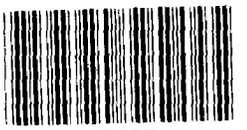
BY THE U.S. GENERAL ACCOUNTING OFFICE

**Report To The Secretary Of Transportation**

# The Federal Aviation Administration Can Improve The Operation Of Its General Aviation District Offices




General aviation accidents and fatalities have been declining, but there is still room for improvement, particularly in preventing pleasure-flying accidents. Lack of inspectors or failure to use them more efficiently has resulted in deficiencies in certain inspection and monitoring activities and educational efforts aimed at pleasure flyers and others.

The Federal Aviation Administration has recognized its staffing problems and has recently hired additional inspectors. It also plans to use office automation equipment to increase inspector productivity. GAO could not determine if these steps will solve FAA's staffing problems because FAA has not adequately identified its specific staffing needs or the extent to which the automation equipment will increase productivity.

To adequately determine its staffing needs, FAA should develop a work force planning process based on district office objectives, work tasks, and up-to-date staffing standards. GAO also recommends other ways to improve district office operations.

CED-81-114
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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

B-203586

The Honorable Drew Lewis
The Secretary of Transportation

Dear Mr. Secretary:

This report addresses ways in which FAA can improve the operation of its general aviation district offices. We made this review as part of our continuing effort to examine Federal activities to develop safe and efficient air transportation.

We discussed our specific conclusions and recommendations with appropriate FAA headquarters officials, and their comments were considered in preparing the final report.

The report contains recommendations to you on pages 21, 29, 37, and 43. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agencies first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the four committees mentioned above; congressional committees interested in air transportation; the Director, Office of Management and Budget; and other interested parties.

We appreciate the cooperation and courtesy of FAA's staff during our review.

Sincerely yours,

Henry Eschwege

Henry Eschwege
Director

GENERAL ACCOUNTING OFFICE
REPORT TO THE SECRETARY
OF TRANSPORTATION

# THE FEDERAL AVIATION ADMINISTRATION CAN IMPROVE THE OPERATION OF ITS GENERAL AVIATION DISTRICT OFFICES

## D I G E S T

The Federal Aviation Administration (FAA) credits its general aviation district office activities with contributing to a declining trend in the number of general aviation accidents and fatalities. FAA could be even more effective, particularly in preventing pleasure-flying accidents, and at the same time improve efficiency if it would make several improvements in how it operates its 84 general aviation district offices. GAO's review of the operation of nine such offices in three different FAA regions showed that FAA needs to

--better plan for and manage its work force devoted to general aviation district offices;

--better monitor private pilot training, licensing, and continued pilot proficiency;

--make certain improvements to its accident prevention program; and

--exercise stronger controls over aircraft rentals.

## BETTER WORK FORCE PLANNING AND MANAGEMENT NEEDED

Between 1972 and 1980 FAA's general aviation licensing, inspection, and other responsibilities grew while the number of staff devoted to enforcing increasingly complex safety regulations remained relatively unchanged. Delegating certain licensing functions to private examiners and giving district office managers more flexibility in scheduling work has helped FAA carry out its increasing workload but has not been enough to prevent deficiencies in certain monitoring and inspection activities. Timely service to the public has also suffered. For example, in 1980 one district chief reported that his office was unable to, among other things, investigate suspected illegal operators, inspect several repair stations, license new air taxi companies promptly, or adequately monitor designated pilot examiners or instructors. (Ch. 3 of this

report specifically addresses the need for improved controls over designated pilot examiners and instructors.)

The National Transportation Safety Board and many FAA officials have warned that insufficient staff to conduct monitoring and inspections can eventually lead to increased accidents.

FAA has recognized that some of its shortcomings are caused by staff shortages and has hired more inspectors. Additional district office staff positions (127) were provided in fiscal year 1980 and 1981. (These increases, however, may be subject to administration budget cuts in fiscal year 1982.) FAA also intends to use dictation, word processing, and other automation equipment to increase productivity by the equivalent of 196 inspector positions.

GAO could not determine if these actions will solve FAA's staffing problems because FAA does not have a workable system for evaluating staff needs, nor has it thoroughly assessed the benefits of using the new equipment. FAA needs to demonstrate that the new office equipment will actually produce the projected productivity increases, and it needs to develop a work force planning process designed to tie district office responsibilities and work tasks to staff needs. FAA plans to take action on both of these matters.

Staff shortages, as well as lack of funds or FAA's slowness to act, have caused other problems. These include missed opportunities to streamline or delegate more work functions, lack of regional evaluations of district office performance, and lack of specific job-related management training for district office managers. (See p. 7.)

## BETTER MONITORING NEEDED OVER PRIVATE PILOT TRAINING, LICENSING, AND CONTINUED PILOT PROFICIENCY

FAA has continually delegated to the industry more and more responsibility for private pilot training, licensing, and continued pilot proficiency. Delegation, if monitored and controlled properly, can reduce FAA's workload, but because of staff shortages and higher priorities, FAA has not exercised enough control over non-FAA flight instructors and designated pilot examiners--key individuals in the training, licensing, and continued pilot proficiency process.

Pleasure flyers have an accident rate almost twice as high as the average general aviation rate. The effectiveness of the biennial flight review, a requirement directed at ensuring continuing pilot proficiency, has been hampered by a lack of specific regulations governing minimum content of the review. FAA has so far relied on voluntary compliance with suggested review content.

In some violation cases, FAA field offices could substitute additional training for sanctions--particularly for inexperienced pilots--but so far has not exercised this option. This is generally because the option is new and, so far, specific guidelines are lacking on how to use it.

Making improvements in the above areas may in some cases require more staff. Increased productivity from the planned district office automation program (if actually experienced) or implementing other work-saving measures (see p. 16) may help meet this staffing need. In any case, FAA's work force planning process should recognize improvements needed in private pilot training, licensing, and continued pilot proficiency. (See p. 22.)

ACCIDENT PREVENTION PROGRAM NEEDS IMPROVEMENTS

FAA'S Accident Prevention Program is a voluntary educational program aimed at general aviation pilots. It enjoys wide industry support. The program, however, could be improved through better planning and more aggressive and timely efforts to counsel pilots exhibiting weaknesses; for example, pilots who require flight assists from air traffic control because of being lost, low on fuel, or other reasons.

District offices also need to more closely follow program directives by assessing the need to appoint more volunteer counselors, encouraging the development of individual private aviation group accident prevention programs, and by promoting and following up on safety improvement reports submitted by the public.

Although generally agreeing with the need to make these improvements, district office accident prevention specialists told GAO that they are overburdened with other work. Again, office automation and using other work-saving measures may help,

but GAO also believes that lack of importance attached to these duties by accident prevention specialists is also a factor. (See p. 30.)

## MORE CONTROLS NEEDED OVER THE AIRCRAFT RENTAL PROGRAM

FAA authorizes its inspectors to rent aircraft to maintain their flying proficiency and for transportation. However, vague guidelines may lead to rental aircraft misuse. Several cases of aircraft rentals for apparently personal use have occurred. A larger problem than misuse may be poor aircraft selection. There were times, for example, when a less expensive single-engine aircraft may have been adequate, but inspectors, apparently for personal preference in some cases, chose more expensive twin-engine aircraft. In one region, almost 50 percent of all rentals were twin-engine aircraft. Competitive contracts for aircraft rentals in some cases could result in lower cost or more available flying time. FAA was unable to adequately explain why this possibility was not fully explored. Stronger controls in the form of specific guidelines are needed to prevent abuse, minimize costs, and maximize the benefits of the aircraft rental program. FAA recognizes some of these problems and is revising its directive governing aircraft rentals. (See p. 38.)

## RECOMMENDATIONS

GAO recommends that FAA develop a work force planning process based on district office objectives, work tasks, and up-to-date staffing standards. GAO also makes several other recommendations aimed at improving district office operations. These recommendations appear on pages 21, 29, 37, and 43 of this report.

# Contents

## ABBREVIATIONS

| | |
|---|---|
| AOPA | Aircraft Owners and Pilots Association |
| DOT | Department of Transportation |
| FAA | Federal Aviation Administration |
| GADO | general aviation district office |
| GAO | General Accounting Office |
| NTSB | National Transportation Safety Board |
| SIR | Safety Improvement Report |

## GLOSSARY

| | |
|---|---|
| Aircraft type rating | An addition to a basic pilot license that is required before a pilot can act as "pilot in command" on certain large or sophisticated aircraft. |
| Airmen | Pilots, mechanics, and others involved with maintaining or operating aircraft. |
| Check pilot | Non-FAA pilots authorized by FAA to administer required proficiency checks for air taxi/commuter pilots. |
| Pilot examiner | Non-FAA pilots authorized by FAA to conduct ground and flight tests for various pilot licenses or aircraft type ratings. |

# CHAPTER 1

## INTRODUCTION

The Federal Aviation Act of 1958, as amended (49 U.S.C. 1421), charges the Federal Aviation Administration (FAA) with promoting air safety by prescribing minimum standards for the design, production, and maintenance of aircraft; setting qualification requirements for airmen (pilots, mechanics, and others); and continued monitoring and inspection of aircraft and airmen to assure compliance with established standards and requirements.

To fulfill this mandate, FAA has established three types of offices. These are:

--Eighteen engineering and manufacturing district offices to oversee the design and production of air carrier and general aviation aircraft.

--Eighteen air carrier district offices to ensure that air carrier licensed airmen are initially qualified and that they maintain their proficiency and that air carrier aircraft are maintained properly.

--Eighty-four general aviation district offices (GADOs) to ensure that general aviation licensed airmen are initially qualified and maintain proficiency and that general aviation aircraft are maintained properly. 1/

All of these district offices report to one of 11 FAA regional offices. This report deals mostly with GADOs.

In fiscal year 1980 FAA spent about $39 million on GADO operations, which employed about 1,030 technical and 276 clerical employees.

### WHAT IS GENERAL AVIATION?

General aviation, as defined by FAA, encompasses a wide variety of aviation activities. It includes all facets of aviation, except air carrier and military-related operations and certain large aircraft commercial operations. Air taxi/commuter operations, 2/ corporate/executive operators, business flying, instructional activities, aerial application (crop dusting), and pleasure (personal) flying are all included under the general aviation category.

