

MCW60 VGA COOLING INSTALLATION GUIDE

Thank you for purchasing the MCW60 VGA cooling system. This product is intended for expert users. Please consult with a qualified technician for installation. Improper installation may result in damage to your components. Swiftech™ assumes no liability whatsoever, expressed or implied, for the use of this product, nor its installation. The following instructions are subject to change without notice. Please visit our web site at www.swiftnets.com for updates.

Preamble

The MCW60 is shipped with a pre-assembled hold-down plate compatible with all nVidia GeForce and ATI Radeon high-end VGA adapters. Some mid-range nVidia products may require an optional mounting kit. Please refer to our product page for further information.

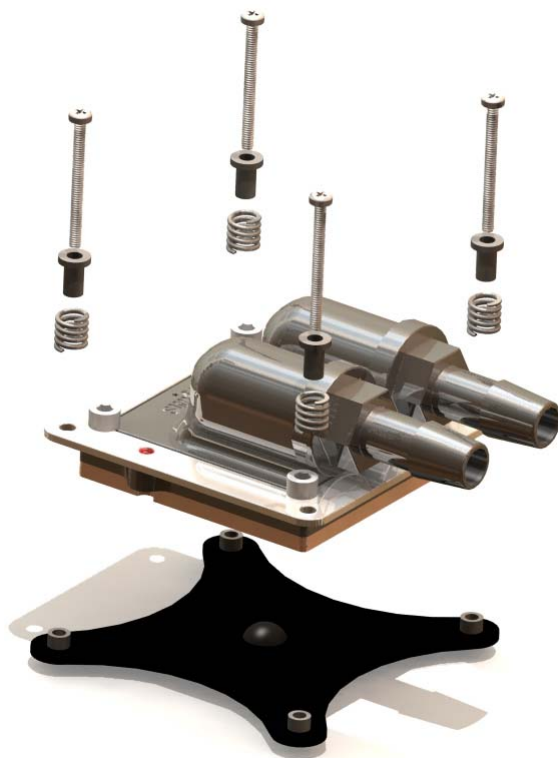
Common installation steps

- The MCW60 VGA water-block may be installed in any direction.
- The inlet and outlet are interchangeable with respect to flow direction.
- Coolant: use of distilled water is mandatory. Swiftech's HydrX coolant is recommended as an antifungal, and corrosion inhibitor.

Assembly

- Install the fittings with their o-rings into the water block. The MCW60 is shipped with 2 sets of fittings in the US: 1/2" barbs, and 3/8" barbs, and an additional set of 1/4" barbs in Europe. See the "Fittings compatibility" note at the end of this document if you wish to use different fittings than those provided.
 - Tighten each fitting **until the flange of the fitting mates with the ledge of the water-block o-ring groove, then lock it by adding ¼ to ½ turn.**
 - Remove the existing heat sink from your motherboard.
 - Apply the provided Arctic Céramique thermal compound to the CPU following the comprehensive installation instructions provided here: http://www.arcticsilver.com/ceramique_instructions.htm
 - Install the MCW60 water-block following the individual installation schematic for the type of GPU setup corresponding to your VGA adapter and provided hereafter.
 - Connect the tubing to the water-block hose-barbs. Use the provided hose-clamps to secure the tubing to the barbs.

