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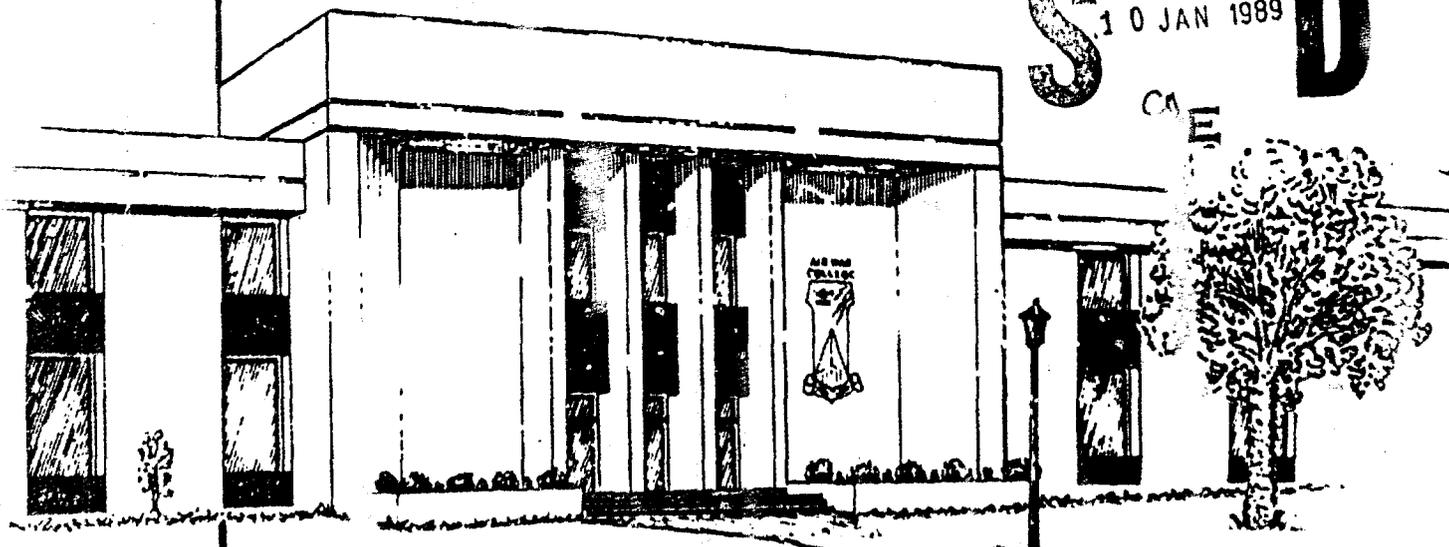
## RESEARCH REPORT

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UNDERGRADUATE PILOT TRAINING INSTRUCTORS: A  
MANNING POLICY IN NEED OF REPAIR

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UNDERGRADUATE PILOT TRAINING

INSTRUCTORS:

A MANNING POLICY IN NEED OF REPAIR

by

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A RESEARCH REPORT SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE RESEARCH

REQUIREMENT

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### ABSTRACT

**TITLE: Undergraduate Pilot Training Instructors:  
A Manning Policy in Need of Repair**

**AUTHOR: William K. Meeker, Lieutenant Colonel, USAF**

→ This study focuses on the lack of a consistent methodology for determining how many field experienced pilots are assigned to Air Training Command (ATC) as undergraduate pilot training instructor pilots and the need for a standard USAF policy on those assignments. ATC has no direct control over access to field experienced pilots. The other MAJCOMs allocate pilots to ATC based on their ability to do so, as defined by MAJCOM leadership. Management of operational problems caused by the decreased availability of experienced pilots has been delegated to the MAJCOMs. Air Force guidance is to maximize readiness. This policy has allowed each flying MAJCOM to control rated personnel policies based on command mission requirements and priorities, but has provided no consistency to the supply of experienced pilots to ATC. A recommendation is made for the establishment of a minimum experience level in ATC's pilot training wings. (SPU) 7

### BIOGRAPHICAL SKETCH

Lieutenant Colonel William K. Meeker (M. B. A., Florida Institute of Technology) has been interested in the development of pilot training programs and instructional techniques since he graduated from Undergraduate Pilot Training (UPT) in 1970. Colonel Meeker is a command pilot with over 4000 hours of flight time. He has served as an instructor, flight examiner and wing spin demonstration pilot in UPT and has over 2500 hours as an instructor in the T-37, OV-10, O-2, F-4, and F-5 aircraft. He was Tactical Air Command's F-5 Instructor Pilot of the Year in 1982. Colonel Meeker served as the Tactical Air Commander's Chief of Studies and Analysis, Office of Safety, Langley AFB, VA from 1983 until 1987. Colonel Meeker is a graduate of the Air War College, class of 1988.

