

# Salvaging A Transformer Making Kit

## Unwind A Transformer For Materials

### **SAFETY WARNING**

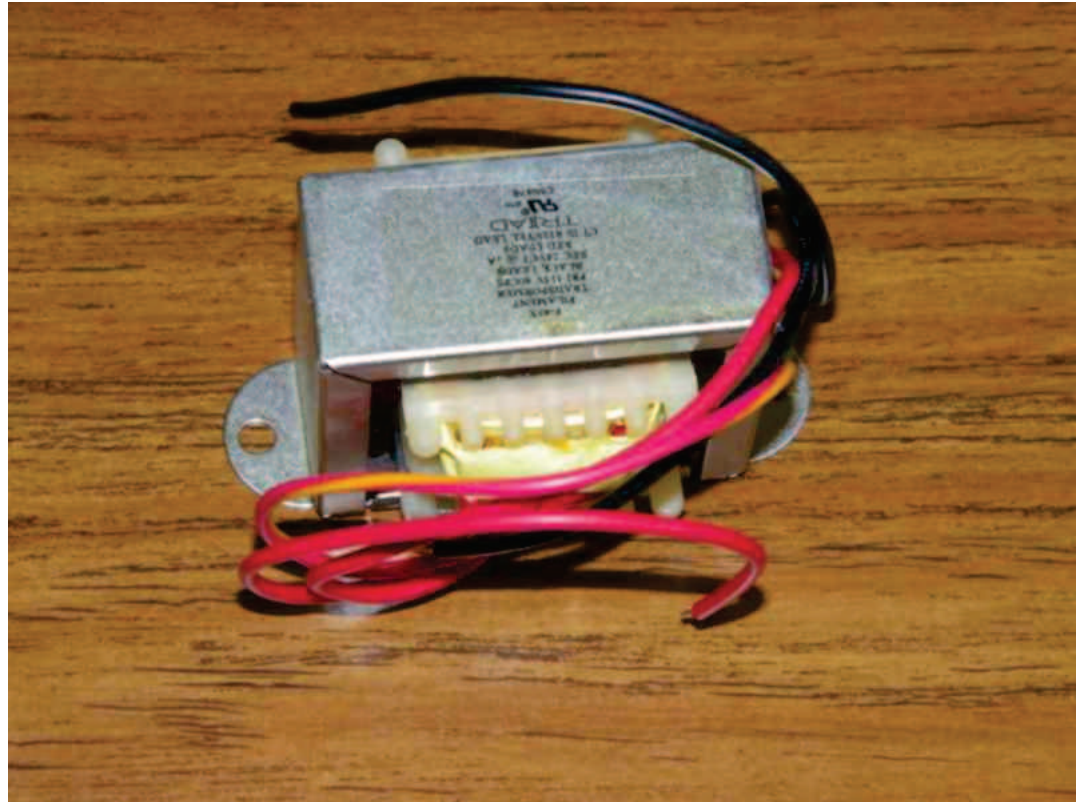
The procedures shown here can result in safety hazards if they are not done carefully and thoughtfully. Although I believe I did this in a safe manner, it is possible that there are errors or omissions in the processes described.

If you do not already possess the training and skills to do this process safely, including the uses of hand tools during the process as well as considerations for electrical safety of the finished product, do not attempt any of these procedures.

By following any of these processes, you affirmatively certify that you take on yourself any and all risks and obligations of any kind whatsoever that may arise from your use of this material as a guide, and forever release, indemnify, and hold the author harmless for any of the material presented here or its results.

This treatise was written with the objective of salvaging parts for a transformer intended for application in secondary circuits only, not for AC power mains voltages. On page 10 there is some commentary about how one might go about rewinding a transformer for AC mains use, but as noted, the information is incomplete, and will require additional information to apply. Do not try this unless you already know how to do it successfully and safely on your own. You accept all risks and liability to yourself and others as a result of your following this course of action.

The donor  
as received



Prying up the  
frame tabs.  
Be GENTLE!

