THE IMPORTANCE OF CRITICAL ANALYSIS

Airman Investigation Leads to Operational Improvements

AIR FORCE OPERATIONAL ENERGY

INCREASING KC-135 LANDING WEIGHTS

The maximum landing weight for the KC-135 is now **235,000 pounds** thanks to the initiative displayed by one Airman in the Central Air Operations Command (CAOC).

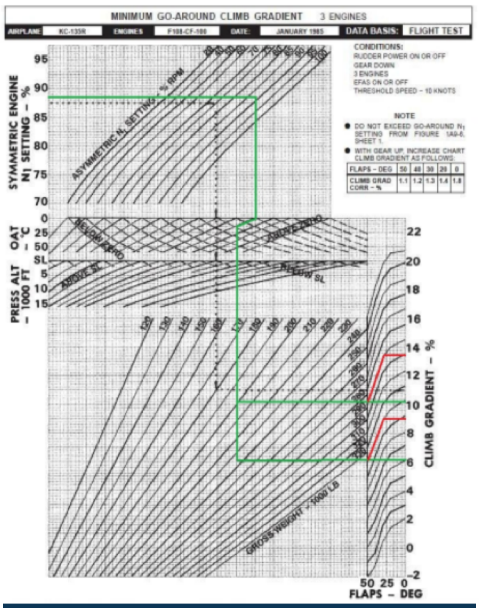
Concerned by the perceived high rate of fuel dumping, he explored ways to avoid wasting an increasingly valuable resource. Ultimately, the Airman developed an innovative solution to alter 1950s-era landing weight restrictions.

Through his research, he found the landing weight restriction of 200K pounds was driven by A-Model engine-out climb performance. The J57 engines have long-since been replaced by the R-model (CFM-56) engines, which produce approximately twice the amount of thrust and completely change the engine-out go-around climb profile. With this increase in performance, the KC-135 is able to safely land and execute an engine-out go-around at 235K pounds and eliminate most fuel dumping events.

Releasing these landing weight restrictions, the dump frequency is decreased by **80%** and fuel dumped by volume is reduced by **90%**.

A group of maintenance, sustainment, and operations professionals worked to ensure there were no hidden costs or safety issues associated with the proposed increase in landing weight. With no barrier to moving forward, the Airman worked to update AFI-11-2KC-135V3, *KC-135 Operations Procedures* to reflect the new allowed max landing weight.

KC-135 Climb Gradient



WHY IT MATTERS

This story is one example of how this generation of aviators and maintenance professionals are embracing the smart use of operational energy resources. Airmen can support the Air Force by applying this mindset throughout the enterprise to change the overall culture as it relates to innovation and operational energy. Individual's leadership and endorsement of smart operations over time will create an atmosphere where Airmen instinctively operate with an operational energy-focused approach to maximize combat capability through smart energy use.

OUR MISSION

To enhance combat capability and mitigate operational risk to the warfighter through energy-informed solutions.

OUR VISION

To create an energy optimized Air Force that maximizes combat capability for the warfighter.

OPTIMIZING OPERATIONAL ENERGY LEADS TO:

- **INCREASED** Combat Capability
- **INCREASED** Aircraft Lifespan
- **LOWER** Aircraft Maintenance Costs
- **MORE** Training Opportunities

$5-7 BILLION

is spent on Air Force aviation fuel **ANNUALLY**

81% of the Air Force

ENERGY BUDGET is spent on aviation fuel

2 BILLION

GALLONS of aviation fuel used by the Air Force **ANNUALLY**

8,000

additional sorties fueled from a **1% EFFICIENCY INCREASE**

#FUELMOREFIGHT

AIR FORCE OPERATIONAL ENERGY

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