

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DH

January 22, 1938.

PERSONNEL ORDERS )  
NO. 18 )

1. Under authority contained in Radiogram, The Adjutant General, dated January 21, 1938, Major FRED S. BORUM, Air Corps, and Captain CARL J. CRANE, Air Corps, will proceed, by military aircraft, on or about January 25, 1938, from Wright Field, Dayton, Ohio, via the best available air route to New York, N. Y., on temporary duty, purpose, conferring with personnel at certain manufacturing concerns thereat, concerning Air Corps Procurement matters and upon completion thereof return, by military aircraft, via the best available air route to their proper station, Wright Field, Dayton, Ohio.

In lieu of subsistence, a flat per diem of five dollars (\$5.00) is authorized for travel by air.

AC 50 P 88 - 0630 A 0705-8. The travel directed is necessary in the military service.

By order of the Chief of the Materiel Division:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Ass't Executive.

Copies:  
Major Borum  
Capt. Crane  
Operations  
Budget Office  
R-1471-72.

WAR DEPARTMENT,  
Washington, 3 February, 1938.

SPECIAL ORDERS )  
NO. 28 )

E X T R A C T

\* \* \*  
18. Captain CARL J. CRANE, Air Corps, is relieved from assignment and duty at Wright Field, Dayton, Ohio, effective at such time as will enable him to comply with this order, is then assigned to duty as a student, 1938-1939 course, at the Air Corps Tactical School, Maxwell Field, Alabama, will proceed at the proper time to that station and report not earlier than 1 September, nor later than 13 September, 1938, to the commandant, the Air Corps Tactical School, for duty. The travel directed is necessary in the military service. FD 1402 P 20-0620, 80-0600 A 0410-9. (A.G. 210.63, A.C. Tac. Sch.) (12 Jan. 38.)

\* \* \*  
25. Major WILLIAM H. MURPHY, Signal Corps, is relieved from assignment and duty with the staff and faculty, the Signal Corps School, Fort Monmouth, New Jersey, effective at such time as will enable him to comply with this order, is then assigned to duty as Signal Corps radio maintenance and repair officer, Patterson Field, Fairfield Air Depot, Fairfield, Ohio, will proceed at the proper time to that station and report not later than 20 April, 1938, to the commanding officer for duty. The travel directed is necessary in the military service. FD 1423 P 1-0620, 80-0600 A 0410-8. (A.G. 210.313, Signal.) (24 Jan. 38.)

\* \* \*  
33. Warrant Officer HERBERT G. KNIGHT, is relieved from his present assignment and duties at Wright Field, Dayton, Ohio, effective 27 February, 1938, and, for the convenience of the Government, will then proceed to his home and await retirement. The travel directed is necessary in the military service. FD 1401 P 42-0620, 81-0600 A 0410-8.

\* \* \*  
BY ORDER OF THE SECRETARY OF WAR:

OFFICIAL:  
E. T. CONLEY,  
Major General,  
The Adjutant General.

MALIN CRAIG,  
Chief of Staff.

For immediate delivery to

Capt Carl J. Crane, AG

Reference Par 18 or prompt return

to A. G. O., W. D. with new address

SPECIAL ORDERS }  
No. 28

WAR DEPARTMENT,  
WASHINGTON, 3 February, 1938.

1. By direction of the President, and in accordance with section 1246, Revised Statutes, an Army retiring board is appointed to meet at West Point, New York, from time to time, at the call of the president of the board, for the examination of such officers as may be ordered before it.

#### DETAIL FOR THE BOARD

##### MEMBERS

Professor *Clifton C. Carter*, United States Military Academy.  
Professor *Roger G. Alexander*, United States Military Academy.  
Professor *William E. Morrison*, United States Military Academy.  
Lieutenant Colonel *Robert B. Hill*, Medical Corps.  
Lieutenant Colonel *Ralph E. Curti*, Medical Corps.

##### RECORDER

Major *John M. Weir*, Judge Advocate General's Department.  
(A. G. 334.6, West Point.) (27 Jan. 38.) Off.

2. Lieutenant Colonel *Arturo Carbonell*, Medical Corps, and Major *Charles H. Beasley*, Medical Corps, are detailed as medical examiners and witnesses before the Army retiring board appointed to meet at West Point, New York, in orders of this date, and will report to the president thereof when summoned by him for duty accordingly. (A. G. 334.6, West Point.) (27 Jan. 38.) Off.

3. Lieutenant Colonel *Herbert S. Clarkson*, Field Artillery, is relieved from assignment and duty with the staff and faculty, the Field Artillery School, Fort Sill, Oklahoma, effective on or about 1 July, 1938, is then assigned to duty at Fort Lewis, Washington, will proceed to that station and report to the commanding general for assignment to the Field Artillery at Fort Lewis, Washington. The travel directed is necessary in the military service. FD 1407 P 1-0620, 80-0600 A 0410-9. (A. G. 210.313, F. A.) (27 Jan. 38.)

4. Lieutenant Colonel *Lloyd E. Jones*, Field Artillery, is relieved from assignment and duty with the staff and faculty, the Field Artillery School, Fort Sill, Oklahoma, effective on or about 1 July, 1938, is then assigned to the 6th Field Artillery, Fort Hoyle, Maryland, will proceed to that station and report for duty accordingly. The travel directed is necessary in the military service. FD 1407 P 1-0620, 80-0600 A 0410-9. (A. G. 210.313, F. A.) (27 Jan. 38.)

5. Lieutenant Colonel *Arthur A. White*, Field Artillery, is relieved from assignment and duty with the staff and faculty, the Field Artillery School, Fort Sill, Oklahoma, effective on or about 1 July, 1938, is then assigned to the 1st Field Artillery, Fort Sill, Oklahoma, and will report for duty accordingly. (A. G. 210.313, F. A.) (27 Jan. 38.)

WAR DEPARTMENT  
AIR CORPS  
MATERIAL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DE

February 14, 1938.

PERSONNEL ORDERS }  
NO. 37 }

EXTRACT

3. Under authority contained in radiogram, The Chief of the Air Corps, dated February 12, 1938, Captain CARL J. CRANE, Air Corps, will proceed, by military aircraft, on or about February 15, 1938, from Wright Field, Dayton, Ohio, to Washington, D. C., reporting to The Adjutant General, on temporary duty, purpose, service as a member of Subcommittee of the Air Corps Technical Committee to recommend improvements in Air Corps radio development program and to bring up to date existing military characteristics of Air Corps radio equipment and upon completion thereof return, by military aircraft, to his proper station, Wright Field, Dayton, Ohio.

The duties to be performed at Washington, being exceptional, will require more than seventy-two (72) hours for their performance therefore a delay of not to exceed seven (7) days at that place is authorized.

In lieu of subsistence a flat per diem of five dollars (\$5.00) is authorized for travel by air.

AC 1P 88 - 063 A 0705-8. The travel directed is necessary in the military service.

By order of the Chief of the Material Division:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Asst Executive.

Copies:  
Capt. Crane  
Budget Office  
Operations  
Files.

WAR DEPARTMENT  
THE ADJUTANT GENERAL'S OFFICE

WASHINGTON

February 18, 1938.

IN REPLY  
REFER TO  
AG 201-Crane, Carl J.,  
Capt., AC (2-10-38) CLH-JH-451.  
~~AG 201-Crane, Carl J.,~~

SUBJECT Instructions to officers visiting foreign countries on leave of absence.

To: Captain Carl J. Crane, A. C.,

Thru: The Commanding Officer,  
Wright Field,  
Dayton, Ohio.

1. Referring to your leave of absence, should you desire to visit foreign military activities or to obtain military information abroad, you will make all arrangements through our military attache accredited to the country concerned; or in the absence of a military attache through our State Department representatives. Should you desire to make contact with non-military officials of foreign governments, you will do so through the principal diplomatic officer of the United States in the country concerned.

RECEIVED

By order of the Secretary of War:

FEB 21 1938  
HEADQUARTERS  
MATERIEL DIVISION  
WRIGHT FIELD




Major General,  
The Adjutant General.

201 Crane, Carl J. (Off)

1st Ind.

War Dept., Wright Field, Dayton, Ohio. February 21, 1938 - To: Captain Carl J. Crane, Air Corps, Wright Field, Dayton, Ohio.

  
A. W. B. Jr.

WAR DEPARTMENT  
THE ADJUTANT GENERAL'S OFFICE  
WASHINGTON

JTC:cn

February 28, 1938

IN REPLY  
REFER TO

A.G. 201 Crane, Carl J.

(S-28-35)

SUBJECT: Orders

To: Captain Carl J. Crane, Air Corps

To: Chief, Materiel Division, Air Corps,  
Thru:

Wright Field, Dayton, Ohio

1. The Secretary of War directs as necessary in the military service that you proceed, by military aircraft, on or about March 9, 1938, from Wright Field, Dayton, Ohio, via the best available air route, to Washington, D.C., reporting to The Adjutant General, for temporary duty, for the purpose of conferring with personnel in the Office of the Chief of Air Corps regarding Air Corps engineering matters and upon completion thereof that you return, by military aircraft, via the best available air route, to your proper station, Wright Field, Dayton, Ohio.

2. In lieu of subsistence a flat per diem of \$5.00 is authorized for travel by air. AC 50 P 88-0630 A 0705-8.

*W. B. Paul*  
Adjutant General.

1st Ind.

War Dept., Air Corps, Materiel Division, Wright Field, Dayton, Ohio.  
March 5, 1938. To: Captain Carl J. Crane, Air Corps, Wright Field, Dayton, Ohio.

For compliance.

By order of the Chief of the Materiel Division:

*A. W. Brock, Jr.*  
A. W. BROCK, Jr.,  
Major, Air Corps,  
Ass't Executive.

HEADQUARTERS SECOND BOMBARDMENT GROUP, GHQ, AIR FORCE  
OFFICE OF THE GROUP COMMANDER

IN REPLY REFER TO:

LANGLEY FIELD, VIRGINIA

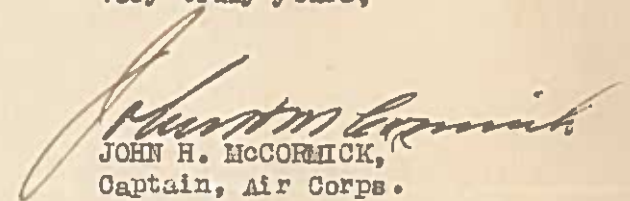
March 8, 1938.

Captain Carl Crane,  
Wright Field,  
Dayton, Ohio.

Dear Carl,

Colonel Olds has asked me to express his appreciation of your wire on the return of the Good Will Flight. Without your contributions to the science of navigation, both instrumental and functional, it is doubtful if the flight could have been so comfortably accomplished.

Very truly yours,

  
JOHN H. MCCORMICK,  
Captain, Air Corps.

SOCIETY OF AUTOMOTIVE ENGINEERS  
INC.  
29 WEST 39<sup>th</sup> STREET  
NEW YORK

March 21, 1938

Captain Carl J. Crane  
Materiel Division  
Wright Field  
Dayton, Ohio

Dear Captain Crane:

On behalf of our President and Council,  
I am writing to thank you for your part in making  
our recent Aeronautic Meeting in Washington such  
a success.

Your paper at the Thursday morning Air-  
craft Session contributed greatly to the excellence  
of the meeting, and we are genuinely appreciative  
of your kind cooperation.

Cordially yours,

*John A. C. Warner*

General Manager.

JAC:warner/st

*apt. Crane  
demonstrations  
not hit, too.*



CONFIDENTIAL

Wright Field, Dayton, Ohio

March 30, 1938

SUBJECT: Extended Utility and Navigation  
Test Flight in XB-15 Bombardment  
Airplane

TO: The Chief of the Air Corps

1. It is considered highly essential at the present time, for the purposes explained in more detail in Paragraphs 4, 5, and 6, below, that an extended flight be made in the XB-15 Airplane with Material Division personnel and with certain navigation equipment in order to arrive without delay at a general summation, based on actual experience, of the aircraft, power plant and equipment factors in the use of large bombardment airplanes by personnel closely associated with the development incident to the larger type of aircraft.

2. It is therefore requested that permission be granted to make a round trip, non-stop flight on or about April 30, 1938 to either:

- a. Oakland, California - Honolulu, Hawaii  
(Round trip distance - 4804 statute miles)
- b. Oakland, California - Anchorage, Alaska  
(Round trip distance - 4016 statute miles)
- c. Miami, Florida via Lima, Peru to Panama  
(Round trip distance - 4064 statute miles)

3. It is requested that the following personnel be permitted to engage in this flight:

Major Stanley M. Umstead	-	Commander
1st Lieut. George F. Smith	-	Pilot
1st Lieut. Leonard P. Harman	-	Pilot
1st Lieut. Eugene H. Beebe	-	Pilot
Captain Carl J. Crane	-	Navigator
1st Lieut. Thomas L. Thurlow	-	Navigator
Capt. Clarence S. Irvine	-	Flight Engineer
Mark H. Koogler, Airplane Mechanic	-	Flight Engineer
Capt. Harry G. Armstrong	-	Medical Observer

CONFIDENTIAL

CONFIDENTIAL

Ltr. to C.A.G.,  
3/30/38,  
Page 2

Carl W. Muller, Sgt., A.M. 1st Cl. - Radio Operator  
Ray A. Johns, Sgt., A.M. 2nd Cl. - Radio Operator

4. The purpose of this flight is to evaluate the following factors with respect to extended flight in equipment representative of the XB-15 series or larger types of long range aircraft:

- a. General airplane performance.
- b. General power plant performance.
- c. General equipment performance.
- d. Duties of flight personnel and administration of duties in flight.
- e. Attention to various details of power plant, aircraft and equipment during flight, both day and night, under varying conditions of altitude, weather and light.
- f. Conduct of study for prediction of necessary requirements and their solution in future aircraft of this general type.
- g. Special problems connected with the flight control and with the navigation of aircraft of this type, looking forward to an analysis that may lead to the development of special equipment.
- h. Observation of personnel under extended flights with respect to elements of fatigue, effect of altitude, etc.
- i. Usability of recently developed navigation equipment with respect to errors to be tolerated in equipment of this class on extended flights.
- j. Test of recently developed communications equipment and radio navigational devices.

5. One of the very important purposes of a flight of this kind will be to establish a detailed study of crew relationship with respect to duties, time on and off duty, and coordinated performance of personnel, which should lead to a fairly concrete understanding of this relationship which, in turn, will give a substantial background of experience

CONFIDENTIAL

CONFIDENTIAL

Ltr. to C.A.C.,  
3/30/38,  
Page 3

to personnel of this Division when confronted with the design and procurement of this or larger types of aircraft.

6. Although not specifically a primary purpose of this flight, it is believed that a flight of this kind accomplished at this critical period in the development of long range bombardment airplanes should reflect to the credit of the Air Corps and establish an important precedent in the general evaluation of long range military aircraft.

7. A preliminary non-stop flight in order to properly check the equipment and the usable range of the airplane is contemplated prior to the requested flight. It is anticipated that this flight will be made from Wright Field via Langley Field to Miami, Florida, thence to Brownsville, Texas direct, thence returning to Wright Field direct (round trip distance - 3675 statute miles).

A. W. ROBINS,  
Brig. General, Air Corps,  
Chief of Division

CONFIDENTIAL

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

III

May 11, 1938.

PERSONNEL ORDERS )  
NO. 110 )

EXTRACT

4. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #14, War Department dated July 8, 1937, Major FRED S. BORUM, Air Corps, is authorized to proceed (on or about May 13, 1938) on a navigation training flight to Maxwell Field, Montgomery, Alabama, and return (on or about May 15, 1938) to his proper station, Wright Field, Dayton, Ohio. Major JOHN P. RICHTER, Air Corps (Navigator), and Captain CARL J. CRANE, Air Corps (Co-Pilot), are authorized to accompany Major Borum on this flight.

5. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #14, War Department dated July 8, 1937, Major JAMES F. POWELL, Air Corps, is authorized to proceed (on or about May 14, 1938) on a navigation training flight to Jabokoh, Wisconsin, and return (on or about May 15, 1938) to his proper station, Wright Field, Dayton, Ohio.

By order of Colonel Kennedy:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

OFFICIAL:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

Copies:  
Maj. Richter  
Maj. Borum  
Capt. Crane  
Major Powell  
Operations  
Files.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

DE

June 1, 1938.

PERSONNEL ORDERS )  
NO. 127 )

EXTRACT

8. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #11, War Department dated July 8, 1937, the following-named officers and enlisted men are authorized to proceed (on or about June 2, 1938) on a navigation training flight to Maxwell Field, Montgomery, Alabama, and return (on or about June 2, 1938) to his proper station, Wright Field, Dayton, Ohio.

Lt. Colonel OLIVER P. HUNOLS, Air Corps, (Commander)  
Captain CARL J. CRANE, Air Corps (Pilot)  
Sgt. 1st Air Mech. CARL W. MULLER, 6692501, 1st Transport Sqd.

By order of Colonel Kennedy:

MYRON R. WOOD,  
Major, Air Corps,  
Acting Adjutant.