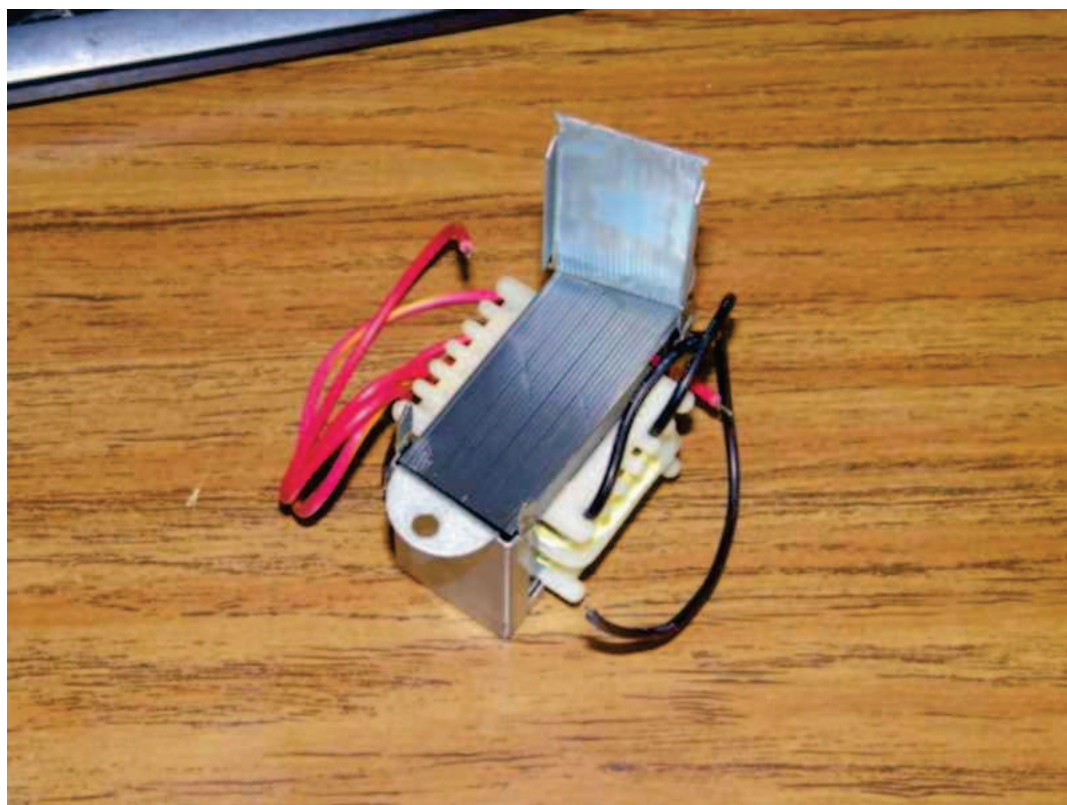




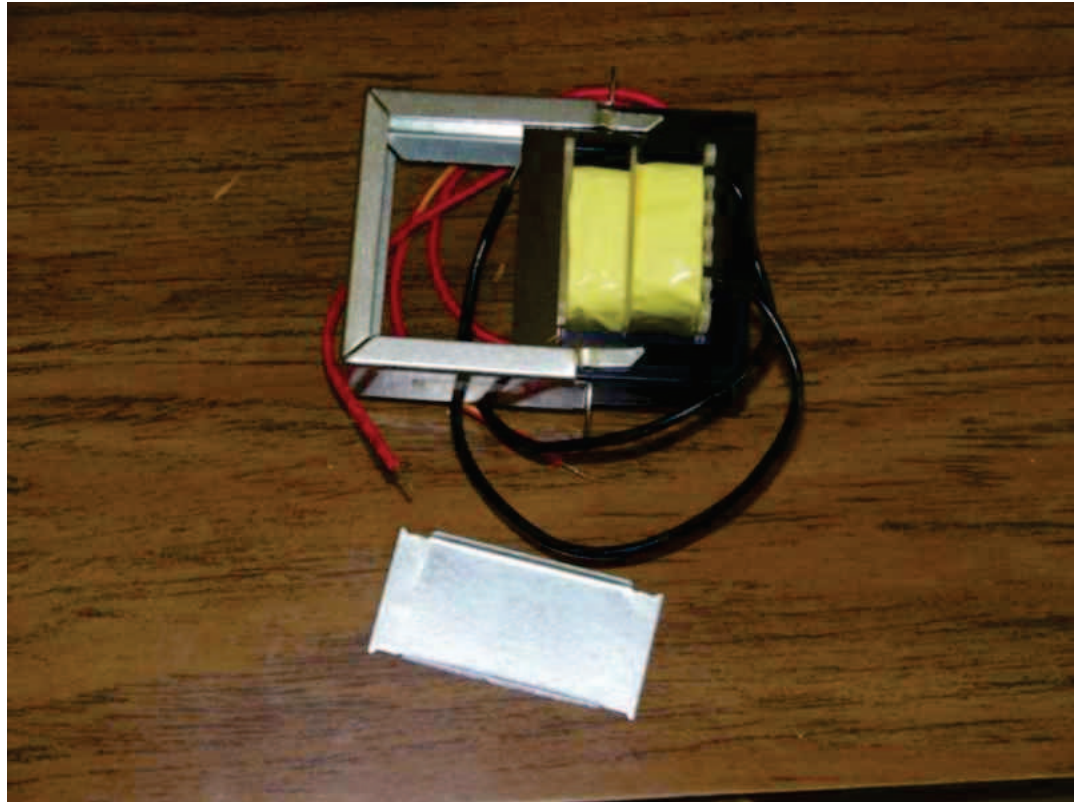
All Tabs Up



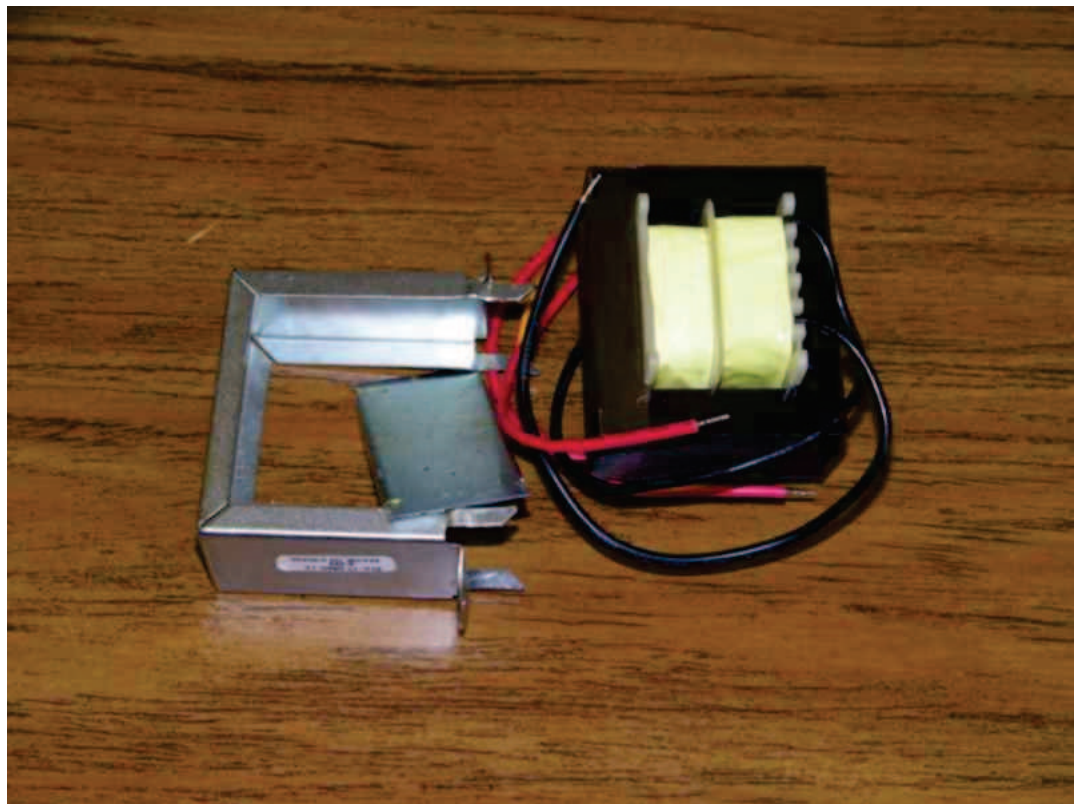
