Installation Guide | Centurion™ Mid Guard & High Guard

Before You Begin

Before you start, review the checklist to make sure you have all the right components and tools ready to go. Work smart and stay safe by following proper safety procedures and wearing the appropriate personal protective equipment.

For questions about these installation instructions, please contact us at sales@spaceguardproducts.com or **(812) 523-3044**, or reach out to your SpaceGuard Products sales representative.

For more details on the Centurion™ product line, visit: www.spaceguardproducts.com/brands/centurion

Table of Contents

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Installation Guide | Centurion™ Rack Repair Kits

Tools & Safety Checklist

Required Tools

Basic Tools

- ☐ Tape Measure
- ☐ Sharpie/Chalk Sticks
- ☐ Speed Square
- ☐ Magnetized Level
- ☐ Step Ladder
- ☐ Extension Cords
- ☐ Large Drift Punch Set
- ☐ Hammer
- ☐ Dead Blow Hammer
- ☐ Shop Vac
- ☐ Crowbar
- ☐ Caution Tape

Cutting Tools

- ☐ Sawzall with “FINE” tooth metal blades
- ☐ Portable Band Saw with “FINE” tooth metal blades
- ☐ Grinder with cutoff wheel and grinding flap discs

Drilling Tools

- ☐ Hammer Drill with 5/8”–¾” concrete drill bits and a 5/8” rebar cutting bit
- ☐ Cordless Drill with step bit and drill bits up to 9/16”
- ☐ Reaming Tool (up to 9/16”)

Fastening Tools

- ☐ Impact Driver
- ☐ Impact Drill
- ☐ SAE Socket Set (¾” deep well or longer)
- ☐ SAE Ratchet Wrench Set
- ☐ Impact Swivel Socket Set
- ☐ Standard Allen Wrench Set
- ☐ Torque Wrench (up to 110 ft-lb)

Pre-Install Safety Checklist

- ☐ **Steel Toe Boots:** Required; composite toes recommended for refrigerated environments.
- ☐ **Caution Tape:** Required to block off aisles; safety cones may be used in conjunction.
- ☐ **Eye and Face Protection:** As required by customer or per tools in use.
- ☐ **Arm Coverings and Gloves:** As required by customer or for specific tasks.
- ☐ **Hard Hats:** Always recommended.
- ☐ **Safety Vest:** Always recommended.

Torque Value Chart

Hardware	Torque Value	Minimum Concrete Embedment
5/16”	17 ft-lbs.	-
⅜”	30 ft-lbs.	-
½”	75 ft-lbs.	-
⅜” Grade 5 Barrel Bolt	23 ft-lbs.	-
⅝” Concrete Anchor	90 ft-lbs.	2-¾”

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Installation Guide | Centurion™ Mid Guard – Teardrop

Component List

MID GUARD HARDWARE *
CENT3MGTHDW

A		½”-13 x 4” Carriage Bolt *x6*
B		½”-13 Flanged Serrated Hex Nut *x6*
C		⅜”-16 x 3” Carriage Bolt *x2*
D		⅜”-16 Barrel Nut *x2*

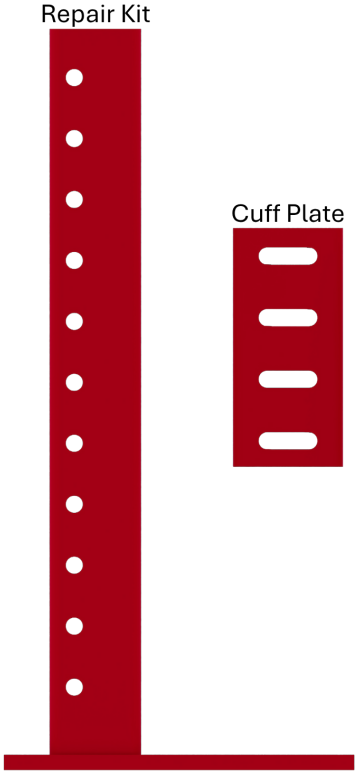
CONCRETE ANCHORS
20440005

H		⅝” x 4-½” Concrete Wedge Anchor *x4*

ADJUSTABLE BRACING †‡
20630121 | 20648007 | 20595014

L		Adjustable Brace – Female Section *x1*
M		Adjustable Brace – Male Section *x1*
N		⅜”-16 x 2-½” Hex Bolt *x2*
P	—	⅜" Flat Washer *x2*
O		⅜”-16 Flanged Serrated Hex Nut *x2*

