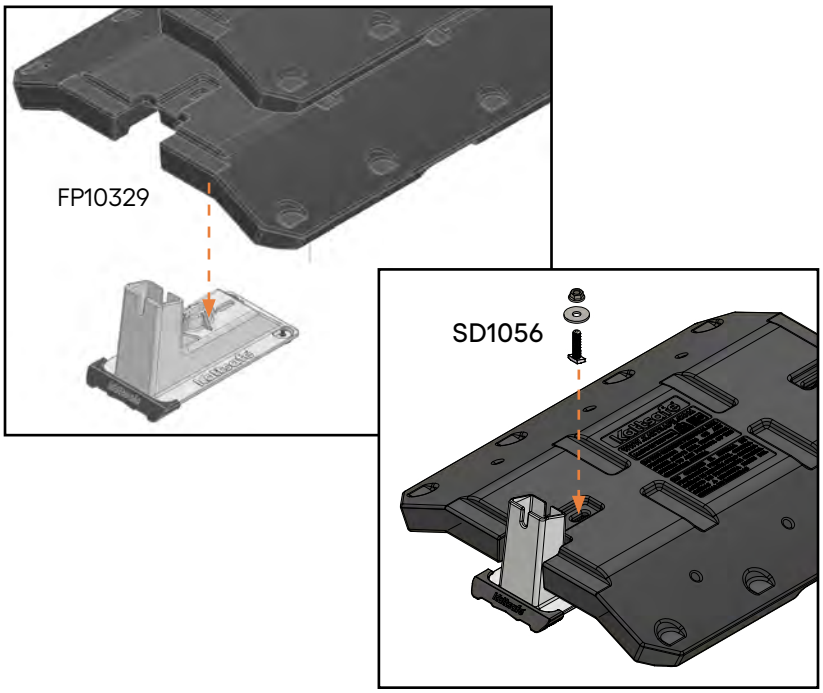
x2

SD1059

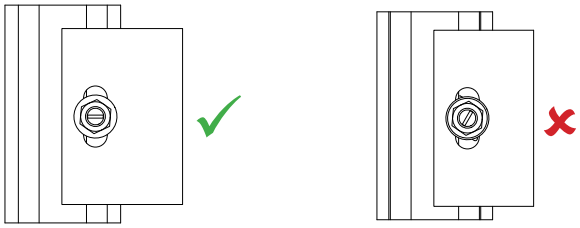
# 7a

Place the first weighted base (FP10329) flush against the foot. Secure with (1) SD1056 t-bolt. Ensure the base is securely positioned on the foot.

See graphic A for correct t-bolt fastening method.




**Graphic A: T-bolt Fastening**

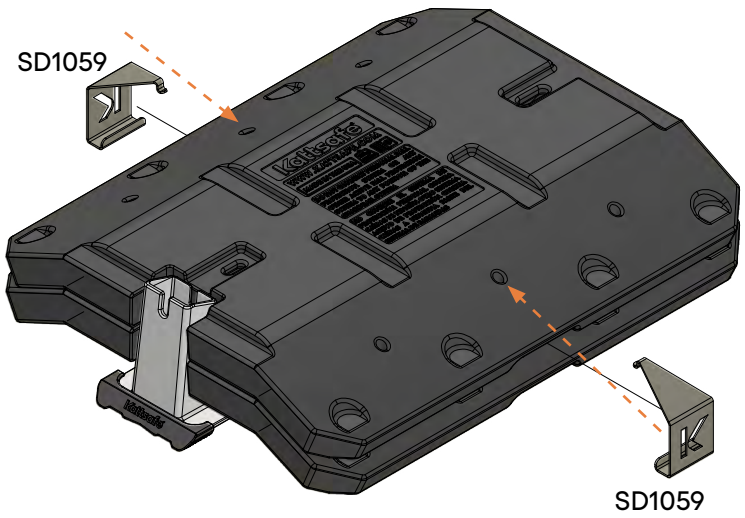


CORRECT

INCORRECT

# 7b

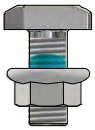
Stack another base on top of the first one.
Secure the bases in place with (2) clips (SD1059) on each side.



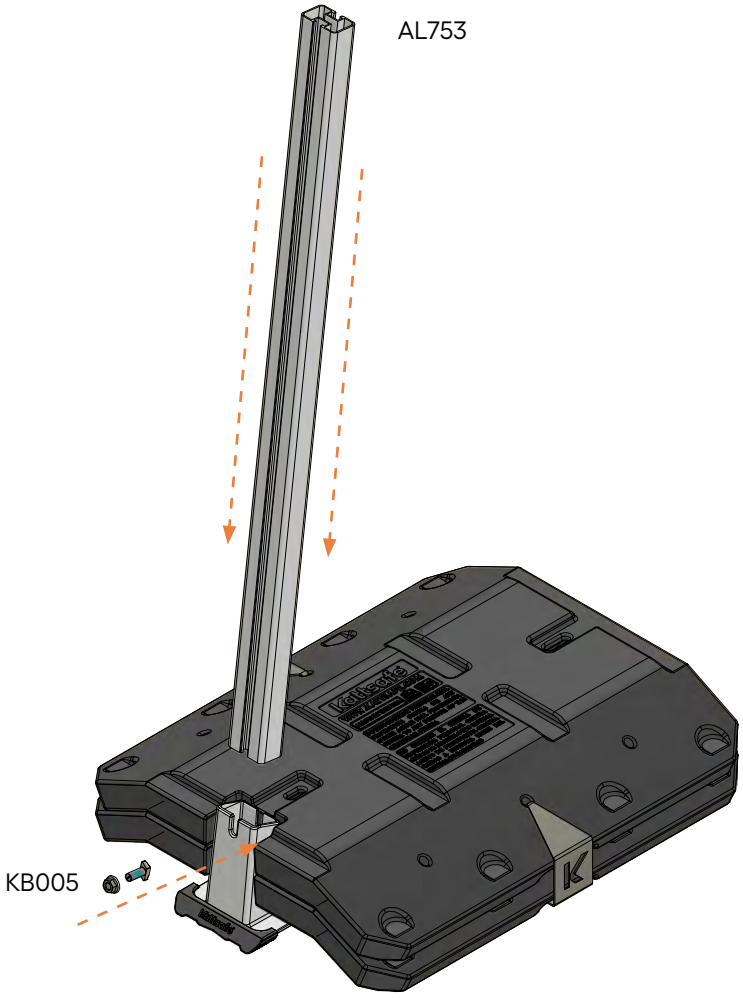
# 8



AL753



KB005

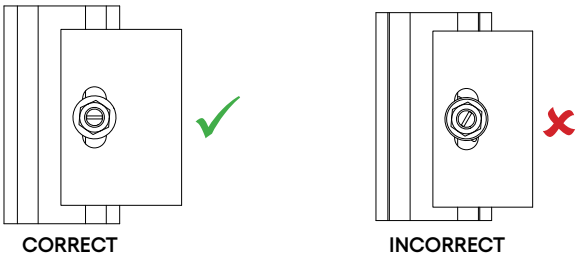



# 8a

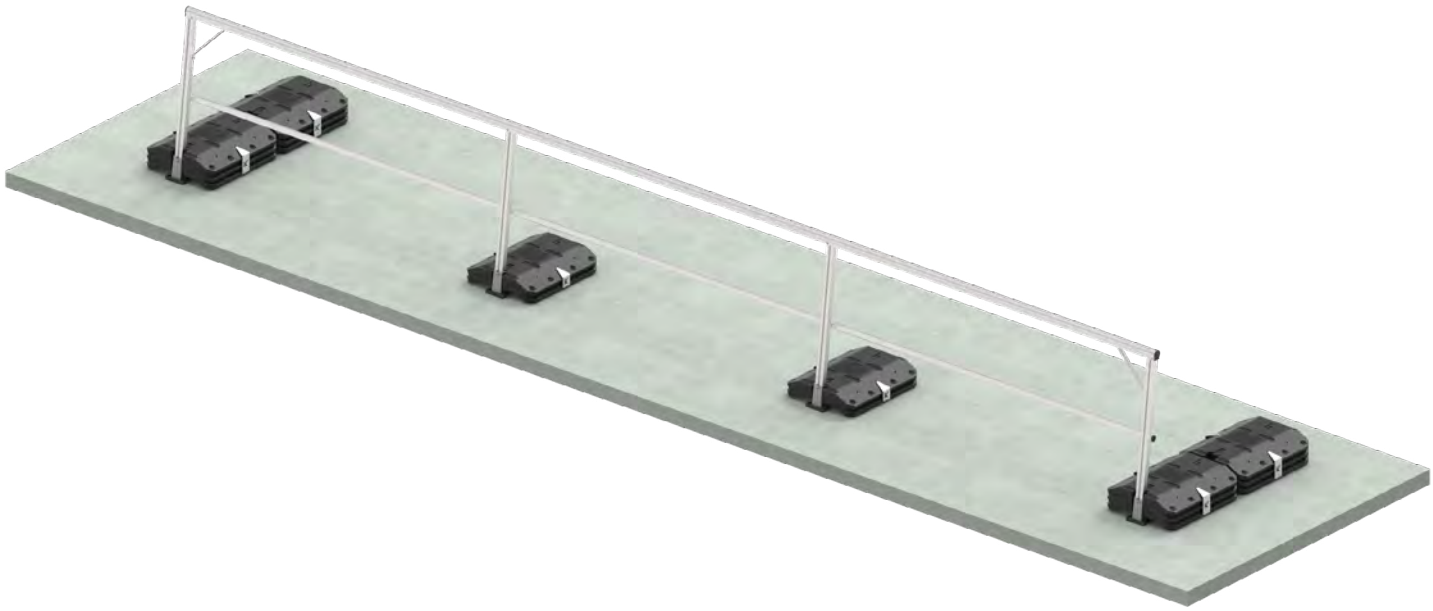
Insert the extrusion vertically into the foot. Secure in place with (1) T-bolt (KB005).

See graphic A for correct t-bolt fastening method.

**Graphic A: T-bolt Fastening**



# COMPLETED SYSTEM



Kattsafe Height access and fall protection

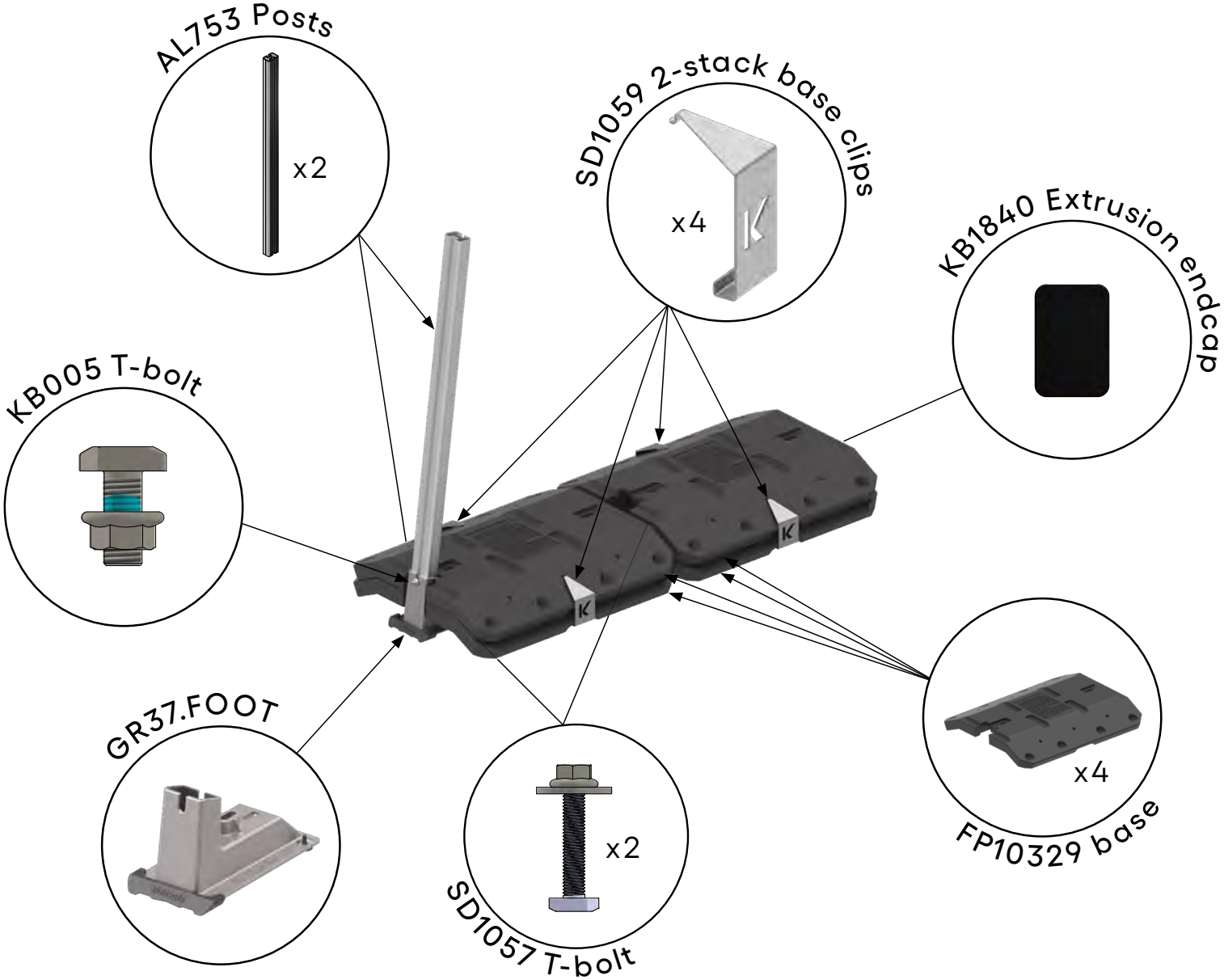
INSTALLATION MANUAL

# HIGH LOAD CONFIGURATION

GR37.INT.HL

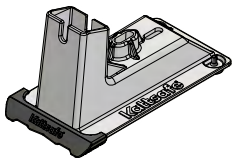


# GR37.INT.HL KIT
# HIGH-LOAD




Hardware kit: HK1064

# 1



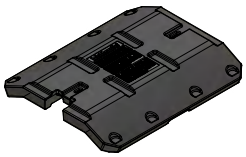
GR37.FOOT



AL753



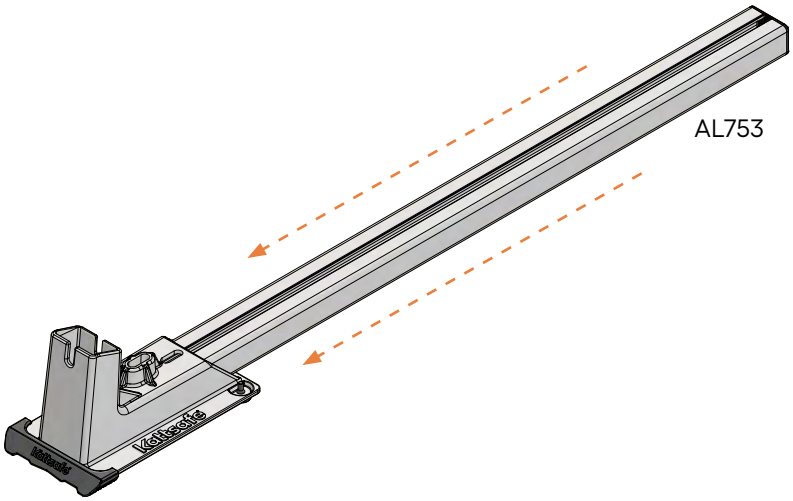
SD1057



FP10329

# 1a

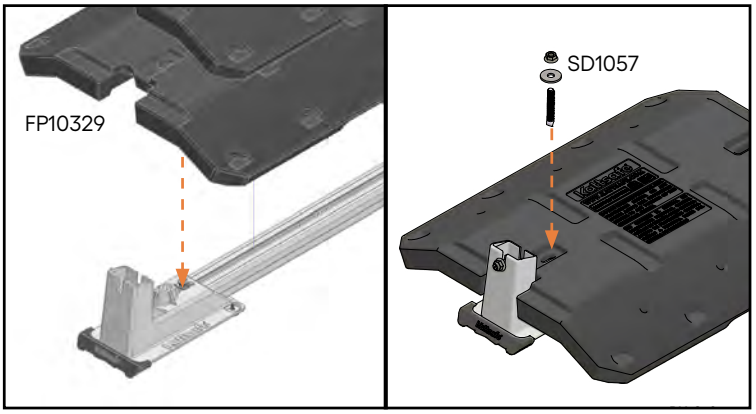
**Start every system with the end kit.**
Insert horizontal slotted extrusion (AL753) into the foot (GR37.FOOT).



