Wurlitzer 1015 Restoration

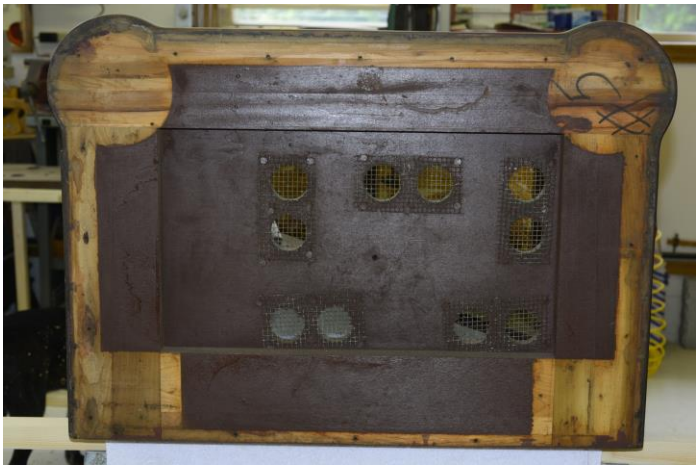
A few years ago, I got this wild hair that I wanted to restore another jukebox. I've been a coin-op collector since the late 1970s, but it's been roughly 30 years since my last experience with a jukebox. I partially restored a Wurlitzer 412 long ago. I still have that 412 and it's given me years of service with very little maintenance.

So now, I have my eye on a Wurlitzer 1015. Normally I don't like getting machines off eBay because you never know what you're really getting. Trouble is, when you get one of those wild hairs, logic seems to go out the window. Guess who the high bidder is! After a whirl-wind trip from south central Tennessee up to Akron, OH to pick this thing up, I'm home with my new project. Based on previous experience with purchases off eBay, I went into this project pretty much knowing it was going to be a total restoration. Actually, that was what I wanted. I wanted to get into just about everything on this 1015. How else do you learn? Also, how else do you know it's done exactly the way you want them done? The only things I didn't try to restore myself were the amp, volume control box, and speaker. I sent them to much better qualified people to be rebuilt.

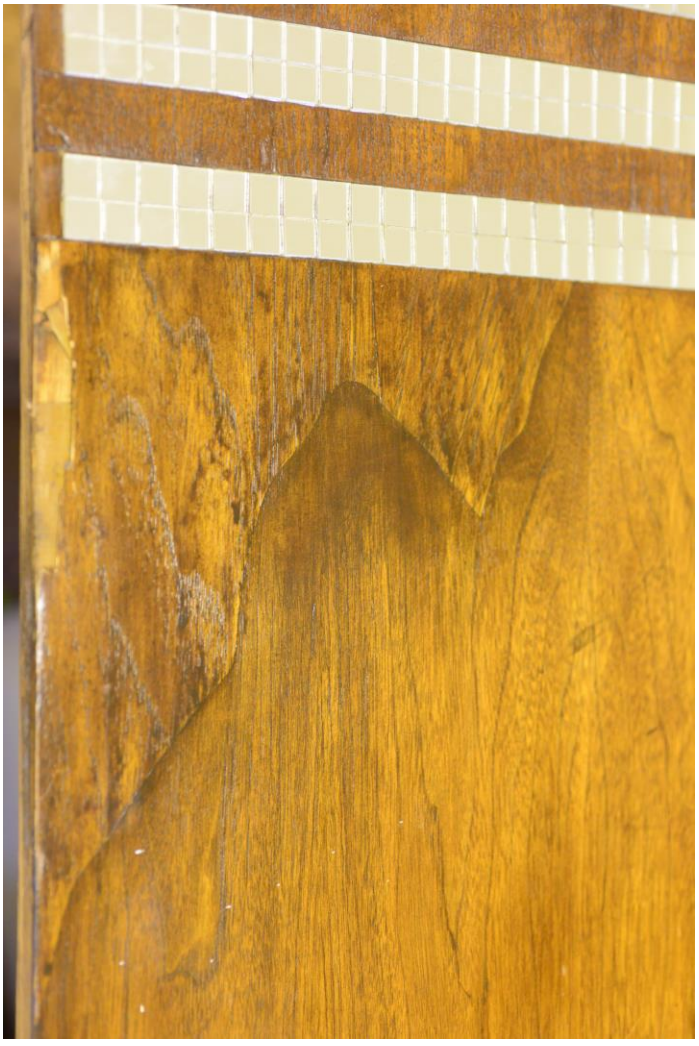
As you can see in the "unrestored" picture above, my 1015 doesn't look that bad. I do have the metal skirting around the base. I already removed it before getting the 1015 out of the back of my truck. Closer inspection started showing me how big my project was going to be. The whole box needs a good cleaning, fresh paint, and inside foil across the top, it needs the correct tone arm, volume control box and amp. The veneer on the cabinet has a couple of really bad looking patches and dings, its missing all of the coin gear, the plastics have a couple cracks and the inside paint on the plastics is peeling off. One of the casters and one of the rear "feet" that the caster is screwed in to is partially missing. The wiring scares the hell out of me. Pretty much everything on this machine needs some type of attention. First thing to do is order the service and parts manual. Second thing I did was find a good place on the Internet to ask questions. The place I found is: http://jukebox.markmail.org/. Thanks to everyone that responded to all my questions I posted there.

