

This is a PDF made after Audiodon's (RIP) "How to Deep Clean a Tube Amp" post (<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/>) in the Fisher Forum of Audiokarma.org. I put together this PDF for myself, but decided to share it in case others wanted to print out a copy to have at hand, rather than always having to rely on their wireless connection. Any word edits to Audiodon's text I have marked with [brackets]; I have cleaned up paragraphing for conservation of document space. The link to each particular post is at the top of each "section". – madwing @ Audiokarma.org

How to deep clean a tube amp – by Audiodon

with contributions by others; started 11/27/2011

Hi, after seeing multiple requests for information about how to clean a tube amp, I've decided to post a thread on just that subject. The unit under discussion will be a Fisher 500-C.

Some photos used to emphasize a point will be of other units because, in some cases, I did not have pictures that emphasize the point I am trying to get across.

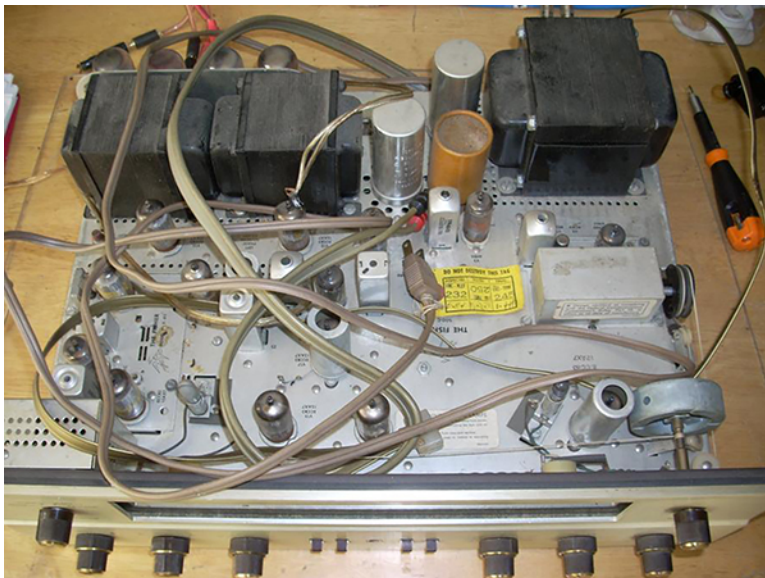
By the way readers, I don't intend for this to be a monologue. It'll be far better if it's a collaboration of experts. If you have a suggestion to add, post it at the end of the thread and, if it's relevant, I'll link the post into one of [my posts] it is relevant to.

I'd like to send a shout-out to a fabulous thread by machineghost about cleaning PCB-based amplifiers. His thread is a great complement to this clean a point-to-point wired amp. We're collaborating to expand your references for amp cleaning.

<http://www.audiokarma.org/forums/showthread.php?t=258899>

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173129>

First off, let's have a look at a typical Fisher in fairly good shape.



It has the usual heat stressed 7591s of units used too long because they worked too well.



The [final] picture is of a different unit. I forgot to take a before picture of this unit's front panel.



<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173133>

Tube removal:

Tube dust: I typically only worry about dust on the top of the tubes. You know how 40% of your body heat is supposed to be disbursed through your head? I see it as the same

with tubes. Heat rises. I'll typically wipe the top of dusty tubes, with a dampened tissue or baby wipe. Lettering is sensitive, especially on tubes that may have been getting hot intermittently for decades, so I'm not scrupulous about removing all dust from tubes because I don't want to lose lettering. Using dryer sheets will work also, but unless your tube amp is designed to let you see the tubes, you should just concern yourself with making sure that the dust does not hold in the heat they generate. That heat should get dissipated.

When I remove the tubes for a deep cleaning, I mark the tubes at the base with their position according to the tube layout diagram that comes in the Fisher documentation. The pictured tube would get marked V14 with a sharpie where the leads go up to the plates.



Other tube units may or may not have tube position IDs on the chassis or documentation. To identify each tube, I use a fine point sharpie and write the position on the base of the tube . . . for example, V3, V4, V5, etc. Put the tubes aside in a place where they will be protected. If you write near the top of the tube, sometimes your fingers or cleaning the dust off the top of the tube will remove the marking.



If you don't have that type of tube positioning documentation, do up a drawing and use

your own labeling. As long as you know where they'll go, you're set. I don't count on my memory though.

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173149>

All about the knobs:

For knob cleaning, see [Chassis cleaning 1, including knob cleaning, below].

In the case of a Fisher, the knobs are pressed on D-shaped shafts with a compression piece inside the knob. Each knob has a bright that is glued on. Take a picture of the knob layout or note what knob style goes where. On receivers and tuners, the tuning dial typically has a single layer deep knob with a bright that does not have a line on it. The treble and bass controls have two-layer knobs that are independent of each other so that you can adjust the treble and bass on one single channel. Most other knobs are single piece double layer knobs.

For other knobs, I've seen knobs pressed on to split splined shafts, where the split splines provide the compression, and knobs put on with set screws. Inspect your unit for the knob type.

