

NATIONAL PARK SERVICE

HANDBOOK

AIR OPERATIONS

RELEASE NO. 1
November 28, 1973

Enclosed is the Air Operations Handbook which supersedes previous edition, dated February, 1973. This document represents current policy and thinking in regards to the management and direction of the National Park Service air operations.

Although it is keyed primarily as an operating handbook for the pilots flying National Park Service aircraft, it also should be used as the standards for park managers who are responsible for or utilize such pilots and aircraft.

As it is a new document, the forms, which are outlined therein, are in the process of being printed and, therefore, are not available for immediate use. As we receive these forms from the printer, they will be sent out for use.

Distribution of these handbooks should be made to all operating pilots, permanent and incidental, and to all parks who may be currently involved in air operations. We expect the contents of this handbook to be utilized by the Office of Aircraft Services in the Department and hopefully they will adopt much of it for their departmental-wide handbook.



Associate Director

Enclosures

JAN 14 1974

P R E F A C E

This handbook has been prepared for the guidance of all NPS flight and ground personnel. It is considered to be a management tool and should be adhered to at all times.

It is the responsibility of all supervising personnel to determine that distribution of the handbooks has been made in accordance with current procedures and that all employees to whom a handbook has been issued are thoroughly familiar with the portions applicable to their position.

Each employee is expected to notify his supervisor at any time that he feels a revision or addition to the handbook would increase safety or efficiency of the operation.

This handbook is the property of NPS and must be turned in when employment is terminated. It is not to be given to or shown to anyone (other than FAA personnel) without the express permission of the Regional Director of the region affected.

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AMENDMENT REVISIONS

Use:

From time to time when certain areas of this handbook are rendered not applicable or not consistent with best practices, changes, modifications, alterations or deletions are advisable.

How to Amend:

- a. Ascertain which portion of the handbook is to be revised.
- b. Make appropriate changes. Edit carefully and delete all unnecessary wordage. Give instructions or information - do not lecture.
- c. Deliver or mail two copies of revision to the Supervisor concerned with cover letter containing information regarding revision.
- d. Upon return of revision, the revision master will be duplicated and distributed, as appropriate, to all handbook holders.
- e. Distribution and entry instructions should accompany revisions. Instructions should contain the following:
 1. Brief description of revision.
 2. Removal instructions.
 3. Insertion instructions.
 4. Date.
 5. Distribution.
- f. Insert in handbook, as appropriate.
- g. Destroy or deface removed material.
- h. Note on Revision Record Sheet (Sample on Page v) date inserted and initial.

AMENDMENT RECORD LOG

Amendment Number	Date	Section	Page	Inserted by

GLOSSARY

AC	Advisory Circular: Unscheduled publication of FAA
A/C	Aircraft
AI	Actual Instrument Flight: Contrasted with simulated or "hood" flight
AIM	Airman's Information Manual: Scheduled publication of FAA
ASR	Airport Surveillance Radar
ATCO	Air Taxi Certificated Operator
BLM	U. S. Department of the Interior, Bureau of Land Management
CSC	Civil Service Commission
DH	Decision Height
FAA	Federal Aviation Administration
FAF	Final Approach Fix: On an instrument approach
FAR	Federal Air Regulations
FCC	Federal Communication Commission
IAF	Initial Approach Fix: On an instrument approach
IFR	Instrument Flight Rules: Governing flight on instruments only
MAP	Missed Approach Point: On instrument approach
MDA	Minimum Decent Altitude: On instrument approach
ME	Multi-engine
MP	Manifold Pressure
MDR	Malfunction or Defect Report
NPS	National Park Service
NTSB	National Transportation Safety Board
PAX	Passengers
PIC	Pilot-in-Command
RAM	Regional Air Manager
RD	Regional Director
RPM	Revolutions Per Minute

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Glossary

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SAR	Search and Rescue
SE	Single Engine
STOL	Short Takeoff or Landing Type of Aircraft
TO	Takeoff
USDA	U. S. Department of Agriculture
USDI	U. S. Department of the Interior
USFS	U. S. Forest Service
VFR	Visual Flight Rules
VOR	Visual Omnidirectional Radio-range: Navigational aid

OBJECTIVES

The objectives of air operations in the National Park Service are: (a) to aid in the safe, efficient and economical management of NPS areas and (b) to provide emergency response capability as required and needed.

POLICY

a. Aircraft use and operation by the NPS will be governed by Department of the Interior 400 Addition to FPMR Subpart 114-38.5300 Aircraft through Subpart 114-38.5315 Reports, see Appendix 1, as supplemented by this handbook.

b. NPS aircraft use and operation will conform to the performance objectives as stated in the Air Operations Activity Standards.

c. NPS air operations will conform to all applicable provisions of the Federal Air Regulations, state laws, approved aircraft flight manuals and the procedures contained in this handbook, except for authorized exceptions.

d. Available commercial services will be used as necessary to provide safe, efficient and economical air operations.

e. The NPS will own needed aircraft to accomplish its mission when commercial services are unavailable.

f. NPS aircraft and pilots may be loaned, on a reimbursable basis, to other agencies, or states, with whom cooperative agreements have been made.

g. NPS aircraft will be used for official purposes only in accordance with the provisions of 31 U.S.C. 638a(c)(2). Infractions will result in suspension from duty for not less than one month or removal from office.

RESPONSIBILITIES

a. The responsibility for all NPS air operations remains in the Office of the Director. Authority for implementation of day-to-day operations may be assigned to the Regional Directors.

In order to ensure uniformity of interpretation and application of the flight program of the NPS, the Director may appoint as a collateral duty a Chief Pilot for the NPS.

b. The Chief Pilot of the NPS will supervise the program of air operations in the NPS.

1. It will be his responsibility to furnish advice to the Director and other offices in the NPS, as required and requested.

2. He will be responsible for the implementation of air safety programs and procedures in the NPS, in consultation and cooperation with the Division of Safety, Operations.

3. He will maintain liaison with comparable personnel in other agencies, bureaus and departments.

4. He will be responsible for maintaining inter-service cooperation in air operations activities.

5. He will be responsible for the interpretation and implementation on a uniform basis, Servicewide, the provisions of the Air Operations Handbook.

6. He will be responsible for the updating, revising and currency of the Handbook, including recommending approval or disapproval of suggested revisions received from Regions.

7. He will pilot NPS-owned and leased aircraft as required.

8. He will perform such other duties and responsibilities as the Director may assign to him.

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b. Regional Directors will ensure that air operations in their Regions are conducted in accordance with Objectives and Policy statements enumerated above, the Air Operations Activity Standards and the procedures of the Handbook. Regional Directors may appoint, as a collateral duty, a Regional Air Manager to supervise all air operations in the Region for the Director.

c. The Regional Air Manager (RAM) will supervise all air activities in his Region on a day-by-day basis and will specifically:

1. Maintain current records, including but not limited to, dates of physicals, qualifications, training and flight checks for all pilots in his Region flying NPS-owned aircraft.
2. Maintain current records of all NPS-owned aircraft in his Region, including equipment, spare parts and maintenance.
3. Maintain current records on all NPS-qualified incidental pilots and employee-owned aircraft in his Region, including approvals and authorizations for use.
4. Devise and supervise a training program for each NPS pilot, including incidentals, to ensure the highest of professional pilot standards.
5. Maintain a program of flight checking incidental pilots and employee-owned aircraft.
6. Make, or cause to be made by a designated representative, any and all aircraft and pilot checks for charter/contract use on an annual basis and keep the necessary records. This duty may be accomplished through cooperation with the USFS and the BLM.

7. Provide expertise and advice when requested for all NPS missions and projects requiring the use of aircraft.

8. Be the Chief Air Safety Officer in the region and maintain constant surveillance on all matters affecting air operations.

9. Offer advice and suggestions to the Director, through the Regional Director, for the enhancement and improvement of air activities in the NPS.

10. Maintain liaison with comparable personnel in other agencies, bureaus and departments concerning air activities.

11. Pilot NPS-owned and leased aircraft as required.

d. The pilot, either full time, incidental or charter/contract, is responsible for, but not limited to, the following:

1. The safety of the aircraft, occupants and cargo.

2. Proper loading of the aircraft.

3. Familiarization of the operating area and any special hazards.

4. Postponing, changing or cancelling his flight when he believes existing or impending operating conditions make it unsafe.

5. Ensuring that crew members and passengers understand proper use of seat belts, shoulder harness, oxygen and electronic devices.

6. Briefing the passengers on emergency landings, fire danger, smoking and after-landing exit procedures.

7. Providing maximum comfort for the passengers.

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Department of the Interior DEPARTMENTAL MANUAL
Interior Property Management Regulations
41 CFR 114-38 Motor Equipment Management

Subpart 114-38.53 -- Aircraft

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Subpart 114-38.53 -- Aircraft

114-38.5300 Scope of subpart.

This subpart supplements other motor equipment management requirements and establishes basic policies and procedures that apply to the management of aircraft. The policies and procedures set forth herein are minimal, and the head of each bureau and office shall issue such supplemental instructions as may be needed to ensure the effective and efficient management of aircraft.

114-38.5301 Applicability.

The provisions of this subpart are applicable to all aircraft operated by the bureaus and offices of this Department.

114-38.5302 Definitions.

As used in this subpart the following terms shall have the meanings stated:

Aircraft: Light or heavy, single or multiengine airplanes and helicopters.

Chartered aircraft: Aircraft rented or hired on an intermittent basis, with or without pilot.

Leased aircraft: Aircraft on a lease basis for a stipulated time interval as distinguished from intermittent charter or rental aircraft.

Military aircraft: Aircraft on loan from the Department of Defense (DOD).

Pilot: An individual possessing the required FAA credentials and meeting the qualification requirements of IPMR 114-38.5303 and other criteria as required by the employing office. A part-time pilot is one who is employed specifically to operate aircraft on a "when-needed" basis. An incidental pilot is an employee who has a position title and duties other than those of a pilot, but who has the proper qualifications for a pilot and is specifically authorized to operate aircraft in the performance of official duties.

