

# MCW30 CHIPSET WATERBLOCK INSTALLATION GUIDE

Thank you for purchasing the MCW30 chipset cooler. 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](http://www.swiftnets.com) for updates.

## Preamble

The MCW30 is shipped pre-assembled with brackets for installation with motherboards featuring 2 holes. If your motherboard uses hooks instead, you can either leave the brackets providing that they do not interfere with existing components or you can remove the brackets and use the clip set up as shown below (hooks setup). If you do remove the brackets, please use the provided 4-40 x 5/16" socket screws to re-assemble the water-block. In motherboards featuring mounting holes, 2 installation types are possible: a hard mount which provides the best stability and thermal contact, and a spring mount for compatibility where a hard mount is not possible.

## Common installation steps

- The MCW30 chipset water-block may be installed in any direction. Simply rotate the water-block in your hand prior to fasten it to the processor when you are filling up the circuit. This will purge it from any air bubbles.
- 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.

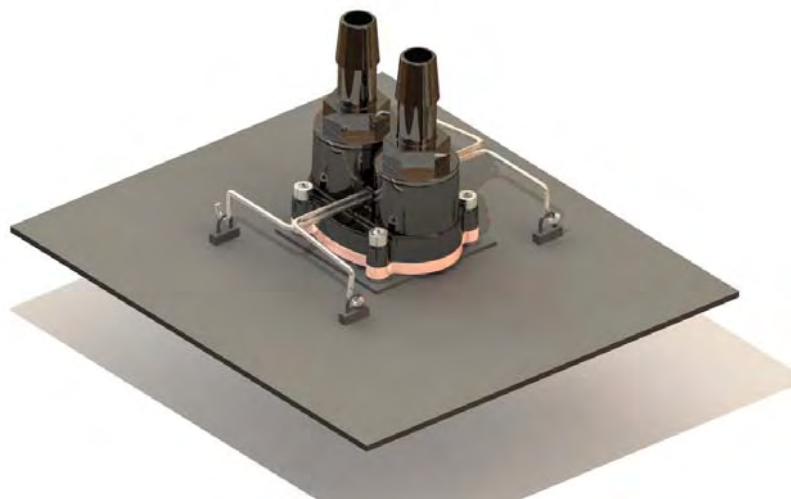
## Assembly

- Install the fittings with their o-rings into the water block. The MCW30 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 1/4 to 1/2 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](http://www.arcticsilver.com/ceramique_instructions.htm)
- Install the Mcw30 water-block following the individual installation schematic for each type of motherboard provided hereafter.

### Motherboard compatibility list:

Please refer to our list of known compatible motherboards on the MCW30 product page at:

<http://www.swiftnets.com>



Hooks setup

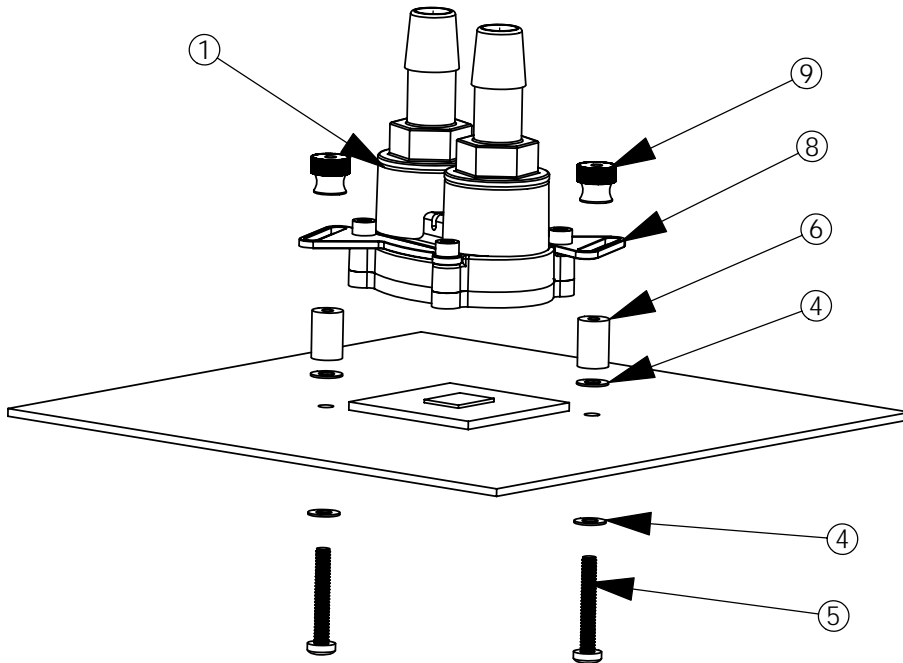
### Hole and spring mount setup



## HARD MOUNT INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MCW30-H	MCW30 Water-block	1
2	92196A109	4-40 x 7/16" S/S socket screw	4
3	1-4-NPSMx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
4	4-40-fiberwasher	Fiber washer - used as tolerance spacer	6
5	4-40x0750-philips-90272A113	4-40 x 3/4" philips screw	2
6	4-40 250X375 THREADED SPACER - 15TSP002B	Nylon spacer	2
7	90480A005	4-40 Nut	2
8	MCW30-bracket2	Mounting bracket	2
9	KNURLED NUT 0800440TN	Knurled 4-40 plastic nut	2

**Important preliminary note:** In this application, fiber washers #4 are used in two capacities: as insulators between screws #5 and the motherboard, and also as tolerance spacers to adjust the gap that is necessary between mounting brackets #8 and nylon spacers #6 (approximately 0.015"). Since chipset heights vary from one manufacturer to another, it is therefore necessary to verify **FIRST** that there is positive contact between the chipset and the MCW30 water block without the washer(s) #4. So, install screws #5 and washer #4 thru the back of the motherboard first and fasten with nylon spacers #6; then place the MCW30 on the chipset and verify the gap between the mounting brackets #8 and nylon spacers #6. The desirable gap is approximately 0.015" (half the thickness of a credit card). Use fiber washers #4 to adjust the gap accordingly. **IF THERE IS NO GAP DO NOT CONTINUE!!! USE THE ALTERNATE SPRING MOUNTING DESCRIBED ON PAGE 3 INSTEAD.**



### Primary mounting method:

Insert screws #5 and washers #4 thru the back of the motherboard.

Fasten nylon spacers #6 (including washers #4) to form two posts.

Thoroughly clean the chipset with alcohol or electronic degreaser

Put a small amount of provided thermal grease on the chipset

Fasten the MCW30 on the posts you have created using the nylon knurled nuts #9.

Important tip: try to fasten both nuts at the same time (use both hands) to keep an even pressure on the chipset.

### Secondary mounting method:

(used only to gain some clearance when necessary)

Insert screws #5 thru the top of the MCW30 water-block

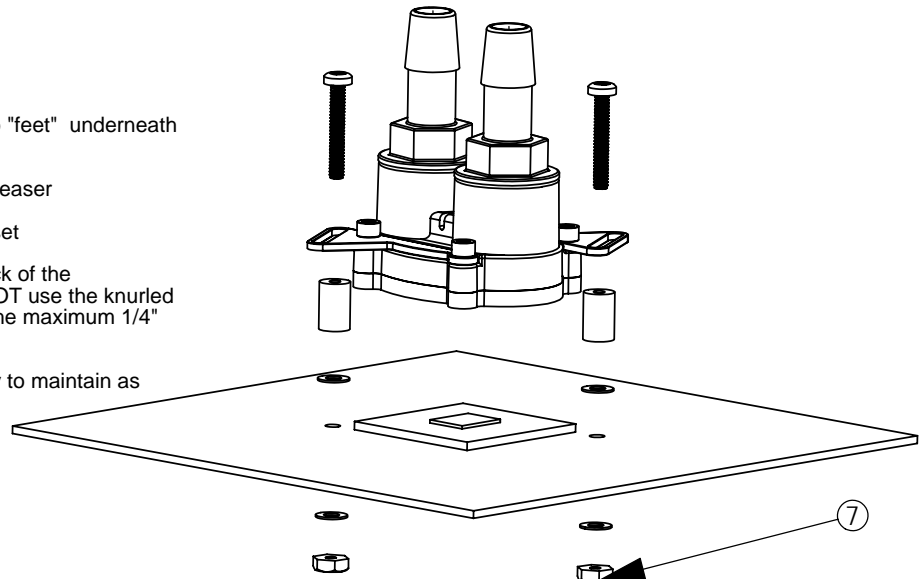
Fasten nylon spacers #6 (including washers #4) to form two "feet" underneath the MCW30.