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## CHAPTER I

### INTRODUCTION

Perhaps one of the most volatile personnel issues facing the Air Force today is how best to allocate our pilot force. Retention problems and the requirements for experienced crew members makes any proposal a compromise between the competing needs of the flying major commands (MAJCOMs). In order to compete, or rationally distribute available rated personnel, requirements must be defined. Requirements in this context means how many and what kind of pilots in terms of experience are needed to maintain an acceptable degree of readiness. The highest possible unit readiness has become the criteria against which any new manning policy is measured. Most MAJCOMs have good qualitative methods of measuring readiness. The Air Training Command (ATC) can measure pilot production, but must wait for some period of time for feedback on the quality of that product. Without a defined readiness requirement, justifying the need for experienced pilots has been a challenge to the training community.

#### Purpose

The purpose of this study is not to develop any specific formula for allocating experienced pilots to ATC. That has been done by the Air Staff, ATC and previous Air University studies. Recommendations have ranged from a

assigned to ATC to a program in which all instructors are field experienced (1:--; 2:--; 3:--). The problem presented in this paper addresses the lack of consistency in determining what ATC's allocation of experienced pilots should be. The "fair-share" methodology, currently in use, has resulted in large fluctuations in the number of field experienced pilots in Undergraduate Pilot Training (UPT) wings. To date, the Air Force has not been able to control these fluctuations or reduce ATC's dependency on inexperienced pilots as the primary resource for UPT instructor pilots.

ATC has no minimum requirements defined for experienced pilots that are agreed upon and binding on the other MAJCOMs. A conscious decision was made by the Air Force Council in February 1986 to allow MAJCOMs individually to manage their own rated requirements with an overall goal of maximizing readiness (4:1-4, 5-5, 7-1). The problem lies with the fact that ATC is dependent on the other MAJCOMs for field experienced pilots. Agreement on a realistic minimum requirement for those pilots and an implementation plan need to be made at the Air Force Council.

ATC has changed their target goals for experienced pilots significantly over the last 15 years as a function of the reduced availability of those pilots (7:116; 8:134; 9:125). The argument made here is that the Air Force needs

(MWS) experienced pilots. Once agreement at the Air Force Council is reached on the need to establish a minimum MWS representation in the UPT wings, the necessary formulas can be established.

#### Rated Management Policy

The AF/XO has charged MAJCOMs with establishing their own rated management policies with priority placed on readiness (4:7). Pilot shortages are not to be "shared" equally between line units and staffs. The line units have priority. The Air Staff delegated the decisions associated with rated force distribution within commands to the MAJCOMs in view of the fact that each command is in the best position to determine its needs and can control personnel movements accordingly. Maintaining the necessary balance between experienced and new pilots is a management task controlled in large part by the individual commands. ATC, by contrast, acquires MWS experienced pilots from the other MAJCOMs and therefore is uniquely dependent for support in this area.

#### Instructor's Role

ATC's Undergraduate Pilot Training (UPT) program is the sole source of pilot production for the Air Force. As such, it is manned to produce graduates that meet user needs. Instructor pilot manning is key to ATC's success in meeting those needs. The line instructor is in daily contact with the student pilot and has a direct and

perhaps more importantly, the development of a mental attitude necessary to mature professionally in the years ahead.

Experience as an instructor has led the author to the conclusion that a consistently effective instructor pilot has three basic characteristics: the ability to perform well enough to serve as a useful example, to be able to accurately analyze others' performance, and effectively to communicate methods for improvement. An old instructor pilot wrote the following description of what his profession required nearly 60 years ago. His thoughts remain valid today:

In addition to his aviation qualifications, the flight instructor should be capable and well versed in one highly important area that is not required for any other pilot certificate. The flight instructor should be a teacher. He should have an understanding of the learning principles, and the general application of these principles to teach his students effectively. There is much truth in the saying, 'If there is no learning, there is no teaching' (10:397).

Obviously, the quality of the instructor is a key factor in determining the success of the UPT program. Both flying experience and an aptitude for instructing are necessary. The practice of assigning pilots as instructors in the Undergraduate Pilot Training program immediately following their own graduation from pilot training (first assignment instructor pilots or FAIPs) has been debated at all levels and, due to the increasing frequency of this practice, in 1985 received specific attention by the

Secretary of the Air Force, Verne Orr. In a letter to the commander of Air Training Command, Secretary Orr commented that:

A pilot who has been out in the real world for a few years is certainly going to be a better role model for the young people coming along than one who only graduated a few weeks or months ago .... (8:133).

Increasing the rate of assignment of less experienced pilots to the Air Training Command has caused concern as to how low the experience level can drop without adversely affecting the quality of the pilot force. This is not to detract from the strong motivation to excel and the positive attitude typical of these young instructor pilots. Indeed, senior managers at ATC have suggested that one of the greatest assets the FAIP brings to the command is enthusiasm (11:--). The point is that for the last eight years, the number of FAIPs in ATC has steadily increased while the number of instructors with field experience has continuously declined (12:--).

