

EVALUATION REPORT
St. Petersburg Police Aviation Unit

May 1974

Program Evaluation Unit
Administration Bureau
Police Operations Department
St. Petersburg, Florida

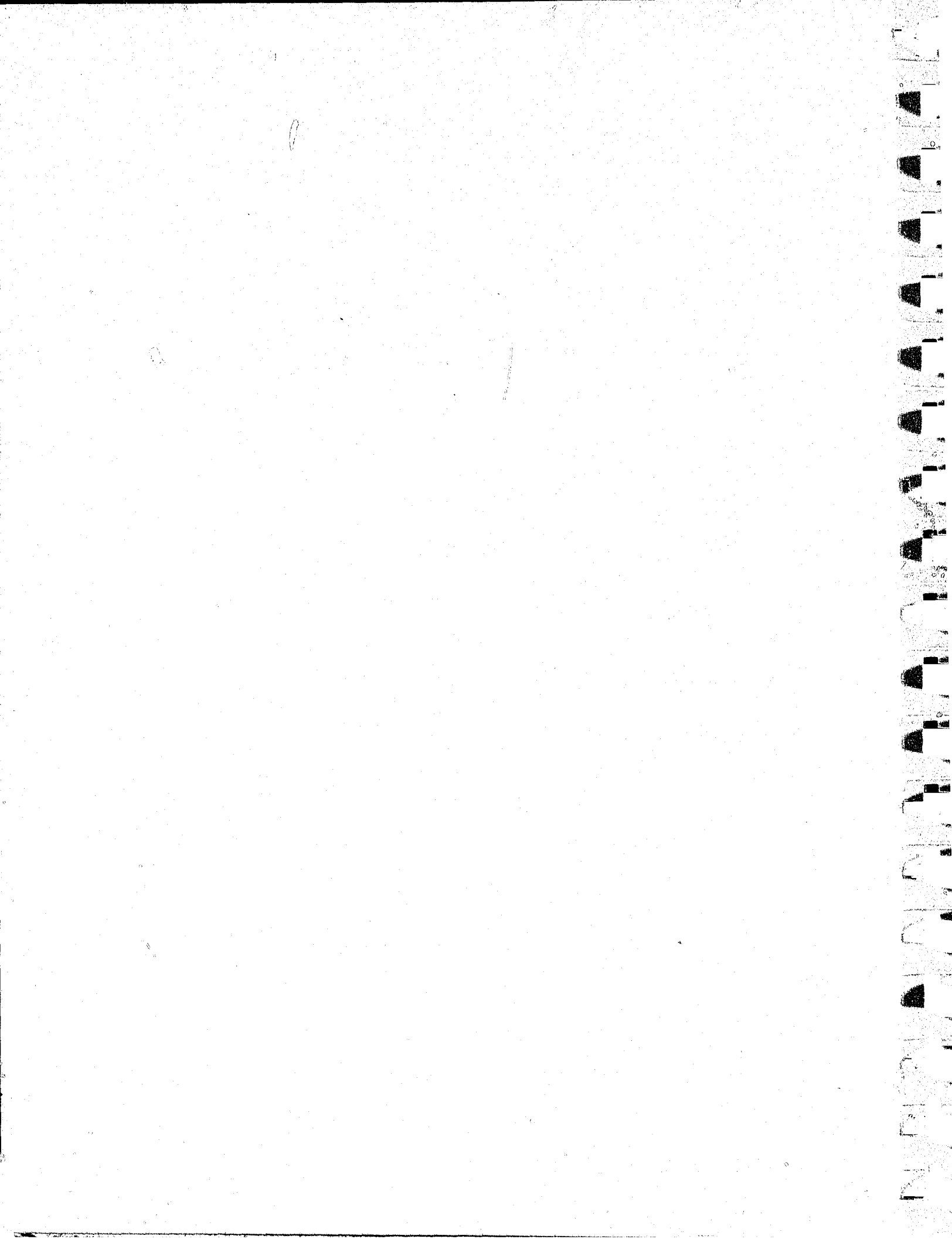
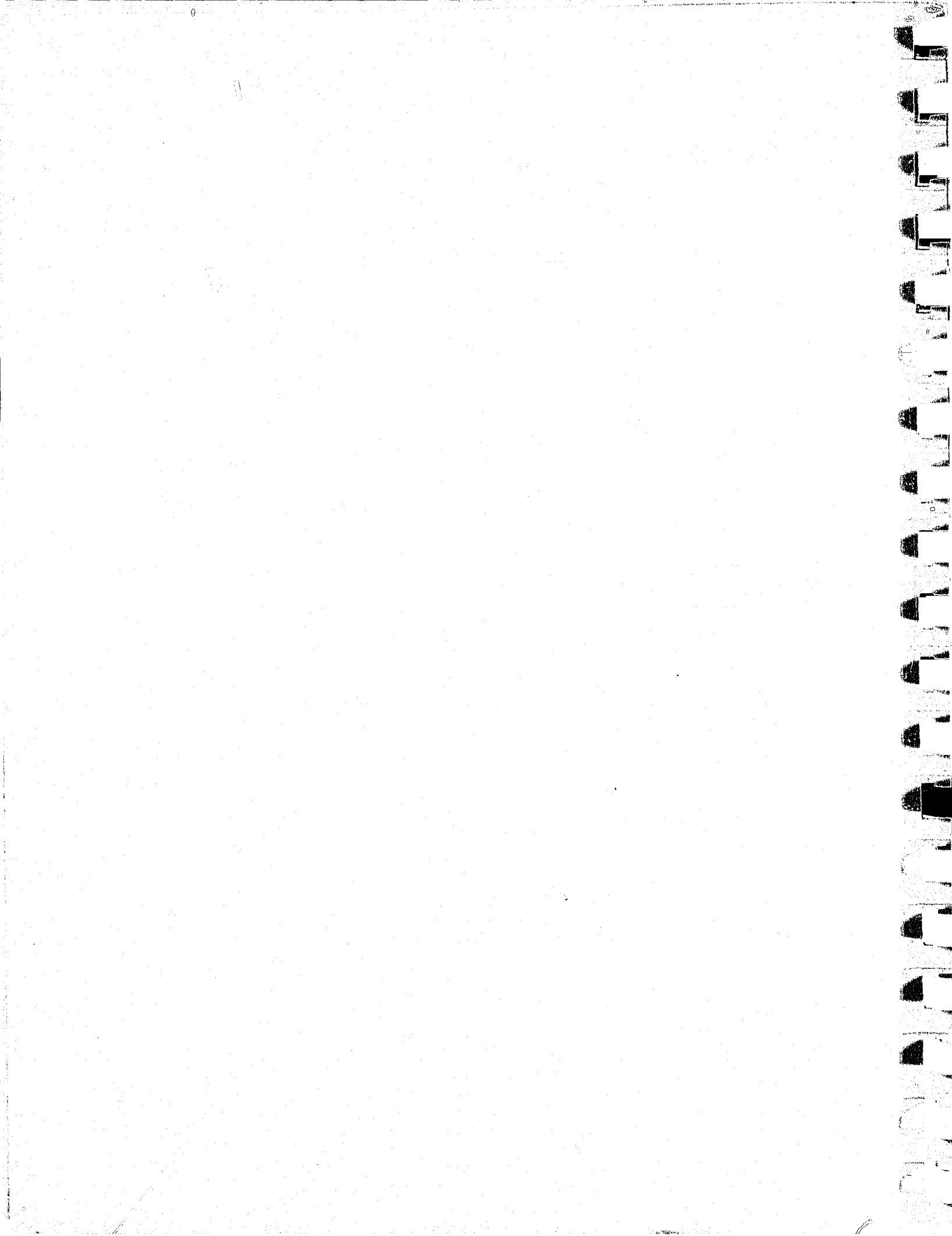


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I.O INTRODUCTION

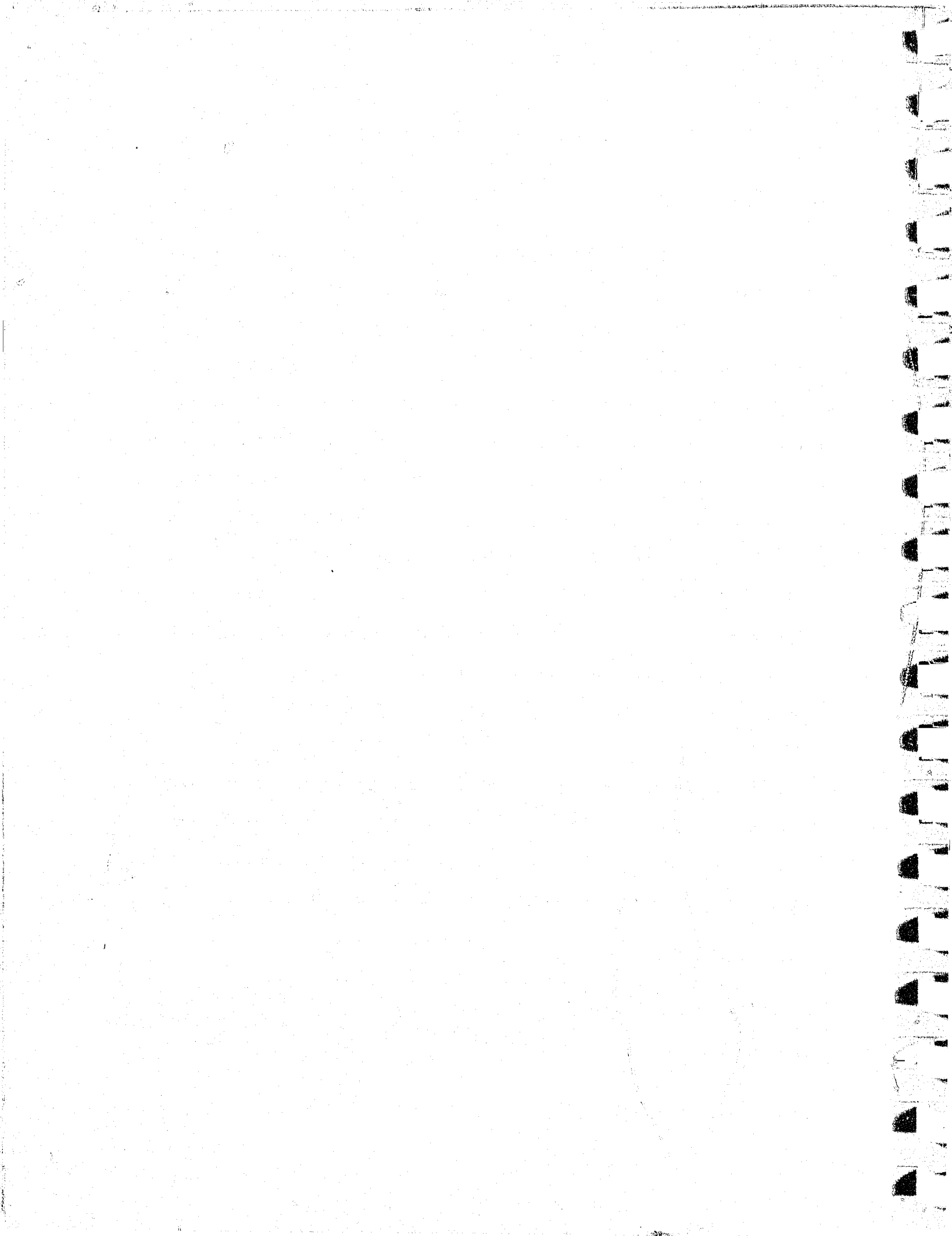
1.1 Background

Although helicopters have been used by police agencies for many years,¹ it was not until Project Sky Knight was funded by the Law Enforcement Assistance Administration in 1966 that their value as patrol vehicles became widely recognized. Previous to this time the use of helicopters in law enforcement was restricted to the performance of a variety of specialized missions: rescue missions, traffic control, transportation, aerial photography, fire spotting, and searching parties, to name a few. Project Sky Knight was an experiment conducted by the Los Angeles County Sheriff's Department to determine the value of aerial patrol as a generalized police function. The experience in Lakewood (the town selected as a target area) indicated that aerial patrol was responsible for a 15% decrease in robberies as compared to a 35% increase in the nearby control communities.² Furthermore, the program had earned an unexpected level of public support. Ninety percent (90%) of the respondents to a mail-back questionnaire favored continuation of the Sky Knight program while only 8% disapproved.³ After over a

¹Los Angeles County reports regular use since 1955. Howard H. Earle, "Project 'Sky Knight'—— Helicopters As An Adjunct to Law Enforcement Patrol," in Pursuit, D. G. et al, Police Programs for Preventing Crime and Delinquency (Springfield, 1972), p. 405.

²Ibid., p. 412.

³Ibid., p. 411



year in service Sky Knight's evaluators concluded that:

Ability of the police helicopter to see more, travel further and respond with a speed and directness heretofore impossible, make it potentially the most important crime deterrent available to law enforcement today!⁴

News of the success in Lakewood spread rapidly and by 1973 there were "more than 135 helicopters.....used by 63 U. S. cities and counties to combat the rising tide of crime."⁵ Journal articles proliferated as additional jurisdictions reported on their successes with aerial patrol.

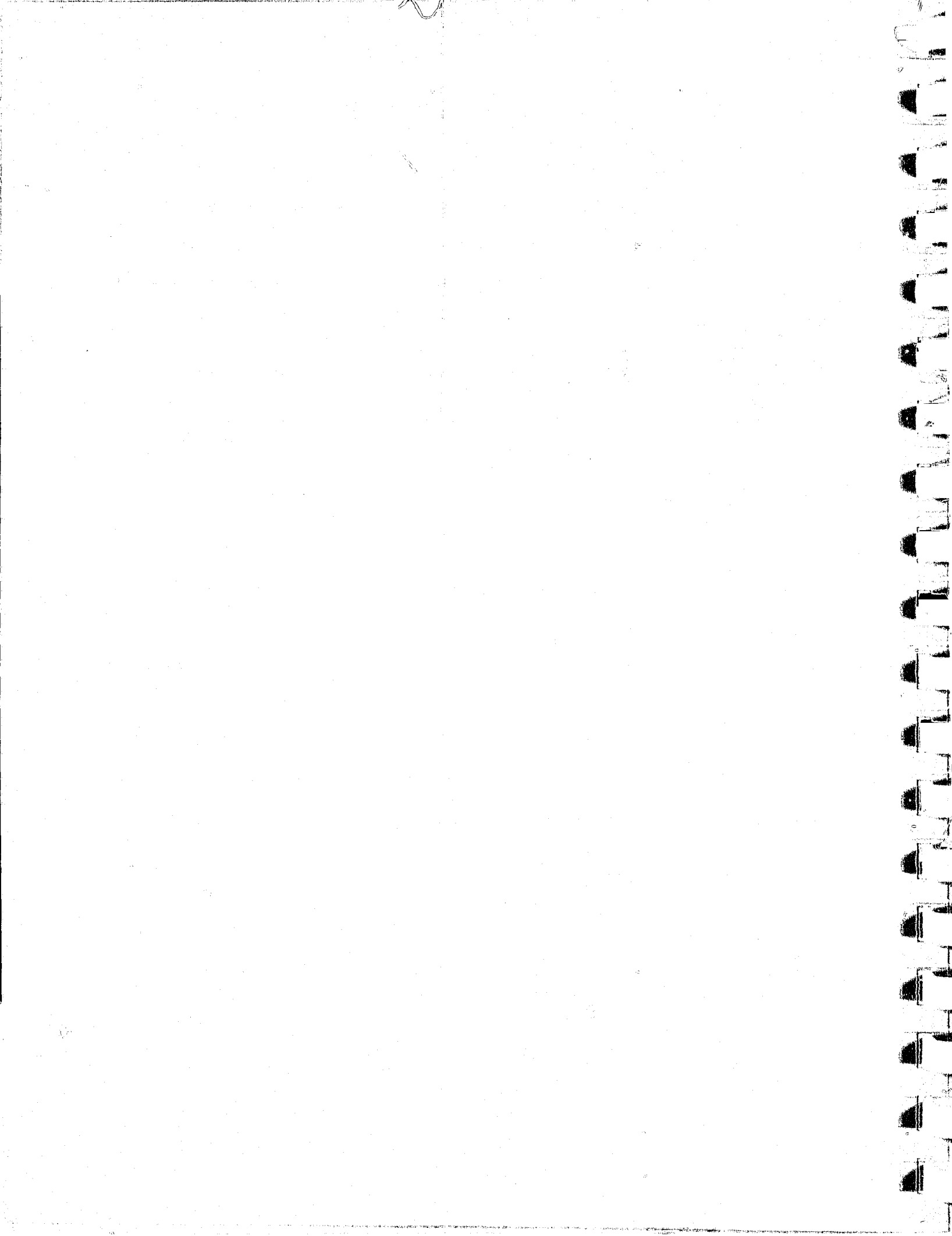
Early in 1972, discussions were started on the potential value of aerial patrol in St. Petersburg and in September of that same year bids were solicited for a Bell 47-G model helicopter. On February 14, 1973, the City of St. Petersburg took delivery on a reconditioned Bell 47-G helicopter at a purchase price of \$24,385. Approximately one month later the Police Department's Aviation Unit was fully operational.

1.2 Evaluation Methodology

After approximately five months of operation, a formal evaluation was ordered to study operational procedures and determine

⁴Ibid., p. 413

⁵Norman Lynn, "Patrol Helicopter Mobility Effective in Crime Control," Law and Order (November, 1973), p. 83.

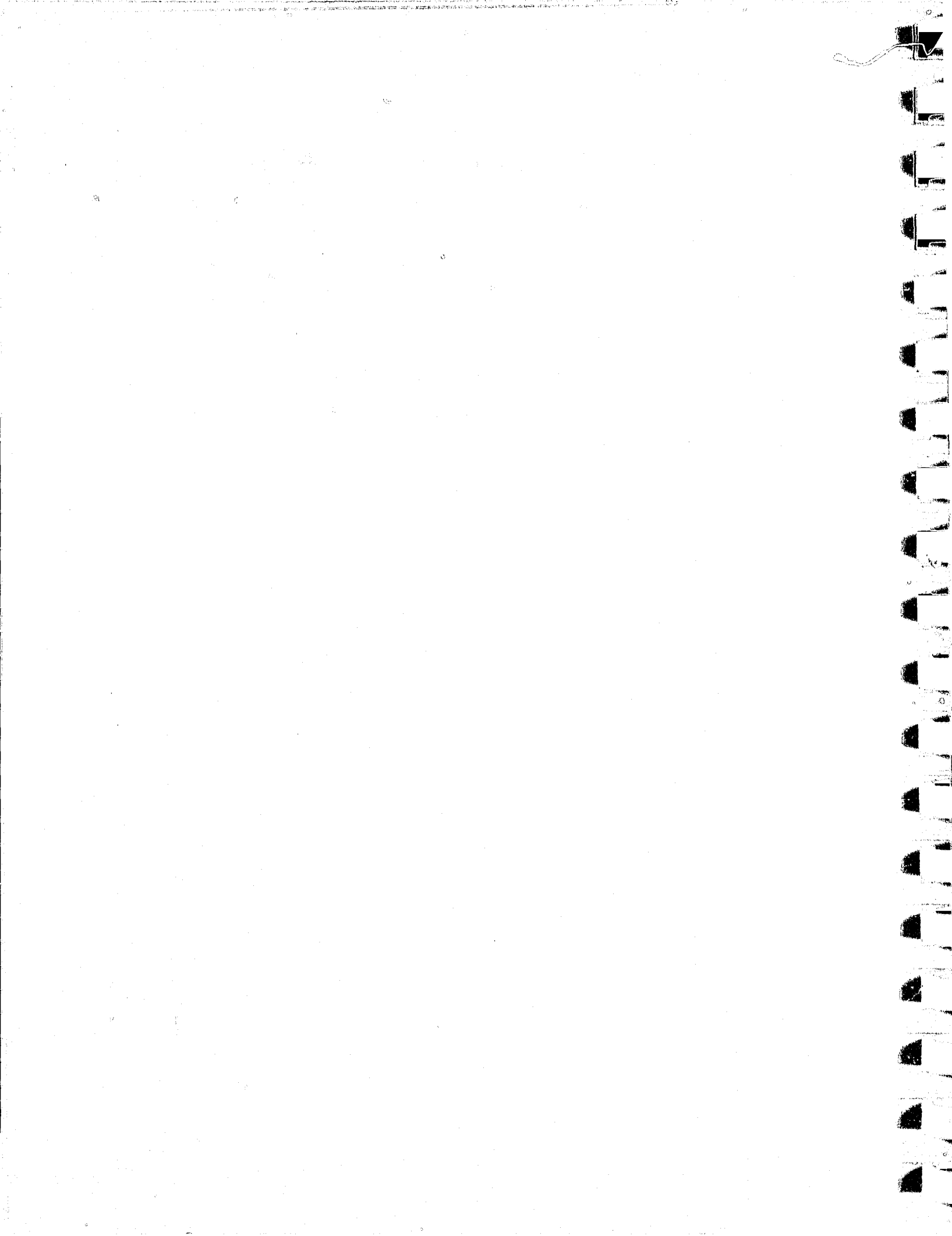


the effectiveness of the Aviation Unit. The evaluation was conducted from August 1973 through April 1974, with the primary data collection activities occurring in September - November 1973.

Because the aviation unit was implemented on a city-wide basis, no naturally occurring control group existed for comparison purposes. Neither was a before-and-after comparison design appropriate because of the simultaneous implementation of team policing, an effort whose effects were believed to be at least as far reaching as those of helicopter patrol. Comparison with a time-trend projection was similarly ruled out because of the inability to isolate the effects of aerial patrol.

The design employed, therefore was a rather makeshift one, combining elements of several of the traditional procedures. Because helicopter flight time was limited by fairly extensive maintenance requirements, less than half of the time scheduled for operation was actually spent in the air. It was assumed that down-time occurred without regard to crime patterns and therefore could be used as an independent variable. A correlation analysis which related flight time to crime statistics, therefore, was planned to approximate the use of a control group.

Another type of analysis simply divides events into two groups: those in which the helicopter was present and those in which it was not. The assumed independence of down-time permits the conclusion that the two groups of events are essentially equal. The group of events in which the helicopter was not pre-



sent can then serve as a control against which to measure helicopter effectiveness.

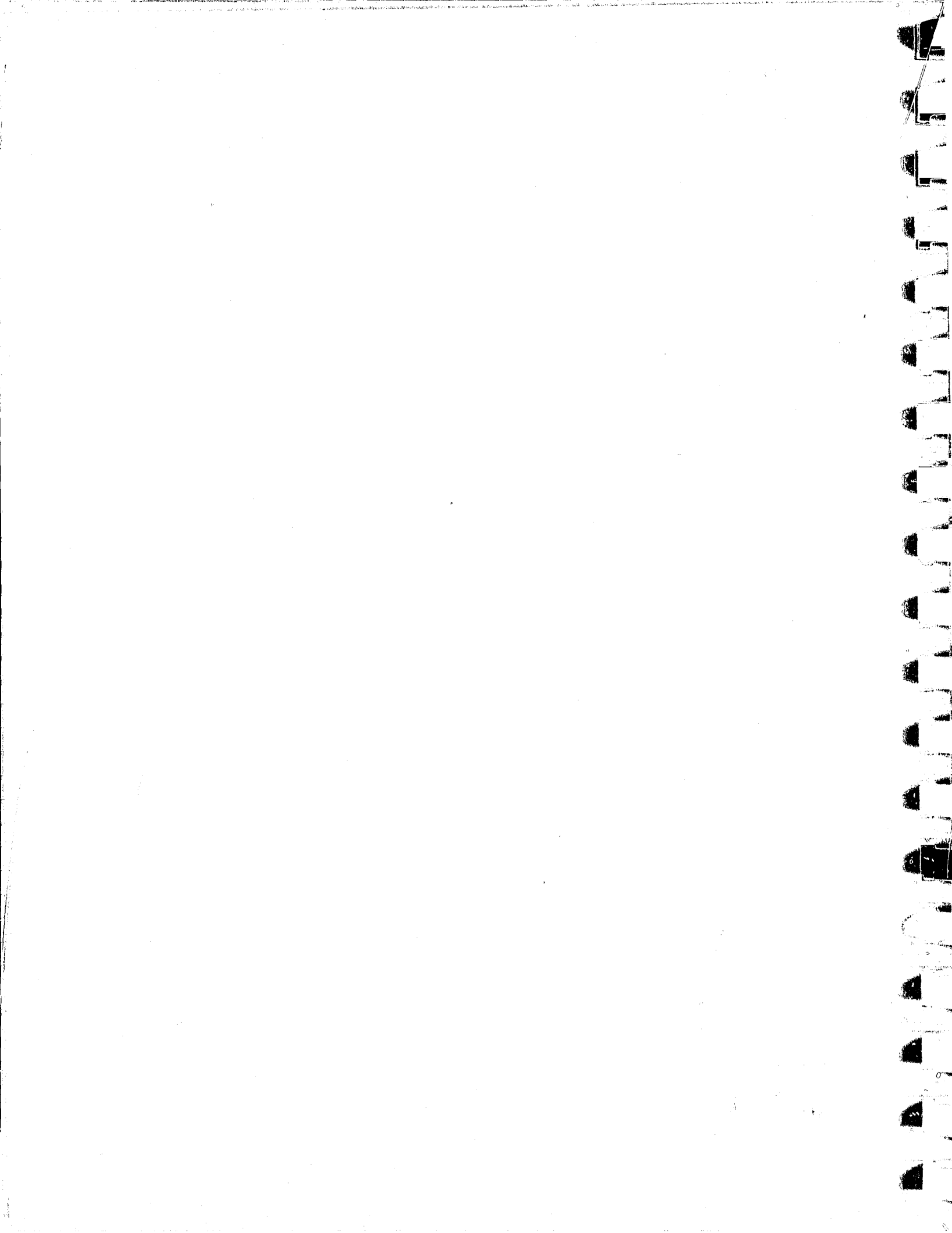
In addition to these two statistical techniques, a number of other evaluation methodologies were employed. These are discussed separately below.

Literature Review. As part of the evaluation effort, a thorough search was made for all available literature on the subject of helicopters as police patrol vehicles. This included a bibliography provided by the National Criminal Justice Reference Service on the topic. This literature was reviewed to determine:

- Operational procedures established for helicopter patrol by the various agencies;
- Equipment configurations;
- Assigned manpower;
- Demonstrated effectiveness; and
- Guidelines for aerial patrol operations.

Results from this literature review were then used as a base from which to launch the current evaluation.

Comparative Analysis. In an effort to secure more detailed information about the operations of specific units, personal visits were made to three local law enforcement agencies, and



telephonic communication was initiated with eight other agencies throughout the country. Information from these agencies provided a practical basis for comparison with our own unit's operations.

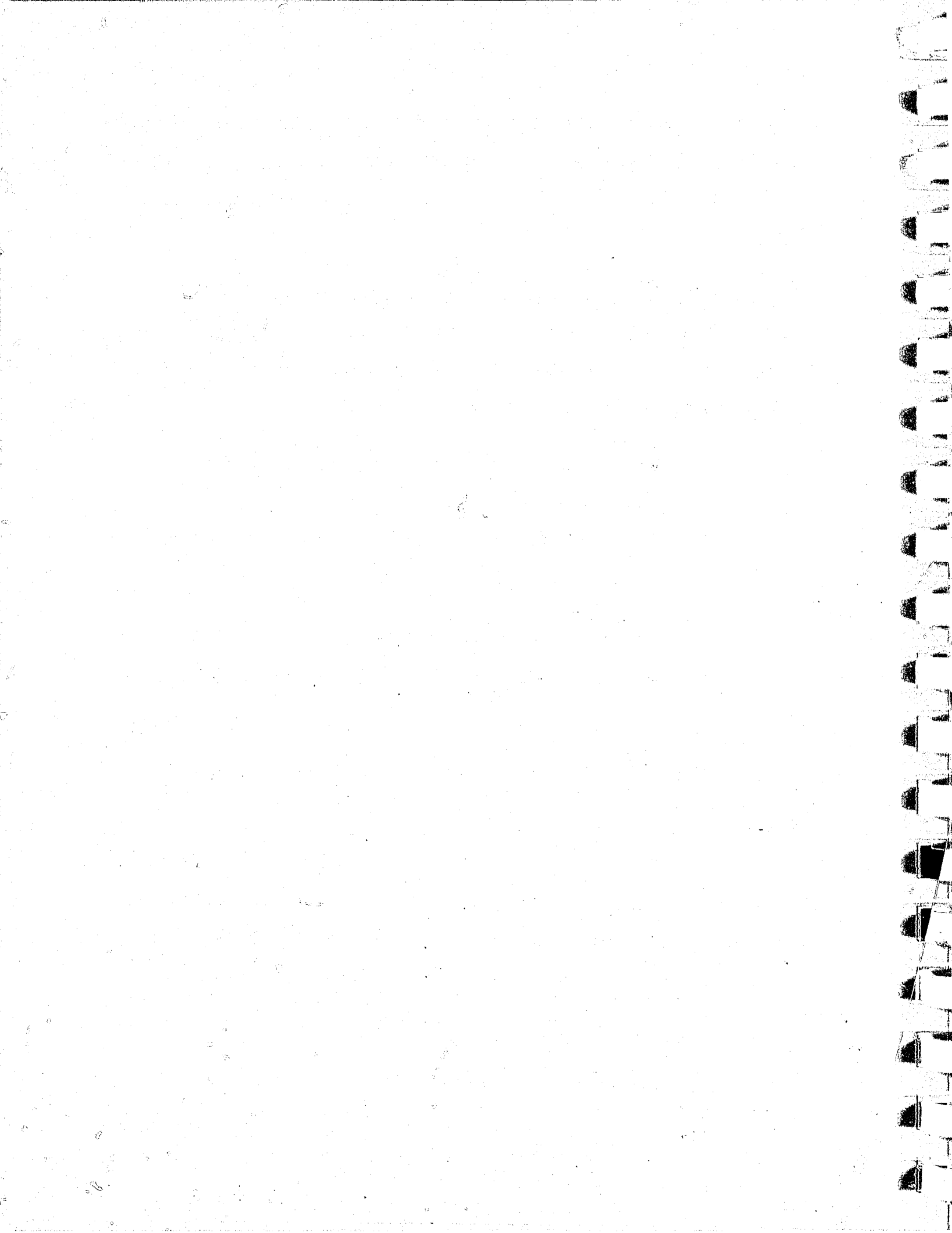
Original Data Collection Procedures. In order to obtain statistics appropriate for project evaluation, a special reporting system was implemented. Basic reporting requirements included the completion of three forms:

1. Mission Activity Log. This form provided information about the types of activities undertaken and the amount of time consumed by each during every flight mission.
2. Daily Summary. The Daily Summary summarized mission activity logs and also provided information about down-time.

Copies of each of these reporting formats along with instructions for their use are included as Appendix A.

Existing Data Collection Methods. The Aviation Unit had already established an extensive record keeping system from which much additional information was available. This information included:

- Logged flight time
- Offense numbers for priority responses

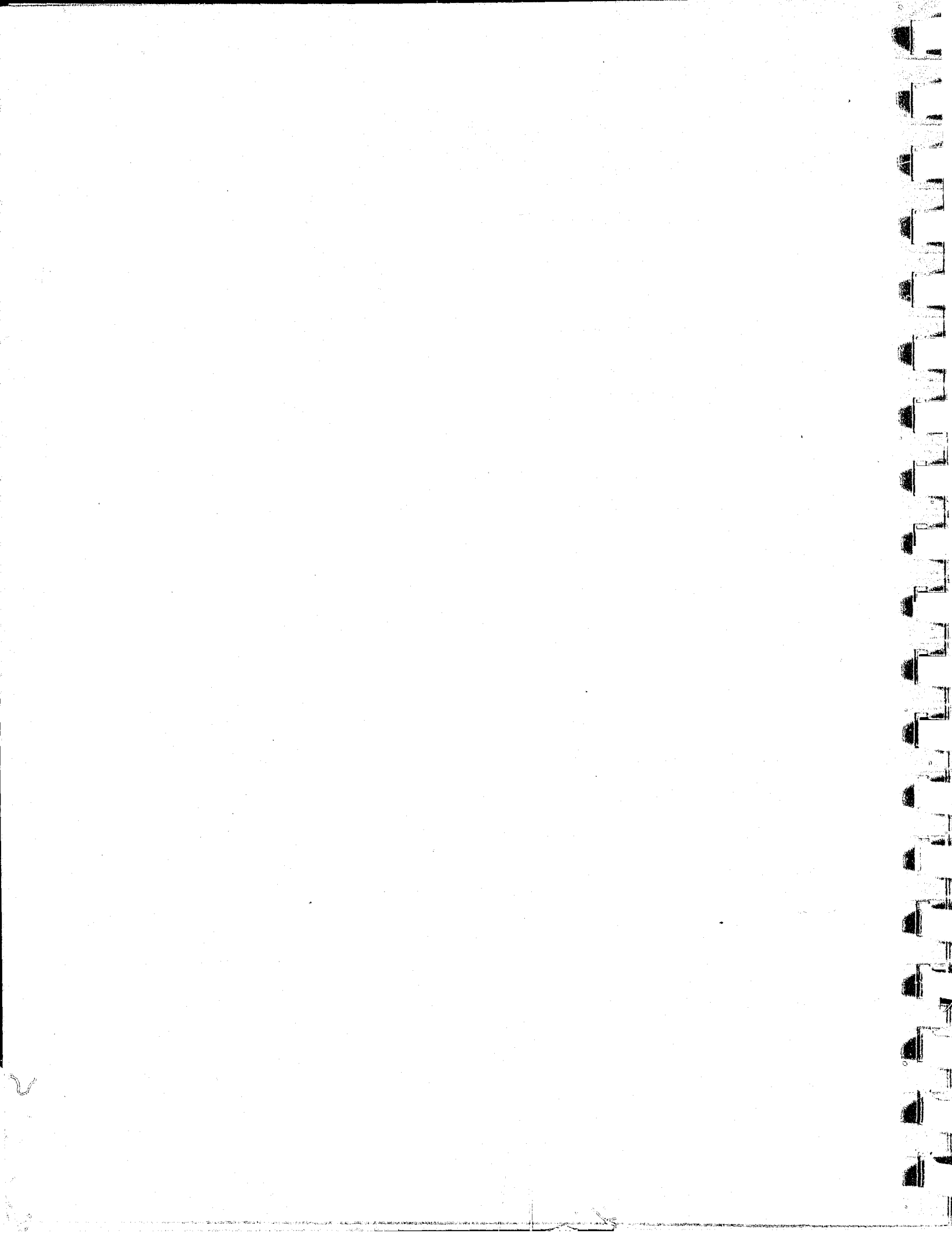


- Maintenance schedules and requirements
- Scheduling of personnel
- Public relations activities, and
- Related operational information.

Observational Analysis. During most of the evaluation period, observation of the Unit's activities was restricted to ground operations because of the limited seating capacity of the patrol helicopter. The evaluator, however, was able to observe ground activities conducted by the unit, including public appearances, supervision, maintenance, pre-flight inspections, and responses to calls. In addition, the evaluator also rode with ground units during both daytime and evening hours in order to observe ground/air unit interactions.

Toward the conclusion of the evaluation period, the acquisition of a second helicopter made it possible to observe the aerial activities of the patrol helicopter from the vantage point of another aircraft. Using this technique, it was possible for the evaluator to observe the activities of the helicopter as it engaged in patrol activities and responded to calls.

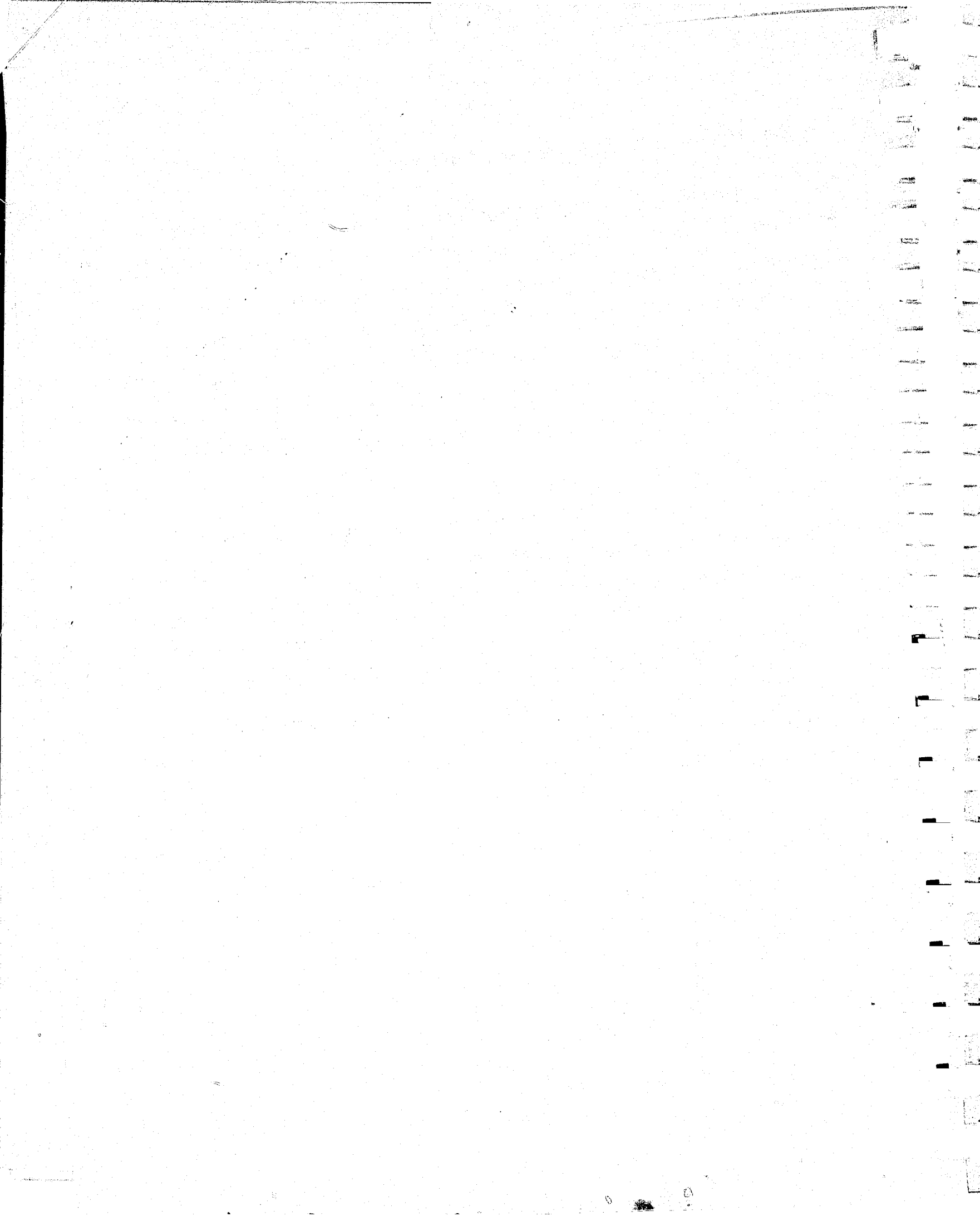
Interviews with Aviation Unit Members. Each of the members of the Aviation Unit was interviewed using a structured schedule. During the course of this interview, information was sought concerning members' understanding of goals and objectives, opinions concerning unit effectiveness, and suggestions



for improvement of operational procedures.