To remove the knobs, pull them off the unit. Some may be hard to remove. This is where you have to be careful or you may scratch the faceplate. I typically use a very small flat blade screwdriver. Tuck it under the knob from the bottom up to the shaft and turn the flat of the blade a bit to start the movement of the knob on the shaft. Once started, you can pull it off. Be careful not to scratch the faceplate in a place that will be visible later. Larry suggests using spoons, which will also work.

Knob types:

1. full double. 2. Tuning or speaker selector 3. Base of split double. 4. Tip of split double. 5 Chippie. 6 Chippie.



Knob brights:

Many Fishers lose knob brights over time. The glue dries out and the brights drop on the floor and sometimes become vacuum cleaner food. If you need new brights, they can be purchased from a number of vendors or on ebay. Typically, if you're going to replace some, you should replace them all or the patina won't match. There were a number of styles of knob brights used on Fishers of this era, from lined ones, to dimpled ones, to unlined ones. Some have survived well while others have not. If you are only one or two short and you want to preserve the patina, you can probably find some on ebay or from an afisheranado that will match close enough.

Chippies:

Sometimes the plastic on the knob chips around the knob bright or in the absence of a knob bright. The only way to replace chippies is to buy a used knob. Whether you feel the need to replace a chippie is up to you.



<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173150>

Faceplate removal:

Once you have the knobs off and put into a bin for cleaning, you'll find some thin nuts on two of the shafts at either end of the faceplate. Use a socket wrench to remove and replace the nuts so the faceplate doesn't get scratched.



Put the nuts somewhere you can get them later. A big nut driver would also work. Larry says get washers at your local hardware store. Thanks Larry.



Put the faceplate aside where it won't get scratched, bent, dropped, stepped on, stacked on, lost or damaged.

Lamps:

It's time to think about the lamps.

With post-1962 Fishers as a general rule, the primary bulb used is a #47 bayonet bulb, either frosted or not frosted. A bayonet bulb mounts in the socket by two pins sticking out of a spring-loaded base.

To remove a bayonet bulb, press down lightly and twist 1/4 turn.

More to come on bayonet bulbs.

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173154>

Chassis cleaning 1, including knob cleaning:

I've heard tell of people putting chassis in the dishwasher for a thorough cleaning treatment but I've never done that. Additionally, with an integrated amp or receiver there are parts and pots that may not tolerate that too well, where with a standalone amplifier, those sensitive parts are not there or there aren't many of them and they can be more easily removed or masked off.

A word of caution: Many chassis are cadmium plated. If you see white powdery oxidation on the chassis, use a mask when performing these procedures and thoroughly clean everything afterward.

Step 1: The first step of chassis cleaning is to remove any rodent detritus, dust, birdseed, and anything else by taking the amp outside and vacuuming or blowing air on it. I used canned air, like you'd use to clean a keyboard and a brush from a dustpan and brush set. I always do that outside.

The cleaning chemicals you use to clean the chassis are your choice. I'm only describing what I do and what I use. I've heard that some get fine results using Simple Green, 409, and a variety of other cleaners. The choice is yours but the amount of elbow grease you must apply, and the state of the silk screen on the chassis may depend on your choice. Here's a link to using Scrubbing Bubbles.

<http://www.audiokarma.org/forums/showpost.php?p=8010845&postcount=69>

I suggest that you wear protective rubber or latex gloves for this part of the cleanup.

Step 2: I make a mixture of one-part ammonia and four parts warm water in a slop sink in the basement or some equivalent place. If you make the water hot, the fumes will be too much, at least for me.

Then, using a sponge paintbrush or an old rag, brush some of the liquid mixture onto the chassis and let it sit a few minutes. You don't want to use so much liquid that it drips through the chassis vent holes. Then wipe with a dry cotton rag. The purpose of this first application is to soften the oxidation, dirt and any rust that is on there for removal with a second application.

Step 3: Fill a small plastic container like you get take-out food in with an inch or so of warm soapy water and drop the knobs in it to let them soak. Edited as suggested in post #24 <http://www.audiokarma.org/forums/showpost.php?p=5176320&postcount=24>.

Step 4: Perform a second application and then begin wiping the solution off firmly. I like to use an old facecloth and a couple fingers. Dip a corner of the facecloth in the water/ammonia solution for use where extra rubbing is required. Pick one corner of the chassis and start firmly wiping and drying the solution while changing the rag's wiping surface regularly. You can watch the black accumulate on the rag as you go. Do this until the chassis is thoroughly dry. For an especially grimy chassis, those white very low

abrasive scotch-brite pads can be used instead of a rag. Don't bear down too hard where there is silk screening or where there are stampings on the chassis.

Step 5: When finished, drain the slop sink, thoroughly rinse the rag or scrubbie in water and then wipe the chassis down with a damp clean rag to remove any ammonia that may remain.