OFFICIAL:

MYRON R. WOOD,  
Major, Air Corps,  
Acting Adjutant.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

DII

June 2, 1938.

PERSONNEL ORDERS )  
NO. 128 )

1. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #14, War Department dated July 8, 1937, First Lieutenant CHARLES G. WILLIAMSON, Air Corps, is authorized to proceed (on or about June 2, 1938) on a navigation training flight to Ann Arbor, Mich., and return (on or about June 2, 1938) to his proper station, Wright Field, Dayton, Ohio.

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #14, War Department dated July 8, 1937, Major FRED S. BORUM, Air Corps, and Captain CARL J. CRANE, Air Corps, are authorized to proceed (on or about June 3, 1938) on a navigation training flight to Selfridge Field, Mt. Clemens, Michigan, and return (on or about June 3, 1938) to their proper station, Wright Field, Dayton, Ohio.

By order of Colonel Kennedy:

MYRON R. WOOD,  
Major, Air Corps,  
Acting Adjutant.

OFFICIAL:

MYRON R. WOOD,  
Major, Air Corps,  
Acting Adjutant.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

DE

June 8, 1938.

PERSONNEL ORDERS )  
NO. 133 )

EXTRACT

7. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular 444, War Department dated July 8, 1937, the following-named officers are authorized to proceed (on or about June 9, 1938) on a navigation training flight to Buffalo, New York, and return (on or about June 9, 1938) to their proper station, Wright Field, Dayton, Ohio.

Colonel Frank M. Kennedy, Air Corps  
Lt. Colonel Oliver P. Nichols, Air Corps (Pilot)  
Lt. Colonel William F. Volandt, Air Corps  
Major John F. Richter, Air Corps  
Major Fred S. Borum, Air Corps (Co-Pilot)  
Captain Carl J. Grams, Air Corps.

By order of Colonel Kennedy:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

OFFICIAL:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

WAR DEPARTMENT  
AIR CORPS  
MATERIAL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DE

July 5, 1938.

PERSONNEL ORDERS )  
NO. 155 )

EXTRACT

4. Under authority contained in letter, The Adjutant General dated June 30, 1938, Major FRED S. BAKER, Air Corps (Pilot) and Captain EARL J. CHASE, Air Corps (Co-pilot), will proceed, by military aircraft, on or about July 5, 1938, from Wright Field, Dayton, Ohio, via the best available air route, to Washington, D.C., reporting to The Adjutant General; thence to Fort Monmouth, New Jersey; thence to Boston, Massachusetts; thence to Hartford, Connecticut; thence to New York, New York, on temporary duty, for the purpose of conferring with personnel in the Office, Chief Signal Officer, Washington, D. C., regarding radio equipment; inspection of experimental radio direction finding equipment at Fort Monmouth; inspection of experimental instrument landing equipment at Massachusetts Institute of Technology at Boston; inspection of the Pratt and Whitney V-1730



WAR DEPARTMENT  
PATTERSON FIELD  
FAIRFIELD OHIO

CMS-jbh

July 26, 1938.

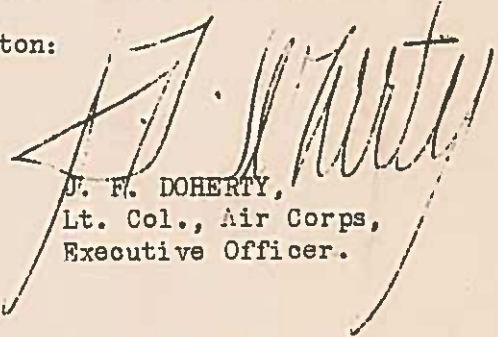
SPECIAL ORDER)  
NUMBER 120 )

1. Leave of absence for one (1) month is granted First Lieutenant CHARLES L. MUNROE, JR., Air Corps, effective on or about August 1, 1938.
2. Under the provisions of paragraph 2 bk (1)(a), AR 210-70, the assignment of Quarters #632-B at this station to Captain CARL J. CRANE, Air Corps, is terminated, effective August 31, 1938.
3. Under the provisions of paragraph 2 bj (4)(a), AR 210-70, Captain CHARLES A. ROSS, Air Corps, is assigned Quarters #430-A at this station, effective August 1, 1938.
4. Pursuant to authority contained in letter from The Adjutant General, Washington, D.C., File: AG 220.482 (6-9-38) Enl., dated June 24, 1938, Master Sergeant CECIL B. GUILLE, Serial #6442539, pilot, Staff Sergeant THOMAS W. RAFFERTY, Serial #6698488, co-pilot, and Private First Class BENNY DODYK, Serial #4050667, mechanic, will proceed, by air, on or about July 26, 1938, from Patterson Field, Fairfield, Ohio, via the best available air route, to Marshall Field, Fort Riley, Kansas, on temporary duty for the purpose of transporting Air Corps Technical Supplies and upon completion thereof return, by air, via the best available air route, to their proper station, Patterson Field, Fairfield, Ohio.

In lieu of subsistence a flat per diem of six dollars (\$6.00) is authorized for travel by air. FD 1463 P 191-0623 A 0410-9.

The travel directed is necessary in the public service.

By order of Lt. Col. Houghton:

  
J. F. DOHERTY,  
Lt. Col., Air Corps,  
Executive Officer.

OFFICIAL:

J. F. DOHERTY,  
Lt. Col., Air Corps,  
Executive Officer.

Hq File  
231 Files  
GFC & EM Conc.  
Finance  
1st T Sq.  
GFC  
GFC  
Adm. & Fin Budget, Wright Field  
C of AC  
GFC

WAR DEPARTMENT  
AIR CORPS  
MATERIAL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

EM

July 29, 1938.

PERSONNEL ORDER }  
NO. 176 }

EXTRACT

6. Under authority contained in letter, The Adjutant General, dated July 26, 1938, Captain CARL J. CRANE, Air Corps, will proceed, by military aircraft, on or about August 15, 1938, from Wright Field, Dayton, Ohio, via the best available air route to Burbank, Calif., thence to Hamilton Field, California, on temporary duty for the purpose of conference reference automatic landing project at Burbank, California, and conference reference adaptability of the Air Corps instrument landing system to Hamilton Field at Hamilton Field, California, and upon completion thereof, return, by military aircraft, via the best available air route, to his proper station, Wright Field, Dayton, Ohio.

In lieu of subsistence a flat per diem of six dollars (\$6.00) is authorized for travel by air.

AG 53 P 88 - 0638 A 0705-9. The travel directed is necessary in the military service.

By order of the Chief of the Material Division:

A. W. BROCK, Jr.  
Major, Air Corps  
Asst Executive.

Copies:  
Capt. Crane  
Operations  
Budget Office  
Files.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

August 19, 1938

PERSONNEL ORDERS )  
NO. 194 )

EXTRACT

1. Under the provisions of Army Regulations 95-15, as amended by Section 111, Circular No. 44, War Department, July 8, 1937, Captain ALFRED E. JOHNSON, Air Corps is authorized to proceed (on or about August 22, 1938) on a navigation training flight to Binghamton, New York and return (on or about August 22, 1938) to his proper station, Wright Field, Dayton, Ohio. Captain CARL J. CRANE, Air Corps is authorized to accompany Captain Johnson on this flight.

2. Under the provisions of Army Regulations 95-15, as amended by Section 111, Circular No. 44, War Department, July 8, 1937, Major HERB A. RIVINS, Air Corps is authorized to proceed (on or about August 19, 1938) on a navigation training flight to Chicago, Ill., Kansas City, Mo. and Scott Field, Ill. and return (on or about August 20, 1938) to his proper station, Wright Field, Dayton, Ohio.

By order of Colonel Kennedy:

OFFICIAL:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

Copies:  
Capt. Johnson  
Capt. Crane  
Maj. Rivins  
Operations  
Files

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
OFFICE OF THE CHIEF OF DIVISION

WRIGHT FIELD, DAYTON, OHIO

Subject: Commendation.

August 23, 1938.

To: Captain Carl J. Crane.

1. Upon the occasion of relinquishing the assignment as Chief of the Equipment Branch, Engineering Section, Materiel Division, I desire to express my appreciation of the excellent and efficient manner in which you have handled the work as Director of the Instrument and Navigation Laboratory.
2. Your contribution to the research and development of engine, flight, and navigational equipment, especially the automatic flight and landing of an airplane, has been outstanding and very noteworthy.
3. I have been much impressed with your ingenuity, resourcefulness and ability. My best wishes for your continued success go with you and I hope some day you may serve with me again.
4. A copy of this letter will be filed with your efficiency report.

  
F. S. BORUM,  
Major, Air Corps,  
Chief, Equipment Branch.

Transcript Statement of Account.

September 1, 1938

Captain Carl J. Crane, A.C.,  
Maxwell Field,  
Montgomery, Ala.

1. There is inclosed Transcript Statement of Account, in duplicate, covering your pay for the month of August 1938.
2. It is requested that receipt be acknowledged by indorsement hereon.

F. E. COYNE, Jr.,  
Captain, F. D.  
Finance Officer.

1 Incl.  
Transcript (in dup)

Maxwell Field,  
Montgomery, Ala.

Sept. 1938.

Receipt of transcript in duplicate acknowledged.

---

Carl J. Crane,  
Captain, A.C.

*Capt Crane*

THE AIR CORPS TACTICAL SCHOOL  
Maxwell Field, Alabama.

September 19, 1938.

MEMORANDUM RECEIPT

- 1 ea Army, Field Service, and Training Regulations in binder.
- 1 ea Basic Field Manual Vol. I, Chapter 5.
- 1 ea Coast Artillery Field Manual Vol. II.
- 1 ea Combat Orders, C&GSS 1938.
- 1 ea Command & Staff Principles C&GSS 1937.
- 1 ea Index to the Gettysburg & Ft. Leavenworth Military & Geological Maps.
- 1 ea Mechanized Cavalry 1932-33.
- 1 ea Reference Data & Change 1, C&GSS 1937.
- 1 ea Special Operations, C&GSS 1937.
- 1 ea Staff Officers Field Manual Part One.
- 1 ea Tables of Organization & change 1, C&GSS 1937.
- 1 ea Tactical Employment of Cavalry, C&GSS 1937.
- 1 ea Tactical Employment of Field Artillery & change 1, C&GSS 1936.

The above listed books and pamphlets will be TURNED IN to Academic Sergeant Major's office at the end of this School year.

*Base House*  
\_\_\_\_\_  
*Captain*  
\_\_\_\_\_

*OK*

~~1- Basic Field Manual Vol. I. PART I.~~

*Cleared OK*  
*Pfc. Fisher*

FHV:rg

October 8, 1938.

Hydraulic Controllable Propeller -  
Invention of Oliver E. Barthel and  
Norman E. Marker.

Captain Carl J. Crane, A.C.,  
Maxwell Field,  
Montgomery, Alabama.

1. The hydraulic controllable propeller invented by Oliver E. Barthel and Norman E. Marker, shown and described in the attached specification and drawings, submitted informally by you to Captain Sims of the Engineering Section of this Division a short time ago, has been investigated and, from a military standpoint, is considered to have no value because it offers no improvement over the type of propellers now in use.

2. This invention appears to be nothing more than the Hamilton Standard controllable propeller modified in numerous ways so that approximately the same, or very similar, operation is obtained by different means. None of these "different" methods appear to represent an improvement over those in the Hamilton Standard propeller, and some are considered detrimental. No advantage to the Government can be seen in developing a parallel type propeller to one already in successful operation.

3. To the credit of the inventors, it is believed that a propeller of this type would very probably work. These comments are not offered to discredit the invention, but to point out that, since it is so similar to a standard service propeller, it should have, to be of military value, some distinct improvements warranting development.

For the Chief of the Materiel Division:

FRANK M. KENNEDY,  
Colonel, Air Corps,  
Executive.

Incl.  
Spec. & dwgs.

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION

Wright Field, Dayton, Ohio.  
October 11, 1938.

OFFICE MEMORANDUM NO. 256

SUBJECT: Handling of Secret, Confidential and Restricted Matters.

1. Under the provisions of paragraph 47, Army Regulations 850-25, the following instructions will govern the safeguarding of technical information relating to development projects and tests initiated or subject to the control of the Materiel Division, Air Corps:

a. Secret. The provisions of Paragraph 5, A.R. 330-5 (see Exhibit A-1) are considered applicable to reports, specifications, drawings, design studies, and correspondence relating to "Secret" projects (See Paragraph 47 b., A.R. 850-25) only in so far as such data contain secret information within the purview of Paragraph 46 c., A.R. 850-25.

- (1) The handling of documents, drawings, reports and design studies containing secret information will be strictly in accordance with the provisions of Paragraphs 48 and 49, A.R. 850-25 and Paragraph 18, A.R. 330-5.
- (2) Where technical information of a secret nature is applicable only to portions or parts of specifications and other procurement instruments, or where such documents are subject to reproduction, or where it is impracticable to account for all copies within the purview of Sections IV and V, A.R. 330-5, such technical information will be referred to by short title only in the specification or other procurement instrument.
- (3) Secret information relating to the procurement instruments referred to in sub-paragraph a. (2) above, will be promulgated in the form of appendices and will be handled strictly in accordance with the provisions of Paragraphs 48 and 49, A.R. 850-25 and Paragraph 18, A.R. 330-5.

b. Confidential. The provisions of Paragraph 6, A.R. 330-5 (see Exhibit A-2) are considered applicable to the following classes of technical information:

- (1) Type specifications for Combat types of aircraft.
- (2) "Requests for Data" and "Circular Proposals" relating to projects designated as "Secret" or "Confidential" under the provisions of Paragraph 47 b., A.R. 850-25.



- (3) Reports and correspondence relating to the results of performance tests on all classes of aircraft.
- (4) Reports of "Type Tests" of Experimental or Service Test engines.
- (5) Reports of tests of armament and other items of equipment that are a part of "Secret" or "Confidential" projects.
- (6) Correspondence, drawings, design studies and other publications containing confidential information within the purview of Paragraph 46 d, A.R. 850-25.

c. Restricted. The provisions of Paragraph 7, A.R. 330-5 (see Exhibit A-3) are considered applicable to all technical documents relating to projects and development programs and tests initiated under the authority contained in Paragraph 7, A.R. 850-25, and to documents and drawings relating to "Secret" and "Confidential" projects containing such technical information that is considered to be within the purview of Paragraph 46 e., A.R. 850-25. In addition, the following classes of technical publications are considered applicable to restrictions governing "Restricted" documents as set forth in the regulations herein referred to.

- (1) Type specifications for Training and Transport types of aircraft.
- (2) Reports, design studies, drawings, specifications and other engineering and procurement instruments that contain information relating to military use of items of Air Corps equipment that are in the Experimental and Service Test phases of development as provided in Paragraph 13, A.R. 850-25.
- (3) Specifications, drawings, design studies, and other engineering and procurement documents that relate to components of adopted types of aircraft that are within the purview of Paragraph 46 e., A.R. 850-25.

2. Espionage Act. The Espionage Act (D.S.O. 50.31.32) is considered applicable to all drawings, design studies, reports, specifications and other technical documents describing complete aircraft, aircraft components, accessories, materials and processes relating to the following:

- a. Preliminary research and development projects initiated by the Materiel Division under the provisions of Paragraph 7, A.R. 850-25.
- b. Research and development projects initiated by corporations or individuals for complete aircraft or the components thereof, or other articles designed for military use and incorporating features of design or construction or equipment described in Air Corps or War Department specifications and related documents.
- c. All documents containing technical information relating to development projects or programs designated "Secret", "Confidential" or "Restricted" under the provisions of Paragraph 47, A.R. 850-25.

- d. Aircraft or its components classified as an adopted type under the provisions of Paragraph 13, A.R. 850-25, that relate to secret, confidential or restricted matters set forth in Air Corps Specifications or related documents.
- 3. The provisions of Paragraph 50; A.R. 850-25 are considered applicable to:

  - a. All "Circular Proposals" and "Requests for Data" pertaining to aircraft and its components and accessories that are classified as Experimental or Service Test under the provisions of Paragraph 13, A.R. 850-25.
  - b. "Circular Proposals" and "Requests for Bids" on adopted types of Air Corps equipment that incorporate features or components that are described by documents classified as "Secret", "Confidential" or "Restricted" within the purview of Paragraph 46, A. R. 850-25.
- 4. Personnel charged with the responsibility of documents and engineering information within the purview of Section VI, A.R. 850-25, will accomplish the certificate attached hereto indicating that they have read and understand the regulations of this Office Memorandum and the applicable paragraphs of A.R. 850-25 and 330-5. These certificates will be maintained by the Sections concerned.

By order of the Chief of the Materiel Division:

FRANK M. KENNEDY,  
Colonel, Air Corps,  
Executive.

2 Incls:  
Incl. 1: Exhibits A-1,  
2 and 3.  
Incl. 2: Certificate.

*Capt Crane*  
THE AIR CORPS TACTICAL SCHOOL,  
Maxwell Field, Montgomery, Alabama.

(0) mod

October 13, 1938.