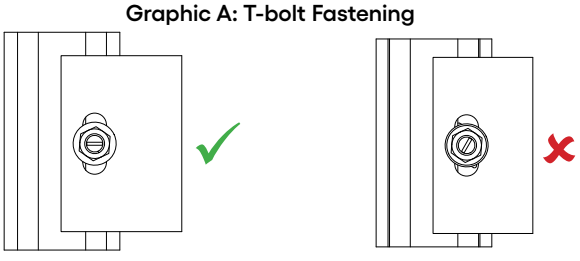

# 1b

Place (1) weighted bases (FP10329) onto the horizontal extrusion, flush against the foot. Secure with (1) (SD1057) T-bolt.

See graphic A for correct T-bolt fastening method.



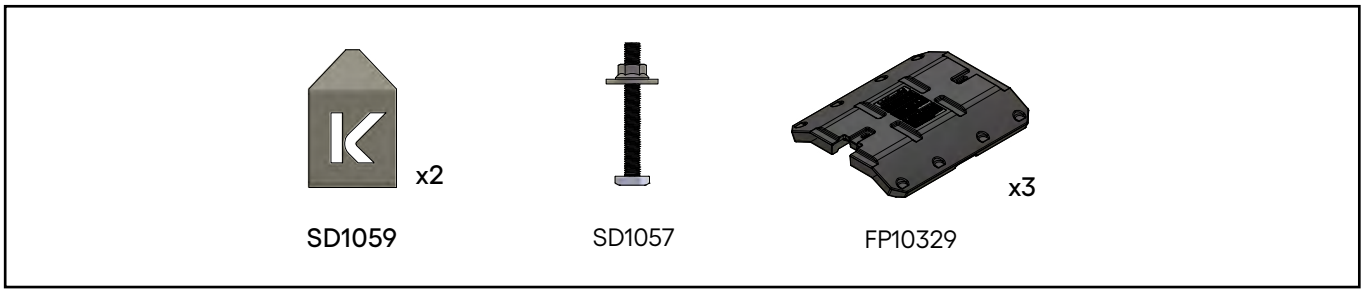

**Graphic A: T-bolt Fastening**



CORRECT INCORRECT

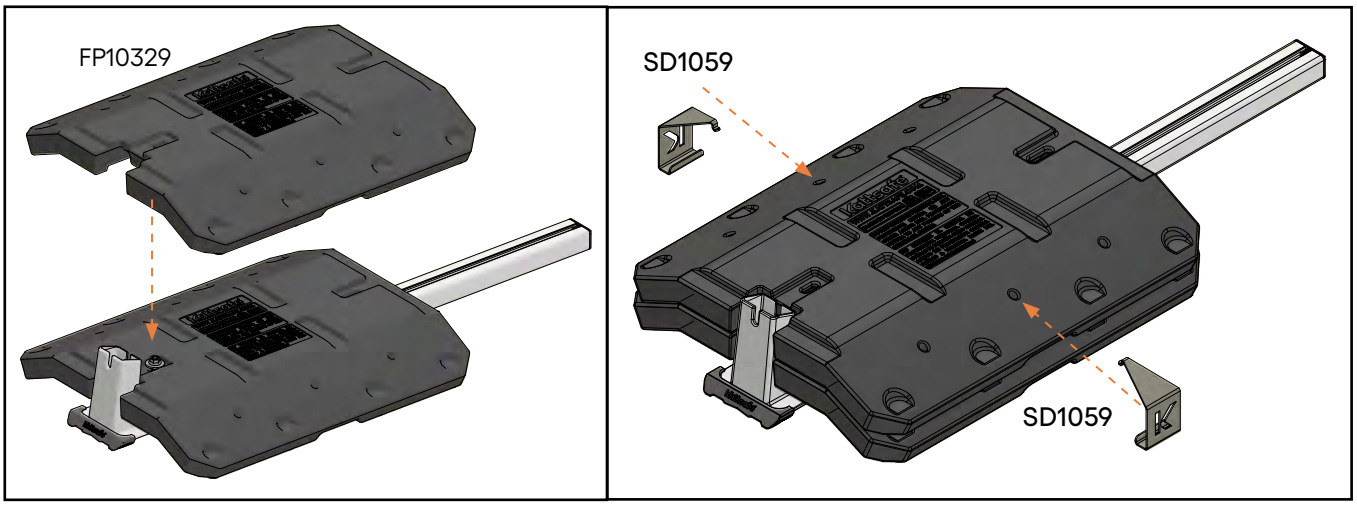
**IMPORTANT:** ensure the t-bolt connects all the way through to the extrusion post

# 2



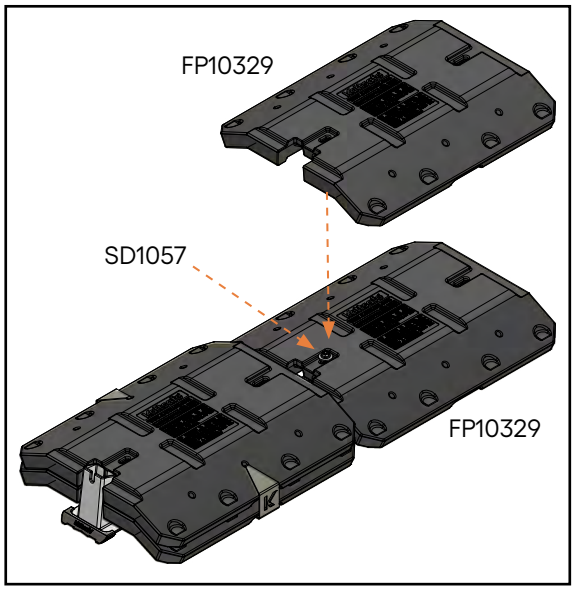

# 2a

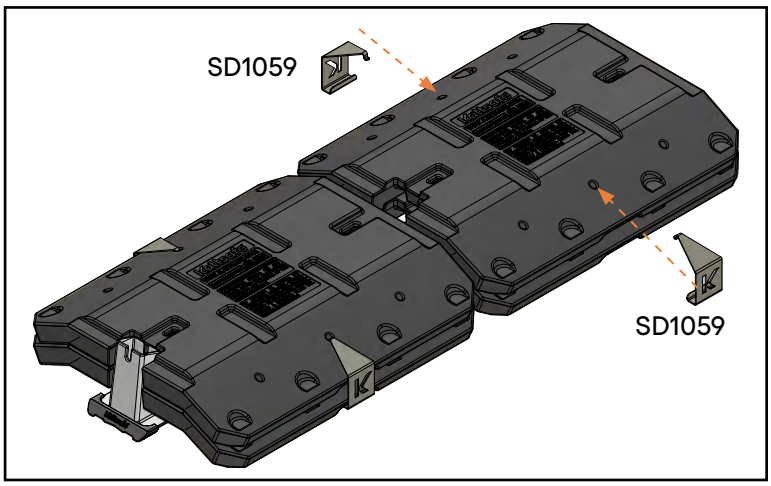
Stack another base on top of the the first one. Secure the bases in place with (2) clips (SD1059); one of each side.




# 2b

Repeat steps 5a-6a for the second stack of bases. Ensure the second stack is flush against the first stack.



# 3



AL753



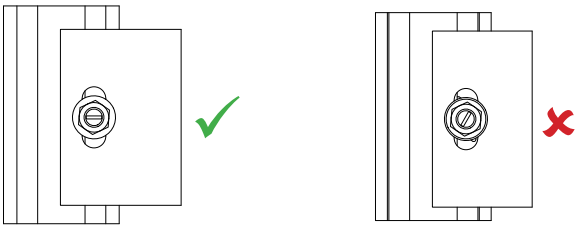
KB005

# 3a

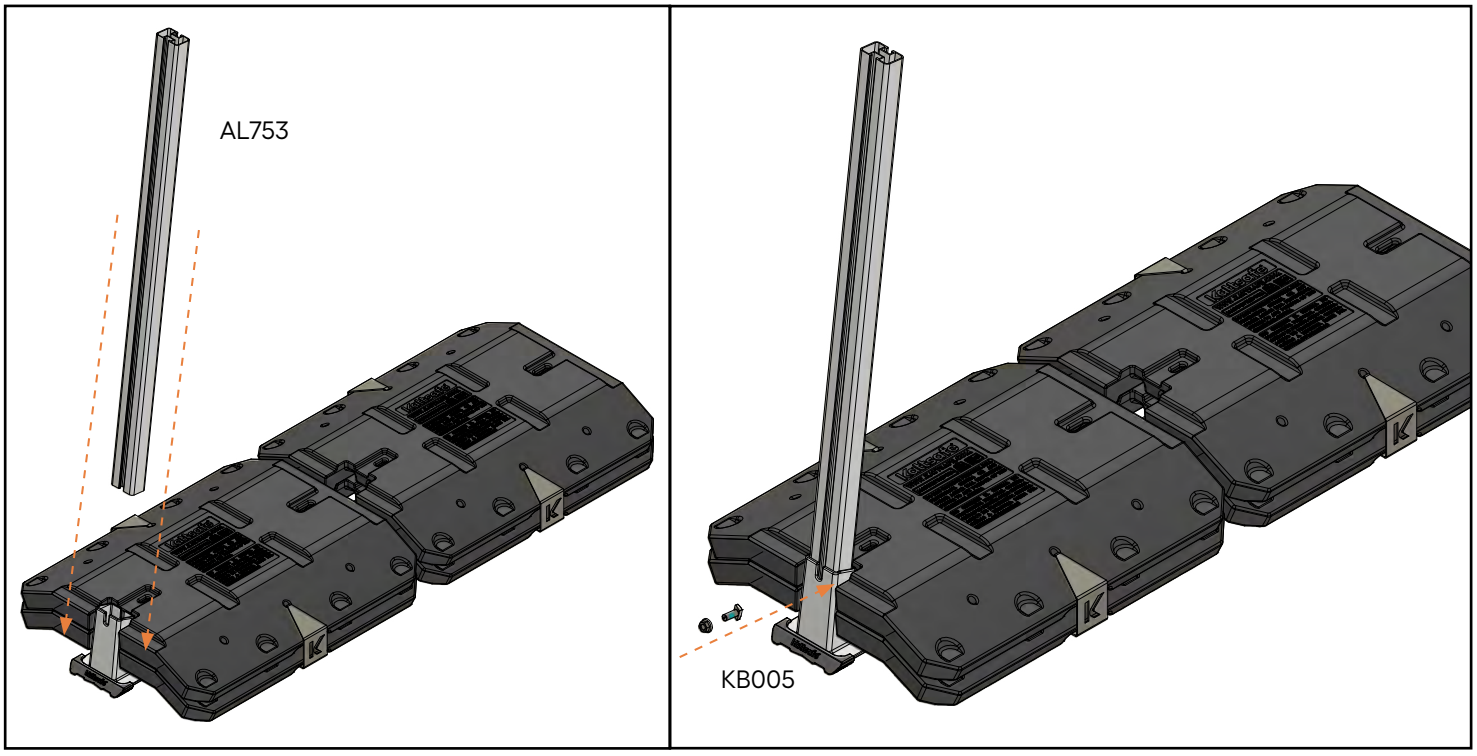
Insert extrusion vertically into the foot. Secure in place with (1) t-bolt (KB005).

See graphic A for correct t-bolt fastening method.