#### The Squeeze

With the current problems of low pilot retention, all commands have become increasingly protective of their pilot force, especially in the area of experienced crew members. Additionally, the ability to absorb new pilots into the combat MAJCOMs has become a bottleneck through which both new UPT graduates and FAIPs must pass. AF/XO has defined the MAJCOM determined maximum pilot absorption rates as the start point in the pilot assignment process (4:7).

rate and, in fact, serves as a "buffer" for pilot overages when training availability in other systems becomes saturated (8:133-4).

In short, MAJCOMs other than ATC control the transfer of pilots into and out of their commands so as to maintain an experience level they each have defined. ATC is dependent on the other MAJCOMs as the source of experienced weapons system pilots, but has no positive control over access to these pilots.

The problems associated with determining the minimum requirement for major weapons system (MWS) experienced instructors in ATC are gaining recognition. In April 1987, AF/XO directed the establishment of a working group to define the baseline requirement for MWS instructor pilots in UPT (4:12). What will be needed after the baseline is determined is a methodology to insure the supply of those pilots to ATC. Implied in the establishment of a minimum representation of MWS pilots in ATC, is an upper limit to the number of FAIPs that can be maintained in the command.

#### A Different Approach

Many other countries, Germany, Canada, England, and Israel, for example, have limits on the number FAIPs that can be assigned as pilot training instructors (13:4; 14:6; 15:3). This subject will be covered in more detail in Chapter III. The availability of MWS experienced pilots is the limiting variable for the USAF. Therefore, it would

distribute that limited resource. The question of maximum FAIP presence in ATC is a secondary consideration. The primary problem facing the Air Force, and that needs to be resolved at that level, is determining the minimum acceptable level of MWS instructor pilot representation in the UPT wings.

## CHAPTER II

### EVOLUTION OF THE CURRENT UPT INSTRUCTOR MANNING POLICY

The ability of ATC to absorb pilots when production exceeded requirements, or when advanced training was saturated, has been a benefit to the rest of the Air Force. As long as there is no unacceptable decrease in the quality of pilot coming out of UPT, there is little incentive to change, particularly for those outside the training environment. As a result, an evolutionary process of managing UPT instructor pilot (IP) requirements has developed to accommodate the changing availability of potential instructor pilots in the other commands. A review of how the current IP manning policy has evolved indicates a continuous effort to accommodate the Air Force's shortage of experienced pilots, and to a lesser degree, a progressive reduction in ATC's control over their IP inputs.

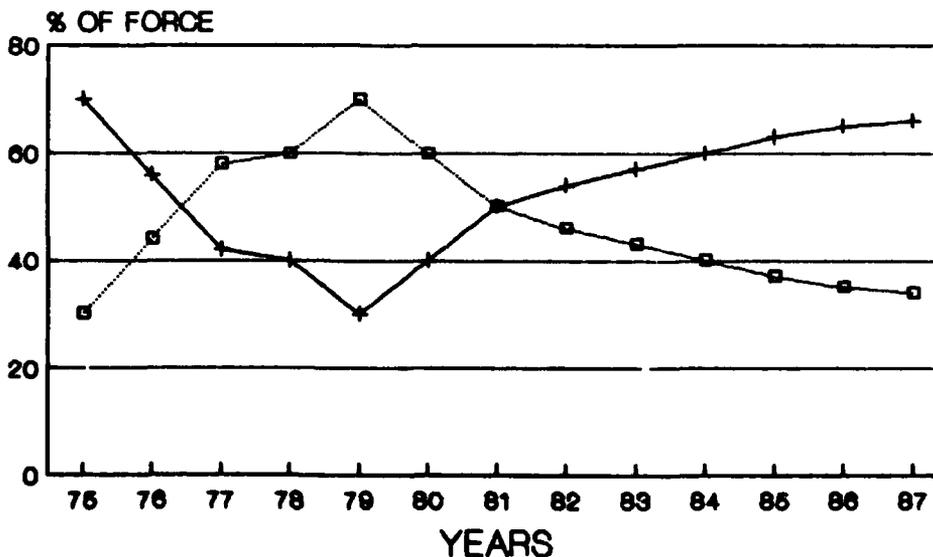
The instructor manning policy has always involved various degrees of negotiation between ATC and the rest of the Air Force. Within the last 30 years, the needs of the Air Force in terms of the type of pilots needed out of UPT has remained relatively constant. Changes in pilot training over the past 30 years include: reduction in the number of training bases; a downward trend in the number of flying

### Experience Mix

ATC made its last major change in pilot training methodology in 1959 (7:103). UPT had used a split track (fighter and multi-engine) syllabus in the advanced phase of flight training. When the last of the B-25 trainers were retired in 1959, the Air Force transitioned to a single track program for all pilot trainees (6:131). Since that time, the basic methodology for UPT has remained constant. Emphasis in this study is placed on the last 12 years, during which time the experience level in ATC has cycled from low to high back to its present low as shown below:

## ATC IP EXPERIENCE MIX

Source: ATC/DPROR (12--)