OPERATIONS ORDERS )  
: )  
NO. - 286-C )

1. Pursuant to instructions contained in radiogram, The Adjutant General's Office, dated October 13, 1938, to Commandant, Air Corps Tactical School, Maxwell Field, Montgomery, Alabama, Captain CARL J. CRANE, Air Corps, pilot, will proceed in suitable military aircraft from Maxwell Field, Montgomery, Alabama, on October 13, 1938, via the best available air route to Washington, D. C., reporting to the Adjutant General for temporary duty in the Office Chief of Air Corps in connection with Air Corps Technical matters. Upon completion thereof, he will return, by military aircraft, via the best available air route, to his proper station, Maxwell Field, Montgomery, Alabama.

In lieu of subsistence a flat per diem of \$6.00 is authorized for travel by air.

The above named officer will render a report to this office in compliance with paragraph 4f, Change 2, AR 95-110, November 6, 1934, immediately after receiving payment from the Finance Officer.

The travel directed is necessary in the military service and payment when made is chargeable to procurement authority AC 1 P 88-0630 A 0705-9.

By order of Colonel HARMON:

*Warren A. Maxwell*  
WARREN A. MAXWELL,  
Major, Air Corps,  
Operations Officer.

OFFICIAL:

*Warren A. Maxwell*  
WARREN A. MAXWELL,  
Major, Air Corps,  
Operations Officer.

DISTRIBUTION: Op order file; Ch of AC-5; AGO-5; CG 4th CL-2; FO 4th CL-2; Ch Mat Div-5; 1 to pilot; 1 to 3004 misc; 1 to 201 Opns; 1 to E; 1 to H; 1 to N; 1 to T; 1 to Ch Clerk Opns; 1 to C; 1 to M/R Clerk; 3 to Pay Voucher Clerk Hq; 10 extra.

FOR RELEASE IN THE PAPERS OF THURSDAY, OCTOBER 13, 1938

PRESENTATION OF MACKAY TROPHY FOR 1937.

The Secretary of War, the Honorable Harry H. Woodring, to-day announced that the presentation ceremony for the Mackay Trophy for 1937 will occur in his office, Room 231, State Building, at 11:00 A. M., Friday, October 14, 1938, at which time he will present to Captains Carl J. Crane and George V. Holloman gold medals, emblematic of this trophy, which bear the following inscription:

1937

Captain Carl J. Crane, Air Corps  
Captain George V. Holloman, Air Corps

For development and demonstration of  
the original automatic landing device  
for aircraft.

This automatic landing system was designed by Captain Crane, Director of the Instrument and Navigation Laboratory at Wright Field and, working with Captain Holloman, he conducted practically all of the flight tests which brought to a successful conclusion the automatic landing system. The various units of automatic control were designed by these officers, Mr. Raymond K. Stout, project engineer at the Air Corps Materiel Division, Wright Field, Ohio, and Mr. C. D. Barbulesco, of the Signal Corps Aircraft Radio Laboratory, which laboratory assisted materially in the design and construction of various units entering into the automatic landing system.

The Mackay Trophy was tendered to the Aero Club of America in 1912 by Mr. Clarence H. Mackay, the deed of gift stipulating that it was to be awarded annually to the officer or officers of the United States Army making the most meritorious flight of the year. The National Aeronautic Association successor to the Aero Club of America, is the present custodian of this trophy

Captain Crane, a native of San Antonio, Texas, where he was born on October 20, 1900, is an honor graduate of the University of Dayton, Dayton, Ohio, where he received a B.M.E. degree in 1924. He was commissioned a second lieutenant in the Air Service July 5, 1924, and following his graduation from the Primary Flying School, Brooks Field, Texas, February 28, 1925,

he was assigned to Selfridge Field, Michigan. In June, 1927, he was transferred to Kelly Field, Texas, where he served until November 18, 1927, when he was assigned to duty as flying instructor and academic instructor at the Primary Flying School, Brooks Field, Texas. From October, 1931 to October, 1932, he was on duty as academic instructor at the Primary Flying School, Randolph Field, Texas, and served at Albrook Field, Panama Canal Zone, from November, 1932 to November, 1934, when he was transferred to Wright Field, Dayton, Ohio, where he served until August 31, 1938. He is now a student at the Air Corps Tactical School, Maxwell Field, Montgomery, Alabama.

Captain Holloman, a native of Rich Square, North Carolina, where he was born on September 17, 1902, graduated from North Carolina State College in 1925, and was commissioned a second lieutenant, Regular Army, September 24, 1925, and assigned to the 29th Infantry at Fort Benning, Georgia. Detailed to the Air Corps, he completed the primary flying course at Brooks Field, and the advanced flying course at Kelly Field, and received the rating of Airplane Pilot and Airplane Observer, June 25, 1928. He was then assigned for duty with the 88th Observation Squadron, Fort Sill, Oklahoma. At his next station, Chanute Field, Rantoul, Illinois, he completed the Communications Course at the Air Corps Technical School, and on June 24, 1931, was assigned to the Materiel Division, Wright Field, Dayton, Ohio. Following his graduation from the 1934-1935 course at the Air Corps Engineering School, Wright Field, Dayton, Ohio, on August 1, 1935, he returned to duty in the Equipment Branch, Engineering Section, of the Materiel Division, where he is stationed at present.

END

July 21, 1938.

WAR DEPARTMENT

I M M E D I A T E

R E L E A S E

AWARD OF MACKAY TROPHY

The War Department announces that Captain Earl J. Crane and Captain George V. Holloman, Air Corps, will be awarded the 1937 Mackay Trophy for their outstanding achievement in successfully developing and actually demonstrating the Airplane Automatic Landing System.

The Board of Air Corps officers, recently convened to make recommendations relative to the award of the Mackay Trophy, was of the unanimous opinion that these two officers highly merited this award. Both of them, exceptionally well versed in aeronautical engineering, particularly in the functioning of various instruments and devices relating to aerial navigation, devoted intensive research and painstaking effort over a period of two years toward perfecting the automatic landing system. The first flight under this system was accomplished on August 23, 1937, and it marked the first entirely automatic landing in aviation history - that is, the entire landing control was incorporated within the aircraft itself; there was no human manipulation of plane controls at any time.

Associated with Captains Crane and Holloman in the development of the automatic landing system was Mr. Raymond K. Stout, project engineer at the Air Corps Materiel Division, Wright Field, Ohio. Since the Mackay Trophy, through the provisions of the deed of gift, can only be awarded to officers of the United States Army, Mr. Stout was given a letter of commendation from the Acting Secretary of War, the Honorable Louis Johnson, for his work in this striking development.

The automatic landing system was designed by Captain Crane, Director of the Instrument and Navigation Laboratory at Wright Field and, working with Captain Holloman, he conducted practically all of the flight tests which brought to a successful conclusion the automatic landing system. The various units of automatic control were designed by these officers, Mr. Stout, and Mr. C. D. Barbulesco, of the Signal Corps Aircraft Radio Laboratory, which laboratory assisted materially in the design and construction of various units entering into the automatic landing system.

The Mackay Trophy was tendered to the Aero Club of America in 1912 by Mr. Clarence H. Mackay, the deed of gift stipulating that it was to be awarded annually to the officer or officers of the United States Army making the most meritorious flight of the year. The National Aeronautic Association, successor to the Aero Club of America, is the present custodian of this trophy.

Associated with the Mackay Trophy are most of the highlights in the history of Army aviation, such as the first non-stop flight across the American Continent by Lieutenants Kelly and Macready; the first flight around the world under the leadership of Captain Lowell H. Smith; and the Army Good Will Flight Around South America led by Major Herbert A. Dargue. Since 1912, the Mackay Trophy has been awarded annually by the War Department for meritorious flights with the exception of the year 1917. Of noteworthy interest in connection with the award of this Trophy is the fact that Brigadier General Henry H. Arnold, Assistant Chief of the Air Corps, is a two-time winner thereof. He received the first award in 1912 for a reconnaissance flight in the early Wright biplane from College Park, Maryland, to Fort Myer, Virginia, Alexandria, Virginia, and return to College Park, and the second award, 23 years later, for his leadership of a squadron of ten B-10 Martin Bombers from Washington, D. C., to Fairbanks, Alaska, and return, in July-August, 1934. Eighteen years ago, the Trophy was also awarded for a meritorious flight to Alaska (New York to Nome), that expedition in 1920 being headed by Captain St. Clair Streett.

Two early Army fliers, still in active service, who won the Mackay Trophy are Colonels Shepler W. FitzGerald and Byron Q. Jones, Air Corps, the former receiving it in 1914 for a reconnaissance flight and the latter the following year for establishing an American duration record. Two Air Corps officers still in the service who share with General Arnold the distinction of being two-time winners of the Trophy are Majors Lowell H. Smith and Oakley G. Kelly. Major Smith won the award in 1919 for his participation in the Transcontinental Reliability Test Flight in the fall of that year, and in 1924 for his leadership of the Around-the-World Flight. Major Kelly jointly with former Captain John A. Macready, won the Trophy in 1922 for a record-breaking duration flight, and in the following year for the successful culmination of the first non-stop flight across the American Continent. Incidentally, Major Kelly's flying partner (Captain Macready) is the only three-time winner of the Trophy, for he also received it in 1921 for a record-breaking altitude flight. A member of the Around-the-World Flight, who is now in civil life, is also a two-time winner of the Trophy. This individual, Major Erik H. Nelson, participated also in the Alaskan Expedition in 1920.

Captain Crane, a native of San Antonio, Texas, where he was born on October 20, 1900, is an honor graduate of the University of Dayton, Dayton, Ohio, where he received a B.M.E. degree in 1924. Commissioned a second lieutenant in the Air Service, July 5, 1924, he was promoted to 1st Lieutenant March 28, 1930, and to Captain, August 1, 1935. Following his graduation from the Primary Flying School, Brooks Field, Texas, February 28, 1925, and from the Advanced Flying School, Kelly Field, Texas, where he specialized in Pursuit Aviation, on September 14, 1925, he was assigned to Selfridge Field, Michigan, for duty with the 27th Pursuit Squadron as Engineering Officer and later as Supply Officer.

In June, 1927, he was transferred to Kelly Field, and he served there until November 18, 1927, when he was assigned to duty as flying instructor and academic instructor at the Primary Flying School at Brooks Field, Texas. For one year from October, 1931, he was on duty as academic instructor at the Primary Flying School at Randolph Field, Texas. From November, 1932, to November, 1934, he was on duty at Albrook Field, Panama Canal Zone, where for the most part he served as engineering officer. In December, 1934, he was assigned to his present station at Wright Field, Dayton, Ohio.

Captain Crane's interest in instrument flying dates from the time he was on duty as instructor at Brooks Field. Here he was associated with Lieutenant Colonel William C. Ocker in connection with the training of pilots to fly in hooded cockpits, using radio aids. He is the co-author with Colonel Ocker of the book "Blind Flying in Theory and Practice".

Captain Holloman, a native of Rich Square, North Carolina, where he was born on September 17, 1902, graduated from North Carolina State College in 1925, with a B.S. degree in Electrical Engineering. Commissioned a second lieutenant in the Regular Army, September 24, 1925, he was assigned to the 29th Infantry and was stationed at Fort Benning, Georgia, for two years. Detailed to the Air Corps, he completed the primary flying course at Brooks Field, and the advanced flying course at Kelly Field, where he specialized in Observation Aviation, and received the rating of Airplane Pilot and Airplane Observer, June 25, 1928. He was then assigned for duty with the 88th Observation Squadron at Fort Sill, Oklahoma, where he served for two years. At his next station, Chanute Field, Rantoul, Illinois, he completed the Communications Course at the Air Corps Technical School, and on June 24, 1931, he was assigned to the Materiel Division, Wright Field, Dayton, Ohio. Following his graduation from the 1934-1935 course at the Air Corps Engineering School, Wright Field, Ohio, on August 1, 1935, he returned to duty in the Equipment Branch, Engineering Section, of the Materiel Division.

The National Aeronautic Association, Washington, D. C., custodian of the Mackay Trophy under the terms of the grant by the donor, will announce in the near future the date and place of the ceremonies incident to the presentation of the trophy to Captains Crane and Holloman.

THE AIR CORPS TACTICAL SCHOOL,  
Maxwell Field, Montgomery, Alabama.

November 2, 1938.

MEMORANDUM TO: All Flying Personnel.

SECTION I.

1. Attention is invited to the letter from the Office, Chief of Air Corps, dated Oct. 18, 1938, bearing subject: "Flying Proficiency," copy of which was furnished all flying personnel. For the information of those concerned, the following flight requirements are quoted from A.C. Circular 60-22, dated July 28, 1937:

"1. Requirements for Pilots.

a. Individuals who hold the rating of pilot and who are professionally and physically fit for such duty will accomplish as pilot a minimum of 100 flying hours each fiscal year, including the following:

- (1) Minimum of thirty-five hours navigation.
- (2) Thousand-mile navigation flight.

This flight will include a landing at a point not less than 350 miles distant from the point of origin, utilizing radio aids and facilities. (Department Commanders may eliminate this flight, if considered unduly hazardous, and prescribe any other reasonable navigation requirement, in which case the Chief of Air Corps will be advised of the action taken.)

- (3) Minimum of ten hours night flying.
- (4) Night navigation flight.

This flight will be of not less than two hours duration, and to a point at least 100 miles distant from the point of origin.

- (5) Minimum of ten hours instrument flying.
  - (a) Not less than two and one-half hours instrument flying "under a hood" will be accomplished each six months.
  - (b) To be classified as instrument flying under this heading, flights made without the use of the hood must be made in a solid canopy of clouds, or under



such conditions that neither terrestrial nor celestial reference is possible. Flights through scattered clouds or under conditions wherein flights by the aid of outside visual reference is possible, will not be considered as instrument flights.

- (c) Each pilot will be required to demonstrate his proficiency as to instrument flying once each fiscal year as required by Air Corps Circular 50-1, or to satisfactorily pass the test in instrument flying in a modernized Link Trainer.

2. Requirements for Airplane Observers and other Air Corps commissioned personnel on heavier-than-air flying status.

All Air Corps commissioned personnel other than students at the Air Corps Training Center, flying on other than pilot status, will comply with Paragraph 1 above, with the exception of instrument flying."

2. The following requirements are prescribed for those officers of other branches who are on flying status for a period of eight months:

- a. A minimum total of seventy flying hours, to include the following:

Twenty-two hours navigation, to include one thousand mile navigation flight, with the same requirements as quoted in paragraph 1.

b. A minimum of eight hours night flying which will include one flight of not less than two hours duration and to a point at least one hundred miles distant from point of origin.

3. Those ground officers who are on flying status for a period of six months will be required to fly a minimum of fifty hours, to include the following:

a. A minimum of eighteen hours navigation, to include one thousand mile navigation flight, with the same requirements as quoted in paragraph 1 above.

b. A minimum of five hours night flying which will include one flight of not less than two hours duration and to a point at least one hundred miles distant from point of origin.

SECTION II

1. The records of this office show a noticeable variation in the elapsed time in the air entered by the pilot on the Form No. 1, and the actual time - take-off to landing, as recorded on the log sheet of the operators in the control tower.

2. A slight variation is bound to occur, due to the fact that the pilot enters his time to the closest five minutes at the time he taxis away from the hangar line and the time he returns thereto, whereas the operator records, on his log sheet, the actual minute of the take-off and landing. However, the difference between the two records should not exceed five to eight minutes. In some instances this discrepancy appears to be thirty minutes and more.

3. The control tower operator has been instructed to announce the correct time to each pilot requesting take-off instructions. If he fails to do so, the pilot should request this information and synchronize the airplane clock with the time given.

NOTE: When the pilot enters his take-off and landing time, he is making an official statement.

#### SECTION III.

1. It is desired to eliminate the unnecessary conversation between the pilot and control tower. The procedure proscribed in Circular 100-4 is explicit and includes only that which is absolutely necessary. It is requested that flying personnel acquaint themselves with paragraph 6 n, Circular 100-4, and follow the wording of the proscribed messages as closely as possible.

2. Every unnecessary word which is eliminated in a radio contact message facilitates the work of the control operator, who, at certain times is exceedingly busy.

#### SECTION IV.

1. Due to the amount of business transacted over the desk of the Aircraft Dispatcher, the man on duty does not have the time to prepare the flight plan, etc., for the pilot. The dispatcher will be concerned in making only those entries in regard to the names of the pilot and passengers, type and number of the airplane, the transmitting frequency, call letters and receiver.

2. The pilot is then responsible for filling in his flight plan to include also the line covering the city, airport and route to be flown. He is responsible for the correctness of the names of passengers.

#### SECTION V.

##### Cross Country Flights.

1. Pilots on cross country flights are carried as on detached service. In view of this fact, the Operations Office is the source of information, as to the whereabouts of the pilot and where he can be reached if necessary. In order to have this information it is necessary that pilots send a message

bearing the remark "Remaining Over Nite", to this station at the end of each days flying. This matter is again brought to the attention of all flying personnel because of the laxity in complying with these instructions.

2. It has gradually developed that a large number of onlisted men are thumbing transportation around the country by air. Precautions must be taken by the pilot to assure himself that the man requesting a ride is authorized under AR 95-15 to fly as a passenger. All onlisted men will be required to produce a furlough or written pass. In the case of officers and cadets, proper identification must be made. The pilot alone is responsible that the passengers he carries are authorized to ride in government aircraft.