Step 6: To clean the knobs, use a toothbrush and, frequently dipping the toothbrush in the soapy water in the knob container, brush in the direction of the lines. I go from back to front in the direction of the lines on the knobs, but some knob types are smooth and that advice doesn't apply. Be careful around any gold leaf or silver position indication markers if there are any. Rotate the knob until the whole thing has been brushed. Do this for each knob. Rinse the knobs with clean water and dry them, shaking the water out of the inner and outer folds of the knob that can retain water. Don't worry if some of the knob brights fall off. We'll cover regluing them later.

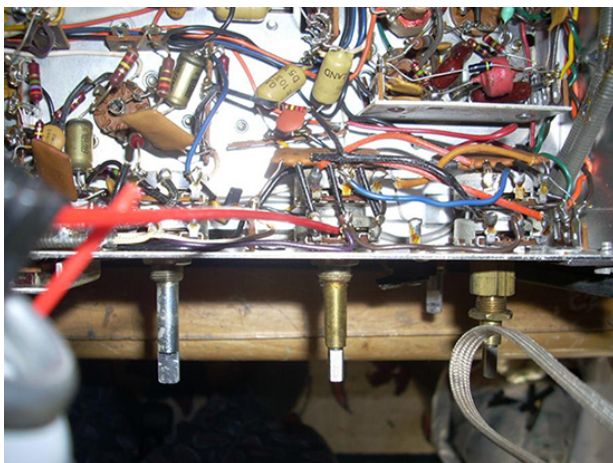
<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173158>

Chassis cleaning 2: Clean the potentiometers, rotary switches and switches.

Now that the chassis has been cleaned, it's time to flip the unit upside-down and remove the bottom chassis cover (if there is one). Some integrated amps have a top shroud over the pots at the front of the amp that must be removed. If so, remove it. Removal of the bottom cover or the top shroud or some combination of both will expose the potentiometers for cleaning. We're going to clean the pots and switches next.

Step 1: Get a non-lubricating contact cleaner. DeOxit is a name brand available at Radio Shack, but there are generic brands that work just as well. Use a non-lubricating cleaner, not a lubricating cleaner like DeOxit Faderlube.

Step 2: Turn the knob all the way one way and spray the cleaner in the slots between the shrouds. If it's a double potentiometer like a volume pot or tone control pot, do both slots. Do not use so much that cleaner is dripping out of the pot. A little goes a long way.



Step 3: Turn the knob all the way in the other direction and repeat.

Step 4: Rotate the knob through it's full rotation 10-20 times.

Some people recommend spraying the volume pot with a lubricating cleaner when you've finished with moving the pot back and forth. That's a matter of opinion.

Repeat Steps 2-4 for each pot. Do the same for rotary selector switches. Spray into the back side on both sides of each toggle switch and rock the switch back and forth 10-20 times.

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Faceplate (front panel) cleaning:

What you do with the faceplate depends on what it's made of, it's general condition and how solid the silk-screened lettering is on it.

Cleaning will not remove scratches. Cleaning will remove ball point pen, but the scratch the pen made will remain forever. This particular 500-C faceplate was missing lettering around the volume control and had scratches that will not clean off.

For brass type faceplates, the lettering is very easy to remove by mistake so using the utmost care is important. For brushed aluminum faceplates, the lettering is more robust.

Some champagne colored faceplates are champagne colored brushed aluminum, which is robust and can stand some scrubbing, but many are lacquered over the brushed aluminum. These lacquered faceplates are very hard to keep nice looking. Less cleaning is likely to be your best bet. Lacquered ones shouldn't even be immersed in water. Just wipe with a damp soapy cloth and blot dry. If you're an expert on lacquer refinishing, feel free to comment in the thread and help us all.

The first pictured faceplate is a champagne colored aluminum 500-B faceplate, in very good shape. It's been waxed.



To clean a faceplate, fill a slop sink (or large pail with flat bottom so you can immerse

the whole faceplate) with warm soapy water and immerse the faceplate for 2-3 minutes to soften the dirt. Remove the faceplate and wipe the wear spots with a soapy cloth. Don't get too aggressive on them. The goal is to wipe off all finger oil, cooking residue from years of family cooking and nicotine if the amp was in a smoker's home. Be careful of the lettering. In general, less cleaning is better. Rinse within 5 minutes of when you started. Blot dry. Do not wipe laterally!

If you have a later Fisher brushed aluminum faceplate and it's quite dirty, you can immerse it in the ammonia/water solution listed in post #6, but only leave it in for 2 minutes maximum. I've successfully used a scotch-brite white scrubbie to get grime that I had targeted as needing extra cleaning off, but a facecloth works well and is somewhat nubby for cleaning. The scrubbie doesn't get used ON the lettering and markings, only AROUND the lettering and markings.

No matter what method you use, rinse the faceplate with cool clear water within a maximum of 4-5 minutes from initial immersion in the solution. The lettering will soften, even on these most robust faceplates, and you will lose lettering if the ammonia or, in some cases, soapy water remains on the faceplate.

It's better to be conservative with the cleaning and repeat the process once you know there's more grime to remove than to attempt to over clean once and have irreversible damage.

Once the faceplate has been cleaned, wax it to protect it and so that fingerprints are less of an issue down the road and the way it looks today will be the way it looks later.

