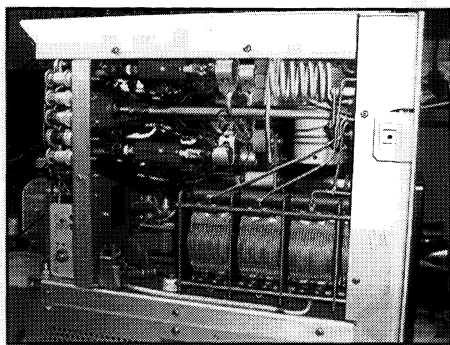


Collins 30L-1 Amplifier Band Switch Removal

by Bill Schaal K2YGF, photos by Kevin Shannon WA2ISC



30L-1 Amplifier - Figure 1

Amateur radio equipment, like any other electronic equipment, needs occasional repair. Even the vaunted Collins equipment is not exempt from the immutable laws of physics. When this eventuality does occur, it often involves partial disassembly of the equipment. Owing to the myriad mechanical wizardry of Arthur Collins' engineers, it is helpful to have advice and moral support from one who has previously done the same repair. Experience is the best teacher, and disassembly of Collins equipment often leads to the necessity to get it partially apart before understanding how the next section is to be removed.

I recently have been having problems with low and unstable output from my 30L-1. After searching the schematic for possible trouble spots, I came to suspect a problem in one section of the multi-section band switch. Figure 1 shows the 30L-1 with the covers off. Getting that band switch out is no intuitive task!

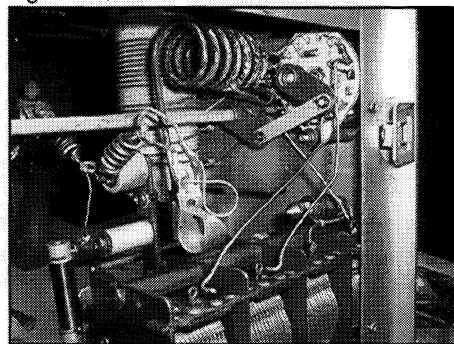
First, remove all cables and power from the unit. Also, remove the amplifier from its cabinet (four feet and one positioning screw on the bottom, and two panel screws on the top front). Remove the top cover over the finals, and the

bottom cover. Then remove the back cover.

After removing both top and bottom covers, remove the 811As and carefully set aside.

Set the band switch at 80 meters, and index the wafer position for re-assembly. Also, place both the tuning and loading capacitors to fully meshed. This will help prevent any bending of the rotor plates during subsequent operations. A piece of masking tape across the plates will further prevent damage.

Next, remove the loading capacitor connections to the switch, as shown in figure 2. Be very careful in removing these connections. The wires are quite stiff, and you don't want to risk damaging or breaking the capacitor's lugs. Also, watch out for the choke across the



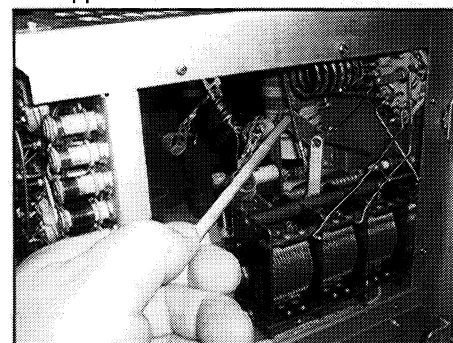
30L-1 Amplifier - Figure 2

first two sections of the loading capacitor.

Remove the screw that holds the coil to the coupling capacitor. Then remove the screws holding the switch linkage. These are, in typical Collins fashion, Bristol screws, and they are set with Glyptol. It will take some effort to break them loose. Be careful here, or you could strip out the screw heads. Bristol set screws are not that easy to come by, unless your junk box is bigger than mine. We lucked out, as one of

these screws was not tightened (I assume from the factory) so our task was lessened. See figure 3 for locations.

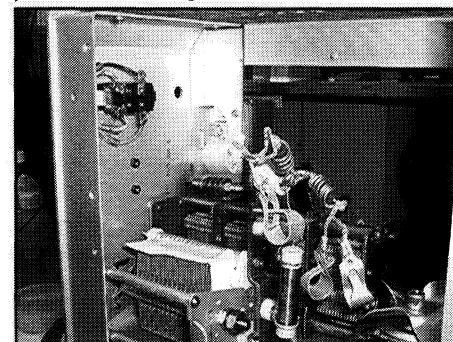
Once these screws are removed, put them in a little lacquer thinner to dissolve the Glyptol. You will find several locations where this fine GE glue product was used. While great stuff, it does make it difficult to remove these screws. I used a tap (4-40) to clean any Glyptol from the tapped holes.