Repair Kit



Cuff Plate

Cuff

PIVOT BRACKET †
CENT3SDL4THDW

Pivot Bracket *x1*

A		½”-13 x 4” Carriage Bolt *x2*
B		½”-13 Flanged Serrated Hex Nut *x2*
S		⅜”-16 x 3” Hex Bolt *x1*
O		⅜”-16 Flanged Serrated Hex Nut *x1*

* *Hardware sizes shown are for 3" teardrop kits (Hardware Kit CENT3MGTHDW). For 4" kits (CENT4MGTHDW), all bolt lengths increase by 1". For 5" kits (CENT5MGTHDW), all bolt lengths increase by 2". All other hardware remains the same.*

† *Hardware listed per Pivot Bracket or Bracing Set—quantities vary by order.*

‡ *Adjustable bracing is included only if specifically ordered; it is not part of every kit.*

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Installation Guide | Centurion™ Mid Guard – Structural

Component List

MID GUARD HARDWARE *
CENT3MGSHDW

A		½”-13 x 4” Carriage Bolt *x2*
B		½”-13 Flanged Serrated Hex Nut *x6*
C		⅜”-16 x 3” Carriage Bolt *x1*
D		⅜”-16 Barrel Nut *x1*
Q		½”-13 x 3” Carriage Bolt *x4*

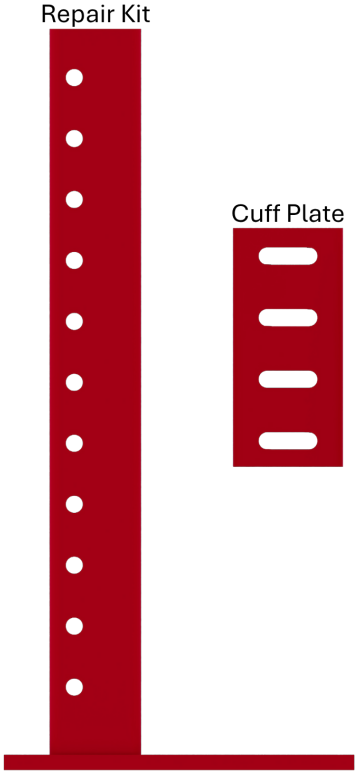
CONCRETE ANCHORS
20440005

H		⅝” x 4-½” Concrete Wedge Anchor *x4*

ADJUSTABLE BRACING †‡
20630121 | 20648007 | 20595014

L		Adjustable Brace – Female Section *x1*
M		Adjustable Brace – Male Section *x1*
N		⅜”-16 x 2-½” Hex Bolt *x2*
P	—	⅜" Flat Washer *x2*
O		⅜”-16 Flanged Serrated Hex Nut *x2*

Repair Kit



Cuff Plate

Cuff

PIVOT BRACKET †
CENT3SDL4THDW

Pivot Bracket *x1*

A		½”-13 x 4” Carriage Bolt *x2*
B		½”-13 Flanged Serrated Hex Nut *x2*
S		⅜”-16 x 3” Hex Bolt *x1*
O		⅜”-16 Flanged Serrated Hex Nut *x1*

* *Hardware sizes shown are for 3" structural kits (Hardware Kit CENT3MGSHDW). For 4" kits (CENT4MGSHDW), all bolt lengths increase by 1". For 5" kits (CENT5MGSHDW), all bolt lengths increase by 2". All other hardware remains the same.*

† *Hardware listed per Pivot Bracket or Bracing Set—quantities vary by order.*

‡ *Adjustable bracing is included only if specifically ordered; it is not part of every kit.*

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Installation Guide | Centurion™ High Guard

Component List

HIGH GUARD HARDWARE *

CENT3MGTHDW

A		½”-13 x 4” Carriage Bolt *x6*
B		½”-13 Flanged Serrated Hex Nut *x6*
C		⅜”-16 x 3” Carriage Bolt *x2*
D		⅜”-16 Barrel Nut *x2*

6' High Guard

3' High Guard

Cuff

Cuff Plate

* *Hardware sizes shown are for 3" teardrop kits (Hardware Kit CENT3HGTHDW). For 4" kits (CENT4HGTHDW), all bolt lengths increase by 1". For 5" kits (CENT5HGTHDW), all bolt lengths increase by 2". All other hardware remains the same.*

† *Both 3' and 6' High Guard extensions are shown; only one is included per order.*

