

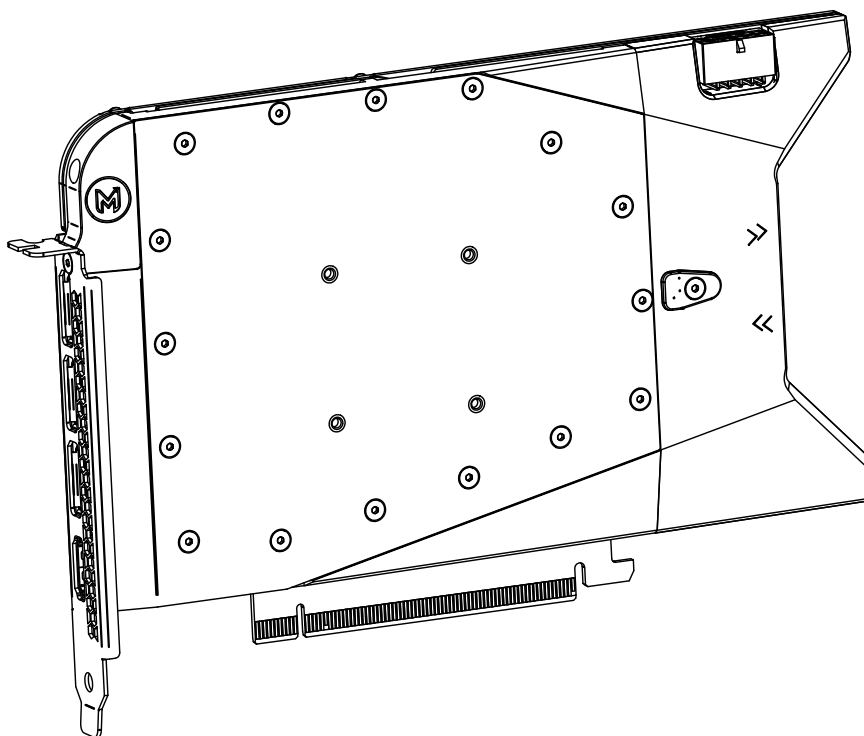
WOBO GPU block intallation manual.

Thank you for purchasing Modultra products. We strive for quality and perfection in everything we do. All of our product line is designed and made in the U.S.A.

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

Modultra GPU blocks are fully leak tested prior to delivery, however it is imperative that the end users leak test their system prior to adding coolant. Modultra will not be held responsible for end user failure to verify cooling system integrity prior to adding coolant.

Modultra Waterboy (WOBO) : Worlds smallest Nvidia 4090 FE water block. Designed to be ultra thin at a just under .530 inch (13.5mm) thick from the back of the PCB. This card excels in small form factor builds, especially sandwich style builds where a radiator can be placed over the GPU slot. The Waterboy block is CNC machined from brass, copper, stainless steel and acetal. WOBO is finished in Cerakote ceramic coating for superiority durability and corrosion resistance. WOBO is available with either G 1/8 or G1/4 ports. There is no thickness difference between ports, however G1/8 fittings are more compact and will flow the same as the larger G1/4 due to block passageway sizes. WOBO uses the stock rear spring from the Nvidia 4090FE and installation is not possible without this spring.



Quick note on fittings sizes

Fitting diameters:

Due to the compact nature of the WOBO GPU block, fittings used for entry and exit should not exceed the following diameters and or thread lengths. Otherwise fittings will interfere with each other or block.

WOBO G1/4 port = .830 inch (21mm) Maximum fitting diameter

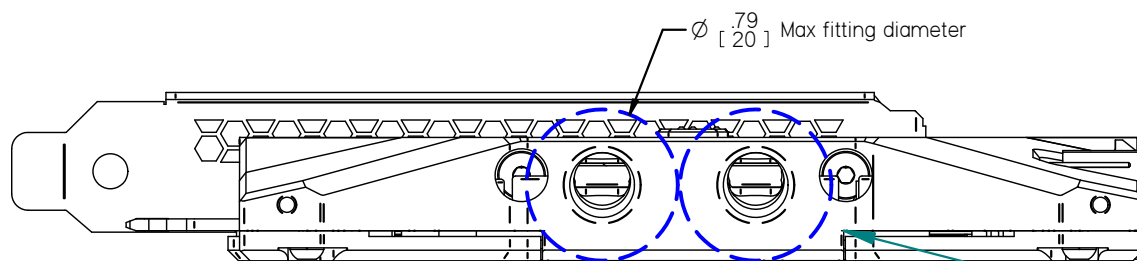
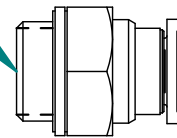
WOBO G1/8 port = .790 inch (20mm) Maximum fitting diameter

fitting thread length:

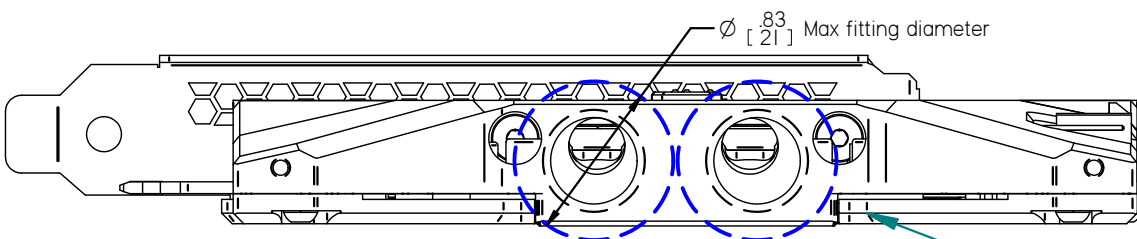
WOBO G1/4 port = .300 inch (7.62mm) Maximum fitting thread length

WOBO G1/8 port = .300 inch (7.62mm) Maximum fitting thread length

Maximum fitting thread length not
to exceed .300 inch (7.62mm)