Patrol Officers' Questionnaire. In order to gain insight into the patrol officers' perspective of the helicopter program, a short questionnaire was distributed to a sample of police officers currently assigned to patrol duty in one of the two districts of the city. Information derived from these questionnaires indicate the extent to which the officers have experienced helicopter assistance and their evaluations of its effectiveness.

Citizen Survey. The Program Evaluation Unit is currently conducting a citizen survey throughout the city which will, among other things, obtain information about citizens' attitudes about helicopter operations. Results from this survey will indicate citizens' feelings of security derived from helicopter patrol as well as complaints about noise or invasion of privacy. Unfortunately, however, survey results will not be available in time to include them in this report.



2.0 PROJECT DESCRIPTION

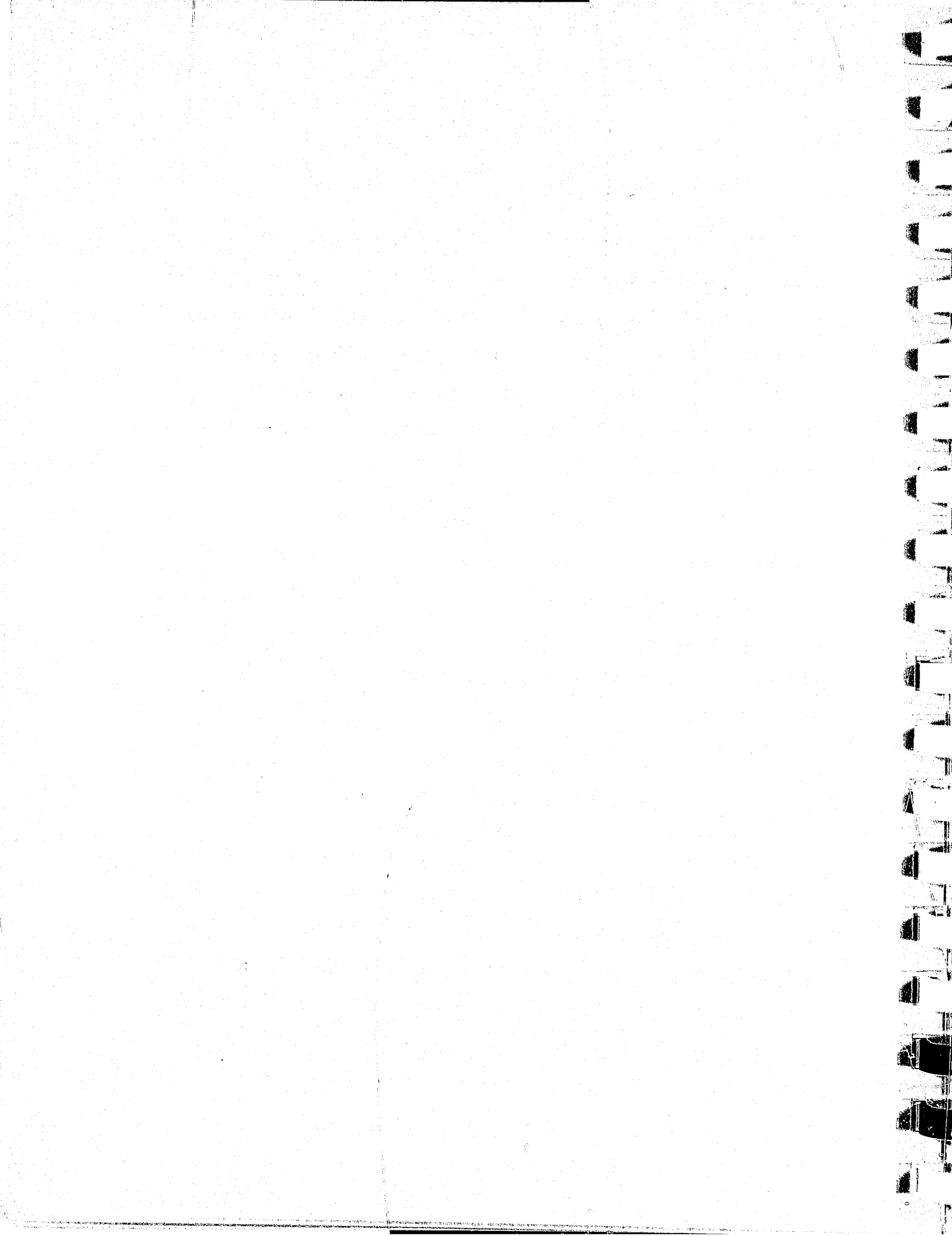
2.1 Goals and Objectives

No specific goals or objectives were formulated for the Aviation Unit at the time of its inception. The helicopter was apparently perceived as a general patrol vehicle which would provide aerial support for ground units. Specific expectations included improved response time, deterrence of criminal activity, and improved capability for apprehending suspects.

Because the specification of goals and objectives was essential to establishing an evaluation design, the initial effort of the evaluator were directed toward this end. Discussions with Aviation Unit staff and other agency personnel led to the formulation of the goals and objections which are presented below.

GOAL 1. TO CONTROL CRIME AND SUPPORT GROUND UNITS BY CONDUCTING MISSIONS OF PREVENTIVE PATROL.

Primary use of the helicopter as a patrol unit is somewhat of a departure from its traditional use as a rescue or special duty vehicle. Most police departments which have had helicopters in the past have failed to realize their potential for preventive patrol, reserving them for duty in traffic control, emergency operations, searches for lost children or missing boats, reconnoitering major disaster scenes, and the like.



Regular use of the helicopter for preventive patrol is expected to have several advantages. First, the exceptional viewing ability at 500 feet will permit the two-man aviation team to patrol large areas in relatively short periods of time. Some experts claim that a helicopter can patrol 35 square miles in the time it takes a conventional ground unit to patrol one. Of course, there are some suspicious activities which could not be observed from the air and therefore ground units can never be replaced as the primary patrol vehicle. Using the helicopter, however, greatly expands the patrol capability and permits an overview of an area which approximates being "everywhere at once."

The helicopter on patrol is expected to impact on crime in two ways:

1. By dispatching ground units to investigate suspicious activities or situations which are observed from the air. This observational function is similar to that performed by ground units on patrol. While it is rare for a ground unit to come upon a crime in progress, the chances for doing so by the aviation unit are greatly improved.
2. By serving as a deterrent to potential criminals. Although the value of preventive patrol as a deterrent has never been empirically established, perception of likelihood of apprehension is usually considered to be a major factor in the decision to commit a crime. Few would argue that the physical presence of a police officer in a nearby position would have no effect on the behavior of a would-be offender. The police officer patrolling in the helicopter can observe several square blocks at once and, therefore, has an increased capacity to observe a criminal act. The offender's perception of the situation, however, is more important than reality. When the helicopter is in flight it can be seen for many blocks. It can also be heard in a large area, increasing the likelihood that per-



sons on the ground are aware of its presence. This awareness of the helicopter's presence is hypothesized to be of great deterrent value to the potential offender. His awareness of the helicopter is likely to cause him to believe that he is equally visible to the officers above and alter his behavior accordingly.

Objectives which must be met in order to achieve this goal are as follows:

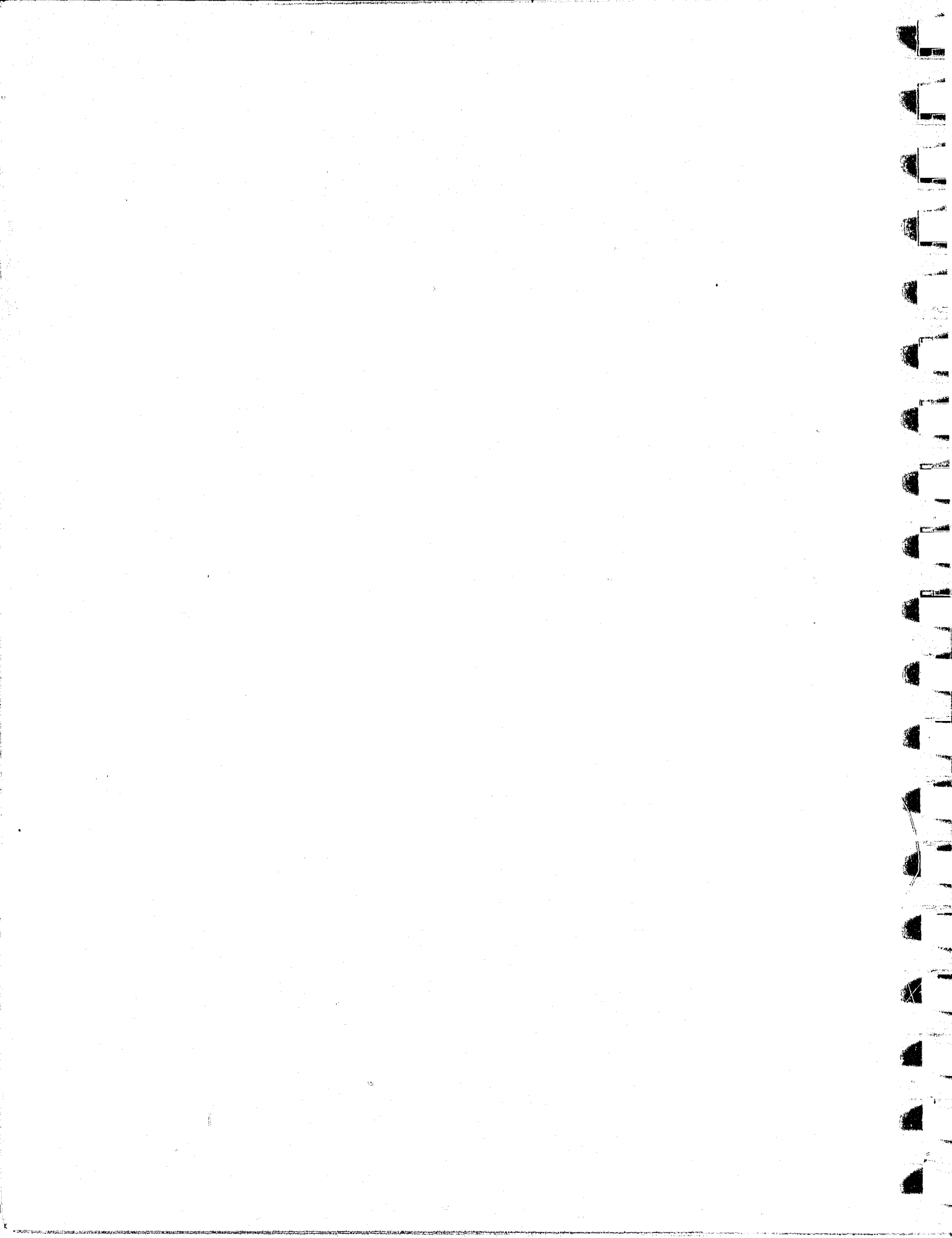
Objective 1A. To spend an average of six hours a day in the air, the greatest proportion of which are spent in preventive patrol.

Objective 1B. To actively seek out suspicious or dangerous conditions and direct ground units to investigate.

GOAL 2. TO IMPROVE THE CAPABILITY OF PATROL OFFICERS TO MAKE AT-THE-SCENE ARRESTS.

An at-the-scene arrest is generally considered to be superior to one which follows an investigation. There are at least three reasons for this superiority.

1. An offender who is arrested at the scene can be more readily linked to the physical evidence at the crime scene;
2. When an offender is arrested at the scene a police officer can usually testify as to his identity and participation in the crime. When an offender is arrested following an investigation, witnesses are usually lay persons who frequently lack the confidence and experience to testify well in court; and
3. An arrest made at the scene eliminates the need for countless manhours expended in follow-up investigations which may or may not produce sufficient evidence to make an arrest.



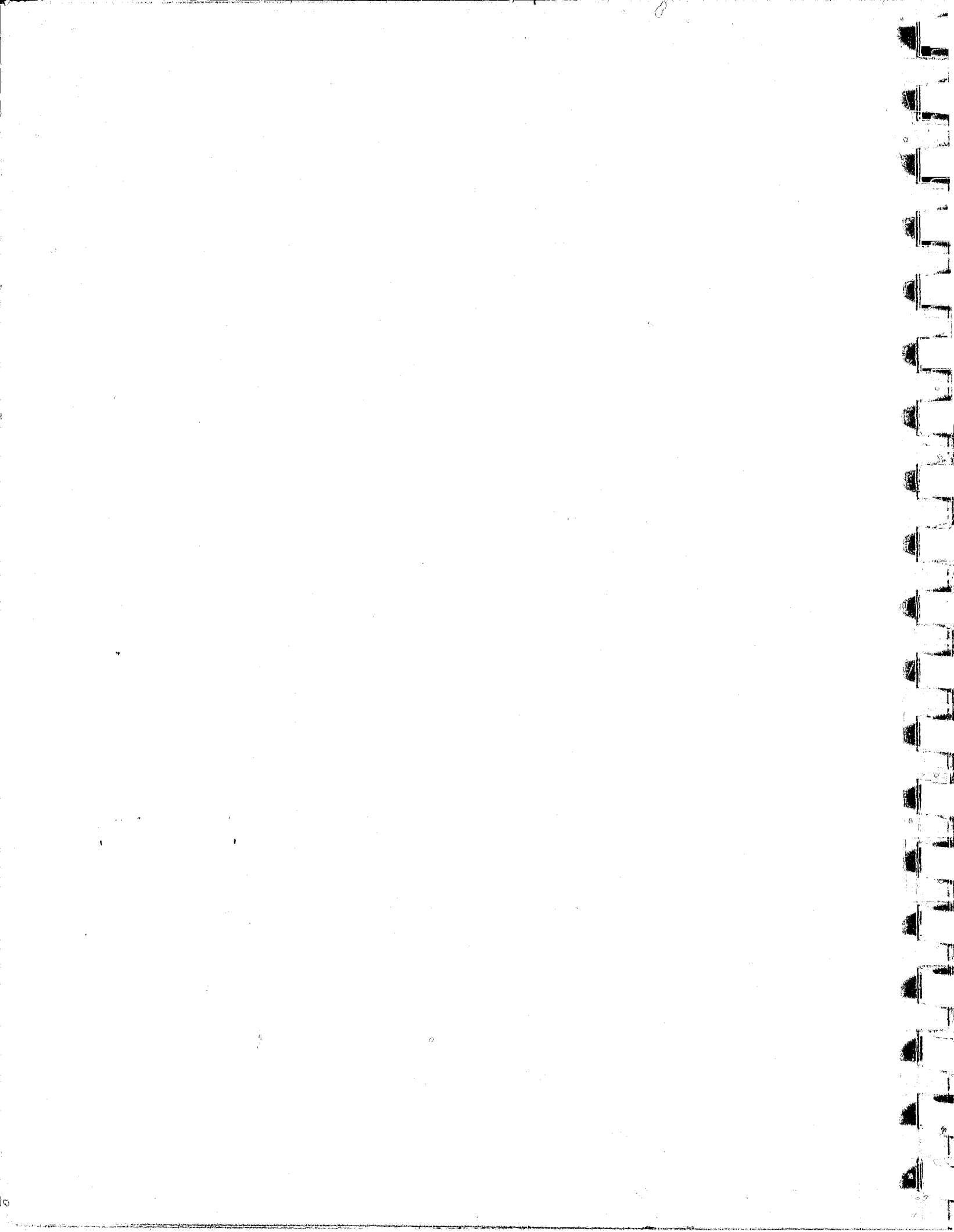
Use of the helicopter for support to ground units is expected to make a substantial impact on the ability to make at-the-scene arrests. The response capability of the helicopter far surpasses that of an automobile. It is estimated that the unit can respond to a call anywhere in the city within three minutes. The relationship between response time and the probability of making an at-the-scene arrest is well-documented (President's Task Force Report on Technology, 1967). Use of the helicopter further increases this probability by providing an aerial observation post from which a fleeing offender can be spotted and followed. Pursuit by helicopter--with ground units being directed to intercept points -- also eliminates the need for the highly dangerous high speed chase.

In order to achieve this goal several objectives must be met:

Objective 2A. To obtain an average response time to priority calls of less than three minutes and to answer 70% of such calls in less than three minutes.

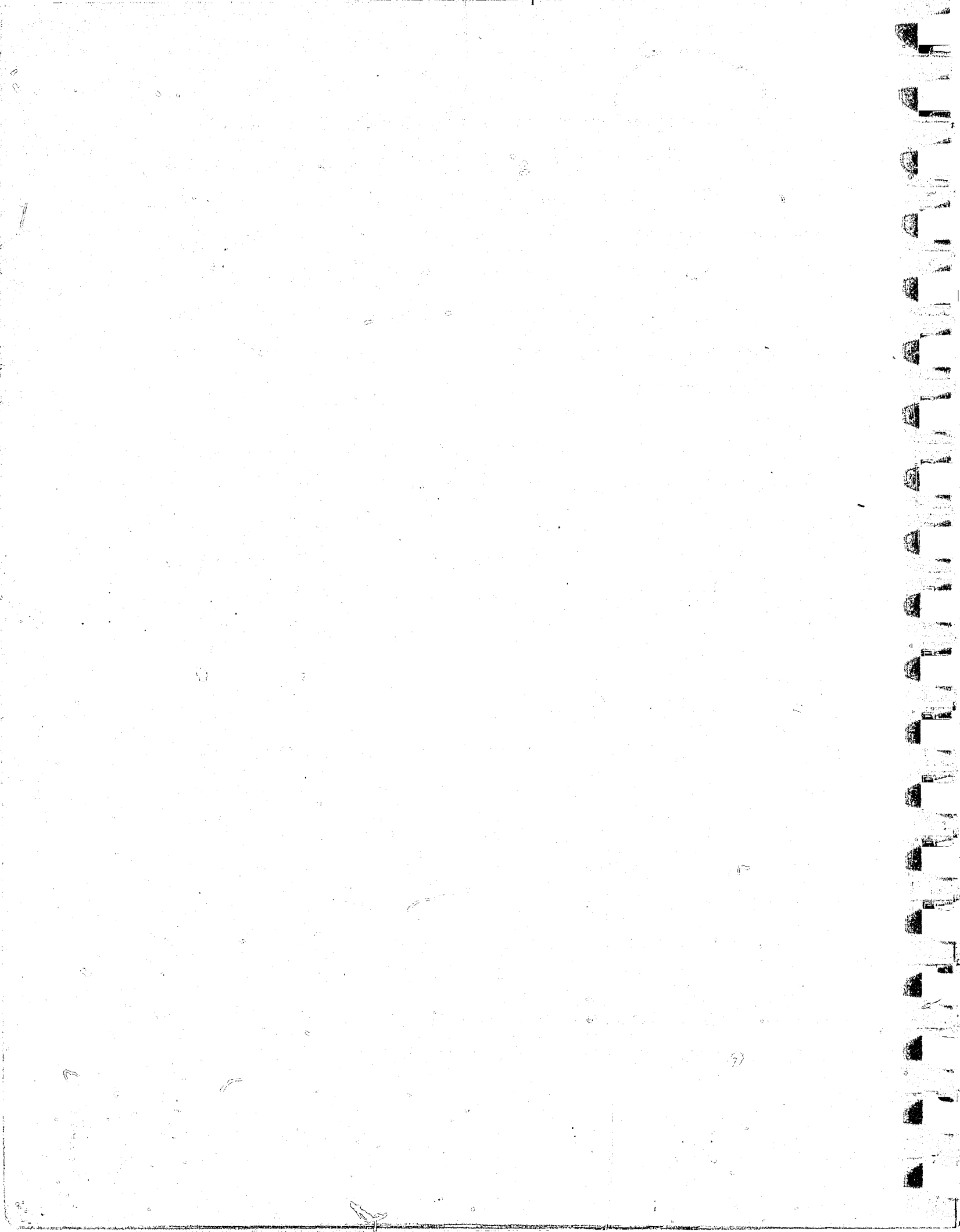
Objective 2B. To establish an effective air-to-ground communication pattern so that ground units can take advantage of information available from the helicopter.

GOAL 3. TO INCREASE CITIZENS' FEELINGS OF SECURITY AND CONFIDENCE IN THE QUALITY OF POLICE SERVICES.



One of the greatest citizen complaints about police service to emerge in recent years has concerned the removal of the walking beat. The anonymity of the patrol car produced feelings of alienation and reduced public confidence in the police. The absence of direct contact with patrol officers apparently created the feeling among citizens that their neighborhoods were not being patrolled -- or at least not being patrolled adequately.

Increasing citizen awareness of patrol activity is believed to have a significant effect on their feelings of security. In this respect, the aviation unit is expected to increase feelings of security among St. Petersburg residents. The helicopter on patrol is highly visible; it can be seen from a radius of several blocks and may pass any single location several times in a patrol mission. In addition -- and perhaps more importantly -- the helicopter can be heard. This means that the resident need not make any special effort (e.g., be at the window or on the front porch) to be aware of the patrol unit. This is especially important at night when feelings of apprehension might normally be expected to increase and when ground patrol units are even less visible. Some residents may, of course, resent the omnipresence of the police helicopter, but it is expected that these feelings will be greatly countered by residents who welcome the increased patrol capabilities.



Objectives to be met in the accomplishment of this goal are:

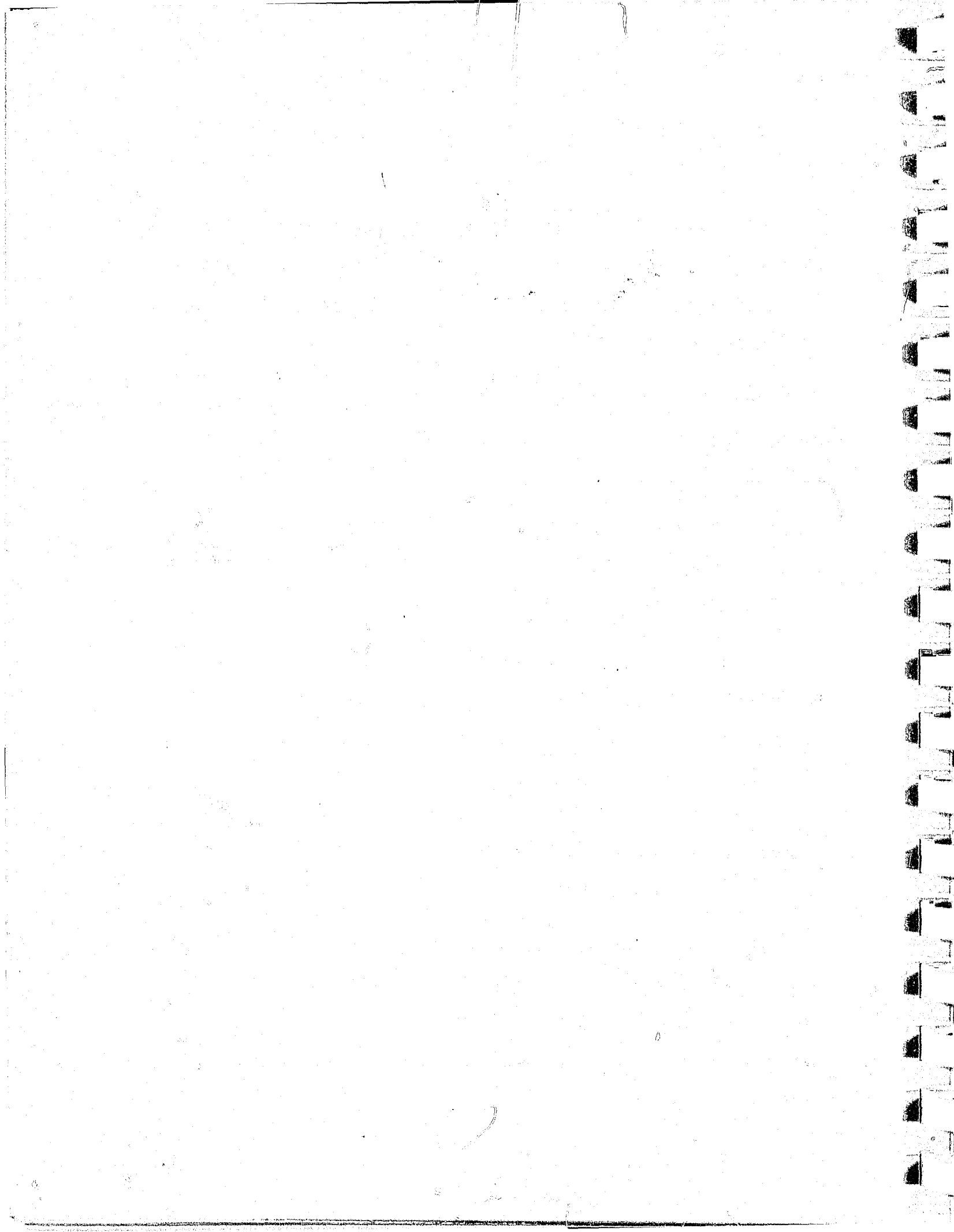
Objective 3A. To stimulate public awareness of the helicopter patrol program through press releases, public demonstrations, and other activities, designed to keep the public informed.

Objective 3B. To plan patrol missions so that each area of the city is exposed (although not necessarily equally) to helicopter patrol.

GOAL 4. TO EXPLORE AND DOCUMENT THE VARIETY OF SITUATIONS IN WHICH THE HELICOPTER CAN BE USED TO ADVANTAGE IN THE PROTECTION OF LIFE OR PROPERTY.

Primary use of the aircraft as a patrol vehicle does not preclude its use for those emergency or special service functions for which helicopters have gained their fame. In fact, it has been an operational policy that the helicopter would participate in such emergency or special service activities as may be required to fulfill the overall goals of the Public Safety Agency.

This would include the customary search and rescue type missions, traffic control activities, and disaster area assistance mentioned previously. In addition, the utility of the aviation unit in firefighting activities will be thoroughly explored.



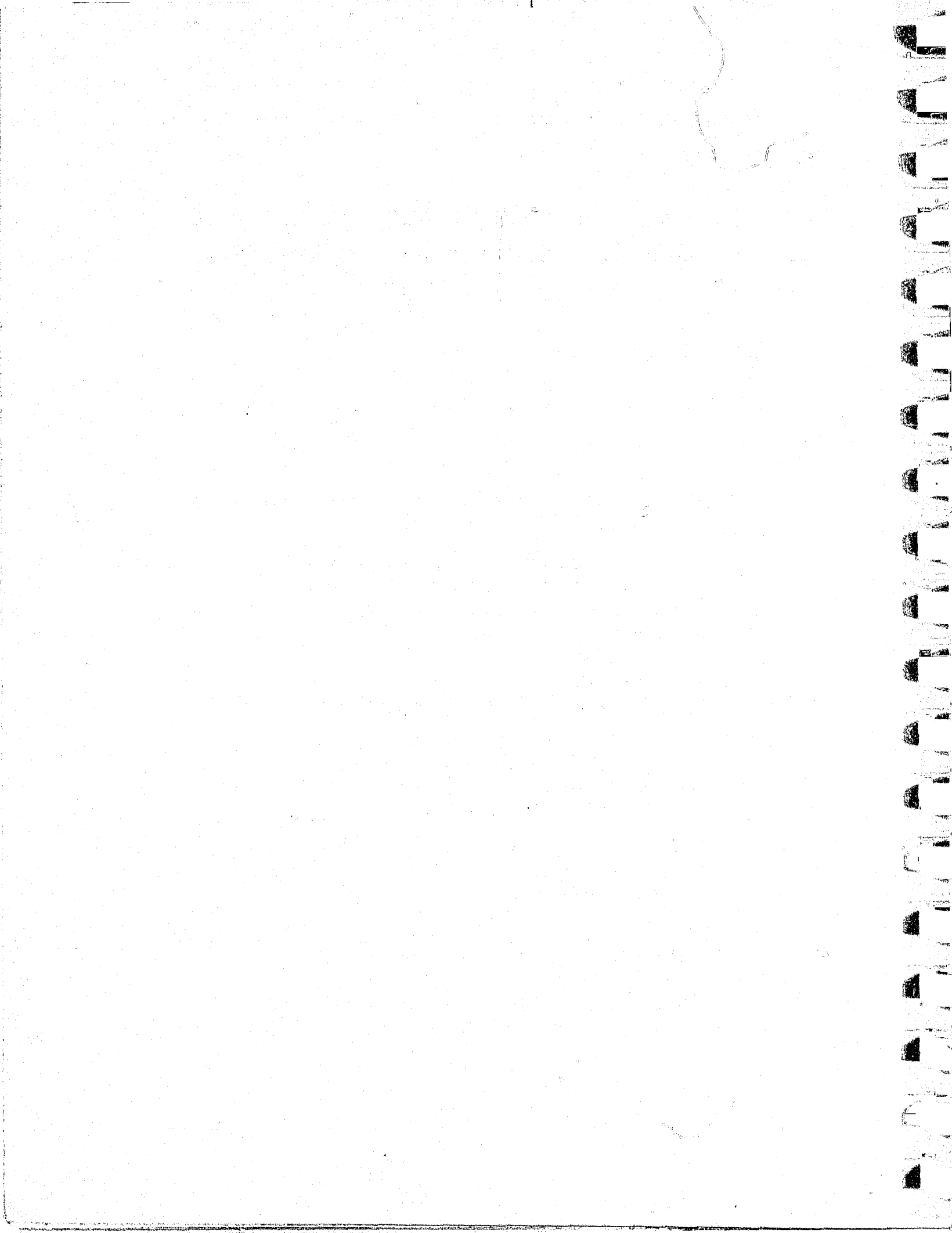
In pursuing this goal, the aviation unit will have as a major objective:

Objective 4A. To expand the range of activities in which the helicopter participates and to determine those activities in which it can be of significant value.

2.2 Project Methodology

The Aviation Unit is expected to achieve its objectives through the provision of the following services:

- Aerial preventive patrol during daylight and evening hours;
- Rapid response to priority calls dispatched during regular hours of operation;
- Assistance in locating suspects fleeing from crime scenes;
- Participation in high-speed chases, reducing risk to ground units;
- Provision of a command post from which the activities of the various ground units can be coordinated;
- Participation in the control of emergency or disaster situations (floods, tornadoes, bombs, civil disorder, etc.)
- Discovery of suspicious persons or vehicles from the air; and
- Participation in surveillance activities and other special assignments.



3.0 RESOURCES

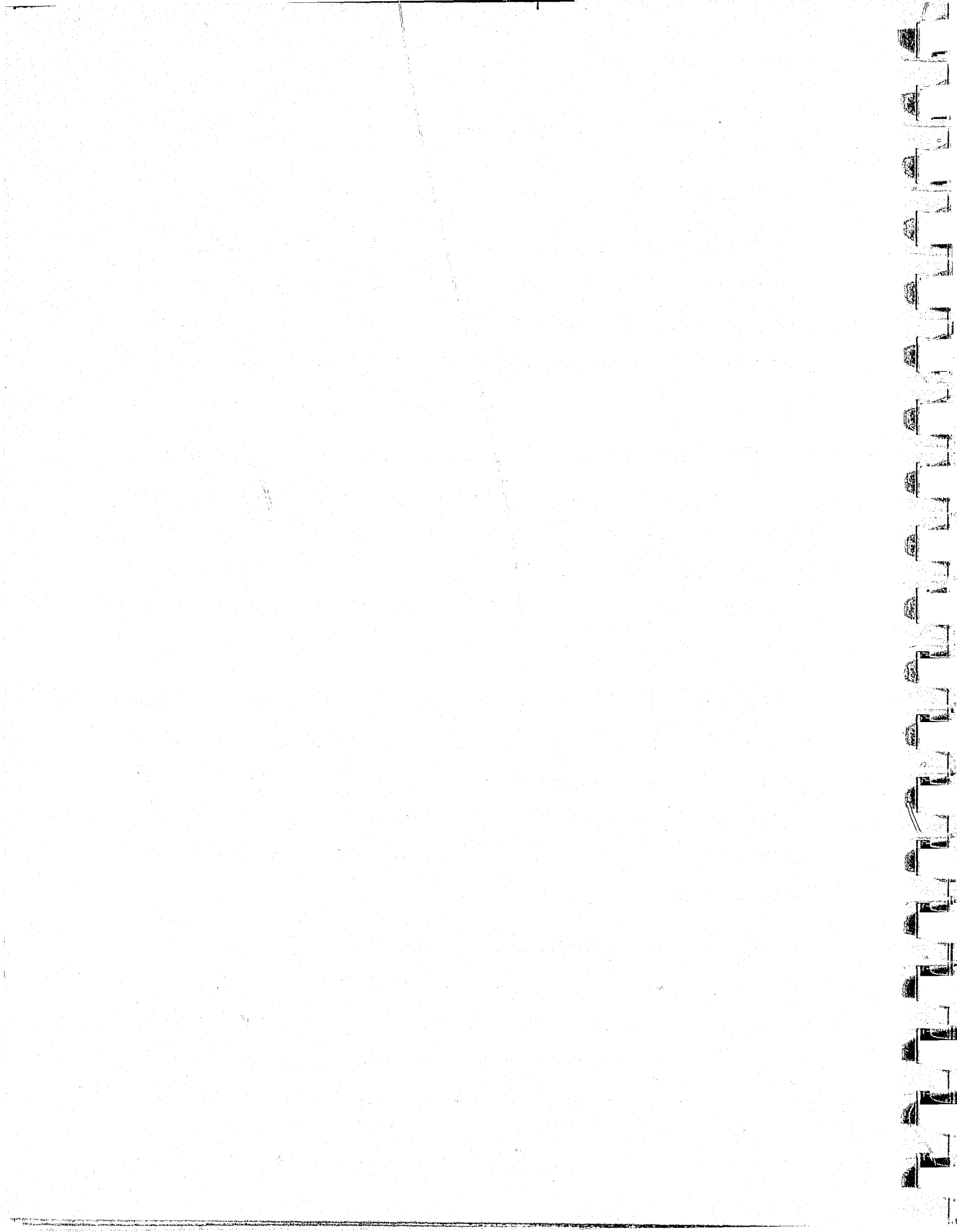
3.1 Manpower

The Aviation Unit is currently staffed with a civilian Coordinator and six pilot/observers. All but two of the Unit members are licensed helicopter pilots and serve the Unit in this capacity. Observer posts are rotated to include licensed pilots.

Unit members include four police officers, and an average of 9.5 years of police experience. These officers also have a combined total of over 24 years of flight experience, most of which was with fixed wing aircraft. Two firefighters, with a total of 22 years of flight experience, also serve as pilot/observers.

In addition to these seven permanent personnel, the Unit has established an Observer Familiarization program, which provides a police officer observer five days a week. (Although the primary purpose of this program is to familiarize the patrol officer with the Aviation Unit's procedures, it also provides a limited amount of additional manpower.)

Under this staffing plan, the Unit is in full operation 5½ days per week. During the evaluation period, usual hours of operation were from 0800 to 0200 Tuesday through Saturday and 1800 to 0200 on Monday. Mondays from 0900 to 1700 were reserved for scheduled maintenance. Crews responded to calls



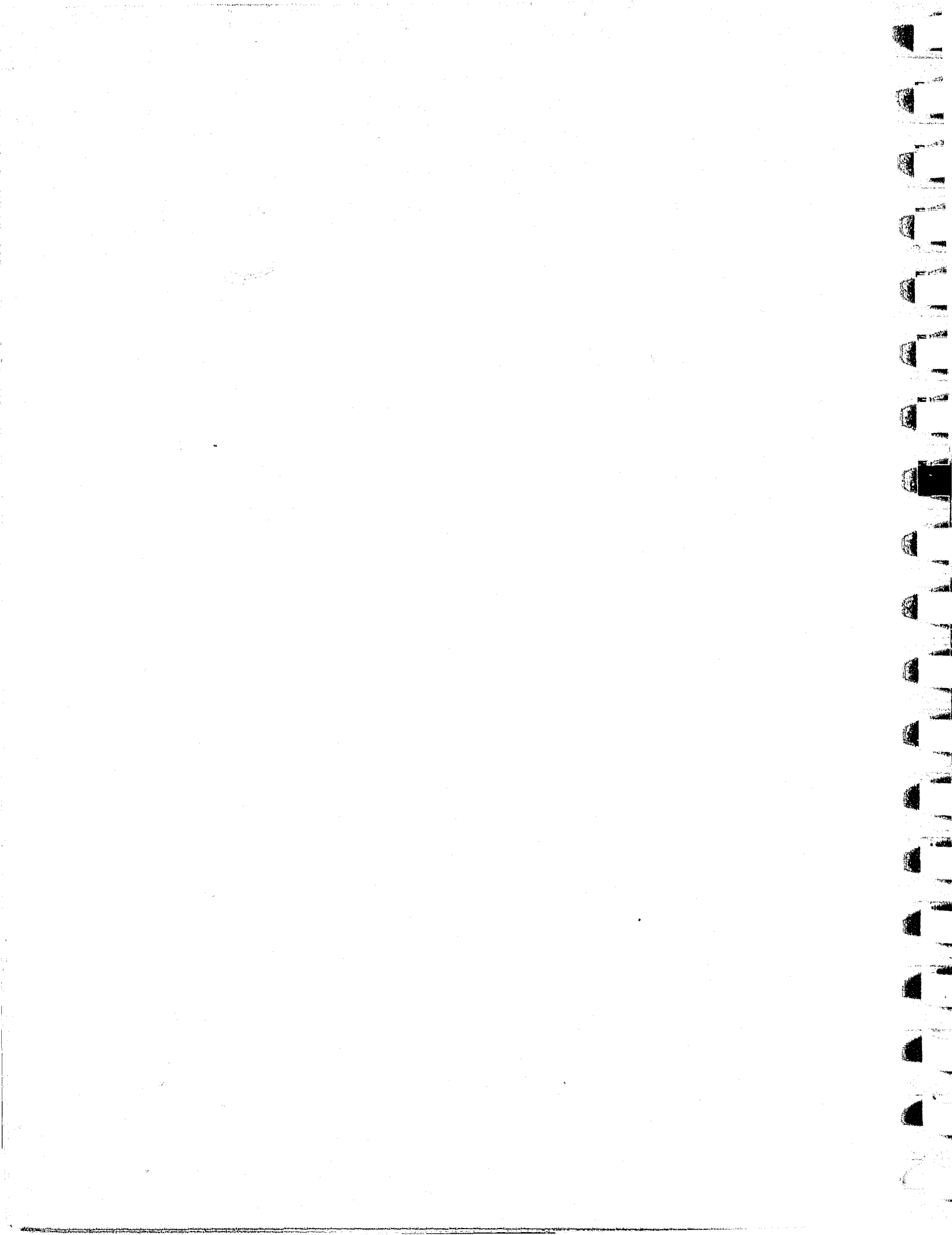
on Sunday on a call-in basis only. These hours of operation reflect procedures with one helicopter available for flight. The recent addition of a second aircraft will probably cause some modification in this schedule.

3.2 Facilities

The Aviation Unit maintains its offices at and flies out of Albert Whitted Airport, a municipally-owned facility located in the downtown area of the City. The office space at this location is spacious and modern and was remodeled specifically for the use of the Aviation Unit. During the current fiscal year there has been no charge for this space, but beginning in October 1974 a rental of \$1.55 per square foot (total \$1,240 per year) will be paid.

