

AVIATION INSTRUCTIONS

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UNITED STATES COAST GUARD

AVIATION INSTRUCTIONS

U. S. COAST GUARD

Washington, D. C.

15 October, 1936

The Aviation Instructions, United States Coast Guard, are issued for the guidance of all concerned with Coast Guard aviation, and will have the same force and effect as regulations for the government of the Coast Guard. These instructions supercede Aviation Instructions, United States Coast Guard, 1932.

STEPHEN B. GIBBONS

Assistant Secretary.

CHAPTER I

ESTABLISHMENT.

101. THE ACT OF 29 AUGUST, 1916 (39 STAT. 600) ESTABLISHMENT.
IS QUOTED HEREWITH: "THAT FOR THE PURPOSE OF
SAVING LIFE AND PROPERTY ALONG THE COASTS OF
THE UNITED STATES AND AT SEA CONTIGUOUS THERE-
TO, AND TO ASSIST IN THE NATIONAL DEFENSE, THE
SECRETARY OF THE TREASURY IS AUTHORIZED TO
ESTABLISH, EQUIP, AND MAINTAIN AVIATION STA-
TIONS, NOT EXCEEDING TEN IN NUMBER, AT SUCH
POINTS ON THE ATLANTIC AND PACIFIC COASTS, THE
GULF OF MEXICO, AND THE GREAT LAKES AS HE MAY
DEEM ADVISABLE, AND TO DETAIL FOR AVIATION
DUTY IN CONNECTION THEREWITH OFFICERS AND EN-
LISTED MEN OF THE UNITED STATES COAST GUARD."

102. All aeronautical functions of the Treasury De- Aeronautical
partment are vested in the Coast Guard and will be functions
carried out by the aeronautical organization of that Treasury
Service. Department.

103. The aeronautical organization of the Coast Duties.
Guard will perform any duties with which the Coast
Guard is charged, subject only to the limitations of
aircraft.

CHAPTER II

ORGANIZATION

Section 1

Aviation Division.

201. The Aviation Division is subject to the admin- Administration
istrative control of the Chief of Operations.

202. The Aviation Division is responsible for the Duties
planning of aviation operations as an integral part of
the general Coast Guard plan of operations, the cor-
relation and coordination of aviation activities with
other activities of the Service, and for the selection
and/or design of aircraft, motors, and aircraft acces-
sories most useful for Coast Guard purposes, and the
maintenance and repairs of the same, excepting those
appertaining to Communications and Ordnance.

203. The Aviation Division will make recommenda- Personnel
tions to the Personnel Division for details of officer
for duty in connection with aeronautics and for the
distribution in the various ratings of the enlisted
personnel required for aeronautic activities. It will
also make recommendations on all matters pertaining
to aeronautic training

204. The Engineering Division shall have cognizance Engineering
of all aeronautical accessories that are an integral
part of the structure of any surface vessel, but their
design and installation shall be satisfactory to the
Aviation Division.

205. The Communications Division shall have cog- Communications
nizance of all matters relating to the design, manu-
facture, installation, maintenance, repair and opera-
tion of aircraft radio installations and radio instal-
lations at Air Stations but their installation shall be
satisfactory to the Aviation Division.

Ordnance 206. The Ordnance Section shall have cognizance of all ordnance equipment including pyrotechnics on airplanes and at Air Stations. Such equipment must be satisfactory to the Aviation Division.

Other Divisions. 207. The functions of Divisions and Sections other than those enumerated above will be performed for the Aviation Division in the same manner as they are performed for other Divisions and Sections.

Upkeep and operation of aviation units. 208. The Aviation Division shall have cognizance over the policy of the upkeep and operation of Air Stations and Air Patrol Detachments, and aircraft assigned to them and to vessels.

Duties, Chief Aviation Division. 209. Chief of Aviation Division. As head of the organization he is responsible to the Chief of Operations for all portions of the work of the Division.

Operations Section: duties. 210. Operations Section. This Section will keep current plans for coordination of aviation operations with other Coast Guard operating units. It will make a study of the types and characteristics of all aircraft and special aviation appliances, with particular reference to their suitability for use by the Coast Guard. It will recommend to the Chief of the Division the number, type and distribution of airplanes required to perform service duties and the number and types of airplanes to be procured. It will maintain statistics showing work performed by Coast Guard aircraft.