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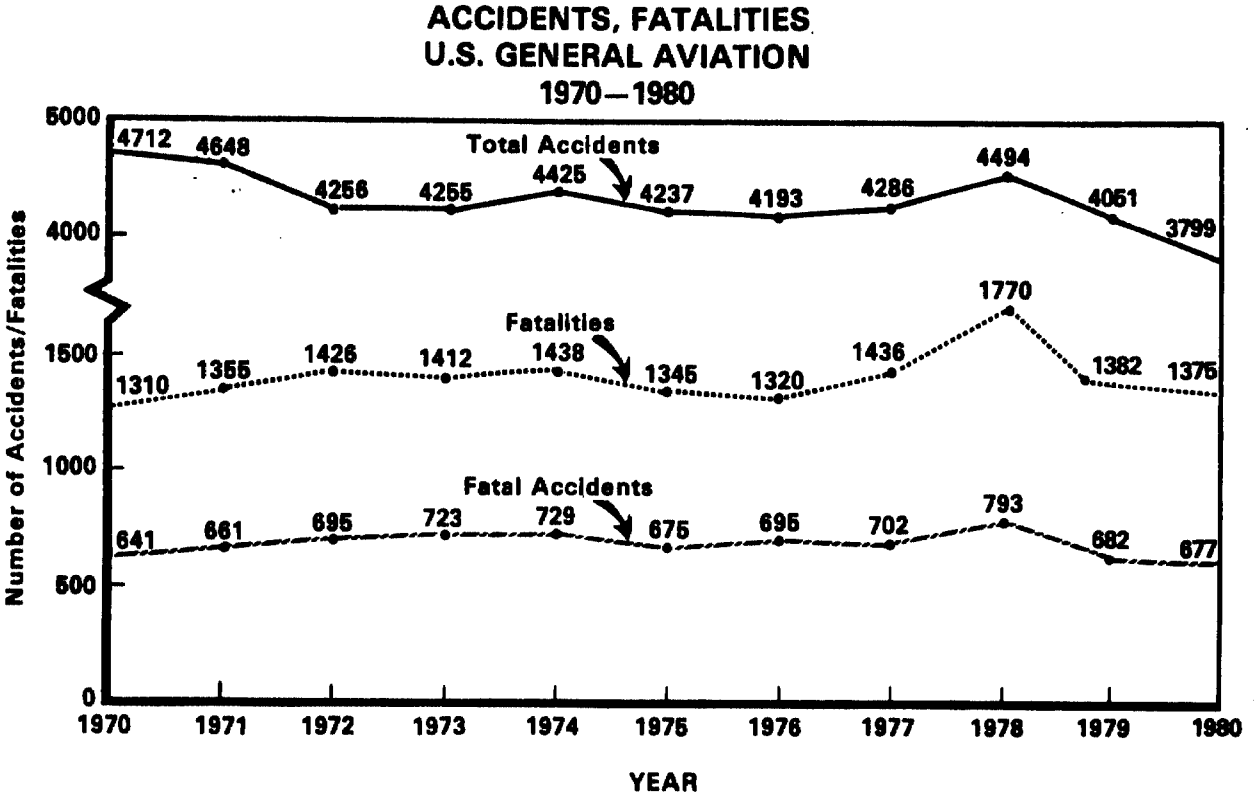
1/Twenty of the 84 GADOs also perform air carrier functions.

2/Air taxi operators provide air service on a demand basis. Commuters are air taxis that provide a certain number of scheduled flights per week.

SAFETY RECORD COULD BE IMPROVED

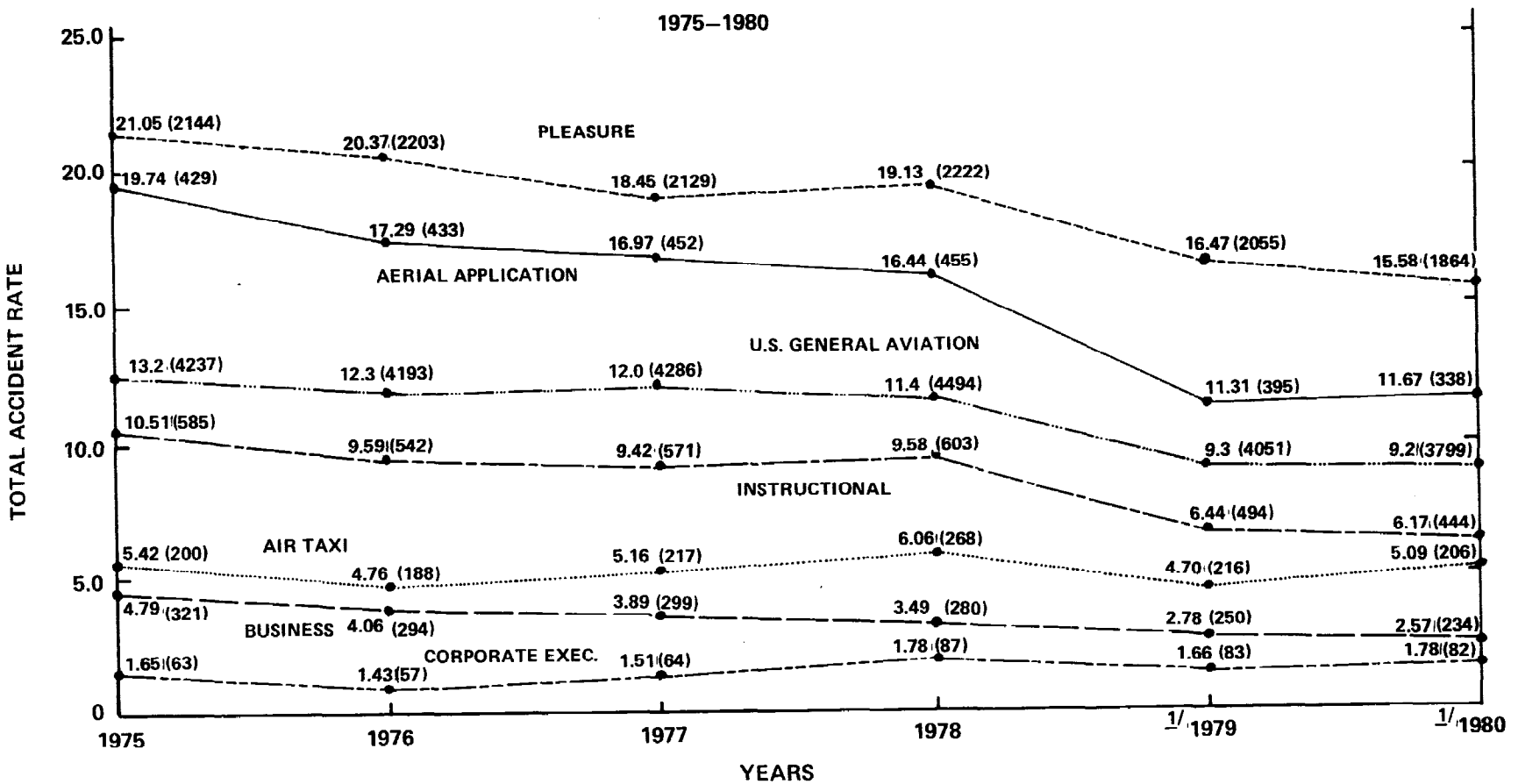
Although the general aviation accident record has, for the most part, been steadily improving, there is still room for even better performance, particularly for certain segments of general aviation. The following chart shows that between 1972 and 1976 the number of general aviation accidents and fatalities remained fairly steady or declined slightly. Both the number of accidents and fatalities increased in 1977 and again in 1978, but this trend was reversed with declines in both 1979 and 1980. FAA attributes these declines in part to its GADO activities.




Source: National Transportation Safety Board.

An analysis of the different categories that make up general aviation shows very little variance over time as to which category has had more accidents. Pleasure flying has consistently had the highest, followed by aerial application, instructional, air taxi/commuter, business, and corporate/executive. The following chart depicts the accident rate per 100,000 flying hours for each general aviation segment. The number of accidents are included in parentheses.

KIND OF FLYING—TOTAL ACCIDENT RATES
PER 100,000 AIRCRAFT–HOURS FLOWN
1975–1980




1/ Preliminary

Source: National Transportation Safety Board and FAA.

Each year, pleasure flying accounts for about half the total number of general aviation accidents. In addition, pleasure flying has consistently had the highest accident rate, about twice as high as the overall general aviation rate, and in 1980 this rate was more than eight times higher than the corporate/executive rate.

FAA has no established criteria that spell out what accident rate is acceptable or unacceptable for any flying category. However, a 1979 study of problems facing general aviation safety, prepared for the Aircraft Owners and Pilots Association's (AOPA's) Air Safety Foundation, reported that general aviation may expect to make only 1,000 trips before a fatality occurs, compared with 10,000 trips for the automobile and 200,000 trips for domestic air carriers. The report noted that inherent operational differences lead to some difference in rates, but it stated that,

> "There does not appear to be sufficient reason, on balance, to justify the order of magnitude difference in fatality rates that exist."

The report also stated:

> "* * * based on 'common sense' comparisons, it is submitted that the current general aviation accident rates are not satisfactory."

The report suggests that pleasure flyers in particular be targeted for additional safety efforts.

## GADO RESPONSIBILITIES

In pursuing air safety, GADOs perform a wide range of functions, including accident investigation, airmen testing and licensing, air taxi/commuter licensing, airmen and aircraft compliance monitoring and inspections, investigation of public complaints and violations of Federal Aviation Regulations, enforcement actions against violators, and accident prevention educational activities. Most GADOs are organized with several inspectors reporting to either an airworthiness or operations unit chief, both of which in turn report to a district office chief. Airworthiness inspectors generally deal with matters related to aircraft maintenance, while operations inspectors generally deal with pilots and the operation of aircraft. Accident prevention specialists usually report directly to the district office chief and are responsible for promoting safety through continuing airmen education.

## OBJECTIVES, SCOPE, AND METHODOLOGY

We reviewed the operation of GADOs to determine how well staff and other resources are managed and to identify any improvements in the various activities and work functions that could increase effectiveness or efficiency. Our preliminary

work covered the entire scope of GADO operations, but our detailed review focused on

--work force planning and management;

--private pilot training, licensing, and continued proficiency testing;

--safety educational efforts (the Accident Prevention Program); and

--aircraft rental activities.

Because a large percentage of aircraft accidents are attributed to pilot error, we concentrated more on operations-related work functions than airworthiness (aircraft maintenance) functions. We also concentrated on those FAA activities aimed at pleasure flyers.

To achieve a broad perspective, we selected nine GADOs for detailed review, three in each of FAA's New England (Portland, Maine, and Norwood and Westfield, Massachusetts); Southern (Atlanta, Georgia, and St. Petersburg and Miami, Florida); and Western (Long Beach, San Diego, and Van Nuys, California) Regions. Our selection of the nine offices was also based on differing workload levels. We used three separate audit teams, one for each FAA region visited. We also visited one Eastern Region GADO (Baltimore, Maryland) where we reviewed selected activities. Our field work was completed in January 1981.

We relied heavily on interviews with GADO chiefs, their airworthiness and operations unit chiefs, and to a lesser extent line inspectors. We reviewed, in detail, GADO files related to budgeting and work scheduling; monitoring of private pilots, instructors, and pilot examiners; the Accident Prevention Program; and aircraft rentals. We considered but rejected using structured interviews and questionnaires because of the large amount of freedom given to GADO chiefs in discharging assigned responsibilities. Our teams did use a common audit program designed to obtain information that could be compared and analyzed.

We are reasonably certain that the problems we identified are widespread because, in addition to our work at specific districts, we discussed each problem area with FAA regional flight standards division chiefs and their staffs and Washington headquarters aviation standards office and division heads and their staffs.

We also contacted officials at FAA's Aeronautical Center in Oklahoma City, Oklahoma; the National Transportation Safety Board (NTSB), in Washington, D.C.; and various outside user/interest groups, including AOPA, the General Aviation Manufacturers

Association, Commuter Airline Association of America, Society of Airmen Flight Examiners, and others.