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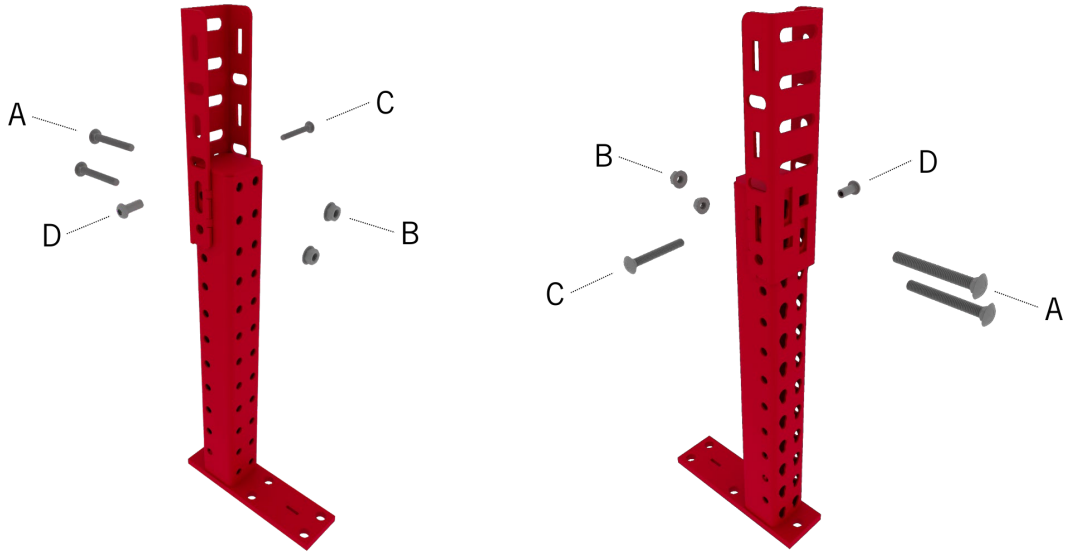
Installation Guide | Centurion™ Mid Guard & High Guard

1. Install Cuff and High Guard

1.1. Attach Cuff to Kit



1.1.1. Insert *[2]* carriage bolts **(A)** in a diagonal pattern through the front of the cuff and the repair kit. Secure with *[2]* hex nuts **(B)** and hand-tighten.

1.1.2. Insert *[1]* carriage bolt **(C)** through the rectangular hole on the right side of the cuff (when facing the front), passing it through the repair kit and exiting through the opposite oval hole on the left side of the cuff. Secure the bolt with *[1]* barrel nut **(D)** inserted into the oval hole, and hand-tighten.

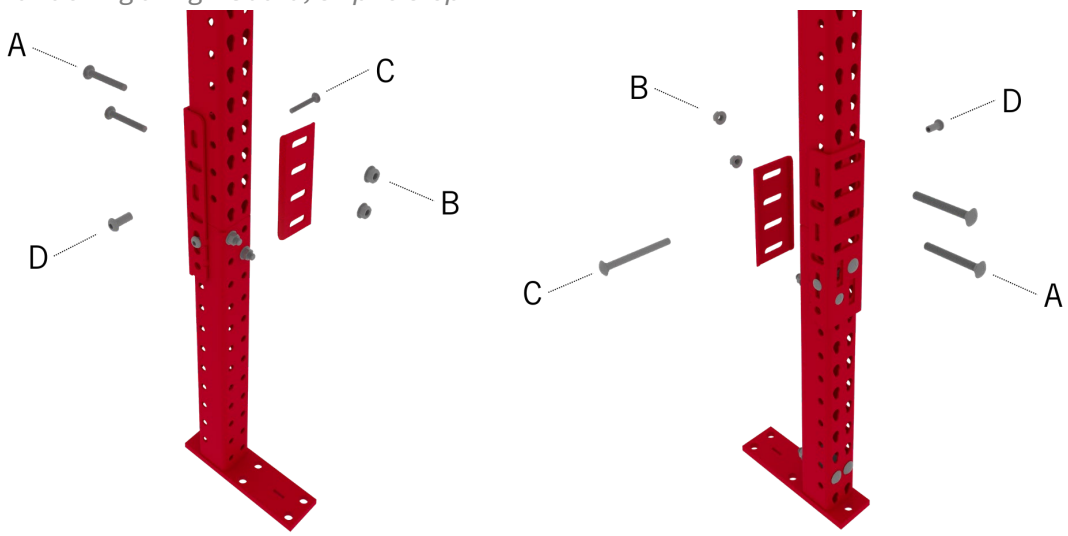
If attaching a High Guard, repeat these steps at the top of the High Guard using the cuff included with that kit, then continue to step 1.2.

1.1.3. Lower the rack column onto the repair kit, ensuring it rests flush and square.

If you are not attaching a High Guard, skip to step 2.

1.2. Attach High Guard Extension *(If Applicable)*

If you are not attaching a High Guard, skip to step 2.