Materiel Section: duties. 211. Materiel Section. This Section is charged with the design production and procurement of aircraft, aircraft engines, and all materiel that is used in connection with aeronautics. The maintenance, survey, repair and salvage of aircraft, aircraft engines and materiel required for aeronautic purposes, is a function of this Section. The Section will compile statistics required for efficiency and economy in the design, production, maintenance and use of aeronautic materiel. It has cognizance of all inspections and tests required in the production and repair of aircraft and aeronautic materiel. The upkeep and repair of buildings and other utilities at Air Stations are a function of this section. It will maintain records of all inspections made by the Division.

212. Finance Section. The supervision of the financial affairs of the Division, including estimates for appropriations, allotments of funds under control of the Division, record of financial transactions, and checking of bills, requisitions and vouchers before signature are a function and duty of this Section. This Section will collect and compile aeronautic information for use of the Division. This Section will be assisted as necessary by other Sections in the Division.

Finance
Section;
duties.

213. A chart showing the organization of the Aviation Division is attached as an appendix.

Aviation Division;
organization
chart.

Section 2

Field Organization

214. Air Stations are self contained units in command of a commissioned officer who has the same authority and responsibility as provided by Coast Guard Regulations for the commanding officer of a vessel. Air Stations are subject to the jurisdiction of the commander of the division in which they are located. Air Stations will have the following minimum facilities:

Air Stations;
authority and
responsibility
of Commanding
Officer.
Minimum
facilities.

- (a) Hangar and ramp for airplanes.
- (b) Barracks and messing for personnel.
- (c) Administrative offices.
- (d) Radio, telephone, and inter-communication systems.
- (e) Machine and repair shops for maintenance of and repairs to airplanes and equipment.
- (f) Storage space for supplies and spare parts.
- (g) Crash boat.
- (h) Trucks and tractor.

215. Air Patrol Detachments are of a temporary nature and are organized to perform special missions. They are subject to the jurisdiction of the commander of the division in which they are operating. Their facilities are necessarily limited and may consist of space in Army, Navy or commercial hangars. When practicable, quarters and messing facilities of the Army and Navy will be availed of. They are expected to perform routine checks, maintain airplanes and equipment, and make minor repairs.

Air Patrol
Detachments.

Facilities.

Quarters and
messing.

Maintenance

Airplane as vessel. 216. When assigned to vessels, aviation personnel and aeronautical materiel are in all respects subject to the jurisdiction of the commanding officer of the vessel. Aviation will be considered a department of the vessel's organization in the same manner as are the Navigator's and Ordnance Departments. The senior Coast Guard aviator will be the Department head. The responsibility of the commanding officer of the vessel is the same as for any other part of the ship's organization.

Aviation a ship's department.

Department head. Responsibility of Commanding Officer.

ORGANIZATION, AVIATION DIVISION, U. S. COAST GUARD.

CHIEF, AVIATION DIVISION

The Aviation Division is responsible for the planning of aviation operations as an integral part of the general Coast Guard plan of operations, the correlation and coordination of aviation activities with other activities of the Service, and for the selection and/or design of aircraft, motors, and aircraft accessories most useful for Coast Guard purposes and the maintenance and repair of the same, excepting those appertaining to Communications and Ordnance.

Captain or Commander
(Qualified Aviator or Observer)

MATERIEL SECTION

Design, production, and procurement of aircraft, aircraft engines, and all materiel that is used in connection with aeronautics.
Maintenance, survey, repair and salvage of aircraft, aircraft engines, and materiel required for aeronautic purposes.
Compilation of statistics required for efficiency and economy in the design, production, maintenance, and use of aeronautic materiel.
Cognition of all inspections and tests required in the production and repair of aircraft and aeronautic materiel.
Upkeep and repair of buildings and other utilities at Air Stations.
Maintenance records of all inspections made by the Division.

Lieutenant Commander or Lieutenant.
(Qualified Aviator or Observer)

Chief Machinist or Machinist
(Qualified for Aviation Duty)
Civil Engineer or
Associate Civil Engineer

OPERATIONS SECTION

Keep current plans for coordination of aviation operations with other Coast Guard operating units.
Study types and characteristics of all aircraft and special aviation appliances, with particular reference to their suitability for use by the Coast Guard.
Recommended to the Chief, Aviation Division the number, type, and distribution of airplanes required to perform service duties, and the number and types of airplanes to be procured.
Maintain statistics showing work performed by Coast Guard aircraft.

