Power Systems

SCM

Power Systems

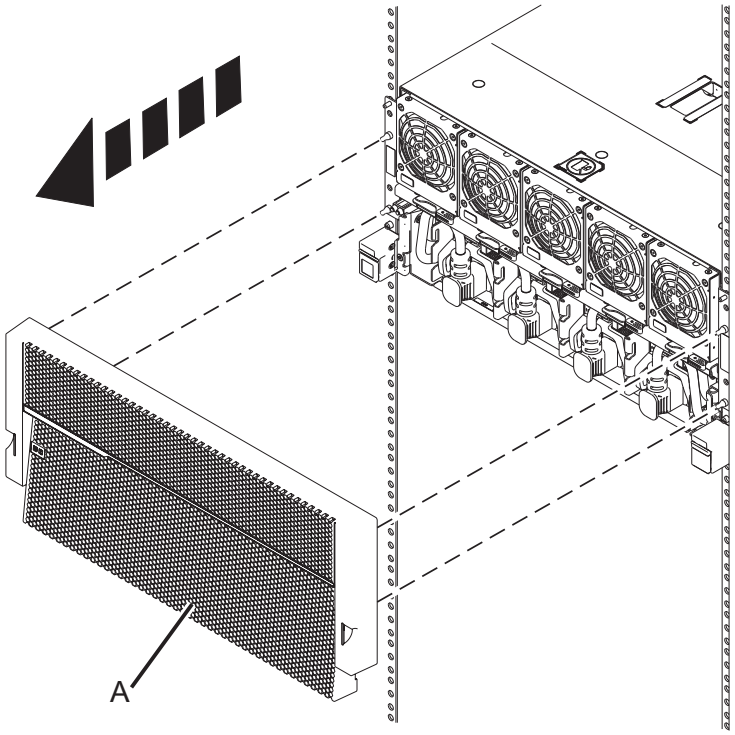
SCM

Remove SCM

To remove a SCM, complete the following steps:

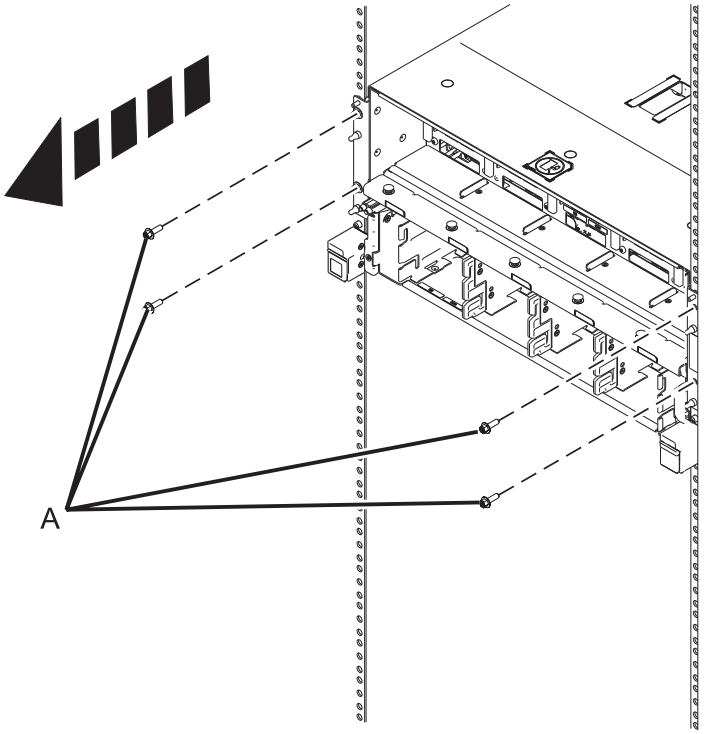
1. **When the node being serviced is above EIA location 29U, the ladders must be used while installing or removing the rear and front FRUs and cables.**
2. **Perform the following procedure on ONLY THE FRU(s) BEING SERVICED. The following images are generic and do not represent the literal location being serviced.**
3. **Modifying FRU locations which are not called out for service can have adverse effects on the system, INCLUDING SYSTEM OUTAGE AND LOSS OF DATA.**
4. The torque tool **(P/N 41V1059)** is required for this procedure. The torque tool was initially shipped with the system.
5. **CAUTION: If the system slide rails are installed above EIA location 29U, two Support Services Representatives (SSRs) must perform the procedure together and the following equipment must be used as a safety precaution for servicing: ServerLIFT tool (P/N 74Y4399), two Hard hats (P/N 5442867) and two service-qualified ladders (P/N 46G5947 and P/N 00E4866)**

1. Remove front bezel
   a. Remove the front bezel **(A)** from the system node being serviced and all system nodes which share the same system control unit with the system node being serviced.



   b. If present, remove the retention screws **(A)** from the front of the system node.

© Copyright IBM Corp. 2014

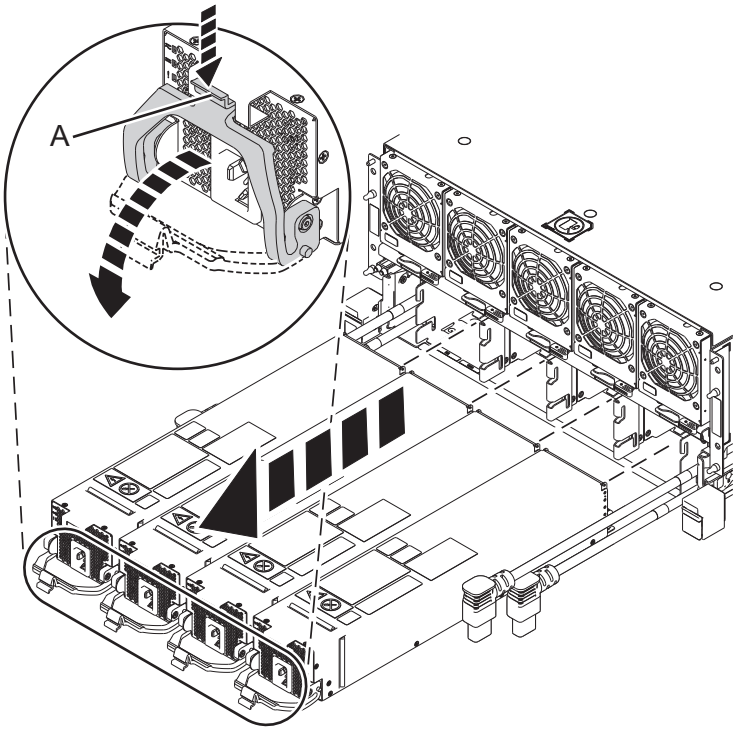


2. Unplug all power supply cables

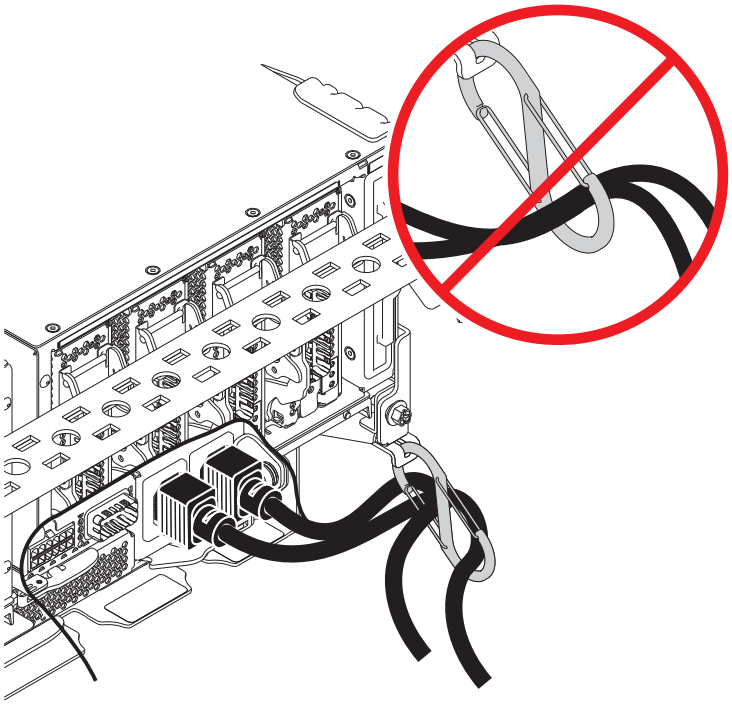
   Note: The following step applies to the system node being serviced and all system nodes which share the same system control unit with the system node being serviced.

   a. Locate the system control unit for the system being serviced.
   b. Validate which system nodes are connected to the system control unit by visually tracing / checking the clock cables.
   c. Disconnect the power supply cables from each power supply of each affected system node.

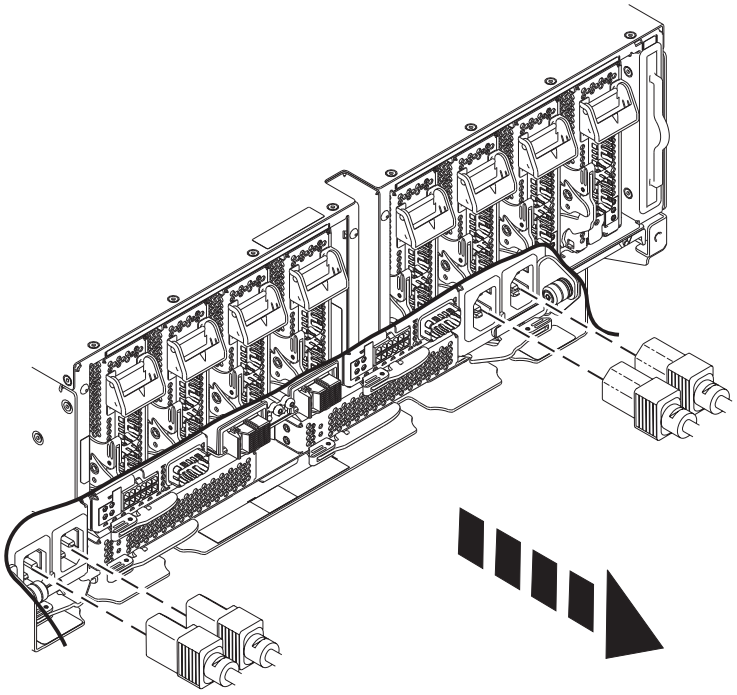
3. Remove all power supply units
   a. Push tab (A) down of the power supply being serviced and pull it towards the direction of the arrow shown. Keep pulling until the power supply unit slides out from the slot.



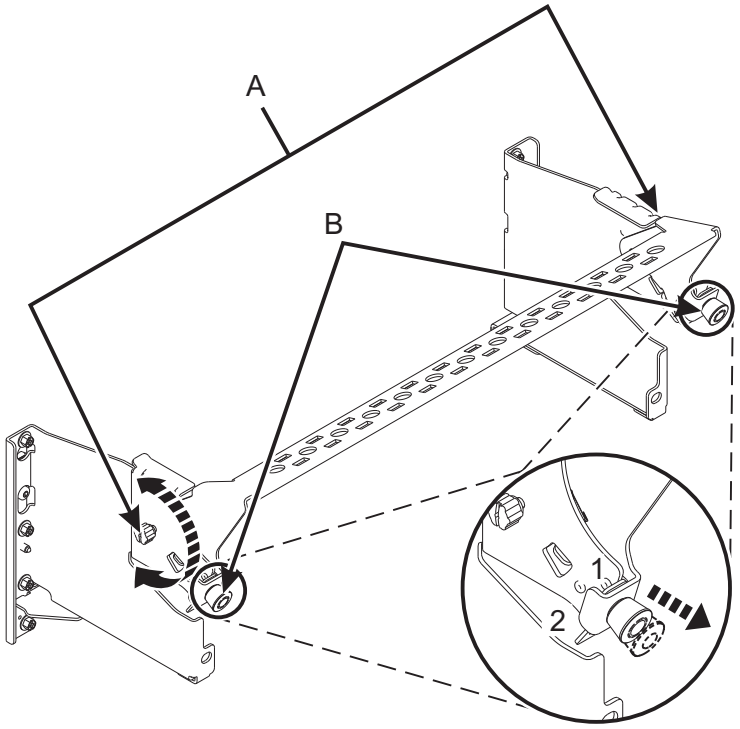
4. **If an S-Biner power cable routing clip is present:** While keeping the power cable correctly routed through the S-Biner, unclip all S-Biners from the node being serviced.



5. Unplug line cords
   a. Unplug the line cords from **only the system node being serviced**.

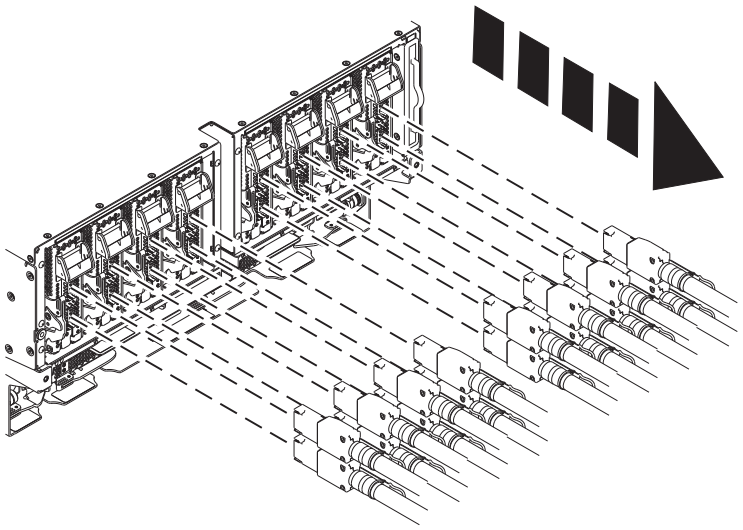


6. Move cable management arm up
   a. Pull out the retention pins **(B)** and rotate the cable management arm up on the pivot point **(A)** from position **(2)** to position **(1)**.. The pins will automatically retract into the locking position when the arm is properly located in the up position.

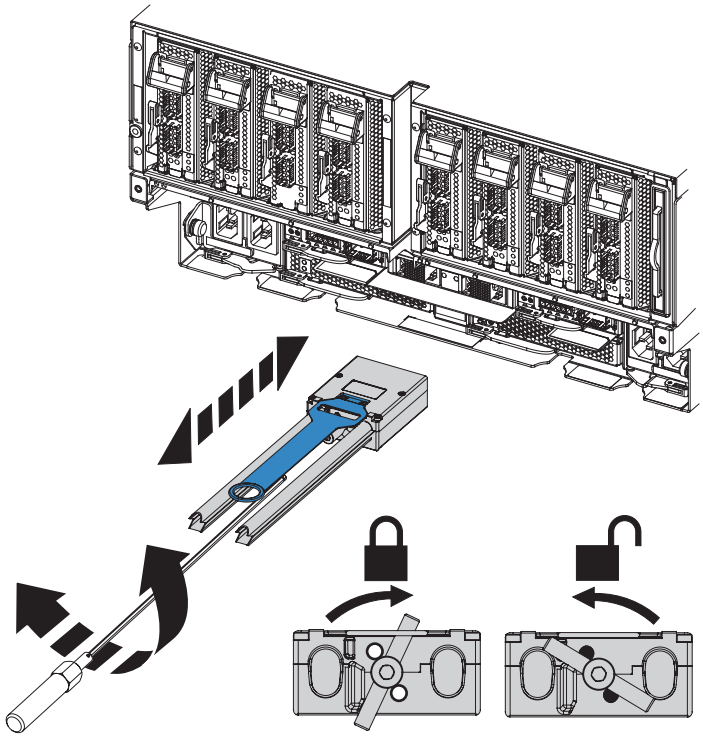


7. Remove all PCI cables

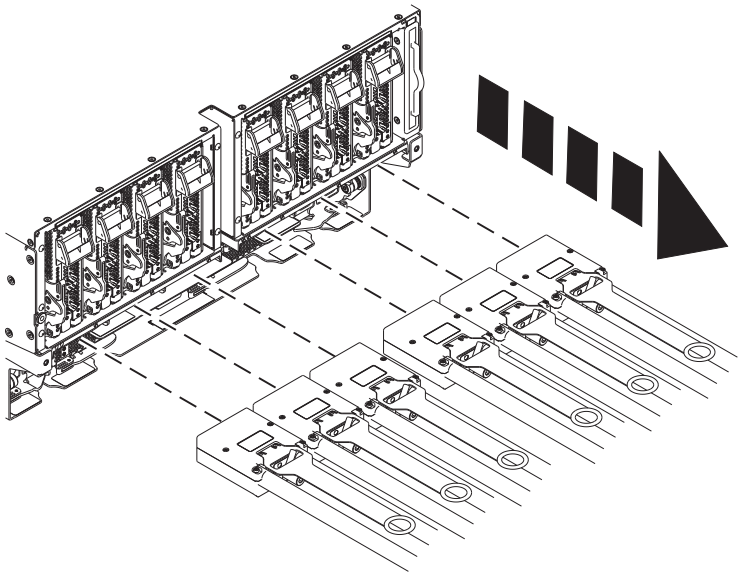
a. Make note of the location from which each PCI cable is removed. They must be plugged into the same location when reinstalled.
b. Label and unplug the PCI cables from the system node **being serviced**.



