

2020 February Aruba Trip Notes Tower/Antenna Refit (2) and ARRL CW

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(public version)

Sunday, February 9, 2020. Up at 3:30 a.m. to drive to the house of John Fore, W6LD, in Atherton, where we did some suitcase repacking. I had a 47-pound suitcase (heavy items are a rebuilt rotor and a bag of tools, though not as many as last time). I added one of the two 12-pound spools of 12-gauge antenna wire to the second suitcase that John had set aside for me at his house. Not many clothes are needed, particularly since I keep shoes and heavy work pants on the island. We had plenty of time for a bit of breakfast at the Admiral's Club before our 7:07 a.m. American flight thanks to Toni's driving us to SFO without having to call Uber or Lyft.

This trip was for the purpose of finishing the tower and antenna rebuild that we had started last October, primarily erecting the 46-foot south tower and installing the JK Mid-Tri antenna on it, installing the 2-element SteppIR on the 66-foot Rohn 45 tower, plus several other wrap-up tasks including replacing the remaining older beverage wires. We had assembled the Mid-Tri boom and all the element halves then, but had run out of time to install them.

Connections were on time, and we had some food in between at the MIA Admiral's Club also. After arriving as scheduled at about 9:20 p.m., Immigration was a breeze – just showed my passport to the machine. Customs, however, was scanning all bags, so I ended up having both of mine opened for inspection. I managed to talk my way out any duties, on the grounds that it was mostly just tools for our repair project and a bunch of used stuff. Same for John, and we got our Avis car okay (they were closing at 10, but we got there about 15 minutes earlier; remarkably we were able to add me as a second driver for only \$25 for the entire week). Coincidentally, Ed Muns, W0YK, had just driven up in his small Avis car, and when I walked in the front door he walked in the back door. So he was helpful in ferrying luggage.

Ed had had a nightmare bringing his K3 to the island the previous week. Customs impounded the radio, and he had to go to the DTZ the next day to get a paper stamped, whereupon Customs released the radio. Apparently, in the future with that paper he can keep bringing the radio in duty-free. This process could be a real headache for us all. And, after hearing this story, when John Crovelli, W2GD, went to the DTZ to get such a paper for his radio, they said they couldn't give it to him unless Customs required it – man, this is bureaucracy on steroids.

We sat around talking till midnight or so, then started unpacking for bed. As before, Ed is in the MBR, I'm in the second BR and John is on an airbed (brand new brought down by him today to replace the one with a slow leak) in the radio room. Ed had just finished the CQ WPX RTTY contest, and had done very well as usual.

Monday, February 10, 2020. Woke up at 6:45 a.m. and went out for a morning run. Moderate temp, low humidity, but windy, which was fine for running but could be a problem for the lift.

In fact all day it was windy, but with the wind and slightly lower temperature and humidity it was much more pleasant outside than last fall. Then it seemed that just going outside in the morning I would start to sweat – not so today or for the rest of this trip.

Back at the house no one was awake, so I drove off to Lings for groceries. With the new divided highway, it's a much shorter trip. Just take the roundabout at the airport to the right (i.e., towards Cumana, not towards Oranjestad) and after about 6 km you arrive at the roundabout with Ling's on the left. It's a great road with a speed limit of 80 kph, but a roundabout about every mile or so. Spent \$199.

We then drove over to JARA Equipment Rentals and talked to David Aguirre, our friend from last fall. Our old Snorkel 126 was there proudly holding up its bucket. But we settled on a more modern and smaller JLG 660 SJ, which has a nominal height limit of about 66 feet. John and David went up to practice using the controls and to gauge its usability in the wind (which was increasing throughout the morning and was about 15 mph, with 20 mph gusts at this point). The controls were a little jumpy, but David promised to have his tech have a look at them. He said it can be delivered at 3 p.m. BTW, they are located on the road between the Coast road and the road that you get on by taking the roundabout to the left at Santa Cruz and driving about a km or two north from Santa Cruz towards the Hooiberg – it's the same road that Lisandro and Lissette live on.

[W6LD note: The winds were an issue throughout the week, and we tried to accomplish as much man-lift work as possible in the early mornings since winds generally were lighter before 10 a.m. The man lift safety manual proscribes use of the lift when wind gusts exceed 28 mph. There were many times, especially Wednesday afternoon and Thursday when attaching the Mid-Tri elements, when we came close to suspending work due to wind conditions; however, the wind never got quite strong enough to do so.]