3.3 Equipment

During the evaluation period, the Unit operated with one reconditioned Bell 47-G helicopter, which was obtained at a purchase price of \$24,385. All maintenance, including parts, fuel, and oil, is contracted at a flat rate of \$25 per flying hour. This aircraft seats two and is equipped with both police and aviation radios and a searchlight. The maximum speed of the aircraft, according to manufacturer's specifications, is 105 miles per hour, with a cruising speed of 88, although most patrol operations are conducted at speeds of 50 - 60 m. p. h. The helicopter has a range of approxi-

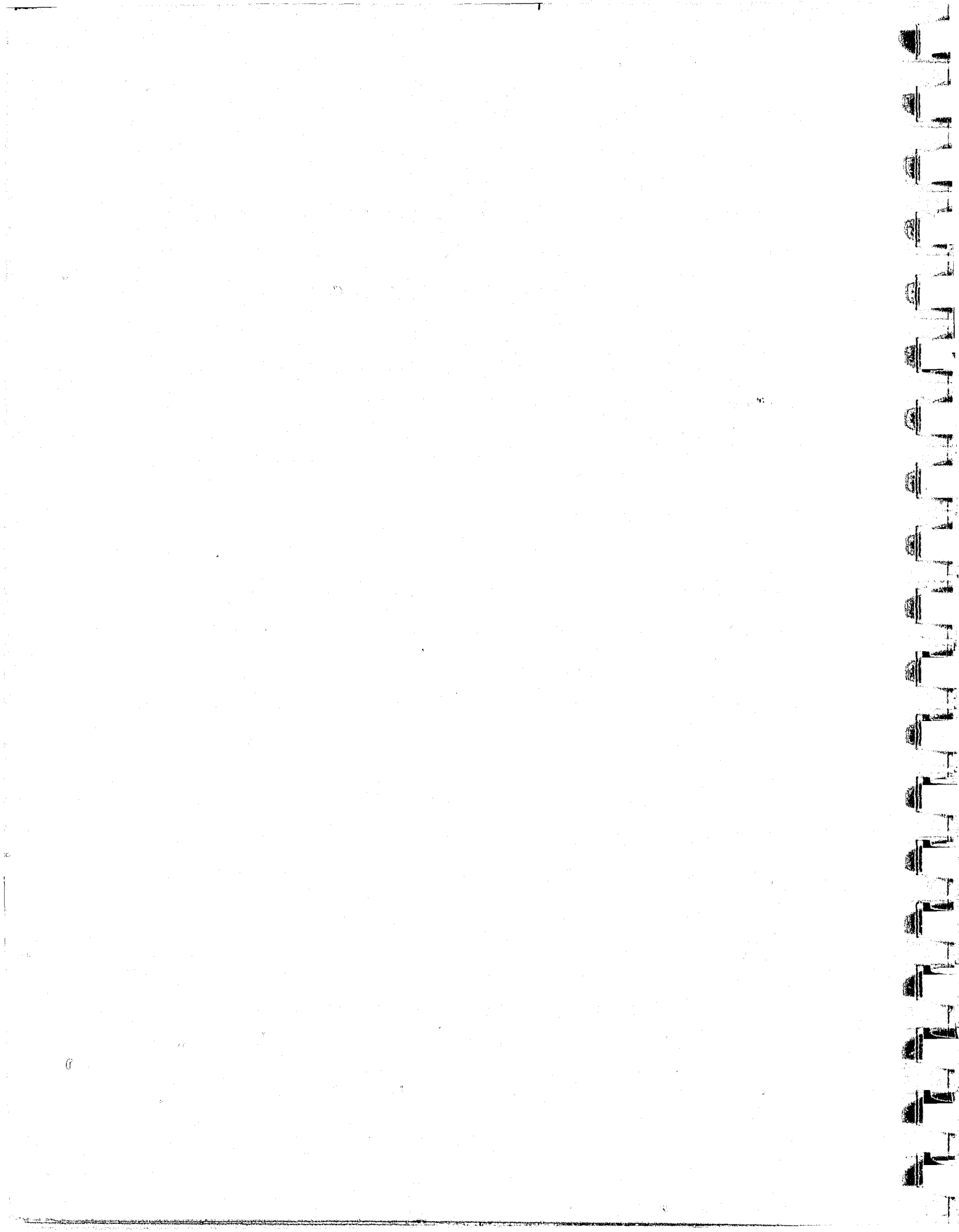


mately 248 miles and an endurance of 3.7 hours without refueling. Weight capacity of the cab is 550 pounds.

During its first year of operation this helicopter has proven to be fully satisfactory for patrol purposes. It does have limitations, however, which are characteristic of all aircraft of this particular type. First, because the seating capacity is only two, the aircraft will accommodate only the pilot/observer team. This limits its usefulness as a command post when a high-ranking official would request a flight in order to coordinate efforts in an emergency or disaster situation. Because the usual observer would not be present, the pilot would either have to fill this role or rely on the official to provide his own ground orientation. Similarly, the helicopter cannot be used for training purposes, with a trainee being able to observe the interaction between the pilot/observer team. Nor can a supervisor or evaluator observe the team at work.

Secondly, the weight and seating limitations prohibit use of the aircraft as a rescue vehicle. In searching missions, therefore, the helicopter is restricted to directing ground units to the lost or injured party; the aviation crew could not effect the rescue by itself.

Finally, the noise created by the helicopter and its high visibility as a police vehicle limit its usefulness in covert surveillances. It has been observed on frequent occasions that

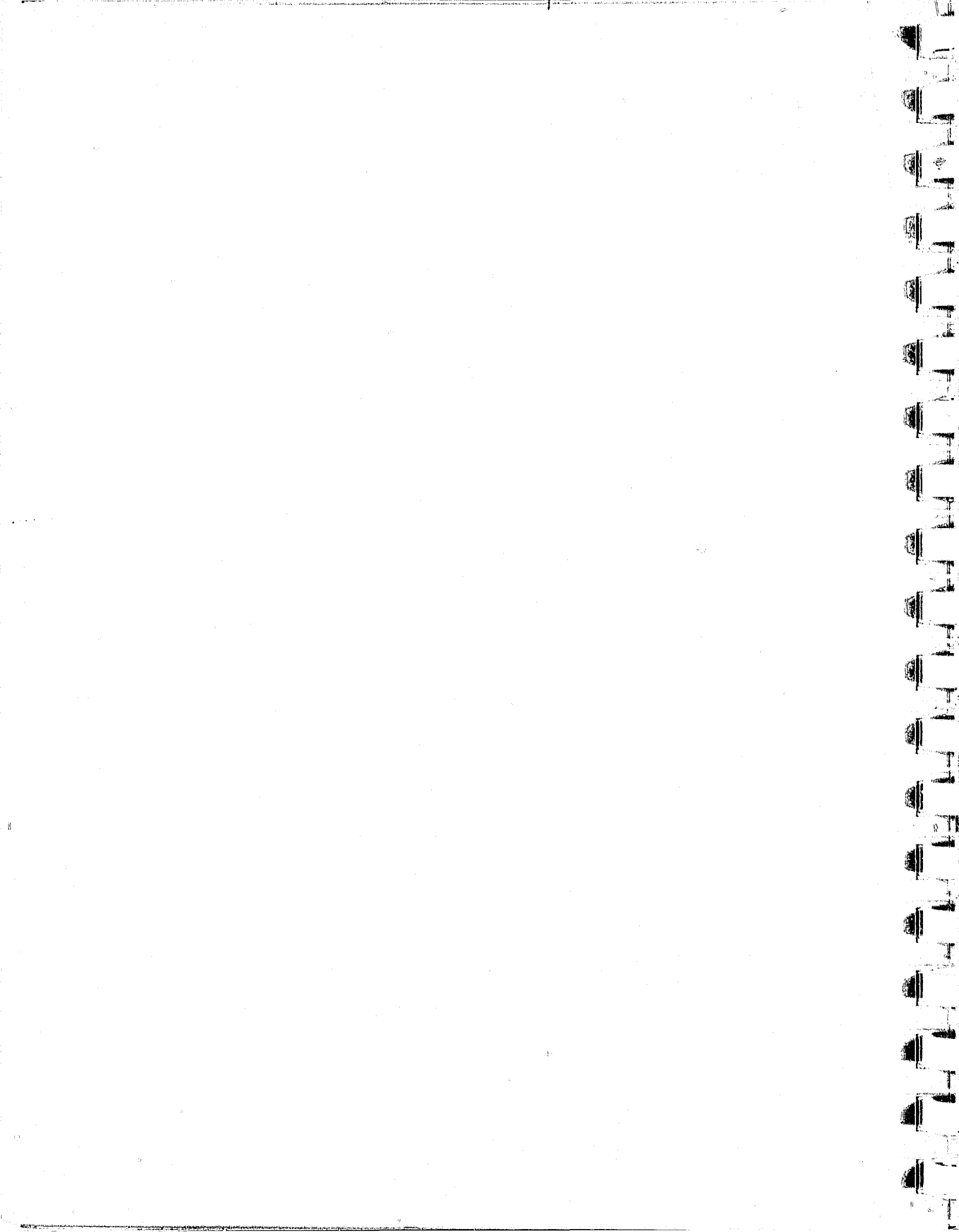


specialized units working a surveillance or decoy operation have specifically requested Eagle II to remain out of the area during this time.

Despite these limitations, however, the aircraft serves well in its primary capacity - that of a patrol and rapid response aerial vehicle. Aviation Unit personnel have been quite effective in explaining the limitations of the aircraft and counteracting the image of omnipotence found among patrol officers at the program's inception.

The Unit is also provided with a marked police cruiser which it uses for general transportation to administrative offices, for securing supplies, and for speaking engagements. The cruiser is also being used for transportation from the Unit's offices to the helicopter landing area when responding to priority calls. It is not altogether satisfactory for this purpose, however, for several reasons:

- The route to the helicopter is cluttered by parked fixed-wing aircraft, which the cruiser must negotiate somewhat as an obstacle course;
- It is not entirely safe to unwary pedestrians for a full-sized cruiser to be driving through the area; and
- The cruiser is not always available to perform this transportation function.



A smaller ramp vehicle to be used for transportation around the airport grounds has been requested by the Unit and would far better serve these specific transportation requirements. Although not essential to the Unit's effective operation, such a vehicle could help to improve response times and improve the level of safety about the airfield.

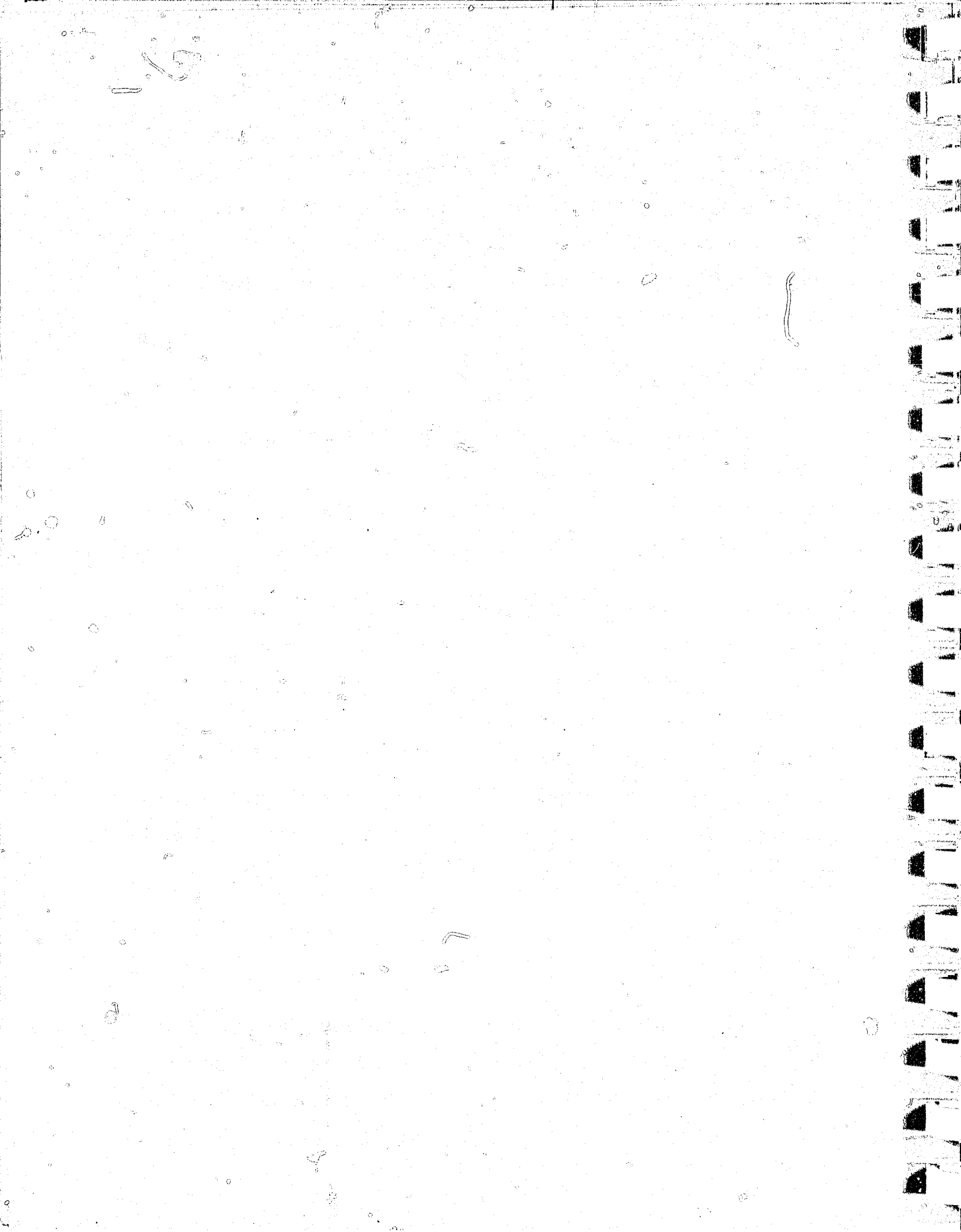
3.4 Personal Gear

Each Aviation Unit member is provided with five jumpsuits, two pairs of boots, a flight jacket, and a cap. The total cost to the Department for outfitting each man is \$78.12. (The flight jackets were obtained at no cost to the department.)

In addition, each pilot and observer uses a flight helmet which houses earphones and microphones for radio and intercom communications. These helmets are worn at all times while in the aircraft. Although this equipment is essential for Unit operation, the Department has not yet approved requisitions for equipment of this type. Unit members are currently sharing helmets acquired by private means, a situation which is entirely unsatisfactory from an operations as well as a sanitary standpoint.

3.5 Recurring Costs

Current information available from the Fiscal Department indicates that recurring costs for the Aviation Unit have averaged \$12,058.52 per month for the first five months of the



fiscal year. Table I presents a breakdown of these recurring costs.

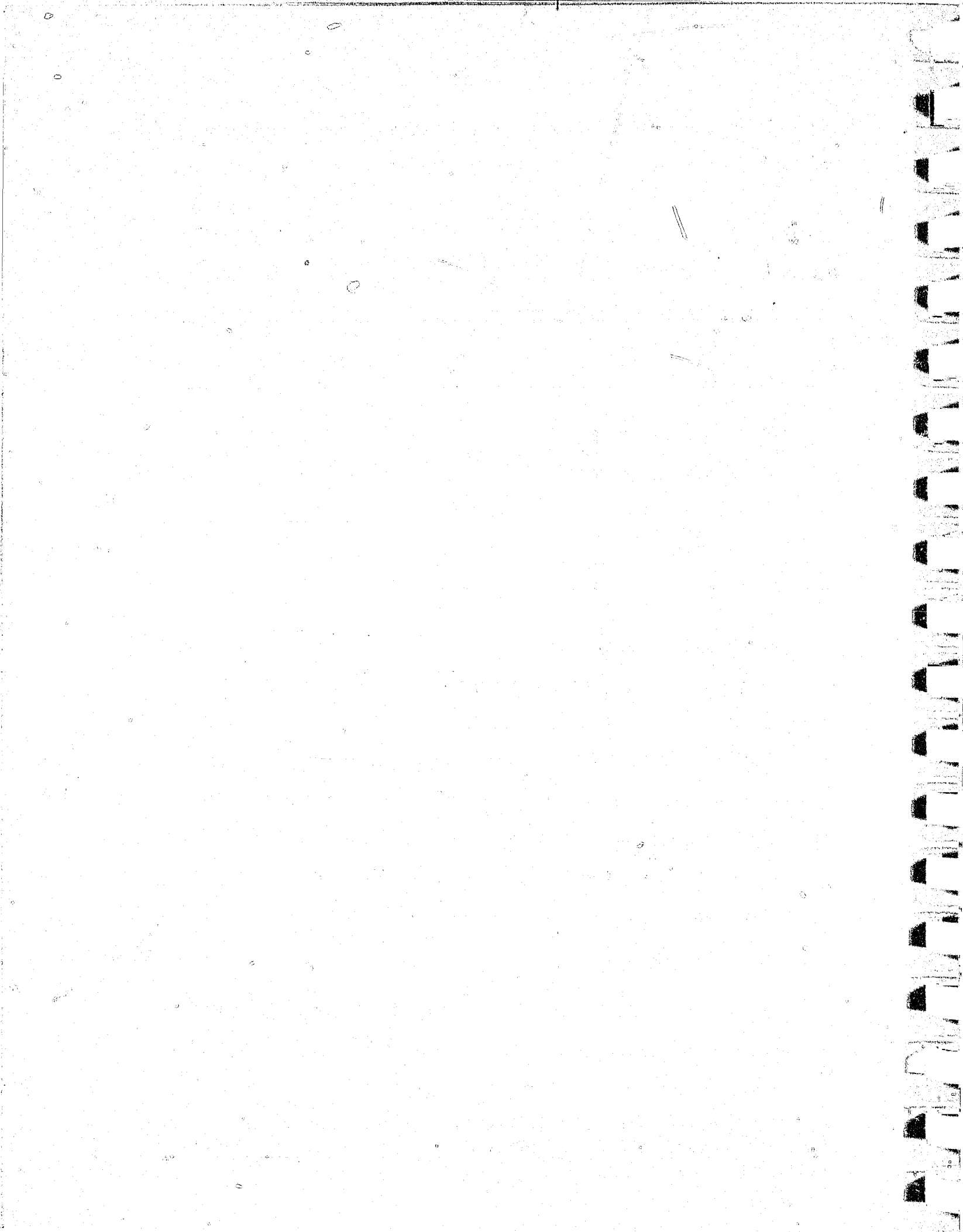
TABLE I.
Average Monthly Expenditures

ITEM	COST
Personal Services	\$ 7,452.27
Helicopter Maintenance	4,531.25
Hangar Rental	<u>75.00</u>
Total	\$ 12,058.52

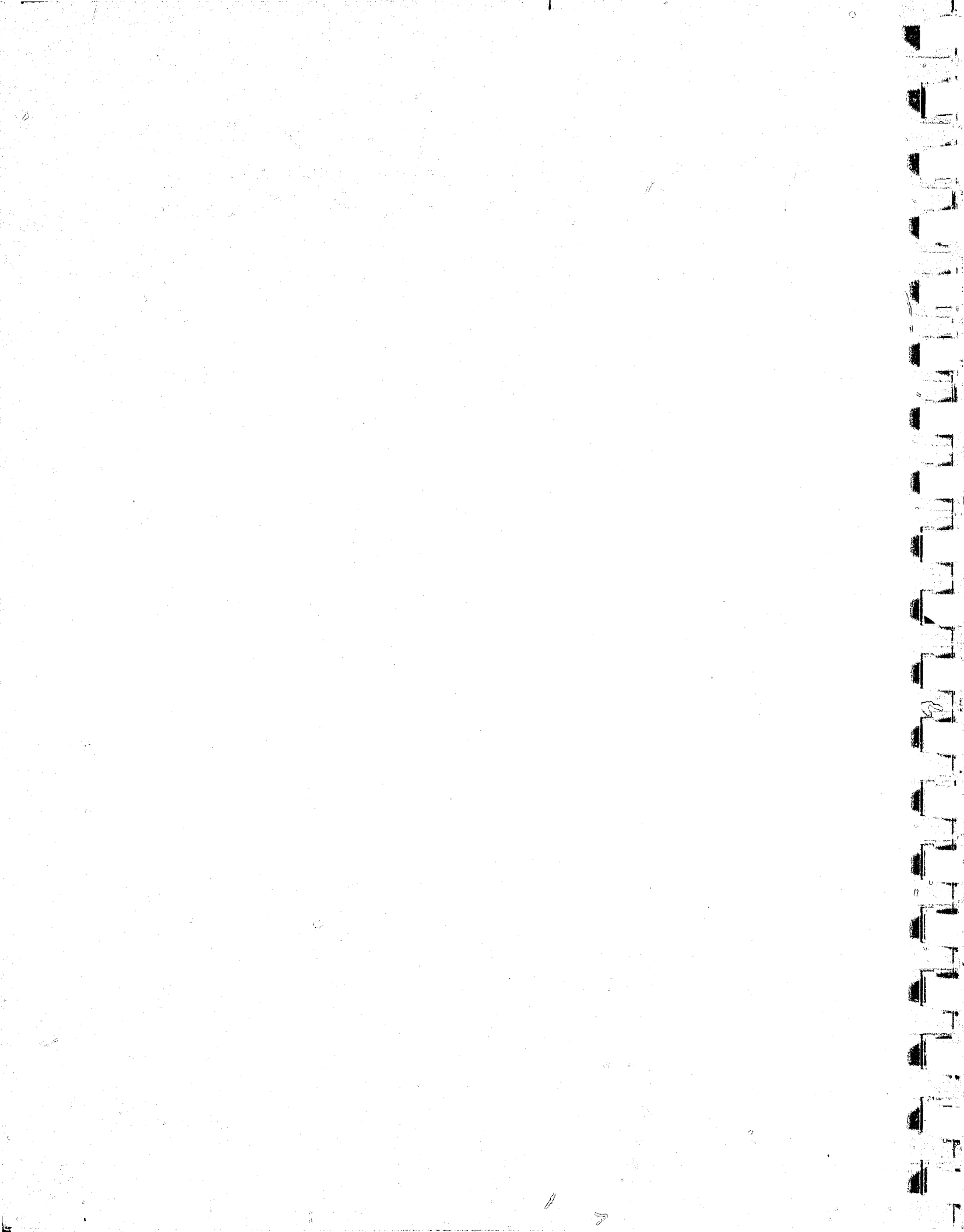
Although comparative cost data are not available from other agencies, estimates prepared by the Center for Criminal Justice Operations and Management in 1971 indicate that our expenses are slightly below average.⁶ The annual cost estimate provided by this source for 56 hours per week of patrol coverage is \$197,514. St. Petersburg's projected annual expenses for 44 hours per week are \$144,702. Our costs are therefore approximately \$63.24 per flight hour as opposed to the estimated \$67.83.

In addition to helicopter services, the Aviation Unit has on several occasions rented fixed-wing aircraft to provide

⁶National Institute of Law Enforcement and Criminal Justice, The Utilization of Helicopters for Police Air Mobility, 1971, pp. 72-73.



special services for the Department. Rental costs for this aircraft is \$24.50 per hour, but cannot be considered a recurring cost because of the relative infrequency with which such rentals are required.



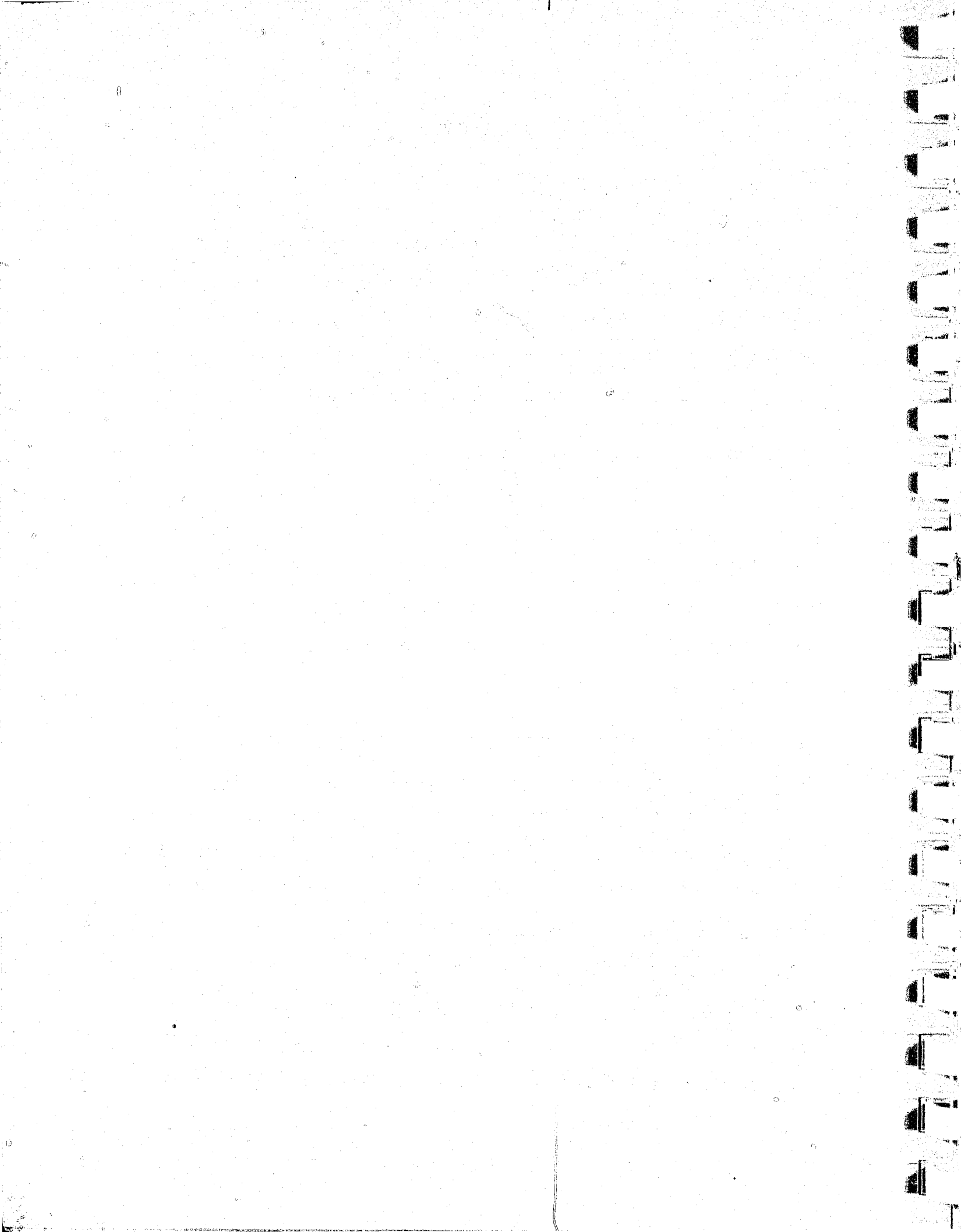
4.0 OPERATIONS

4.1 Operating Procedures

The Aviation Unit is in operation to provide patrol and response services a total of 98 hours per week. Usual hours of operation are from 0800 to 0200 daily, Tuesday through Saturday. On Mondays only one patrol shift is manned (1800-0200) and on Sundays, responses are made on a call-in basis.

Manpower is deployed on an overlapping shift basis. The day crew works from 0800 to 1600; the night crew from 1800 to 0200; and a relief crew works from 1400 to 2200. The administrative staff works from 0900 to 1700, Monday through Friday. The relief crew is available during meals and other breaks and alternates flight missions in order to reduce crew fatigue.

Normal operating procedures are to spend at least three hours in the air during each duty shift. Most of this time is concentrated in the afternoon of the day shift and in the early evening of the night shift. Patrol activities are also concentrated in high-crime areas of the city although all areas are patrolled. Eagle II will respond to all priority calls. If in the air when a priority call is received, patrol activities will be terminated and the helicopter will proceed to the dispatched location. If the crew is on the ground, they will return to the aircraft and become airborne



as soon as possible. These procedures are followed during each duty shift with the exception that after 2300, the helicopter does not patrol and will respond to priority calls or requests for assistance only. This procedure is followed in order to reduce noise levels during late evening hours when most citizens are in bed.

When engaging in patrol activities, Eagle II is primarily serving in a deterrent capacity. Patrol patterns are flown throughout the city while the observer scans the ground searching for suspicious activity.

At the scene of a crime, services provided to ground units include searching for fleeing suspects or vehicles, directing cruisers to intercept points in order to make an apprehension, and coordinating the efforts of ground units in searches and chases.

The number of hours flown by an aircraft provides one indication of the extent of a Unit's activities. Because of pilot fatigue and endurance capabilities of the aircraft, individual missions are necessarily restricted in length. Scheduled flight time was therefore considered to be three hours per shift or six hours per day. In reality, however, actual flight time per day frequently exceeded this level,

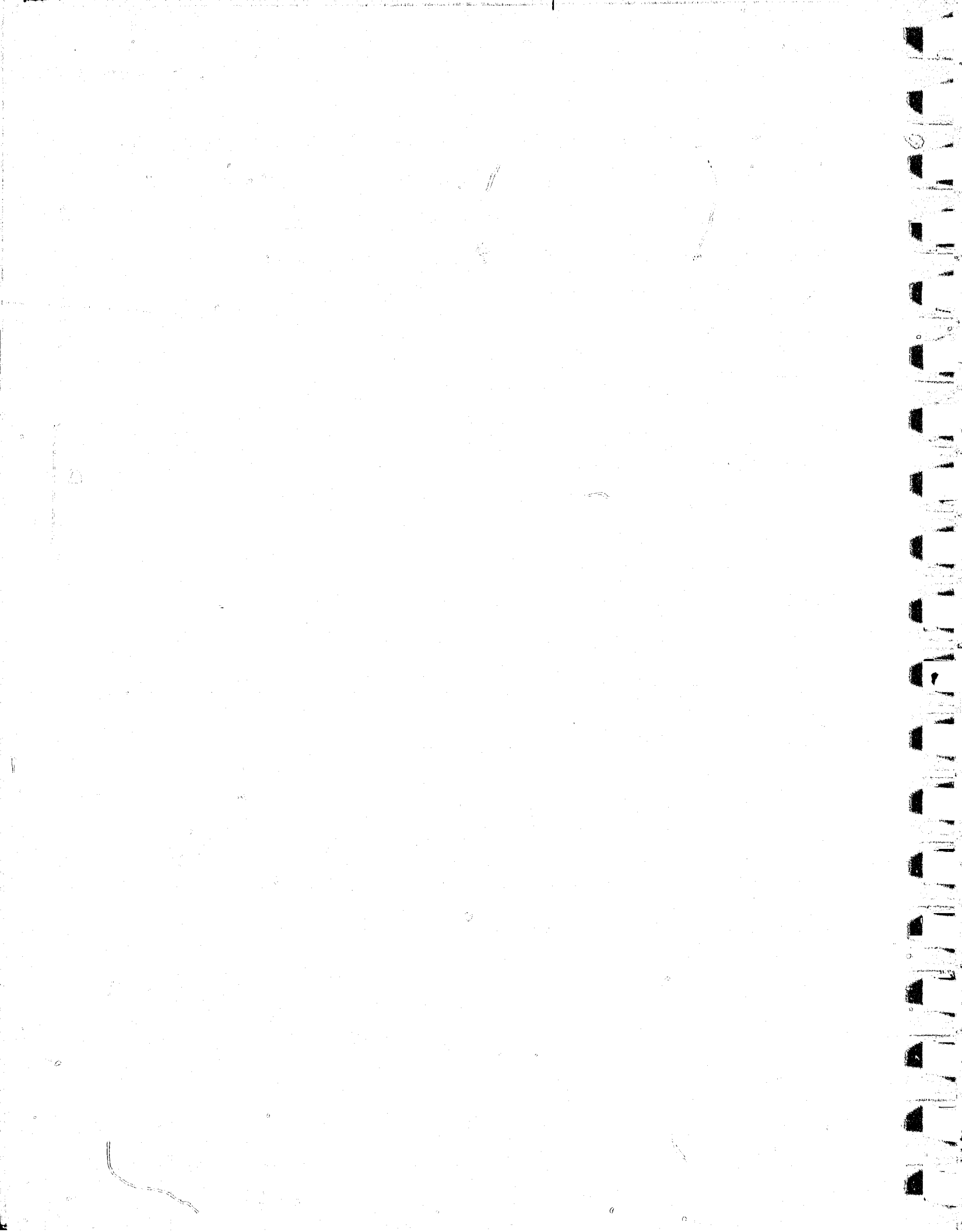
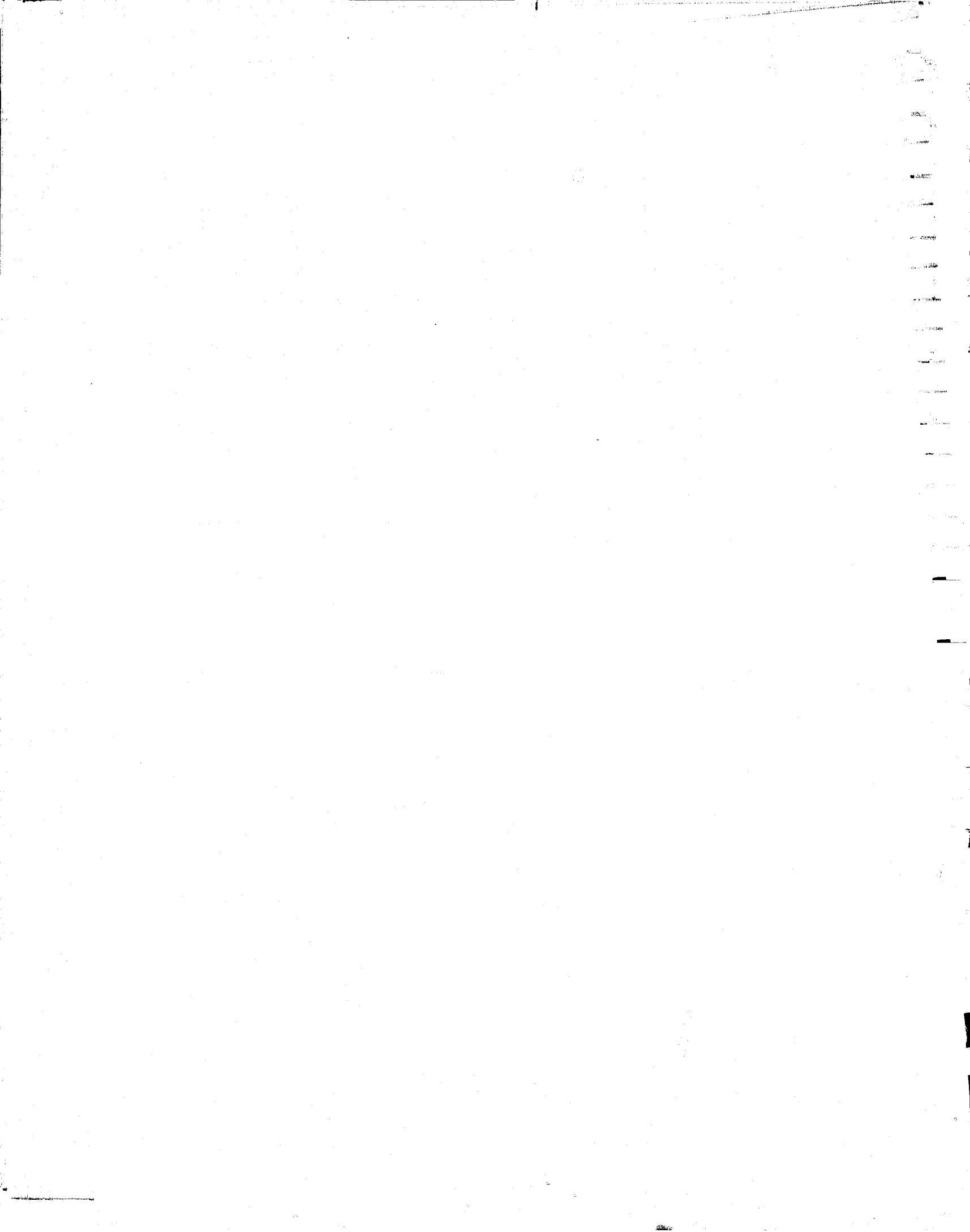


TABLE II

Annual Helicopter Utilization For Selected Agencies

AGENCY	No. Aircraft	Annual Hours/ Fleet	Annual Hrs/ Aircraft	Avg. Hrs/ Day	Source
Dade Co., Fla.	1	600	600	1.6	National Institute of Law Enforcement and Criminal Justice, 1971
Memphis, Tennessee	1	1,200	1,200	3.3	NILECJ, 1971
Fort Worth, Texas	1	1,240	1,240	3.4	NILECJ, 1971
ST. PETERSBURG, FLA.	1	1,900	1,900	5.2	Evaluation Data
Denver, Colorado	2	1,882*	941	5.2	Personal Communication, 1974
San Francisco, Calif.	2	2,034	1,017	5.6	Personal Communication, 1974
Pennsylvania State Police	2	2,100	1,050	5.8	NILECJ, 1971
Anaheim, Calif.	2	2,900	1,450	7.9	Personal Communication, 1974
Long Beach, Calif.	2	5,000	2,500	13.7	Personal Communication, 1974
Kansas City, Mo.	3	3,462	1,154	9.5	NILECJ, 1971
Columbus, Ohio	4	4,910	1,228	13.5	Personal Communication, 1974
Houston, Texas	4	5,100	1,275	14.0	Personal Communication, 1974
New York, N. Y.	6	3,600	600	9.9	NILECJ, 1971
Atlanta, Ga.	6	7,116*	1,186	19.5	Personal Communication, 1974
Dallas, Texas	7	7,318	1,045	20.0	Personal Communication, 1974
Los Angeles Co., Calif.	14	14,400	1,030	39.5	NILECJ, 1971

* Projected Figures

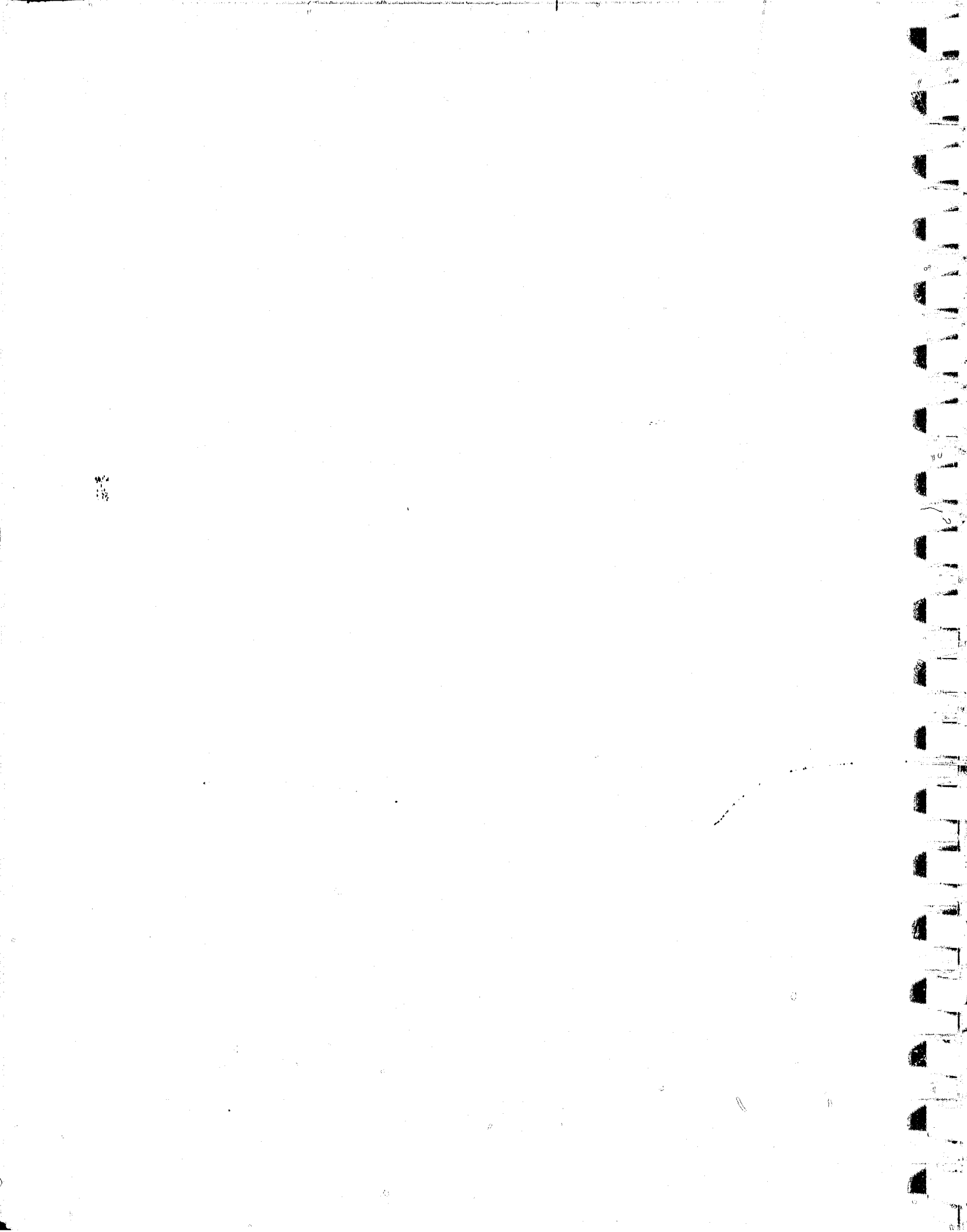


reaching a maximum of about ten hours per day.* Average flight time during the evaluation period was 6.4 hours per day of operation.

