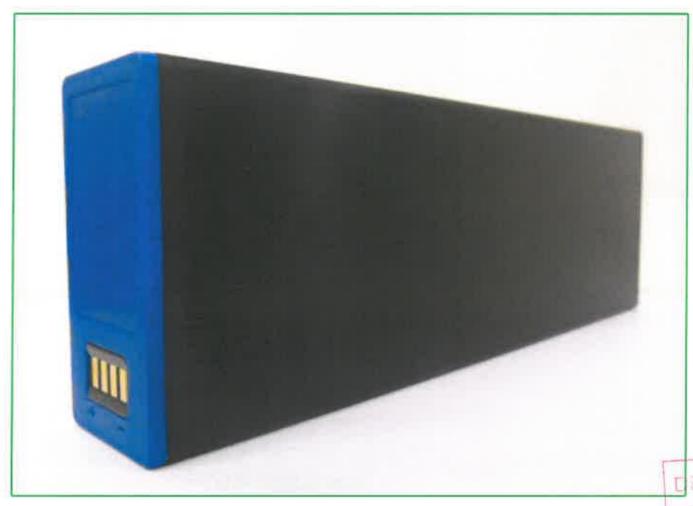
# Covidien Lead Assembly Work Instruction - L6A051BE00004-Stage 4



DEVISIAGE 4

FULL PRODUCTION

**IMPORTANT NOTE**: Quickly solder the fuse to the board to avoid damaging or blowing the fuse.

**IMPORTANT NOTE**: Please ensure that the soldering iron is tested and veryfied for the required temperature before use.



**ESD Cutters** 

**DEV STAGE 4** 

**FULL PRODUCTION** 

#### **Reference HSR0005**



Note: Soldering Iron set at 400°C.



Note: Use lead free solder HW1012.

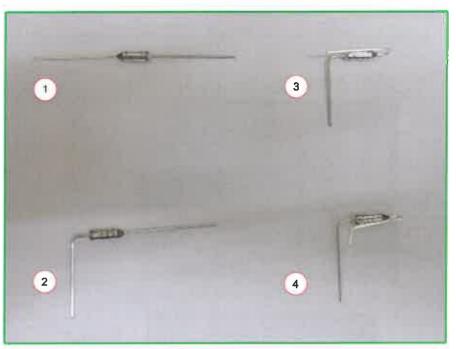
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DATE 21/05/15	HAME	JME	SCALE		Accurrence 114. Unit 20, Looser Road,		CAT NO.:		SHT:	1	accutrenics	
18/6/15	CHIEF A NOTE NOTE NOTE	Hericastile under Lymn, Staffrenshire, England, 575-7LB	Herwcastle-under-Lymn, NG/E95004		L6A051BE00004_WI	Total:	341	confinenceal tection scallings				

## End Cap Assembly – Bending the Fuse

Bend the fuse FU0128B into shape using the fuse bending jig.









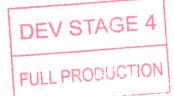
DEV STAGE 4
FULL PRODUCTION

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	DATE:	21/05/15	NAME:	JME	SCALE	Accutronics Ltd. Unit 20, Loomer Road,		CAT No.:		SHT:	3	accutrenics
-	DATE:	18/6/15	CHKD:	94	NTS	Newcastle-under-Lyme, Staffordshire, England. ST5 7LB	NDE96004		L6A051BE00004_WI	Total:	14	professional battery solutions

# **QUALITY KEYPOINTS**











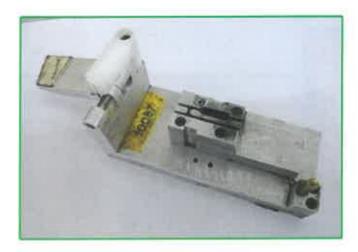
Formed incorrectly



Must be straight edge not curved.

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	C	19			NOT, IN WHOLE OR IN PART, BE REPRO IN WRITING BY ACCUTRONICS LIMITED			Covidien Lead Assembly Work Instruction		Covidien Pl	3540/PB560 Ventilator
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DATE:	10.	CHKD:	DA	NT5	Newcastle-under-Lyme, Staffordshire, England. ST5 7LB	NDE96004		L6A051BE00004_WI	Total:	14	professional battery solutions

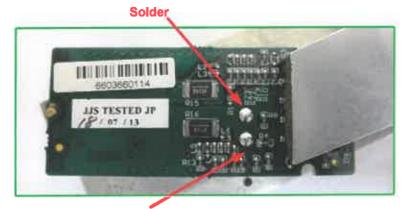
### End Cap Assembly – Attaching the fuse to the Board



Cut off the solder legs as close as possible to the PCB. Using ESD cutters as below.

2

Using jig J0087 solder the fuse FU0128B to the board PCBA10003A01G.



Solder



Note: Soldering Iron set at 400°C.



Note: Use lead free solder HW1012.



Fit the board PCBA10003A01G into endcap moulding (CA3030BL).

