

APOGEE WATER-BLOCK INSTALLATION GUIDE

One or more Patents pending

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 these products, nor their installation. The following instructions are subject to change without notice. Please visit our web site at www.swiftnets.com for updates.

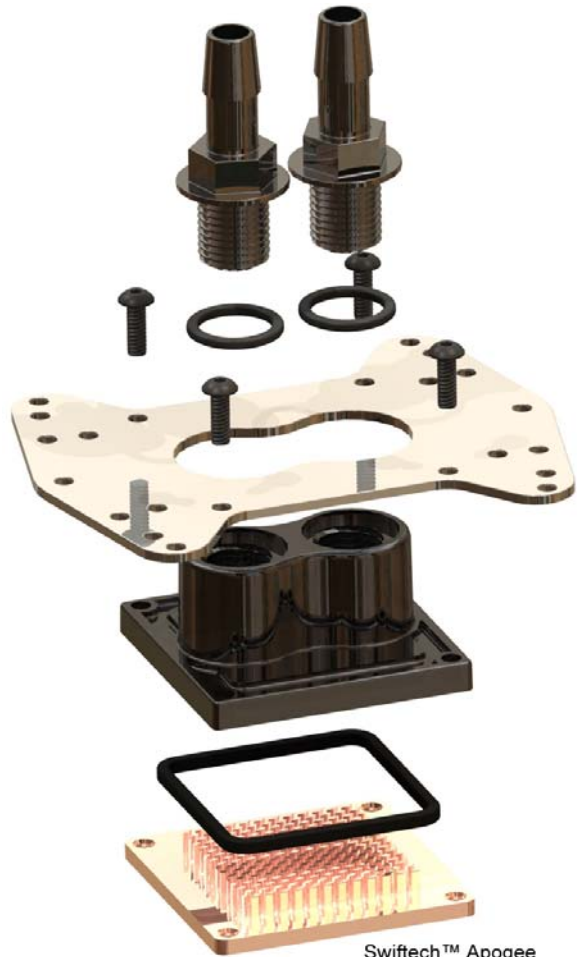


Figure 1 – Exploded View

Processor compatibility

Intel®

- Pentium® 4, D, Celeron
 - Socket 478
 - Socket 775
- Xeon™ (socket 603 and 604)
 - 400 & 533 Mhz FSB
 - 800 Mhz FSB (Nocona) – Hardware sold separately

AMD®

- Athlon XP, MP, Duron, Sempron, socket 462
- Athlon 64, Sempron, Socket 754
- Opteron, socket 939, 940
- Athlon 64, FX, X2, socket AM2

Intel® Xeon “Nocona” 800 Mhz FSB hold-down hardware sold separately Part # AP-NOC