Lieutenant Commander or Lieutenant.
(Qualified Aviator or Observer)

FINANCE SECTION

Supervision of the financial affairs of the Division, including estimates for appropriations, allotments of funds under the control of Division, records of financial transactions, and checking of bills, requisitions, and vouchers before signature.
Collection and compilation of aeronautic information for the use of the Division.
This Section will be assisted as necessary by other sections in the Division.

Chief Pay Clerk or Pay Clerk
Yeoman, first class, or
Clerk-Stenographer.

Technical Adviser
to Operations and
Materiel Sections
Senior Aeronautical
Engineer

STENOGRAPHY AND FILES
Clerk-Stenographer.
Clerk-Stenographer.
Clerk-Stenographer.

CHAPTER III

OPERATIONS

301. OPERATION OF COAST GUARD AIRCRAFT IS LIMITED TO SUCH ACTIIVITY AS IS NECESSARY: TO PERFORM THE DUTIES, AND MAINTAIN AND IMPROVE THE EFFICIENCY OF THE COAST GUARD; IN THE INTEREST OF HUMANITY; IN THE INTEREST OF THE GOVERNMENT. ALL OFFICERS WHO ARE AUTHORIZED TO DIRECT THE OPERATIONS OF COAST GUARD AIRCRAFT WILL BE GOVERNED HEREBY.

Aircraft
Operation
Policy.

302. Headquarters is authorized to make permanent or temporary transfers of airplanes from one unit to another as the needs of the Service require.

Headquarters
authority air-
craft transfers.

303. A Division Commander is authorized to make temporary transfers of aircraft from one unit to another within his Division for a period not to exceed thirty days. He will advise Headquarters when such temporary transfers are made and of the intended period the aircraft will remain away from its permanent station.

Division
Commander's
authority, air-
craft transfers.

304. Rules, regulations and instructions for aircraft operated by civilians are promulgated in aeronautics bulletins and airway bulletins by the Bureau of Air Commerce of the Department of Commerce. Coast Guard aviation units are on the mailing lists for these publications. Coast Guard aircraft will conform to the rules promulgated by the Department of Commerce except when departure therefrom is warranted by urgent Coast Guard necessity.

Aircraft
operation
regulations.
Department
of Commerce.

305 (a) Aircraft operations constituting infringement upon the legitimate field of commercial aviation are not authorized.

Aircraft
operations not
authorized,
infringement

(b) Aircraft operations are authorized for the assis-

commercial.

Aircraft operations, law enforcement, other Bureaus & departments. tance of bureaus of the Treasury Department and for other departments of the Federal Government in connection with enforcement of laws.

Aircraft operations other than law. Enforcement, other Bureaus and Depart- ments. (c) Aircraft operations in connection with service, in other than law enforcement, to other departments of the Federal Government are authorized in accordance with the existing laws, provided all expenses of the flight are borne by the department concerned. Authority for such operation is vested in Headquarters.

Flights defined. 306. Flights of aircraft are defined as follows:

Local flight. (a) A local flight is one in which the flight of an aircraft does not exceed a radius of twenty miles from its ship, station or detachment, and remains in its division.

Patrol flight. (b) A patrol flight is one in which aircraft operate in an area within the division to be defined by the division commander. Such patrol areas will be assigned by division commanders to each ship, station or detachment operating aircraft. Headquarters will be furnished a copy of each order defining such patrol areas.

Division flight. (c) A division flight is one in which an aircraft operates outside of the limits of the patrol area of its ship, station or detachment and remains in its division.

Interdivision flight. (d) An interdivision flight is one in which aircraft attached to a ship, station or detachment in a division enters another division.

Authority for ordering flights. 307. Authority for ordering flights will be as follows:

Headquarters. (a) Headquarters may authorize flights for aircraft anywhere within the continental limits of the United States; or its territorial possessions.

Authority of Division Commanders. (b) Division Commanders may authorize

- (1) Local flights
- (2) Patrol flights
- (3) Division flights
- (4) Interdivision flights in cases of emergency in which case they will notify by dispatch,

Headquarters and the division into which the flight is made.

- (5) Headquarters approves the principle of division flights over land areas made for the purpose of extended flight training.

(c) Commanding Officers of ships, stations or detachments to which aircraft are assigned may authorize:

Authority of
Commanding
Officers.

(1) Local flights

(2) Patrol flights

(3) Division flights in cases of emergency.

Restrictions as
to pilots.

308. Officers indicated in paragraph 307 may authorize persons noted below to act as pilots of Coast Guard aircraft:

(a) Coast Guard aviators and aviation pilots.