By order of Colonel PIRIE:

*Warren A. Maxwell.*

WARREN A. MAXWELL,  
Major, Air Corps,  
Operations Officer.

ARMY REGULATIONS )  
NO. 600-38 )

WAR DEPARTMENT,  
Washington, August 17, 1938.

PERSONNEL

Dress Uniforms for Officers and Warrant Officers

(Effective October 1, 1938)

Section		Paragraphs
I.	General regulations.....	1 - 5
II.	Designation of uniforms, and occasions.....	6 - 14
III.	Articles of uniform.....	15 - 45

SECTION I

GENERAL REGULATIONS

	Paragraph
General.....	1
Adopted standard of cloths.....	2
Colors of arms, services, etc.....	3
Detailed officers.....	4
Buttons.....	5

1. GENERAL.—a. These regulations supersede all regulations governing dress uniforms for officers and warrant officers.

b. The olive-drab service uniform is hereby replaced as a dress uniform for officers of the Regular Army by the uniforms listed in paragraphs 6 to 13 below. The blue dress (par. 8), or full dress (par. 6) when prescribed, or white uniforms (pars. 12 and 13) where climatic conditions warrant, will be worn at social functions of an official nature after retreat by officers of the Regular Army assigned to, or on duty with, Regular Army troops or stationed at Regular Army posts within the continental limits of the United States, except those who on the effective date of these regulations are under orders for oversea service; special evening

dress (par. 10) or blue mess (par. 11) may be worn at such functions at the option of the individual officer, provided one of the other dress uniforms is not prescribed. On other occasions and at other times, dress uniforms may be worn as authorized in these regulations, and appropriate civilian dress as authorized by commanding officers.

c. Warrant officers, and Reserve officers on active duty, are authorized but not required to wear the uniforms described herein.

d. All dress uniforms purchased after the receipt of these regulations, except as provided in e and f below, will conform to the specifications contained herein. Existing uniforms may be worn until no longer serviceable, except that the convertible blue dress uniform prescribed in Circular No. 66, War Department, 1936, as amended, will not be worn until it has been altered to comply with the provisions of these regulations, and that the special evening dress and blue mess uniforms as formerly prescribed in Special Regulations 41 and 42 will not be worn unless modified to conform to the standard ornamentation prescribed herein.

e. All articles of uniform for wear by the General of the Armies, the Chief of Staff, former Chiefs of Staff, and other officers of the grade of general are such as each may prescribe for himself.

f. Officers regularly detailed as aides to the President, or as junior aides for duty at the White House will, while in the performance of duty as such, wear such uniform as may be especially prescribed by the War Department.

2. ADOPTED STANDARD OF CLOTHS.—The adopted standard of cloths is as follows:

a. Blue uniforms (figs. 1-9).

(1) Dress coat, dress trousers, dress cap, and mess trousers.

- (a) Barathea.
- (b) Broadcloth.
- (c) Crepe.
- (d) Doeskin.
- (e) Elastique.

(2) Special evening dress coat, special evening dress trousers, and mess jacket.

- (a) Barathea.
- (b) Broadcloth.
- (c) Crepe.
- (d) Doeskin.

(3) Cape.

- (a) Beaver.
- (b) Broadcloth.
- (c) Crepe.
- (d) Doeskin.

b. White uniforms (figs. 10 and 11).—Dress coat dress trousers, dress cap, mess jacket, mess trouser and mess vest.

- (1) Cotton twill.
- (2) Duck.

3. COLORS OF ARMS, SERVICES, ETC.—The colors of arms, services, etc., for purposes of color ornamentation are as follows:

- a. Adjutant General's Department.—Dark blue, piped with scarlet.
- b. Air Corps.—Ultramarine blue, piped with golden orange.
- c. Cavalry.—Yellow.
- d. Chaplains.—Black.
- e. Chemical Warfare Service.—Cobalt blue, piped with golden yellow.
- f. Coast Artillery Corps.—Scarlet.
- g. Corps of Engineers.—Scarlet, piped with white.
- h. Field Artillery.—Scarlet.
- i. Finance Department.—Silver gray, piped with golden yellow.
- j. Infantry.—Light blue.
- k. Judge Advocate General's Department.—Dark blue, piped with white.
- l. Medical Department.—Maroon, piped with white.
- m. Military Intelligence Reserve.—Golden yellow piped with pansy.
- n. Ordnance Department.—Crimson, piped with yellow.
- o. Permanent Professors of the United States Military Academy.—Scarlet, piped with silver gray.
- p. Quartermaster Corps.—Buff.
- q. Signal Corps.—Orange, piped with white.
- r. Specialist Reserve.—Brown, piped with yellow.
- s. Warrant officers.—Brown.

4. DETAILED OFFICERS.—The colors of the ornamentation for blue uniforms of officers who are detailed to arms and services in which they do not hold permanent commissions, including the General Staff Corps, will conform to the colors of the arm or service in which permanently commissioned. The insignia worn will be the insignia of the arm or service in which detailed.

5. BUTTONS.—Buttons on dress uniforms will conform to the specifications as set forth in paragraph 4, AR 600-35.

## SECTION II

### DESIGNATION OF UNIFORMS, AND OCCASIONS

	Paragraph
Full dress.....	6
Full dress, mounted.....	7
Blue dress.....	8
Blue dress, mounted.....	9
Special evening dress.....	10
Blue mess.....	11
White dress.....	12
White mess.....	13
Uniform for wear at White House.....	14

6. FULL DRESS (figs. 1 and 2).—a. By whom worn.—Officers and warrant officers.

b. Articles.

- (1) Aiguillette. (Par. 15.)
- (2) Badges. (Par. 16.)
- (3) Belt, full dress. Officers below the grade of brigadier general, and warrant officers. (Par. 17.)
- (4) Cap, dress, blue. (Par. 18.)
- (5) Cape. Optional. (Par. 20.)
- (6) Coat, dress, blue. (Par. 22.)
- (7) Collar, white. (Par. 25.)
- (8) Decorations, large, and service medals, large. As prescribed for service uniform in Section IV, AR 600-35, and Section V, AR 600-40.
- (9) Fourragere. (Par. 26.)

- (10) Gloves, dress, white. (Par. 27.)
- (11) Identification, War Department General Staff. (Par. 28.)
- (12) Insignia. (Par. 29.)
- (13) Necktie, dress, black. (Par. 34.)
- (14) Overcoat, olive-drab. Optional. (Pars 5d(1), AR 600-35, and 41, AR 600-40.)
- (15) Saber. If worn, it will be worn with the saber chain (par. 21) and dress saber knot (par. 32). When worn by general officers, it will be worn with a belt (under sash) of webbing or other light weight material fitted with a metal loop for saber chain. Not to be worn by chaplains.
- (16) Sash. General officers only. (Par. 35)
- (17) Shirt, white. (Par. 36.)
- (18) Shoes, black. (Par. 37.)
- (19) Socks, black. (Par. 38.)
- (20) Straps, shoulder. Officers only. (Par. 39.)
- (21) Trousers, dress, blue. (Par. 40.)

c. Occasions.

- (1) State occasions at home and abroad.
- (2) When receiving the President of the United States.
- (3) When receiving or calling upon the president, sovereign, or member of the royal family of other countries.
- (4) Ceremonies and entertainments when it is desired to do special honor to the occasion.
- (5) Social functions of a general or official nature, when prescribed.
- (6) As prescribed for the White House (par. 40.)

7. FULL DRESS, MOUNTED.—a. By whom worn.—Officers and warrant officers.

b. Articles.—Same as for full dress (par. 6), substituting breeches, service (par. 3, AR 600-35) for trousers, dress, blue; and boots, dress, russet (par. 8c, AR 600-35) and spurs with straps or chain (par. 48, AR 600-35) for shoes, black.

c. Occasions.—Same as for full dress, when the occasion requires that the individual be horse-mounted.



8. BLUE DRESS (fig. 3).—a. By whom worn.—Officers and warrant officers.

b. Articles.

- (1) Aiguillette. (Par. 15.)
- (2) Badges. (Par. 16.)
- (3) Cap, dress, blue. (Par. 18.)
- (4) Cape. Optional. (Par. 20.)
- (5) Coat, dress, blue. (Par. 22.)
- (6) Collar, white. (Par. 25.)
- (7) Fourragere. (Par. 26.)
- (8) Gloves, dress, chamois. (Par. 27.)
- (9) Identification, War Department General Staff. (Par. 28.)
- (10) Insignia. (Par. 29.)
- (11) Necktie, dress, black. (Par. 34.)
- (12) Overcoat, olive-drab. Optional. (Pars. 5d(1), AR 600-35, and 41, AR 600-40.)
- (13) Ribbons, service. As prescribed for service uniform in Section IV, AR 600-35, and Section V, AR 600-40.
- (14) Saber. If worn, it will be worn with the sash or the full dress belt as prescribed in paragraph 6b(15). Not to be worn by chaplains.
- (15) Shirt, white. (Par. 36.)
- (16) Shoes, black. (Par. 37.)
- (17) Socks, black. (Par. 38.)
- (18) Straps, shoulder. Officers only. (Par. 39.)
- (19) Trousers, dress, blue. (Par. 40.)

c. Occasions.

- (1) For ordinary wear after retreat.
- (2) Social functions of a general or official nature after retreat.
- (3) For social use before retreat.
- (4) When off the post or reservation.
- (5) As may be authorized by the commanding officer.

9. BLUE DRESS, MOUNTED.—a. By whom worn.—Officers and warrant officers.

b. Articles.—Same as for blue dress (par. 8), substituting breeches, service (par. 3, AR 600-35) for trousers, dress, blue; and boots, dress, russet (par. 8c, AR 600-35), and spurs with straps or chain (par. 48, AR 600-35) for shoes, black.

c. Occasions.—Same as for blue dress, when the occasion requires that the individual be horse-mounted.

10. SPECIAL EVENING DRESS (figs. 4-6).—a. By whom worn.—Officers.

b. Articles.

- (1) Aiguillette. (Par. 15.)
- (2) Cap, dress, blue. (Par. 18.)
- (3) Cape. Optional. (Par. 20.)
- (4) Coat, special evening dress. (Par. 24.)
- (5) Collar, white. (Par. 25.)
- (6) Decorations, miniature, and service medal miniature. (Pars. 45c, AR 600-35, and 53c, AR 600-40.)
- (7) Fourragere. (Par. 26.)
- (8) Gloves, dress, white. (Par. 27.)
- (9) Identification, War Department General Staff. (Par. 28.)
- (10) Insignia. (Par. 29.)
- (11) Knots, shoulder. (Par. 33.)
- (12) Necktie, evening dress, black. (Par. 34.)
- (13) Overcoat, olive-drab. Optional. (Pars. 5d(1), AR 600-35, and 41, AR 600-40.)
- (14) Shirt, full dress. Plain gold studs and cuff buttons. (Par. 36.)
- (15) Shoes, black. (Par. 37.)
- (16) Socks, black. (Par. 38.)
- (17) Trousers, special evening dress. (Par. 44.)
- (18) Vest, special evening dress. (Par. 45.)

c. Occasions.

- (1) Social functions of a general or official nature after retreat.
- (2) Private formal dinners and other private formal social functions after retreat.
- (3) For ordinary wear after retreat.
- (4) As prescribed for the White House (par. 5)
- (5) On other occasions as authorized by the commanding officer.

11. BLUE MESS (figs. 7-9).—a. By whom worn.—Officers.

b. Articles.

- (1) Aiguillette. (Par. 15.)
- (2) Cap, dress, blue. (Par. 18.)
- (3) Cape. Optional. (Par. 20.)
- (4) Collar, white. (Par. 25.)
- (5) Decorations, miniature, and service medals, miniature. (Pars. 45c, AR 600-35, and 53c, AR 600-40.)
- (6) Fourragere. (Par. 26.)
- (7) Gloves, dress, white. (Par. 27.)
- (8) Identification, War Department General Staff. (Par. 28.)
- (9) Insignia. (Par. 29.)
- (10) Jacket, mess, blue. (Par. 30.)
- (11) Knots, shoulder. (Par. 33.)
- (12) Necktie, evening dress, black. (Par. 34.)
- (13) Overcoat, olive-drab. Optional. (Pars. 5d(1), AR 600-35, and 41, AR 600-40.)
- (14) Shirt, full dress. Plain gold studs and cuff buttons. (Par. 36.)
- (15) Shoes, black. (Par. 37.)
- (16) Socks, black. (Par. 38.)
- (17) Trousers, mess, blue. (Par. 43.)
- (18) Vest, blue mess. (Par. 45.)

c. Occasions.

- (1) Social functions of a general or official nature after retreat.
- (2) Private formal dinners and other private formal social functions after retreat.
- (3) For ordinary wear after retreat.
- (4) As may be authorized by the commanding officer.

12. WHITE DRESS (fig. 10).—a. By whom worn.—  
Officers and warrant officers.

b. Articles.

- (1) Aiguillette. (Par. 15.)
- (2) Badges. (Par. 16.)
- (3) Cap, dress, white. (Par. 19.)
- (4) Coat, dress, white. (Par. 23.)
- (5) Collar, white. (Par. 25.)
- (6) Decorations, large, and service medals, large. As prescribed for service uniform in Section IV, AR 600-35, and Section V, AR 600-40.
- (7) Fourragere. (Par. 26.)

- (8) Gloves, dress, white. (Par. 27.)
- (9) Identification, War Department General Staff. (Par. 28.)
- (10) Insignia. (Par. 29.)
- (11) Necktie, dress, black. (Par. 34.)
- (12) Ribbons, service. As prescribed for service uniform in Section IV, AR 600-35, and Section V, AR 600-40.
- (13) Saber. If worn, it will be worn with a belt (under coat) of webbing or other lightweight material fitted with a metal loop for saber chain, saber chain (par. 21), and dress saber knot (par. 32).  
Not to be worn by chaplains.
- (14) Shirt, white. (Par. 36.)
- (15) Shoes, white. (Par. 37.)
- (16) Socks, white. (Par. 38.)
- (17) Trousers, dress, white. (Par. 41.)

c. Occasions.

- (1) Social functions of a general or official nature after retreat.
- (2) For social use before retreat.
- (3) For ordinary wear after retreat.
- (4) When off the post or reservation.
- (5) When prescribed by the commanding officer.
- (6) As authorized for the White House (par. 14).

13. WHITE MESS (fig. 11).--a. By whom worn.--  
Officers and warrant officers in the Tropics. Optional in the United States. Not worn by the officer of the day.

b. Articles.

- (1) Aiguillette. (Par. 15.)
- (2) Cap, dress, white. (Par. 19.)
- (3) Collar, white. (Par. 25.)
- (4) Decorations, miniature, and service medals, miniature. (Pars. 45c, AR 600-35, and 53c, AR 600-40.)
- (5) Furragere. (Par. 26.)
- (6) Gloves, dress, white. (Par. 27.)
- (7) Identification, War Department General Staff. (Par. 28.)
- (8) Insignia. (Par. 29.)
- (9) Jacket, mess, white. (Par. 31.)
- (10) Knots, shoulder. Officers only. (Par. 33.)

- (11) Necktie, evening dress, black. (Par. 34.)
- (12) Shirt, full dress. Plain gold studs and cuff buttons. (Par. 36.)
- (13) Shoes, black. (Par. 37.)
- (14) Socks, black. (Par. 38.)
- (15) Trousers, mess, black. (Par. 42.)
- (16) Vest, white mess. (Par. 45.)

c. Occasions.

- (1) Social functions of a general or official nature after retreat.
- (2) Private formal dinners and other private formal social functions after retreat.
- (3) For ordinary wear after retreat.
- (4) As may be authorized by the commanding officer.

14. UNIFORM FOR WEAR AT WHITE HOUSE.—a. The service uniform will not be worn to any function at the White House unless specifically prescribed.

b. On occasions when the President may prescribe the uniform for wear, all concerned will be notified.

c. Official occasions.

- (1) New Year's and other state receptions (until 6:00 PM)—Full dress.
- (2) State receptions (evening), which are the customary New Year's reception and those known as the diplomatic, judicial, congressional, and Army and Navy receptions, or others of special formality such as the President may give in honor of a foreign or other distinguished personage—Special evening dress, with miniature decorations and medals, and white dress gloves. At Army and Navy receptions, full dress may be worn instead. Retired officers may wear the uniforms as prescribed for active officers, civilian evening dress with miniature decorations and medals, or the full dress uniform prescribed at the time of their retirement.
- (3) State dinners, which are those customary dinners given by the President known as the diplomatic dinner, and others of special formality, to which officers of the Army may be invited strictly in their official capacity—Special evening dress, with miniature decorations and medals, and white dress gloves.

d. Social occasions.

- (1) When calling on the President and wife of the President (until 6:00 PM)—If by appointment, blue dress (in warm weather, white dress may be worn instead). If only for the purpose of leaving cards, civilian clothing may be worn.
- (2) All other daytime functions, including luncheons, afternoon teas, garden parties, etc.—Appropriate civilian clothing—cutaway or business suit (dark or white, depending on the season of the year). The uniform will not be worn unless specifically prescribed.
- (3) Unofficial dinners—Special evening dress. Retired officers may wear any of the uniforms prescribed in c(2) above.
- (4) Evening musicale or dance—Special evening dress. Retired officers may wear any of the uniforms prescribed in c(2) above.

