

VINTAGE RADIO

By JOHN HILL



Cleaning up the chassis

In a number of previous columns I have briefly mentioned how to tidy up the chassis of an old valve radio in order to make it look more presentable. This month, we will take a much closer look at chassis restoration, as the end result has a significant bearing on the overall appearance.

Have you ever noticed how meticulous vintage car enthusiasts are with their vehicles? They fuss and polish and dust and clean and their cars always look immaculate. Even under the bonnet the same care is lavished and it is unlikely that any dust or grime will be found on the engine (normally a fairly messy part in most motor vehicles).

Likewise with vintage radios. While the chassis is normally a dust encrusted blob inside the cabinet, it

is the engine so to speak, and any serious collector will want it to look a part of the restoration and not something that has been forgotten.

The chassis can be made to look every bit as attractive as the cabinet and some look so impressive when properly restored that the set should be displayed so that the back view can be seen. In other words, the cabinet often hides the most interesting part.

Cleaning up a chassis is not

always an easy task. Because most chassis and electrostatic shields are made of steel, rust is usually one of the main problems to overcome. Even aluminium components can corrode and these sometimes look just as unattractive as rusty steel.

Some of my earlier restorations are starting to reveal that a chassis cleanup requires more than just a coat of "Silvafrost". A one-coat touch up with this paint may not last 12 months before the rust starts to break through the thin layer of paint. This comment mainly applies to chassis tops that were severely rust pitted.

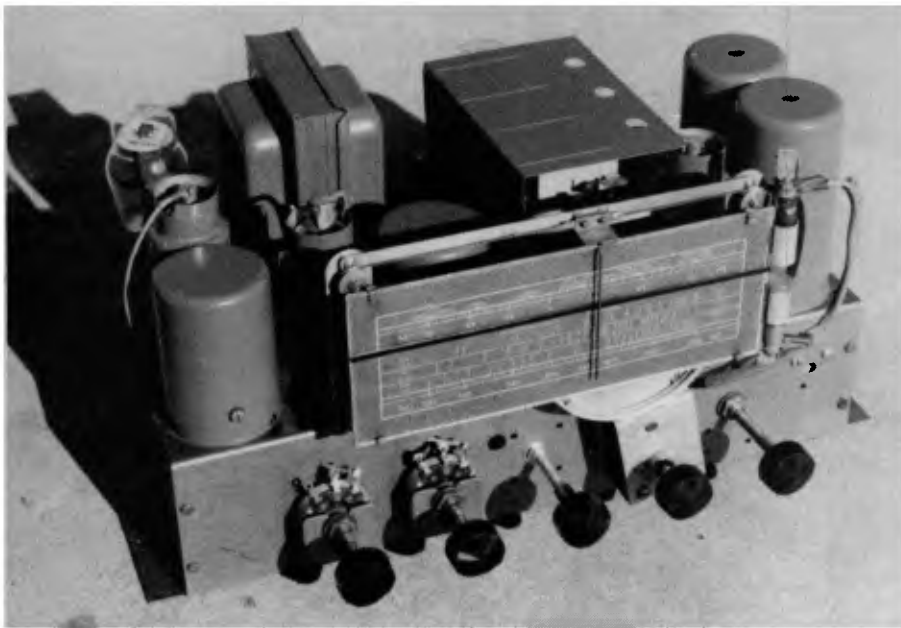
There are many reasons for a chassis being attacked in this manner. Unloved valve radios are frequently stored in garages and sheds where they are subject to damp, dust and general neglect. Mice often inhabit these old sets and the little puddles they leave behind are highly corrosive.

Receivers that have lived their lives close to the sea also have rust problems and some of these sets have to be seen to be believed. Regardless of the reason, a 50-year old chassis can be in a rather sad state and rust often penetrates deep into the surface of the metal.

I know of vintage radio enthusiasts who have completely dismantled a radio until they have been left with the bare chassis. This was then suitably treated (even zinc plated in one instance) and the set then rebuilt. While that is a very thorough way of doing a restoration, there are not many of us who are likely to go to those extremes. I know I'm not usually prepared to do that.



A badly rusted chassis requires anti-rust treatment before repainting. Failure to prepare the chassis properly prior to painting will result in the rust quickly breaking through the new paintwork.



A fully restored 1936 dual-wave Radiola. This particular chassis clean up only involved repainting the coil cans and other top accessories. The chassis itself was cleaned up with an automotive "cut and polish" compound.

