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Customer Service

Phone: (800)792-0500  Fax: (800)378-7286

www.stratoinc.com
customerservice@stratoinc.com
Determine if the Coupler Mounted Bracket may be installed on the car before proceeding.

The coupler mounted bracket (Strato Part number CMBA and CMBA-M) can be installed as a replacement for damaged E-brackets per AAR Field Manual Rule 5.E.15.

For new cars or replacement of end of car arrangements other than AAR S-4021, car owner approval MUST be obtained before installing the Coupler Mounted Bracket. Contact Strato for an assessment of compatibility by specific car class and series.

For all installations, care must be taken to ensure that the Coupler Mounted Bracket cannot come into contact with any carbody components.

Once you have determined that the Coupler Mounted Bracket is acceptable, please follow the installation instructions in this guide. If you have any questions about this product, please contact Strato, Inc. for assistance at 1-800-792-0500.
### COMPLETE BRACKET - STRATO PART # CMB-PA

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CMB-02</td>
<td>TOP CLAMP</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>CMB-03</td>
<td>BOTTOM CLAMP</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>CMB-06</td>
<td>AXIAL MOUNTING CLAMP</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>CMB-09</td>
<td>5/32&quot; X 1-1/2&quot; COTTER PIN</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>CMB-11</td>
<td>1/2&quot;-13 X 1-3/4&quot; GRADE 8 HEX HEAD CAP SCREW WITH THREAD COATING</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>CMB-12</td>
<td>1/2&quot; INTERNAL TOOTH LOCK WASHER</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>CMB-14</td>
<td>BELLEVILLE WASHER (1914 LB FLAT)</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>CMB-16</td>
<td>CMB SPRING RETAINER ASSEMBLY</td>
<td>2</td>
</tr>
</tbody>
</table>

**INSTALLATION HARDWARE REPLACEMENT KIT**

**STRATO PART# CMB-PK1**

**TRAINLINE SUPPORT CASTING REPLACEMENT KIT**

**STRATO PART# CMB-PK2**

Items included in installation hardware replacement kit: STRATO PART# CMB-PK1
**Tools Required for Installation**

- Ratchet
- 15/16" Deep Socket
- 3/4" Socket
- Flat Screwdriver
- Pliers or other tool suitable for bending cotter pins

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**Coupler Mounted Bracket Installation Instructions**

**Step 1**
Remove cotter pins. (Keep for reuse.) If Belleville washers are removed, make sure to reassemble with the concave side facing the bracket.

**Step 2**
Loosen the top spring retainer assembly so it is close to the end of the threads.

**Step 3**
Hand tighten the spring retainer assembly on the bottom clamp so the clamp body is parallel with the top of the bracket. This is a temporary position to clear the bottom lightener hole.

**Step 4**
Loosen the bolt from the axial mounting clamp until the end of the bolt is flush with the clamp face as shown.
By lifting the bracket’s horizontal arm, tilt the bracket back and slide it towards the pulling face of the coupler so the axial mounting clamp will pass over the strengthening rib located above the locklift assembly. You may need to wiggle the bolt a bit to get the clamp over the rib.

Insert the bracket on an angle so the top clamp slides under the top edge of the lightener hole and the bracket’s resting shelf sits on the horizontal rib of the coupler. Make sure the bottom clamp is in the bottom lightener hole.

Hand tighten the spring retainer assembly on the top clamp (a few turns) to reduce slack between the coupler and bracket.

Loosen the spring retainer assembly of the bottom clamp to the end of the threads.

Using a flathead screwdriver, push the clamp inside the lightener hole.
**Coupler Mounted Bracket Installation Instructions**

**Step 8c**
Rotate the clamp 90° with the screwdriver so the flat side of the bolt with the marking “UP” is facing up.

**Step 8d**
Pull the clamp towards you and hand tighten the spring retainer assembly, keeping “UP” in the up position.

**Step 9**
Tighten the axial mounting clamp until the lock washer is engaged.

**Step 9a**
The area near the axial clamp should make contact with the coupler. See blue highlighted area.

**Step 9b**
This is the back view of the CMBA making contact with the coupler. See blue highlighted area.
Step 10
While rocking the CMB forward and back, tighten the top spring retainer assembly snugly. Tighten the bottom spring retainer assembly snugly.

Step 11
Retighten the top and bottom spring retainer assemblies until the Belleville washers are compressed flat by the retainers.

*See next page for detailed instructions for this step.

Step 12
Verify that the “UP” markings on both top and bottom clamps are facing up. You may have to tighten the spring retainer assemblies slightly more so the cotter pin slots line up with the cotter pin holes in the clamps.

Step 13
On the bottom clamp, insert cotter pin through the slot of the spring retainer assembly and the clamp. Secure by bending the pin. Repeat for the top clamp. Please pay attention to how the pins are bent to avoid injuries.

Step 14
The bracket should make contact with the outside contour of the couple. If installed correctly, the bracket vertical arm should be behind the coupler horn.

