

AMD Threadripper Pro CPU Removal and Installation

Lenovo ThinkStation P620



Overview

This document contains details intended to guide users with the correct steps to install and uninstall AMD Threadripper Pro CPUs in the P620 ThinkStation platform. This platform utilizes AMD's Socket-SP3 (SM-LGA) CPU socket, which is new to the ThinkStation lineup.

Contents

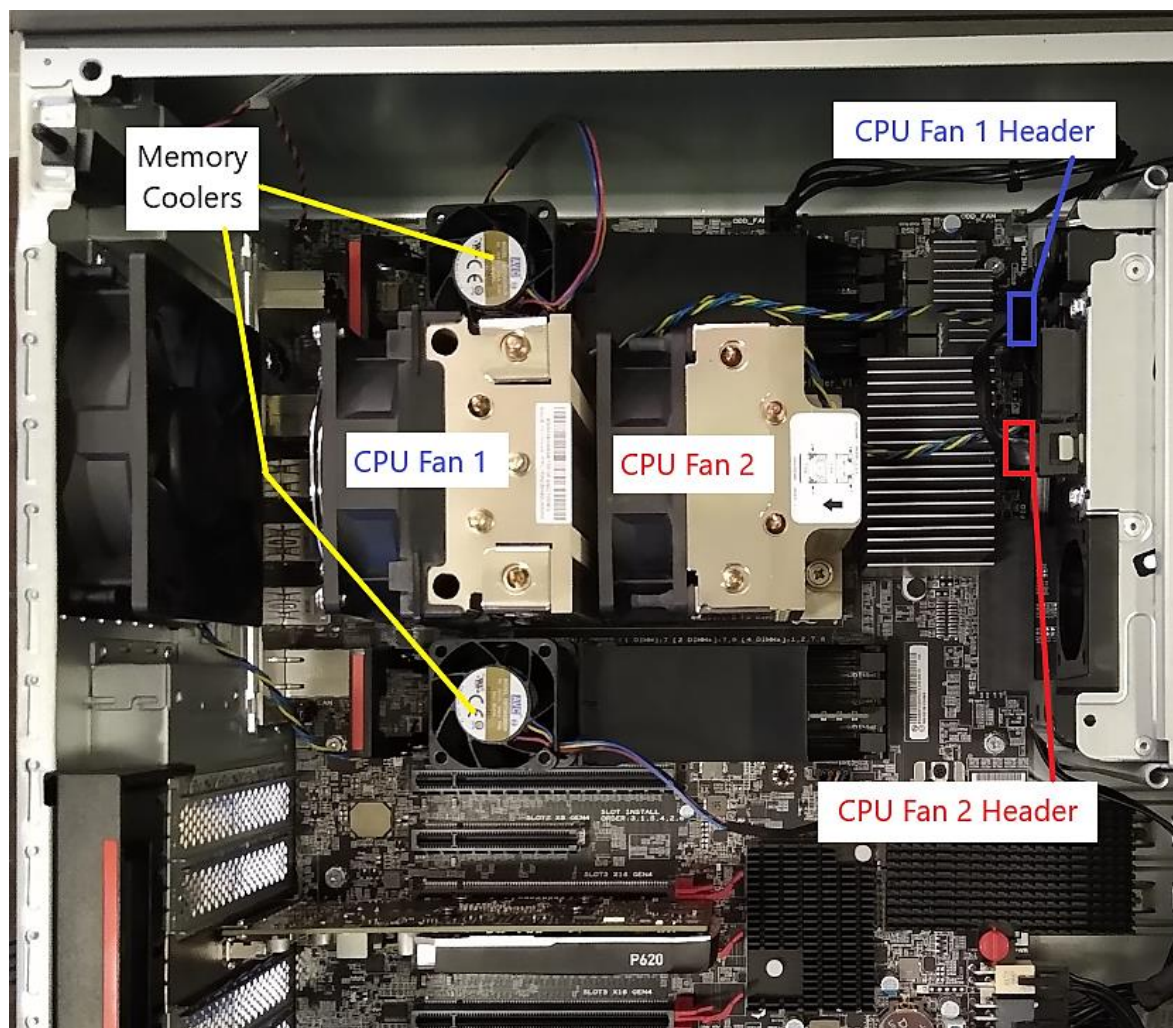
SECTION 1 – KEY COMPONENTS AND LOCATION

SECTION 2 – MEMORY COOLER REMOVAL AND INSTALLATION
PROCESS