8. Remove all SMP cables
   a. Make note of the location from which SMP cable is removed. They must be plugged into the same location when reinstalled.
   b. Use the torque tool (41V1059) and turn in the direction indicated to unlock. There is a stop to prevent over rotation. Visually confirm that the SMP cable camming mechanism is in the unlocked position and that the black dots are showing through the two holes at the 5 and 11 o'clock positions before pulling on the cable.

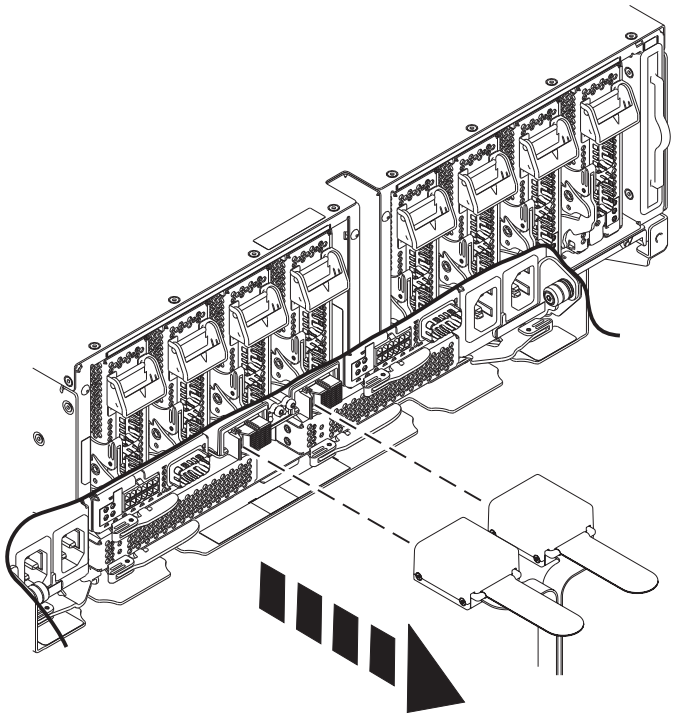


c. **Label the SMP cables so they may be plugged back into the same slots.**
d. Grip the pull tab and pull in the direction indicated to remove the SMP cables.

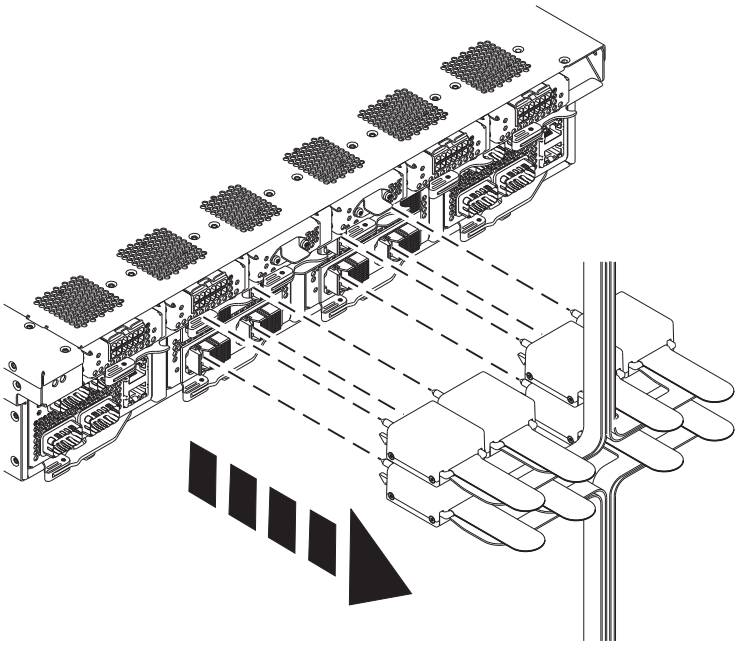


9. Remove all clock card cables
   a. Make note of the location from which each clock card cable is removed. They must be plugged into the same location when reinstalled.

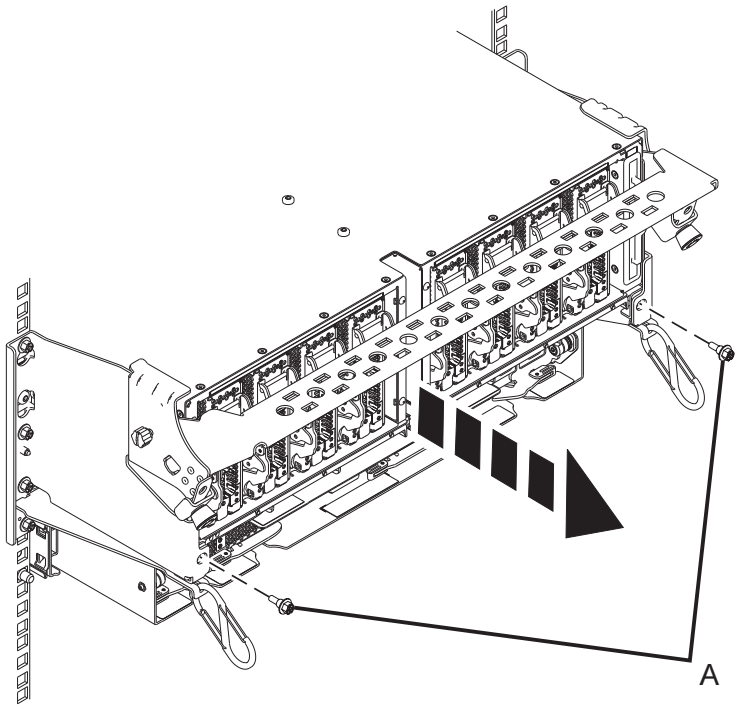
b. Remove the clock card cables from the system node by pushing the clock cable in slightly, then pull the locking tab to release the latch and pull cable out.



c. Remove the clock card cables from the system control unit by pushing the clock cable in slightly, then pull the locking tab to release the latch and pull cable out.



10. If present, remove the retention screws **(A)** from the rear of the system node.



11. Position lift tool

Note: If the system slide rails are installed at or below EIA location 29U, skip to the next step.

a. With both SSRs wearing hard hats, position the ladders and the lift tool as shown in the graphic. The lift tool should be about one foot away from the rack with its platform slightly below the bottom of the system drawer to account for the slight downward flex when the drawer is extended out fully on its slides.

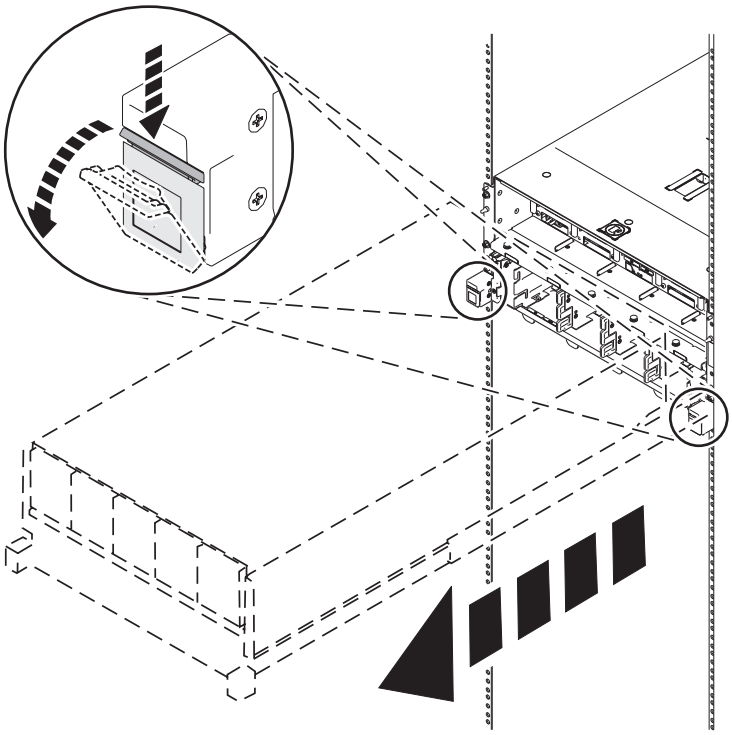
12. Set system into service position

    Note: When placing the system into the service position, it is essential that all stability plates are firmly in position to prevent the rack from toppling.

    Note: Ensure that only one system node is in the service position at a time.

    a. While holding down the system node release latches on both the left and right sides, pull the system node out from the rack until the rails are fully extended and locked.

       Note: When the system node rails are fully extended, the rail safety latches lock into place. This action prevents the system node from being pulled out too far.



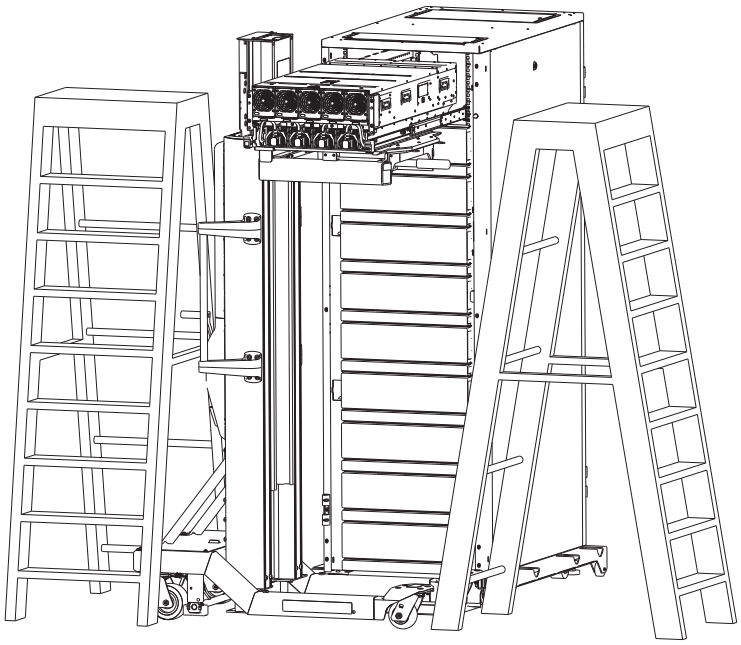
    b. While holding down the system node release latches on both the left and right sides, pull the system node out from the rack until the rails are fully extended and locked.

13. Secure node with lift tool and position ladder

    Note: Perform the following step with the help of another SSR only if the slide rails of the node being serviced are above EIA location 29U.

    a. Gently raise the lift tool platform to stably contact the bottom of the drawer, minding not to over force it as it could put upward stress on the slide rails.
    b. While using the ladder, do not lean on or against the system drawer or lift tool during service, and follow safe practices.
    c. Disengage the front two pins by elevating the front of the tilt table using the table lift handle.
    d. Manually push the system forward slightly away from the rack.
    e. Raise the lift tool to disengage the rear pins.
    f. Push the sliderails in and then level the tilt table.
    g. Lower the lift tool to perform the service action at a lower height.

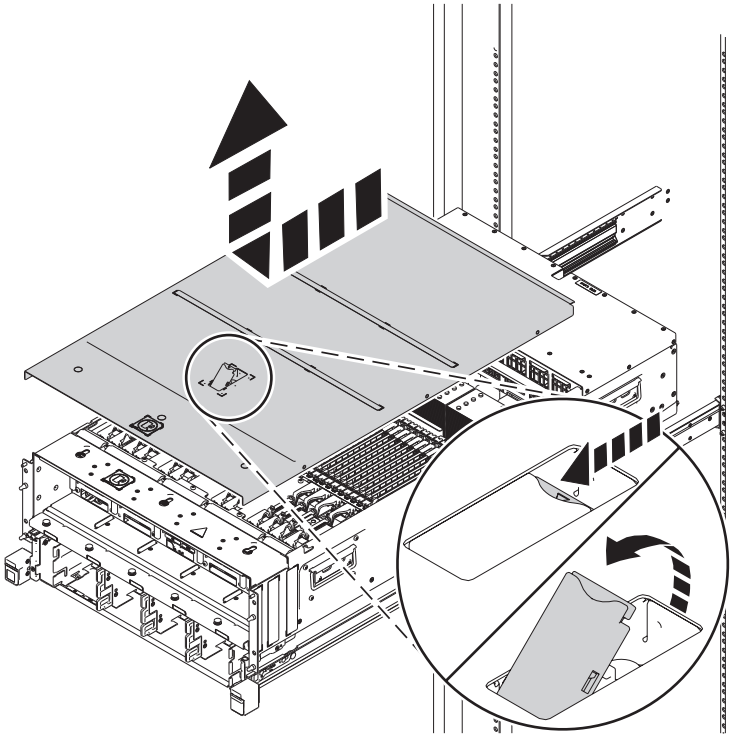
Note: Some pictures in the procedure from this step onward show the node on slide rails. This should be ignored because the system has been removed from the rails and is positioned on the lift tool.



14. Remove Top Cover

    Note: The following steps apply only to the system node being serviced.

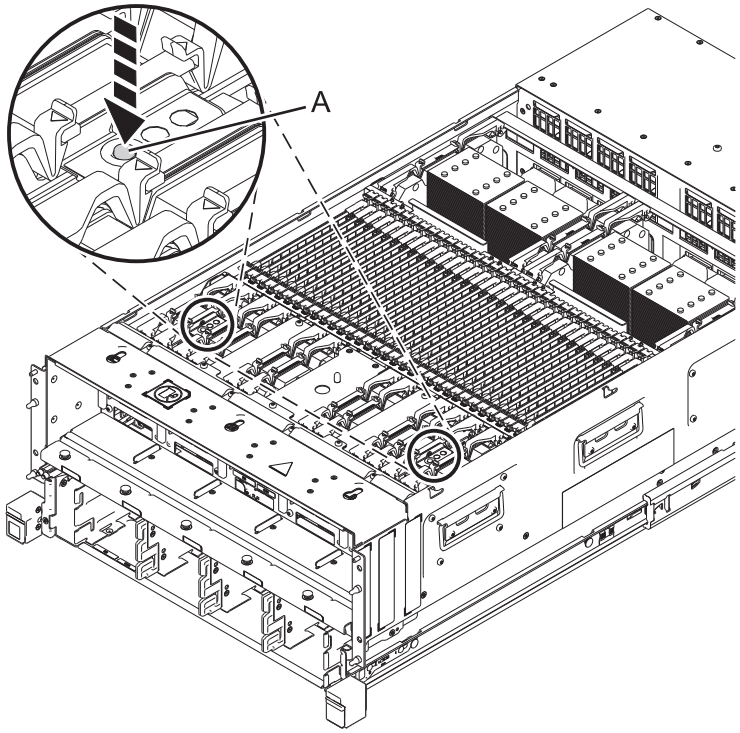
    a. Lift up the cover latch.
    b. Lift the cover off the system.