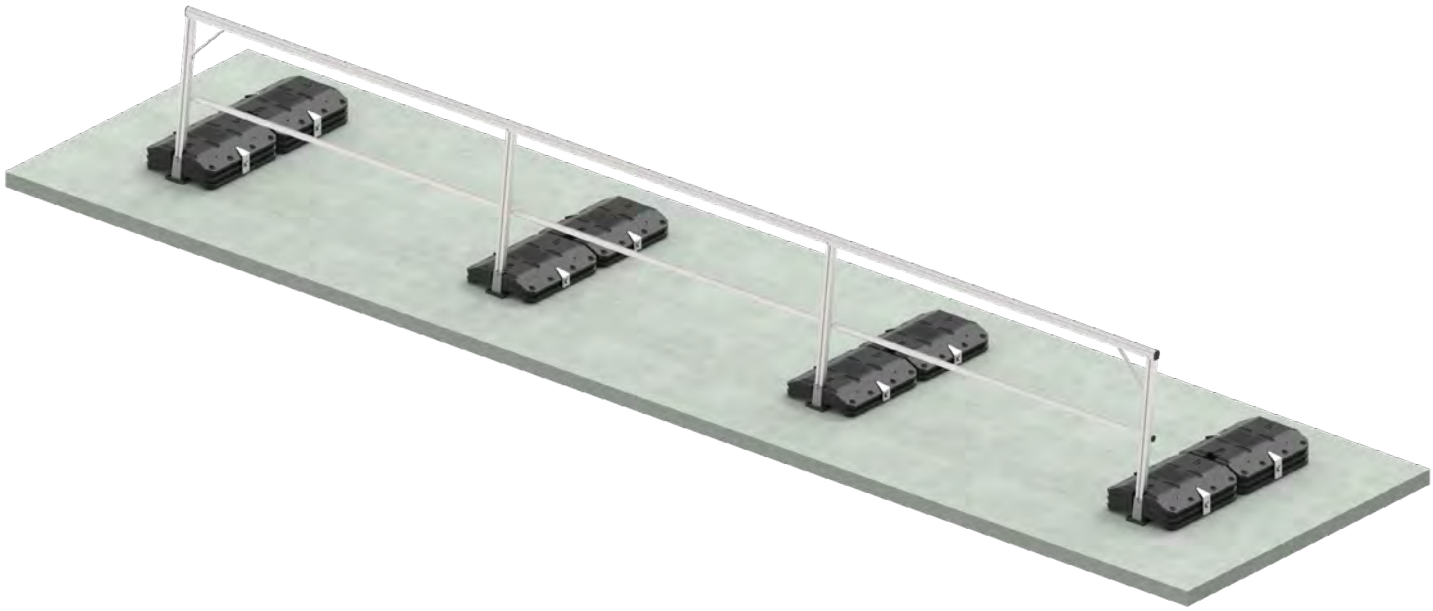
**Graphic A: T-bolt Fastening**



CORRECT INCORRECT



# COMPLETED SYSTEM



Kattsafe Height access and fall protection

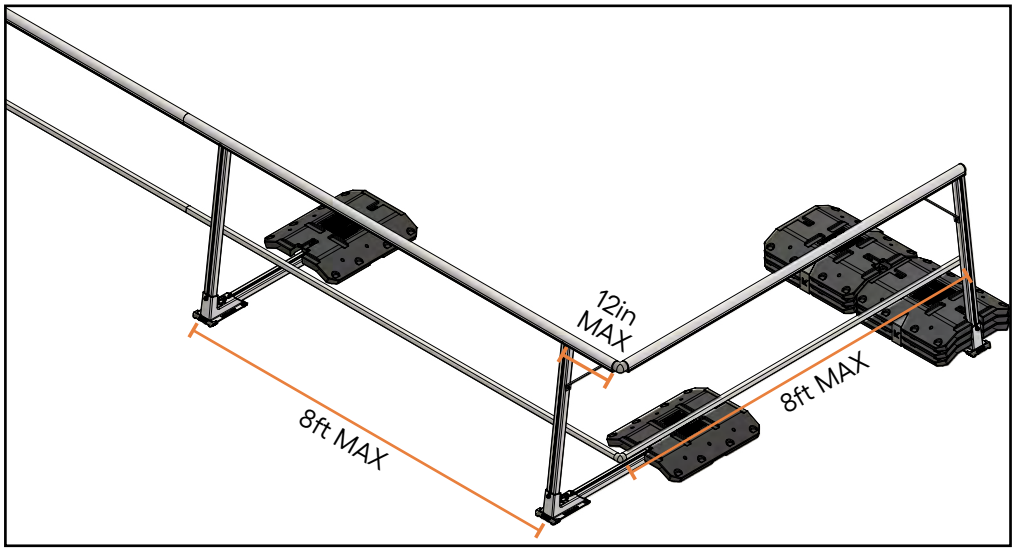
INSTALLATION MANUAL

# CORNER CONFIGURATION

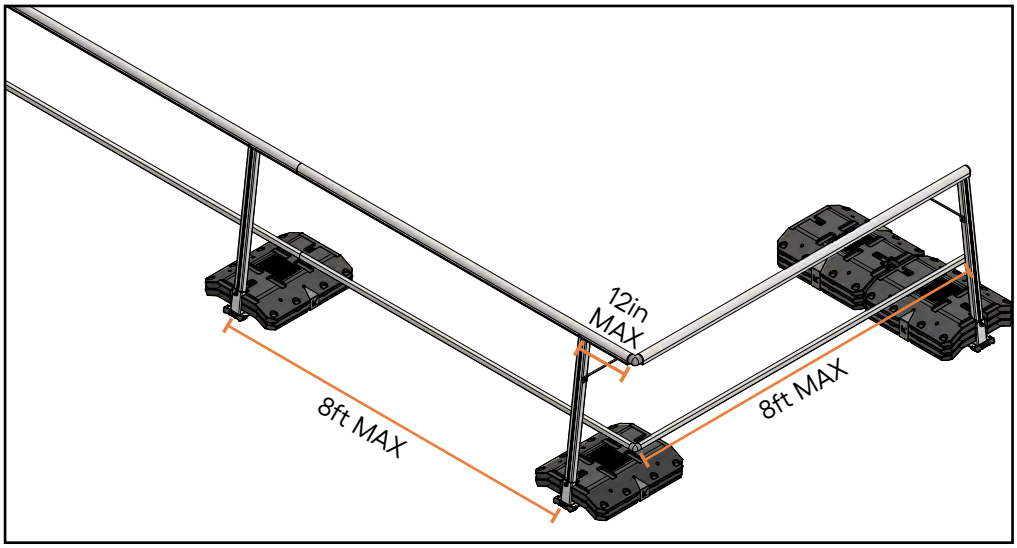
GR37.CNR



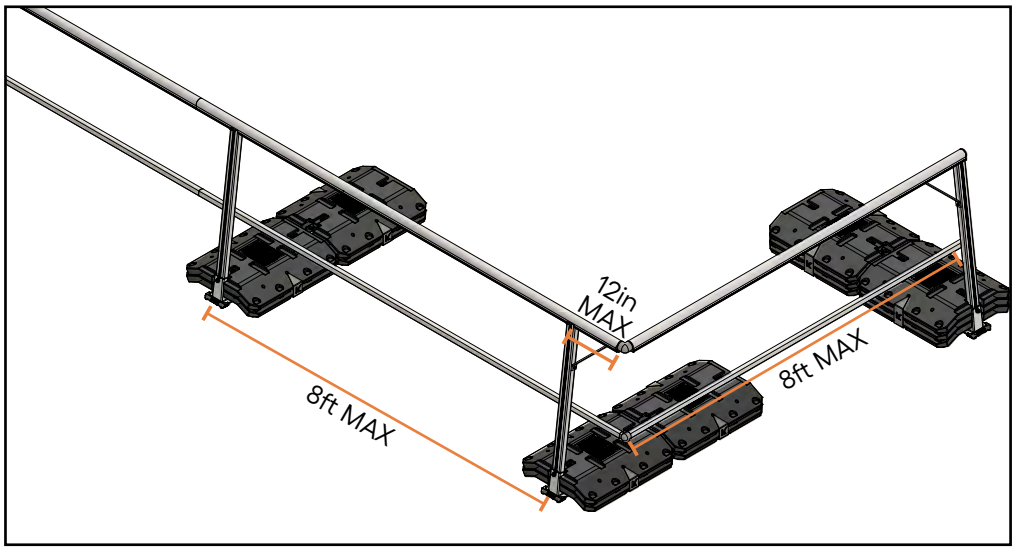
**GR37.INT.CW (standard)**
Cantilevered




**GR37.INT.IN**
In-line




**GR37.INT.HL**
High load



Kattsafe Height access and fall protection

INSTALLATION MANUAL

# TOP & MID RAIL POSTS

GW374 GW375



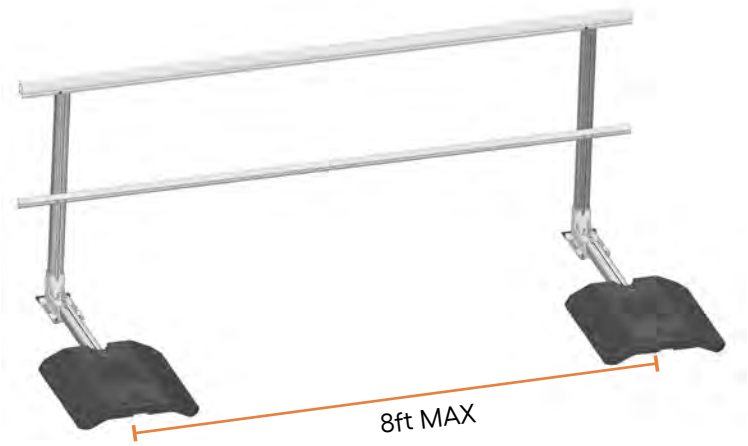
# 1



GW374

# 1a

Once the posts and bases are set, the next stage is to start laying out the top rail, mid rail, and splice joins alongside the base/mounting plates. The top rail (GW374) will be the first section to install.




# 1b

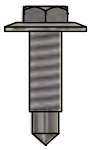
Place the top rail (GW374) on the top of the posts. Where possible, ensure the top rail is cut flush with the starting post. Install the end cap prior to mounting the top rail to the post.

For corners, ensure that there is a maximum 12in cantilever.
Ensure you are within the regulations of local OSHA standards.

For example: our GR37 system can have a max spacing of 8ft between posts.



# 2



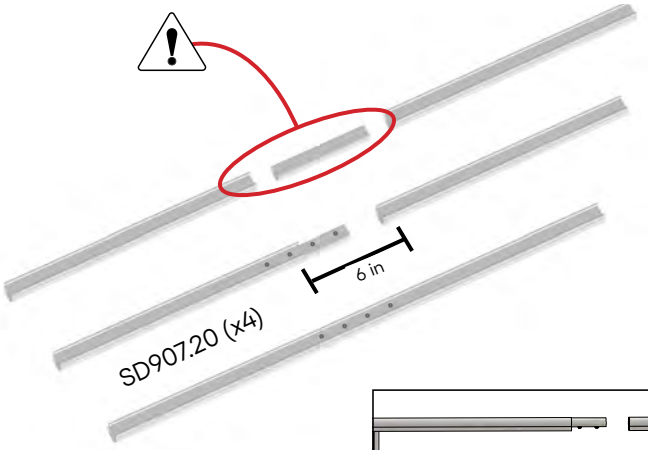
x4

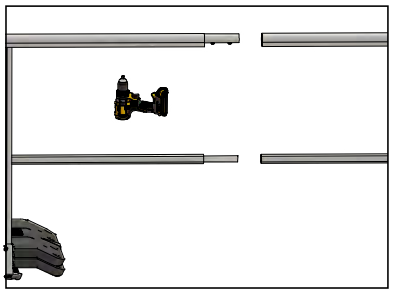
SD907.20

# 2a

To connect the top rail together, insert the splice join halfway into the end of the top rail.

On the underside of the top rail, fasten the splice join using (4) 3/4in S/S tek screws (SD907.20). Ensure (2) tek screws on each side of the splice join connection.

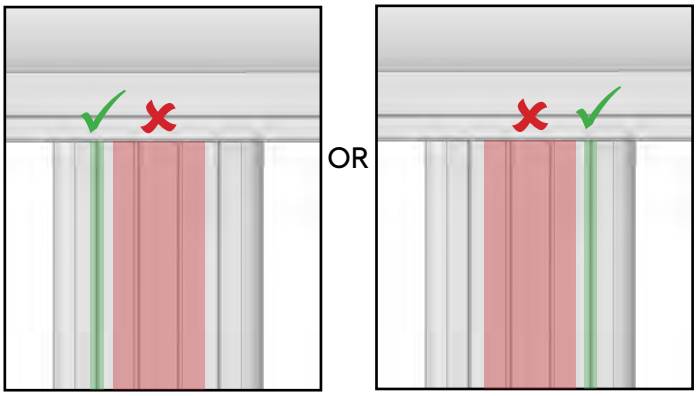


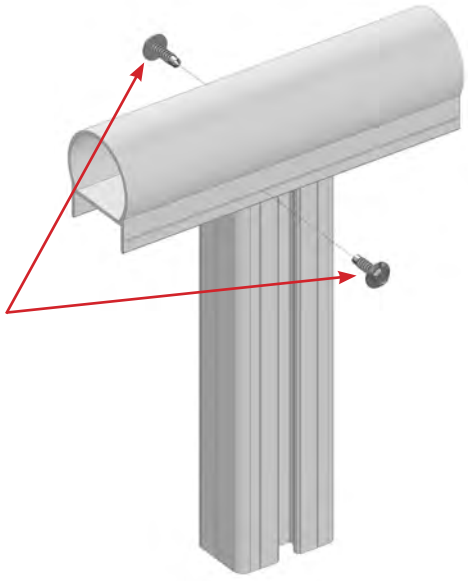
# 2b

Fasten the top rail to the post with (2) 3/4in S/S tek screws (SD907.20). Install one tek screw on each side of the post. Use the groove on top rail for screw placement.

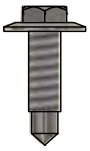
SD907.20 Placement on both sides




(1) SD907.20 tek screw must be installed on **EACH SIDE of the post**



# 3

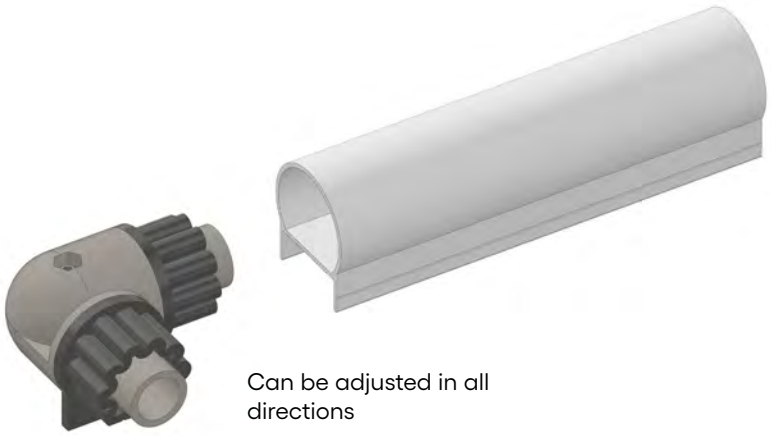


x2

SD907.20

# 3a

Insert top rail adjustable elbows and rotate to the correct angle required.



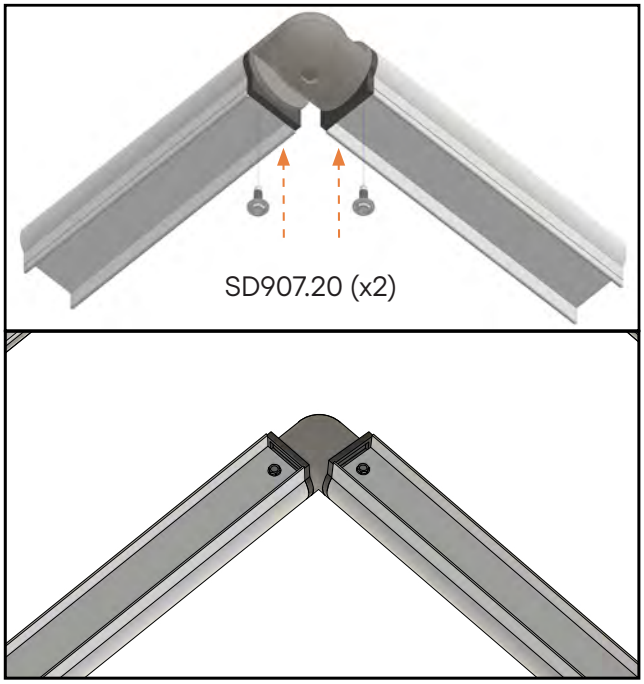
Can be adjusted in all directions

# 3b

Secure the adjustable elbows on the bottom side of the top rail with (2) 3/4in S/S tek screws (SD907.20).

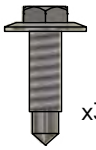
One screw on each side of the elbow. Center the screws on the bottom side of the top rail.

**IMPORTANT NOTE:**
Once the SD907.20 tek screws are fastened in place, you will no longer be able to adjust the elbow joints.



SD907.20 (x2)

# 4




SD907.20




GW386

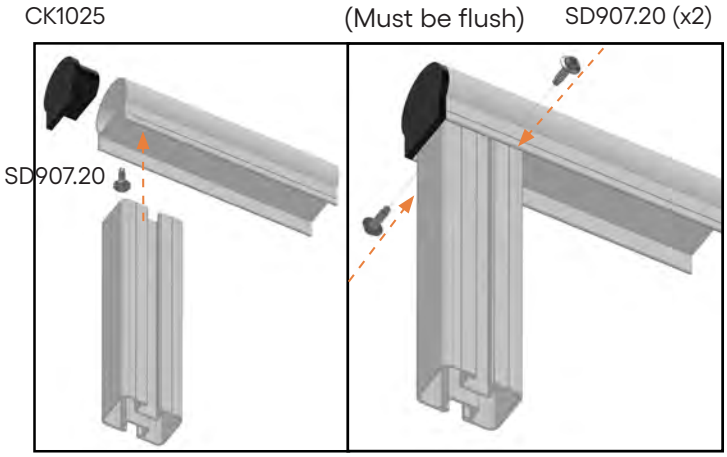



CK1025

## 4a

Insert the top rail end cap (CK1025) and secure it with (1) 3/4in S/S tek screw (SD907.20) on the bottom side of the top rail. Fasten the top rail to the post with (2) 3/4in S/S tek screws (SD907.20). Install one tek screw on each side of the post.

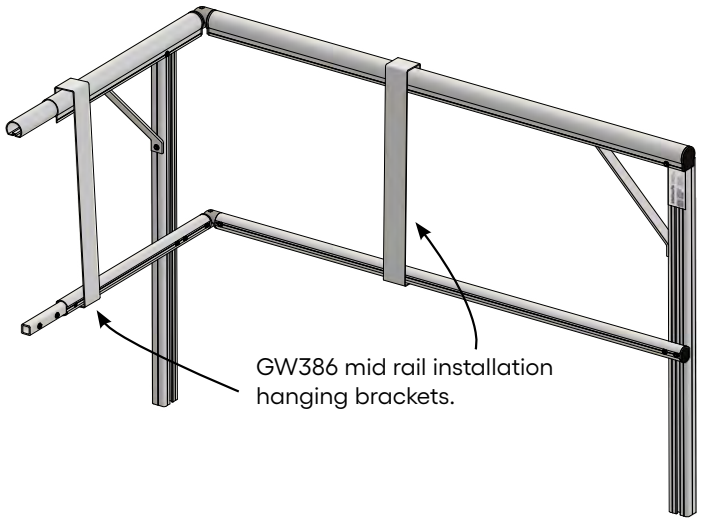
**IMPORTANT NOTE**: For a flush finish, insert and fasten the end cap on the top rail prior to securing the top rail to the post.



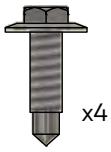

## 4b

Use the provided mid rail installation brackets (GW386) to install the mid rail (GW375). This will ensure consistent spacing between the mid rail and top rail. Start mid rail installation from return post to ensure proper alignment on corners.

Mid rail must be on the **inside of the guardrail system** with the flat end against the post.

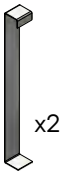


# 5



x4

SD907.20



x2

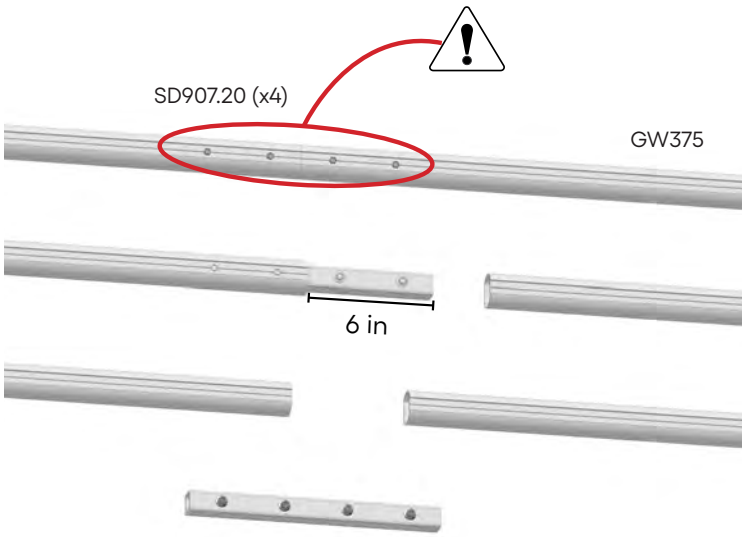
GW386



GW375

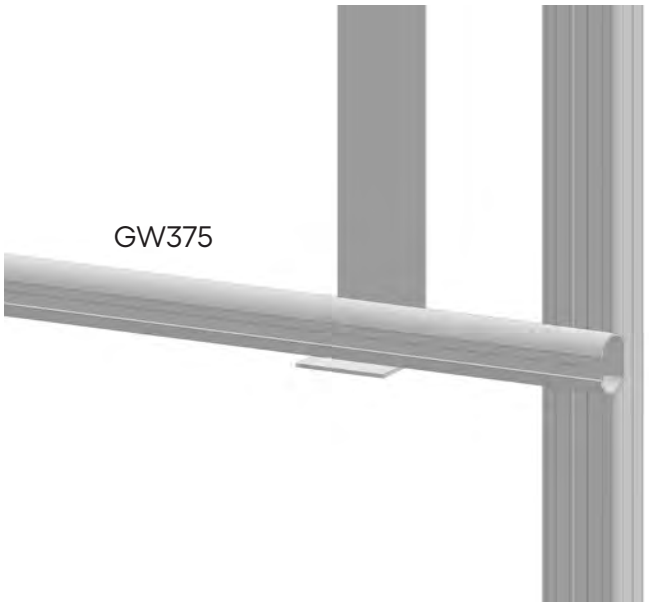
# 5a

To connect the mid rail (GW375), insert the splice join halfway in on the end. Fasten the splice join using (4) 3/4in S/S tek screws (SD907.20) per splice. Fasten (2) tek screws on each half of the splice join. Ensure that the mid rails are tightly together before fastening the final two screws.