30L-1 Amplifier - Figure 4

Remove the band switch knob, and the associated panel fixing nut. Then remove the two screws holding the entire switch assembly to the chassis. Finally, loosen the two Bristol set screws at the back switch section coupling, slide it back, and remove the coupling shaft, as shown in figure 4. This is the time that you should verify that the switch sections on the rear wafer are indexed! The switch linkage is a part of this assembly, so just thread it through the remaining components and remove.

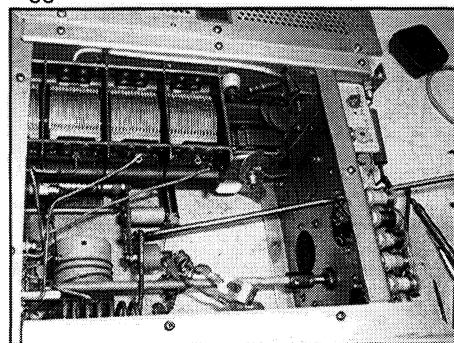
Carefully remove the entire assembly, which consists of all but the rear switch wafers, plus the two tuning coils. As a bonus, this then



30L-1 Amplifier - Figure 5

In this issue...

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30L-1 Amplifier - Figure 3

Collins 30L-1 Amplifier Band Switch Removal

by Bill Schaal K2YGF, Photos Kevin Shannon WA2ISC

(continued from page 1)

opens up access to another problem component, the main power switch. See figure 5.

Clean the switch contacts, as well as the coils. After 30 years, quite a bit of dirt will have built up. Since these components are all silver plated, I used Tarnex silver cleaner with great success. Wash the Tarnex off with water, as it is an etchant. Finish off the cleaning with a burnishing tool (not a file!). Before and after are shown in figure 6.

Lubricate all bushings I used DE-OX-ID, another great product! Then re-install the switch/coil assembly into place, and loosely install the two bracket mounting screws. Also loosely replace the front panel switch bushing and nut. Align the front and rear switch sections (you did index them, right?) and install the coupling shaft and tighten the set screws. Also, re-tighten the switch linkage coupling hardware.

Re-solder the connections to the loading capacitor, and re-bolt the coil to the RF bus. Install the final tubes and replace the plate caps. Replace back, top, and bottom covers. Finally, re-install the unit into the cabinet, reconnect cabling and fire it up!

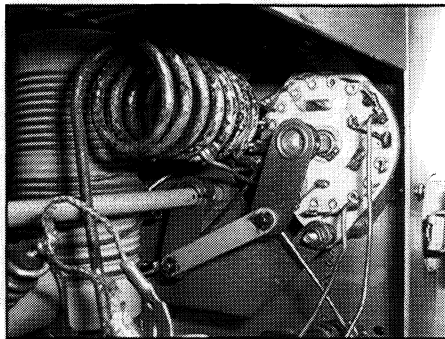


Figure 6 - Before 1

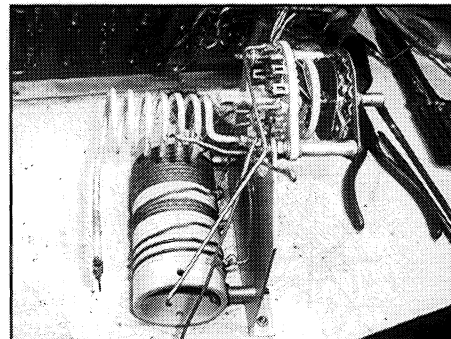


Figure 6 - After 1

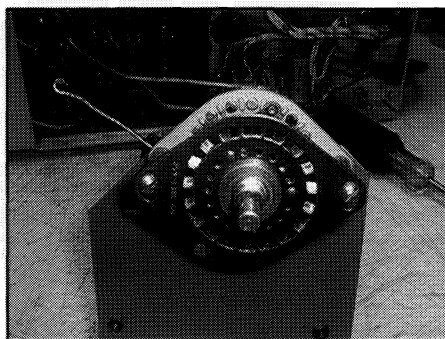


Figure 6 - Before 2

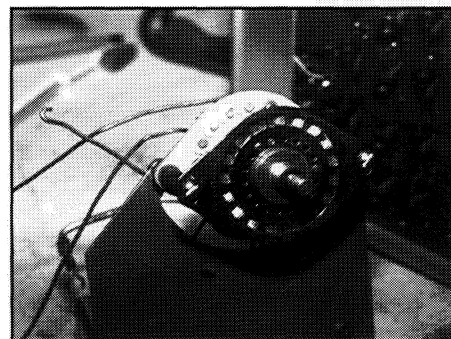


Figure 6 - After 2

Nothing Ventured Nothing Gained!