The information we gathered from interviews and records is combined in what we judge to be an accurate narrative description of some of the current problems relating to GADO activities. We discussed our review with officials at the Department of Transportation's (DOT's) Office of Inspector General and FAA's program review staff, and in several instances, we used their work in specific areas to aid our own analyses.

# CHAPTER 2

# NEED FOR BETTER WORK FORCE PLANNING AND MANAGEMENT

Between 1972 and 1980 general aviation grew while the number of FAA staff devoted to enforcing increasingly complex aviation regulations remained relatively unchanged. Giving GADO managers more flexibility in scheduling work and delegating certain work functions to non-FAA individuals has helped, but these actions have not prevented deficiencies in certain monitoring and inspection activities. Timely service to the public has also suffered. NTSB and many FAA officials believe that the lack of sufficient staff to conduct necessary monitoring and inspection activities may ultimately lead to increased general aviation accidents.

Recognizing that GADOs have not been able to cope with increasing workloads, FAA hired additional inspectors in both fiscal years 1980 and 1981. FAA also plans to obtain dictation and word processing equipment, which it believes will result in increased GADO productivity.

We could not determine if these actions will solve FAA's staffing problem because FAA does not have a workable system for evaluating the amount of staff it needs nor has it thoroughly assessed the benefits of using the new equipment.

Staff shortages, as well as lack of funds or FAA's slowness to act have caused other problems. These include missed opportunities to streamline or delegate more work functions, lack of FAA regional office evaluation of GADO performance, and the lack of specific job related management training for GADO managers.

## GADOs ARE UNABLE TO COPE WITH RISING WORKLOADS

The steady growth in general aviation coupled with the enforcement of increasingly complex safety regulations has resulted in deficiencies in certain monitoring and inspection activities and less timely service to the public. The following FAA data shows how selected segments of general aviation have, for the most part, continued to grow between 1972 and 1980 while FAA staff positions at GADOs have remained relatively unchanged.

Selected
Aviation Environment
1972 - 1980

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|
| Pilot examiners | a/ | 1,475 | 1,341 | 1,427 | 1,494 | 1,494 | 1,699 | 1,831 | 1,726 |
| Mechanic examiners | 461 | 468 | 472 | 501 | 538 | 577 | 618 | 607 | 607 |
| Active pilots | 750,800 | 714,600 | 714,600 | 733,700 | 728,200 | 744,200 | 783,900 | 798,800 | 848,400 |
| Flight instructors | 37,858 | 36,795 | 42,418 | 44,777 | 46,236 | 49,362 | 52,201 | 55,183 | 58,165 |
| Non-pilot airmen | 315,300 | 304,700 | 314,300 | 323,900 | 334,600 | 348,500 | 362,300 | 390,000 | 403,800 |
| Repair stations | 2,698 | 2,735 | 2,918 | 3,071 | 3,210 | 3,457 | 3,553 | 3,699 | 3,846 |

a/Data not avilable for this year.

General Aviation
District Office Authorized Positions
1972 - 1980

| | June 1972 | June 1973 | June 1974 | June 1975 | June 1976 | Sept. 1977 | Sept. 1978 | Sept. 1979 | Sept. 1980 |
|---|---|---|---|---|---|---|---|---|---|
| Office Chiefs | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| Operations Inspectors | 493 | 519 | 525 | 511 | 537 | 524 | 540 | 551 | 577 |
| Airworthiness Inspectors | 378 | 383 | 394 | 389 | 372 | 345 | 351 | 346 | 370 |
| Clerical | 295 | 299 | 300 | 296 | 295 | 302 | 302 | 276 | 276 |
| Total | 1,250 | 1,285 | 1,303 | 1,280 | 1,288 | 1,255 | 1,277 | 1,257 | 1,307 |

## FAA's reaction to increasing workloads

FAA has historically tried to deal with increasing workloads in a variety of ways, including delegating numerous functions to industry, and by requiring fewer mandatory inspections. For example, more and more testing for pilots and mechanic licenses has been delegated to non-FAA pilot and mechanic examiners. These examiners charge applicants a fee for this service. (See ch. 3 for a discussion on pilot examiners.) In addition, the administration of written tests for various airmen licenses has been delegated in many cases to private written

examiners. A recent FAA directive now permits delegating air-show monitoring and home-built aircraft annual recertification.

In addition to delegating work functions, FAA has deleted most requirements for how often operators must be inspected. It now allows GADO managers to schedule inspections where and when they believe they are needed most.

Savings from these measures has been offset to some extent by industry's use of more sophisticated aviation equipment, increased air taxi operator applications and operator turnover due to airline deregulation, and enforcing more complex safety regulations such as new air taxi/commuter rules.

Work left undone

Despite FAA's efforts to deal with increasing workloads, the GADOs we visited have generally been unable to conduct needed monitoring or inspections of pilot schools, repair stations, designated examiners and others. Much of their available resources has gone to certifying and monitoring commuter operators. FAA believes this emphasis will result in lower accident rates for these operators. Most of the GADO managers that we interviewed, however, were frustrated because staffing levels have not kept pace with workload. They told us that they are often forced to respond to "demand work," such as new operator licensing and routine accident investigations, while potentially more important monitoring and inspection work goes undone. For example, one GADO chief listed the following deficiencies, among others, in his district as of October 1980. He attributes these deficiencies to lack of staff.

--Air taxi/commuter operators suspected of operating without an FAA license have not been investigated. The Yellow Pages contain advertisements for 24 operators who have not shown compliance with FAA safety requirements.

--At least 99 of the 190 licensed repair stations in the district have not received a formal inspection in the past year. Eleven have not been inspected in the past 2 years. Lack of inspections could result in unapproved equipment reaching the aviation public.

--Work-site surveillance of 22 designated mechanic examiners has been minimal.

--Public service activities such as processing new air taxi operator licenses and pilot licenses have been slow, causing backlogs.

--Lack of indepth pilot school inspections causes inspectors to rely on record reviews, which are

no more than an evaluation of the school's administrative performance.

--Pilot examiner monitoring has not been adequate.

--Flight instructor performance has not been adequately monitored.

The last two deficiencies closely relate to private pilot training, licensing, and continued pilot proficiency. These areas are reviewed in detail in chapter 3. Because of these deficiencies, this GADO chief believes his office is often reacting to rather than preventing problems. Our interviews at each of the other eight GADOs visited, along with detailed reviews of office records, indicate that these GADOs have the same or similar deficiencies. Even when inspections are conducted, we found that some GADOs do not always take the time to adequately follow up on problem areas or document followup actions. For example, one GADO inspected a commuter aircraft and found 10 problems ranging from loose flight control components to inadequate aircraft records. FAA provided its findings to the aircraft operator but made no effort to ensure that the problems were corrected. Another GADO chief told us that his office does not have enough staff to thoroughly perform and document all followup actions.

NTSB, which investigates certain aircraft accidents, has addressed FAA's staffing problems in some of its recommendations to FAA. Since at least 1972 the Board has repeatedly criticized FAA for not providing staff resources necessary to assure adequate monitoring and inspection of general aviation operators. In a July 1980 special study on commuter safety, the Board found that increased commuter-related workload has caused GADOs to reduce efforts in other critical safety areas and that general aviation inspectors generally have an unreasonably heavy workload, which can result in derogation of safety. The Board said that FAA should measure its continuing staffing needs.

## ADEQUACY OF RECENT STAFF INCREASES UNKNOWN

The chief, plans and budget branch, program management staff, headquarters Aviation Standards, told us that in 1979 field offices identified a need for 290 additional staff positions to handle increased workloads. In fiscal years 1980 and 1981, a total of 127 new positions were provided to the field. These positions were being filled when we completed our field work. FAA headquarters officials could not provide us with any documents supporting how the 127 position increase was finally selected. Further, the timing of the increases is questionable. Despite an August 1976 internal report that found general aviation activities badly in need of additional staff and a 1977 internal FAA memo forecasting increased workload due to airline deregulation

begun in 1978, FAA at that time maintained that no additional staff would be required. It was not until fiscal year 1980, after recognizing that some segments of general aviation could be neglected without additional staff, that FAA transferred 50 new positions to the field, followed by an additional 77 positions in fiscal year 1981. None of these positions, however, were received by GADOs in time to help with recertifying air taxi/commuter operators under new safety rules (implemented between January and November 1979) or much of the critical monitoring and inspection of those operators during initial operation under the new rules. The revised rules require higher more complex standards for operator management personnel, training programs, aircraft maintenance, and flight checks, which demand additional FAA inspection requirements. In any event, the position gains in fiscal years 1980 and 1981 are now threatened by proposed administration cut backs in fiscal year 1982.

Although throughout this report we note deficiencies related to staff shortages in certain monitoring and inspection responsibilities, we were unable to assess the adequacy of the GADO staff increases because FAA has not defined its actual staff needs. FAA needs a work force planning process designed to forecast, justify, and supply staff needs promptly. Such a process may have been helpful in view of the potential cutbacks. We address this need in detail starting on page 13.

## INCREASED PRODUCTIVITY FROM DISTRICT OFFICE MODERNIZATION PROGRAM NEEDS TO BE DEMONSTRATED

FAA plans to use dictating, word processing, and other office equipment to cut paper work and free up GADO inspectors for more important safety work. Office automation can be beneficial, but FAA has not demonstrated that the new equipment will actually result in any productivity increases. A June 1980 evaluation states that the modernization project addresses "* * * serious workload problems that exist in field offices throughout the country due to staffing constraints coupled with increased aviation activity." Over 160 locations will receive all or part of the new equipment, at a total cost of about $5.5 million. The cost includes equipment, associated software, and training. FAA expects to free up for more critical safety work the equivalent of 196 inspector positions by using the equipment.

FAA requires that the use of word processing equipment (which can include dictation, automatic typing, video-display, shared-logic, and other equipment) be supported by a feasibility study that compares the costs and benefits of the current and proposed systems. Associated costs and savings attributable to both clerical and nonclerical activities are to be considered.

FAA's analysis supporting the district office modernization program shows a national annual cost savings of more than $7 million using leased equipment or $8.3 million using purchased

equipment (after purchase costs). We have the following concerns about FAA's analysis.

--About 98 percent of the savings is attributable to inspector use of dictation equipment. There is no analysis of clerical-related costs and benefits from using the word processors. FAA's evaluation indicates that word processors, rather than the electric typewriters currently used, would be needed to transcribe the dictation, but no analysis is available showing why.

--FAA's evaluation indicates that word processors should be able to do more than simple text editing. They should be able to store information in data bases, retrieve the data using up to five qualifiers, and process and display the data in various formats. While there are obvious benefits in having this capacity, no cost and benefit analysis exists to support this feature.

--FAA's evaluation indicates that regional and district offices should be linked together electronically to speed up communication of management-related information. FAA demonstrated that sample regional management inquiries (such as what weather-related accidents happened during January and February by pilot's name, date of birth, and registered owner of the aircraft) can be retrieved and transmitted from 9 to 65 times faster using the new equipment, but there is no analysis showing why management needs this speed.

