



# HOT

THE HARLEY-DAVIDSON

MAGAZINE

# BIKE

## P&A PROJECT

HB'S FAT BOY LO  
WITH *ATTITUDE*

### TECH:

- BOLT-ON BIG BORE KIT
- 88-T0-97Ci HOP-UP

### MONEY-SAVER

CCS HOMEMADE PIPES

### BARN FIND

RAKED AND FLAKED '70S CHOP >

MARCH 2010

\$4.99 U.S. / \$6.99 CANADA

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0 70989 30258 7

A SOURCE INTERLINK MEDIA PUBLICATION

VOLUME 42, NO. 3

[HOTBIKEWEB.COM](http://HOTBIKEWEB.COM)





# BUILD YOUR OWN



Here is the DIY kit. We initially told CCS that we were working on a Shovelhead motor. There are different sizes of cuts and bends along with the head flange, depending on the motor the kits are different and start around \$125. Also the fishtail end you see was a pipe we had lying around. At this time, CCS doesn't have fishtails, but it plans to real soon.

## DIY Pipe Kits From CCS Choppers

**W**hat is it about being able to say you did it yourself that is so satisfying, especially when it comes to working on your own bike. Maybe because when it's time to ride to your favorite hot spot and people are asking you about things on your bike you can tell them "yea I did that." It is right then that your bike feels like it is all yours. In Vol. 41 No.11 we did an article, "Steal or Raw Deal part III," where the bike owner, Chris, came across a set of pipes from CCS Choppers called the S-Bends. In the article, we bolted on the black ceramic-coated pipes, which fit and worked well, but Chris lives near the beach and Johnny Law likes to nab bikes with loud pipes. So as he was surfing the website looking for info about getting a set of baffles for the S-Bends, he mentioned the company also offers do-it-yourself pipe kits. This was something we've wanted to do with another project bike we have been working on. Our other project bike is a custom build with an off-set Shovelhead motor and a kick-starter on the transmission, which means there are very few sets of aftermarket pipes that would fit. If they did fit, we didn't really like the style, we were looking for a 2-into-1. So a DIY kit from CCS Choppers seemed like the best bet, especially with the clearance issues of the kicker. When we finished mounting the pipes wrapped them with DEI's new Titanium Exhaust Wrap. The wrap looks great and really reduces heat. **HB**



**1.** The first thing we did was clean up the flanges with a file to remove any burrs and make sure that the pipe fit smoothly into the flanges.



**4.** As we were fitting the pipe to take shape and clear the transmission and the kicker, we needed to make small cuts so that we did not cut off too much pipe and change the angle we wanted.



**2.** Next, we installed the flange to the head and slid the first bend into the flange to see how it fit. Then we welded the flange retainer to the first header pipe. A few small tack-welds were applied to hold the pipe in place making sure we had the right angles when tacking the next piece.



**5.** Next, we built the pipe for the front cylinder and ran it along the lower frame rail to the back of the bike. Then we used a flared end off an old set of FL pipes we had to bring the piece for the fishtail tip together. Then we checked for clearance of the kicker pedal.



**3.** To help us hold the pieces of pipe in place and make welding the thin wall stainless steel easier we also used these pipe inserts from Hooker exhaust. You simply install the rings in between the two pipes and weld.



**6.** We made a few changes to the angle on the downward bend then added a few tack-welds to hold it in place.





**7.** Next, we made the piece for the rear pipe to mate with the front pipe. Once we had the two pieces fitting together and a location for the porthole where the two pipes would join together, we drilled and opened up the hole for the rear pipe. Then we welded the two together.



**8.** Then the tack-welded pipe was taken to the welding table for all the final welds. This is where all the precision welds were done. It is important to control the heat and not blow holes in your welds. The pipe is not that thick and this is where years of experience come in handy, so the TIG welder was handed to our buddy Anthony to perform the duties.



**9.** Anthony worked the welds around the pipe allowing the pipe to cool on one side as he welded on the other side. This guy is good! This takes more time but looks and works better. The last thing we want is for the pipe to crack or warp.



**10.** Here is the exhaust as a two-piece 2-into-1 system with a fishtail tip.



**11.** We installed the homemade CCS pipes on the bike to check fitment and clearance before we wrapped them in the DEI titanium wrap. The sock on the tip was just keeping it from getting scratched.



**12.** We started the DEI wrap at a 45-degree angle just behind the flange at the front of the pipe, and then started to wrap the pipe. After a few times around we installed the stainless steel ties to hold the wrap in place.



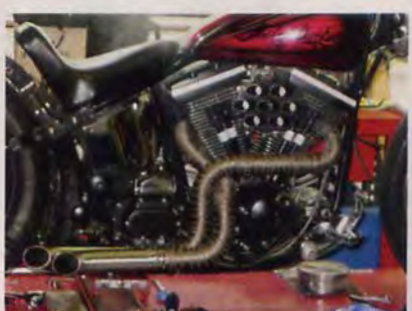
**13.** As we covered the pipe we overlapped the wrap by about half the width of the wrap for more protection from the heat.



**14.** Here is the pipe with the DEI titanium wrap installed on the bike.



**15.** This is a look at the S-Bends on Chris' bike with a set of baffles installed. Once we fired up the bike we could hear that it was a bit quieter but still sounded good. The pipes are made of stainless steel and we could have them coated like the last set, but we like the look of the exhaust wrap.



**16.** And here are the S-Bends with titanium wrap from DEI.



**17.** Not wanting to waste any of the wrap, the last 2 feet was used to help Jordan do his impression of John Rambo. It sucks.

#### SOURCE:

**DEI Design Engineering**  
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