



# Installing Directional-Antenna Mounting Kits on Cisco Outdoor Mesh Access Points

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## About this Guide

This guide describes how to assemble and install the antenna bracket kit (AIR-ACCAMK-1) which is used to mount directional antennas on Cisco 1550 and 1570 Series Outdoor Access Points (referred to in this document as *access points*).

The antenna bracket kit contains four bracket sections and fasteners that you can assemble in multiple configurations to position and aim directional antennas. The bracket kit can be used with these directional antennas:

- 2.4-GHz, 13-dBi Directional Antenna, two ports, N connectors (AIR-ANT2413P2M-N=)
- 5-GHz, 14-dBi Directional Antenna, two ports, N connectors (AIR-ANT5114P2M-N=)



### Note

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This equipment is to be installed by trained and qualified personnel, as per these installation instructions. The installer is responsible for obtaining any required local or national safety inspections of the structural integrity of the installation by the local authority or inspection department.

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### Note

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You need one antenna bracket kit per antenna. To mount two antennas, you need two kits.

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## Safety Information

Translated versions of all safety warnings are available on Cisco.com at this URL:

[http://www.cisco.com/en/US/docs/wireless/access\\_point/warnings/reference/guide/1520\\_trans\\_warn.html](http://www.cisco.com/en/US/docs/wireless/access_point/warnings/reference/guide/1520_trans_warn.html)



Warning

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### IMPORTANT SAFETY INSTRUCTIONS

**This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.**

Statement 1071

**SAVE THESE INSTRUCTIONS**

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Warning

**Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, because they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes (for example, U.S.:NFPA 70, National Electrical Code, Article 810, Canada: Canadian Electrical Code, Section 54).** Statement 1052

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Warning

**In order to comply with FCC radio frequency (RF) exposure limits, antennas should be located at a minimum of 7.9 inches (20 cm) or more from the body of all persons.** Statement 332

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Warning

**Avoid using or servicing any equipment that has outdoor connections during an electrical storm. There may be a risk of electric shock from lightning.** Statement 1088

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Warning

**This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.** Statement 1028

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Caution

Before connecting or disconnecting a power cord, you must remove AC power from the power cord using a suitable service disconnect.

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For additional important safety instructions for AC power cords, refer to the *AC Power Cords for Cisco Aironet 1550 Series Outdoor Mesh Access Points* document that shipped with your AC power cords.

For safety and to achieve a good installation, please read and follow these safety precautions:

- Select your installation site with safety, as well as performance in mind. Remember: electric power lines and phone lines look alike. For safety, assume that any overhead line can kill.
- Call your electric power company. Tell them your plans, and ask them to come look at your proposed installation.
- Plan your installation carefully and completely before you begin. Successful raising of a mast or tower is largely a matter of coordination. Each person should be assigned to a specific task and should know what to do and when to do it. One person should be in charge of the operation to issue instructions and watch for signs of trouble.
- When installing the access point and antennas, remember:
  - Do not use a metal ladder.
  - Do not work on a wet or windy day.
  - Do dress properly—shoes with rubber soles and heels, rubber gloves, long sleeved shirt or jacket.
- Use a rope to lift the access point. If the assembly starts to drop, get away from it and let it fall.
- If any part of the antenna system should come in contact with a power line, do not touch it or try to remove it yourself. Call your local power company. They will remove it safely.

If an accident should occur, call for qualified emergency help immediately.

## Overview

The antenna bracket kit allows you to add directional antennas to the access points mounted on poles or wire strands. [Figure 1](#) shows the antenna bracket kit on a 1552CU access point.



