

DIY Build Kits & Heatsinks by jayrob

(Do It Yourself Projects - By a Hobbyist, For a Hobbyist)

- * Several different builds here. Have a look!
- * A 'must see', is my '**Pocket Mini Build Kit**'.
- * **Heatsinks** available for all builds shown.
- * Links to many different tutorials!
- * There is a DIY **green** kit too...



Custom Heatsink With Set Screw



LM317 (DDL Style) Driver

(Most builds and tutorials use the FlexDrive by Dr. Lava)

Kits, Heatsinks, Lenses, and More!



[Laser Pointers](#)



[My MXDL DIY Parts List!](#)





Key Chain/GGW/405-G-1 (268mW's)

List of Tutorials!:

[7 Color Build!](#)

[My Pocket Mini Build Kit!](#)

[Mini Mag Green Build!](#)

[Mini Mag Red or Blu-ray with FlexDrive!](#)

[Check out my 'Micro Chrome' build!](#)

[Key Chain Blu-ray - With FlexDrive!](#)

[Desk Top HeNe Laser Lamp!](#)

[Blu-Ray With TEC!](#)

[MXDL 'Side Button' Tutorial](#)

['Pocket Pal' Tutorial](#)

[DIY Green Build](#)

[Key Chain Flashlight Mod!](#)

['Side Button' Pocket Pal Tutorial!](#)

I am selling 'Flashlight/Heatsink Build Kits' (You must get your own diode or module in order to make it into a laser)

Also, 'Heatsinks' are available for all of the builds shown here!

**There are 'HOT' options available with most of these Build Kits!
Driver pre-installed and current set!**

[Key Chain CR2 Build Kit!](#)

[New Mini Green Kit!](#)

[Key Chain \(10280\) Build Kit!](#)

[4171 and 3405 Build Kits!](#)

[My Pocket Mini Build Kit](#)

[My New Stainless Steel Mini Green Kit!](#)

[My new 'Side Button' Build Kit!](#)

[Check out my 'Micro Chrome' build Kit!](#)

[Mini Mag/FlexDrive Kit for Red or Blu-ray!](#)

[Mini Mag Green Kit!](#)

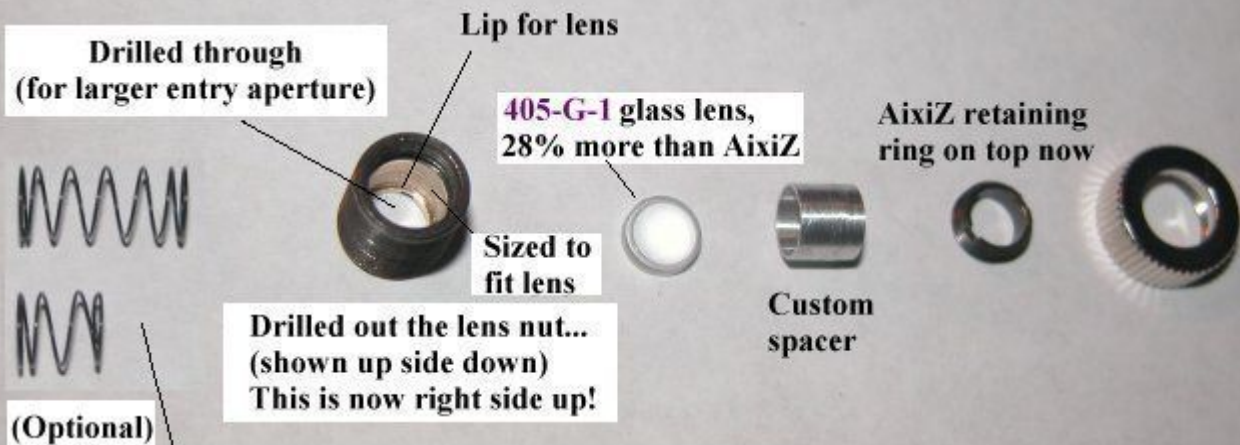
[My DIY Green Kit!](#)

**'HOT' ITEM!!! - 405-G-1 Glass Lens Modification!
(fit for AixiZ)**

(28% Increase in Power for Blu-ray vs AixiZ Acrylic!)