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Packing List

COMPONENT ID	COMPONENT DESCRIPTION	QTY	USAGE
BHSC006C0-007SS	6-32 X 7/16 BUT HD CAP SS	4.00	WATER-BLOCK ASSEMBLY
O-RING 3/32	B1000-133 O-RING 3/32 X 1 13/1	1.00	WATER-BLOCK ASSEMBLY
APOGEE-H	APOGEE WATERBLOCK HOUSING	1.00	WATER-BLOCK ASSEMBLY
APOGEE-BRKT	APOGEE HOLD-DOWN PLATE	1.00	WATER-BLOCK ASSEMBLY
APOGEE-BP	APOGEE BASE PLATE	1.00	WATER-BLOCK ASSEMBLY
B1000-2.5X50	BUNA-N 70D BLACK O-RING	2.00	FITTINGS
PM4S-6BN	1/4" - 1/8 NPSM TO 3/8" ID	2.00	FITTINGS
PM4S-8BN	1/4" - 1/8 NPSM TO 1/2 ID	2.00	FITTINGS
22HC04688	15/32" HOSE CLAMP	2.00	FITTINGS
22HC0672B	43/64" PREMIUM HOSE CLAMP	2.00	FITTINGS
SPRING6	SPRING FOR MCW6000-775	4.00	COMMON HARDWARE
6-32 HEX CAP	6-32 ACRON NUT	4.00	COMMON HARDWARE
12SWS0444	NYLON SHOULDER WASHER	8.00	COMMON HARDWARE
LOCKWASHER6	LOCK WASHER #6	6.00	COMMON HARDWARE
FW140X250X0215FB BLK	BLACK FIBER WASHER .140X.250X.	10.00	COMMON HARDWARE
632.112PHPMS	6X32 X 1 1/2 PHILIPS PAN HEAD	4.00	COMMON HARDWARE
6-32 NUT	6-32 NUT	4.00	COMMON HARDWARE
6-32 X 1 5/8	6-32 X 1 5/8	4.00	XEON SCREWS
WASHER-0148X0266X0040-91007A619	LOCK WASHER #6 X 0.040	4.00	AMD SOCKET 754/939/940,AM2 HARDWARE
90272A153-6-32X1.00-PHILIPS SCREW	6-32 X 1" PHILIPS SCREW	4.00	AMD SOCKET 754/939/940, AM2 HARDWARE
13RS040637	ROUND SPACER	4.00	AMD SOCKET 754/939/940,AM2 HARDWARE
APOGEE-AM2-BP	APOGEE AM2 BASE PLATE	1.00	AMD SOCKET AM2 HARDWARE
ARCTIC CÉRAMIQUE	ARCTIC CÉRAMIQUE	1.00	THERMAL COMPOUND

Common installation guidelines

- Removal of the motherboard is necessary to install the mounting posts in all cases, except for AMD® socket 754, 939, 940 and AM2.
- Two sets of barb fittings are supplied to accommodate high-performance circuits: 3/8" barbs, and 1/2" barb.
- The Apogee 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.

1. Step-by step

- Install the fittings with their o-rings into the waterblock. 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 heatsink 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 Apogee water-block following the individual installation schematics for each type of CPU socket provided hereafter.
- Connect the tubing to the water-block hose-barbs. Use the provided hose-clamps to secure the tubing to the barbs.

2. Individual installation schematics

The provided mounting hardware is common to Intel® Pentium® 4 socket 478, socket LGA775, and AMD® socket 462. AMD® socket 754, 939, 940, and AM2 mounting hardware is identified in a separate pack, as well as Intel® Xeon hardware. A separate hold-down plate is provided for AMD AM2 socket. The mounting hardware for Intel Xeon "Nocona" class processors (800Mhx FSB motherboards) is sold separately under part # AP-NC604.

