

Hole Sucking Air – The F-84 Thunderjet, Part Two

In Flight USA

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A restored Republic F-84C at the March Field Air Museum; after being dropped from the Air Force inventory, this aircraft served as an instructional air-frame at a community college for 27 years. (Scott Schwartz)

Deliveries of the first P-84B's began during the summer of 1947. Right after these aircraft became operational, it was noticed that the aluminum skin on their wings was wrinkling. Because this was attributed to the high "G" loads occurring during maneuvers, airspeeds in excess of .8 Mach and loads in excess of 5.5 G's. Wing failures occurred even after these restrictions were put in place. This meant that the P-84's had to be grounded until actual wing cracks could be ruled out. If none were found in a particular P-84B, it was put back on flight status – with the previously mentioned flight restrictions until it could be modified.

Although a newer model, the F-84C (readers will remember that the "P" for "Pursuit" was changed to "F" for "Fighter" with the creation of the independent U.S. Air Force) was being produced by June of 1948, the structural problems were still unresolved – which is not surprising. After all, the F-84C was virtually identical to the F-84B, except for improvements

to the fuel and hydraulic systems. One other difference was that the "C" model was powered by a more reliable early version of the J-35 engine.

By December, 1948, the last F-84C's were coming off the production line and were being replaced with yet another model- the F-84D. The "D" model had some nice features, such as an Allison J-35-A-17 engine which put out five thousand pounds of thrust and which could run on aviation gasoline or jet fuel. It also had some not-so-nice features, such as its wings' tendency to crack-despite their thicker aluminum skin. In other words, the F-84D had many of the same problems that had plagued the earlier versions.

Not surprisingly, the Air Force was not entirely satisfied with the F-84; in September of 1948, the Air Force reviewed the F-84 program and determined that the F-84B and C models could not fulfill the missions for which they were designed. And this was before the first F-84D's had been delivered!

Obviously, major modifications to existing aircraft were needed. While it was testing the F-84D in order to confirm that the needed modifications were being performed, the Air Force compared it to the F-80. It was found that the F-84D was faster, could fly farther than, and carry a heavier payload than the F-80. On the other hand, the F-80 used much less runway for takeoff and was more maneuverable. So, it would seem that the F-80 and the F-84D offset each other's weaknesses. Still, the F-84's structural problems rendered it all but useless for front-line service. At this point, the Air Force had pumped almost \$80 million into the program. Readers are reminded that these were late 1940's dollars!

Terminating the whole F-84 program would have been understandable at this point. However, the Air Force would have gotten roughly twenty five percent of its money back, and canceling the contract would probably have spelled the end for Republic. Losing a major defense contractor was something to be avoided.

In order to prevent a shortage of fighters while the F-84 program was floundering, the Air Force ordered 567 Lockheed F-80's.

In the meantime, the Air Force decided to salvage the F-84 program.....by awarding an \$8 million contract (in May, 1949) to Republic for the refurbishment and improvement of the F-84B's, C's, and D's that were already in the Air Force inventory. This was right around the same time that the new F-84E was making its first flight. Naturally, the bulk of the modification work was focused on strengthening the wings, but there was also a problem with engine exhaust temperatures skyrocketing to the point where engines had to be overhauled after only forty hours of running time.

With the F-84E, it could be said that there was finally some light at the end of the tunnel. Other than some problems with its new A1B gun sight, the "E" model was vastly improved – as well it should have been- considering that the Air Force pumped \$3.3 million dollars into the program in order to ensure that "improvements" (such as strengthened wings) were incorporated into the F-84 on the production line. The F-84E also had a larger cockpit and additional fuel capacity.

Well, the light at the end of the tunnel dimmed somewhat, because by April, 1950, nearly half of the Thunderjets (of all models) were grounded due to shortages of spare parts and engines! This was especially galling, because the F-84E (of which three hundred had been delivered at this point) was the first truly combat-capable F-84.

The truth is that the Air Force intended to deploy F-84E's to the Far East in 1949. Because the F-84 required an exceptionally long runway, the commanding officer of the Far East Air Force (FEAF) asked for Lockheed F-80's instead. Consequently, when the Korean War started, the FEAF found itself equipped with a mish-mash of tactical aircraft – namely F-82 “Twin Mustangs”, F-80C's, and some B-26 Invaders.

As the war heated up, the FEAF found itself pulling in more tactical aircraft – including F-51 Mustangs that had been slated for scrapping in Japan. This reliance on World War Two aircraft may seem strange in the jet age, but the fact was that there were no airfields in South Korea which could handle jet aircraft on a long-term basis. So, the F-80's combat role was compromised by the fact that these aircraft had to be based in Japan.

After a couple of instances in which swept-wing MiG 15's (the existence of which had previously been rumored) were deployed against F-51's and F-80's in late 1950 , the USAF responded by sending a group of F-86A's and a group of F-84E's to the Far East. Belonging to the 27th Fighter Escort Group, the F-84E's were transported across the Pacific via aircraft carrier. The aircraft were lashed to the flight deck, and apparently, no one gave much thought to the effects of salt spray on aluminum airframes. By the time they'd reached their destination, ninety percent of the F-84's had sustained skin corrosion; all of the aircraft sustained corrosion to their electrical wiring, and a few of the F-84's were discovered resting on their axles, because the salt had dissolved the steel and magnesium components of their wheels! This was most certainly, an inauspicious start to F-84 combat operations!

This article is the second of a three-part story about the Republic F-84. Part three will appear in next month's issue.