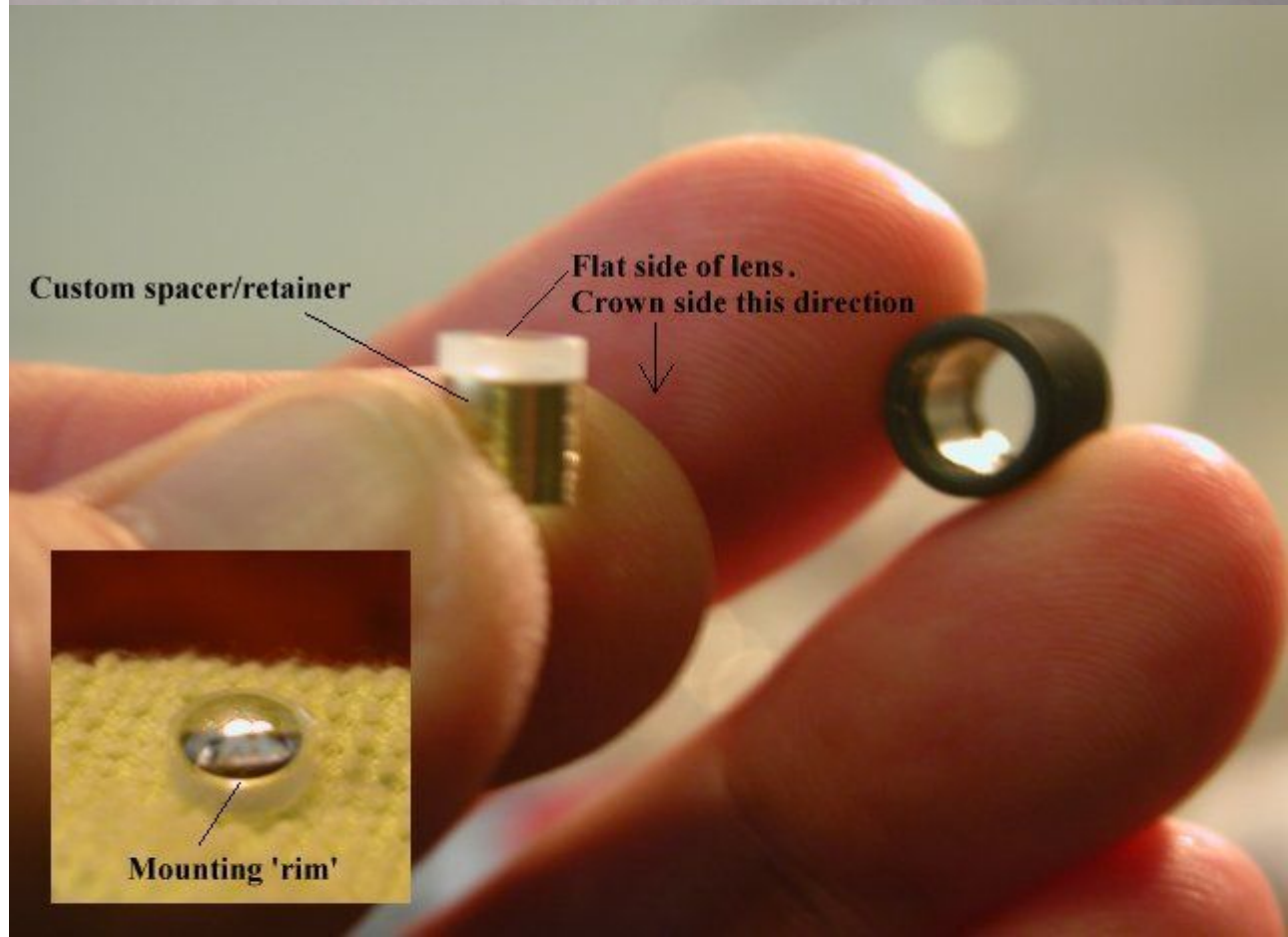
Fit For AixiZ Using 'Inverted' AixiZ Glass Lens Nut!

(AixiZ glass lens nut is brass)



If you use your spring, you just have to shorten it some.
Also, Teflon tape is recommended for 'no wobble'.

For this 405-G-1 glass lens modification, I am including
the assembled lens mod, ready to install, with focus ring



Even has room for the 'finger grip' focus ring!



Drilled out for a larger opening to the lens!