Table II presents data which summarize the utilization of helicopters for a number of different police agencies. Agencies are listed in the order of their helicopter utilization, depending upon their number of aircraft. Of the agencies having only one aircraft, St. Petersburg clearly has the highest utilization rate, with 1900 annual flight hours and an average of 5.2 hours per day. It should also be noted that these figures were obtained with a 5½ day week, while most agencies with two or more machines are operational a full seven days.

Down-Time. One factor which generally inhibits the number of hours an aircraft is able to fly is "down-time." Down-time refers to the percentage of time an aircraft is not available for flight during regular scheduled hours. For this study, down-time was specifically defined as any time less than six hours that the aircraft flew per day. Therefore, if Eagle II logged only 4 hours for any particular day, it would have had 2 hours down-time, and so on. During the 16 week evaluation period, Eagle II had 53 hours of actual down-time. This repre-

*The data collection period for operational data was August 13 - November 30, 1973. During this time the Aviation Unit regularly submitted copies of the Mission Activity Logs, Daily Summaries, and Weekly Summaries for evaluative review. Data presented in this and subsequent sections of this report have been extracted from these documents unless otherwise indicated.



sents a down-time rate of 9.3%, which compares favorably with data available from other agencies. The Home Office Police in London, for example, report a down-time rate of 28.3%;⁷ and Kansas City reports a rate of 20.3%⁸.

Table III presents a detailed breakdown of the down-time components for St. Petersburg's Aviation Unit. It should be noted that poor weather conditions, usually considered a large factor in helicopter down-time, were virtually non-existent — at least during the evaluation period.

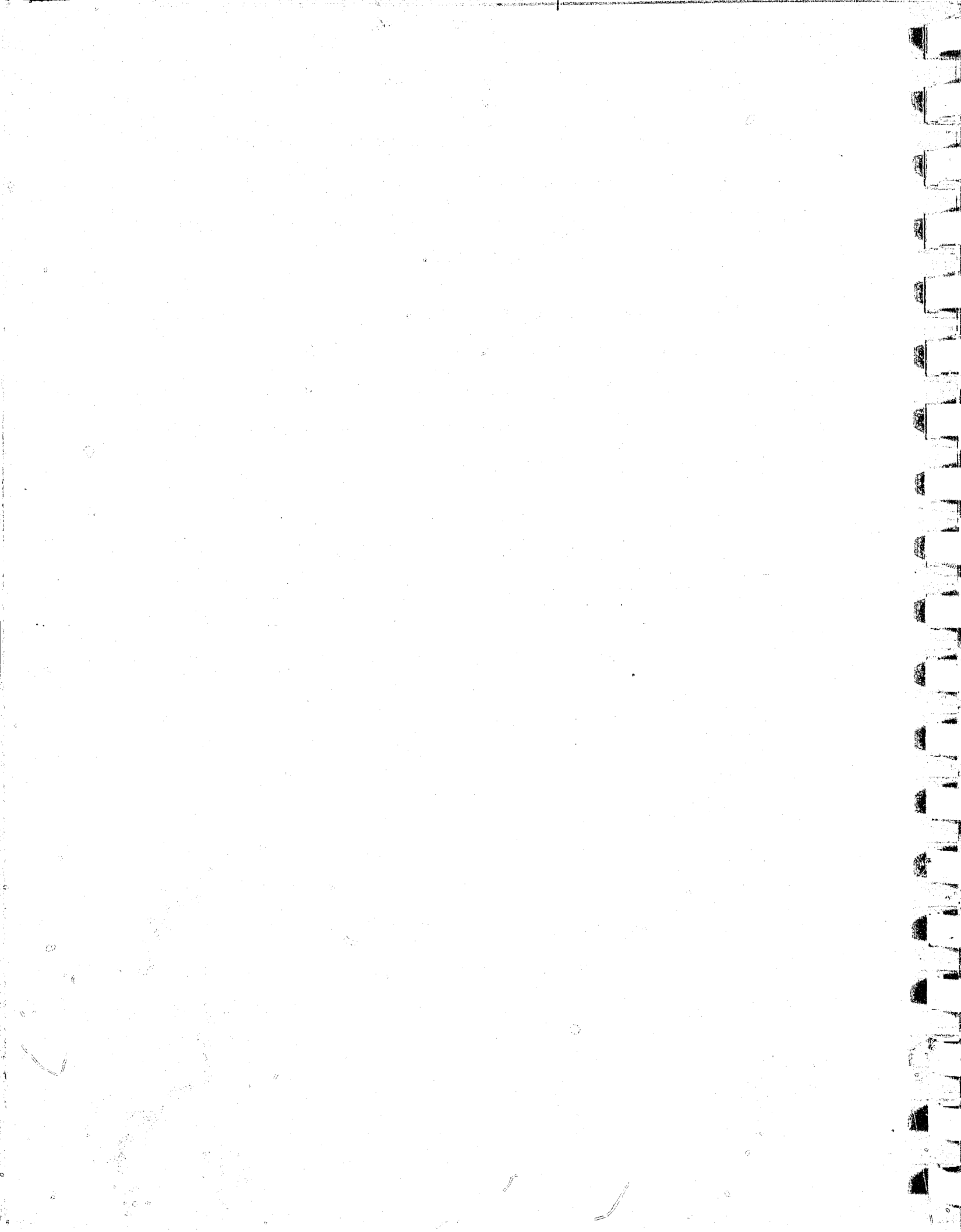
TABLE III.
EAGLE II's DOWN-TIME COMPONENTS

Reason for Down-Time	Hours	%
Scheduled Maintenance	27	50.9
Unscheduled Maintenance	21	39.6
Poor Weather	1	1.9
Conflicting Ground Activities	4	7.5
Total	53	99.9

Over half of all down-time during this period was because of scheduled maintenance activities. This is the primary drawback of operating with only one aircraft: the lack of flexibil-

⁷NILECJ, Op. Cit., p. 21

⁸Ibid., p. 21



ity caused by over-scheduling flight hours allows no "free" time for maintenance work. With the addition of the second helicopter, it is anticipated that "scheduled maintenance" will be almost totally eliminated as a down-time factor.

4.3 Flight Activities

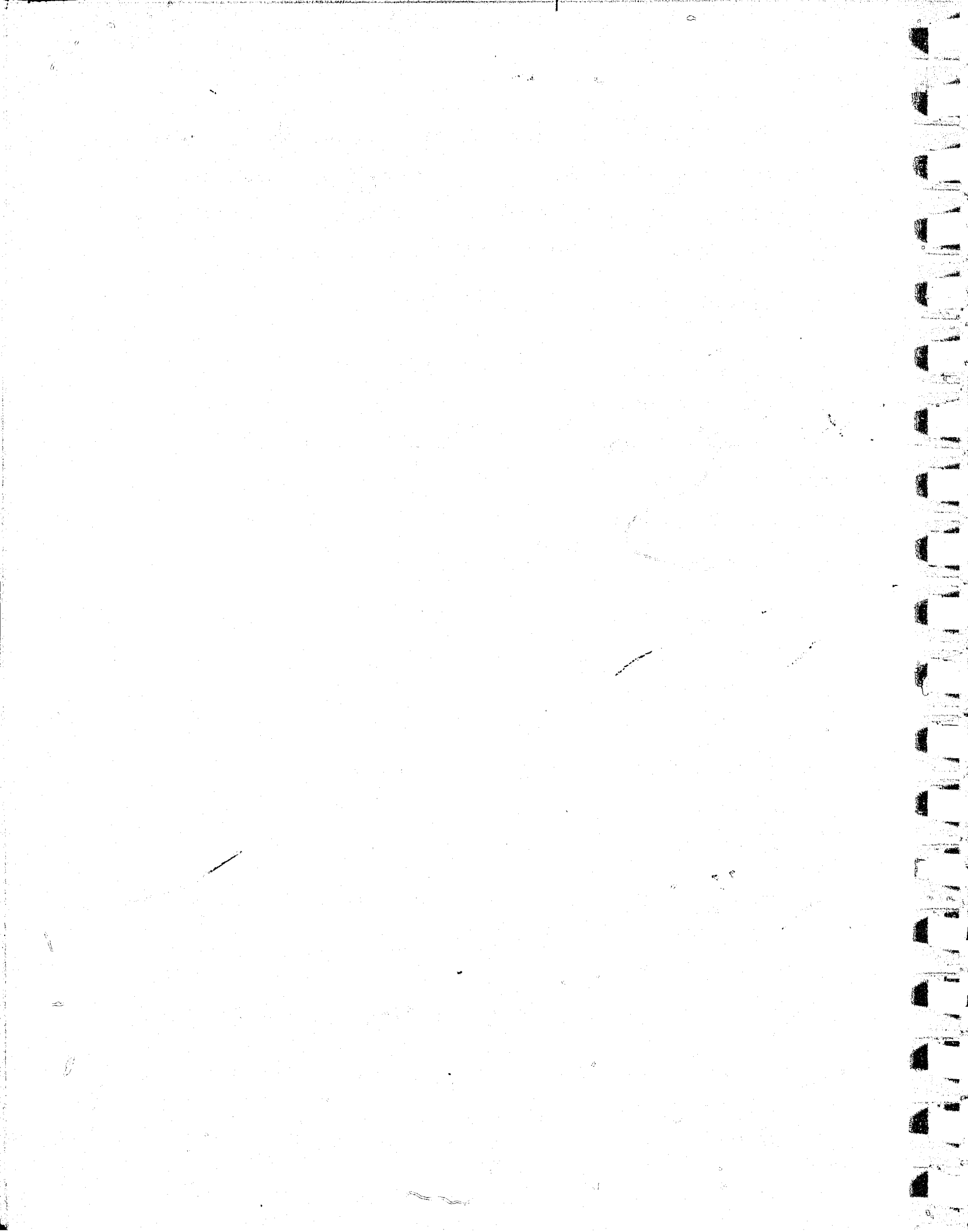
Preventive Patrol. Data indicate that 73.0% of total flight time was spent in preventive patrol during the evaluation period while 27.0% was spent engaged in various specific activities or missions. These figures are consistent with those available for Los Angeles and Kansas City, who report 70.0% and 74.3% of flight time spent on patrol respectively.⁹

Preventive patrol is conducted both day and night at an altitude of 700 feet. The primary purpose of these patrol missions is to deter crime through the high visibility of the police vehicle. While conducting these patrol missions, however, the flight crew is constantly on the lookout for suspicious ground activity, open doors or skylights, abandoned vehicles, and other indications of possible criminal activity.

Mission Types. The National Institute of Law Enforcement and Criminal Justice lists forty-six different types of missions commonly engaged in by police helicopters.¹⁰ The actual mix of activities observable in any single agency, however, depends

⁹Ibid., p. 7

¹⁰Ibid., pp. 2-3



on the number of aircraft in the fleet, the strategy of aircraft utilization, and the priority given to police activities. Table IV presents data pertaining to the types of missions engaged in by Eagle II during the evaluation period.

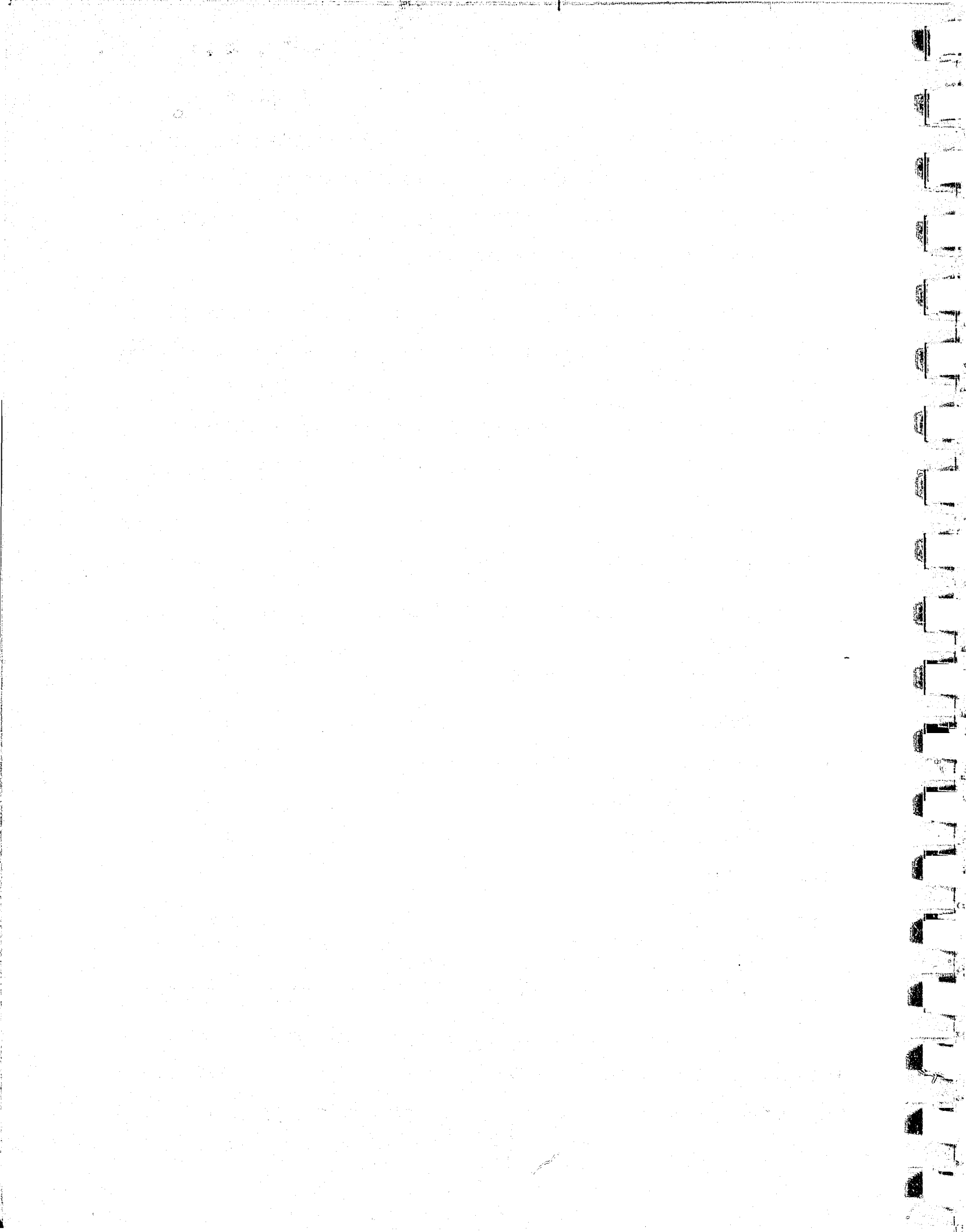
It can be seen that answering police calls clearly dominates the activities engaged in by the Aviation Unit. This is because, as a matter of procedure, Eagle II will respond to any priority call dispatched while in the air with which the flight team feels that they might be of assistance.

TABLE IV.

Helicopter Utilization - Types of Missions

Activity	Number	%
Police Calls	854	68.3
Discoveries	236	18.9
Requests for Assistance	88	7.0
Special Details	27	2.2
Traffic Problems	26	2.1
Fire Calls	19	1.5
Total	1,250	100.0

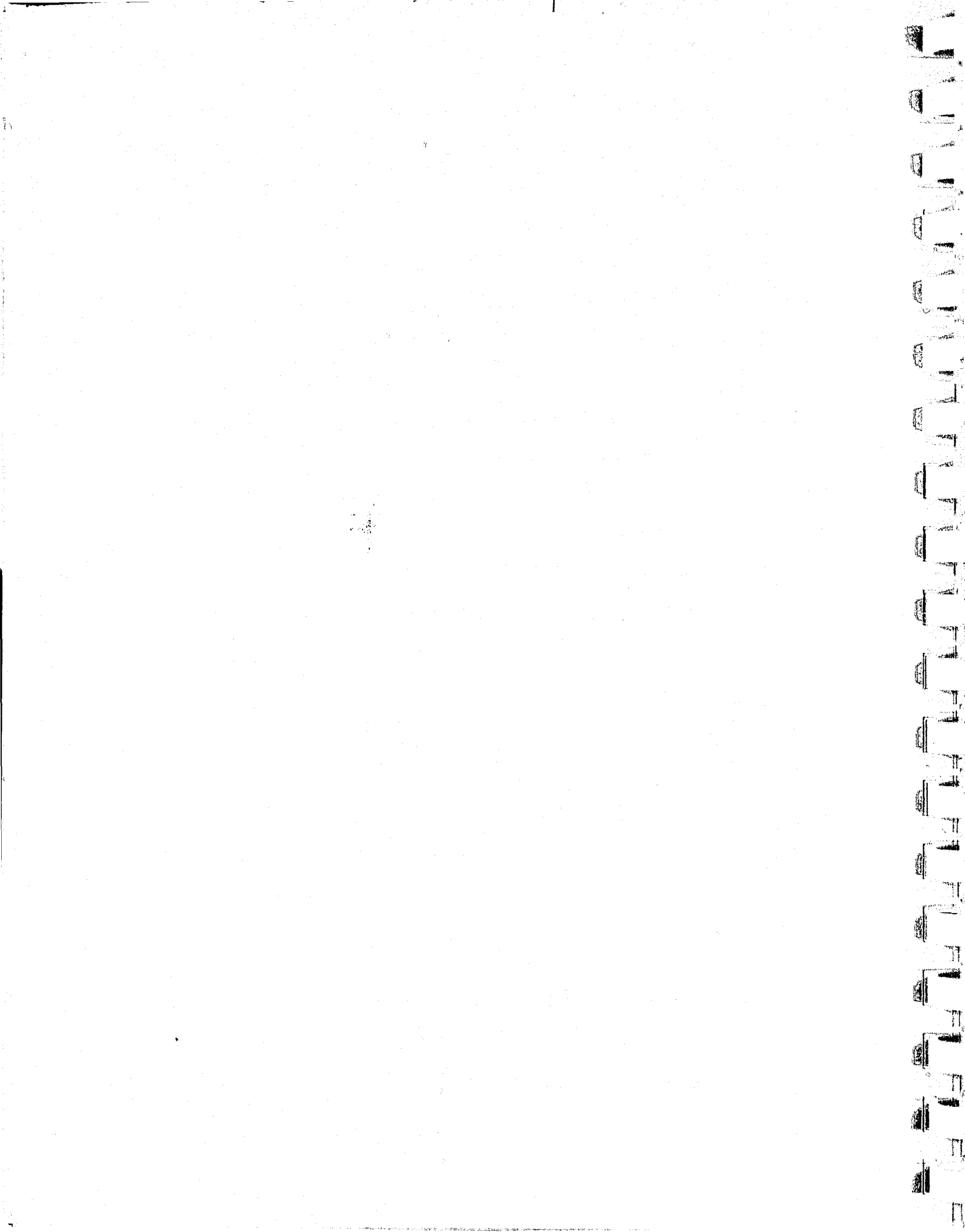
"Discoveries," the next highest category, refers to situations viewed from the air, for which the flight team will request assistance from ground units. This includes any suspicious



behavior, suspicious vehicles, abandoned vehicles, or other situations which might merit investigation. It was originally anticipated that Eagle II would provide the opportunity to observe significant numbers of crimes in progress from the air. In fact, this capability has not been realized to any great extent. It is unclear at this point why results in this area have been disappointing, but other agencies have reported the same difficulties. In our telephone survey of eight police helicopter programs (Long Beach, Dallas, Denver, Houston, San Francisco, Columbus, Atlanta and Anaheim), aviation unit personnel specifically denied that their flight crews were able to discover crimes in progress to any great extent. The only possible exception to this pattern occurred when industrial sites or school buildings were patrolled during evening or vacation hours, at which time vandals were occasionally spotted.

During the evaluation period, Eagle II also responded to 88 requests for assistance from ground units. These requests frequently were for lighting an area at night to aid in an investigation or search for a suspect. Other times Eagle's aid was sought in searching for a vehicle or a person of a particular description when the aircraft was not already present at a crime scene.

Fire calls, although representing the smallest proportion of Eagle's activities, deserve special mention. During the evaluation period, a large commercial fire occurred in downtown



St. Petersburg during regular Aviation Unit duty hours. One of the firefighters regularly assigned to the Aviation Unit was in the aircraft and was actively engaged in communication with the Fire Chief below. Excerpts from this firefighter's subsequent report on the mission are presented to indicate the type of assistance provided in a fire situation.

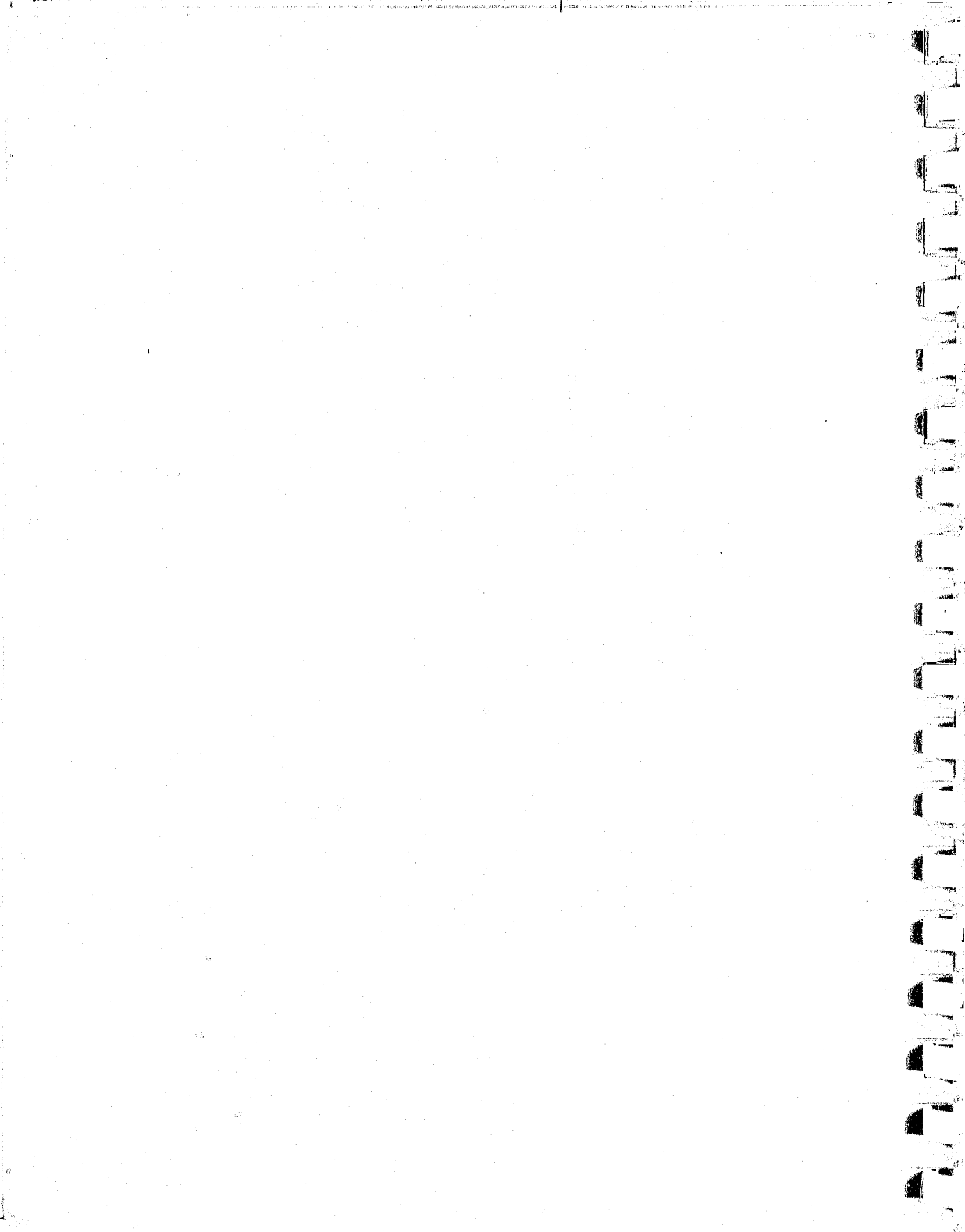
Eagle unit was able to advise the responding units that the fire had already consumed a major corner of the building, and that the fire had already penetrated the roof, and was proceeding westward on the roof. This information was relayed to the ground units, which were instructed by their superiors to set their equipment accordingly.

Due to mechanical malfunction, the fire had progressed to a state which required additional units. At this stage, CHIEF 5, (who had assumed complete command of the situation) frequently requested reports from the Eagle as to the fire's density, location, and direction. Eagle was able to advise CHIEF 5 that there were exposures to the north (buildings which could be immediately affected by the fire in progress) and measures were taken to prevent this from happening. Several "hotspots" and explosions were reported to the ground units, enabling them to make proper adjustments in their procedures to correct the situation as it existed.

After it was learned that the building to the north (exposure) had flames emitting from the vent of the roof (reported/observed by Eagle), firefighters were placed on the roof so as to preserve this building. This building was frequently lighted by the Eagle so as the men on same could observe cracks, breaks, and erupting fissures. Lighting was also provided to the fire proper in order that hoses could be directed to a more accurate location.

4.4 Observer Program

In conjunction with its regular operations, the Aviation Unit conducts an Observer Familiarization program for police

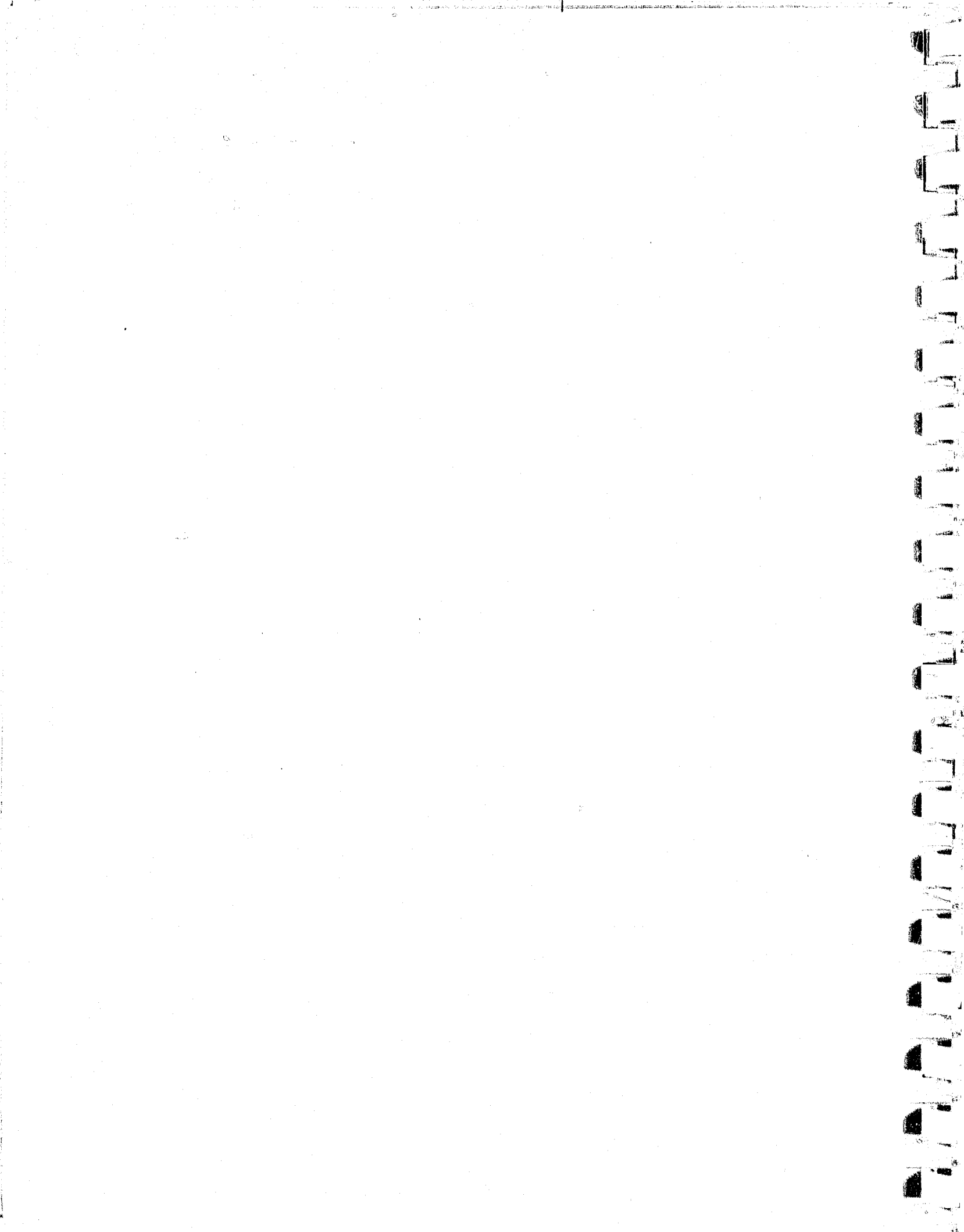


officers engaged in patrol and other ground activities. The purpose of the program is to familiarize the officers with Eagle's capabilities so that they will be better able to utilize them on the street. By the end of April 1974, 37 officers had spent five days with the Aviation Unit as an observer.

These temporary police observers work the evening shift Tuesday through Saturday and participate in all usual activities of the Unit. After a minimum amount of training, these officers have been able to assume the duties of an observer in the flight team. Aviation Unit personnel feel strongly that this program has won them the support of the rest of the department and has led to increased utilization of the helicopter by ground units.

4.5 Public Speaking Engagements

In order to help gain public support for the helicopter program, Aviation Unit personnel have made a number of public appearances before civic organizations and schools. During the Unit's first fourteen months (through March 1974), a total of 34 public speaking engagements had been made. Although the majority of these were concentrated during the first few months of project operation, requests continue to be made for public appearances by Aviation Unit personnel.

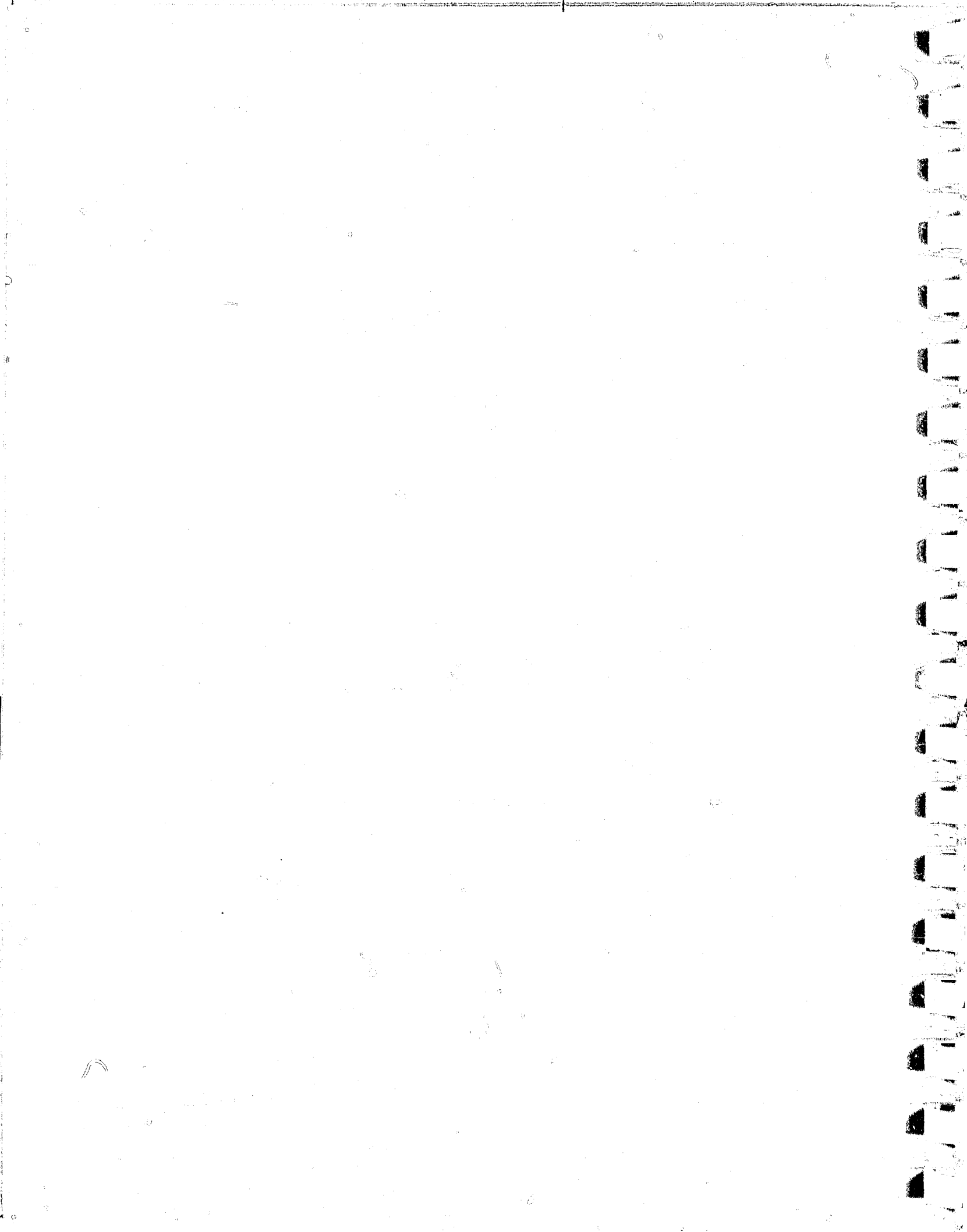


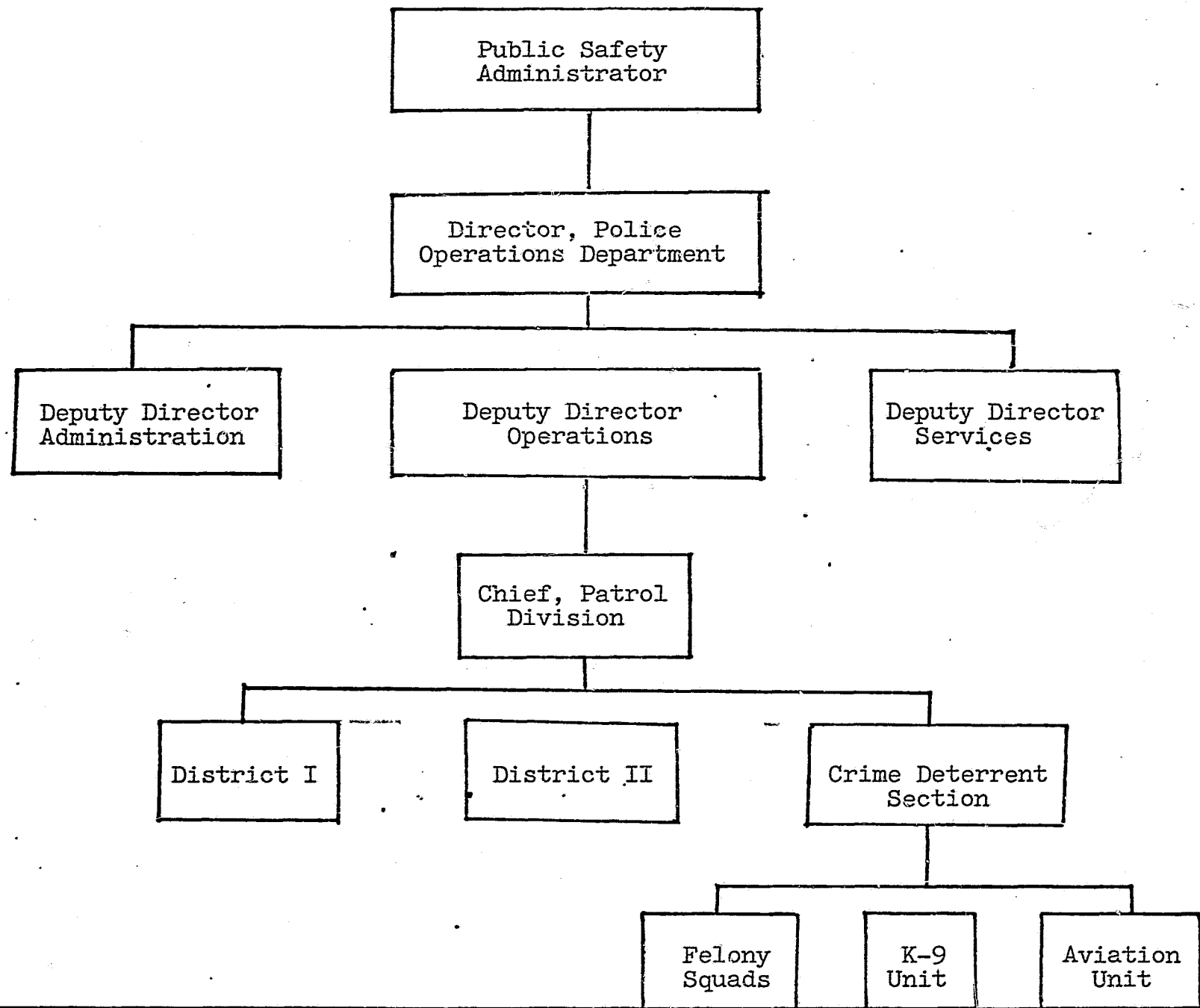
5.0 ORGANIZATION AND SUPERVISION

5.1 Organization

Organizationally, the Aviation Unit is placed in the Crime Deterrent Section, under the Patrol Division. The Aviation Unit Coordinator is therefore immediately responsible to the Commander of the Crime Deterrent Section, who in turn reports to the Chief of Patrol. A complete organization chart is presented in Figure 1.