15. Press the Blue Locate Button

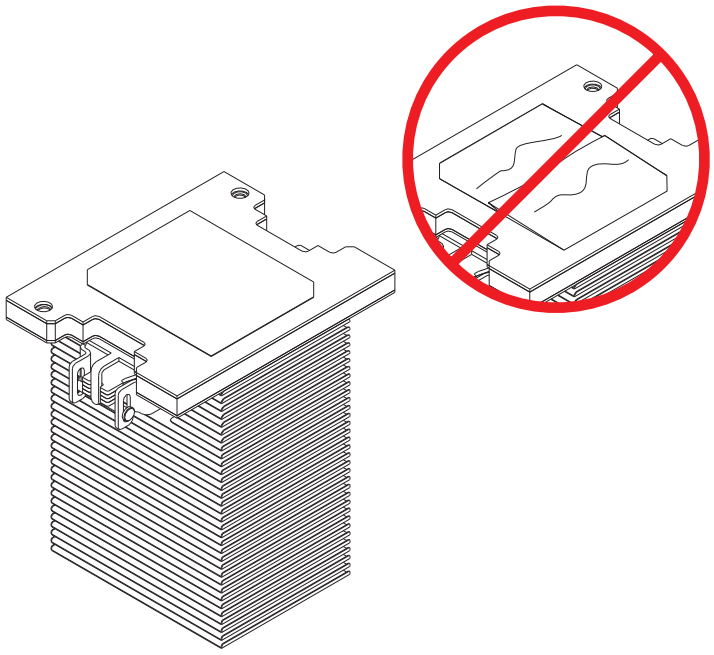
    Note: The blue locate button can be used to activate the identify LED(s) on the FRU(s) being serviced, even after the system has been put into service position. It is optional to activate the identify LED(s) at this time. It may be done any time during the procedure as a reminder of which FRU(s) is being serviced. The capacitor only holds enough of a charge to activate the LED(s) for around 30 seconds.

    a. Press and hold down the button **(A)** on the Power APSS card to temporarily activate the identify LED(s) on the FRU(s) being serviced. This LED(s) will remain active while the button is pressed.
    b. The locate button on either Power APSS card may be used.



16. Inspect the Thermal Interface Material (TIM)
    a. Inspect the TIM on the heat sink for visible signs of damage. It must be flat and centered on the heat sink **WITH NO FOLDS**. Small wrinkles are acceptable.
    b. If the TIM is not flat, is not centered, or has folds in it, it is considered damaged.

    Note: If the TIM is Indium or Hitachi, it is fixed to the heat sink. In this case, if the TIM is damaged, the entire heat sink module of the failing system processor module must be replaced. If the TIM is Dexerials, it is not fixed to the heat sink. In this case, the heat sink can be used regardless of the state of the TIM. In case of a Dexerials TIM, discard it if it's damaged, otherwise, move it with tweezers to the Electrostatic Discharge (ESD) surface. Make sure that the surface is clean.

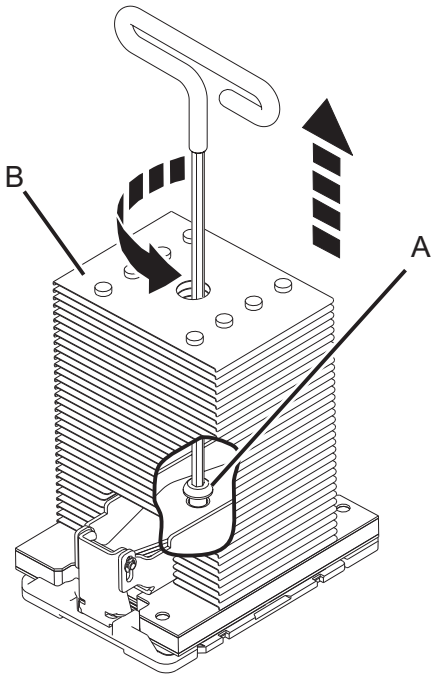


17. Remove the Heat Sink from the SCM

    Note: The heat sink **MAY BE HOT**.

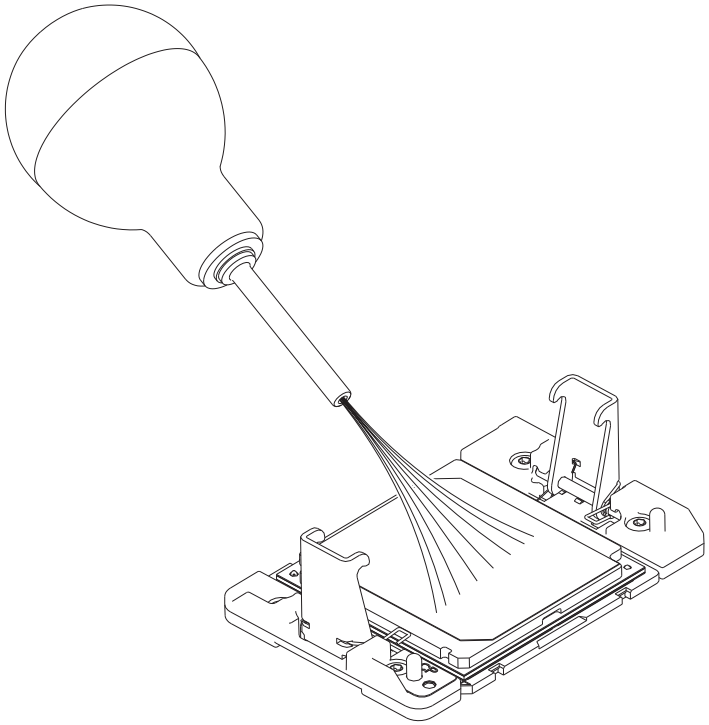
    a. One or more SCMs will need to be removed during this procedure. There are two versions of the SCM removal tools available. The newest version has a "loop" for easier handling.
    b. Loosen the heat sink actuation screw by turning the nut driver (P/N 46K5039) counterclockwise **(A)** until the screw becomes loose and moves freely.
    c. Grip the heat sink **(B)** by the grooves on opposing sides and remove it by lifting straight up.
    d. Place the heat sink upside down on an ESD surface.

    Note: If any dust/debris is to be removed from heat sink, it must be done in another room or greater than 25 feet (7.62 meters) away from work area.



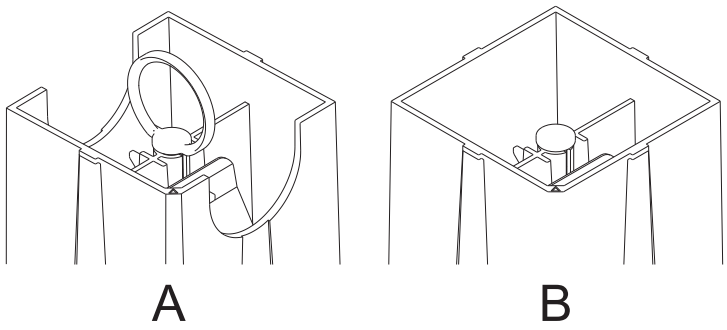
18. If dust or debris is present, use an air bulb to clean by blowing small bursts of air from the center toward the sides of the SCM.

    Note: Do **NOT** touch any contact surfaces.



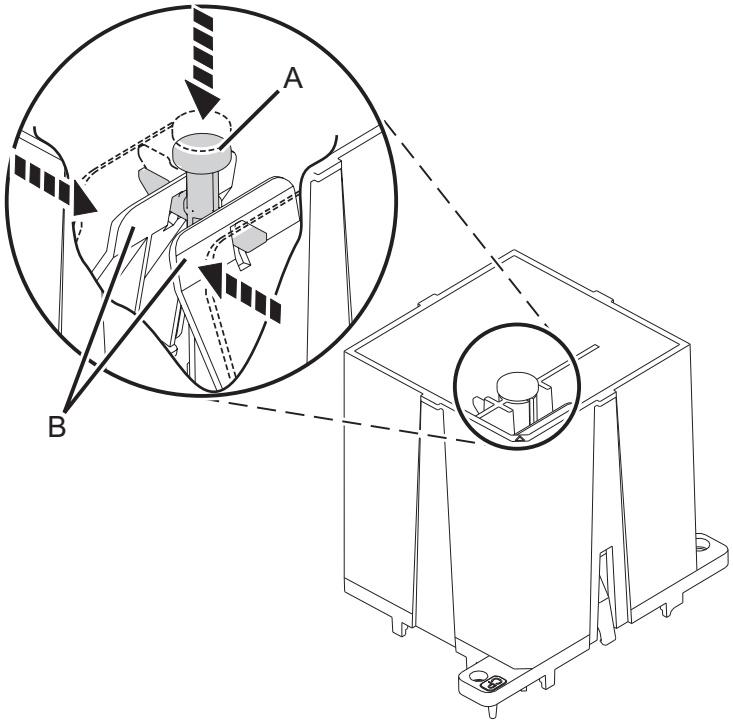
19. Remove the SCM

    Note: SCM tool **(A)** (P/N 01AF095) or **(B)** (P/N 00E8472) may be used to handle the SCM.

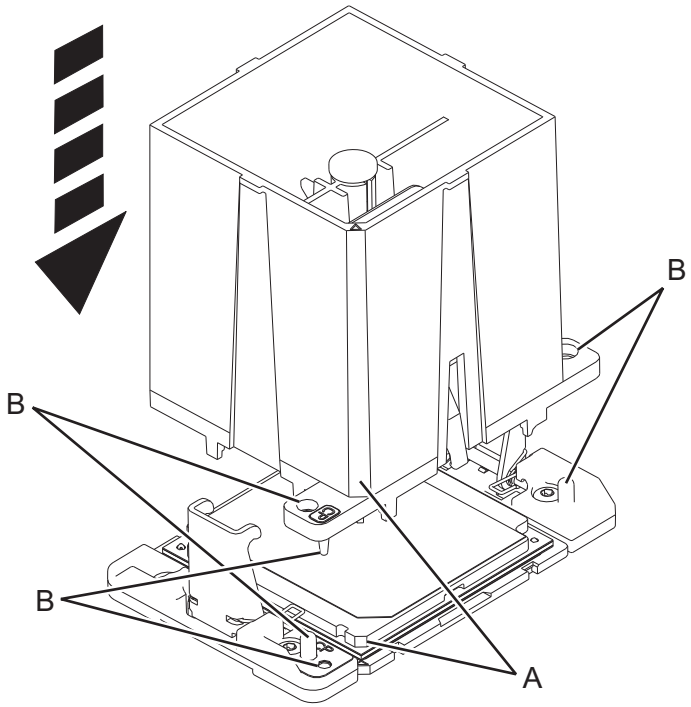


20. Prepare SCM tool
    a. Press down on the center button. **(A)**.
    b. While pressing the button **(A)**, squeeze the tabs **(B)** together.
    c. Release the center button **(A)** while still holding the tabs **(B)** so that the tabs **(B)** are held in the locked position.

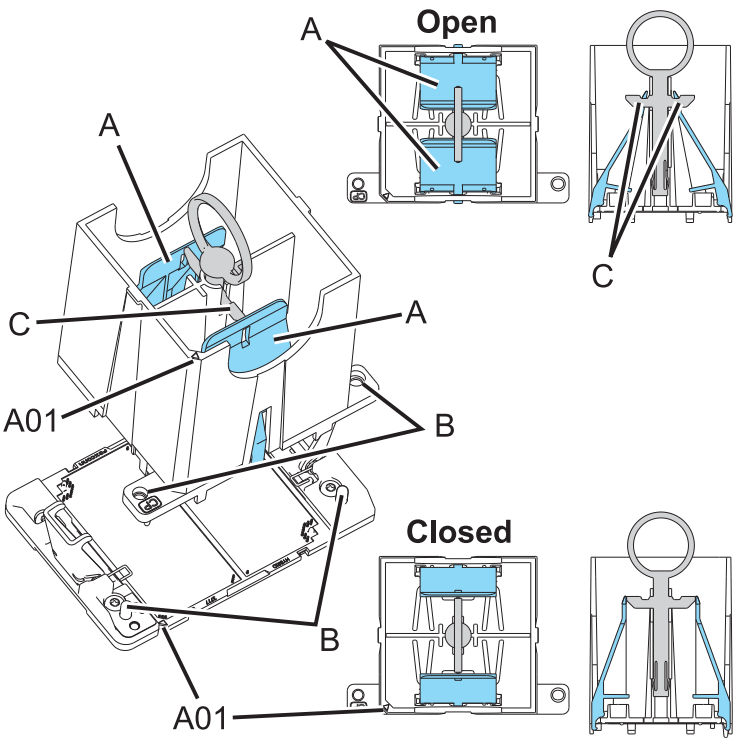
    Note: This will place the jaws at the bottom of the tool in the open position.



21. Prepare for SCM Removal
    a. Using the SCM tool, align the beveled corner **(A)** of the tool over the beveled corner of the module.
    b. Lower the tool over the SCM, ensuring the guide pins **(B)** are inserted into the alignment holes.



22. Remove the SCM.
    a. Ensure that the CP SCM tool latches **(A)** are open.



b. Place the CP SCM tool over the module while ensuring that the CP SCM tool dowel holes align with the dowel pins on the LGA load frame **(B)**. Also, make sure the **(A01)** corner of the CP SCM tool lines up with the **(A01)** label on the load frame.

c. While holding the CP SCM tool down, carefully close the latch by pressing the center pushbutton down. After the center pushbutton has been pressed, ensure that the two wings **(C)** are released from the latches **(A)** and that the wings are at about the same level as latches.

d. Lightly push down on the CP SCM tool and CP SCM module.

e. Slowly lift the CP SCM tool and CP SCM module straight up and out of the drawer by holding on to the ring if the SCM tool has a ring, otherwise grasp the sides of the tool.

f. Place the failing CP SCM module on a clean, flat surface and release the module by pushing the pushbutton down with one hand.

   Note: If installing a new SCM module, the packaging tray (P/N 00E8478) will be used for returning the failing module.

g. Squeeze the two latches **(A)** with the other hand and ensure the wings **(C)** on the pushbutton get into the slots of the latches securely.

h. Lift the CP SCM tool straight up.

If performing this procedure from a management console, close this web page to continue with the procedure.

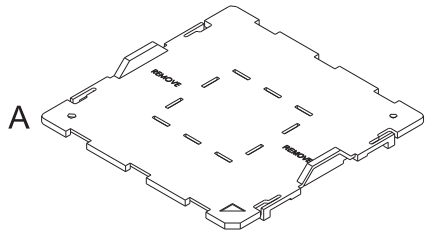
Install SCM

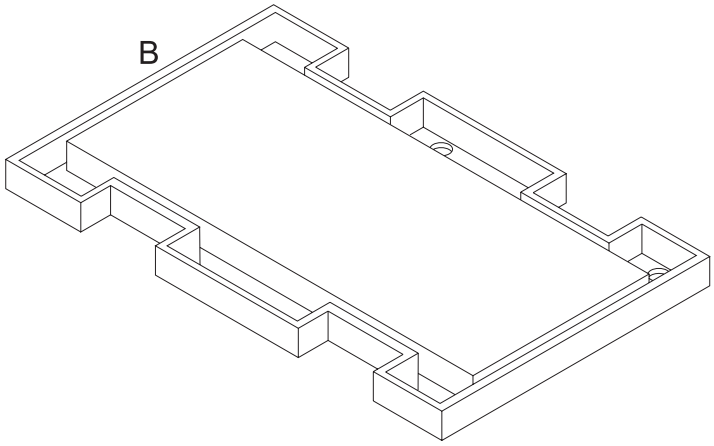
To install a SCM, complete the following steps:

1. **When the node being serviced is above EIA location 29U, the ladders must be used while installing or removing the rear and front FRUs and cables.**
2. **Perform the following procedure on ONLY THE FRU(s) BEING SERVICED. The following images are generic and do not represent the literal location being serviced.**
3. **Modifying FRU locations which are not called out for service can have adverse effects on the system, INCLUDING SYSTEM OUTAGE AND LOSS OF DATA.**
4. The torque tool **(P/N 41V1059)** is required for this procedure. The torque tool was initially shipped with the system.
5. **CAUTION: If the system slide rails are installed above EIA location 29U, two Support Services Representatives (SSRs) must perform the procedure together and the following equipment must be used as a safety precaution for servicing: ServerLIFT tool (P/N 74Y4399), two Hard hats (P/N 5442867) and two service-qualified ladders (P/N 46G5947 and P/N 00E4866)**

CAUTION:
Do not allow dust or debris to get into the processor slot. Extraneous material on the processor seat can have adverse effects on the system, INCLUDING SYSTEM OUTAGE.

1. **This step only applies if you are not replacing an existing SCM.** Determine whether the processor lid covers one processor socket **(A)** or two processor sockets **(B)**. If the lid covers one processor socket, go to step 2 and skip step 3. If the lid covers two processor sockets, skip step 2 and follow step 3.