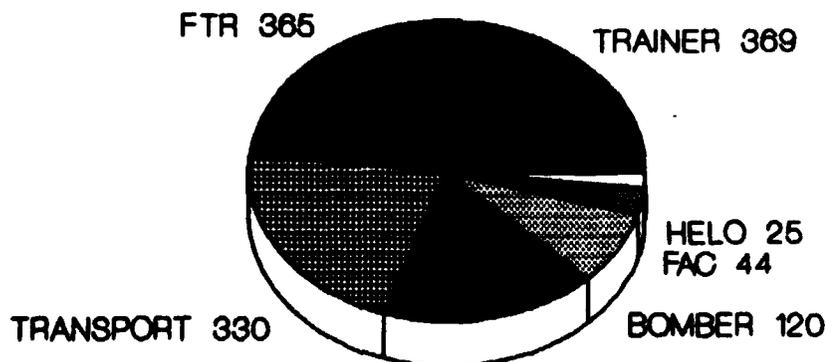


### UPT Assignment Policy

ATC has two sources of instructor pilots outside of the command: first assignment instructor pilots, or FAIPs, and pilots from the various major weapons systems. Currently, approximately 67 percent of the instructors are FAIPs. The number of FAIPs absorbed by ATC each year varies depending on pilot production shortfalls/overages and the availability of MWS pilots. From 1980 through 1985, a typical class could expect to have 20 percent of its members assigned back to ATC as FAIPs. In actual numbers this represents 300 to 400 pilots per year, and the trend is towards further increases (3:1). The FY 88 FAIP input to ATC will be the largest single category of UPT graduate assignment, as shown in Figure 2 (17:9-2).

## FY 88 UPT ASSIGNMENTS

Source: 23 Apr 87 Rated Mgmt Doc, Vol 2



Since 14 January 1974, AFMPC has been responsible for assignment of UPT graduates. Prior to that date, ATC was responsible for newly rated pilot assignments which were made on the basis of student class standings (18:195). The number one student had his pick of the available aircraft and the last student got whatever was left over. Fighters, transport and UPT aircraft assignments generally went to the students at the top of each class.

With the majority of SAC inputs coming from the bottom of each class, an "85/15" percent system was tried in 1972 whereby aircraft assignments were allocated proportionately between the upper 85 percent and the lower 15 percent of the graduating classes. Fighters were exempt from this allocation process and kept in the 85 percent block (18:195-6). Essentially, there were two "blocks" of aircraft assignments made available to the two respective groups of new pilots. Although ATC instructor assignments were not significantly affected by this procedure, SAC benefited from the process in that the majority of SAC aircraft assignments were kept above the lower 15 percent category.

When AFMPC assumed responsibility for UPT graduate assignments in 1974, the system was changed to allow the top 10 percent to choose their assignments. ATC designated those graduates qualified for FAIP duty and these were

graduating classes. Experience levels in the other commands were starting to drop as a result of the draw down from Southeast Asia; however, ATC was still able to attract a representative cross section of experienced pilots from the other MAJCOMs (7:116).

In August 1975, ATC formally established procedures to identify and forward to AFMPC, recommendations for UPT graduate assignments. Each base convenes an Advanced Training Recommendation Board (ATRB) for the graduating class and produces a listing, in order of preference, of those students best suited for fighter, attack or reconnaissance (FAR) assignments. From this group, potential FAIPs are identified (7:103).

The board membership must include at least one FAR-experienced instructor pilot and one instructor with bomber, transport or tanker experience (19:1). This selection process has been criticized for occurring too soon in the T-38 phase and for lack of input from a larger number of more recently experienced NWS pilots (20:5).

#### ATC Instructor Assignments

Another personnel action that affected instructor inputs was the establishment of ATC tour lengths. The assignment length was first formally defined in 1973 when ATC and AFMPC agreed to the following UPT instructor tour lengths: FAIPs--three years IP duty; others--four years IP duty. This action was taken to help stabilize the

then and now, is that the four year tour will cause a young pilot to loose his weapons system identity. As a result, according to the majority of prior flying squadron commanders in the Air War College Class of 1988, the ATC instructor tour has been avoided by many potential field-experienced instructor pilots (21:--).

Most of the pilots being considered for ATC tours are relatively young, having recently attained "experienced" status in their MWS. A four year break in exposure to their primary weapons system occurs just as the individual has become most productive to the parent organization. Apprehensions about competitiveness with peers who stay in the MWS need to be addressed. A pilot who believes he has been "dropped from the mainstream" as a result of an assignment to ATC has difficulty sustaining enthusiasm for either the students' learning or the Air Force in general. The timing, the length of the tour, and the consistency with which the MWS population is exposed to the ATC instructor assignment, need to be adjusted in order to attract and keep the quality of pilot needed to serve instructor tours.