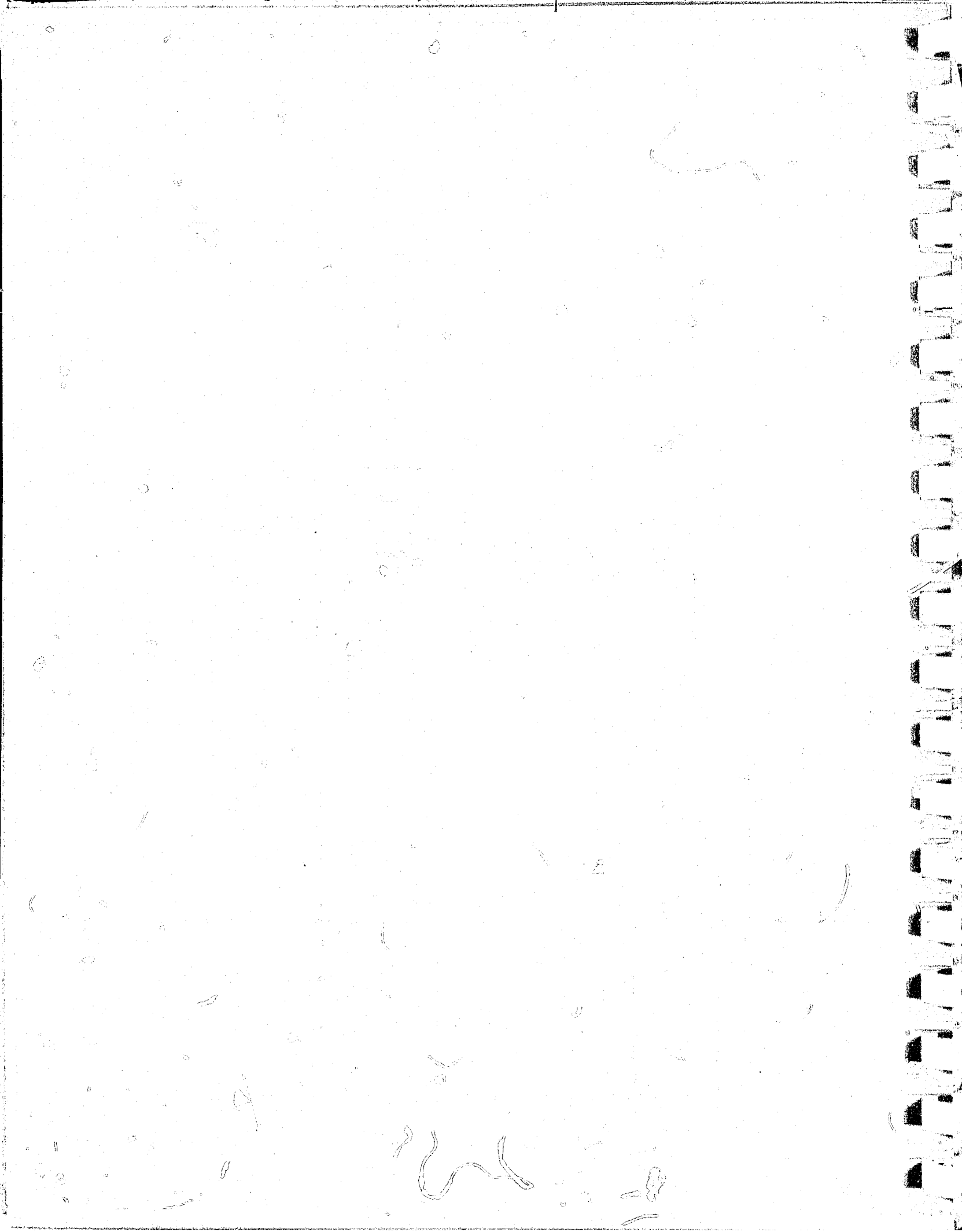
Placement within the Crime Deterrent Section affords the opportunity for close coordination with the other specialized units in the department, and, in fact, such coordination of efforts frequently occurs. Information flows fairly smoothly along formal vertical lines, with well established channels for the dissemination of memos, directives, and daily bulletins. Patterns for horizontal lines of communication, among the various divisions, are not so well established, however, and since the Aviation Unit is physically isolated from other operational units, a potential problem exists. Aviation Unit personnel have addressed this problem and appear to have established a workable solution. The Coordinator and one of his staff members make frequent visits to the station, at which time they circulate freely among many of the operational units. This daily contact with administrative and operational personnel provides up-to-date information about the activities of the rest of the department and allows for more rational planning of the day-to-





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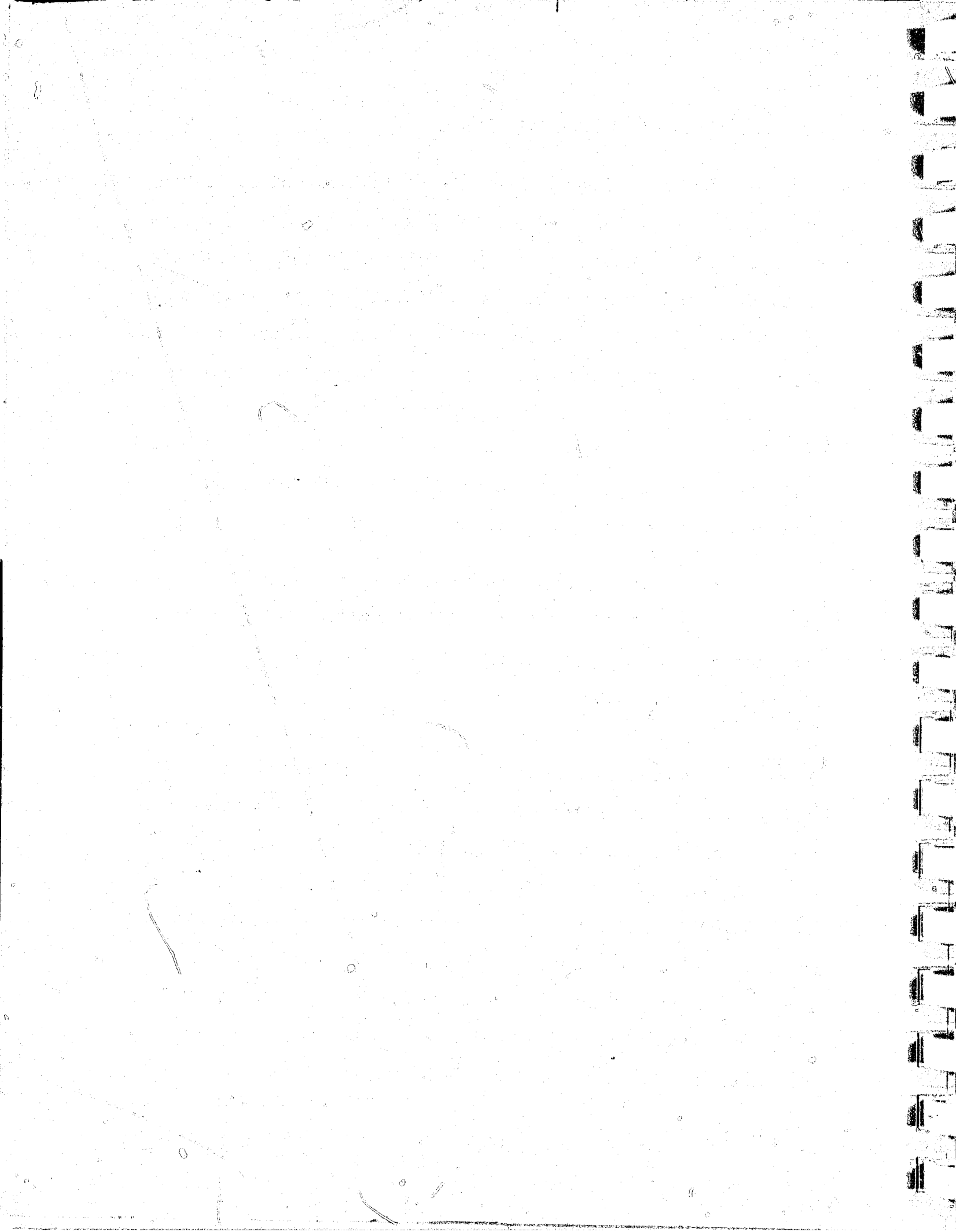
Figure 1. Placement of Aviation Unit in Organizational Structure



day activities of the Aviation Unit.

Despite the undisputed ability of this procedure to keep the Aviation Unit informed, the need for such information gathering sorties points to a basic weakness in the formal communications patterns established within the Department. Were it not for the individual initiative of Aviation Unit personnel, the unit could well be operating out of an informational vacuum, with no idea of the daily activities of the other operational units in the department. Because of its function as a support unit, the lack of such cross-divisional coordination would have been devastating to the effectiveness of the aviation program.

Record-keeping procedures initiated by the Unit are extensive, covering every conceivable aspect of its operation. Statistics concerning hours of flight time, down-time, the number and type of assists provided, other missions flown, and special assignments are forwarded to the Commander of the Crime Deterrent Section on a monthly basis. These give an accurate indication of the Unit's monthly activities, but outside of a goal-oriented management structure are not adequate for the review functions of the Unit's superiors. The creation of such a structure should not be the responsibility of the Aviation Unit, however. This Unit has already established standards for its own operations and these are monitored closely by the Aviation Coordinator. The additional requirement is for a review of the adequacy of the Unit's performance by persons



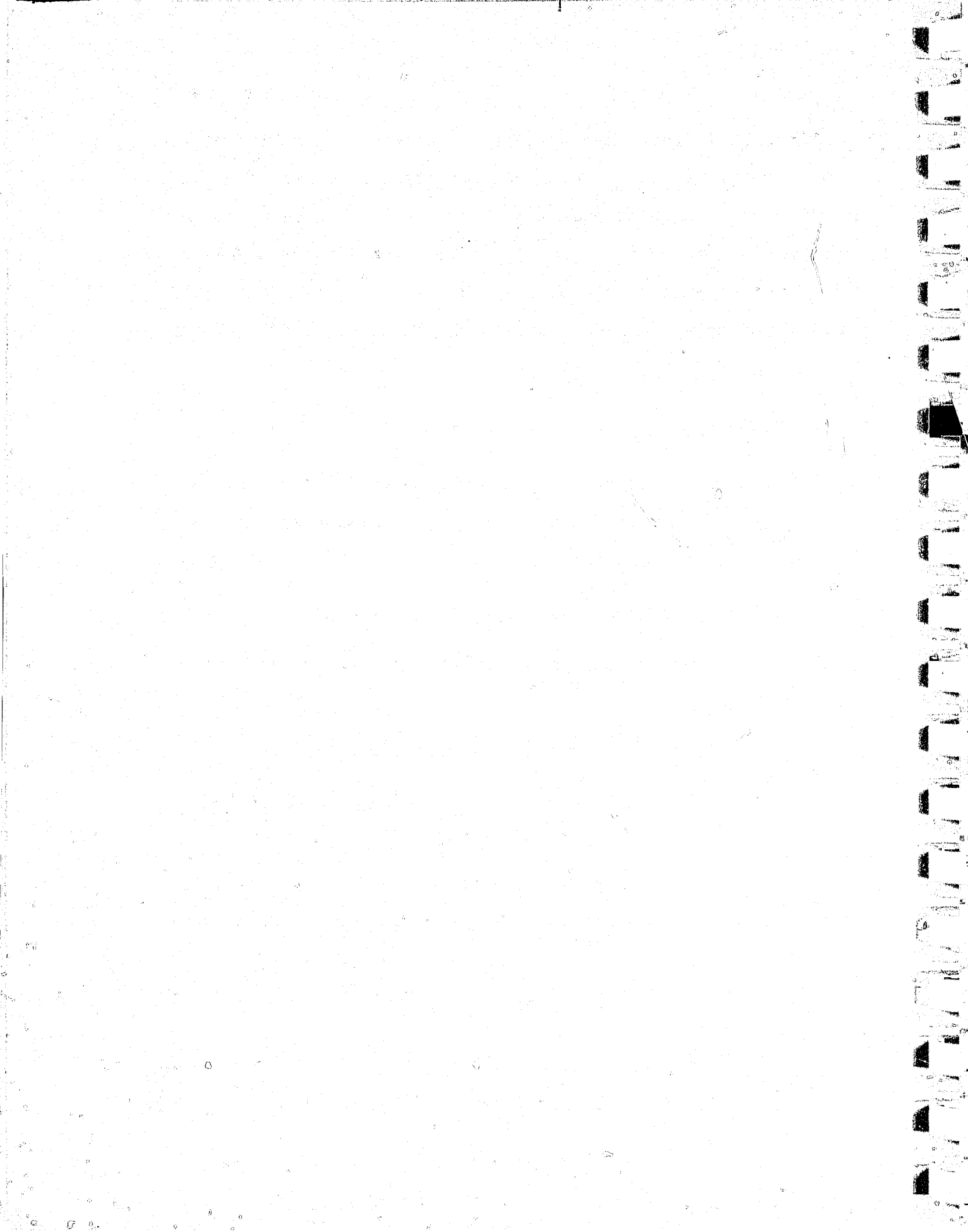
higher up in the organizational structure. This kind of review requires the establishment of specific performance objectives against which operational statistics can be measured. Currently, there is no way for administrative personnel to make evaluative judgments about the adequacy of the Aviation Unit's performance — and, in fact, these judgments are not now being made.

5.2 Supervision

Immediate supervision is provided to Aviation Unit personnel by the Aviation Coordinator. He is responsible for all aspects of Unit operation, including:

- Selection and supervision of Unit personnel;
- Scheduling of personnel and deployment of aircraft;
- Monitoring the condition of the aircraft and scheduling all necessary maintenance;
- Performance review of flight crews to maintain a high level of skill and safety in flight operations;
- Appearances before civic groups, fraternal organizations, schools, and other institutions to gain public support for the Unit's activities; and
- Maintaining a set of records adequate for administrative review.

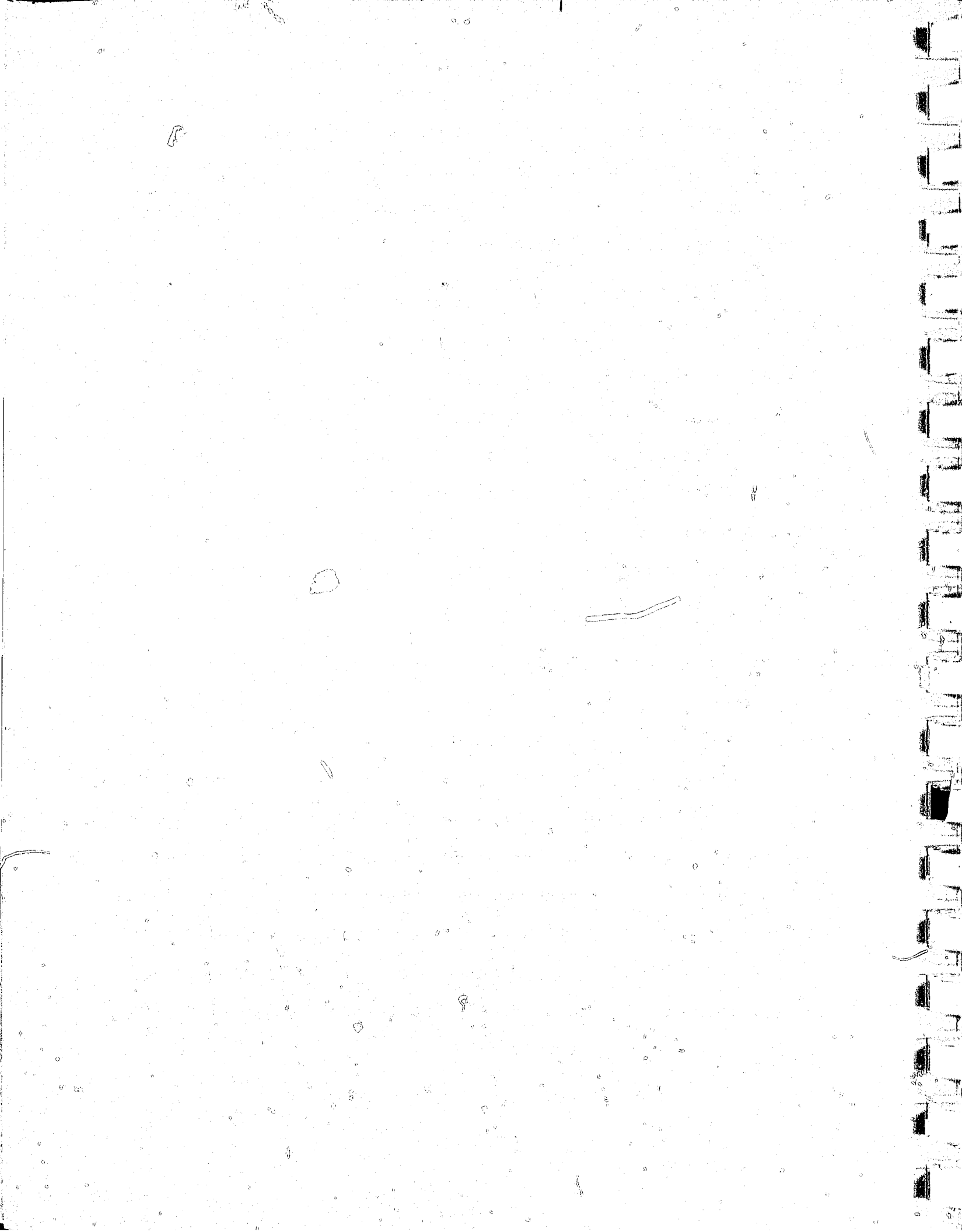
After approximately six months of evaluative review, it is our conclusion that the Aviation Unit Coordinator has been



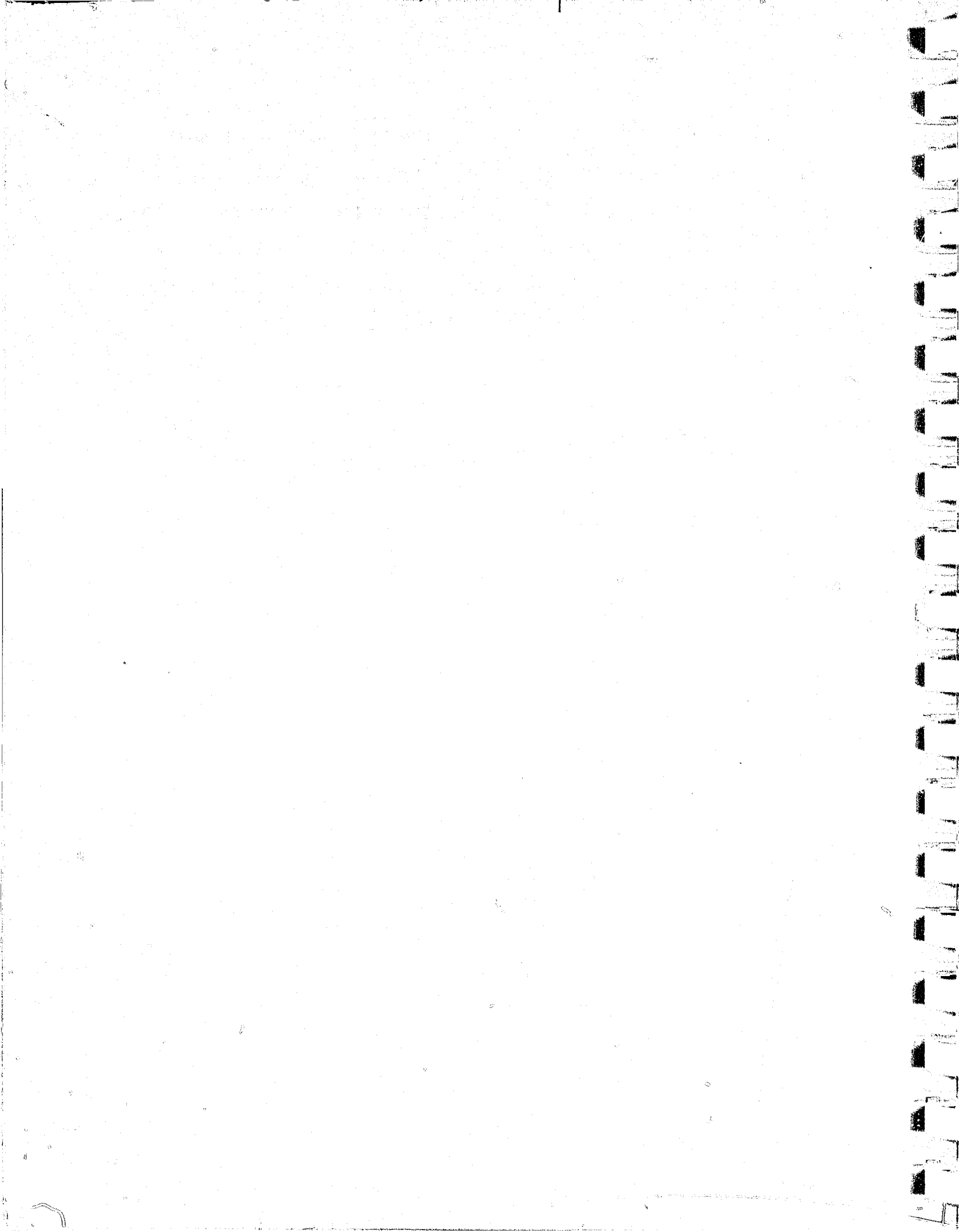
flawless in the exercise of these duties. The Unit is well-organized, highly disciplined, and highly skilled. In addition, the morale of the men assigned to the Unit is the highest observed in any unit of this Department.

In a personal interview conducted in private, each of the Unit's members was asked to rate the quality of supervision provided to the Unit by the Aviation Coordinator. They were requested to rate on a five-point scale, with "5" as high score. Unhesitatingly and without exception, every member gave the Coordinator the highest possible score. In addition, they were able to provide specific instances of examples of the kind of supervision which they received which was felt to justify this rating.

Within the Unit, there is a further division of labor among the members. One officer is assigned as an "Operations Officer" and is responsible for most of the administrative requirements placed on the Unit. He monitors and maintains the records kept by the Unit, and generally performs as an administrative assistant to the Coordinator. He is also, of course, available, for flight assignments. There is also within the Unit a designated "Maintenance Officer," who is responsible for logging and scheduling all maintenance performed on the aircraft. These positions are not permanent but rotate at approximately 6 - 8 month intervals.



The men assigned to this Unit see their jobs as challenging and rewarding. In responses to questions asked during the personal interviews, they indicated that their current assignment provided more opportunities for accomplishment than previous street or fire station assignments, that it was certainly more demanding, and that it was also more rewarding.

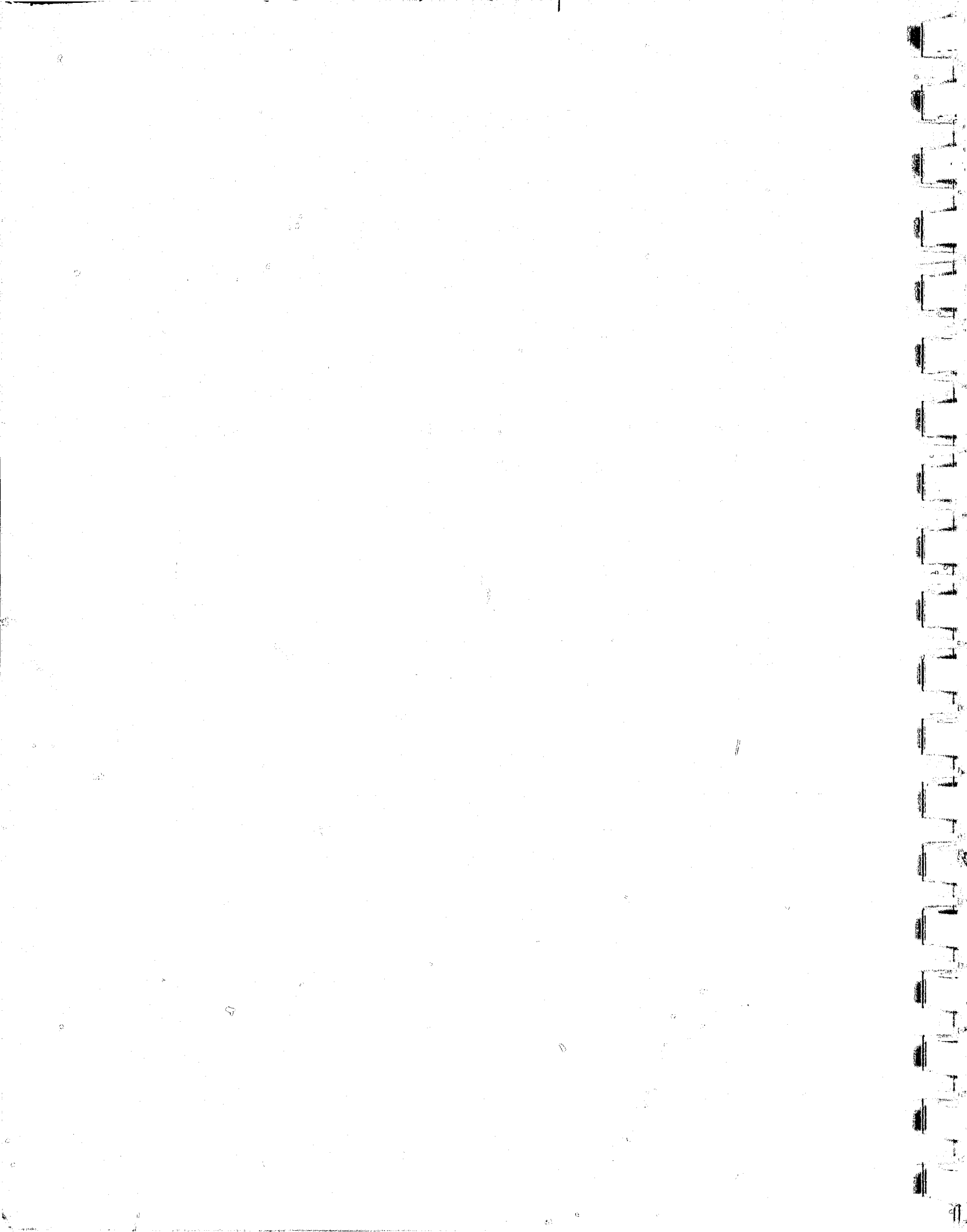


6.0 HELICOPTER EFFECTIVENESS

6.1 Response Time

Response time is a traditional measure of police effectiveness. It is used to indicate the level of readiness or availability which an organization maintains to respond to emergency situations. It has been amply demonstrated that a rapid response is associated with a higher probability of apprehension. Good response time also has frequently been mentioned as a factor used by citizens to evaluate the quality of police services which they receive.

One of the performance objectives established for the evaluation of this Unit concerned response times: "To obtain an average response time to priority calls of less than three minutes and to answer 70% of such calls in less than three minutes." In order to evaluate achievement of this objective, Priority Dispatch Load print-outs were consulted for three recent months: December 1973 and January and February 1974. The average response time during each of these months was under three minutes and the average for the three-month period, 2.5, was well under the three minute mark. This clearly meets the established objective in terms of average response times. Actual response times vary considerably, however, depending primarily on whether the aircraft was in the air at the time of dispatch. For this reason, it was considered desirable to determine the proportion of calls which are answered in less



than three minutes as well.

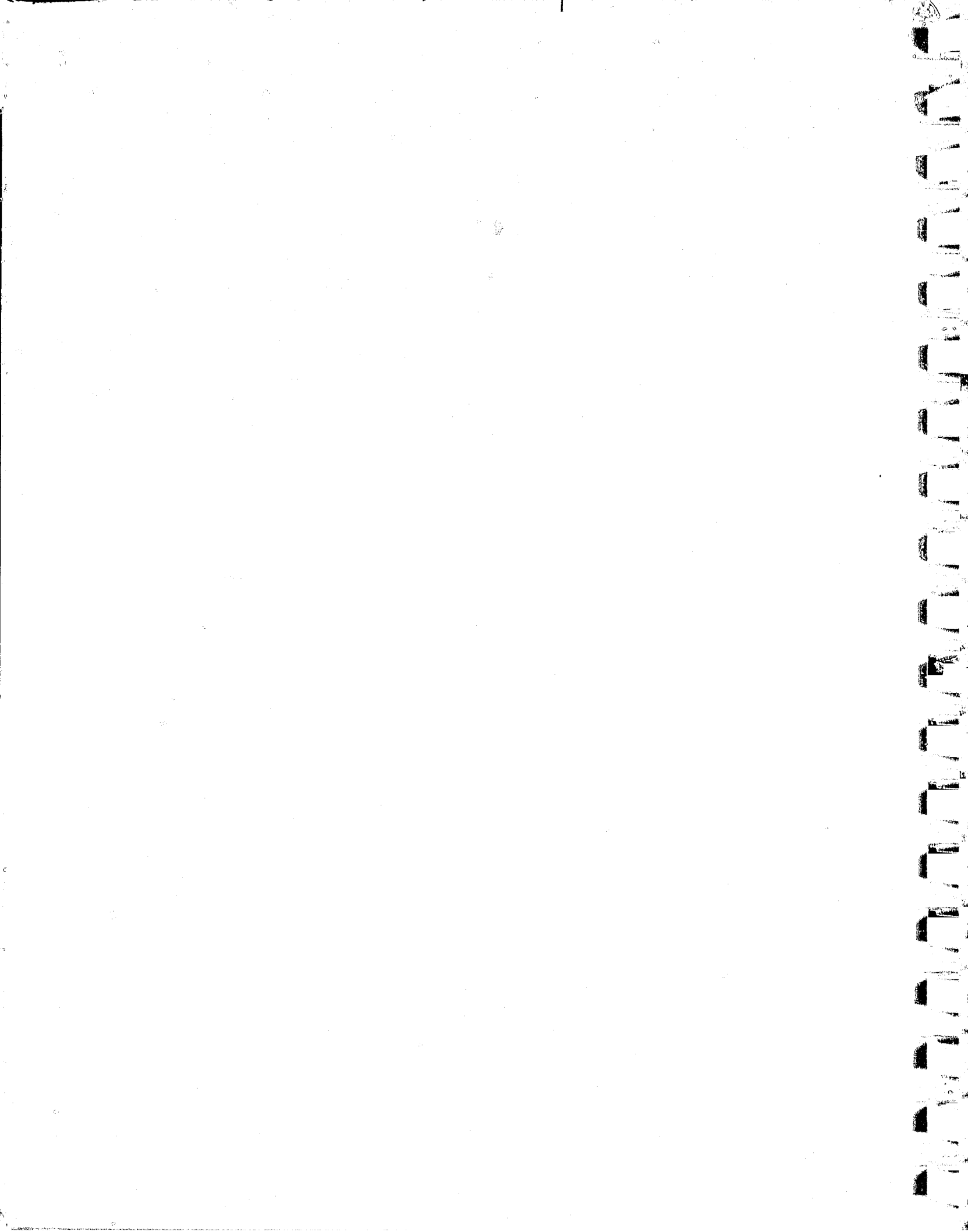
TABLE V
Helicopter Response Times

Month	Total Calls	Average Response Time (minutes)
December (1973)	85	2.2
January	73	2.9
February	58	2.4
Total	216	2.5

The objective calls for 70% of all priority calls to be answered in less than three minutes. Table VI shows that this objective was not achieved in any of the months under study.

TABLE VI
Percentage of Calls Answered in Less than Three Minutes

Month	Total Calls	Under 3 Minutes	
		No.	%
December	85	59	69.4
January	73	43	58.9
February	58	37	63.8
Total	216	139	64.4



The total percentage for this three-month period, 64.4%, is only slightly below the mark, however, and should probably be considered as an acceptable level of performance.

6.2 Crime Rate

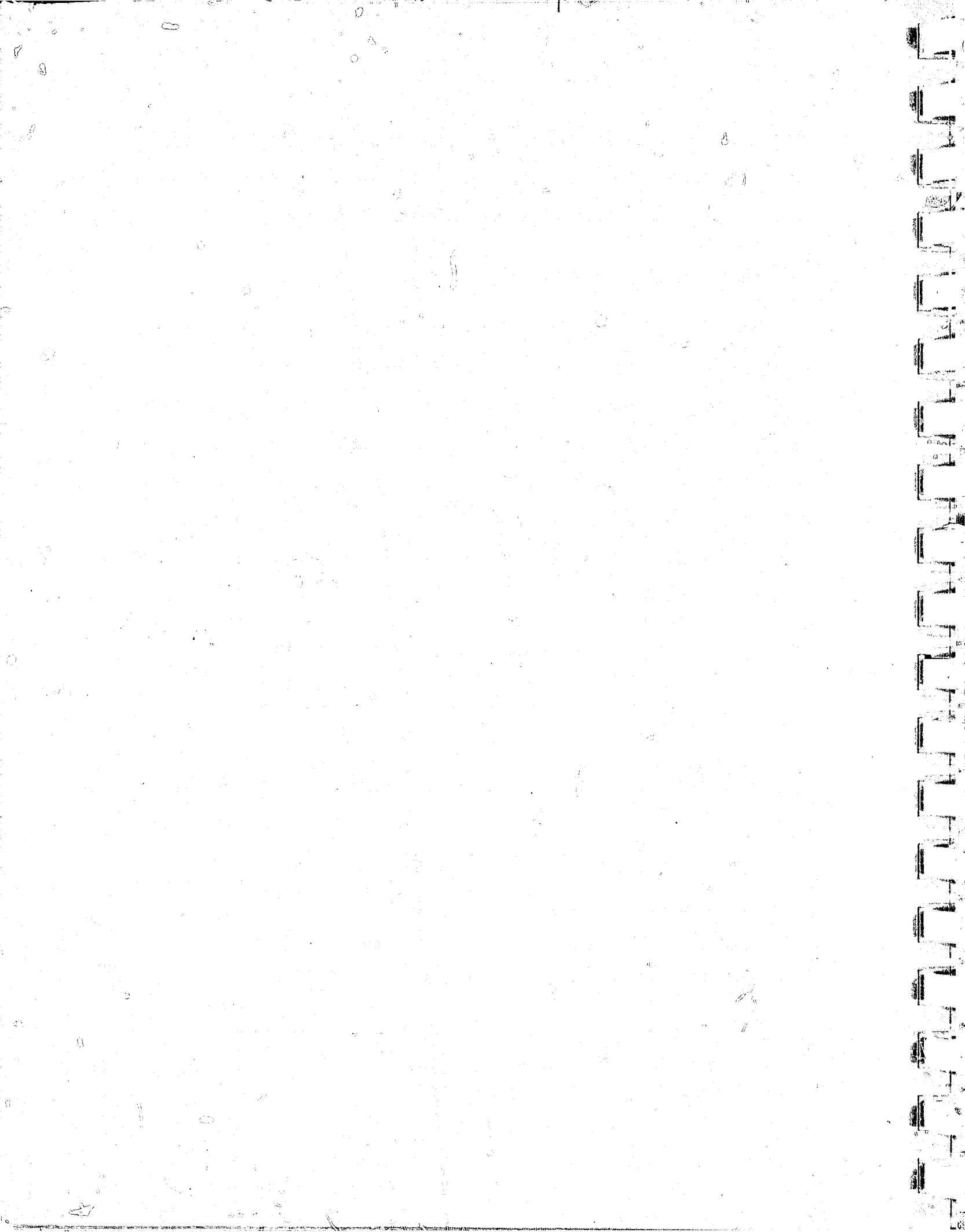
Use of the helicopter for preventive patrol was expected to serve as a deterrent to potential criminals and thereby reduce the number of crimes committed in the City of St. Petersburg. Several cities which have conducted evaluations of their helicopter programs report dramatic decreases in those areas which had received aerial patrol. A recent journal article summarizes the effectiveness of helicopter utilization in terms of crime control:

Helicopter patrols significantly reduce crimes of robbery, burglary, auto theft, assault, rape, vandalism, malicious mischief, prowlers and civil disturbance. Crimes of violence such as murder are little affected.¹¹

The same source goes on to report the following reductions in crime rates after implementing aerial patrols:

City	Percent Decrease
Santa Monica	3.7
Kansas City	13.0
West Los Angeles	4.5
Lakewood	11.0

¹¹Norman Lynn, "Patrol Helicopter Mobility Effective in Crime Control, "Law and Order (November 1973), p. 85.

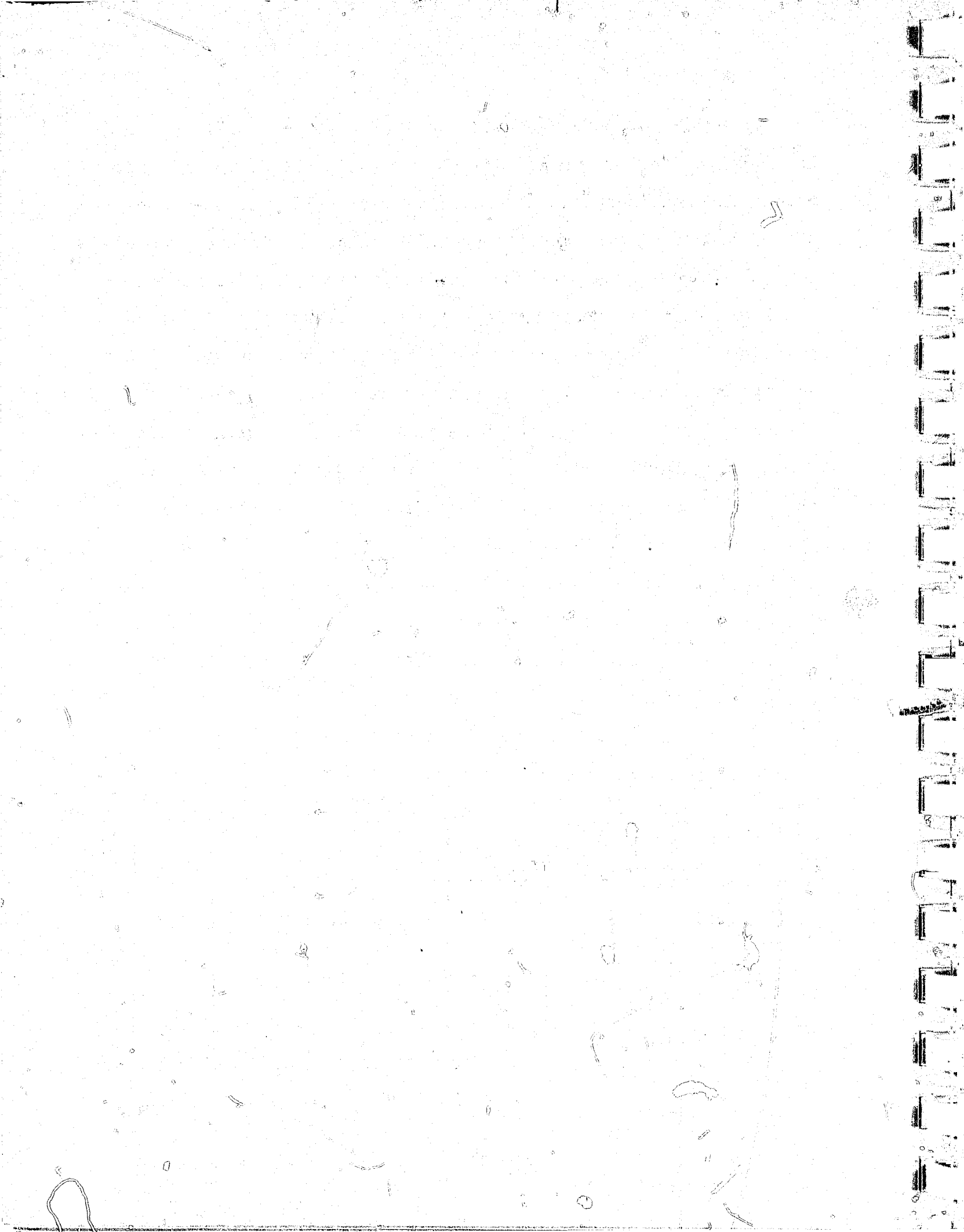


In St. Petersburg, however, in 1973 — the year in which the Aviation Unit began operations — the total crime rate for index offenses increased almost 25%. Table VII presents a detailed breakdown of some of these statistics. Data are presented for four three-month periods. The first period represents the level of crime incidence before full implementation of the Aviation Unit. The remaining quarters show data for time periods during which the Unit was in full operation. There are no consistent patterns evident in these data, with most crime categories fluctuating but generally rising. The only two exceptions to this tendency are Unarmed Robberies and Purse Snatches, both of which show decreases after the implementation of the helicopter program. It would be unwise to draw any conclusions from these data, however, because of the impossibility of isolating the effects of the Aviation Unit from those of other aspects of the police effort.