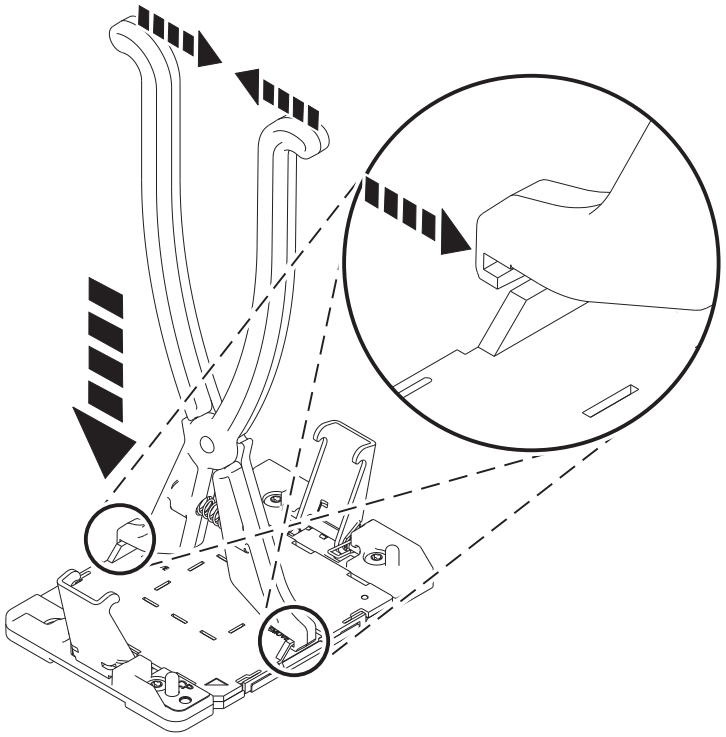




2. **This step only applies if you are not replacing an existing SCM.** If the processor socket has a single processor lid, remove the processor lid.
   a.

© Copyright IBM Corp. 2014

Note: If the processor lid covers one processor socket, follow these steps.
Insert the processor lid removal tool into the cage. The cage is often tightly packed with components, requiring that you insert the processor lid removal tool straight down.

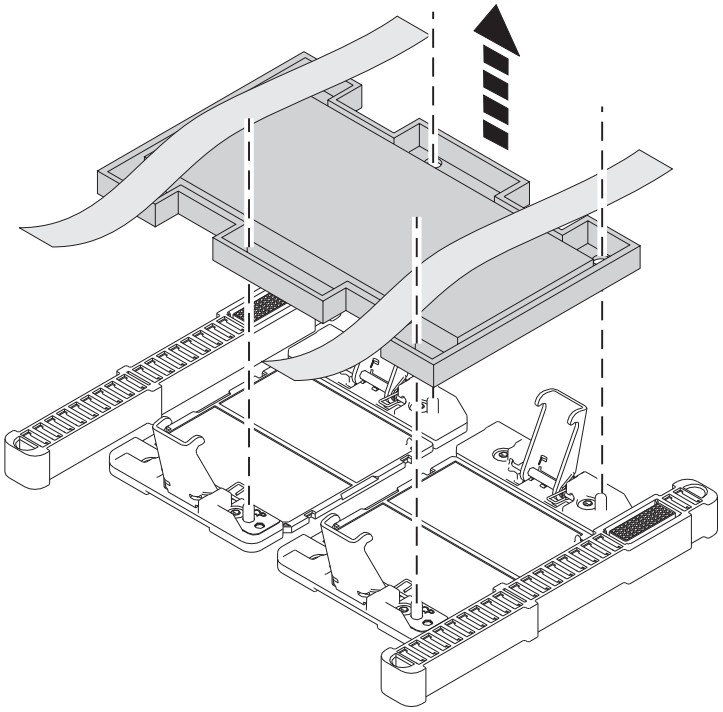


b. Spread the jaws of the processor lid removal tool until it clears the tabs on both sides of the processor lid.
c. Slowly squeeze the handle of the processor lid removal tool until the processor lid can be removed.
d. Use the processor lid removal tool to lift the processor lid out of the chassis and set the processor lid on a clean surface.

3. **This step only applies if you are not replacing an existing SCM.** If the processor socket has a dual processor lid, remove the processor lid.
   a.

   Note: If the processor lid covers two processor sockets, follow these steps.

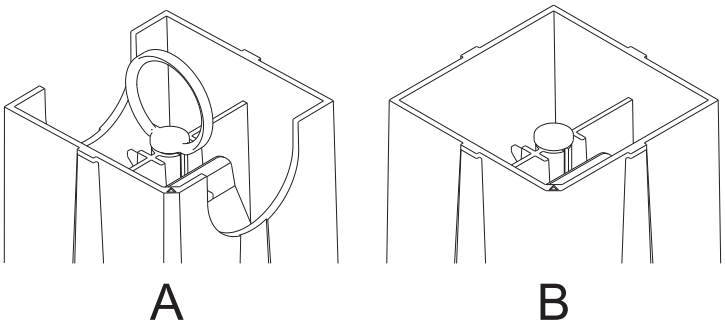
   Note: Do not let the tape touch the processor socket. Doing so can have adverse effects on the system, INCLUDING SYSTEM OUTAGE.
   While holding down the lid with one hand, loosen the tape on all four corners with your other hand.



b. Once the tape is no longer connected to the planar, lift the lid straight up until it is clear of the processor socket and set the processor lid on a clean surface.

4. Install the SCM

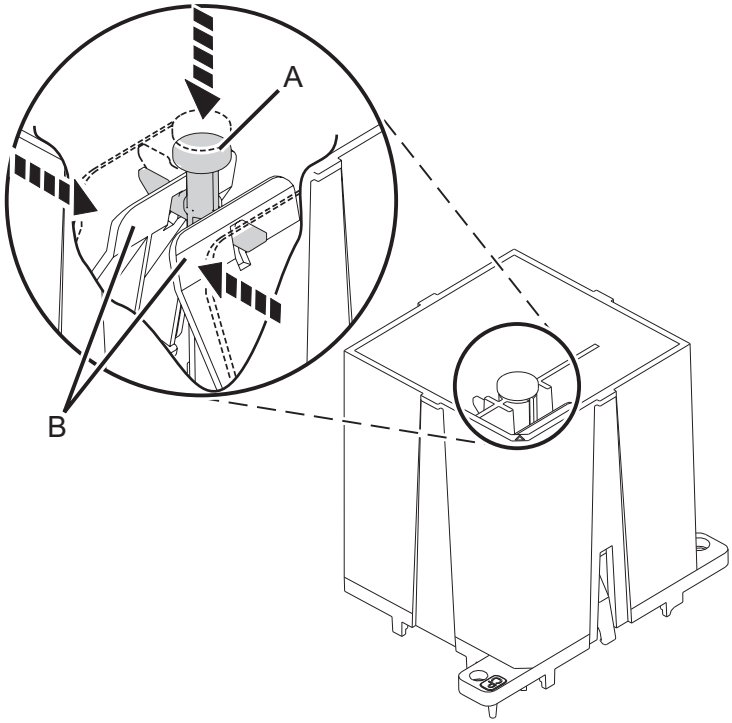
Note: SCM tool **(A)** (P/N 01AF095) or **(B)** (P/N 00E8472) may be used to handle the SCM.



5. Prepare SCM tool

a. Press down on the center button **(A)**.
b. While pressing the button **(A)**, squeeze the tabs **(B)** together.
c. Release the center button **(A)** while still holding the tabs **(B)** so that the tabs **(B)** are held in the locked position.

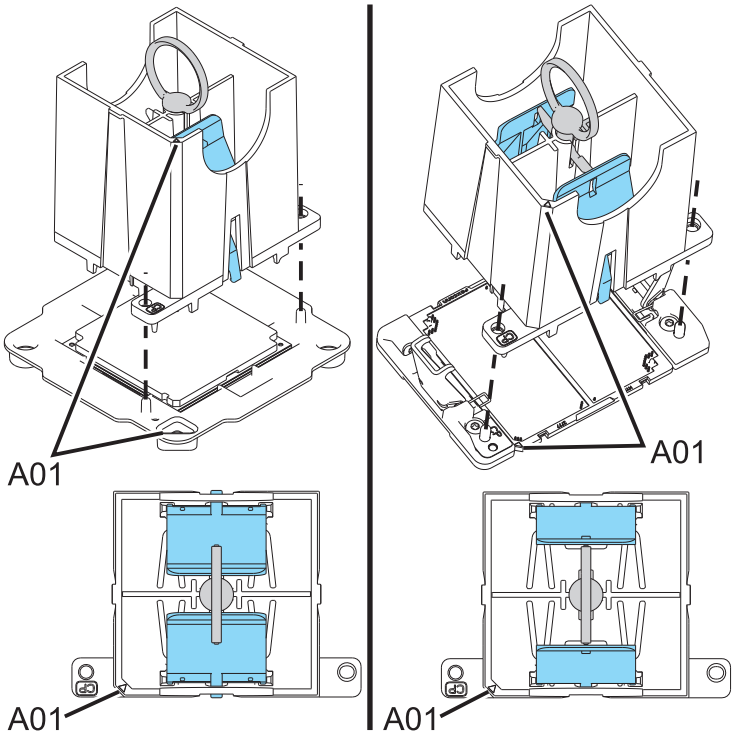
   Note: This will place the jaws at the bottom of the tool in the open position.



6. Install the SCM

   Note: Use the following procedure for SCM tool **(A)** or **(B)** to remove the SCM from the carrier tray (P/N 00E8477).

   a. **Caution:** Do not tilt the module install tool while searching for the locating pins. Sockets damage may happen if the module is forced down on socket at an angle.



b. Inspect the LGA socket for bent or broken pins or debris, using the Magnifying Glass (P/N 11P4747) as needed.

c. Remove any debris from the LGA socket using the Air Pump (P/N 45D2645). Do not blow on the LGA site with your mouth.

d. Take the cover off the CP module carrier tray containing the replacement module.

e. **Attention**: Be careful when opening the CP module carrier tray.

f. Ensure the **(A01)** corner of the replacement module lines up with the triangle of the CP module carrier tray.

g. Ensure that the CP SCM module insertion tool latches are open.

h. Place the CP SCM insertion tool over the module while ensuring that the **(A01)** corner is aligned with the **(A01)** label on the load frame, carefully close the latch by pressing the center pushbutton down and release the two latches. Make sure the two "wings" on the pushbutton are at about the same level as the latches.

i. Lightly push down on the CP SCM insertion tool to allow the latches to close.

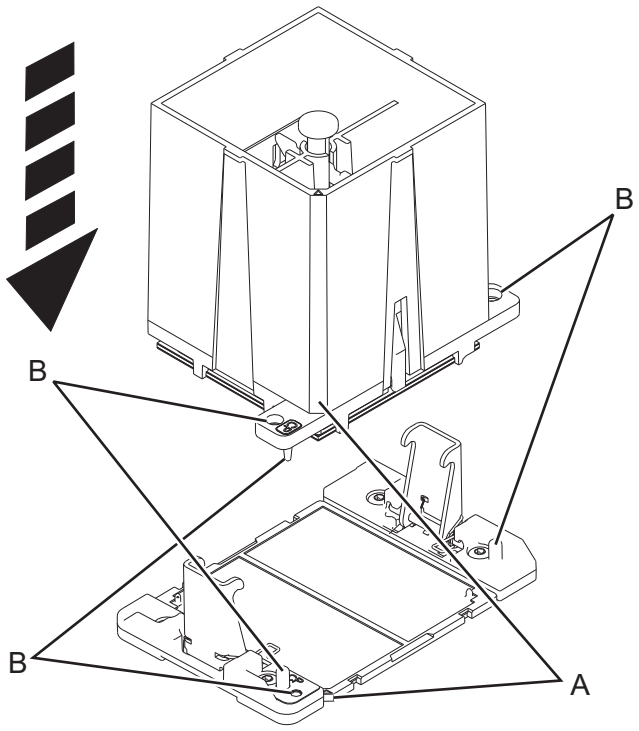
j. Slowly lift the CP SCM insertion tool and CP SCM module straight up and out of the CP module carrier tray by holding on to the ring if the SCM tool has a ring, otherwise grasp the sides of the tool.

k. Turn the SCM tool over to ensure that the jaws are firmly grasping the SCM.

Note: If one of the jaws is not firmly grasping the SCM, press down on the corner of the SCM closest to the jaw until it locks into place. Do not touch any part of the SCM other than the corners.

l. Lower the tool and SCM onto the socket, ensuring the guide pins **(B)** are inserted into the alignment holes.

Note: DO NOT attempt to slide the tool and the SCM in any direction while the SCM is touching the socket. If the tool/SCM is not aligned with the guide pins **(B)**, lift the tool/SCM and reposition them.



m. Release the SCM

Note: To prevent the SCM from falling, do not squeeze the two tabs **(B)** before you place the tool on the socket.

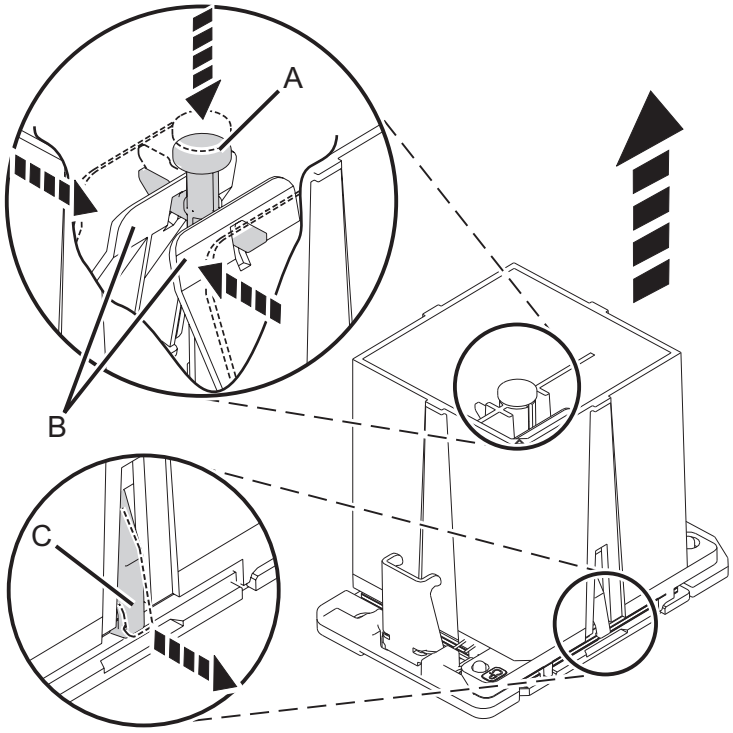
n. With the SCM and tool on the SCM socket, press down on the center button **(A)**.

o. While pressing the button **(A)**, squeeze the tabs **(B)** together.

p. Release the center button **(A)** while still holding the tabs **(B)** so that the tabs **(B)** are held in the locked position.

Note: This will place the jaws **(C)** at the bottom of the tool in the open position, disengaging the SCM from the tool.

q. Lift the SCM tool out of the system.

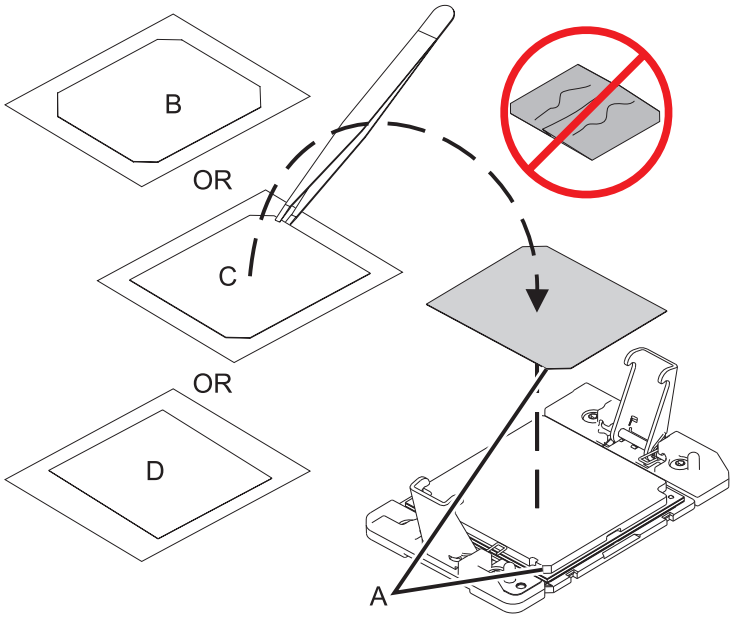


7. If reusing original Dexerials TIM, perform the following step
   a. Using tweezers, move the TIM from the ESD surface to the new system processor module.
8. If installing new Indium, Hitachi or Dexerials TIM, perform the following steps

   Note: There could be three types of TIM pads in the FRU replacement kit - Indium TIM pad (part no. 00FW781) **(B)** , Hitachi TIM pad (part no. 00E7418) **(C)**, Dexerials TIM pad (part no. 01AF742) **(D)**.

