

# Friendly Folding Keychain

by **reconscious** on January 28, 2009

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## intro: Friendly Folding Keychain

So ever since I can remember I have haaaated carrying keys. They're uncomfortable sitting in your pockets all day, they make it hard to find change when you need it, they scratch up everything around them, be it cell phones, cameras, etc.. and when you really think about it, your standard keychain is really just a terrible design. Why would you subject yourself to that? Well I've decided enough is enough and set out to make what I think is a much more friendly and functional keychain. My criteria for this new design are as follows:

- Compact and foldable
- Comfortable in the pocket
- Easy to distinguish from all other possible pocket contents
- Not rough or abrasive
- Aesthetically pleasing
- No jingling!



### Image Notes

1. House keys
2. Car Key
3. Convenient lightweight utility tool

## step 1: Crank Brothers M5 Multitool...

I found this great little Crank Brothers M5 Tool that was the perfect start. It is designed for cyclists and as such is very lightweight. Not only would it be the perfect housing for my keys, but it also sported a variety of allen wrenches and a phillips head screwdriver as well. Sweet! If that wasn't motivation enough, it was cheap at only 12 bucks!



### Image Notes

1. Crank Brothers M5 tool.

## step 2: Take it all apart...

The first real step was to take the M5 apart and see what kind of tolerances I would be working with and how everything was going to fit together. I ended up adding a couple flat washers to make up for the space differences between the allen wrenches I removed and the keys I added.

I was pleased to find that your standard house and car keys are the perfect length to fit snugly inside the folded M5, so you don't have to worry about adjusting the position of the keyholes. The only part of my keys that really required any modification at all were the little square holes. I imagine there are key blanks out there that have a large enough hole to work right out of the box with no modification at all, but alas, I would had to make my square keys fit a round peg.

### Image Notes

1. Square hole
2. Square hole
3. Round peg
4. Round peg

## step 3: Make sure the keys fit...

Time to grab my trusty metal file and go to work. After I had filed proper size holes into all three keys (2 house keys and one car key) all that was left was to put everything together and admire my work.





**step 4: File away the excess key bits...**

I could have just left it at that but I'm picky and didn't like how much the outside edges of the keys poked out on each side. So, once again, I grabbed my file and went to town re-shaping the exteriors of the key. Normally you would want this wide part on a key to provide proper leverage when turning the lock, but since my keys would be firmly attached to a larger piece this wasn't a concern.

I filed each key down until it had a nice rounded shape. I also opted to file a little corner into each key so that I could easily flip them out with just the tip of my thumb.



### step 5: Ta-Da!

Ta Da! All folded up it measures about 3.5" x 1.25" x .75" For reference, you could fit two of them inside the footprint of a credit card. I wanted mine to be as small as possible, but if you didn't care about a small form factor, or you needed room to accommodate more keys you could always go with the Crank Brothers M-10 which is the same length as the M-5 but twice as fat.



#### Image Notes

1. House keys
2. Car Key
3. Convenient lightweight utility tool



#### Image Notes

1. Look how compact and comfy looking this bad boy is! Don't you just want to slip it into your pocket? Oh yea, that feels niiiiice...

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## Comments

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**SleuthNinja** says:

Feb 23, 2009. 5:14 PM [REPLY](#)

Love the instructable, finished mine about 2 weeks ago. Ran into some difficulty with the car key chip but ended up getting it to work using a piece of plastic that I drilled out and epoxied the chip into (The black square thing on the left). Took awhile to figure out the exact distance and position that the chip required to be in range from the starter. = D " No risk in losing, No fun in gain"



**vocalpatriot** says:

Feb 19, 2009. 7:17 PM [REPLY](#)

Great Idea. How's the car key for operation with this klunky contraption hanging from it? gotta make one of my own, maybe kick it up a notch. hm..let's see...



**karmineky** says:

Feb 5, 2009. 8:32 AM [REPLY](#)

This is a great idea!!! I'd like to make one for my husband, but his car key is a little bit different... Any thoughts on how I would attach a key for a car that has remote locking on the key (i.e. for a Subaru)?