Outside, I assembled the SteppIR tubes for our two-element version into the boom (a pretty simple job, since we had fully extended, taped, and painted them last fall), and mounted the boom-to-mast plate after Ed had drilled new mast holes to fit smaller U-bolts so it can be mounted on a leg of the Rohn 45. We checked it using the full run of cable by mounting it at five feet or so on the Rohn 45, and it seemed to work OK. The resonance points were too low (as to be expected), but there were good dips, as measured on the AA-55 (a fabulous instrument, by the way, which displays pretty SWR curves in color – seemingly a significant improvement over my AA-54). So it was ready to be mounted on the tower when the lift arrives.

Next John and I weatherproofed the Mid-Tri, the boom of which was lying on the two 55-gallon barrels in the garage. This job consisted of spraying clear Krylon on the various nuts and bolts and following up with silicone caulk spread around with the nitrile gloves from last fall. It was tedious, tiring work, but not difficult, and we were in the shade of the garage. When finished, I moved the two barrels back out behind the patio so they'd be ready for us to stage the Rohn 25 sections for the south tower to check their fit.

We were waiting for the boom truck to arrive at 3; however, David called and said it wouldn't be available today, but promised to bring it over tomorrow by 6:30 a.m. We'll see. When JP came

over this evening to talk about guying the south tower, he asked if that was “Aruba time.” I said, “No. Aruba time was 3 p.m. today!” After sharing a few Balashis with JP, who stayed till 8:20 p.m., we were too tired to go out to eat. Ed made a delicious and healthful looking salad, while I went through the McD drive-thru and brought back less healthful quarter-pounders with cheese for John and me (only \$13).

But I should mention that in the late afternoon we turned our attention to the south Rohn 25, one of the main goals of this trip. [W6LD note: Last December, JP had reinforced the base by adding an additional 18 inches of concrete (this was considered a prudent step due to apparent rust developing inside the base section at the top of the pre-existing base; the rust had progressed so much on the north Rohn 25 tower that we had JP completely replace the base section there) and he had already added one 10-foot section in connection with his concrete work.] John and I spent quite a bit of time enlarging the holes, filing off paint residue, and generally trying to get the sections in shape to be assembled. Then Ed went up the 14-foot tower in “classic” fashion (i.e., by climbing, without the lift) and with us pulling on the gin pole, managed to install two more sections. We couldn’t find the two punches that are normally very useful for precisely locating the mating holes, but Ed managed the task nonetheless.

Before that, we had spent some time on the phone with Ken Garg, the designer and owner of JK Antennas, to get ideas about the desired fine-tuning of the 1015 for 10 and the 2040 for 40. The former doesn’t seem to have the flat bandwidth that it should. The latter is pretty good, with about 200 kHz of bandwidth under 2:1 SWR, but we would like to move the resonance point from 7025 to 7050 or so and lower the minimum SWR, which currently actually isn’t bad at about 1.2:1. Ken had sent John some replacement tuning coils for each, and offered ideas on minor dimension changes. On the 40, if we decide we want to raise the resonance point, he wants us to change both elements by the same amount, and again said that a one-inch shortening of all of the half elements should move the resonance point up by 22 kHz.

Tuesday, February 11, 2020. Up at 6 a.m. to await the delivery of the 66-foot man lift. Carlos from JARA showed up at around 6:30, parked the truck on the side street where there is a large dirt area, and proceeded to drive the lift through the gate and into the backyard in just a few minutes with none of the agonizing, slow-motion drama of last fall with the larger lift. He showed us how to work it and departed, but unfortunately didn’t mention – and we didn’t figure out on our own – that the red emergency knob on the bucket control panel was actually depressed (even after being released “one level”). Turns out it has to be rotated to allow it to pop out and be released fully – as mechanic Bob, who came following a telephone call, told us. John noted that it is much easier to use this smaller lift than the giant from last fall.