G 1/8 entry ports



G 1/4 entry ports

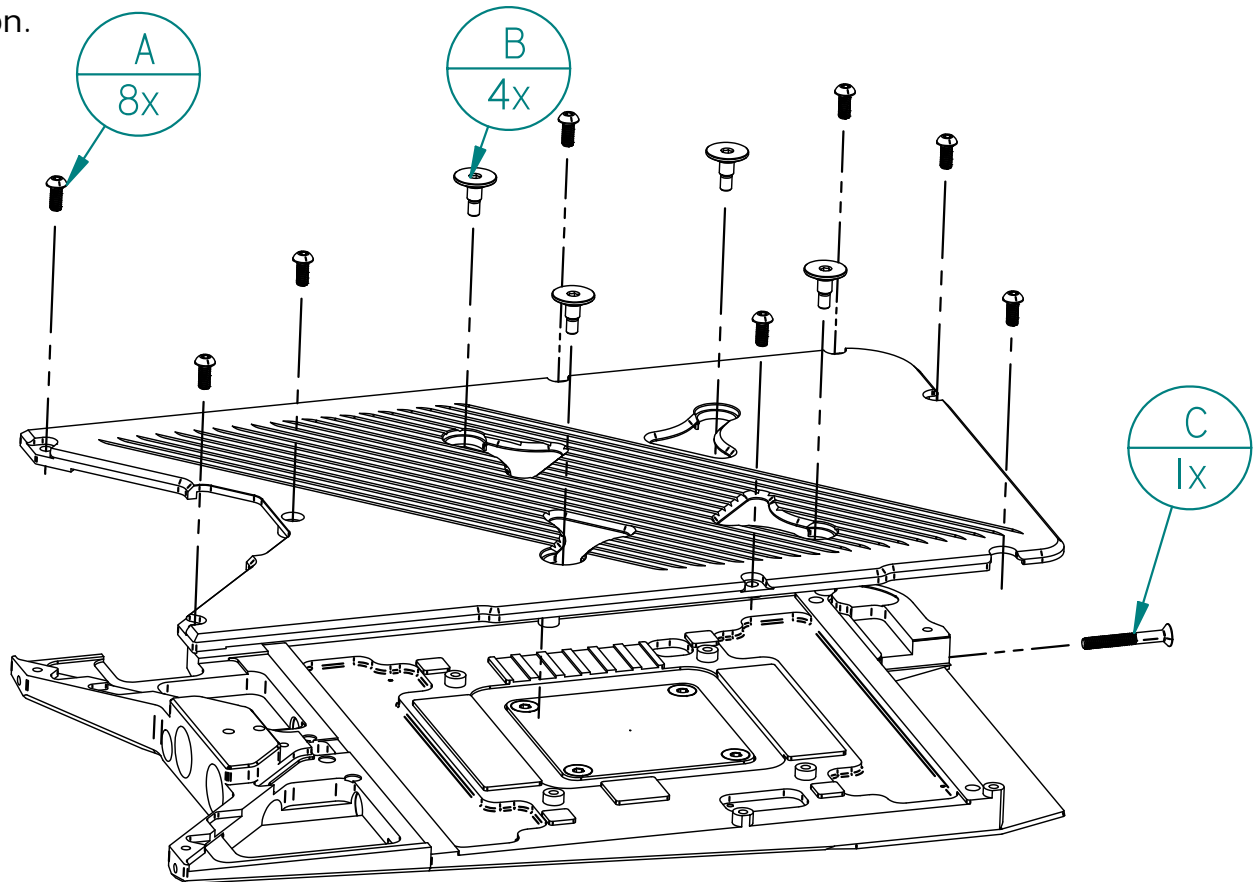
Block installation:

The first step for block installation is removal of the stock 4090Fe cooler.

This procedure is not covered in this install manual as various block teardown guides are available on the web including the official guide on Nvidias Youtube channel. Please refer to these resources for stock cooler removal.

Step 1:

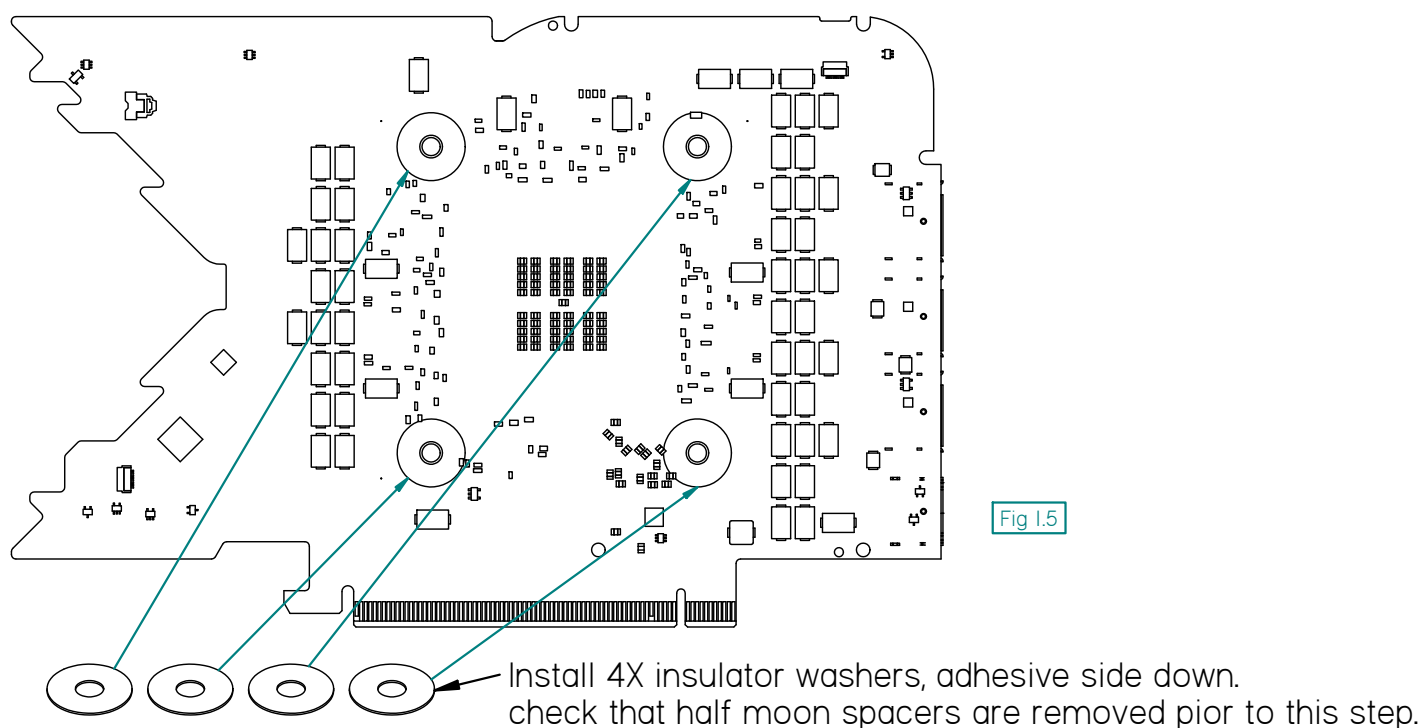
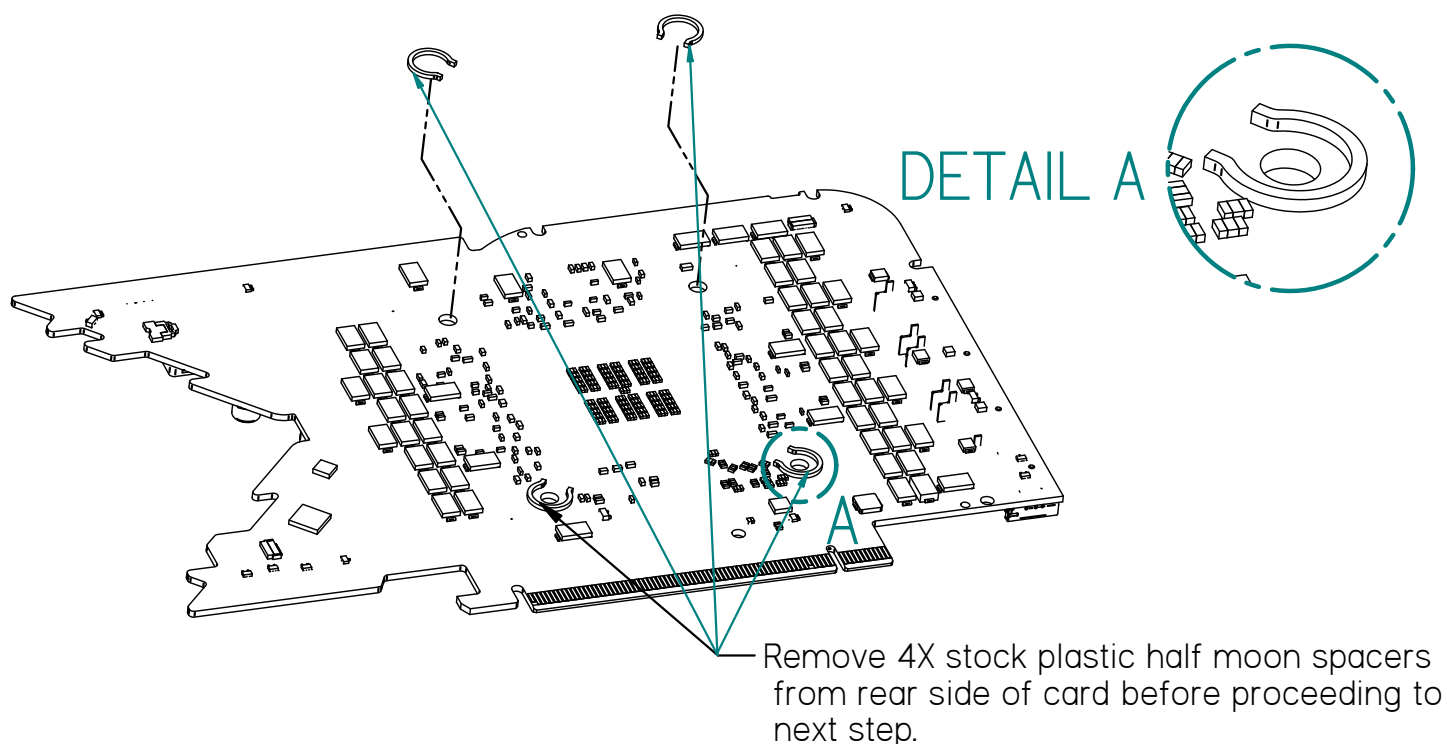
WOBO block ships partially assembled, remove back plate by removing 8x m2.5 x6mm pan head screws (A) and 4x M2.5 back plate spring mounting screws (B). Also remove 20mm M2.5 flat head screw from near IO area of card (C). Set screws aside for reinstallation.



