



## TRAVELER S-02

### PAD PLANE PC Board LEAK CHECK

SECTOR type: Outer \_\_\_\_\_ Inner \_\_\_\_\_ Serial No. \_\_\_\_\_

After answering each of the following questions please initial your name.

### MAXIMUM DEFLECTION MEASUREMENT

1. Lay board on surface table and measure maximum gap between table and board: \_\_\_\_\_ in  
(Take measurement from both sides)

Is the gap **LESS** than 0.500 in? Yes \_\_\_ No \_\_\_

If the answer to item 1 is **NO**, stop checking and see instructions.

### LEAK CHECK

2. Connect the board test fixture to the Assembly Shop vacuum bench which has a 30 cfm roughing pump. Tape the edges of the pad plane into the test fixture and then press a dot of Duxseal over the corners where one piece of the tape crosses over another. Open the valve to the bench and read the thermocouple gauge #2 on the bench manifold.

Does the thermocouple gauge read 10 microns (millitorr) or below? Yes \_\_\_ No \_\_\_

3. If the answer to question 2 is **NO**, rub the tapes down with a fingernail around all edges again. Recheck all locations where one piece of the tape crosses over another. Be sure that all corners are sealed with Duxseal. Check with helium leak detector for leak locations along the sealed region. after possible shield area leaks are eliminated.

After possible leak is eliminated does the thermocouple gauge reading is 10 microns or below? Yes \_\_\_ No \_\_\_

Write down the reading: \_\_\_\_\_ microns

# INSTRUCTIONS

If the answer to item 3 is **YES**, attach this inspection record and place board in pre-assembly storage .

If the answer to item 1 is **NO** tag board with **REJECTED - WARPED** .

If the answer to 3 is **NO** tag board with **REJECTED-NOT LEAK** .  
**TIGHT** . Determine where the leaks are and attach this inspection record with a diagram showing the location(s) of the leak(s) and place board in to-be-repaired storage.

**Passed**\_\_\_\_\_

**Rejected**\_\_\_\_\_

Inspectors Signature\_\_\_\_\_ Inspection date:\_\_\_\_\_



## TRAVELER S-03

### PAD PLANE PC Board DIMENSIONAL CHECK

SECTOR type: Outer \_\_\_\_\_ Inner \_\_\_\_\_ Serial No. \_\_\_\_\_

**CAUTION: Do not mar, scratch or otherwise disturb the copper surface of the Pad Plane**

After answering each of the following questions please initial your name.

### BOARD THICKNESS MEASUREMENT

OUTER SECTORS: Refer to dwg # **24A4465** for locations to be measured

INNER SECTORS: Refer to dwg # **24A**\_\_\_\_\_ for locations to be measured

1. Record thickness measurements in 5 places indicated on inspection drawing.

1. \_\_\_\_\_ in      2. \_\_\_\_\_ in      3. \_\_\_\_\_ in

4. \_\_\_\_\_ in      5. \_\_\_\_\_ in

Measure the thickness of the BOARD at the CENTER and each CORNER:  
Are all measurements greater than 0.116 and less than 0.136 inches?

YES \_\_\_\_\_ NO \_\_\_\_\_

2. Is the variation in board thickness less than 0.002 inches?

YES \_\_\_\_\_ NO \_\_\_\_\_

If either item 1 or 2 is marked **NO**, discontinue the dimensional checks and follow the instructions on page 2.

### CMM MEASUREMENTS (using "Vision" machine)

3. Are all pads located within 0.2 mm (0.008 inches) of their ideal positions? (Measured with respect to fiducials). If no, stop the inspection and follow the instructions on page 2.

YES \_\_\_\_\_ NO \_\_\_\_\_

**AT THIS POINT DRILL THE REFERENCE HOLES FOR BOTH THE BONDING AND SOLDERING FIXTURES.**

4. Are the bonding fixture holes within 0.025 mm (0.001 inches) of ideal position?  
YES \_\_\_\_\_ NO \_\_\_\_\_

5. Are the soldering fixture holes within 0.1 mm (0.004 inches) of ideal position?  
YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to 4 or 5 is no, inspect the appropriate jig for wear or damage.

6. Choose 15 Connector locations. Determine the footprint location from the outside corners of four corner solder pads. Measuring with respect to the bonding fixture reference holes, are the connector pad footprints within 0.4 mm (0.016 inches) of ideal position?  
YES \_\_\_\_\_ NO \_\_\_\_\_

### INSTRUCTIONS:

If any item (1 - 6) is marked **NO** tag the board "**REJECTED-DIMENSIONAL CHECK**" and indicate below and place it in "reject" storage with it's CMM printout (if any).