1.2.1. Insert *[2]* carriage bolts **(A)** in a diagonal pattern into the top of the cuff, passing through the High Guard and the cuff plate. Secure the cuff plate to the back of the High Guard with *[2]* hex nuts **(B)** and hand-tighten.

1.2.2. Insert *[1]* carriage bolt **(C)** through the rectangular hole on the right side of the cuff (when facing the front), passing it through the High Guard and exiting through the opposite oval hole on the left side of the cuff. Secure the bolt with *[1]* barrel nut **(D)** inserted into the oval hole, and hand-tighten.

1.2.3. Lower the rack column onto the repair kit, ensuring it rests flush and square.

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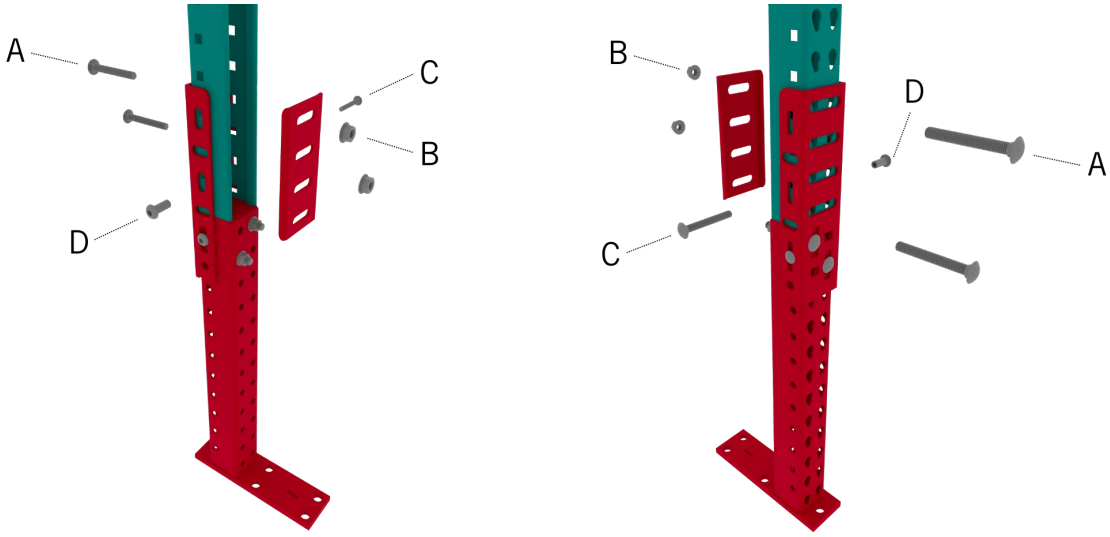
2. Attach Kit to Column

Based on your upright type—rolled form, structural, or open c-channel—proceed to the appropriate section below. If the kit needs to be shortened, see the Drop Cap section in the Optional Field Modifications guide.

2.1. Roll Formed Uprights

*You will have [2] unused carriage bolts **(A)**.*



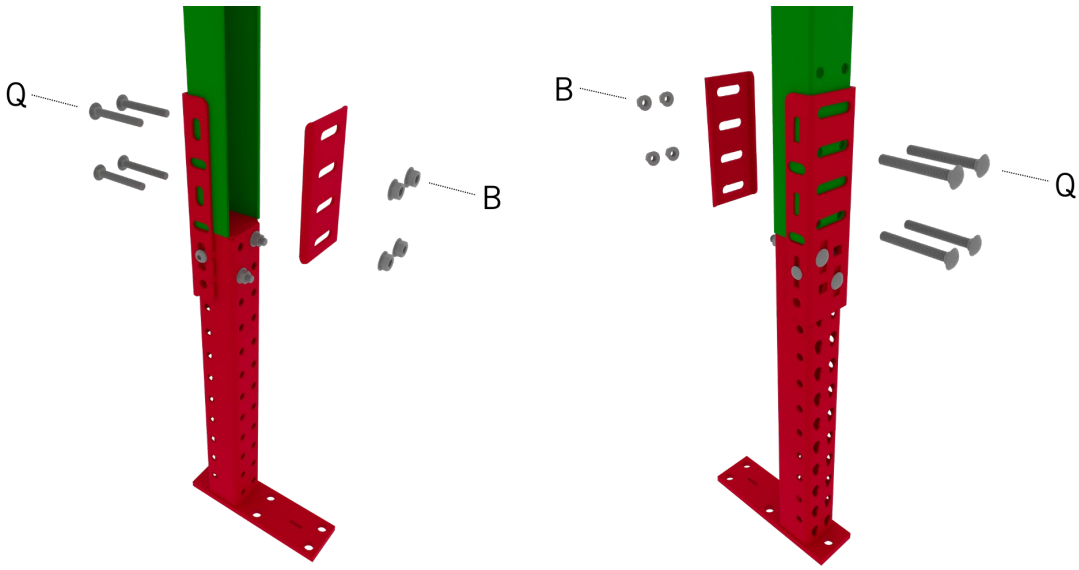
2.1.1. Insert *[2]* carriage bolts **(A)** in a diagonal pattern into the top of the cuff, passing through rack column and the cuff plate. Secure the cuff plate to the back of the rack column with *[2]* hex nuts **(B)** and hand-tighten.