by Paul Mitchell N8QZ
mitchellrrc@worldnet.att.net

Within the past two years, I have fulfilled a boyhood dream of becoming the owner of a Collins S-line. As a novice (circa 1959), sitting in a friend's shack on Cape Cod, I can remember listening to SSB on 20 M from Saudi Arabia, India and South Africa! The mental images drove me to upgrade to General and now again to Extra Class.

Now that I've got your attention, what does a proud Collins owner/collector do about minor wear and scratches on the front panel. I checked the CCA home page for expertise and decided I needed to explore a front panel refinishing project for my 73S-3C. I had significant paint wear from 6 o'clock to 9 o'clock adjacent to the main tuning dial. There were also some other minor blemishes near the preselector tuning.

By e-mail, I contacted the vendors listed on the refinishing heading and John Bess WA5VVT replied that I could take care of the problem myself . . . just apply some of the (COL)PAINT-180 available from Surplus Sales of Nebraska <http://www.surplussales.com> with a Q-tip type swab. Not too heavy - just roll it on over the existing crinkle finish. Sounded too easy AND did I have the courage to smear

paint on my dream rig! I e-mailed John that I would try it over the next week end.

I have been involved in the specialty chemical coating industry for over thirty years and knew that preparation was the key ingredient in a successful application. If you have a similar situation, I recommend the following steps.

1. Use a very soft bristle toothbrush with a water / ivory soap solution. Go light on the soap so that you can rinse off the solution without additional contamination. Lightly scrub the area to be painted. I'd also suggest that you stand the unit on end so that the area to be painted is on a level plane.

2. Rinse the area with clear, warm water by blotting it with an absorbent paper towel. Rinse again. Rinse for the third time.

3. Follow the directions on the aerosol can. Be sure that the paint is at room temperature and continue to shake for at least two minutes after the ball bearing can be heard.

4. Carefully spray a small amount of paint into a small container lined with aluminum foil.

5. Mix the paint again with a cotton swab to insure that the pigment and solvent are fully blended.

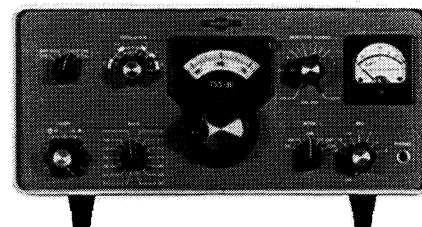
6. Take a small amount of paint on to the swab (DO NOT SATURATE!) and carefully roll it on to the area to be touched-up. Apply the paint very gingerly without creating puddles.

7. If a second coat is needed, allow the paint to air dry for at least an hour before applying.

8. Admire the work and restoration you have just accomplished!

THIS PROCESS MAY NOT BE SUCCESSFUL ON TOBACCO SMOKE CONTAMINATED SURFACES WHICH MAY REQUIRE A MORE EXTENSIVE CLEANING PROCESS.

The most important ingredient in this project was to muster up the courage to apply the paint in the first place. Get over it! My 73S-3C front panel looks like it just came from Cedar Rapids and my thanks goes to John Bess for the encouragement he gave me and to Nebraska Surplus for providing the matching paint.



Please Note: Some of the techniques and technical information discussed in the Signal are controversial and we invite you to share your knowledge and experience with us. Please send your letters and comments to the Editor.

Editor's Operating Desk

by H Michael Crestohl, W1RC/VE2XZ
Editor, The CCA Signal

This will be my last issue as Editor of THE CCA SIGNAL. It has been three years since I was asked to take on the job and it has been a lot of fun. However of late it hasn't been fun - more of a chore than anything else. To be honest I'm bored with it and it's time to step down and make room for a new Editor. The Signal will be a better newsletter with someone new at the helm - a fresh insight and a new burst of enthusiasm and energy is needed every once in a while to revitalize things and that time is now. I can use the extra time to get on the air more often and enjoy my equipment and my radio friends. If you are interested in being the SIGNAL Editor please contact KOFly Gayle Lawson or any of the Board of Directors members and I'm sure they will be happy to discuss it with you.