If items 1-6 are all marked **YES**, attach this inspection record and CMM print out and place the board in pre-assembly storage.

Passed \_\_\_\_\_

Rejected \_\_\_\_\_

Inspector's signature \_\_\_\_\_

Inspection date: \_\_/\_\_/199\_\_



TRAVELER S-04

PAD PLANE PC Board Resistance and Continuity

SECTOR type: Outer \_\_\_\_ Inner \_\_\_\_ Serial No. \_\_\_\_\_

After answering each of the following questions please initial your name.

1. Are there any connector pin to ground or pin to pin resistances < 20 MOhm? If yes, list the connector(s) and pin(s) Yes \_\_, No \_\_

\_\_\_\_\_  
\_\_\_\_\_

2. Are any connector geographic addresses coded incorrectly? If yes, list the connector number. Yes \_\_, No \_\_

\_\_\_\_\_  
\_\_\_\_\_

3. Does any pin lack continuity (> 4 ohms) to the appropriate pad? If yes, list connector address and pin number. Yes \_\_, No \_\_

\_\_\_\_\_  
\_\_\_\_\_

4. Is the capacitance of any trace less than 5 or greater than 20 pf? If yes, list the connector/pin number attached to the trace. Yes \_\_, No \_\_

\_\_\_\_\_  
\_\_\_\_\_

• General Comments:

\_\_\_\_\_  
\_\_\_\_\_

**INSTRUCTIONS**

If any item (1 - 4) is marked **YES**, tag the board "REJECTED SHORTS/OPEN", so indicate below, and place it in "reject" storage.

If items 1-4 are all marked **NO**, attach this inspection record and electrical test print out and place the board in pre-assembly storage.

Passed \_\_\_\_\_

Rejected \_\_\_\_\_

Inspector's signature \_\_\_\_\_ Inspection date: \_\_/\_\_/199\_\_





TRAVELER S-05

STRONGBACK MACHINING DIMENSIONAL CHECK

SECTOR type: Outer \_\_\_\_\_ Inner \_\_\_\_\_ Serial No. \_\_\_\_\_

**FULL DIMENSIONAL CHECK**

If this Strongback has been selected for a full dimensional check, check here \_\_\_\_\_ and do not fill out items 1 thru 6 below. Follow instructions at the end of this traveler.

**SPOT CHECK ONLY**

If this Strongback has been selected for a Spotcheck only, proceed below.

After answering each of the following questions please initial your name.

CRITICAL DIMENSIONS CHECK

OUTER SECTORS: Use dwg # 24A4285 OUTER STRONGBACK SPOT INSPECT.

INNER SECTORS: Use dwg # 24A INNER STRONGBACK SPOT INSPECT.

1. Is the surface tagged -A- on this part flat within .003" in the unrestrained condition? YES \_\_\_\_\_ NO \_\_\_\_\_  
If the answer is no, write the total variation: \_\_\_\_\_ in

2. Record HEIGHT measurement in 4 places indicated on Spotcheck dwg:  
1. \_\_\_\_\_ in 2. \_\_\_\_\_ in 3. \_\_\_\_\_ in 4. \_\_\_\_\_ in

OUTER SECTORS: Does the height of the part exceed 3.135 in?

INNER SECTORS: Does the height of the part exceed 3.295 in?  
YES \_\_\_\_\_ NO \_\_\_\_\_

3. Record SIZE and LOCATION of Datum holes -X- and -Y-:  
Dia hole -X-: \_\_\_\_\_ in LOC: X \_\_\_\_\_ Y \_\_\_\_\_ in  
Dia hole -Y-: \_\_\_\_\_ in LOC: X \_\_\_\_\_ Y \_\_\_\_\_ in  
Distance between hole -X- and hole -Y-: \_\_\_\_\_ in

ARE the holes -X- and -Y- in within TOLERANCE and is the PATTERN located within TOLERANCE:

YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to any question 1 through 3 is **NO** discontinue the dimensional check and follow the instructions at the end of this traveler.