The dictation cost savings are also questionable. These savings are based on the assumption that dictation is four times faster than longhand. FAA measured the number of documents each inspector produced at four locations over a 2-week period and then calculated that its inspectors (average grade GS-13) would save $5.43 per page produced using dictation, or more than $7 million annually. However, a good deal of inspector work deals with forms rather than narrative, and how much FAA will actually save is unclear. Savings may not be as great using forms.

FAA could have measured its actual savings using before and after measurements at four district office test sites where different vendor equipment and FAA procedures were tested, but this was not part of the test program. FAA headquarters officials responsible for the project said that some initial feasibility measurements were taken but agreed that before and after productivity measurements would have been helpful. Lack of time prevented such analysis.

FAA headquarters officials in charge of the program told us that the test program and project evaluation performed for

GADOs also justifies installing all or part of the equipment in 18 air carrier district offices, 18 engineering and manufacturing district offices, and 32 civil aviation security field offices. We believe, however, that the work performed in these other types of district offices, while similar to work performed in GADO in some respects, is dissimilar in many others, such as the nature and volume of inspection and other monitoring activities. Therefore, we believe separate feasibility studies are needed before the equipment is installed in these other offices.

The same FAA headquarters program officials agreed that the project evaluation has weaknesses and that the evaluation may not be adequate to support purchasing the equipment for other types of district offices. However, they intend to lease single-vendor, standardized equipment at a limited number of locations for 1 year before making a purchase commitment and beginning nationwide implementation. The leased equipment will be placed in each of the various types of district offices and then evaluated. At the completion of our review, FAA was developing evaluation criteria. We believe the evaluation should include before and after installation productivity measurements that identify FAA's actual savings. In addition, before nationwide implementation, each equipment feature needs to be justified based on its cost and the benefits it provides.

## BETTER METHODS NEEDED TO BUDGET FOR AND MANAGE GADO STAFF

Recent staff increases and using new office equipment (if it results in increased productivity) may alleviate the immediate GADO workload problems, but successfully balancing staff and workload on a continuing basis requires better budgeting for and management of GADO staff. Effective work force budgeting includes carefully analyzing objectives, work tasks, and associated staff requirements. Effective work force management includes the flexibility to change or delete work tasks whenever appropriate, as well as the ability to conduct independent office evaluations to identify needed changes. Finally, if effective work force budgeting and management is to be a reality, managers must be given adequate training in both areas. FAA needs to make improvements at GADOs in each of these areas. More specifically, FAA needs to

- --develop a work force planning process that includes setting objectives, identifying needed work tasks, and using staffing standards to translate work tasks into staffing requirements;
- --take full advantage of potential work saving measures (such as delegating additional responsibilities);
- --conduct more independent evaluations of GADO performance; and

--provide GADO managers with more specific job-related management training.

Each area is discussed below.

## Need for work force planning process

In our report entitled "Federal Work Force Planning: Time for Renewed Emphasis" (FPCD-81-4, Dec. 30, 1980), we point out that work force planning includes, among other things, (1) identifying objectives, (2) identifying tasks to be performed to achieve objectives, and (3) developing staffing standards upon which to project work force requirements.

### Identifying objectives

FAA's "Managing a GADO" guide suggests that because problems facing GADOs vary widely, objectives should be tailored to each office's specific needs. The guide states that objectives should generally be observable, measurable, realistic, achievable, and results oriented. The following examples are provided in the guide.

--Reduce the accident rate for agricultural operators by X percent by September.

--Reduce the average time it takes to license an air-taxi operator.

--Reduce the cost of hours devoted to specific types of inspections.

The GADOs we visited had few such specific safety, public service, or administrative objectives. Some offices had an overall general aviation accident reduction objective such as 5 percent, but structuring work tasks against such a broad and general objective is difficult. Pleasure flying, for example, may have a high accident rate while corporate flying is virtually accident free. In addition, each of the GADOs tries to complete certain tasks, such as accident investigations, within certain time frames, but no analysis or reporting is made showing how successful they are. GADOs have reported certain work activities under very broad categories, such as the number of operator licenses and inspections accomplished, but these reports are activity rather than objective oriented. For example, these reports contain information on the number of air taxi companies licensed to operate, but not the time or cost involved in issuing such licenses.

Three GADO managers told us that setting specific objectives would be useless because they do not have enough staff to achieve them. We believe that without measures showing performance against objectives, FAA or independent evaluators have difficulty making any judgments about the amount of staff

and other resources devoted or methods employed. We believe that a clear statement of what is to be achieved in terms of safety, public service, and administrative performance is necessary before sound decisions on staffing levels can be made. When we completed our field work, FAA was establishing merit pay objectives for GADO chiefs, which FAA officials told us will include measurable, results-oriented objectives.

Identifying work tasks

The nature of GADO work tasks can generally be divided into two categories--demand work (includes accident investigation, operator licensing, and administrative work) and self-initiated monitoring and inspections (includes most types of operator monitoring). FAA's "Managing a GADO" guide suggests that both types of work tasks can be estimated and planned. For the latter category, FAA directives require that individual inspection plans be developed for each operator, facility, or person requiring FAA monitoring. GADO managers are to vary the frequency of inspections by targeting them to operators who need them most. The work plan can be used as a day-to-day scheduling and work tracking tool.

We found that almost no planning is done for demand work and very little planning is done for monitoring and inspection work. In addition, most of the monitoring and inspection plans that we reviewed showed no evidence that judgment is being used in scheduling inspection frequencies. For example, each operator, facility, or individual within a category was programed for the same amount of attention. One GADO manager told us that he has not been able to devote enough time to planning responsibilities, and in any event, he does not have adequate staff to accomplish what the work plans would require. Each of the other eight GADO chiefs voiced similar views, and most complained that demand work is so heavy that it drains attention away from needed monitoring and inspection.

We believe that work plans setting out what tasks are to be performed to reach stated objectives are essential to successful staff planning and position justification. Failure to accomplish the plans does not negate their usefulness. Instead, it may point to a need for more staff or more effective ways of doing work tasks. Work plans also enable managers to monitor progress in accomplishing work tasks.

Staffing standards

FAA Order 1380.34, "FAA Staffing Standards Program," dated December 17, 1974, states that the Office of Management and Budget and DOT require that staffing requests be supported by staffing standards. The order states that staffing standards should provide for acceptable work quality and should be kept current through continuous and periodic evaluation.

The staffing standards for GADOs were last updated in 1974. These standards were developed assuming that the number and type of work tasks performed in 1974 were correct. A numerical relationship was drawn between the number of various general aviation segments and staffing levels in 1974. FAA anticipated that future growth in general aviation would generate the need for increases in staffing.

This approach has several problems. First, FAA made no attempt in 1974 to measure what work tasks should be accomplished to meet stated objectives. Second, even if 1974 work tasks were appropriate, many changes have occurred in required work tasks since then because of increased work delegation, the addition of more complex safety rules to enforce, and other changes. Third, even small errors in GADO forecasts of general aviation growth have produced large errors when combined on a national basis, thus affecting the staffing analysis. Fourth, weights assigned to various general aviation segments and the segments themselves do not always reflect actual workload. For example, no weight is given for air taxi operator turnover, which significantly affects workload.

FAA headquarters branch chiefs recognize these problems and intend to revise the existing standards. We believe a need exists to base staffing standards on established objectives, identified work tasks, and how long it will take to accomplish each work task. FAA's Western Region is currently developing a management information system designed, among other things, to measure how much time is required to accomplish each of a possible 190 identified work tasks. We believe this data would be useful in developing staffing standards.

## Potential work-saving measures overlooked

FAA has conducted several studies to find ways for GADOs to cope with general aviation's continuing growth. These studies usually made recommendations aimed at either increasing staff, using work-saving measures, or both. FAA has successfully implemented many of the recommended work-saving measures, but its record on implementing others has not been as good. For example, in January 1979 FAA headquarters asked the regional and district offices to recommend ways to improve efficiency and effectiveness. The district office modernization program discussed on page 11 was a major result of this effort. Other responses, however, dealt with several work-saving measures that have either not been implemented or whose implementation has been slow. The following examples illustrate this point.

--Delegating aerobatic competency reviews. Before aerobatic pilots can perform at air shows, they must have demonstrated their skill to an FAA inspector within the preceding 12 months. FAA's New England Region suggested that a limited number of highly qualified industry aerobatic pilots be

authorized to issue statements of aerobatic competency. Headquarters' initial reaction was that the suggestion had merit and would be looked into further. The Chief, General Aviation and Commercial Division, Office of Flight Operations, told us that aerobatic organizations or pilot examiners may be even better qualified to perform this function than inexperienced FAA inspectors. As of November 1980, however, this official was still planning to look into this possibility. One GADO chief told us that this activity consumes between 8 and 10 inspector days per year in his district.

--Additional delegation of pilot certification work. Several regions recommended doing more of what they were already authorized to do; that is, shift more of the time-consuming pilot flight tests (those for pilots, flight instructors, and aircraft type ratings) to designated pilot examiners. One region stated that delegating aircraft type rating and flight instructor flight tests had not been fully used to reduce GADO workload. We found evidence that this problem continues to exist. For example, one GADO we visited conducted many pilot, flight instructor, and aircraft type rating check flights. A total of 220 such flight tests were conducted in fiscal year 1980. Each flight test requires up to half a day. Another GADO we visited had delegated virtually all of this work. The other eight GADOs we visited fell between these extremes with some conducting large numbers of flight tests. Although FAA needs to conduct or monitor some flight tests (see ch. 3.), there does not appear to be any justification for large variances between GADOs in how much of this work is delegated. The Chief, General Aviation and Commercial Division, Office of Flight Operations, told us that more and more delegation has been permitted over time, but some GADOs may be resisting change by not delegating more of this work.

--Lessen requirements on FAA for giving proficiency checks to air taxi/commuter pilots. Each air taxi/commuter pilot must pass annual, and in many cases semiannual, proficiency ground and flight checks. Proficiency checks may be conducted by FAA inspectors or by non-FAA pilots authorized to give such checks; Check pilot authorization differs from a pilot examiner designation, as discussed above, in that check pilots only conduct periodic proficiency checks; they do not conduct certification flight tests for the purpose of issuing a pilot license or aircraft type rating.

To save FAA inspection time, several regions suggested that either more company check pilots could be

authorized (check pilots are almost always company employees) or "area" check pilots could be authorized in certain geographic areas to give proficiency checks at a number of air taxi companies that are too small or otherwise unqualified to have their own company check pilots.

The head of FAA's flight operations/commuter and air taxi branch told us that, as a general rule, all air taxi companies with more than one pilot should have a company check pilot authorized. He said that such authorization puts the burden of quality control on the company where it properly belongs and saves FAA time. He believes, however, that GADOs may not have fully used this work-saving measure. We checked in five of the GADOs we visited and found that in each office between 8 and 22 air taxi operators with two or more pilots had no company check airmen authorized. The GADO chiefs told us that some had no qualified or reliable pilots that could be authorized, but they generally agreed that more check pilot authorizations are possible and would save FAA time. For the most part, these GADOs were adhering to out-of-date FAA policy, which allowed check pilots to be authorized only at companies with five or more pilots. Even if company check pilots were appointed for all air taxi companies with two or more pilots, there are many one-pilot air taxi companies that would require FAA-conducted proficiency checks. Area check pilots, operating in a geographic area, could be authorized to give proficiency checks for more than one company. Only one of the GADOs we visited had pursued this work-saving measure and only one area check pilot had been appointed in this district.