Step 2:

Stock 4090 cooler uses black plastic half moon insulator clips on the rear side of the card around the stock back spring mounting holes. these clips must be removed before installing WOBO block. Failure to remove these clips will damage back plate or GPU PCB! After removing all 4 insulator clips, place Modultra insulating washers on card rear side in same location where stock insulator clips were removed. Modultra insulating washers should be aligned with the 4 back plate spring through holes as seen in figure 1.5. Insulator washers have adhesive on one side, this side should face down towards card in order to hold in place after installation.

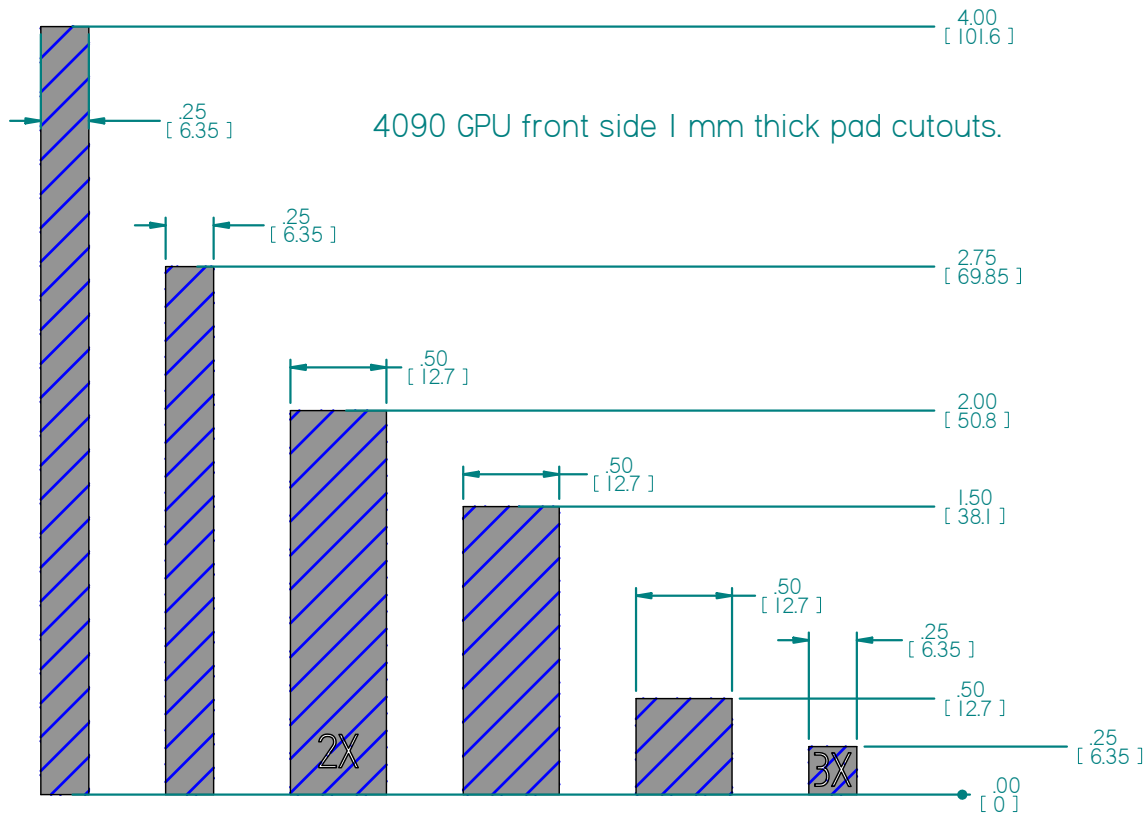
Warning, failure to remove plastic spacers before back plate installation will cause damage to back plate!



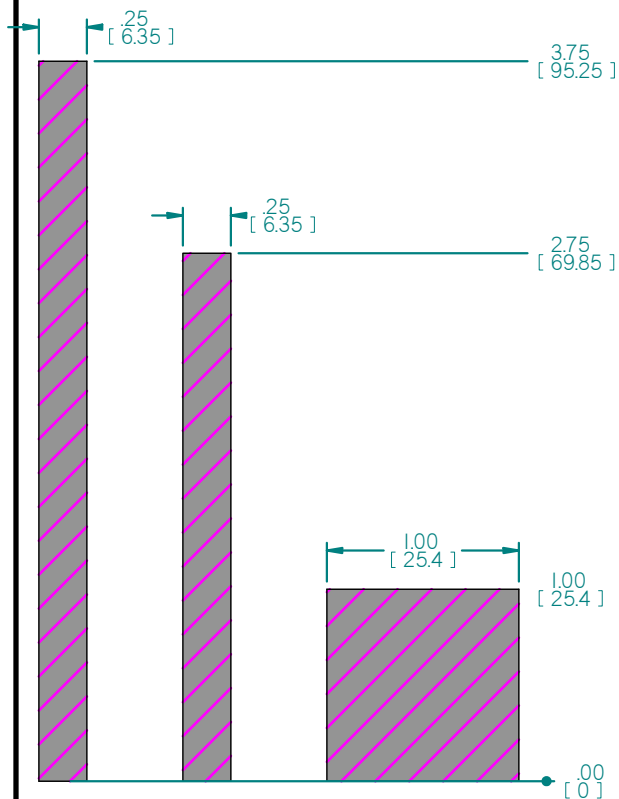
Step 3:

After installing insulator washers, card can be flipped over for installation of front side thermal pads. Front side uses 1mm thick thermal pads. Rear side uses 1.5mm and .5mm thermal pads. Please see list of all thermal pads on next page. All thermal pads are 12.8w/m.k thermal conductivity.