Waxed faceplate:

Right now I have some leftover Rain Dance Canauba wax that I wax faceplates with, but I've used Mother's also. Actually, any formulation of non-abrasive wax will do.

I wipe it on, let it dry, wipe it off and repeat, for a double-waxing.

[This] second photo shows the 500-C's faceplate.



Addendum 1/2015:

The Mr. Clean magic eraser is very good for removing hard to remove smudges and is highly recommended. Again, around the lettering only. It is not highly abrasive.

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173163>

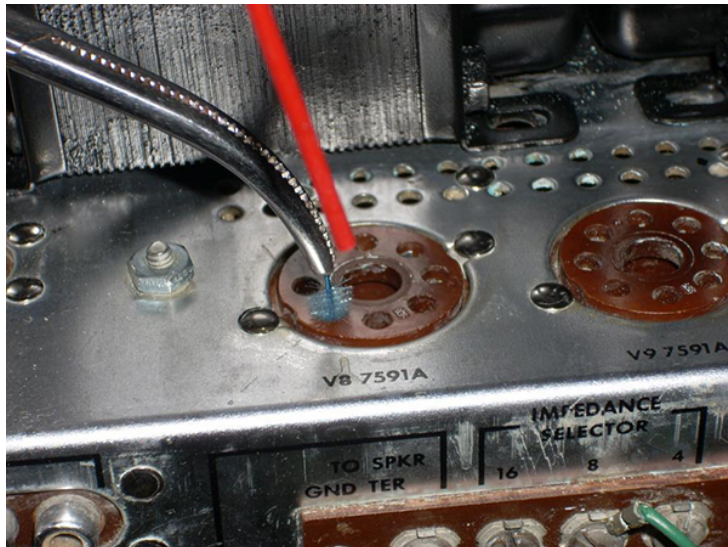
Cleaning tube sockets and RCA input receptacles:

Tube socket cleaning:

Tube sockets can be cleaned many ways, but I use tools designed for cleaning people's dental braces. They are available at your local pharmacy.

Step 1: Spray the socket with a non-lubricating contact cleaner. Use a non-lubricating cleaner, not a lubricating cleaner like DeOxit Faderlube.

Step 2: Dip the brush in and out of the tube socket a few times. Repeat for every tube socket. I've showed a couple of examples. One example shows a large brush for output tubes and one shows a small brush for small-signal tubes. The large sockets don't get cleaned as effectively.



Cleaning RCA input receptacles:

The RCA input connectors oxidize over time. I've cleaned the outside of the RCA receptacles by rotating a hand back and forth holding:

1. Steel wool. Visually inspect to make sure there are no steel hairs left over that can cause shorts afterwards.
2. Scotchbrite green scrubbies
3. RCA connectors with flitz (or other fine metal polish) applied to the inside

Cleaning inside RCA input receptacles:

This can be tricky. Some receptacles have ceramic or porcelain isolators that are broken or can be partially broken. I typically use a rag with sparingly applied metal polish over a very small probe or Phillips head screwdriver.

Tube pin receptacle re-tensioning:

I use a dental pick to re-tension sockets if necessary. In general, Fisher used top quality tube sockets that do not require replacement, unless quite burned. Typically, they only require cleaning, and occasionally, one or more pins requires re-tensioning. Since the sockets are designed to expand, there are two edges. I take the dental pick and pull one of the sides in a bit to add just enough tension.

An alternative is to push the pin up out of the socket and pinch it slightly with small electronics pliers. Do not tighten it enough to change its shape. Just a couple of squeezes to make it slightly tighter. Some pins can be pushed up without desoldering the wire on the bottom and some can't. If it's difficult, go back to the dental pick method.

You can use other tools, such as a tiny glasses screwdriver that comes in those three-dollar kits.

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173165>

Transformers:

For rusty or otherwise unattractive transformers:

This step is entirely optional. It is the most time consuming, smelly and unnecessary part of this cleaning procedure. I do it because some people do not put their units in cabinets and cages, though many units are designed to be put into a cabinet or played with the cage on. Tube rolling is difficult with a cabinet on also.

In the case of Fishers and Scotts, cabinets are often sold separately from the unit and it takes time and money to get a cabinet. Painting the transformers gives the whole thing a finished professional look that I find very satisfying. Perhaps it's the contrast between the aluminum or polished steel chassis color and the trannies.

Added edit: Someone suggested that liquid shoe black is good to use on transformers if the transformer is in good shape but needs some touch-up. I have tried this and I agree and will be using liquid black shoe polish for transformers that are in good shape. Just don't slop the shoe black or let it drip without wiping it up.

[However, here's how I paint the transformers that are rusted or need more care than shoe polish can hide:

This is something best done outside when the weather is cooperative. In winter, if forced to, I set up the basement bathroom as a spray booth. I hang tarps in the shower, drag in an electric heater and run the exhaust fan. I also crack a window so there's make-up air. You'll have to figure out what works best for you, but spray paint and spray polyurethane should not be used in your living space. They don't smell good and that's often a good indicator that the propellants are not good for you.

