

AMPHENOL TCS

TB-2043

VHDM[®] 6 ROW,8 ROW, VHDM- HSD[™] 5,6, AND RIGHT ANGLE MALE DAUGHTERCARD
CONNECTOR SINGLE WAFER REPLACEMENT

Revision "H"

Specification Revision Status

Revision	SCR No.	Description	Initial	Date
" "	25070	Initial Release	E. Ekstrom	7-27-98
"A"	25631	Rewritten	E. Ekstrom	9-18-98
"B"	26404	Revised in its Entirety	C. Murphy	12-18-98
"C"	26778	Revised in its Entirety	E. Ekstrom	2-19-99
"D"	38023	Revised to include HSD 5,6,8	C. Hart	6/19/02
"E"	41011	Added new template, added trade marks, Renamed and added second stiffener removal instructions	K. Taber	1-24-03
"F"	S0080	Replaced template format	M.Lee	02-03-06
"G"	S0802	Updated copyright information	C Palmer	02-25-08
"H"	S2210	Updated to include eHSD5+ rework instructions	D Smith	01-11-13

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1.0 SCOPE

- 1.1 This technical bulletin describes the method for VHDM 6 Row, 8 Row, VHDM-HSD 5 Row, 6 Row, 8 Row and right angle male daughtercard connector single wafer replacement.

2.0 TOOLS

- 2.1 Stiffener Removal/Installation Tool – Tool No. 600-1875-000
- 2.2 Right angle male secondary stiffener removal/installation tool – Tool No. 600-2036-000
- 2.3 Miniature Needle Nose Pliers
- 2.4 Pallet to Support PC Board (Not Shown)
- 2.5 Small Press or Plastic Hammer (If Press Not Available) and Delrin Block
- 2.6 2 Pieces Starrett Feeler Gauge Stock 0.004" Thick, Approximately 4" Long
(not required for eHSD 5+ products)



Figure 1

3.0 SET-UP PROCEDURE FOR TOOLS

3.1 Prior to removing the stiffener, check to insure the stiffener removal tool is set up properly. If the connector is a VHDM standard or VHDM- HSD daughtercard, the pin block should be oriented as shown in Figure 2. If the connector is a right angle male, the pin block should be oriented as shown in Figure 3. Proper orientation is achieved by removing the two flat head screws in the pin block, sliding it clear of the two locating pins, rotating the pin block 180°, sliding it back on the locating pins, and replacing the screws.



Figure 2

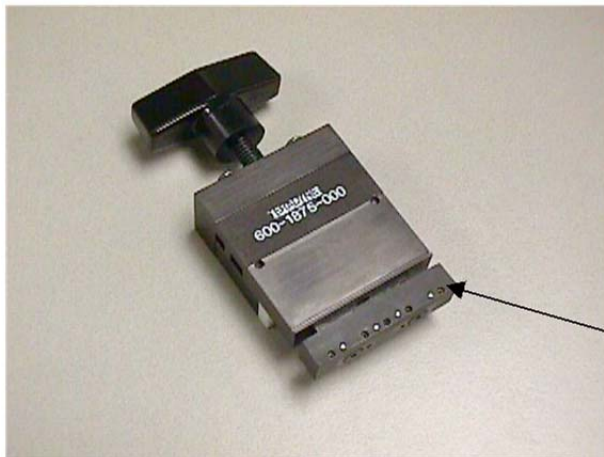


Figure 3

3.2 The secondary stiffener removal tool is only applicable for use on right angle male, and thus is already set to the proper orientation. See Figure 4



Figure 4

4.0 PROCEDURE – SECONDARY STIFFENER REMOVAL (RIGHT ANGLE MALE ONLY)

Step 1 Place the board upside down in a manner that will support the board and the connector, without damaging other components on the board (see Figure 5). The secondary stiffener is now on the top side, and can be removed.

