

TCON Replacement

In many instances, replacement of the TCON board will be relatively straightforward. In some cases, other boards may have to be loosened or removed to allow access to the mounting screws and clearance to remove the TCON. The issue of most concern is keeping track of the heat transfer pads, standoffs and insulators. The TCON is heavily shielded and it is easy to have one or more of these components accidentally fall out of the assembly when removing.

TCON assemblies that use multiple heat transfer pads must be removed slowly and every attempt must be made to keep the shield and circuit board together as they are removed from the unit. Check for any service bulletins pertaining to the model and panel design that contain the subject line of "TCON heat transfer pad locations" for pictures to show the proper location of these components.

In this example, the removal of the TCON board from a KDL40XBR6 is demonstrated. It serves as an excellent example since it requires the partial removal of the power supply board along with containing 6 heat transfer pads, 3 insulating pads, and 5 insulated standoff pads.

Referring to Figure 5, unplug the LVDS connector from the TCON. Remove the screw from the LVDS cable ground strap so the cable can be moved away. Unplug CN6600 from the inverter board and remove the harness from the retainer as shown. Remove the 6 black machine screws securing the g board sub-chassis to the panel. Pull the top of the G board towards you and downward to allow access to the bottom screws securing the TCON.

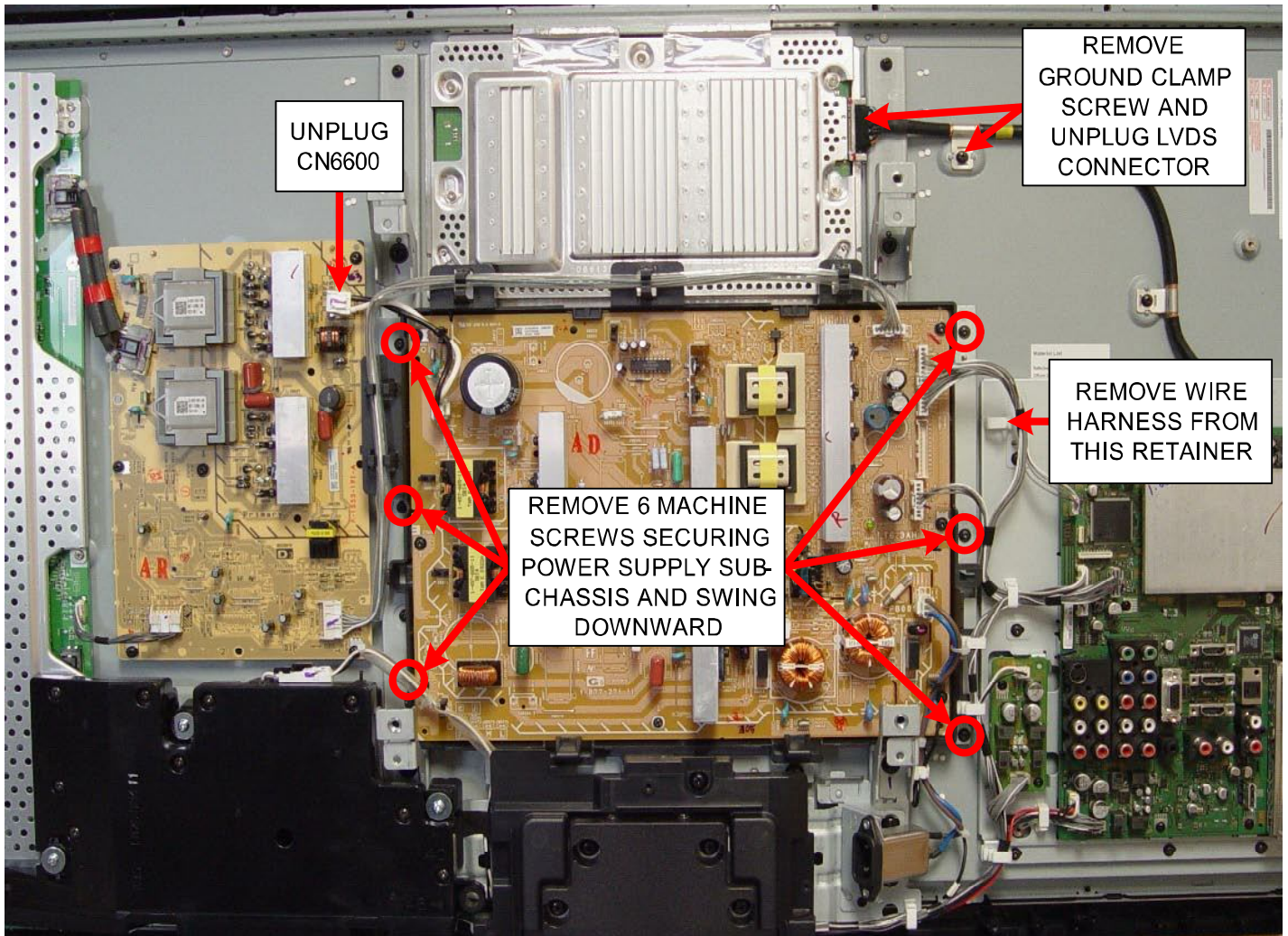


FIGURE 5
TCON REMOVAL PREPARATION

Referring to Figure 6, carefully un-peel the conductive tape from the top bracket taking care not to tear them. Leave the tape attached to the TCON shield. Remove the top bracket covering the gate and source driver components. This will allow access to the upper flat cable connectors.