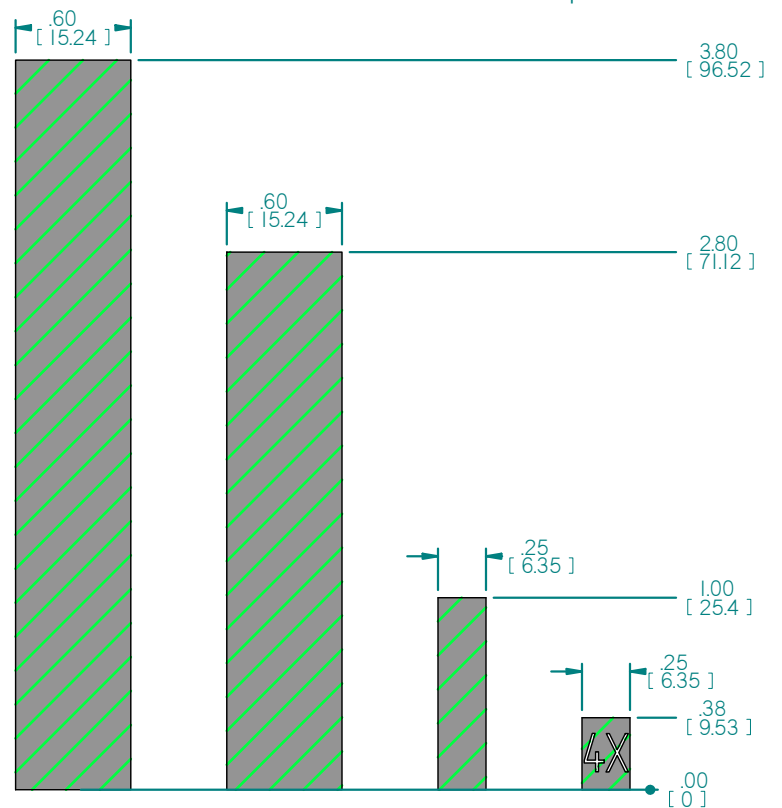
Thermal pad sizes and thicknesses.