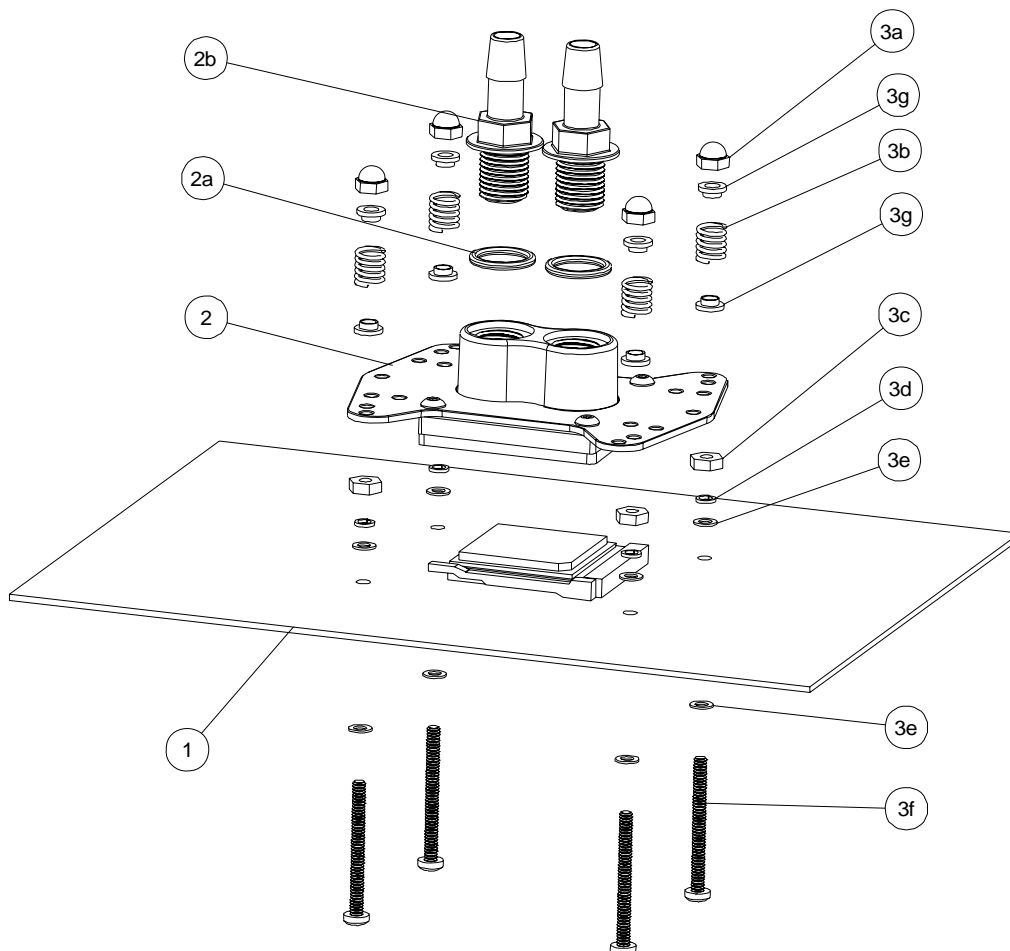
IMPORTANT DISCLOSURES

While all efforts have been made to provide the most comprehensive tutorial possible, Swiftech assumes no liability expressed or implied for any damage(s) occurring to your components as a result of using Swiftech cooling products, either due to mistake or omission on our part in the enclosed instructions, or due to failure or defect in the Swiftech cooling products.

WARRANTY Our products are guaranteed for 12 months from the date of delivery to the final user against defects in materials or workmanship. During this period, they will be repaired or have parts replaced provided that: (I) the product is returned to the agent from which it was purchased; (II) the product has been purchased by the end user and not used for hire purposes; (III) the product has not been **misused**, handled carelessly, or other than in accordance with any instructions provided with respect to its use. This guarantee does not confer rights other than those expressly set out above and does not cover any claims for consequential loss or damage. This guarantee is offered as an extra benefit and does not affect your statutory rights as a consumer.

