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Bending an HK-G3/CETME 80% Flat

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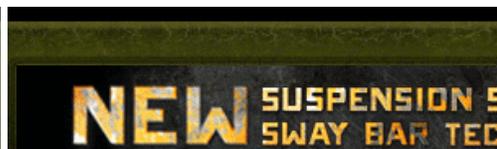
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05-31-2008, 04:55 PM

#1 (permalink)

animator



Join Date: Sep 2002  
Member # 13701  
Location: Plano/Dallas  
Posts: 4,248

**Bending an HK-G3/CETME 80% Flat**



First start by using an awesome jig made by another member on another forum far far away.



Complete with dummy bolt carrier



Start by placing your flat into the jig and [centering](#) it using the centering bolts.



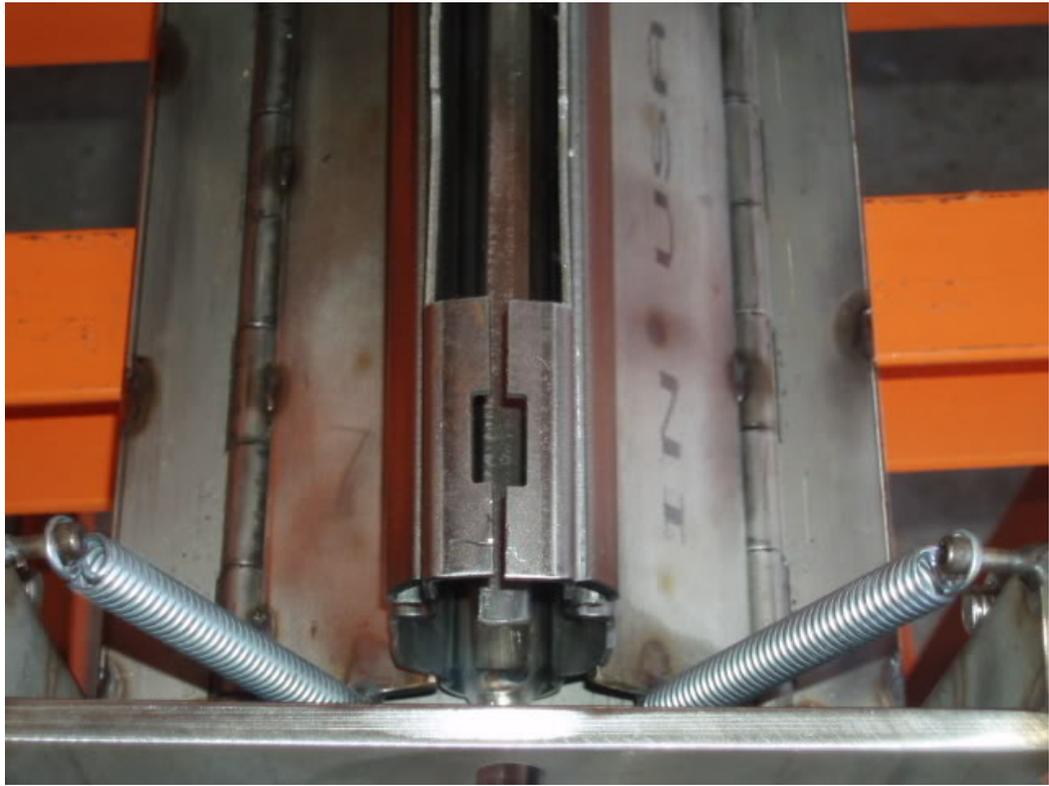
Next, put the rod piece in. This is a round bar that basically forms the top radius of the bend. It is guided by slots on the front and rear of the jig. Begin to slowly [apply](#) pressure and watch as the flat begins to slowly form up.



Once pressure is applied, the ends begin to rise up (if you've done an AK, you are familiar with this) and keep [applying](#) slow gentle pressure on it, and keep both ends coming up at roughly the same pace. Every flat I bent tended to rise up on the left side a bit faster than the right, but they came out just fine.