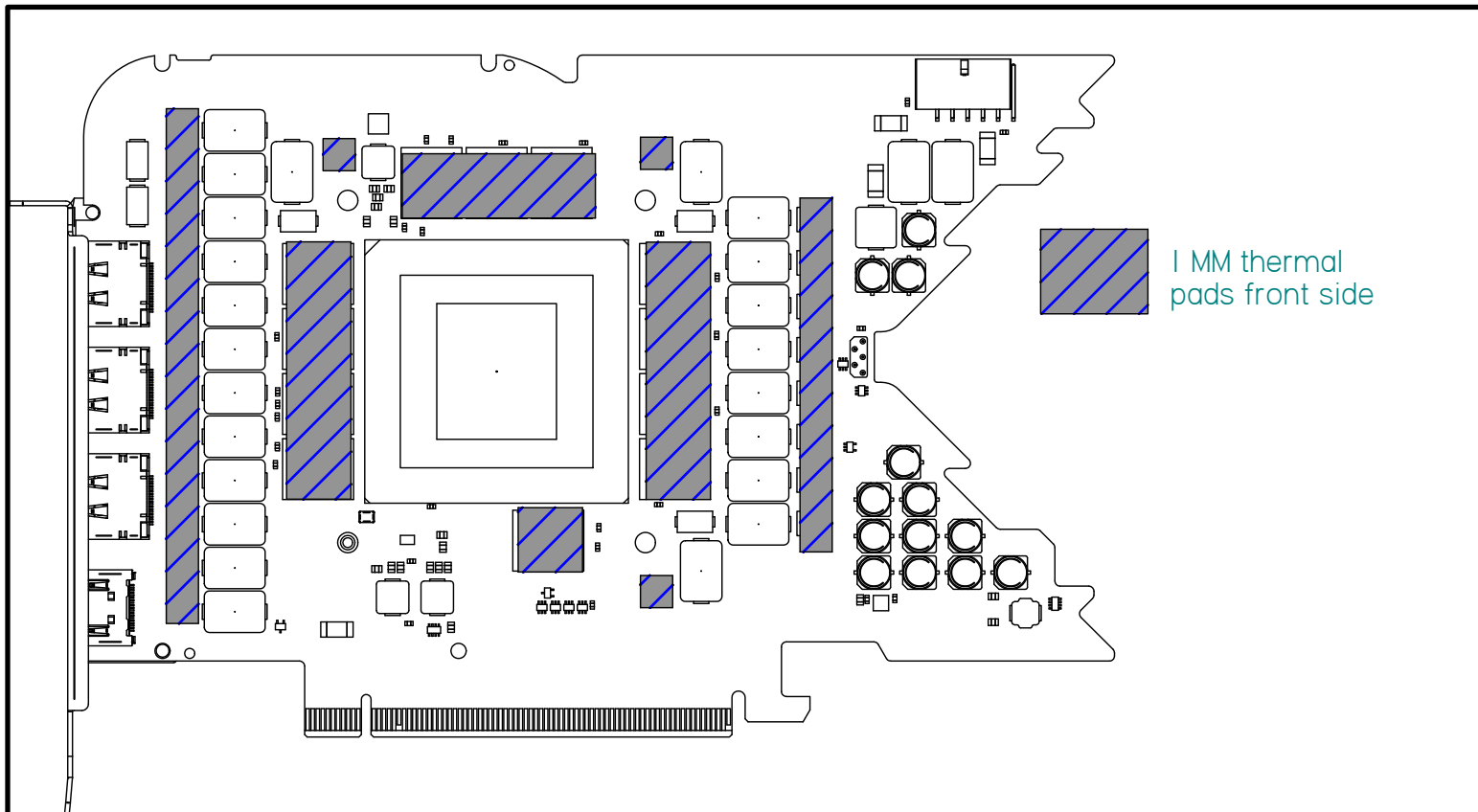


4090 GPU back side 1.5 mm thick pad cutouts.

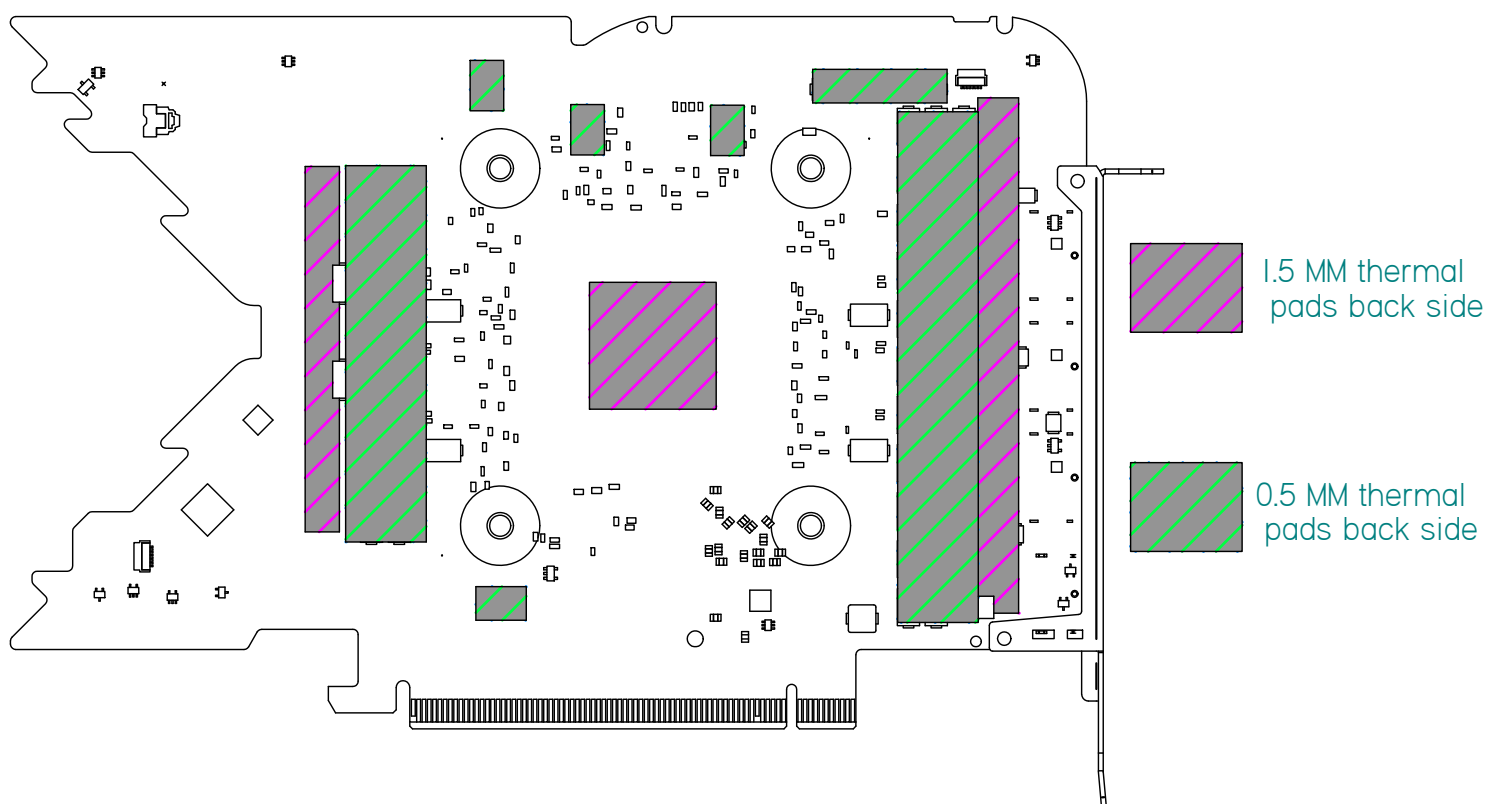


4090 GPU back side .5 mm thick pad cutouts.

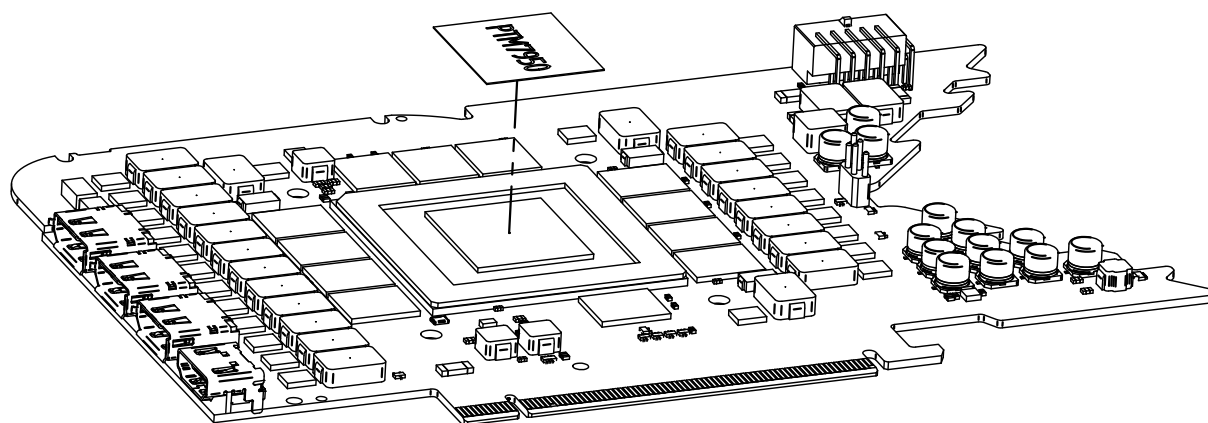




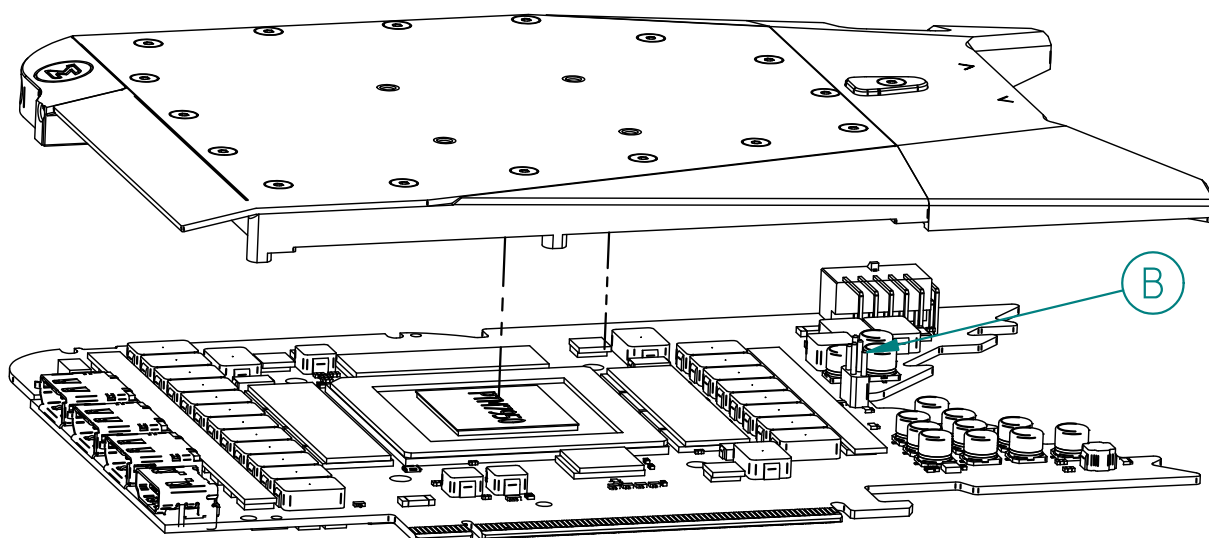
Follow the Key above and below for thermal pad installation locations.
 After installing card front side pads as shown above move on to next page.
 Back side pads will be installed last before back plate is installed.