SECTION 3 – CPU REMOVAL AND INSTALLATION PROCESS

SECTION 4 – DOCUMENT REVISION HISTORY

Section 1 – Key Components and Locations

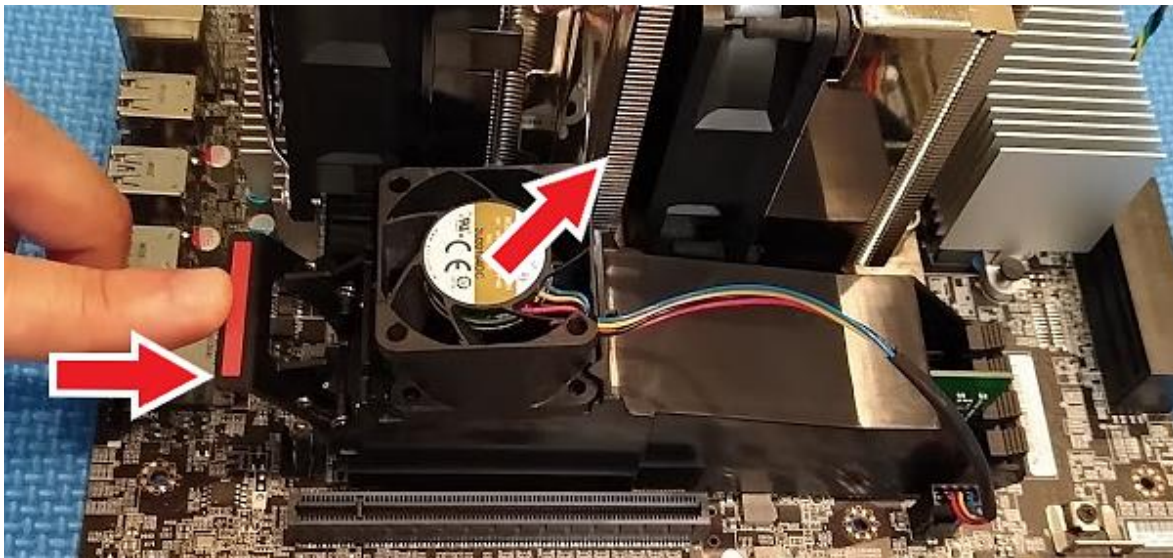


Section 2 – Memory Cooler Removal and Installation Process

All P620 systems ship with fan assemblies that sit over the memory DIMMs to provide sufficient airflow to those components. Follow the steps below to remove or install the memory cooler assemblies. Note that removing the memory cooler assemblies will likely make it easier when installing or uninstalling the CPU.