PHR/Meredith Glass 150mW's (145mA's)	6X/AixiZ Acrylic 171mW's (181mA's)	SF-AW210/405-G-1 384mW's (280mA's)
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This glass lens modification is awesome!...

- * Mounted in modified AixiZ glass lens nut.
- * Includes 'finger grip' focus ring!
- * Perfect focus with your existing AixiZ module blu-ray build.

For more pictures and information on these 405-G-1 glass lens mods, take a look at my LPF thread!:
[405-G-1 Glass Lens Mod fit for AixiZ](#)

I have done the same 'fit for AixiZ' lens mod for the Meredith glass lens which is best for **red!** (20% increase in power vs AixiZ acrylic):



[Meredith Glass Lens Mod fit for AixiZ](#)

EzFocus Adapters for Kryton's and Pocket Mini's!

These EzFocus adapters are designed for use with my 405-G-1 and Meredith glass lens modifications, ...but can be used with AixiZ acrylic as well.

Knurled Option



Pocket Mini EzFocus



This gap (at focus), will depend on which lens you have, and module placement inside the heatsink.

See here for more information:
[EzFocus Adapters!](#)

MXDL Builds! - DX sku 4171 and 3405 Hosts.

See below for heatsink design choices on the 4171 and 3405 hosts. (For just the heatsink, **\$23** plus \$3 dollars shipping)

See here for more information:

[MXDL 4171 or 3405 Host & Heatsink Combo!](#)

This 4171 build, is just a 'pumped up' version of Daedal's original build.

The differences are:

- * The open can diode (long)
- * The heatsink
- * The use of the 3 ohm resistor, instead of 2 x 10 ohm resistors and a pot. No pot, and just the 3 ohm resistor at the LM317 will give you the 420mA's. (about 245mW's to 250mW's with an acrylic lens) **For 300mW's, I recommend the FlexDrive option set at 430mA's using a Meredith glass lens.**
- * Heatsink needed! As well as the **3.6 volt batteries. (DDL driver)** His thread doesn't mention the silicon diode and cap, because he covered that in his driver thread. He shows pictures of those components in his build.

Daedal has a very good guide on the building of this MXDL host here:

[DDL Laser Torch](#)

DDL's driver thread is here: [DDL Driver Thread](#)

I have a couple of documents and 'tips' on doing this build using my custom heatsink. In my 'Driver Tips' document, you will find a good schematic of the original DDL driver. (these documents may take a minute to download)

<http://www.sonic.net/~jayrob/MXDLDriverTips.doc>

<http://www.sonic.net/~jayrob/MXDLHeatsinkTips.doc>

If you don't already have a charger, you can get one here:

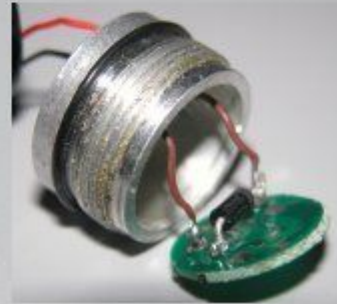
China: <http://www.dealextreme.com/details.dx/sku.936>

U.S.: <http://www.batteryjunction.com/tlunlichfor1.html>

With the FlexDrive, the current can be adjusted! I like 430mA's for the FlexDrive build these days. This will give you around 250mW's with an AixiZ acrylic lens, and around 300mW's with a Meredith glass lens.



FlexDrive Option!



For the FlexDrive builds, you will need to use 2 X 3.0 volt Lithium primaries. (I personally like the use of the Lithium primaries, because they will not lose charge when sitting) The FlexDrive driver, will need a silicon diode installed to drop the supply voltage to 5.5 volts, which is this driver's max input voltage.

Also, with the use of these FlexDrives, this host is now an excellent blu-ray host as well! Using the 3.0 volt Lithium batteries.

Note: I have a Version 2 heatsink design for the sku's 4171 and 3405 hosts. Now you have another choice!

These two hosts have a massive heatsink and this new design still has plenty of mass...

Sku's 4171 & 3405 Version 2 Heatsink



Room for either module... Meredith or AixiZ.

These two hosts have enough room inside that we can have a heatsink that is 'flat'. Not protruding out the front.

Still will fit either module. Here's how the finished build will look with the version 2 heatsink:

Sku 4171 Host - Version 2 Heatsink



AixiZ module shown...