**R4Man18** says:

Feb 19, 2009. 9:53 AM [REPLY](#)

Gods gift to man.. a Carabiner. (i love them so)

those are just key less entries with the key built in removing the case can cause the thing to lose power in which case you will have to have the whole thing reprogrammed which involves most of the time having it towed and then programmed. For the car keys I would say stick with leaving it intact but go ahead and do the rest with any other keys he may be using. with a small keyring you can attach the key to the whole setup.



**benthekahn** says:

Feb 10, 2009. 6:24 PM [REPLY](#)

go to your local hardware/locksmith and get them to make a copy of the key without the chip.



**reconscious** says:

Feb 5, 2009. 10:15 AM [REPLY](#)

The problem with these keys is they are both too thick and too long for the M5 tool. You could get the larger M10 version to accommodate the fatter keys, but you are still limited by their length. What you might could do is make a copy of the car key on a standard key blank (without the rubber handle) and use that inside the M5. You could then attach the remote by a small keyring. That way you have the best of both worlds! If your remote is built into the key handle (like yours seems to be), and your new key works properly you could just file or saw the key bit off of the original leaving only the remote. It's not the perfect solution, but it should work. Good luck!



**nickb800** says:

Feb 6, 2009. 2:33 AM [REPLY](#)

This probably wouldnt work - most modern keys have a chip inside the black plastic/rubber surround which is read wirelessly by the car ignition to deactivate the immobiliser (think of it like a swipe card to get into an office building). With a copied key you will be able to turn the key, however the engine wouldnt start.

Love the instructable tho!



**eecharlie** says:

Feb 12, 2009. 11:15 AM [REPLY](#)

Brilliant and elegant instructable, thanks very much.

The crank bros multi-tools seem to be a bit cheaper on Amazon although do your homework on the seller(s), 2 results show up for these searches, the ones slightly cheaper with less product details:

<http://www.amazon.com/Crank-Brothers-Multi-5-Tool/>  
<http://www.amazon.com/Crank-Brothers-Multi-10-Bike/>

(But what do you care if it's the old model!)

Now: can I fit an aluminum bottle opener into it? Because that's way more important than the remote for the fancy car I don't own =)



**bassmanv** says:

Feb 10, 2009. 6:03 PM [REPLY](#)

This is awesome. Probably one of the most useful on the site. Thanks!



**gnargnar** says:

Feb 5, 2009. 2:08 PM [REPLY](#)

i'd have to see how this looks in the ignition to be really hyped on it. i was excited until i imagined how that would work with a multi-tool hanging off your ignition...



**Guardian\_Rayovac** says:

Feb 10, 2009. 8:42 AM [REPLY](#)

Well,

In my experience,( my father is a mechanic, so i guess it's not really My experience) The main problem is when it hangs down... like when you have a lot of weight from a key chain... it's the downward force...so if you bent it upwards, but it could still mess it up. and that was no cheap fix for my step-mom when she learned the hard way to not have a billion keys on her key chain



**reconscious** says:

Feb 9, 2009. 12:46 PM [REPLY](#)

This is how it looks in my '02 Mazda Protege. After I start the car I fold it upwards so it's out of the way of my knee.





**grimdaddy** says:

Feb 5, 2009. 7:01 PM [REPLY](#)

Don't use this idea on a chip key!!! Those little buggers are expensive!! It couldn't look any worse than some of the ridiculously long and over burdened key chains some women, and men, have hanging from the ignition switch. I think this is a demonstration of function over form. If you are worried about the appearance of your car key while it is being used then you obviously wouldn't use this idea.



**chrisayad** says:

Feb 7, 2009. 9:29 AM [REPLY](#)

or if you want everyone to stare at your awesome creation that they wish they had. i think it looks more beautiful than any other keychain i have ever seen.



**gnargnar** says:

Feb 7, 2009. 10:25 AM [REPLY](#)

i didn't say for looks, i'm saying i've been in some cars where the keychain would be sticking out sideways into the steering column, and generally just tearing up your dash/not fitting. plus i ride a motorcycle, and i can guarantee there's not enough room for one of these there. sheesh, people think i'm so shallow... ;)



**chrisayad** says:

Feb 7, 2009. 1:31 PM [REPLY](#)

yeah no ur not shallow but i dont think it should be used for car keys. you shouldnt attach stuff to your car keys



**Guardian\_Rayovac** says:

Feb 10, 2009. 8:39 AM [REPLY](#)

i can't wait to build one, and on the plus side, it doubles as one of those key turning things for old people...my grandma has to use one...those who can't grab one key a turn.... anyhow, This is a great idea!



