



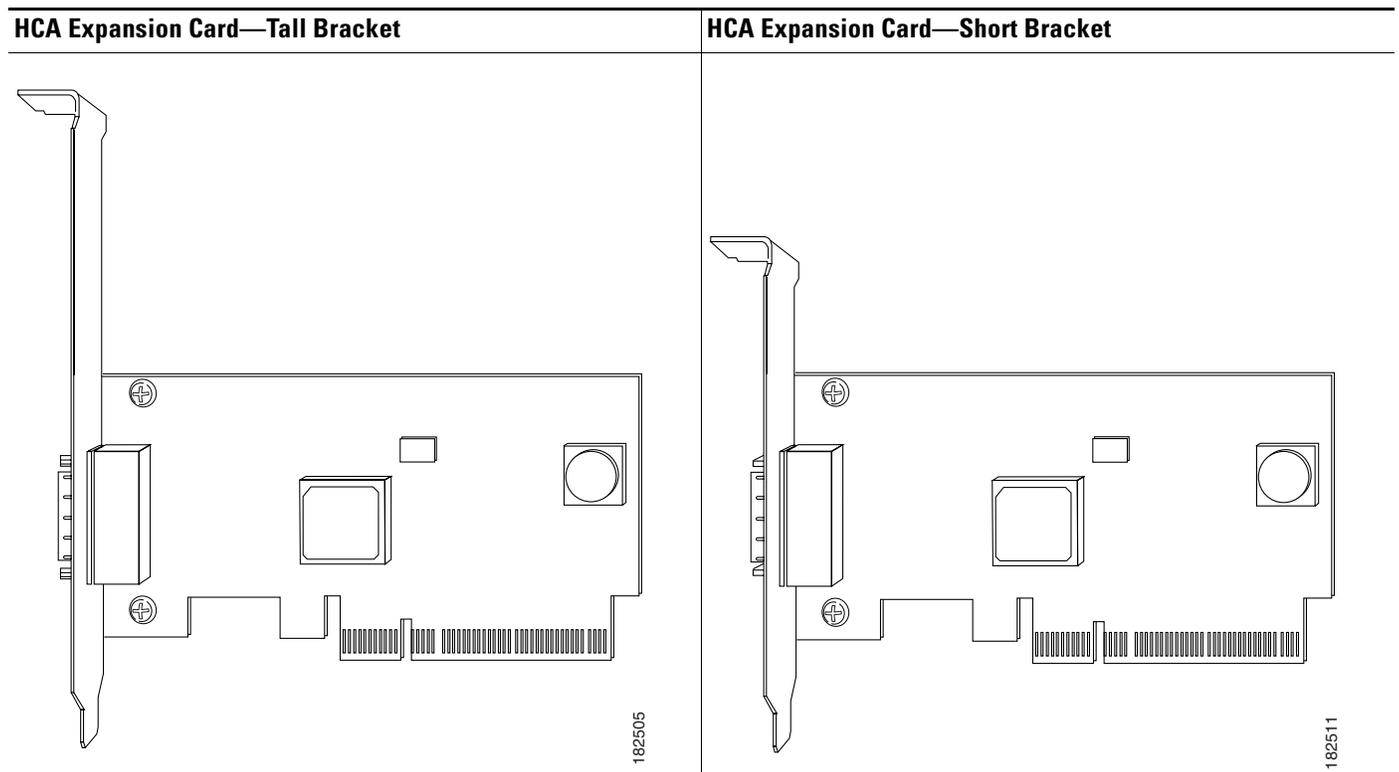
# CHAPTER 3

## Replacing a Tall Bracket with a Short Bracket

This chapter shows how to remove a tall bracket from an HCA expansion card and replace it with a short bracket (see [Figure 3-1](#)), and it contains these sections:

- [Required Tools](#), page 3-2
- [Removing a Tall Bracket](#), page 3-2
- [Attaching a Short Bracket](#), page 3-4

**Figure 3-1** HCA Expansion Card Brackets



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## Required Tools

You will need these tools to perform the procedures in this chapter:

- grounding wrist strap
- anti-static mat or anti-static foam
- small, flat-blade screw driver
- torque screwdriver

## Removing a Tall Bracket

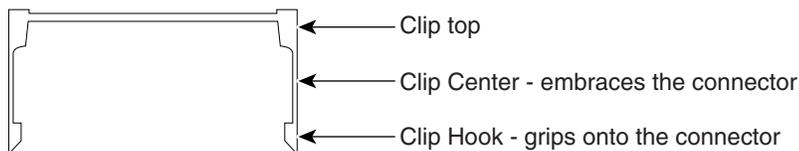
**Caution**

Before performing this procedure, ground yourself appropriately to an approved grounding location by wearing an ESD-preventive wrist strap. The wrist strap and clip must be used correctly to avoid ESD damage to the card. Verify that the strap makes firm contact with your skin and that the resistance value of the strap is between 1 and 10 megohms (Mohm).