Sku 3405 Host - Version 2 Heatsink



AixiZ module shown...

So now you have more choices!

Just let me know which host for the build, which module size, which heatsink, which diode, etc... (same price)

New 'Side Button' Laser Build Kit!

(Using PHR-803T 405nm Blu-Ray Diodes, Or open can reds!)

Disassembled DX sku 13806 Host



This side button host comes apart at the head, as well as at the reflector/lens front. This makes it an easy host to modify into a **red** or **blu-ray** build!



These latest side button hosts are awesome!...

- * Custom heatsink/mount - very clean, and solid.
- * For use with blu-ray diodes. Or red diodes! (Diodes not sold as part of the kits)

- * Your choice of using an AixiZ, or a Meredith module!
- * FlexDrive by Lava.
- * Powered by 3 X 1.5 volt Lithium primaries.
- * You also have the option of using AAA rechargeable batteries!

For more pictures and information on these new builds, take a look at my LPF thread!: [New Side Button Build Kit!](#)

My new 'Pocket Mini' Laser Build Kits!

(Using 405nm Blu-Ray Diodes, Or open can reds!)

'Pocket Mini' Build Kit!



Size comparison...

'Pocket Pal'



'Pocket mini'



Choice of 3.0 volt primary

or,

3.6 volt rechargeable

for my new
'Pocket mini'



—1300mAh!



—880mAh

This is a great little host with a tail button clicky switch!...

- * FlexDrive driver
- * Custom heatsink
- * AixiZ acrylic module
- * For use with blu-ray diodes. Or red diodes! (Diodes not sold as part of the kits)

It's nice to have the option to use primaries, or rechargeable batteries!

[Buy the Pocket Mini Kit!](#) For more pictures and information on these Pocket Mini builds, take a look at my LPF thread!:

[Get your Pocket Mini build Kit here!](#)

See These Tutorials of My new 'Key Chain' Blu-ray and red Build kits - With FlexDrive!

(Using 405nm Blu-Ray Diodes, Or Red diodes!)

'Key Chain CR2 Battery' - With FlexDrive! (Beam shot - with smoke)



This is a solid little key chain laser with tiny little 'click on / click off' metal tail switch! (The kit is just the host and custom heatsink. No Laser diode included in the kit)

* For use with blu-ray diodes. Or red diodes!

For more pictures and information on these tiny builds, take a look at my LPF thread!:

[My Key Chain CR2 Build kit! - Must see!](#)

'Key Chain 10280 Battery' - With FlexDrive! (Beam shot - with some smoke)



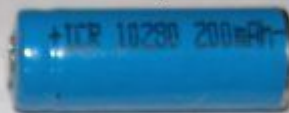
(AA Battery for Size Comparison)



Key Chain Laser Mod - by jayrob

10280 Battery - 200mAh

Host size - 9/16" X 2 5/8"



(With tail cap mod)
See below



(CR123 for Size Comparison)



This is a tiny little solid brass key chain laser with a momentary side button switch! (The kit is just the host modified. No Laser diode included in the kit)

* For use with blu-ray diodes. Or red diodes!

For more pictures and information on these tiny builds, take a look at my LPF thread!:

[My Key Chain 10280 Build kit! - Must see!](#)

More Blu-Ray!

(Using 405nm Blu-Ray Diodes)

Check out my blue 'Pocket Pal' Build Tutorial!



See how small it is next to a Kryton laser...

- * Custom heatsink/mount - very clean, and solid.
- * For use with blu-ray diodes. Or red diodes! (Diodes not sold as part of the kits)
- * Your choice of using an AixiZ, or a Meredith module!
- * FlexDriver by Lava.
- * Powered by 3 X 1.5 volt Lithium primaries.
- * You also have the option of using AAA rechargeable batteries!

For better longevity, the 100mA setting will put you around 90mW's with a PHR. (AixiZ acrylic - plastic cut away)
Some are running these 803T diodes much higher.

Don't let the size of the little guy fool you...It is a very solid build!
I really like the use of the Lithium primaries. These batteries can sit in your laser and you don't have to worry about them losing their charge!