114-38.5303 Pilot qualifications.

No person shall be permitted to operate an aircraft unless he possesses, as a minimum, a current Federal Aviation Administration (FAA) Private Pilot's license with a rating appropriate to the flight operation, has a working knowledge of aerial navigation, aerology, radio communications procedures and radio navigation and is flight checked by competent authority as designated by the head of the bureau or office concerned. Full-time pilots should be required to possess a valid FAA Commercial Pilot Certificate with ratings appropriate to the types of aircraft he will be expected to operate and for the type of flight operations in which the aircraft will be used. Part-time pilots shall be required to have at least 500 hours of flying time in command of aircraft. Persons employed as helicopter pilots shall have attended

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114-38.5303 Pilot qualifications. (con.)

the respective manufacturer's training school prior to assignment, or shall possess certification of equivalent training and experience. An incidental pilot may operate aircraft only when he possesses a letter of authorization as required in IPMR 114-38.5304.

114-38.5304 Letter of authorization for incidental pilots.

(a) When it is determined that an incidental pilot is to operate aircraft in the performance of official duties, the head of the bureau or office shall issue a letter of authorization for each such incidental pilot. Such a letter shall be issued only when it has been demonstrated that the incidental pilot is technically and physically qualified and temperamentally adapted for the contemplated flight assignments. Each letter of authorization shall specify any restrictions on types of flying, equipment to be flown, time of flight or any other factors relevant to safe operation.

(b) To be eligible for a letter of authorization, an incidental pilot must meet the qualification requirements of IPMR 114-38.5303 and must have not less than 500 hours solo time in command of aircraft. The 500-hour requirement may be waived by the head of the bureau when, as a condition of employment, an employee is required to operate aircraft in the performance of his work: Provided, That not less than 100 hours of solo time is required.

114-38.5305 Pilot responsibility and authority.

(a) It shall be the responsibility of the pilot to be aware of and conform to Federal Aviation Regulations and other requirements of the Federal Aviation Administration, departmental policies and bureau directives, and the regulations and directives of other applicable authority, including those relating to use for official purposes only and the transportation of nonofficial passengers.

(b) The maintenance and repair of aircraft is also the responsibility of the pilot who shall be responsible for determining that the aircraft is airworthy and that required maintenance checks are performed periodically and on schedule.

114-38.5305 Pilot responsibility and authority. (con.)

(c) The pilot is at all times responsible for the safe operation of his aircraft and for the safety of his crew and passengers. Insofar as the loading of the aircraft, weather, mechanical and other safety conditions are concerned, the pilot shall have final authority for determining whether a particular flight shall be made or continued and how it shall be made.

114-38.5306 Management responsibility.

The head of each bureau or office having an aircraft operation is responsible for insuring that the management of aircraft is in compliance with all of the provisions of this Subpart 114-38.53, and for establishing procedures to insure:

(a) That the acquisition of aircraft, including military aircraft, is centrally controlled to ensure that authorizations are not exceeded;

(b) That each aircraft is equipped with the instruments, accessories, radio, navigational aids, safety equipment and survival gear necessary for the safe performance of each operating mission, including the installation of aircraft crash position indicators as needed. Safety equipment shall include, as a minimum, seat belts and/or shoulder harnesses for the pilot and all passengers, at least one emergency fire extinguisher and a first aid kit. Aircraft used on night flights and/or under other than visual flight rules (VFR) conditions shall be equipped for instrument flight (IFR). Life jackets shall be provided and readily available for all occupants of aircraft on extended overwater flights as defined in FAR 1.1. Aircraft on flights into isolated areas shall be equipped with emergency rations and appropriate survival gear;

(c) Conformance with Federal Aviation Administration requirements for the registration, certification, maintenance and operation of aircraft, engines and component equipment;

(d) Selection of qualified pilots and crew members and the maintenance of pilot and crew competence commensurate with job requirements;

(e) Establishment of dispatching and tracking procedures or other controls that will assure knowledge of aircraft location when operating in areas where flight plan service is not available;

(f) Overall safe, efficient and economical operation, maintenance, utilization and replacement of aircraft;

114-38.5306 Management responsibility. (con.)

(g) Assignment and reassignment of aircraft within the bureau and the Department, and the pooling of usage as a means of increasing utilization;

(h) That contract or charter pilots are validly certified to meet all requirements and regulations established by the Federal Aviation Administration for the particular aircraft, and that chartered, leased or rented aircraft are operated and maintained in compliance with all rules, regulations and minimum standards of the Federal Aviation Administration. Any rental or hire of aircraft and operators meeting the minimum basic operating standards of Part 91 of the Federal Aid Regulations is discouraged, and such marginally safe aircraft and operators shall not be used to transport passengers;

(i) That all pilots are aware of the provisions of 31 U.S.C. 638a(c)(2) which prohibits the use of any Government-owned or leased aircraft for other than official purposes;

1 (j) Compliance with the provisions of IPMR 114-38.5312 regarding the transportation of unofficial passengers.

114-38.5307 Acquisition of aircraft.

Specific appropriation authorization is required before funds may be expended for the purchase, maintenance or operation of any aircraft (31 U.S.C. 638a(b)). Except as otherwise provided herein, this requirement applies to both replacements and additions whether purchased, acquired by transfer from another agency (31 U.S.C. 638a(e)), or obtained on a loan basis.

(a) Responsibility. The head of each bureau and office shall be responsible for controlling the number and types of aircraft acquired by any means.

(b) Acquisition from excess sources. Acquisition from excess sources is encouraged when there is specific authority for additional or replacement aircraft. Aircraft may also be acquired from excess sources for upgrading or replacement purposes: Provided, (1) That such acquisition is without reimbursement, and (2) that an equal number of aircraft are reported to GSA as excess within 30 days after delivery of the replacement aircraft. The aircraft being declared excess should

114-38.5307 Acquisition of aircraft. (con.)

not be routinely circularized within the Department. The S.F. 120, Report of Excess Property, shall be annotated to identify the GSA transfer order number shown on the transfer document for the replacement aircraft, and a copy of the S.F. 120 shall be forwarded to the Office of Management Operations. All requests to the General Services Administration for excess aircraft shall be prepared for the signature of the Director of Management Operations. Prior to the acquisition of aircraft from any excess source, the Federal Aviation Administration should be contacted to insure that the Federal Aviation Regulations authorize the type of operations to be conducted and that the aircraft can be certified as airworthy without extensive or costly modification.

(c) Aircraft obtained on a loan basis. With the prior approval of the Director of Management Operations, aircraft needed to satisfy a temporary emergency requirement (not to exceed 90 days) may be obtained on a loan basis from military or excess sources. Should a need subsequently develop to temporarily retain such aircraft in excess of 90 days, a detailed written justification approved by the head of the bureau or office will be made a matter of record to support such retention.

114-38.5308 Registration and identification.

(a) Registration. Bureau-owned aircraft shall be registered with the Federal Aviation Administration. The certificate of registration shall be displayed in the aircraft in accordance with FAA requirements. A similar requirement shall be included in any arrangement for the charter, rent, hire or lease of aircraft.

(b) Identification. All aircraft shall display markings as required by the Federal Aviation Administration Regulations for registered aircraft of the United States. Each bureau-owned aircraft shall also have the names of the Department and the owning bureau displayed on each side of the fuselage, except that such identification may be omitted when the aircraft is used for law enforcement or undercover work. This exception may be applied only when the head of the bureau has made a written determination that such identification would be detrimental to the Government's interests and the accomplishment of its mission.

114-38.5309 Airworthiness.

With the exception of public use aircraft being operated under special regulations of the Federal Aviation Administration, all aircraft shall be required to have a currently effective Federal Aviation Administration Airworthiness Certificate appropriate to the proposed usage. This certificate shall be displayed in the aircraft. Exceptions to this requirement are: (a) Uncertified aircraft may be ferried with minimum crew when there is a written determination by qualified authority that the aircraft is safe for flight; (b) aircraft obtained by transfer from the Department of Defense or the U. S. Coast Guard may be ferried and may carry passengers incident to such transfer when the aircraft has been released as airworthy for flight.

114-38.5310 Maintenance.

As a minimum, all aircraft, aircraft engines, propellers, accessories and equipment shall be maintained and serviced in accordance with Federal Aviation Administration requirements for non-air-carrier aircraft and the instructions of the manufacturer. All repairs and alterations shall be performed and approved in accordance with applicable FAA or military standards and requirements. Preventive maintenance inspections shall be made of the airframe, engine and accessory equipment manufacturer's recommendations and FAA or military requirements, as applicable.

114-38.5311 Operation.

(a) Flight operations must comply with the Federal Aviation Administration Regulations, and responsibility for such compliance rests with the pilot of the aircraft (IPMR 114-38.5305). Any special problem requiring deviation from the regulations shall be submitted to the FAA for an appropriate waiver. Such a waiver is required for all fixed-wing aircraft engaged in low-level flying, and any change of conditions shall be reported to the responsible FAA District Office.

114-38.5311 Operation. (con.)

(b) Flight plans are required for all flights over isolated areas and are also required for flights under visual flight rules (VFR) conditions except where the flight is of a local nature. Where normal flight plan channels are not available, a flight dispatching and tracking procedure or other control shall be followed that will assure current knowledge by a responsible person of the aircraft's operating plan and of its arrival at destination.

(c) Aircraft, engines and equipment shall be operated within the operating limits prescribed by the manufacturer.

(d) Adequate preflight and in-flight check lists shall be provided to, and used by, all pilots. A visual preflight inspection shall be made by the pilot before each takeoff, and any deficiency which might affect the safety of the flight shall be corrected before takeoff.

(e) All flights shall be planned so that the aircraft will arrive over its destination with a full reserve sufficient to reach a planned alternate destination.

114-38.5312 Official use of aircraft.