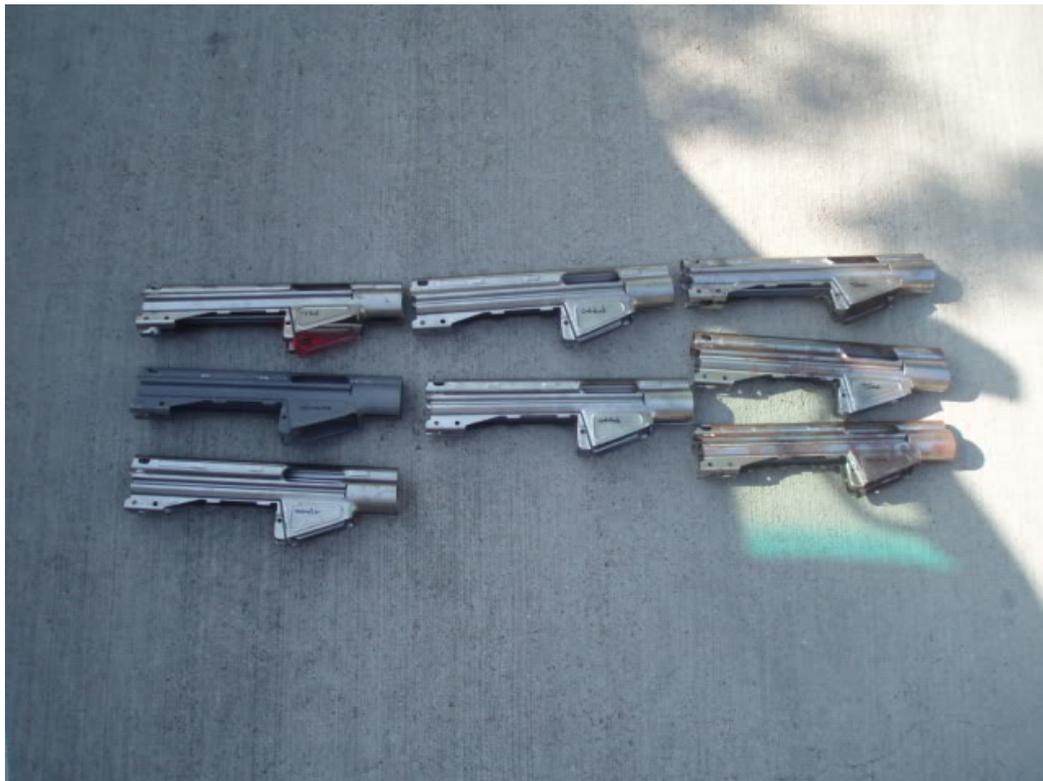


Keep pressing until the ends meet, and then do a little more. Remember that [metal](#) has memory, and will tend to bend back the way it was. So by going a little further, once it pops back out, the ends will be much closer than they would if you simply stop as soon as they contact. Be sure to check to make sure both ends are equal, or at least close. If they are not close, you *\*can\** fix it, but it takes a LOT of effort (I know, because one guy bending with us had his get off-center, and we had to spend a lot of time getting them back right, but the good news is, it can be done.)



Doesn't get much closer than that.

And here's the final results:



Think you're a marksman? Test your skills by joining the 200yd Iron Sight [Challenge](#) happening NOW in the OSR Forum:

<http://www.pirate4x4.com/forum/outdo...-may-31-a.html>

[QUOTE](#) [QUICK REPLY](#)

05-31-2008, 06:12 PM

#2 ([permalink](#))

Azzy2000★  
Mr. Personality



Join Date: May 2002  
Member # 11869  
Location: Yukon, OK  
Posts: 4,367

Very nice jig

[QUOTE](#) [QUICK REPLY](#)

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05-31-2008, 08:13 PM

#3 ([permalink](#))

Grimjaw  
Registered User

Join Date: Jun 2004

12 ton or 20 ton shop press?

I am on a list to borrow a jig and need to buy a new press. I am thinking 20 ton, you rarely go wrong going larger.

Member # 32013  
 Location: Fort Mill, SC  
 Posts: 433

I just picked up a Excellent FMP g3 barrel, trunion, triple frame amd flash hider for \$139 shipped. Last week I found a good deal on a Rhinemetall bolt carrier. FrankenHK build here I come....