To remove a tall bracket from an HCA expansion card, follow these steps:

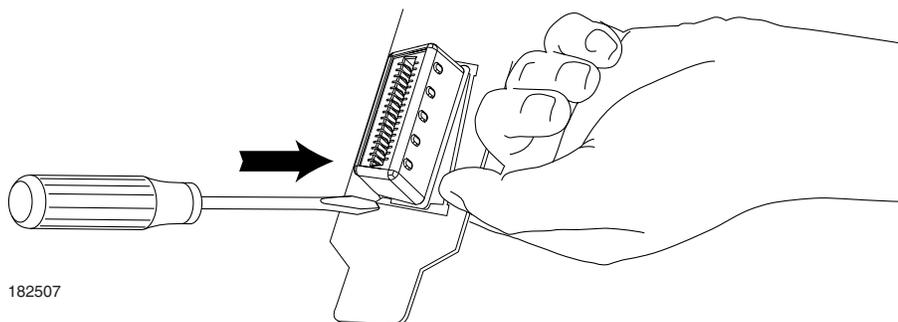
- Step 1** Place the HCA expansion card on an anti-static mat or on anti-static foam.
- Step 2** With the front of the bracket facing you, locate the connector retention clip that embraces the top and sides of the connector. (See [Figure 3-2](#).)

**Figure 3-2 Connector Retention Clip**



- Step 3** Using a small flat-blade screwdriver, gently push up one hook of the connector retention clip toward the connector's top side. (See [Figure 3-3](#).)

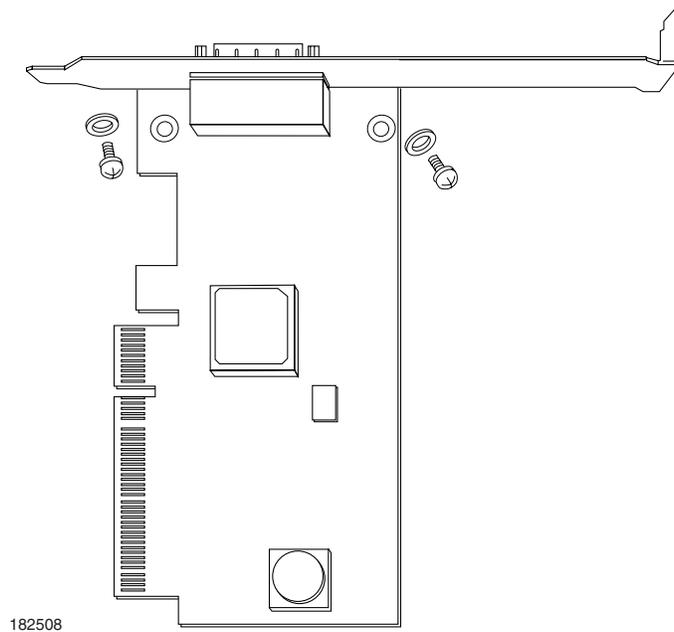
**Figure 3-3 Extract the Connector Clip**



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- Step 4** Gently push up the other hook on the other side of the connector, and lift the clip away from the connector, being careful not to bend or twist the clip.
- Step 5** Using a torque screwdriver, gently loosen the two screws that connect the bracket to the HCA card. Remove the screws and washers, and retain them for installing the short bracket. (See [Figure 3-4](#).)

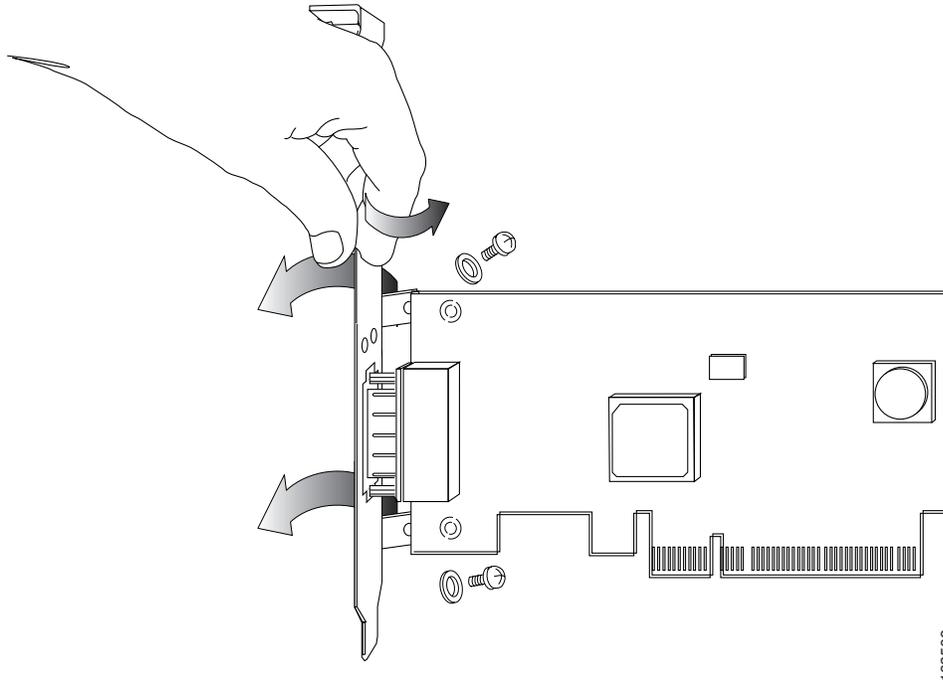
**Figure 3-4** Remove Bracket Screws and Washers



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- Step 6** Grip the bracket firmly, and gently rotate it toward the component-side of the HCA, sliding the bracket out of the connectors. (See [Figure 3-5](#).)