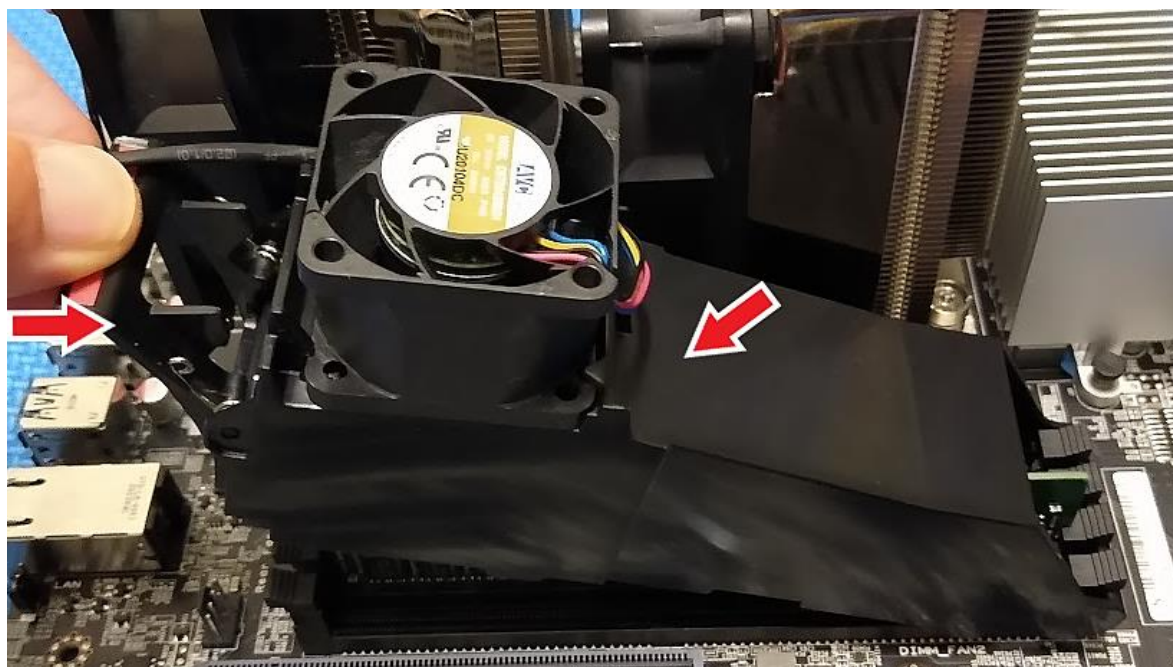
To remove the memory cooler assembly:

- Unplug the 4-pin fan connector noting the specific location of the header on the motherboard.
- Push on the spring-loaded tab on the side of the memory DIMM slots, then lift and rotate the assembly off the DIMM slots using a clockwise motion.
- Do this for each memory cooler assembly installed on the system.



To install the memory cooler assembly:

- Before starting the installation process, ensure all latches for any unused memory DIMM slots are in the upright/closed position.
- Orient the memory cooler assembly such that the fan is closest to the rear of the system.
- Hook the front facing edge of the assembly over the memory DIMM slot latches.
- Rotate the assembly in a counter-clockwise direction down to the motherboard.
- Engage the spring-loaded latch on the memory cooler such that it hooks onto the memory DIMM slot latches (closest to the fan). A slight pull upward on the assembly will confirm that it has engaged properly.
- Reconnect the 4-pin fan header to the appropriate location on the motherboard.