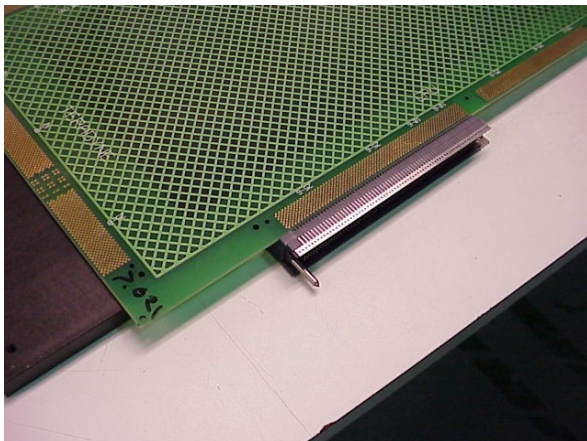


Figure 5

Step 2. Remove the secondary stiffener from the connector using removal Tool No. 600-2036-000. With the side of the tool with the Delrin insert facing up, place the protruding pins downward into the pilot holes. The head of the tool should be positioned such that the slot encompasses the plastic retention tabs on the connector (see Figure 6).

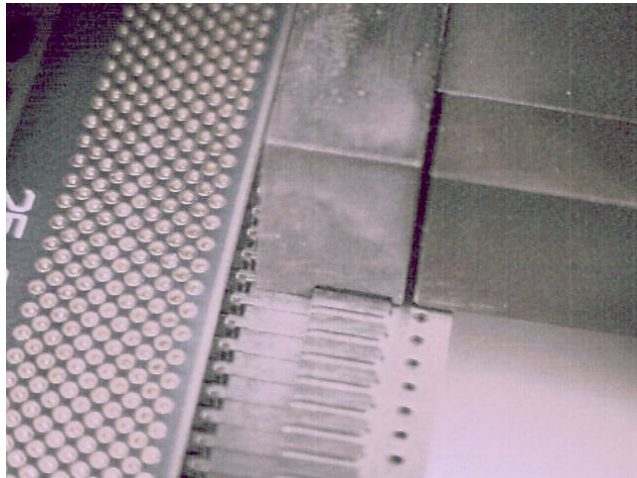


Figure 6

Start at one end of the stiffener and turn the knob counterclockwise until the stiffener starts to move. Repeat this process (see Figure 7) moving the tool gradually from one end of the connector to the other until the stiffener becomes loose and can easily be removed from the assembly.

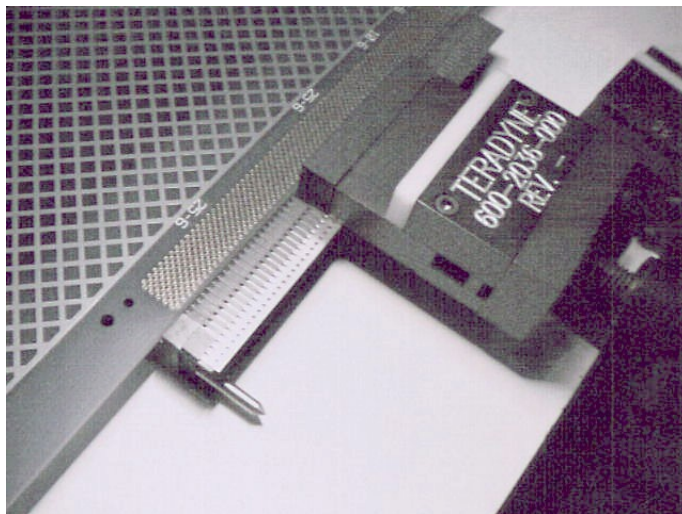


Figure 7

Step 3. Remove the secondary stiffener and set it aside (see Figure 8).