Bottom plate  
removed



Sliding the  
channel off  
the core

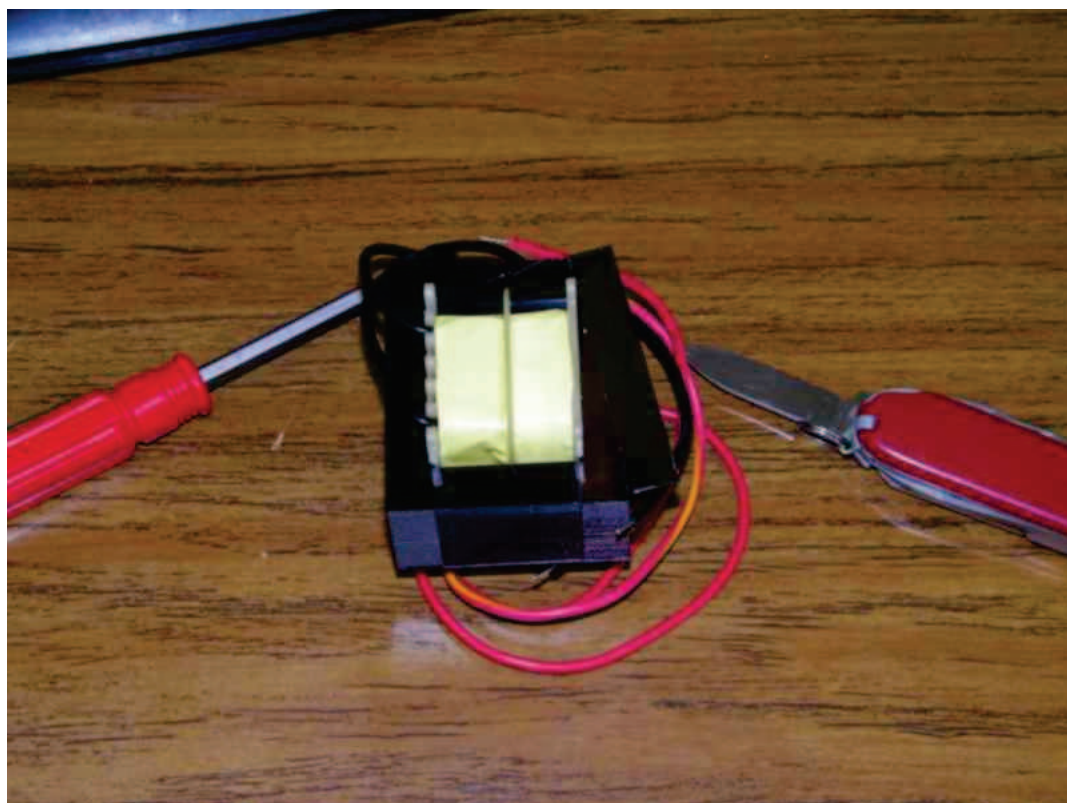


Core Exposed

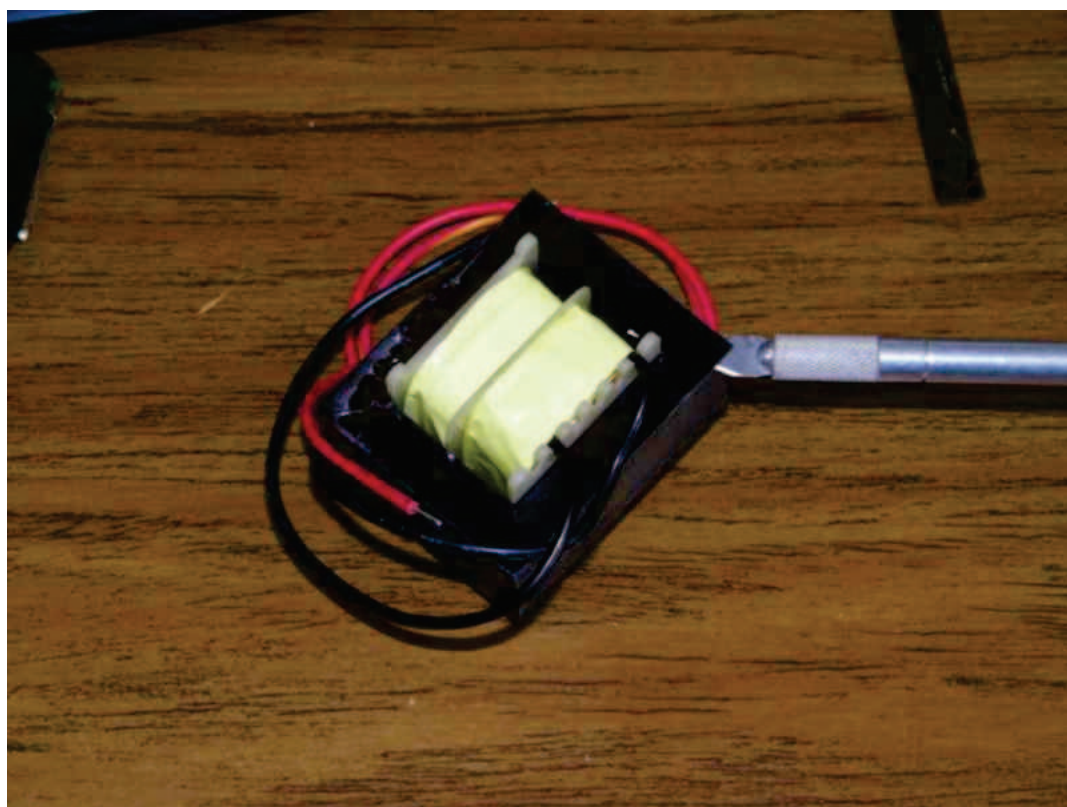