[QUOTE=My Wife] I was all geared up for sorched earth and by golly somebody's earth is getting scorched, darnit![/QUOTE]

**QUOTE** **QUICK REPLY**

05-31-2008, 08:31 PM

#4 (permalink)

**Azzy2000**★  
 Mr. Personality



Join Date: May 2002  
 Member # 11869  
 Location: Yukon, OK  
 Posts: 4,367

[Animator](#) - what flats did yall use?

**QUOTE** **QUICK REPLY**

05-31-2008, 10:02 PM

#5 (permalink)

**animator**🇺🇸  
 big bird



Join Date: Sep 2002  
 Member # 13701  
 Location: Plano/Dallas  
 Posts: 4,248



Quote:

Originally Posted by **Grimjaw**   
 12 ton or 20 ton shop press?

*I am on a list to borrow a jig and need to buy a new press. I am thinking 20 ton, you rarely go wrong going larger.*

*I just picked up a Excellent FMP g3 barrel, trunion, triple frame amd flash hider for \$139 shipped. Last week I found a good deal on a Rhinemetall bolt carrier. FrankenHK build here I come....*

I was on that same list, but the guy who made the first one made another one, which was the one I used. It is a very nicely put together jig.

We used a 12 ton for this, since that's what GUS1 had. I have a 20 ton that I use. Either one works just as well, however I prefer my 20 ton over the 12 ton.

Quote:

Originally Posted by **Azzy2000**   
 Animator - what flats did yall use?

Ohio Rapid Fire

Think you're a marksman? Test your skills by joining the 200yd Iron Sight Challenge happening NOW in the OSR Forum:

<http://www.pirate4x4.com/forum/outdo...-may-31-a.html>

**QUOTE** **QUICK REPLY**

06-01-2008, 11:28 AM

#6 (permalink)

**Jason R**  
 Registered User

Nice. Do the flats require more machining or welding?

This space for rent.



Join Date: May 2002  
Member # 11598  
Location: USA  
Posts: 6,062



**QUOTE** **QUICK REPLY**

06-01-2008, 12:08 PM

#7 (permalink)

### TheRedHorseman

Registered User

Join Date: Dec 2005  
Member # 64421  
Location: Flagstaff, AZ  
Posts: 8,185



Nifty setup you have there. If only I had bought a pile of kits yesteryear..

Quote:

Originally Posted by **Jason R**   
*Nice. Do the flats require more machining or welding?*

Yes, quite a bit, and it's sheet so it's a bitch.

**QUOTE** **QUICK REPLY**

06-01-2008, 03:13 PM

#8 (permalink)

### animator

big bird



Join Date: Sep 2002  
Member # 13701  
Location: Plano/Dallas  
Posts: 4,248



Quote:

Originally Posted by **Jason R**   
*Nice. Do the flats require more machining or welding?*

Yes, you will have to drill holes for the paddle mag release, then weld them closed. This is optional, of course.

You also have to weld in a rear stock block, as well as weld up the seams on the bottom of the flat. These seams go across the bottom at the trunion, mag well, and rear stock block.

You also have to weld on a rear sight base, as well as the cocking tube and trunion.

It is a bit of effort, but if you have a friend that's good with the TIG, it can be done fairly easily.

Quote:

Originally Posted by **TheRedHorseman**   
*Nifty setup you have there. If only I had bought a pile of kits yesteryear...*

Yep, I wish I had more. We jumped on some kits once ORF started producing 80% flats, and have been sitting on them for the better part of a year now, just waiting for a feasible option for bending. Now that bending is finally out of the way, I'll be able to make some progress on this build...

Think you're a marksman? Test your skills by joining the 200yd Iron Sight Challenge happening NOW in the OSR Forum:

<http://www.pirate4x4.com/forum/outdo...-may-31-a.html>



**QUOTE** **QUICK REPLY**

05-09-2009, 08:19 AM

#9 (permalink)

### rbthntr64

Registered User

Join Date: May 2009  
Member # 135461  
Posts: 1

Any chance that there is a drawing for that jig?

**QUOTE** **QUICK REPLY**

---

06-20-2010, 12:37 PM #10 (permalink)

**freerider5.0**  
Merry Christmas



Join Date: Jul 2003  
Member # 21312  
Location: Ft. Worth  
Posts: 1,870



Bump. Animator, you think you and Scott could come up with a jig? I looked over on another firearm forum and they are wanting a 150 dollar deposit. After parts and the flat, i might as well have just bought a rifle lol.