4 Mounting holes setup

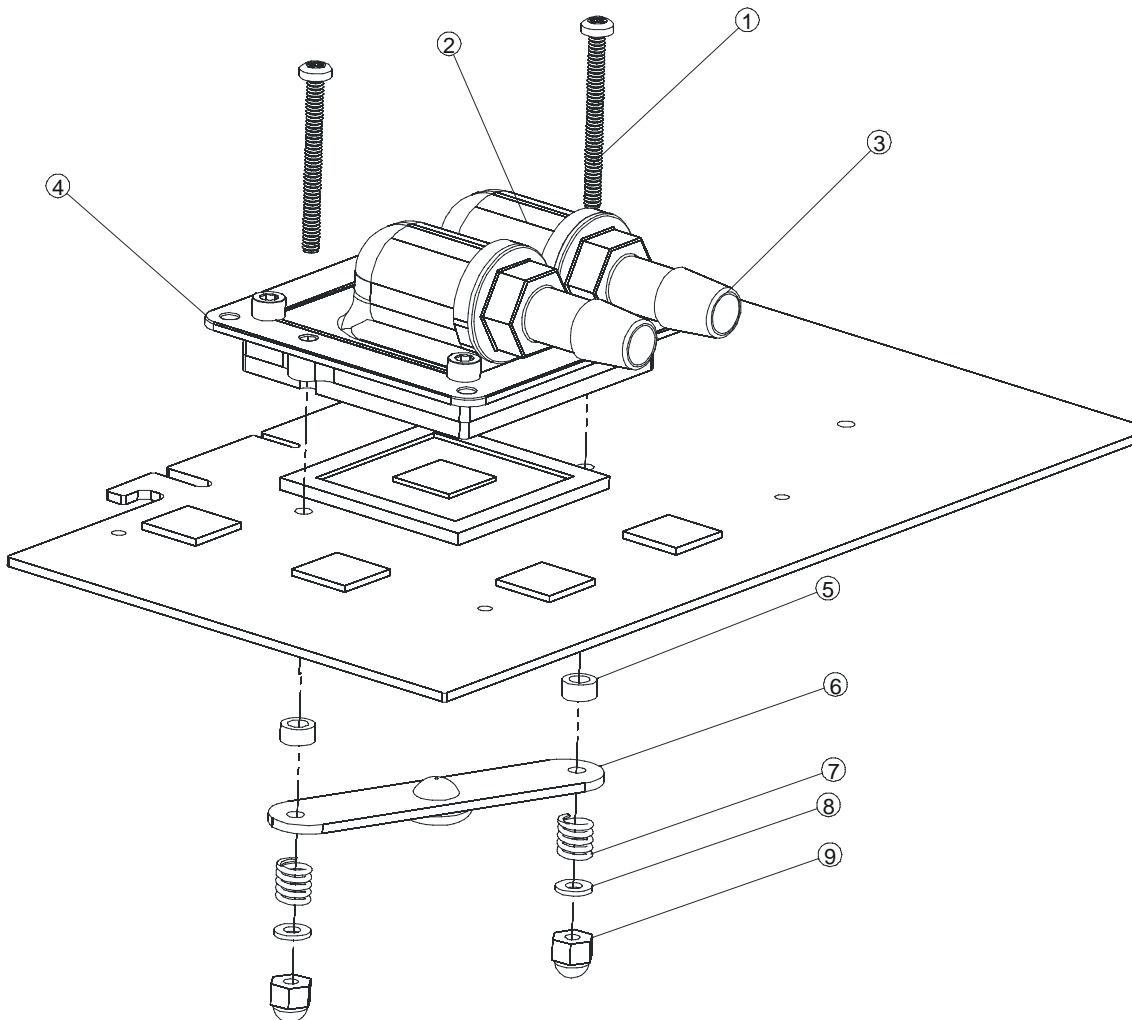


2 Mounting holes setup



Installation with ATI Radeon (2 mounting holes)