**Figure 3-5 Detach the Bracket**

**Note**

Be sure to use gentle force when extracting the bracket, taking care to protect the LEDs to the left of the connector and all other components on the HCA card.

## Attaching a Short Bracket

After you remove the tall bracket from the HCA card, you can attach the short bracket.

**Caution**

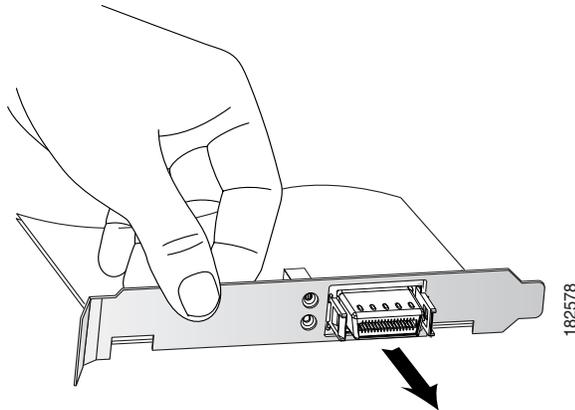
Before performing this procedure, ground yourself appropriately to an approved grounding location by wearing an ESD-preventive wrist strap. The wrist strap and clip must be used correctly to avoid ESD damage to the card. Verify that the strap makes firm contact with your skin and that the resistance value of the strap is between 1 and 10 megohms (Mohm).

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To attach the short bracket to the HCA card, follow these steps:

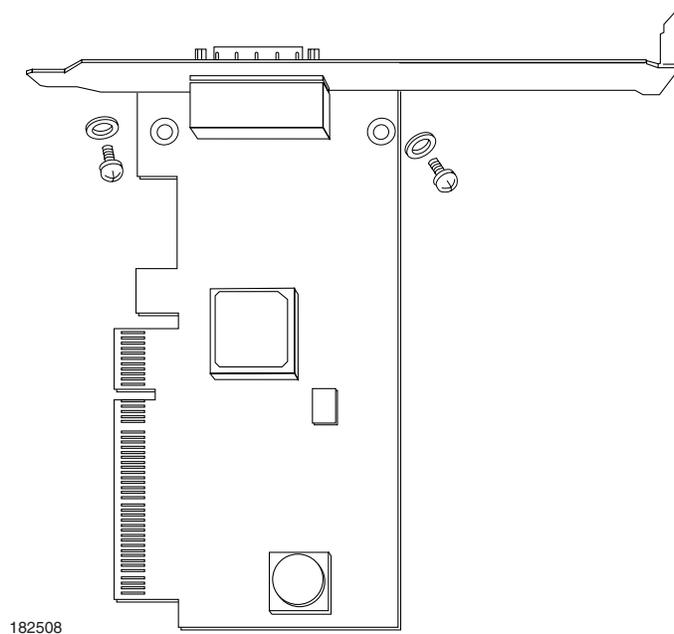
- Step 1** Place the HCA expansion card on an anti-static mat or on anti-static foam.
- Step 2** Gently place the bracket onto the HCA card, fitting the connectors through the bracket connector holes. (See [Figure 3-6](#).) Make sure that the LEDs to the left of the connector are aligned into their intended bracket holes.

**Figure 3-6** Place Short Bracket onto HCA Card



- Step 3** Place a washer over each of the two screws, and insert the screws into the holes to attach the bracket to the card. (See [Figure 3-7](#).) Use a torque screwdriver to apply up to 2 inch-pounds of torque to each screw.

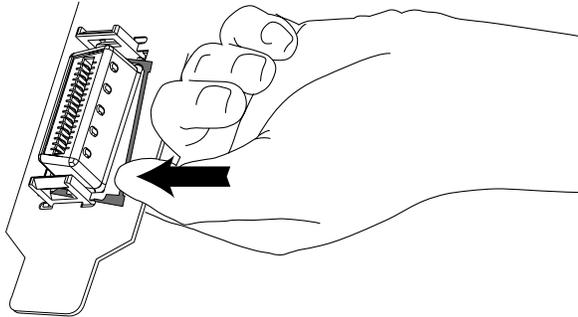
**Figure 3-7** Insert Washers and Screws



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- Step 4** Gently push the clip over the top of the connector, and slide both clip hooks around the connector evenly. (See [Figure 3-8](#).) Take care not to bend or twist the clip.

**Figure 3-8** *Install the Connector Clip*



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- Step 5** Use a small flat-blade screwdriver to gently slide each clip hook into place on either side of the connector base, making sure that each hook is firmly seated.
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