After getting the manual and taking lots of pictures, I started dismantling the entire jukebox. I wanted to get down to just the cabinet so I could rebuild the bottom, get it mobile again, and then start stripping off that old veneer and

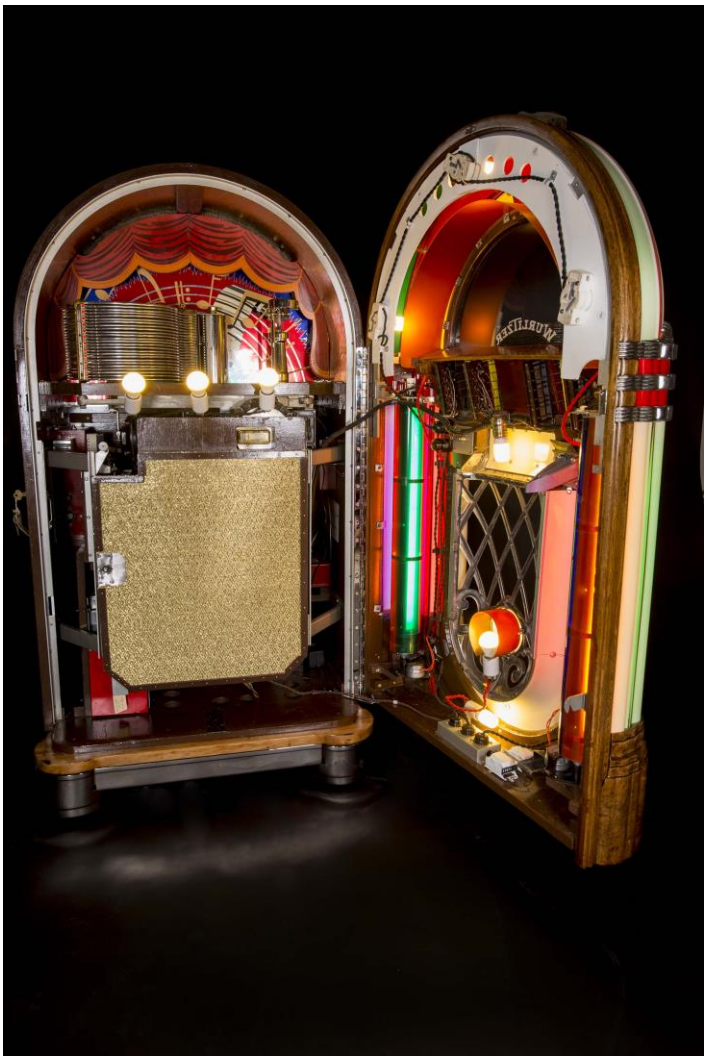
sanding the inside painted areas. I rebuilt almost all of the bottom pieces that hold the casters and metal skirting. At the suggestion from Victory Glass, I used Seeburg castors instead of the original Wurly style.