---

Elliot

Quote:

Originally Posted by **Gozuki** 

*Don't breath too deep, or you'll end up like redpitbull999...*

**QUOTE** **QUICK REPLY**

06-21-2010, 05:59 AM #11 (permalink)

**animator**  
big bird



Join Date: Sep 2002  
Member # 13701  
Location: Plano/Dallas  
Posts: 4,248



Quote:

Originally Posted by **freerider5.0** 

*Bump. Animator, you think you and Scott could come up with a jig? I looked over on another firearm forum and they are wanting a 150 dollar deposit. After parts and the flat, i might as well have just bought a rifle lol.*

Don't they give you \$100 back once you return the jig? I've never dealt with it before, so I don't really know.

I'm pretty sure anyone with any sort of metalwork and mechanical ability could come up with a jig that would work.

Think you're a marksman? Test your skills by joining the 200yd Iron Sight Challenge happening NOW in the OSR Forum:

<http://www.pirate4x4.com/forum/outdo...-may-31-a.html>

**QUOTE** **QUICK REPLY**

06-21-2010, 06:07 AM #12 (permalink)

**freerider5.0**  
Merry Christmas



Join Date: Jul 2003  
Member # 21312  
Location: Ft. Worth  
Posts: 1,870



Yeah, they give you the 150 back once they get the jig in the mail. I found a guy on gun broker that sells a jig but he wants almost 300 dollars for it.

---

Elliot

Quote:

Originally Posted by **Gozuki** 

*Don't breath too deep, or you'll end up like redpitbull999...*

**QUOTE** **QUICK REPLY**

06-21-2010, 07:31 AM #13 (permalink)

**animator**  
big bird

300 would probably be about right, considering the materials and time.



Join Date: Sep 2002  
Member # 13701  
Location: Plano/Dallas  
Posts: 4,248



I'd almost consider buying one just to have. Kinda like an AK jig.. someone's always gonna need it.



Think you're a marksman? Test your skills by joining the 200yd Iron Sight Challenge happening NOW in the OSR Forum:

<http://www.pirate4x4.com/forum/outdo...-may-31-a.html>

QUOTE QUICK REPLY

06-21-2010, 08:51 AM

#14 (permalink)

freerider5.0  
Merry Christmas



Join Date: Jul 2003  
Member # 21312  
Location: Ft. Worth  
Posts: 1,870



Well, if you want, we can go in halves, or if you know anyone else that would want to invest in on we can split it how ever many ways.

Elliot

Quote:

Originally Posted by **Gozuki**  
*Don't breath too deep, or you'll end up like redpitbull999...*

QUOTE QUICK REPLY

06-21-2010, 09:55 AM

#15 (permalink)

animator  
big bird



Join Date: Sep 2002  
Member # 13701  
Location: Plano/Dallas  
Posts: 4,248



Quote:

Originally Posted by **freerider5.0**  
*Well, if you want, we can go in halves, or if you know anyone else that would want to invest in on we can split it how ever many ways.*

Let me look into building one like the one in my pics.

If I think I can do it, I'll come up with something....

Think you're a marksman? Test your skills by joining the 200yd Iron Sight Challenge happening NOW in the OSR Forum:

<http://www.pirate4x4.com/forum/outdo...-may-31-a.html>

QUOTE QUICK REPLY

06-21-2010, 12:02 PM

#16 (permalink)

freerider5.0  
Merry Christmas



Join Date: Jul 2003  
Member # 21312  
Location: Ft. Worth

Alrighty

Elliot

Quote:

Originally Posted by **Gozuki**  
*Don't breath too deep, or you'll end up like redpitbull999...*

Posts: 1,870   [QUOTE](#) [QUICK REPLY](#)

06-22-2010, 08:44 AM #17 (permlink)

**Ianstein**  
Registered User  
  
Join Date: Dec 2008  
Member # 125780  
Posts: 65  


I'm curious how you guys (or the jig builder) know the radius or the bend and where it should be positioned. Are you using some kind of blueprints or spec sheet that documents all the [dimensions](#)?