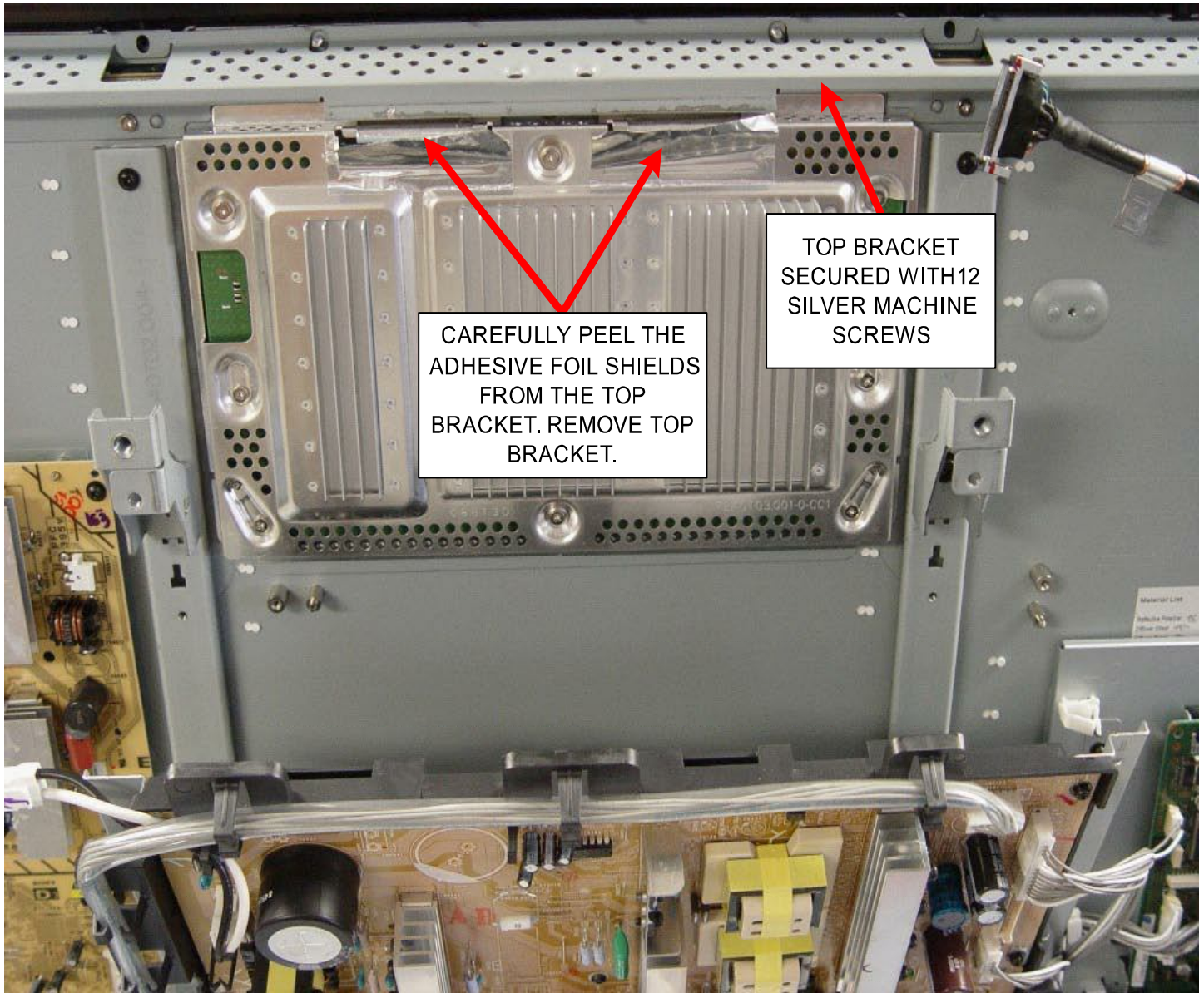


FIGURE 6
TCON REMOVAL PREPARATION (STEP 2)

As illustrated in Figure 7, carefully lift the locking tabs securing the flat cables. Leave the flat cables attached to the TCON. Remove the 8 silver machine screws securing the TCON and shield assembly. The TCON board has an insulating pad between it and the LCD panel that will cause the board to stick. Not much effort is required to release it. The goal at this point is to remove the board and shield together so as to avoid dropping heat transfer pads and insulators located between the front of the board and the shield.