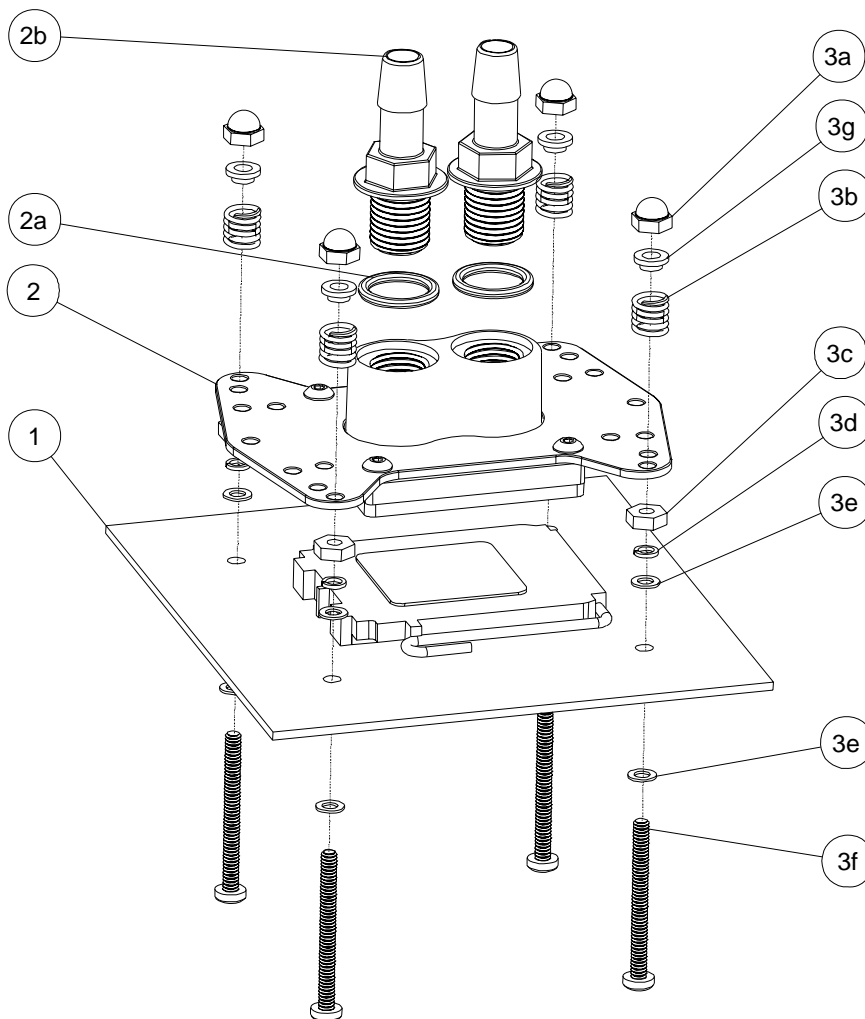
Intel® Pentium® 4 Socket 478

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	S478	Intel Pentium 4 socket 478 motherboard and processor	1
2	apogee-assy		1
	APOGEE-H	Housing	1
	APOGEE-BP	Base Plate	1
	APOGEE-BRCKT	Universal hold-down plate	1
2a	O-RING-9557K473	1-4" NPSM barb fitting O-Ring	2
2b	1-4-straightx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
3	APOGEE-P4S478--HARDWARE		4 x
3a	6-32-Acorn-nut	6-32 Acorn nut	1
3b	70927-368	Spring	1
3c	6-32-nut	6-32 nut	1
3d	LOCK-WASHER#6	#6 lock washer	1
3e	FW140X250X0215FB BLK	black fiber washer	2
3f	91772A157-6-32x1.5	6-32 x 1 1/2" philips screw	1
3g	12SWS0444	NYLON SHOULDER WASHER	2