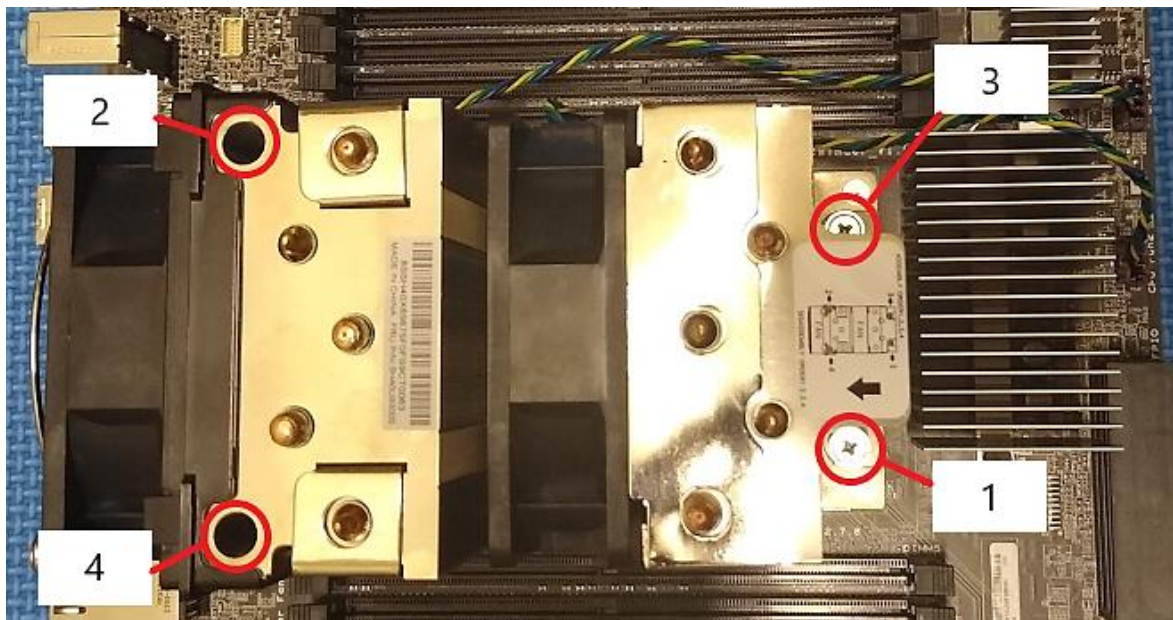
Section 3 – CPU Removal and Installation Process

Important Note: As CPUs are very sensitive electronic devices, it is recommended that users properly ground themselves using the necessary equipment before attempting any of the procedures outlined below.

It is recommended that users attempting to remove or install a CPU in the P620 platform first remove the memory cooler assemblies to make more working room for CPU installation. Please refer to Section 2 in this document.