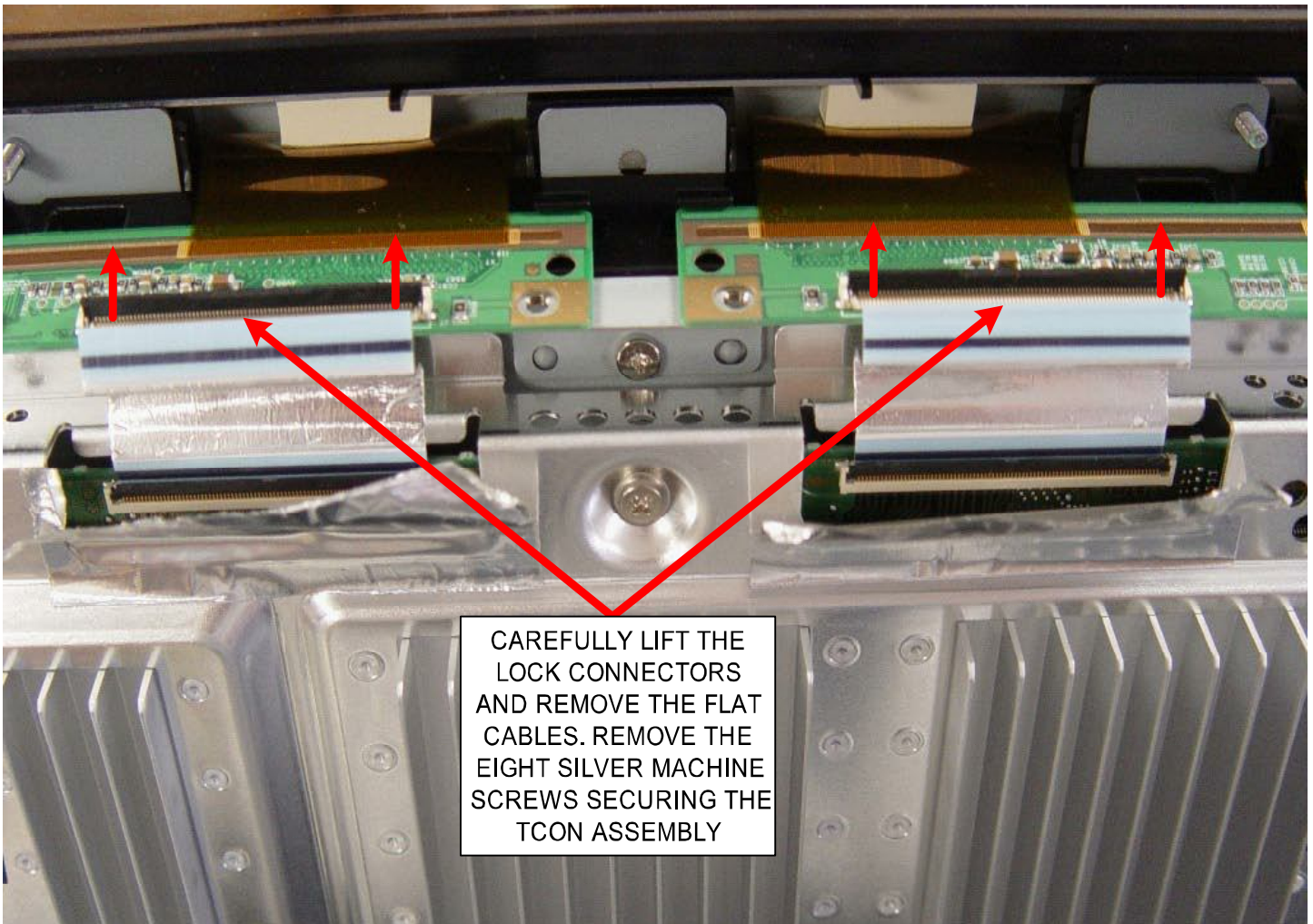


FIGURE 7
RELEASING THE FLAT CABLES

If successful, both components should stay together as illustrated in Figure 8. Note the spacers mounted on the back side of the board. These will need to be transferred to the replacement board. In Figure 9, the insulating pad can be observed sticking to the chassis.