Step 1: Remove the transformer bolts. Save for later.

Step 2: Mask off the areas 360 degrees around the transformers. I use paper towels and tape as masking materials. Fisherdude suggests newspaper. Once unbolted, the transformers lift up enough to put masking materials underneath though the transformers are still wired into the circuitry. The power transformer has wires on two sides, but output transformers are typically only attached by wires on one side and are easy to put masking paper towels under. Be diligent. Use tape.



Step 3: Spray paint the transformers. I use semi-gloss black Stop Rust from Ace hardware, but Rustoleum or some comparable spray paint would be as good or better. You might want to try a hammertone finish or remove the end-bells and paint them a different color. Those choices are up to you.

Step 4: Wait an hour and spray paint the transformers again. I let the paint cure for a day at this point.

Step 5: After two coats of spray paint, I use three coats of semi-gloss clear coat

polyurethane, spraying one coat per hour and then give a full day for the clear coat to cure. If inside, make the room very warm to help set the outside of the paint.

Step 6. The transformers are very sensitive to fingerprints at this stage. I'll often retube the amp and run the amp for a day in a well-ventilated area, heating the transformers from the inside and setting the paint. If the amp isn't restored and one or more tranny gets hot, run it for an hour or more until the trannies get nice and warm, turn it off and do it again later or run it on a variac or dim-bulb tester. The point is to set the paint and clear coat from the inside of the tranny as well as the outside. The transformers do not need to be bolted to the unit to use the unit. They're still wired.

Overspray happens. Before bolting the transformers back onto the chassis, clean off any overspray that's left on the chassis. I use goof off, but it smells like some kind of acetone. Clean up the overspray in a well-ventilated area or outside and discard any cleaning materials permanently.

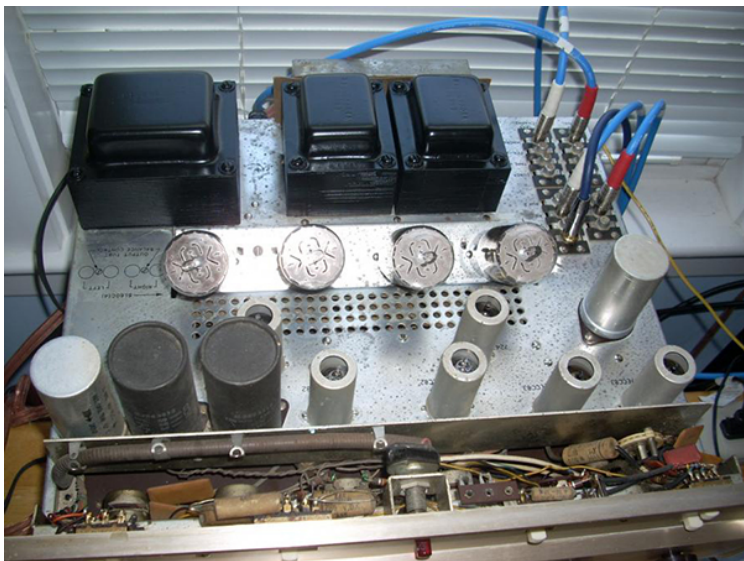
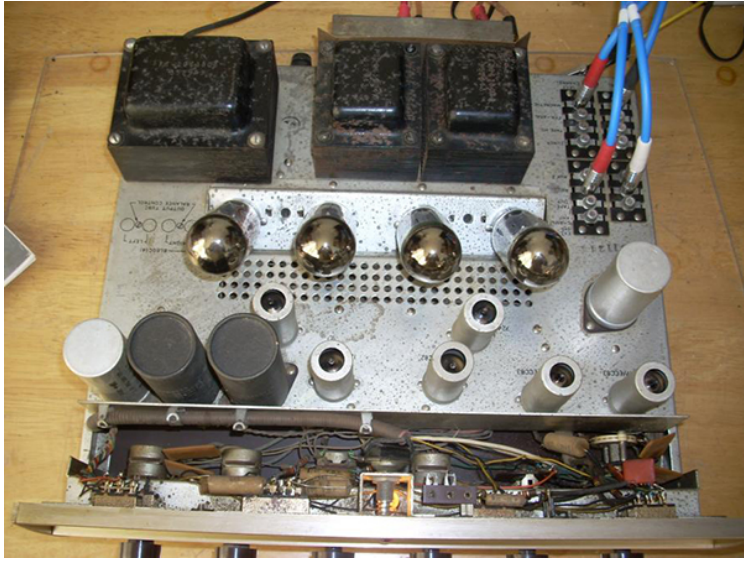


One last note:

If you flip the unit over onto the transformers and front panel to work underneath the chassis after painting, cover the tops first with easy-release painter's tape loosely applied over the trannies to avoid scratching them. In that sense, painting the transformers after the restoration is complete is a good idea. Here in a climate where we have cold winters, sometimes you can't save this step until last if you can't do this in a living space.

Typically, I'd paint the transformers at the end of a restoration, but the weather cooperated and I wanted to stage and document this cleanup, so I painted the trannies before restoration.

