



Issue Number Fifty Eight

Second Quarter 2010

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Panel Modification for Converting the 32S-3 Panel to the 32S-3A Configuration by Dick Weber, K5IU

Perhaps one of the most aggressive modifications that can be made to an S-Line receiver, transmitter, or KWM-2 is the conversion to its A version. The addition of a second crystal deck, deck selector switch, and wiring changes are not the issue with this conversion, though they are time consuming and require patience and experience with invasive modifications. The issue is the need to perform an irreversible modification to the front panel which, if not done properly, could permanently disfigure a rig in excellent condition. In my case, I was starting with a pristine round emblem 32S-3.

Conversion of 32S-3, 75S-3B, and KWM-2 units to their A version is covered by three separate service bulletins: 32S-3 SB7, 75S-3B SB3, and KWM-2 SB9. The steps in each of these service bulletins are essentially the same including the modifications to the front panel. After reading the service bulletins and looking at the way the panels of a 32S-3A and 75S-3C are built, I decided that the modification steps in the service bulletins should not be followed and that a different approach was needed. The results of my efforts are shown in Figure 1, which has before-and-after pictures and a picture of a factory 32S-3A with the frequency selector card and its cover removed.



Part of the conversion is the installation of a switch that is used to select one of two crystal decks. This requires switch mounting features that allow it to be sub mounted and not mounted directly

Figure 1: Factory 32S-3A, 32S-3 Before Modification and the Same 32S-3 After Modification

to the front panel. Fortunately Collins made the front panels of the A and non-A versions the same except for the panel overlay. The main panel for both versions has a 3/8 inch hole for the switch in a backing plate that is spot welded to the backside of the main panel. In addition, the main panel has a 3/4-inch hole that is concentric with the 3/8 inch hole in the backing plate. This hole provides a recessed area to accommodate the nut used to secure the switch. With the non-A version these holes are covered-up by the panel overlay, which does not expose the mounting holes. This is not the case with the A version panel overlay, which has a 3/4-inch hole that lines up with the 3/8 and 3/4-inch diameter holes beneath. This can be seen in Figure 1.



From the Editor's Desk & Dayton by Bill Carns, N7OTQ and Co-Editor Joe Nyberg, WILJN

Good quarter! Dayton was another resounding success, both in the swap arena and with the CCA banquet. Compared to the last few years, there was more than the average amount of Collins in the swap area and the inside CCA booth stayed very active the whole time with many new members signing up on the spot. Rod Blocksome brought a treasure trove of his Collins Radio equipment and memorabilia. During this quarter, the CCA has made good progress on getting a line of and CCA mono-Collins grammed/logo clothing out on the market and that should happen very soon. We are hoping to get the website work done which will link the member's only area of the CCA website with the discount for member's area of the supplier. I have seen samples of the work that they produce and the quality is outstanding. Look for a coming announcement on our reflector.

Speaking of the reflector, I am proud of all of you and the consistent high quality of the content there. I have "gone to the well" personally several times recently and there is always a lot of help there. Getting this reflector hosted is one of the services provided by the CCA and is aimed at the overarching goal of preserving the equipment and history of the Collins Radio Company.

I will take this opportunity to again thank our new 20 meter net manager Jim Hollabaugh, W6TMU, for all of his work with the Sunday afternoon 20m net. Thanks also go to all of the net controls and pre-net controls that are serving our members on, not only the 20m net, but the 75 meter nets as well. Congratulations on a reliable and consistently quality job. The gods even smiled on us last weekend when they trashed the propagation, ran off all the field day contesters and then, right after the feeble beginning of the CCA net, returned propagation to pretty much normal so that we had a decent net.

To change the subject, I would like to bring some light to a subject that has been building for a couple of years now. We all felt an extraordinary loss when we lost Bill Feldman, N6PY, way too early in his, or our, lives. Bill was a cornerstone of the CCA. He never served on the board. He never wanted any recognition and in many ways I think we took him for granted because he was so young in action and thought. Bill wrote many contributory articles about his Collins restoration work and he was a key factor in the success of the CCA 10 meter AM net. He was certainly "Mister Collins Radio" on the west coast.