**frikkie** says:

Feb 9, 2009. 3:49 AM [REPLY](#)

Great! I love it!!!



**brandonmiller21** says:

Jan 30, 2009. 5:57 PM [REPLY](#)

this is a great build!! awesome way to integrate your keys into this multi tool. I will be putting mine together this weekend!



**brandonmiller21** says:

Jan 31, 2009. 3:43 PM [REPLY](#)

I found the tool at my neighborhood bike shop this morning and put mine together during lunch! It took a little mixing and matching until I got the right thickness with the keys/washers/tools for each end, but it came out perfect.



**jgserd** says:

Feb 7, 2009. 5:30 PM [REPLY](#)

I LOVE your idea. Might get a copyright and make big money!. If you don't, someone else might. I'd definitely buy it!



**reconscious** says:

Feb 1, 2009. 11:08 AM [REPLY](#)

Looks great! That's awesome that you found one locally. I'll have to check out my local bike shop for a backup!



**fransch3** says:

Feb 11, 2009. 3:35 AM [REPLY](#)

try Maplin Electronics if you are in the UK about £4



**avngrboy** says:

Feb 6, 2009. 8:17 PM [REPLY](#)

I saw your project and had to do it. I had been wanting to something to organize the my keys and this was perfect. thanks. Here is a pic of mine. It still needs to be cleaned up and a I want to add a knife. I went with the M10, decided to keep the flat head and the phillips. Thanks again.



**reconscious** says:

Hot damn! Looks like you got quite a few keys in there. I was hoping somebody would make one with the m10. Thanks for posting the pic :-D

Feb 6, 2009, 11:24 PM [REPLY](#)



**MarshW** says:

I also wanted to mention that a crafty person like yourself could re-key those locks with a \$12 kit from home depot and go from two house keys, to just one.

Feb 7, 2009, 10:03 AM [REPLY](#)



**MarshW** says:

This is great! I would totally do this except that i love my Ricardo (by Gerber) folding corkscrew keyfob...and my car key has one of those electronic chips embedded in it.

Feb 7, 2009, 10:01 AM [REPLY](#)



**numenius** says:

Brilliant! I think you could be marketing this for money!

Feb 6, 2009, 5:06 AM [REPLY](#)



**haloalternative** says:

Just made one in 30 minutes. I only had my home key to add, but I thought it was a great idea. I also added on a keyring if I ever needed to use it.

Jan 30, 2009, 8:25 PM [REPLY](#)



**Pie Ninja** says:

Hey, that's a nice looking knife, could you tell me what brand and model it is?

Feb 5, 2009, 8:42 PM [REPLY](#)



**shop dweller** says:

Very Cool - I like it!  
But you better hide it before Victorinox sees it (he he) they'll be making these with red handles!  
I haven' t had time to read all the comments so please forgive me if someone has already suggested this: how about adding a ruggedized thumb drive? (extremegeek.com). Anyway this is way too cool! Thanks for posting.

Feb 5, 2009, 1:37 PM [REPLY](#)



**ClayOgre** says:

Neat idea, but I ain't payin' twelve bucks for a keychain. I'd need to figure out an alternative.

Jan 30, 2009, 4:10 PM [REPLY](#)



**srmousse** says:

You can use just about any multitool... Just check ebay, or a pawn shop, or even your local goodwill...

Feb 5, 2009, 11:35 AM [REPLY](#)



**ceramiceye** says:

This.. is ... awesome...

Feb 5, 2009, 10:53 AM [REPLY](#)

I am definitely doing this ASAP. I hate the fact that I have keys for home, keys for work, a mini multitool, a jump drive, keys for other things I take care of, and keys for my car all on a series of rings all hooked together to my lanyard. Its annoying to keep in the pocket and rips holes in them.

where did you find that m5? can you only buy it online or is there some store chain or type of store that would carry them.





**reconscious** says:

Check out your local bike shop. If they don't have it and can't order it for you then check online. I got mine from backcountry.com

Feb 5, 2009. 11:24 AM [REPLY](#)



**willyjoeshow** says:

Sweet Idea, but how's the weight?