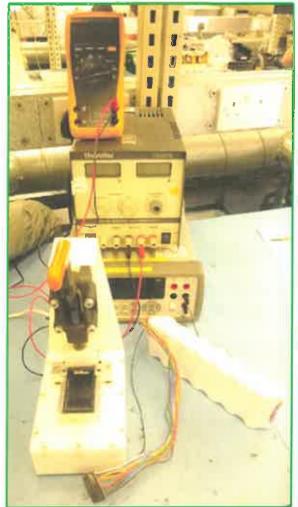


Warning: Quickly solder the fuse to the board to avoid damaging or blowing the fuse.

A continuity Test must be done after each fuse is fitted with a multi meter.

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#### **Current Drain Test**



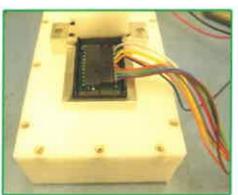
Turn on the test equipment and change the setting on the micro meter by pressing shift then DC V as shown below.

Press the Range arrow indicated 3 times.





Attach the core pack to the board and check the readings should read between 25-150 are correct as shown below.





Fluke Tester – 26v or more – turn on the power supply for 5 seconds and wake each PCB up.

Make sure the resistance does not drop to 0 if this happens the PCB is a failiure.

Using the switch box, test between 1-3 the micro meter uADC.

If less or more then the board is a fail.

Then switch between 2-4 the micro meter should read between 25-150 uADC.

If less or more then the PCB is a fail,

**DEV STAGE 4** 

**FULL PRODUCTION** 

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	DATE: 21/05/15	NAME: JME	SCALE	Accutronics Ltd. Unit 20, Loomer Road.		CAT No.:		SHT:	
	DATE: 18/6/15	снко: ОА	NT5	Newcastle-under-Lyme, Staffordshire, England. STS 7LB	NDE96004		L6A051BE00004_WI	Total:	

Covidien PB540/PB560 Ventilator

SHT:	6	accutrenics
Total:	14	professional battery solutions

### End Cap Assembly – Secure End Cap Assembly



Soldering Station must be set at 200 Degrees



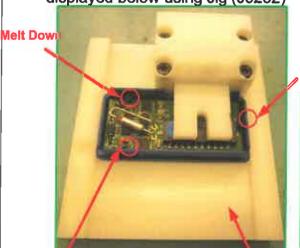
**IMPORTANT NOTE:** Ensure the Green LED is **NOT** lit this indicates the temperature is correct.

**DEV STAGE 4** 



Heat Stake Solder Tip (T0182)

Using the heatstake melt the plastic at the points displayed below using Jig (J0252)

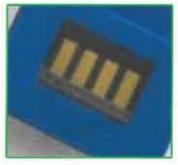


**Melt Down** 



**IMPORTANT NOTE:** Ensure that the contacts are sitting flush with the endcap on the reverse side of the board.





- 10.4	-	2000
197	LU	

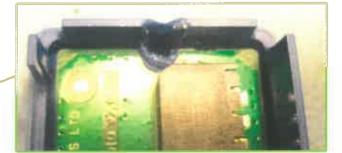
Heat Stake Jig (J0252)

- Į				· /						
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	С						Covidien Lead Assembly Work Instruction	(	Covidien PB	540/PB560 Ventilator
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	DATE: (8(6)15	CHKD:	NTS N	Unit 20, Loomer Road, Newcastle-under-Lyme, Staffordshire, England. STS 7LB	NDE96004		L6A051BE00004_WI	Total:	14	professional battery solutions

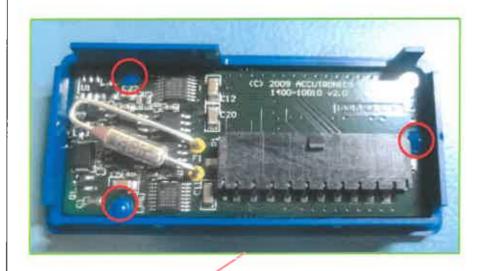
## **QUALITY KEYPOINTS**







Side wall melted



Too much heat

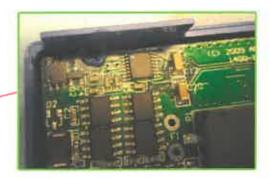


All heat-stakes points are formed correctly. (Dorned)

**DEV STAGE 4** 

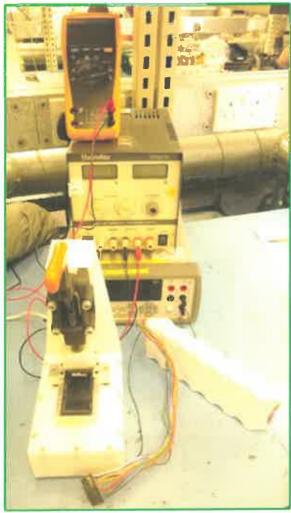
**FULL PRODUCTION** 

Too much pressure



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DATE: 18/6/15	снко:	NTS NTS Staffordshire, England, ST5 7LB	NDE96004	L6A051BE00004_WI	Total: 14	professional battery solutions

#### **Current Drain Test**



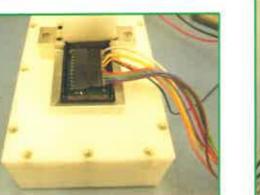
Turn on the test equipment and change the setting on the micro meter by pressing shift then DC V as shown below.