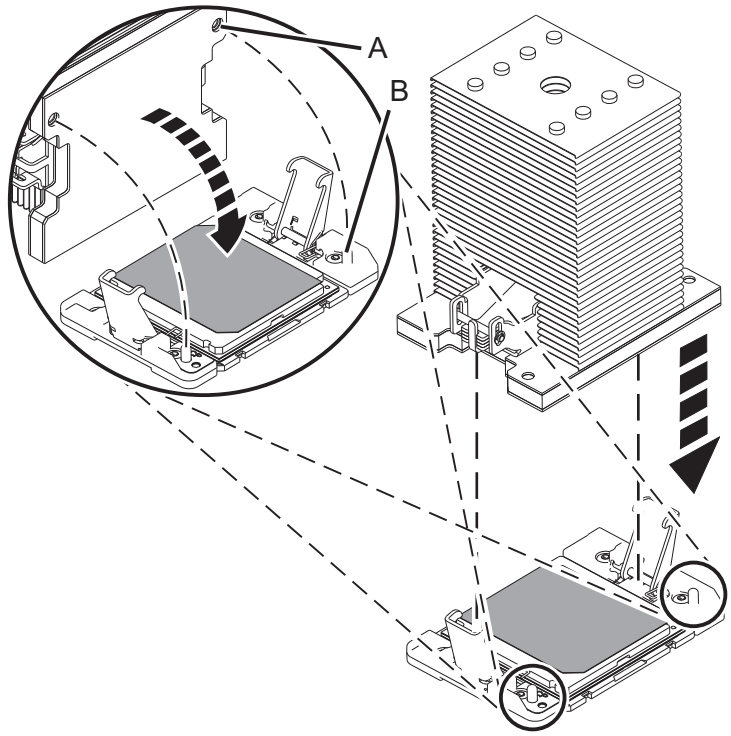
   a. If the TIM or heat sink replacement is necessary, use P/N 01AF159 Heat sink and TIM.
   b. Open the TIM packaging and carefully remove the TIM, holding by the edges of the carrier strip and holding it away from the shipping container.
   c. Remove the protective film from the clear carrier strip by using the supplied tweezers.

      Note: The TIM must remain flat. Small wrinkles are acceptable, but folds are not acceptable.
   d. Using the tweezers, remove the TIM from the carrier strip. In the case of a Hitachi TIM pad, center it onto the SCM with the black side up. In the case of an Indium TIM pad, center it on the SCM with the red stripe facing up. The gray colored Dexerials TIM can be placed with any side facing up. Align the beveled corners and the SCM **(A)**.



9. Install the Heat Sink
   a. Carefully lower the heat sink over the SCM, ensuring that the two guide pins **(B)** are inserted into the alignment holes **(A)** on each side of the heat sink.
   b. Ensure that the heat sink load arms are engaged.

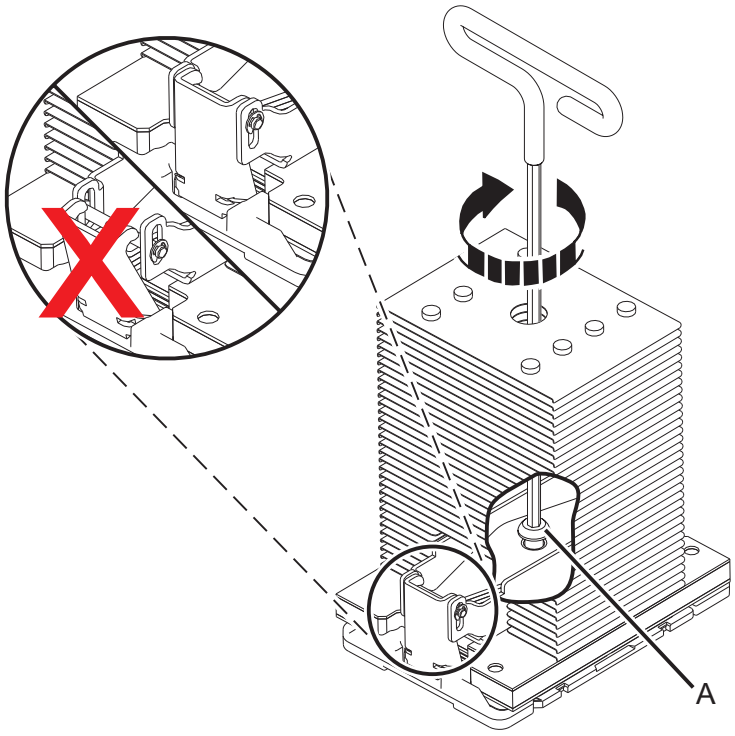
      Note: If the load arm is not engaged, you must manually engage the load arm onto the heat sink while the load screw is being tightened.



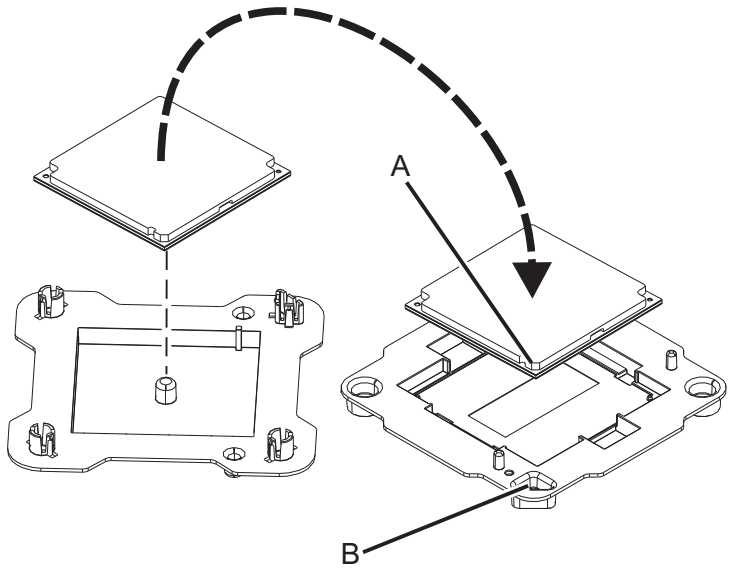
10. Secure the Heat Sink
    a. Upon placing the heat sink on the SCM, ensure that the heat sink load arms on both sides of the heat sink become engaged.
    b. While holding the heat sink in place, use the nut driver (P/N 46K5039) to tighten the heat sink actuation screw **(A)**. Turn the screw clockwise to tighten and secure the heat sink.

       Note: If during this step, the heat sink moves noticeably to one side, it is likely that a load arm is not engaged. If this happens:

       1) Loosen the actuation screw.
       2) Hold the load arm onto the heat sink while tightening the screw until a firm stop is reached.



11. Placing the previously removed SCM into the Packaging
    a. Lightly grip the SCM that you replaced by the edges and lift it off of the packaging cover.
    b. Align the beveled corner of the SCM **(A)** to the corner of the packaging with the triangle **(B)** and place it in the packaging. Close the packaging cover.



12. Transfer the system node onto the extended slide rails

    Note: With the help of another SSR, follow the procedure below if lift tool and ladders were used to remove the system planar from a height above 29U, otherwise skip to the next step.

    Note: Ensure both SSRs are wearing hard hats.

    a. Remove any obstacles (cables, packing material, tools, parts, etc.) that may interfere with the transfer.
    b. Position the rear of the system node in front of the rack.
    c. Identify the three (3) guide pins on each side of the system node and the corresponding slots on the slide rails.
    d. Position the system node on the tilt table, so that the tilt table handle is at the front of the system node.
    e. Left side of system node should align with the left side of the tilt table.

       Note: Ensure the rack slide rails are pushed in completely and out of the way when you are moving the ServerLIFT.

    f. Release the stabilizer brake, then move the ServerLIFT to the front of the rack.
    g. Rotate the ServerLIFT winch handle clockwise to raise the platform until the three (3) guide pins are just above the height of the slide rails.
    h. Adjust the lift to ensure the system node is centered between the two rails when they are extended.
    i. Position the system node to have the left side edge (A) aligned with the left edge of the tilt table.
    j. Extend the handle on the tilt table (B) then rotate handle clockwise to tilt the front up.

       Note: Ensure that the rear pair of guide pins will completely engage the rear slide rail slots when the platform is slightly lowered, but before the middle pair starts to engage.

    k. Release the slide latches and carefully pull the slides outward until the rails are fully extended.

Note: Watch the slide rails when moving the ServerLIFT or raising the platform to prevent damage to the extended rails.

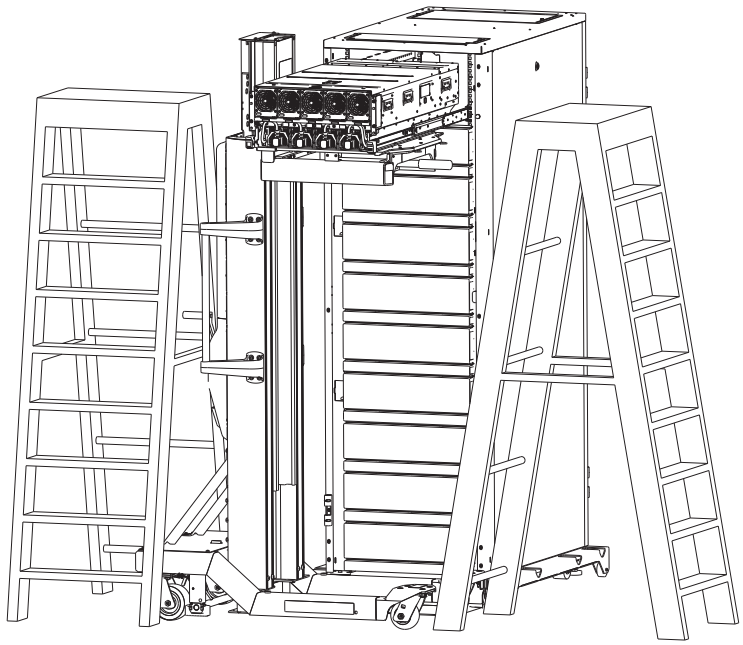
l. Work with the ServerLIFT winch (up/down) handle and the tilt table angle to lower the chassis to first engage the rear guide pins with the slide rails.

m. Check slot-pin engagement on both sides, and reseat if necessary.

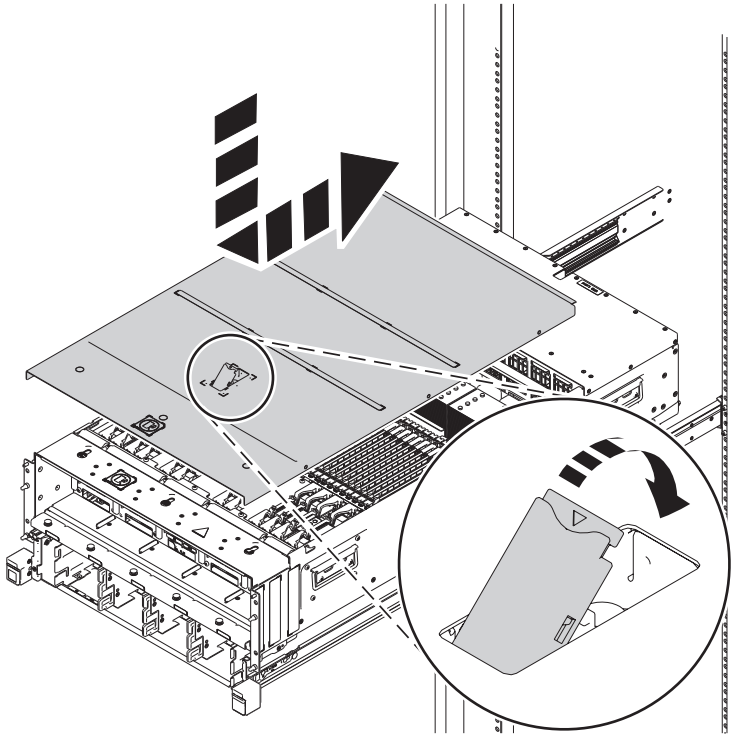
n. Verify the rear pins are properly seated, then continue lowering the platform until the middle guide pins drop into the middle slide rail slots.

o. Continue lowering the platform until the front guide pins are engaged with the front slide rail slots.

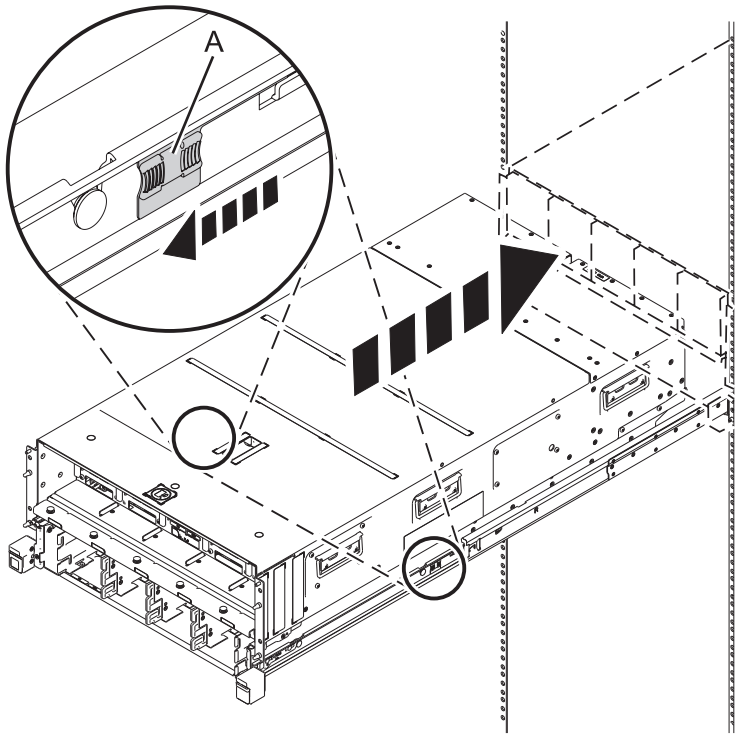
p. Verify all six guide pins are seated properly in their mounting slots.



13. Set system in operating position
    a. Lower the lift tool slightly so that the tilt table is not contacting the system node.
    b. Slide the front lip of the cover under the chassis edge
    c. Align and place the cover onto the system node and press the tab in the direction shown until it snaps into place.

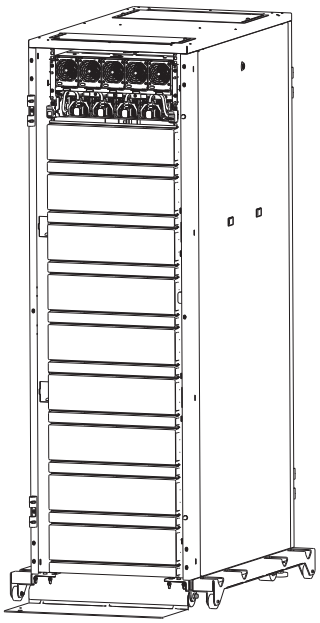


d. Unlock the rail safety latches **(A)** by pulling them backwards and push the system node back into the rack until both system node release latches have locked into position.

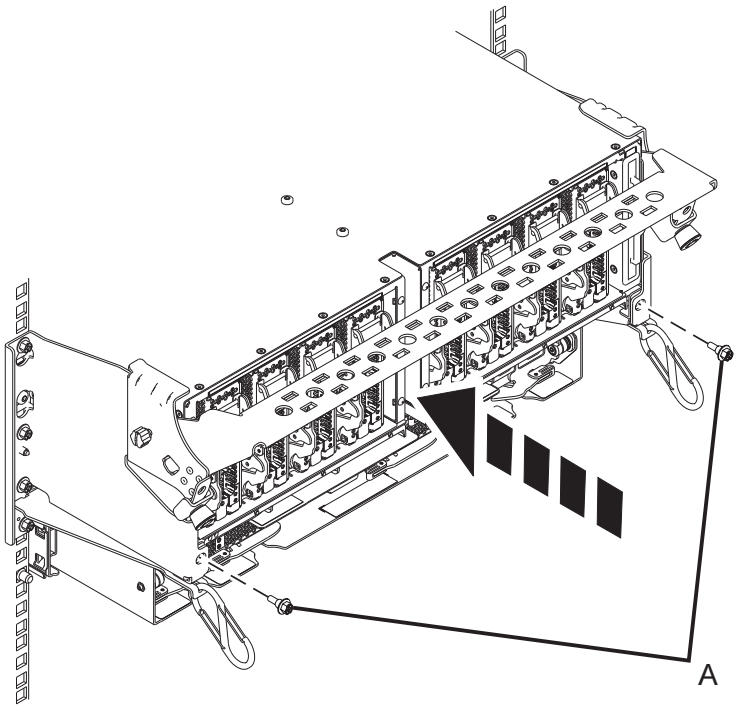


14. Remove ladders and lift tool if used earlier in the procedure.
    a. If the slide rails of the node being serviced are above EIA location 29U, keep the ladders available as they are required to install rear and front FRUs.
    b. Move the ladders away.

c. Remove ServerLIFT Tool.