2.1.2. Insert *[1]* carriage bolt **(C)** through the rectangular hole on the right side of the cuff (when facing the front), passing it through the rack column and exiting through the opposite oval hole on the left side of the cuff. Secure the bolt with *[1]* barrel nut **(D)** inserted into the oval hole, and hand-tighten.

2.1.3. Tighten all nuts to torque spec *(reference Torque Value chart)*.

2.2. Structural Uprights *(or others without a side hole)*

*You will have [4] unused carriage bolts **(A)**, [1] unused carriage bolt **(C)**, [1] unused barrel nut **(D)**.*



2.2.1. Insert *[4]* carriage bolts **(Q)** through the top of the cuff, passing through rack column and the cuff plate. Secure the cuff plate to the back of the rack column with *[4]* hex nuts **(B)** and hand-tighten.

2.2.2. Tighten all nuts to torque spec *(reference Torque Value chart)*.

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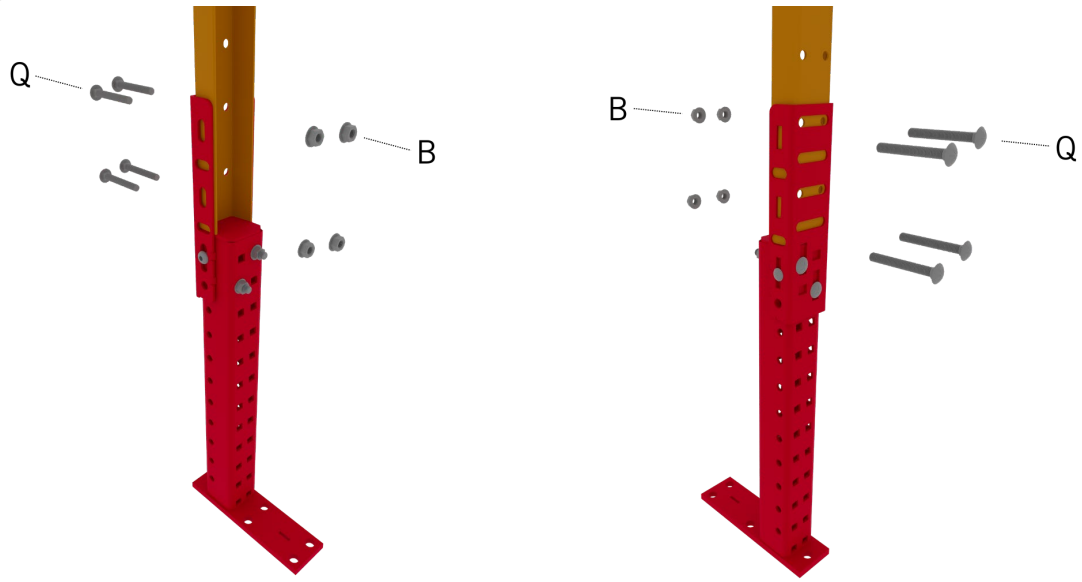
2. Attach Kit to Column *(cont.)*

2.3. Open C-Channel Structural Uprights *(or others without a side hole)*

*You will have [4] unused carriage bolts **(A)**, [1] unused carriage bolt **(C)**, [1] unused barrel nut **(D)**, and [1] unused cuff plate.*



2.3.1. Insert *[4]* carriage bolts **(Q)** through the cuff and directly into the column, tightening the nuts directly against the inside of the column with *[4]* hex nuts **(B)**.