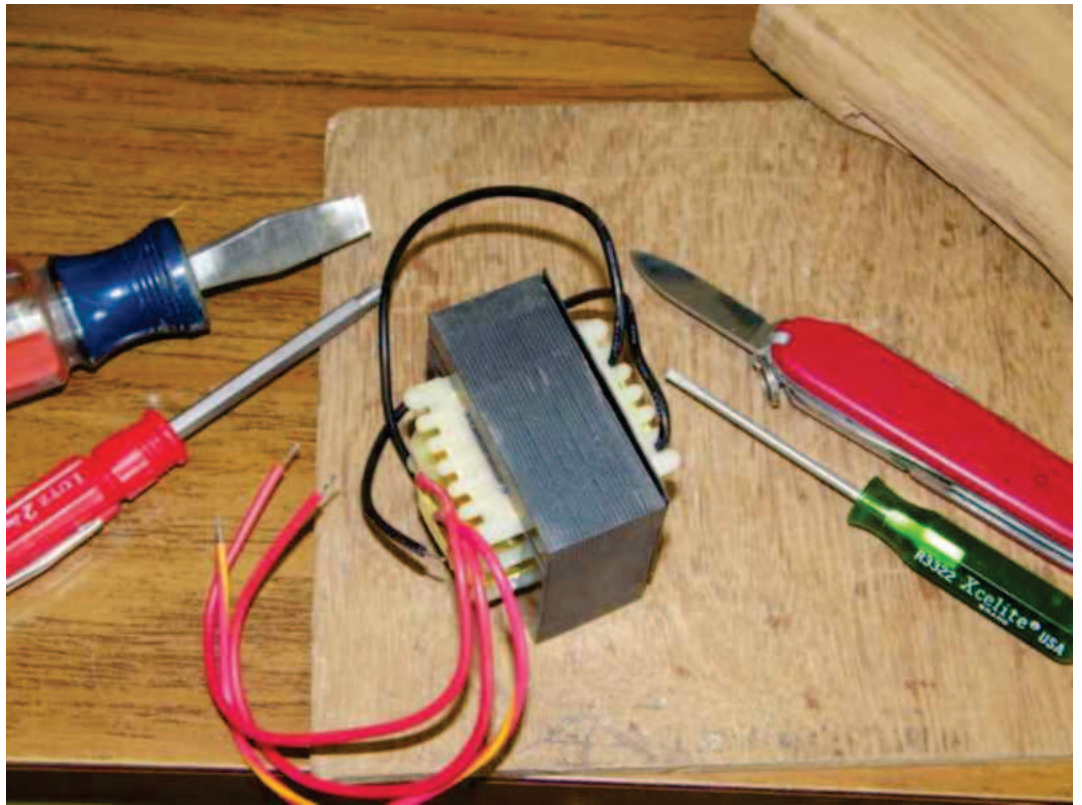
First I removed



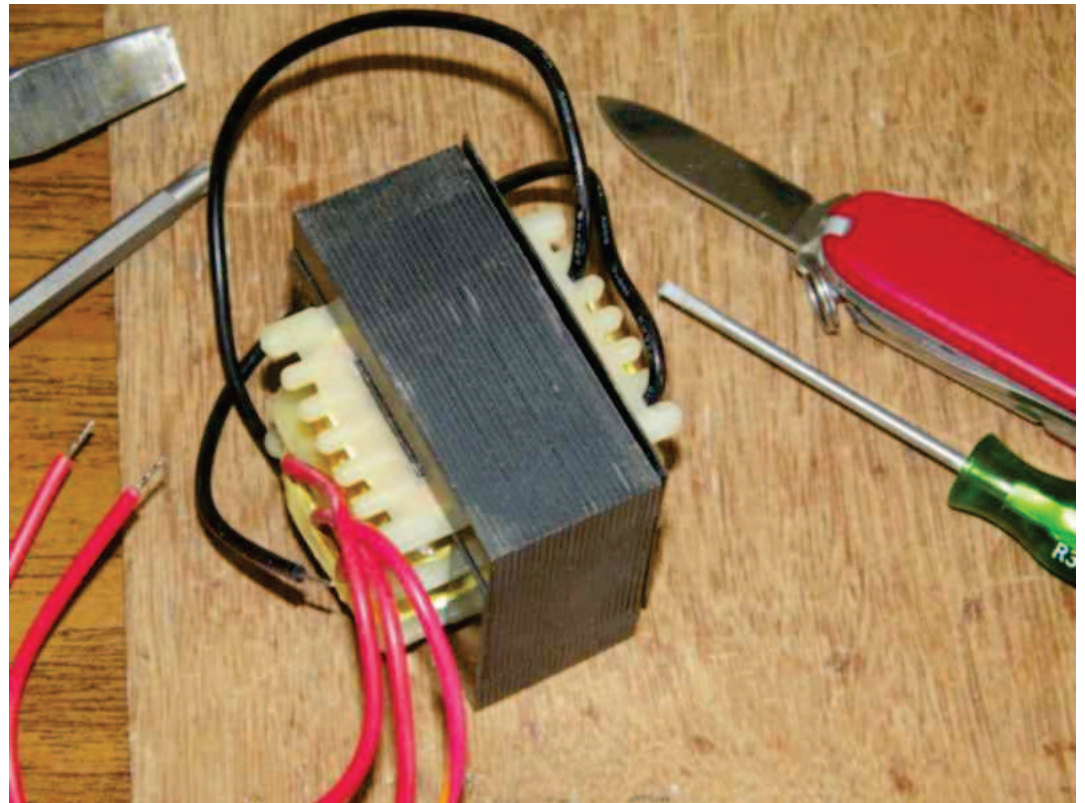
Gently breaking  
the varnish  
