

How Many Aircrew?

By Rebecca Grant

RATED AIRCREW MANAGEMENT IS A CONSTANT STRUGGLE, WITH EVER-SHIFTING VARIABLES.

Insatiable... and growing. That's how the Air Staff describes demand for experienced aviators.

Yet some of the most experienced aviators are exiting the Air Force faster than planned. As of Oct. 31, 2013, only 162 of 250 experienced fighter pilots took a nine-year, \$225,000 bonus offered to them to keep experienced aviators in the Air Force. The Air Force is also short of pilots for its remotely piloted aircraft.

Producing experienced aviators—especially fighter pilots—is complicated. So complicated, in fact, the Air Force convenes a four-star summit every year to keep the process on track. It's called rated management and it's one of the black arts of airpower.

The delicate balance of rated management has been a struggle for the Air Force ever since the first big force structure cuts of the post-Cold War era. The shrinking USAF force structure is largely to blame.

"You need airplanes to fly to produce valid, credible warriors in the air," said Thomas Winslow, an Air Staff rated management program analyst.

Over the last 10 years, the transition to a much smaller fleet with diverse taskings has turned rated management into a roller coaster whose ups and downs affect the force for years to come.



USAF photo by Josh Plueger



USAF photo by SSgt. Jorge Intriago

Above: Maj. Ryan Corrigan in the cockpit of an F-16 at McEntire JNGB, S.C., before a readiness evaluation. Left: Maj. James Podany (l) and Maj. Michael Bosiljevac move an E-4B into position to be refueled by a KC-135 during a training mission. Rated management experts will track mobility airmen carefully as flying hours decrease after the drawdown in Afghanistan.

Rated 101

The objective of aircrew management is to meet near-term operational requirements while building leaders for tomorrow. Done right, rated force management yields a healthy aircrew force that is combat-ready to support current and future missions.

Pilots, combat systems officers, remotely piloted aircraft pilots, and air battle managers make up the rated officer force. Career enlisted aviators fall under the rated heading, too.

Rated airmen do much more than fly. Officers fill management duties at the wing level and above. Experienced aviators are those with more than 500 hours in their weapon systems. These airmen are coveted for staff billets at major commands, combatant commands, the Joint Staff, and the Pentagon, and of course, the Headquarters USAF staff.

C. J. Ingram, John Wigle, and Winslow work rated management issues in the Air Force's A3/5 headquarters division. This trio of experts described the process to *Air Force Magazine*.

Their main focus is the officer force of lieutenants through lieutenant colonels. Rated management has two major parts.

First is pilot production and absorption. The process begins as young officers enter undergraduate pilot training. Yearly pilot

production goals are set by authority of the Chief of Staff, and after graduation the newly minted aviators move on to flying training units to learn the ins and outs of the F-16, C-130, or other aircraft. Pilots complete a syllabus of flying training specific to their aircraft then transfer to their operational units. The key to making it all work is absorption: how fast the squadron can take new pilots in, while still ensuring all fly enough hours to gain experience and maintain unit readiness.

Here the teetering begins. Squadrons must maintain a constant ratio of 45 percent new and 55 percent experienced aviators. (Right now, readiness depends on having enough experienced pilots to complete missions.) Having a ready force five or 10 years hence depends on training the new cadres.

The experienced pilots are also tapped as supervisors, for safety and staff functions. Thus you need greater than half of the force experienced to fill the management positions.

On the other hand, if you have too few inexperienced in the squadron you aren't absorbing as many as you could. Fill in too many lieutenants and there won't be enough instructors to fly them, and the flying hours allotted won't

feed them all. Years down the road that year group will be short of members for more senior positions.

Timing is everything. It takes about 500 hours for newly graduated pilots to become experienced aviators. The Air Force standard is to complete that process in 2.6 years.

Underfunding flying hours can throw off the whole process. At 2.6 years after a lieutenant shows up at the squadron, he should be experienced, explained the experts. If the lieutenants do not fly as many hours due to budget cuts, they won't be experienced. That causes problems in the squadron and slows the pipeline by not freeing up places for the next newbie lieutenants exiting FTU.