2.3.2. Tighten all nuts to torque spec *(reference Torque Value chart)*.

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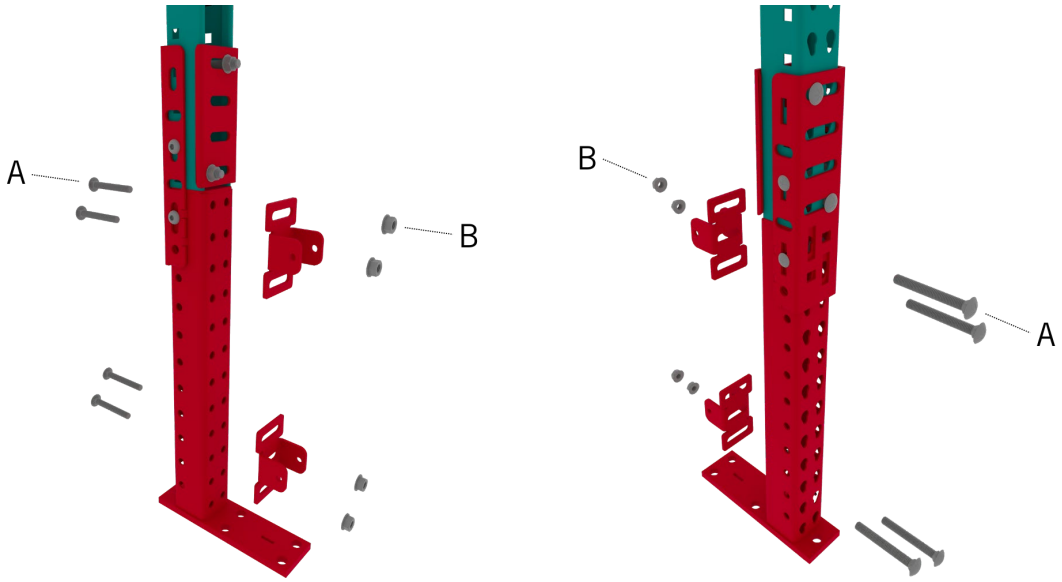
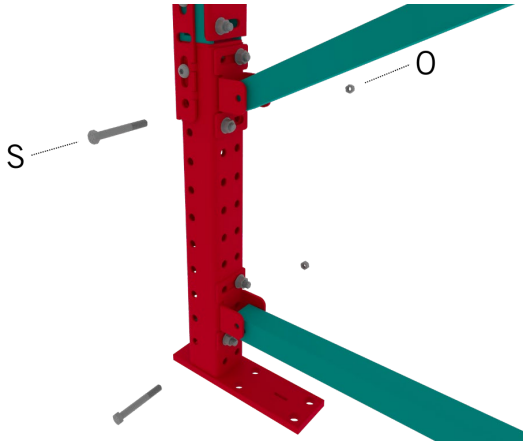
3. Attach Bracing to Kit

3.1. If Using Existing Horizontal and/or Diagonal Brace



3.1.1. Attach the horizontal and/or diagonal pivot brackets to the repair kit at the locations of the previously removed bracing. Insert *[2]* carriage bolts **(A)** in a diagonal pattern through each bracket and the repair kit, then secure with *[2]* hex nuts **(B)** and hand tighten.

If your original bracing aligns with the top of the repair kit, the upper bracket will reuse the hardware from step 1.1 for the cuff, while the lower bracket will use new hardware.



3.1.2. Align existing horizontal and/or diagonal brace to pivot bracket and drill hole. Insert *[1]* hex bolt **(S)** through the side holes of the bracket and brace. Secure with *[1]* hex nut **(O)**.