TABLE VII

Crime Incidence Before and After Helicopter Program

Time Period	Armed Robberies	Unarmed Rob.	Residential B & E	Bus. B. & E	Auto Theft	Purse Snatch
I. (Before)	74	191	317	977	154	17
II.	78	141	381	1144	162	16
III } (After)	87	162	400	1321	202	11
IV	82	180	376	1375	193	3

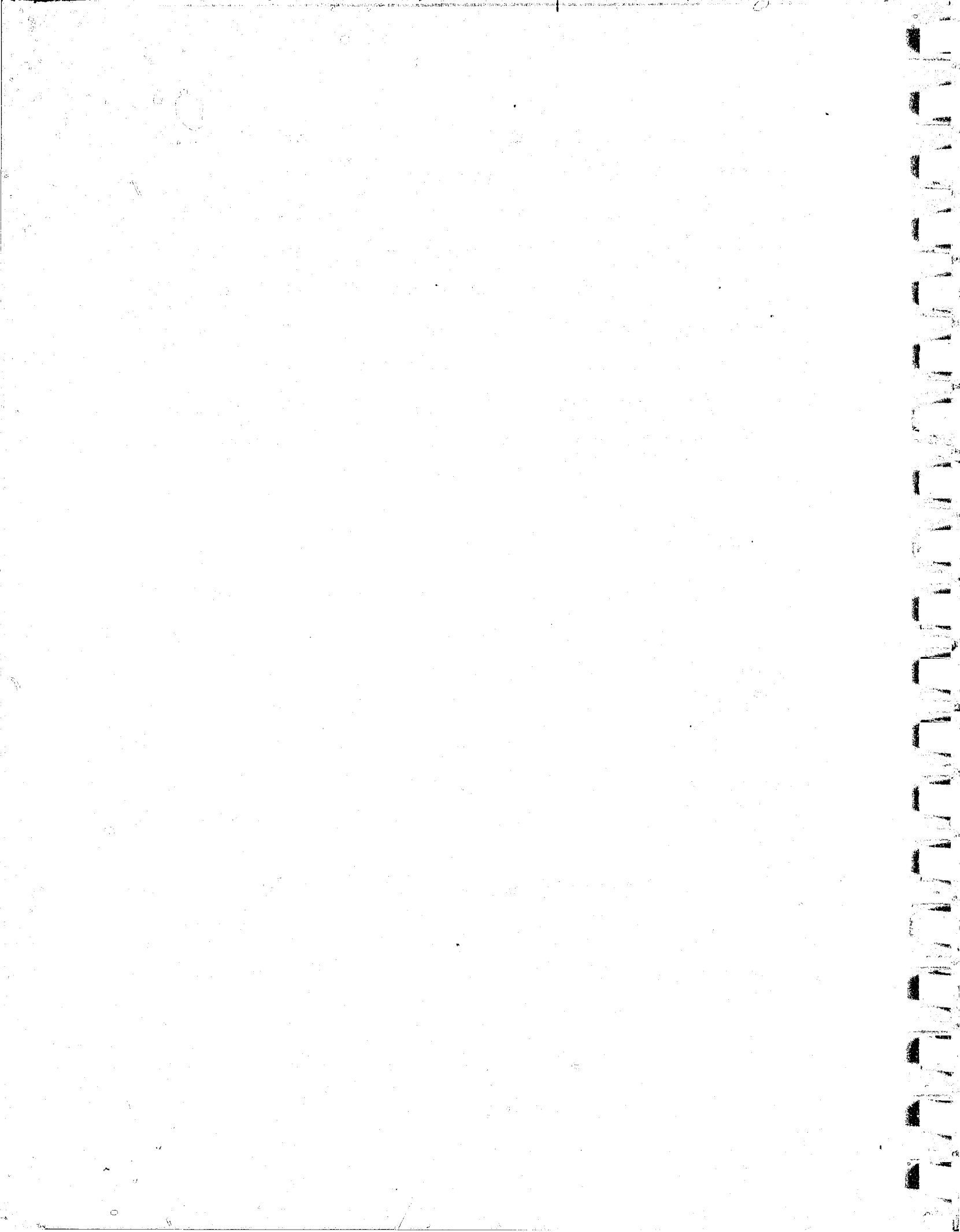


Representatives from the eight cities contacted in the telephone survey were also asked to comment on their helicopter programs' abilities to impact on crime statistics. In some instances, statistical evaluations were still incomplete or unavailable, but in no case was an observable decrease in the incidence of crime reported. It may well be that the crime rate is not a fair measure of the effectiveness of a police helicopter program, especially when deterrence through preventive patrol is expected to be the primary mechanism through which a decrease is to be obtained.

6.3 Apprehension Rate

Another, perhaps more appropriate, measure of helicopter effectiveness is the apprehension rate associated with helicopter assisted calls. Because of its rapid response time and excellent capabilities for detecting fleeing suspects, it was hypothesized that the helicopter could substantially improve the probability of arrest on a priority call. In order to test this hypothesis, helicopter-assisted calls were compared to a sample of non-helicopter assisted priority calls. For each group, offense reports were checked to determine if an at-the-scene arrest had been made (defined as one occurring within three hours of dispatch). The percentage of calls which resulted in such an arrest was then considered the "apprehension rate".

Table VIII presents the data resulting from this analysis. The average monthly rate shows helicopter-assisted calls to be



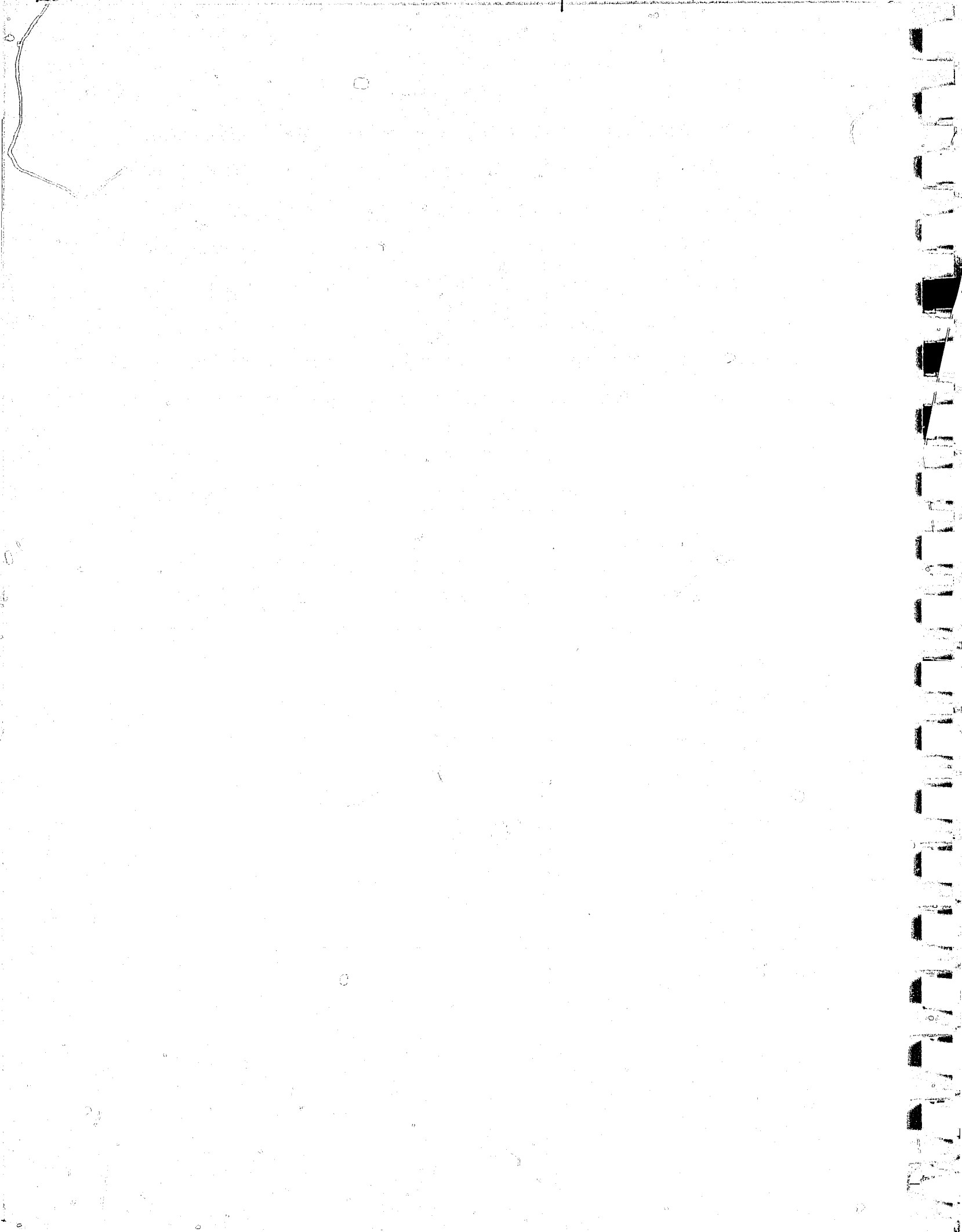
superior to unassisted calls in terms of apprehensions. The wide variability of the data between the various months, however, gives rise to some concern about the spurious factors which might be operating here. One of the problems experienced by the Aviation Unit concerned the failure of the police dispatcher to consistently punch up priority calls on all radio channels. This resulted in the possibility that priority calls dispatched while Eagle II was in the air might not be received.

TABLE VIII

Apprehension Rates For Helicopter-Assisted and Non-Assisted Priority Calls

Month	Helicopter-Assisted Rate	Non-Assisted Rate
July	16.7	7.5
August	23.4	9.6
September	19.3	6.8
October	26.6	16.6
November	19.1	17.0
December	12.2	26.6
January	29.4	12.3
February	20.0	11.9
Monthly Average	20.8	13.5

(The radio unit in the Aviation office monitors all channels.) This problem has been reported to have been taken care of, but



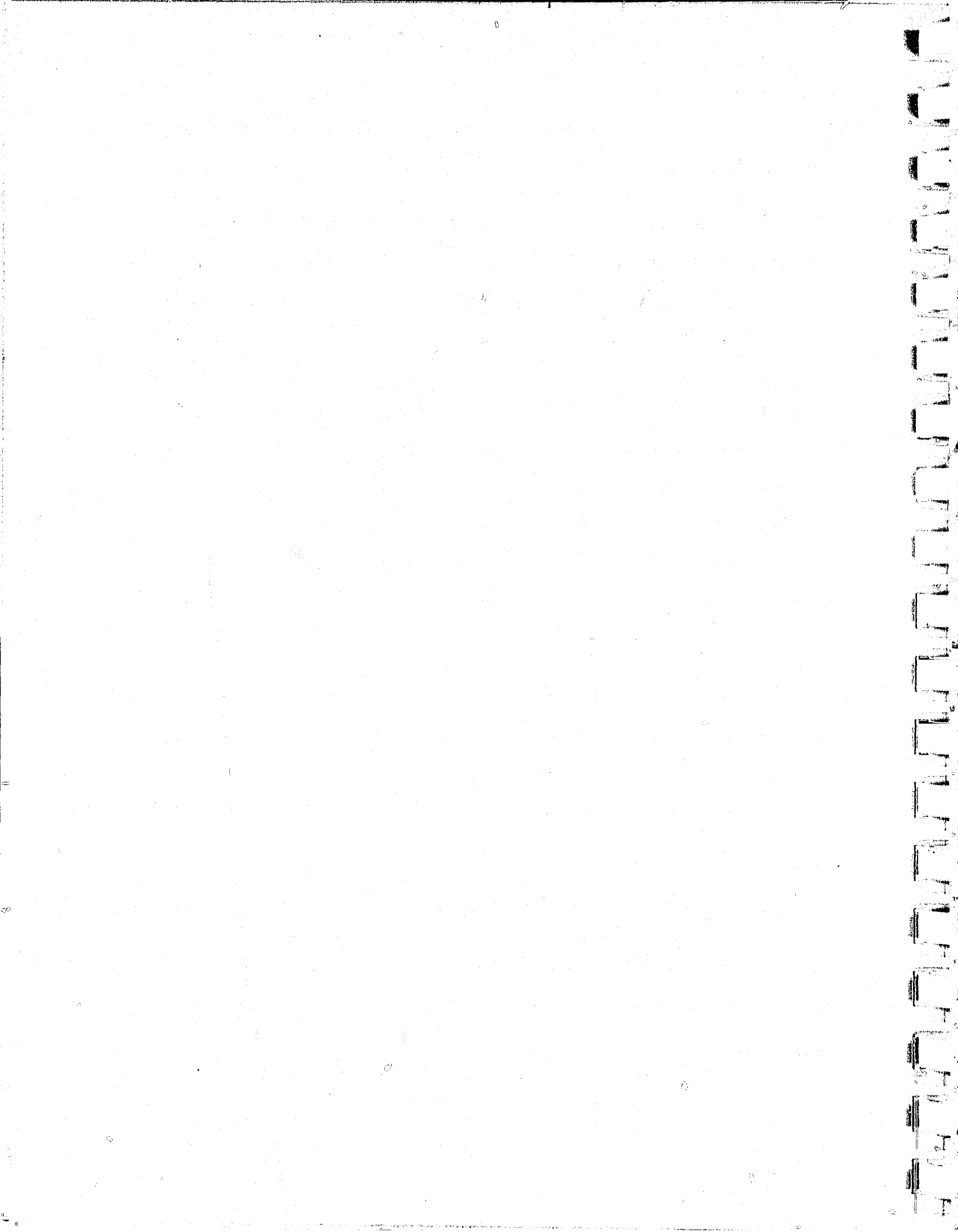
certainly affected helicopter responses during part of the evaluation period.

A second problem affecting the Unit's ability to assist in apprehensions is the delay, inaccuracies, or complete unavailability of suspects' descriptions. In some cases this results because the complaint writer has not gotten complete or accurate information; in other instances dispatchers fail to broadcast all the information they have. In still other cases, patrolmen conducting the preliminary investigation on the ground fail to question the witness or victim immediately about the suspect's description or relay inaccurate or incomplete information. At any rate, this failure to provide immediate accurate descriptions to the aviation team greatly impairs their ability to assist with apprehensions.

We do not mean to imply that current apprehension rates do not attest to the helicopter's effectiveness in this area, however. Rather, the extreme variability of the monthly rates indicates that the Unit is not consistently achieving rates to the full extent of its potential.

6.4 Police Officers' Questionnaire

Because the Aviation Unit exists primarily for the support of ground units in the exercise of their duties, a sample of police patrolmen was contacted and asked to evaluate the helicopter's effectiveness. (A copy of the questionnaire employed

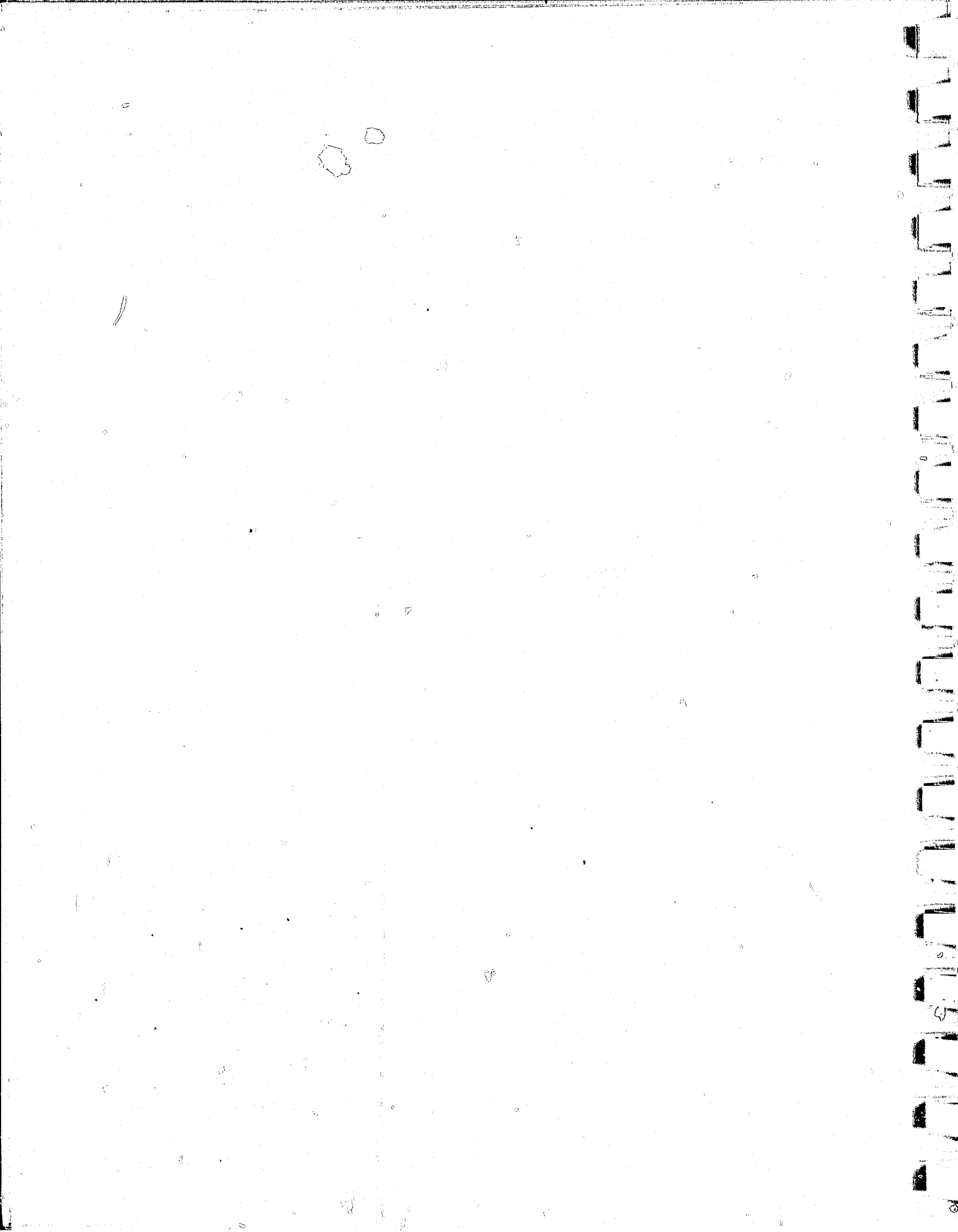


in this survey is attached as Appendix B.) A total of 65 questionnaires were distributed to officers currently on uniformed patrol assignments. After one week, 38 or 58.5% of these had been returned. Of the officers returning the questionnaire, 8 or 21.1%, had been on the force for less than one year, and 6 or 15.8% were veterans of over 10 years. Table IX presents a complete breakdown of the police experience of the questionnaire respondents.

TABLE IX
Police Experience of Questionnaire Respondents

Police Experience	Number	%
Less than one year	8	21.1
1 - 3 years	7	18.4
4 - 5 years	6	15.8
6 - 10 years	11	28.9
11 - 15 years	6	15.8
TOTAL	38	100.0

Experience with Helicopter. All but two (36) of the officers responding to the questionnaire indicated that they had worked with the helicopter while on a call. Of the total 38, 8 or 21.1% reported that they had not worked with the helicopter at all during the previous month. Exactly half of the respon-



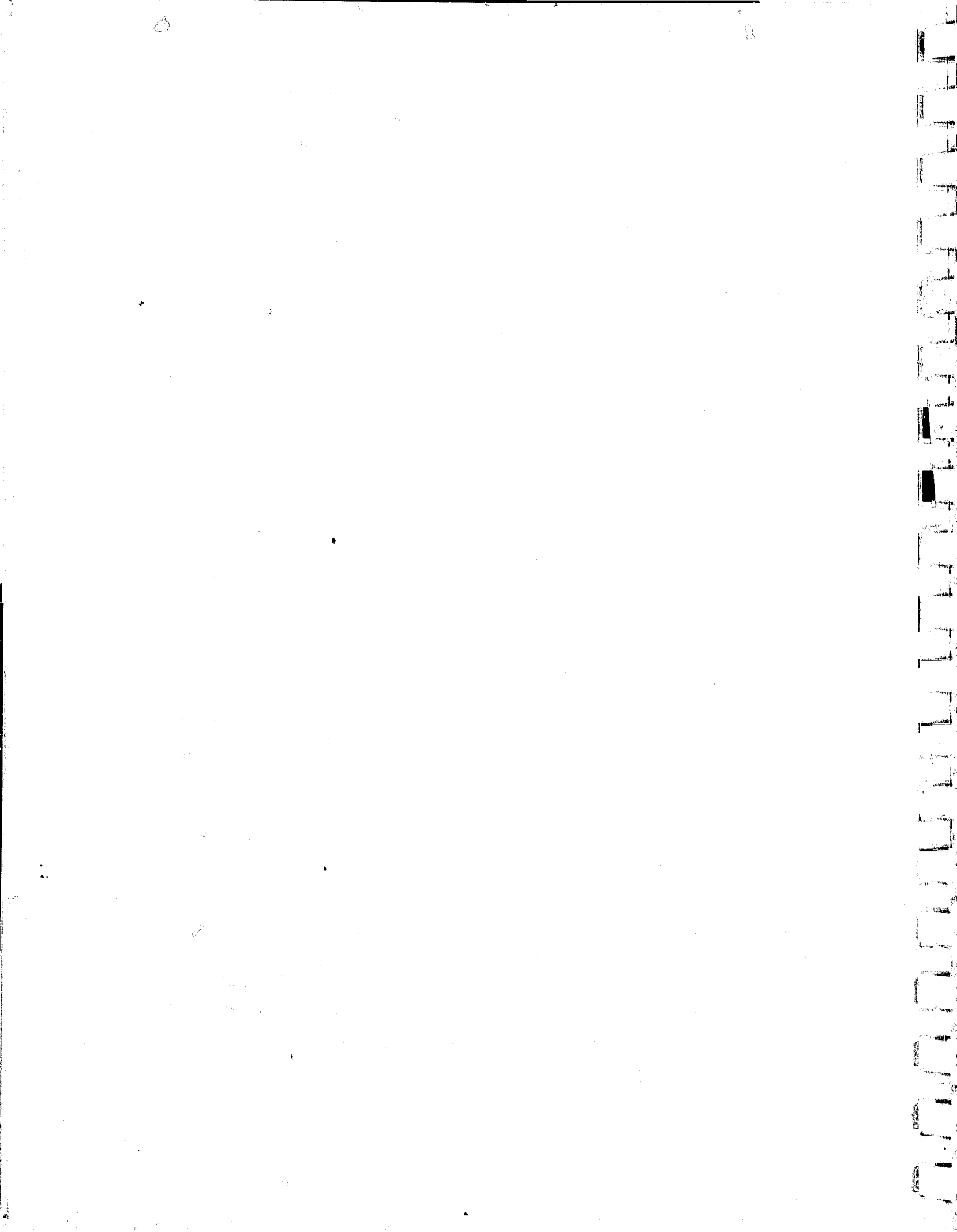
dents reported working with the helicopter on 1 - 5 occasions, and 11 or 28.9% had used Eagle's services 6 or more times. (See Table X for complete details).

TABLE X.
Police Officers' Utilization of Helicopter Services

No. Uses in Preceding Month	Number	%
None	8	21.1
1 - 2	10	26.3
3 - 5	9	23.7
6 - 10	8	21.1
11 - 20	2	5.3
Over 20	1	2.6
TOTAL	38	100.0

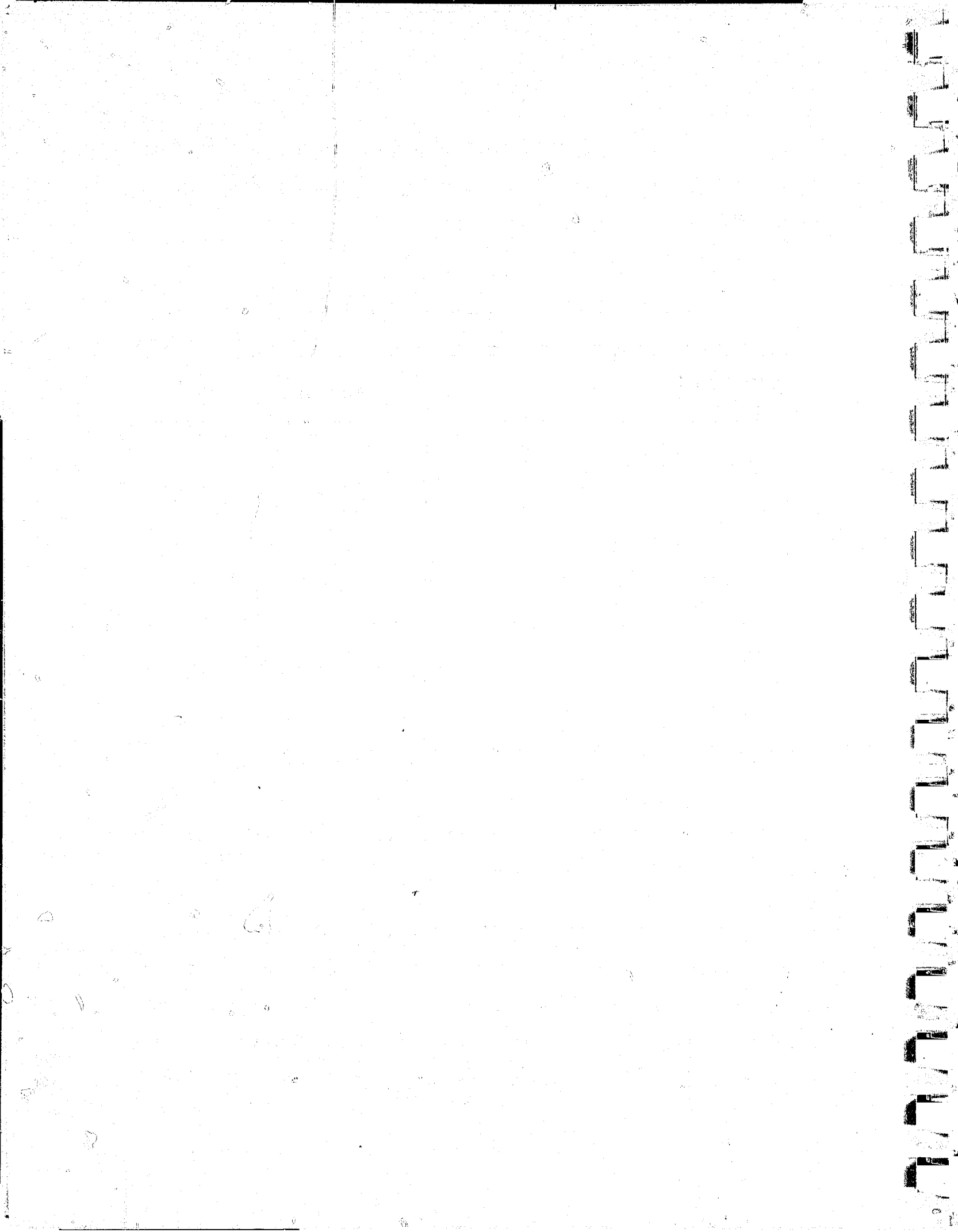
In addition almost two-thirds of these officers (25 or 65.8%) report being involved in an incident where the helicopter directly assisted in an arrest.

Availability. The perceived availability of the helicopter is assumed to have a direct relationship to the patrolman's willingness to depend on it. In order to measure this perceived availability factor, respondents were asked to indicate how often the helicopter was unavailable when they have



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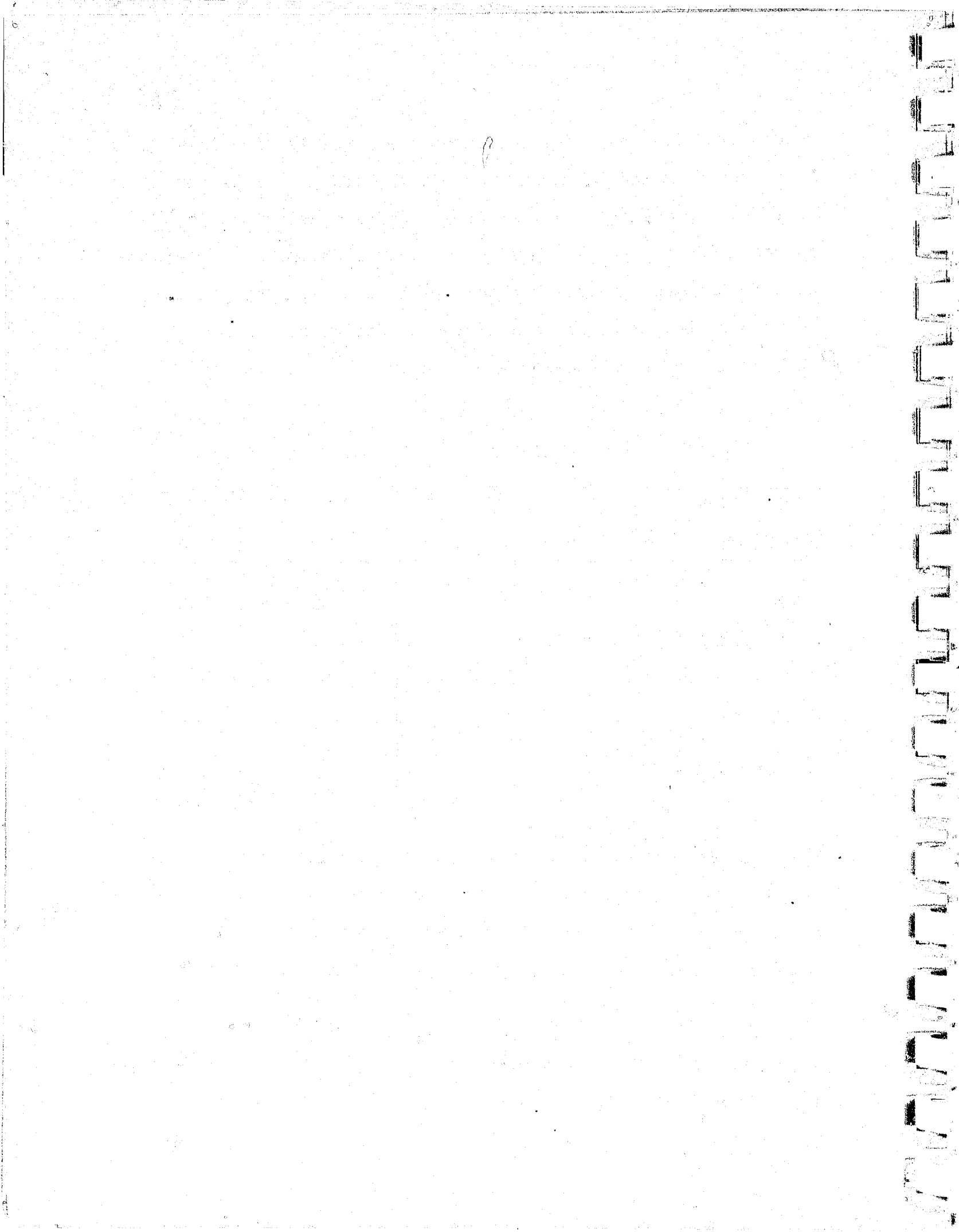
needed its services. The responses are presented in Table XI. It can be seen that although none of the officers felt the helicopter was unreliable, 11, or 28.9%, did indicate that it was unavailable fairly frequently. Only 6, or 15.8%, on the other hand felt it was unavailable only rarely. These data indicate, therefore, that there is some level of dissatisfaction with the helicopter availability among patrolmen on the street.

TABLE XI
Perceived Availability of Police Helicopter

Amount of Time Unavailable	Number	%
Rarely or Almost Never	6	15.8
Occasionally, Not very Often	21	55.3
Fairly Frequently	11	28.9
Unreliable	0	0.0
TOTAL	38	100.0

There is further evidence of this feeling in the responses to the question concerning desired improvements in Aviation Unit operations: 17 or 44.7% of men surveyed specifically suggested either 24-hour a day coverage or a 7-day/week operation.

Effectiveness. Police patrolmen were finally asked to judge the effectiveness of the Aviation Unit in assisting ground units in making apprehensions. Responses to this question indi-



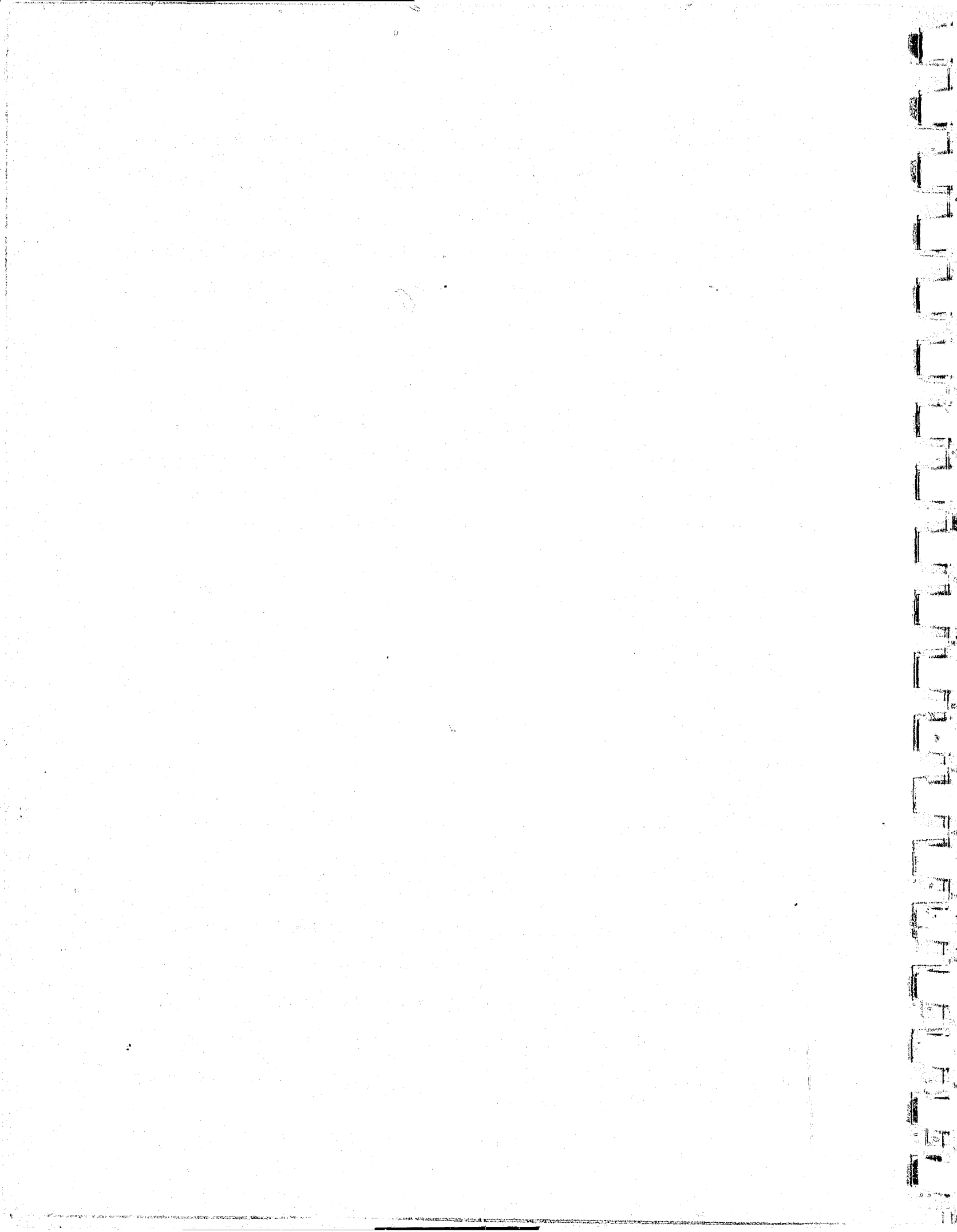
cate an almost unanimous belief that the helicopter greatly improves a patrolman's probability of making an arrest. Ninety-five percent (26) of the officers surveyed indicated that they felt the helicopters presence on a call either doubled or tripled their chances of making an at-the-scene arrest. Table XII presents a breakdown of these responses.

TABLE XII
Perceived Effect of Helicopter On At-The-Scene Arrests

EFFECT	NUMBER	%
Tripled chances of at-the-scene arrest	12	31.6
Doubles chances of at-the-scene arrest	24	63.2
No difference	2	5.3
Reduces chances of at-the-scene arrest	0	0.0
TOTAL	38	100.1

6.5 Correlation Between Hours Flown and Crime Rate

As indicated earlier one measure of the helicopter's effectiveness as a deterrent was to be a correlation analysis of the hours flown and the number of crimes reported. A high negative correlation would have indicated that increasing levels of aerial patrols produced decreases in crime incidence.