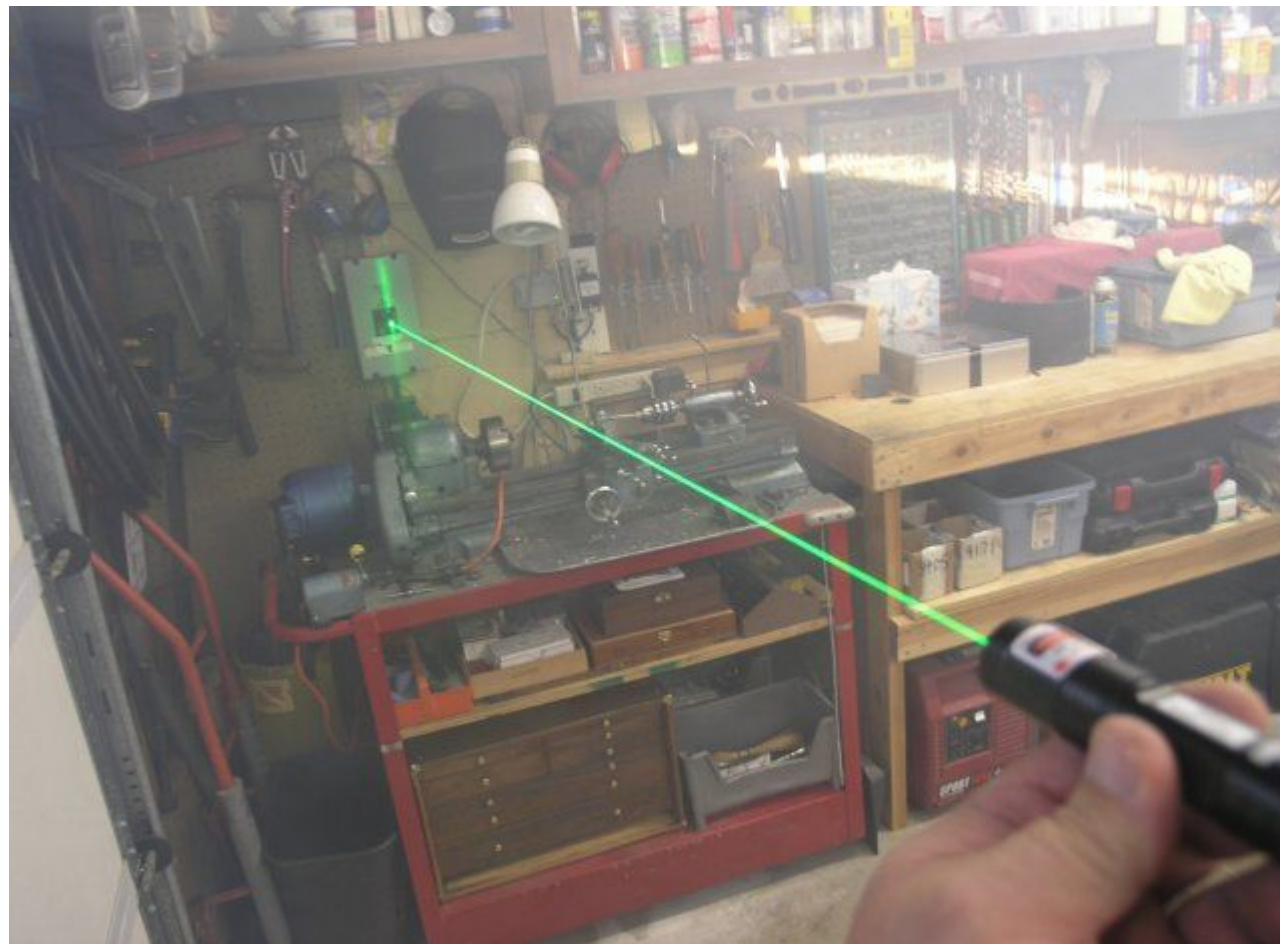
Look at the Tutorial here for a nice 'beam picture' as well as a look inside at the driver mount!
[Pocket Pal Tutorial](#)

My DIY 'Green build Kits!'

Green Laser Builds!



50mW Beam shot with some smoke.



Very nice host with a tail button clicky switch!...Looks like a mini RPL!

- * 50mW, 100mW, or 150mW modules. (modules must be purchased from other source. Links shown in my LPF thread)
- * Custom heatsink
- * Nice size!