(a) No officer or employee is permitted to use, or authorize the use of, any Government-owned or leased aircraft for other than official purposes (31 U.S.C. 638a(c)(2)). The guidelines set forth in IPMR 114-38.50 shall be used in determining the meaning of the term "official purposes."

(b) The official purpose of the use of Government-owned or leased aircraft is not voided or changed by the incidental transportation of unofficial passengers in available space not needed in connection with the accomplishment of official business. When such space is available, the official authorizing the flight may approve unofficial travel as described herein: Provided, That a waiver is obtained from any individual traveling unofficially. The waiver shall release the Government from any and all responsibility for accidental death or injury resulting from such travel, and the waiver form used shall have the advance approval of the Solicitor as to legal adequacy.

114-38.5312 Official use of aircraft. (con.)

(c) The term "unofficial passengers" includes officers and employees of this Department and other Federal agencies and members of their respective families when traveling for personal convenience. It does not include, and waivers shall not be obtained from:

(1) Officers and employees of the Federal Government traveling on official business;

(2) Members of Congress and employees of congressional committee staffs whose work relates to Department of Interior programs;

(3) Non-Federal passengers when engaged in missions which further accomplishment of a departmental program such as personnel of cooperating State, county, or local agencies, representatives of foreign governments and contractors' representatives.

(d) In the event there is occasion to transport unofficial passengers not specifically identified above, the circumstances should be submitted to the Assistant Secretary -- Management and Budget with a request for a decision concerning waiver requirements. Should such an occasion arise under emergency conditions which will not permit advance consideration, a waiver shall be obtained from the individual or individuals involved.

114-38.5313 Disposal of aircraft.

The approval of the head of the bureau or office shall be required prior to the disposal of aircraft. FAA aircraft registration numbers shall be canceled and shall not be transferred or disposed of with the aircraft.

114-38.5314 Records.

As a minimum, flight, aircraft and engine logs shall be maintained in accordance with FAA requirements, and records of operation and maintenance shall be maintained as required for budgetary and reporting purposes. The head of each bureau and office shall establish requirements for other records needed.

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114-38.5315 Reports.

(a) Reports shall be submitted as required by the Federal Aviation Administration, the National Transportation Safety Board and others. The head of each bureau and office shall establish the requirements for other reports that may be needed for management or other purposes.

(b) All accidents involving aircraft shall be reported promptly to the Federal Aviation Administration in accordance with 395 DM 4, and the head of the bureau or office concerned shall be notified immediately.

The responsibility of performing NPS air operations will be assigned only to those fully qualified.

REQUIREMENTS FOR FULL TIME PILOTS

a. Full-time NPS pilots used in NPS air operations will:

1. Have the ability and experience to meet minimum NPS and Civil Service Commission employment qualification standards as specified.

2. Have the ability, attitude and willingness to accept and perform the duties and responsibilities of a pilot in a completely professional manner.

3. Have sound judgment and temperament.

4. Have the following Federal Aviation Administration and Federal Communication Commission certificates:

(a) A currently valid Commercial Pilot Certificate with appropriate ratings.

(b) A currently valid First Class Medical Certificate.

(c) A currently valid Instrument Rating.

(d) A Multi-engine Rating for assignment to ME aircraft.

(e) A Rotorcraft-helicopter Rating for assignment as a helicopter pilot.

(f) A restricted Radio-telephone Operator Permit.

5. Pass satisfactorily a flight check.

b. Flight Time Requirements

Full-time pilots used in NPS air operations will have the following flight experience for initial employment or appointment:

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Qualification of Personnel
Requirements for Full Time Pilots

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b. Flight Time Requirements (con.)

<u>Pilot-in-Command</u>	<u>Hours of Flying Time</u>	
	<u>GS-9</u>	<u>GS-11/12</u>
Multi-engine	200	500
Night	100	300
Actual instrument	50	150
Extended cross-country	200	500
Class and category to be flown	250	500
Last 12 months	100	100
Last 30 days	10	10
Total (including the above)	1500	3000

If a Seaplane Rating is necessary for the assignment then the following flight experience as PIC is required:

<u>GS-9</u>	<u>GS-11/12</u>
100	300

If assigned as a First Pilot to an aircraft requiring an Aircraft Type Rating, the Type Rating and the following flight experience is required as PIC:

	<u>GS-9</u>	<u>GS-11/12</u>
Make and model to be flown	150	500

The requirements for Multi-engine and Instrument Ratings may be waived for pilots assigned to fly single-engine aircraft. However, such a pilot desiring to transfer to a ME pilot position must fulfill the ME and Actual Instrument hourly requirements listed above or be placed in a temporary training/co-pilot position until such requirements are met.

REQUIREMENTS FOR CHARTER/CONTRACT PILOTS

a. All charter/contract pilots will conform to the flight experience requirements for full-time NPS pilots, GS-9 level, as listed in Chapter 1(b) above. In addition, each pilot will demonstrate his flight proficiency on an actual flight-check not to exceed one-hour duration at the contractor's expense.

b. The following guidelines will be used by the designated NPS flight-check pilot to qualify charter/contract pilots other than those obtained from scheduled airlines or the military services.

1. FAA Commercial Pilot Certificate and Ratings for the aircraft to be used.
2. FCC Restricted Radio Operator's Permit.
3. Valid medical certificate, at least Second Class.
4. Verification that flight experience is sufficient and of the required type (log book).
5. Check of general reputation as a pilot.
6. Thorough check of special techniques, when required, such as instrument, dropping cargo or smoke jumpers and spraying.
7. Flight procedure and general technique:
 - (a) Safety in starting engine.
 - (b) Taxiing, and docking, if required.
 - (c) Pretakeoff check of engine and instruments.
 - (d) Takeoff technique on land or water, normal crosswind, obstacle and shortfield.

7. Flight procedure and general technique: (con.)
- (e) Flight technique and coordination, smoothness.
 - (f) Alertness for other aircraft.
 - (g) Ease or restlessness.
 - (h) Slow flight and steep turns.
 - (i) Traffic pattern and landing procedures, normal, crosswind, obstacle and shortfield.
 - (j) Putting passengers at ease and proper briefing.
 - (k) Safety attitude.
 - (l) Willingness to accept and follow NPS requirements.
 - (m) Radio technique.
 - (n) Ability to assimilate from instructions the concept of special methods.

Upon successful completion of the flight-check, the pilot will be issued a Pilot Qualification Card with the limitations noted. (See Appendix 1).

c. Charter/contract pilots will be regular salaried employees of an Air Taxi Operator, FAR 135, and will have had a FAR 135 FAA check flight within the preceding six months.

d. Charter/contract pilots will have at least 200 hours, PIC, in typical terrain, mountain/low level, for the mission to be flown.

INCIDENTAL PILOTS

NPS employees whose primary and full-time assignment is other than as a pilot and who desire to fly on official business incidentally to that assignment shall comply with the following requirements. He will have:

- a. At least a currently valid Private Pilot Certificate.
- b. A Second Class Medical Certificate.
- c. A FCC Restricted Radio-telephone Operator's Permit.
- d. The following minimum flight experience: (NO EXCEPTIONS WILL BE MADE).

<u>Pilot-in-Command</u>	<u>Flight Hours</u>
Night	50
Extended Cross-country	100
Actual Instrument (when applicable)	50
Multi-engine (when applicable)	50
Last 12 months	100
Last 30 days	10
Total (including above)	500

An incidental pilot fulfilling these hourly requirements WILL NOT BE PERMITTED to carry passengers or freight on official business. To carry passengers/freight, he MUST qualify under the hourly flight experience requirements of Chapter 1(b) above, GS-9 level. (Note: Since this requirement may create a hardship for some incidental pilots currently qualified, a grace period will be granted such pilots until 31 December 1977 to conform to the above requirements, at which time this note will be deleted from the handbook).

e. Flight Time Requirements

An employee seeking designation as an incidental pilot will make application through his supervisor to the Regional Director. (See Appendix 2). He will fill out a "Summary of Flight Experience," (See Appendix 3) as part of his application. The Regional Director, or his delegated representative, in consultation with the Regional Air Manager, will determine if the employee is qualified under NPS and FAA regulations and, if so, will arrange a flight-check ride for the applicant following the guidelines of Chapter 2(b) above.

e. Flight Time Requirements (con.)

Upon successful completion of the flight-check, the applicant will be issued a Pilot Qualification Record card with the limitations noted. The inspector pilot will notify the Regional Director of the applicant's qualification and limitations. Limitations to be noted on the incidental pilot's card are as follows:

1. Single engine, day visual flight rules only, no pax/freight, no low level/mountain, established airports only.
2. SE, day VFR only, pax/freight, low level/mountain (but see (e) above for passengers).
3. ME, day/night, VFR/instrument flight rules, pax/freight.

An additional limitation is that: (1) each incidental pilot will be limited to the geographical area of his assignment, (2) an incidental pilot changing his area of assignment from one region to another will automatically lose his incidental pilot designation and must make another application with his new supervisor. If he changes assignment within the region, his continued designation as an incidental pilot will depend on the desire of his new superintendent.

f. Annual Check Ride

After original designation each incidental pilot will take an annual flight-check following the guidelines in Chapter 2(b) above and Form (10-818) (See Part 4, Appendix 2), "Airman Proficiency/Qualification Check."

HELICOPTER PILOTS

A helicopter pilot must be capable of piloting a helicopter on all types of missions over a variety of terrain. In addition to the general qualifications and the following minimum flight experience requirements, charter/contract helicopter pilots will demonstrate their flight proficiency on an actual flight test not to exceed one hour's duration at the operator's expense. Helicopters used for such tests will be equipped with dual controls. (Note: Regulations and instructions for helicopter operations conducted by the National Capital Park Police are contained in the Flight Operations Handbook issued by the Flight Operations Section, NCPP).

<u>Pilot-in-Command</u>	<u>Hours</u>
Night	10
Typical Terrain	200
Weight Class	100
Make and Model	50
Last 60 days	10
Last 30 days	5
Total Helicopter (including the above)	1500

In addition, 20 landings and takeoffs at typical altitude and type of helispots or heliports to be used.