By 1976, ATC was having difficulty maintaining experienced instructors in the command with FAIPs representing approximately 60 percent of the instructor force (12:--). MAC and SAC suggested that copilots be allowed to serve as ATC instructors. Previously, six months

(7:119). ATC accepted the proposal with a provision to review the flight records of copilot inputs (9:125). Since that time, ATC agreed to fill up to 50 percent of the tanker-transport-bomber (TTB) requirement with copilots. Recently, that "standard" has been downgraded to a goal (12:--).

#### Who's Experienced

Also in 1976, ATC lowered the criteria used to define an experienced instructor pilot. The definition was changed from greater than five years rated to: 800 hours total with 600 in the unit aircraft for FAIPs, and 1000 hours total with 250 hours in the unit aircraft for all others (22:11). The earlier standards (five years rated) generally precluded FAIPs from reaching experienced status during their first tour. Under the revised standard, a FAIP would normally be classified as experienced during the third year of assignment. The result was an artificial rise in ATC's experience level.

#### Fair-Share Methodology

As experience levels continued to go down in the early 1980's, the Air Force took action to control rated assignments between NWS categories. In a March 1982 message, AF/XOO stated that:

The majority of Air Force rated requirements are specifically identified with a NWS group by duty AFSC

ATC initiated a program in 1981 to help absorb FAIP and MWS experienced pilots for which follow-on MWS training was not available. The resulting Career Trainer (CT) specialty established training as a separate career field. The intention of developing this cadre of instructors was, primarily, to relieve some of the shortfall in available MWS pilots and, as a secondary consideration, to provide a viable career ladder within the training establishment. Unfortunately, there was no upper limit set on the number of MWS instructor pilots that could be displaced by CT pilots and this led to a rapid growth in the new career specialty (3:5).

ATC initially estimated that it could absorb 75 pilots per year into the CT force (23:96). By 1983, growth within this new career specialty had accelerated beyond expected levels, and although the Tactical Air Forces (TAF) stopped all inputs to the CT force in 1983, the program had attracted 269 instructor pilots by the end of the year (24:139). Inputs to the CT program were reduced to 26 pilots per year which constituted a shift in program intent from increasing pilot absorption to career management and promotability within the CT force (4:2-6).

Each of these policy actions were taken as methods of managing a USAF shortage of experienced pilots. Every MAJCOM is striving to maximize readiness and seasoned, proficient aviators are needed to attain that goal.

ATC's needs are a significant load on the available pool of experienced pilots. The command needs some degree of consistency in their access to the MVS pilot population. Quota's and the fair share methodologies need to be amended to insure an as yet to be determined minimum MVS presence in the UPT wings. The only leverage presently available to the command is to convince the other MAJCOMs that it is in their long-range interest to give up a portion of that valuable asset, a challenging proposition under favorable manning conditions and one that is simply not viable when the Air Force, as a whole, is well short of its' desired level of experienced pilots.

## CHAPTER III

### NEW METHODS AND ANALYSIS

In 1981 ATC conducted a study as a result of an Air Force-wide increase in accidents attributed to pilot error. The command concluded that both the instructors and students had become accustomed to flying by very precise, mechanical rules. Consequently, "...they became less able to react with independent judgment when the situation called for it." (23:88). The command increased emphasis on airmanship and the development of good judgment. This approach has been consistently advocated by other air forces in their pilot training programs.

#### Allied Pilot Training

The British, for example, prioritize sound judgment above precise procedural recall in their overall training philosophy. To illustrate, the following quote was taken from an end-of-tour report written by an experienced USAF UPT instructor pilot who had served on exchange with the British Royal Air Force:

The RAF puts much more training emphasis on teaching the "feel" of flying and flying to the aircraft limits while UPT puts greater emphasis on precision and procedure and produces a mechanical pilot.

The RAF pilot training philosophy places more emphasis on inflight emergency procedure training than does UPT. During inflight EP (emergency procedure) training, the RAF expects the student pilot to take the proper EP steps, make the proper "Pan" or "Mayday" radio transmissions, co-ordinate the recovery to the home field or diversion field as necessary, and land from the

Not surprisingly, new UPT graduates are most often criticized for having difficulty with operations they have been taught the least about in pilot training. Examples are areas such as: flight in actual weather conditions, map reading, low level navigation, night flying, and decision making (8:125; 26:18)

The Tactical Air Forces have addressed some of these problems with Fighter Lead-In Training (FLIT). The observations of instructors at FLIT are revealing in that they most frequently highlight student problems with areas that do not lend themselves to procedural solutions. Examples such as formation take-offs and landings, tactical formation, and clearing are in this category. Although procedures have been developed for each of these, proficiency is more dependent on judgment of each situation as it develops, as opposed to recalling the correct task procedure. Flexibility and situational awareness, or maintaining an overall assessment of what is pertinent to the success of an operation, are additional problems identified as weak by FLIT instructors (26:18; 27:126). These last two areas are least suitable for procedural solution and are therefore difficult to develop in any training environment. The ability of an instructor to foster proficiency in these judgmental areas is a function of the instructor's own experience in similar situations.