Step 15
Installation of the bracket is now complete. Connect hoses and ensure all dimensions conform to AAR specifications.
Once the spring retainer assembly is seated against the Belleville washer (as indicated by a dramatic increase in tightening resistance), continue **ONE HALF TURN** to ensure sufficient contact between the spring retainer assembly and the washer.

**NOTE:**

The bottom clamp is longer and has two holes in it at 90°, compared to the shorter top clamp, which has one hole.
The Spring Retainer (slotted nut) controls the compression of the spring. Properly tightened, the Spring Retainer is turned so that there is “metal to metal” contact between the base of the Spring Retainer and the Belleville washer.

When turning, the installer will detect a sharp increase in resistance when the Spring Retainer contacts the Belleville washer. Turning another 1/2 turn will fully tighten. The installer will notice this 1/2 turn requires considerably more force.

**Visual Check:** No noticeable gap between the Belleville washer and the bottom of the Spring Retainer Assembly.

At this point, the cotter pin can be inserted. You, the installer, may have to tighten *(not loosen)* another 1/4 turn to align with one of the holes. Bend the cotter pin to prevent it from falling out *(see next page for photo)*.

* No torque values are needed to determine proper tightening. However, shops that prefer using torque wrenches can use 120 ft-lbs as a reference to assure proper tightening of the Spring Retainer Assemblies.
Attaching End-of-Train Devices with Coupler Mounted Bracket

Installing Quantum/Safetran End-of-Train Devices:

**Horizontal Mounted Unit:**

The Coupler Mounted Bracket has special slots for mounting the EOT directly to the bracket.

The EOT mounts directly to the Coupler Mounted Bracket for a secure connection and correct alignment.

**Vertical Mounted Unit:**

Installs on the front two lightening holes and does not touch or interfere with the Coupler Mounted Bracket.
PLEASE REVIEW WITH ALL PERSONNEL INVOLVED IN THE MOUNTING OF END-OF-TRAIN DEVICES ON COUPLERS:

Pictured to the right is a Strato Coupler Mounted Bracket for cushioned cars that went into service in 2008. There are number of these brackets in service and the cars are starting to appear in many yards across the country through the normal interchange process.

Standard EOT devices can still be used with the Strato Coupler Mounted Bracket but training will help ensure proper installation and avoid delays due to questions.

Installing a Wabtec End-of-Train Device:

The Wabtec EOT installs the same way as usual, mounting vertically using the first two lightening holes in the coupler.

*Please note gap between the EOT device and CMB*
**Intermediate Hose Installation Guidelines**

Cushion unit travel \(X\) needs to be at least 1” less than bracket clearance \(Y\)

- Strato recommends flanged hoses for ease of installation and reduction of potential leak points.

- Excellent performance depends on proper hose length and installation. (Refer to AAR Standard per Rule 4 & 5 of Field Manual.)

- Improper length or installation can cause hose assemblies to kink.

- Avoid sharp twists or bends in the hose by using the proper angle adapters or elbow fittings.

- Move the hose or cushion arrangement through its full range of movement, checking that the hose and bracket moves freely and does not contact any other component of the car.

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**Hoses:**

<table>
<thead>
<tr>
<th>PART #</th>
<th>O.A.L</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTH3139</td>
<td>43-1/2”</td>
</tr>
</tbody>
</table>

You may need a hose hanger to prevent water traps. Mount the hose hanger on first 1/3 of hose nearest the angle cock to allow the hose to move freely.
For maximum performance of the Coupler Mounted Bracket (CMB), the following conditions must be met.

<table>
<thead>
<tr>
<th>When inspecting the CMB installed on a car, ensure all conditions listed below are met...</th>
<th>Corrective Action for unacceptable conditions before returning the CMB to service...</th>
</tr>
</thead>
<tbody>
<tr>
<td>The CMB shows no visible damage or damage that inhibits its performance.</td>
<td>If the CMB is damaged sufficiently to inhibit its performance, it must be replaced.</td>
</tr>
</tbody>
</table>
| All hardware is secure and in place.  
  - Top and bottom clamps  
  - Axial bolts  
  - Washers  
  - Springs  
  - Cotter pins | All hardware must be fastened according to the instructions in this guide.  
  Any missing hardware must be replaced. |
| When grasping the horizontal strut that contains the trainline support casting (TSC fitting), it cannot be moved more than 1/2” side to side, i.e., up to 1/2” movement is acceptable. | If the horizontal strut can be moved more than 1/2” side-to-side, retighten the clamps, nuts, etc. per the specification and procedures described in this installation guide. |
It is necessary that the Coupler Mounted Bracket (CMBA) clamping system engages the coupler in order to function properly. The following is a simple check that can be done to ensure the CMB will fit and engage the coupler as intended.

### Step 1
Insert the clamp labeled “Bottom Clamp” into the top lightener hole of the coupler as shown. The wedged end must be facing up.

### Step 2
While holding the bottom of the clamp flat against the horizontal shelf and pulling outwards, slide the clamp across the full length of the lightener hole. Make sure the clamp is not tipped during this process.

### Step 3
If, at any point in this check, the clamp is able to slide directly out of the lightener hole as a result of the pulling force, the coupler is not a candidate for a CMB. Please contact Strato with the coupler type and a photo if possible.