Press the Range arrow indicated 3 times.





Attach the core pack to the board and check the readings should read between 25-150 are correct as shown below.





**DEV STAGE 4** 

FULL PRODUCTION

Fluke Tester - 26v or more turn on the power supply for 5 seconds and wake each PCB up.

Make sure the resistance does not drop to 0 if this happens the PCB is a failiure.

Using the switch box, test between 1-3 the micro meter uADC.

If less or more then the board is a fail.

Then switch between 2-4 the micro meter should read between 25-150 uADC. If less or more then the PCB is a fail.

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DATE: 21/05/15	NAME: JME	SCALE Accutronics Ltd. Unit 20, Loomer Road,	CAT No.:	SHT: 9 accutrenics
DATE: 18/6/15	снко: ОА	NTS Staffordshire, England, ST3 7LB	L6A051BE00004_WI	Total: 14 professional battery solutions

## **End Cap Assembly – Epoxy Application**

FISNAR TYPE JBE1113 AIR DELIVERY DISPENSER





AIR PRESSURE SETTINGS 1.5 BAR







Olive Nozzle Tip (HW1640)



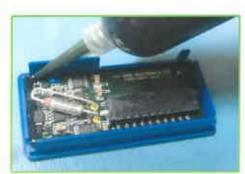


Using a Olive Nozzle (HW1640) apply flexible epoxy adhesive GL0202 around inside edge between the end-cap and PCB as shown below ensure that all 3 heatstake position are covered



CHECK DATE AND TIME
RECORDED ON LABEL.
MUST START USING WITHIN 20
MINUTES OF BEING DISPENSED.
DISPOSE OF EPOXY AFTER
90MINSFROM DISPENSED TIME.

DEV STAGE 4
FULL PRODUCTION







When applying the flexible epoxy (GL0202) make sure the two capacitors identified are left clear.

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## **QUALITY KEYPOINTS**









3

Too much epoxy applied capacitor must be kept clear.



Too much epoxy. Connector is blocked.

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### **Enviromental Chamber**



**Enviromental Chamber** 



Place End Cap Assemblies in Chamber



Place thermocouple in the chamber to record temperature.

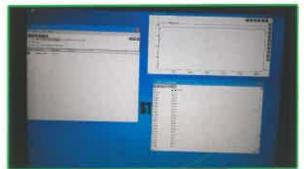
Make sure the glass door of the Chamber is closed securely.



Ensure that the temperature of the chamber is set at 60° C ± 2.0° C



Ensure that the safety
Thermostat of the chamber is set at 90° C ± 2.0° C



Data is logged.
DEV STAGE 4

Cure Time is 10 Hours.
FULL PRODUCTIONRefer to NQA125

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	DATE: 18/6/15	CHKD:	04	NTS	Newcastle-under-Lyme, Staffordshire, England. ST5 7LB	NDE96004		L6A051BE0000	4_Wi	Total:	14	professional battery solutions

#### Procedure:

The following test needs to be completed after the PCBA has been heat staked and the flexible epoxy has been cured at 60°C for a minimum of 10 hours. This is the only time the test will be done and values will be recorded on the board itself

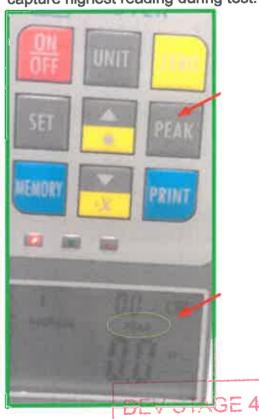
Step 1: Ensure load tester is turned on by pressing the on/off button



Step 2: Ensure that zero is pressed to reset the reading



Step 3: Press the peak button and 'peak' will appear above reading. This will capture highest reading during test.



**FULL PRODUCTION** 

All pictures are examples and do not represent actual required exact value from load test. Instrucitions specify the required values and their limits.

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	CHKD: 9A	Newcastle-us	n-under-Lyme, n-under-Lyme, nire, England. ST5 7LB	L6A051BE00004_WI	Total: 14	professional battery solutions	

Step 4: Place assembly for testing in the jig



Step 5: Using lever; gently exert force till the tester reads 133 (-0+5). (133-138N)Make a note of the load on the board itself.







Step 5: Press zero before next test to reset the reading at 0.0

Due to nature of the test it is not possible to test all at exactly 133N. Test values of slightly above 133N are acceptable ensuring that min 133N is applied. Any value below 133N is a fail and needs to be segregated and passed to team leader/Manager.

All pictures are examples and do not represent actual required exact value from load test. Instrucitions specify the required values and their limits.

DEV STAGE 4
PULL PRODUCTION

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