Ed and John first went up on the lift to almost maximum height in order to experiment with different loading coils on the 40 driven element, while I stayed in the shack and ran successive runs of SWR curves on the AA-55. Eventually, with a new coil they got the SWR at minimum down to about 1.07 to one, still at about 7025 kHz. Due to the wind, they did not make any adjustments on the tip lengths, as the resonance curve is really quite good, though ideally the point of minimum SWR should be little higher in the band. Now the SWR reaches 2:1 at about 7.190 MHz, although from the shack end the cross-over point is even a bit higher.

Moving over to the 1015 tower, we initially could not rotate the antenna. The brake seemed to be jammed. Eventually John freed it by physically yanking on the boom, but we were seriously worried about the rotor, which continued to seem erratic. We even tried using a Tailtwister control box to give us access to a manual brake button, but that didn't help. With these rotors, jamming of the brake isn't uncommon, so it's hard to know when the condition is terminal and requires replacement. [W6LD note: We elected to monitor the situation over the next days before deciding on whether to replace the rotor with our one rebuilt spare. The existing rotor had been rebuilt by C.A.T.S. in 2016, but it had only been deployed about a year earlier.]

Meanwhile, on the 10m antenna, we replaced the hairpin coil with the smallest coil provided by JK Antennas and lengthened each half of the driven element by 3/8 inch and each half of D1 by 1/4 inch. After these changes, the SWR was much improved, basically flat across the band until 28900 where it started to increase rapidly, reaching two to one at about 28950. We were intrigued that the optimal inductance for the hairpin seemed to be very low (even with the smallest coil we ended up spreading the coils significantly), so much so that we tried removing the coil altogether. But that resulted in the SWR dips being substantially worse, so we went with the smallest coil.]

The next order of business was installing the SteppIR. I first disconnected the tubing elements, a very simple job just involving loosening one hose clamp on the rubber boot that holds each tube to the EHU units. John and Ed took the boom up to about 40 feet and clamped it to the southernmost tower leg of the Rohn 45, then came down to take up the element tubes. That was a bit tricky, particularly maneuvering the lift to install the two halves that are on the back side of the tower, but eventually they managed. Then they lowered a rope down through the tower which I attached to the control cable that had been added to the catenary in October, and on which Ed had fastened his Weatherpack connectors. They pulled it up and taped everything up. It seemed to work fine, though the calibrations are about 100-200 kHz high. It will be fun to play with this antenna.

Andy Bodony, K2LE, P40LE, stopped by as we were finishing installing the SteppIR and were about to break for lunch, so he joined us as we ate sandwiches of Ling's salads.

After lunch John and I spent some time preparing the Rohn 25 top section. This was a standard 10-foot section, but with a top plate piece with three misaligned short legs, adding about another 18 inches of length. We mounted the DXE stainless steel thrust bearing on the top plate, and then the "get a bigger hammer" theory of repair work was vindicated, as it took some judicious tapping with our 5-pound sledge to get the three legs properly lined up and in position. I had earlier spent quite a bit of time trying to file off extra paint (easy) and extra galvanized metal (very difficult) from inside the legs of the top plate.

Then we had to mount a rotor plate about two rungs down from the top. We recalled having had lot of trouble with this piece last fall on the north 25, but John and I didn't remember exactly what needed to be done; looking at the north tower with binoculars reminded us that we had had to grind off the diagonal braces on all three sides above the plate just to get it in the tower. Then the plate didn't quite fill the interior space, so that when the three U-bolts are fastened in, there are still small gaps between the edges of the plate and the legs. Like last fall, I was incredulous

about that this strange example of industrial design; how can a factory-designed accessory for the tower, used by many purchasers, possibly require that the diagonal braces for the tower be ground off just to install it, and then still not fit properly?? – but there you have it.

As our final task in fitting out the top section, John and I put in a guy bracket set one rung below the rotor. We were then ready to finish the rest of the south tower, which now stood at about 34 feet after yesterday's two-section addition. It first needed a set of lower guys. We had four EHS pigtailed left over from the fall, and needed to use one for the lower west guy, which was going to a buried guy anchor which also was the south anchor of the Rohn 45. John and I followed the same process from the fall, but this time with only Ed on the tower and without JP. We first put a big grip on the Phillystran end from our big roll (using black tape in place of the plastic end caps until I found the little envelope of caps later on). Then with John holding the big grip and keeping the large thimble in place, I wound the big grips. But we aren't very happy about this anchor, as it seemed to have some movement, and is another one of Carl's (AI6V) 30-year-old buried car axles.