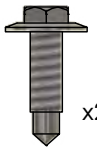



# 5b

Start mid rail installation from the return post (or end post) to ensure proper alignment on corners. Mid rail must be installed on the inside of the post with the flat end against the post.



# 6

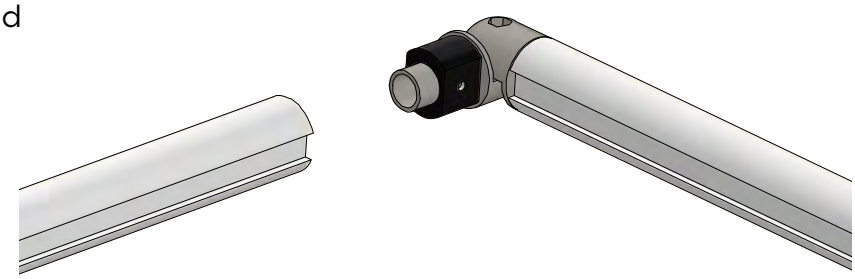


x2

SD907.20

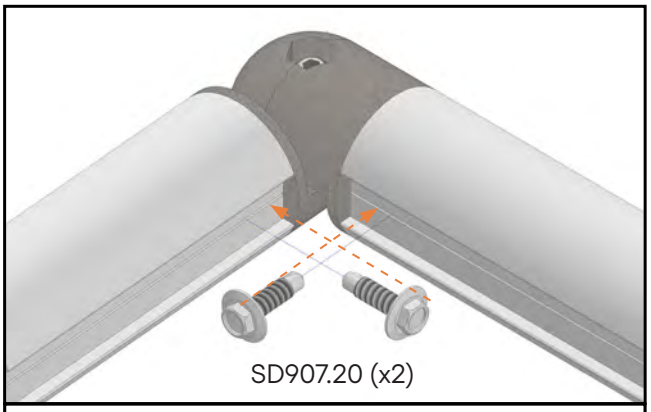
## 6a

Insert mid rail adjustable elbow and rotate to correct angle required to join the next run of mid rail.

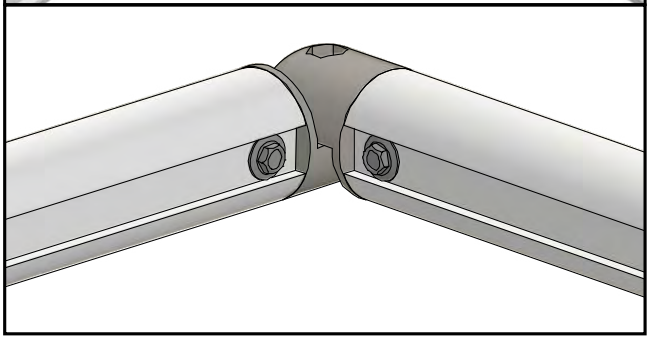


## 6b

Secure the mid rail adjustable elbows with (2) 3/4in S/S tek screws (SD907.20). One on each side of the mid rail elbow.

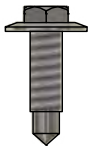


SD907.20 (x2)



**IMPORTANT NOTE:**
Once the SD907.20 tek screws are fastened in place, you will no longer be able to adjust the elbow joints.

# 7



SD907.20



x2

SD907.48

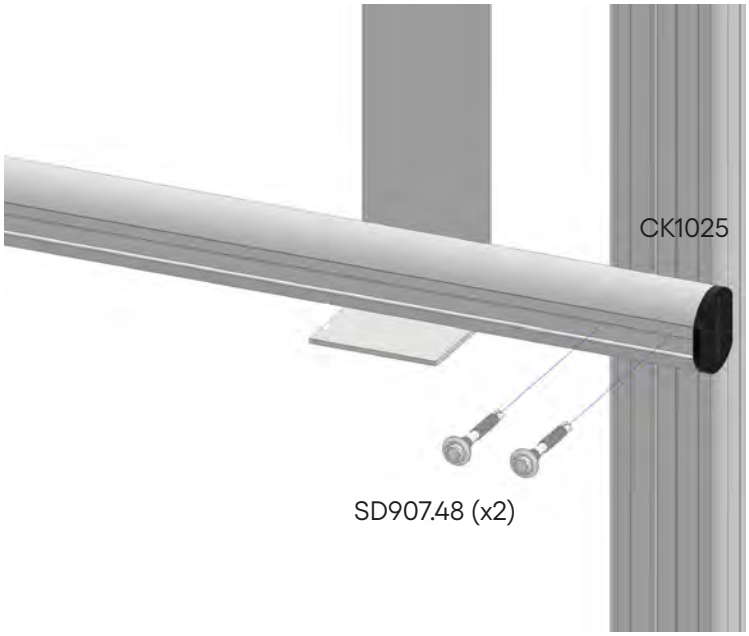


x2

CK1025

## 7a

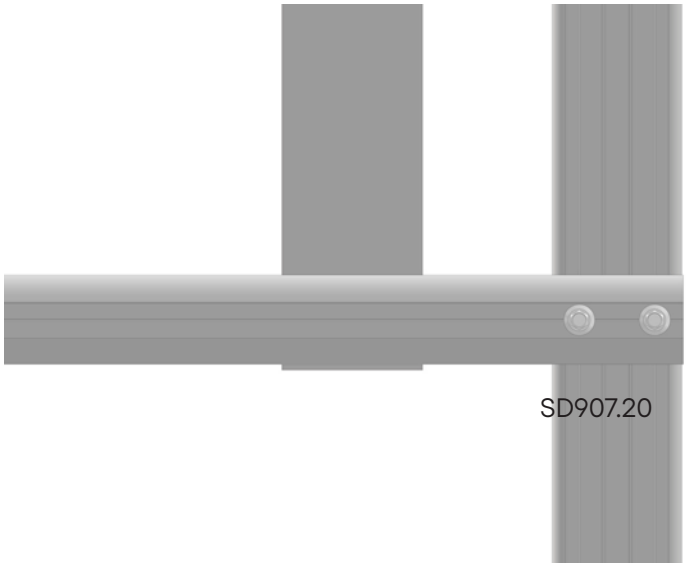
Insert the mid rail end cap (CK1025) and secure it with (1) 3/4in S/S screw (SD907.20). After securing the end cap in place, screw another 3/4in S/S screw.



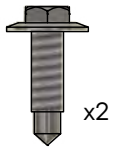

## 7b

Square up the mid rail to the post and fasten with (1) 2in S/S tek screws (SD907.20). Fasten the end of the mid rail run to the post in the same manner as the previous step.

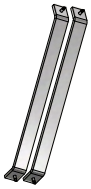
Remove mid rail installation brackets once mid rail is secured in place.



# 8



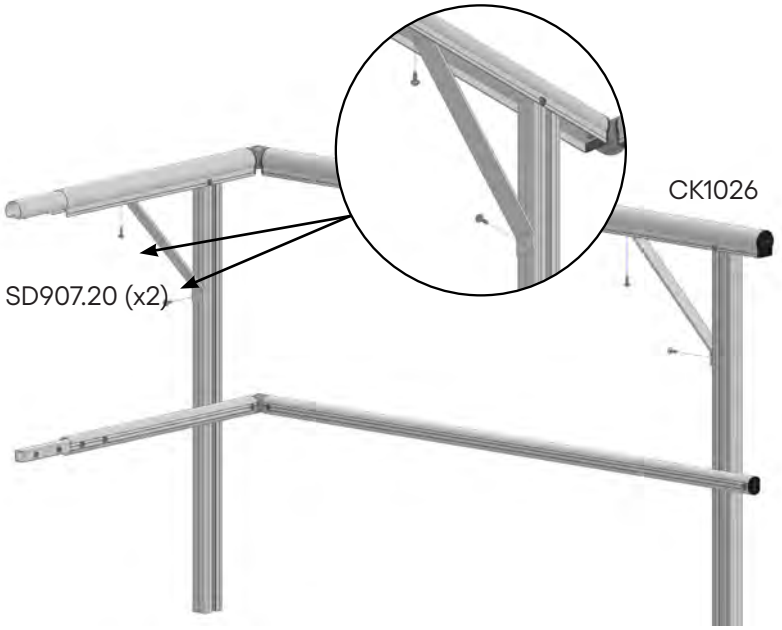

SD907.20



CK1026

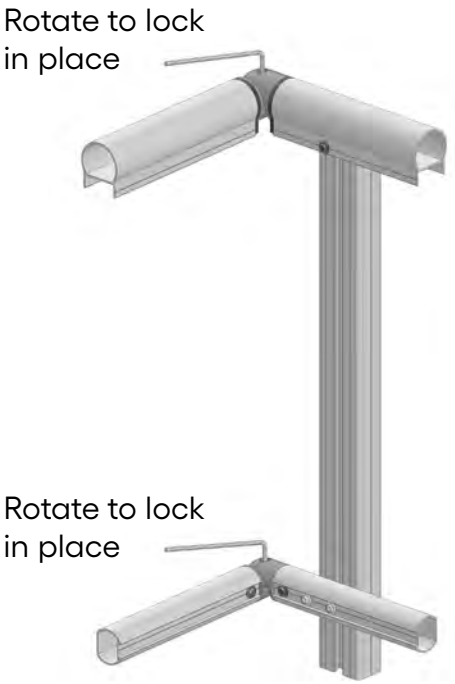
## 8a

Install the guardrail brace (CK1026) at any corner or termination. Fasten with (2) 3/4in S/S tek screws (SD907.20) through the pre drilled holes of the brace. The braces must be installed to maintain system warranty.




## 8b

Tighten all adjustable elbows with the provided Allen wrench.



# 9




x2

SD1031

# 9a

In order to maintain the product warranty, Kattsafe labels must be placed at points of access or in highly visible areas. There are (2) labels (SD1031) provided with every installation kit.



SD1031

Kattsafe Height access and fall protection

INSTALLATION MANUAL

# GUARDRAIL EXPANSION JOINT

GR.EXP



**IMPORTANT NOTE:** Expansion Joints are vital to reduce expansion and contraction that can be evident in aluminum. There must be a minimum of (1) expansion joint kit (installed in the top rail and midrail) installed in any kit from 30ft to 100ft in length. There then must be an additional expansion joint kit for every 100ft of rail.

# EXPANSION JOINT KEY

| Expansion Joint Table | |
|---|---|
| Guardrail Length | Expansion Joints Required |
| 30-100 ft | 1 |
| 100 - 200 ft | 2 |
| 200 - 300 ft | 3 |

Legend

= Guardrail

= Expansion joint

Must allow 1 expansion joint for every 100ft of guardrail.

**0 - 30ft** = no expansion joint



30 - 100ft



1 expansion joint

100 - 200ft



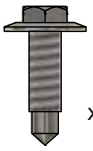
2 expansion joints

200 - 300ft



3 expansion joints

# 1




SD907.20

# 1a

Often it is easiest to add the expansion joint kit in after the majority of the installation is complete. Make a clean cut of the top rail and mid rail in the center area of a guardrail system.

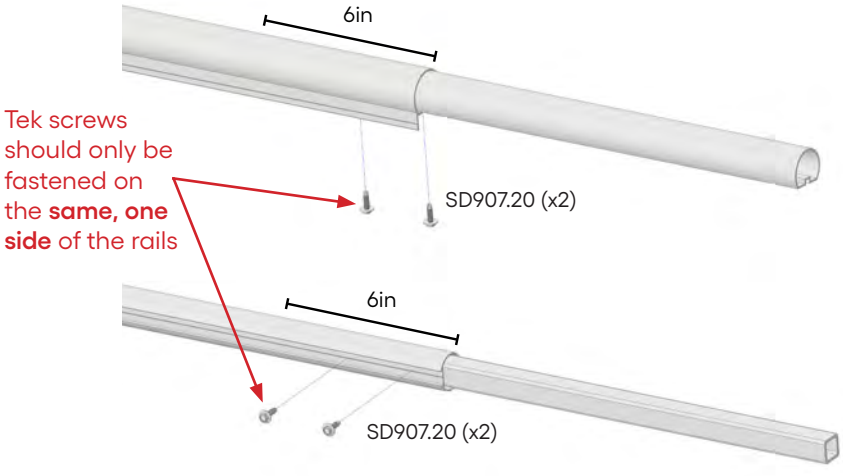
Ensure the cut is made at least 2ft from a splice join.



# 1b

Insert the 24in long top rail splice 6in into one side of the top rail. Then fasten with (2) 3/4in S/S tek screws (SD907.20) on the underside.

Repeat the same for the mid rail. Fasten with (2) 3/4in S/S tek screws on the side.

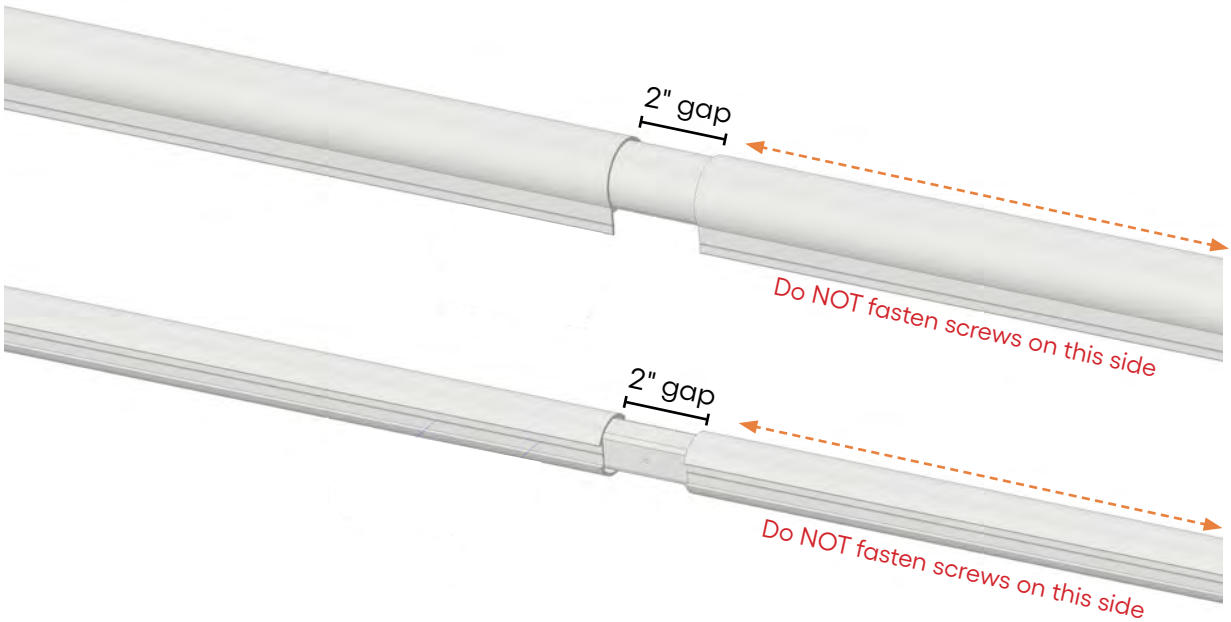


# 2

# 2a

Now insert the two open splice pieces into the other side of the top rail and mid rail. Ensure there is a minimum 2in gap where the splice join is visible. This should result in a minimum of 16in unfastened in one side. **Do not fasten this side!**

Return to pg. 35 for railing assembly instructions.