[These] last three pictures are of a different unit. I added them to show before and after chassis cleanup and transformer painting and what a difference it can make in your perception of unit condition.

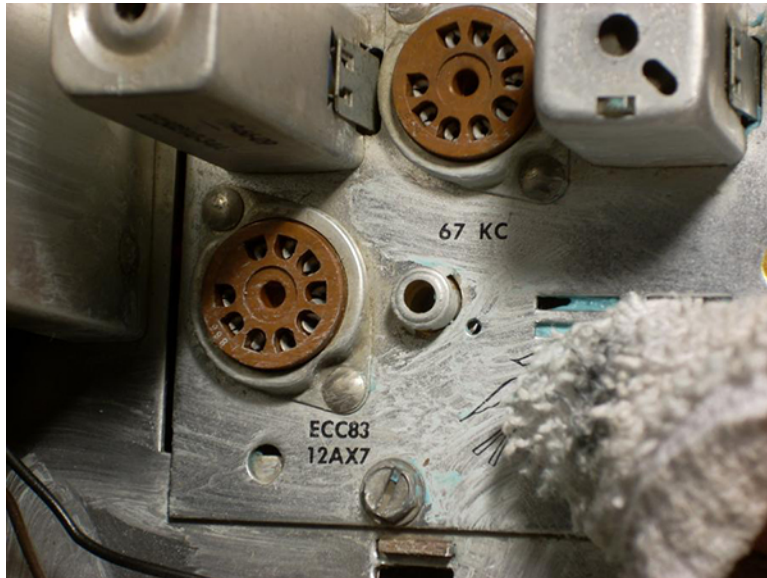


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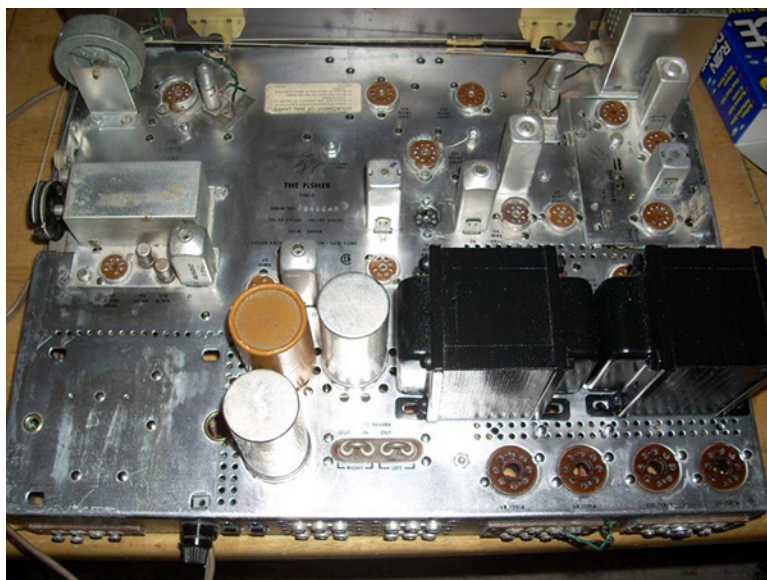
Chassis waxing:

Yes I know the power transformer is missing from the second photo. In this case the power transformer needed repair or replacement.

Once the chassis has been cleaned, you can wax the chassis to preserve it for the future. I use the same wax as described in **“Waxed faceplate”** above.



Wax the whole chassis, including the side panels. Wipe the wax as shown in the first figure. Move the rag frequently on the initial wipe-off. After completing the wipe-off, get a clean rag and wipe it off again. When finished, the chassis will look more like figure 2 than figure 1.



Oh, if your chassis has rust, the wax will discourage the oxidation from continuing. Wax right over the rust that didn't clean off.

1/2015

When I originally created this thread, it was only for Fisher gear, but the thread applies to cleaning many vintage tube pieces, not just Fishers, so I have recently cleaned a Dynaco Stereo 70 chassis and would like to share that process with you.

In [this photo], you can see that the chassis looks pretty much like the chassis of any 50+ year old Dynaco Stereo 70. That is, you'd never know the chassis was chrome. The process of convection, repeated heatings during use, time, smoke and dust have all combined to make the chassis look like it should be replaced by a new production chassis.



In the process of restoring this Dynaco Stereo 70, I have replaced the can cap and added a couple of terminal strips, each anchored by a bolt. I've cleaned around those area with Flitz metal polish. Flitz is not the only non-abrasive metal polish, but it's the one that I found locally and it works well. You can see the contrasts in [the next two photos].



In [this photo], you can see the results of applying Flitz polish to the whole chassis and you can see the drying Carnauba wax on the chassis.



To get to this point, I've:

1. Removed the screws from most of the sockets, unscrewed the [PC board, the power switch, the biaset pots and receptacles, and all transformer bolts] and polished as well as possible underneath the still connected transformers and I've polished the chassis completely. While this additional step of removing all the connectors is time consuming, and it required me to polish the bolt heads separately, there is no oxidation around the screw heads. Since this particular Dynaco is a Dynakit, there were no riveted fasteners. If there had been riveted fasteners, there would have been no need to clean around the bolt heads or leftover oxidized spots.