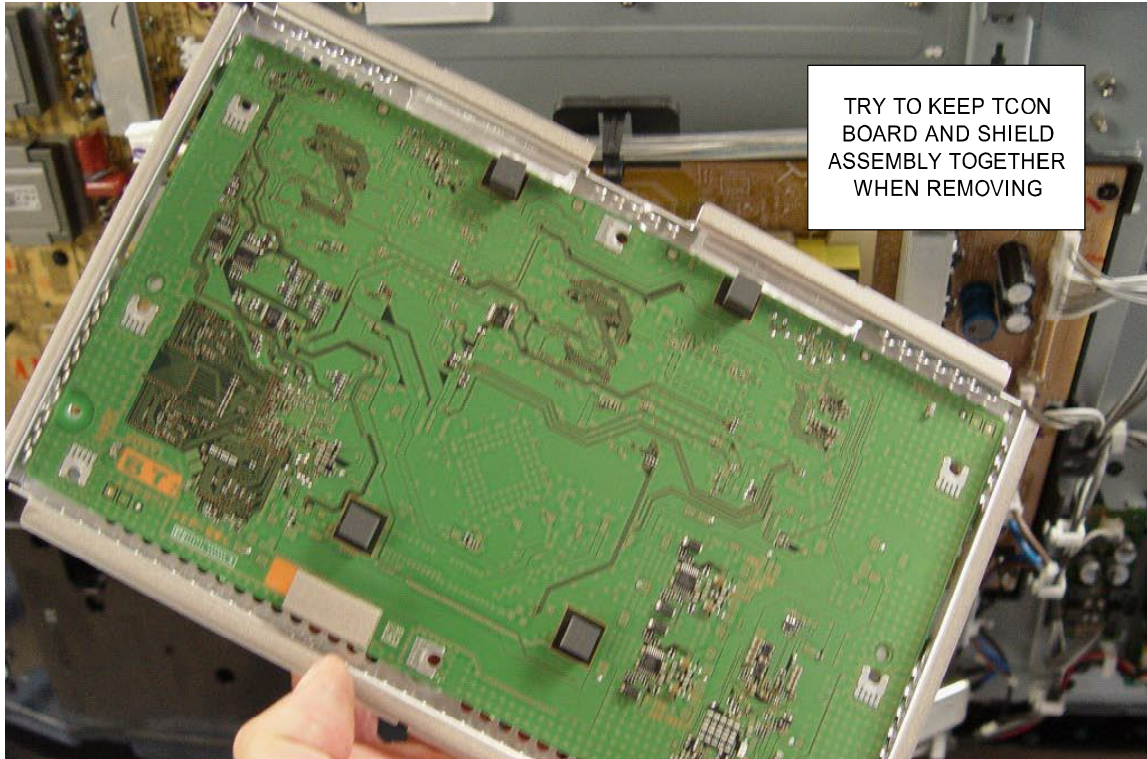


FIGURE 8
TCON REMOVAL

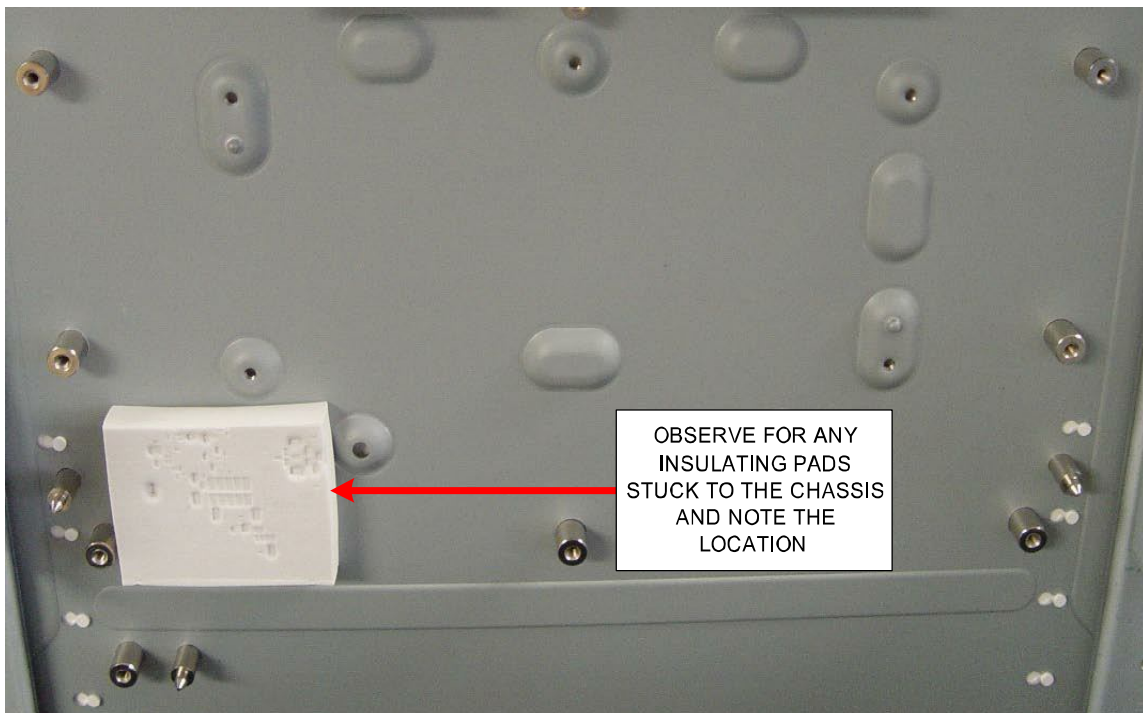


FIGURE 9
INSULATING PAD STUCK TO CHASSIS

Referring to Figure 10, the assembly is laid with the shield down on the work surface. Lift the circuit board upward slowly while observing the location of the heat transfer and insulating pads. In most cases the heat transfer pads will remain attached to their appropriate IC's and the insulating pads will be stuck to the shield. If anything falls off, use the illustration to return them to their proper position. Transfer all heat and insulating pads along with the flat cables to the replacement board.

