



# Replacing Aging Trainer Aircraft Is a Question More of Cost Than of Capability

**A**s the specialized aircraft that the U.S. Air Force uses for pilot training get older, the Air Force faces some important decisions. Are current trainer aircraft adequate to give Air Force pilots the skills they need to carry out future military missions? Is it more cost-effective to keep the current aircraft in service through continued service life extensions or to replace them with new aircraft?

The Air Force is already replacing the subsonic T-37 jets with which most Air Force student pilots begin their training. Now it must decide on the future of the T-38C and the T-1A, the planes to which students are “tracked” in the advanced phase of the current Specialized Undergraduate Pilot Training (SUPT) program. Students tracked to fly fighters or bombers train in the supersonic T-38C. Students tracked to fly tanker or transport aircraft train in the T-1A.

A RAND Project AIR FORCE (PAF) examination of the replacement decision included interviews with 229 Air Force pilots involved in every stage of training and with representative experience in all Air Force aircraft. PAF’s findings and recommendations follow.

## The T-38C and the T-1A Provide Student Pilots the Skills They Need

In the future, the operational demands of more complicated missions, new aircraft capabilities, and new information technology systems in the cockpit will require new pilot skills. PAF found that current training aircraft can accommodate these future training needs, in addition to teaching basic flying skills. Therefore, the decision to extend or replace the T-38C and the T-1A becomes one of *cost* rather than *capability*.

## The Cost Analysis and Replacement Decision Should Take into Account the Entire Training Process

The Air Force should begin its cost analysis by comparing the cost of extending the lives of the T-38C and the T-1A with the cost of replacing them. However, PAF’s interviews suggest that decisions that are made about training in one phase of the process may have cost and training implications for another, so any decision should consider the entire training process. Two examples follow.

- **Two new fighter aircraft—the F/A-22 and the F-35—introduce a new training challenge.** Currently, SUPT graduates who are assigned to single-seat fighters such as the F-15 and F-16 first gain some experience with the combat environment by flying with an instructor in two-seat versions of the aircraft. But there are no plans to develop two-seat training versions of the new F/A-22 or F-35. The Air Force should consider transition training to expose SUPT graduates to a high g-force environment with an instructor before they train in the single-seat F/A-22 or F-35. If the Air Force implements this change, the new training requirement could have ripple effects on what is taught in SUPT, the demands on other aircraft, and the decision to retain or replace the T-38C.
- **Most pilots interviewed think the tracking decision in SUPT is made too early.** Changing when and how the tracking decision is made might allow both students and instructors to better determine the best training path for the student, but would have cost consequences. Delaying the tracking decision would decrease demands on both the T-38C and the T-1A and help them last longer, supporting a decision to retain the aircraft. On the other hand, allowing all students to fly the T-38C in order to expose them to a higher-performance aircraft before tracking would increase the demands on the aircraft and might require its earlier replacement. Finally, analysis might show that a return to single-track training could save money by requiring the replacement of only one aircraft instead of two. ■

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