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 CLOWS Waffle Iron Handle Repair (Read 185 times)

 **Tom Neitzel**  
Forum Administrator  
★★★★★

Posts: 4559

 CLOWS Waffle Iron Handle Repair

Oct 30<sup>th</sup>, 2012, 2:58pm

Here's a repair that's a little different than we normally talk about. Last year I picked up a good deal on a Griswold CLOWS waffle iron. As is normal, I put everything through the self cleaning oven, less handles and bails. This iron has Alaska coil handles held on by a long screw. For the first time, I twisted off the screw on one of the handles. I had seen it start turning out, but it stuck and I just kept going. It really didn't take any effort at all to break it. It left the broken part down in the handle socket. It stuck out about 1/2".

I cleaned it up and set it aside while I figured out how to fix it.

I figured out that it was a 12-24 thread (12 is the diameter, a bit over 3/16", with a thread pitch of 24). That is an obsolete size. Today it is either 1/4" or 10. Later Griswolds even use the 1/4" screw. Found some nuts and tried double nutting it to get it out. No luck, it is really hard to work down inside that handle socket.

I picked up an old, beat up number 8 with the handles I needed. It came right off. So now I had the part I needed if I could get the stud out.

I found a tall, 10-32 coupling that I drilled out and re-threaded to 12-24 with a tap I got at Home Depot. I put that on the stud and screwed onto the stud and screwed the broken part in so it looked OK unless you looked closely inside. It sat this way for several months.

I'd been thinking over the past several months about how to properly fix it. The only thing I came up with was to drill it out and re-tap it. Easier said than done. I'd be working 1 1/2" down inside a 1/2" socket hole. Keeping the drill centered and straight would be a challenge.

I finally took that coupling, found a drill that just fit through it. Screwed it onto the stud and used the coupling to guide the drill (don't think of doing this without a drill press). Worked fine until I got to the casting. I had drilled away the broken stud so the coupling fell off. But I was left with a perfectly centered starting hole in the remainder to be drilled.

Oh, almost forgot, I picked up a good CLOWS paddle, someone nearby was selling just 1/2 for \$15 (w/shipping included). I would use it if I messed my original one. My original pair had pattern numbers 234B, the replacement had only 234.

This is when I learned some more about how Griswold made these castings. I had always thought they had drilled and tapped the hole for the handle screw when they were finishing the casting. That's not what they did.

There is only 5/16" of thread in the casting and it ends in a blind hole.

They put a threaded steel insert in the handle when they cast it. I think they screwed it onto the core for the handle socket, then knocked the core out after pouring leaving the insert captured in the handle.

So back to the work. I took the coupling out, then finished drilling out the broken stud. The stud is relatively soft, I felt it drop a tiny bit as it went through. The drill also feels different when in cast iron and the chips are different. You have to be careful to not drill though as the hole is above the paddle. (I've got some pictures below).

The scariest work is done. Now just to re-tap it.

The tap I had was a self-aligning tap. These are tapered and made to thread very deep holes or holes that go all the way through a piece. Since I only had about 3/8" to work in, the tap just barely started to cut when it hit the bottom of the hole.

So I ground off the tap, making it a bottom tap, meaning it would thread all the way to the bottom of the hole. These taps are nearly impossible to start and keep straight, that why you would use a self-aligning tap to start, like I did.

Cut the new threads, cleaned it out and screwed the replacement in. Looks just like new.

Here are the pictures.

The top picture is looking down the socket. The red arrow points to the insert, the aqua arrow points to the threaded hole in the insert, the green arrow points to the cast iron that has flowed in between the core and the insert to trap it during pouring. It gives that kind of eyeball look in the socket. (the work is all done in this picture, just waiting to screw it back together.)

The second pictures is the side of the socket. You will see a little green arrow to the left of center. This is where the threaded hole is in the socket from the side.

The third picture is the top of the socket. The green arrow shows the approximate position of the bottom of the threaded hole in the socket.

Tom



 **Tom Neitzel**  
Forum Administrator  
★★★★★

Posts: 4559

 **Re: CLOWS Waffle Iron Handle Repair**

**Reply #1** - Oct 30<sup>th</sup>, 2012, 3:02pm  
Here's the tools.

Top picture shows the broken screw, then the drill going through the collar, the bottom tap, and the self-aligning tap.

The bottom pic shows the re-threaded collar.

The collar is 3/4" long, 1/4" in diameter.

For those with sharp eyes, the self-aligning tap is a 10-32, just a tad smaller. The 12-24 I ground is the only one I have.



**Tom Neitzel**  
Forum Administrator  
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Posts: 4559

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #2** - Oct 30<sup>th</sup>, 2012, 3:05pm

Here's what it looks like a put back together.

If anybody is interested, I have an extra CLOWS 234 paddle just needing a coil handle and screw. Also a couple plain, slant logo number 8 paddles, with one screw missing - maybe two if I put it on the CLOWS.