[W6LD note: A project for JP is to replace this one with a raised guy point (and a similar one about ten feet west of the new northeast guy anchor, which will be the new north guy anchor for both the upper and lower guy for the south tower and will allow us to eliminate the current lower guy from the south Rohn 25 tower to the north Rohn 25 tower).]

It was pretty easy this time, since we were no longer trying to keep the end hidden in the wrappings, as JP and I had initially tried to do. And even the metal ends of the wrapping went together smoothly with only a little screwdriver prying. We then attached the end to the pigtail and Ed pulled up the Philly from the roll and cut it to length. Finally, we put a big grip on the other end and Ed attached it. Pretty smooth, and we then employed same process for the southeast guy in the front yard, this time to the new raised guy anchor that JP had installed that looked really solid. For the third leg, for the time being we are just running a guy as before to the north tower. John found the old guys, and after grinding off the old rusty turnbuckle and putting on a new one, it still fit fine. Ed installed a surplus set of guy brackets on the north tower and attached this guy to them so it would be horizontal.

Finally, we gin-poled the top section up to Ed and he installed it on the tower. This was quite a feat, as the wind was pretty strong at that point, but he managed it, albeit with some harsh words for the crummy condition of the gin pole bracket. After he came down, I spent some time trying to clean off some of the rust and lube it with WD40, but I don't know if that will help much. It also had been installed upside down (you can tell because there is a small metal pin that is designed to fit over a cross brace to allow the gin pole to hang from the brace). Rectifying this condition required pulling all 300 feet or so of the pull rope through the bracket.

We knocked off at about 5:45. I decided to go for a run but felt pretty slow; still, it was nice to be doing something other than lifting or shoving. At this time of day there was much more activity on the trail north of our roundabout than there had been Monday morning. We were going to meet John Crovelli for dinner at the Chinese place (Santa Cruz Bar and Restaurant). Ed and John went on ahead while I took a shower. However, when I went to what I was pretty sure was the right place, it was closed. Thinking that maybe it wasn't the right spot, I drove back and

forth a few time, with much traffic and difficult U-turns, getting more and more frustrated. Unfortunately for some reason my phone showed no service so I couldn't call. I finally was convinced I had the right place, and it was truly closed.

So I figured there were two other possibilities. I drove down to the sushi place next to the Subway, but they weren't there. The other obvious place was Urataka, but I had kept driving by the small food stand operated by the Ritz restaurant (whose parent location is in Savaneta) in the parking lot of the closed restaurant, and I was getting hungrier and hungrier for one of their excellent milkshakes, so rather than drive out to Urataka (and it was 7:50 or so by this time) I gave into temptation and enjoyed a chocolate milkshake there, and a cheeseburger that I brought back to the cottage. John had sent me text messages that I mysteriously received the next day, and there was a message on the answering machine from him saying that they had, indeed, gone to Urataka. By the way, the best way to Urutaka is to take the road north (the one that intersects the road that JP and Cris's house is on), then in about two km take a sharp right turn, from which you can see the lights of the restaurant about a quarter mile away. It's easy to miss the turnoff, however.

Wednesday, February. 12, 2020. This day started out OK, but ended badly for me. We all got up early to try to go up in the air in relative calm, which usually is the case here early in the morning. The trouble with that plan was that there were sporadic rain showers all morning, though none of them lasted more than 10 minutes or so. You could see the clouds moving at high speed all morning, but it finally cleared up after lunch.

[W6LD steps in here due to my addled memory as a result of events described below: The first order of business was to finalize and weatherproof the new coil connections on the 40m driver. Next, after some additional testing, we determined that the brake on the 1015 Taitwister was continuing to lock up, so, while the lift was still in the backyard, John and Ed swapped out the north tower Taitwister for one of the two newly rebuilt ones we had just brought down after taking them back to the U.S. to have them rebuilt at the end our November trip; I brought the old one back home and will send it off to C.A.T.S. to get it rebuilt again. We are worried that in high winds, the 36-foot boom of the 1015 puts a lot of torque on the rotor and that the Green Heron controllers, despite the short rocking algorithm they use with T2Xs, may not be the best match for dealing with the frequent jamming of the T2X brakes. The rotor replacement is a pretty straightforward job, involving putting a U-bolt on the mast above the thrust bearing, removing the mast bracket from the rotor, unbolting the rotor, bolting in a new one, and taping up the connections after checking for the proper orientation on the control box. The new one seemed to work fine. We had decided not to put any more effort into that antenna, nor the 2040, since the SWR curves on both were very good.]