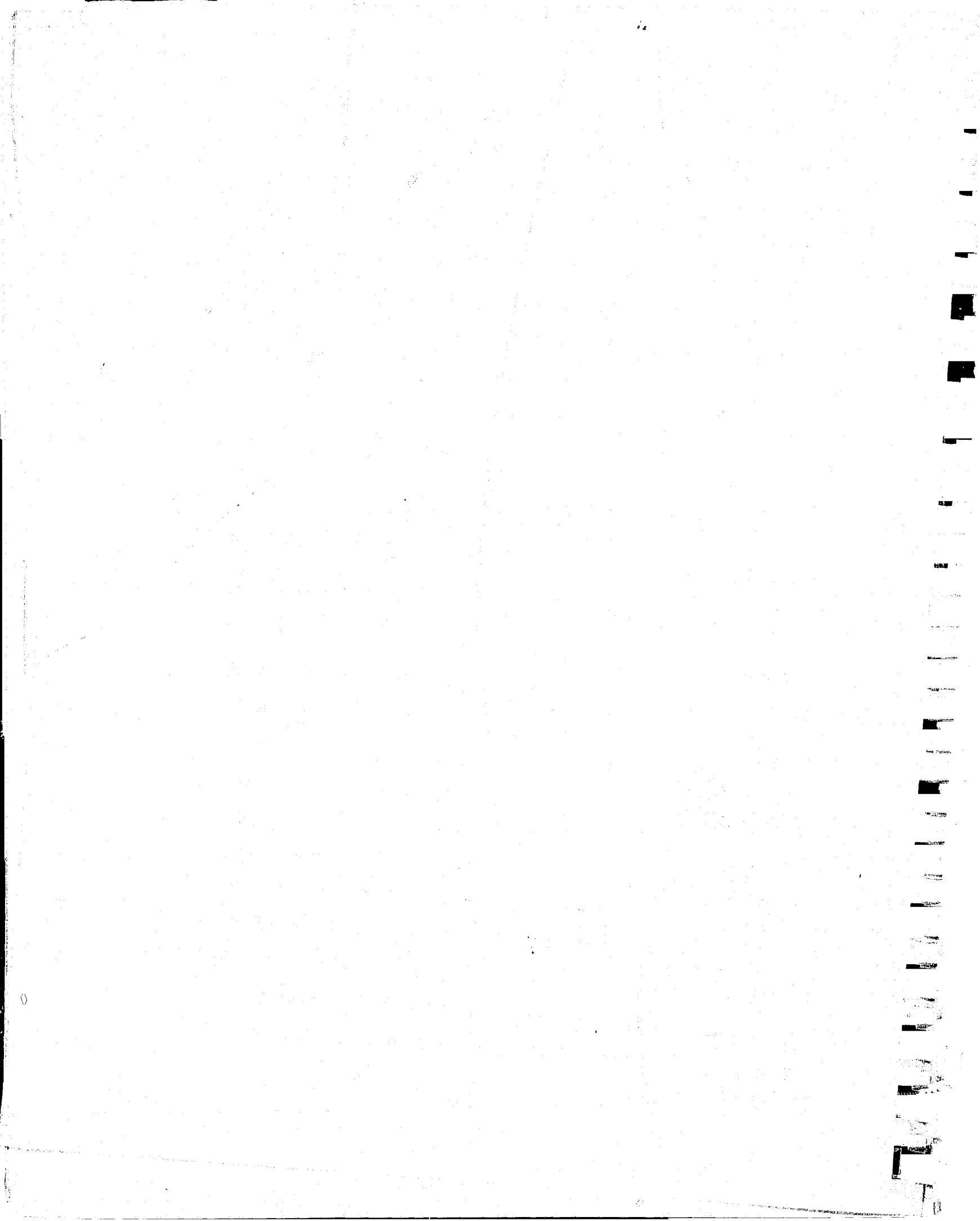
Using Homicide, Rape, Armed Robbery, Unarmed Robbery, Residential Burglary, and Business Burglary as the target offenses, a correlation analysis was performed for data from seven months of Aviation Unit operations (August 1973 - February 1974.) This analysis yielded a positive correlation coefficient of .80, indicating the exact opposite of the hypothesis to be true. That is, increased aerial patrol was associated with higher, not lower, incidences of crime. (Data used for this analysis are presented in Table XIII.)

TABLE XIII

Relation Between Flight Time and Crime Incidence

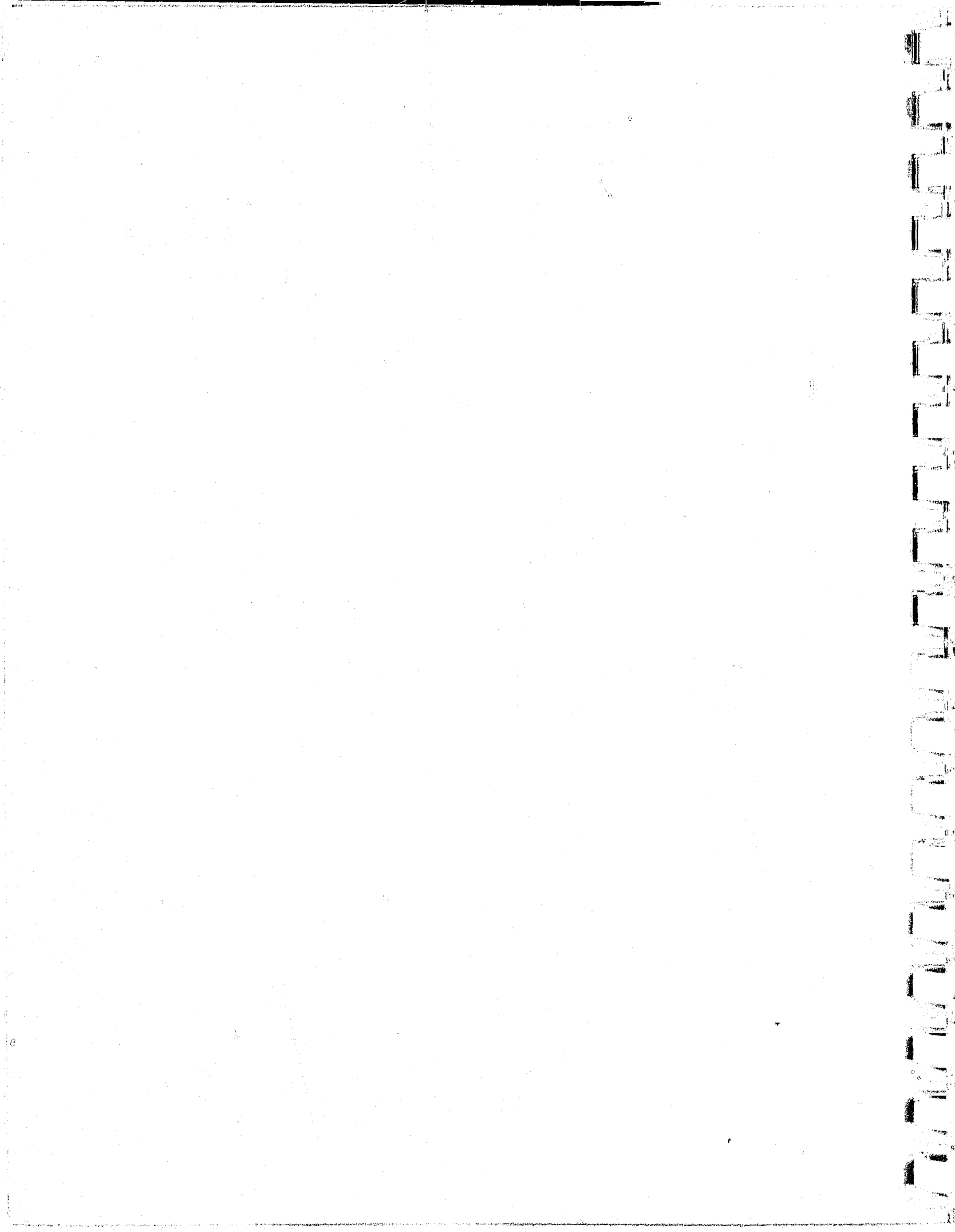
Month	Hours Flown	No. Crimes
August	178	685
September	168	669
October	175	726
November	183	676
December	178	607
January	194	937
February	144	530

One of the obvious reasons for this positive correlation is that the helicopter responds to calls for service; therefore an increase in the number of calls would cause an increase in helicopter utilization. Because only about 30% of the total



flight time was consumed responding to calls, however, a strong deterrent effect of the patrol missions should have counteracted this positive relationship. Apparently, such a deterrent effect was not realized or at least is not substantiated by these data. It would be wrong to assume that aerial patrol has no value as a deterrent, however. Because of Eagle II's limited flight time (6 hours per day), a potential criminal could have easily deferred his activities until such time as the helicopter was not in the air.

Although it must be concluded that the first year of helicopter operation has failed to establish aerial patrol as an effective deterrent against crime, it may well be that an increase in the number of hours spent in preventive patrol may have the desired effect. Future analysis will be required to determine if there is, in fact, an optimum level of patrol, which would effect a decrease in criminal activity.



7.0 CONCLUSIONS AND RECOMMENDATIONS

After approximately one full year of operation, the Aviation Unit has clearly become an integral part of police operations. It has both been accepted by the officers on the street and has been demonstrated to be of value to them. The accomplishments of the Unit are even more impressive, however, when it is considered that during the period covered by this report, all flight operations were conducted with the use of only one helicopter. There were several handicaps presented by this situation:

- Unscheduled maintenance requirements would completely suspend the Unit's flight activities for the total duration of this downtime.
- Even scheduled maintenance disrupted normal activities if the work extended for more than one day.
- Even though recommended usage of the helicopter was exceeded, there was still a practical limit to the number of hours the aircraft could be flown.

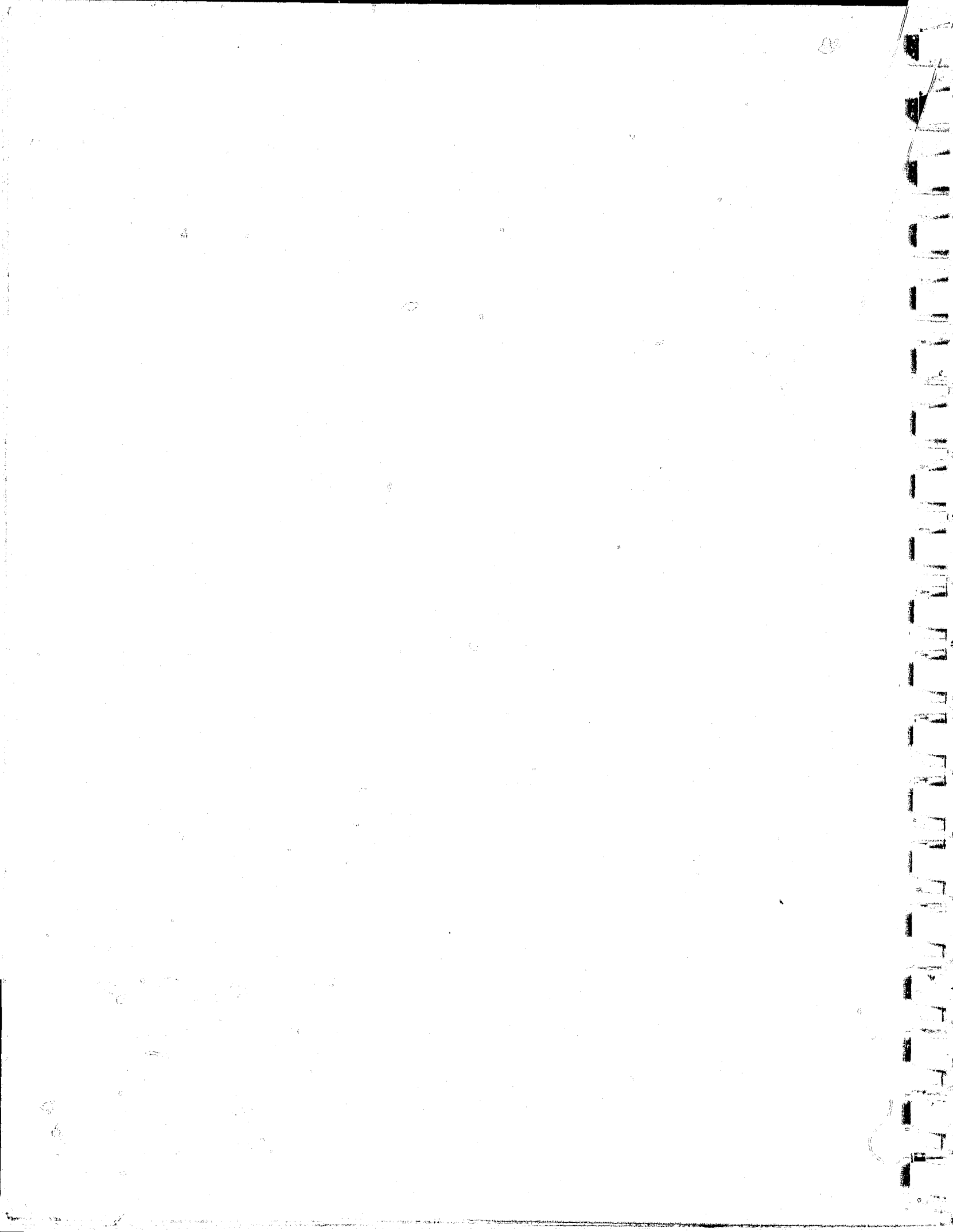
The recent acquisition of a second helicopter should alleviate many of the problems experienced during the first year. There will still be limitations on the amount of patrol coverage which can be provided, however, and it should be realized that this second machine will be used primarily to eliminate the condition of overuse experienced by the first helicopter. In order to significantly increase patrol time, a third aircraft



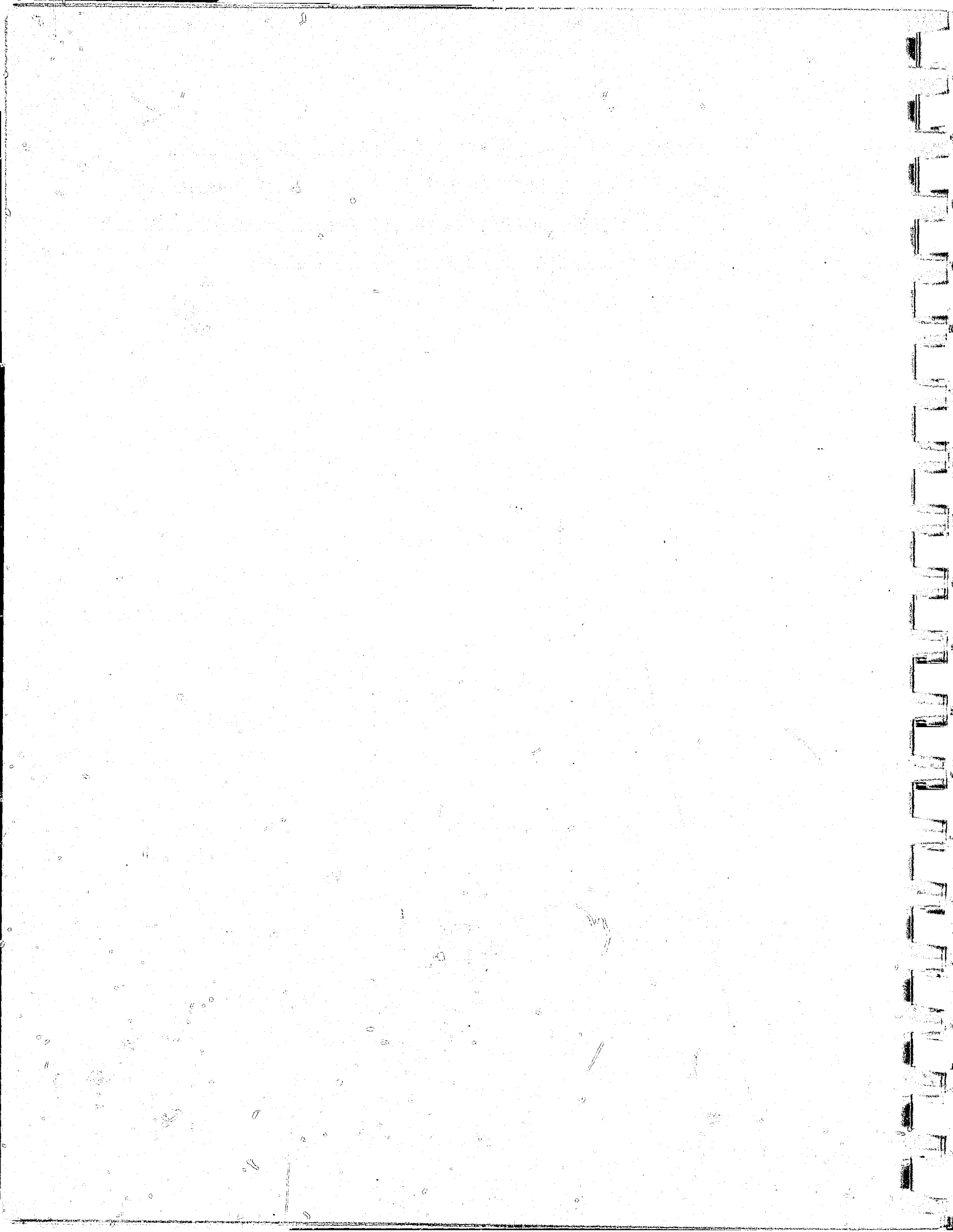
and additional personnel would be required.

While maintaining approximately the same level of service (the Aviation Unit has recently expanded to a seven-day week, providing an additional 14 hours of flight operation, for an increase of 14.3%), it is possible to improve the overall effectiveness of the Unit. To that end, the following recommendations are offered.

1. Individual flight helmets should be provided for each pilot and observer in the Aviation Unit.
2. Administrative and supervisory personnel above the Aviation Unit in the chain of command should develop performance objectives by which they can effectively review the monthly activities of the Unit.
3. Steps should be taken to ensure that police dispatchers signal priority calls on all channels and that they relay all descriptive information available to them. Complaint writers should be required to obtain more complete information from complainants whenever possible.
4. The observer program should be continued and expanded to include all police personnel who could benefit from a more complete understanding of Aviation Unit operations.

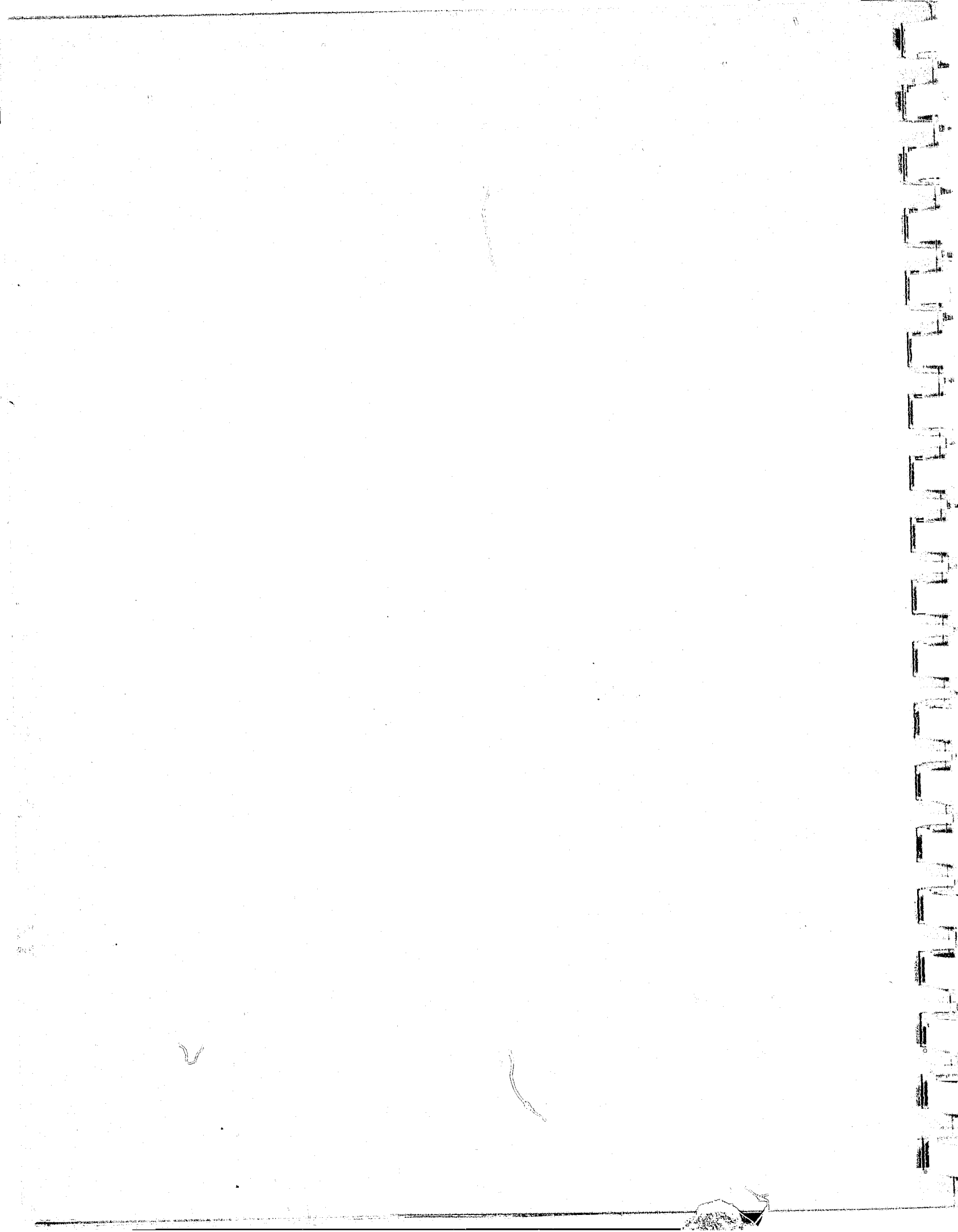


5. Because of the potential impact on both response time and apprehension rates, every effort should be made to spend more time in the air, within the limitations of current equipment capabilities.



APPENDIX A

Evaluation Reporting Procedures



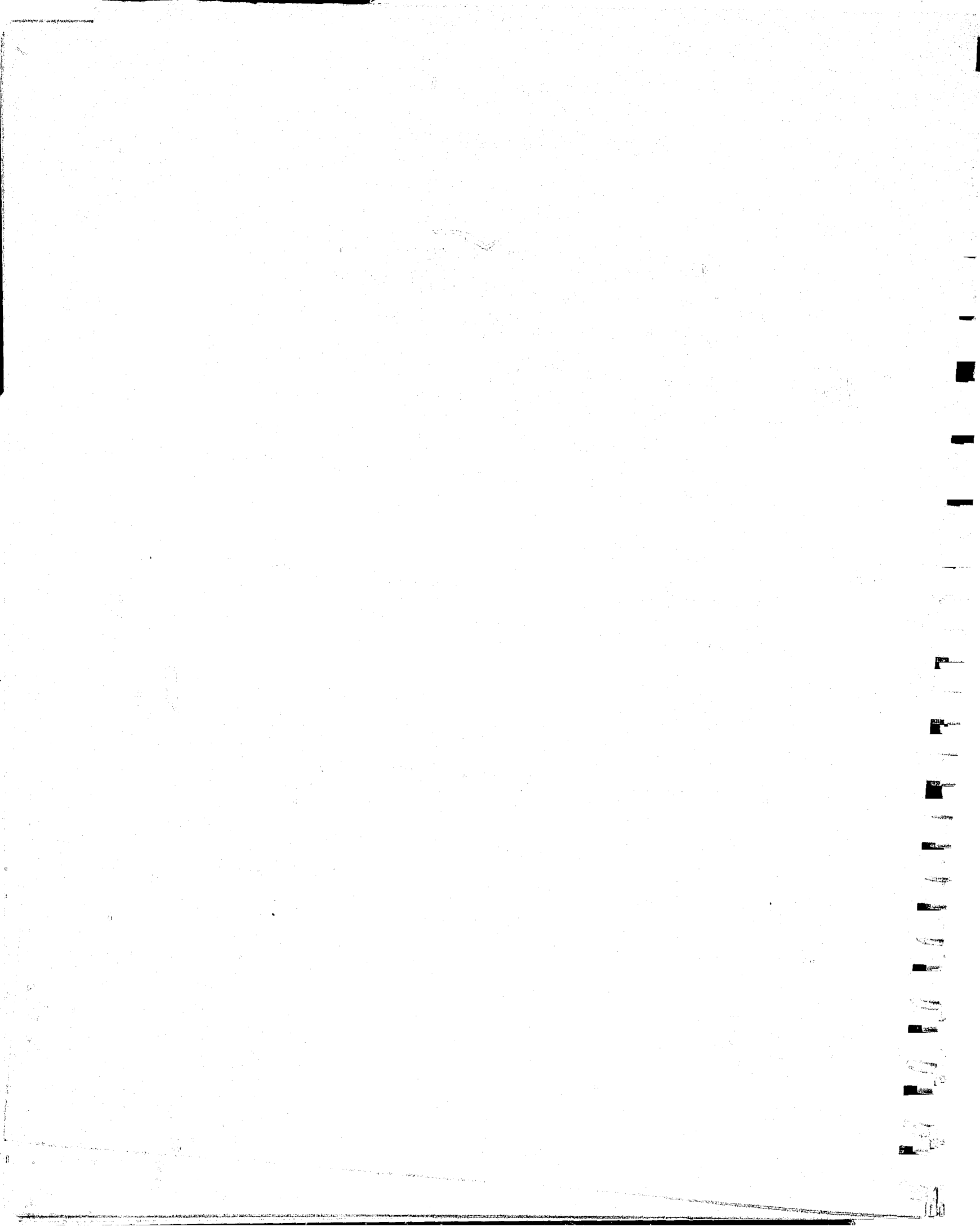
EAGLE II - REPORTING PROCEDURES

In order to conduct a complete evaluation of the Aviation Unit, it will be necessary to carefully document its activities. A series of special forms has been designed for this purpose. It should be noted that these forms are not meant to *REPLACE* the record keeping procedures already established for the Unit -- existing procedures should be continued throughout the evaluation period. They will be used to supplement the data collected specifically for evaluation.

Although these forms are, for the most part, self-explanatory, some brief instructions are provided for reference.

MISSION ACTIVITY LOG

One of these forms should be filled out each time the helicopter is used even though it may be in flight for a fairly short period of time. Usually several of these forms will be used each day. The time that the helicopter is in the air should be indicated in the space provided. This should indicate the time of day as well as the elapsed time. Entries should therefore be in the form:

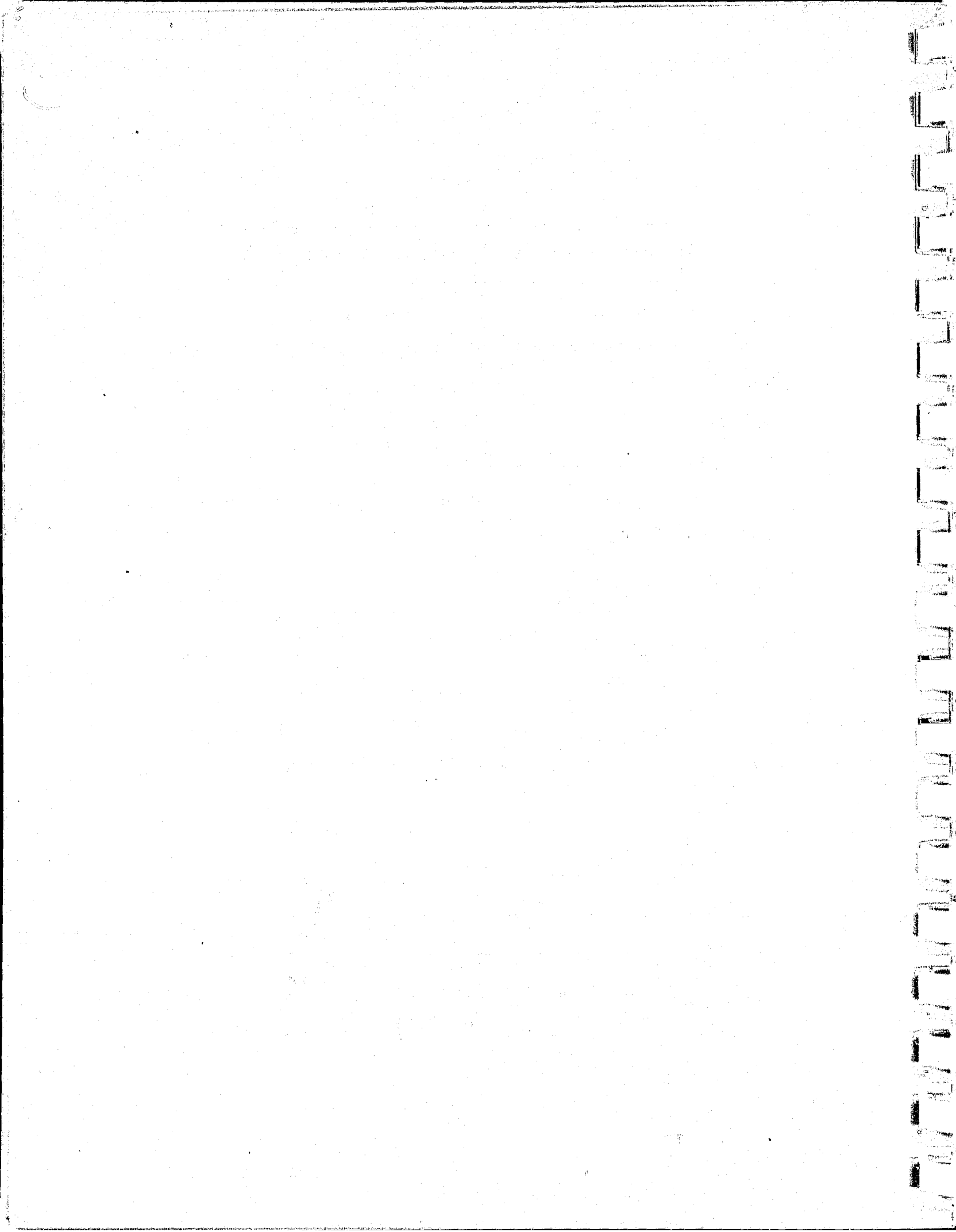


Hours in flight: 9:15 to 10:35

Every time the helicopter responds to a call for service broadcast from the communications center, an entry is required under the Calls For Service heading. The type of call (e.g., bank robbery in progress, hit and run, etc.) should be noted and the offense number if available, recorded. The time that is consumed responding to this call should also be observed and recorded.

When the crew observes ground activity which they feel should be investigated by a ground unit, appropriate notations should be made in the Discoveries section. Here the observer will describe the situation briefly and indicate which ground unit was called to investigate. If an offense number is assigned this should also be recorded.

Whenever an officer on the ground specifically requests helicopter back-up, this event should be recorded under the Requests For Assistance heading. The situation (or offense number) should be briefly described and the unit requesting assistance noted. Insofar as possible, results should also be recorded.



Any special assignments not falling into the categories discussed above should be listed under Special Details.

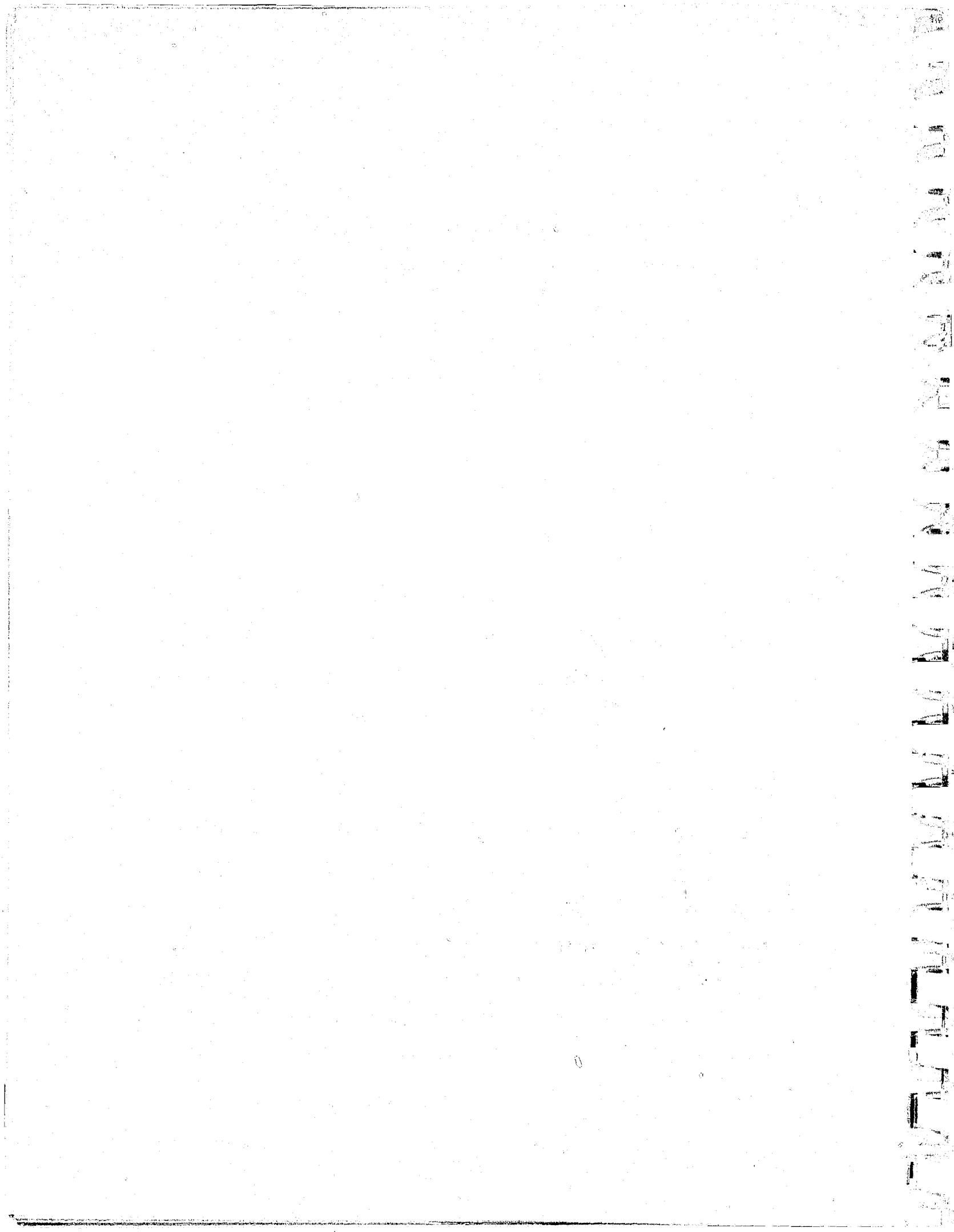
Areas which are randomly patrolled during a mission should be indicated in the appropriate space. Other activities and comments should also be noted.

The OBSERVER is responsible for completing this form for each mission and will sign his name at the conclusion of the report.

These reports will be used to prepare the daily and weekly summaries and should be maintained in the files until they are forwarded to the Evaluation Unit. All reports will be submitted weekly -- by noon on Wednesday for the preceding week ending Saturday.

DAILY SUMMARY.

At the end of every day (or the beginning of the next day), a daily summary sheet will be prepared. This form will summarize the information found on the MISSION ACTIVITY LOGS. One of these forms must be filled out every day -- even when no flight time is logged. The total number of hours that the helicopter was in the air should be computed and indicated to the nearest minute. If less than 6 hours are spent in flight, the reason for the down time should be checked.



The total number of calls for service, discoveries, requests for assistance, and special details in which the unit participated for the day should be counted and indicated. The areas which were patrolled should also be specified.

The Coordinator of the Aviation Unit will be responsible for providing this information, but may assign this task to a subordinate at his discretion.

WEEKLY SUMMARY.

The Weekly Summary will provide a specific accounting of helicopter activity for the preceding week. This report should be prepared using the MISSION ACTIVITY LOGS and DAILY SUMMARIES as source documents and must be consistent with them. The week for which the document reports should be indicated by the date of the Saturday at its conclusion. The total number of hours in flight should be computed and given to the nearest minute.

It is assumed that one of the primary responsibilities of the unit is preventive patrol. The ACTIVITY SUMMARY, however,



is concerned with those activities other than patrol in which the unit becomes involved. Using the MISSION ACTIVITY LOGS as source documents, the types of activities involved in should be specified. For example, under Calls For Service, the number of B&E calls to which the unit responded that week should be recorded as well as the number of robberies, murders, rapes, etc. These should be recorded as the calls which went out over the air -- not corrected or unfounded figures. Similarly, the Discoveries, Requests for Assistance, and Special Details should be summarized.

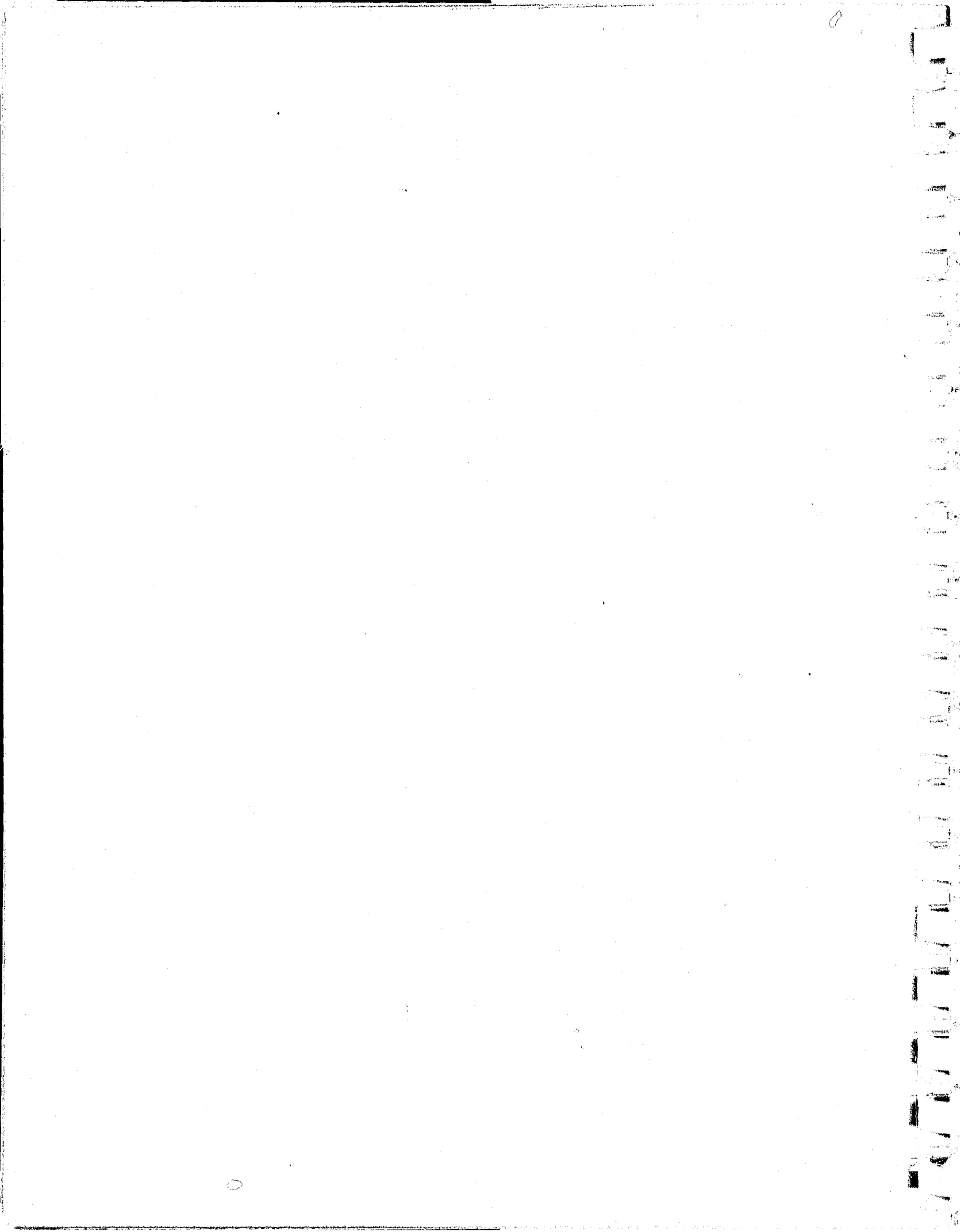
The Coordinator of the Aviation Unit will be responsible for preparing and submitting this report.