15. If removed earlier, install the 2 retention screws **(A)** at the back of the system.



16. Install clock card cables
    a. **Note: The clock flex cables are point to point cables designed for their fixed locations and should not be stretched when installing. Stretching the cable during installation may lead to misplugging and bent pins.**

b. If you have a single node system configuration, use the diagram and the *Single System Node to System Control Unit* Table below to determine point to point cabling for the clock flex cables.

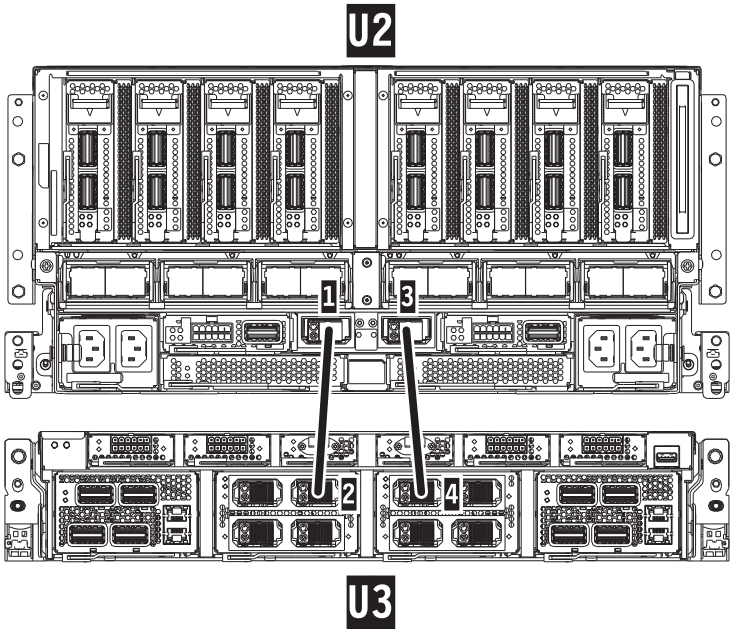


Table 1. Single System Node to System Control Unit Clock Card Cabling

Index Number	From: (U-Loc)	Cable Type	Index Number	To: (U-Loc)
1	U2: P1-T7	Short Clock Flex Cable (Left)	2	U3: P1-C8-T2
3	U2: P1-T8	Short Clock Flex Cable (Right)	4	U3: P1-C9-T1

c. If you have a two node system configuration, use the diagram and the *Two System Nodes to System Control Unit* Table below to determine point to point cabling for the clock flex cables.

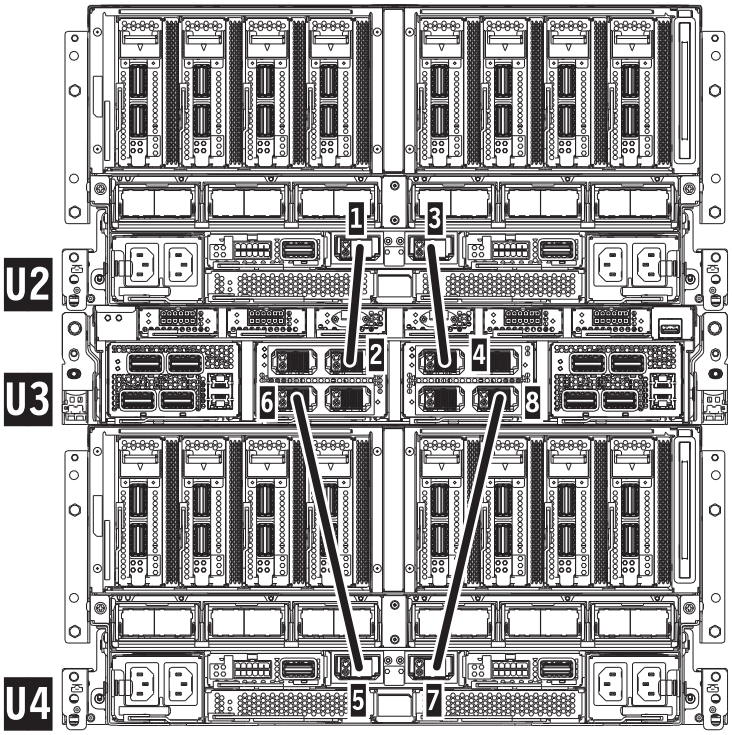


Table 2. Two System Nodes to System Control Unit Clock Card Cabling

Index Number	From: (U-Loc)	Cable Type	Index Number	To: (U-Loc)
1	U2: P1-T7	Short Clock Flex Cable (Left)	2	U3: P1-C8-T2
3	U2: P1-T8	Short Clock Flex Cable (Right)	4	U3: P1-C9-T1
5	U4: P1-T7	Long Clock Flex Cable (Left)	6	U3: P1-C8-T3
7	U4: P1-T8	Long Clock Flex Cable (Right)	8	U3: P1-C9-T4

d. If you have a three node system configuration, use the diagram and the *Three System Node to System Control Unit* Table below to determine point to point cabling for the clock flex cables.

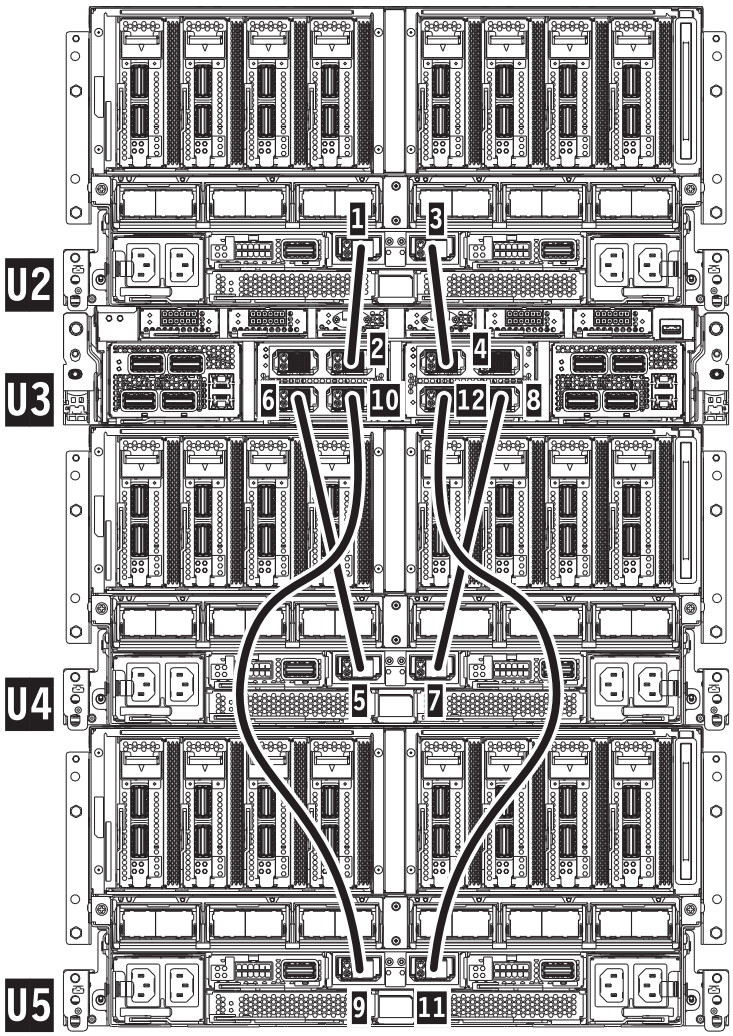


Table 3. Three System Node to System Control Unit Clock Card Cabling

Index Number	From: (U-Loc)	Cable Type	Index Number	To: (U-Loc)
1	U2: P1-T7	Short Clock Flex Cable (Left)	2	U3: P1-C8-T2
3	U2: P1-T8	Short Clock Flex Cable (Right)	4	U3: P1-C9-T1
5	U4: P1-T7	Long Clock Flex Cable (Left)	6	U3: P1-C8-T3
7	U4: P1-T8	Long Clock Flex Cable (Right)	8	U3: P1-C9-T4
9	U5: P1-T7	Long Clock Flex Cable (Left)	10	U3: P1-C8-T4
11	U5: P1-T8	Long Clock Flex Cable (Right)	12	U3: P1-C9-T3

e. If you have a four node system configuration, use the diagram and the *Four System Node to System Control Unit* Table below to determine point to point cabling for the clock flex cables.

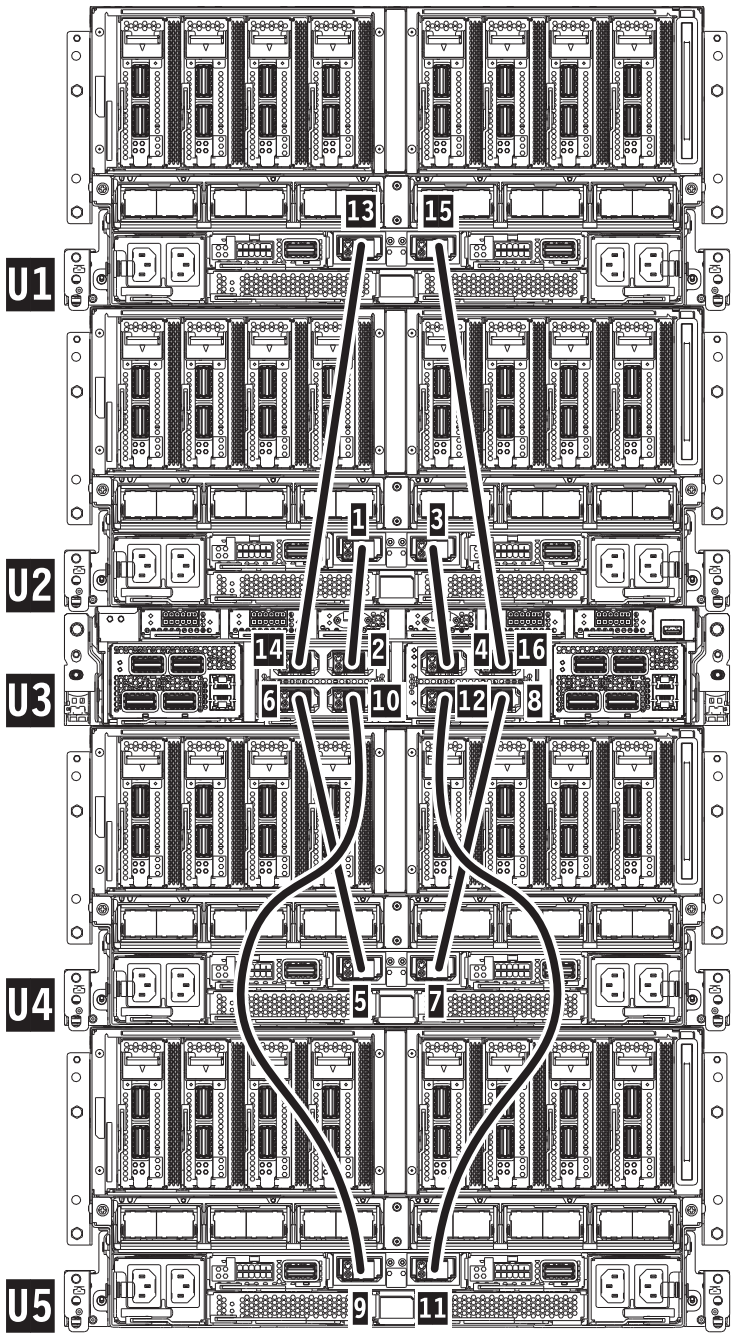


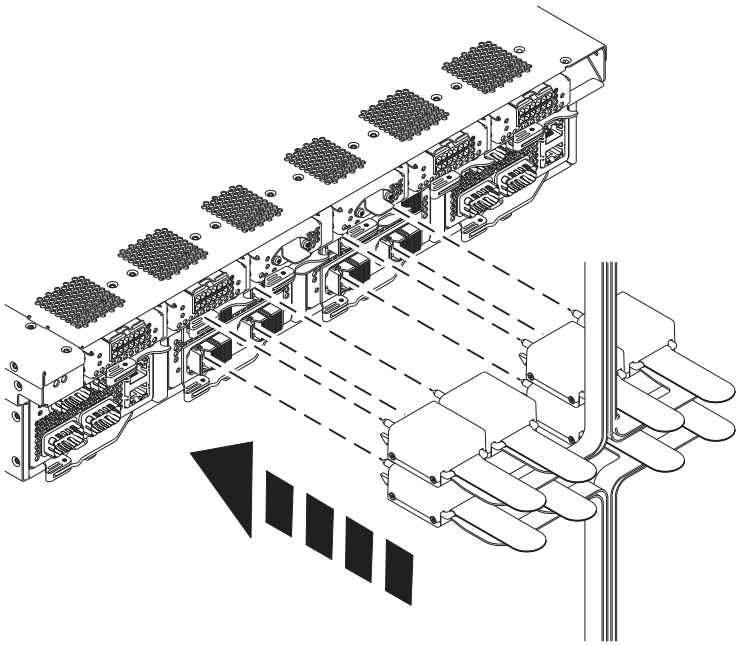
Table 4. Four System Node to System Control Unit Clock Card Cabling

Index Number	From: (U-Loc)	Cable Type	Index Number	To: (U-Loc)
1	U2: P1-T7	Short Clock Flex Cable (Left)	2	U3: P1-C8-T2
3	U2: P1-T8	Short Clock Flex Cable (Right)	4	U3: P1-C9-T1
5	U4: P1-T7	Long Clock Flex Cable (Left)	6	U3: P1-C8-T3
7	U4: P1-T8	Long Clock Flex Cable (Right)	8	U3: P1-C9-T4

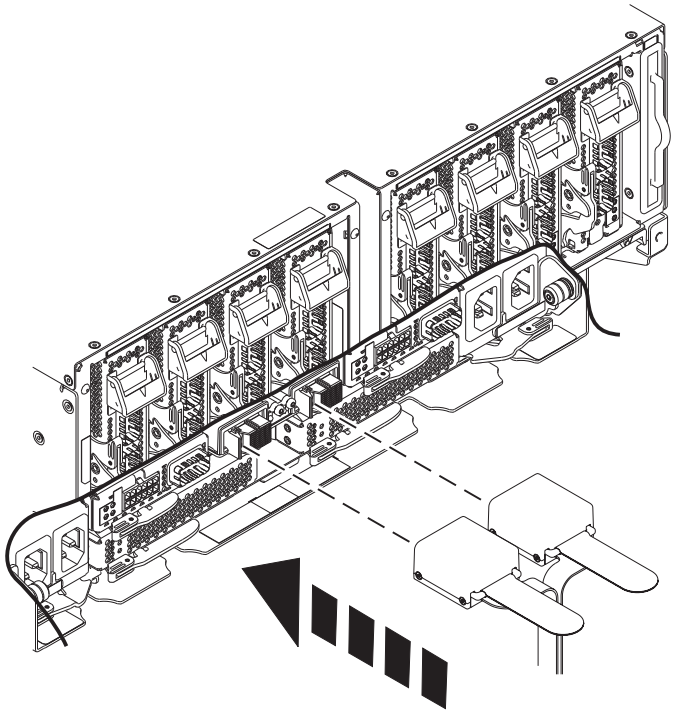
Table 4. Four System Node to System Control Unit Clock Card Cabling (continued)

Index Number	From: (U-Loc)	Cable Type	Index Number	To: (U-Loc)
9	U5: P1-T7	Long Clock Flex Cable (Left)	10	U3: P1-C8-T4
11	U5: P1-T8	Long Clock Flex Cable (Right)	12	U3: P1-C9-T3
13	U1: P1-T7	Long Clock Flex Cable (Left)	14	U3: P1-C8-T1
15	U1: P1-T8	Long Clock Flex Cable (Right)	16	U3: P1-C9-T2

f. Push the cables into the slots on the system control unit. The connectors are keyed and can only be seated in one way.



g. Push the cables into the slots on the system node. The connectors are keyed and can only be seated in one way.