Since his death in January of 2007 (A heart attack while biking at his beloved Mammoth Mountain home) – That's Bill, out biking in January in the mountains – there has been kind of a quiet groundswell for doing something to remember and thank Bill for his service and to show how much we all loved him. Almost everyone I have spoken with about this loss has been in favor of naming the CCA 10 meter AM net the "Memorial Bill Feldman" net. During this next quarter, I am going to bring this up in front of the CCA Board of Directors and. hopefully, make it official. With that purpose in mind, I would ask all of you to take a moment to reflect on Bill's contributions and, if you feel strongly about this - either way - please send me an email to my personal email address and let me know where you stand. I, most certainly, am in favor of this naming of our net, and would like to see this in place as we look forward to the coming return of 10 meter propagation. I hope to hear from you on this subject and the Board will act accordingly.

Finally, **Dayton**. What a great year. The swap had a decent amount of good Collins gear and Rod Blocksome brought a treasure trove of cool gear and parts (Even a 74A-4 "kit"). The banquet was very well attended with almost 90 dinners provided and the program by Bill Wheeler on his 20V-3 restoration was a huge success. There were almost as many door prizes as attendees, so everyone had a great time with that part of the banquet. If you missed this year, try and make it next year and I promise you more of the same.



Bill Wheeler at the Mic during his 20V-3 Program



Rod Blocksome, Friend and Supporter of the CCA, Retires From Collins Radio After 40 Years of Service



Rod and Elizabeth at his retirement bash

Friday, May 28th was Rod Blocksome's last day at Collins Radio. Surely it was a day which filled him with mixed feelings as his many friends gathered around him.

The day was capped off with a huge going away party in building 140 and I understand that there were over 100 people there. There was a tribute table set up with examples of many of the projects that Rod had worked on and lots of sharing of memories. Well deserved.

Some of our spies shared the fact that, although there were many other disciplines represented, the 3 hour long affair was heavily dosed with hams from throughout the company. His wife Elizabeth also attended.

Most of you know that Rod has always been ready and willing and has contributed to the goals and objectives of the Collins Collectors Association which closely align with his personal interest in preserving the history of Collins, particularly in the area of Amateur Radio. Rod was, and is, always ready to research an issue or look for some lost "factoid" that he thinks will further the preservation efforts. He, like the CCA, is particularly interested in archiving, not only the equipment history, but the folklore surrounding the development and production of some of the worlds finest electronic equipment.

Rod was employed by Collins for about 40 years depending on how you count it. He joined Collins in January of 1968 and this would put him at 42 years of service, however he took about 5 years total leave for 4 years in the Air Force and another year to complete Graduate School.



Honored with the above plaque, Rod worked on some significant projects over the span of his employment, some of which can still not be talked about, however he did work on the, now open, Commando Solo project which configured a C-130 as an airborne transmitting platform for transmitting propaganda at wavelengths from MW to UHF including AM, FM and Television capability. This system came into the public eye when it was credited with the surrender of over 60, 000 Iraqi troops during the first Gulf War. It is still in service. And then, of course, there was his significant contribution to the venerable HF-80 system, where he was the project lead for the 1 kW solid state PA and the 8022 10 kW tube PA. In later years he was very involved in developing the VHF and UHF comm gear, as well as the L-Band receiver for the CNI (Communication/Navigation & Information) system for the USAF Raptor.

On the side, and over the past 5 years or so, Rod has also been very involved with a side project involving other engineers at Collins in association with a private research group. This project has focused on the HF transmissions to and from Amelia Erhart's lost aircraft during its last hours in order to use propagation modeling to pinpoint a search area. Rod has also participated in the resulting searches and if you ever get a chance to see one of his presentations on this subject, do not pass it up. Very interesting!

Rod, from all of us in the CCA, we wish you the best in your retirement and certainly look forward to seeing you at future CCA and Collins functions, as well as working with you on future preservation efforts – as you have time of course in your busy retirement.



Replacing Your 30S-1 Blower Mounts or "Not so Bad After All" by Bill Carns, N7OTQ

The Service Line

I just finished this project on my 30S-1 and I thought that I would document the process while it was fresh in my mind and I know where the notes are.