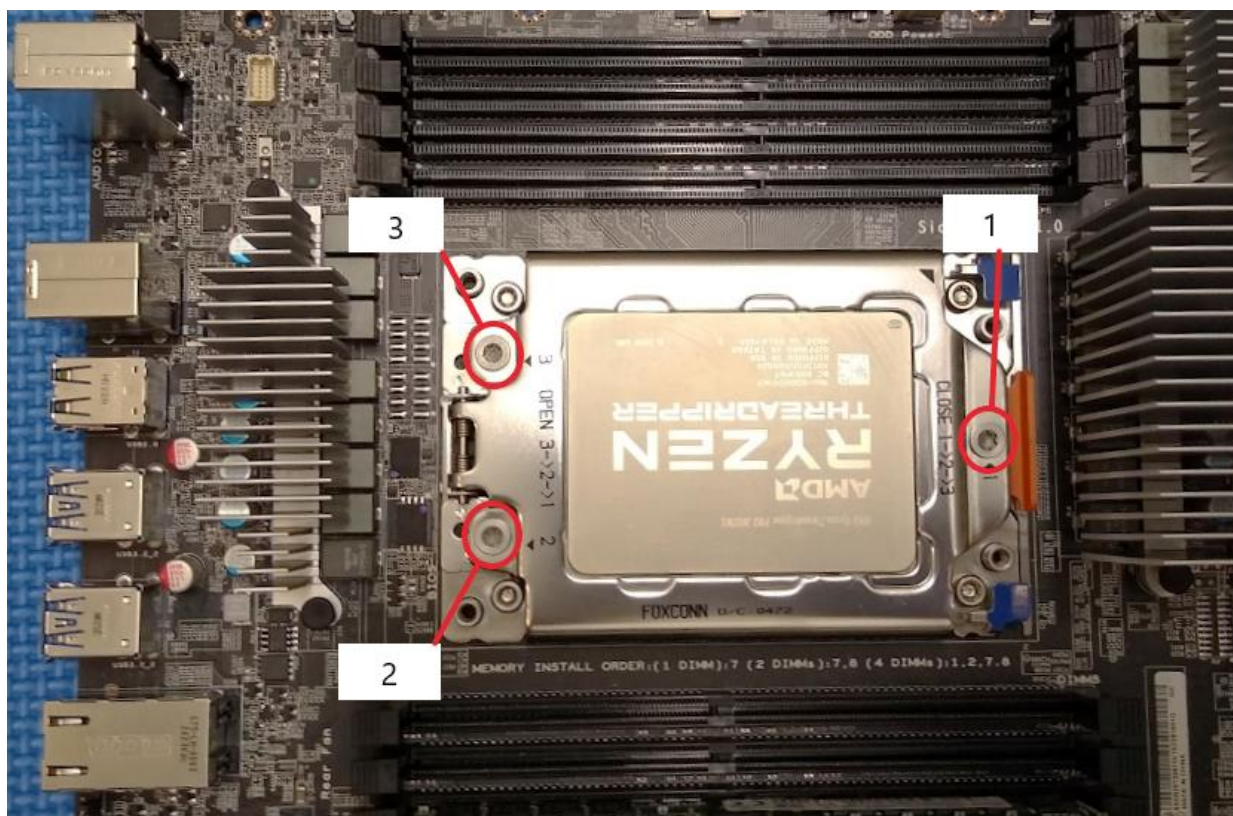
CPU Removal

1. Remove the CPU heatsink from the motherboard.
 - Unplug the 4-wire fan connectors for CPU FAN1 and CPU FAN2, noting the specific location for each connector.
 - Unscrew the four retaining screws in the order specified (**1 – 2 – 3 – 4**). Note that a 6" Phillips #2 screwdriver/bit is recommended in order to be able to access the retaining screws located directly under the heatsink fins via the access holes in the heatsink.
 - Carefully lift off the CPU heatsink assembly.



2. Open the CPU socket

- Release the socket force frame by using a Torx T-20 screwdriver/bit to unscrew the three fasteners. Unscrew the fasteners in sequence **3 – 2 – 1** to release the force frame. Note that the force frame is spring loaded, so it will pop up when the final fastener is unscrewed.



3. Separate the CPU from the socket

- Lift the CPU tray assembly using the blue tabs to remove the CPU from the socket on the motherboard