Coast Guard
pilots.

(b) Student Coast Guard aviators and aviation pilots while undergoing instruction authorized by Headquarters. No officer or enlisted man of the Coast Guard will be given flight training or permitted to make solo flights except when such training is duly authorized by Headquarters.

Flight training.
Student Coast
Guard pilots.

(c) Pilots of the Army Air Corps and Naval aviators, when flight is made for test and other purposes of benefit to the Government.

Military pilot.

(d) Pilots of the Naval Reserve Force, Marine Corps Reserve, the Army Air Corps Reserve, and civilian pilots, with properly approved credentials, when flights come within one of the following classifications:

Reserve and
civilian pilots.

(1) In the interests of another Government Department when that person's services are engaged by the Government Department in a flight.

Flight in interest
of other Govern-
ment Depart-
ment

(2) When the person concerned is employed by a contractor to the Government and when such flying will be of benefit to the Government.

Flight of benefit
to Government

(3) Flight by personnel noted in this paragraph will be limited to local flights in the immediate vicinity of the station to which

Limitation of
flight.

the aircraft is attached.

(e) Flights as pilots authorized in the preceding paragraph must not conflict with the activity of operating aviation units and must be limited to an amount essential to accomplishment of the purpose of the flight. Commanding Officers will assure themselves of the authenticity of the request for such flights, of the competency of the person concerned to fly the partic-

Flights not to
conflict with ser-
vice activities.

ular type of aircraft, and will further keep a record of such flying by persons not attached to the Coast Guard, such record to be transmitted monthly to Headquarters.

Passenger flights. 309. Passenger flights in Coast Guard aircraft may be authorized as follows:

(a) Commanding Officers may authorize passenger flights of:

Military and reserve personnel. (1) Officers and men of the Army, Navy, Marine Corps, Coast Guard, Public Health Service, Reserve forces on active duty, officers of the Navy, Marine Corps and Army Reserve Corps on inactive status.

Civilians. (2) Civilians actively employed on work in connection with Coast Guard aircraft.

Emergency cases. (3) Civilians in cases of real emergency, when other means of relief are not available.

Newspaper correspondents (4) Civilian newspaper correspondents when publicity gained is to the advantage of the Coast Guard.

Wives and mothers of Coast Guard personnel. (5) Wives and mothers of Coast Guard personnel detailed to duty involving flying, provided that not more than two flights per year are made. The flights will be local flights in the immediate vicinity of the station. Acrobatics are not permitted on these flights and aircraft shall be handled with the desired effect of instilling confidence in wives and mothers. Not more than two women will be carried on any one flight. Letters requesting such flights will be submitted to the Commanding Officer stating the names and relationship of the members of his family he wishes to be given flights. Officers authorizing these flights will issue such local regulations as they may consider necessary and will take steps to insure that all flying is carried on in a normal and uniform manner.

Authority of Headquarters and Division Commanders, passengers flights. (b) In addition to the above, Headquarters and Division Commanders may authorize the following passenger flights:

Personnel of Treasury and other Government Department. (1) Personnel of other Bureaus of the Treasury Department and other Departments of the Federal Government when on official business.

Prominent citizen. (2) Adult citizens of prominence when there is good reason to suppose that their flights will be in the interests of the Coast Guard or the Government.

Civilian photographers. (3) Civilian photographers, in accordance with the provisions of Circular 125 Regulations.

(c) No exception to this article will be permitted without the specific approval of Headquarters. No exception permitted.

310. A signed certificate absolving the United States Government of all blame and responsibility for any injuries which may be received as a result of Coast Guard aircraft shall be obtained before the commencement of the flight, from all persons authorized to make flights in Coast Guard aircraft, except officers and men of the Army, Navy, Marine Corps and Coast Guard, and officers and men of the Navy, Marine Corps and Army Air Corps Reserves on active duty, and civilians employed by the Coast Guard or other departments of the Government when in a duty status involving flights. The certificate shall be in the following form:

"RELEASE

Release of
United States.

(Place)

(Date)

KNOW ALL MEN BY THESE PRESENTS, that, whereas I, (full name) am about to take flight or flights on the above mentioned date in certain Coast Guard aircraft; and whereas, I am doing so entirely at my own initiative, risk and responsibility and am not acting upon the orders or suggestions of the United States Government or of any of its officers or agents; now, therefore, in consideration of the permission extended to me by the United States through its officers and agents to take said flight or flights, I do hereby for myself, my heirs, executors, administrators and assigns, remise, release and forever discharge the Government of the United States, any and all of its officers and agents, from any and all claims, demands, actions or causes of action, arising out of any injury or death that may occur to me by reason of the said flight or flights irrespective of how much injury, or that death may occur.