We then moved to working on the south tower which required moving the man lift from the backyard to the wall along the front of the house as close to the south tower as possible. With the smaller size of the 66-foot lift we were able to move the man lift quickly and without incident although there were only about four to six inches of clearance on each side when passing through the front driveway gate.

The next task was to rig up the top set of guys for the south tower. This involved, as before, putting a Philly big grip on the end of the cord on the roll, attaching it to the guy anchor, then sending up a loop of Phillystran from the roll to Ed, who would cut the guy wire to length and toss the end down. We'd then put a big grip on the cut end and send that back up with the pull rope for Ed to fit.

In this way we did the two south guys for the south tower. Then the day turned bad for me. The north guy was to go over the house to a sunken guy anchor that also is the north anchor for the Rohn 45. Unfortunately, the guy wire had to run through the tree just to the west of the north tower. I climbed about a foot above the 5-foot step ladder's top, then sawed off one big branch, and was just about done with a second large branch, when something happened, and the next thing I knew, I was lying on my back on the ground, stunned. Somehow, I had slipped or miscalculated my hold (I have no memory whatever of exactly what went wrong). My worried friends gathered around me, and I was able to report that I seemed to have no internal injuries, though I was certainly "shaken up on the play." I had been wearing my hard hat, which ended up about 20 feet away, and I think that prevented any head injury. I came inside and lay down on the couch, later taking the back medicine that I always carry with me on trips: a mild painkiller and a mild sedative. It was just about lunch time anyway, so the guys came in (except JP, who was here for the day, and, as normal, went home for lunch).

I seemed to be fine physically apart from bruises and back pain, though at dinner we discussed how checking for head trauma should be done more carefully whenever you come upon a fall victim. In retrospect, I should have just taken the whole afternoon off, but instead, since I didn't feel too bad, I wondered around outside and tried to help without doing any heavy lifting.

After lunch John and Ed checked the verticality of the south tower with our four-foot level for the first time and found that it was seriously out of whack; we had to do a lot of guy wire loosening and tightening, even redoing the southwest upper guy, as the Phillystran segment was about eight inches too long. They eventually got everything reasonably plumb. After lunch, they started to clean the mating sections on the Mid-Tri, using some of the wire brushes that I had brought down for that purpose in October. [W6LD note: This had been suggested by Ken Garg during one of our calls about refinements to the 1015 SWR; initially, we had discounted it as overkill, but it turned out to be a wise step.] The tubes had accumulated dirt and crud just from sitting around in the garage. I had to break from about 5 to 6 for a conference call with the office. While I was on my call, the guys took the boom of the Mid-Tri up on the lift and attached it to the tower.

At one point in the afternoon, Irene, the pastor of the Pentecostal church next door, came over and very sweetly said that we have been interfering with their PA system. I told her we had worked on that once before, but every time they changed a wire or connection, it acts like a new antenna. I suggested she use a portable sound system with wireless technology and she said they would try it. She has lived there since about 2012, and her 30-year old daughter also lives with her and her husband. Earlier in the day I met our neighbors across the street, Marina and Alvin, as they were watching the boom truck maneuvers from their yard on the corner. They said that several generations of their family had lived in that house.

After chatting with JP, he left, and we went to our destination of last night, the Santa Cruz Bar and Restaurant. Sweet and sour pork for me, same with chicken for John and Santa Cruz chow mein for Ed. The portions were quite large, and none of us (including John Crovelli who joined us) finished ours.

Thursday, February 13, 2020. I slept fitfully due to back pain and didn't get out of bed (with considerable difficulty) till 7:30 a.m. Nothing was happening at that time, however, since it was raining. It had also rained heavily off and on during the night. After a quick breakfast we got ready to put the elements on the Mid-Tri. I bundled them into two groups: one contained the drivers and reflectors that are one side of the mast and other contained all the directors that go on the other side of the mast. John drove the man lift like a pro out from our backyard into the street and up he and Ed went. The rain had stopped and it was still breezy on the ground, but it didn't seem to bother them, although they had to take several breaks throughout the day as squalls passed through, and there were times when they came close to suspending work due to high wind gusts which were peaking somewhere in the vicinity of 25 mph. There were continuing winds from the southeast, the clouds were moving very fast, and several squalls passed through during the morning and early afternoon.