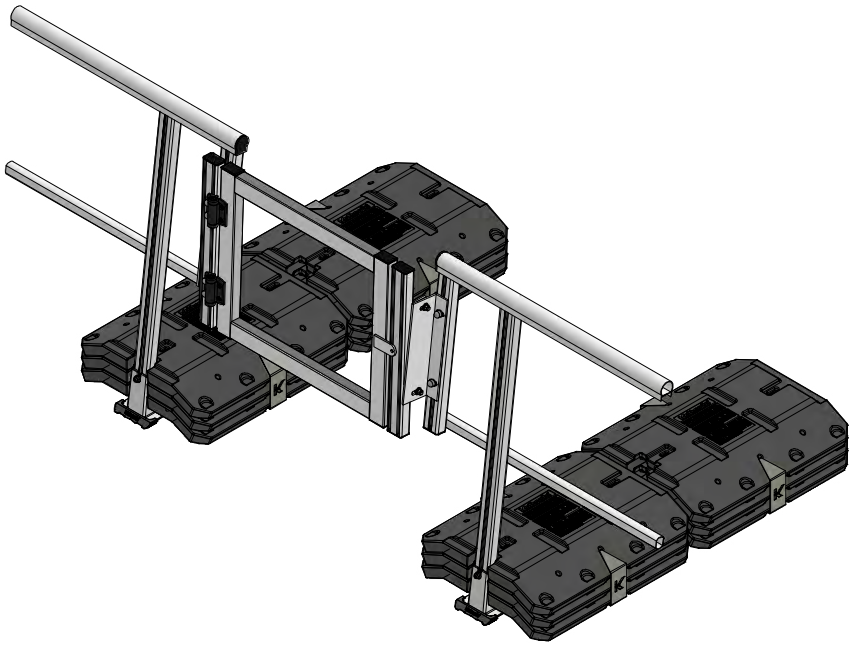


Kattsafe Height access and fall protection

## INSTALLATION MANUAL

# SELF-CLOSING GATE

**GR37.GATE.02**



**IMPORTANT NOTE:** Expansion Joints are vital to reduce expansion and contraction that can be evident in aluminum. There must be a minimum of (1) expansion joint kit (installed in the top rail and midrail) installed in any kit from 30ft to 100ft in length. There then must be an additional expansion joint kit for every 100ft of rail.

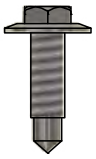


Tape measure




**1** Ensure (1) GR37.END is installed (pg. 10-13) - this is where the gate will go.

Leave 8-10 inches of the top and mid rails extending past the GR37.END post.



x2

SD907.20



Top rail end cap

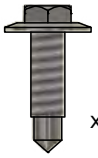


Mid rail end cap



## 2

Install End Caps on the Top and Mid rail using (1) SD907.20 Tek Screw for each.



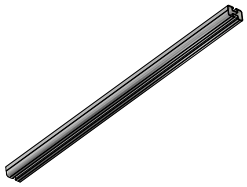
x2

SD907.20
(For top rail)

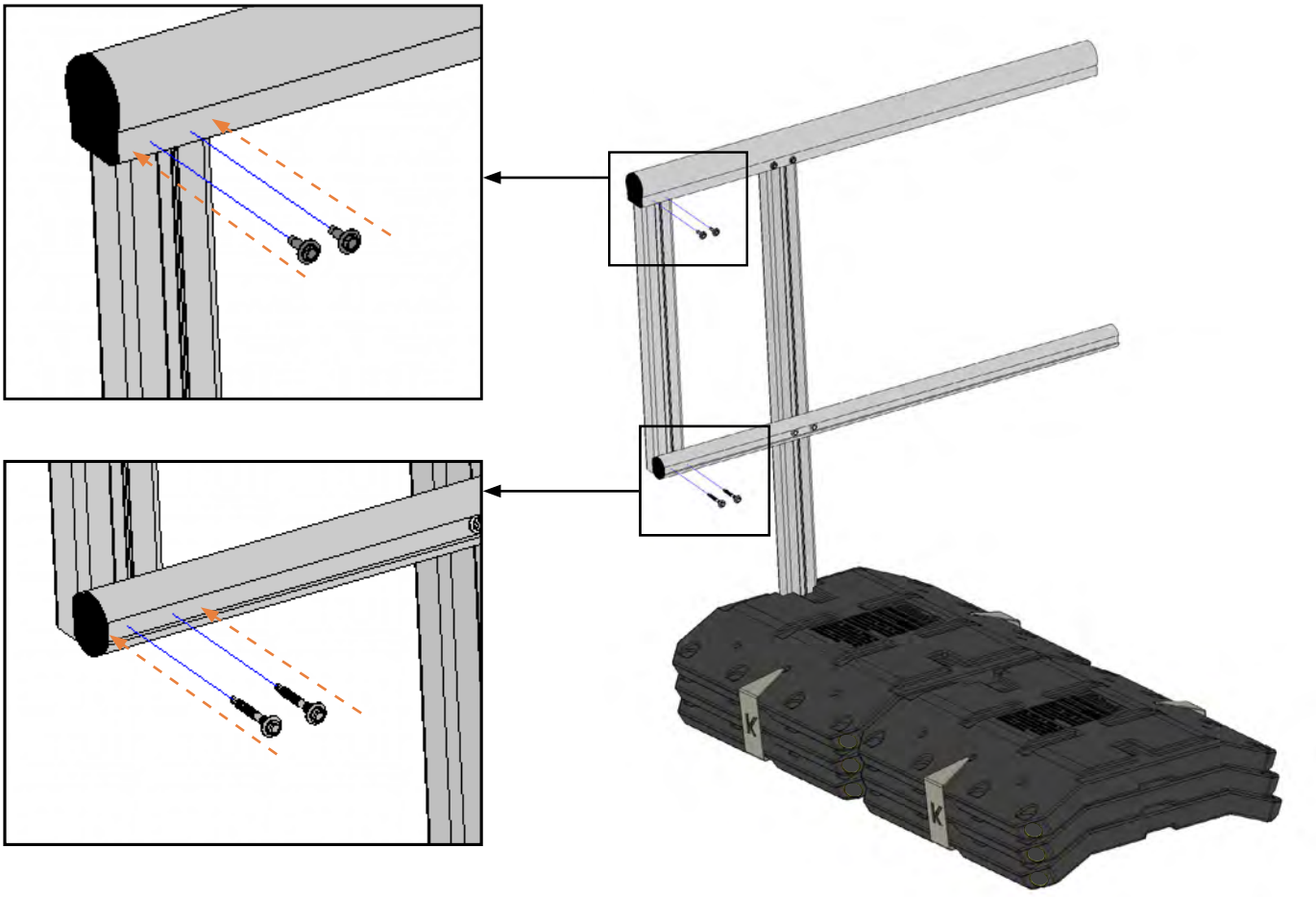


x2

SD907.48
(For mid rail)

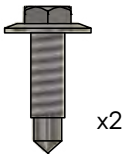


AL753 extrusion (K60 extrusion)



**3** Install the 1.75ft K60 extrusion on the top and mid rail. Use (2) SD907.20 on the top rail, and (2) SD907.48 on the midrail.

IMPORTANT NOTE:
Ensure there is no more than 1.5 inches of top/mid rail sticking past the K60 post.



x2

SD907.20



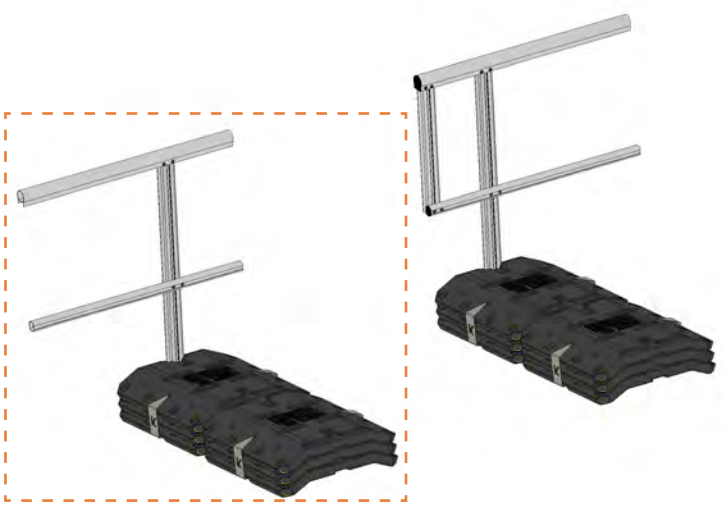
Top rail end cap



Mid rail end cap

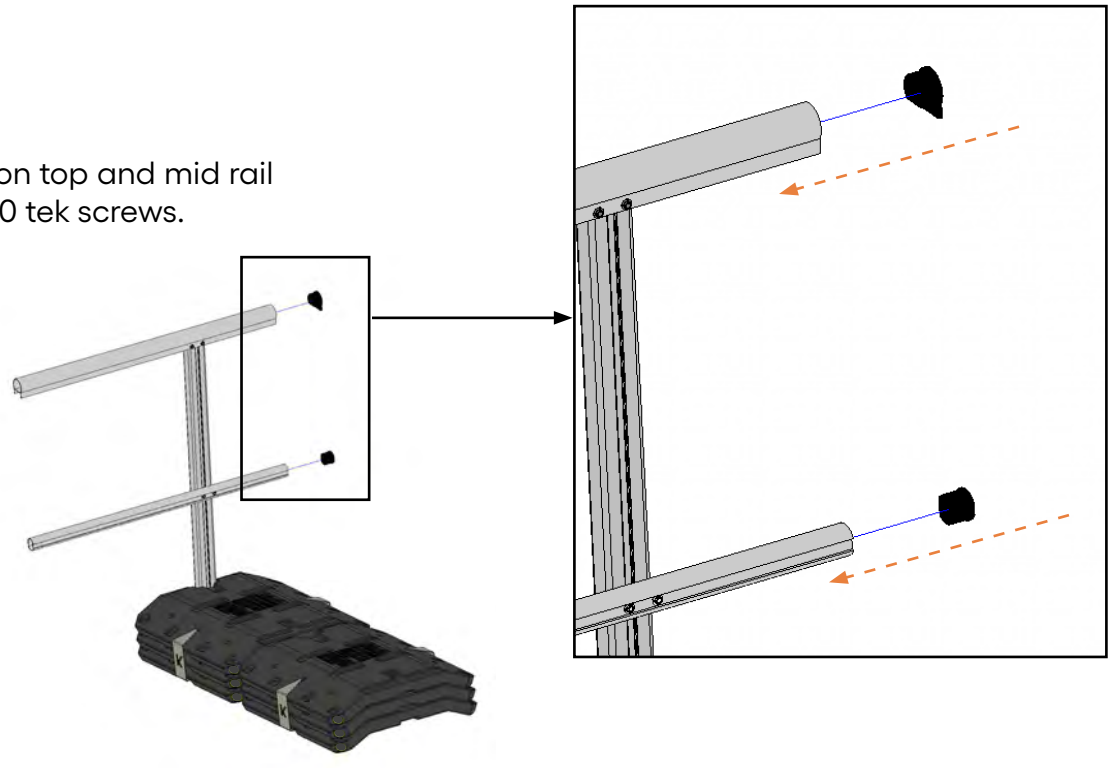
## 4a

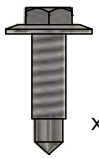
Assemble the Second GR37.END kit (refer to pg. 10-13). Install on the side opposite of the GR37.END kit installed on step 1.



## 4b

Install End Caps on top and mid rail using (2) SD907.20 tek screws.





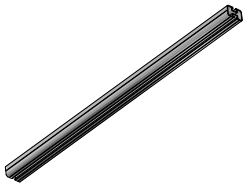
x2

SD907.20
(For top rail)



x2

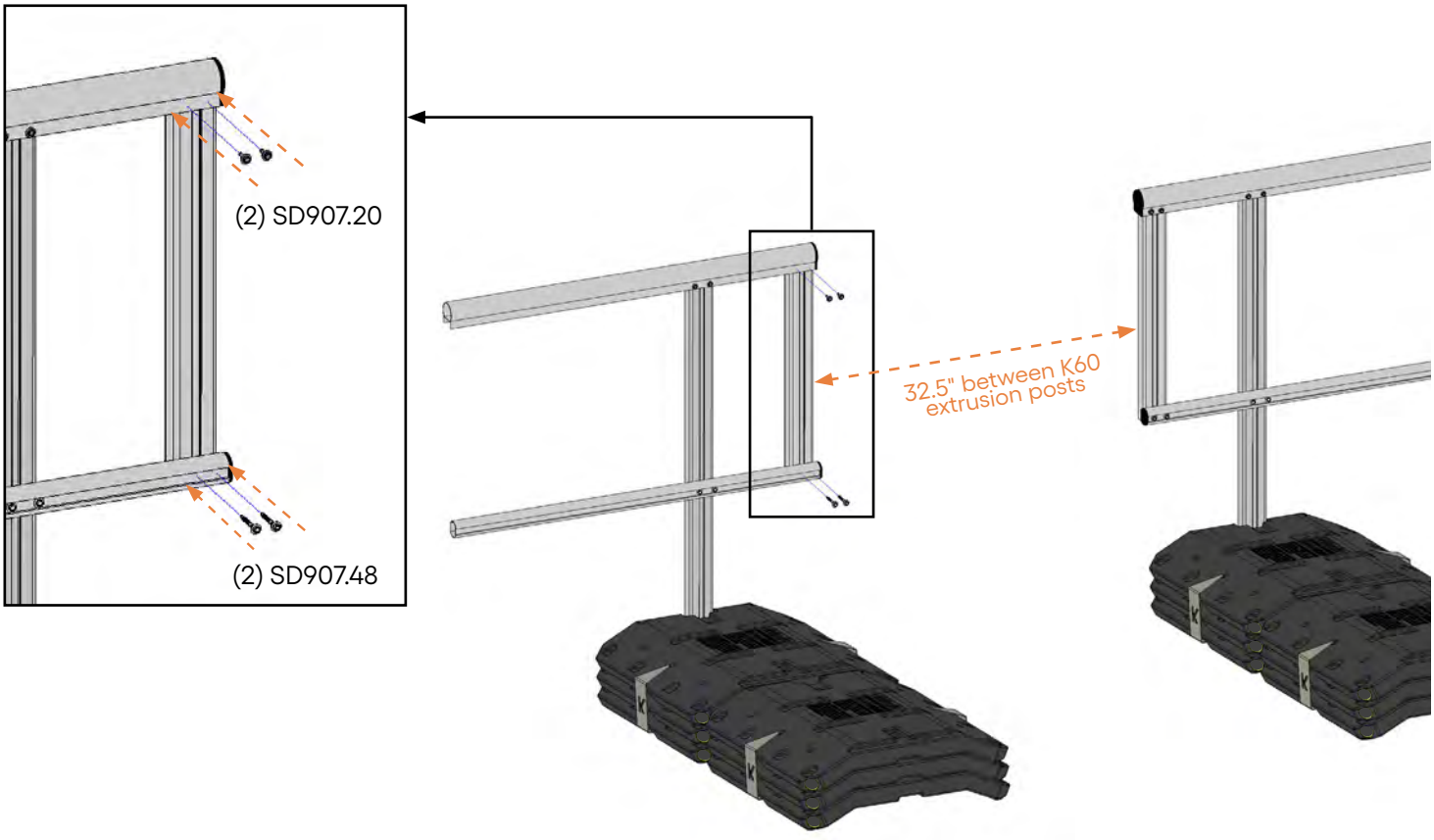
SD907.48
(For mid rail)



AL753 extrusion (K60 extrusion)



Tape measure

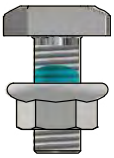



**5** Measure 32.5 inches from the K60 post installed on step 3, and install the second K60 post using (2) SD907.20's and (2) SD907.48.



x2

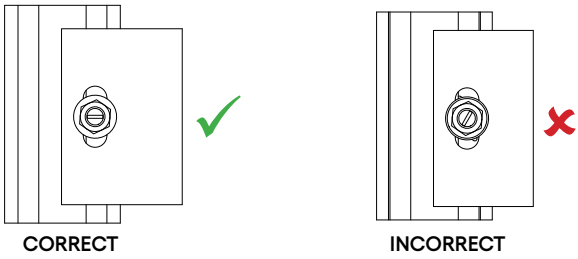
Angle bracket



x4

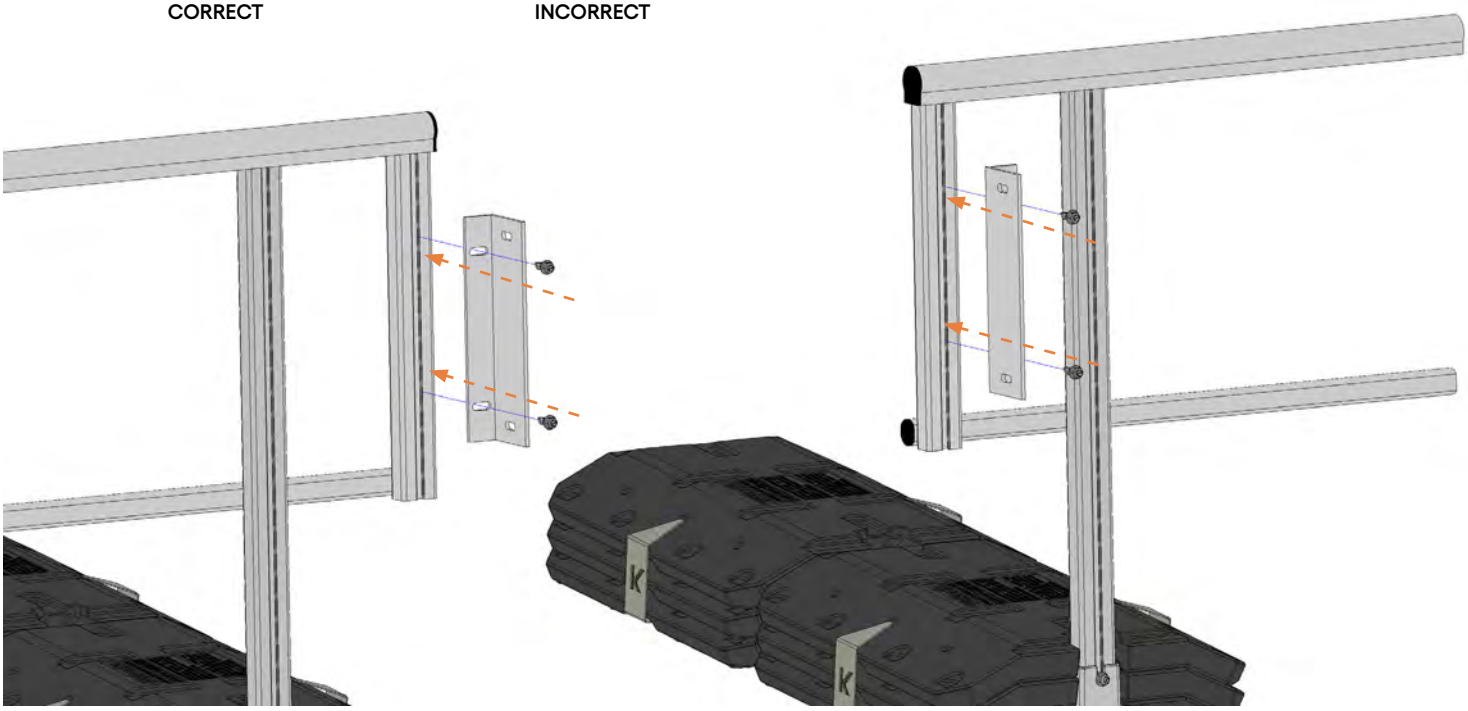
KB005

**Graphic A: T-bolt Fastening**



CORRECT

INCORRECT



**6** Install the angle extrusion to the front of the K60 posts using (2) KB005 T-Bolts. Ensure the angle brackets are centered on the K60 post. Ensure correct T-Bolt Fastening.