SECTION III

ARTICLES OF UNIFORM

	Paragraph
Aiguillette.....	15
Badges.....	16
Belt, full dress.....	17
Cap, dress, blue.....	18
Cap, dress, white.....	19
Cape.....	20
Chain, saber.....	21
Coat, dress, blue.....	22
Coat, dress, white.....	23
Coat, special evening dress.....	24
Collars.....	25
Fourragere.....	26
Gloves, dress.....	27
Identification, War Department General Staff.....	28
Insignia.....	29
Jacket, mess, blue.....	30

	Paragraph
Jacket, mess, white.....	31
Knot, saber, dress.....	32
Knots, shoulder.....	33
Neckties.....	34
Sash.....	35
Shirts, white.....	36
Shoes.....	37
Socks.....	38
Straps, shoulder.....	39
Trousers, dress, blue.....	40
Trousers, dress, white.....	41
Trousers for wear with white mess jacket.	42
Trousers, mess, blue.....	43
Trousers, special evening dress.....	44
Vests.....	45

15. AIGUILLETTE (fig. 6).—a. By whom worn.—Officers regularly detailed in the General Staff Corps, military attaches, and aides.

b. Specifications.—Braided gold cord  $\frac{3}{16}$  inch in diameter, in two parts, front and back, each part fastened to a triangular piece of brass having a hook on the inside; this hook to attach to a small strip of brass which slips under the shoulder strap, shoulder knot, or shoulder loop. The front and back parts each to have a loop  $30\frac{1}{2}$  inches in length. Total length of back part to be 34 inches, with 24 inches of braiding; of front part, 25 inches, with 15 inches of braiding; both to measure 2 inches from braiding to button loop and knot; knot to be  $1\text{-}\frac{3}{4}$  inches in length and ferret 3 inches. The brass strip for shoulder strap curved to conform to contour of shoulder,  $\frac{5}{8}$  inch in width and  $3\text{-}\frac{7}{8}$  inches in length, with a rectangular opening at each end  $\frac{3}{8}$  inch in length. The brass strip for shoulder knot to be  $\frac{5}{8}$  inch in width and  $2\text{-}\frac{3}{8}$  inches in length, with an extra piece fastened thereto to form a standing loop 1 inch in length to permit the flexible backing of the shoulder knot to pass through. The brass strip for shoulder loop of white dress coat to be the same as that used for shoulder knot, without the standing loop.

c. How worn.—On the right shoulder by the Chief of Staff and aides to the President; on the left shoulder by others authorized to wear it. Secure to the coat before buttoning, with the 25-inch part attached to the front opening of the brass strip, and the 34-inch part attached to the rear opening of the brass strip. Pass the cord of the 34-inch part under the arm and insert the button loop of the 25-inch part through the underside of the button loop of the 34-inch part. Pass button loop of the 25-inch part through notch in lapel and attach to the button under the collar. The button under the collar to be attached to the body of the coat in such a position that the knot of the 25-inch part will easily clear the notch in the lapel. The loops of both cords to cross on the outside of the arm with front loop on top.

d. When worn.—With full dress and special evening dress on all occasions, and with blue dress, white dress, and mess uniforms when prescribed. Always worn when under arms. Not worn on the overcoat.

16. BADGES.—a. Specifications.—As prescribed in Section IV, AR 600-35, except that the badge, aviation, will be of oxidized silver.

b. When and how worn.—As prescribed for service uniform in Section V, AR 600-40.

17. BELT, FULL DRESS.—a. Material.—Black leather, with gold-color metal hardware.

b. In general.—1-3/4 inches in width with a sliding loop 3/4-inch in width and a metal loop for saber chain.

c. Belt plate.—Rectangular, 2 inches in width and 3 inches in length, with raised rim inclosing the arms of the United States with rays and thirteen stars over the head of the eagle.

d. Ornamentation.—Belt proper, four-vaillum gold lace, 1-5/8 inches in width, with three silk stripes, 1/16 inch in width, of the first-named color of the arm or service, 3/8 inch from each edge and equally spaced. Sliding loop, 3/4-inch two-vaillum gold lace.



e. When worn.

- (1) Full dress and full dress, mounted.—On all occasions.
- (2) Blue dress and blue dress, mounted.—Only when under arms.
- (3) Other uniforms.—Never.

18. CAP, DRESS, BLUE.—a. Material.—Dark blue cloth of adopted standard. (Par. 2a(1).)

b. Crown.—Based on a size 7-1/8, about 11-1/4 inches from front to rear, and about 10-1/2 inches from side to side, graduated according to sizes, stiffened in front by springs and falling without stiffening to the rear, with two eyelets 1/2 inch from the welt seam and about 3/4 inch on each side of side seam of quarters. Top stiffened at rim with 3/8-inch flat grommet.

c. Visor.—Of leather, bound with black patent leather 3/16 inch wide and lined with embossed green hatter's leather. Greatest width about 2-3/16 inches, and slope from vertical of about 55 degrees.

- (1) Officers above the grade of captain.—Top of visor of dark blue cloth embroidered in gold with two arcs of oak leaves in groups of two (fig. 12).
- (2) Other officers and warrant officers.—Top of visor of plain black patent leather.

d. Chin strap.—Leather covered with two-vellum gold lace, in two parts, each 1/2 inch in width, one end forming a slide and the other fastened to cap at end of visor with a small regulation cap button.

e. Band.—An outside band 1-3/4 inches wide.

- (1) General officers of the line.—Of blue-black velvet, with oak leaves in groups of two, about 1 inch in length and 3/4 inch in width, embroidered in gold.
- (2) Other officers and warrant officers.—Of grosgrain silk of first-named color of the arm or service, with a band of two-vellum gold lace 1/2 inch in width at top and bottom. If the arm or service has two colors, to have a 1/8-inch piping of the second-named color on the inside edges of the gold lace bands.

f. Insignia.

- (1) Officers.—Coat of arms of the United States, 2-3/8 inches in height, of gold or gold-color metal, placed with bottom of insignia about 1/8 inch from top of chin strap.
- (2) Warrant officers.—The warrant officers' insignia, 1-1/2 inches in height, placed as in (1) above.

19. CAP, DRESS, WHITE.—a. Material.—White cloth of adopted standard (par. 2b).

b. Crown.—Based on a size 7-1/8, about 11-1/4 inches from front to rear, and about 10-1/2 inches from side to side, graduated according to sizes, stiffened in front by springs and falling without stiffening to the rear, with two eyelets 1/2 inch from the welt seam, and about 3/4 inch on each side of side seam of quarters. Top stiffened at rim with 3/8-inch flat grommet. A detachable cover, without lining, fitted snugly over body band.

c. Visor.—Same as for blue dress cap (par. 18c)

d. Chin strap.—Leather covered with two-vevellum gold lace, in two parts, each 1/2 inch in width, one end forming a slide and the other fastened to cap at end of visor with a small regulation cap button.

e. Ornamentation.—A band of white braid 1-3/4 inches in width around entire cap. Bottom of body band lined with dark blue cloth.

f. Insignia.—The same as for blue dress cap (par. 18f).

20. CAPE (fig. 13).—a. Material.—Dark blue cloth of adopted standard (par. 2a(3)).

b. In general.—To be of such length as to cover the skirt of the special evening dress coat but to reach no lower than a point 2 inches below the knee. Left front to drop vertically from top to bottom, overlapping about three inches; to fasten on the right side just below the collar with a 40-ligne button covered with cloth of the same material as the cape. To have a standing rolling collar of blue-black velvet, about 3 inches wide, fastened with hooks and eyes. An agraffe of black mohair cord to fasten across the breast, one end to be

secured in front and just below the lower end of the left shoulder seam with a black mohair olivette button; a button of the same description to be placed in front and just below the lower end of the right shoulder seam to engage other end of agraffe.

c. Lining.—Capes will be lined with dark blue cloth for general officers of the line and with the first-hamed color of the arm or service for other officers and warrant officers.

21. CHAIN, SABER.—a. When worn.—Only when the saber is worn.

b. In general.—A polished nickel steel, nonrusting, figure "8", laid-link chain with a spring tongue snap hook at one end and a "U" hook with flat spring clamp at the other, chain body to have approximately three links to the inch. Size of attachment to be—length overall, minimum 10 inches, maximum 11-1/4 inches; width, minimum 3/4 inch, maximum 7/8 inch.

22. COAT, DRESS, BLUE.—a. Material.—Dark blue cloth or adopted standard (par. 2a(1)).

b. In general.—A single-breasted form-fitting sack coat, extending to crotch, with no pronounced flare or waistline seam. To fit easily over the chest and shoulders and to be fitted at the waist to conform to figure. The left front to appear straight from top button to bottom of front. Buttoned down the front with four large regulation coat buttons equally spaced. Belt, when worn, to be spaced between two lower buttons. Sufficient flare to be on the right front in order to remain underlapped.

c. Back.—A vent in the back to extend from immediately below waistline to bottom, following the back seam and with an underlap of approximately 2-1/2 inches. To have two detachable belt hooks—let in side seams.

d. Collar and lapel.—The collar to measure approximately 1-5/8 inches in width at the back, the opening between collar and lapel not to exceed 1/2 inch. Lapels to be semipeaked, not wider than 1/2 inch more than collar end, and the top edge to be horizontal. For those authorized to wear the aiguillette, a button attached to the body of the coat

under collar on left or right depending on the position in which aiguillette is worn (par. 15c).

e. Pockets.--Four pockets, two upper and two lower, of suitable size according to size of coat. Each pocket to be a slash pocket covered with a flap rounded at the corners, buttoned at center with a small regulation coat button. The two upper pockets to be placed with their upper edge in a prolonged horizontal line, and the two lower pockets in a similar manner. The flaps of upper pockets not to exceed 2-1/2 inches in depth, buttoned on a line with the top button of the coat. The flaps of the lower pockets not to exceed 3-1/2 inches in depth, upper edge of flaps to be immediately below bottom edge of waist belt (when worn).

f. Ornamentation.

- (1) General officers of the line.--On each sleeve one 1-1/2 inch two-veillum gold lace stripe, the bottom of the stripe to be 3 inches above the bottom of the sleeve.
- (2) Other officers.--On each sleeve two 1/4-inch two-veillum gold lace stripes placed 1/4 inch apart over a silk stripe of the first-named color of the arm or service the bottom of the lower stripe to be 3 inches above the end of the sleeve.
- (3) Warrant officers.--Without stripes.

g. Shoulder straps (officers only).--On each shoulder a shoulder strap (par. 39) sewed to the coat, centered with a long side on the shoulder head seam.

h. Shoulder button.--For those authorized to wear the fourragere, a small regulation coat button let in the left shoulder seam 1/2 inch outside the collar edge.

23. COAT, DRESS, WHITE.--a. Material.--White cloth of adopted standard (par. 2b).

b. In general.--A single-breasted, semi-form-fitting sack coat, extending to crotch, with no pronounced flare or waistline seam. To fit easily over the chest and shoulders and to be slightly fitted at the waist to conform to figure. The left front to appear straight from top button to bottom of front.

Buttoned down the front with four large regulation coat buttons equally spaced. Sufficient flare to be on the right front in order to remain underlapped. On the left side a vertical slit not exceeding 3 inches in length at the hip to permit of hooking up the saber. All buttons to be detachable.

c. Back.—A vent in the back to extend from immediately below waistline to bottom, following the back seam and with an underlap of approximately 2-1/2 inches.

d. Collar and lapel.—The collar to measure approximately 1-5/8 inches in width at the back, the opening between collar end and lapel not to exceed 1/2 inch. Lapels to be semipeaked, not wider than 1/2 inch more than collar end, and the top edge to be horizontal. For those authorized to wear the aiguillette, a button attached to the body of the coat under collar on left or right, depending on position in which aiguillette is worn (par. 15c).

e. Shoulder loops.—On each shoulder a loop let in the sleeve head seam and reaching to edge of collar. Upper end pointed and buttoned to coat with a small regulation coat button. Width of loop at lower end 2 1/2 inches, tapering to 1 1/2 inches at a distance of 3/4 inch from pointed end.

f. Ornamentation.—A band of white braid 1/2 inch in width on each sleeve, the lower edge 3 inches from end of sleeve.

g. Pockets.—Four outside pockets, two upper and two lower of suitable size according to size of coat. Each pocket covered with a flap, pointed at corners and center, buttoned at center with a small regulation coat button, and placed with the upper edges in a prolonged horizontal line.

(1) Upper.—The two upper pockets to be patch pockets, slightly rounded at lower corners, with a box plait 1-1/2 inches in width on the vertical center line. The following dimensions are not to be exceeded: depth, 6-1/2 inches; width at top, 5 inches; at bottom, 5 inches. The flap buttons to be on a line with the top button of coat. Lower outside corners of top pocket flaps to be blind tacked.

- (2) Lower.—The two lower pockets to be hung inside the coat with the opening in the body below waistline. The following dimensions are not to be exceeded: depth, 9 inches; width at top, 7 inches; at bottom, 8 inches.

24. COAT, SPECIAL EVENING DRESS.—a. Material.—Dark blue cloth of adopted standard (par. 2a(2)).

b. In general.—An evening dress coat cut on the lines of the civilian evening dress coat, provided with a means of attaching the shoulder knots, and with two buttonholes on each side below the turn of the lapel; lapel to be of the same material as the coat. Skirt to reach no lower than the bend of the knee. For those authorized to wear the aiguillette, a button attached to the body of the coat under collar on left or right, depending on position in which aiguillette is worn (par. 15c).

c. Buttons.—Two large regulation coat buttons on each side in front and four on the skirt, two at the top and two at the bottom.

d. Sleeve ornamentation.—Insignia of grade for general officers, and insignia of arm or service may be embroidered or of metal.

- (1) General officers of the line.—A cuff of blue-black velvet 4 inches wide with a band of oak leaves in groups of two about 1 inch in width, embroidered in gold, 1 inch below the upper edge of sleeve cuff. 1 inch above the upper edge of sleeve cuff the insignia of grade embroidered or of metal as follows: Lieutenant general, 3 silver stars, 1 inch in diameter, 2-3/4 inches between centers, center star in center of sleeve; major general, 2 silver stars, 2-3/4 inches between centers, centered horizontally on sleeve; brigadier general, 1 silver star in center of sleeve.

- (2) General officers of the GHQ Air Force and chiefs and assistant chiefs of arms and services.—A cuff the same as in (1) above. In center of sleeve and 1 inch above upper edge of cuff, the insignia

of arm or service, embroidered or of metal. Insignia of grade, as in (1) above, 1 inch above insignia of arm or service.

- (3) Other officers.—On each sleeve a band of two  $1/4$ -inch two-vellum gold lace stripes placed  $1/4$  inch apart over a grosgrain silk stripe of the first-named color of the arm or service, the bottom of the sleeve band to be 3 inches above the end of the sleeve; to be surmounted by the insignia of grade and insignia of arm or service.

- (a) Colonel.—A knot composed of three loops, one large upper and two smaller lower loops. Knot to be formed by five rows of  $1/8$ -inch gold or gilt wire tracing braid interlaced at points of crossing, ends of knot resting on the sleeve band. Outside dimensions of knot to be  $8-1/4$  inches from upper edge of the sleeve band to the top of upper loop and  $6-3/4$  inches across between outer edges of lower loops. Insignia of arm or service, embroidered or of metal, will be worn in the center of the space formed by the lower curves of the knot and the upper edge of the sleeve band.
- (b) Lieutenant colonel.—Same as (a) above except that there will be four rows of gold or gilt wire tracing braid.
- (c) Major.—Same as (a) above except that there will be three rows of gold or gilt wire tracing braid.
- (d) Captain.—Same as (a) above except that there will be two rows of gold or gilt wire tracing braid.
- (e) First lieutenant.—Same as (a) above except that there will be one row of gold or gilt wire tracing braid.
- (f) Second lieutenant.—Without loop. Insignia of arm or service worn in center and one inch above sleeve

25. COLLARS.—Of plain white material without stripe or figure.

a. With special evening dress uniform.—Full dress (wing).

b. With mess uniforms.—Full dress (wing), or hard, turn-down.

c. With full dress and dress uniforms.—Turn-down, semisoft or stiff.

26. FOURRAGERE.—a. By whom worn.—As prescribed in paragraph 52a, AR 600-40.

b. Specifications.—As prescribed in paragraph 28, AR 600-35.

c. How worn.—On the left shoulder and under the aiguillette if the aiguillette is worn.

(1) Full dress and blue dress (fig. 2).—

Attach to the left shoulder by fastening the buttonhole thereof to the shoulder button (par. 22h). Pass the fourragere under the left arm and attach the loop on the ferret end to the shoulder button, allowing the ferret to hang down in front.

(2) Special evening dress, blue mess, and white mess.—Same as in (1) above, except that the buttonhole and the loop on the ferret end are fastened to the left shoulder-knot button, between the shoulder knot and the flexible backing.