That yellow arrow point the the rib at which the screw broke off.

If you have one you need fixed, you are on your own. I don't want to do it again unless I screw up.

I've had this setting around thinking about how to fix it, or if I would even fix it for over a year. Nice to be done.

As an aside, this has also given me a much better appreciation of the complexity of the patterns and mold assembly to make something as simple as a waffle iron.

Forgot to share one other way I tried to get the stud out. I figured I could epoxy the collar to the stud and just screw it out. Tried it, even with some penetrating oil, but it wouldn't budge. Then I heated it up to see if that would work. Did you know that epoxy softens when hot? I didn't. The epoxy came off very cleanly leaving me my collar and broken stud.

Tom



**Tom Neitzel**  
Forum Administrator  
★★★★★

Posts: 4559

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #3** - Oct 30<sup>th</sup>, 2012, 3:33pm

You might ask, why fool around with a waffle iron.

The CLOWS is not common, they had a store in Tacoma, WA (where I grew up), and it is the only Griswold with a Wagner style split ball hinge. The hinge is why I originally bought it.

Tom

**Jim Fuchs**  
WAGS member  
★★★★★

Posts: 665

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #4** - Oct 30<sup>th</sup>, 2012, 3:37pm

Nicely done, Tom...another one saved! Have you had any luck using the left-handed drill sets? I've been lucky using these also.

A perfect repair... 😊😊

**Mike Bohannon**  
WAGS member  
★★★★★

Posts: 2581

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #5** - Oct 30<sup>th</sup>, 2012, 9:52pm

Tom, I ran across this oddball thread on Gris waffle irons several years ago. Somewhere way back I made a post on this. In your 1st post you state that it was an 'obsolete' thread size. In my research I never found any info that is was a normal or common diameter and threads per inch size. Have you found anything that this odd dia/tpi was ever used elsewhere? This is not found on just the CLOWS irons. Mike

**Jim Fuchs**  
WAGS member  
★★★★★

Posts: 665

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #6** - Oct 30<sup>th</sup>, 2012, 10:43pm

A strange size for sure, Mike. Hope I never have to attempt a repair like that... 🤔 They still use 12-24 today (server rack screws)...and WW Grainger sells the rod...don't know what for though, but what amazing things they did so many years ago. Thank you, Tom for showing this, what you did takes a whole lot of expertise, and patience.

Mike...I'm gonna have to look up your posts of the waffle irons...thanks for mentioning it. 😊 What a great learning experience...just one of the many benefits of being a WAGS member.

**Tom Neitzel**  
Forum Administrator  
★★★★★

Posts: 4559

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #7** - Oct 31<sup>st</sup>, 2012, 12:13am

Mike, I didn't want to imply this thread size was unique to the CLOWS iron. I think it is found on most of the slant logo Griswold waffle irons, although I don't have a bunch to look at. I do see the 1/4" rod used on my later heart star iron, the one without leveling pins and the shank rib that fits the notch in the base. So my rule is if it looks small, it's likely the 12, if it looks stout, it's likely 1/4".

My use of the word obsolete was more related to it's easy availability in retail stores. It's easy to find most any number 10 machine screw, or 1/4", but 12 is not that easy to find, and if found, there won't be a lot of selection.

Maybe antique would have been a better word. That would put it in the same class as 1920's plumbing fixtures for claw foot tubs and sinks. Faucets on 3 3/8" centers vs. 4" today, drain and trap pipe at 1 3/8" diameter vs. 1 1/2" today. And the use of square nuts vs. hex. Or maybe the way we are finally moving from SAE to Metric fasteners here in the US. The stuff still works fine, just not used as much as it was in the past.

I don't have anything to look at but it may be interesting to see if that insert is present on the wooden handled varieties of the Griswold waffle iron that have that ventilated style shank.

Tom

**Tom Neitzel**  
Forum Administrator  
★★★★★

Posts: 4559

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #8** - Oct 31<sup>st</sup>, 2012, 11:24am

To be a little more specific, the irons I have with the 12-24 rod are the donor No. 8, patterns 884 & 885 (slant logo), No. 8, WMC Co., patterns 976 and 977, and of course the No. 8 CLOWS.

I never thought to ask. How are the wooden handles held in these? Is there a 12-24 stud in the end of it?

And Jim, I did get it fixed, but I had to - I'm the one that broke it 😊.

Tom

**Tom Neitzel**  
Forum Administrator  
★★★★★

Posts: 4559

**Re: CLOWS Waffle Iron Handle Repair**

**Reply #9** - Oct 31<sup>st</sup>, 2012, 1:05pm

Also just remembered that if the handles have that extra little button - so the loop on the rod doesn't touch the coils - it will be a 1/4" rod. Just looked at an aluminum heart star (older with tabs at 5 and 7) I have. It is that way and has the steel insert too.