The next best alternative is the paint brush. The brush treatment is quite appropriate in many cases because the chassis was originally painted. A coat of a similar colour will brighten things up nicely.

However, in some instances a touch up is not adequate if one wants the job to last and chassis restoration often requires a bit more effort than five minutes with a paint brush.

Preparing a radio chassis for painting is no different to any other painting job. The rust must be removed and the corroded area treated with a rust inhibiting paint

such as "Kill Rust". Kill Rust metal primer under a couple of coats of Silvafrost or enamel paint must help to contain the rust. Hopefully, such a treatment would be permanent and no further rust problems should arise.

If the chassis is to be treated properly then one must have access to it. This means that it needs to be stripped of all the removable components that are likely to get in the way.

Valves and valve shields are easily removed so these items hardly warrant a mention, although I believe that is about as far as some

restorers are prepared to go.

In recent months, I have restored two chassis and these have come up really well. Perhaps the main reason for them looking so neat is the fact that they were stripped of a good deal more than the valves and valve shields.

With these particular chassis, all the coil cans, the dial mechanisms and the tuning capacitors were removed before the paint preparation work commenced.

How much easier it is to paint coil cans when they are no longer part of the chassis. How easy it is to clean and paint a chassis, particularly around the edges of coil cans and under the tuning capacitor. How easy it is to clean and paint a tuning capacitor when it can be done on the workbench.

The tuning capacitor on the 6-valve Eclipse radio chassis (as shown in one of the accompanying photographs) proved to be interesting and warrants further discussion.

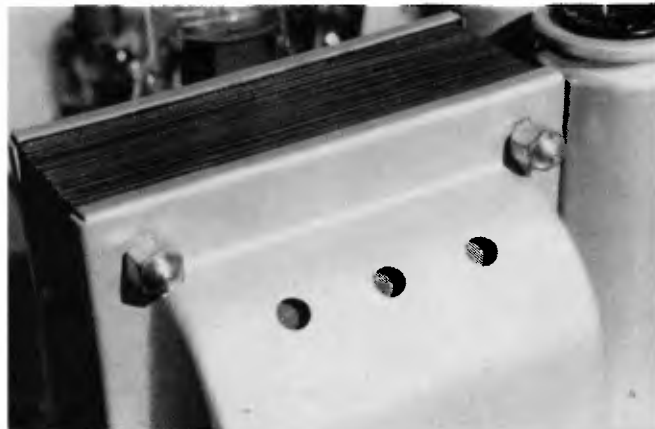
Tuning capacitor tweaks

While cleaning the tuning capacitor, I was alarmed to see that some of the moveable plates were badly positioned. Some were almost touching, while others had quite large gaps.

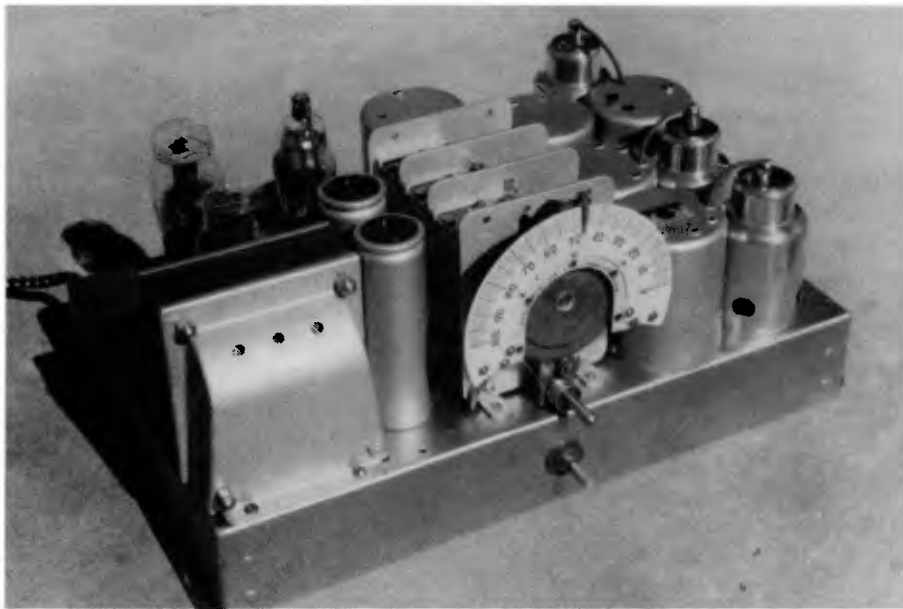
This prompted me to check out the capacitance with my digital multimeter. My suspicions were justified and in some positions there was approximately 8pF difference between the three gangs.