Regarding the last example, FAA must conduct or monitor some proficiency checks and exercise strong control over check pilots to assure that operators maintain high standards, but it appears that FAA has missed opportunities to conduct fewer "on demand" checks by not appointing more company check pilots and area check pilots.

Along with the above recommendations, several others dealt with streamlining existing work tasks or increasing work delegation. FAA's progress in implementing these recommendations has been slow. We believe that timely evaluation and implementation of appropriate work-saving measures is an important part of the work force planning process.

Lack of GADO performance evaluation

FAA directives, in addition to stressing the importance of continuous and independent assessments of how well agency programs are carried out, require regional offices to conduct district office evaluations.

Each of the regions we visited had developed evaluation procedures and an evaluation timetable, but few evaluations of GADOs have been conducted in recent years. For example, the last evaluations conducted at the three GADOs we visited in one region were dated January 1976, June 1977, and May 1978. The region's evaluation procedures call for annual evaluations. We found a similar situation in the other regions visited.

Although many of the past evaluations appear to have focused on compliance with administrative procedures, they also contained important findings relating to GADO performance.

For example, the evaluations found that

--many air taxi/commuter operators had not been inspected in more than 2 years,

--flight instructor monitoring and followup on marginal flight instructor performance was not adequate,

--closer monitoring was needed on air taxi training and evaluation programs, and

--prompt followup was lacking on FAA-identified operator deficiences.

One regional flight standards chief told us that such evaluations are definitely needed, but agency travel budget restrictions have hampered his ability to schedule them. The other two regions we visited also blamed budget restrictions.

We believe that periodic and independent evaluations of GADOs can be a valuable tool in determining if enough staff and other resources are devoted and properly used. In addition, such evaluations could be valuable in assessing the quality of work performed by GADOs. Assigning higher priority to this function may increase effectiveness and save resources in the long run.

Lack of job-related management training

FAA directives outline required management training for district office chiefs and other supervisors. Generally, the office chiefs in the GADOs we visited had received at least

the minimum training or its equivalent. These courses, while undoubtedly helpful, are designed for FAA-wide application and are not tailored to GADO management. In two of the regions we visited, we looked into the adequacy of management training provided to GADO chiefs. We talked with six GADO chiefs and their regional office supervisors. We found widespread agreement and concern over GADO chiefs being promoted from technical inspector positions but given little job-related management training in areas such as GADO budget preparation.

FAA's "Managing a GADO" guide, referred to several times in this chapter, was designed to help district chiefs perform many of the management functions with which we found problems. Setting measurable objectives, developing work plans, budgeting for needed resources, and performing program evaluations, among other topics, are covered in some detail. The guide is tailored to managing a GADO and is based on how the more effective and efficient offices were managed, coupled with how management believes offices should be managed. GADO chiefs we talked with about the guide generally had a limited knowledge of the contents of the guide. Further, no training has been provided in how to use the guide's concepts.

The Assistant Chief, General Aviation and Commercial Division, Office of Flight Operations, told us that more job-related management training is definitely needed and that the guide could form a basis for such training. He said, however, that finding effective instructors may be difficult. We believe that the effort to provide such training would be worthwhile by, among other things, improving GADO work force planning, budgeting, and management.

## CONCLUSIONS

General aviation has continued to grow over the last decade while GADO staff levels have remained virtually unchanged. FAA has tried to compensate for the lack of staff by delegating increasing responsibilities to the aviation industry and by giving FAA GADOs more freedom to tailor their monitoring and inspection programs to meet their particular needs. Even so, evidence exists that GADOs have not been able to cope with the growth in the industry and the increasingly more complex safety regulations that they must enforce. Deficiencies in certain monitoring and inspection responsibilities and less timely public service has resulted. Many FAA officials and NTSB believe that inadequate monitoring and inspection could lead to increased accidents for certain general aviation segments.

Recognizing that some segments of general aviation have not been given enough attention, FAA increased GADO staff and plans to increase productivity by using dictating, word processing, and other automation equipment. We could not determine if these two steps will solve FAA's staffing problem because FAA has not defined the extent of the problem (actual staff needs)

or demonstrated that the new equipment will result in any productivity increases. In addition, FAA has not adequately performed several functions that have a direct bearing on staff planning and efficient staff use. These functions include work force planning, implementing potential work-saving measures, performing GADO performance evaluations, and providing job-related management training for GADO managers.

## RECOMMENDATIONS

We recommend that the Secretary of Transportation direct the FAA Administrator to develop a GADO work force planning process that includes setting objectives, identifying needed work tasks, and using up-to-date staffing standards. In addition, we recommend that the Secretary of Transportation direct the FAA Administrator to:

- --Demonstrate that actual savings from using leased district office modernization equipment will justify the cost of the equipment. This should be done before purchasing the equipment for nationwide use.

- --Evaluate, on a continuing basis, all potential work-saving measures (such as increased work delegation), including those submitted by field organizations, and ensure that timely and full advantage is taken of those having merit.

- --Give higher priority to conducting periodic regional evaluations of GADO performance, as required by FAA directives.

- --Provide GADO managers with job-related training in budgeting, staff management, and other principles contained in the "Managing a GADO" guide.

# CHAPTER 3

# GADOs SHOULD IMPROVE MONITORING OVER PRIVATE PILOT TRAINING, LICENSING, AND CONTINUING PILOT PROFICIENCY

GADOs have not conducted enough monitoring over private pilot training, licensing, and continuing pilot proficiency. Although most flight testing and all training is delegated to non-FAA pilot examiners and flight instructors, respectively, FAA retains the responsibility to monitor the quality of training and testing provided. As discussed in chapter 2, many FAA officials and NTSB stated that staff shortages and higher priority work have severely limited such monitoring. The former FAA Administrator has been quoted as saying that private pilots make up the largest current safety regulatory problem and will be the new Administrator's second biggest headache following funding. He added that training and retraining of private pilots is totally inadequate.

As noted earlier, pleasure flying accounts for about half of all general aviation accidents and has an accident rate more than eight times higher than corporate/executive flying. Industry and FAA personnel attribute this rate to inadequate pilot training, licensing, and continuing pilot proficiency. Without better GADO monitoring, deterioration in pilot training, licensing and proficiency--which could lead to increased accidents--can be expected.

## GADOs CONDUCT LITTLE MONITORING OF FLIGHT INSTRUCTOR PERFORMANCE

The flight instructor is a key element in the pilot training process and is also the major assessor of the continued proficiency of most general aviation pilots. In the last major revision of pilot training requirements, in 1973, FAA stated that the flight instructor would be the "keystone" of the training concepts. Other organizations have also noted the critical role flight instructors play in general aviation safety.

Despite the importance of the flight instructor, eight of the nine GADOs we visited conducted little or no monitoring of instructor performance. One way flight instructors could be evaluated is by monitoring how well their students do on flight tests. Pilot examiners are provided with an evaluation form to use in connection with flight test pilot applicants. The pilot applicant's performance, as recorded on the form, provides a basis for judging the quality of instruction given by the flight instructor. According to an FAA response to our report on private pilot licensing ("Improved Controls Needed Over Private Pilot

Licensing", RED-76-65, Feb. 26, 1976), the districts use this information to monitor the quality of instruction. However, use of this form is voluntary, and many pilot examiners do not submit the forms. Even when they are submitted, we found that little use is made of the information they contain.

The evaluation form is not submitted by any examiners in the three Western Region GADOs we reviewed. An operations unit chief in one of these districts stated that the information would be useful if sufficient staff were available to analyze it. In the New England Region, the form is submitted by between 50 and 100 percent of the examiners in the districts visited. The information submitted, however, is only analyzed regularly by one GADO and used occasionally to counsel flight instructors. Another office was analyzing the data with the intention of using it to monitor flight instructor activities. In the three Southern Region districts visited, the evaluation forms are not routinely analyzed for adverse trends, even though they are received in some cases. The GADO chiefs there also blamed lack of staff for not making better use of the information on the forms. One district chief told us that the planned office automation equipment (discussed in ch. 2) may be useful in analyzing the data contained on the forms.

The evaluation form can also be a useful method for pilot examiners to provide feedback to instructors on their performance. Current FAA directives state that examiners should provide a copy of the evaluation to the instructor who recommends the applicant for a flight test and the GADO. Since use of the form is voluntary, it cannot be assumed that all instructors are receiving this information. An industry/FAA workshop conducted in January 1981 also reviewed FAA controls over flight instructors and recommended establishing a data base (which completed evaluation forms can provide) to monitor flight instructor performance.

## CONTROLS OVER PILOT EXAMINERS HAVE IMPROVED BUT BETTER GUIDANCE AND MORE MONITORING IS NEEDED

The majority of pilot license tests are conducted by about 1,800 designated pilot examiners. These are non-FAA pilots who are authorized to act as representatives of the Administrator for this purpose. The examiners are to be monitored by FAA inspectors in the GADOs. Examiners are authorized to issue temporary pilot certificates pending issuance of a permanent license and to charge the applicant a fee for their services.

FAA has recognized the importance of pilot examiners by recently improving examiner training and standardization. Despite these changes, problems remain. Criteria for removing examiners are vague, which makes removal difficult and time consuming. Also, examiner performance is not spot checked enough.

## Recent improvements in pilot examiner standardization

Effective January 1, 1980, no pilot examiner can be designated or renewed unless he/she has satisfactorily completed a standardization course given by the FAA Aeronautical Center within the preceding 2 years. This course is designed to provide the examiner with a background in testing procedures, FAA guidelines, and performing flight maneuvers.

In addition to completing this course, examiners must attend an annual examiner meeting at the GADO and complete an annual flight check given by FAA inspectors. The GADOs are also supposed to encourage examiner attendance at safety meetings and to encourage examiners to keep abreast of new developments and pilot training activities in their areas.

## Criteria for removing pilot examiners is vague

FAA directives list general guidance for removing pilot examiners. Reasons for removal include fraudulently using the designation, reduced need for their services, and failing to maintain required standards and procedures. Specific deficiencies or policies that could result in designation removal, however, are not stated in existing directives. For example, unacceptable test procedures, improper paperwork, low number of applicant failures, and lack of aeronautical knowledge are not specified. As a result, poor examiner performance is hard to define.

When an examiner fails fewer applicants over a period of several years compared with other examiners, FAA directives on examiner designation do not require that such differences be analyzed to see why they occur. Differences in failure rates among examiners and between examiners and FAA inspectors, who also conduct flight checks, may be cause for concern because pilot examiners are failing far fewer applicants. For example, in the 5-year period 1975-79, 21.9 percent of all private pilot applicants failed their initial tests when given by FAA inspectors. The equivalent failure rate for pilot examiners was only 7.4 percent.