I have often heard that this replacement is a monster. When I first realized that mine were completely gone, and looked at what was required to change them, I was also convinced that I was in for a hard go. After getting the job done, it was not so bad after all. It does take some planning and thought and it took me over 4 hours to complete the task, but it was not a monster.



Figure 1: The Challenge – Bad mounts all around

First, a word about tools. You will need a set of Bristol wrenches (actually two works better – a set of Xcelite straight handled ones, and a set of right angle ones.), and an Xcelite P-8 short ¼ inch nut driver with a tight head (or the equivalent). Doing it without this P-8 is going to get a lot harder.

A couple of cautions: Get a few soft medium size towels ready. There is going to be ample opportunity for scratching the metal in the compartment as you work things out of there and put them back, and you are going to want to pad the front panel when you take it off. Also NOTE that you are going to be working around the back components and the front barrier strips where there is a lot of opportunity to get the corners of brackets into the components. Particularly vulnerable are the back RF chokes. One wrong move with the corner of a

bracket and you will have a cut wire on the choke and you are in big trouble. You will see how important this is as you get further into the removal and reinstallation of the brackets and motor. Just go slowly and think a lot about what you are going to do. A couple of layers of blue painters tape over those chokes would not be a bad idea.

OK, Let's get started. Take off the lower front door if you have not already. Start in the upper amp compartment by removing the two top #10 PHP SS blower mount center screws. These should each have a bronze lock washer and then a SS flat washer on them. Keep all the parts and screws organized with their matching parts and



Figure 2: Front panel down showing the location of the two accessed bracket screws







Figure 3: Removal of 3 rear bracket screws from inside the P.S. compartment - Looking up

this will be a big help getting it back together. Now remove the knobs carefully. Use an Xcelite #9966 on the big knobs and #9963 on the small ones.

Remove the top 3 grey painted #6 FHP and the 4 grey painted FHP ones under the front trim ring on the bottom of the head assembly. Be very careful when you are getting these screws out as they fly out of your hands, drop on top of the transformer and bounce back into some un-findable and unreachable cavity - somewhere never to be seen again....Ask me how I know that. Now, remove the front panel and let it drop down padded by a towel. See Figure 2.

Carefully mark the position of the TUNE scale bushing on the shaft for front to back and rotational alignment. Now, using a right angle 9963 size Bristol, loosen the two set screws on the TUNE scale bushing and remove it. Put it aside carefully on a soft cloth.

Remove the two #6 PHP SS screws that hold the front right angle bracket for the front top blower shock mount. Be careful to catch the flat and the lock washer. These screws go through slots. Note the position of the screw in the slot after removing the first screw. These screws are typically up about a third of the way in the slot and are used to adjust the load evenly on the two top mounts. More about that later.

Temporarily, after lining the bottom inside portion of the trim ring with very thin blue painter's tape, put the panel back in the trim ring top first and then bottom. Now, lie on your back and reach up into the bottom of the amp head and locate the three (slightly different plating color in my amp) bracket Phillips sheet metal screws and take these out. At this point, you should be able to work the back chassis bracket out of the amp working around the motor and being careful of the transformer in back of the bracket.

This is where you will need a special tool. Use the P-8 (1/4)inch) short (about 2 ¹/₂ inches) nut driver and remove the three hex head black screws that mount the axial blower (and the motor) to the floating bracket. These screws are located on the left (outside) of the motor suspension bracket around the motor. The top one is just to the side of the oil access hole. You might also be able to use a $\frac{1}{4}$ inch drive with a ¼ inch socket and a very short extension, but the clearances are real tight in there. I don't think this will work on the back screw. The P-8 has a ¹/₂ inch hex handle and I used a small ¹/₂ inch open end wrench on the handle to break these screws loose. After a couple of swipes with the open end, you can then remove them by hand with the P-8. My experience was that the P-8 has a tight enough socket opening that it captures the screw nicely. This is REAL IMPOR-TANT when it is time to put everything back together.

Now that the bracket is loose from the blower, work the floating blower bracket back off of the motor being careful of the components on the rear vertical baffle and the front interior



Service Line - 30S-1 Blower Mount Replacement (Cont'd)



Figure 4: "Stored" Blower - Ready for cleaning and installation of new mounts

panel divider. Now, using a good sharp Exacto knife, cut the rear cable lacing on the blower power cable that holds it together with another wire bundle in tubing. You will need this slack to get the motor out and parked up on the front trim ring area on a towel. Now lift the motor out and "store" it on the trim ring area with the cage opening up so that you can clean and vacuum it. See Figure 4.