---

2000 [GMC Sierra 1500](#): Pushing stock trucks where they were never meant to go.

---

*Last edited by Ianstein; 06-22-2010 at 08:44 AM.*

[QUOTE](#) [QUICK REPLY](#)

06-22-2010, 09:21 AM #18 (permlink)

**Gozuki**   
Pirate4x4 Addict!  
  
  
  
Join Date: Jan 2001  
Member # 3088  
Location: West Coast, USA  
Posts: 11,786  


Measure a factory receiver?

---

Quote:

Originally Posted by [Crash440](#)   
*I had a HARD ON for forgetting my meds.*

[QUOTE](#) [QUICK REPLY](#)

06-22-2010, 10:36 AM #19 (permlink)

**Ianstein**  
Registered User  
  
Join Date: Dec 2008  
Member # 125780  
Posts: 65  


Quote:

Originally Posted by [Gozuki](#)   
*Measure a factory receiver?*

say I don't have a factory receiver.

I'm looking at trying to build one, but there are 2 obstacles, one being making a forming jig (not difficult at all if I know what the finished dims should be) and making sure the [clearances](#) are setup correctly. I've found a couple write ups on building one, but even then, some info is sketchy at best.

---

2000 GMC Sierra 1500: Pushing stock trucks where they were never meant to go.

[QUOTE](#) [QUICK REPLY](#)

06-22-2010, 10:57 AM #20 (permlink)

**animator**   
big bird  
  
  
  
Join Date: Sep 2002  
Member # 13701  
Location: Plano/Dallas  
Posts: 4,248  


Quote:

Originally Posted by [Ianstein](#)   
*say I don't have a factory receiver.*

*I'm looking at trying to build one, but there are 2 obstacles, one being making a forming jig (not difficult at all if I know what the finished dims should be) and making sure the clearances are setup correctly. I've found a couple write ups on building one, but even then, some info is sketchy at best.*

Everyone generally goes with the notion that a 5/8" drill rod will fit perfectly inside the bent radius of a formed flat, so that seems to be the practicing standard.

---

Think you're a marksman? Test your skills by joining the 200yd Iron Sight Challenge happening NOW in the OSR Forum:

<http://www.pirate4x4.com/forum/outdo...-may-31-a.html>

**QUOTE** **QUICK REPLY**

12-14-2010, 09:33 AM

#21 (permlink)

**ghettoscrap**  
Registered User

Join Date: Oct 2009  
Member # 144897  
Posts: 2

Well I am about to plop down too much money for a Cetme kit and it will be the last firearm I build since the prices are through the roof and availability out the window. Looks like 300+ for a Cetme/hk91/G3 is what I will have to pay, AAAUurghh! I'll sell my Uzi kit and partial rewelded receiver to recoup some of the cost, not too fond of the Uzi anymore anyway, I'll build a 2XTM to satisfy my Sub-Gun cravings and have more capacity to boot!

To get to the point, I need to know if there are any jigs going around for rent or borrow? I have seen other threads on other forums about the jigs but they were all pretty old and I have already been flamed by one of the unfreindly boards for resurrecting an old thread, SO SOOOORRRY, sheeezuuss!

I built my own AK and Uzi jig but I had several to build so it was a non issue to put the time and effort into it but this build will be the only, and last one ever, so I am not going to tool up unless absolutely necessary. Anybody want to [trade](#) a kit for an almost complete Uzi with an almost complete rewelded receiver, I'm all electrons ("ears" just don't fit this context).