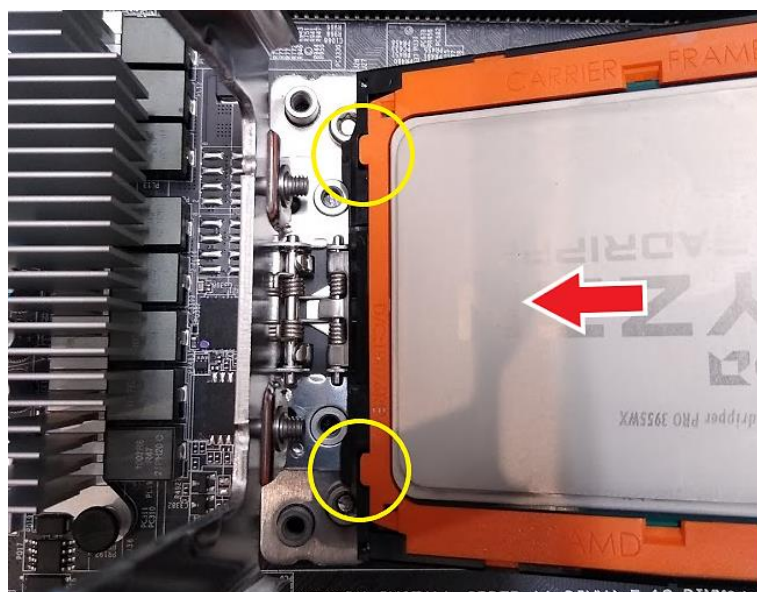
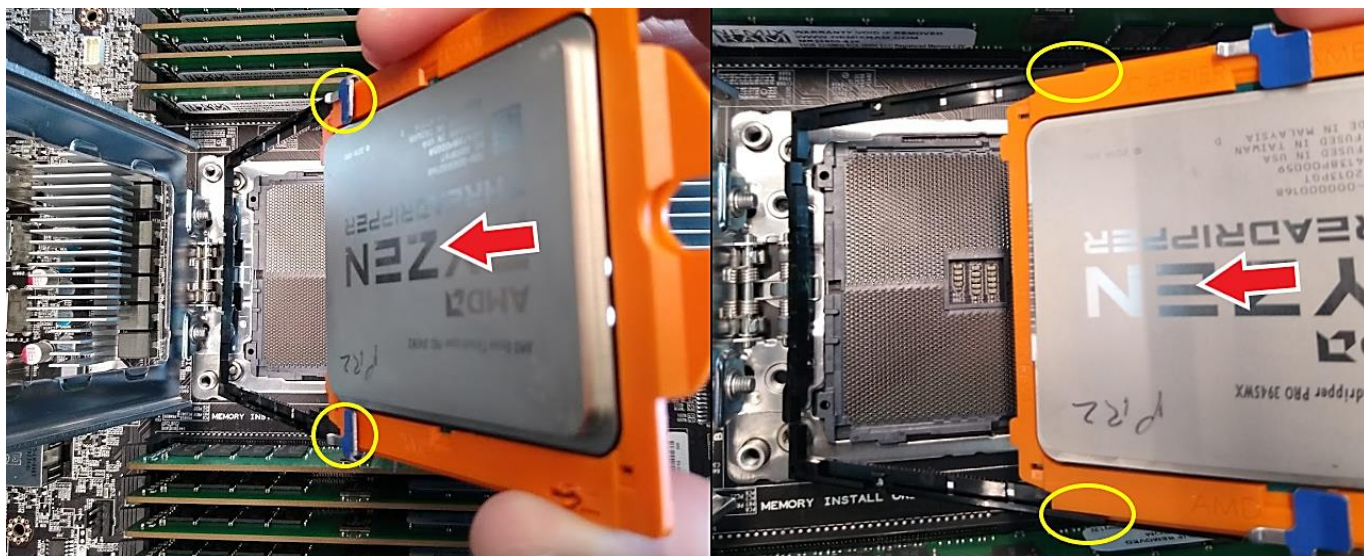


4. Remove the CPU and carrier frame from the CPU tray
 - With the CPU tray in an upright position, careful pull on the tab on the orange carrier frame and slide the carrier frame + CPU assembly out of the CPU tray.
 - Use caution to avoid touching the electrical contact points on the bottom of the CPU



CPU Installation

1. Install CPU and carrier frame to CPU tray.
 - With the CPU socket fully open and the CPU tray in the upright position, carefully grasp the CPU carrier frame and insert it into the CPU tray.
 - The tab on the orange carrier frame should be up and facing away from the socket to ensure correct CPU orientation.
 - Ensure the edges of the carrier frame engage the small black rails in the CPU tray
 - Push the CPU + carrier frame assembly down into the CPU tray until the tabs of the frame line up with the notches of the CPU tray.