(Signature)

(Name of person to be notified in emergency)

(Signature of witness)

(Address of person to be notified in emergency.)"

Aircraft participation in celebrations. 311. Headquarters and Division Commanders may authorize the visit and participation of Coast Guard aircraft in celebrations of distinct national, State, Navy, Army or Coast Guard significance, at times when conditions render participation practicable. Such visits or participations shall not be authorized on Sundays. Action taken must be based on operating schedules, noninterference with normal function, and relative importance of the occasion, giving due regard to the expense incident thereto.

Responsibility for flights. 312. In the absence of direct orders from higher authority, who is cognizant of the entire situation the responsibility for starting or for continuing a flight with respect to weather or any other condition affecting the safety of the flight rests with the officer in charge of the flight except as provided in paragraphs (b) and (d).

Weather. (b) The Commanding Officer of a Coast Guard Air Station will not permit the taking off from the station under his command of aircraft when the state of the weather or the condition of the aircraft in question is such, as, in his estimation, to jeopardize the proposed flight.

Authority regarding other Coast Guard aircraft. (c) The Commanding Officer of an Air Station has no authority to prohibit other than Coast Guard aircraft taking the air where the only matter involved is the safety of the pilot or his aircraft.

Flights considered dangerous by aviator. (d) Should the Commanding Officer of a Coast Guard vessel direct the flight of aircraft attached to his

command which flight in the opinion of the Senior Aviator serving under him is dangerous because of weather, state of the sea, or the condition of the aircraft, the following procedure will be followed:- The Senior Aviator present for duty will enter in the ship's log over his own signature a statement that in his opinion the proposed flight is dangerous and will note the specific reasons why he considers it so. The Commanding Officer will then enter in the ship's log over his own signature the final action ordered by him with reference to the flight. A transcript of these entries shall be forwarded immediately to Headquarters. The decision of the Commanding Officer is final and he must accept full responsibility for the flight, if made.

(e) It is mandatory that undue or unnecessary risks shall not be taken in the operation of Coast Guard aircraft. This is particularly the case where the mission is of comparatively minor importance and the time element is not a governing factor. Close and intelligent cooperation between air and surface craft is the essence of efficient operation at sea. With such cooperation most missions can be accomplished successfully without subjecting personnel or material to undue risk of injury or damage.

Unnecessary
risks.

(f) During the course of service activities, cases may arise where lives are definitely at stake and can be saved only by aircraft. A pilot of experience and of sound judgment will know when the chances of success are sufficient to justify the danger to the crew of the plane. The decision he will have to make is one involving what is courageous and intelligent, and what is foolhardy and stupid. This is a decision which officers are called upon to make in all Service activities and is not limited to the operation of aircraft. It is a responsibility which goes with a commission in the Coast Guard.

Emergency.

313. Whenever practicable before starting on a flight, a forecast of weather conditions along the proposed route shall be obtained. Except in extreme emergency, the flight will not be made unless the forecast indicates safe flying conditions along the proposed route.

Weather
forecasts.

- Flight authority.** 314 (a) No aircraft will be taken into the air at any time without authority from the proper source, as designated by the Commanding Officer of the unit to which the aircraft is attached.
- Flight orders.** (b) Flight orders assigning personnel to the aviation organization of the Coast Guard are authority for flights in Coast Guard, Army, Navy and Marine Corps aircraft only. Such orders do not authorize flights in civil or commercial aircraft. If at any time it becomes necessary, in the interest of the Coast Guard, for Service personnel having flight orders to fly in civil or commercial aircraft for the purpose of testing planes, engines, accessories, or equipment, the Commanding Officer, of the Aviation Unit concerned is authorized to issue, in writing, orders covering the flight. Such orders will not be general but will cover the particular flight or flights required in performance of such tests.
- Command of aircraft** (c) Aircraft taken into the air will be commanded by a Coast Guard aviator, Coast Guard aviation pilot, or other person authorized in Article 308, so designated by the Commanding Officer of the unit to which the aircraft is attached.
- Status of other persons in flight** (d) Other Coast Guard aviators or Coast Guard aviation pilots and personnel on board the aircraft, whether or not senior to the person designated as Commanding Officer, will be either in the status of the aircraft's crew or of passengers, and this status will be definitely understood prior to the flight.
- Authority and responsibility of person in command of aircraft.** (e) The authority and responsibility of the Commanding Officer of an aircraft exists from the time he enters it preparatory to flight until he leaves it upon the completion of the flight, during which period the responsibility for the action of such aircraft and its crew and for any occurrence that results from the actions of the aircraft and its crew shall rest entirely upon him.
- Person in command of aircraft to insure safety of aircraft.** (f) When it is necessary to leave an aircraft on a field, airport, beach, body of water, or other area where military or naval personnel cannot take custody