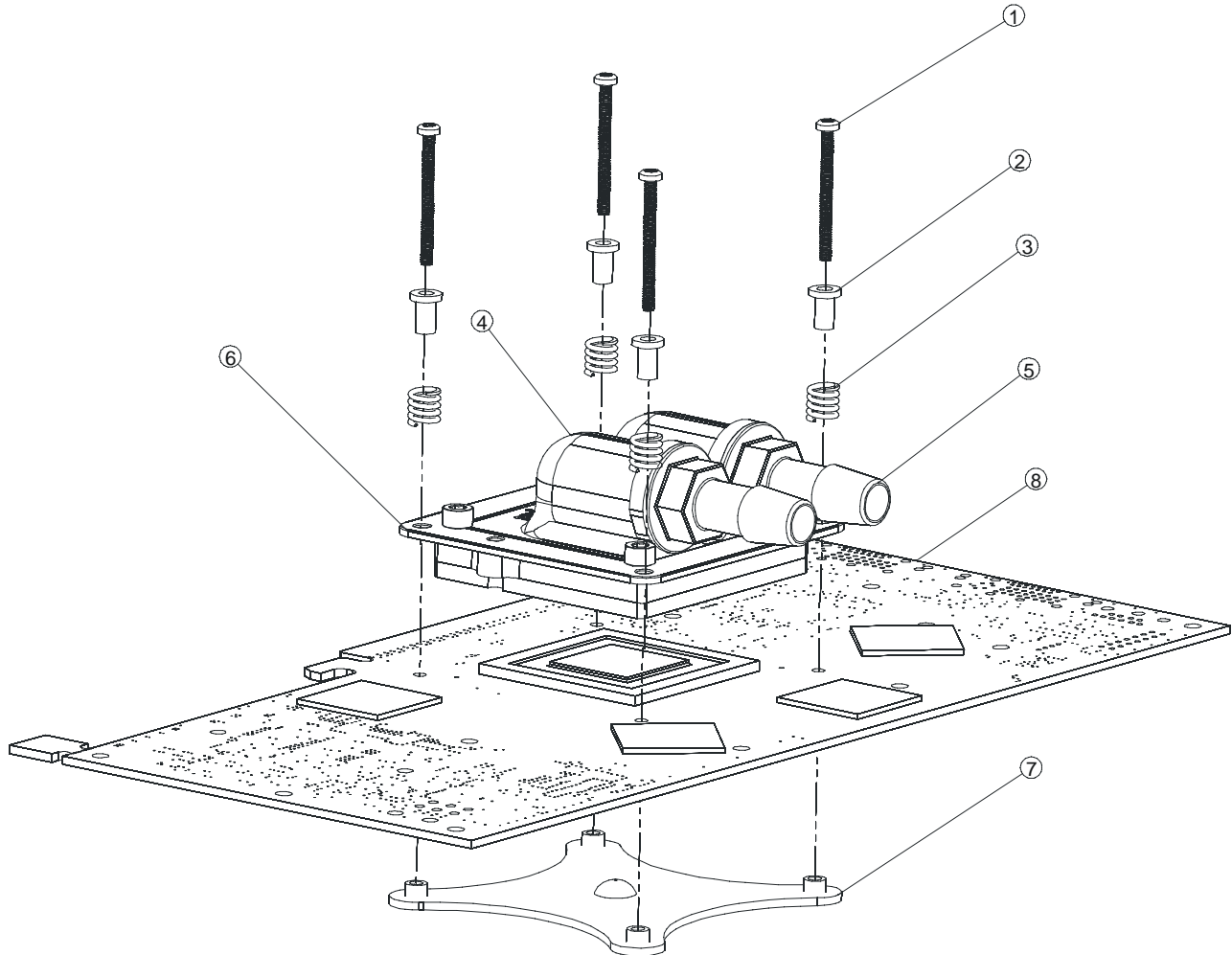
ITEM	PART NUMBER	DESCRIPTION	QTY
1	4-40x1-25-philips-9140 0A124	4-40 x 1.25 philips screw	2
2	MCW6	MCW60 Waterblock	1
3	NPSM3-8	1/4" NPSM X 3/8" Barb fitting	2
4	MCW6-HD	HOLD-DOWN PLATE	1
5	13ME028	Nylon metric flat washer	2
6	MCW50-ATI-Stiffen	ATI Radeon stiffening brace	1
7	70700S	spring	2
8	washer nylon 250x32	washer 250x117x32 - 16FW004032	2
9	4-40-acorn-nut	Nylon Nut 4-40 - 0500440CN	2



- Remove the existing heatsink
- Clean off the GPU with a degreaser, and spread some of the included thermal compound over it.
- Screw the two 4-40 x 1 1/4" philips screws (#1) into the water-block as shown above
- Install the MCW60 onto the GPU
- Install the hardware as shown in the schematic
- Gradually and alternatively fasten the two nuts (#9) until they bottom out.
- Installation of the water-block is now complete.

**Installation with nVidia GeForce 6800 to 7800 series
& ATI X1300 and above
(four mounting holes)**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	2-56x1-philips-91772A0861	2-56 x 1" philips screw	4
2	SCREW INSULATOR10SC004025	Nylon tension limiter	4
3	70700S	spring	4
4	MCW6	Water-block	1
5	Ø-4-NPSMx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
6	MCW60-HOLD-DOWN-PLATE	Hold-down plate	1
7	CROSS-bracket-NV40	Stiffening brace	1
8		VGA Adapter	1