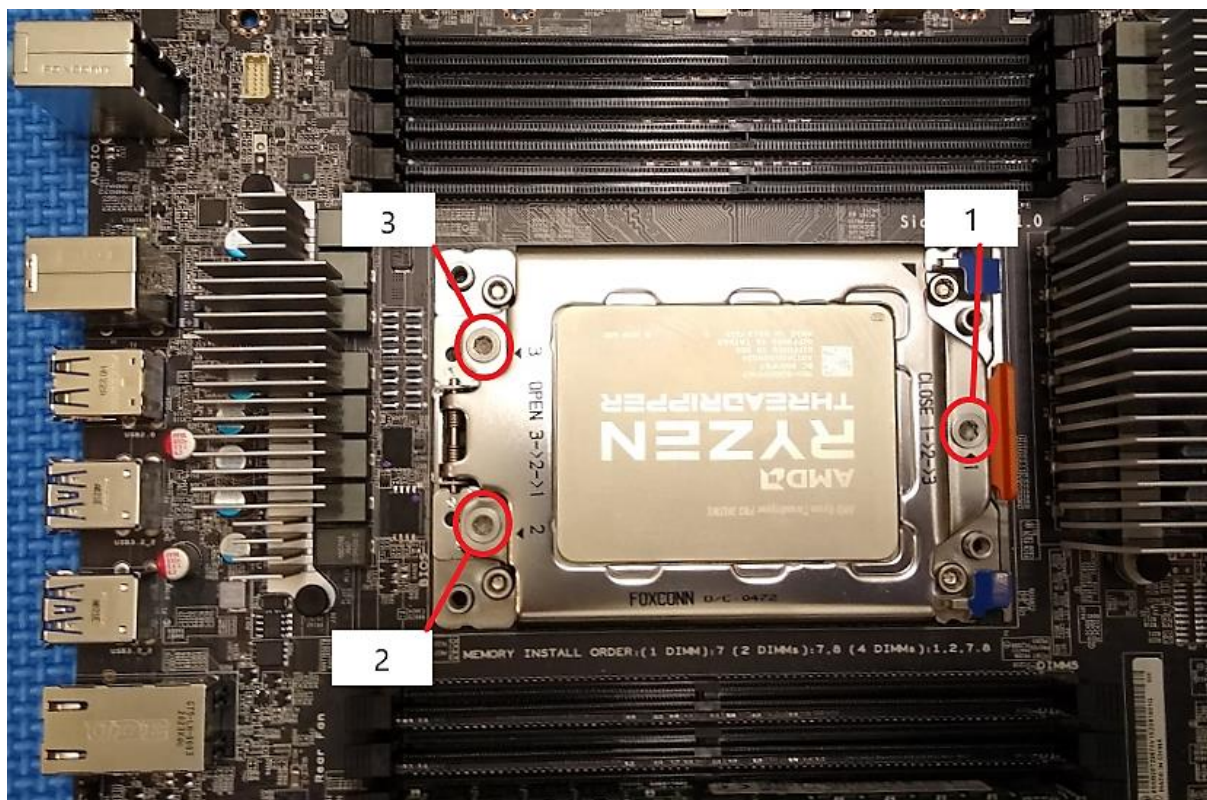


2. Install CPU to the socket.

- Push on the CPU tray using the blue tabs to securely seat the CPU tray assembly into the socket. A small click can be heard and felt when the assembly is properly seated.