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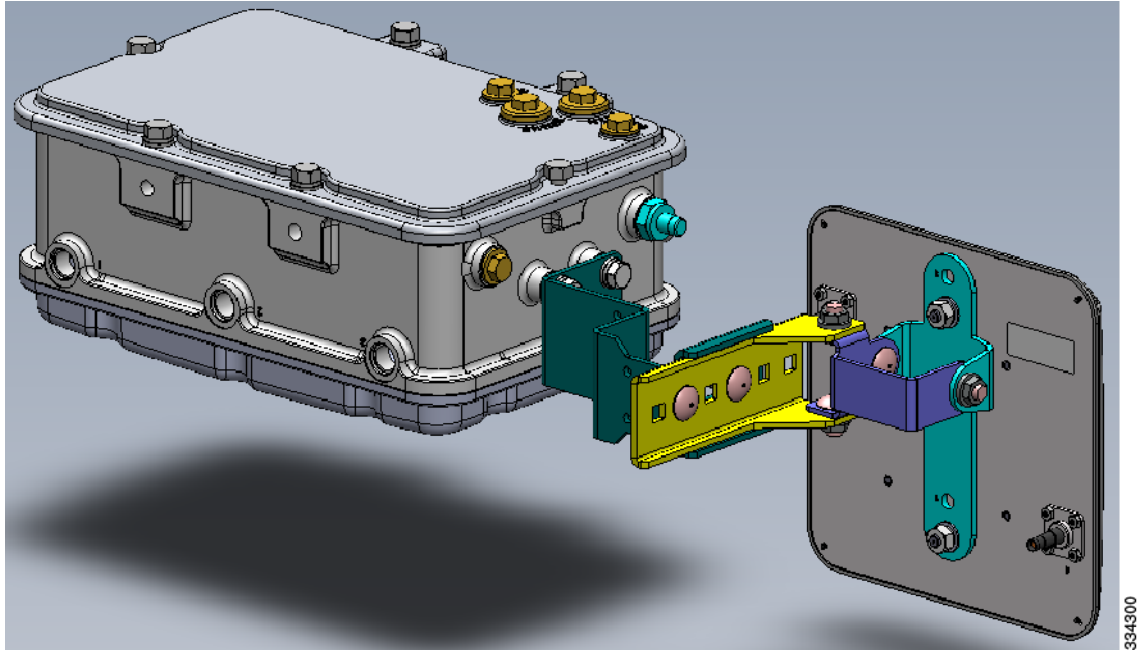
**Note**

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You need one antenna bracket kit per antenna. To mount two antennas, you need two kits.

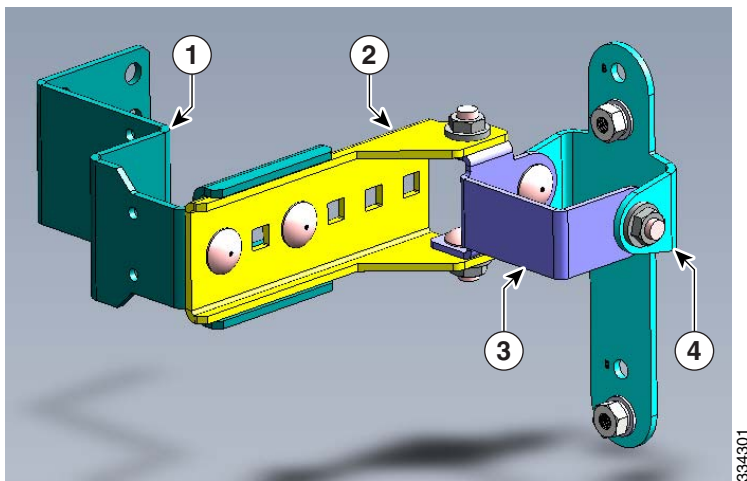
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**Figure 1** Multi-Antenna Bracket on a 1552CU Access Point



The unassembled bracket consists of four components and appropriate mounting hardware, shown in [Figure 2](#).