An NPS flight-check pilot will flight-check each new helicopter pilot and verify his qualifications on the Pilot Qualification Record card. Contract pilots will not be used on specialized missions involving the use of helicopter accessories unless they have demonstrated proficiency to an NPS pilot (inspector). A pilot holding a currently valid Pilot Qualification Record card with either U. S. Forest Service or Bureau of Land Management endorsement will fulfill this requirement. The NPS flight-check pilot need only endorse the card and obtain copies of the pilot's qualifications for NPS files.

Minimum flight-check requirements are:

a. Flight maneuvers

1. Normal takeoff, hovering and landing.
2. Normal approach to a pinnacle landing area.
3. Hover with skid into slope.
4. Touchdown on maximum slope.
5. Steep approach into confined and maximum takeoff.
6. Autorotation with power recovery.
7. Control: Revolutions per minute, manifold pressure,
Torque.
8. Attention to wind direction.
9. Smoothness and coordination.
10. General flight handling abilities, planning, attitude.

b. The helicopter pilot will receive training in safety, operational procedures, basic fire behavior (if required) and the radio (10) code.

NPS HELICOPTER PILOTS

NPS pilots assigned to fly helicopters (other than NCPP) will meet the following requirements:

The flight-time experience requirements listed in Chapter 4 above. Exemption: NPS pilots holding commercial helicopter ratings but not meeting the minimum requirements may fly limited official business and training missions with the specific written approval of the Regional Director, provided they have a minimum of 500 PIC hours in helicopters. An NPS pilot with less than 500 hours PIC in helicopters may only fly training flights. Autorotations to a touchdown will be permitted when accompanied with an FAA helicopter-rated flight instructor.

MUTUAL AGREEMENTS

The compliance with the pilot checks called for in this section for Charter/Contract and Helicopter Pilots may be accomplished through mutual agreement with the USFS/BLM. In which case, only copies of the pilot checks performed by those agencies need to be obtained. USFS/BLM endorsement of pilots will be accepted for NPS work.

AIR OPERATIONS
Qualification of Personnel
Form 10-817

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PILOTS QUALIFICATION RECORD		Name (Print)	Signature
FAA Cert. No.	Flight hours		
Qualified for (Type of aircraft) -			
AUTHORIZED USE: (Inspector will Initial) 1. <input type="checkbox"/> Smokejumper 2. <input type="checkbox"/> Air tanker 3. <input type="checkbox"/> Spray-Seed			
<input type="checkbox"/> Reconnaissance <input type="checkbox"/> Para Cargo <input type="checkbox"/> Transport <input checked="" type="checkbox"/> *			
Issued by		Region	
Name		Date	
Title			

*Space to be used
for Incidental
Pilot limitations.

AIR OPERATIONS
Qualification of Personnel

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Memorandum

To: Regional Director, _____ Region
From: Superintendent, (NPS Area) _____
Subject: Recommendation that (Name) _____
Be Designated an NPS Incidental Pilot

I recommend that (Name) _____
who is a NPS employee be considered for designation as an
Incidental Pilot.

The designation of this individual will be of benefit to the
NPS because: _____

Enclosed is the individual's "Summary of Flight Experience."

Enclosure

SUMMARY OF FLIGHT EXPERIENCE

Name _____

Title _____

NPS Area Address _____

Pilot Certificate _____ Number _____

Ratings _____

Medical Certificate Class _____ Date of Physical _____

Medical Certificate Limitations _____

Type A/C	FLIGHT TIME (HOURS)						Actual Instrument	Flight Instrument
	Dual	Solo	X-Country	Night	Night X-Country	Simulated Instrument		

Total Flight Time _____

Flight Time Previous 12 Months _____

Flight Time Last 90 Days _____

Date of Last Flight Check with FAA Examiner or Inspector _____

I certify that the information provided above is true and correct.

Name _____

Date _____

REFERENCE AND STUDY MATERIAL

The following items are to be used for study and reference by all NPS pilots, full time and incidental:

1. NPS Air Operations Handbook.
2. FARs 1, 61, 91, 121, 135, 430.
3. Airman's Information Manual (AIM), or a commercial publication containing the same information (The International FIM, as appropriate).
4. All charts applicable to the assigned duties of the pilot.
5. Applicable VFR and IFR Exam-O-Grams.
6. Approved aircraft flight manuals.
7. Aircraft Owner's Handbook, when applicable.
8. AC-006 Pilot's Weather Handbook*
9. AC-23A Wake Turbulence Avoidance*
10. AC 61-27 FAA Instrument Flying Handbook, or any of several available commercial texts*
11. AC 61-13 FAA Basic Helicopter Handbook*

*FAA Advisory Circulars

NPS air operations will be conducted in fully qualified aircraft that meet or exceed the appropriate Department, NPS and FAA inspection and maintenance requirements for civil aircraft and, if charter/contract, have an approved Aircraft Data Card.

INSPECTION OF EQUIPMENT AND FACILITIES

At least once each year each aircraft other than NPS-owned will be inspected to determine if it is:

- a. Suitable for the mission and operating conditions for which approval is sought.
- b. Well maintained and airworthy.
- c. Equipped with the essential instruments and accessories prescribed in the handbook.

Aircraft and accessories will meet the requirements of FARs and directives. The aircraft inspections will be done by NPS inspectors qualified and knowledgeable in NPS air operations.

Charter, Contract and Rental Agreement Aircraft

Each charter/contract aircraft used in NPS air transportation operations shall be owned, or under exclusive use contract, by the holder of an FAA Part 135 Air Taxi Operator Certificate (ATCO). Each aircraft will be maintained under the applicable provisions of FAR 91.160, 91.171, 91.217, 135.60 and the log books of each aircraft and its engines shall be available to NPS personnel for inspection to ascertain compliance.

- a. No charter/contract aircraft shall be approved for use if the time on the engine(s) exceeds the manufacturers recommended overhaul time.

Charter, Contract and Rental Agreement Aircraft (con.)

b. No charter/contract aircraft shall be approved for use unless it is equipped with the minimum equipment listed in FAR 91.33 or FAR 135.151 through 135.161 as applicable to the type of operation for which approval is being requested.

c. Each charter/contract aircraft shall carry an approved first-aid kit on all NPS missions (see FAR 121, Appendix A(2)(a)).

d. Each charter/contract aircraft shall be inspected using the following guidelines:

1. Log books for:

(a) Engine and propeller time with reference to major and top overhaul.

(b) Air frame time since last major overhaul.

(c) Inspections, maintenance or modifications required by the FAA.

The log books shall be up to date.

2. Airworthiness certificate, weight and balance computations and registration certificate for currency.

3. Amount and type of recent flying.

4. Condition of the aircraft including:

(a) The interior and exterior condition and appearance.

(b) Engine(s), propeller(s) and accessories.

Charter, Contract and Rental Agreement Aircraft (con.)

(c) Accumulations of dirt, oil and grease around the engine area(s), fittings, hydraulic systems and the belly of the aircraft.

(d) Tires, landing gear and brakes for dirt, wear and condition.

(e) Control system, including trim tabs.

(f) Windshield and windows for excessive crazing, discoloration and other conditions that would impair visibility.

(g) All safety equipment, including seat belts, shoulder harness, first-aid kits, fire extinguishers for wear condition and date.

5. General condition of the office, shop and storage areas.

6. Equipment that is dirty, weatherbeaten or otherwise in a poor condition shall be cause for rejection.

7. Aircraft that have been abused or subjected to hard use or aerobatics shall be rejected.

Employee-owned Aircraft

Employee-owned aircraft shall be subject to the rules and regulations governing charter/contract aircraft outlined above in Chapter 2, except for the FAR 135 ATCO certificate.

When a NPS employee wishes to fly his personal aircraft on official NPS business, he will:

Employee-owned Aircraft (con.)

a. Submit an application for aircraft approval through his superintendent to the Regional Director by memorandum with an attached Form (10-816) (see Appendix 1).

b. The designated regional aircraft and pilot inspector/flight-check pilot will make an inspection of the aircraft to determine its mechanical condition and compliance with all applicable NPS, U. S. Department of the Interior and FAA regulations and directives.

c. If the aircraft is qualified, the inspector will issue an Aircraft Data Card (see Appendix 2) and notify by letter the Regional Director and the Superintendent of the employee. The Aircraft Data Card will list all restrictions applying to the use of the aircraft.

Helicopters

Helicopters will conform to the specifications of Chapter 1, Charter, Contract and Rental Agreement Aircraft, above, and will also be checked for time-limited components. Time-limited components will be within the allowable time limits at the time of inspection and at the time of use.

Inspection Form

The Aircraft Description and Qualified Pilots Form (10-816) will be completed for the aircraft inspections in this section. The inspector will indicate approval/disapproval and the type of activity approved for by signing the form. Copies will be distributed to the unit involved, the Regional Director's Office, the owner of aircraft and to the Regional Air Manager.

MILITARY AIR FORCES AND SCHEDULED AIRLINES

a. Military aircraft and flight crews need not be individually inspected and approved. Prior to use a determination will be made that the qualifications of the proposed equipment and crews to be used meet the minimum standards as set forth in this handbook.

Military aircraft may be used when all commercial air transport sources have been exhausted.

Permission to use military aircraft will be secured through the Regional Director.

b. FAR Part 121 operators, including scheduled Domestic and Supplemental Air Carriers, and Commercial Operators of Large Aircraft, and their flight crews, need not be individually inspected and approved prior to use on official NPS missions involving transportation of personnel and/or cargo.

COMMUTER AIRLINES, AIR TAXI FAR PART 135 OPERATORS

The following named commuter airlines need not be individually checked and approved prior to use by NPS personnel on official business:

- a. Each Region should prepare their own listing of commuter airlines as the airlines utilized by NPS vary within each Region.
- b. Commuter airlines/air taxi operators not named in "a" above will be subject to individual inspection and approval as in Chapter 1, Charter, Contract and Rental Agreement Aircraft, above.