The first order of business was to attach the boom truss. We had decided yesterday just to use the stainless steel truss furnished by JK. Although Lisandro had warned last fall against using it, JP thought it would be fine, and since it was precut and took no preparation time, it seemed like a good idea. John and Ed then started putting in the element halves. Since they could reach both sides of the boom when it was rotated into a suitable orientation, that went pretty smoothly. They first put in all the directors, then after rotating the antenna they worked on the other side. They used the hardware that I had bagged up and labeled when we left in November.

[W6LD steps in again due to my addled memory: We all went out into the cunucu at about 4 to see about replacing beverage wires. In anticipation I put on long pants and boots. We all walked out to the common feed point and split in two, with John and I tracing the East U.S. beverage to the end (right near a house on our road which had two barking dogs and a somewhat suspicious lady). We ultimately found one break and caused several more when attempting to pull the new wire, but were eventually able to pull the new wire off the spool that Ed was holding at the feed point (Andy B having left by then). I was stationed in the middle pulling the wire while John pulled from the end and eventually got to the original far end termination point (but did not reattach the new wire to the radials, as it was getting dark and the barking dogs and suspicious neighbor made it uncomfortable to work at that location any longer than absolutely necessary).

To trace this beverage wire required crawling through the thorn bushes, and was a big mistake for my back. I was very foolish to attempt to do this kind of physical activity, as I think it set back my recovery by several days. It was getting darker and there were scattered rain drops, and eventually I could not hear either one of them (they had the two walkie-talkies), so I left and, having missed the main trail in my dulled state, ended up coming out of the cunucu next to the big white house with the red roof a few houses down from ours. John eventually made it back to the common feed point where Ed was waiting and they attached the new wire using one of the new transformer boxes John had built based on the VE6WZ design. Ed and John then carefully made their way back to the cottage in almost complete darkness and without flashlights. The work at the far end of the wire had been much more difficult than anticipated. Fortunately, other

than the usual scratches and small puncture wounds the only casualties were a loss of a pair of electrician's scissors and our good vegetation loppers.]

We were all pretty beat when we made it in after 7, but had a pre-arranged dinner with JP, Cris, and John Crovelli at Pinchos (just south of Oranjestad, after walking through the Marina Surfrider small hotel). John elected to stay in the cottage, but Ed and I went. I wasn't very good company, as the medications had made me quite sleepy and maybe a bit incoherent as well.

Friday, February 14, 2020. I slept until 8 with my back still hurting. Meanwhile John and Ed hooked up a come-along to the boom truck to straighten out the fence pole at the gate that had been hit a glancing blow by the man lift yesterday; though the gate now works, the top hinge has rusted through, and we asked JP to weld on a new one.

[W0YK, W6LD note: John and Ed took advantage of the lower wind speeds in the early morning to lower the 85-foot Spiderpole that Mat, DL4MM, had erected for the CQ 160m contest into its nested 6-foot storage length. This resulted in the five levels of guys and top hat wires connected to four guy stakes, lying on the ground along with the 32 radials, all caught up in the inhospitable cunucu vegetation. Getting this step completed relieved a significant source of anxiety, as we had been concerned if and when we might find a sufficient break in the wind to allow us to lower the Spiderpole efficiently.]

Ed spent most of the afternoon hooking up his slick system that allows two operators to listen to the pileup on two K3s; whichever one hits a button on the computer first will transmit on the left K3 and lock out the other operator. It works great. John meanwhile got the computer network and logging configurations going with Win-Test running on the two logging computers and a third spare one on the back table and a fourth running VE7CC feeding spots to the network. This took many hours.

We were ambivalent about putting in a full-scale effort, as John and Ed were pretty tired from all their work and I was only semi-competent, but decided to start out and see how it went.

[Ultimately, we put in a full 48-hour multi-single effort, finishing second in the world to ZF1A, and were glad that we had persevered.] The contest started off at 8 p.m. local on 40 meters for us. Andy B came over close to midnight and helped out with the late night shift. I spent most of this time in bed.