Of the four major rated groups, the healthiest are air battle managers and mobility pilots who fly aircraft such as the C-17s, C-5s, KC-135s, and KC-10s. "The mobility dilemma is different," explained Ingram. "You can load up multiple crews on a trip" and gain experience for all.

Higher mobility pilot production has also topped up total rated production and helped fill experienced aviator staff billets. The way planners get the total to equal is with more mobility than needed, explained the Air Staff experts. Air battle managers with their command and control proficiency have likewise taken positions in air operations centers and filled other experienced aviator billets.

However, the Air Staff experts are still concerned about the mobility pilots. Those who fly airlift and tankers fill vital missions. Over the past decade, overseas contingency operations funding has injected flying hours into the mobility pilot force, and the wrap-up in Afghanistan means the demand won't be there to fly as many sorties.

A reserve of experience is no bad thing, but the rated management experts will be tracking the mobility force

carefully. As USAF reduces flying hours, it doesn't want to strand any of them.

Fighter Pilot Woes

Rated management would be a lot simpler except for the fighter pilots. Single-seat aircraft and tactical training place stringent demands on the seasoning process. The Air Staff experts explained why the fighter community is so difficult to manage. "Everything is done in pairs in the fighter community," commented Wigle. "You have a wingman and a flight lead. You can have half your cockpits be inexperienced, but the other half must be experienced."

Not too many years ago USAF had a surfeit of fighter pilots—or so it appeared. In the early 1990s, Chief of Staff Gen. Merrill A. McPeak cut back more than 1,500 active component pilots in Fiscal 1989 and Fiscal 1990, to around 500 starting in Fiscal 1994.

Initially, "the fighter pilot shortage was masked because we had F-4 weapon systems officers available in large numbers to fill fighter requirements," explained Wigle. More



Right: Maj. Erin Kelley performs a preflight check on a C-130H. Below: Maj. Edward King completes his checklist on a JSTARS surveillance aircraft before engine start at Robins AFB, Ga. Rated management is a delicate operation, and even minor adjustments to training numbers can swing the operations pendulum wildly.



than 2,600 two-seat F-4 Phantoms were delivered to USAF between 1963 and 1979. Training F-4 crews created a prime force of experienced aviators seasoned in conflicts from Vietnam to Operation Desert Storm, and some F-4 weapon systems officers later became pilots. Others had the combat and operational experience to fill aviator slots on staffs and at major commands.

Retirement of the last manned F-4s in 1996 ended the years of plenty.

By then, a shortage was looming and the combat experience was lodged in specific year groups. The Air Force held its first rated management summit in the fall of 1996, where then-Lt. Gen. John P. Jumper presented a plan to restore production—especially in the fighter community.

Chief of Staff Gen. Ronald R. Fogleman set the dial for pilot production at 1,100 pilots per year. Within that, USAF set a goal of 370 fighter pilots per year—a number that ended up changing every year or two, and the Air Force seldom filled the quota. However, the overall goal of 1,100 pilots per year remained pegged until 2007.



USAF photo by MSGT. Ben Bloker

Part of the rationale was to overcorrect for problems caused by the quick drawdown of the early 1990s. Increasing utilization rate for aircraft might allow the USAF to fly its way out of the problem. Over time, fighter pilots evolve from two-ship tacticians to planners of large-force exercises and gain the maximum exposure in how to execute air campaigns. Seasoned fighter pilots are USAF's single largest group of keepers of the operational art of airpower in joint campaigns. That skill set remains in demand for squadron and wing leadership and at numbered air forces, major commands, joint staffs, and beyond.

More summits followed in 1999 and 2001. The April 1999 summit raised the unit experience level from 50 percent to 55 percent.

Still, the problem persisted. Rated management turned out to be so delicate that one correction bred another problem. Increased pilot production in the late 1990s led the Air Force to shuffle pilots off to units that had room to train them—not necessarily to where they were most needed.