MUTUAL AGREEMENTS

The compliance with the aircraft checks called for in this section may be accomplished through mutual agreement with the USFS/BLM.

Copies of the aircraft checks performed by those agencies will be obtained by the RAM. The RAM will endorse the forms for his files. USFS/BLM endorsement of Aircraft Data Cards will be accepted for NPS work.

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Qualification of Aircraft
Form 10-816

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AIRCRAFT DESCRIPTION AND QUALIFIED PILOTS <small>This form is for record purposes only, and is neither an agreement nor contract.</small>				NAME OF COMPANY		CHECK ONE <input type="checkbox"/> AIRPLANE	
				NUMBER AND STREET OR RURAL ROUTE		<input type="checkbox"/> AIR TANKER	
				CITY, STATE AND ZIP CODE		<input type="checkbox"/> HELICOPTER.	
INSTRUCTIONS: Complete answers by checking YES or NO or filling in requested information							
AIRCRAFT DESCRIPTION AND INFORMATION							
AIRCRAFT MAKE AND MODEL		NO. OF ENGINES		F.A.A. NUMBER		P.S. NUMBER	
YEAR BUILT		CERT. GROSS WEIGHT		EMPTY (Basic Wt.)		CARGO CAPACITY	
PASS. CAPACITY		LICENSE DATE		REGISTRATION CERT.		AIRWORTH. CERT.	
CRUISING SPEED		NO. OF HOURS FUEL		TIME SINCE 100 HRS. INSPECTION		MAJOR MODIFICATIONS	
MPH:		KNOTS:					
AIRCRAFT AND EQUIPMENT							
1. AIRFRAME		HOURS SINCE NEW		HOURS SOH		USED FOR AEROBATICS YES <input type="checkbox"/> NO <input type="checkbox"/>	
						PARACHUTING BRAKES YES <input type="checkbox"/> NO <input type="checkbox"/>	
2. ENGINES		MAKE AND MODEL		HORSEPOWER		TYPE FUEL	
		HOURS SINCE NEW		NUMBER 1		NUMBER 2	
		HOURS SINCE MAJOR OVERHAUL		NUMBER 1		NUMBER 2	
				NUMBER 3		NUMBER 4	
3. PROPELLERS		HOURS SINCE OVERHAUL		NUMBER 1		NUMBER 2	
				NUMBER 3		NUMBER 4	
4. INSTRUMENTS		NORMAL ENG. INST.		FUEL QUANTITY		STALL WARNING YES <input type="checkbox"/> NO <input type="checkbox"/>	
		COMPASS YES <input type="checkbox"/> NO <input type="checkbox"/>		TURN AND BANK YES <input type="checkbox"/> NO <input type="checkbox"/>		DIRECTIONAL GYRO YES <input type="checkbox"/> NO <input type="checkbox"/>	
		GLASS		FABRIC		TIRES	
5. CONDITIONS OF:		CABIN		COCKPIT		FIRST AID KIT YES <input type="checkbox"/> NO <input type="checkbox"/>	
						ENG. FIRE EXT. YES <input type="checkbox"/> NO <input type="checkbox"/>	
						CABIN FIRE EXT. YES <input type="checkbox"/> NO <input type="checkbox"/>	
						EMERG. EXITS MARKED YES <input type="checkbox"/> NO <input type="checkbox"/>	
6. ELEC. SYSTEMS		VOLTS		APU		H/D BATTERY YES <input type="checkbox"/> NO <input type="checkbox"/>	
						AMMETER YES <input type="checkbox"/> NO <input type="checkbox"/>	
7. LIGHTS		ROTATING BEACON YES <input type="checkbox"/> NO <input type="checkbox"/>		LANDING YES <input type="checkbox"/> NO <input type="checkbox"/>		COCKPIT YES <input type="checkbox"/> NO <input type="checkbox"/>	
						NAVIGATION YES <input type="checkbox"/> NO <input type="checkbox"/>	
8. RADIOS		BONDED YES <input type="checkbox"/> NO <input type="checkbox"/>		SHIELDED YES <input type="checkbox"/> NO <input type="checkbox"/>		TRANS. FREQ. YES <input type="checkbox"/> NO <input type="checkbox"/>	
		F.S. INSTALLATION YES <input type="checkbox"/> NO <input type="checkbox"/>		COMCO MOD. 582 YES <input type="checkbox"/> NO <input type="checkbox"/>		SERIAL NO. YES <input type="checkbox"/> NO <input type="checkbox"/>	
		CONTROL & JACK UNIT YES <input type="checkbox"/> NO <input type="checkbox"/>		ANTENNA LEAD YES <input type="checkbox"/> NO <input type="checkbox"/>		CRASH HELMETS YES <input type="checkbox"/> NO <input type="checkbox"/>	
						W/BOOM MIKE YES <input type="checkbox"/> NO <input type="checkbox"/>	
						SPARE MIKE YES <input type="checkbox"/> NO <input type="checkbox"/>	
						SPARE HEADSET YES <input type="checkbox"/> NO <input type="checkbox"/>	
RADIO INSTALLATION AND PERFORMANCE CHECKED BY							
9. RETARDANT TANKS		S.T.C. YES <input type="checkbox"/> NO <input type="checkbox"/>		337 YES <input type="checkbox"/> NO <input type="checkbox"/>		NO. OF COMPTS.	
		CAN DOOR BE CLOSED IN AIR YES <input type="checkbox"/> NO <input type="checkbox"/>		TIME REQ. TO DUMP YES <input type="checkbox"/> NO <input type="checkbox"/>		CAPACITY EACH COMPT. (Gallons)	
						EMERGENCY RELEASE YES <input type="checkbox"/> NO <input type="checkbox"/>	
						TYPE	
						CONDITION	
10. HELICOPTER COMPONENTS		TOTAL TIME SINCE NEW		MAIN ROTOR		TAIL ROTOR	
		TOTAL TIME SINCE OVERHAUL		MAIN ROTOR		TAIL ROTOR	
		DROPP STOPS YES <input type="checkbox"/> NO <input type="checkbox"/>		SKIDS YES <input type="checkbox"/> NO <input type="checkbox"/>		ROTOR BRAKES YES <input type="checkbox"/> NO <input type="checkbox"/>	
		CARGO RACKS YES <input type="checkbox"/> NO <input type="checkbox"/>		QUICK REL. SHACKLE YES <input type="checkbox"/> NO <input type="checkbox"/>		SLURRY TANK YES <input type="checkbox"/> NO <input type="checkbox"/>	
						OTHER	
						LITTERS ATTACHABLE YES <input type="checkbox"/> NO <input type="checkbox"/>	
						CAN OWNER FURNISH YES <input type="checkbox"/> NO <input type="checkbox"/>	
						P.A. SYSTEM YES <input type="checkbox"/> NO <input type="checkbox"/>	
						MTR. TRANS. FOR COPTER AND AVG. SPEED YES <input type="checkbox"/> NO <input type="checkbox"/>	
						MPH	

AIR OPERATIONS
Qualification of Aircraft
Form 10-816 (con.)

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YEAR OF MANUFACTURE	DATE ACQUIRED BY OWNER	APPRAISED VALUE
---------------------	------------------------	-----------------

This information will be considered in claims for damage or destruction of the aircraft under the Act of January 31, 1931, 16 U.S.C. 902c, as amended by Section 1, P.L. 85-464, June 20, 1958.

Tariffs ☐ have ☐ have not been filed with either the Civil Aeronautics Board or a State Commissioner.

I certify that all statements concerning the conditions of the aircraft or helicopter and maintenance are true

DATE	SIGNATURE	TITLE
COMPANY NAME		ADDRESS OF COMPANY
PHONE NUMBER FOR REQUESTING EQUIPMENT		DAY NIGHT
LOCATION	DESIGNATED BASE FOR DESCRIBED AIRCRAFT (Airport or Heliport)	
NOTIFICATION TIME REQUIRED FOR FLIGHT READINESS		HOURS MINUTES

APPROVED USE					
RECON-VEH TRANSPORTATION	RECONNAISSANCE	PARACALDO	AIR FLIGHT	PARADANTS	SMOKEJUMPERS
YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>

All operators used by the National Park Service must have a current Air Taxi & Commercial Operators Certificate (ATCO).
All aircraft and pilots must operate under FAA FAR Part 135.
Single-engine aircraft will comply with the appropriate provisions of the NPS Air Operations Handbook concerning IFR and night flight.
Multi-engine aircraft properly equipped may be operated IFR and night.
A qualified first aid kit will be carried on all NPS flight missions.
All aircraft will be maintained to FAA requirements.

PILOTS QUALIFIED TO FLY AIRCRAFT ON REVERSE SIDE

Single-engine

Multi-engine

OTHER REMARKS:

THE ABOVE AIRCRAFT HAS BEEN INSPECTED AND National Park Service Data Card.