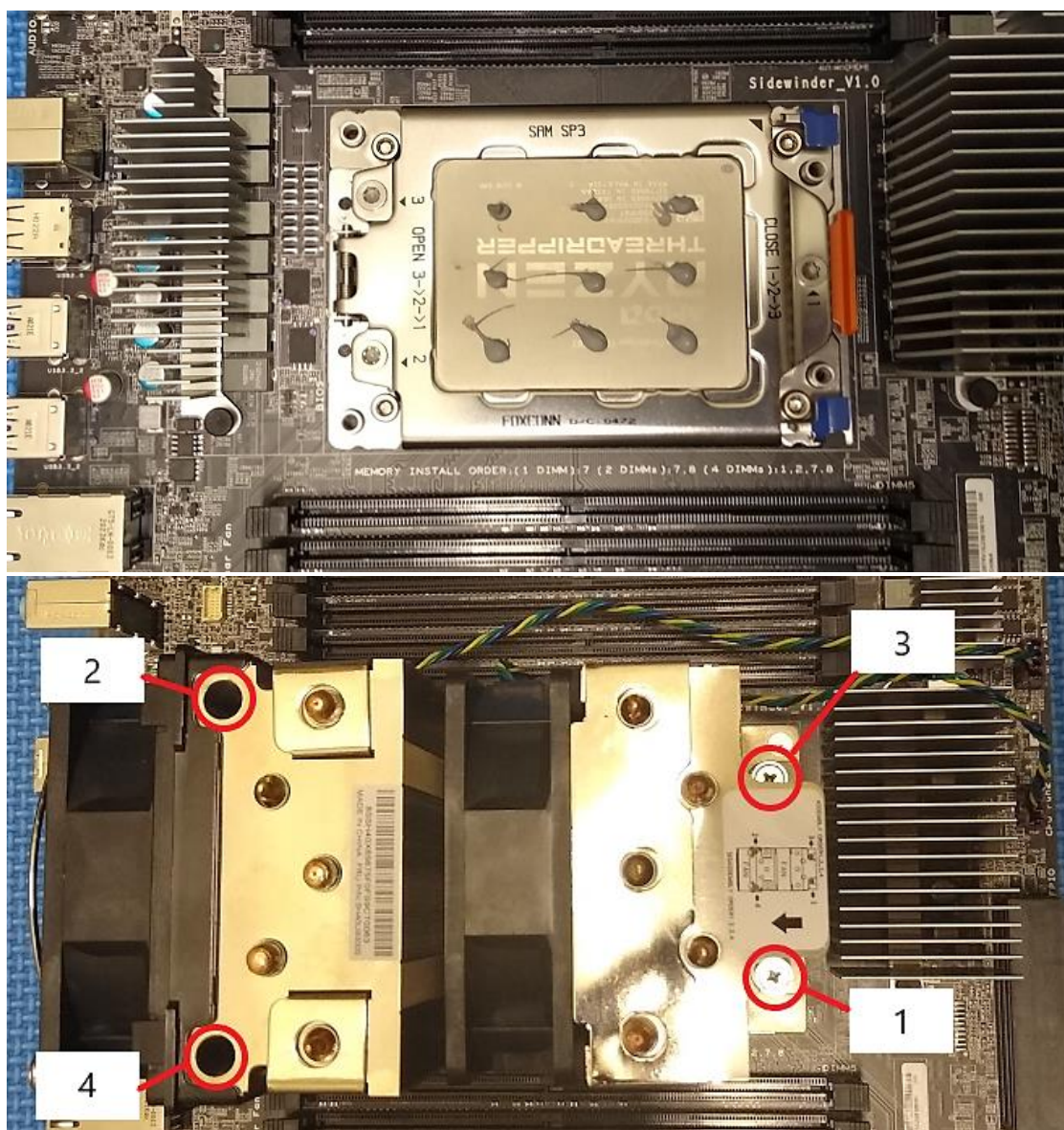


3. Close and secure the CPU socket.
 - Lower the spring loaded force frame assembly to the closed position.
 - Secure the three force frame fasteners using the Torx T-20 screwdriver/bit following the sequence **1 – 2 – 3**.
 - Tighten each fastener fully to 14lbf-in (inch pounds) or 1.5Nm before moving on to the next fastener.



4. Reinstall CPU heatsink.

- If necessary, remove any existing thermal interface material (thermal grease) from the base of the heatsink. New thermal interface material can be applied to the CPU heatspreader directly in the pattern shown below.
- Align the CPU heatsink with the CPU socket ensuring the fans are facing the rear of the system.
- Secure the heatsink using the four retention screws. Screws should be secured in the sequence shown **(1 – 2 – 3 – 4)**, and tightened to 5lb-in (inch pounds).
- Reconnect the 4-wire connectors for FAN1 and FAN2 to the appropriate headers on the motherboard.



5. Reinstall the memory cooler.
 - Refer to Section 2 of this document for more detail.

Tip: Access the link below for a helpful video walkthrough of the CPU installation process. The video is specific for the AMD Threadripper CPU, but it also applies to the Threadripper Pro CPU as well since they utilize the same CPU socket.

<https://www.amd.com/en/support/kb/faq/cpu-install-tr>

Section 4 – Revision History

Version	Date	Author	Changes/Updates
1.0	8/31/2020	Cory Chapman	Initial launch release