- Remove the existing heatsink
- Clean off the GPU with a degreaser, and spread some of the included thermal compound over it.
- Install the MCW60 onto the GPU
- Temporarily fasten two screws #1 in diagonal without their springs and washer. This will conveniently align stiffening brace #7 with hold-down plate #6.
- Then Install the other two screws with their springs and washer as shown in this schematic, and tighten them half-way.
- Remove the first two screws you used as guides, and re-install them with their springs and washer then tighten half-way.
- Complete tightening of all four screw-spring assemblies in a cross pattern.
- Installation of the water-block is now complete

Installation of the MC14 BGA Ramsinks

Common steps:

1. Remove the existing memory heatsink
2. Carefully clean-off the BGA modules with an electronics degreaser

Plug-and-play installation

1. Peel-off the protection paper from the MC14 Ramsink
2. Firmly press the Ramsink onto the BGA module for 5 to 10 seconds. Installation is complete.

Advanced Installation

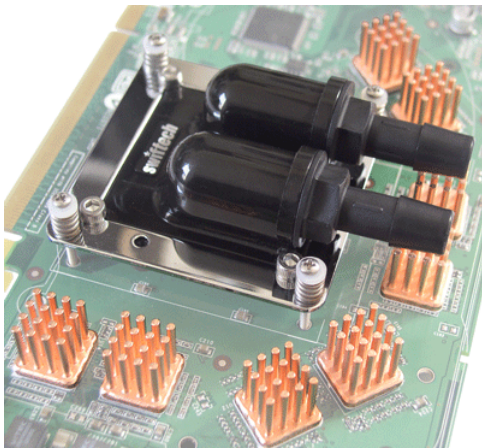
For a superior mechanical joint and enhanced thermal conductivity, the MC14 Ramsinks may be permanently attached to the memory modules using a thermally conductive epoxy glue such as Arctic Alumina or Arctic Ceramique Epoxy. Non electrically conductive or non-capacitive glue should be used to prevent damage to the memory, thus precluding the use of Arctic Silver Epoxy which is capacitive. Please refer to <http://www.arcticsilver.com> for installation guidelines.

Please note again that such installation is permanent and will void your Warranty

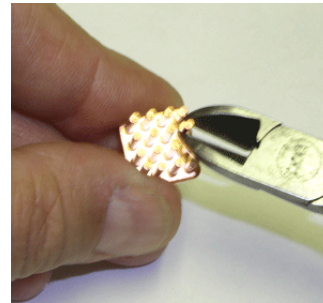
1. Peel-off the protection paper from the MC14 Ramsink, and carefully clean off the thermal adhesive with a solvent
2. Carefully clean-off the BGA modules with an electronics degreaser
3. Apply a small amount of epoxy glue to the memory modules.
3. Gently rub the MC14 ramsink on the BGA module in a circular motion in order to spread the epoxy evenly
4. Allow the epoxy to dry following manufacturer instructions. Installation is complete.

Installation issues with 1/2" barbs and 3/4" or 5/8" OD tubing.

In some instances, there may not be sufficient clearance to install the Ramsinks on the memory modules located directly under the water-block inlet and outlet when using the above mentioned tubing. This issue does not affect smaller diameter tubing such as 3/8" and 1/4" (1/2" OD and 3/8" OD). The pins of two of the memory Ramsinks can be easily shortened to provide clearance. Simply use a small pair of pliers, and cut the pins individually as shown below:



Installation is complete !



ALWAYS CHECK YOUR CIRCUIT FOR LEAKS PRIOR TO POWERING-UP YOUR COMPONENTS!

Fittings compatibility notes:

The provided fittings thread is 1/4" NPSM. This thread is compatible with BSPP and G 1/4 threads.

G 1/4, or BSPP fittings will fit, but may not necessarily seal properly; each must be checked prior to assuming that it will not leak just because they fit together. Both NPSM and G 1/4 (BSPP) are parallel thread and nominally the same size, the principal difference being 18 threads per inch for NPSM and 19 threads per inch for G 1/4 (BSPP). Since most male end G 1/4 fittings have a short thread length they can generally be engaged in the NPSM threads without difficulty. The joint seal is effected with an o-ring which for the NPSM barb is in a groove on the waterblock top and compressed by the flange nut barb. G 1/4 fittings have the o-ring captured in a groove under the fitting nut. G 1/4 fittings will seal so long as there is a straight portion under the nut flats sufficient to bring the G 1/4 fitting's o-ring into contact with the bottom of the waterblock o-ring groove, a depth of 0.080".