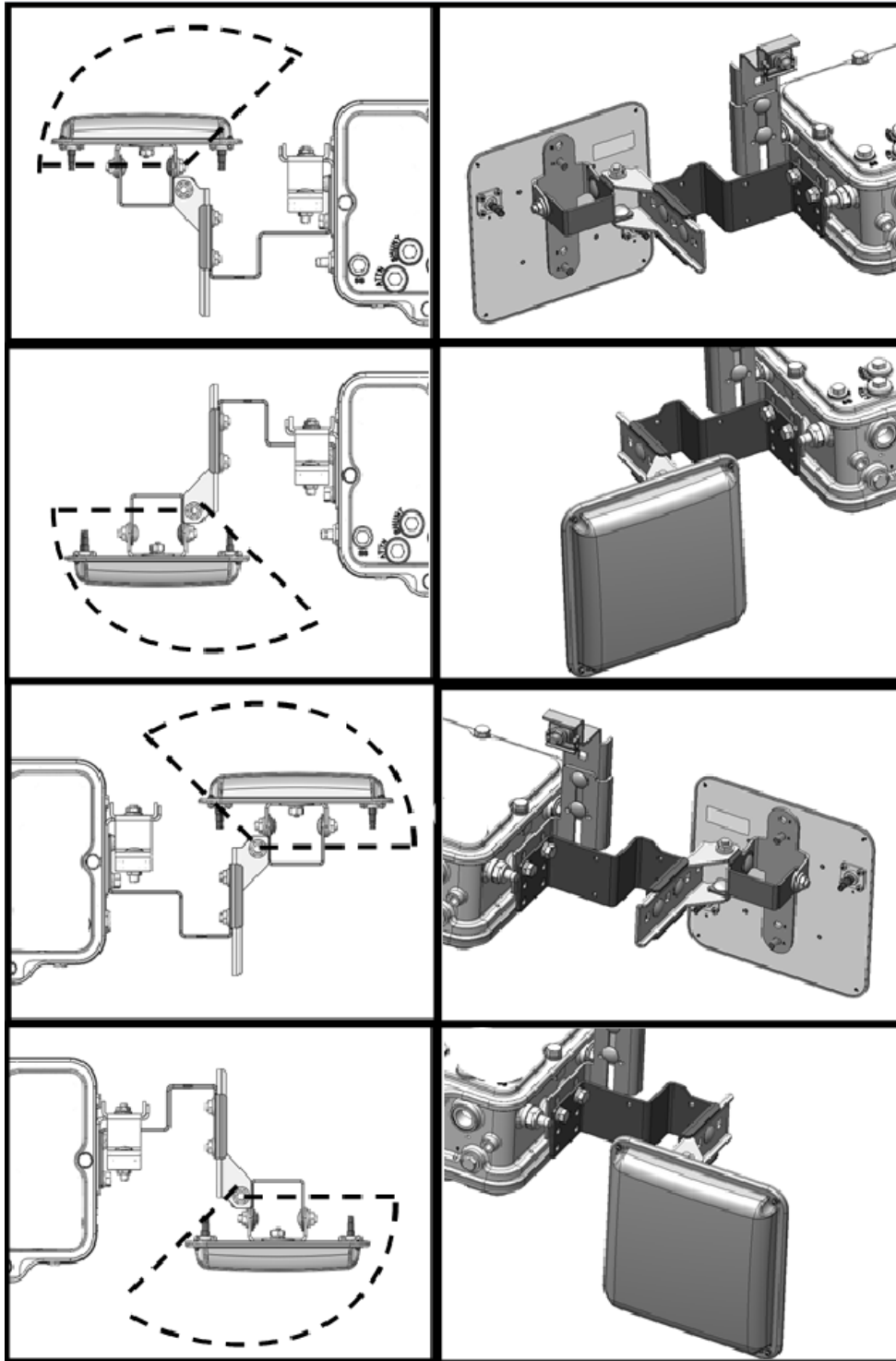
**Figure 2** Four Bracket Sections



<b>1</b>	Main support bracket	<b>3</b>	Dual-pivot bracket
<b>2</b>	Slider bracket	<b>4</b>	Antenna attachment bracket