17. Install SMP cables
    a. Install the SMP cables into the same location from which they were removed.
    b. If you have a two node system configuration, use the diagram and the *Two Node Configuration SMP cabling* table below to determine point-to-point cabling for SMP cables.

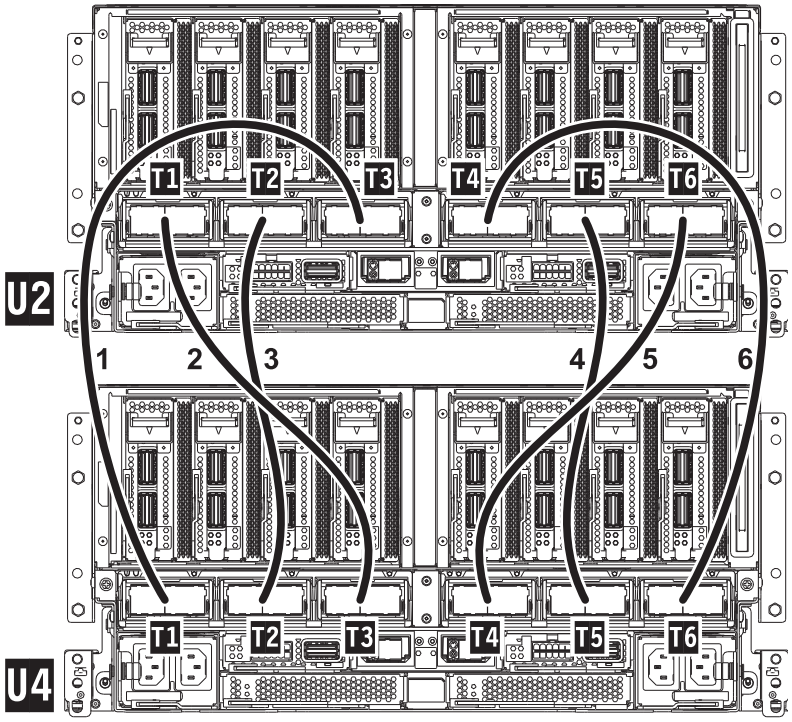


Table 5. Two Node Configuration SMP Cabling

Cable Number	Cable Type	From: (U-Loc)	To: (U-Loc)
1	1.5 m (4.9 ft) SMP Cable	U2: P1-T3	U4: P1-T1
2	1.25 m (4.1 ft) SMP Cable	U2: P1-T1	U4: P1-T3
3	1.25 m (4.9 ft) SMP Cable	U2: P1-T2	U4: P1-T2
4	1.25 m (4.9 ft) SMP Cable	U2: P1-T5	U4: P1-T5
5	1.25 m (4.9 ft) SMP Cable	U2: P1-T6	U4: P1-T4
6	1.5 m (4.9 ft) SMP Cable	U2: P1-T4	U4: P1-T6

Note: U2 is System Node 1 and U4 is System Node 2.

c. If you have a three node system configuration, use the diagram and the *Three Node Configuration SMP cabling* table below to determine point-to-point cabling for SMP cables.

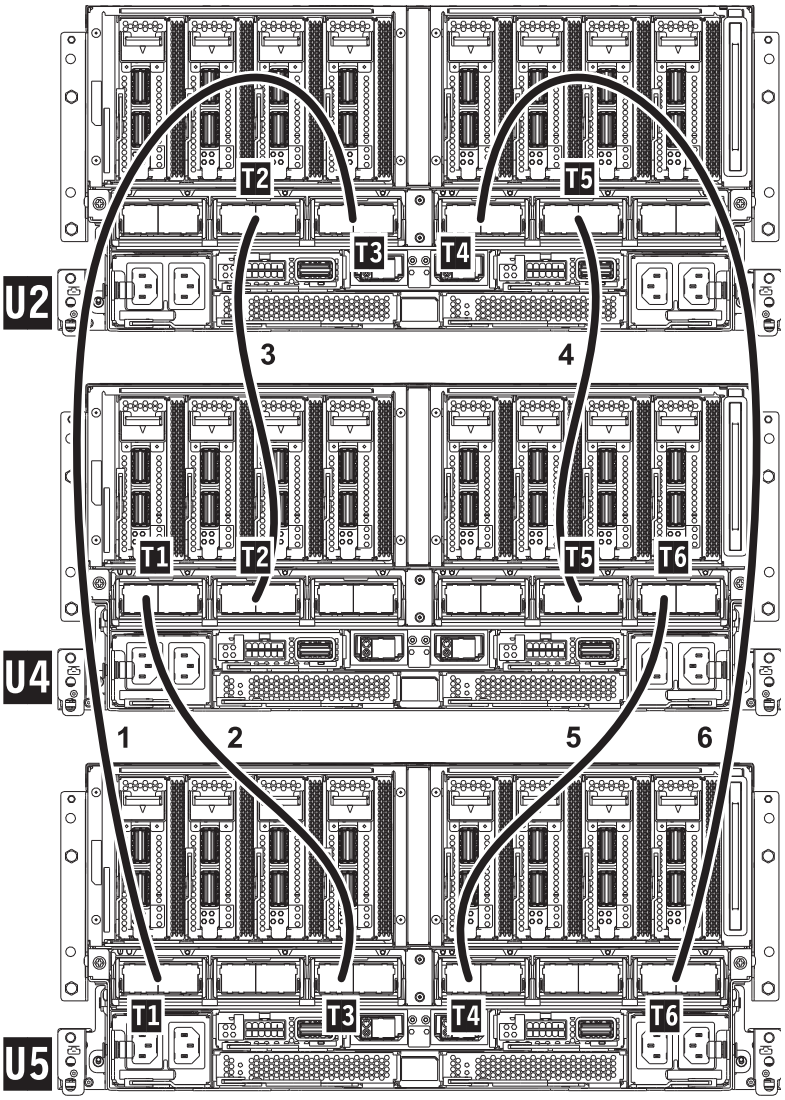


Table 6. Three Node Configuration SMP Cabling

Cable Number	Cable Type	From: (U-Loc)	To: (U-Loc)
1	1.5 m (4.9 ft) SMP Cable	U2: P1-T3	U5: P1-T1
2	1.25 m (4.1 ft) SMP Cable	U4: P1-T1	U5: P1-T3

Table 6. Three Node Configuration SMP Cabling (continued)

Cable Number	Cable Type	From: (U-Loc)	To: (U-Loc)
3	1.25 m (4.1 ft) SMP Cable	U2: P1-T2	U4: P1-T2
4	1.25 m (4.1 ft) SMP Cable	U2: P1-T5	U4: P1-T5
5	1.25 m (4.1 ft) SMP Cable	U4: P1-T6	U5: P1-T4
6	1.5 m (4.9 ft) SMP Cable	U2: P1-T4	U5: P1-T6

Note: U2 is System Node 1, U4 is System Node 2, and U5 is System Node 3.

d. If you have a four node system configuration, you must use both diagrams with the *Four Node Configuration SMP short cabling* and the *Four Node Configuration SMP long cabling* tables below to determine point-to-point cabling for SMP cables.

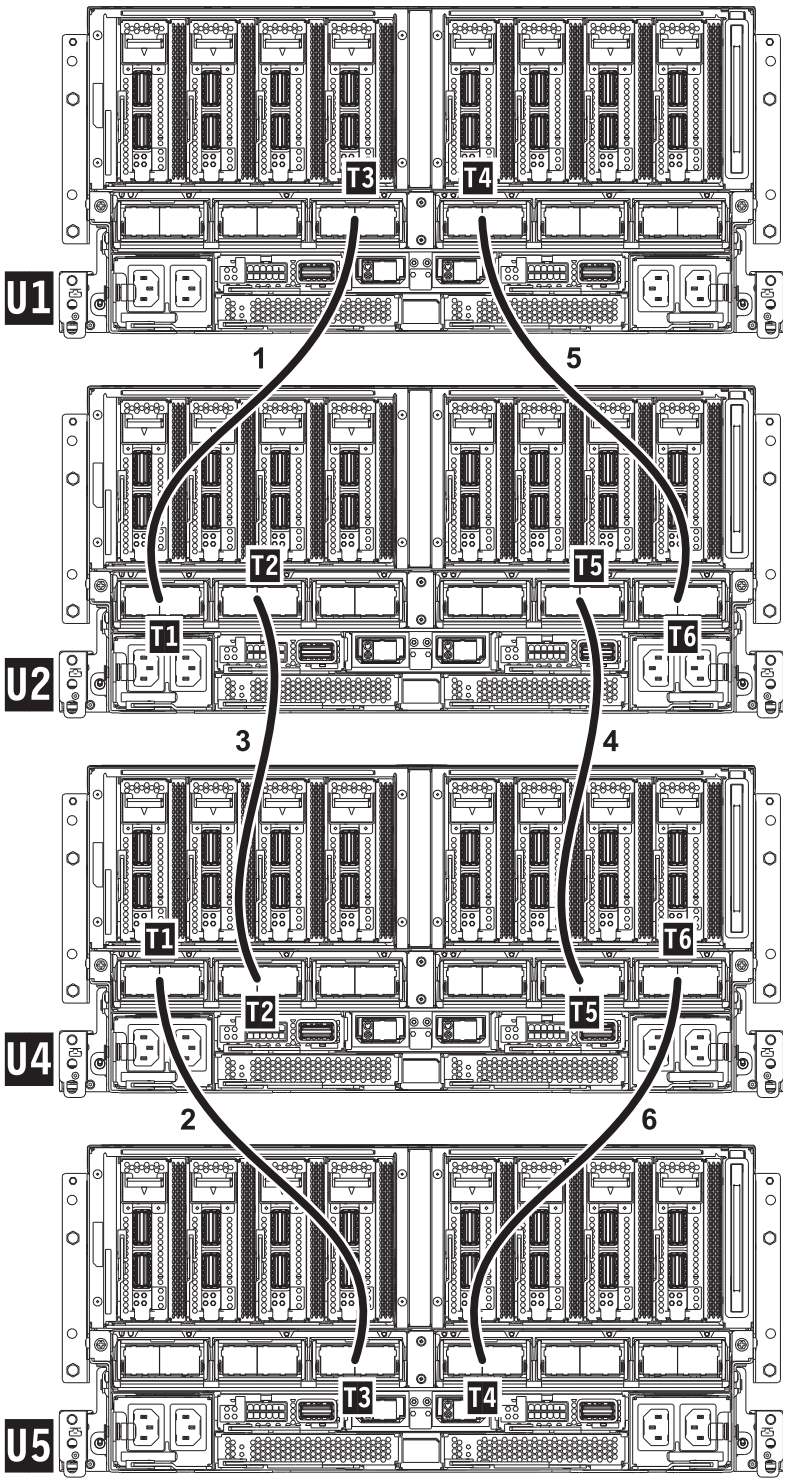


Table 7. Four Node Configuration SMP Short Cabling (short cables)

Cable Number	Cable Type	From: (U-Loc)	To: (U-Loc)
1	1.25 m (4.1 ft) SMP Cable	U1: P1-T3	U2: P1-T1
2	1.25 m (4.1 ft) SMP Cable	U4: P1-T1	U5: P1-T3
3	1.25 m (4.1 ft) SMP Cable	U2: P1-T2	U4: P1-T2
4	1.25 m (4.1 ft) SMP Cable	U2: P1-T5	U4: P1-T5

Table 7. Four Node Configuration SMP Short Cabling (short cables) (continued)

Cable Number	Cable Type	From: (U-Loc)	To: (U-Loc)
5	1.25 m (4.1 ft) SMP Cable	U1: P1-T4	U2: P1-T6
6	1.25 m (4.1 ft) SMP Cable	U4: P1-T6	U5: P1-T4

Note: U2 is System Node 1, U4 is System Node 2, U5 is System Node 3, and U1 is System Node 4

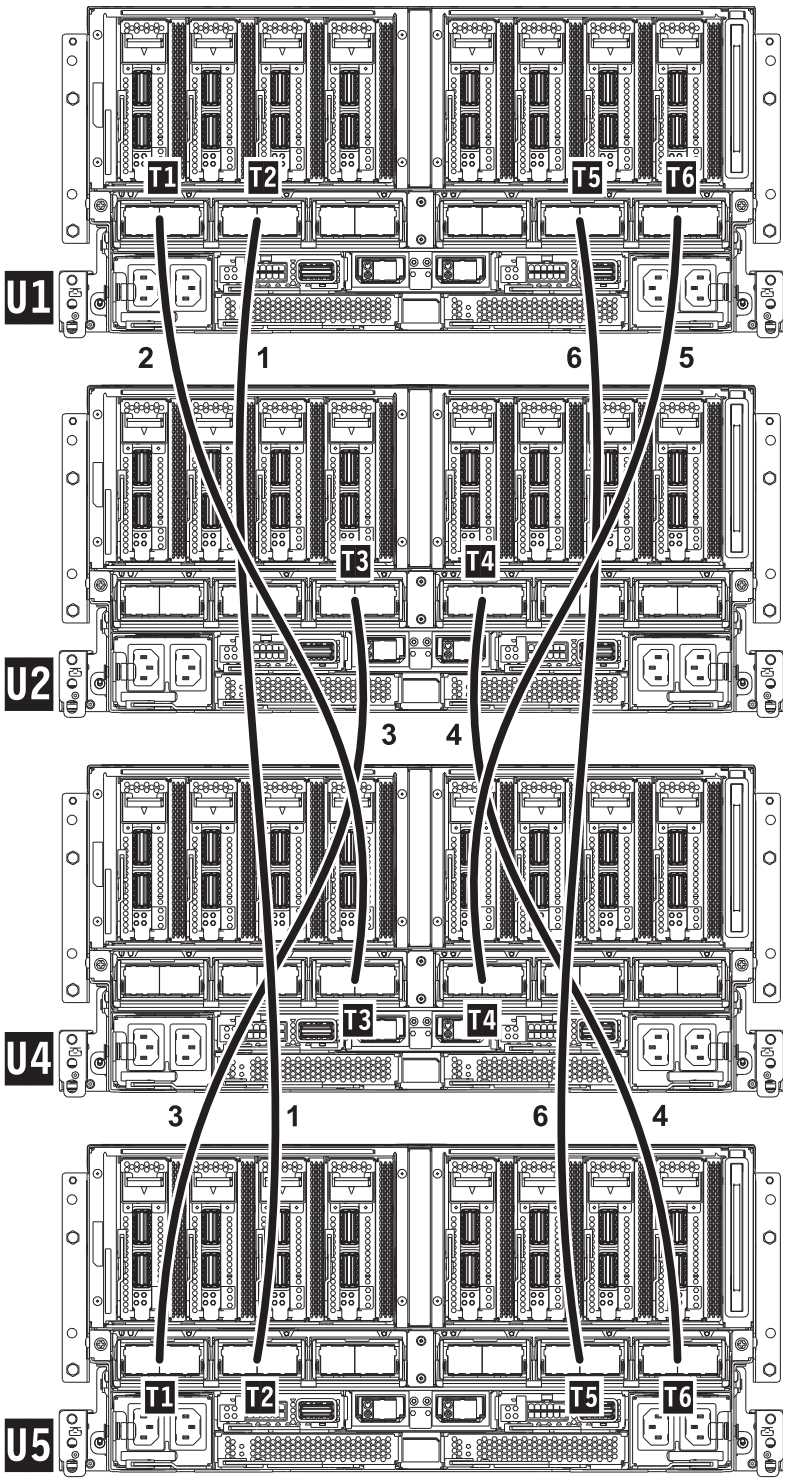
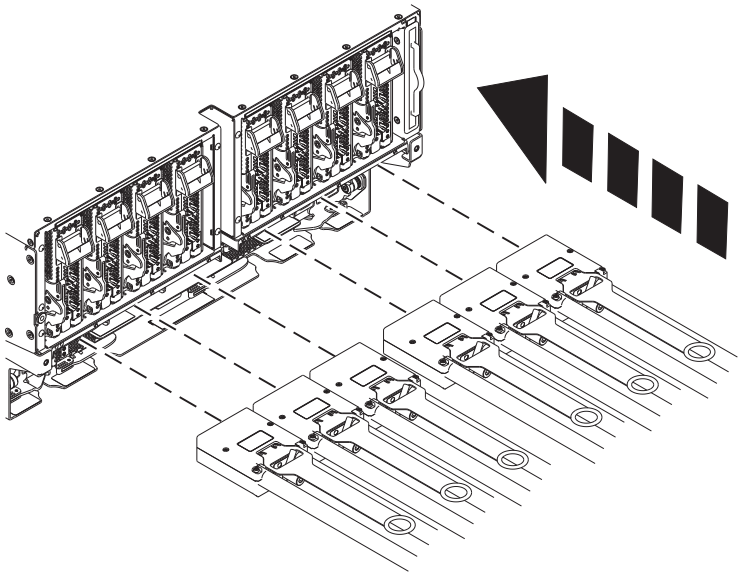