Note that the lower blower shock mount just slides down and sits on a #10 long stud that sticks up from the bottom of the RF amp head. You do not need to remove this stud. Remove the inner shock ferrule from the stud if it did not come out with the bracket and mount. All three of my mounts were completely torn off, so I had pieces to remove.

Now clean all of the removed brackets and the bottom of the amp RF compartment since there is probably a lot of blown around oil in there. Now is a good time to also use a dry paint brush to get all the inside blower dirt loosened and the blower cage area vacuumed out.

Replace all three of the shock mounts by carefully spinning the bracket around to get to them all. All three of the long ends of the replaced mount bushings should aim into the motor area. This is another place that you have to be very aware of where the bracket corners are so as not to ding the RF chokes and bend other components and wires. See Figure 5.

Now, time to reassemble by re-

versing the process. Return the floating blower bracket to its correct "bottom mount down" orientation and then work the motor back into the amp and then the bracket. This takes some cerebral time and rotation/tipping of the motor. Again, watch those components.

Replace the two mount brackets with their 5 screws. Tighten the back three bracket screws that you reach from the underneath and then loosely tighten the two front bracket screws that you access from the front panel area and set them at about 1/3 up in the slot. We will adjust these after the blower mounts are back on their mounting screws.

<u>BIG CAUTION NOW</u>: Now the weight of the blower and motor and the bracket are on the lower mount and that stud is sticking up down there. Reach underneath and feel where the bottom of the shock mount is in relation to the stud sticking up and position the soft rubber thin mount to the left – looking from the front – of the stud – COMPLETELY CLEAR OF THE MOUNT.

If you mess this up, you will wind up maybe punching the stud through the soft rubber area of the mount. Positioning the mount to the left will leave the mount protected and the motor and bracket slightly tipped up where you can put in the three black hex head screws that hold the bracket to the blower. Now, put in the top black hex screw that you can see the most easily. Leave these







Figure 5: New mounts in place – Note the position of corner of the bracket - Careful here!

screws one turn loose to start with so that you can get good alignment on all three screws Then replace the screw that is on your right and to the side and then put in the one that is towards the bottom of the ring slightly to the front. When you put the last one in, you will have to reach under the motor with your left hand and pull the motor toward the frame or you will not be able to get the screw started. Keep the mount clear of that stud and be real careful to not cross thread these screws. They should start easily. Now tighten all three screws with the P-8 until they are as tight as you can get them by hand. Now use the open end wrench on the handle of the P-8 driver and torque them correctly. BE CAREFUL to not over tighten these with the open end. You have a lot of leverage with that wrench.

Now, reach in under the lower motor mount with your left hand, locate the mount and the center hole with your fingers, hold the top of the mount frame with your right hand and lift the entire blower frame assembly up and place the CEN-TER of the mount bushing over the top of the tall #10 stud and let it slide down over the stud. Make sure it is down all the way while keeping the two top center shock mounting holes aligned with their respective mounting holes. Put the two long #10 PHP SS screws back into the top mounts and brackets and tighten them.

Take a small scale, or something you can measure with, and adjust the spacing of the



Figure 6: Back together! 4 Hours Later! Don't Forget to Take the Blue Tape Off the Chokes



Service Line - 30S-1 Blower Mount (Cont'd)

mount frame to chassis brackets until they are even and just a hair over 1/8 inch top to top. There is no nut on the bottom stud. Tighten the front bracket screws that are accessed from the front panel area.

Inspection time. Check to make sure that the blower exit port is pretty snug up into the hard foam surround. Then, check all wiring on the back chassis divider, remove any protective tape you used on the chokes, check the cable routing around the back of the motor around the small transformer and over to the big transformer. Make sure nothing is trapped. Check, and reform if necessary, any capacitor leads on the front barrier strips being careful to gently bend any reforms so they don't break off.