In addition to the alterations in UPT manning policy

program have taken place or are planned that effect instructor manning. Most of these changes have occurred or are planned so as to moderate the effects of budgetary restrictions, aircraft availability problems, as well as NWS pilot shortages.

### Efforts to Change

Air Training Command has never been comfortable with the situation in which the majority of its instructor force is made up of FAIPs. In September 1974, HQ USAF proposed an experience mix consisting of 55 percent FAIPs. As shown in ATC's 1974 MAJCOM History:

ATC found this experience mixture unacceptable, because an IP force which had 55 percent of its total drawn from UPT graduates would have an adverse impact on the quality of the UPT graduate .... (18:224).

Later in 1974, ATC proposed a mix of 40 percent FAIPs, 10 percent Career Trainers, who had no weapons system identity, and 50 percent operationally-experienced pilots. A 10 percent Career Trainer instructor force was dropped as a command goal due to the restrictions that would be put on assignment policies for these pilots. The final agreement between HQ USAF and ATC was for a 40/60 percent FAIP to operationally-experienced mix (18:226). Low retention in the late 70's eventually resulted in ATC accepting the reverse of this ratio, a position the command found unacceptable 5 years earlier.

Concern was not only for student training, but for

MWS instructors (28:185). With a larger percentage of inexperienced pilots in the instructor corps, ATC became increasingly concerned for the necessary close relationship between the users and producers of the pilot force (29:102).

### Flight Simulators

Flight simulators have been more heavily relied on, particularly in the last 10 years, and an increasing amount of the overall training program has taken place in the simulators. ATC initially cut 40 hours out of the UPT program when the Instrument Flight Simulators (IFS) first became operational. Approximately 10 hours of flight training was reinstated after problems with graduate performance were reported by the MAJCOMs (30:121-23; 31:20-24). Whether or not a larger representation of MWS pilots in ATC would have improved the results of reduced aircraft flying hours is difficult to determine. What has been documented indicates that good procedural knowledge tested in an academic environment, the simulator in this case, does not insure that those procedures can be appropriately applied in an operational environment (26:5).

In cases where no specific procedure is appropriate and latitude for selection from a variety of possible techniques exists, the pilot must rely on his own judgment. Multiple systems malfunctions, weather deviations and in-flight mission changes are examples of this type of

systems and the highly structured environment of UPT flight operations, exposure to these situations in ATC is fairly limited although the simulator is one place where this type of training can be introduced. The limiting factor here is the instructor's ability to generate a realistic scenario that challenges, but yet is not totally beyond the student's capabilities.

Pilots who have operational experience are more likely to have been in situations that did not lend themselves to precise procedural solutions. Experienced pilots are also more apt to detect cases in which the student has become fixated on finding the right "rule". This is a problem for even the most talented instructor pilots who have not had similar personal experiences. The training environment is designed to keep such occurrences to a minimum. FAIPs are understandably not typically inclined to voluntarily put themselves and their students in situations unsuited to procedural solutions. Yet it is just that kind of non-standard situation treatment that is needed, when the instructor is available for assistance, that provides students the confidence to deal with similar problems on their own. In the view of the author, the building of such confidence is the bedrock of airmanship.

Due to the relatively good weather at the locations of the UPT wings, the FAIP has limited opportunity to gain

instructors who have had this experience, especially those who have overseas experience, is low and decreasing (15:4).

#### Specialized UPT

The one change planned for UPT with a direct potential for impact on instructor manning is the Specialized Undergraduate Pilot Training (SUPT) program. This will be the first time the Air Force has produced a "specialized" pilot graduate since the fighter/multi-engine UPT program of the 50's (5:129).

ATC has consistently advocated an approach to UPT that is in the best interests of all users. When the specialized track system was being investigated, the ATC commander wrote the Vice Chief of Staff of the Air Force in May 1977:

First, any new pilot training system should maximize the graduate quality of our future pilots while minimizing Air Force costs. I must emphasize "Air Force costs" because we in Air Training Command feel it is incumbent upon us to do more than minimize our own training costs which could conceivably add costs to the using commands. Second, the only training system that can optimize both quality and cost is a specialized training program (9:102-3).

In 1975, the Government Accounting Office asked the Air Force to investigate alternate methods of conducting undergraduate pilot training in view of the fact that the Navy was using a split track approach with some claimed fiscal savings (7:103). Since then, several other pilot

separating students into fighter, multi-engine and helicopter categories. The Canadians and most of the European countries use variations on the same "specialized" training concept. Several USAF instructor pilots on exchange tours with these nations have brought back a valuable source of insight associated with the specialized approach (14:6; 15:3; 25:9; 32:1).