☐ HAS BEEN ISSUED ☐ HAS NOT BEEN ISSUED

DATE OF INSPECTION	SIGNATURE	TITLE
		AIRCRAFT AND PILOT INSPECTOR

AIR OPERATIONS
Qualification of Aircraft
Form 10-815

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AIRCRAFT DATA CARD - NATIONAL PARK SERVICE					
MAKE & MODEL _____			OPERATOR - NAME AND ADDRESS _____		
MFR. SERIAL NO. _____			_____		
FAA REG. NO. _____			_____		
MAX. GROSS WT. _____ lbs.		EMPTY WT. _____ lbs.			
NO. ENGINES _____		H.P. (each engine) _____		TYPE FUEL _____	
FUEL CONSUMPTION, CRUISING _____		gals/hr. _____		lbs/hr. _____	
AUTHORIZED USE: (Inspector will initial)					
<input type="checkbox"/> Passenger		<input type="checkbox"/> Smokejumper		<input type="checkbox"/> Spray-Seed	
<input type="checkbox"/> Helijumper		<input type="checkbox"/> Air Tanker		<input type="checkbox"/> _____	
<input type="checkbox"/> Air Freight		<input type="checkbox"/> Low Level Recon.		Max. Discharge	
<input type="checkbox"/> Paracargo		<input type="checkbox"/> High Level Recon.		G.P.S. _____	
<input type="checkbox"/> Hose Lay					
DATE	ENGINE TIME	AIR FRAME TIME	CONDITION SATIS- FACTORY	INSPECTOR'S SIGNATURE	F.S. REGION

GENERAL POLICIES

In addition to the policies enumerated in Air Operations Activity Standards, there will be a conformation to the following:

a. There will be NO COMPROMISE WITH SAFETY. No mission or operation, including search and rescue and fire emergencies, is so important or urgent that NPS safety rules and principles may be disregarded.

b. All flight operations, including those flown by incidental pilots, will be conducted with the highest degree of professionalism. This means that self-discipline and a professional attitude must be consciously desired and sought for.

c. Check lists are to be used as checks-for-accomplishment rather than as checks-to-do.

d. No instrument or night flights will be permitted in single-engine aircraft in FAA defined mountainous areas, except under the following conditions:

1. A climb or descent may be made through a defined "thin overcast or broken" area if the flight may be continued to its destination in VFR conditions with not more than 15 minutes of "on-top" flight.

2. A flight begun in VFR conditions may fly "on-top" for not more than 15 minutes if the destination weather allows a BFR descent and landing, and the ceiling under the overcast is at least 2,500 feet above the highest terrain within 10 miles on either side of the course.

3. Night flight will be permitted within the vicinity of the local airport for the purposes of maintaining proficiency. No passengers may be carried on such a flight. Airports used for night proficiency training must be fully equipped for night operations.

e. Instrument and night flight will be permitted in single-engine aircraft in FAA defined non-mountainous areas under the following conditions:

1. Specific written approval from the Regional Director or his designated representative for a specific pilot and aircraft.

2. Takeoff minimums must be at or above regular circling minimums for the airport of departure and landing visibility must be one mile or greater at the destination airport.

3. No flights will be permitted in, or into, or through, icing conditions of any defined condition unless the aircraft is equipped with the equipment specified in FAR 121.341. When so equipped no single-engine aircraft may be flown into known or forecast icing conditions defined as other than light. The takeoff ceiling and visibility at the airport of departure must be such that the aircraft may return and land if other than light icing is encountered.

4. The minimum enroute ceiling and visibility for single-engine instrument flight-at-night must be 2,500 feet above terrain and three miles visibility (below the IFR condition).

f. Aircraft equipped with reversable-pitch propellers will not take off or land on any unimproved airport or on a hard-surfaced runway that is not clean, i.e., that has unrolled "chips" covering the surface. No NPS operated aircraft may take off or land on a runway which is not long enough to conform to the accelerate/stop requirements for that particular aircraft.

g. Although NPS aircraft may be operated as "Public Aircraft" FAR Parts 1, 61, 91, 121, 135 and 430 will govern NPS air operations, as applicable. Interpretations of application will be issued as supplements to the handbook.

PILOT DUTIES AND RESPONSIBILITIES

In addition to the duties and responsibilities listed in Air Operations Activity Standards, the following will be adhered to by all pilots flying NPS missions:

a. The captain will perform the necessary preflight inspection of the aircraft before the first flight of each day. He may delegate the inspection to the co-pilot. In addition to the normal walk-around inspection as prescribed in the Owners/ Pilots Operating Manual for the aircraft he will check:

1. Aircraft and engine log books for proper entry, maintenance performed and necessary VOR checks.

2. The Aircraft Discrepancy Form (10-813)(see Appendix 1) for carry-over and action-performed items.

3. That all VFR/IFR navigational charts required for the flight are aboard.

4. That a flash light, an approved first-aid kit and a fire extinguisher are aboard and in working condition.

5. That the oxygen required for compliance with FAR 135.83 is on board and that an oxygen mask for each person on the aircraft is available.

6. That all necessary flight planning has been accomplished to comply with FAR 91.5. Additionally, the pilot will:

- (a) Determine that the weight and balance of the aircraft are within the allowable limits for takeoff and landing according to instructions contained in the Owner's or Pilot's Operating Manual. The loading of the aircraft will conform to the recommended loading schedule.

(b) Determine that survival gear peculiar to the season and area is on board for flights into remote areas or beyond engine-out gliding distance from land on over-water flights.

(c) Brief the passengers in accordance with the items listed in FAR 135.81.

(d) Not make any takeoffs or landings on any airport from sunset to sunrise unless the limits of the landing area are clearly shown by boundary and/or runway marker lights, FAR 135.87.

b. Flight Plans

A flight plan will be filed for every NPS flight. For flights of more than 50 miles, or outside the jurisdiction of the local unit, or not within range of the local unit radio dispatch control, the flight plan will be filed with the nearest Flight Service Station.

On all flights local in nature or over the local unit, the following procedure will be adhered to:

1. Before takeoff, the pilot/NPS employee will outline as nearly as possible to the home unit dispatcher the proposed takeoff time, the route of the flight and the length (time) of the flight.

2. Arrange for someone to be in the office for check-in if the flight is out of normal office duty hours.

3. Report all changes in the flight plan to the dispatcher.

4. Check in with the dispatcher on a 30-minute schedule or at predetermined time intervals (not more than 30 minutes).

5. The dispatcher will keep a log of the check-in times, location and next point on the route.

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6. The dispatcher will call the aircraft if it has not checked in by 10 minutes past the scheduled check-in time.

7. The Superintendent will be notified if the aircraft has not been contacted by the time for the next check-in.

8. The flight will immediately return to the airport if there is radio trouble that prevents check-in. If the airport operator can be contacted by normal aircraft radio, he will be asked to contact the dispatcher and advise of the aircraft's return. The flight will not continue until the radio has been fixed.

9. The dispatcher will be notified immediately upon arrival of the aircraft back at the airport after the completion of a normal flight. If the dispatcher has not been notified within 30 minutes of the expected completion of the flight, he will immediately notify the Superintendent and immediate SAR procedures will be instituted.

LOW LEVEL FLIGHT

a. On flights in FAA defined mountainous areas, no fixed-winged aircraft on official NPS business may fly closer than 1,000 feet vertically or horizontally to the average terrain, unless an authorized deviation from this rule is in force.

b. Helicopters will be permitted to fly low level missions within the limitations of their height-velocity curve. Protective helmets will be worn by all front seat occupants on low level missions. Standard military protective flying helmets are identifiable as an approved helmet. Those persons who make only occasional flights may wear the standard safety hat with chin strap.

c. Seat Belts and Shoulder Harness: Seat belts will be worn by all occupants of an aircraft at any time it is moving, FAR 91.14.

Shoulder harness will be worn by the front seat occupants on all fixed-wing and helicopter aircraft on low level missions.

d. Extra Personnel: No person not essential to the success of the mission will be carried on any low level mission: no "sightseers."

e. Non-mountainous Areas: In FAA defined non-mountainous areas, over flat, or nearly flat, terrain flights may be permitted to fly as low as 500 feet above average terrain. Under normal circumstances no flights will be permitted at less than 500 feet above terrain, except for the takeoff and landing portions of the flight, excluding helicopters. Exceptions to this paragraph will conform to Chapter 13, Waivers.

f. Incidental pilots may not fly low level patrol or survey type flights unless they conform to the flight time qualifications of Part 2, Chapter 1, Flight Time Requirements, GS-9 level, and have been specifically checked out for low level/ mountain flying by the Regional Flight Check Pilot and approval for such flying is noted on his Pilot Qualification Record card.

WEATHER

NPS pilots will conform to the FAR's listed below when planning and operating official NPS flight missions:

a. Weather Reports and Forecasts - FAR 135.65.

b. Ice - FAR 135.85(a) through (d) and NPS aircraft will not be cleared to operate, nor intentionally operated, to climb through light icing conditions immediately after takeoff unless the weather at the airport of departure is at or above the minimum for a regular circling approach. Should more than light icing be encountered immediately after takeoff the flight will return and land.

c. VFR flight - FAR 135.91 through 135.97 and no NPS pilot not having a currently valid instrument rating will fly over any route where known or forecast thunderstorms, heavy rain showers or snow showers extend over one half or more of the route to be flown.

d. IFR flight - FAR 135.103 through 135.111 and, in the case of single-engine aircraft, the provisions of Chapter 1(d) above.

THUNDERSTORMS

Thunderstorms, with their associated areas of turbulence, hail, ice and heavy rain present special problems to pilots. The information on thunderstorms and turbulence contained in Part I of the Airman's Information Manual should be studied by all NPS pilots.

a. VFR flights may not be dispatched to, released for flight through, nor continued into, an area of known or forecast thunderstorms classified as broken or greater.

b. IFR flight into broken or greater areas of thunderstorms may be permitted only if the aircraft is equipped with weather avoidance radar, it is operational and the pilot is trained in its operation. Radar is for avoidance - not penetration.

c. Purposely penetrating a thunderstorm by any NPS flight is not permitted. Avoid thunderstorms either by circumnavigation or by "sitting it out."

d. If a thunderstorm is inadvertently penetrated, the following procedures should be followed:

1. Fly by altitude control, maintain as nearly as possible a straight and level altitude.

2. Do not attempt to maintain altitude other than through normal control movement; others in your area will be doing about the same thing you are doing.

3. Avoid making sudden control movements since a temporary overstress may be put on the aircraft, be as smooth as possible in all flight situations.

4. Maintain an airspeed about halfway between normal stall speed and normal maneuvering speed.

5. Maintain as nearly as possible the course being flown when the storm condition was entered; to attempt to reverse course may put the aircraft into a less desirable position.

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6. Maintain a calm altitude and fly the aircraft as easily as possible.

e. For additional information refer to the FAA manual, "Aviation Weather," Chapters 7 and 11.