Table 8. Four Node Configuration SMP Long Cabling (long cables)

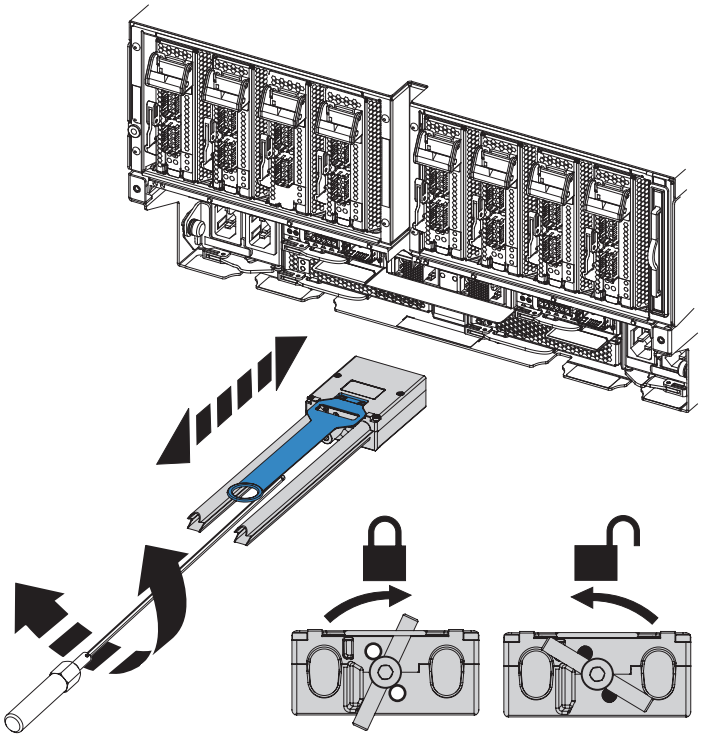
Cable Number	Cable Type	From: (U-Loc)	To: (U-Loc)
1	1.5 m (4.9 ft) SMP Cable	U2: P1-T3	U5: P1-T1
2	1.5 m (4.9 ft) SMP Cable	U1: P1-T1	U4: P1-T3
3	1.5 m (4.9 ft) SMP Cable	U1: P1-T2	U5: P1-T2
4	1.5 m (4.9 ft) SMP Cable	U2: P1-T4	U5: P1-T6
5	1.5 m (4.9 ft) SMP Cable	U1: P1-T6	U4: P1-T4
6	1.5 m (4.9 ft) SMP Cable	U1: P1-T5	U5: P1-T5

Note: U2 is System Node 1, U4 is System Node 2, U5 is System Node 3, and U1 is System Node 4.

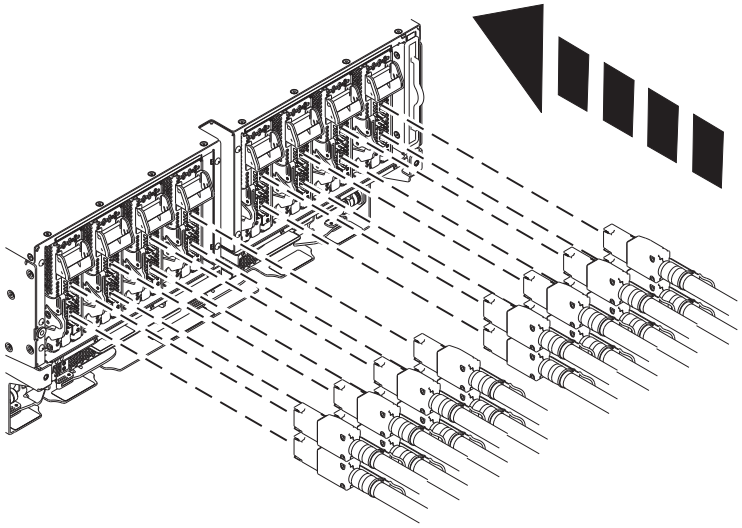
e. Plug the SMP cables into the system node.



f. Use the torque tool (41V1059) and turn in the direction indicated to lock. There is a stop to prevent from over tightening the connector. Visually confirm that the SMP cable camming mechanism is in the locked position and that the white dots are showing through the two holes at the 5 and 11 o'clock positions. If they are still black, it is not latched.

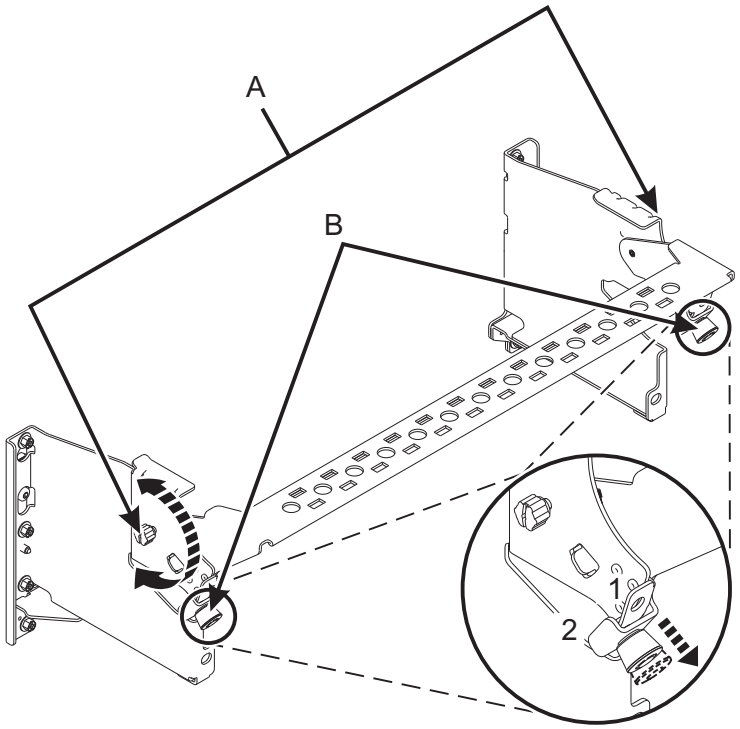


18. Install PCI cables
    a. Install the PCI cables into the same location from which they were removed.
    b. Plug the PCI cables into the cards to which they were originally connected.

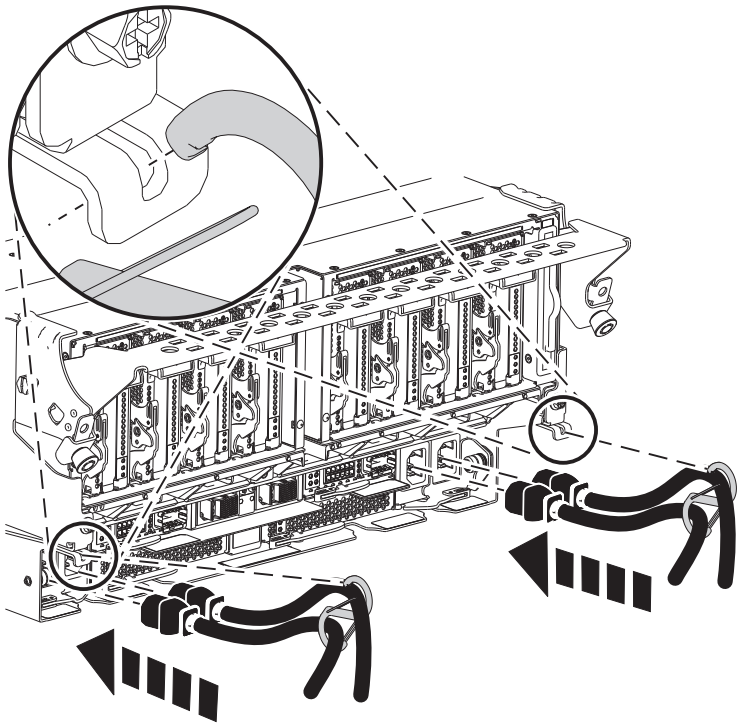


19. Move cable management arm down
    a. Pull out the retention pins **(B)** and rotate the cable management arm down on the pivot point **(A)** from the position **(1)** to **(2)**. The pins will automatically retract into the locking position when the

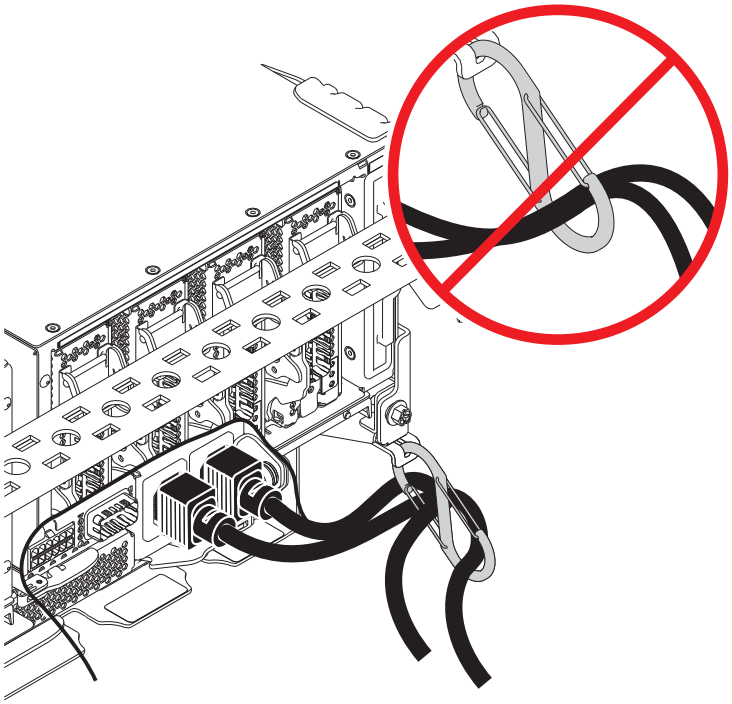
arm is properly located in the down position.



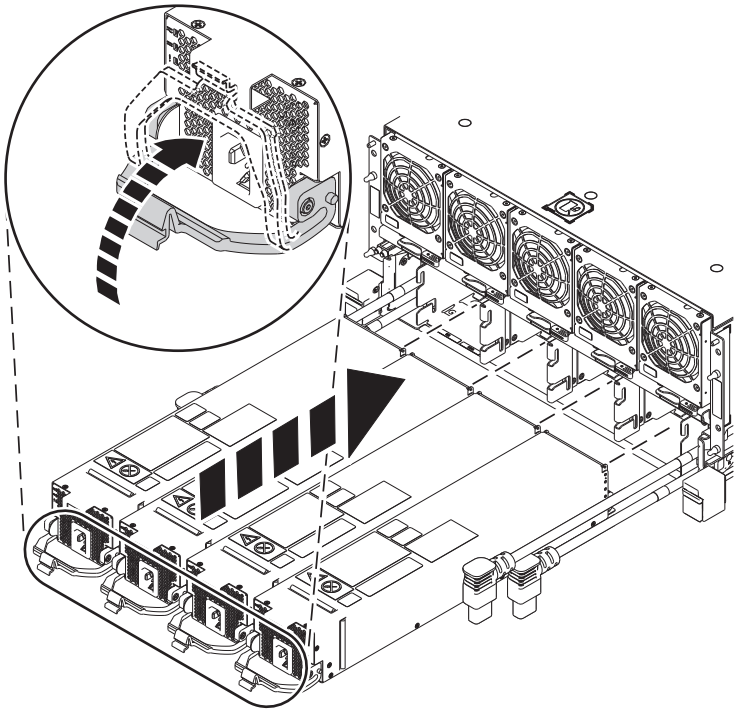
20. Plug in line cords
    a. Plug the line cords into the node being serviced.



21. **If an S-Biner power cable routing clip was previously removed:** While keeping the power cable correctly routed through the S-Biner, clip all S-Biners to the node being serviced.



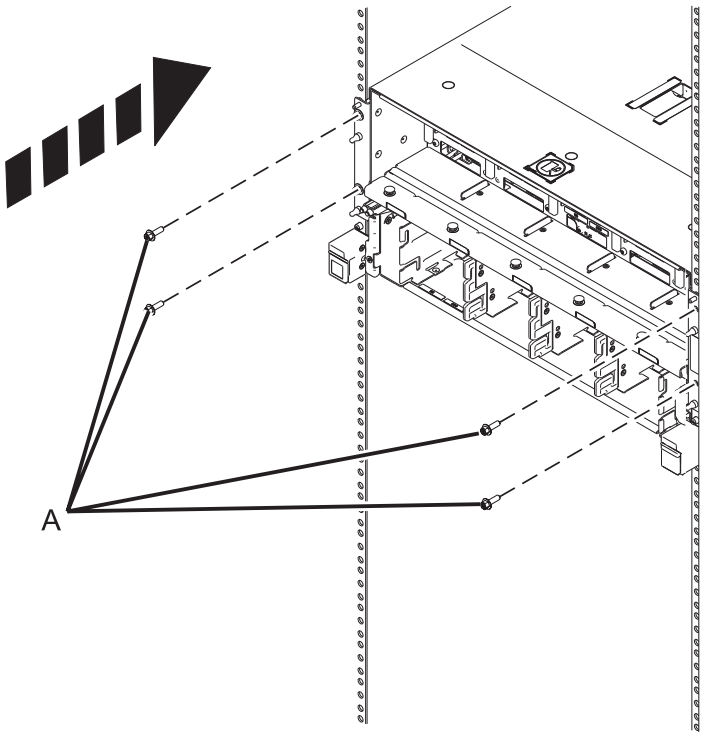
22. **If you are not using the lift tool**, install power supply units
    a. Align the power supply units with the slots and push them all the way in.
    b. Pull the latches down on each power supply and ensure the pins on the latch go into the grooves in the chassis.
    c. Push the latches up to lock in place.



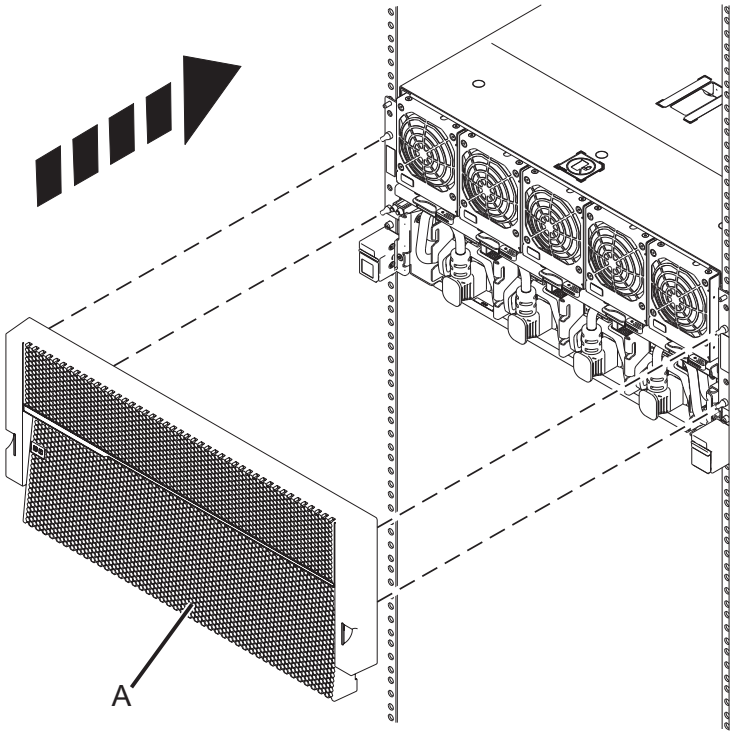
23. Install power supply cables

a. Locate the system control unit for the system being serviced.
b. Validate which system nodes are connected to the system control unit by visually tracing / checking the clock cables.
c. Connect the power supply cables to each power supply of each affected system node from which they were previously removed.

24. Install front bezel
    a. If removed earlier, install the 4 retention screws **(A)** at the front of the system.



    b. Install the front bezel on the system node being serviced and all system nodes which share the same system control unit with the system node being serviced.**(A)**.



If performing this procedure from a management console, close this web page to continue with the procedure.

Printed in USA