Now, using your previous marks, a good vertical zero setting - at min capacitance - not against the stop (They are slightly different) - reinstall the TUNE scale and tighten both set screws with mild pressure only. We do not want to make burrs here. As a check, the TUNE and LOAD scales should be coplanar. They should be just clear of the pilot lights. If they are too far out, you will have rubbing when the front panel is reinstalled. There is not a lot of clearance in there when the front panel goes back in. Now, replace the front panel by putting the upper edge in first JUST INSIDE of the trim ring front lip. If it gets in too deep, you will have too much angle at the bottom and the flange will scrape the trim ring paint more as it goes in. Now, push up and back on the lower corners of the overlay panel. If this overlay hooks on the trim ring, it can pull out a corner and this ain't pretty.

Work the top and bottom in slowly, pushing at the overlay corners, until the top and bottom screw holes are just short of perfect alignment. This takes some peeking at the top and bottom as you go, but it is important not to go too far. Then replace the painted screws and let the screws pull the panel into alignment. You should wind up with no rubbing scales this way. Check full rotation of TUNE and LOAD.

Now, polish up the inevitable scratches on the trim ring, put the knobs back on and you are ready to go. Don't get the multimeter knob back against the nut. Space this knob out the same as the band switch knob and that will give you the correct clearance and it will look good and not interfere with the nut.

So, not a monster – Eh? But a good afternoon project for sure.

Enjoy your new quieter blower and your 30S-1. What a great amp.

By the way, I will tell on myself and make a recommendation. Right before I left Arizona 4 years ago, I had been using the 30S-1 and when last turned on, I had lost idle current. I had HV but no idle current. I did not have time to trouble shoot the problem, so it had its tube removed for packing and moved that way. Last month, when I was bringing up the amp, I put the tube back in, checked the supplies and bias and fired it up. Sure enough, no idle current and a quick look at the tube showed the filament open. My guess is that the blower mounts had failed in Arizona, not during the 3 years in storage during the move, and that the last time I had had it on, with the blower itself sagged severely out of the air intake duct, that the tube overheated, lost seal and lost the filament. So, the lesson is – especially if you have an older amp with original or very old blower mounts - open that lid once in a while and check those mounts. They should be pliable, look good, have no cracks in the rubber and when you lightly tap the blower up and down, they should spring right back. If they are healthy and pliable, tapping lightly vertically should make them flex, but not rattle the loose bottom bushing. Go lightly...pound on it & it will rattle. The brackets should not sag against each other.

73's from N7OTQ 512 847 7010 wcarns@austin.rr.com

Author Information:

Bill Carns, N7OTQ, is currently a member of the Board of Directors of the Collins Collectors Association and serving as President. He graduated from the Univ. of Illinois in 1965 with a MS Degree in Plasma Physics and a BS in Electrical Engineering. Bill's career ranged from technology development and management to business and marketing - ending with a consulting company in business development. He writes occasionally for the Signal.

----- CCA -----



32S-3 to 32S-3A Panel Modification (Cont'd)

Modifying the front panel of a 32S-3 requires cutting a 3/4 inch diameter hole in the panel overlay that is concentric with the two holes beneath. There are three parts to accomplishing this. The first is to obtain a proper tool to cut the hole in the overlay, the second is to locate the center of the new hole in alignment with the center of the hidden holes, and the third is actually doing the cutting of the hole in the overlay. I'll cover these one at a time.

The service bulletins say to use a spot face drill or counter-bore and states how to locate the center of the hole in the overlay. These are not the best tools to use and, although dimensions to locate the hole are given, it is highly unlikely you will actually create the new hole in accurate alignment with the hidden holes. The method I used gets around these problems.

My approach was to use a 3/4-inch hole saw with a specially built pilot to position and hold the saw in place. To make this work, I created 3/8 inch hole in the panel overlay in-line with the 3/8 inch hole on the panel backing plate – more about how to do this later. I then used the 3/8 inch hole in the backing plate as a pilot hole for the hole saw that had a 3/8-inch pin as its pilot. With the pilot of the hole saw in the 3/8 inch hole in the backing plate, the saw can't wander and the saw will cut a hole in the panel overlay in alignment with the existing 3/8 hole used to mount the crystal deck switch. The tool I used is shown in **Figure 2.** I bought a Lenox brand hole saw from Grainger, part number 1PMC9. It comes



Figure 2 & 3: The Common Hole Saw with Specially Fabricated 3/8 inch Dia. Pilot

with an arbor that uses a 1/4-inch drill as the pilot. These are shown in **Figure 3** along with the specially built pilot I had made, which was used in place of the drill. The shank end of the new pilot is 1/4-inch diameter to fit in the arbor while the protruding end is 3/8-inch diameter.

