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Before installation

Cresswell racking must be installed by trained and experienced personnel. Please read this manual before starting any installation.

1. Make sure to have thoroughly reviewed the latest approved layout drawing before starting the installation.

2. Count all material received and compare it with the BOM (Bill of Material), bill of lading or drawing. If any components or hardware are missing, contact your sales representative immediately.

3. Check for any damaged components. If necessary, advise your sales representative and make sure the part is replaced before the end of the installation.

4. Make a final check for any obstructions to the installation (building column, duct, light fixture, piping,...) that are not shown on the latest layout drawing. If necessary, ask your sales representative to alert the owner and the certified engineer about the issue.

5. The slab should be level to ensure a plumb rack installation. Check if the anchors can be installed as per the layout drawing (drain, concrete cracks, etc.) The slab is the owner’s responsibility. (Load capacity, built-in heat pipe positioning, etc.)

For any technical assistance: (800) 363-8330
Frame installation

Unless specified elsewhere on the layout drawing, the bottom of the 1st diagonal bracing must face the aisle.

Unless specified elsewhere on the layout drawing, (2) ½” x 4 ½” mechanical anchors are required per frame. Make sure you have a minimum embedment of 2 ¼” * and that the anchors are placed diagonally across from each other.

First drill a hole of the same diameter as the anchor, at least ½” deeper than the projected anchor embedment. Then clean the hole and make sure the recommended torque is respected as per the table below.

Base plates with side holes requires 5/8” diameter mechanical or chemical anchor.

Recommended torque

<table>
<thead>
<tr>
<th>Anchor</th>
<th>1/2”</th>
<th>40 ft-lb*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor</td>
<td>5/8”</td>
<td>80 ft-lb*</td>
</tr>
</tbody>
</table>

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Shims must be the same size as the base plate.

Frame must be plumb on both sides: ½” for every 10’ of height.
Beam must be fixed in place with (2) 3/8"-16 grade 5 bolts and nuts or (2) Cresswell’s safety clips.

Longer grade 5 bolt can also be used to bolt thru the side of the post.

Beam must be plumb horizontally: L/500 (L = Length of beam)

Recommended torque

| Bolt  | 3/8"-16 grade 5 | 30 ft-lb |

Beam fixation hardware may differ. The latest layout drawing takes precedence over this manual.
Row spacer installation

3.25” Post

3.25” row spacer must be fixed in place with (4) 3/8”-16 grade 5 bolts and nuts

4.0” Post

4.0” row spacer must be fixed in place with (4) 3/8”-16 grade 5 bolts and nuts

The spacing between row spacers must be less than 10’. Row spacers should be aligned with frame bracings (horizontal for welded frame, diagonal intersection for bolted frames)

Recommended torque

| Bolt         | 3/8”-16 grade 5 | 30 ft-lb |

28/04/2020
Cresswell Racking Installation Manual V1.1
Safety bar installation

Cup style or universal type safety bar must be fixed in place using (2) 1/4”x1.0” self-drilling screws

Elsewhere specified, (2) safety bars are required per pallet position. Safety bars must be placed in such manner that pallet will overhang on both sides
Bolted frame assembly

Refer to general bolted frame drawing for bracing length and configuration

(2) Serrated 3/8”-16 x 1.0” bolts Grade 5

3/8”-16 nylon nut

3/8”-16 x 2 5/8” hexagonal bolt grade 5

(2) Serrated 3/8”-16 nuts Grade 5

1/4” x 4.5” x 5.5” bolted base plate

Post must be well seated on base plate before tightening bolts

Recommended torque

| Bolt    | 3/8”-16 grade 5 | 30 ft-lb |

28/04/2020
Bolted frame details

At bracing intersection

- Bracings must always face each other
- 3/8”-16 x 2 5/8” hexagonal bolt grade 5
- 3/8”-16 nylon nut
- At least 1 thread must exceed 3/8”-16 x 2 5/8” hexagonal bolt grade 5

One bracing only

- 1.7” long zinc-plated spacer
- 3/8”-16 nylon nut
- 3/8”-16 x 2 5/8” hexagonal bolt grade 5
Drive-in & drive thru installation