that glues it  
together



About 30 minutes later the first E is beginning to come out.

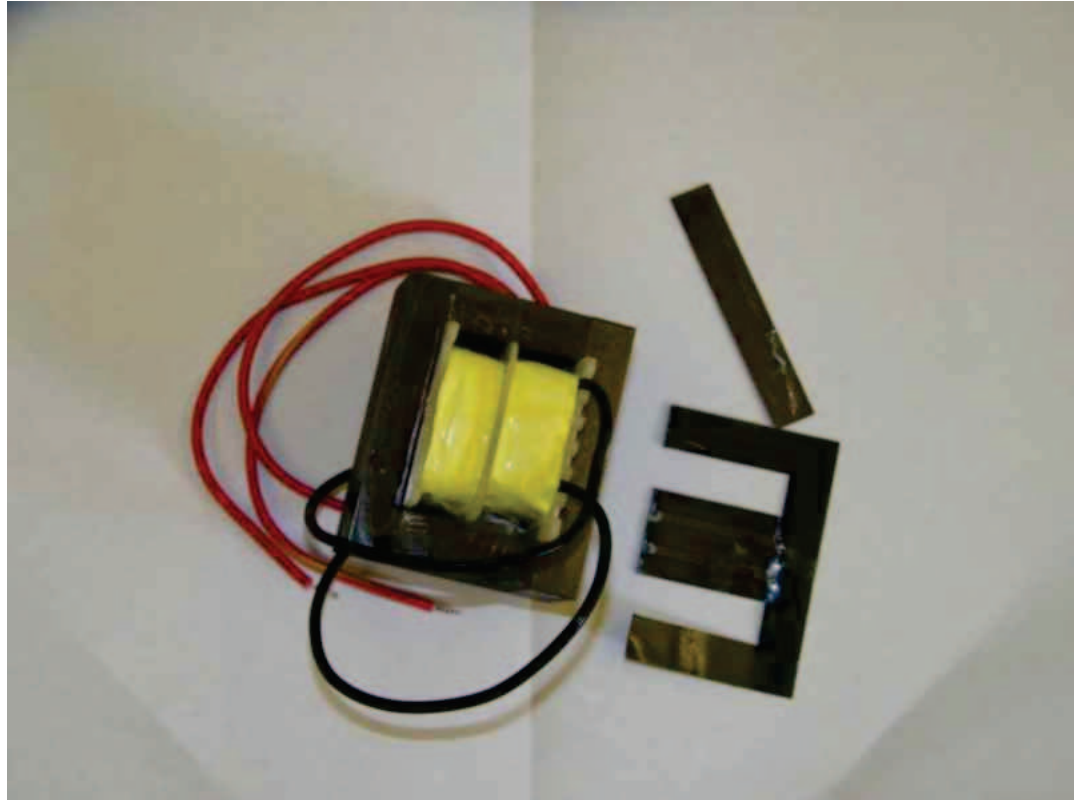


Closer Look.