**SECONDARY DIMENSIONS CHECK**

4. Record SIZE and LOCATION of the three nominal .2503 dia hole pattern:

		X	Y
HOLE #1 DIA:	_____ in	_____	_____
HOLE #2 DIA:	_____ in	_____	_____
HOLE #3 DIA:	_____ in	_____	_____

ARE the three .2503 Dia holes in TOLERANCE and True Position in TOLERANCE:

YES\_\_\_ NO\_\_\_

5. Record SIZE and LOCATION of the six each SLOTS highlighted in red on the Spotcheck dwg:

SLOT #	WIDTH	LENGTH	X loc.	Y loc.
1	_____	_____	_____	_____
2	_____	_____	_____	_____
3	_____	_____	_____	_____
4	_____	_____	_____	_____
5	_____	_____	_____	_____
6	_____	_____	_____	_____

Are the 6 SLOTS measured in TOLERANCE with respect to SIZE and LOCATION?

YES\_\_\_ NO\_\_\_

6. Record SIZE and DEPTH of the 6 each .3125-18UNC-2B tapped HOLES

HOLE #1: Go/No Go ?:	_____	LOC: X	_____	Y	_____	in
HOLE #2: Go/No Go ?:	_____	LOC: X	_____	Y	_____	in
HOLE #3: Go/No Go ?:	_____	LOC: X	_____	Y	_____	in
HOLE #4: Go/No Go ?:	_____	LOC: X	_____	Y	_____	in
HOLE #5: Go/No Go ?:	_____	LOC: X	_____	Y	_____	in
HOLE #6: Go/No Go ?:	_____	LOC: X	_____	Y	_____	in

Are the 6 MOUNTING HOLES in TOLERANCE and is their LOCATION in TOLERANCE.

YES\_\_\_ NO\_\_\_



# INSTRUCTIONS

## FULL DIMENSIONAL CHECK

If this Strongback was selected for a full dimensional check, use a copy of Dwg # 24A3925G as a checkprint. Write the Strongback serial number on the print just above the Title block. Fill out the pass-rejected line below, sign the traveler and place it and the checkprint in the folder for this Strongback

## SPOT CHECK

If the answer to all items 1 thru 6 is **YES**, place this inspection record and the spotcheck drawing for this sector in the traveller envelope for this Strongback and place this Strongback in the pre-assembly storage .

If the answer to any items 1 thru 3 is **NO**, tag the Strongback "**REJECTED-DIMENSIONAL CHECK**", so indicate below and place in "rejected" storage.

If the answer to any items 4 thru 6 is **NO**, tag the Strongback "**HOLD FOR RE-WORK**" and place this Strongback in the to-be-reworked storage

**PASSED** \_\_\_\_\_

**REJECTED** \_\_\_\_\_

Inspector's Signature \_\_\_\_\_ Inspection Date: \_\_/\_\_/199





TRAVELER S-10

NOTE: This is a Batch traveler

SHIELD WIRE MOUNT, RIGHT - Q.A. CHECK

SHIELD WIRE MOUNT RIGHT, INNER SECTOR, dwg # 24A3974

amount: \_\_\_\_\_ each

SHIELD WIRE MOUNT RIGHT, OUTER SECTOR, dwg #24A3874

amount: \_\_\_\_\_ each

J.O. #: \_\_\_\_\_

J.O. date \_\_\_\_/\_\_\_\_/199\_\_\_\_

After answering each of the following question please initial your name.

CERTIFICATION CONFIRMATION

1. Does each part in this batch conform to the dimensions and tolerances of it's drawing, as verified by the LBL inspection department and STAR lead tech. John Wirth?.

Yes \_\_ , No \_\_

IF THE ANSWER TO QUESTION 1 ABOVE IS NO BAG AND TAG BOARDS with "NO CERTIFICATION" AND NOTIFY COGNIZANT ENGINEER.

VISUAL INSPECTION

2. When resting on table is the distance from board surface to table less than 0.060 inches?

Yes \_\_, No \_\_

CLEANING

3. Have parts been cleaned in accordance with STAR cleaning method? (wash with Diversey 909 detergent, rinse with deionized water, blow dry with dry nitrogen gas, and wrapped with lint free paper and aluminum foil)

Yes \_\_, No \_\_

**INSTRUCTIONS** \_\_\_\_\_

If any item (2 - 3) is marked **NO**, tag the board "**REJECTED**" and mark below and place it in "reject" storage. If items 2 - 3 are all marked **YES**, attach this inspection record and place the board in "pre-assembly storage".

**PASSED** \_\_\_\_\_

**REJECTED** \_\_\_\_\_

Inspector's signature \_\_\_\_\_ Inspection date: \_\_\_\_/\_\_\_\_/199\_\_\_\_