The flow diluted training for all. By the year 2000, the Combat Air Forces started to see signs of degradation in training and readiness at operational units from accepting too many new pilots. The problem got the name “Pope syndrome” when the supply of new pilots to the A-10 exceeded requirements for three years straight. Only 56 new pilots out of UPT were needed for the A-10, but USAF sent out a total of 80 in Fiscal 1999. Readiness and training levels actually began to retrograde, recalled the Air Staff experts.

Before long, the pendulum swung the other way. The fighter drawdown also began to pinch production of experienced aviators. “The Air Force faces an increasing demand for personnel with pilot skills,” wrote the authors of a RAND study, covering 2005 to 2008, entitled “Fighter Drawdown Dynamics: Effects on Aircrew Inventories.” “With fewer aircraft, it is difficult for all pilots to fly enough to maintain their combat skills, and it is particularly difficult for new pilots to gain enough experience in their first flying tour to be prepared for follow-on nonflying and flying positions.”

RAND recommended draconian cuts so that the Air Force would produce less than 200 new pilots per year by 2016. The RAND team feared that failing to reduce the flow of new pilots would “damage the combat capability of fighter units.”

That wasn't quite the solution either. Fighter pilot production indeed slowed from the 370 objective of the late 1990s to 330 in 1999 and down to 297 per year in 2005. Concentrating on not introducing too many lieutenants created new dangers. Experience levels crept up to 70 percent in some fighter squadrons. While overexperience was not a problem in itself, it signaled a long-term trough in the overall inventory for pilots entering the system in those years. This left a permanent mark on the shape of the force.

Then came the deep force structure cuts of 2009 and 2010. Soon there was no way to dig out of it, as the Air Staff team put it.

“You need airplanes to fly to produce valid, credible warriors in the air,” Winslow said. “We don't have the resources, infrastructure, or airplanes to create as many fighter pilots.”

Rated management was again at an inflection point. Chief of Staff Gen. Norton A. Schwartz convened a daylong rated management summit in September 2011 that reset the fighter pilot production goal at 278 per year. Other solutions included sending more aviators through reserve component FTUs or shifting more of the training syllabus to operational units. For example, a new pilot might simply be familiar with a task, rather than proficient in it.

Air Force leaders also decided to hold the rated and aircrew summits every year to monitor the situation. These meetings now take place the day after the Air Force Association's National Convention.

Of course, the annual summits did not plan on sequestration. “The biggest problem was in the UPT environment,” said Wigle. Simulator and contractor maintenance were both cut. The FTUs fared better because most of their maintenance is performed by Active Duty airmen.

Manning for the Unmanned

Meanwhile, remotely piloted aircraft entered the rated management mix. Rapid wartime production of Predators and Reapers also increased demands for experienced aviators to fly the unmanned airplanes.

“The RPA pilot career field hovered around the 50-person level in the late 1990s but now exceeds 1,300 and is growing to approximately 1,650 by Fiscal Year (FY) 17,” wrote Col. Bradley T. Hoagland in a 2013 Brookings Institute report, “Manning the Next Unmanned Air Force: Developing RPA Pilots of the Future.”

The Air Force consciously sent top aviators to fledgling Predator units in the mid-1990s. Consequently, experienced pilots

from the F-15, F-16, and other weapons systems made up the first cadre of RPA pilots. Operationally, it worked. Predator mission success soared.

And here came another wrinkle in rated management. Loaning rated officers out to be RPA pilots drained off experienced aviators. “The current requirement that UAS [unmanned aerial systems] operators who are fighter pilots must be able to return to a fighter unit is unmanageable—there are not enough fighter aircraft to allow it,” the RAND report stated bluntly.

The solution was to treat RPA pilots as a distinct career field. A novel step was routing some UPT graduates directly to RPA units. Air Staff managers reckon there are now close to 300 RPA pilots who are rated for unmanned but not for manned aircraft. That number will take over a larger share, Air Staff officials said, and UPT graduates lent to the RPA field will get sent back to manned aircraft.