CREW PROCEDURES: INSTRUMENT APPROACHES

This is an area that also presents special flight problems, therefore, on aircraft requiring or using two pilots, the following will be standard operating procedures on all IFR approaches:

a. Before the approach is commenced, both pilots will review the approach chart for the airport of landing with special attention to:

1. Field elevation.
2. Minimum decent altitude/Decision height.
3. Missed approach procedure.

b. The "before landing" checklist will be completed, except for final landing flaps, at or before the Final Approach Fix. Final landing flaps will not be extended until the landing is assured.

c. On precision approaches during the final approach phase, the pilot not making the approach will call out:

1. Any altitude deviation below the glideslope.
2. Any lateral deviation of more than one dot.
3. Any equipment malfunction.
4. Any rate of descent more than that prescribed for the approach being made and the airspeed being maintained.
5. 1,000, 500, 100 feet above MDA/DH.
6. MDA/DH and missed approach point.
7. At the MAP:
 - (a) "Airport in sight" if such is the case, or
 - (b) "airport not in sight," at which time missed approach procedures will be immediately instituted.

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8. When the landing is assured, "check Landing Gear down, flaps (position)."

d. On non-precision approaches:

1. Any deviation below the MDA/DH if the airport or the MAP has not been seen or reached, FAR 91.117(b).

2. "Should-be-at" altitudes on airport surveillance radar approaches.

e. Single-pilot instrument approaches require extra vigilance. To fly a precision approach to minimum altitude and look for the airport while remembering checklists requires planning, alertness, self-discipline and a professional attitude. No NPS pilot should attempt any flight maneuver, including an instrument approach, which is beyond his ability to complete successfully.

COLD WEATHER OPERATIONS

During cold weather, special conditions may prevail and NPS pilots will use the following to guide their flight operations:

a. Snow, slush and precipitation present hazards to the pilot on takeoff and landing and in moving about on the airport.

1. Directional control is reduced.

2. Brake effectiveness is reduced and may be nil due to ice or hydroplaning.

3. Takeoff distance may be increased due to the slowing effect of snow. If confronted with a short runway the pilot must be aware of his accelerate/stop distance and plan a weight reduction if necessary.

4. Snow at the side of the runway and taxiway may be a hazard to wing clearance.

5. Runway and taxiway signs, numbers and directions may be obscured.

6. Blowing snow from wind or air blast may obscure visibility.

7. There may be snow removal equipment moving about on the airport.

b. Following takeoff in freezing conditions with any type of moisture on the runway landing gear should not be retracted until the moisture has had time to freeze.

c. The pilot will ensure that no carbon monoxide enters the cabin area from the use of ground heating equipment.

d. (Reserved for "Alaska Operations")

EMERGENCIES

All inflight emergencies will be handled in accordance with FAR 91.3(b) and (c) and Part 6, Safety, of this handbook.

a. In the case of an inoperative engine or multi-engine aircraft, the pilot will land at the nearest suitable airport in point of time, FAR 121.565(A).

b. If any component of the communications and/or navigational radio becomes inoperative, pilots will act in conformity with FAR 91.127 and 91.129.

If the flight is on a VFR flight plan, it may continue to destination providing at least one communications radio is operative.

c. In the case of an inflight disability the flight will land at the nearest suitable airport and take appropriate action. Oxygen should be administered as needed.

TRAINING AND PROFICIENCY

a. Performance of flying duties which involves piloting single-engine and multi-engine aircraft during day, night and instrument weather under hazardous conditions requires well-developed special skills and related judgment which must be maintained by frequent practice. NPS pilots shall maintain flight proficiency on the basis of the following minimum requirements, which shall be met by actual working missions or practice flights:

1. Instrument Flight: Two hours each month of which at least one hour shall be in an aircraft and at least one instrument approach for each hour of flight, FAR 61.57e (1)(j) (new).
2. Night Flight: Five takeoffs and landings to a full stop each 60-day period.
3. Helicopter Flight: One hour each month and ten hours within 60 days of working missions.
4. Aircraft Type: Five takeoffs and landings to a full stop during each 60-day period in each category and class of aircraft to which assigned.
5. Emergency Procedure Practice in Multi-engine Aircraft: One hour each 60 days to consist of simulated engine failure and its effect on takeoff, landing, control and performance. Emergency landings and equipment emergencies should also be included.
6. Special Flight Techniques: Two flight hours practice prior to working missions in all categories, such as cargo dropping, smoke jumping, etc., if more than 30 days has elapsed since the last flight of the same type.

b. When necessary, the RAM will establish a training program sufficient to ensure that each pilot-in-command is adequately trained to perform the duties to which he is to be assigned. The initial training phases, both flight and ground, shall be satisfactorily completed prior to serving as pilot-in-command

or second-in-command in any operation. Each phase of such training program will be documented and a file maintained for each NPS pilot, full time and incidental, containing at least the following items:

1. Personal biographical information.
 2. All previous training and experience.
 3. Copies of all certificates held.
 4. All training acquired through the NPS training program.
 5. Flight time under NPS employment.
 6. NPS flight check given and results thereof.
(Form No. 10-818)(See Appendix 2).
- c. Each full-time pilot will take a FAA flight check ride annually, Form (10-818).
- d. Through cooperative agreements with other agencies, NPS pilots may attend and participate in flight training schools, seminars and refresher courses operated by them. The NPS will pay the pro-rata share for each pilot entered in such a training program.

FLIGHT AND DUTY TIME LIMITATIONS

All aircraft flight crew members, except those flying military aircraft, scheduled airline aircraft or aircraft operated under irregular air carrier certification, will be limited to the following flight and duty-hour limitations.

Duty hours per day	16
Low-level flight hours per day	6
Single pilot aircraft flight hours per day	8
Two pilot aircraft flight hours per day	10
Maximum flight hours per week, single pilot	36
Maximum flight hours per week, two pilot	40

At least two 24-hour rest periods must be allowed in any consecutive 14-day period.

Flight crew members with a normal daytime tour of duty may not be assigned or accept night crew mission time in excess of seven hours and a ten-hour rest period must be provided at the completion of the night flight prior to recall to duty.

Whenever low-level and other flight missions occur on the same day, the combined flight time shall not exceed six hours.

For the purposes of this paragraph, duty time is defined as any time a person is engaged in the performance of any work connected to the NPS or a commercial operation operating under FAA 135 or 121 certificate.

OTHER DUTIES AND RESPONSIBILITIES

a. No passenger may be deplaned from a single-engined aircraft with the engine running.

No person may be deplaned from a multi-engine aircraft with a fore and aft engine arrangement with either engine running.

On a multi-engine aircraft with the door over the wing and behind the engine, that engine must be shut down and the opposite engine may be kept running provided that the aircraft is parked in such a way that the deplaning passenger may proceed directly from the aircraft to the gate.

On multi-engine aircraft with the door behind the wing both engines may be kept running provided the second pilot escorts the passenger(s) to the terminal area. If no second pilot is available, the door-side engine must be shut down.

b. Pilots are responsible for obtaining the names, home station, and travel authorizations from all passengers on the flight.

c. A waiver release will be completed prior to boarding the aircraft for all non-NPS employees.

d. The NPS Discrepancy Form for the aircraft will be completed by the pilot. He will initial any new entry he makes. The form will be left in the aircraft so that a continuous record of discrepancies and action-taken is available to the pilot.

e. All cargo carried during flight operations must be carried in an approved cargo rack, bin or compartment and must be secured in a manner that will not endanger safety of passengers, crew or structural sections of the aircraft.

In lieu of the above, cargo (baggage) may be carried on seats or floor in the passenger compartment providing it is secured with approved tie-downs (seat belts approved) of sufficient strength to ensure the items remaining stationary under all conditions. Such items may not be carried in this manner if they will block emergency exits, signs, placards, etc.

SEAPLANE OPERATIONS

All seaplane water operations shall be daylight, VFR only. No night takeoffs or landings are permitted.

All aircraft when on extended over-water flights shall have approved-type flotation gear (inflatable life jackets with lights) for each person on board. These shall be stowed in an easily accessible location. Passengers shall be instructed as to the location and the use of the flotation gear and the aircraft exits before takeoff.

Seaplanes and amphibious aircraft shall be equipped with anchors, mooring lines, bilge pumps, paddles, etc., necessary for the particular operation in which the aircraft is engaged.

An approved-type pyrotechnic signaling device shall be carried aboard.

WAIVERS

It is recognized that NPS air operations extend continent-wide with a great variety of activities and missions.

Therefore, while the rules, regulations and procedures established in this handbook are intended to be normative, waivers for particular operations may be granted, provided that:

- a. The Regional Director in whose region the special operation is to take place makes application to the Director, NPS, stating the necessity and the reasons for the deviation along with proposed safety requirements.
- b. The pilot and the aircraft to be used have been checked for applicability for such a deviation.
- c. The Director approves in writing the deviation.

It is not the intent of this paragraph to allow widespread deviations from normal operation procedures. The intent of the handbook is to be restrictive in order to have the greatest possible safety factor. Superintendents and Regional Directors should be aware of this intent and make every effort to conform air operations to the normal procedures. Exceptions are for non-normal, non-routine missions.

Except in the case of pilots employed before the authorization of this handbook, it is not the intent of this paragraph to grant any waiver for pilot qualifications. Pilot qualifications will be adhered to except for exemptions contained in the body of the handbook.

NATIONAL PARK SERVICE DISCREPANCY FORM

Left Engine _____ Right Engine _____ Airframe _____ Page _____ of _____

Note: All Serialized Aircraft and Engine Components Replaced Must Have Serial No. of the New and Old Unit Entered on This Form and in the Log Books.