2. The whole chassis has been cleaned with Flitz.

3. The whole chassis has been waxed.

What you do not see is that I also polished and waxed the side panels of the bottom cover so that they also shine. I did not polish the bottom because . . .well . . . it's on the bottom and I'm not likely to look at it much.



In [this last photo, above], the unit has been reassembled. It looks very good. How good? Well, the polish did not remove the lettering and it did not remove the slight pitting in some places. It looks good enough to be proud of. While a collector might go for a rechrome or a replacement chassis, I believe the result is good enough for anyone other than the absolute perfectionist.

Total time from disassembly to reassembly was about 2 1/2 hours.

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173171>

Dial glass cleaning:

Receiver dial glass can get dusty over time. Additionally, the heat generated by the cooling air towards drawn through the unit by convection can leave deposits on the dial glass of any tuner or receiver. More true in a non-smoke free home.

In the case of a Fisher, it's best to remove the dial glass while the front panel is off. If the unit has not been touched since new, there is insulating foam surrounding three sides of the dial glass and the dial glass is held on by four screws at the corners that hold retaining arms.

To remove the dial glass, there are typically two things you have to do:

1. Break the seal of the insulating foam surrounds. The foam has been compressed and heated repeatedly and often disintegrates or rolls off completely. All we need to do is to break the seals where they hold the four dial glass retaining arms in place.
2. Unscrew the screws holding the retaining arms, but without letting the dial glass drop on the workbench.



Step 1: Use a razor knife or exacto blade to break the seals around the retaining arms at all four corners.

Step 2: Unscrew all four screws that hold the retaining arms, with one screw holding one retaining arm in place at each corner of the dial glass. The bottom ones do not need to be completely removed. They may help keep the dial glass from falling out if left in loosely.

Step 3: Remove the dial glass. This can take some time. My experience is that it's best to get the top of the dial glass to swing out and then lift it up and out. It may be stuck. Take enough time to loosen it without cracking or chipping it. Avoid using a screwdriver. Use something non-metal right at the top right and left corners to wedge it out.

Work on it only under daylight or very bright light. **Do not hurry or you may repent at leisure. You've been warned.**

Some words of warning here to people who want to clean dial glasses that aren't Fisher dial glasses: The artwork is likely to be on the back of the glass, not the side facing out to the world. Some artwork is very delicate, is likely to be some decades old and cannot tolerate any rubbing.

*****It is better to err on the side of caution and clean around lettering with a q-tip dipped in something than to discover after the fact that you've been too aggressive and cleaned off or moved your lettering.*****

For that, I'd only wipe the back of the dial glass on the parts where there's no lettering with a glass-cleaner dampened paper towel or rag. I wouldn't even let the rest of the rag trail over the artwork if it's delicate. If you must test, pick an area of the artwork that you can live without if it gets wiped off and try wiping that. In general, if the glass is clean in the front and around the lettering in the back, that's a heck of a lot better than not cleaned at all.



Edited 4/10/2013:

Here's a thread about cleaning dial glass that is worth the time to read and consider:
<http://www.audiokarma.org/forums/showthread.php?p=6685578#post6685578>

For Fishers, where the lettering is painted on:

Before going any further, repeat after me, "clean the glass and blot the art . . . clean the glass and blot the art". Catchy; isn't it?

Fisher artwork is on the back of the dial glass. Nicotine seems to weaken the lettering's hold on the glass.

What I do is spray glass cleaner on the front and wipe off with a couple of paper towels. Then wipe again with a dry towel. For the back, I spray both sides where there is no lettering. I do not spray the center where the artwork is. Then I blot the center with the already dampened paper towel where the artwork is with slight, and I do mean slight, lateral movement in the areas where there isn't a lot of artwork. Others use a Qtip and avoid the lettering altogether. Then wipe the sides. Rewipe the sides with a dry towel. The artwork isn't super fragile, but you do have to be careful.

Next, wipe the backplate with an unused paint brush, being careful not to dislodge or bend the tuning indicator on the tuning string.

After the dial glass is fully dry, go over the remaining compressed foam with a razor knife or something comparable. The point is not to remove the compressed foam fully, though you can remove it with no consequences. The remaining foam actually acts as a pretty good template for where to put replacement light blocking stripping. What I do depends on the condition of the dial glass. Just be sure that there's a surface there that a self-adhesive strip can attach to long enough for you to put the front panel back on.

To put the dial glass back in place, lightly fasten the two screws for the bottom with the retaining arms, unless you did not remove them when you lifted the dial glass out. Tension them just enough so they won't fall out and you can slip the dial glass back in and have them hold it in place.

Next attach the top screws and retaining arms. Tension all four arms reasonably tight, but remember that too tight could crack the glass.

For your final step, you can wait until putting the front panel on.

The Fishers have two dial lamps on the sides of the dial glass called festoons. If you know yours are Ok and the lights work, don't touch them. The glue holding the metal to the glass dried out years ago and if you touch them, roll them, or move them, it's extremely likely that your next step will be replacing them.