Feb 5, 2009. 5:26 AM [REPLY](#)



**reconscious** says:

I'm guesstimating that mine weighs between 75 - 80 grams. The Crank Brothers website lists the stock M5 as weighing 80 grams. The more allen wrenches you replace with keys the less it will weigh. Keep in mind that the M5 tool is made for cyclists who can be somewhat nutty about keeping all of their gear lightweight. As such this guy was meant to be as light as possible while still being tough.

Feb 5, 2009. 9:56 AM [REPLY](#)



**Doctroid** says:

Couple of questions:

- Do you do all your own car work? Because I don't, and I'm thinking, what happens when you leave your car with the mechanics and have to give them a key? I guess the only option is to have a spare car key. I don't...
- What's the diameter of the M5 round peg? I have a key from work which (a) they probably wouldn't appreciate my taking a file to and (b) has only about a mm clearance between the hole and the edge of the key.

Feb 5, 2009. 6:46 AM [REPLY](#)



**reconscious** says:

The problem: Being able to remove a key on the fly.

The solution: If you use the lock washer that is included with the stock M5 tool and don't over-tighten it you should be able to loosen the screw by hand. Just squeeze the two black aluminum bits together with one hand and twist the screw with the other. I've had to do this a few times now. Once when I was at the mechanic and twice at the airport. Also, airport security might consider this keychain to be a weapon. I always take it apart and stick the pieces in my backpack when going through security. Haven't had a problem with it yet.

The outer diameter of the peg is just a hair under 1/4"

Feb 5, 2009. 9:49 AM [REPLY](#)



**mrmath** says:

Looks great, but something to note. I drive a 2002 Dodge Grand Caravan in the US (made in Canada), and the key head has some electronics in it so that the car won't run without the key head near the ignition. I know this because I tried using a copy I had made at the local hardware store, and it would start the car, but the car would die. Then I tried the real key, and it ran just fine. The dealership confirmed it. YMMV.

So, This wouldn't work for my car key, but my house key, for sure.

Jan 29, 2009. 6:05 AM [REPLY](#)



**ScottMcLeod** says:

So take the head off, velcro/glue/tape/tether it to the side of the ignition.

Mileage extended!

Feb 5, 2009. 9:15 AM [REPLY](#)



**mrmath** says:

That's what I was talking about a little further down. I just don't like the idea of having my car key head right there. I'm insecure that way...

Feb 5, 2009. 9:36 AM [REPLY](#)



**aeray** says:

My 96 Chevy Lumina had one of those chip things. It was just a resistor. I checked the resistance and ganged up resistors to match it (it is pretty touchy), and then spliced them into the ignition wiring. No more chip/resistor necessary.

Jan 31, 2009. 2:10 PM [REPLY](#)



**abadfart** says:

and some have a chip that goes into the ignition but you can do this with them. my mom has one on her Buick

Jan 29, 2009. 4:19 PM [REPLY](#)



**gutierrez75** says:

It would be a real mod, to take apart the electronics and embed them somewhere in the key chain handle.....love to hear about that..

Jan 29, 2009. 3:00 PM [REPLY](#)



**mrmath** says:

I'd cut off the key head, where the electronics are, then use velcro or foam tape or something to stick it near the ignition. But, then again, that's going to come off sooner or later, so maybe that's not a good idea.

Jan 29, 2009. 4:52 PM [REPLY](#)



**jongscx** says:

The only issue there is that you've essentially made it possible to hot-wire your car now...

Feb 1, 2009. 4:33 PM [REPLY](#)

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**Calorie** says:

Cars are pretty easy to steal in the first place.

Besides, I can't tell you how many times I've seen car doors unlocked in a car. What makes it worse is that valuables are out in the open.

Feb 5, 2009. 11:01 PM [REPLY](#)

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**gutierrez75** says:

It makes sense....totally

Feb 2, 2009. 4:32 AM [REPLY](#)

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**jorgegunn** says:

I have a ford windstar with similar key issues We only have one key with the data on it and several people use the car and its 50 bucks a piece to copy. we made spare keys and left the ignition key in a lock box ( originally installed for camera gear) So if you really wanted to keep all of your keys together you could probably do something similar

Jan 29, 2009. 12:41 PM [REPLY](#)

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