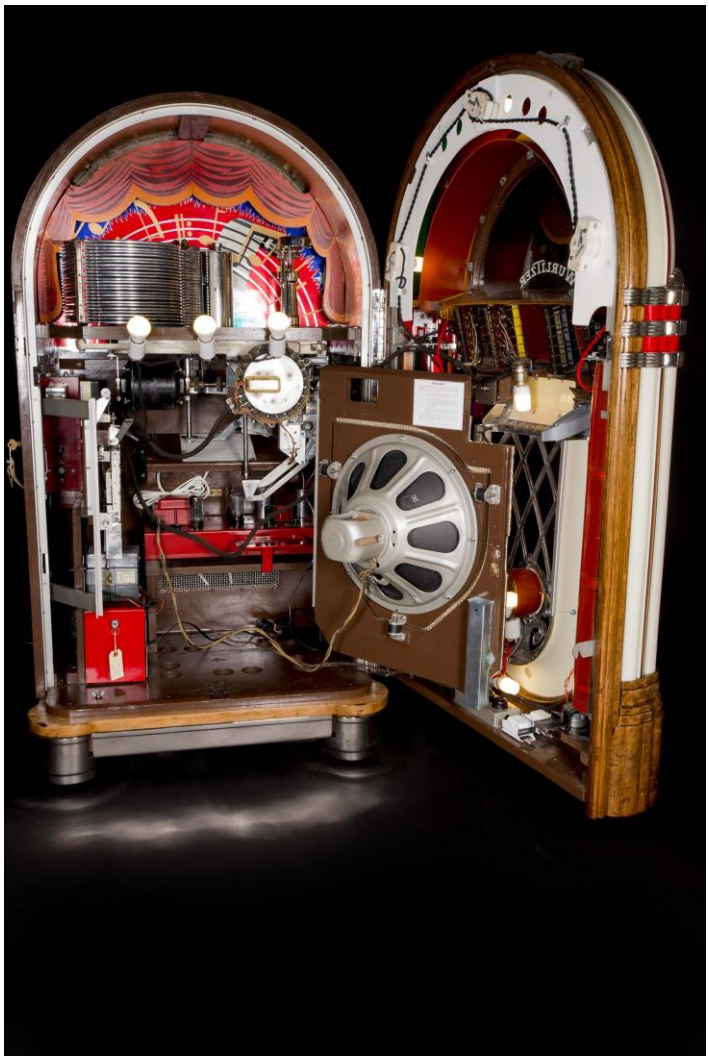


On one side of the cabinet, the veneer came off without a problem. One the other side, from the bottom glass strip down, it came off along with another layer of wood. It took a total of four layers of veneer to build that side up to where it would be level with the glass strip. Once I got the walnut veneer glued down, I put about 20 coats of very blonde shellac on to really bring out the grain in the walnut. Putting down the veneer, for me, was the most difficult part of the restoration. I had a couple of bubbles and splits in the veneer to deal with. Overall, I think it came out pretty good.



It looked like there were several patches in the 110 volt wiring, so I decided to re-wire the entire machine. I used red cloth covered wire for the bubble tube heaters and part of the star diffuser light, black cloth covered wire for all lighting, and brown cloth covered wire for everything else. That makes it easy to see where the wires are going. Getting a new AC cord (not cloth covered) wired into the junction box was fun. I carefully unscrewed everything and drilled out one rivet attached to the junction box and worked all of the insides out of the box. In the process, I found one wire that had a very small bit of insulation stripped off and was touching the side of the metal junction box. When I rewired the two fluorescent tube fixtures I found another spot where a bare wire was touching metal. Both bare wires were fixed. As much as I love having these old machines around, I love my home more. I want to be as sure as I can that nothing is going to burn my house down.