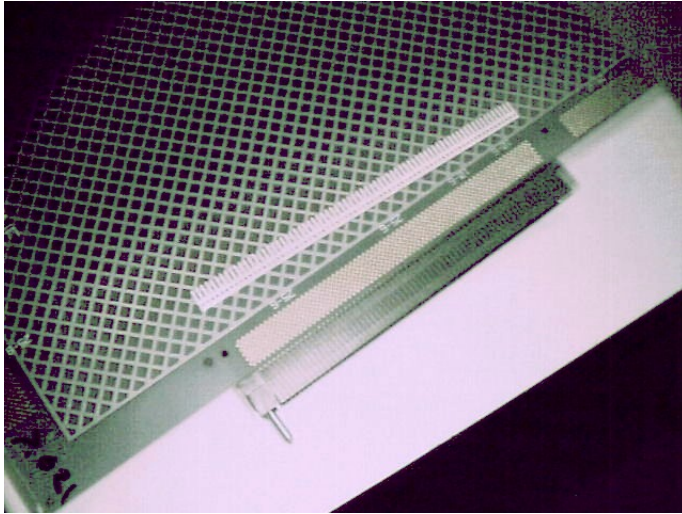


Figure 8

5.0 PROCEDURE – PRIMARY STIFFENER REMOVAL (RIGHT ANGLE MALE & DAUGHTERCARD)

- Step 1. Place the board with the connector on the top side, using care to support the board's bottom face without damaging components or protruding compliant pins. The primary stiffener is now on the top side, and can be removed.
- Step 2. Remove the stiffener from the connector using removal Tool No. 600-1875-000, in the appropriate orientation according to connector type. With the side of the tool with the Delrin insert facing up, place the protruding pins downward into the pilot holes (see Figure 9).

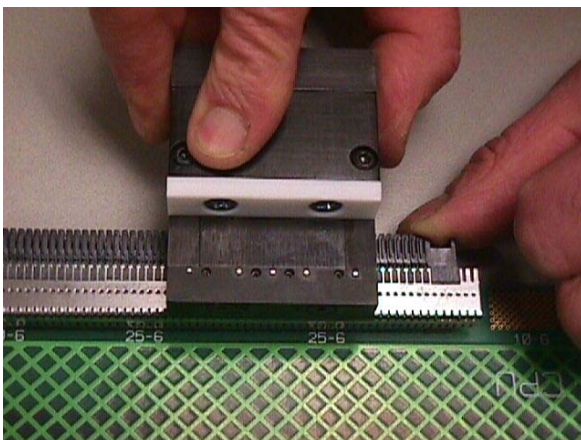


Figure 9

Start at one end of the stiffener and turn the knob counterclockwise until the stiffener starts to move. Repeat this process (see Figure 10) moving the tool gradually from one end of the connector to the other until the stiffener becomes loose and can easily be removed from the assembly.

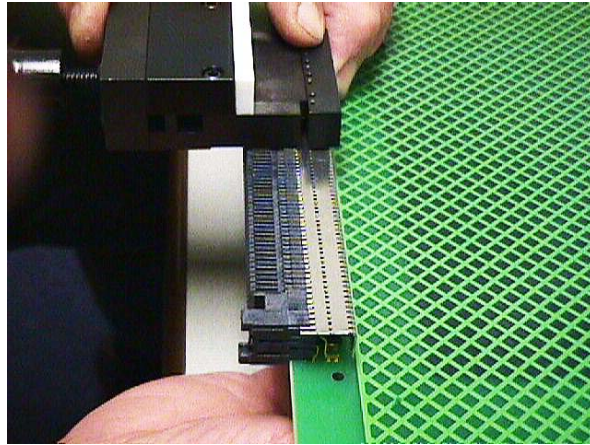


Figure 10

Step 3. Remove the stiffener and set it aside (see Figure 11).