Step 4: Install PTM7950 thermal pad onto 4090 GPU die. PTM7950 can be difficult to work with however workability of the pad can be increased by placing in freezer for 10-15 minutes. After removing from freezer one side of the plastic film can be removed from pad next place thermal pad centered onto GPU die with remaining plastic side facing up. press thermal pad onto die using thumb pressure or alternatively a credit card edge. After pressing pad onto die, carefully peel back one corner of remaining film. it may be helpful to use edge of credit card to help separate pad from retainer plastic. If there are tears or bubbles in PTM pad it should not affect performance as the pad will begin to flow when mounting pressure is applied. Typically when removing a GPU using PTM pad you will notice that majority of pad will have flowed out from under the die and cold plate. It is this phenomenon that heals cracks or rips in the thermal pad.

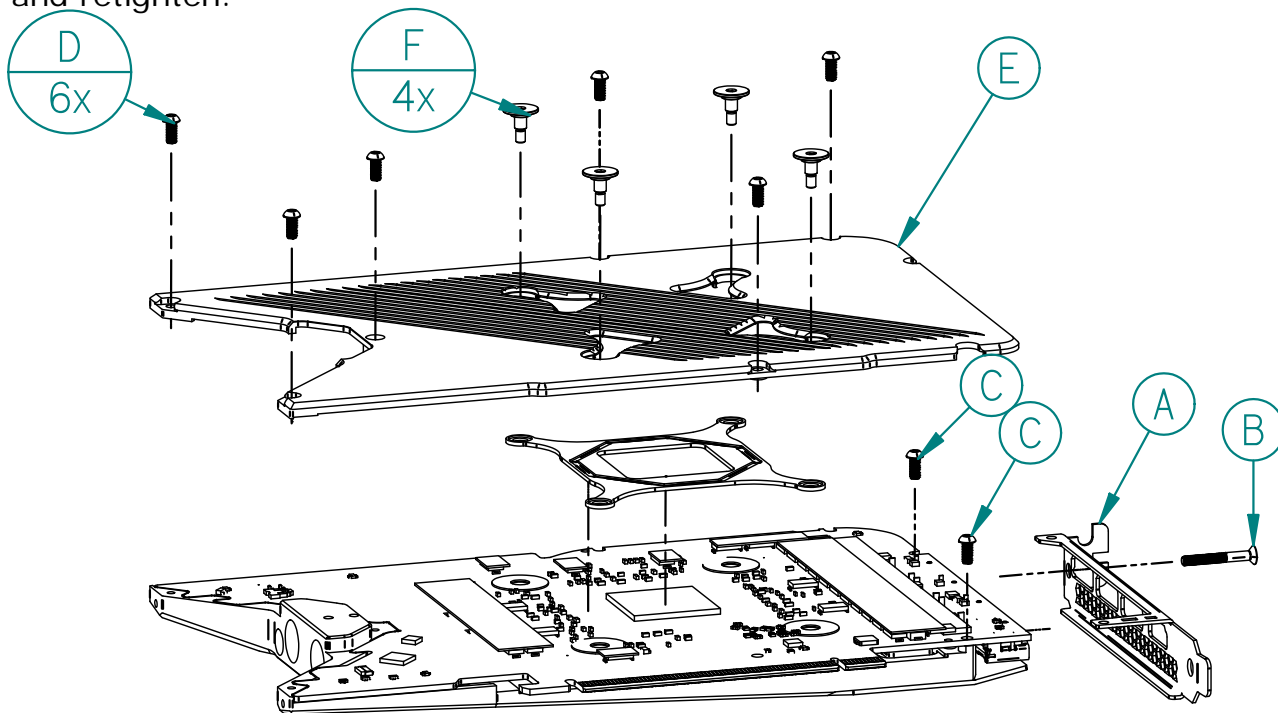


Step 5: After PTM and front side thermal pads are installed, WOBO block can be lowered On to GPU. Take care as gold fingers at B need to go into machined pocket on block rear section. After mating the two parts, both can be flipped over together while using finger pressure to keep the two together. Set block side facing down on a towel or other non marring surface and move on to rear thermal pad installation.



Step 6: Install rear side thermal pads in locations as shown on page 6.

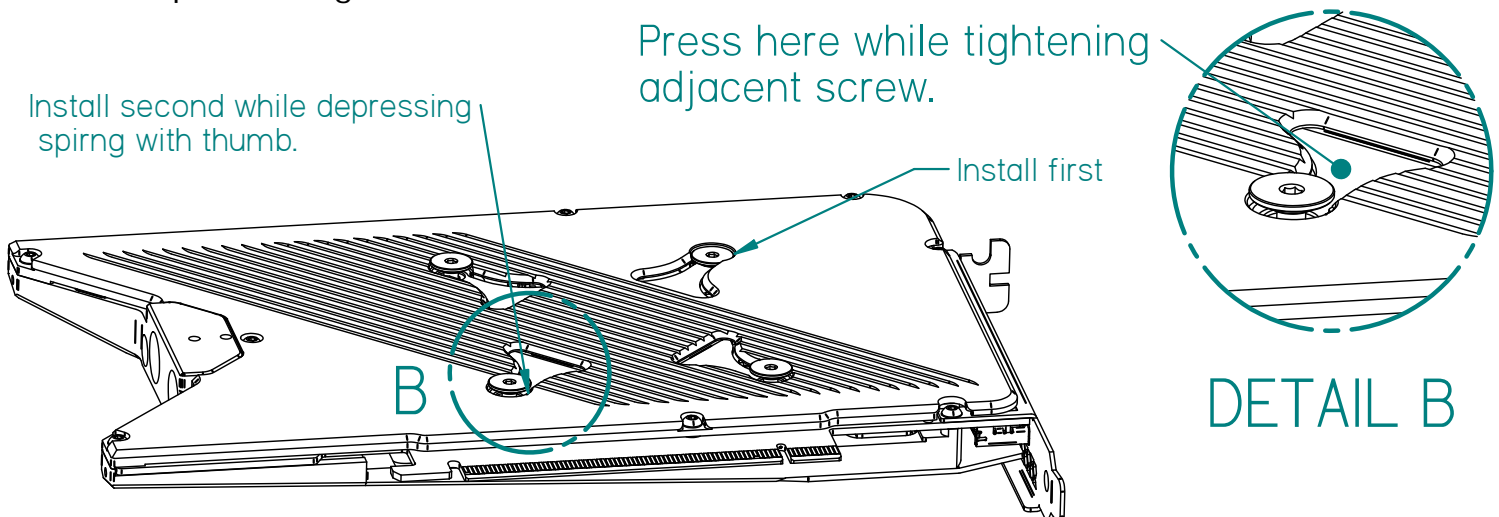
Step 7: Install IO bracket (A) on to block front using 1x M2.5x20mm phillips head screw (B). Tighten only 3 turns. Next install 2x M2.5 button head screws (C). Tighten screws until IO bracket is loosely touching GPU PCB. Next tighten screw B and then screws C fully. If IO bracket is not aligned with GPU video ports, loosen fasteners and shift IO bracket as needed and retighten.