**Recommended torque**

<table>
<thead>
<tr>
<th>Bolt</th>
<th>Description</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;-16 grade 5</td>
<td>30 ft-lb</td>
<td></td>
</tr>
<tr>
<td>1/2&quot;-13 grade 5</td>
<td>75 ft-lb</td>
<td></td>
</tr>
</tbody>
</table>

**Rail back connector**
(2) 3/8"-16 x 1" serrated bolts and nuts grade 5

**Rail**
(1) 1/2"-13 x 1.5" serrated bolt and nut grade 5 at every support

**Tower beam**
(2) 3/8"-16 x 1" serrated bolts and nuts grade 5 per connector

**Tower beam**
Position 3" lower than stub arm
Drive-in & drive thru installation

**Stub arm**

- (2) 3/8”-16 x 1” serrated bolts and nuts grade 5; bolting thru side hole is also possible: (1) bolt

**Rail**

(1) 1/2”-13 x 1.5” serrated bolt and nut grade 5 at every support

**Top Tie Beam**

(2) 3/8”-16 x 1” serrated bolts and nuts grade 5 per connector

**Splice-kit**

(2) 3/8”-16 x 1.0” serrated bolts and nuts grade 5

**Recommended torque**

<table>
<thead>
<tr>
<th>Bolt</th>
<th>Size</th>
<th>Grade</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolt</td>
<td>3/8”-16</td>
<td>grade 5</td>
<td>30 ft-lb</td>
</tr>
<tr>
<td>Bolt</td>
<td>1/2”-13</td>
<td>grade 5</td>
<td>75 ft-lb</td>
</tr>
</tbody>
</table>
Drive-in & drive thru installation

Rub rail

(2) 5/8” x 4.5” mechanical anchors

Frame

(2) 3/8”-16 x 1” Gr.5 bolts and nuts per rail cleat (front deflector to rail)

Rub rail entry protector

Recommended torque

<table>
<thead>
<tr>
<th>Component</th>
<th>Size</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor</td>
<td>5/8&quot;</td>
<td>80 lbs.pi*</td>
</tr>
<tr>
<td>Bolt</td>
<td>3/8”-16 grade 5</td>
<td>30 lbs.pi</td>
</tr>
</tbody>
</table>

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Drive-in & drive thru installation

**Splice-kit of the rub rail**

- (2) 3/8”-16 x 1” bolts and nuts per splice-kit
- Rub rail installed on each side of the frame.

**Recommended torque**

| Bolt    | 3/8”-16 grade 5 | 30 ft-lb |
Protection installation

**Post protector**

- 3/8”-16 grade 5 bolt and nut
- Plastic cap
- 5/8” x 4.5” mechanical anchor

**End of row protector**

- 5/8” x 4.5” mechanical anchors

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**Recommended torque**

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor</td>
<td>5/8”</td>
<td>80 lbs.pi*</td>
</tr>
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<td>Bolt</td>
<td>3/8”-16 grade 5</td>
<td>30 lbs.pi</td>
</tr>
</tbody>
</table>

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Accessories installation

Reel holder

Back stopper beam

Recommended torque

| Bolt        | 3/8''-16 grade 5 | 30 ft-lb |

(1) 3/8''-16 grade 5 bolt and nut per connector

3/8''-16 grade 5 bolt 4'' long (3.25'' post) and 5'' long (4.0'' post) and nut
Accessories installation

Fork entry bar

M-shape Divider

(1) 3/8”-16 x 2 5/8” grade 5 bolt and nut per cup

(1) 1/4”x1.0” self-drilling screws per cup, (2) per bar
Accessories installation

Cross aisle tie beam

(4) 3/8”-16 grade 5 bolts and nuts per plate

Vertical Divider

(1) 3/8”-16 x 2
5/8” grade 5 bolt and nut

Recommended torque

| Bolt   | 3/8”-16 grade 5 | 30 ft-lb |
Accessories installation

Vertical pallet stopper

Back post stopper

Vertical pallet support

(2) 3/8”-16 grade 5 bolt and nut

(2) 1/4”x1.0” Self-drilling screws

Box beam

Recommended torque

<table>
<thead>
<tr>
<th></th>
<th>3/8”-16 grade 5</th>
<th>30 ft-lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolt</td>
<td></td>
<td></td>
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</tbody>
</table>