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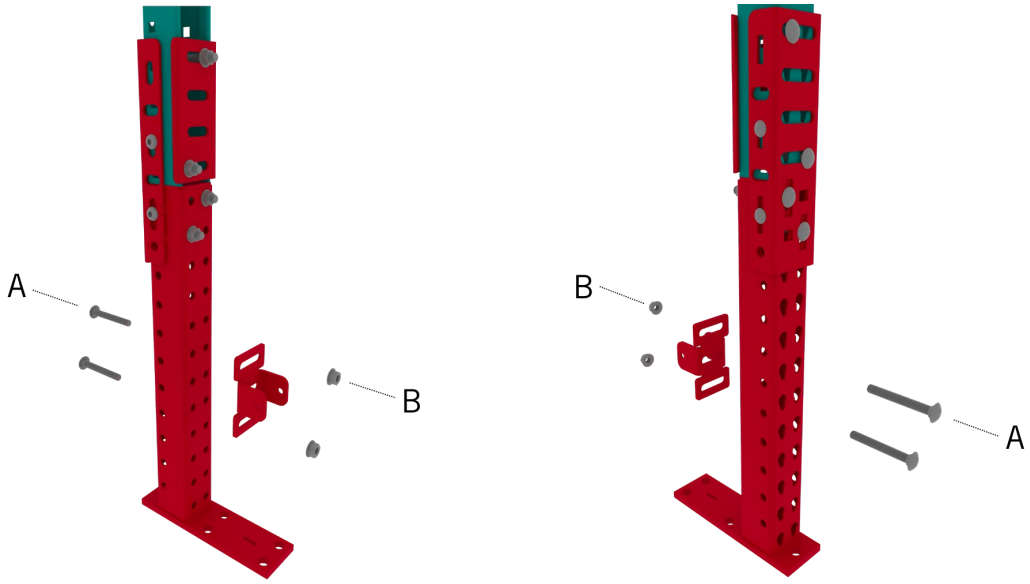
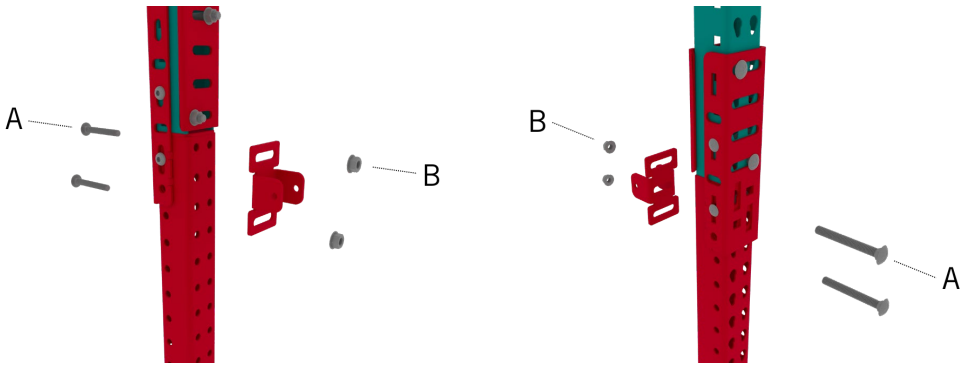
3. Attach Bracing to Kit *(cont.)*

3.2. If Using Optional Centurion™ Bracing Kit

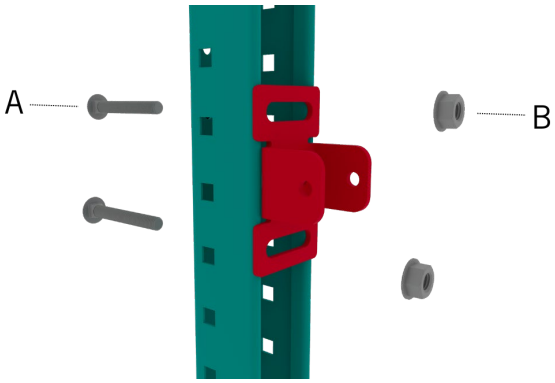
When attaching the horizontal and diagonal pivot brackets, keep both braces within a maximum of 8" of each other. Place the Centurion™ bracing as closely as possible to the original bracing locations.



3.2.1. Align the pivot bracket at the location of the original bracing that was removed. Insert *[2]* carriage bolts **(A)** in a diagonal pattern through the bracket and repair kit, then secure with *[2]* hex nuts **(B)** and hand-tighten.



If your original bracing aligns with the top of the repair kit, use the carriage bolts and hex nuts previously installed in step 1.1 to secure the cuff.



3.2.2. Attach *[1]* pivot bracket to the existing column directly across from the bracket on the repair kit, and *[1]* pivot bracket to the location where the diagonal brace was cut out. For each bracket, insert *[2]* carriage bolts **(A)** in a diagonal pattern and secure with *[2]* hex nuts **(B)**, then hand-tighten.

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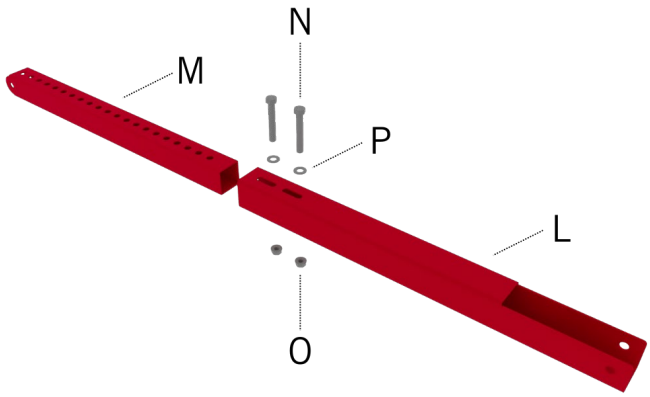
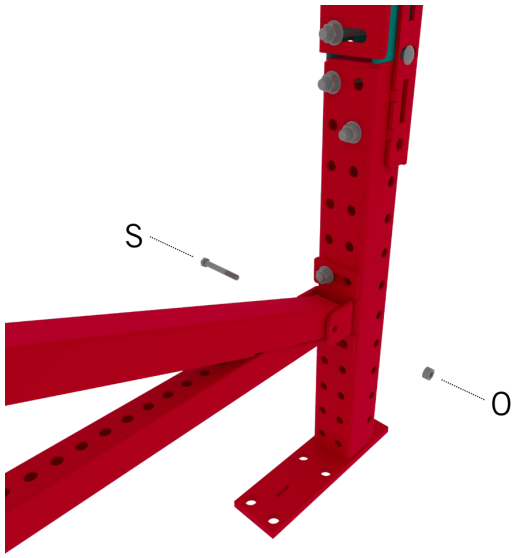
3. Attach Bracing to Kit *(cont.)*