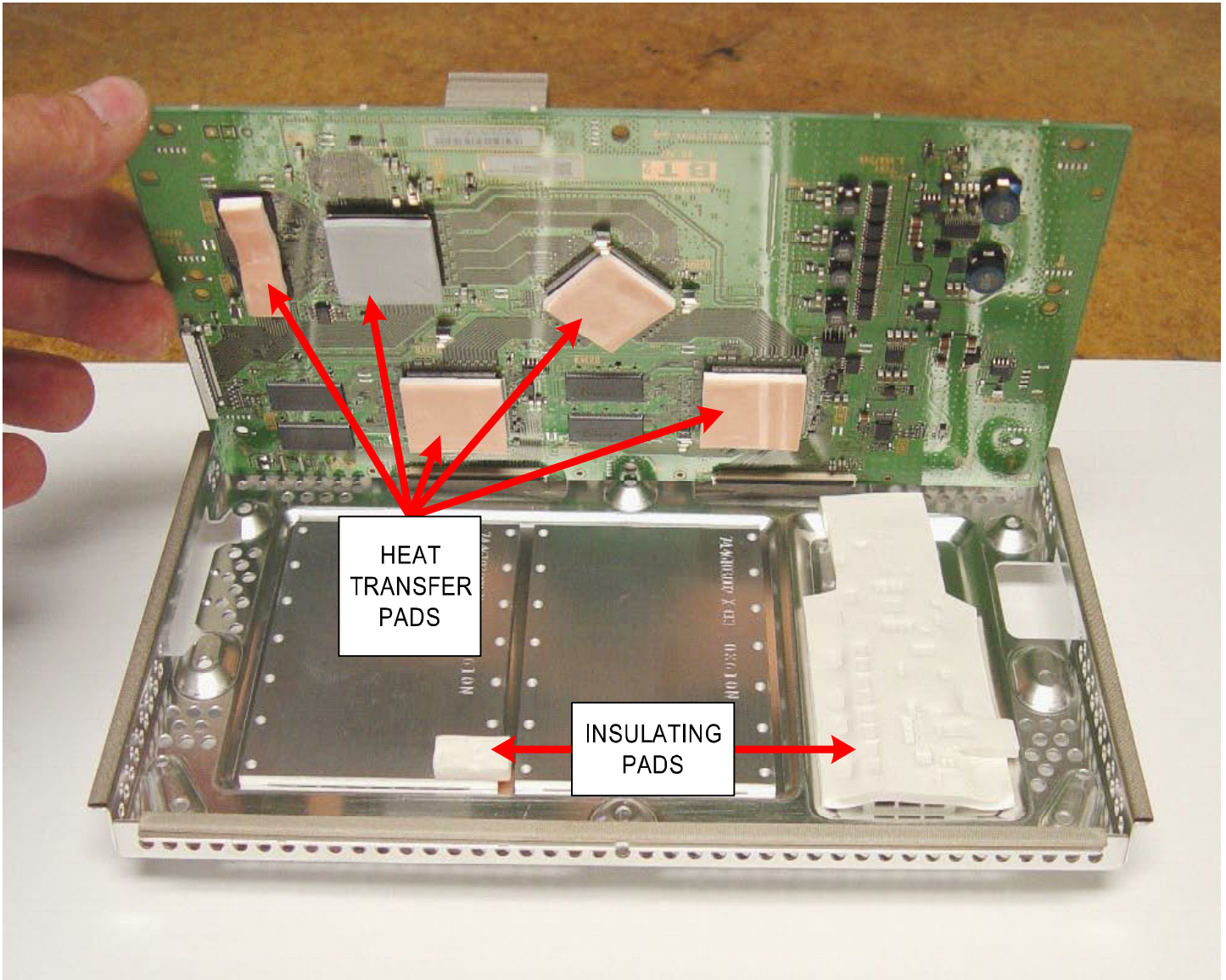


FIGURE 10
SEPARATE TCON FROM SHIELD

Once the components have been transferred to the front of the circuit board, attach the shield and flip the assembly over as shown in Figure 11.

Transfer any spacers or insulation pads to the replacement board.