Other indications besides relative failure rates suggest that some examiners may not be giving comprehensive flight tests. For example, pilot examiners have given flight tests of 30 minutes or less, even though FAA inspectors and pilot examiners have stated that a test of between 1 to 2 hours is needed to cover all maneuvers adequately. No guidance is provided covering test duration, and only general guidance is provided on test content.

Nonspecific criteria on examiner removal make it difficult and time consuming to remove examiners with substandard

performance records. For example, one GADO removed an examiner in 1980 for giving tests of insufficient length (22 minutes in at least one case), submitting deficient test files, having few applicant failures, and other deficiencies. This examiner had exhibited poor performance since 1975, however, and one inspector recommended his removal as far back as 1976. When finally removed, this examiner was failing less than 2 percent of his applicants.

Insufficient spot checks of examiner performance

FAA spot checks of examiners may include observations of an examiner-administered flight test or a flight review with the examiner covering testing procedures. Spot checks of examiner testing procedures provide a necessary quality control on the integrity of the testing process. The number of spot checks conducted is left up to GADO chiefs. However, at least one FAA-administered flight review is required each year with each pilot examiner.

The nine GADOs we visited conduct only limited spot checks of examiner performance. For example, the operations unit chief in one New England Region GADO stated that inspectors occasionally monitor only the ground phase of flight tests, if one was scheduled during a periodic inspector visit. In the Western Region, some spot checks were done in two of the three GADOs visited. In one of these GADOs, the spot checks are limited to those examiners suspected of offering easy flight tests. In the three Southern Region GADOs visited, spot checks are generally limited to annual flight checks given by FAA. GADO officials in all three regions stated that they do not have enough inspectors to accomplish sufficient spot checks or to even perform the required annual flight checks in some cases. For example, the annual flight checks are not given in one Western Region GADO because of other higher priority work. In most districts, contacts with examiners often involve administrative matters rather than spot checks for performance; for example, erroneous paperwork in test files submitted. As a result, in the GADOs we visited, FAA has little direct knowledge of the quality of pilot examiner performance.

Spot checks are also needed to help avoid conflict of interest, which has been identified by the aviation media and others. Such conflicts can result when examiners associated with specific flight schools are able to give flight tests to students in those schools. Insufficient FAA spot checks only increase the chance of abuses resulting from conflicts of interest. One pilot examiner organization, the Society of Airmen Flight Examiners, recognizes this problem and has looked closely at these and other issues aimed at improving flight tests and avoiding conflict of interest through policing its own members. This particular organization, while planning to expand nationwide, is currently only active in the St. Petersburg, Florida, area.

We recognize that more pilot examiner spot checks and increased monitoring of flight instructors may require more staff. Increased productivity from district office automation (if actually experienced) and implementation of other work-saving measures may help. In any event, these responsibilities need to be recognized and included in the work force planning process outlined in chapter 2.

## BIENNIAL FLIGHT REVIEW REQUIREMENTS ARE VAGUE

Once issued, pilot licenses remain valid for the life of the pilot. FAA, however, has established medical and continuing flying proficiency requirements that the pilot must meet in order to serve as "pilot in command." Beginning in November 1974, FAA required a biennial flight review, conducted by a flight instructor. All active pilots must demonstrate that they still have the knowledge and competency to fly safely. The review is not a test in that pilots cannot fail, and a flight instructor can only endorse the pilot's log book if the individual completes a "satisfactory" review. In our previous report on pilot licensing (see p. 22), we identified a need for better guidelines for flight instructors to use in conducting the flight review.

Although voluntary biennial flight review guidelines were developed in 1975, many industry and FAA officials believe that the guidelines and the regulations are too vague and discretionary. In addition, NTSB believes that the review needs to be improved.

### Inadequacies identified by industry and NTSB

The Federal Aviation Regulation governing the biennial flight review imposes only two requirements for review content: a review of general operating and flight rules and a review of maneuvers and procedures which, in the discretion of the person giving the review, are necessary to ensure that the pilot can "safely exercise the privileges of his pilot certificate." Many FAA and industry officials believe these requirements are too vague and result in wide variations in the quality of the reviews. For example, one aviation journal described how a staff member had obtained biennial flight reviews at three different locations and had received reviews of widely different qualities.

The industry/FAA workshop conducted in Janaury 1981 considered the adequacy of biennial flight reviews, and the panel reviewing this subject recommended a change in the regulation to strengthen the review. The panel concluded that the flight review, as currently conceived, is too vague and discretionary. It recommended a regulation change that would specify minimal aeronautical knowledge subjects to be covered in the review, appropriate to the grade of pilot license held by the individual.

NTSB also questioned the adequacy of biennial flight reviews in a December 1979 special study of light twin-engine aircraft accidents. The report stated that the flight review regulation is written in such a broad and nonspecific manner that it allows for wide interpretation by instructors charged with giving the review. The Board believes this resulted in many ineffective flight reviews because little or nothing was done in the reviews. The report further stated that the voluntary industry guidelines were an "admirable" concept but added nothing to what was already stated in the regulation.

FAA does little to monitor the quality of reviews, but even if it did, vague criteria make imposing sanctions for inadequate reviews unlikely.

Another weakness of the flight review, according to NTSB, is that a pilot can take the review in any aircraft for which the pilot is rated, including the least complex single-engine aircraft. Thus, a pilot may legally satisfy the flight review requirement without demonstrating competency in higher complexity aircraft for which the pilot is rated. The 1979 NTSB report implied that safety was not enhanced if pilots were required to demonstrate only the most basic flying skills. The Board recommended that FAA amend the regulation to require multi-engine pilots to demonstrate competency in such aircraft during the flight review in order to retain pilot-in-command privileges in this type of aircraft. FAA told the Board that it would consider this recommendation in a planned review of applicable Federal Aviation Regulations.

## DEFERRED SUSPENSION COUPLED WITH ADDITIONAL TRAINING COULD BE USED MORE OFTEN

FAA can enforce compliance with Federal Aviation Regulations with legal sanctions. These sanctions include civil penalties and suspending or revoking licenses. In cases where sanctions are not warranted, administrative actions, such as letters of warning or correction, may be applied. Neither of these enforcement paths, however, make adequate provisions for remedial training for unintentional violations due to lack of airmen proficiency.

According to a revised FAA Compliance and Enforcement Handbook, issued on July 1, 1980, FAA can defer suspension of a license in violation cases that are too serious for administrative action and where corrective actions, such as additional airman training, are preferred. FAA's enforcement policy states that additional training, such as education and counseling, can help prevent future violations. Deferring suspensions is also a positive motivator since it allows the airman to take timely corrective action and thereby avoid suspension.

The deferred suspension option was not used by GADOs and regions we visited. The reasons for this varied. GADO officials in one region believe that complete retesting, rather than additional training, of the airmen is the best course of action in cases of unintentional violations or lack of airmen proficiency. Some GADO officials, however, believe that administrative actions are more appropriate and less time consuming in these cases. Other regional and GADO officials believed the deferred suspension concept has merit, but more specific guidance is needed on what types of specific cases are appropriate for its use.

The January 1981 industry/FAA workshop addressed the issue of deferred suspension and remedial training. One workshop panel stated that such actions could instill a better compliance attitude and provide positive motivation in lieu of disciplinary action. The panel cited the example of motor vehicle remedial training programs conducted in nearly every State. The panel believed this concept could be applied in aviation and recommended that FAA institute a remedial training program as an option in the enforcement program.

The Chief, General Aviation and Commercial Division, Office of Flight Operations, told us that conventional enforcement serves little purpose in cases of inadequate airman proficiency and can only reduce proficiency further through license suspensions. He believes that deferred suspension could be profitably used in about 20 percent of legal enforcement cases and that better guidance may be needed to encourage its use.

## CONCLUSIONS

Despite the importance of the flight instructor in pilot training and safety, GADOs do not adequately monitor flight instructor performance. GADOs are either not obtaining or not using data on instructor performance to identify weak flight instructors.

FAA has focused its quality control on designated pilot examiners and has improved the examiner program by upgrading examiner training and standardization. Despite these changes, examiners are not given specific guidance on what actions constitute unacceptable performance and can result in removal of designations. In addition, because of a lack of inspectors, most GADOs are not conducting enough spot checks of examiner performance.

Improved monitoring over flight instructors and pilot examiners may require more staff. District office automation, use of work-saving measures, and improved work force planning (see ch. 2) could help meet this need.

Although FAA has issued guidelines for conducting biennial flight reviews, the industry and NTSB have raised serious questions concerning the adequacy of these guidelines.

Education and counseling are espoused in FAA's enforcement policy, but little use is made of the deferred suspension enforcement option.

RECOMMENDATIONS

We recommend that the Secretary of Transportation direct the FAA Administrator to

--require pilot examiners to submit to FAA a flight instructor evaluation form on each flight test administered and to provide a copy of this evaluation to the appropriate instructor;

--require GADOs to use the data on flight instructor evaluation forms as a tool in monitoring flight instructor performance;

--establish additional specific criteria as to what actions constitute inadequate pilot examiner performance and can result in removal of examiner designations;

--direct GADOs to spot check pilot examiner flight tests on a periodic basis;

--amend Federal Aviation Regulations to specify minimal subject matter to be required in each biennial flight review, appropriate to the type of pilot license and and ratings to be used; and

--direct regions and GADOs to use the deferred suspension option in cases where remedial training is preferred and provide better guidance on how to use this option.

# CHAPTER 4

# THE ACCIDENT PREVENTION PROGRAM: IMPROVEMENTS AND STRONGER ADHERENCE TO DIRECTIVES NEEDED TO MAKE IT MORE EFFECTIVE

The impact the general aviation Accident Prevention Program has on general aviation safety is not measurable, but the program has enjoyed wide support from the aviation community. FAA started the program in 1971 to reduce the general aviation accident rate. Although the accident rate has been declining, even more progress may be possible in reducing accidents.

We found that improvements are needed in the program to assure that

--comprehensive work plans are developed that identify safety problems and actions to correct them and provide for assessing whether the program is reaching the appropriate participants and

--followup measures are taken to counsel pilots who are involved in incidents requiring air traffic control assistance.

In addition, we found that GADOs need to more closely follow program directives by

--appointing more volunteer accident prevention counselors,

--assessing the need for accident prevention activities by individual aviation groups and organizations, and

--promoting and using the safety improvement suggestion system.

## ACCIDENT PREVENTION PROGRAM ACTIVITIES

The primary Accident Prevention Program activity is numerous pilot safety meetings sponsored jointly by FAA and industry. Another accident prevention activity is the Pilot Proficiency Program in which pilots voluntarily obtain flight instruction and attend at least one pilot safety meeting. Other program activities are:

--Soliciting and following up on Safety Improvement Reports (SIRs), which are safety suggestions submitted by the aviation community.

--Counseling individual airmen, particularly those involved in incidents requiring a "flight assist" from air traffic control.

--Helping various industry groups, such as flying clubs, to establish their own accident prevention programs.