Intel® Pentium® 4 and Pentium® D Socket LGA 775

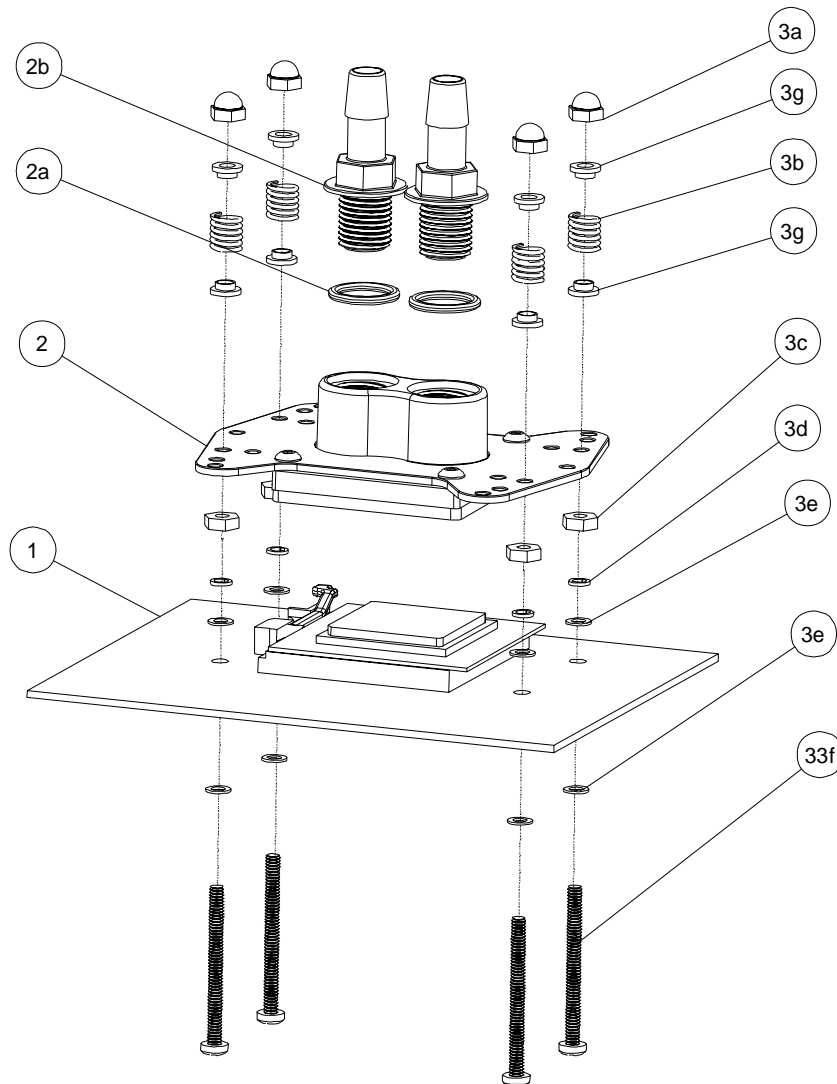
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	LPGA 775	Motherboard	1
2	apogee-assy		1
	92949A149		4
	O-RING-9557K473	1-4" NPSM barb fitting O-Ring	2
2a	1-4-straightx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
2b	O-RING_3-32	B1000-133 O-RING 3/32 X 1 13/1	1
	APOGEE-H	Housing	1
	APOGEE-BP	Base Plate	1
	APOGEE-BRCKT	Universal hold-down plate	1
3	APOGEE-775-HARDWARE		4 x
3a	6-32-Acorn-nut	Acorn nut	1
3b	SPRING6	spring	1
3c	6-32-nut	6-32 nut	1
3d	LOCK-WASHER#6	Lock washer	1
3e	FW140X250X0215FB BLK	black fiber washer	2
3f	91772A157-6-32x1.5	Philips screw 6-32 x 1 1/2	1
3g	12SWS0444	NYLON SHOULDER WASHER	1



Intel® Xeon™ Socket 603/604 400 and 533 MHz FSB motherboards

Use all parts from “common parts pack” except Philips screws: replace with the enclosed 6-32 1 5/8” long screws, instead of the 1 1/2” long screws supplied in the common parts pack.