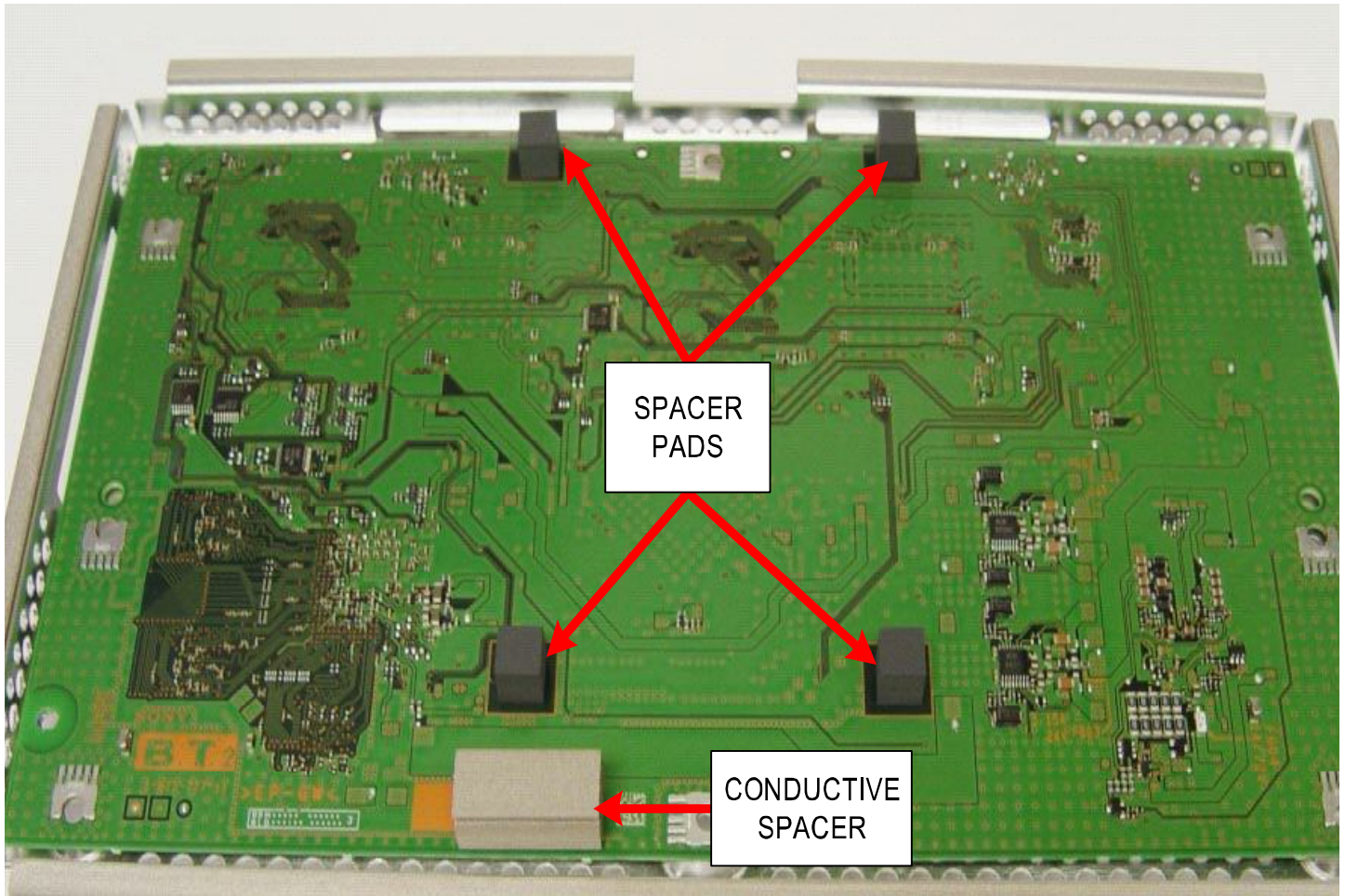


FIGURE 11
TRANSFER SPACERS AND PADS

Temporarily secure the TCON board to the shield with electrical tape as shown in Figure 12. This helps in preventing movement of the circuit board while installing the assembly back onto the LCD panel.

Once the TCON assembly is secured to the panel, insert and lock the flat cables. Plug in all connectors and secure the G board sub-chassis. Don't forget about the wire harness that was removed from its retainer.