Buy the Kit! For more pictures and information on these DIY green builds, take a look at my LPF thread!:

[Get your DIY Green build Kit here!](#)

Mini Mag Green Build Kit!



This awesome Mini Mag host is now an easy green build!...Mini Mags have such a nice finish. And come in different colors too!

- * 50mW, 100mW, or 150mW modules. (modules must be purchased from other source. Links shown in my LPF thread)
- * Custom heatsink
- * Awesome!

Buy the Kit! For more pictures and information on these Mini Mag green builds, take a look at my LPF thread!:

[Get your Mini Mag Green build Kit here!](#)

Heatsinks



[My LPF Heatsink Thread](#)

Custom fit heatsinks for the MXDL. Perfect for any DIY laser using the MXDL host. Highly recommended for making a high powered red, using an open can diode. Or, if you are getting in on the Phazor diode GB.

If anyone is interested, I am currently making my custom MXDL heatsinks available. Using this heatsink, Gazoo and I, along with a couple of others, have been running the open can diodes with a DDL driver at 420mA's. (3 ohm resistor) This combination gives you 300mW's (+ or - 10) in a hand held laser! (Meredith glass lens) If the lens is acrylic, the output would be around 250mW's...

The widest part of the heatsink, is the same 'thickness' as the MXDL reflector and glass lens that you will be removing, so that the threaded retaining ring will hold the heatsink securely in place. They are made specifically for this MXDL, which Daedal first showed in his 'DIY Laser Torch' thread:

<http://www.dealextreme.com/details.dx/sku.4171>

I am offering them for \$23 dollars a piece, plus shipping. Shipping & handling to the U.S. will be a flat rate of \$3 dollars. \$4 dollars elsewhere. They will be fit for AixiZ, or Meredith modules, your choice. The heatsinks are drilled out, just a little larger in diameter than the modules, and have a set screw for positioning and securing the module. Either style will include the set screw. You will need a 1.5mm Allen wrench for the set screw. (wrench not included)

New I want to remind everybody that there are three different MXDL hosts, that I am making heatsinks for. Each build, has a different host, heatsink, battery supply, and driver.

1. 4171 heatsink (\$23) - For the MXDL that takes 2 X 3.6 volt rechargeable batteries for the high powered red diodes:

(using a FlexDrive, with 3.0 volt batteries, this host is also great for a blu-ray build. As are the other hosts using the FlexDrive!)

<http://www.dealextreme.com/details.dx/sku.4171>

2. 3405 heatsink (\$23) - For the MXDL that takes 3 X AAA batteries. (3.6 volt 10440 batteries for the blu-ray build/DDL driver):

<http://www.dealextreme.com/details.dx/sku.3405>

3. 5387 (or 5095) heatsink (\$25) - For the MXDL 'side button' host. **(Super easy build! - See the link to my tutorial below)** This host takes 3 X AAA batteries. (This build is designed for a FlexDrive) Here's the host:

<http://www.dealextreme.com/details.dx/sku.5387>

[This \(sku 5095\) host is the exact same for this build if DX is out of the sku 5387 host.](#)

The differences in these first two heatsinks, can barely be seen visually. But they are machined slightly differently for the fit into their respective MXDL hosts. Either style, can be fit for an AixiZ module, or a Meredith module.



In this picture, I have marked the heatsinks.

4171-A stands for 'DX SKU 4171 fit for AixiZ'.

3405-A stands for 'DX SKU 3405 fit for AixiZ'.

Note: I have a Version 2 heatsink design for the sku's 4171 and 3405 hosts. Now you have another choice!

These two hosts have a massive heatsink and this new design still has plenty of mass...

Sku's 4171 & 3405 Version 2 Heatsink



Room for either module... Meredith or AixiZ.

These two hosts have enough room inside that we can have a heatsink that is 'flat'. Not protruding out the front.

Still will fit either module. Here's how the finished build will look with the version 2 heatsink:

Sku 4171 Host - Version 2 Heatsink



Sku 3405 Host - Version 2 Heatsink



AixiZ module shown...

So now you have more choices!

Just let me know which host, which module size, and which version! (same price)

Note: Since we now have the FlexDrives, either host can be used for a Red, or a blu-ray build. So I will be marking the heatsinks with the DX SKU number of the host.