(3) White dress.—Same as in (1) above, except that the buttonhole and the loop on the ferret end are fastened to the left shoulder-loop button, under the shoulder loop.

27. GLOVES, DRESS.—a. White.—Kid, silk, or other high-grade material.

b. Chamois.—Chamois or other high-grade material of chamois color.

c. When worn.—Gloves will be worn when prescribed or when the saber is worn. At other times optional.



28. IDENTIFICATION, WAR DEPARTMENT GENERAL STAFF.---

a. By whom worn.—Authorized for optional wear by officers of the Regular Army, who, since June 4, 1920, have served not less than 1 year as regular or as additional member of the War Department General Staff, and officers of the Civilian components, who, since June 4, 1920, have served not less than 1 year as additional members of the War Department General Staff.

b. Specifications.—The coat of arms of the United States, of gold or gold-color metal, superimposed on a five-pointed black enameled star; in each reentrant angle of the star, three transparent green enameled laurel leaves; the shield and glory to be in enameled colors, stripes of white and red, chief of blue, and the sky of glory blue.

(1) Regular, additional, and former members of the War Department General Staff.—Star 2 inches in diameter.

(2) Chief of Staff and former Chiefs of Staff.—Star 3 inches in diameter.

c. How worn.—On the right breast of the coat or jacket.

(1) Blue dress.—Center about 4-1/2 inches below the midpoint of top of upper pocket.

(2) Special evening dress.—In continuation of the line through the two large coat buttons, with center about 3-1/2 inches above upper button.

(3) Mess jacket.—Centered between the two upper buttons.

(4) White dress.—On the upper pocket, centered between the point of the flap and the bottom and the sides of the pocket.

d. When worn.—Optional for all occasions, when in uniform.

29. INSIGNIA.—a. General.

(1) Shoulder sleeve insignia, and wound and war-service chevrons will not be worn on any dress uniform.

(2) Regimental distinctive insignia authorized in paragraph 49f, AR 600-40, may be worn only on mess uniforms, on the lapels, centered horizontally about on line with the notch of the lapel and vertically about one inch from the inside point of the notch of the lapel.

b. Full dress and blue dress.

- (1) Collar and lapel.—As prescribed for service uniform in Section III, AR 600-35, and Section IV, AR 600-40, except that for officers of the Air Corps it will be of metal and will be worn as prescribed for officers of the other arms and services.
- (2) Shoulder.—Shoulder straps. (Pars. 22g and 39.)

c. Special evening dress.—See paragraph 24d. Insignia of arm or service as prescribed in Section III, AR 600-35, except that it may be either embroidered or of metal.

d. Blue mess.—Same as special evening dress.

e. White dress.

- (1) Collar and lapel.—Same as for full dress and blue dress in b(1), above.
- (2) Shoulder loop.—As prescribed in paragraphs 17, AR 600-35, and 41, AR 600-40

f. White mess.—See paragraph 31d. Metal insignia of arm or service as prescribed in Section III, AR 600-35.

30. JACKET, MESS, BLUE.—a. Material.—Dark blue cloth of adopted standard (par. 2a(2)).

b. In general.—Cut like the special evening dress coat (par. 24), to descend to point of hips, slightly curved to a peak behind and in front; two buttonholes on each front below the turn of the lapel, the lower being about 1-1/2 inches from the bottom of jacket; suitable shoulder knot fastening on shoulders. For those authorized to wear the aiguillette, a button attached to the body of the jacket under collar on left or right, depending on position in which aiguillette is worn (par. 15c).

c. Lapels.—To have a facing of cloth of the first-named color of arm or service (general officers of the line to have dark blue silk and chaplains black silk), outer edge of facing to be 1-1/4 inch from the edge of the lapel and parallel to it, and to follow the line of step and seam of collar.

d. Buttons.—Three large regulation coat buttons on each side, beginning about 1-1/2 inches from the bottom of the jacket and spaced 2 to 3-1/2 inches

apart, following the line of outer edge of lapel. Two small regulation coat buttons joined by a small gold or gilt chain about 1-1/2 inches long for optional wear in upper buttonholes.

e. Sleeve ornamentation.—The same as for the sleeves of the special evening dress coat (par. 24d).

31. JACKET, MESS, WHITE.—a. Material.—White cloth of adopted standard (par. 2b).

b. In general.—Cut like the special evening dress, to descend to point of hips, slightly curved to a peak behind and in front; two buttonholes on each front below the turn of the lapel, the lower being about 1-1/2 inches from the bottom of jacket; lapel of same material as the jacket; suitable shoulder knot fastenings on shoulders. For those authorized to wear the aiguillette a button attached to the body of the jacket under collar on left or right, depending on position in which aiguillette is worn (par. 15c).

c. Buttons.—Three large regulation coat buttons (detachable) on each side, beginning about 1-1/2 inches from the bottom of the jacket and spaced 2 to 3-1/2 inches apart, following the line of outer edge of lapel. Two small regulation coat buttons joined by a small gold or gilt chain about 1-1/2 inches long for optional wear in upper buttonholes.

d. Sleeve ornamentation.—Insignia of arm or service to be of metal.

(1) General officers of the line.—A cuff of heavy white braid 4 inches in width. One inch above the upper edge of sleeve cuff the insignia of grade embroidered in white as follows: Lieutenant general, 3 stars, 1 inch in diameter, 2-3/4 inches between centers, center star in center of sleeve; major general, 2 stars, 1 inch in diameter, 2-3/4 inches between centers, centered horizontally on sleeve; brigadier general, 1 star, 1 inch in diameter, in center of sleeve.

(2) General officers of the GHQ Air Force and chiefs and assistant chiefs of arms and services.—A cuff the same as in (1) above. In center of sleeve and 1 inch above upper edge of cuff, the insignia of arm or service. Insignia of grade, as in (1) above, 1 inch above insignia of arm or service.

(3) Other officers.—To have a band of white braid  $1/2$  inch in width, the lower edge 3 inches from the end of the sleeve, to be surmounted by insignia of grade and insignia of arm or service as follows:

(a) Colonel.—A knot composed of three loops, one large upper and two smaller lower loops. Knot to be formed of five rows of  $1/8$ -inch white soutache braid, ends of knot resting on the sleeve band. Outside dimensions of knot to be about  $8-1/4$  inches from upper edge of the sleeve band to the top of upper loop and about 6 inches across between outer edge of lower loops. Insignia of arm or service will be worn in the center of the space formed by the lower curves of the knot and the upper edge of the sleeve band.

(b) Lieutenant colonel.—Same as (a) above except that there will be four rows of white braid.

(c) Major.—Same as (a) above except that there will be three rows of white braid.

(d) Captain.—Same as (a) above except that there will be two rows of white braid.

(e) First lieutenant.—Same as (a) above except that there will be one row of white braid.

(f) Second lieutenant.—Without knot. Insignia of arm or service to be worn in center and 1 inch above sleeve band.

(4) Warrant officers.—To be without knot or braid. Warrant officers' insignia to be worn on the sleeve, centered, 4 inches from edge of sleeve.

32. KNOT, SABER, DRESS.—a. General officers. Heavy gold or gilt cord,  $1/4$  inch in diameter and  $13-1/2$  inches in length, with a gold or gilt braid keeper  $1/2$  inch wide and a gold or gilt braided ac-  
 $1-1/4$  inches in diameter and 2 inches in length.

b. Other officers (except chaplains) and warrant officers.—A strap of 5/8-inch wide gold or gilt lace 13-1/2 inches long, with a row of black silk interwoven 1/8 inch from edge. A keeper 5/8 inch wide, of black silk and gold or gilt lace interwoven. An acorn 1-1/4 inches in diameter and 1-3/4 inches long of black silk and gold, or gilt lace interwoven.

33. KNOTS, SHOULDER.—Of gold or gilt cord, 1/4 inch in diameter, the knot to be formed of 4 plaits of 3-cord and rounded at the top, a small regulation coat button in the upper end of knot. Knot to be not more than 5-1/2 inches in length and 2-1/2 inches in width, conforming to shoulder; to be stiffened on the underside with a flexible backing covered with dark blue cloth; to have attached to the strap a suitable attachment for fastening to the shoulder of coat or jacket.

34. NECKTIES.—a. Dress.—Adopted four-in-hand pattern, of plain black material without stripe or figure.

b. Evening dress.—Bow of black silk, with square ends, without stripe or figure.

35. SASH (fig. 14).—a. Material.—Gold-color silk net.

b. Specifications.—Three inches in width, with four 3/4-inch folds overlapping down; approximately 45 inches in length and lined the entire length; a strap and buckle on inside for adjusting to waist. On front end a knot and hanger of same material as sash, hanger approximately 6 inches in length with a full-corded tassel 7 inches in length attached; a gold-color metal hook on underside of knot. On the other end a sliding knot and hanger of same material as on front end, hanger approximately 8 inches in length with a full-corded tassel 7 inches in length attached; a gold-color metal eye on the underside of knot.

c. How worn.—With hangers on left side.

36. SHIRTS, WHITE.—a. With blue dress and white dress.—Of commercial type, without stripe or figure.

b. With special evening dress, blue mess, and white mess.—Civilian full dress, without stripe or figure. Plain gold studs and cuff buttons.

37. SHOES.—a. Black.—Of commercial design and usage.

b. White.—Same as a above.

38. SOCKS.—Plain, and of the same color as the shoes prescribed for the uniform worn.

39. STRAPS, SHOULDER.—a. Material.—Of same material as the coat.

b. In general.—A strap, 1-5/8 inches in width and 4 inches in length, with a background of first-named color of the arm or service and a border of gold bullion, 3/8 inch in width, surrounded on inside and outside by gold Jaceron. If the arm or service has two colors, the second-named color to show 1/8 inch inside border instead of inside line of Jaceron.

c. Insignia of grade.—The following insignia of grade, embroidered in bullion, to be placed on strap, as applicable:

- (1) General officers of the line.—Lieutenant general, three silver stars; major general, two silver stars; brigadier general, 1 silver star; stars to be 5/8 inch in diameter and embroidered on a blue-black velvet background.
- (2) General officers of the GHQ Air Force and chiefs and assistant chiefs of arms and services.—Major general, two silver stars; brigadier general, one silver star; stars to be 5/8 inch in diameter.
- (3) Colonel.—A silver spread eagle, 5/8 inch in height and 1-1/4 inches between tips of wings, straps to be made in pairs with eagles' heads looking to the front.
- (4) Lieutenant colonel.—A silver oak leaf, 5/8 inch in height and 5/8 inch across. One leaf on each end of strap.
- (5) Major.—Same as lieutenant colonel, substituting gold for silver.
- (6) Captain.—Two silver bars, each 1/4 inch in width and 5/8 inch in length, parallel to ends of strap, 3/16 inch apart and 3/16 inch from inside of border.

- (7) First lieutenant.—One silver bar, 1/4 inch in width and 5/8 inch in length, parallel to ends of strap and 3/16 inch from inside of border.
- (8) Second lieutenant.—Same as first lieutenant, substituting gold for silver.

40. TROUSERS, DRESS, BLUE.—a. Material.—

- (1) General officers of the line.—Dark blue cloth of adopted standard (par. 2a(1)).
- (2) Other officers and warrant officers.—Sky blue cloth of adopted standard (par. 2a(1)).

b. In general.—Cut on the lines of civilian trousers, without cuff.

c. Ormentation.—On each outside seam.

- (1) General officers of the line.—Two 1/2-inch stripes of two-veillum gold lace, spaced 1/2 inch apart.

- (2) Other officers and warrant officers.—A stripe of facing cloth 1-1/2 inches in width, welted at the edges, of the first-named color of the arm or service, except for infantry, which will be white. For those arms and services represented by two colors, a 1-3/4-inch stripe consisting of a stripe of facing cloth 1-1/2 inches in width, of the first-named color of the arm or service, with a piping 1/8 inch in width, of the second-named color, on each edge.

41. TROUSERS, DRESS, WHITE.—a. Material.—White cloth of adopted standard (par. 2b).

b. In general.—Cut on the lines of civilian trousers, without stripe, welt, or cuff.

42. TROUSERS FOR WEAR WITH WHITE MESS JACKET.—Civilian dress, black, of lightweight material, with black silk or satin stripe; cut with a high waist, and without hip pockets.

43. TROUSERS, MESS, BLUE.—a. Material.

- (1) General officers of the line.—Dark blue cloth of adopted standard (par. 2a(1)).
- (2) Other officers.—Sky blue cloth of adopted standard (par. 2a(1)).

b. In general.---Of the same cut and ornamentation as blue dress trousers, except that the waist will be cut high and there will be no side or hip pockets.

44. TROUSERS, SPECIAL EVENING DRESS.---a. Material.---Dark blue cloth of adopted standard, of the same material as the coat (par. 2a(2)).

b. In general.---Cut on the lines of civilian trousers, without cuff.

c. Ornamentation.---On each outside seam.

- (1) General officers of the line.---Two 1/2-inch stripes of two-vellum gold lace, spaced 1/2 inch apart.
- (2) Other officers.---A stripe 1 inch wide, consisting of two 5/16-inch outer stripes of two-vellum gold lace, with an inner grosgrain silk stripe of the first-named color of the arm or service.

45. VESTS.---a. Material.

- (1) Special evening dress and blue mess.---White pique.
- (2) White mess.---White cloth of adopted standard (par. 2b).

b. In general.---Single breasted, cut low, with rolling collar, rounded bottom without points, and fastened with three small detachable regulation coat buttons.



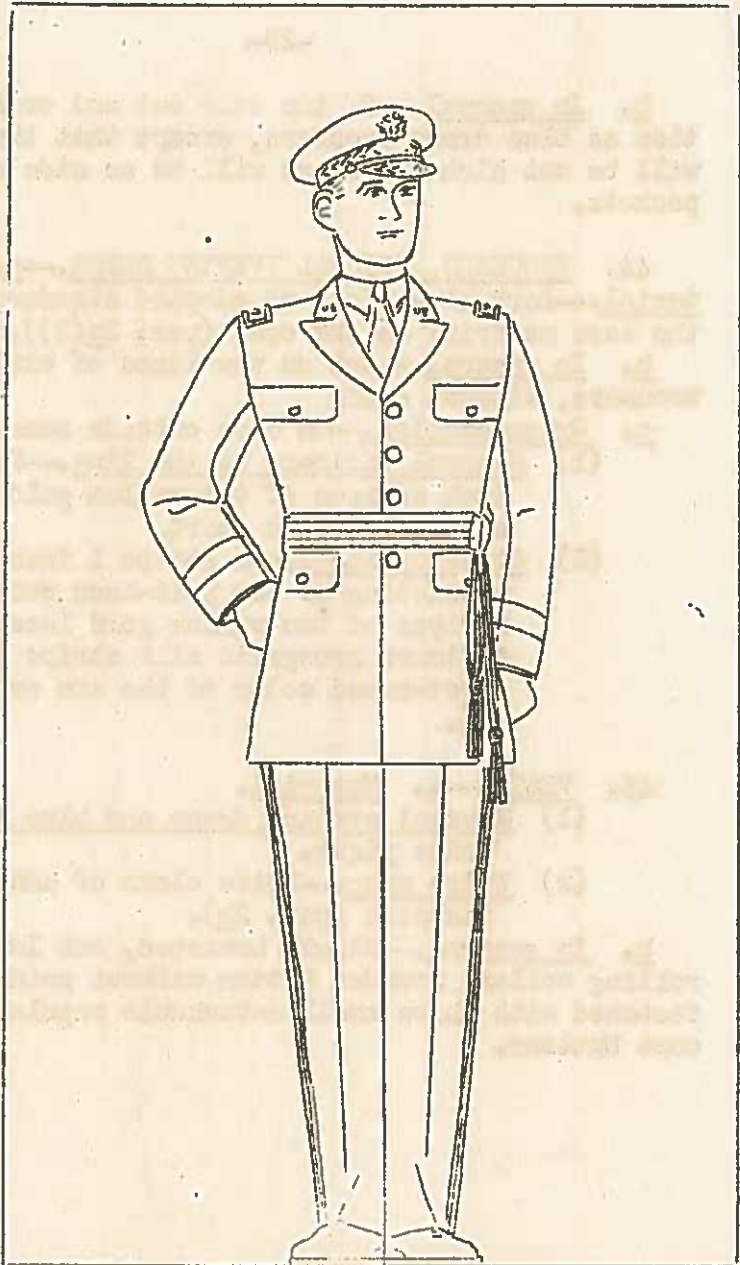


Figure 1.—Full dress (general officer of the line).