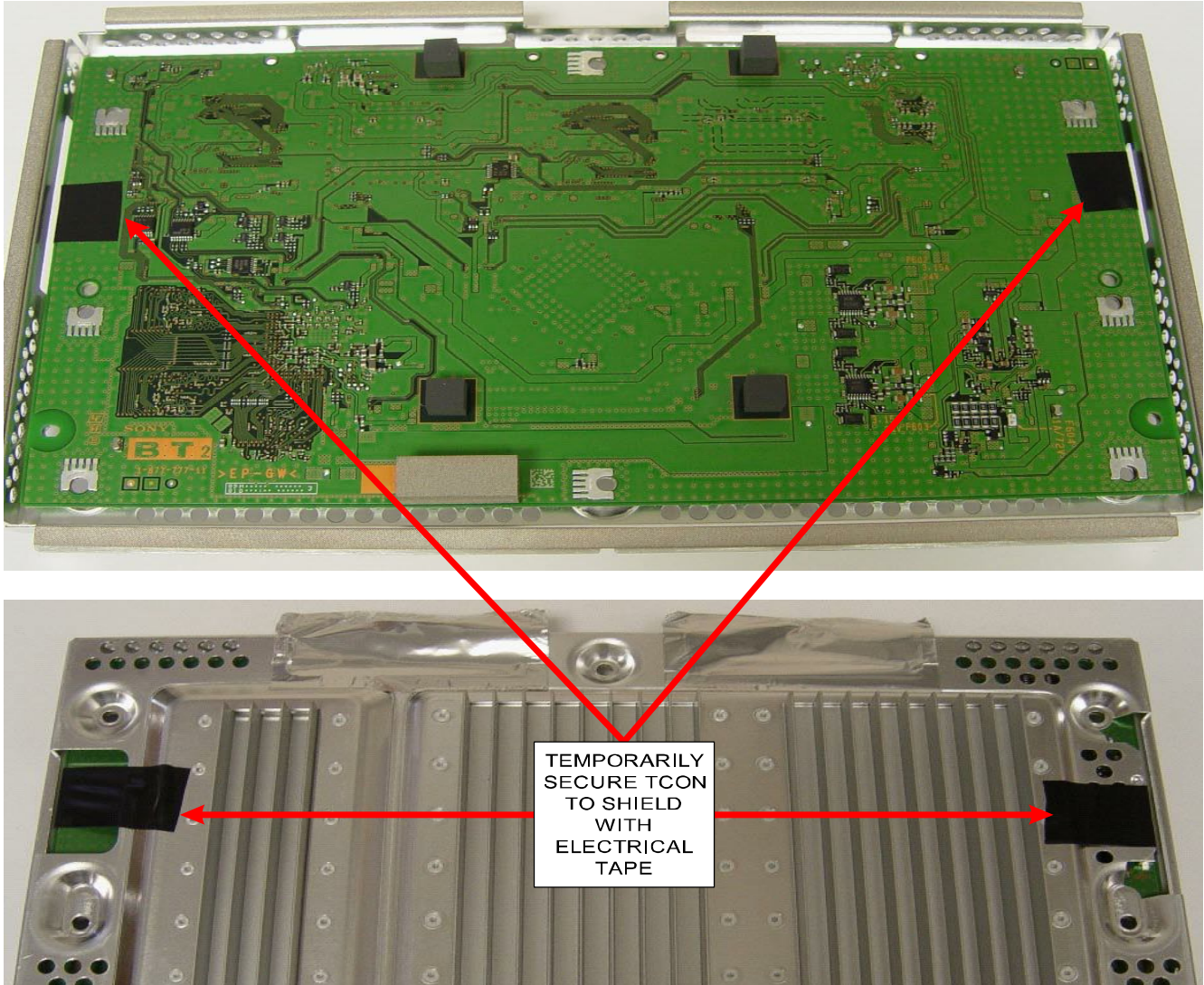


FIGURE 12
USING ELECTRICAL TAPE TO SECURE TCON TO SHIELD

TCON Part numbers

The following pages contain part numbers for the TCON boards currently available. Please note that some models use more than one panel type and this is distinguished by the serial number of the unit. If the model is not listed here, the TCON is not available.