



## Slammer heatsink intallation manual.

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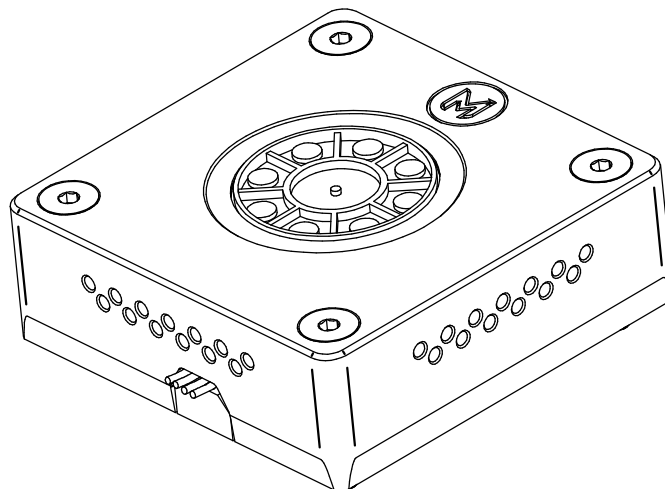
Please read instructions carefully before installation. If you do not fully understand these instructions do not attempt installation! Improper installation can lead to motherboard, pump and or CPU damage!

The Modultra Slammer is a low profile CNC machined DDC pump heatsink. Designed to be a replacement for the stock Laing DDC rear cover. The slammer is our lowest profile heatsink and measures just 21mm tall. However due to its small size the Slammer has a low thermal mass and because of this it is recommended to only use in conjunction with a brass or metal pump blocks. The Slammer is not recommended for use on acrylic, acetal or any other plastic pump blocks.

Slammer kit includes the following items:

1. Slammer CNC'd 6061 aluminum heatsink
2. Slammer .6mm thermal pad
3. Slammer insulator sheet.
4. 4x M4x25mm flat head stainless steel screws

Slammer does not include any pump! You will need to source your pump. The slammer is compatible with any Laing/Xylem series DDC pumps, including the Ek 4.2 or clones. As allways we recommend PWM pumps so that pump speed can be controlled by your system.



# Pump heatsink installation

Item	File Name (no extension)	Revision number	Quantit
1	Laing DDC 3.1 pwm pump	Laing DDC or clone	1
2	MDTR-A-060	DDC thermal pad .6 mm	1
3	Laing DDC oring	Not included,	1
4	MDTR-A-050	Slammer DDC heatsink	1
5	M4 X 25 mm PFH	M4 x 25mm flat head	4
6	MDTR-A-051	Slammer insulator	1