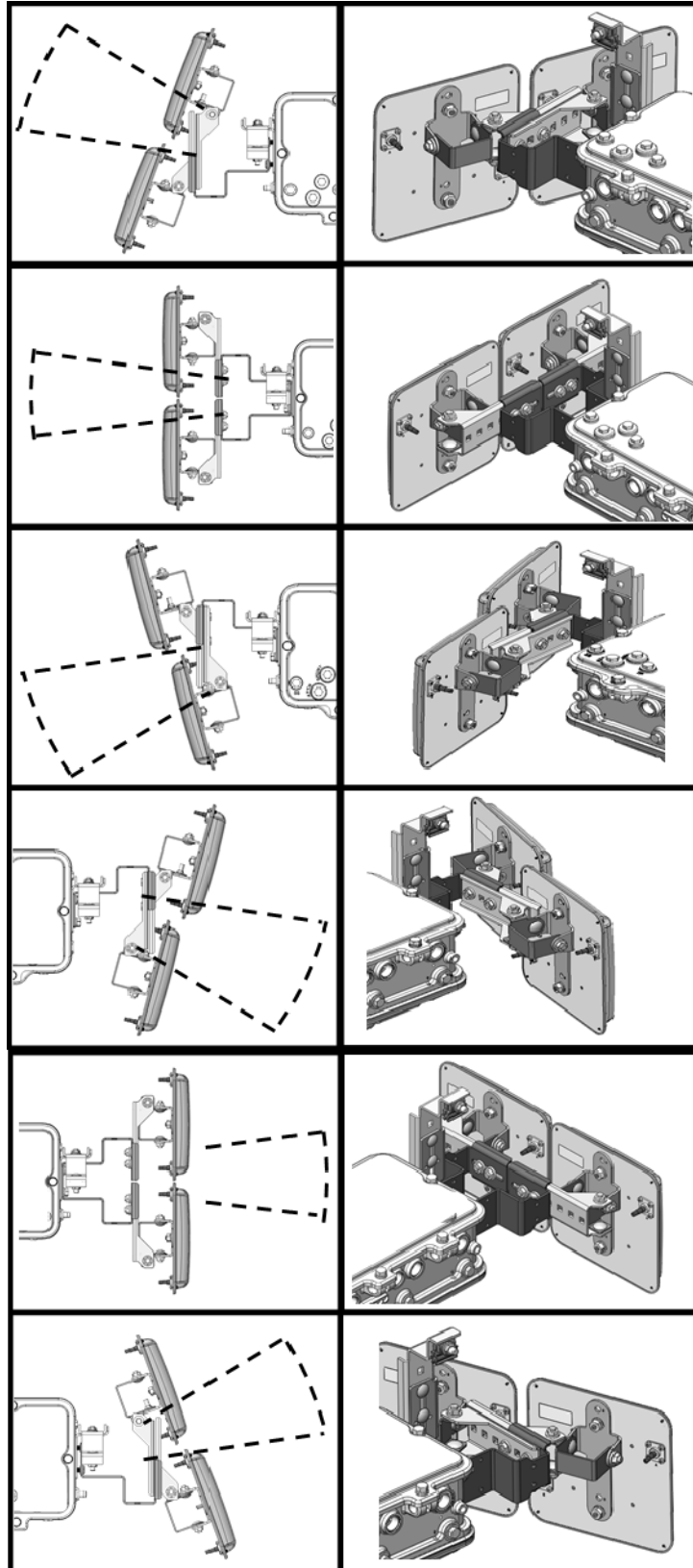
When correctly installed, these components provide an adjustment range that allows you to orient the antennas in a range of positions. [Figure 3](#) shows the configurations available for a single antenna, and [Figure 4](#) shows the configurations possible for two antennas.

Figure 3 Antenna Configurations for One Antenna



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**Figure 4**      **Antenna Configurations for Two Antennas**



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# Tools and Equipment Required

To install the multi-antenna bracket you will need a 13 mm wrench or socket. You might also need an extension to allow the socket driver to clear the bracket.

# Mounting Instructions

These instructions describe the basic steps for assembling and installing the antenna bracket on an access point. The orientation of the parts will vary depending on the antenna configuration that you need. Follow these steps to assemble the bracket and install it on an access point:

**Caution**

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The main mounting bolts hold the bracket assembly on the access point, so you will need to remove and re-install those bolts during the bracket installation. If you plan to install the bracket on an access point that is currently mounted on a pole or cable strand, take steps to secure the AP before loosening or removing the main mounting bolts.