#### SUPT Affect on IP Manning

At the April 1987 Rated Management Executive Conference, ATC reiterated the need for cooperation and participation on the part of all MAJCOMs as the specialized pilot training program is brought on line:

ATC is currently operating its UPT wings at 46 percent T-37 and 51 percent T-38 experience. This is substantially below the 53 percent required to effectively conduct UPT operations and insure quality supervision of a very young IP force. It remains imperative that all MAJCOMs meet their requirements to ATC. Total NWS presence in ATC must be maintained at a minimum of 883 (MAC, 283; TAC, 310; SAC, 290). In conjunction with meeting these stated requirements, it is essential that inputs from MAC and SAC maintain at least a 50 percent aircraft commander level. All NWS requirements in ATC are for supervisory and experienced required positions, thus dilution of NWS inputs will impact ATC's ability to control production levels of quality Air Force pilots...

Under SUPT operations, there will continue to be a valid requirement for NWS experienced pilots to serve career broadening/satellite tours as ATC instructors. As a matter of fact the NWS presence may become even more critical due to the training, specialization, and operational orientation of SUPT (4:2-6,7).

An evaluation of the need for more field-experienced

the current program. In other words, how much new material will be brought into the course that will require experience outside the training command to effectively implement?

The multi-engine track will be the most notable departure from the current program in terms of hardware. It will require a new or at least different airframe(s). Problems with aircraft acquisition has been the reason for delays in implementation of SUPT in the past (7:105). Ironically, the hardware consideration is now largely responsible for the SUPT program as existing airframes approach their design life limits (29:91).

In May 1975, the Air Force Vice Chief of Staff directed ATC to develop alternative methods for conducting UPT with guidance to evaluate the U.S. Navy's split-track approach. By 1977, the SUPT concept had been endorsed by the command and implementation was planned for the mid-80's (9:102). SUPT is now programmed to begin in the fourth quarter of 1991 (4:2-7). When a suitable type of aircraft is obtained, ATC will begin conducting training in a program designed to resemble more closely the crew considerations and flight profiles of large aircraft.

Currently, transport and tanker-experienced instructors are being made available to ATC in more than their "fair share", but SAC and MAC have advised that they will not be able to support shortfalls in other NWS

is coming on line, that multi-engine experienced instructors will be diminishing in the UPT wings.

The fighter, attack, reconnaissance (FAR) track will include the phases currently being taught with some additional emphasis on formation and low level navigation (1:--). From an operating standpoint, perhaps the most significant impact to ATC resulting from the FAR track will be the decrease in utilization of T-38 airframes. Shortfalls in T-38 availability were forecast for as early as FY 90 if the fleet continued to fly at current rates (33:--).

SAC intends to have all future bomber pilots trained via the FAR track which raises the question of bomber-experienced instructors for this phase of the restructured UPT course (34:--). The intent is to expose the potential new bomber pilots to more of the high speed, low level environment than would be available in the multi-engine track. SAC's commitment to the training program will be tested when the initial group of B-1 and B-2 pilots become available for assignment opportunity as FAR track ATC instructors. To date, both SAC and MAC have supported more than their allotment of NWS pilots to help offset the shortfall in fighter inputs, but as was previously mentioned, their capacity to continue that practice is in question due to pilot retention problems. The new systems

transitioned to these weapons systems. The prospect of increasing the number of bomber or transport pilots made available to ATC is not probable. Improvements at some point in the future seem even less likely (12:--).

When the Air Force brings the Specialized Undergraduate Pilot Training system on line, a choice will need to be made as to how the USAF wants to manage the requirements for experienced pilots in UPT. Under the present manning policy, ATC will negotiate with the other commands for the people they need. A broader approach should start with a definition of ATC's minimum requirement, which would be a baseline for the other commands. Then negotiation between ATC and the using MAJCOMs for pilots beyond the minimum could take place based on the various MAJCOM priorities.

**CHAPTER IV**  
**NEED FOR AN AIR FORCE PERSPECTIVE**

**"An instructor affects eternity. He can never tell  
where his influence stops."                      John Adams**

As directed by the Air Staff, each of the flying commands have established rated officer policies to manage the shortage of experienced crew members (4:1-3). This decentralized approach to the USAF pilot retention problem allows each MAJCOM to prioritize their individual needs and balance the force according to mission requirements. From the present Air Force perspective, each command is best able to manage the growth of their own experience base of crew members.

**A Tin Cup Syndrome**

The Air Force has consistently taken the approach that ATC will need to adjust to the experienced pilot manning requirements of the other flying MAJCOMs. In 1977, HQ USAF advised ATC that Air Force requirements necessitated a reduction in fighter experienced IPr assigned to the UPT wings (9:117-8). Experience levels across the Air Force were low, especially in tactical units. In November 1977, fighter units were having difficulty filling the instructor pilot, flight commander and higher squadron positions with

experienced pilots in billets below the flight commander level (9:126). Since then, experience levels have increased significantly.

In the case of the Tactical Air Forces (TAF), comprised of the Alaskan Air Command, Pacific Air Command, Tactical Air Command and the United States Air Forces in Europe, rotation between theaters results in TAF overall experience growth. The TAF is holding at an experience level of 50 percent of the line crews, a position unattainable 10 years ago (9:127). However, decreasing pilot retention and limits the TAF has placed on the number of fighters allocated to training units will further reduce the availability of fighter pilots for assignments outside the TAF.