IMPORTANT NOTE:
The angle should be centered on the K60 Post.



x4

Bolt and nut set

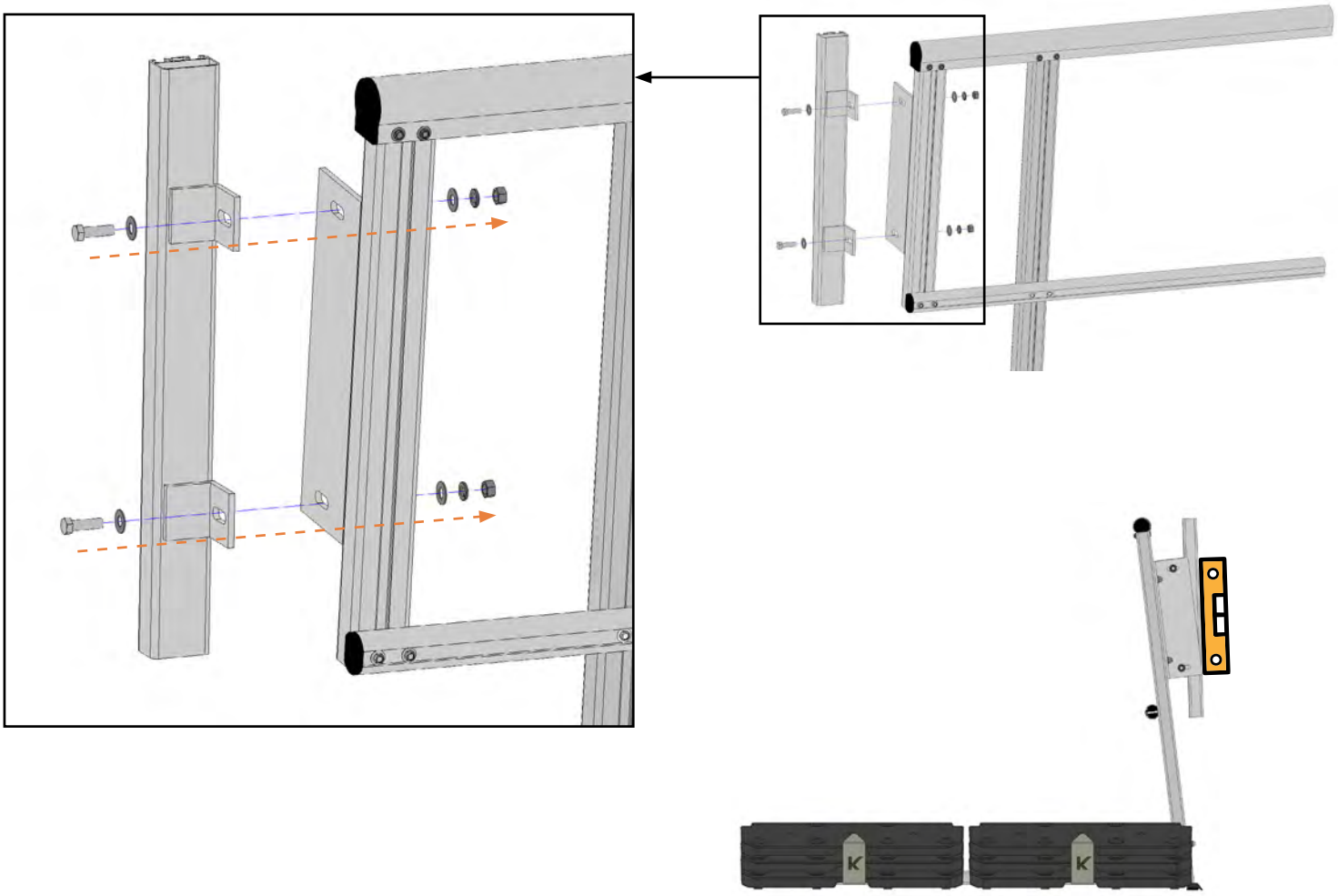


x2

CK1077

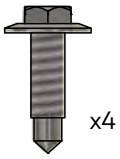


Level



**7** Using the (4) provided 3/8x16 bolt and nut sets, bolt the (2) CK1077 Welded Connection posts to the angle extrusions. Use a level to ensure the CK1077 is vertical.

IMPORTANT NOTE:
Ensure the slots on the post face outward.



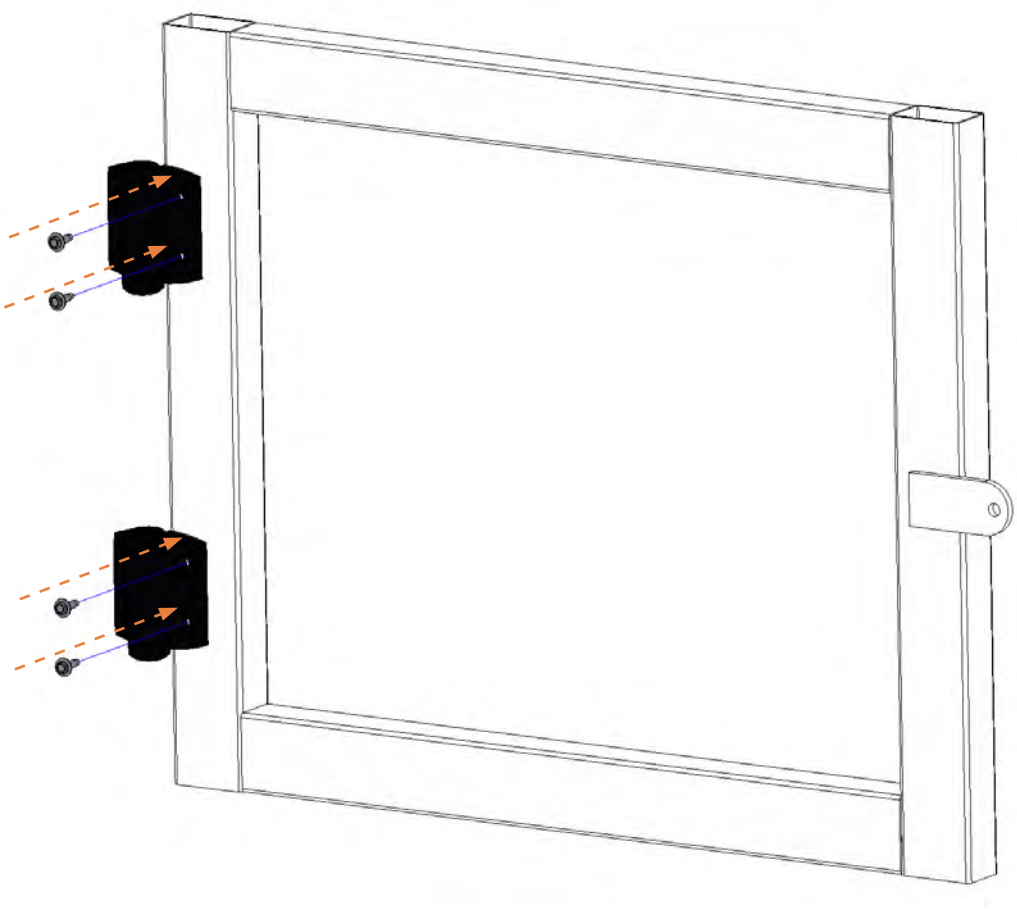
x4

SD907.20

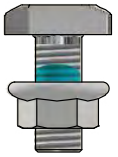


x2

Gate hinges

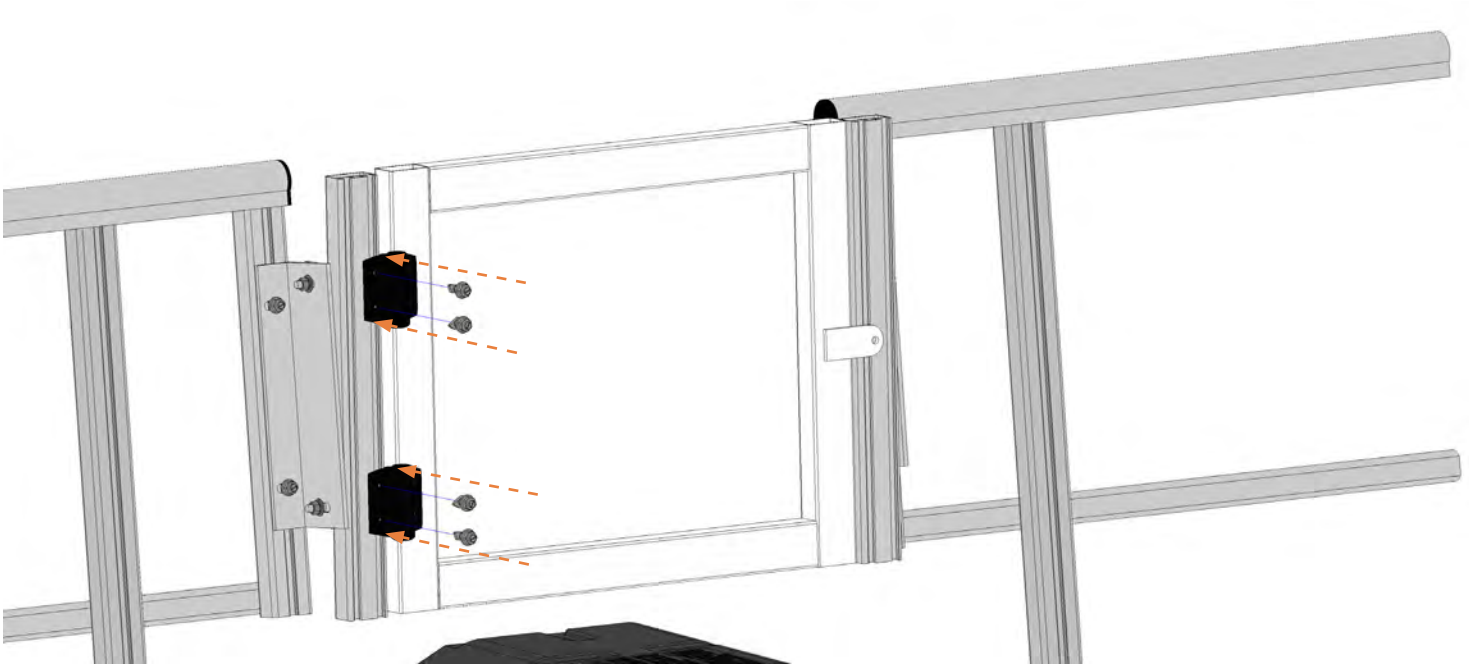


**8** Screw the self-closing gate hinges to the self-closing gate frame using (4) SD902.20 Tek Screws.



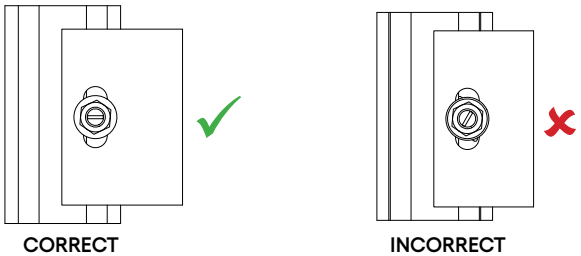
x4

KB005



**9** Bolt the self-closing gate hinges to the CK1077 post using (4) KB005 T-Bolts. Ensure correct T-Bolt Fastening. Ensure the top of the Gate frame is level with the GR37 guardrail top rail.

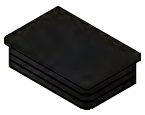
**Graphic A: T-bolt Fastening**





x8

Nut caps

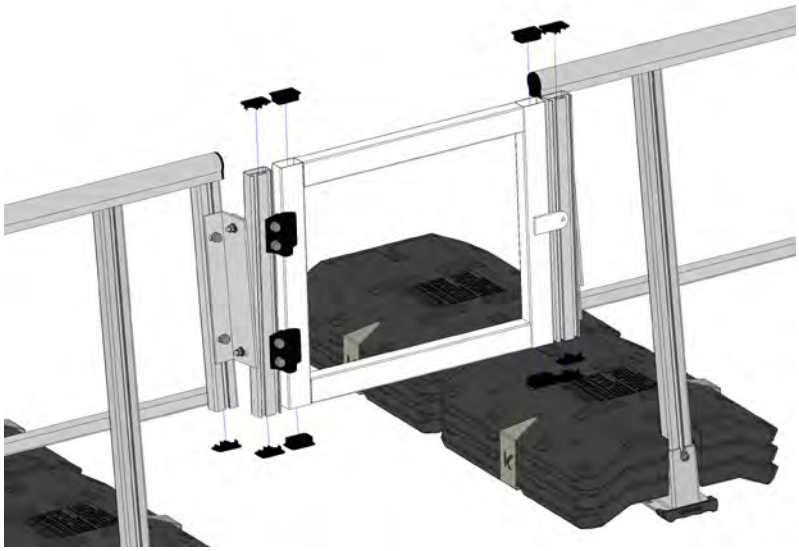


x10

End caps

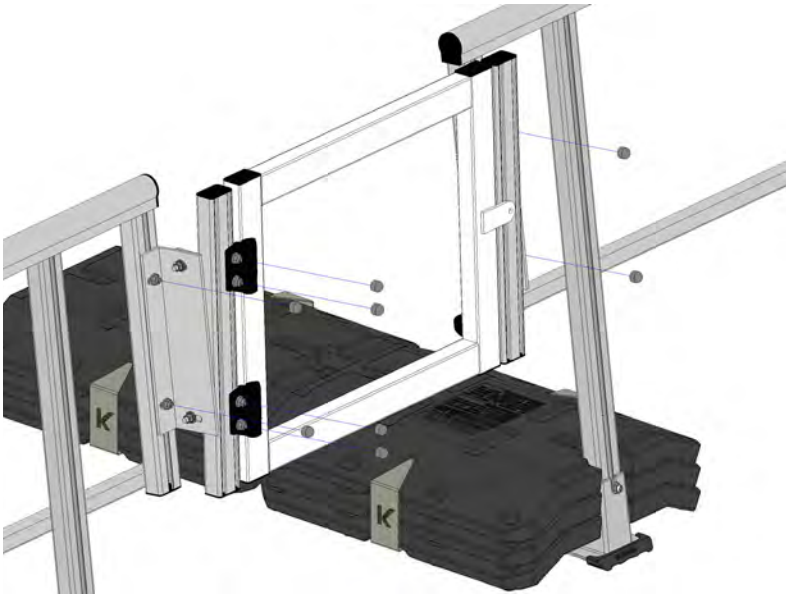
## 10a

Install End-Caps on all open posts.