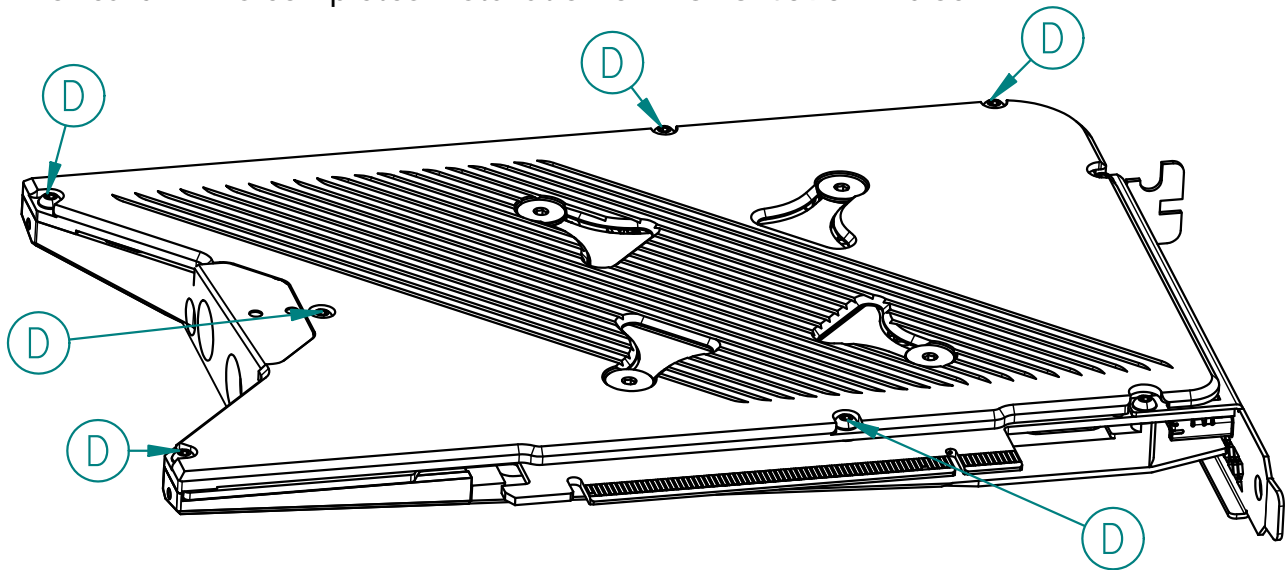
Step 8: Place stock 4090FE back spring onto rear of GPU with holes aligned with corresponding holes on PCB. Next lower back plate onto card. Back spring legs should stick through machined slots on back plate. If spring will not align with slots, rotate spring 90 degrees and try again.

Step 9: Thread in 6x M2.5 x 6mm pan head screws (D) but do not tighten fully. Install 4x M2.5 back plate/back spring screws (F) on to spring leg holes but do not thread in yet.

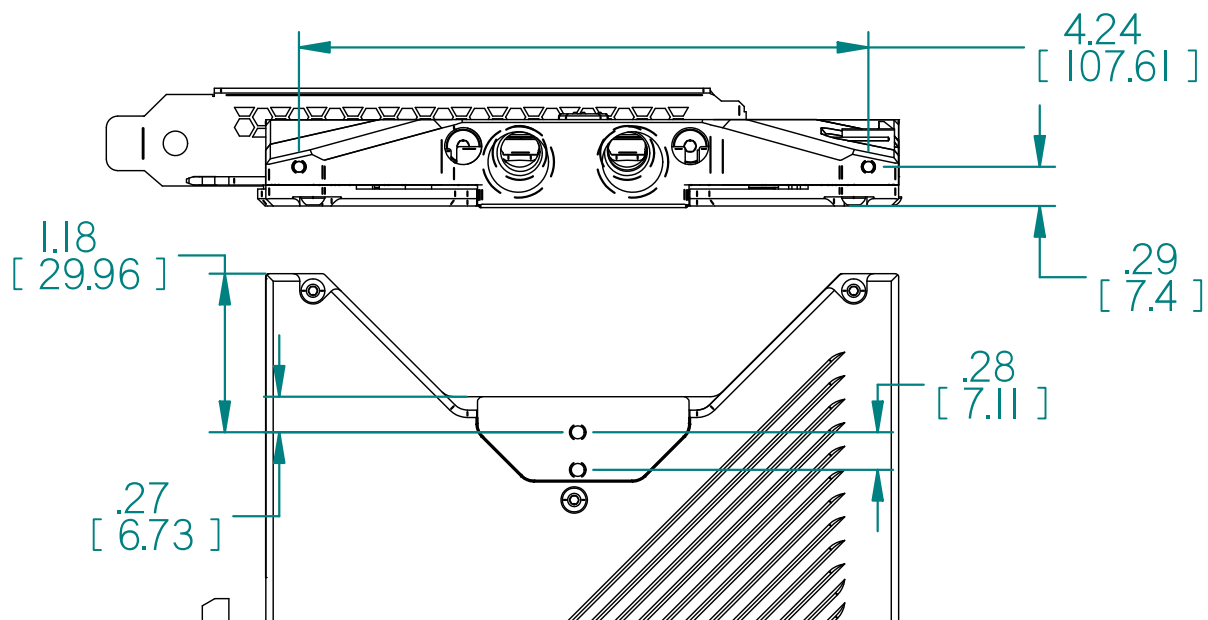
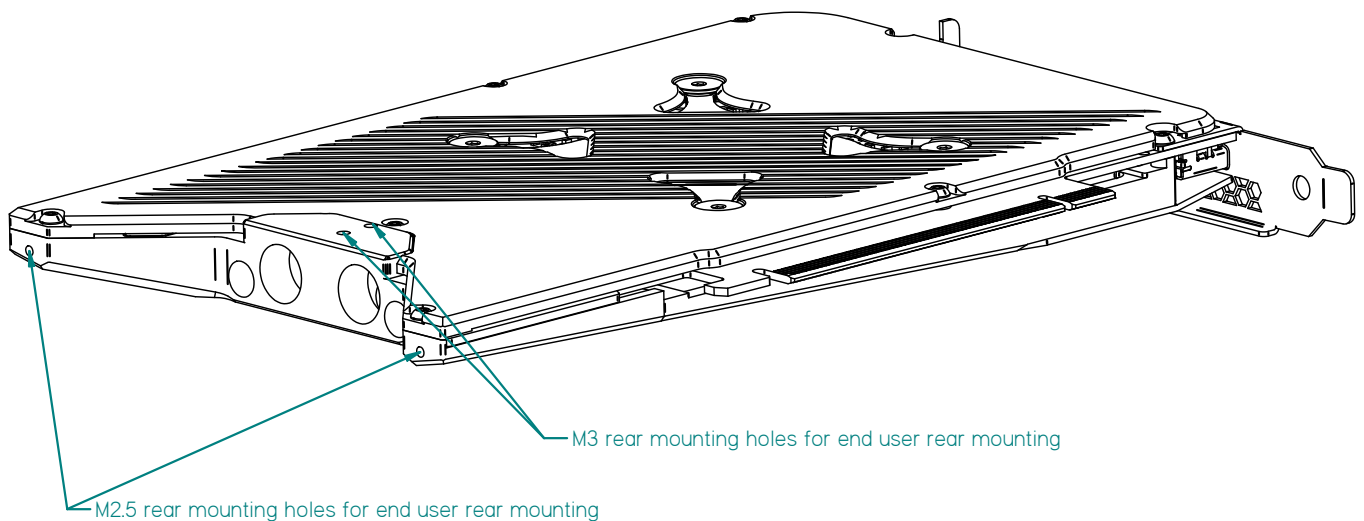
Step 10: Thread in any one back spring screw 2 turns. Next, thread in screw directly opposite first screw while using thumb to compress back spring. Repeat procedure for 2 remaining screws. At this point all screws should be turned in 2 threads. Next full tighten back spring screws 1 turn at a time going in a diagonal pattern until screws bottom out on block. After screws hit hard stop do not tighten further.