of the aircraft, the Commanding Officer of the aircraft will take the proper measures to insure the safety of the aircraft. In case of accident to an aircraft the Commanding Officer thereof is responsible for its safe custody until the aircraft has been taken into custody by other proper authority or the aircraft has been shipped to proper authority.

(g) The foregoing does not in any way abridge or curtail the authority or responsibility of the senior officer except as regards the tactical handling and operation of the aircraft in which he is embarked. A squadron, division, or other group commander, if embarked on one of the aircraft of his command, retains full authority and responsibility regarding his squadron, division, or other group, and his relations to the Commanding Officer of the aircraft in which embarked are the same as his relations with the Commanding Officers of the other aircraft of his command.

Authority and
responsibility
of officer
senior to
aircraft com-
manding
officer.

315. Each officer or enlisted man who is detailed to duty involving flying will keep a complete record, in an aviator's log book, of the flights made by him, in accordance with the prescribed form. At the end of each calendar month and upon detachment of any person holding flight orders, the Commanding Officer will certify the flight log book, over his signature, as to its correctness.

Flight log
book.

316. If any person who is at that time assigned to duty involving flying is separated from the service, a certified copy of his flight log book will be made and forwarded to Headquarters. The record so forwarded will cover the total period of time during which the person is detailed to duty involving flying unless such period be longer than 12 months, in which case the record will cover the 12 months prior to separation from the service.

Separation
from Service;
transcript of
flight log.

317. (a) Before any Coast Guard aviator or aviation pilot who has flown less than 200 hours since receiving his designation as such is permitted to make a solo flight in a Coast Guard aircraft he will be given a minimum of three hours instruction in the type of airplane to be flown. Instructors will be Coast Guard

Instruction
prior to solo.

aviators. Appropriate entries will be made in the flight log of the person concerned and signed by the office or officers giving the instruction.

Check of
instruction.

(b) Upon completion of the instruction period, and before a solo flight is permitted, the candidate will be checked by two Coast Guard aviators one of whom is his Commanding Officer. The results of each check will be entered in the flight log of the candidate and signed by the aviators making the checks.

Qualified to
solo.

(c) If as a result of the checks the candidate is found qualified, he will be permitted to solo in the type of aircraft in which he has received instruction and has been checked. If he is not found qualified he will receive further instruction and will again be checked.

Report of pilots
not qualified to
solo.

(d) The Commanding Officer will report to Headquarters at once all failures of aviators or aviation pilots to pass checks for solo flights.

Commanding
Officer's check.

(e) If for any reason two aviators are not available, the instruction and check will be given by the Commanding Officer, if an aviator.

Instrument
flying instruc-
tion; syllabus.

318. (a) The following syllabus of instrument flying instruction will be pursued by each Coast Guard aviator and aviation pilot upon designation as such, and reporting to his station. The syllabus will be give priority over all other training, except that required in article 317, and will be completed at the earliest practicable date.

(b) Three hours familiarization, shallow turns up to 90 degrees, increasing in bank and degree. Precision in coming out on the desired heading should be aimed at. Check pilot should give desired heading or number of degrees turn in last part of this period.

(c) Three hours; climbs, glides, spirals; attain precision coming out on heading.

(d) Two hours; steep turns and spirals; precision.

(e) Two hours; student recover plane from unusual at-

titude placed in by instructor and completes a designated maneuver.

(f) Hooded navigational; student to proceed to a designated point offshore, preferably a lightship, ascertain his wind, compute his courses; time and speed for a triangular course 30 miles on a leg, then go under the hood and fly his course. Upon completion of run note deviation from point of departure.

(g) While undergoing instruction in instrument flying as provided in paragraphs (b) to (f), above, the student will be completely under the hood. He will be checked by a Coast Guard aviator or aviation pilot.