Other commands have set their rated force goals and have been reasonably successful in meeting them. MAC maintains a goal of approximately 50 percent of their pilots as qualified aircraft commanders (4:2-3). These goals have been met as a result of careful management of a limited resource: experienced pilots. The exception to this internal experience base growth capability is ATC, notwithstanding the relatively small Career Trainer force.

#### Needed MAJCOM Support

The understandable tendency of each command to protect their own resources has affected ATC in areas other than pilot availability. The flying hour program is a case

hour increase (per student) in the UPT program when it was feared that those hours might be taken from the combat crew flying hour programs. The increase in the UPT program was designed to address proficiency problems associated with an earlier 40 hour reduction in the UPT program (24:115). All commands voiced concern with proficiency problems, primarily in the instrument phase, but support for an increase of less than one-fourth of the original cut was, at times, difficult to sustain.

No large air force, with the exception of the USAF, man their training units with a majority of pilots who have not had operational experience. The British RAF, for example, man approximately 25 percent of the instructors in basic flight training squadrons and over 60 percent in advanced flying training units, their equivalent of the T-38 phase of UPT, with fast jet (fighter type) experienced pilots (15:3). Most of the other instructors come from a cross-section of operational units. Only 5 percent of RAF instructors are "FAIPs" (35:3).

The Canadians use a small number of new pilots as instructors, but these pilots are first given 500 hours flying time after pilot training before they are certified as instructors (36:3). The German and Norwegian air forces supply field experienced instructors to the European NATO Joint Jet Pilot Training (EJJPJT) wing at Sheppard AFB, in Texas, on approximately a one-to-one ratio with their

participating allied countries support the ENJJPT program with a similar number of experienced instructors.

There seems to be no basic disagreement as to the value of having experienced pilots in UPT wings. Their contributions during peace time have been discussed. In times of conflict, the instructor corps has served dual purposes as both a production source of new pilots and a pool of talent from which the combat units can draw. Use of the instructor corps to supplement combat units warrants discussion.

#### Instructor Corps as a Combat Resource

Careful evaluation should be made of the advisability of use of the instructor cadre for combat unit reinforcement. The gradual build up in Southeast Asia allowed the USAF to adjust UPT instructor inputs as pilots rotated back from the combat squadrons. A more rapid escalation of the conflict could have resulted in a draw down of the MWS experienced instructors from ATC faster than they could have been replaced. Here, the establishment of a minimum MWS presence would be helpful in that a carefully thought out minimum acceptable requirement for experienced pilots will serve as a useful planning factor. The consequences of withdrawals below that level would be more readily acknowledged, and hopefully managed more intelligently, than if there were no minimum defined, as is now the case.

In a protracted war, maintaining a viable training system is crucial. A decision to strip away instructors and equipment in the early stages of conflict might have disastrous consequences later when the productivity of the training system becomes most vital (16:2-3). History provides a useful example of this potential problem.

During World War II, for example, the Nazi strategist chose to draw heavily from the training cadre to fill front-line cockpits. Pilot training programs were shortened and the experience level of the instructor force dropped. As a result, the quality of flight training suffered, there was a decline in the competence of pilot graduates, and the subsequent rate of aircrew losses accelerated. This vicious cycle was never broken. By the first half of 1943, the Luftwaffe had degenerated to the point that the fighter force was suffering as many losses due to non-combat flying as it did to the efforts of the opponents (16:10).

### Conclusion

The importance of providing a steady flow of experienced pilots to the UPT wings is difficult to appreciate when those same pilots are in such high demand throughout the Air Force. However, the concluding remarks to a study conducted by the Air Force Systems Command on future pilot training programs succinctly states the rationale for putting the best available people into the

The flight instructor is the single most important individual in the training of a pilot. He is the demonstrator, the critic, the motivator, and the prime mover in achieving excellence of performance in his pilot trainees (37:130).

The lesson is that, although the combat MAJCOMs agree on the desirability of maintaining a presence in the pilot training wings, they find it difficult to support ATC when the availability of experienced pilots is below the minimums they have defined. ATC has no such command controlled minimum. Until the rated management community agrees to and supports a policy that ensures a viable instructor force in ATC, the other individual MAJCOM manning policies will continue to determine the exposure our new pilots have to operational flying philosophies during the most formative phase of their flying careers.

#### Recommendation

Currently, two out of every three instructor pilots in ATC have no military flying experience other than the pilot training program in which they are now instructing. They are being supervised by a limited number of instructor pilots that have been made available to ATC at the discretion of the other flying MAJCOMs. This policy has allowed an unacceptable experience level to develop in our USAF pilot training wings. If no change is made to the current pilot distribution methodology, ATC will have even fewer field experienced pilots in the future. A minimum NWS

representation in ATC should be established by the Air Force Council and enforced. This action is in the long range interests of all USAF flying organizations and will help revitalize the close relationship needed between the training and operational commands.

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