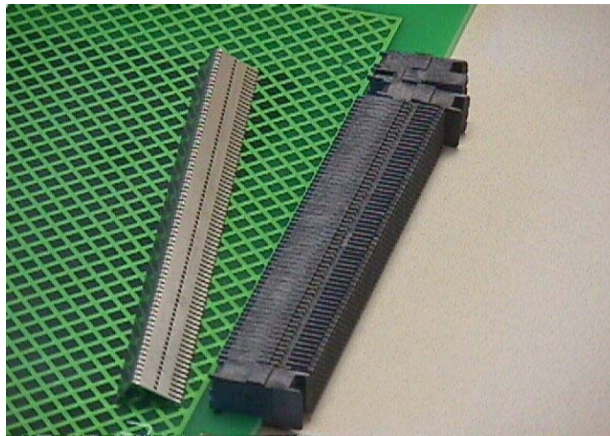


Figure 11

6.0 PROCEDURE - WAFER REMOVAL AND REPLACEMENT

- Step 1 Remove damaged wafer (s) using pliers. Grasp the wafer approximately 4mm to 5mm back from the mating interface and pull straight out (up from the board surface) to remove (see Figures 12 and 13). Remove one additional wafer on each side of the damaged wafer (s). (Do not remove adjacent wafers when repairing eHSD 5+ connectors)



Figure 12

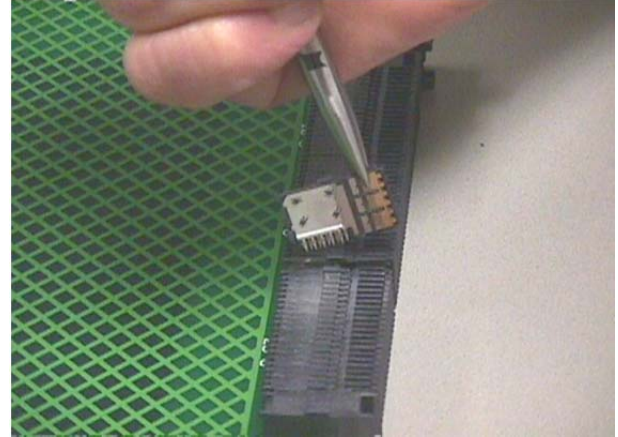


Figure 13

- Step 2 Preseat all three new wafers into the plated through holes (see Figure 14).

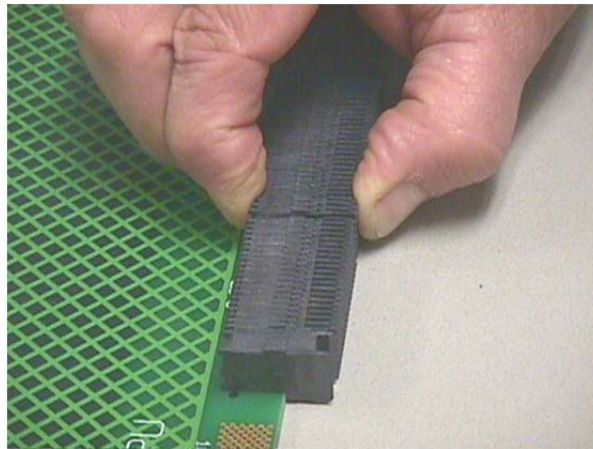
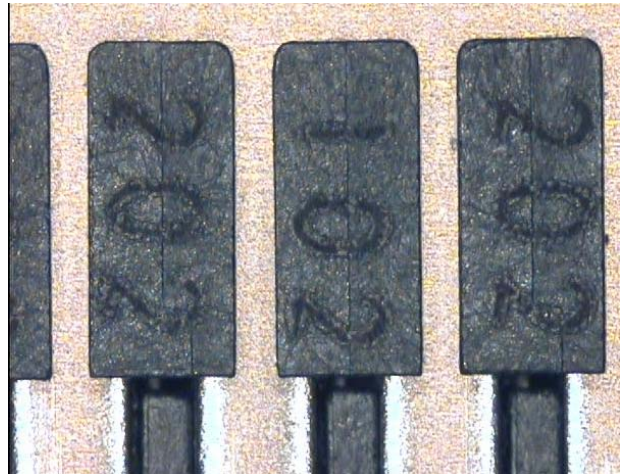
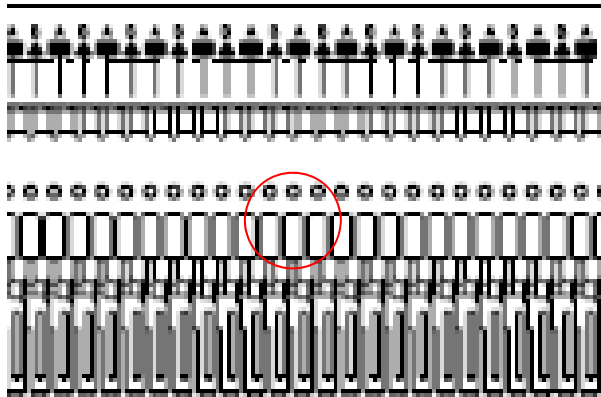