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**Step 1**

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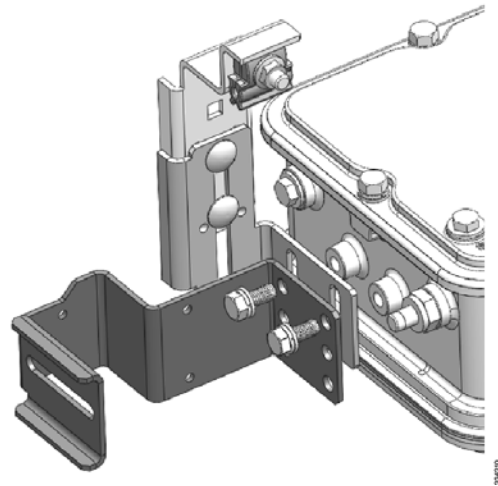
For 1550 Series access points, remove and discard the pair of mounting bolts and washers (two M8x22 hex bolts, two flat washers, and two lock washers) that came with the each of the two strand mounts on the access point. Instead use the (M8x25 hex) bolts in the Antenna Mount kit bag labeled *For 1550 Series* to attach the main support bracket to the access point. [Figure 5](#) shows the main support bracket on a strand-mount access point. [Figure 6](#) shows the main support bracket, turned 180 degrees, on a pole-mount access point.

For the 1570 access point, use the three hex bolts (M8x22) and washers in the kit bag labeled *For 1570 Series* to attach the main support bracket to side of the 1570 access point. [Figure 7](#) shows the main support bracket on a 1570 series access point.

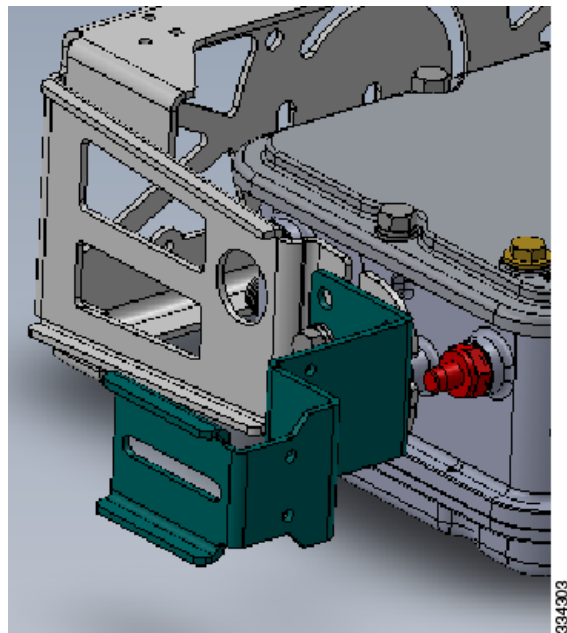
On strand-mounted access points, do not fully tighten the main mounting bolts until you have re-leveled the access point on the strand.



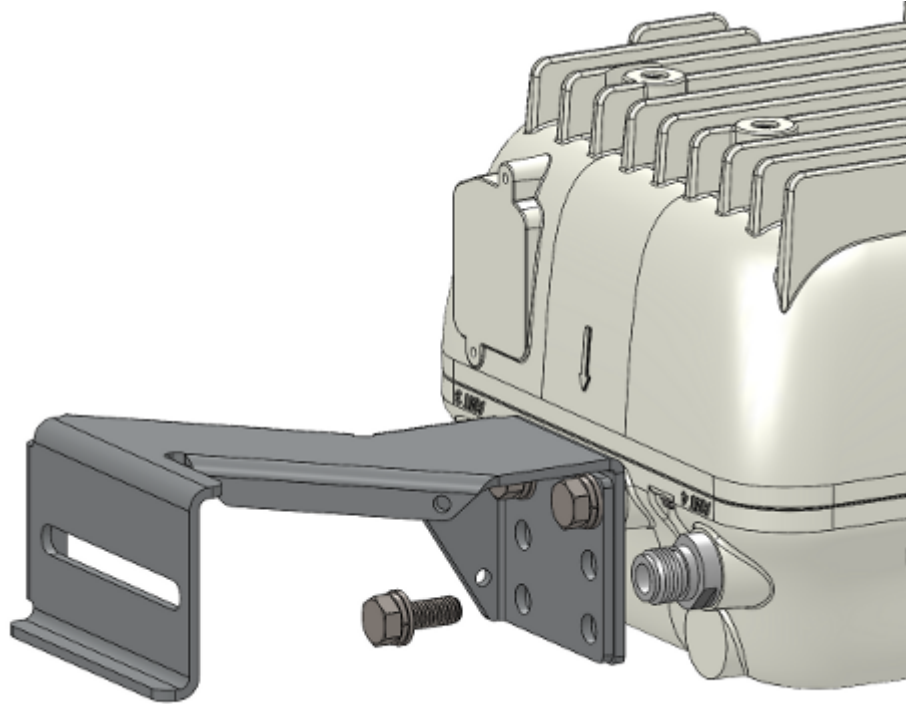
**Figure 5** *Attaching the Main Support Bracket to a 1550 Strand-Mount Access Point*



