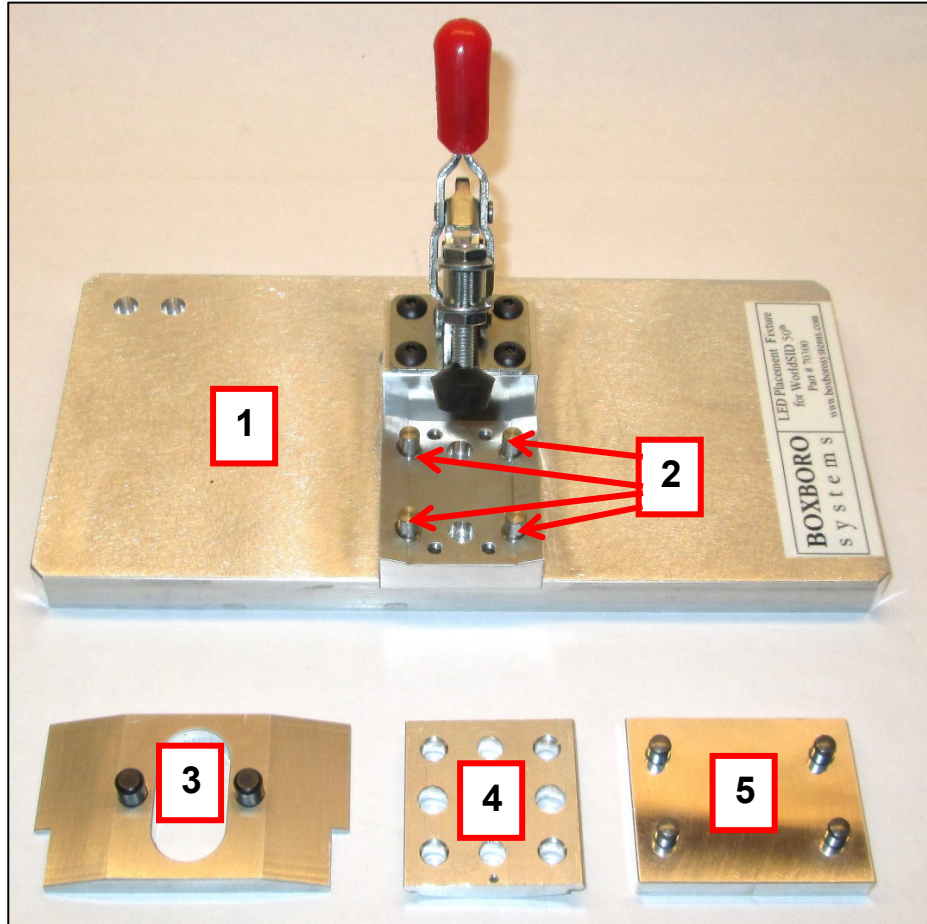


**Boxboro Systems WorldSID 50th RibEye
LED Placement Fixture #70300
July 2024**

Figure 1. LED placement fixture components

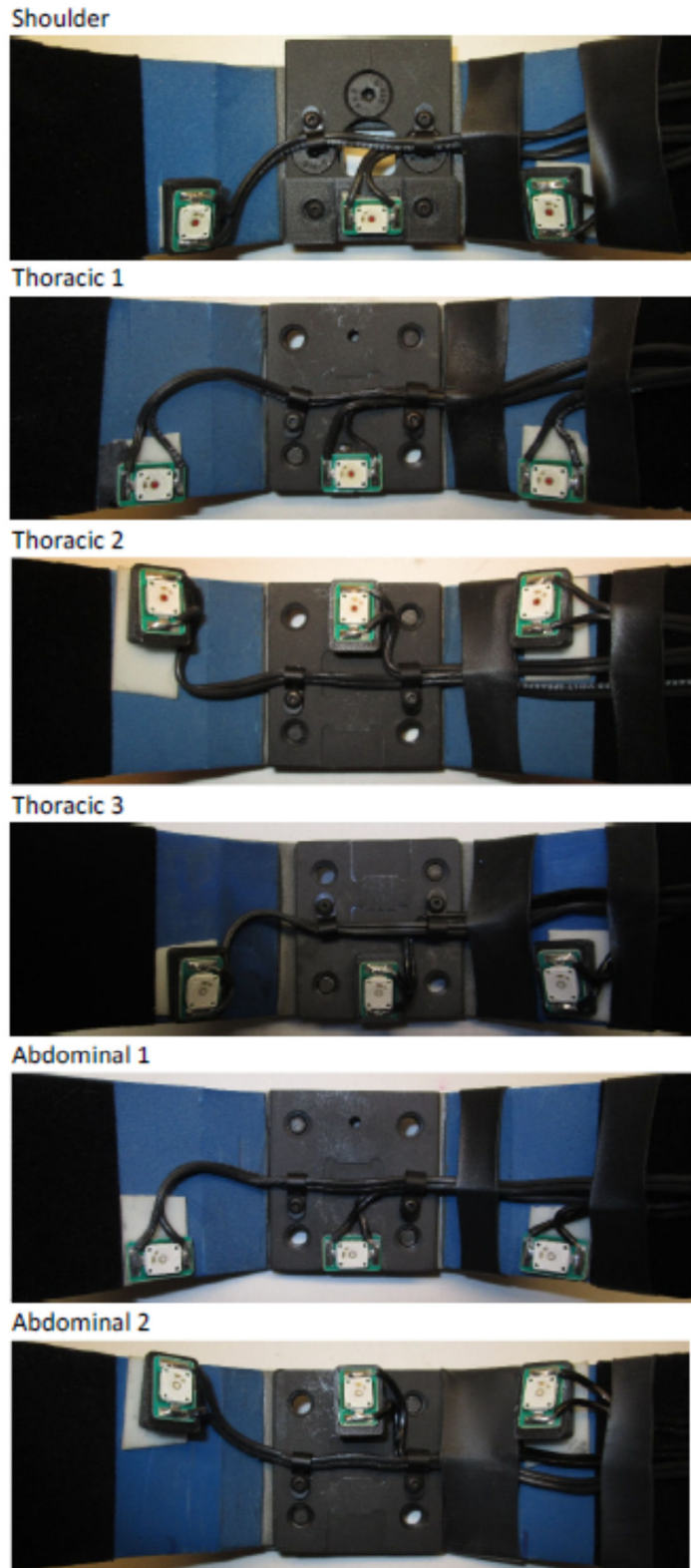


- 1: Fixture base**
- 2: Locator pins**
- 3: LED spacer plate**
- 4: Rib clamp**
- 5: Mounting hole spacer**

This fixture is used for applying the 3M VHB #4952 or #4941 double-sided tape on the ribs so that the forward and rearward LEDs will be in the proper positions. The fixture holds the rib in place while the tape is applied to the rib.

The LEDs are mounted on the ribs as shown in Figure 2 below:

Figure 2. LED positions on ribs

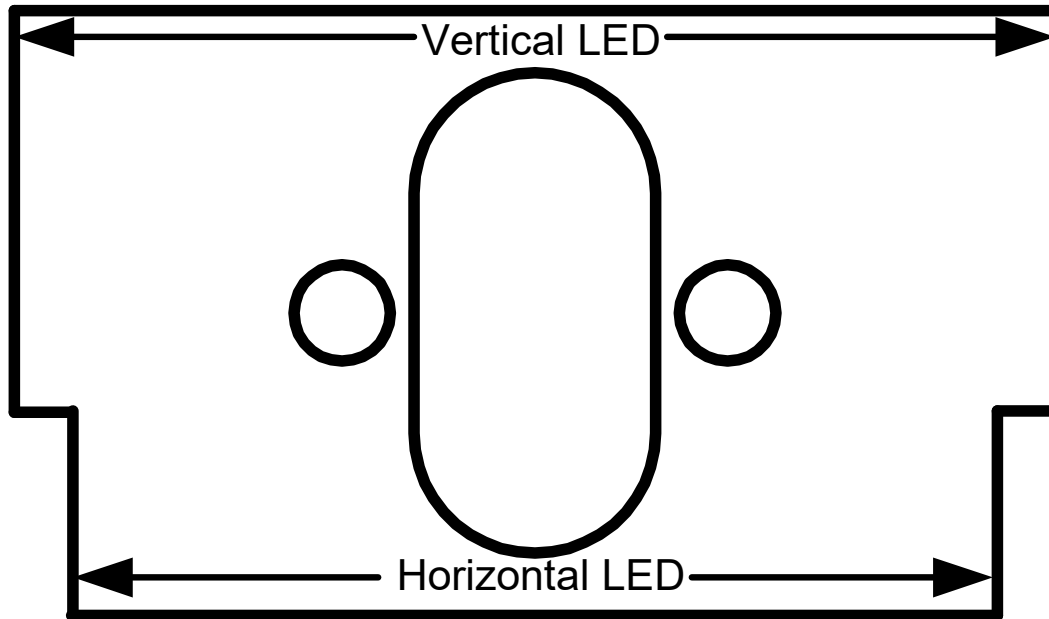


Note that the 1st generation RibEye had the center LEDs on the Thorax 1 and Abdominal 1 ribs mounted on the center of the inner rib clamp. These LEDs can be moved to the bottom of the inner ribs clamps

following the instructions in the document “Moving 1st Gen WorldSID T1 and A1 LEDs on Inner Rib Clamps to New Positions”.

The LED Spacer Plate has two widths as shown in Figure 3. The wider width is for mounting the Vertical LEDs with the LED angle blocks on the Shoulder, Thorax 2, Thorax 3 and Abdominal 2 ribs. The narrower width is for mounting the Horizontal LEDs on the Thorax 1 and Abdominal 1 ribs.

Figure 3. LED Spacer Plate



The thoracic and abdominal ribs are placed on the fixture over the four locator pins. For the shoulder rib, remove two of the locator pins and place the other two pins in the center holes.

For all ribs, do the following steps to properly place the tape on the ribs:

1. Place the rib over the locator pins as shown in Figure 4. You may have to spread the spine end of the ribs slightly to fit the rib over the locator pins.
2. Place the rib clamp over the locator pins. The curved face of the rib clamp lies downward, facing the rib.
3. Place the LED spacer plate onto the rib clamp so that the two dowel pins fit into the clamp's holes.
 - For the Shoulder and Thorax 3 ribs, set the LED spacer plate so the wider width for the vertical LEDs is at the bottom edge of the rib.
 - For the Thorax 2 and Abdominal 2 ribs, set the LED spacer plate so that the wider width for the vertical LEDs is at the top edge of the rib.
 - For the Thorax 1 and Abdominal 1 ribs, set the LED spacer plate so that the narrower width for the horizontal LEDs is at the bottom edge of the rib.
4. Pull the red handle forward to lock the rib and the rib clamp in position.
5. Put the mounting hole spacer on the top of the rib, with the four dowels fitting through the rib's spine mounting holes. The assembly with all of the components in position is shown in Figures 5 and 6.