After measuring my existing 32S-3A, I developed an easy way to find the center of the holes beneath the panel overlay. The center of the holes is 1.5-inches up from the center of the band switch hole on a line between the center of the band switch hole and the center of the hole for the exciter tuning control as shown in **Figure 4** (Pg 10). It just so happens that both control shafts have a flat allowing you to use the center of their mounting holes as a datum by using the flat as a datum surface to measure from. You can do this because the flat is on the centerline of the shaft forming a half round. To use these, I folded piece of paper to make a straight edge cut to length to fit between the flats. Put a line 1.5- inches up from the edge which is used to contact the flat of the band switch shaft. Use this line and the edge of the paper draw a cross hair that defines the center of the holes beneath the overlay.



32S-3 to 32S-3A Panel Modification (Cont'd)

THE



Figure 4: Locating the New Hole Center for the Panel Cut-Out

After the cross hair was drawn as shown in **Figure 4**, a small center punch was used to locate the center for the first of a series of holes that were drilled. The aim was to create a clearance hole in the overlay so the pilot of hole saw could use the existing hole in the backing plate as the pilot hole. The first hole drilled was a 1/16-inch hole. I then used increasingly larger drills to enlarge the hole in the overlay as shown in **Figure 5**. This was done to slowly increase the diameter of the hole to potentially avoid gouging or snagging the overlay or the hole in the backing plate when using a 3/8-inch drill first thing.



Figure 5: The Drilling Process Used a Paper Bib to Cover the Bandswitch and Created Increasingly Larger Holes



32S-3 to 32S-3A Panel Modification (Cont'd)

After each drill went through the overlay, it was used to "mill away" the edge of the overlay to move the hole's actual center to be more in-line with the 3/8-inch hole in the backing plate. The last step was to use a 3/8-inch drill. In this step, I started the drill by hand and used it to do a bit more cutting of the edge of the overlay. I didn't want to use a power drill to do this at first as the drill could possibly snag the edge of the overlay. (Even though the hole saw was going to remove a 3/4-inch plug containing the newly created 3/8-inch hole, I did not want to do anything to potentially damage the overlay, such as a wrinkle, that could extend beyond what the hole saw was going to remove. Also the resulting 3/8-inch panel overlay hole can be oversize because it is only used as a clearance hole.)

After the 3/8-inch hole was created in the overlay, the hole saw was used to cut out a donut shaped piece of the overlay as shown in **Figure 6.** The 3/8-inch special pilot of the saw was entered into the hole in the backing plate after passing through the 3/8-inch hole just drilled in the panel overlay. Sawing was straightforward, but should be done without feeding the saw into the cut too fast. While doing this, the value of the modified hole saw was evident because there was no way the saw could wander off center and the resulting hole was certain to be concentric with the holes beneath the overlay. I need to point out that no cutting fluids were used - all drilling and sawing was done dry.



Figure 6: Using the Hole Saw Carefully Just Exposes the Chassis/Panel Holes Beneath the Panel Overlay

After cutting the overlay using the hole saw, all chips and debris were cleaned up - then began the mounting of new parts and the wiring. This was an interesting adventure not without issues along the way. This is a story in itself, but all ended well. The final result is shown in **Figure 7**, which also shows the new name plaque that was fabricated and installed.

If you're going to convert a non-A version S Line rig to its A version, I suggest you modify the panel using the method I used or a similar one. With my method the cutting tool will not wander potentially leaving an unsightly scar, it will be relatively simply to locate the center of the holes beneath the panel overlay, and you won't need highly specialized tools or equipment.