Saturday, February 15, 2020. From my perspective mostly a wasted day, but the contest raged on. Although my back still hurt, I found that if I ensconced myself in a comfortable position, I could operate OK, and I did put in several hours in the afternoon, all on 15, which we had just switched to. I think I had 54 mults on that band when I was relieved. The pileups were continuous, and I must say, that for all the clever tricks on how to break through them, the best approach on CW is just to be loud; second best is to call about 100-200 Hz above the DX stations frequency. Third, if the DX station doesn't come back to anyone, drop your call in again.

[W0YK, W6LD note: After Ed was relieved by John and got some breakfast, he went out and began the tedious task of collecting the 32 radials and the five sets of four Kevlar cord guys from the Spiderpole. This involved meticulously unsnarling them from the Cunucu thorn bushes and

rolling them all up, in order, end-to-end, on two orange power cord spools. It took about three hours to complete the job, with a lunch break in between. We ended up storing these materials as follows: (1) the Spiderpole in its original box at the back of the garage closet; (2) all smaller parts stored in a medium Sterilite box located on the middle shelf in the garage closet; and (3) all radials, top hats and other wires and guys on one of two orange spools also located on the middle shelf in the garage closet. The angle aluminum was left in the ground protected by a white bucket as were the guy anchors (covered by larger tubing to protect them and make them easier to locate in the future).]

Sunday, February 16, 2020. I slept pretty soundly, but had irritated my back just before bedtime and had trouble, once again, getting out of bed. But once up and with some coffee and two pain pills, I felt quite a bit better. At about 8 a.m., Andy B had gone home, Ed was operating still on 40, John was starting to get organized and clean up the mess outside, and I was checking email, etc.

I took over operating about 9:20 and stayed for about three hours. These are normally very slow times in this contest, as EU and US stations are working each other and no one wants to try the Caribbean. So I probably didn't hurt our score much, but I did make a few hundred QSOs and got one new mult (number 61 out of 63) on 20: VO2AC, whom I saw spotted and easily worked. I also went to 15 for a while and a VE9 (NB) called for a new one (number 56 on that band).

[W6LD notes: John took over for me at the end of my morning stint and not long into his operating stint saw indications of an opening on 10 meters. He QSY'd there and worked a handful of loud stations and then had a period where many stations were calling but all ESP levels. He thought maybe that was it for the brief opening but decided to stick with it doing his best to pull ESP signals out through the noise (there was at least one station on the band with disturbingly broad key clicks, further exacerbating the local noise issues) and over time the signals and rate picked up. The opening was characterized by very rapid and significant QSB as well as a "spot light" effect as the opening moved around the eastern half and southern portions of the U.S. About half way into the opening, I relieved John to allow John and Ed to do some more tasks, including replacing the EU beverage wire.]

At about 6:50 p.m. local time, Ed and John returned from replacing the wire on the West U.S. beverage, which Ed said was not as difficult at the East U.S. one we did earlier, though nothing in the cunucu is actually easy to do. I had been operating for the last four or five hours, starting on 10, then moving to 15 and 20 as propagation faded. We ended up with only 33 mults on 10 meters, which never really opened to the West or to Canada. This has happened before and was disappointing, but it's better than not having 10 open at all. The K3, Alpha 91b amp, and antennas all are working great. And by the end of my second solo stint, I was finally feeling reasonably comfortable with Win-Test, which does have a lot of nice features.

In the last hour we took showers in shifts, drove off to see Cris and JP and have a Balashi Chill with them, then on to meet John and Andy at Urataka for some outdoor pizza and beer/diet coke (me)/wine (Ed). Crovelli did well in the single-op assisted class, with about 4.8M points. Apparently Steve, K3SW, at Ben's broke 2M as P40SW and was pleased with that result. I paid (\$73).

Monday, February 17, 2020. A lot of packing and cleanup, then an afternoon flight out of Aruba, stopping in Charlotte, NC. That was a very efficient route, as we left Aruba on the 3:25 p.m. AA flight, and got into SFO at about 9:30 at night. It's a bit more time in the air than flying through MIA, but worked since we arrived at CLT on time and thus made the flight to SFO in spite of a relatively short layover. Thanks to Toni for the ride back to John's, where Ed and I retrieved our cars and headed home.