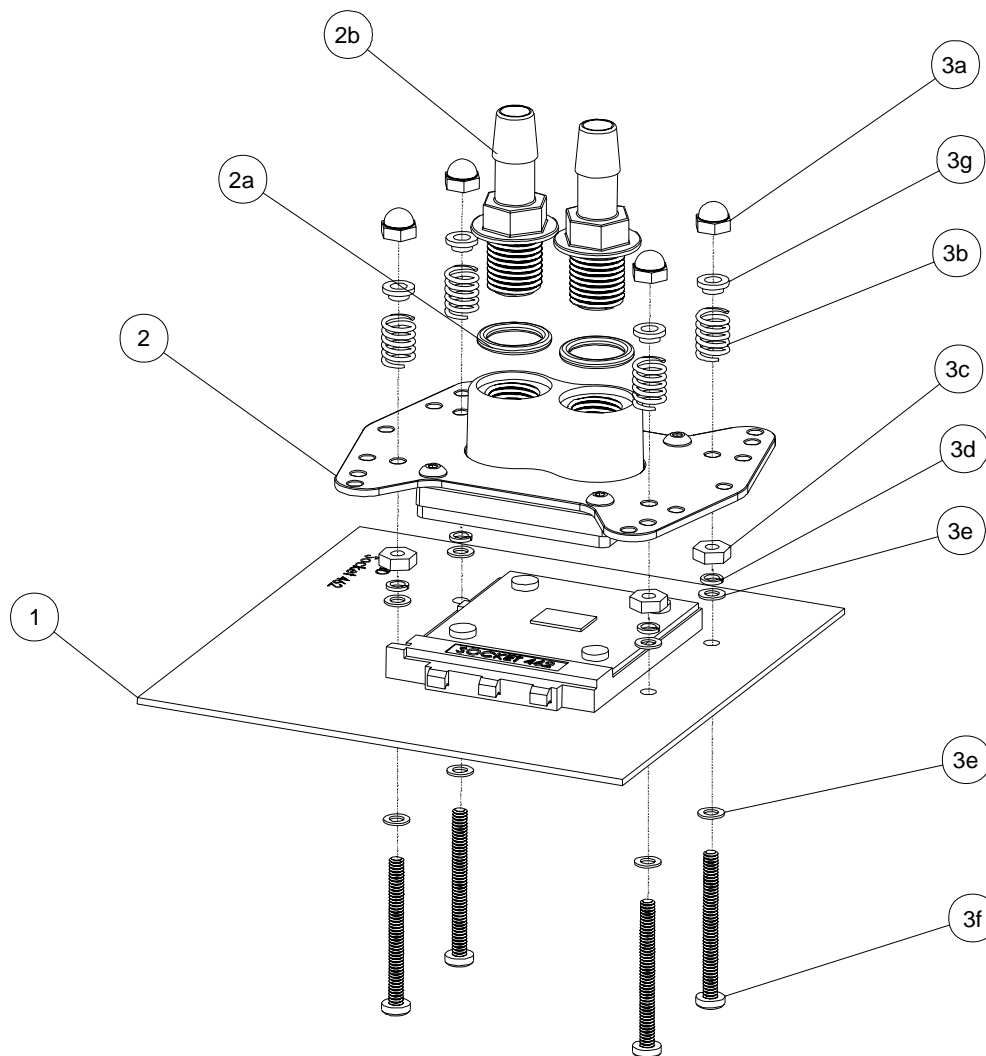
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Socket-603-604	Motherboard	1
2	apogee-assy		1
	APOGEE-H	Housing	1
	APOGEE-BP	Base Plate	1
	APOGEE-BRCKT	Universal hold-down plate	1
2a	O-RING-9557K473	1-4" NPSM barb fitting O-Ring	2
2b	1-4-straightx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
3	APOGEE-XEON-HARDWARE		4 x
3a	6-32-Acorn-nut	6-32 Acorn nut	1
3b	SPRING6	Spring	1
3c	6-32-nut	6-32 nut	1
3d	LOCK-WASHER#6	#6 lock washer	1
3e	FW140X250X0215FB BLK	black fiber washer	2
3f	6-32X1.5-8	6-32 x 1 5/8" philips screw	1
3g	12SWS0444	NYLON SHOULDER WASHER	2



AMD® Athlon®, Duron®, MP, XP, Sempron® Socket 462

Use exclusively with motherboards featuring mounting holes around the socket.