NET NEWS: Fall 2002

Peter, VE3KWM Net Manager
Dean, KA6BGW Asst. Net Manager

Hi Everyone: Well we've made it through another summer of high static levels, contests and the occasional bouts of QRM. Conditions have improved dramatically over the last few weeks with the weeknight SSB nets really coming alive.

10 METER AM NET: Speaking of staying alive, the Sunday morning 10 Meter AM net has survived a tough summer where only the presence of some offshore relay stations kept things alive. The propagation on 10 has also improved over the last weeks and check-ins are once again building as Pete, K5PZ; Russ, WQ3X and Bill, N6PY handle the net control duties. This is a great net and if you haven't checked in yet be sure to do so on Sunday at 1800Z on 29.050. At last report there were 425 plus station checking in with more than 40 of those qualifying for the "10 over 10" certificate. If you haven't got yours yet starting working on it now. They look great.

Special thanks to Jim, W0JLL, who has held down the 4th Tuesday slot for the last several years. Jim's taking a break and will be missed. Thanks, Jim, for doing such a great job on the net and I hope you jump back in down the log. Larry, WA9VRH, our Archive Manager and AM Net Co-ordinator has jumped into the breach. Thanks Larry, and welcome back to the sideband nets.

FIRST WEDNESDAY AM NET: Larry continues to co-ordinate the 1st Wednesday AM net which runs on 3.880 and starts at 8PM in each time zone beginning in the East and moving West. All net controllers on the 1st Wednesday AM net continue to do a fine job on this unique net. Again, if you haven't checked in please drop by. And you don't have to be

Indeed I have achieved my goals that I set when I undertook this job. I am very happy with the results of both the DEMIL Project and the manuals-online effort. I want to personally thank Sandy KW6KW for doing all the real work to produce the SIGNAL on time for the past 3 1/2 years. If you liked the look of it thank him.

Any club newsletter is only as good as what the members contribute. The Directors has offered an incentive of a years membership for anyone contributing a major article. This is a great idea and I look forward to seeing some revitalization in the SIGNAL in issues to come.


Good luck, good health, happiness and long life to you all. Hope to see you on the air and at some of the flea markets here and there.

running Collins AM gear to check in.

THURSDAY NIGHT NET: The 3.875 net ran into a few bumps over the summer but seems to be settling down now. With some AM QSOs occupying the frequency at net time it was tough to start the net without coming in on top of the AM ers. The solution was to QSY down from 3.875 to the first clear frequency then move back up as soon as 3.875 became clear. This seems to have worked well as there's usually a clear frequency nearby. So if you're looking for the Thursday night net and don't hear it then listen down and you should find it.

SUNDAY NET: Checkins are on the rise as everyone gets back from holidays, puts the lawn mower in the shed, tunes up the antennas and fires up the grey boxes. The format will remain the same with buy/sell/swap for the first hour followed by regular checkins taken by call district. We run 1,2,3,4,5,8,9,0,6,7.

We're looking for a new controller on the 4th Sunday with Tim, K6TIM, facing some heavy work commitments. Any member of the CCA with some power and preferably a beam interested in taking a slot please drop me or Dean, KA6BGW, an e-mail.

QRM -- Just a reminder to everyone including net controllers that the CCA policy regarding QRM is to ignore it completely. It's hard to handle, particularly when it's deliberate, but it's also easy to mistake innocent or just plain thoughtless QRM for deliberate interference. We've found that the best defence is deny the QRMers the attention they're seeking. If you experience repeated instances of what you conclude is deliberate QRM please let me or Dean or any of the net controllers know and we'll look into it further. We've received excellent co-operation from Riley Hollingsworth on this matter in the past. Hope to hear you all on the nets. 

Join Us on the Air!



- Sunday 14.263 MHz at 2000Z
- Tuesday 3805 kHz at 8pm CST
- Thursday 3875 kHz at 8pm CST
- Friday (West Coast) 3895 kHz at 10pm CST
- Sunday 10m AM 29.050 MHz at Noon CST
- 1st Wednesday AM 3885 kHz at 8pm CST

Sunday for Technical, Buy, Sell & Swap
Tues., Thurs., Fri., & Sunday for Ragchew

THE COLLINS VIDEO LIBRARY!

- The R-390A Addendum Video
 - The R-390A Video
 - The Collins Amateur Radio Equipment Video Spotter's Guide
 - The Collins 75A-4 Video
 - The Collins KWS-1 Video
 - The Collins KWM-2 Video
 - The Collins 75S-3 / 32S-3 Video
 - The Collins 30S-1 Video
 - The Collins 30L-1 Video
 - '91, '92 & '97 Dayton Videos
- also the PDC-1 kit that converts ANY average reading wattmeter to true PEAK READING even the Bird 43!

