

Letters to the Editor

The article "A Transitional K&E 4092-3" by Mike Syphers in the Fall, 2021 JOS presents a very interesting and unusual rule, serial number 64405.

In case it is of interest: of the ten 4092-3 rules I have, the closest serial number to the subject of the article is 64950 and that rule has the older scale set without the added K scale. This rule was probably built shortly after 64405 and does not carry forward the unusual added scale. So maybe 64405 is truly a one off rule or a prototype.

64950 came in what is probably the original cardboard case with a snap closure on the lid with label "K & E LOG LOG DUPLEX SLIDE RULE 4092-3." The snap is labeled "KEUFFEL & ESSER CO. - NEW YORK." The cursor is obviously a replacement and the rule is in good working condition.

Best regards,
Maynard Wright

Dear Maynard,

Thank you for sharing your very relevant information. It has always been my sense that the slide rule in my possession (64405) was very likely a "one of". It very much feels like a trial to see if K&E could get by with a simple addition of the K scale onto the 4092-3. While perhaps an easy change in production, a quick look at the result would surely have told them that a slight re-arrangement of the placement of the scale was needed, from an aesthetic viewpoint if nothing else. Your rule 64950 adds support to this hypothesis, in my mind. I also continue to wonder if the rule might have been a donation to the country's first public community college, during the time when it was expanding its curriculum into business and industrial training. This certainly would have been a good use of such a "one-of-a-kind" item.

To complete the record, I also include a few photos of the case that came with rule 64405.

Sincerely,
Mike Syphers



Dear Jim,

The recent excellent article on Fuller Calculators [Note 1] is very interesting to me even though I have never used or even seen a Fuller. In works on the early history of various disciplines, such as aeronautical engineering, the use of slide rules is usually not discussed, but it is obvious that slide rules played a major role in most, if not all, significant design efforts.

One interesting use of the Fuller Calculator is, though, briefly described by Nevil Shute Norway, the aeronautical engineer, writing autobiographically as Nevil Shute, the novelist. On pages 72 and 73 of "Slide Rule," [Note 2], he discusses the design of transverse frames for the British rigid airship R.100, completed in 1929. Each frame was an enormous polygon, the largest around 130 feet in diameter, which was braced by numerous cables that could take tension but not compression. The engineers would predict which cables would be in tension and which would be slack during a particular load condition and a pair of "calculators," (people, not machines, in that era) would use Fuller Calculators to solve a system of simultaneous equations in parallel to make sure that each of the two got the same results. This set of calculations would take about a week.

When they were finished, they might find that the initial estimate as to which cables were in tension and which were slack had been wrong, the engineers would try again, and the calculators would start over. It might take months to complete a set of calculations due to restarts with different initial conditions and due to errors by the calculators.

Mr. Norway wrote as if both calculators (people) used the same Fuller Calculator, but I suspect that he didn't intend that and that they probably worked on the same problem simultaneously using two Fullers. But I am not sure of that.

Although the book is titled "Slide Rule," there is no other mention of slide rules anywhere in the text. The book does, though, present a fascinating history of early twentieth century developments in aviation, both lighter and heavier than air.

Notes:

1. Robert G. De Cesaris, "A Fuller Calculator Compendium: Experimental Models, Prototypes, Production Transitions, and Uncommon Examples," Fall, 2021 JOS, pp. 8-52

2. Nevil Shute, "Slide Rule," Ballantine Books, 1954, subtitled "The Autobiography of an Engineer," paperback edition

Best regards,
Maynard Wright

Hi Maynard,

I read "Slide Rule" a long time ago, when I was reading all of Nevil Shute's books because I liked his writing style. I read it again more recently, and noticed the mention of the Fuller Calculator. The subject of "Slide Rule" came up over lunch at one of the Oughtred Society meetings in Las Vegas several years ago. Naturally we talked about the mention of the Fuller, and the late Rodger Shepherd said that he found the book unsatisfying because although it told good stories about the various aeronautical projects that Shute (Norway) had worked on, the author said very little about himself. I replied that the lack of talking about himself may have said more about him than he could have put into words. I got the impression that Shute was a quintessential engineer, always more comfortable talking about his work than himself. I've known and worked with a lot of people like that, so I didn't find it odd at all. I'm not certain Rodger ever agreed with me, but he was willing to consider the idea.

Jim