Just to let everybody know this. There would be no misunderstanding on your order, if you said 'I would like a 4171 - Meredith, and a 3405 - AixiZ'.

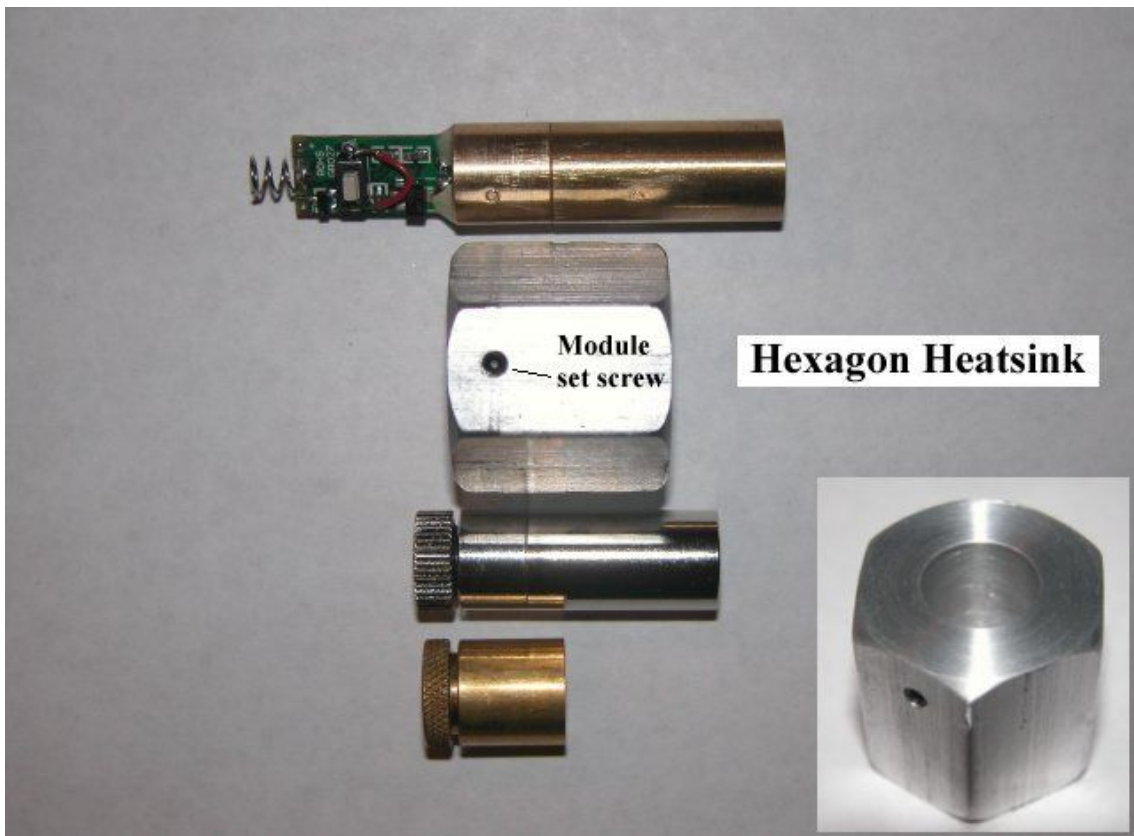
Here's the MXDL 'side button' host! - Easy build! For the 5387 host (or the 5095 host). (this one is \$25 plus shipping)



Here's my tutorial on the build:
[MXDL Side Button Tutorial](#)

P.S. Once again, besides the MXDL host & heatsink being different for these builds, the battery configuration will differ, depending on which **driver** you will be using...

Check out my new 'Hexagon Heatsinks'! These are designed with the O-like Green Modules in mind, but I can fit the center hole for AixiZ, Meredith, or Green modules!



These heatsinks are probably overkill as far as mass goes. I just ordered some 1" X 1" hexagon pieces. They should be great for those labby style projects!

Just let me know what size module to fit them for!

\$23 plus \$3 dollars for shipping and handling...

Here's my LPF thread on these if you have any questions:

[Hexagon Heatsinks!](#)

I can accept payment for the 'Heatsinks' and 'Build Kits' through either PayPal, Google, or Western Union.

I will accept U.S. Postal Money Orders as well.

E-mail me and I can send you an invoice if you like.

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[My Tequila Web Site!](#)

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