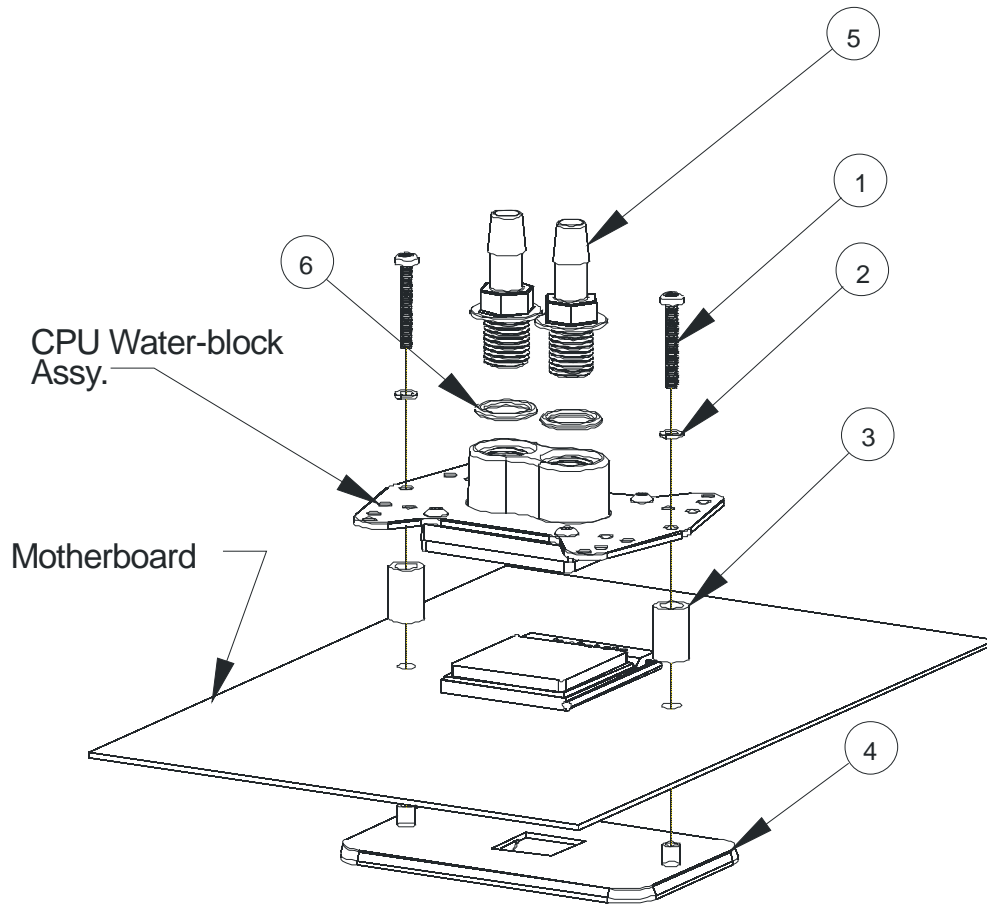
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	socket462	Motherboard and CPU assy.	1
2	apogee-assy	Waterblock	1
	92949A149	6-32 X 3/8" PHILIPS	4
2a	O-RING-9557K473	1-4" NPSM barb fitting O-Ring	2
2b	1-4-straightx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
	APOGEE-H	Housing	1
	APOGEE-BP	Base Plate	1
	APOGEE-BRCKT	Universal hold-down plate	1
3	APOGEE-462-HARDWARE		4 x
3a	6-32-Acorn-nut	Acorn nut	1
3b	SPRING6	Spring	1
3c	6-32-nut	Hex Nut	1
3d	LOCK-WASHER#6	Lock washer	1
3e	FW140X250X0215FB BLK	Ffiber washer	2
3f	91772A157-6-32x1.5	6-32 x 1 1/2 philips screw	1
3g	12SWS0444	Nylon shoulder washer	1



"An additional part is available in order to work with motherboards with high density of capacitors around the socket". Article: #AP-S462-R.