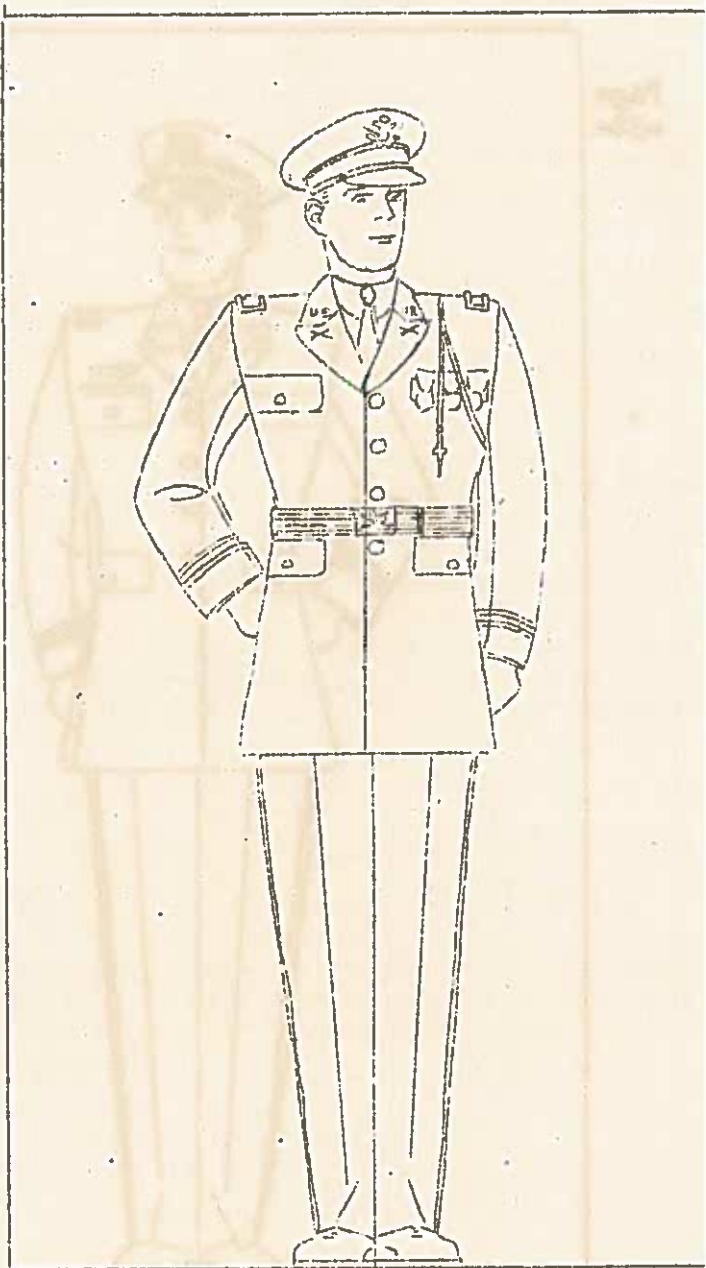


Figure 2.—Full dress (officer below the grade of major, with fourragere).

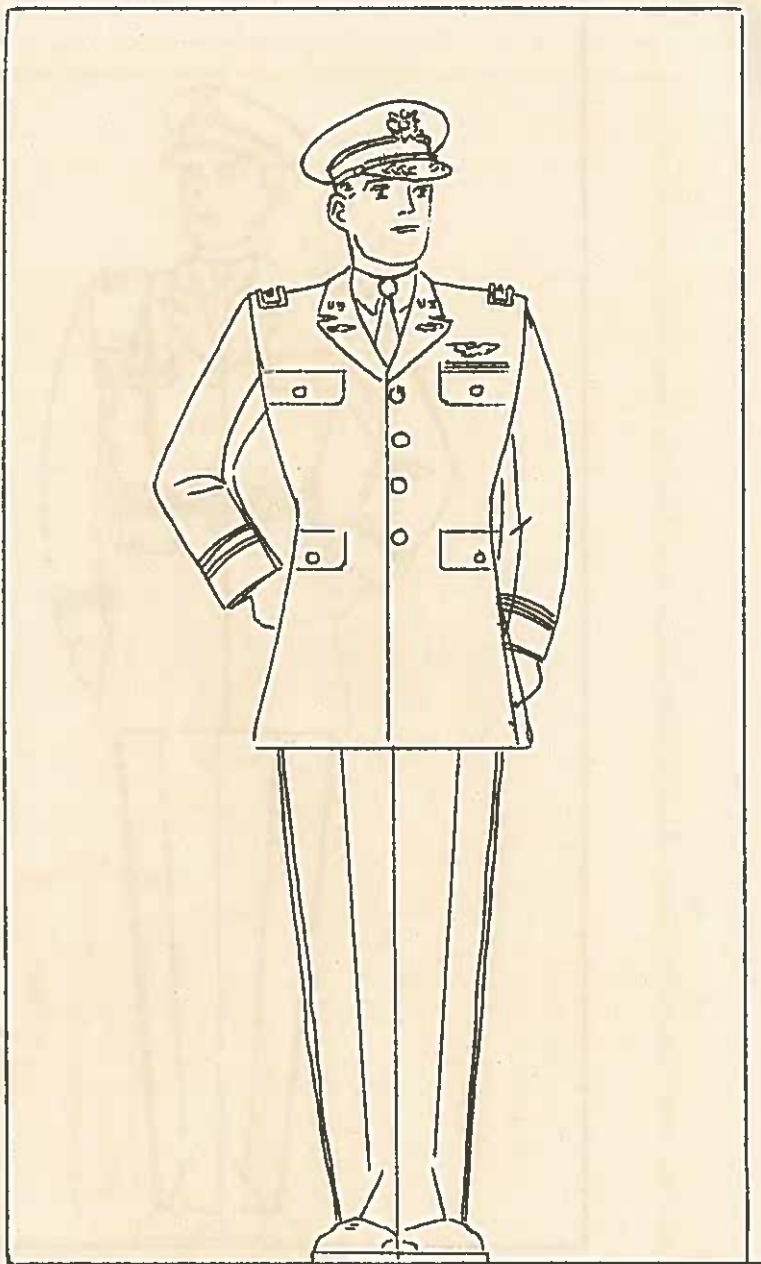


Figure 3.—Blue dress (officer below the grade of brigadier general and above the grade of captain).

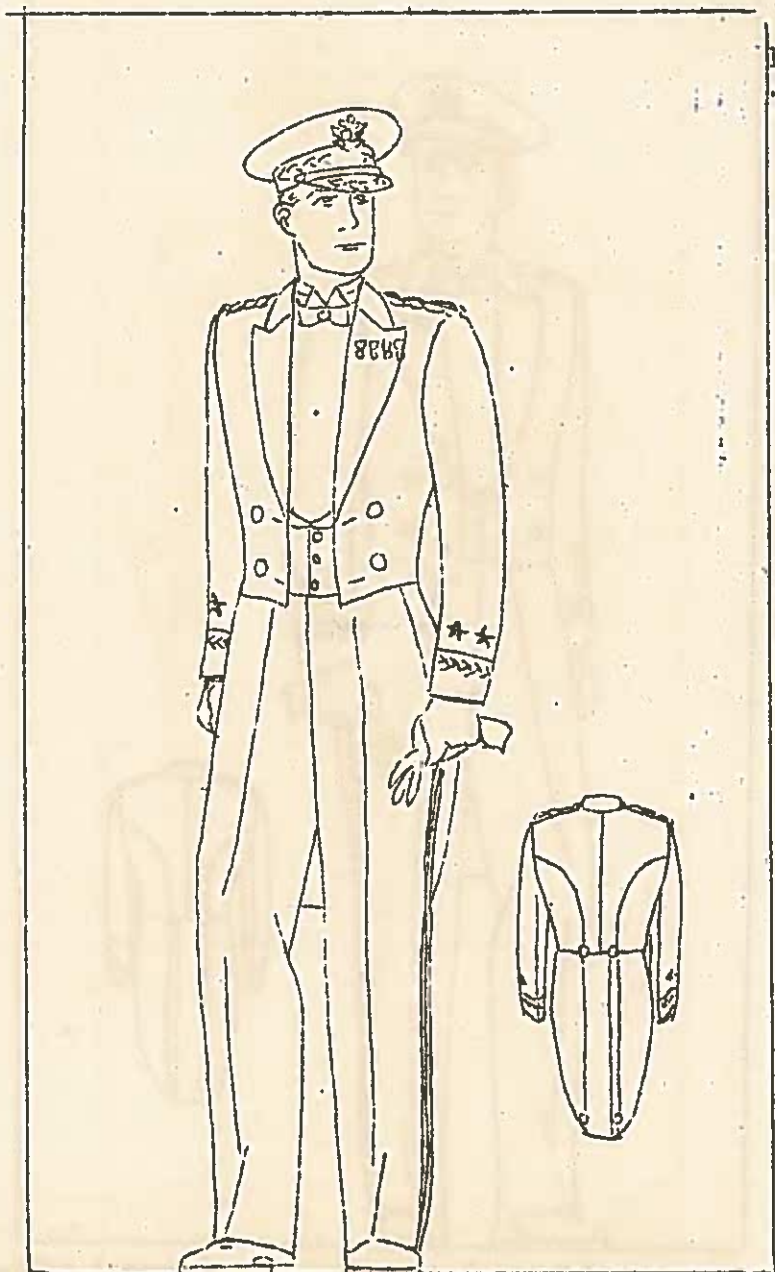


Figure 4.—Special evening dress (general officer of the line).

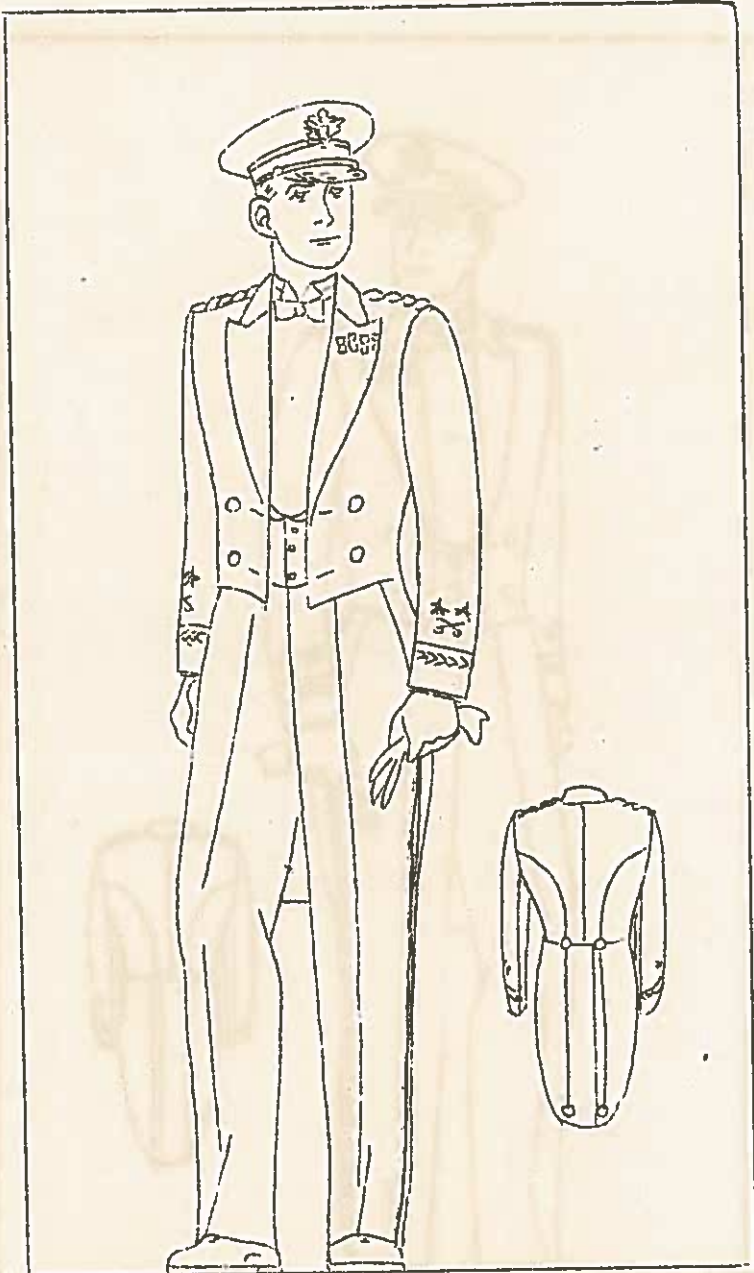


Figure 5.—Special evening dress (general officer of the GHQ Air Force and general officer designated as chief or assistant chief of arm or service).

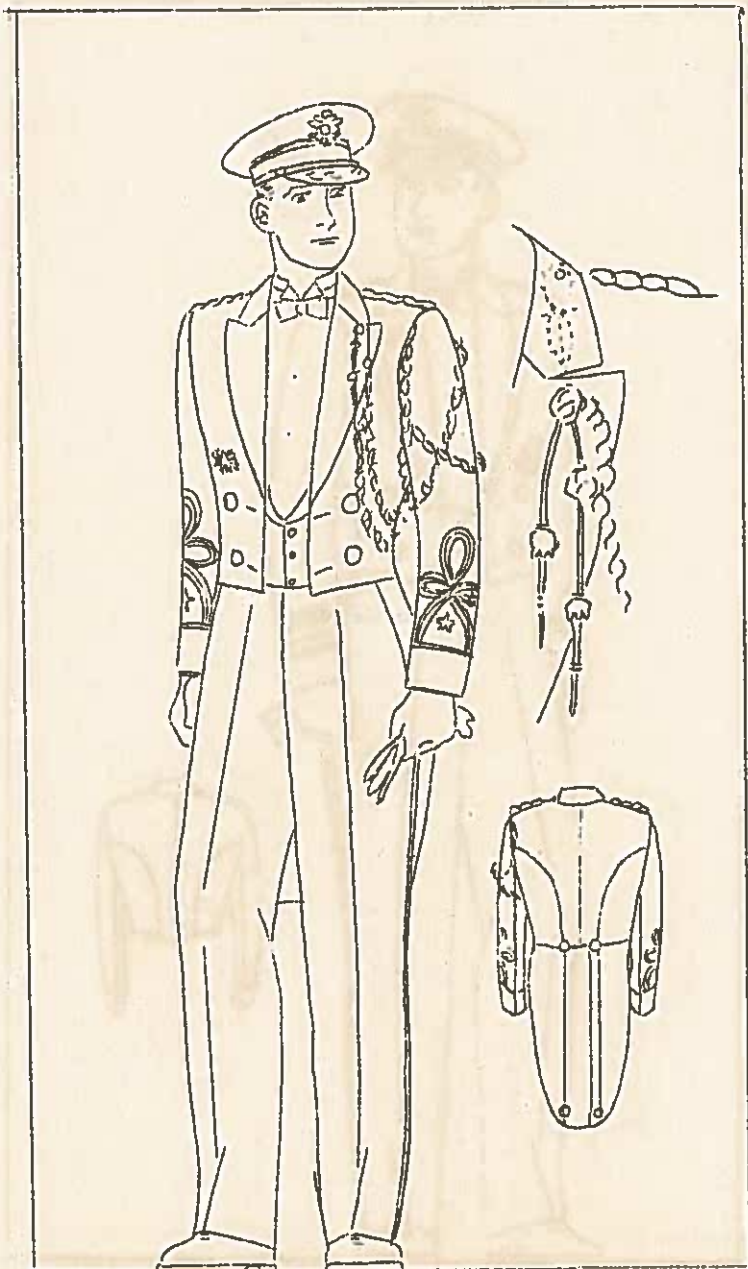


Figure 6.—Special evening dress (officer below the grade of brigadier general and above the grade of captain with aiguillette and War Department General Staff identification).

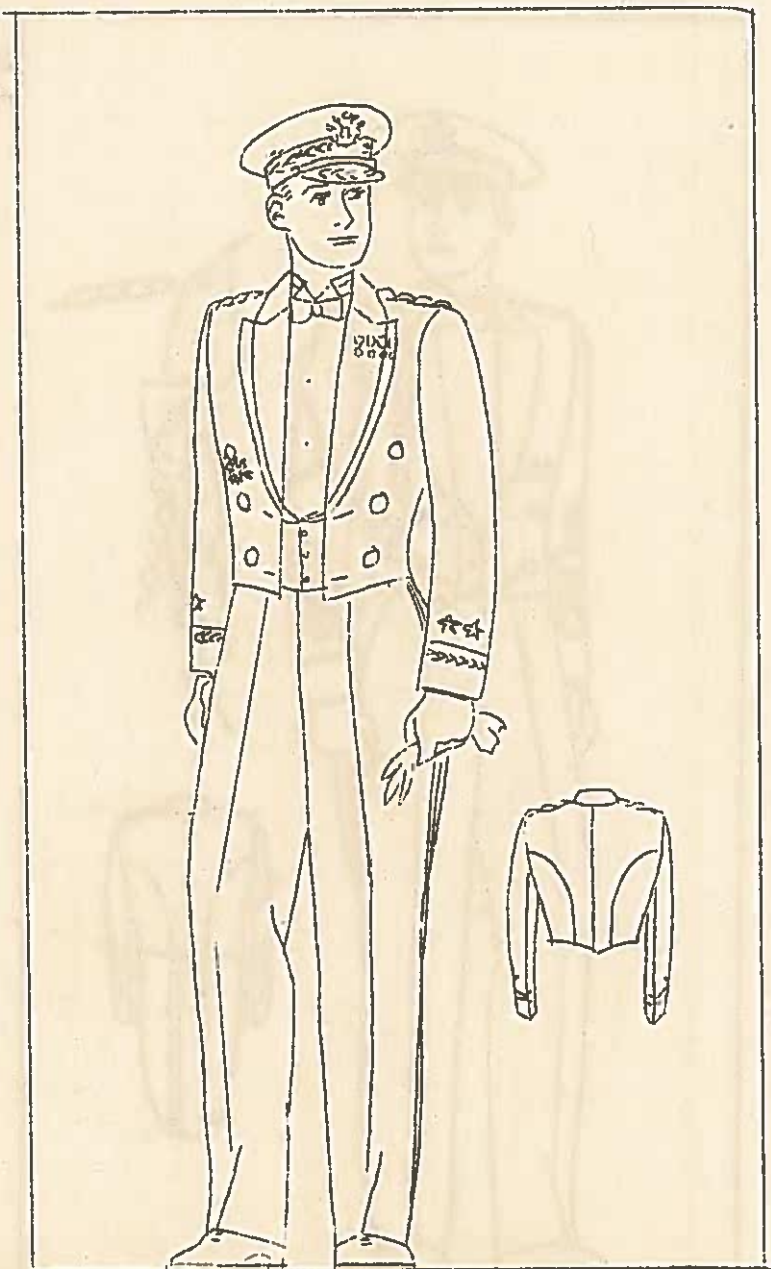


Figure 7.—Blue mess (general officer of the line).