**QUOTE** **QUICK REPLY**

12-14-2010, 06:25 PM

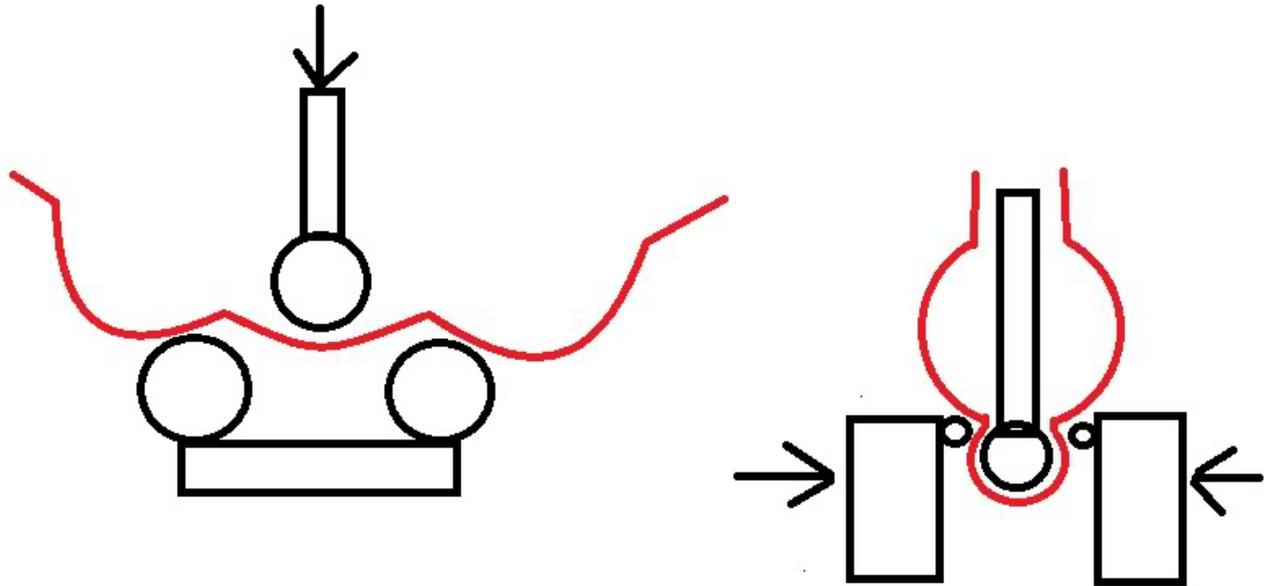
#22 (permlink)

**Quick & Dirty**  
Registered User

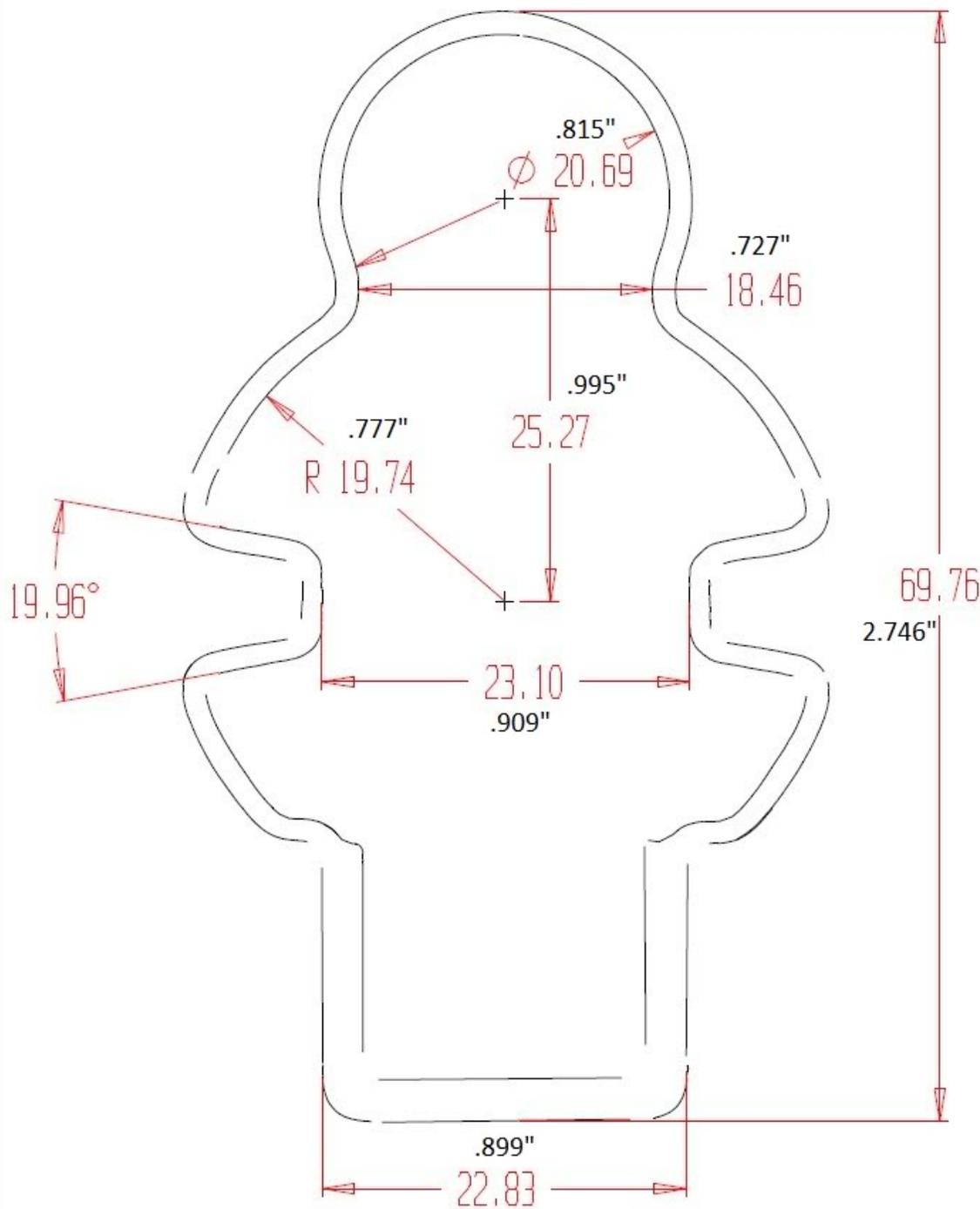
Join Date: Nov 2004  
Member # 38200  
Location: Wisconsin  
Posts: 522