Number	DISCREPANCY	Number	CORRECTIVE ACTION TAKEN	Mech.	Instrument

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Form 10-813

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AIRMAN PROFICIENCY/QUALIFICATION CHECK				DATE OF CHECK	
				LOCATION	
NAME OF AIRMAN (Last, first, middle initial)				TYPE OF CHECK	
EMPLOYED BY		BASED AT (City and State)		TYPE AIRCRAFT/SIMULATOR USED	
NAME OF CHECK AIRMAN				BLOCK TIME	
FLIGHT MANEUVERS GRADE (S-Satisfactory U-Unsatisfactory)					
PILOT				REMARKS	
S - SATISFACTORY	U - UNSATISFACTORY	AIR-CRAFT	SIMU-LATOR		
W - WAIVER (See Appendix F to 121)					
PREFLIGHT					
1. EQUIPMENT EXAMINATION (Oral or written)					
2. * PREFLIGHT INSPECTION					
3. TAXIING					
4. POWERPLANT CHECKS					
TAKEOFFS					
5. NORMAL					
6. INSTRUMENT					
7. CROSSWIND					
8. WITH SIMULATED POWERPLANT FAILURE					
9. * REJECTED TAKEOFF					
INSTRUMENT PROCEDURES					
10. * AREA DEPARTURE					
11. * HOLDING					
12. * AREA ARRIVAL					
13. ILS APPROACHES					
14. OTHER INSTRUMENT APPROACHES					
15. CIRCLING APPROACHES					
16. MISSED APPROACHES					
INFLIGHT MANEUVERS					
17. * STEEP TURNS					
18. * APPROACHES TO STALLS					
19. * SPECIFIC FLIGHT CHARACTERISTICS					
20. POWERPLANT FAILURE					
LANDINGS					
21. NORMAL					
22. FROM AN ILS					
23. CROSSWIND					
24. WITH SIMULATED POWERPLANT(S) FAILURE					
25. REJECTED LANDING					
26. FROM CIRCLING APPROACH					
27. NORMAL AND ABNORMAL PROCEDURES					
28. EMERGENCY PROCEDURES					
29. JUDGEMENT					
30. HOVERING MANEUVERS					
31. RAPID DECELERATIONS (Quick stops)					
32. AUTOROTATIONS (Single engine helo. only)					
Items that may be waived are indicated by an asterisk (*) See Appendix F to FAR 121. All applicable items must be graded S, U or W.					
RESULT OF CHECK		APPROVED		AIRMAN'S SIGNATURE	
		DISAPPROVED			
REGION				INSPECTOR'S SIGNATURE	

The pilot is responsible for obtaining all inspections and maintenance of aircraft assigned to him. He may delegate the performance of the inspections and maintenance but retains the responsibility.

100 HOUR/ANNUAL (ROUTINE) INSPECTIONS

All routine inspections, including 100 hour and annual, will be conducted in accordance with either the inspection system prescribed by the manufacturer and/or the FAA (FAR 91.169) or an inspection program approved under FAR 91, Subpart D.

Each person or shop performing routine inspection shall use the manufacturer's inspection form provided for the specific make and model aircraft to be inspected. Each routine inspection form shall be identified by the aircraft's make and model and shall contain the scope and detail of each item to be inspected.

The pilot responsible for arranging maintenance and inspections shall make available all aircraft records, logs, etc., to the mechanic making the inspection or doing the maintenance. The pilot is also responsible for ensuring that all log entries, as appropriate, are made before the aircraft is returned to service.

a. All repairs, alterations and preventative maintenance will be performed in accordance with FAR 43, manufacturer's recommendations, specifications, Service bulletins, Service letters and Airworthiness directives, as well as AC 43.13-1, AC 43.13-2 and other approved data.

No aircraft may be dispatched on a flight with any item of equipment inoperative unless properly qualified persons have determined that the equipment is not essential to the flight and the pilot is aware of the inoperative condition.

All installed equipment and instruments will be included in the NPS inspection systems and schedules.

b. All aircraft will be inspected for compliance with all applicable FARs prior to being included on the NPS roster of aircraft ready for flight use.

c. No person will be utilized by the NPS to perform inspection or maintenance unless he is properly certified.

DISCREPANCY REPORTS

The pilot shall record all mechanical irregularities (discrepancies) that occur during any part of the flight by recording in the "Discrepancy" column of the Discrepancy Form (See Appendix 1, Part 4).

Upon receipt of the Discrepancy Form listing mechanical irregularities, the persons authorized to perform maintenance shall record a complete description of corrective action taken under the column headed "Corrective Action" and sign the certification statement approving the aircraft for return to service.

MALFUNCTION OR DEFECT REPORT (MDR)

MDR is a report to enable the FAA to collect data concerning malfunctions and/or defects occurring to air frame, engine and avionic components so that corrective action may be taken by all aircraft users.

The pilot will be responsible for submitting MDRs to the District Office of the FAA, through his Superintendent and the RAM. This report will be submitted on FAA Form 8330-2 (See Appendix 1) when a malfunction or defect occurs.

The local FAA District Office will supply the forms. (Form 8330-2 will be completed as instructed in FAR 135.57).

AIR OPERATIONS
Inspections and Maintenance

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1. REGISTRATION NO. N-		DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION MALFUNCTION OR DEFECT REPORT			Form Approved Budget Bureau No. 04-R0003	8. DATE SUB.		FOR FAA USE ONLY CONTROL NO.			
2. AIRCRAFT		A. MAKE	B. MODEL	C. SERIAL NO.	7A. COMMENTS (Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)						
3. POWERPLANT											
4. PROPELLER											
5. APPLIANCE/COMPONENT (assy. that includes part)											
A. NAME		B. MAKE	C. MODEL	D. SERIAL NO.							
6. SPECIFIC PART (of component) CAUSING TROUBLE											
A. NAME		B. NUMBER		C. PART/DEFECT LOCATION	Continue on reverse						
					SUBMITTED BY						
FAA USE	E. PART TT	F. PART TSO	G. PART CONDITION	B.	C.	D.	E.	F.	G.	H.	I.
D. ATA CODE				REP. STA.	OPER.	MECH.	AIR TAXI	MFG.	FAA	OTHER	

FAA FORM 8330-2 (9-70) SUPERSEDES PREVIOUS EDITIONS

Release No. 1

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GENERAL SAFETY POLICY

No NPS air operation is so important or so urgent that it cannot be done safely. Safety will be integrated into all phases of air work to minimize, or eliminate, risks and hazards. Because of potential hazards, there will be intensive and regular inspections of air personnel, equipment and operation. The frequency will depend on the volume of activity and changes in personnel.

No person will engage in NPS air operations until the Regional Director has determined that he is qualified to do so. NPS employees, while on official duty, shall not ride in any aircraft nor fly with any pilot that has not been checked and approved for NPS air operations.

Personnel involved with air operations should be instructed in the following safety requirements:

Airports, heliports and helispots:

- a. Do not approach any aircraft until the propeller has been completely stopped and the switch turned off.
- b. Be constantly alert -- cars, trucks and service vehicles of all kinds are constantly moving about the ramp areas.
- c. In the case of helicopters, the tail rotor area is extremely dangerous: Do not approach ANY helicopter from the rear, ALWAYS from the front, ALWAYS in view of the pilot so that he may signal his intentions.
- d. Stay put until told to move.

Helicopter Operations:

- a. General: People have been injured, some fatally in helicopter accidents which would not have occurred had they been informed of the proper method of boarding or deplaning. A properly briefed passenger should never be endangered by a

Helicopter Operations: (con.)

spinning tail rotor, yet some have lost their lives because they were not told the proper way to approach or depart the aircraft. The simplest method of avoiding accidents of this sort is to have the rotors stopped before passengers are boarded or allowed to depart. Because this action is not always practicable, and to realize the vast and unique capabilities of the helicopter, it is often necessary to take on passengers or the deplane them while the engine and rotors are at, or close to, operational setting. Therefore, if accidents are to be avoided, it is essential that all persons associated with helicopter operations, including passengers, be made aware of all possible hazards and instructed as to how they can be avoided.

b. Non-flight Crew Personnel: Persons directly involved with enplaning or deplaning passengers, aircraft servicing, rigging or hooking up of external loads, etc., should be instructed as to their duties. It would be difficult if not impossible to cover each and every type of operation or non-flight crew training matter related to helicopters. A few of the more obvious and common operations are covered below:

1. Ramp Attendants and Aircraft Servicing Personnel: These personnel should be instructed as to their specific duties, and the proper method of fulfilling them. In addition, the ramp attendant should be taught to:

(a) Keep passengers and unauthorized persons out of the helicopter landing and takeoff area.

(b) Brief passengers on the best way to approach and board a helicopter with its rotors turning.
(See b1 above).

2. External Load Riggers: Rigger training is possibly one of the most difficult and continually changing problems of the helicopter external load operator. A poorly rigged cargo net, light standard or load pallet could result in a serious and costly accident. It is imperative that all riggers be thoroughly trained to meet the needs of each

Helicopter Operations: (con.)

individual external load operation. Since rigging requirements may vary several times in a single day, proper training is of the utmost importance to safe operations.

3. External Load Hook-up Men:

(a) Know the lifting capability of the helicopters involved. Since some operators have models of helicopters that have almost identical physical characteristics, but with different lifting capabilities, this knowledge is essential. For example, a hook-up man may be working with a turbo-supercharged helicopter on a high altitude project and without any warning a non-supercharged helicopter, which looks exactly the same to the ground crew, comes to a hover to pick up a load. It does not take a vivid imagination to see what could happen if the hook-up man connects a load far too heavy for the non-supercharged helicopter to lift.

(b) Know the pilots. The safest plan would be to standardize all pilots insofar as the manner in which sling loads are picked up and released. Without pilot standardization, the hook-up man should learn the technique used by each pilot. Does he come in fast or slow, high or low? Does he try to lift the load off with a combination of collective and cyclic? The hook-up man should specifically demand standardization on the pilot's technique for any sort of emergency occurring while he is beneath the helicopter.

(c) Know the cargo. Many items carried via sling are very fragile, others can take a beating. The hook-up man should always know when a hazardous article is involved and the nature of the hazard, such as explosives, radioactive materials, toxic chemicals. In addition to knowing this, he should be familiar with the types of protective gear or clothing or actions that are necessary for his and the operations safety.