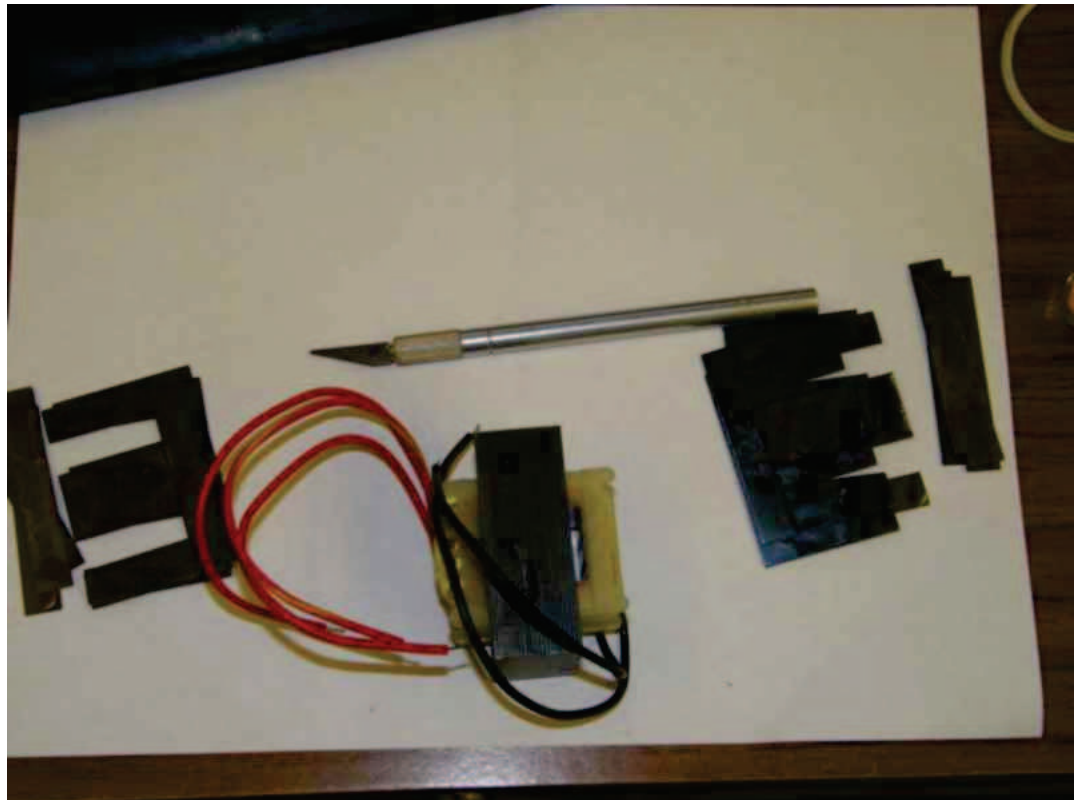




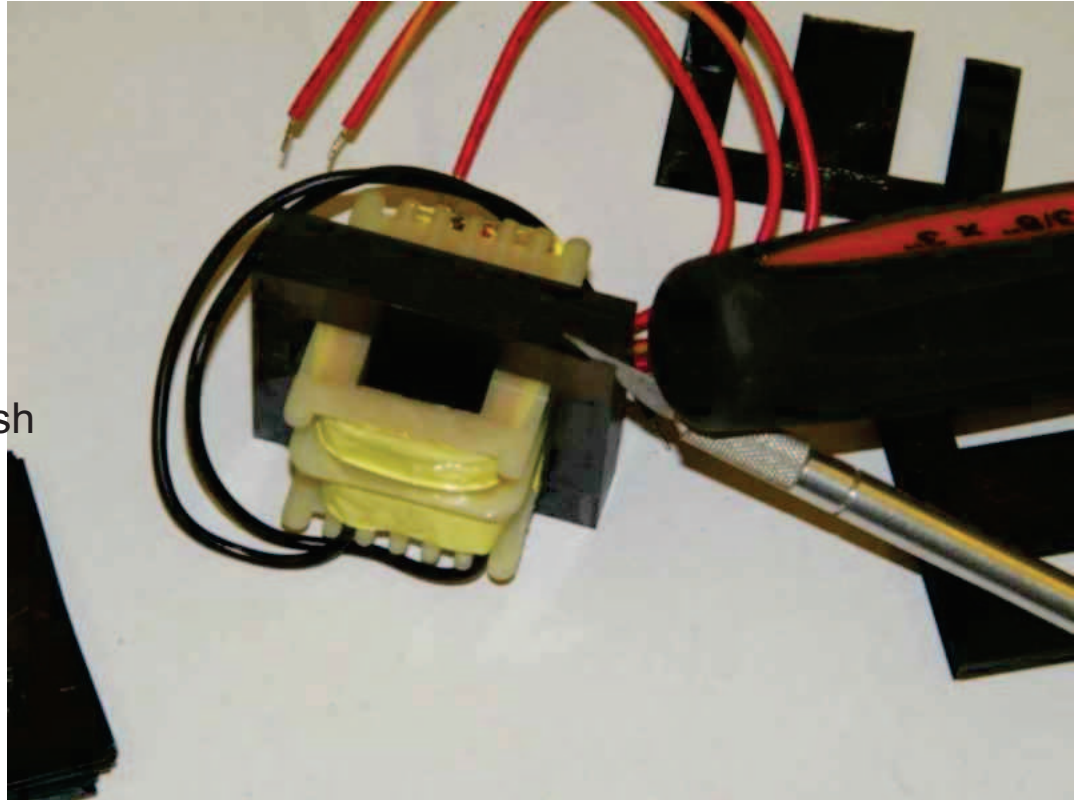
And the first E is free! It was modestly bent in the process and will not be usable in the final transformer.