Many of the above activities are conducted by industry groups or volunteer accident prevention counselors. The GADO accident prevention specialist coordinates the program at the district level, while a regional accident prevention coordinator is responsible for the overall regional program.

## BETTER PROGRAM PLANNING IS NEEDED

The Accident Prevention Program guidelines require each GADO to write an annual program plan, which is in addition to work plans developed for the GADO as a whole (see ch. 2). The eight plans we reviewed, however, generally did not clearly identify underlying safety problems, nor did they clearly relate planned activities with safety problems or objectives. One GADO accident prevention specialist did not develop a plan.

### Underlying safety problems are not identified

Program directives require that GADOs identify and list in their plans those problems having the greatest impact on safety. The eight plans we reviewed generally identified only broad safety problems to address rather than specific ones. That is, the plans only listed common flying problems, such as takeoff, landing, and weather accidents, rather than addressing why these were problem areas. Without identifying the underlying causes of accidents, GADOs cannot properly structure accident prevention plans.

According to an AOPA Air Safety Foundation study,

> "a more thorough and complete understanding of underlying accident causes, used vigorously as a basis for corrective actions will significantly improve those (accident and fatality) rates for general aviation."

In the GADOs we visited most specialists do not even try to identify high-risk pilot groups so that special efforts can be made to reduce their accident potential. One reason may be their failure to recognize the importance in targeting accident prevention efforts. Such high-risk groups could include pilots who have received flight assists from air traffic control, pilots who have had accidents or incidents, and pilots who have received citations or warnings because of safety violations.

We noted, however, that some specialists do identify high-risk groups. For example, one specialist analyzed accident reports and found that cropdusters were flying into power lines. To help correct the problem, he planned quarterly meetings with them.

## Plans are not clear on how safety objectives will be achieved

GADOs are required to establish an accident prevention goal (generally a 5-percent reduction in accidents) and to design a plan to accomplish the goal. The eight plans we reviewed, however, generally did not state how program activities (such as seminars, counseling, and other activities) would help achieve the goal. For example, one GADO's plan had these objectives related to its overall accident prevention goal: prevent accidents through improving attitudes, changing behavior, increasing knowledge and proficiency, and reducing environmental hazards. The plan did not state how to achieve these objectives. Another GADO included among its objectives greater productivity by counselors, continued recruiting of active, dedicated counselors, and increased flight instructor proficiency. Its plan did not state why these objectives were selected nor how to achieve them.

We believe one reason why accident prevention plans do not relate specific FAA activities to identified safety objectives or problems is because there is no requirement to do so. FAA directives governing accident prevention program planning only require that accident prevention resources be spent in approximately the same percentage as accident prevention types. That is, if 50 percent of the accidents are related to pleasure flying, then approximately 50 percent of accident prevention resources should be directed in that area. Rather than allocating resources on a percentage basis (a process that ignores the likelihood of making specific improvements), FAA needs to identify the various activities that should be conducted to achieve stated goals and objectives and allocate resources on this basis.

## Not enough background is known about attendees at safety meetings

Safety meetings are the primary tool of accident prevention specialists, but little is known about the attendees or their

safety problems. The specialists do not collect and review data such as the level of experience, type and frequency of flying, ratings held, and safety needs of attendees. Some specialists said that such information would be helpful, although others felt it would entail too much paperwork and analysis. A major problem identified by specialists is that most pilots who need safety discussions do not attend the meetings. At headquarters, the chief, accident prevention staff, said that such information, could be useful, but he did not know if it would be worth the effort.

Even though attendance is voluntary, we believe that districts and regions need to know more about those who attend safety meetings in order to determine whether such meetings are reaching an appropriate audience and achieving program goals and objectives. In addition, the information gathered can be useful in planning future safety meetings by tailoring presentations to typical attendees or designing appropriate outreach methods to reach other potential attendees.

## MORE AGGRESSIVE FOLLOWUP ON FLIGHT ASSISTS IS NEEDED

A flight assist is a service provided by air traffic control facilities to pilots who become lost, run low on fuel, or who experience other serious problems. The air traffic facility usually directs the aircraft to a suitable airport or renders other assistance. A flight assist report is forwarded to the applicable GADO after each incident so that proper followup may be made to check the pilot's qualifications or determine if a need exists for further assistance. FAA directives state that proper use of the information contained in flight assist reports can conceivably prevent future accidents and fatalities.

We found that flight assists are not always properly followed up because accident prevention specialists said that they lack the time, or it is often difficult, several days after the assist, to even locate the pilot. Pilots flying rental aircraft may be particularly hard to locate after the incident. Program directives require GADOs to determine if contact should be made informally or through a prescribed format letter offering to assist the pilot. We noted that the letter was infrequently used. For example, one GADO had received 63 flight assist reports but sent letters to only 11 of the pilots. Instead, specialists often discussed the assist with a third party, such as the pilot's flight instructor, a flight school, or aircraft rental agency. In these cases, FAA cannot be sure that the pilot was ever contacted. Of 41 flight assist reports received by another GADO, five pilots were probably never contacted because air traffic controllers sent the flight assist reports to the wrong GADO and the accident prevention specialist there never forwarded them to the appropriate office. Seven reports had no action taken because the specialist was in training when they were received and three were sent to local counselors, but there was no information on what the counselors did with them. This specialist and others we talked

with said that they were overburdened with work but agreed that more effort is needed to reach pilots who have had flight assists and document what actions were taken.

Timely followup of flight assists is needed to assure that pilots who want help get the advice and counsel necessary to correct any problem areas. Pilots seldom receive on-the-spot counseling from specialists, however, because the specialist may not be nearby when the assist is given and specialists are often notified several days or weeks after the fact. One GADO, however, tried to involve volunteer accident prevention counselors in this process. The GADO provided all air traffic control facilities in the district with the names and locations of counselors who could meet pilots upon landing. The GADO chief told us, however, that because it is not an agency requirement, air traffic personnel have generally not bothered to contact the counselors. Other specialists, however, agreed that it was valuable to meet with the pilot immediately after landing while the events are still fresh in the person's mind.

## MORE ACCIDENT PREVENTION COUNSELORS ARE NEEDED

Program directives state that, because the problems associated with managing the program are many and complex, the GADOs should use volunteer accident prevention counselors. These counselors are experienced persons in industry who work with GADOs to extend the reach of the program. For example, in one district, counselors do more than 60 percent of all safety counselings and conduct more than 80 percent of all pilot proficiency flights. 1/ Despite the importance of the counselors to the program's success, GADOs have generally not identified all locations in need of counselors. For example, in one region, counselors were appointed at only 35 percent of the public airports in the three districts reviewed. None of the GADOs identified which additional airports needed counselors. In another region, two of the three accident prevention specialists listed for us where counselors are needed, but they said that lack of time to find counselors prohibits appointing them.

In December 1978 the DOT Office of Audit report on the Accident Prevention Program also noted that many airports lacked counselors. For example, in one region, only 40 percent of the airports reviewed had counselors.

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1/The Pilot Proficiency Program is a voluntary effort run by industry and supported by FAA. Pilot participants must obtain 3 hours of flight instruction and attend a pilot safety meeting.

## GADOs NEED TO KNOW MORE ABOUT PRIVATE ACCIDENT PREVENTION PROGRAMS IN THEIR AREAS

District offices have done little to assess the quality or needs of accident prevention programs among industry aviation groups. The FAA directive on the program says that a specialist should:

> "Meet with operators of executive aircraft, managers of flying schools, repair stations, maintenance facilities, air taxis, flying clubs, CAP [Civil Air Patrol], etc. to encourage their establishment of positive Accident Prevention Programs, and assist them in their responsibilities."

We found that the GADOs we visited had little knowledge about the existence and quality of aviation group accident prevention programs in their areas. None of the offices, for example, even listed which local aviation groups had programs or which ones needed them. No assessments were available that showed which existing programs needed improvements. Without such assessments, FAA cannot know if or what assistance is needed. Accident prevention specialists we talked with generally agreed that more effort in this area is needed but cited lack of time to perform these assessments.

## SAFETY IMPROVEMENT REPORTS NEED BETTER PROMOTION AND FOLLOWUP

The SIR Program is an FAA public suggestion program that allows the aviation community to report hazards such as airport obstructions, inaccurate flight data on charts, or other unsafe conditions. The SIR forms are to be placed at general aviation airports and provide the public with an easy method to become personally involved in the Accident Prevention Program. Program directives state that the SIR is an extremely useful tool for GADO accident prevention specialists. We found, however, that some specialists neither actively promote the program nor follow up to assure that corrective action is taken.

### Better promotion needed

Program directives state that SIRs should be constantly emphasized in all program activities to encourage the public to use the forms on a continuing basis. How well the SIR program is promoted, however, is usually related to the enthusiasm the region's coordinator has for the program. The Southwest Region's accident prevention coordinator told us that he considers the SIR program the "life-blood" of accident prevention; he requires the specialists to spend at least 5 minutes promoting the program at each Accident Prevention Program function. He said that SIR forms are readily available at airports and safety meetings. The Southwest Region received 54 percent of all SIRs received by FAA between 1971 and 1979.

This kind of aggressive promotion contrasts sharply with that of a specialist in the Southern Region who told us that at one time he had 40 posters containing SIR forms placed throughout his district. Today, only about 10 remain, and he said that they are "falling apart." A report by the DOT Office of Audit in December 1978 found similar problems. The report stated that 21 general aviation airports visited in the Southern Region did not have SIR forms available for public use.

Lack of appropriate followup

Accident prevention specialists in all three regions told us that they do not always have the time to follow up to ensure that corrective action is taken on SIRs, although followup is required by program directives. For example, at two GADOs we visited in the Southern Region and one GADO in the Western Region, if action on the SIR involves other FAA offices or other agencies, the reports are merely forwarded and then closed out by the specialist as having been resolved.

Again, this procedure contrasts with the Southwest Region where the coordinator said that he insists that SIRs be kept open until the problem is actually resolved, no matter who is to act on it. He said that pressure often must be constantly applied to get action. Program directives require districts to inform the person who submitted the SIR what final action was taken. This is hard to do if a district closes a SIR before final action is taken on it by another agency or FAA office. Of the nine districts we visited, only four complied with this requirement.

CONCLUSIONS

The Accident Prevention Program is a good idea that has enjoyed industry and public support, but it can be made even more effective through certain improvements and closer adherence to program directives. Better program planning is needed to assure that GADOs identify underlying accident causes and high-risk pilot groups and to enable GADOs to set measurable safety objectives that can be achieved. GADOs need to know more about safety meeting attendees to determine if the program is reaching targeted groups and to plan future program efforts. More agressive followup on flight assists is also needed to assure that the pilots involved receive adequate counseling. Accident prevention counselors should be more involved in counseling pilots involved in flight assists.

Closer adherence to program directives is needed to make the accident prevention counselor program more effective. GADOs need to identify all locations that need counselors. Closer adherence to program directives is also needed to encourage private organization accident prevention programs and to promote SIRs.