The advantage of a good clean and polish is that all the original inscriptions, transfers, etc are retained. However, not many chassis are as well preserved as this one after half a century.



Although this power transformer was left bolted to the chassis, it was painted with the nuts removed and the laminations highlighted in black to improve its appearance.



This 6-valve chassis was manufactured by Eclipse Radio and would be about a 1934 model. Its colour scheme is gold, silver and polished aluminium. It really is too good to put back into its cabinet.

I sought to remedy the situation and spent about three quarters of an hour re-adjusting the capacitor plates.

The improvement was considerable to say the least and the final result was a tuner that had no worse than 1pF variation at any setting. Such an adjustment could have a significant effect on the overall performance of the receiver. In future, more tuning capacitors will be removed from their chassis and it will not be for ease of cleaning and painting alone.

Another advantage of a more

thorough chassis job was revealed when the coil cans, etc were removed from a 5-valve Radiola. With this receiver, the sealing wax that moisture-proofs the coils and the IF transformers had dried and cracked with age, leaving numerous gaps of several millimetres in width.

Removing the cans not only reveals such problems but also allows an inspection to be made of the fine wiring which is normally out of sight while the coil cans are in place.

Removing 54 years of dust accumulation and melting some fresh

wax sealant into the cracked moisture proofing must also help to produce a more reliable restoration.

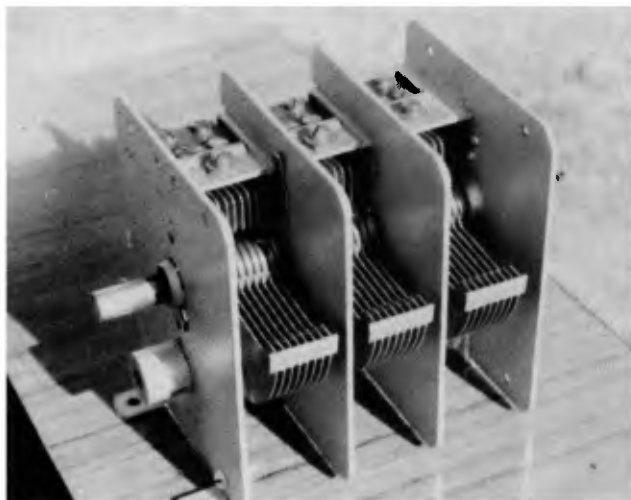
Not all chassis need repainting and the 5-valve Radiola is still original as far as its main chassis is concerned. However, the power transformer and coil cans have been repainted because these components were beginning to look tatty.

The advantage of not painting the main chassis is that all the manufacturer's stencilled inscriptions remain intact; eg, aerial and earth terminals, valve types etc.

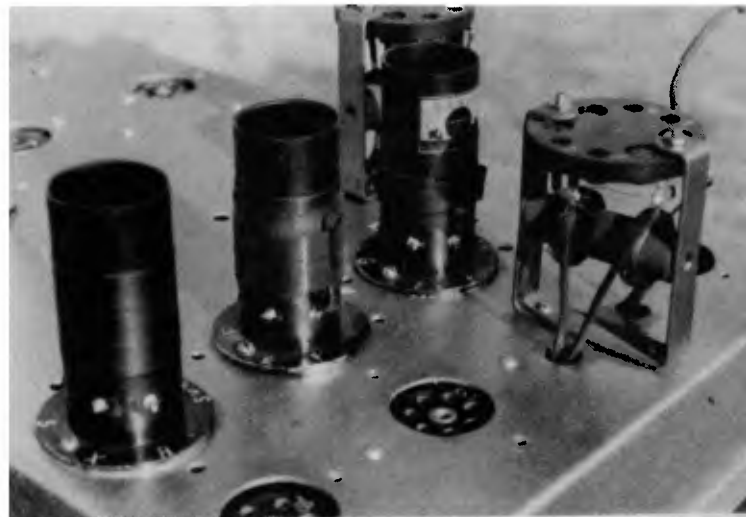
It is always advisable when not painting the chassis to clean it thoroughly with hot soapy water and a cloth, being careful not to slosh water everywhere. When dry, a rub over with automotive polish will bring back the shine to the old paint surface. It will also quickly remove various marks and stains that the hot soapy water treatment failed to dislodge.