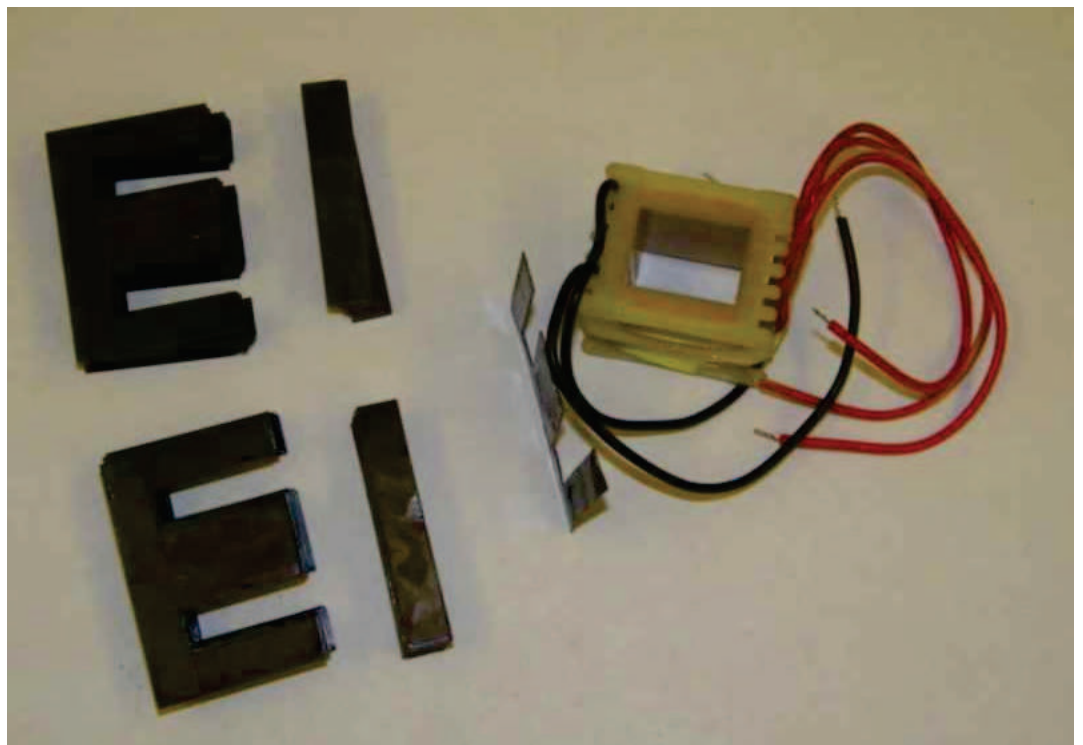
And here we go removing layers.



Removal technique:  
Set the edge of  
the X-Acto in the  
crack between  
laminations and  
then ... gently  
tap it with a handle.  
This splits the varnish  
without damaging  
the laminations.  
Much.

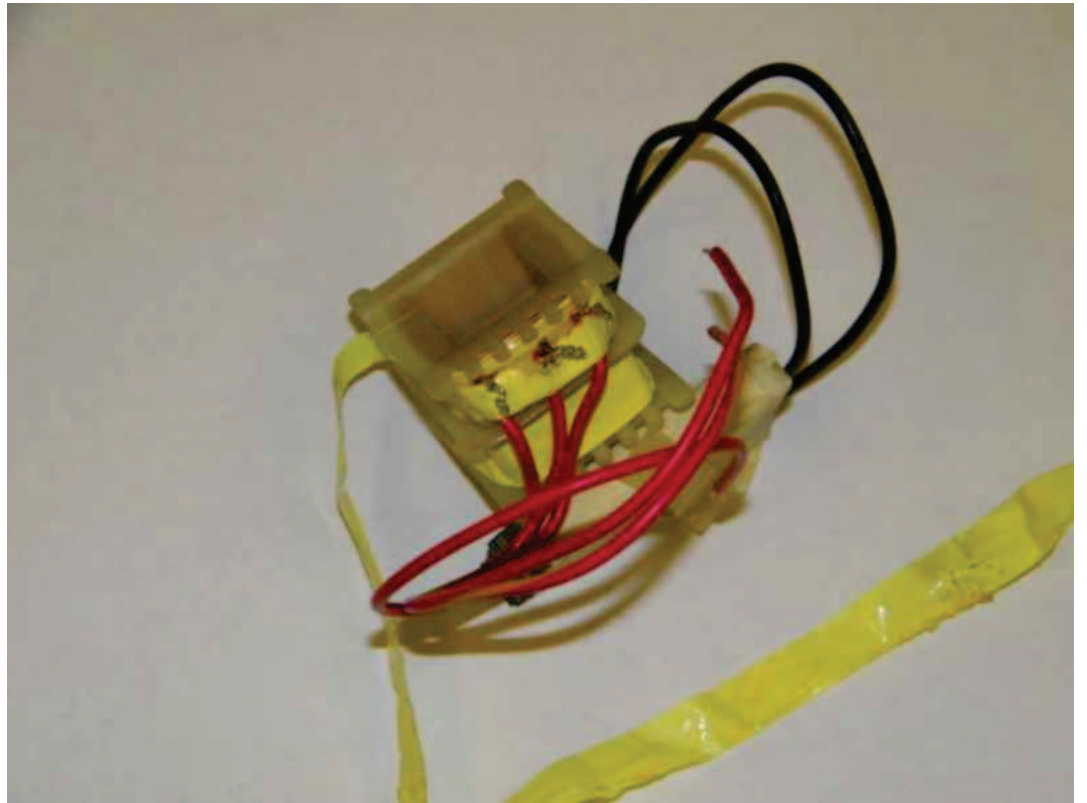


And here's the  
result of the  
lamination  
process.