The simplest jig I've seen to press the flat is made from some round stock and bar. Then some small round stock in a vice to do the "pinch" between the upper and lower radii. I was originally going to do mine by this method, but went to a build party where a fancier jig was available.

quick paint interpretation;



As far as receiver dimensions, I bought a piece of scrap receiver to salvage the rear sight mount, so before I cut it up I took it to work and scanned it on the CMM I run. I think it was sprung a bit wide. I've seen a blueprint with .888" between the rails. Red dims are millimeters, black are inches. Inch units seem to come closer to nice round numbers. Main body 1.5" dia, 1" center-to-center, 2.75" overall height.



Last edited by Quick & Dirty; 12-14-2010 at 06:36 PM.

QUOTE QUICK REPLY

12-14-2010, 07:31 PM

#23 (permalink)

SeaBass44★  
www.12voltguy.com



Quote:

Originally Posted by **ghettoscrap** Well I am about to plop down too much money for a Cetme kit and it will be the last firearm I build since the prices are through the roof and availability out the window. Looks like 300+ for a Cetme/hk91/G3 is what I will have to pay, AAAUurghh! I'll sell my Uzi kit and partial rewelded receiver to recoup some of the cost, not too fond of the Uzi anymore anyway, I'll

Join Date: Feb 2000  
Member # 40  
Location: 80 miles n-sac in Oroville, CA  
Posts: 30,763

*build a 2XTM to satisfy my Sub-Gun cravings and have more capacity to boot!*

*To get to the point, I need to know if there are any jigs going around for rent or borrow? I have seen other threads on other forums about the jigs but they were all pretty old and I have already been flamed by one of the unfriendly boards for resurrecting an old thread, SO SOOOORRRY, sheeezuuss!*

*I built my own AK and Uzi jig but I had several to build so it was a non issue to put the time and effort into it but this build will be the only, and last one ever, so I am not going to tool up unless absolutely necessary. Anybody want to trade a kit for an almost complete Uzi with an almost complete rewelded receiver, I'm all electrons ("ears" just don't fit this context).*

email me pics & description on the uzi stuff 9mm or .45?  
just email details or call me

12voltguy  
info@12voltguy.com--davezoffroadperformance.com  
☎ # 530.532.4529 ☎  
TTC 2010 1989 BRONCO  
☎ -Awesome web development for your business. www.mudnworks.com mud@mudnworks.com  
Pat's W I D E TOYOTA Front Axle  
--"07 RoadStar 1700-4sale"

QUOTE QUICK REPLY



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