**Figure 6** *Attaching the Main Support Bracket to a 1550 Pole-Mount Access Point*



**Figure 7** *Attaching the Main Support Bracket to a 1570 Series Access Point*



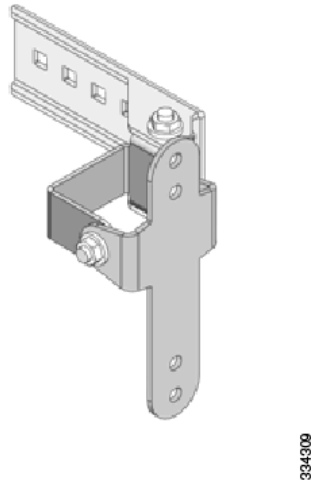
**Step 2** Use 5/16” carriage bolts and flange nuts to assemble the slider bracket, dual-pivot bracket, and antenna attachment bracket based on the antenna configuration that you need.

[Figure 8](#) shows an example bracket assembly; your assembly may vary depending on your required antenna configuration. Look at [Figure 3](#) and [Figure 4](#) to find the assembly method that matches the antenna configuration that you need.

**Tip**

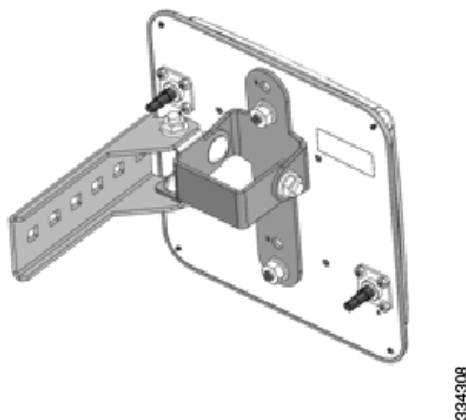
Do not completely tighten the fasteners on the dual-pivot bracket until you adjust the vertical and horizontal position of the antenna.

**Figure 8** *Assembling the Slider, Dual-Pivot, and Antenna Attachment Brackets*



- Step 3** Use the 1/4" nuts, flat washers, and lock washers to attach the bracket assembly to the antenna, as shown in [Figure 9](#). Attaching the bolts through the holes marked "A" on the antenna attachment bracket allows for the most clearance for the access point wire bundle.

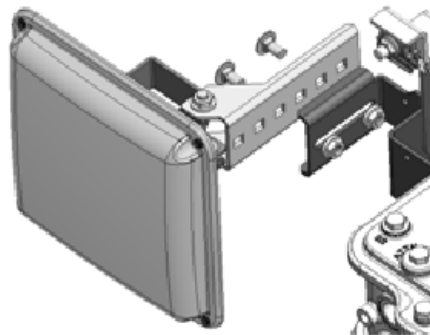
**Figure 9** *Attaching the Bracket Assembly to the Antenna*



- Step 4** Use two 5/16" carriage bolts and flange nuts to attach the slider bracket to the main support bracket as shown in [Figure 10](#).

For the strongest connection, leave a one-hole space between the carriage bolts in the slider bracket when you attach it to the main support bracket.