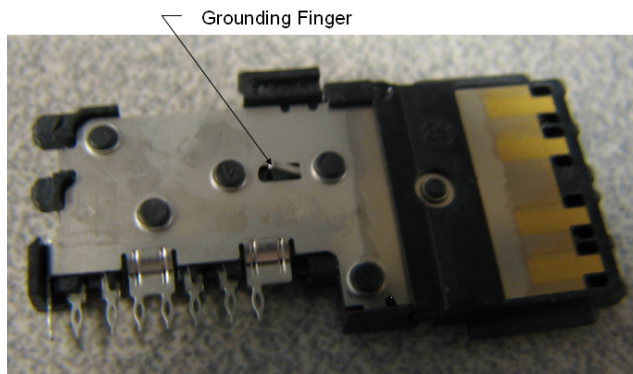
Figure 14

**** For eHSD 5+:

Make sure the correct wafer is being used for replacement. There is a 3 digit number marked on the back of the hat feature. A wafer may have capacitors so it is very important to be certain the correct wafer is used.



After wafer removal examine the adjacent wafer to be certain the grounding beam on the shield was not damaged.



On the replacement wafer check the grounding beam to be certain it is not damaged prior to replacing. Some instances of damage could be grounding shield pressed towards the shield (no preload), bent or missing.

When replacing the wafer make certain the correct wafer is being used as the hole pattern in the board is different between A and B wafers. Extreme care must be taken while preloading the replacement wafer. Carefully wafer as the wafer is preloaded as to not bend the ground beam on the adjacent wafer. There is a tendency for the ground beam to catch the adjacent wafer. With a little manipulation of the adjacent wafers

the replacement wafer can be worked into place. Be careful to align all of the contacts with the appropriate hole in the pwb. Please note shims are not required between the wafers while reworking or seating the eHSD 5+ product.

- Step 3 Place shims along the outside of the wafers being replaced. The shims should be inserted to a minimum depth of 8mm from the mating interface. See Figure 15.

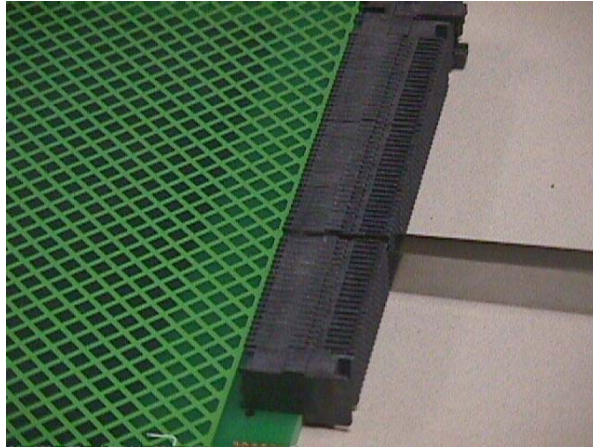


Figure 15

(no shims are required while reworking the eHSD 5+ product)

- Step 4 Place seating block on top of the wafers behind the tabs that hold the stiffener in place, and press until wafers are properly seated (all wafers flush) or gently tap with plastic hammer. Remove shims by pulling away from the connector. See figure 16