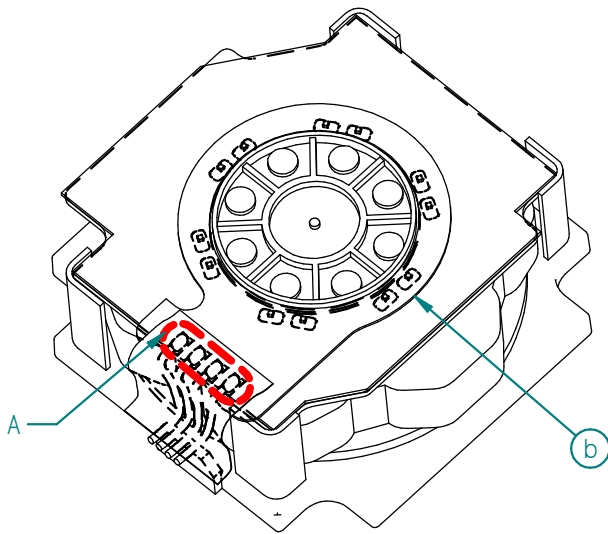


Fig 2.5

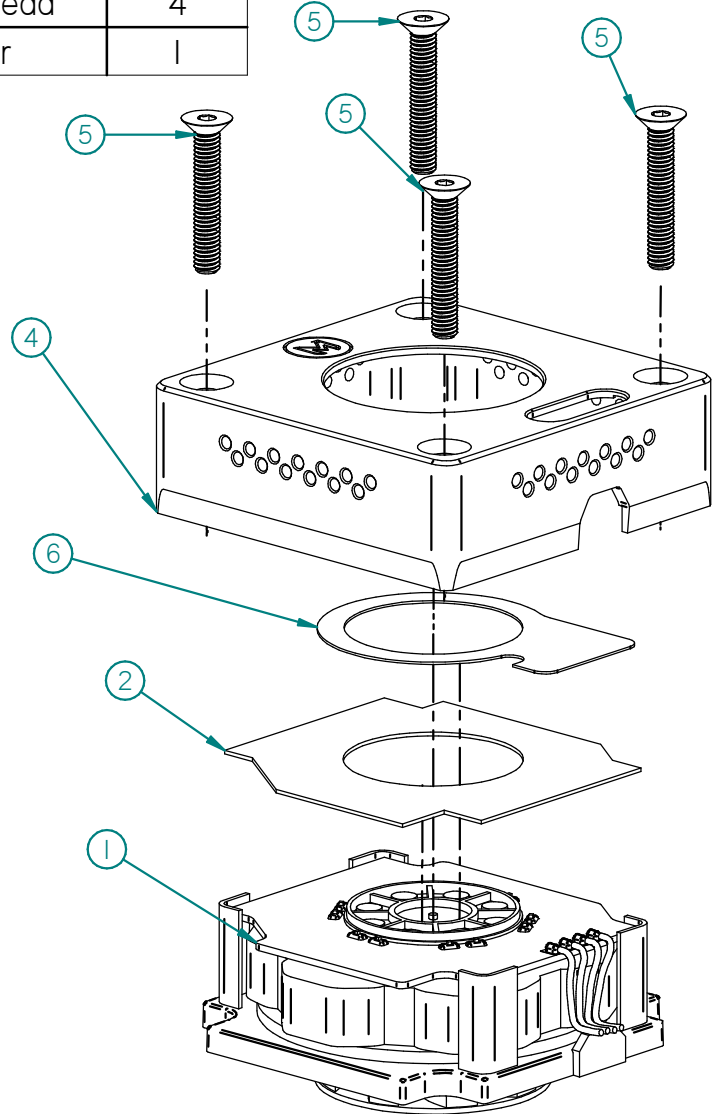


fig 2.55

## Pump heatsink installation

Step 1 Remove stock Laing ddc pump housing.

Step 2. Inspect pump circuit board area. Any solder leads or wiring protrusion over .078 in or 2mm should be trimmed before installing pump heatsink. Areas where solder leads should be inspected and or trimmed are marked with A and B in Fig 2.5. A small set of side cutters can be used to snip away any long solder protrusions. A small file can likewise be used to file down solder protrusions. If any solder joint contacts inside of heatsink it will need to be filed or trimmed.

Failure to trim tall solder joints can cause a ground short to heasink housing, Ground shorts can damage motherboard and or fan controller.

Step 3. Use 1 piece of supplied kapton tape to cover solder joints and pump wiring as shown in Fig 2.6 Detail C. Tape should be applied so that it covers pump wire solder pads and extends down pump wiring toward wire capture boss. If installed correctly, tape will extend slightly outside of heatsink when it is installed. Tape is provided as an additional layer of safety to prevent ground shorts between pump wiring and pump housing. 2 pieces of kapton are provided, one is extra.

Step 4. Apply provided thermal pad on top of pump circuit board. Thermal pad should go over kapton tape applied in previous step. Thermal pad should be oriented so that its perimeter matches the pump circuit board perimeter as shown in Fig2.6.

Step 5. Install black insulator sheet (item #6) on top of thermal pad as shown in fig2.55. Insulator sheet it designed to prevent external intrusions from shorting on motor coils, or power wiring.

Step 6 Install heatsink onto pump, taking note that pump wiring will exit through relief cutout on heatsink.

Step 7. Place pump/heatsink assembly onto pump block. Do not forget to include pump Oring. Pump/heatsink assembly can mount in any one of 4 directions on block. This can be used to orient pump wiring in preferred direction. After orientation is determined, use provided M4x 25mm flat head screws to attach pump/heatsink to pump block. If heatsink is installed correctly there should be no gap between the heatsink base and pump block. Contact between heasink base and block is essential for heat conduction into loop coolant.

Step 8. If user has a multimeter avalialbe it is good practice to test for ground shorts between pump wiring and heatsink. After installation remove one heatsink mounting screw. Next unplug pump connector. Use multimeter to check continuity between all pump wires and inside of removed screw hole. It may be nesscary to scratch paint off on wall inside screw hole to get proper contact.

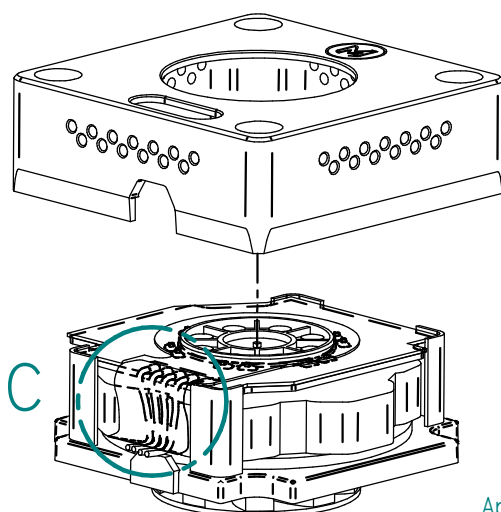
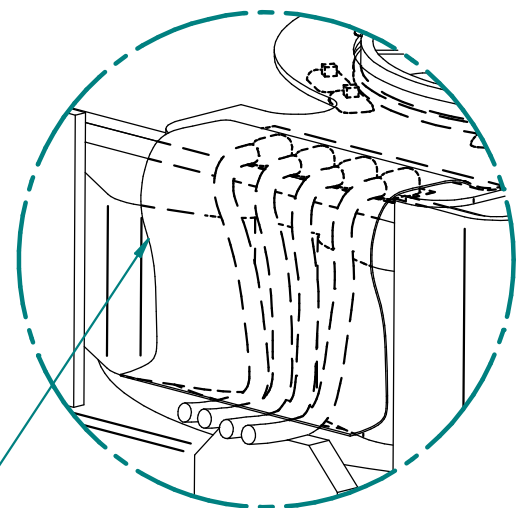


Fig 2.6



DETAIL C