The RPA community is now confronting its own rated management hurdles. In his Brookings report, Hoagland cited “significant institutional issues,” including inadequate prescreening, high washout rates, and limited educational opportunities contributing to low promotion rates to the rank of major.

Fixes are in order. “A robust RPA community begins with a more deliberate accessions process and carries through to a continuum of education and training opportunities later in an officer’s career,” wrote Hoagland. That advice would apply across all of rated management.

One thing is certain: RPA aviators will be tracked and managed like their manned counterparts. Rated is rated, the Air Staff experts confirmed. RPA pilots are a part of it. The new 18X cadres are still young, not yet experienced enough for joint staff assignments.

Future With F-22 and F-35

The Air Force’s newest fighters are creating fresh challenges for rated management. The biggest problems with F-22 management are fleet sizes and FTU composition. Originally the F-22 training unit at Tyndall AFB, Fla., was sized for a high utilization rate, but the F-22s aren’t flying that.

Training for the F-22 was derived from the F-15C mission. As it turned out, F-22 pilots needed a much larger syllabus focusing well beyond the air-to-air specialization of the F-15C. “The way the F-22 is used involves more large-force capabilities,” noted Wigle. F-15Cs work often as two-ships while F-22s more frequently employ as four-ship formations.

Initial F-22 training takes place at Tyndall. However, the Tyndall F-22s don’t have the latest software modifications. Prime Block 30 and Block 35 F-22s reside at JB Langley-Eustis, Va., and JB



USAF photo by 2nd Lt. Jake Bailey

Capt. Jake Morgan, a C-130H navigator, monitors radio traffic during a multinational humanitarian mission to the Philippines. Of the major rated groups, mobility airmen are the “healthiest,” say experts, because several crews can fly on each mission.

Elmendorf-Richardson, Alaska, where they are ready to meet combat tasking. As a result, experts are looking at a significant reduction in the F-22 syllabus at Tyndall. More training hours would shift to line F-22 units at Langley, Elmendorf, and JB Pearl Harbor-Hickam, Hawaii.

One fix already in place is to rely on T-38s to help train Raptor pilots. The Air Force placed T-38 programs at Tyndall and Langley so T-38s can fill out formations or perform the role of adversaries. “They play targets for F-22s,” said Winslow.

T-38 pilots at Langley embrace it. “You know going out the door that there’s

a pretty good chance you’re gonna die,” Lt. Col. Derek Wyler told the *Daily Press* of Hampton Roads, Va., in April 2012. Wyler was an F-15 pilot before coming to the adversary mission. The use of T-38s saves Raptor flying hours and enables Raptor pilots to concentrate their F-22 sorties on honing their skill as killers against multiple aircraft. Participants say the T-38s bring an advantage of dissimilar training types. The F-22s were flying against themselves too much, noted the Air Staff rated management team. Too much fifth generation versus fifth generation was not good as a realistic training environment. The T-38s “can put up a whole bunch of numbers, which gives them a tactical problem they have to solve—at a very economical price,” added Wyler.

As the Air Force’s newest fighter, the F-35 will open a new era in rated management. Details are still in the works, but several elements are already taking shape.

F-35 training at Luke AFB, Ariz., will mingle aircraft and pilots from the Air Force and other partner nations flying the F-35A, or the conventional takeoff and landing version. Allies will bring their F-35s into the FTU after acceptance from the production line. Each nation will get a set number of hours—say 3,000—per year for every aircraft allocated to the unit. With those hours, allies will do everything from initial training to upgrades and cross-training of pilots from the Tornado, F-16s, and other aircraft.

What’s unique is that the F-35 training squadrons of 24 primary aircraft authorized will be managed without regard to the nationality of the jet’s owners. “When you step, you don’t know if you are going to fly a USAF jet or partner aircraft. You fly whatever jet necessary,” as an Air Staff expert described it.

That’s the theory, for now. The challenge, as it has been for years, lies in making it work. The F-35 will add one more variable to the delicate balance of production, absorption, and experience of the rated force. ■

Rebecca Grant is president of IRIS Independent Research. Her most recent article for Air Force Magazine was “The Growth at Guam” in the December issue.