There are many differing versions of festoons for different receivers and tuners, or different lengths and diameters. 500B and 800B likely both had thinner diameter festoons than the 500C, 800C and 400. Tuner festoons are sometimes shorter.

I've successfully used LED replacements and have been happy with how evenly they disburse light.

For festoon light sources, see this thread:

<http://www.audiokarma.org/forums/showthread.php?t=409667>

When you are ready to put the faceplate on, line three sides of the dial glass where the compressed foam was with new self-adhesive stripping. I've successfully used D-Profile rubber tape, open cell narrow gap tape (what you see in the second figure) and closed cell sponge tape. You just don't want it so thick that it won't compress enough to push the faceplate back and tighten the two nuts at each end of the faceplate.

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173173>

Baking your tube amp:

This is another voluntary, discretionary step in your tube amp cleaning and restoration. **It can be done in any order, first, middle, or last step.** I'd pre-set a sequence of topics in this thread and this topic was unplanned and therefore was a last minute addition. So I put it where it would fit.

<http://www.audiokarma.org/forums/showthread.php?t=199332&highlight=baking>

<http://www.audiokarma.org/forums/showthread.php?t=122316&highlight=baking>

If the tube amp you have chosen to restore has not been used in a long time, baking it upside down in an oven can have multiple rejuvenating benefits including:

1. Draining accumulated moisture out of transformers.
2. Bringing resistors closer to tolerance.
3. Preparing capacitors for use by drying condensed water

Any unit stored in an unheated basement, a garage, barn, or any space that is not climate controlled where temperature goes up and down and dew can form can benefit from being slow baked at a low temperature. Most components are rated to at least 85C, which is close to 190 degrees Fahrenheit.

Amps that have been recently used will benefit less from baking than stored units because if they've been used, they've been heated. There's a big difference between a unit that's been turned on and has displayed glowing tubes and a unit that's been used long enough and recently enough to be heated up to operating temperature again and again.

Baking is for units that are in unknown condition or units that haven't been used routinely at operating temperature. Even units with potted transformers will benefit from baking, but potted transformers themselves are much more impervious to moisture than unpotted transformers.

Baking procedure:

1. Get everyone else who may live there out of the house for a number of hours.
2. Put a large flat pan or cookie tray on the very bottom shelf of the oven to catch any electronic goo that might drop from the unit.
3. Remove the bottom chassis cover and any top covers or cages from the amp. I usually remove the tubes and, for receivers or tuners, I do this procedure with the knobs, front panel, and dial glass removed. I've successfully baked completely intact units though.
4. Place the unit upside down on an oven rack directly above the flat pan.
5. Turn the oven to a low setting. Mine has a digital temperature setting and I usually select 160. For manual settings, warm will probably do and is likely to be around 150 degrees. It'll help if you have an oven thermometer. 175 would be as high as you should go.

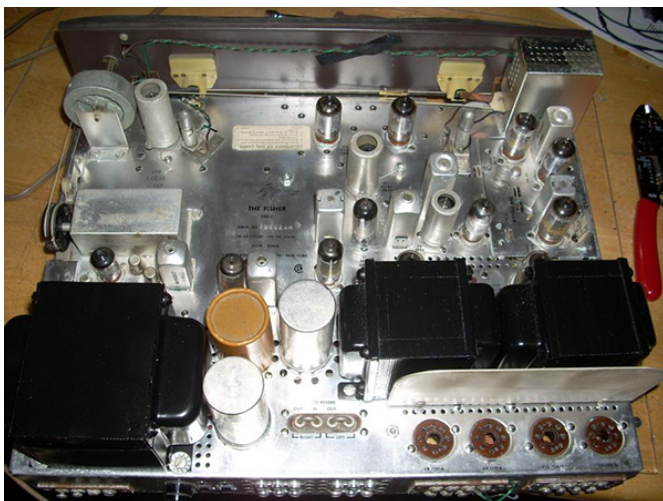
Let the electronics bake for a couple of hours. Do not leave the house. There will be smell, so crack some windows open. It's not the smell of burning wires, just warm electronics and plastic.

6. Using hand protection such as oven mitts, remove the unit from the oven. Remove and wash the drip pan, even if clean. Let the oven run with the door open. Let the unit cool before reassembly and testing.

After baking a tube unit, I sometimes set the oven to self-clean, providing a benefit for the whole family. Keep those windows open. Open them fully and completely flush the air in the house whether you've set the oven to self-clean or not.

<https://audiokarma.org/forums/index.php?threads/how-to-deep-clean-a-tube-amp.406997/#post-5173184>

The final product:



The chassis looks pretty good with some cleanup and painted transformers.

After the knobs were put back on and the unit was powered up for final cleanup shots, this top shot looks pretty good too.



The front panel shots benefit from soft lighting. The lettering was none-too-good on this one to start with, and it looks good, but sometimes you get what you get.





And the final vanity shot.



I hope you've enjoyed this cleanup tutorial and I hope that the piece you choose to clean comes out fabulously.
Don