Thoroughly clean the chipset with alcohol or electronic degreaser

Put a small amount of provided thermal grease on the chipset

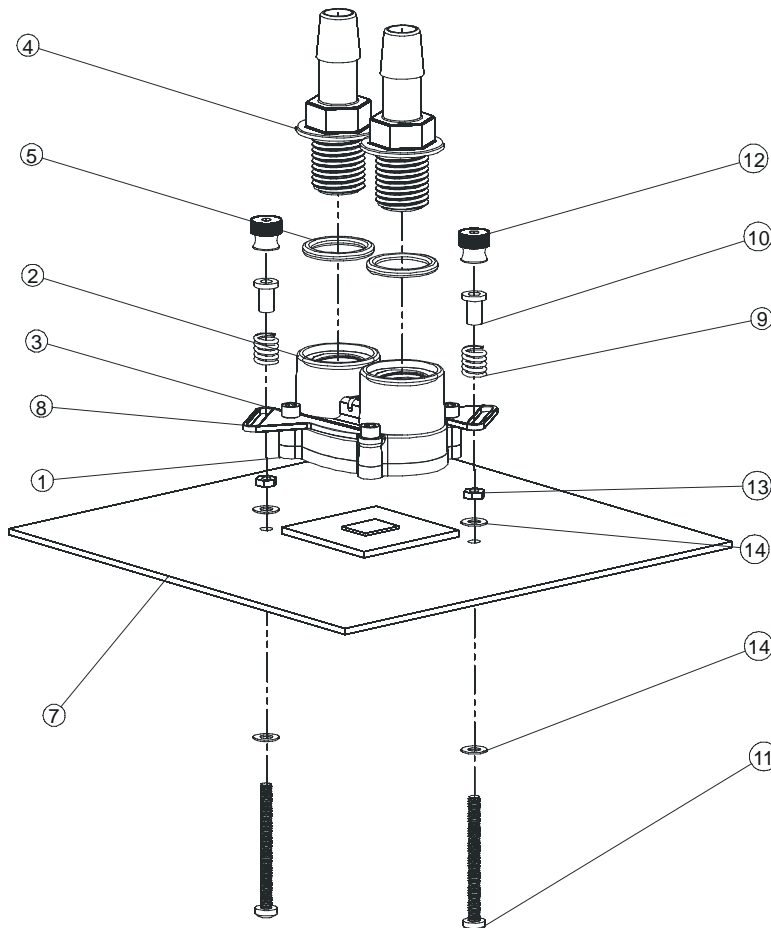
Place the MCW30 on the chipset, and fasten it from the back of the motherboard, using the provided 4-40 metal nuts #7. **DO NOT** use the knurled nylon nuts for an installation thru the back as they exceed the maximum 1/4" clearance allowed by standard motherboard standoffs.

Important tip: fasten the nuts alternatively and incrementally to maintain as even pressure on the chipset as possible.