3.2. If Using Optional Centurion™ Bracing Kit *(cont.)*

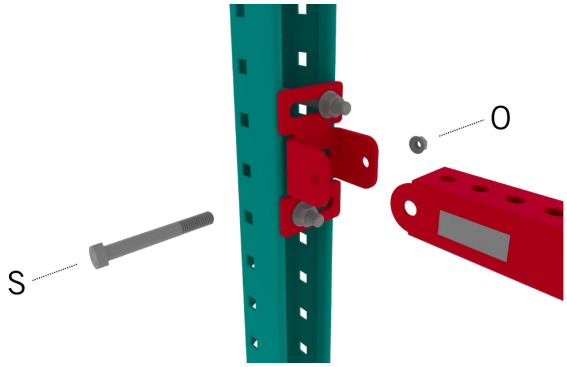


3.2.3. Assemble the horizontal brace by inserting the male **(M)** section into the female **(L)** section. Insert *[2]* hex bolts **(N)** through the holes that set the appropriate depth for your rack upright and secure with *[2]* washers **(P)** and *[2]* hex nuts **(O)**. Repeat this step to assemble the diagonal brace.



3.2.4. Align the female side of the diagonal brace with the male side of the horizontal brace, positioning both with the pivot bracket on the repair kit. Secure together by passing *[1]* hex bolt **(S)** through the side holes and tightening with *[1]* hex nut **(O)**.

Use one bracket if the horizontal and diagonal braces connect at the same point. Use two brackets if they connect at different points.



3.2.5. Secure the opposite side of the horizontal brace to the pivot bracket on the existing column by inserting *[1]* hex bolt **(S)** and tightening with *[1]* hex nut **(O)**. Repeat this step to attach the opposite side of the diagonal brace.

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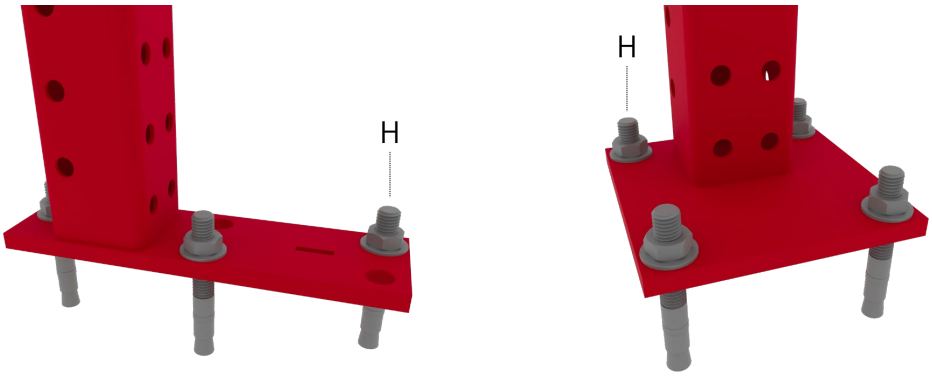
4. Check Plumbness

4.1. Ensure the repair kit is vertically aligned and square with the back leg of the upright.

5. Anchor Kit to Ground

5.1. Drill holes through the base plate and as deep as possible into the concrete, ensuring a minimum embedment of 2-¾” for the concrete anchors. It is preferred to drill through the concrete pad to accomplish full-depth anchoring.



For in-line base plates: Drill *[3]* holes: *[1]* in the front and *[2]* in the back, positioned diagonally.
For seismic base plates: Drill through all *[4]* holes.

5.2. Vacuum all debris from the drilled holes.

5.3. Hammer concrete anchors **(H)** into the drilled holes and tighten to spec *(refer to Torque Value Chart)*.

6. Final Check

6.1. Torque all fasteners to recommended torque values *(refer to Torque Value Chart)*.

6.2. Apply the Centurion™ sticker to the front of the fully installed repair kit.

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