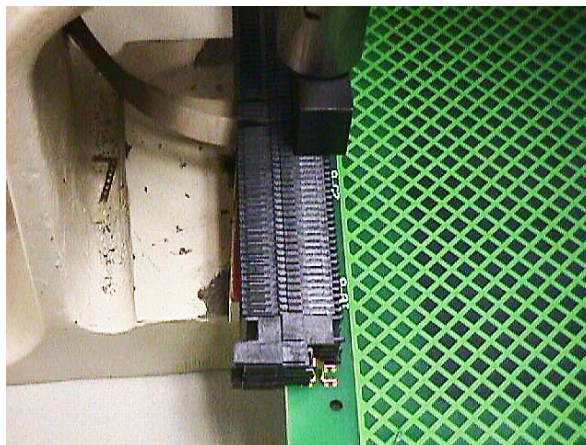


Figure 16

Step 5 Place the stiffener back on connector and align slots with tabs on wafers. See figure 17

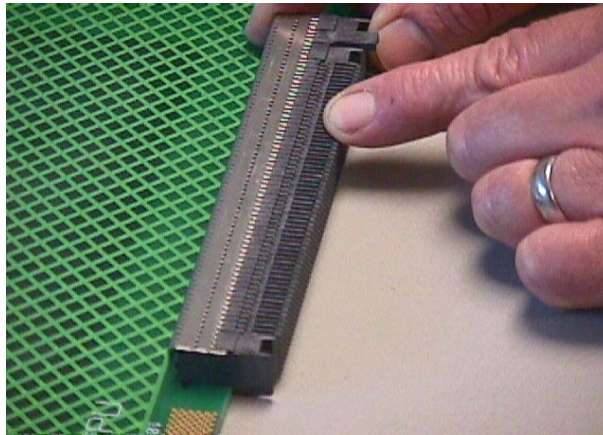


Figure 17

Step 6 Reinstall stiffener on connector using Tool No. 600-1875-000. The tool is rotated 180° from the side used for stiffener removal (Delrin insert facing down). Place the pins downward into the pilot holes at one end of the stiffener and turn the knob clockwise until the stiffener starts to move. See figure 18

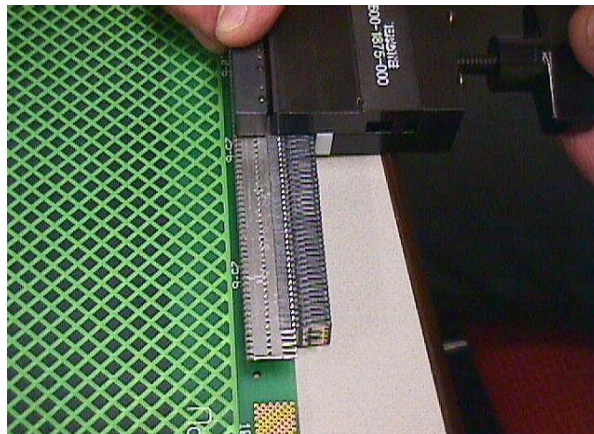


Figure 18

Repeat this process moving the tool gradually up and down the length of the connector until the stiffener is fully seated.

NOTE: Do not attempt to place the tool over a power module when replacing the stiffener.

Step 7 (Right angle male only) reinstall the secondary stiffener using tool No. 600-2036-000. The tool should remain in the same orientation as the removal, with the Delrin insert facing up. Place the pins downward into the pilot holes at one end of the stiffener and turn the knob clockwise until the stiffener starts to move. Repeat this process moving the tool gradually up and down the length of the connector until the stiffener is fully seated.

Step 8 Completely repaired assemble. See figure 19

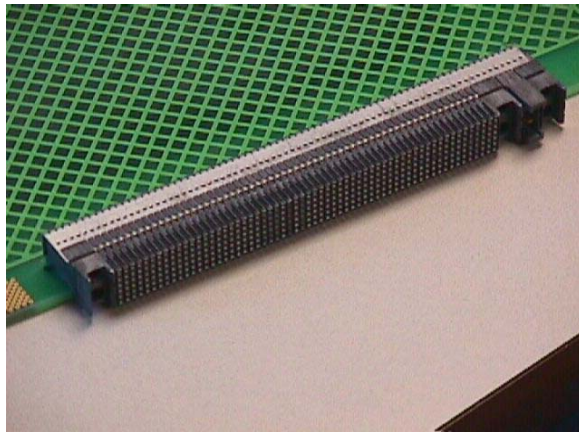


Figure 19