Car polish

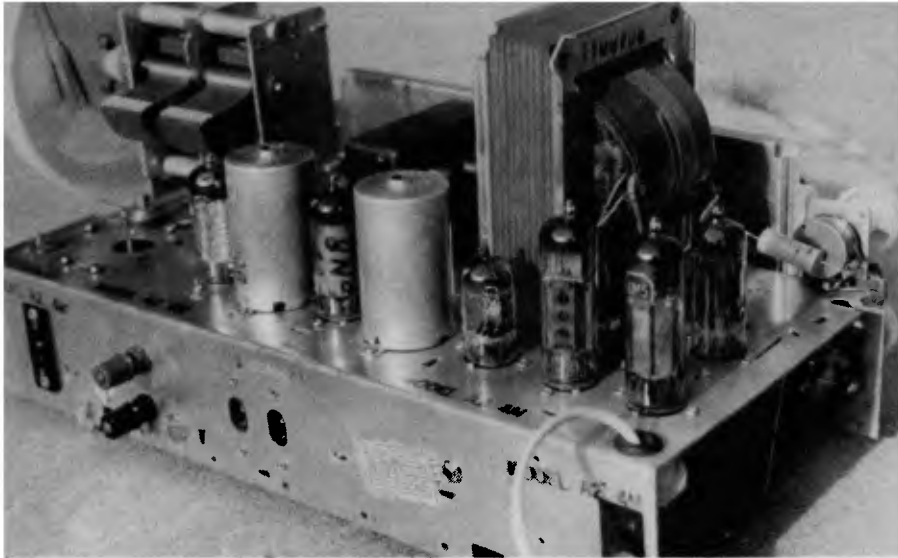
The car polish technique really rejuvenates the old paint work and helps to tidy up the general appearance of the chassis. The cut and polish treatment also works on a plated chassis that has become dull and powdery but not yet gone rusty. The polish will bring up the surface to a reasonable lustre. It also leaves a protective coating to help prevent further corrosion.



The tuning gang of the Eclipse was removed to make it easier to paint and to provide easier access to the chassis. It also made it possible to re-align the three sections of the gang using a digital capacitance meter.



Removing the electrostatic shields allows the coils and IF transformers to be inspected and cleaned. They look better with the cans on, don't they?



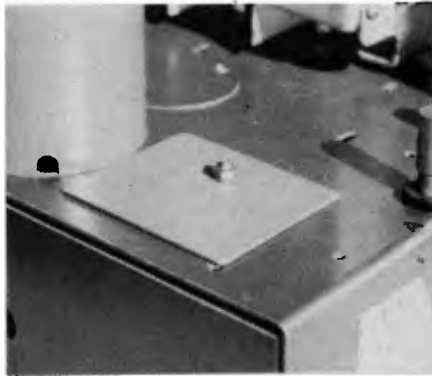
This HMV radiogram used a plated chassis. An automotive cut and polish compound cleans metal components quite well and leaves a protective coating.

The two finishing techniques for chassis were either paint or plating. Generally speaking, painted chassis were common in pre-war radios while the plated steel type was more common after the war. The plating was usually cadmium but plated chassis appear to be more rust-prone than those that were painted. Perhaps it depends on how the sets have been stored over the years.

In the very early 1930s, aluminium chassis were popular but were in vogue for only a short time. Aluminium is a relatively weak metal and chassis made from this material were not very rigid. Aluminium also caused difficulties because it cannot be readily soldered to. However, it did not require painting or plating for protection from atmospheric corrosion.

One problem with the old Radiola chassis was that it had been modified. The aerial coil had failed (possibly due to corrosion) at some time in the past and it had been replaced with a smaller more modern coil. This coil had been installed underneath the chassis whereas the original one was on top.

Unfortunately the repair left two odd shaped holes showing where the original coil and can had fitted. There was no problem with the effectiveness of the repair, it was just that the gaping holes looked a bit rough and that there was obviously



This coverplate looks better than the two odd shaped holes that someone had hacked into the chassis. It also excludes dust and mice.

something missing.

The problem was simply overcome by fitting a cover plate over the unsightly area. The plate was painted the same colour as the other mounted components and doesn't look that much out of place. It keeps out dust, mice and other vermin and hides untidy parts of the chassis from view.

All things considered, the chassis and how it looks are an important aspect of vintage radio restoration. Making this part of a radio look new again is often quite a challenge but when completed gives a great deal of satisfaction.

Although the treatment described in this article takes a good deal more time than a quick one coat touch up, it all seems worthwhile when the job is finished. 