32S-3 to 32S-3A Panel Modification (Cont'd)



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Author Information:



Figure 7: The Finished Product

Dick was first licensed in 1960 and became an Extra class in 1974. He works CW only using his S Lines, but occasionally checks into CCA nets to be sure they work on SSB. His interests during his ham radio career cover a wide range. At one time he was a die hard CW DX contester including holding a world title for five years. He is now a casual DXer and a very active antenna experimenter and antenna computer modeler. He has published numerous articles in QEX, CQ, Ham Radio, and Communications Quarterly covering the mechanical and electrical design of antennas. In addition, Dick has given numerous talks at Dayton, Ham Com in Dallas, at ham radio clubs in the Dallas area, and at the W5 DX BASH. He also founded Rotating Tower Systems, Inc. which, for sixteen years, built hardware to allow construction of a rotating tower using commonly available tower sections. (Rotating Tower Systems is currently owned by K7PN and continues to make Dick's designs.)

At this time, Dick's main interest is working on his S-Lines and using them on CW. Dick says the Collins bug has really bitten him and that he now has the proper test equipment to work on them. He also relates that, like a kid, he can't wait to get home from his job to work on them and loves every minute of it. It seems that, somehow over the past several years, more than one S Line has mysteriously found its way to his QTH.

While not enjoying his S Lines, Dick works for Raytheon, a defense contractor, where he holds the title of Principal Engineering Fellow. He is a mechanical engineer holding multiple degrees and has 27 US patents, over a hundred foreign patents, and has published articles in the professional literature. He is also a registered Professional Engineer. As such, he has helped a large number of hams with their tower building permits including several CCA members.



WBOYNX, Tom Brosamle SK



Difficult to write this. It was a shock earlier in the week to hear of the passing of one of our very active members, Tom Brosamle, WBOYNX. Our hearts go out to all of his other friends and to his family.

It would be easy to focus here on Tom's ham radio activities and his CCA connection. There will be a bit of that, but.....

Tom was so much more than that.

THE **SIGNAL**

Tom loved life and lived it with passion. He was a "doer" and his interests were various and his accomplishments many. First on his list of passions was his family, and he leaves behind a son Jeffrey by a previous marriage, and his beloved wife of 46 years, Sheryl, and their two daughters – Jill and Joey.

Tom's career ran the gamut from his early experience in sales, ownership of a Conoco service station and experience as a boat mechanic, to a partnership with his parents and eventual sole proprietorship in the family laundry business which he then expanded and sold in the mid-80s. Following this, Sheryl and Tom went into the antique business which is still in the family. He also was a key contributor to many area large development projects and sold this business after 18 years of successful efforts there.

Along with a busy family life and business career, Tom always found time for giving to his church and the community and after retiring from the National Guard, flew mercy and service flights in his twin engine aircraft. Along the way he started and ran a successful racing team.

At the time of his passing, Tom was active in the CCA, a Board Member of the 3900 and Siouxland Amateur Radio Association clubs, a member of Morningside Lodge 615, member of the Harley Owners Association, Captain of the Abu Bekr Cycle Escorts and President of the Friends of Lathum Park.

We all knew him from his CCA connection and his service as a 3805 CCA net control - as well as his involvement with an extensive collection of amateur radio gear, but behind that, he was a wonderful friend and contributor to his family, friends and society in general.

We miss you Tom. Best 73s from the CCA and your friends here.



You all know by now that Collins Radio was far from just an Amateur Radio manufacturer. And, you know that ham radio sales never were more than about 1 % of the Collins Radio gross income. That is not to say that Amateur Radio products were not a very important part of the Collins portfolio. These "ham" products were, in fact, a valuable platform to display the Collins technologies and a door opener for many other businesses.

Collins was historically a leader in many fields. These ranged from Government Communication to Commercial Communications, on to Broadcast Equipment, Microwave Transmission and Multiplexing gear, Aerospace and one of their real fortes, Commercial, and eventually General Aviation, avionics.

What you may not know is that Collins made an incredible impact in the fields of Navigation and Control related to Commercial Aviation. Collins Radio was the inventor and developer of the TVOR system (Very High Frequency Omni-directional Radio Range) which is still in use today. They also developed the first true Flight Director Auto Pilot system for commercial aircraft and went on to do some of the leading edge work in zero zero blind landing systems. All are still in use today. Art Collins personally contributed several of the key patents and ideas related to the TVOR and the Flight Director systems.



