

## ODDS AND ENDS

I have just read Jack Phliegers obituary and it reminded me of the many “firsts” we had. After the first few Redstone launches, we ( Dr Debus’ Firing Lab ) were transferred permanently to Cape Canaveral. We had time after a launch waiting for the next vehicle to arrive to make improvements that would provide status and visibility that was much needed. The countdown was an orderly sequence of events assigned to individuals to occur leading up to give the firing command. Once the firing command was initiated, automatic sequence events occurred by ground and vehicle relays. Very little visual capability was provided. Pen recorders were used to indicate the status and were evaluated after the fact. Jack was a technician in Jim Davidsons’ section and was a whiz in the use of stepping relays. I believe I may have been the first to approach him for the need of a countdown clock, (I can’t be sure because we needed so many things). Anyway, we used 28 volt dc lamps and relays in the first countdown clock.

Some of the other firsts --- My technician and I built the first light panel which gave visual indication of selected status and sequence of events that were recorded on the pen recorders. (Esterline Angus Recorders) Other firsts were the patch panel and Blockhouse Junction Box)

A little more detail in what I think is the greatest “first.” The first few Redstone vehicles had very few visual indications of the status of the vehicle, especially after Firing Command was initiated. Most all of the events were on or off indications and recorded on the Esterline Angus recorders which were ink recorders and evaluated after the test or launch. Once the vehicle was loaded with the propellants and the firing initiators installed and clearance to launch was given, the only commands left were Firing Command or Cutoff in the event of a problem. Events like closing the vents, tanks pressurized, power ok, firing the initiators (some) were visual only a given panel and recorded. My technician and I built a patch panel and paralleled the indications fed to the recorders to a status panel which were light indications. This concept was later designed and built as an integrated part of the electrical ground equipment furnished from the space center in Huntsville and their contractors. I think the patents for the patch panel was awarded to IBM and the status panel was GE.

Hard to believe--- There were 39 (?) of us (Missile Firing Lab) heading down to Cape Canaveral (most for the first time) to launch the first Redstone. All the instructions given were one liners on a single page (front and back 1/2) each with a single person listed and date to have his assigned equipment installed for test and launch. I have an original copy in my files,