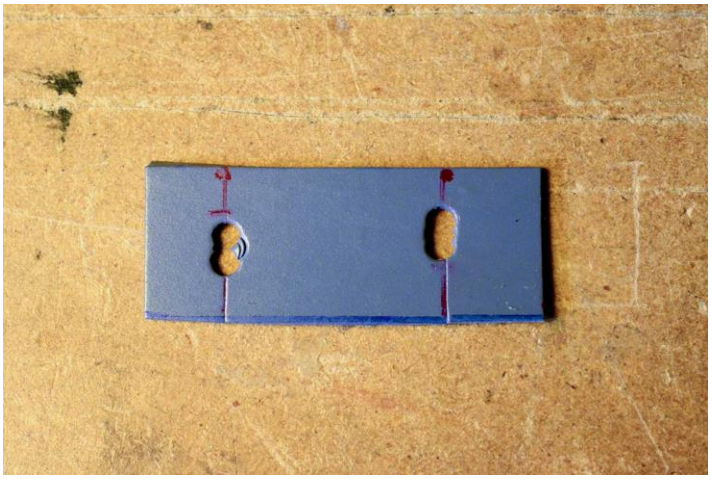




As I mentioned earlier, I sent a few items off to be rebuilt. I sent the speaker to Audio Ventures in Waukesha, Wisconsin to get it re-coned. They did a great job installing a “Wizzer” cone. After finding a 503 amp, I sent it and the volume control box to Paul Dorobialski at PR Novelty in Milwaukee, Wisconsin. I told Paul that I was also going to change out the needle in the tone arm to an Astatic 51-2 cartridge. In doing so, I got the tracking weight of the tone arm down to about 12 grams. This presented a problem with the end-of-play trip mechanism. When the tone arm was much heavier, it had enough weight to trip the ratchet trip assembly. Now the trip arm doesn’t have enough weight behind it to trip the end-of-play. I tried making a new trip wire with a lesser angle but that didn’t work. I had this same problem when I worked on my 412 and switched it over to an Astatic cartridge. On the 412, I used a coin switch attached to a solenoid plunger to act as the ratchet trip assembly. It took a few adjustments on the position of the coin switch to get everything working

properly, but it works great. I haven't been able to find that "sweet spot" for the coin switch on the 1015. I'm wondering, what have you guys done to get your end-of-play to work properly after putting in a lighter phono cartridge?

When I started working on the four record selector switch banks, I noticed that some of the push rods had a small rubber washer missing. That rubber washer is located on each push rod just behind the front metal frame of the switch bank. I noticed that the push rods that didn't have that rubber washer were not making proper contact. It appears that if the rubber washer is missing, it allows the push rod to travel just a hair further out to a resting position directly against the metal frame. That extra distance traveled allowed the male part of the switch to slip out of a slot on the female part, and losing contact. Using some shower pan lining material from Lowes, I was able to make a "rubber washer" to go back behind the front metal frame. Now, all of my push rods travel the correct distance back to their resting place and all contacts are good.



According to the serial number, my 1015 is a 1947 model. I noticed that some of the earlier versions (1946) had a few extra lights. The front arch on my box has three lights behind the arch plastics and bubble tubes. The 1946 boxes, I'm assuming, have five. I'm sure heat build-up was the reason for going with fewer bulbs. Also, there used to be a light

behind the drapery panel to show off the back mural. My 1015 doesn't have that mural light. With that in mind, I wanted to make my 1015 a little different than everyone else's. I came up with a glass "Wurlitzer" light-up display. I got a small piece of ¼" glass cut with an arched top. I had "Wurlitzer" laser etched into the glass. I made a small base for it with a slot for the glass to slip down in to. At the bottom of the slot is a short 12v light strip with 5 LEDs. Whenever the 1015 is "on" this display is also on. The display is powered by the same small 12v power supply used to trip the solenoid on my end-of-play modification. The base for my display is attached to the underside of the mech board with two small screws. I think my light-up display adds a touch of "class" to the 1015.