Part 1 of In the Shack of KOCXX—Finally by Bill, N7OTQ



This is a little article that has been in the making for almost 20 years. Not long after I started collecting Collins, I realized that, for me, collecting was as much, or maybe more, about the people surrounding the collection than it was about the equipment. I started seeing a day when the col-

lection would be operational and displayed in order to honor the people of Collins Radio and the collectors that have become close friends as much as ham associates.

The collection has had three homes now – this is the last – and it is finally where, and what, I want it to be. Almost 100 pieces of Collins gear are on display with eventually about 80 of them being operational at any one time. I now have 7 of the 12 operating positions on the air.

More importantly, the pictures and stories of the folks of Collins Radio and some collector friends are starting to appear on the walls so "The Story" can be told. I am going to publish this in two consecutive issues and the objective is not to impress, but to entice. I would like to entice you to visit. Come join me in operating some really important historical pieces and come enjoy the friendship and common hobby that we all share.

There is a reason that the first thing constructed was a welcoming lit path to the building





In the Shack of KOCXX (Cont'd) Part 1



and that the first thing finished was the entertainment room (with some equipment of course) with a wet bar. How would you like to share a glass of wine and sit at Buck Owens' 212F-1 mixer board from his original Bakersfield station in the 50s.

Now that is AMing.



The building is nestled in the woods about 150 feet from the house, is about 2600 sq ft on two stories, with 200 amp service and 5 electrical systems – another story – has about 1200 sq ft of air-conditioned shack divided into 5 rooms, a working shop and equipment storage area for equipment and parts that is finally (after the move inventory and unpacking process) well organized and, unlike



its last two predecessors, it is finished.

The 12 operating positions in the 4 "shack" rooms cover the span from 1934 through to the mid 80s, AM, AM Broadcast, FM (marine), SSB and ISB modulation as well as several generations of Collins employees.

----- CCA -----

From the President



I want to welcome all of the new members this last quarter. While the renewals were predictably a bit down due to the economy, the renewals and post renewal re-ups, and the state-of-the-nation is much to my liking.

The nets, with the exception of the still missing 10 meter propagation, are running well thanks to all of the dedicated net managers and net controls. I hope that you are all enjoying these, and if you are not checking in to one of the many nets that are offered, I would encourage you to do so. Particularly, I would like to see you all coming up with those Collins equipped stations and showing off your wares.

My thanks go out to Pete Zilliox, K5PZ our Membership Chairman, for his efforts. Due to the many late renewals and new members – as well as some logistical problems regarding



the membership certificates, Pete has not had an easy go here in the last quarter and he has been doing yeoman's duty. Pete is still in the middle of a very active consulting career and keeping up with the CCA flow has been challenging. It is much appreciated.

Jim Green, WB3DJU, should also get a special mention for his work on the books as Treasurer. Jim has had a very active travel schedule and continues to serve.

Lastly here, but covering all of the many volunteers, I particularly want to thank board member Jim Stitzinger, WA3CEX, for his superb efforts at organizing and pulling off a great Dayton Hamvention and Banquet for the CCA. Jim picked up a big ball when Tony Sokol was taken ill and Jim pulled off a great show. In addition, he did a superb job of recruiting door prizes for the banquet, and for the first time, I was afraid that we were going to run out of raffle tickets before we got to the end of the door prizes. There were over 85 attendees at the banquet and all but 5 left with big smiles on their faces. All in all, a wonderful time had by all and another very good quarter.

I have made major progress on the build-out of the K0CXX Comm Central Southwest operating positions and now have much of the equipment on the air. I am still embroiled in getting this finished, but am making more of the nets.

Vy 73s and look for K0CXX on the bands. Visitors are sure Welcome.

Very 73s for now, Bill

From the Editors' Desk (Cont'd)

To close on a sad note, this issue contains an article about Tom, WBOYNX and his untimely passing. At the last minute, we also learned about the death of John, N9BUU. An article about John will appear in the next issue of this *Signal Magazine*. Our condolences to both families.

That's it for this quarter. Best 73s to all and enjoy your Collins.

Best 73s de N7OTQ <u>wcarns@austin.rr.com</u> 512 682 7219 (Cell & VM) 512 847 7010 (Home & Fax)

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