## 10b

Install Nut Caps on all T-Bolts.



Kattsafe Height access and fall protection

## INSTALLATION MANUAL

# TOE BOARD

**AL739**

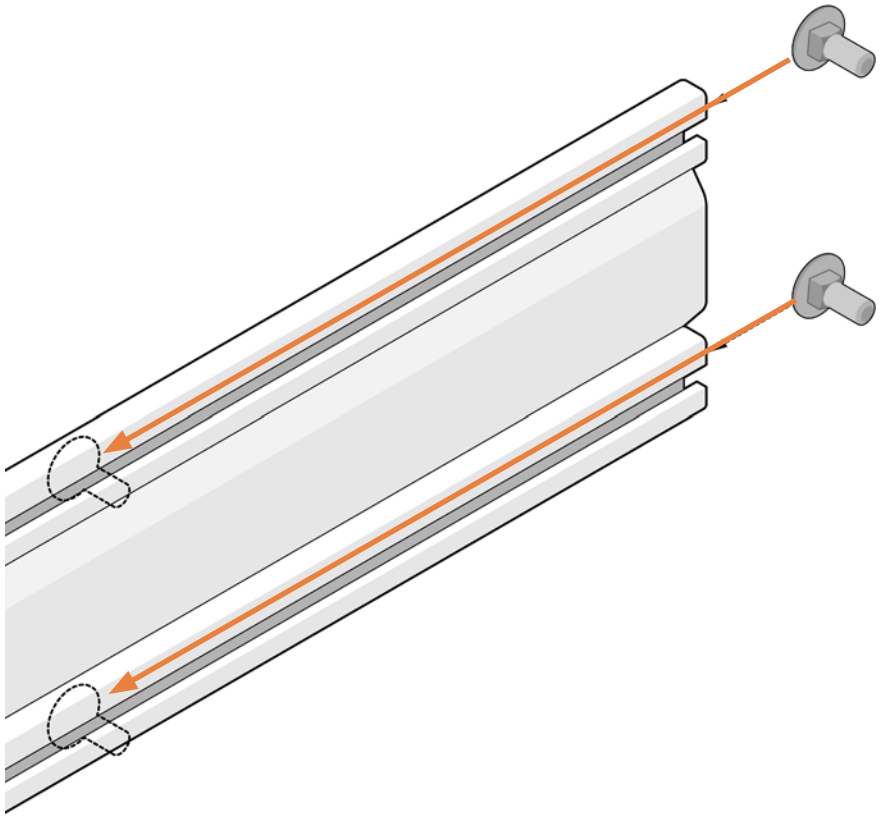


**IMPORTANT NOTE:** Expansion Joints are vital to reduce expansion and contraction that can be evident in aluminum. There must be a minimum of (1) expansion joint kit (installed in the top rail and midrail) installed in any kit from 30ft to 100ft in length. There then must be an additional expansion joint kit for every 100ft of rail.

SD920



x2



1 Slide (2) carriage bolts (SD920) in the slots of the toe board extrusion.

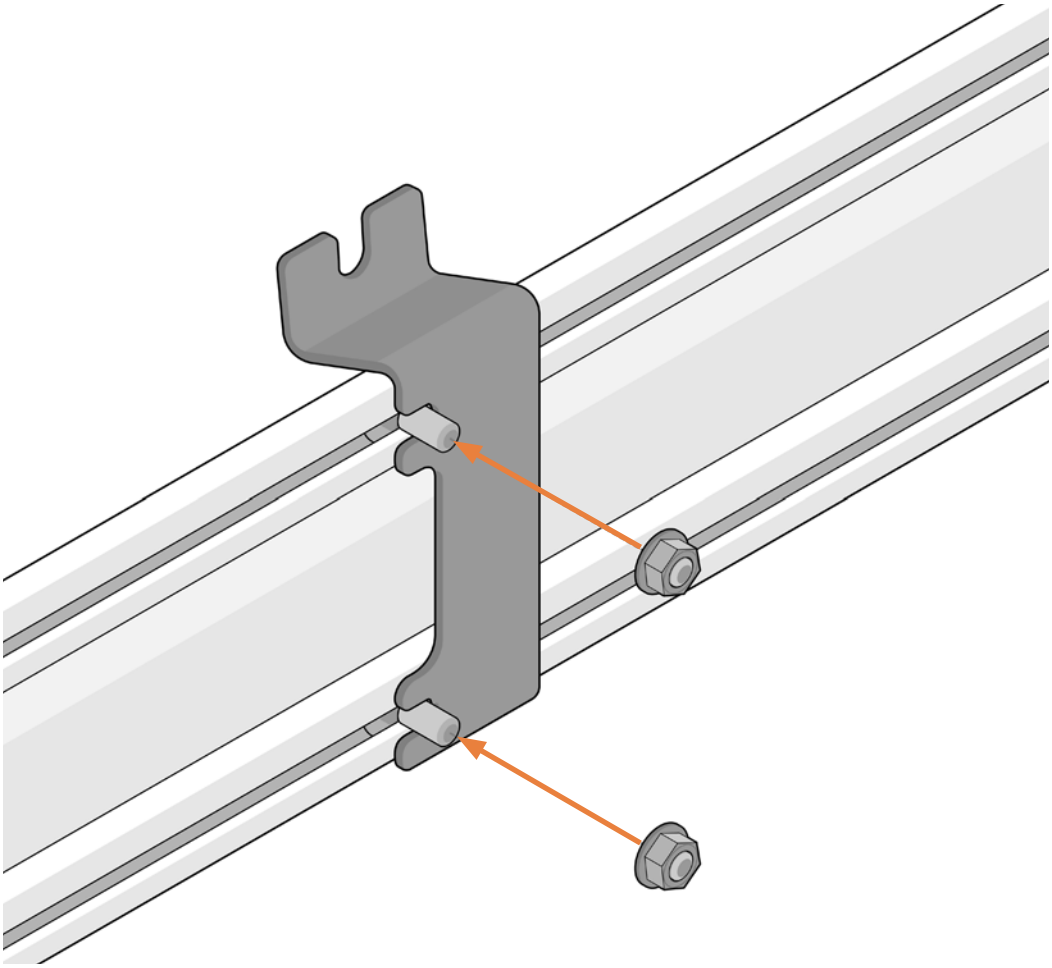
FP1094



SD920



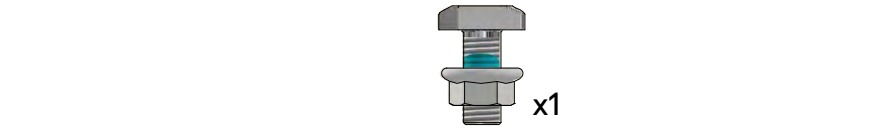
x2



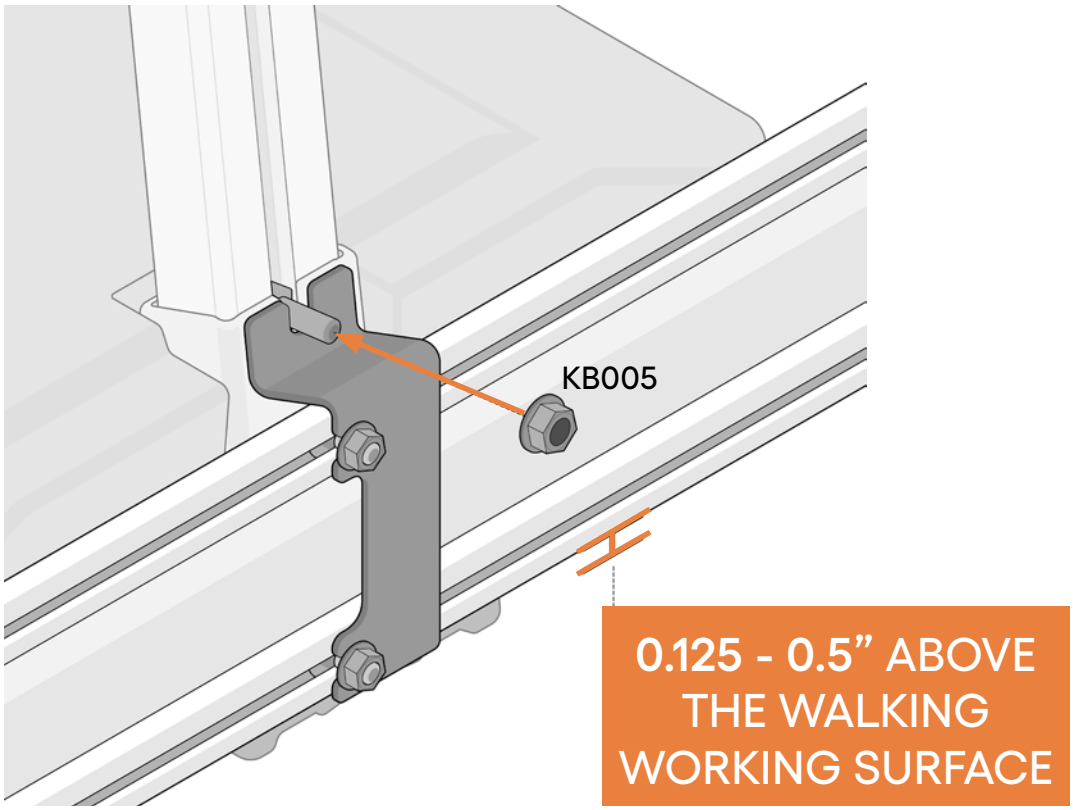
**2** Bolt the FP1094 to the toe board extrusion. Do not tighten all the way to allow for adjustment.

**IMPORTANT NOTE:**
Ensure the FP1094 bracket is facing the correct direction (See illustration).

KB005



x1




**3** Using (1) T-Bolt (KB005), bolt the toe board extrusion to the GR37 post. (NOTE - Ensure that the bottom of the toe board is minimum 0.125 inches above, but no more than 0.25 inches above the walking-working surface.

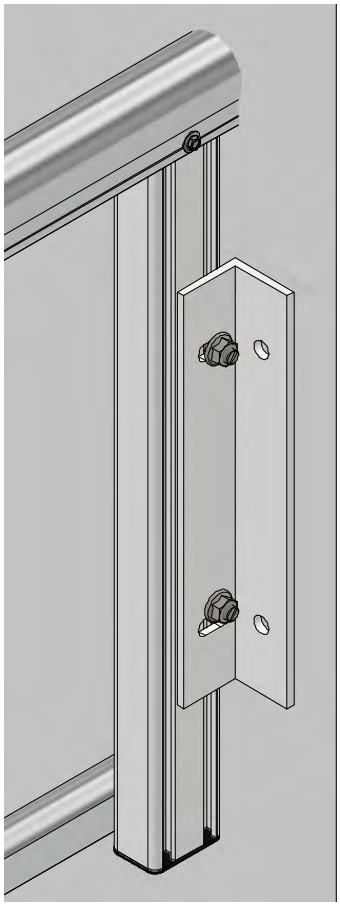
When the toe board is fastened to the post, tighten the (2) carriage bolts installed in step 2. Place nut-caps on tightened fasteners.

Kattsafe Height access and fall protection

INSTALLATION MANUAL

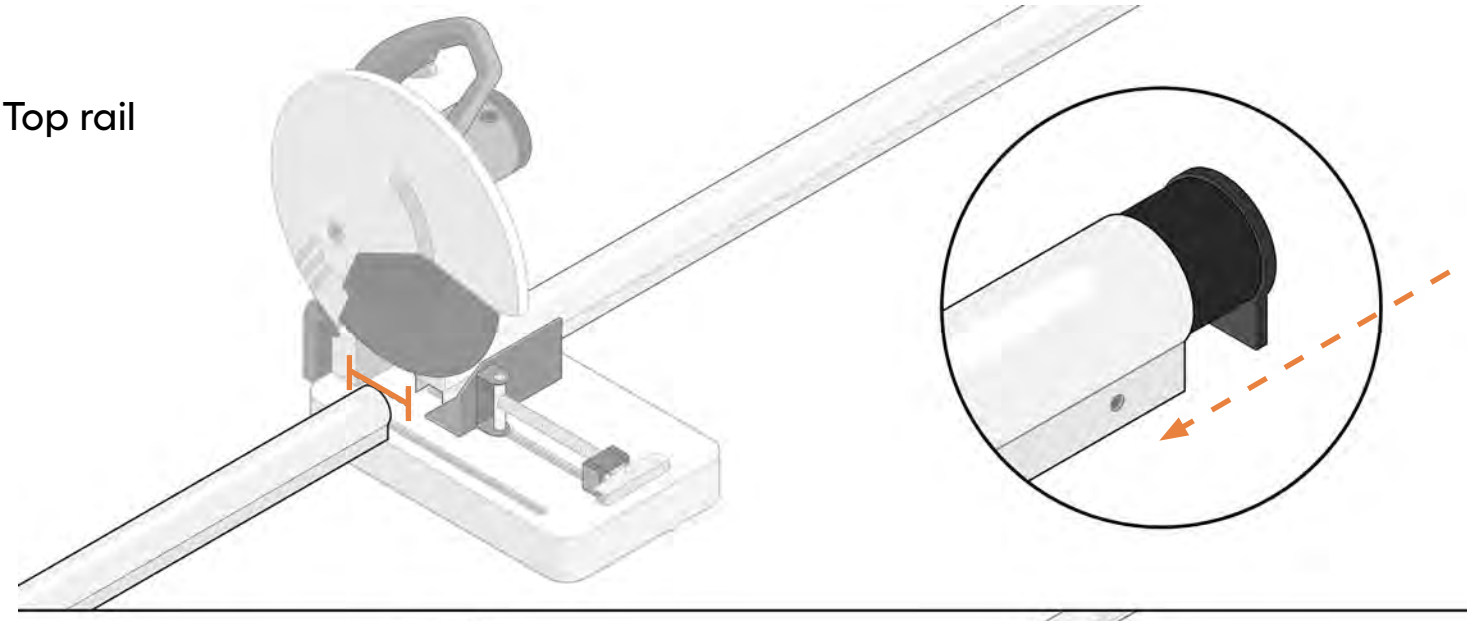
# TERMINATING TO FLAT BAR OR WALL

GW351LW

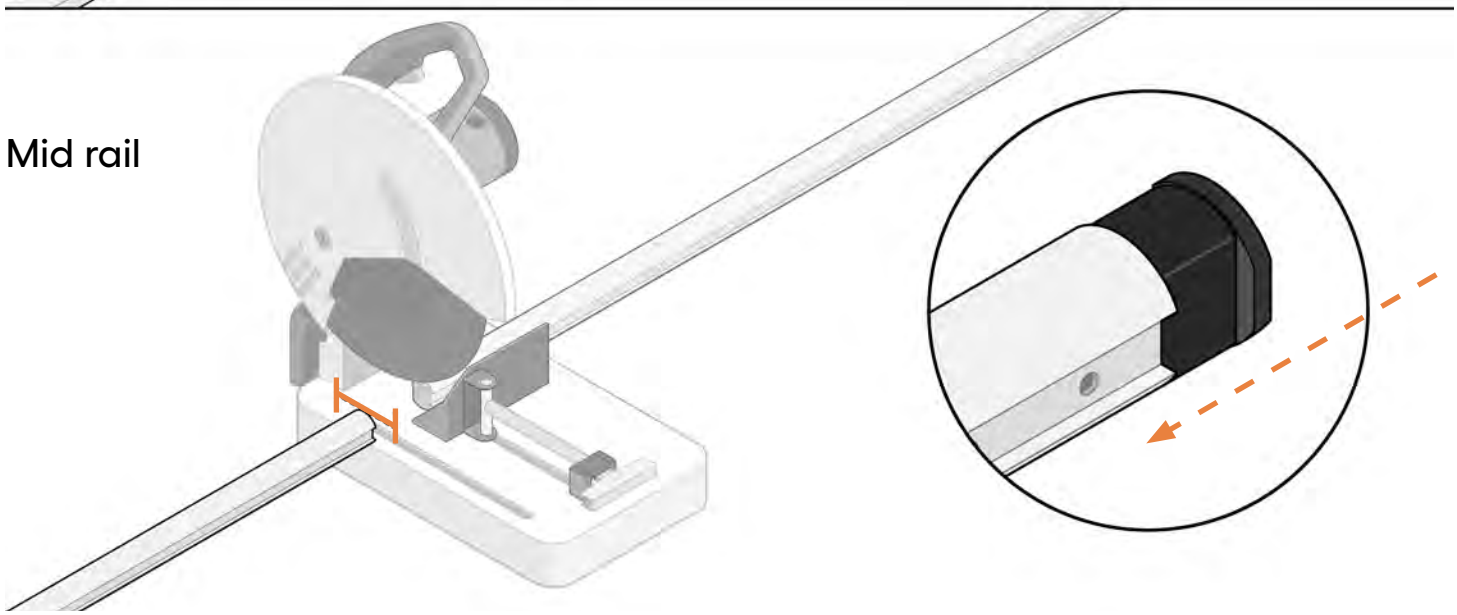


**IMPORTANT NOTE:** Expansion Joints are vital to reduce expansion and contraction that can be evident in aluminum. There must be a minimum of (1) expansion joint kit (installed in the top rail and midrail) installed in any kit from 30ft to 100ft in length. There then must be an additional expansion joint kit for every 100ft of rail.