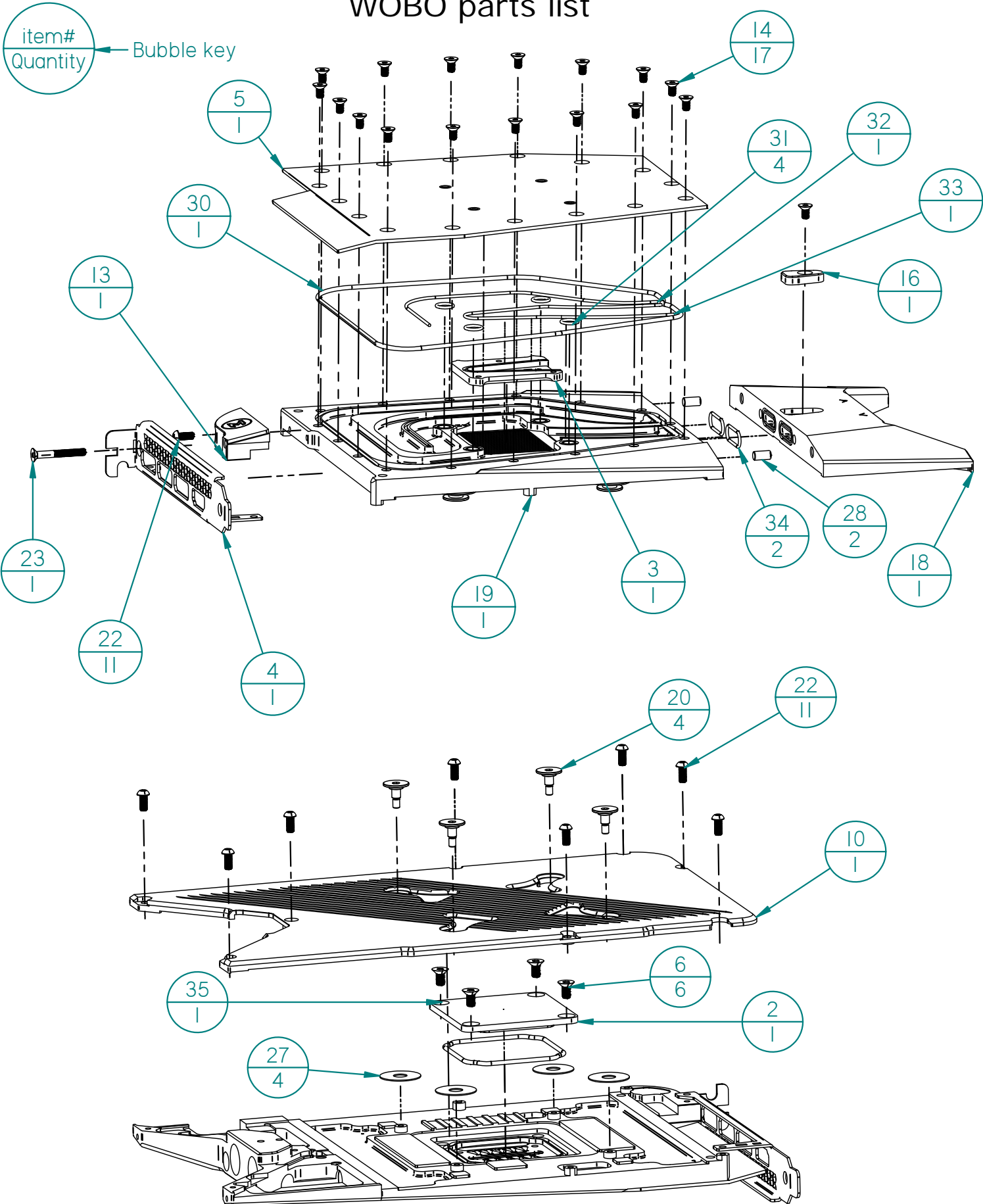
Step 11: tighten 6x M2.5 x 6mm screws at D around back plate perimeter of card. This completes installation of WOBO 4090 FE block.



On entry ports 4x hard mounting threaded holes have been provided for installation of user generated rear supports. 2x M3 and 3x M2.5 holes.



WOBO parts list



Item	Part #	Description	Quantity
13	GXSBK-B-008	Logo block	1
14	92125A083	M2.5mm x 5mm PFH SS screw,	17
15*	GXSBK-A-010	Back plate	1
16	GXSBK-A-011	Gold finger cover	1
17*	GXSBK-A-004	G 1/8 inlet ports	1
18	GXSBK-B-009	G 1/4 inlet ports	1
19	GXSBK-B-002	Main block	1
2	GXSBK-A-027	C110 copper cold plate	1
20	GXSBK-A-022	Back spring screws	4
22	M2.5 X 6MM SHTS SS	M 2.5 X 6mm button head screw SS	11
23	M2.5 X 20MM FHCS 18-8 SS	M2.5 x 20mm flat head phillips head SS	1
27	GXSBK-A-026	Insulator washers	4
28	DOWS3-125-0250	1/8 inch stainless dowl pin	2
3	GXSBK-A-005	Jet plate	1
30	1.5mm x 120mm ID epdm oring	Main chamber oring	1
31	1mm x 5mm id EPDM oring	Main chamber standoff orings	4
32	Exit side 1mm oring cord x 137mm long	Main chamber exit seal oring cord	1
33	Entry side 1mm oring cord x155.5mm long	Main chamber entry seal oring cord	1
34	1mm x 11.5mm id EPDM oring	Entry port orings	2
35*	1.5mm x 41mm id epdm oring	cold plate oring	1
4	GXSBK-A-007	Io bracket	1
5	GXSBK-C-006	chamber cover	1
6	M3 X 6MM PFH	M3 x 6mm flat heas stainless screw	6