(h) Upon satisfactory completion of the course of instruction in instrument flying, Headquarters will be advised, and a suitable entry will be made in the individual's flight log book and signed by his Commanding Officer. Certificate of qualification will be issued to the individual concerned by the Commanding Officer.

319. Upon completion of the course of instruction in instrument flying, each pilot will complete a minimum of one hour practice in instrument flying, under the hood, each month. During this practice he will be accompanied by a safety pilot. Monthly instrument flying.

320. Each pilot will complete one hour of night flying each month, this practice to include not less than five landings. Monthly night flying.

321. The commanding officer will submit, monthly a report of instrument and night flying completed by the pilots attached to his command. Monthly report, night and instrument flying.

322. Upon the completion of any flight in Coast Guard aircraft, the pilot of the aircraft will submit a report thereof, on a form to be prescribed by Headquarters. The commanding officer will forward the report to Headquarters, in duplicate. Flight Operator Report.

CHAPTER V

SUPPLIES AND MATERIEL.

501. Every aircraft pilot shall familiarize himself Pilot to with the provisions of the Pay and Supply Instructions familiarize relating to the procurement of supplies, services, and himself with repairs to aircraft on extended flights and to return Pay & Supply shipment of aircraft damaged in forced landings. The Instructions. following articles of the Pay and Supply Instructions are quoted for information.

"523 (1) Proposals shall be solicited from at Solicitation least three responsible dealers when practicable from at least to do so. A copy of the specification, or a three dealers written notice, describing in detail the proposed and posting purchase, shall be posted in a public place in of notices viting a general participation in the competi- mandatory. tion. The invitation or public notice, shall allow sufficient time, which shall be at least 10 days under usual conditions, for interested dealers to prepare and submit their bids.
(R. S. 3709).

"(2) The immediate submission of bids shall not Immediate be specified on the "Invitation". Proposals shall submission state a definite time (not "immediately") for of bids not to the opening of bids. When it is necessary to be specified allow a shorter period than that specified in paragraph (1) of this article for the submission of bids, a full explanation therefor shall be submitted to Headquarters.

"524. When an emergency exists, purchases may Oral be made on the basis of oral solicitation of solicitation. prices from a reasonable number of dealers which may be regarded as sufficient to meet the requirements of Section 3709, Revised Statutes, when the facts presented show that other means

of advertising were not practicable. The offer of the most satisfactory bidder should, however, be confirmed in writing by the bidder and the resultant filed as required by law, and where the accepted oral bid is other than the lowest bid the reasons for accepting such bid should be shown.

When proposals
not solicited;
procedure must
be explained.

"525. If the nature of the emergency will not permit of oral solicitation of proposals, the material or services may be procured in the most expeditious manner, and the provisions of article 523 may be omitted. This procedure, however, must be satisfactorily explained by the responsible officer, and the mere statement that an emergency existed will not be acceptable."

Purchase of fuel
and lubricants:

502. Durnig patrol, division, and interdivision flights, the pilot of an aircraft is authorized to make purchase of such fuel and lubricants as will insure the continuance of the flight.

Damage to
aircraft during
flight; author-
ity to repair.

503. Should an aircraft be damaged while on a flight away from its ship, station, or detachment, the pilot thereof is authorized to expend not to exceed \$75.00 for the necessary materials and services to effect repairs.

Major damage
to aircraft dur-
ing flight;
instructions.

504. Should an aircraft be damaged, while on a flight away from its ship, station or detachment, to the extent that it cannot be flown, the pilot will communicate with the commander of the division in which the aircraft landed, and with the officer who authorized the flight, requesting instructions as to its disposition.

Shipment of
damaged air-
craft; packing
and crating.

505. Should shipment of an aircraft damaged during a flight be authorized, the pilot is authorized to arrange shipment to the designated point, using Government bill of lading. The pilot is authorized to incur such expense as may be necessary for the proper packing and crating of the aircraft.

Necessary forms
to be carried
in aircraft.

506. The commanding officer of the ship, station, or detachment to which an aircraft is attached, will require each pilot to supply himself with the forms necessary to make purchase of material and services,

and shipment if required. Vouchers in payment of purchases made by the pilot while on flight will be submitted to his commanding officer for approval for settlement.

Settlement of
vouchers.

507. Appropriation allotments for aircraft, air stations and air patrol detachments will accrue as ordered by the Regulations and will be expended by the Commanding Officer for the operation and maintenance of the facilities provided for by articles 214, 215, and 216.

Appropriation
allotments.

508. When damage to private property is caused by Coast Guard aircraft the procedure outlined by Circular 104, Regulations will be followed.