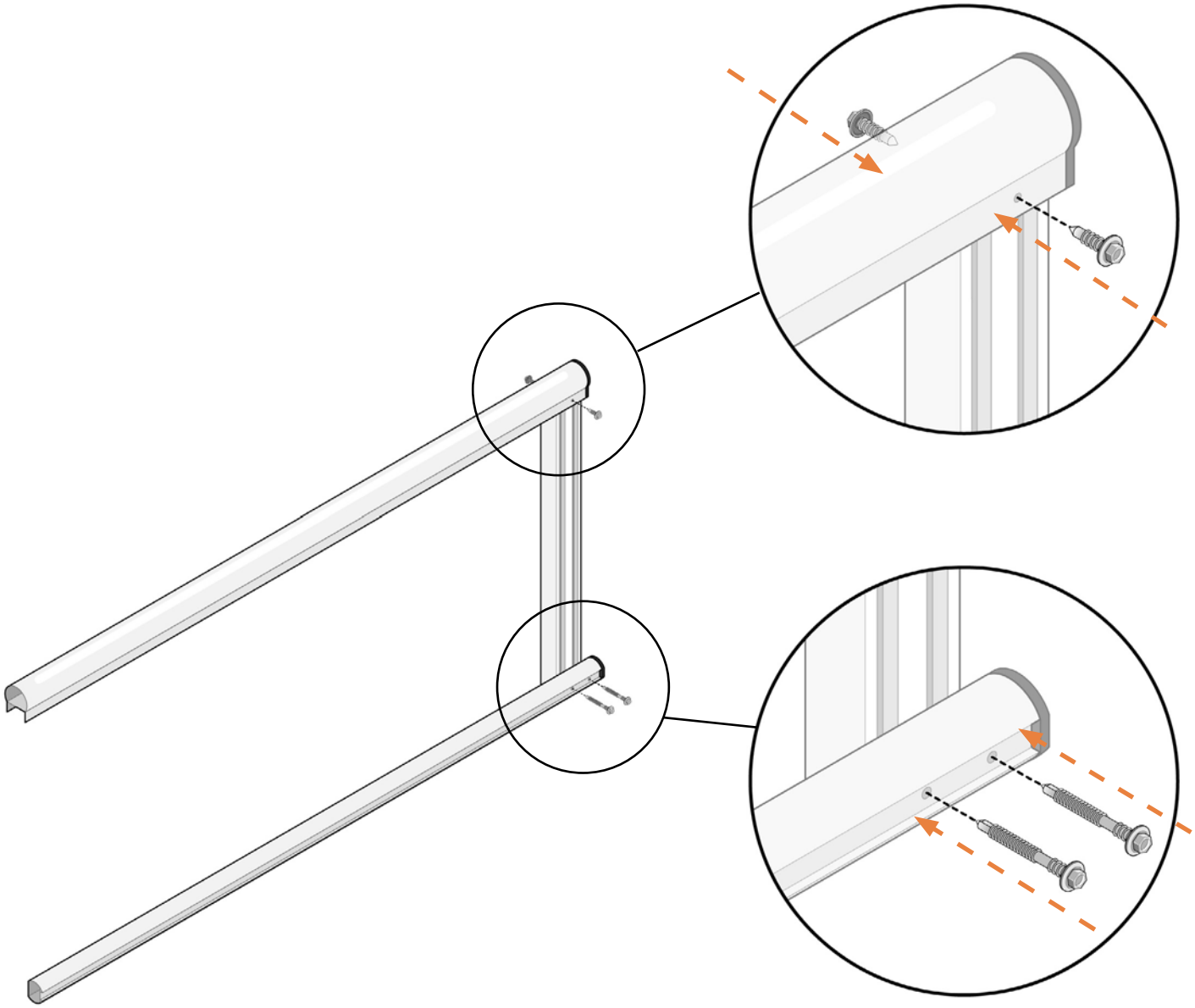
Top rail



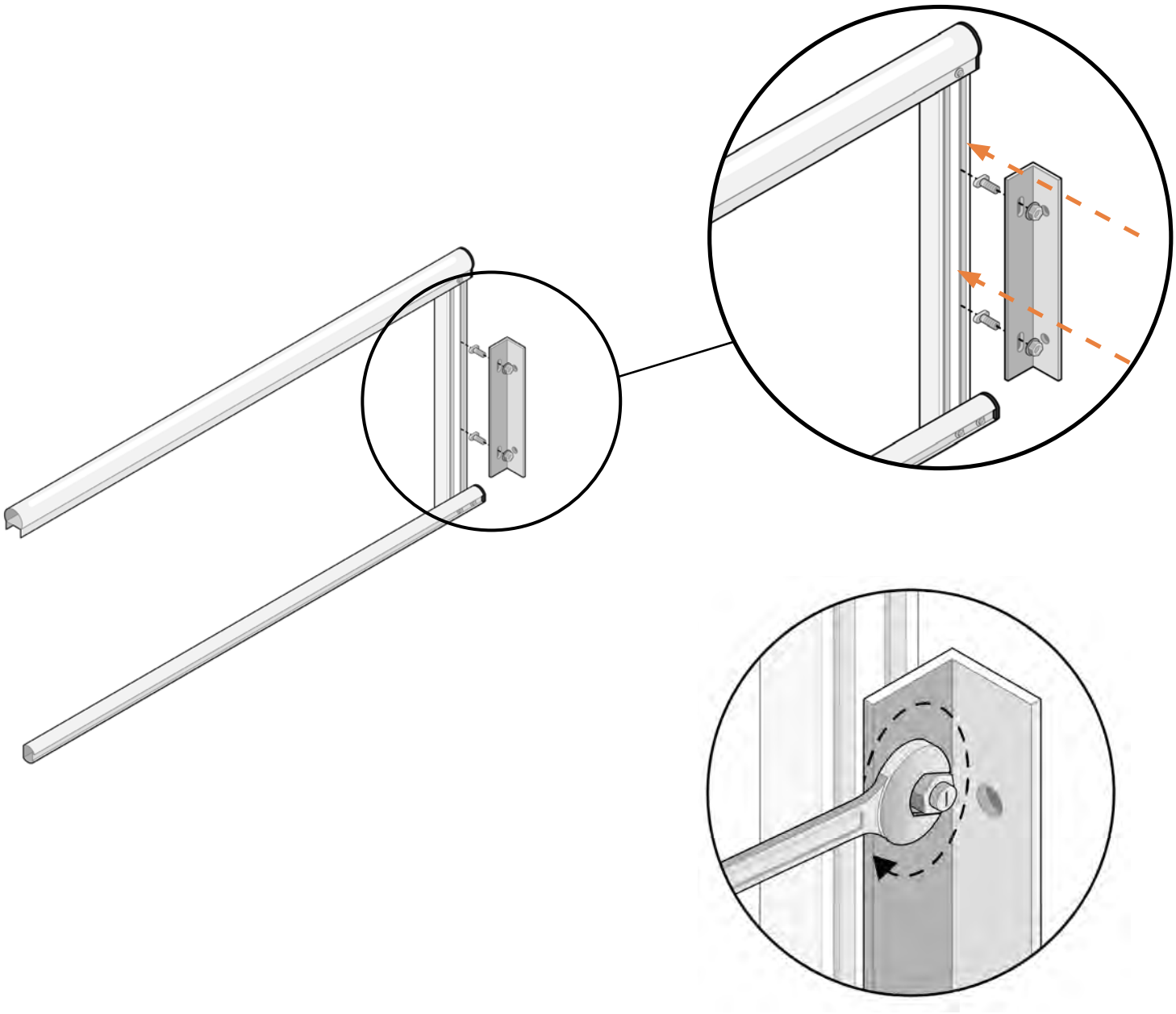
Mid rail



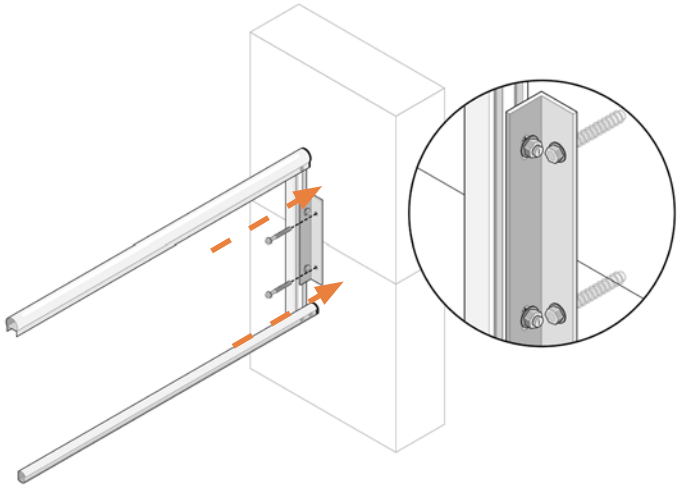
1 Cut the Guardrail top rail and mid rail flush with the wall or ladder. Install Guardrail End Caps.



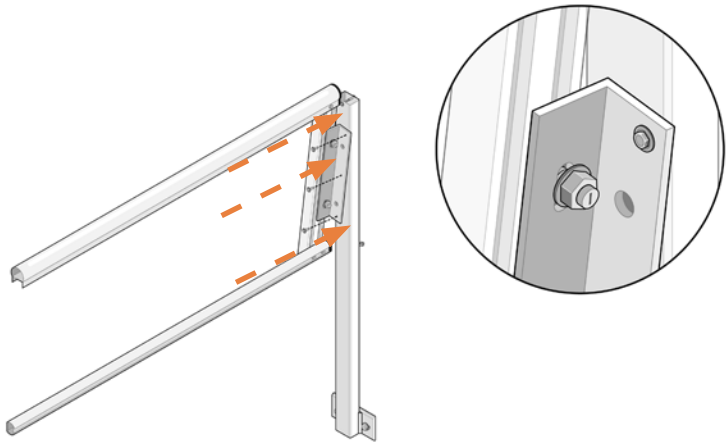
**2** Install the Kattsafe slotted extrusion using (2) SD907.20 in the top rail, and (2) SD907.48 in the mid rail. Fasten the tek screws as to avoid hitting the slot in the slotted extrusion.



**3** Install the angle extrusion to the slotted extrusion using (2) KB005 T-Bolts. Ensure Correct T-Bolt Fastening



**4A** - Install correct fasteners into the wall through the angle extrusion (concrete wall type shown for clarity, wall substrate and fasteners may vary).

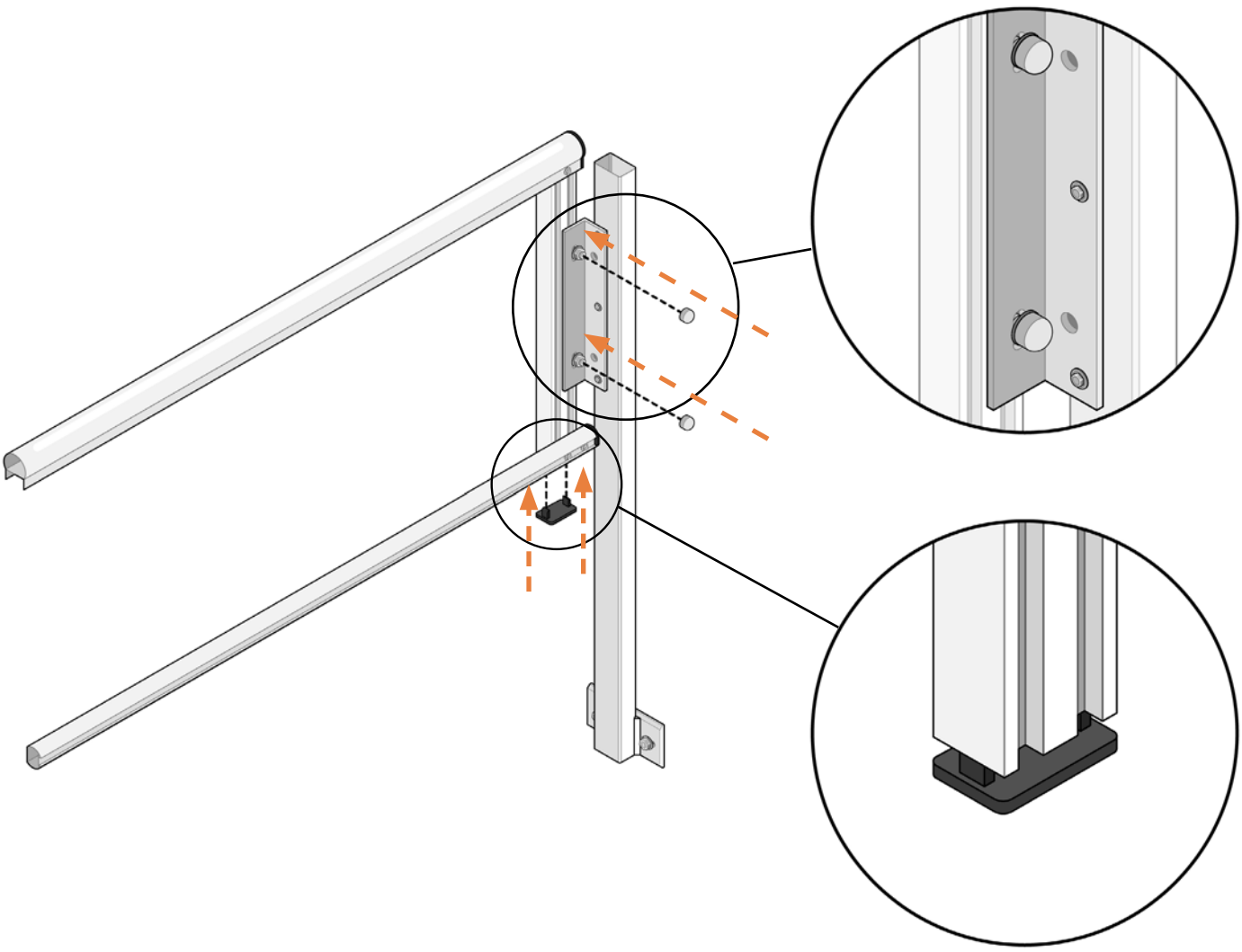


**4B** - If installing GR37 into a ladder or Kattsafe platform, install using 3x SD907.20 Tek screws. Place screws as shown in illustration. Use caution to avoid fastening screws into any extrusion slots.

## 4

If terminating system at a wall, see step 4A.

If terminating GR37 guardrail at a Kattsafe Ladder or platform, see 4B.



**5** Install end cap in the bottom of the slotted extrusion, and nut caps on the T-Bolts installed in step 3.

**MAINTENANCE, CLEANING AND STORAGE**

Maintenance with aluminum guardrail systems is relatively minimal. Any repairs to Kattsafe systems can only be performed by Kattsafe or an entity approved by Kattsafe. Contact Kattsafe for all maintenance and repair needs at 888-637-7872.

Cleaning after use is important for maintaining the safety and longevity of the Kattsafe systems. Remove all dirt, corrosives and contaminants from Kattsafe Guardrail Systems before and after each use. If the system cannot be cleaned with plain water, use mild soap and water and rinse and wipe dry.

There are no lifetime limitations for Kattsafe Guardrail systems as long as they pass the pre-use and annual inspection requirements specified by these instructions.

If guardrail system is being stored prior to installation, ensure it is stored in a dry environment where it will not be affected by excessive moisture, chemicals, excessive building vibration or other degrading elements.

**INSPECTION**

Refer to these instructions for proper inspection procedure

Prior to each use, inspect the Kattsafe Guardrail systems for any deficiencies including, but not limited to deformation, pits, burring, corrosion, sharp edges, cracking, rust, loose screws, weld damage, rough surfaces, expansion of splice joins, excessive heating, alteration, damaged parts, instability, movement and missing or unreadable labels. IMMEDIATELY remove from service if defects or damage are identified. Any missing labels require the system to be removed from service.

Kattsafe requires the Kattsafe Systems to be checked at least every 12 months by a competent inspector in accordance with relevant OSHA regulations and manufacturers guidelines. If this inspection is not performed, the warranty is void and all/increased liability will be the responsibility of the customer/end user. Inspections must be recorded in this manual and initials input in the inspection grid below:

| Date of first use: | | | | Installed by: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Competent person to inspect product and initial on the grid below. | | | | | | | | | | | | |
| Year | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| 20__ | | | | | | | | | | | | |
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NOTES

Kattsafe®

Height access
and fall protection

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