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The Dayton Experience

Tony, W9JXN

Dayton 2002 definitely dictated a change in wardrobe to jackets, sweaters, and long pants. The good news is that we didn't roast and come home looking like lobsters as in years gone by. I haven't seen the final numbers but I am certain that attendance was down again this year judging from the number of vacant spaces in the flea market as well as some inside. There was an abundance of good boat anchor equipment this year (albeit a little pricey) including a lot of choice Collins goodies. I did notice that much of it was still in place on Sunday as people were packing up although a lot of us did go home with some choice goodies.

The one thing that always draws us back is meeting up with and having great eyeball QSO's with our fellow CCA members. It's that once a year opportunity to get together and talk face to face comparing notes about our pet projects and telling "war stories". I personally had a lot of great discussions regarding AM and the reviving of some of the beautiful Broadcast transmitters that are now becoming available. Some even brought pictures of their projects to the banquet for a kind of informal show and tell over a couple of brews. Neat! And, of course, there is always the fun of seeing what the other guy actually looks like compared to what you had envisioned from listening to his voice on the nets.

From what I could tell, the new banquet location worked out well this year. The prime rib dinner was really excellent considering the number of people served in a relatively short amount of time. We have some things to smooth out regarding the pre banquet activities but that will be easier now that we know where the snags are. Unfortunately, some of our banquet programs were cut short due to time constraints. That too will be ironed out next year.

Due to the generosity and tremendous support to the CCA on the part of the door prize donors, we had a lot of people leaving the banquet with smiles again this year. Not only did Bob Heil generously donate one of his new Vintage microphones complete with arm for a raffle prize, he once again provided organ music to lend that touch of class to the evening's festivities.

I have my reservations made for Dayton 2003 and believe it or not, we have our spaces confirmed for next year already. If you have been on the fence regarding whether or not to attend Dayton or the CCA banquet, do it! It's all about getting together with a great bunch of people who all enjoy our great hobby of Amateur Radio and the restoration and operation of Collins radio equipment.



Theme Weeks 2003

Peter Lower, VE3KWM Net Manager

As winter approaches we'll be starting up our Theme weeks again. The Theme weeks feature a particular radio on the nets for that week and give everyone a chance to check in with their KWM-2s, 2As, KWM-380s; Gold Dust Twins etc. Theme weeks run on the Tuesday, Thursday and Friday nets:

Nov 5th, 7th & 8th: S-LINE Week

Dec 10th, 12th & 13th: KWM2/2A Week

Jan 21st, 23rd, & 24th: Gold Dust Twins

Feb 25th, 27th & 28th: Restoration & Trouble Shooting Week

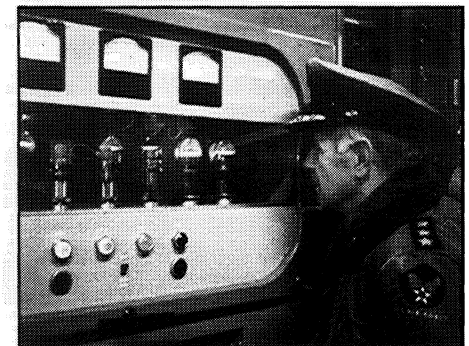
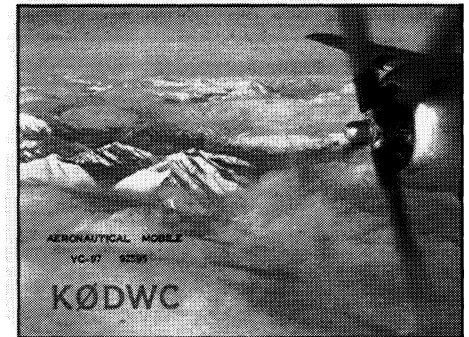
Mar 11th, 13th & 14th: KWM-380 Week

Apr 15th, 17th & 18th: A-Line & J-Series

Special AM Nights to be added!

Please vote! Your Election and Bylaws Ballot is enclosed with this issue!

In the Shack



AMATEUR RADIO F7FP
Confirming QSO of 1 April 1959
at 1415 JST C.S.T. 5/94 on the
15 Mtr. band.
KWM-1 73
30-S Francis H. Griswold
Lieutenant General, USAF

Here is Lt. General Francis "Butch" Griswold Aeronautical Mobile with a KWM-1/30-S. Please send us your shack photos for future issues. Email them to kw6kw@attbi.com. 73