Damage to pri-
vate property.

509. Spare aircraft assemblies, instruments, and accessories supplied by Headquarters to ships, stations, and detachments operating aircraft are subject to Headquarters disposition, only, and will not be used by stations until specific authority therefor is received. Annually on 30 June, units will make a complete report to Headquarters of such material on hand.

Spare Material.

510. Spare aircraft engines will be supplied by Headquarters to ships, stations, and detachments operating aircraft, in sufficient quantity to insure the operation of aircraft. These engines will not be transferred from the unit without specific authority from Headquarters.

Spare aircraft
engines.

511. Contracts for the purchase and overhaul of aircraft, aircraft engines, and major aircraft assemblies will be entered into by Headquarters.

Contracts for pur-
chase and over-
haul of aircraft
engines, etc.

512. (a) Section 175 (d), Title 49, of the U.S. Code is quoted:

Assistance to other
than Government

"Sale of fuel and supplies: service and shelter: prices: The head of any Government department or other independent establishment having jurisdiction over an airport or emergency landing field owned or operated by the United States may provide for the sale to any aircraft of fuel, oil, equipment, and supplies, and the furnishing to it of mechanical service, temporary shelter, and other assistance under such regulations as

Aircraft.

the head of the department or establishment may prescribe, but only if such action is by reason of an emergency necessary to the continuance of such aircraft on its course to the nearest airport operated by private enterprise. All such articles shall be sold and such assistance furnished at the fair market value prevailing locally as ascertained by the head of such department or establishment. All mounts received under this subdivision shall be covered into the Treasury; but that part of such mounts which, in the judgment of the head of the department or establishment, is equivalent to the cost of the fuel, oil, equipment, supplies, services, shelter, or other assistance so sold or furnished shall be credited to the appropriation from which such cost was paid, and the balance, if any, shall be credited to miscellaneous receipts."

Authority
to afford
assistance.

(b) In accordance with the above, commanding officer of units having the required facilities are authorized to furnish the following to aircraft other than Government in cases of emergency prescribed in Article 512 (a):

Fuel and oil.

(1) Fuel and lubricants.

Repairs.

(2) Minor repairs, when such repairs do not exceed the sum of \$75.00.

Shelter.

(3) Temporary shelter, when such shelter is necessary in effecting minor repairs, but not to exceed 24 hours.

Charges for
assistance
afforded.

(c) Should assistance authorized in Article 512 (b) be afforded, the following charges will be made:

(1) Fuel and lubricants at the inventory prices thereof.

(2) Minor repairs:

(A) Material at inventory prices.

(B) Personal service at current prevailing rate for the class of labor performed.

Payment and
deposit of
funds.

(d) Payment for personal service will be required prior to rendering such service and will be deposited with disbursing officer to the credit of "Miscellaneous Receipts" under the following classifications:

(1) Personal services, "5500, Storage"

(e) Funds received for the sale of material will be deposited to the credit of the appropriation from which the material was purchased.

CHAPTER VI

INSPECTION.

Section 1.

Materiel

601. The inspection of aircraft, engines, accessories, Inspection of aircraft parts, and materiel used in the fabrication thereof, being manufactured, overhauled, or repaired by private concerns under contract with the Government, shall be made as follows: Inspection of aircraft, etc.

(a) If the Coast Guard is using a Navy contract, the inspection will be made by inspectors of the Navy inspection force. Navy inspectors: Navy contracts.

(b) If the Coast Guard is procuring under its own contract the inspection will be made by the Coast Guard inspectors or by inspectors of the Navy inspection force as decided by Headquarters.

602. When inspection by the Navy inspection force is desired Headquarters will arrange for the inspection through the Bureau of Aeronautics of the Navy Department. Navy or Coast Guard inspectors; Coast Guard contracts.

603. Inspections to be made by the Coast Guard will be arranged by Headquarters. All correspondence with contractors will be carried on by and through the inspectors and Headquarters. Inspectors will be governed by articles 674 to 679, both inclusive, of the Regulations insofar as they are applicable. Coast Guard inspection.

Section 2.

Operating Units.

Inspection by 604. Air Stations and Air Patrol Detachments will
Inspector-in- be inspected by inspectors operating under the Inspec-
Chief. tor-in-Chief, in accordance with Regulations.

605. At least once during each calendar year an in-
spection of each air station and air patrol detachment
will be made by inspectors designated by the Comman-
dant from Aviation personnel.