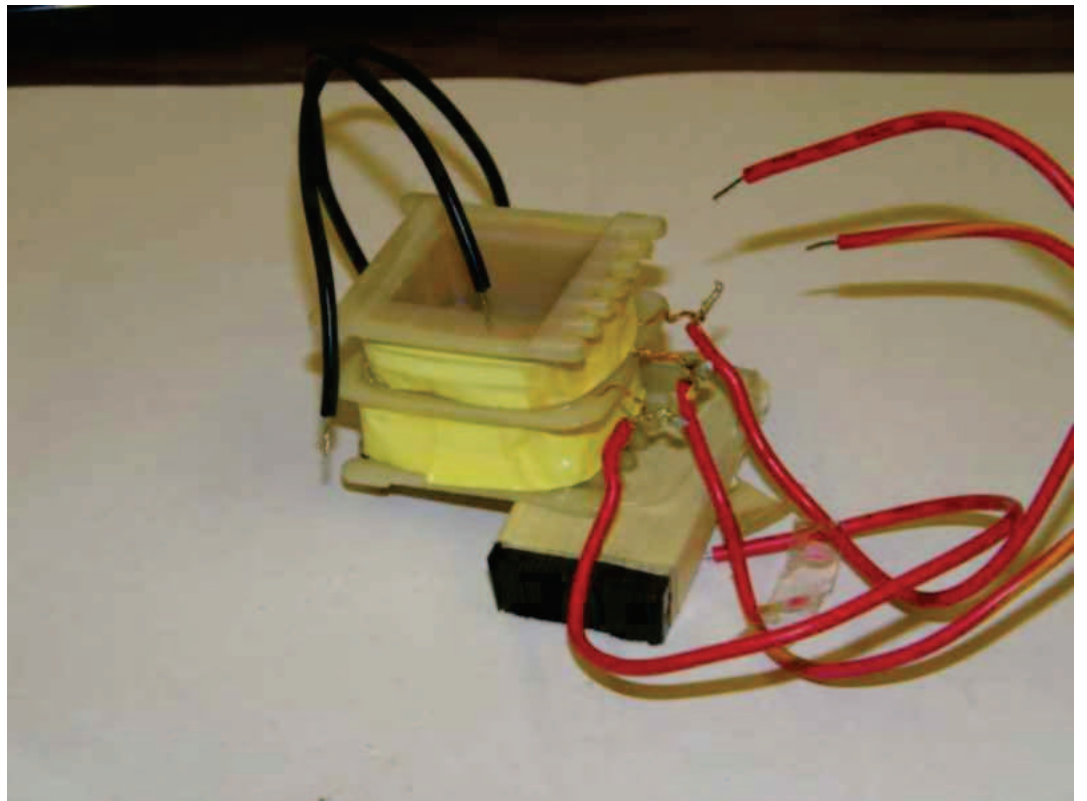




Unwinding the  
tape layers over  
the secondary  
winding



How the leads  
are attached



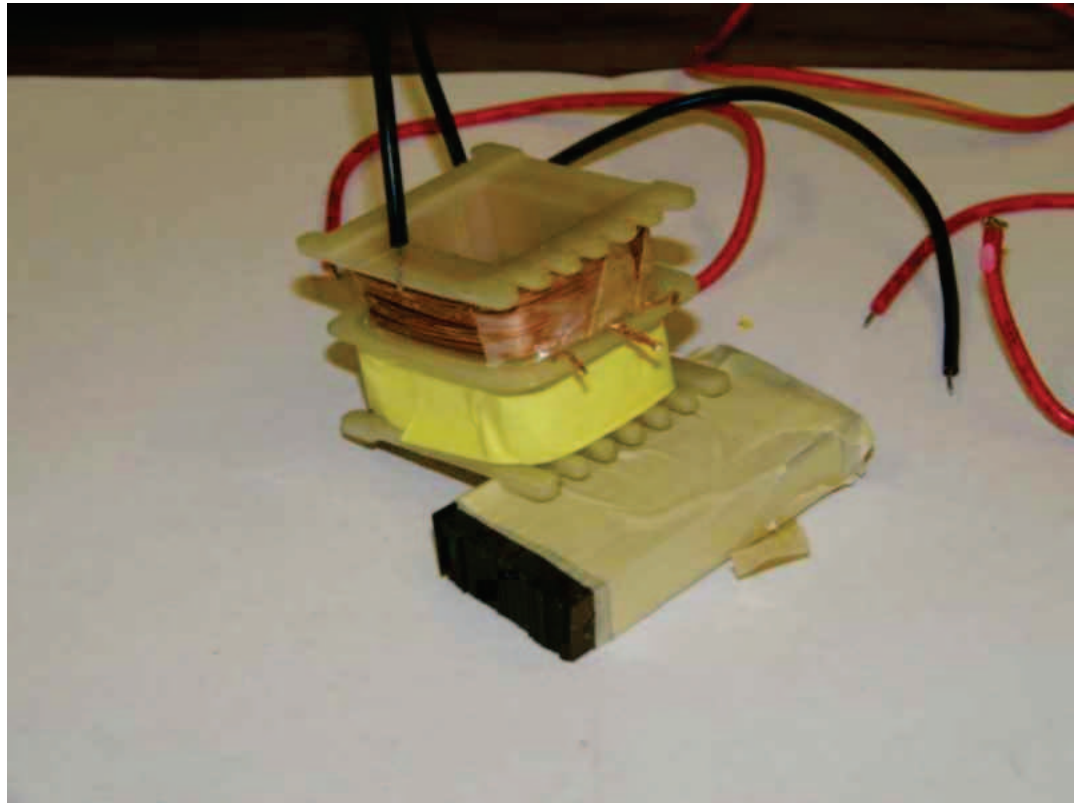
## Secondary wire exposed.

Note the wires held in place by tape on the winding.

At this point, you can un-wind, and rewind just the secondary and not ruin the safety features of the primary winding as long as you do not damage the primary in any way.

If you count turns as you un-wind, you will know the volts-per-turn constant for this core and primary winding and can just calculate the new secondary turns. In this case I counted 146 turns

on the total 24V secondary, giving 0.16438 volts per turn, or 6.08 turns per volt. That's actually an approximation. The maker says this transformer was 24.0V at 1.00A, but that it sagged typically 15% from no load to full load. So the loaded voltage is 24.0V. The unloaded voltage, and the voltage to use for volts-per-turn is  $24V/0.85 = 28.24$ , giving 0.1933 volts per turn or 5.17 turns per volt. There's a lot more to this, and some research and experimentation is needed if you're making a custom power transformer.



## And here's a transformer "kit".