SUBMITTING REPORTS.

By noon on every Wednesday, reports for the preceding week should be submitted to the Program Evaluation Unit. These will include:

- a. Mission Activity Logs (up to 5 or 6 per day)
- b. Daily Summaries (7)
- c. Weekly Summary

Copies may, of course, be retained by the Unit if these are felt to be of value.



EAGLE II

MISSION ACTIVITY LOG

Date: _____

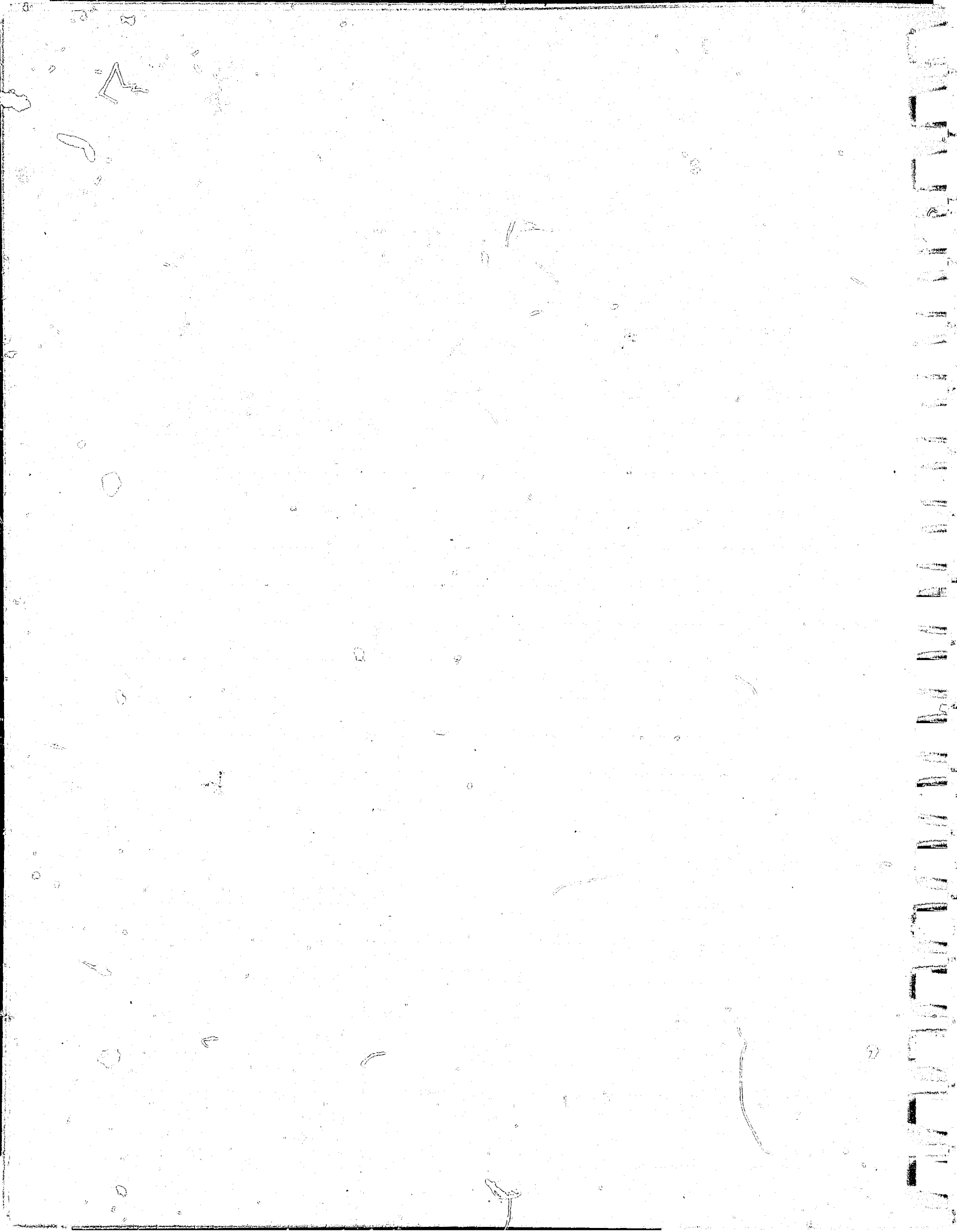
Hours in flight: _____ to _____

CALLS FOR SERVICE

<u>Type of Call</u>	<u>Offense No.</u>	<u>Time Spent</u>
---------------------	--------------------	-------------------

DISCOVERIES

<u>Description</u>	<u>Gd. Unit</u>	<u>Offense No.</u>
--------------------	-----------------	--------------------



EAGLE II MISSION ACTIVITY LOG (Page 2)

REQUESTS FOR ASSISTANCE (Chases, officer in trouble)

<u>Situation (Offense No.)</u>	<u>Gd. Unit</u>	<u>Results</u>
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SPECIAL DETAILS

Nature

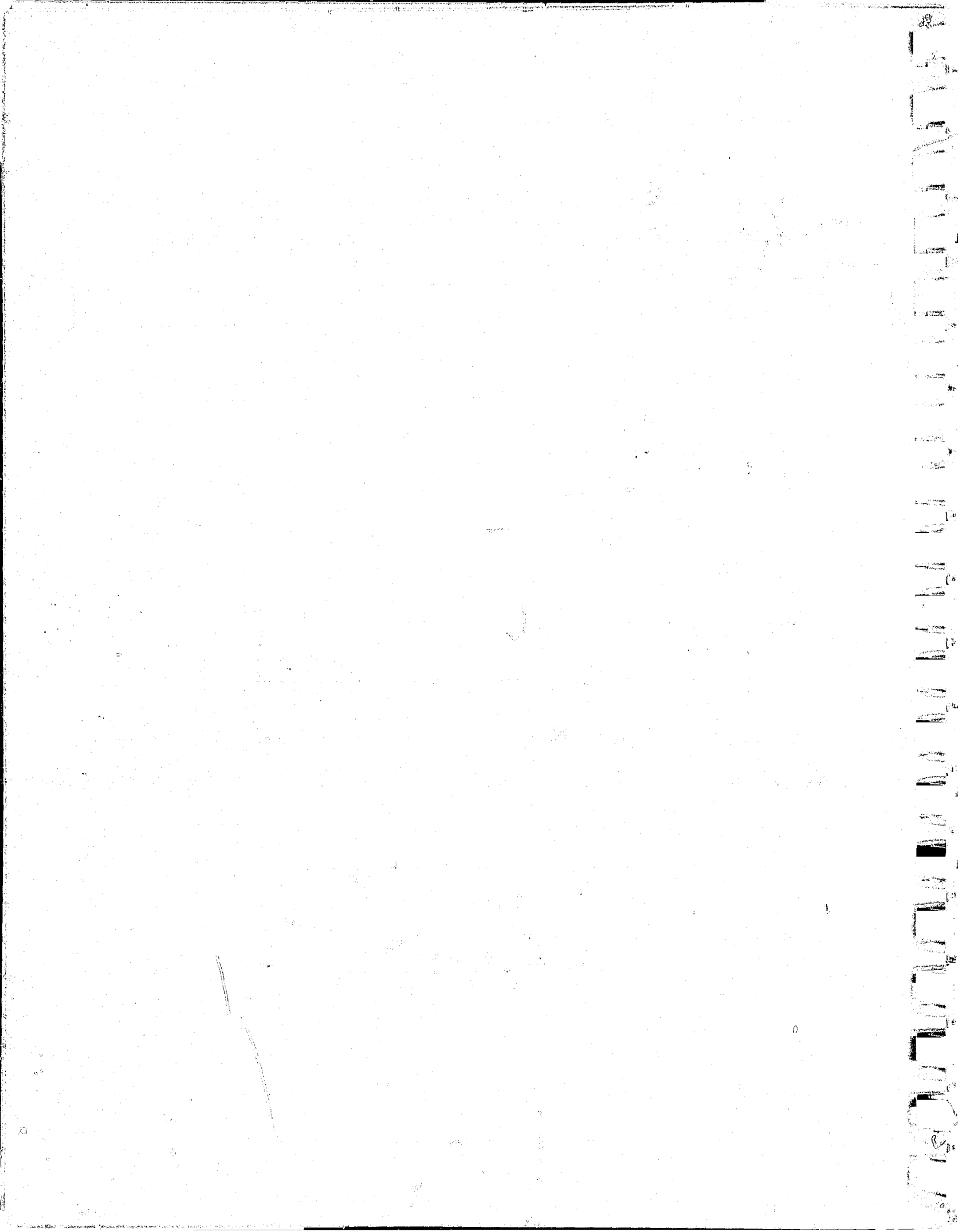
AREAS PATROLLED: _____

OTHER ACTIVITIES: _____

COMMENTS: _____

(Observer)

Handwritten text in a vertical column on the right side of the page, possibly bleed-through from the reverse side. The text is mostly illegible due to the quality of the scan and the angle of the writing.



EAGLE II
DAILY SUMMARY

Date: _____

Hours in flight: _____

If less than 6, specify:

- _____ Scheduled maintenance
- _____ Unscheduled maintenance
- _____ Weather conditions unsuitable
- _____ Involved in ground activities
- _____ Other _____

Number calls for service: _____

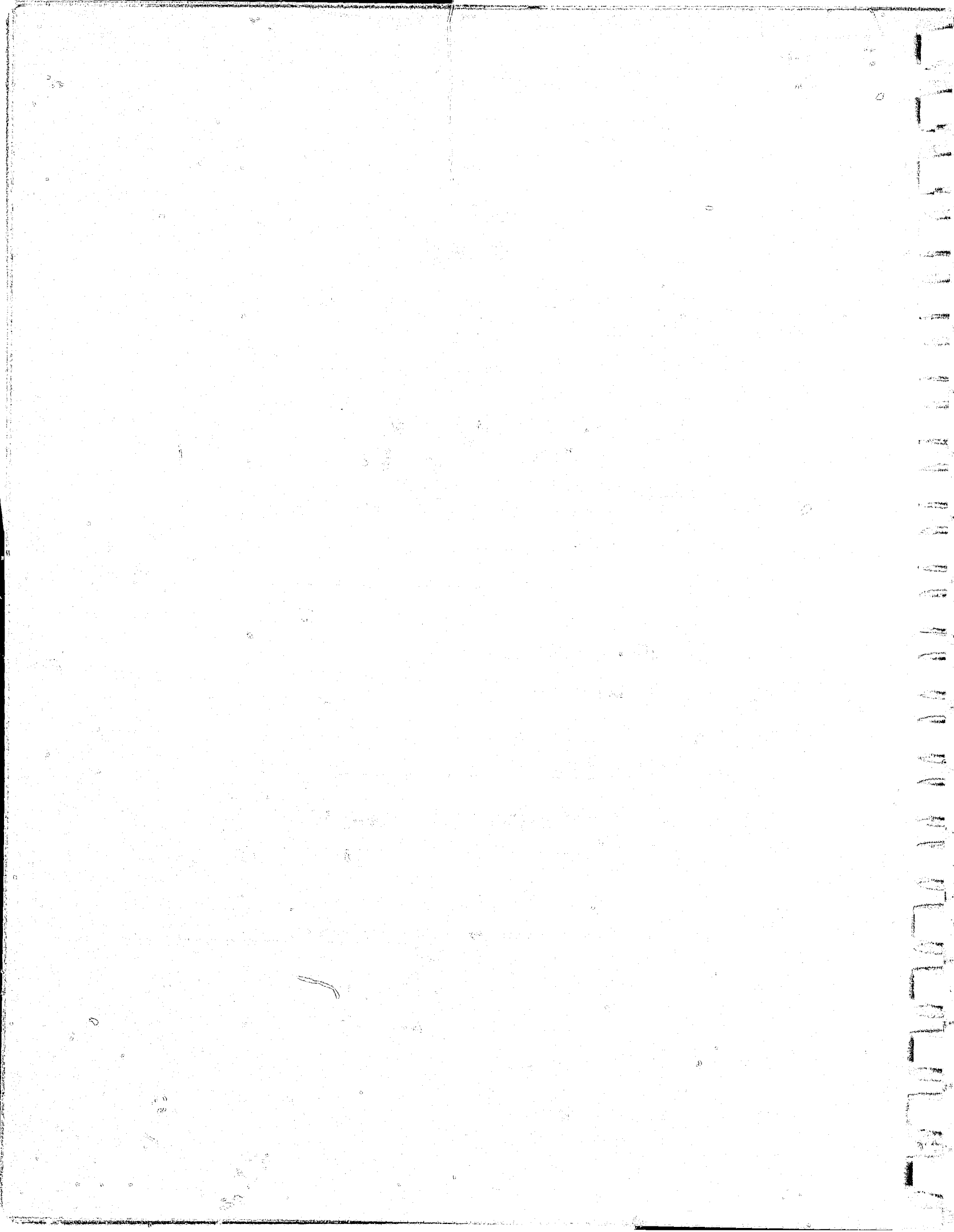
Number discoveries: _____

Number requests for assistance: _____

Number special details: _____

Areas patrolled: _____

(Signed) _____



EAGLE II
WEEKLY SUMMARY

Week ending (Saturday): _____

Total hours in flight: _____

ACTIVITY SUMMARY

Number Calls for Service

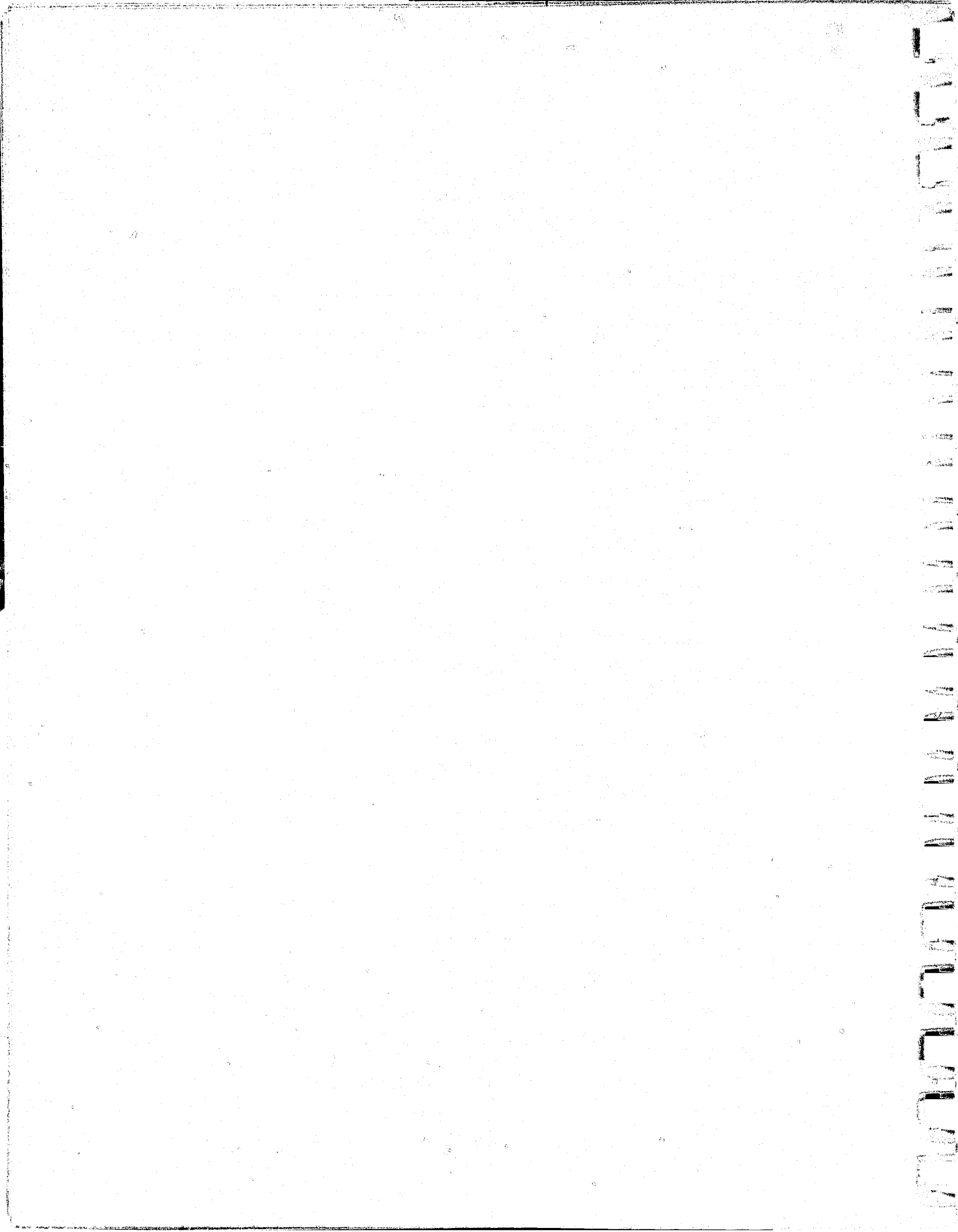
_____	Murder	_____	Fires
_____	Rape	_____	Alarms
_____	B & E	_____	Prowlers
_____	Robbery	_____	Other
_____	Larceny		
_____	Auto Theft		
_____	Accidents, Traffic Congestion		
_____	Assaults, Aggravated and Simple		

Number Discoveries

_____	Abandoned vehicles
_____	Traffic violations
_____	Accidents
_____	Suspicious behavior
_____	Crimes in progress
_____	Fires
_____	Other

Number Requests for Assistance

_____	Officer needs help
_____	High-speed chase
_____	Trail or search for offender
_____	Other _____



EAGLE II WEEKLY SUMMARY (Page 2)

Number Special Details

_____ Searches (lost children, etc.)

_____ Stake-out

_____ Training

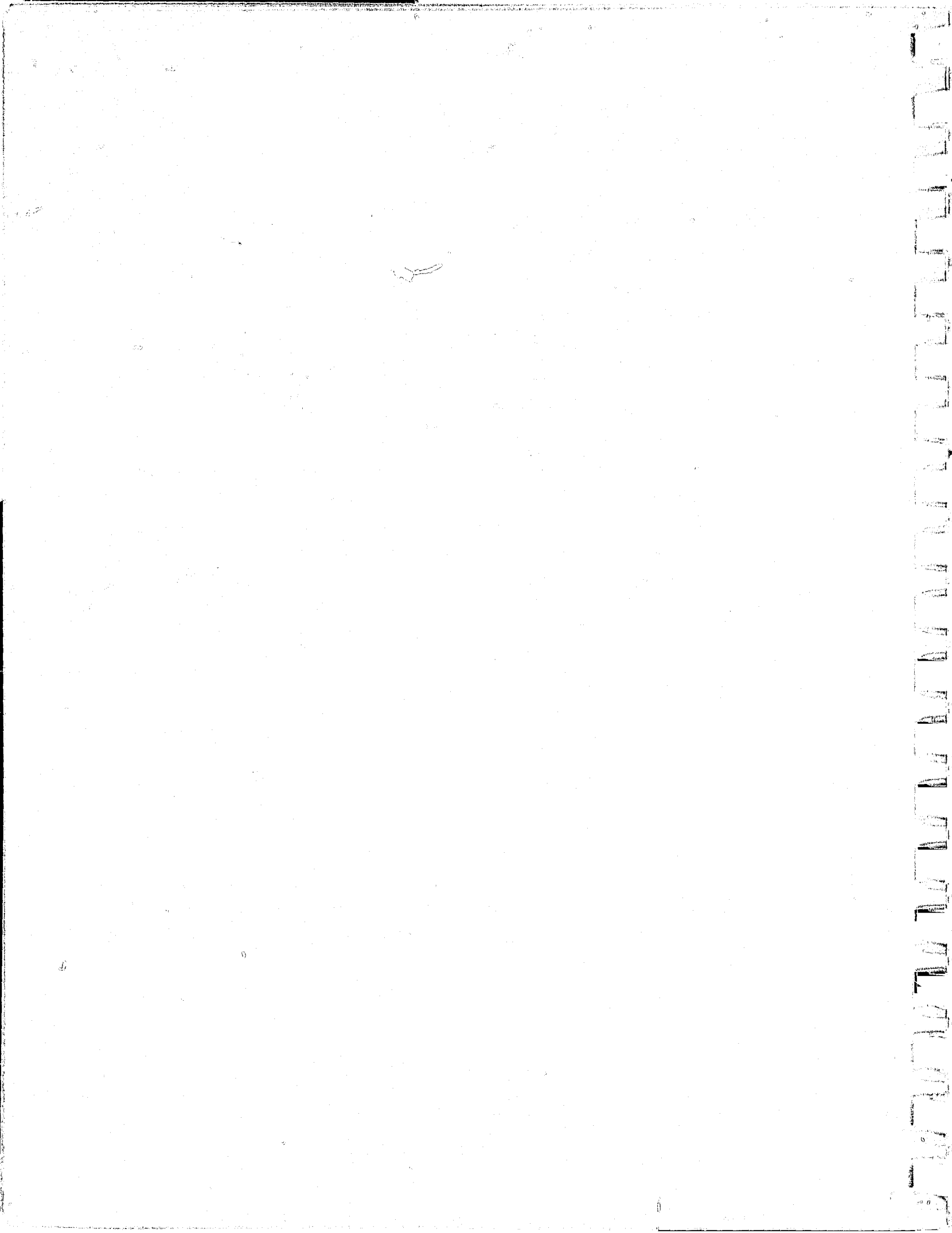
_____ Demonstrations

_____ Other _____

Number Other Activities

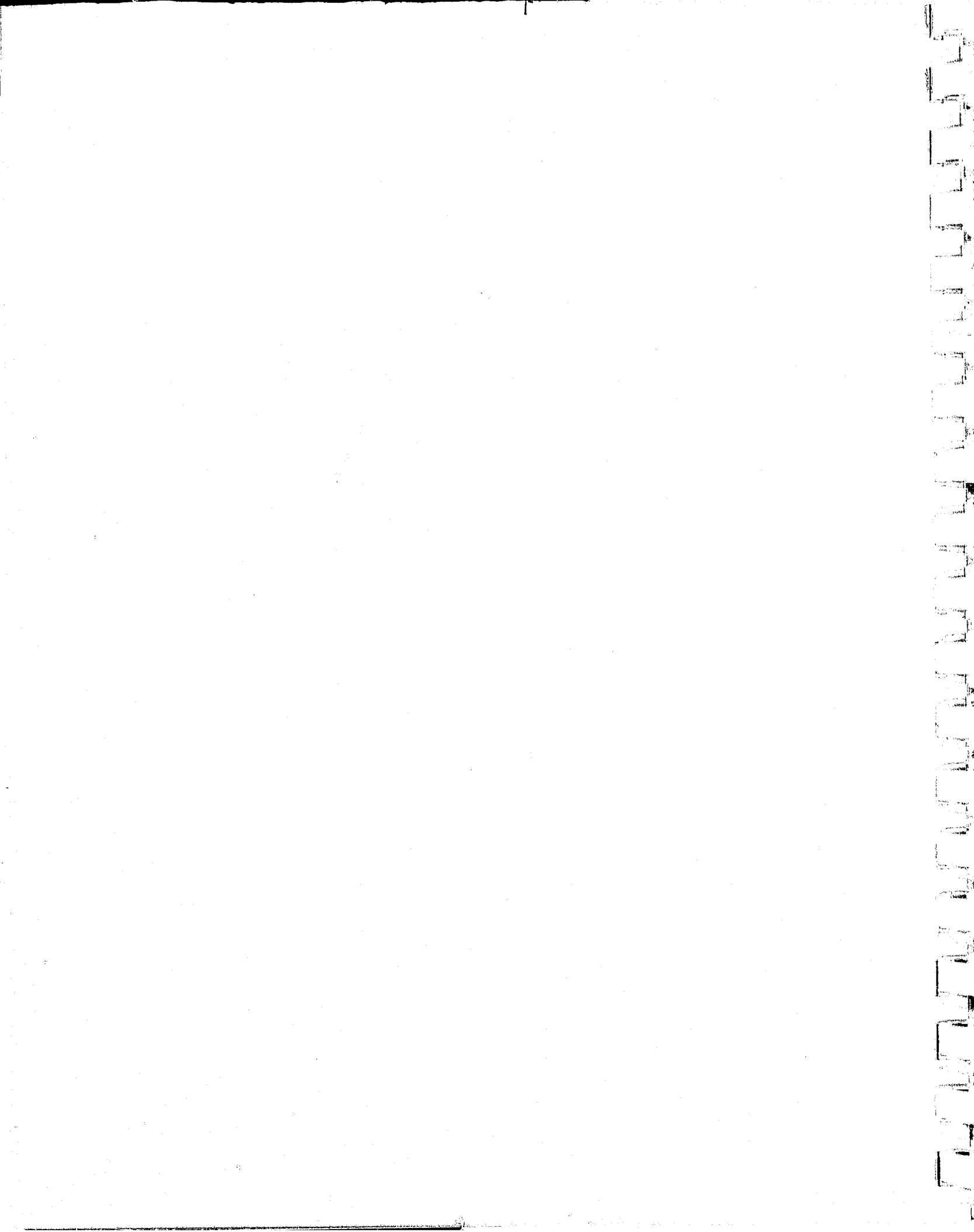
COMMENTS:

(Signed) _____



APPENDIX B

Police Officers' Questionnaire



MEMORANDUM

TO: SELECTED PATROL OFFICERS

FROM: CYNTHIA A. VETERE, EVALUATION COORDINATOR
Program Evaluation Unit

SUBJECT: EVALUATION OF AVIATION UNIT

April 17, 1974

As you may know, the Program Evaluation Unit (in the Administration Bureau) has been conducting an evaluation of the effectiveness of the Aviation Unit. One of the primary purposes of this Unit is to provide supportive services to patrol units on the ground. Uniformed patrolmen are therefore in the best position to assess the value of their services. You have been selected as part of a random sample to participate in this evaluation.

We would like to know about your experience with the Aviation Unit and how you think it could be improved. Would you therefore please fill out the enclosed questionnaire to the best of your ability. There is no need for you to sign it. When you have finished, please place the completed questionnaire in the enclosed envelope and return it to me. Your cooperation is appreciated.

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AVIATION UNIT EVALUATION - PATROLMEN'S QUESTIONNAIRE

A. Background

1. How long have you been a police officer in St. Petersburg?

- _____ Less than one year
- _____ 1 - 3 years
- _____ 4 - 5 years
- _____ 6 - 10 years
- _____ 11 - 15 years
- _____ 16 - 20 years

2. Before reorganization, to what team were you assigned?

- _____ Adam
- _____ Baker
- _____ Charlie
- _____ Delta
- _____ Echo
- _____ Other (specify) _____

B. Aviation Unit

1. Have you ever had an occasion to work with the helicopter when answering a call?

- _____ Yes
- _____ No

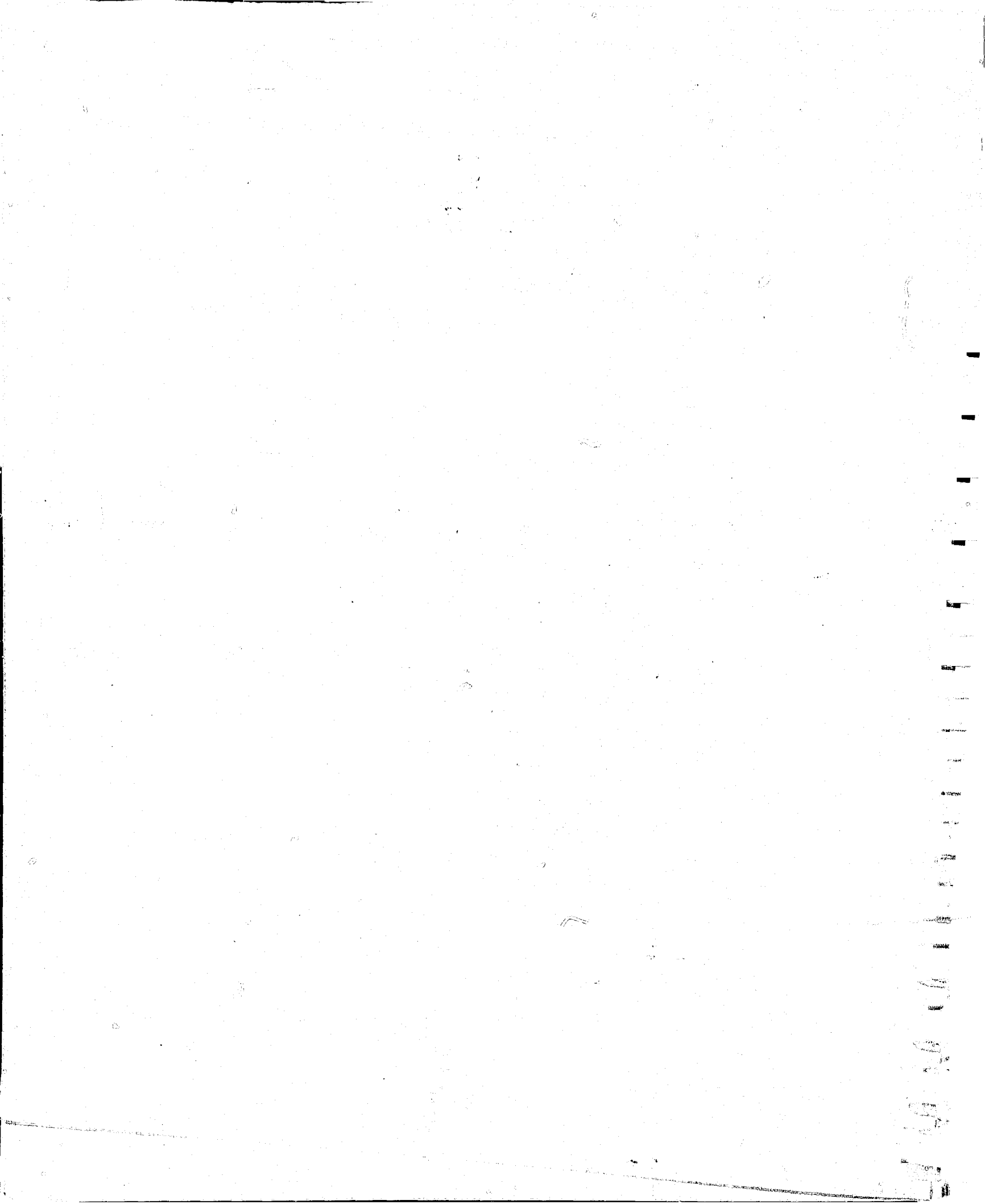
2. If your answer to the preceding question was "yes" approximately how many times during the last month have you worked with the helicopter?

- _____ Not at all
- _____ Once or twice
- _____ 3 - 5 times
- _____ 6 - 10 times
- _____ 11 - 20 times
- _____ Over twenty times

3. Has the helicopter's presence ever directly assisted you in the apprehension of an offender?

- _____ Yes
- _____ No

How many times? _____



4. How often has the helicopter been unavailable when you have needed its services?

- _____ Rarely or almost never
- _____ Occasionally but not very often
- _____ Fairly frequently
- _____ Too often to think of it as being reliable

5. How do you think the helicopter's presence on a priority call affects a ground unit's ability to apprehend an offender?

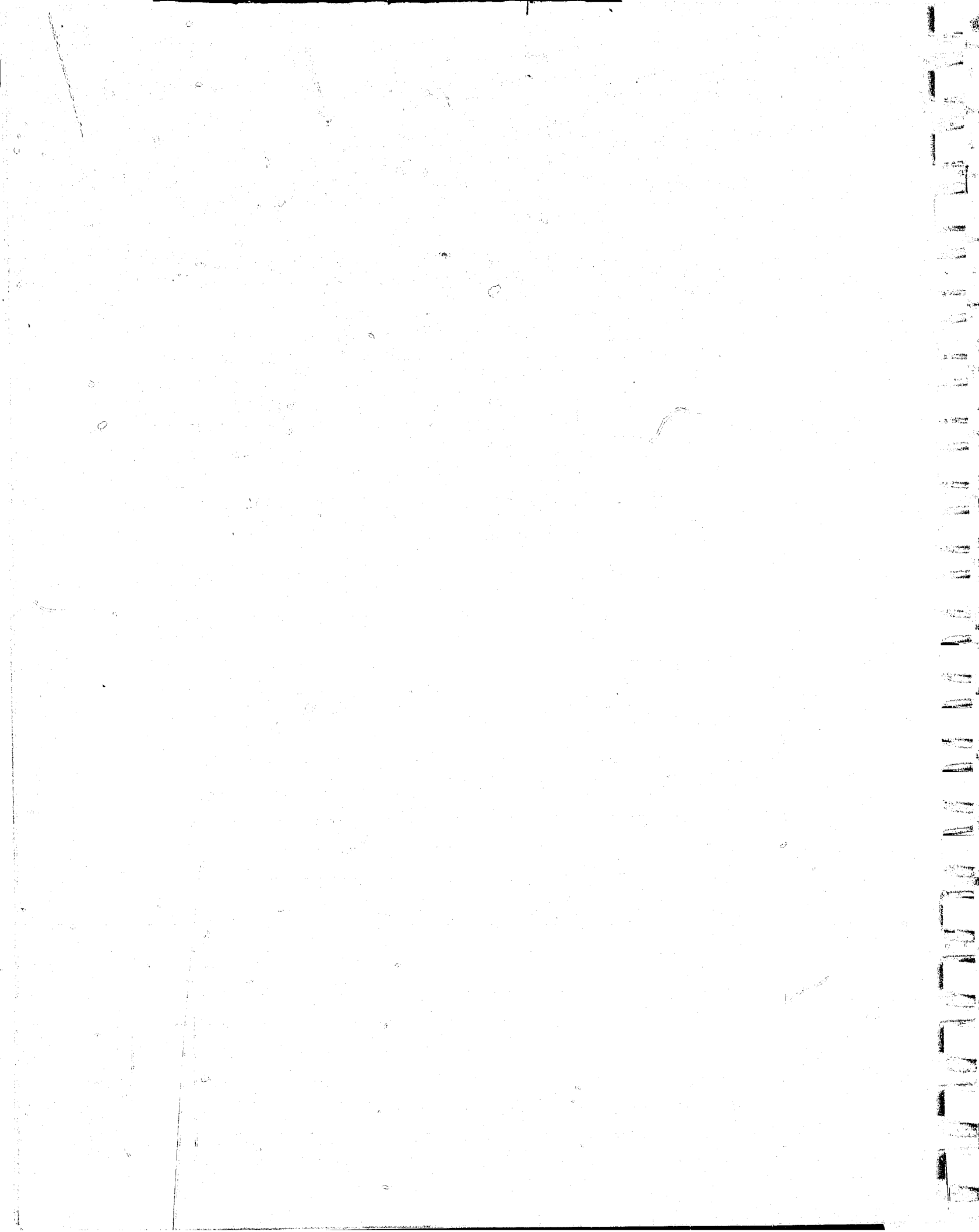
- _____ The helicopter's presence triples an officer's effectiveness in apprehending suspects at the scene
- _____ The helicopter's presence doubles an officer's ability to make at-the-scene arrests
- _____ The helicopter's presence doesn't matter one way or the other
- _____ The helicopter's presence at a priority call reduces the officer's chances of making an arrest

6. Have you participated in the Aviation Unit's observer training program?

- _____ Yes
- _____ No

7. What problems have you experienced in working with the Aviation Unit? Please elaborate.

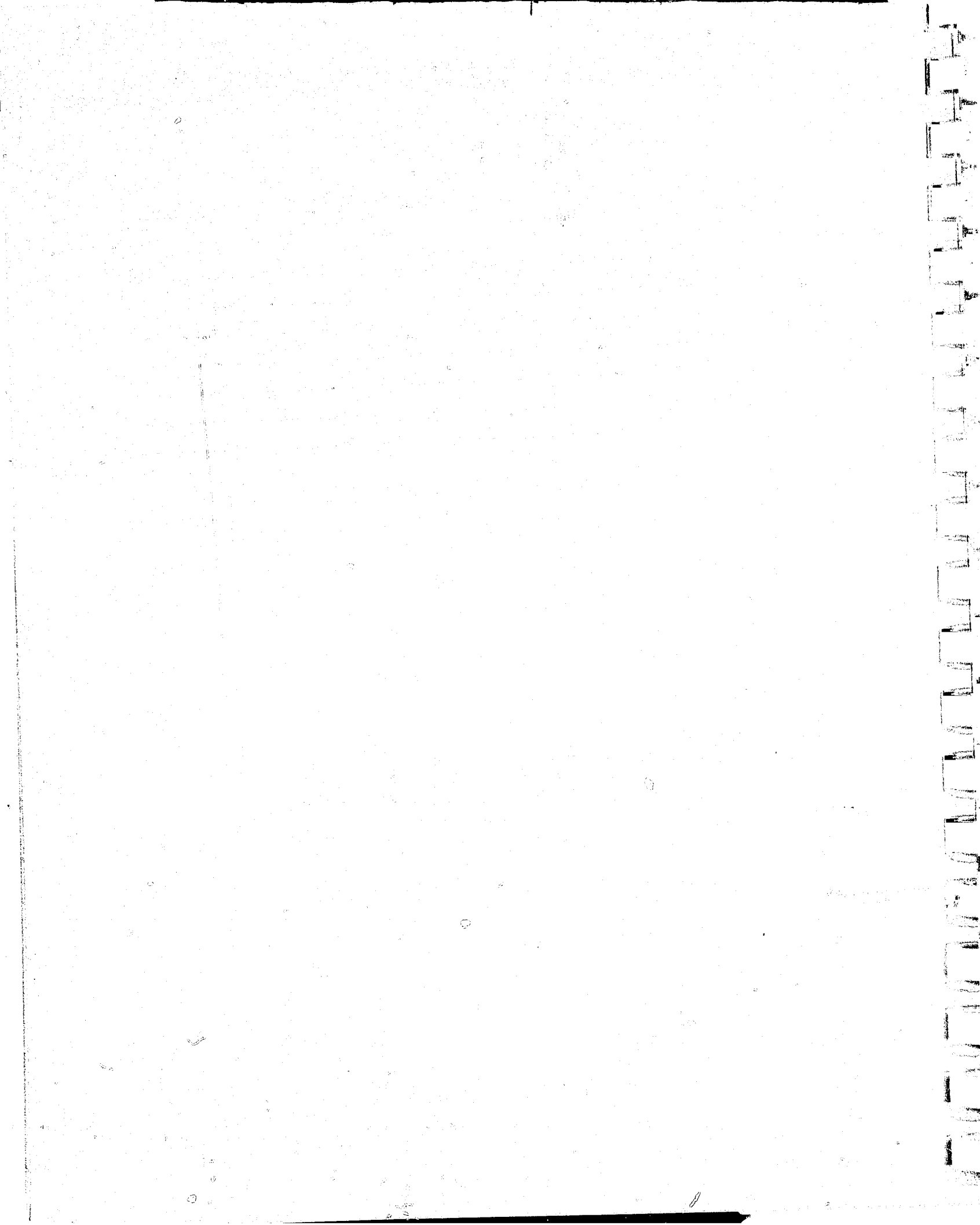
8. What changes or improvements would you like to see made in the Aviation Unit's responsibilities or procedures?



9. Do you feel that all of the persons assigned, to the Aviation Unit are well-qualified to hold their positions?

Yes
 No
 Don't know

10. Do you have any general comments about the Aviation Unit or its operation?



END