After getting the cabinet completed and everything back in, it was time to put the light bulbs back in, I swapped all of the incandescent bulbs with frosted LEDs. I'm hoping the LEDs last a lot longer and will cut down on the heat generated. With less heat, I'm hoping my new plastics will last longer too. The key thing to remember, looking for replacement LEDs, is to look at the lumens output. Not all 2W, 3W, or 4W LEDs have the same lumens output. Here is a table showing what incandescent bulbs should be used and what LED bulbs I used:

Upper arch 3x or 5x 15W/115V	LED frosted 4W 270 lm
Lower arch: 1x 15W/115V	LED frosted 4W 270 lm
Titleholder: 3x 7.5 or 10 W /115V	LED frosted 3W 180 lm
Wurlitzer: 2x 10W or 15 W/115V	LED frosted 4W 270 lm
Star emblem: 7.5W/115V	LED frosted 2W 135 lm

Lowes sells an extension cord that I've found to be very helpful when I was working on the mech. It's also the perfect cord to use to plug your 1015 into the wall. The end that plugs into the wall has one female receptacle on the back side. Coming out of the side of this male/female plug combination is a 15 foot cord with an on/off rocker switch. This came in handy when I was working on the mech and being able to easily turn the motor on and off. Now that the 1015 is pretty much complete and sitting in my rec room, I use this same extension cord to turn the jukebox on/off. As you probably already know, the power transformer attached to the bottom of the junction box, is always on, even if the box is turned "off". That's so it can register that a coin was put into it. Now that the jukebox is no longer used in a commercial setting and it plays only when I want it to play, that transformer doesn't have to stay on all the time. You can get into the junction box and rewire the transformer, but that was too much work. I simply plug the 1015, with its power switch left in the "on" position, into that extension cord and turn the jukebox on and off using the remote on/off switch that's part of the extension cord. I used double sided tape and taped the remote on/off switch to the back side of the cabinet with the rocker switch just below the top of the cabinet. The Lowes information for the extension cord is: Model# UT870615, Item# 18569, Cost $11.97.

Now that I have the 1015 back together and pretty much working, I've moved it into my rec room to enjoy and start de-bugging all the small things I missed earlier. New animation motors for the color cylinders are waiting to be installed. I'm still trying to figure out what to do with the end-of-play trip. I'm working on connecting a wall box to the 1015. I picked up a Wurlitzer 3031 wall box, 218 terminal box, and several feet of Belden 8749 30-conductor cable. The cable is 22 AWG, stranded copper wire. I'm hoping 22 AWG is big enough wire to safely do the job. I haven't got all of this connected yet. One thing I noticed as I was gathering all this stuff and thinking about how I want to connect it to the 1015 is that there are a lot of wires that need to be connected to terminals on the 218 terminal box and the 3031 wall box. There's a lot to keep track of, which wire goes where. I thought, why not use the same type of Jones plug used throughout the 1015 to connect multi-conductor wires? I was able to find both the male and female 30-conductor Jones plugs on eBay. They are pretty much the exact same plugs used in the 1015. I took a short piece of Belden cable and connected it to the 218 terminal box and the other end to the female jones plug. I then took a longer cable and connected the wires to the male jones plug and then the 3031 wall box. Now, whenever I want to connect the wall box, it's just a matter of plugging a Jones plug. I don't have to remember where each wire is supposed to go.

I hope you enjoyed the article and pictures. If you're like me and somewhat new to this aspect of coin-op collecting, I hope I gave you some good tips or advice in this article. One of things I love about this magazine is being able to see very interesting machines that otherwise I would probably never see. I'd love to see more articles on restorations. I'm always interested in learning how you guys restore these wonderful machines.

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