Figure 4. Rib on locator pins

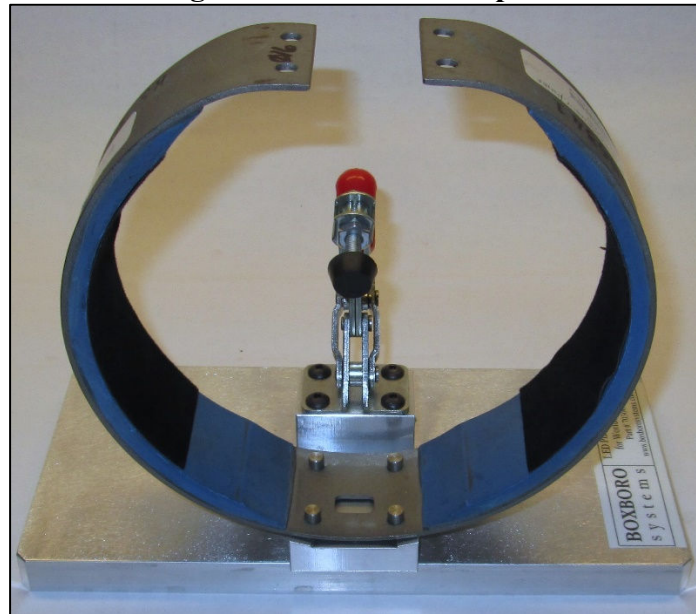
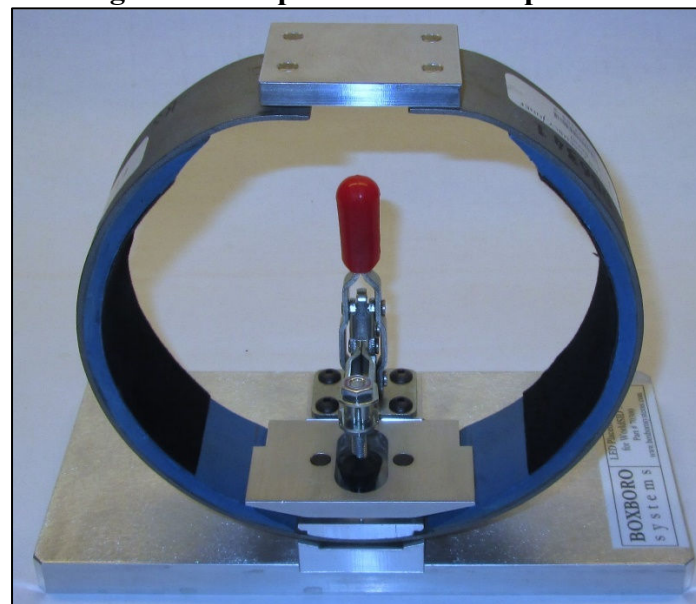
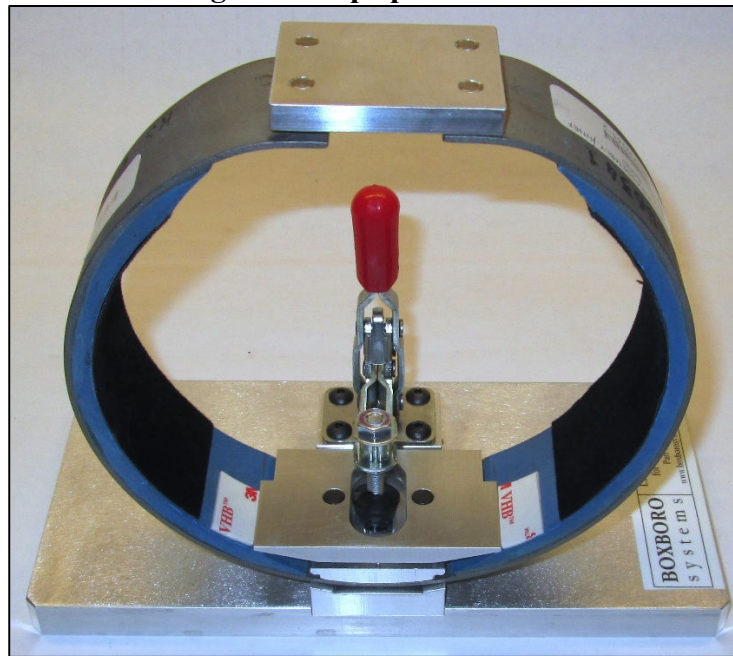


Figure 5. Components locked in position



6. For all ribs, cut two pieces of the 3M VHB tape 20 mm long. Refer back to Figure 2 to see where the LEDs will be mounted on the ribs.
7. Clean the rib damping material with alcohol where the tape will be placed and let dry. Place the tape on the rib, butted against the edges of the LED spacer plate as shown in Figure 6. Remember to squeeze the tape on the rib with at least 15 psi of force.

Figure 6. Tape placed on rib



8. Clean the mounting surface of the LED mounting blocks (Shoulder, T2, T3, A2) and the back of the LED circuit board (T1, A1) with alcohol and let dry.

9. Remove the rib from the fixture, then place the forward and rearward LEDs on the rib in the locations shown in Figure 2.

For ribs that use angled LED mounting blocks (Shoulder, Thoracic 2, Thoracic 3, and Abdominal 2 ribs), the inside edge of the mounting block should be placed along the inside edge of the tape, as shown in Figure 7.

For the ribs with LEDs mounted Horizontally (Thoracic 1 and Abdominal 1 ribs), place the edge of the LED circuit board along the inside edge of the tape. Note that you can place an extra piece of tape above the Horizontally mounted LED to stick down the LED wires as shown in Figure 2.

For all ribs, squeeze the LED onto the tape with 15 psi of force. **Warning:** Do not touch the soft silicone face of the LED; this can damage it.

Figure 7. LED mounting blocks placed on inside edge of tape