Throughout this chapter we noted that GADO accident prevention specialists generally agreed that improving program planning, making more aggressive efforts to follow up on flight assists, appointing more accident prevention counselors, assessing aviation group accident prevention programs, and promoting the use of SIRs could improve FAA's Accident Prevention Program. A common problem cited, however, was lack of time because of other duties. As discussed in chapter 2, increased productivity from district office automation (if actually experienced) may help this problem. However, we believe the lack of importance attached to these responsibilities is also a factor. Obviously, as noted above, the Southwest Region places a lot of importance on the use of SIRs. In any case, the work force planning process (also discussed in ch. 2) needs to recognize these responsibilities--which, for the most part, are laid out in FAA directives.

## RECOMMENDATIONS

We recommend that the Secretary of Transportation direct the FAA Administrator to assure that:

--GADOs prepare accident prevention plans that identify specific safety problems that need attention and how the problems will be resolved.

--GADOs and regions gather qualification and experience data on safety meeting attendees to be used in planning the content for safety meetings and measuring success in reaching target groups.

--Flight assists are quickly followed up using accident prevention counselors for this purpose whenever possible.

--Locations needing accident prevention counselors are identified and that counselors are appointed.

--Private organization accident prevention programs are assessed so that improvements, when needed, can be encouraged.

--SIRs are better used by: (1) continually publicizing the existence and use of the form, (2) aggressively following up on submitted reports until corrective action is taken, and (3) informing submitters of action taken.

# CHAPTER 5

## STRONGER MANAGEMENT CONTROLS NEEDED OVER AIRCRAFT RENTAL PROGRAM

FAA authorizes certain GADO personnel to rent aircraft in order to maintain their flying proficiency as well as for transportation. Our review, along with the findings of FAA and DOT studies, showed that the aircraft rental program has several problems that must be resolved for the program to be managed more efficiently and effectively. Specifically, we found that

--vague guidelines may lead to misuse of rental aircraft,

--rental requests often lack sufficient justification,

--savings are possible using less expensive aircraft, and

--competitive contracting may reduce rental rates.

Aircraft rental program expenditures were about $1.8 million in fiscal year 1980. About $3 million was requested in the fiscal year 1981 budget.

### VAGUE GUIDELINES MAY LEAD TO MISUSE OF RENTAL AIRCRAFT

Some of FAA's guidelines governing the use of rental aircraft offer little help in determining specifically what is or is not permitted. For example, employee dependents are permitted on rental flights when in the national or public interest, or when necessary for the health or morale of the principles involved. The guidelines, however, do not define "national or public interest" or "health and morale." Another section of the guidelines indicates that GADO personnel may rent aircraft for general aviation and maintenance itineraries and activities; no further elaboration is provided.

We found cases where rental aircraft had been apparently used for personal reasons. For example:

--An accident prevention specialist took his son on a flight from Long Beach, California, to Tuscon, Arizona, and Borrego Springs, California. Although the specialist did not perform any official business during the trip, he claimed that the flight could be justified for proficiency reasons. However, there is no requirement for specialists to maintain proficiency. This trip cost the Government about $300.

--A GADO chief stated that he rented a plane and, accompanied by his wife, flew from San Diego to San Jose, California, to get a surplus typewriter. They then flew approximately 100 miles past Reno to Winnemucca, Nevada, where they spent the night with their daughter. The following day, the chief flew back to Reno and visited briefly with the local GADO chief before continuing to San Diego, California. This flight cost the Government $272. This individual also flew round trip from San Diego to Santa Monica, California, to replenish some FAA standard forms.

In two other cases, DOT's investigations indicated that high-level FAA officials had used FAA-owned or rental aircraft for questionable purposes.

--In one case, DOT charged that an FAA official misused Government and rental aircraft by directing flights to an airport close to his property for personal reasons. The official acknowledged the violations, and FAA issued a letter of reprimand "for using extremely poor judgment in scheduling or directing pilot training flights to locations which coincided with your own personal interests."

--In another case, DOT charged that an official had another FAA employee fly him and his wife in a rental plane from Atlanta, Georgia, to Raleigh, North Carolina, to attend a seminar. The pilot then flew the plane back to Atlanta. After spending several days on annual leave, the official directed the pilot to rent another plane and return to Raleigh to pick them up for their return. Transportation costs by rental aircraft exceeded commercial airline costs by approximately $500. In this case FAA did not agree that rental funds had been misused but did find problems related to the individual's leave and flight records for this trip. In a letter of reprimand, FAA addressed these issues and also cautioned against uneconomical use of rental aircraft that creates the appearance of impropriety.

We are uncertain how widespread the misuse of rental aircraft is. We noted, however, that recent DOT and FAA evaluations of all or part of the rental program both raised the issue, or at least the possibility, of misuse because of a lack of controls over aircraft rentals.

We believe that more specific guidelines are needed to clearly define what rental uses are to be allowed. Examples of misuse would help remove doubt as to what practices are prohibited.

## RENTAL REQUESTS OFTEN LACK SUFFICIENT JUSTIFICATION

To rent an aircraft, a pilot must complete an FAA rental request form justifying the need for the rental. FAA directives require that every request form be completed in sufficient detail to withstand the scrutiny of postaudit review. The detail should be sufficient to determine whether the authorized use of the rental aircraft was practical and/or economical and for official purposes of the agency. No other specific information requirements are stated.

Our review of rental request forms indicated that the justifications were often inadequate. For example, we found the following justifications written on request forms:

--Transportation.

--Official government business.

--GADO function.

--Pick up papers at Sarasota, Florida.

--Sunday surveillance.

Some forms had no justification at all.

In one GADO, we applied the criteria that justifications should be detailed enough to permit cross reference to other documents, such as inspection results, to determine if the purpose of the trip was achieved. Such documentation would require listing what activities were planned during the trip. Using this criteria, we found that almost 40 percent of the request forms contained insufficient justification.

An FAA evaluation dated February 1980 also noted this problem. Examples of justifications that were cited included "morale," "explorer scout familiarization," "logistics," and "training."

We believe a need exists for more specific criteria concerning what information is needed on request forms so that postaudit and postanalysis is possible. Specific guidelines are needed (including examples if necessary) detailing what information/justification is needed.

The Acting Chief, Aircraft Programs Division, Office of Flight Operations, told us that his office recognizes the need to strengthen the directive governing rental aircraft--particularly the requirements for documenting the justification for the rental. He said that a revision of the directive is planned.

A related problem is the short time that FAA retains request forms (Aircraft Request and Use Record, Form 4040.6). FAA only retains the form for 90 days. Certain information, such as the justification for the rental, is not found elsewhere. The Assistant Chief, Aircraft Programs Division, Office of Flight Operations agreed that the 90-day retention period is too short for postaudit purposes and said that he would seek the necessary approval to extend the retention period to at least one year.

## SAVINGS ARE POSSIBLE USING LESS EXPENSIVE RENTAL AIRCRAFT

FAA directives require that the use of aircraft be managed efficiently and economically. Little guidance is provided, however, on how to achieve this objective. One problem we found was the apparent excessive use of expensive twin-engine aircraft when less expensive single-engine aircraft would do. A typical single-engine rental costs FAA between $45 and $60 per hour while the typical twin-engine rental costs FAA between $125 and $250 per hour.

Although FAA believes that some twin-engine rentals are necessary, particularly for flying proficiency, our analysis of rental flights for 1979 in the New England Region indicated that nearly 50 percent of all rental flights were made in twin-engine aircraft. In one GADO, of 40 twin-engine flights, seven appeared to have no other basis for the selection of a twin-engine over a single-engine rental other than personal preference. An FAA staff study on the rental program conducted about the same time in that region also recognized this problem and stated that

> " * * * it was obvious that more utilization of category II (single-engine, four seat) aircraft could and should be made. This utilization would enable the individual offices to derive more flight hours from their rental allocations. There is no good reason why category II aircraft should not be utilized more than they are presently."

The study recommended stronger controls over aircraft rentals to prevent excessive use of twin-engine aircraft.

Another way the New England Region evaluated the efficiency of its rental aircraft use was to measure load factors. Load factors are the percentage of available seats used. This region found that the load factor on 38 percent of the aircraft it used was below the general aviation national average. We performed a similar analysis in another region and found that load factors for the three GADOs we visited in that region ranged from 4 to 28 percent below national averages for all types of aircraft

rented. This rate indicates that using less expensive smaller aircraft may have been possible on a number of flights.

A related problem, although we did not find it to be widespread, was greater than normal use of twin-engine rentals late in the budget year. For the three GADOs we visited in one region, for example, we found that 42, 24, and 16 percent, respectively, of the annual dollars spent on twin-engine aircraft rentals was spent in the final month of fiscal year 1979.

Although twin-engine aircraft rentals may be justified under certain circumstances, it appears that savings are possible by more tightly controlling their use. One way would be to require separate justification on the justification forms when renting other than single-engine aircraft. Justifications should be detailed enough to verify the stated need during postaudits.

## COMPETITIVE CONTRACTING MAY RESULT IN REDUCED RENTAL RATES

FAA has overlooked the potential cost savings of competitive bidding for aircraft rentals. GADOs generally pay the going rental rates even though they often rent from the same rental company. Regional management has done little to alter this situation.

The regional office handles all contracts for GADOs. However, we were informed that none of the three regions we visited sought competitive bids in fiscal year 1980 for GADO aircraft rentals.

One region had rental contracts in 1979 but only in one large metropolitan area. The region's Chief of Procurement said that savings were possible through bidding and fixed-price contracts, however, the contracts had not been renewed in fiscal year 1980. He said that the Flight Standards Division did not request it. Division officials did not have an adequate reason for not requesting the contracts.

In another region, an official said that he had never bothered to investigate the feasibility of potential cost savings; he just assumed it would be too much work for the benefits derived. However, the region's contracting officer said that she would prefer contracts and that they would save administrative costs.

We contacted 16 aircraft rental agencies frequently used by five district offices in one region. Fourteen of the 16 agencies (88 percent) would consider a contract. Most rental agencies surveyed estimated a 10-percent cost reduction with a contract.

Based on the above, we believe that savings may be possible using competitively bid contracts.

## CONCLUSIONS

Stronger management controls over the aircraft rental program could result in savings. There have been cases where aircraft were apparently misused for personal purposes. Further, it is often difficult to determine if aircraft are used for legitimate purposes because rental request justifications are not always detailed enough to permit thorough postaudits. A related problem is the fact that FAA only requires that certain rental records be retained for 90 days. We believe FAA can reduce rental costs by more closely controlling rental of expensive twin-engine aircraft and by soliciting competitive bids for rental rates.

## RECOMMENDATIONS

We recommend that the Secretary of Transportation direct the FAA Administrator to:

--Provide GADO personnel with clear and specific guidelines (using examples if necessary) that define and differentiate between acceptable and unacceptable rental aircraft uses.

--Identify the specific information necessary to perform thorough postaudits of rental form justification and revise the appropriate directives to require such information.

--Seek the necessary approvals to extend the retention period for the Aircraft Request and Use Record (form 4040.6).

--Require specific justifications for selecting aircraft rentals other than single-engine aircraft and provide examples of justifications that would (and/or would not) be acceptable.

--Explore the possibility of aircraft rentals through competitive bidding and use this method when it would result in cost savings to the Government.

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