## SPRING MOUNT INSTALLATION

ITEM	PART NUMBER	DESCRIPTION	QTY
1	MCW30-base-plate		1
2	MCW30-HOUSING		1
3	92196A109	4-40 x 7/16" S/S socket screw	4
4	1-4-NPSMx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
5	O-RING-9557K473	1-4" NPSM barb fitting O-Ring	2
7	board-mockup		1
8	MCW30-bracket2		2
9	70700S	spring	2
10	SCREW INSULATOR10SC004025		2
11	4-40x1-25-philips-91400A124	4-40 x 1.25 philips screw	2
12	KNURLED NUT 0800440TN		2
13	4-40-nut		2
14	4-40-fiberwasher		4

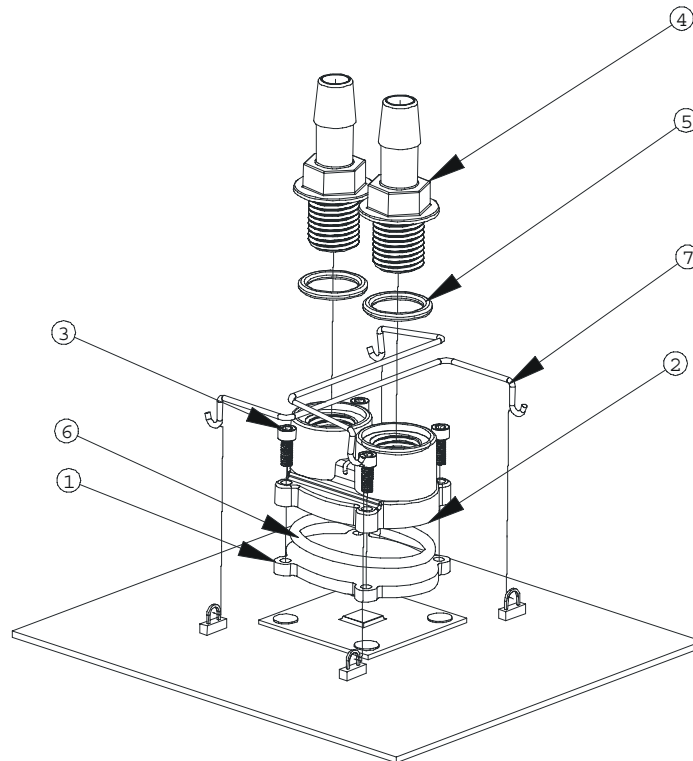


- Removal of the motherboard is necessary to install the mountings posts
- Remove the existing heatsink
- Install the two mounting posts 11 as shown in the schematic and fasten them with the nuts 13 and washes 14.
- Clean off the CPU with a degreaser, and spread some of the included thermal compound over it.
- Install the MCW30 over the CPU
- Install the springs 9, tension limiters 10, and knurled knobs 12
- Gradually and alternatively fasten the knobs until the proper tension is reached: **an equal amount** of tension is provided by the tension limiters. Do not overtighten the knobs!
- Installation is now complete.

## INSTALLATION WITH HOOKS AND WIRE CLIPS

You can either leave the brackets providing that they do not interfere with components on your motherboard, or you can remove them. If you do remove the brackets, please use the provided 4-40 x 5/16" socket screws to reassemble the water-block.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MCW30-base-plate		1
2	MCW30-HOUSING		1
3	4-40X5-16-SOCKET-92196A107		4
4	1-4-NPSMx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
5	O-RING-9557K473	1-4" NPSM barb fitting O-Ring	2
6	O-RING-DASH124-9452K88	Body o-ring	1
7	intel-mount	wire clip	2



- Removal of the motherboard is NOT necessary to install the MCW30 in this configuration.
- Remove the existing heatsink
- Clean off the CPU with a degreaser, and spread some of the included thermal compound over it.
- Install the MCW30 over the CPU
- Insert the hooks of the wire clips 7 underneath the loops of the motherboard.
- Installation is now 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".