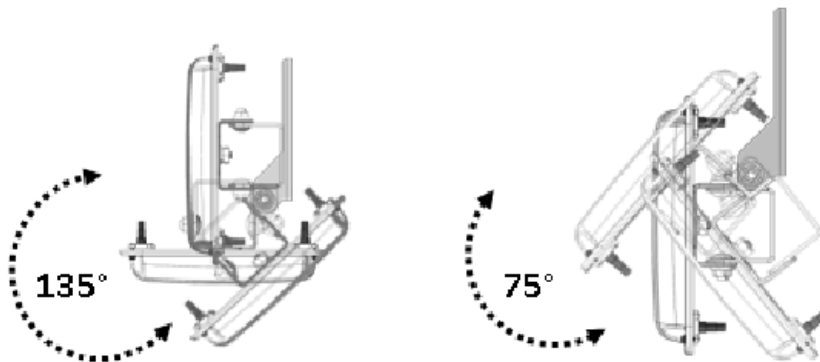
**Figure 10** *Attaching the Antenna and Bracket Assembly to the Main Support Bracket*



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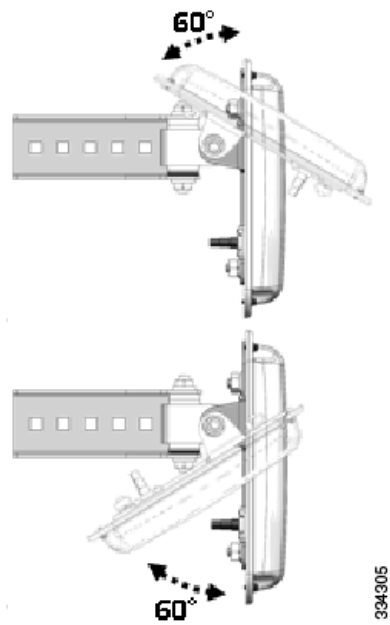
**Step 5** Adjust the antenna orientation and tighten the fasteners on the dual-pivot bracket. [Figure 11](#) shows the range of horizontal adjustment on the bracket. [Figure 12](#) shows the range of vertical adjustment on the bracket.

**Figure 11** *Horizontal Adjustment Range*



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**Figure 12** Vertical Adjustment Range



**Step 6** Tighten all fasteners and connect the antennas to the access point antenna ports.

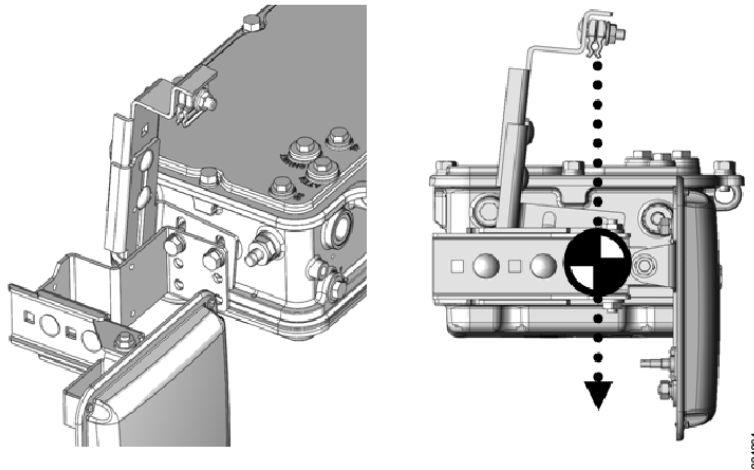
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## Levelling Strand-Mount Access Points

After you attach antennas to a strand-mount access point, the added weight might change the access point's center of gravity and you might need to re-level the unit.

For the 1550 Series access points, to bring the access point back to level, loosen the main support bolts on both sides of the access point and rotate the unit on the strand-mount brackets, which have slotted mounting holes. Tighten the bolts when the access point hangs level on the strand, as shown in [Figure 13](#).

**Figure 13**      *Leveling a 1550 Strand-Mount Access Point*



For the 1570 Series, to bring the access point back level, refer to the 1570 Hardware Installation Guide and the procedure for leveling the access point using the Strand Mount Kit 3 (SMK3). The 1570 Hardware Installation Guide is available at the following URL:

[http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/1570/installation/guide/1570hig.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/1570/installation/guide/1570hig.html)

## Related Documents

- Cisco Aironet 1550 Series Outdoor Mesh Access Point Hardware Installation Guide:  
[http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/1550/installation/guide/1550hig.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/1550/installation/guide/1550hig.html)
- Cisco Aironet 1570 Series Outdoor Access Point Hardware Installation Guide  
[http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/1570/installation/guide/1570hig.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/1570/installation/guide/1570hig.html)

# Obtaining Documentation and Submitting a Service Request

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