AMD® 64, Sempron®, Opteron® Socket 754, 939, 940

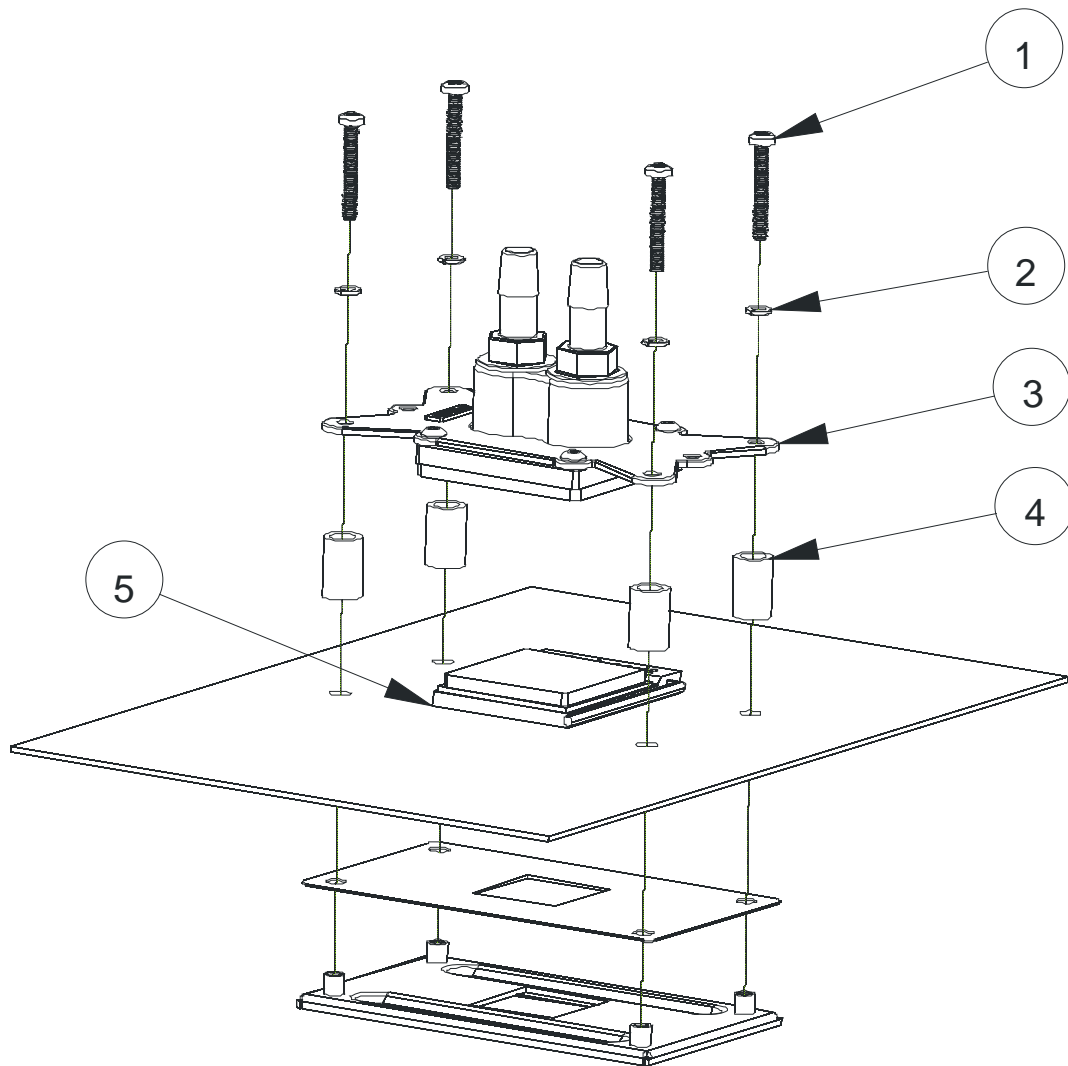
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	90272A153-6-32x1.00-philips	6-32 x 1" Philips screw	2
2	washer-0148x0266x0040-91007A619	Lock Washer #6 x 0.040	2
3	13RS040637	Nylon spacer for Apogee K8 assy	2
4	AJ00264	Motherboard Back plate (not provided)	1
5	1-4-NPSMx3-8-barb	1/4" NPSM X 3/8" Barb fitting	2
6	O-RING-9557K473	1-4" NPSM barb fitting O-Ring	2



AMD® 64, FX, X2, Sempron®, Socket AM2

Remove the pre-installed hold-down plate first, as described on the next page.

ITEM	PART NUMBER	DESCRIPTION	QTY
1	90272A153-6-32x1.00-philips	Philips screw	4
2	washer-0148x0266x0040-91007A619	Lock Washer #6 x 0.040	4
3	apogee-assy-AM2		1
4	13RS040637	Nylon spacer for Apogee K8 assy	4
5	SOCKET AM2		1



The Apogee water-block ships pre-installed with the multi-socket hold-down plate. In order to install your Apogee with AMD's AM2 socket, you will need to remove the existing hold-down plate and replace it with the AM2 model as follows:



Step 1: loosen all 4 screws using the included hex key, and set aside the standard hold-down plate.



Step 2: place the AM2 hold-down plate on the Apogee body, and fasten all four screws in cross pattern.

You can now use your Apogee with AM2 socket. Please read the common and step by step installation guidelines in page 2 to proceed with the installation of the product.