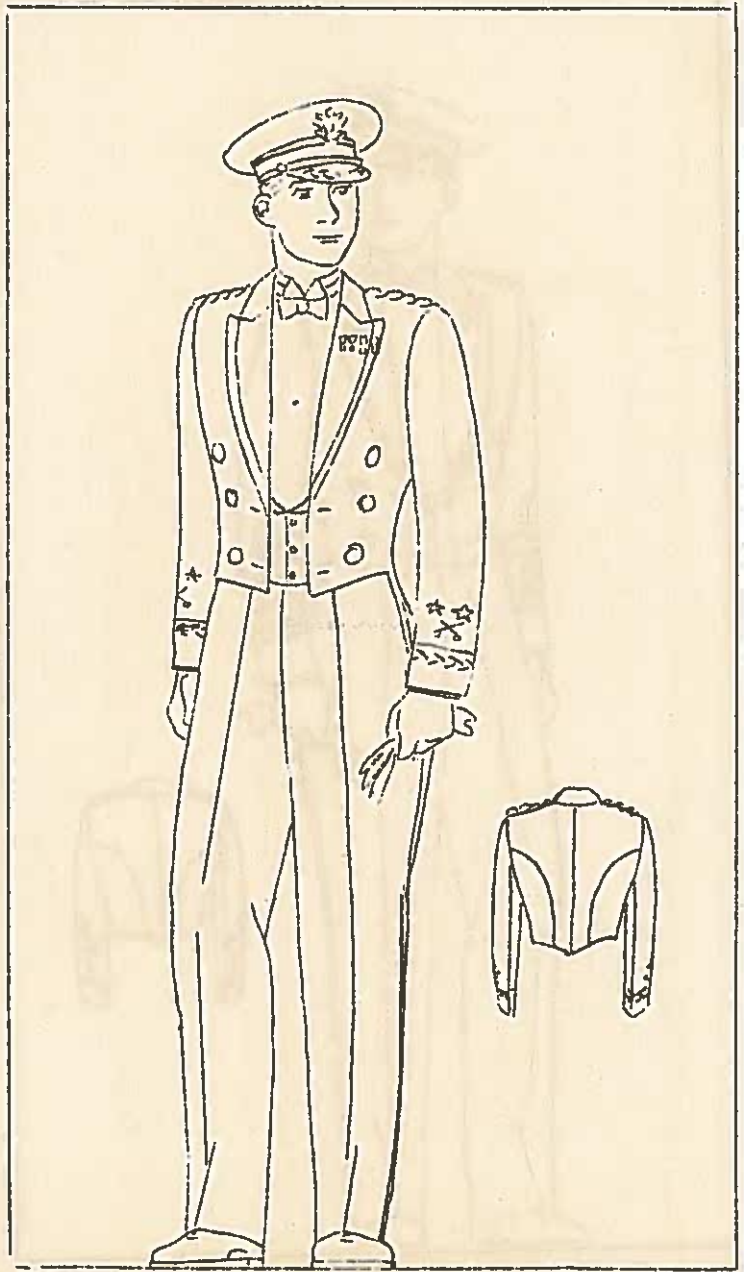


Figure 8.—Blue mess (general officer of the C  
Air Force and general officer desi-  
gnated as chief or assistant chief  
arm or service).



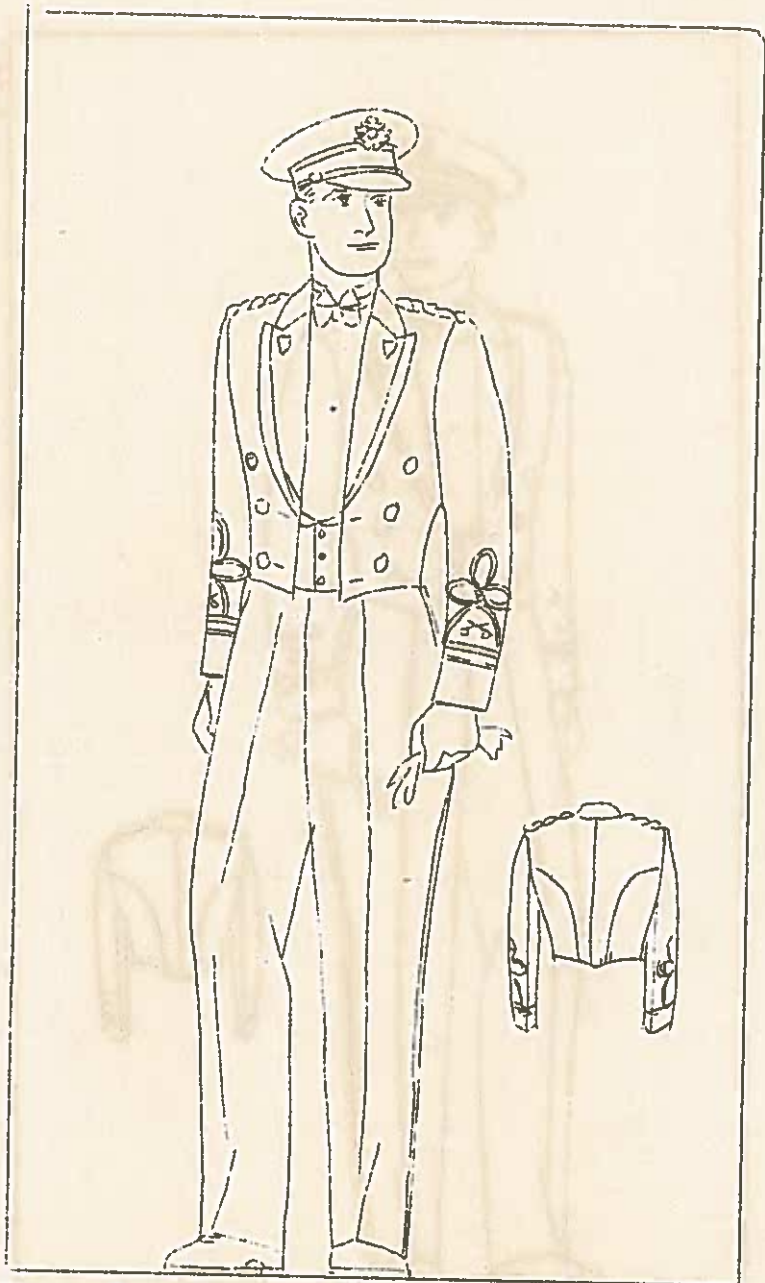


Figure 9.—Blue mess (officer below the grade of major).



Figure 10.—White dress.

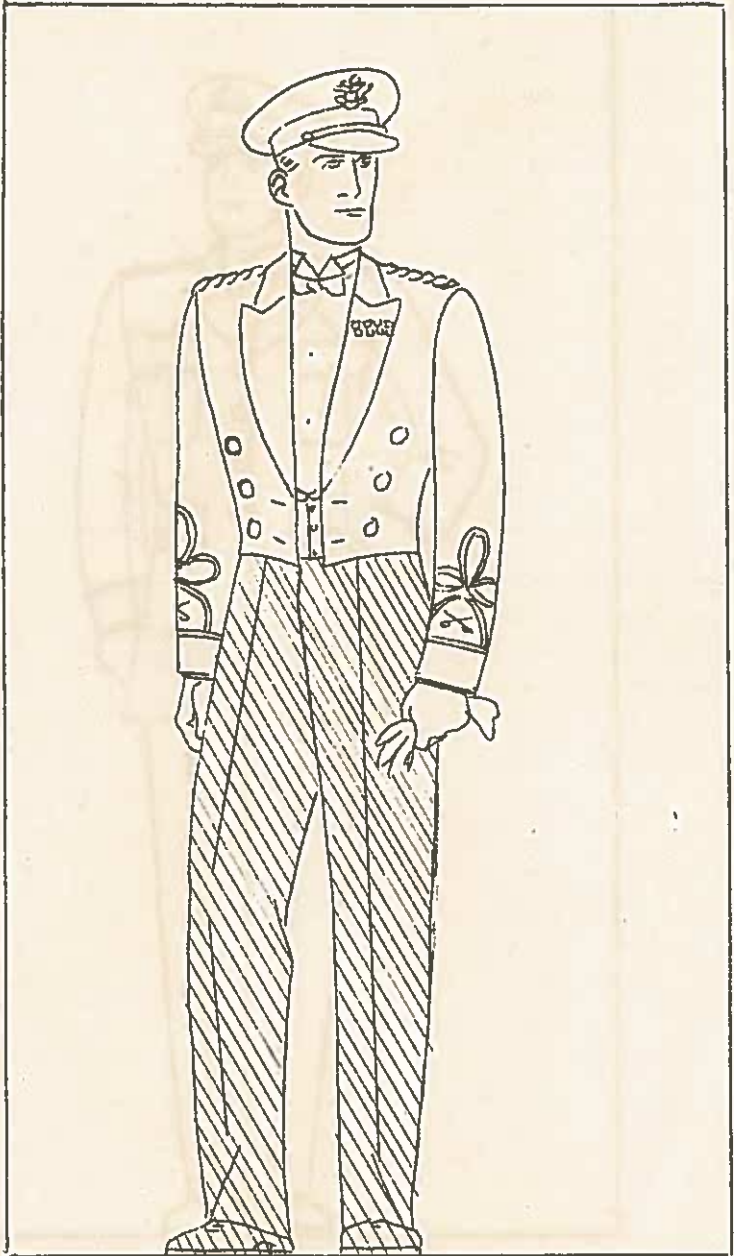


Figure 11.—White mess.

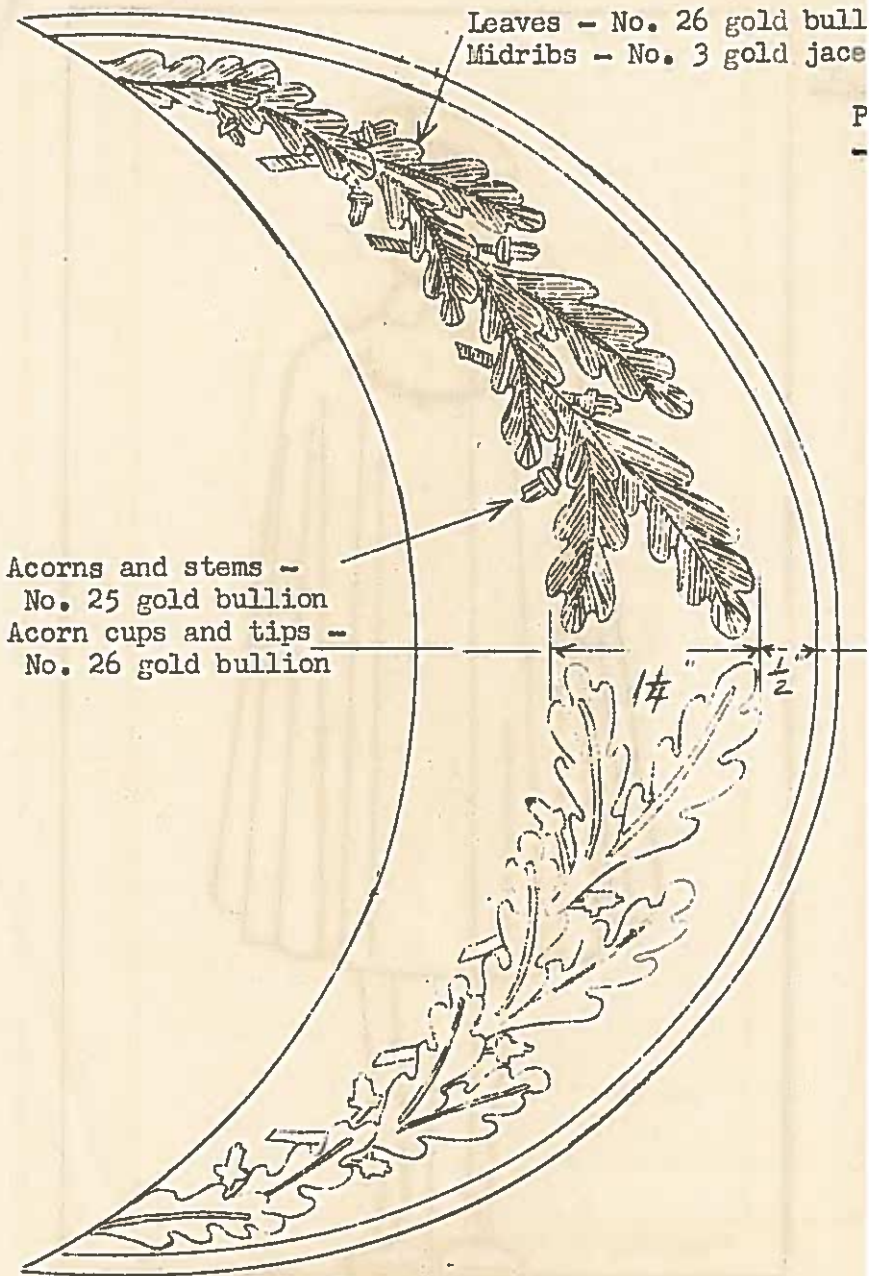
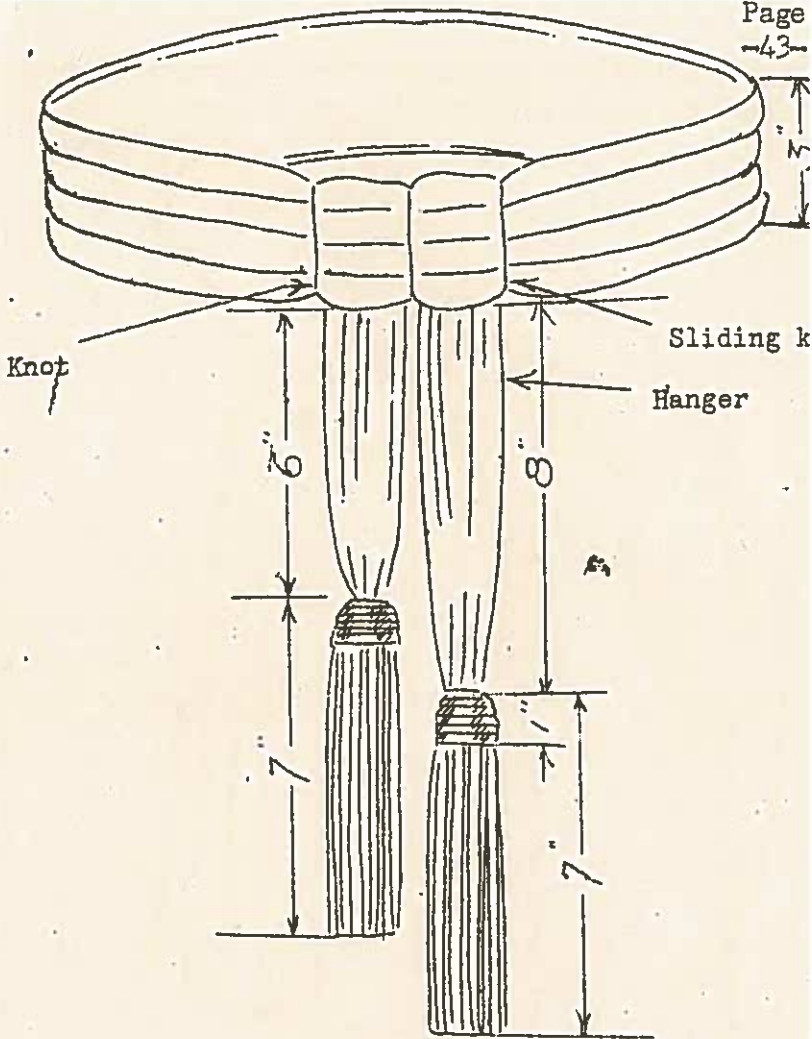


Figure 12.—Embroidery on cap visor for officers above the grade of captain.



Figure 13.—Cape.



Inside of sash showing adjustable end.

Figure 14.—Sash.

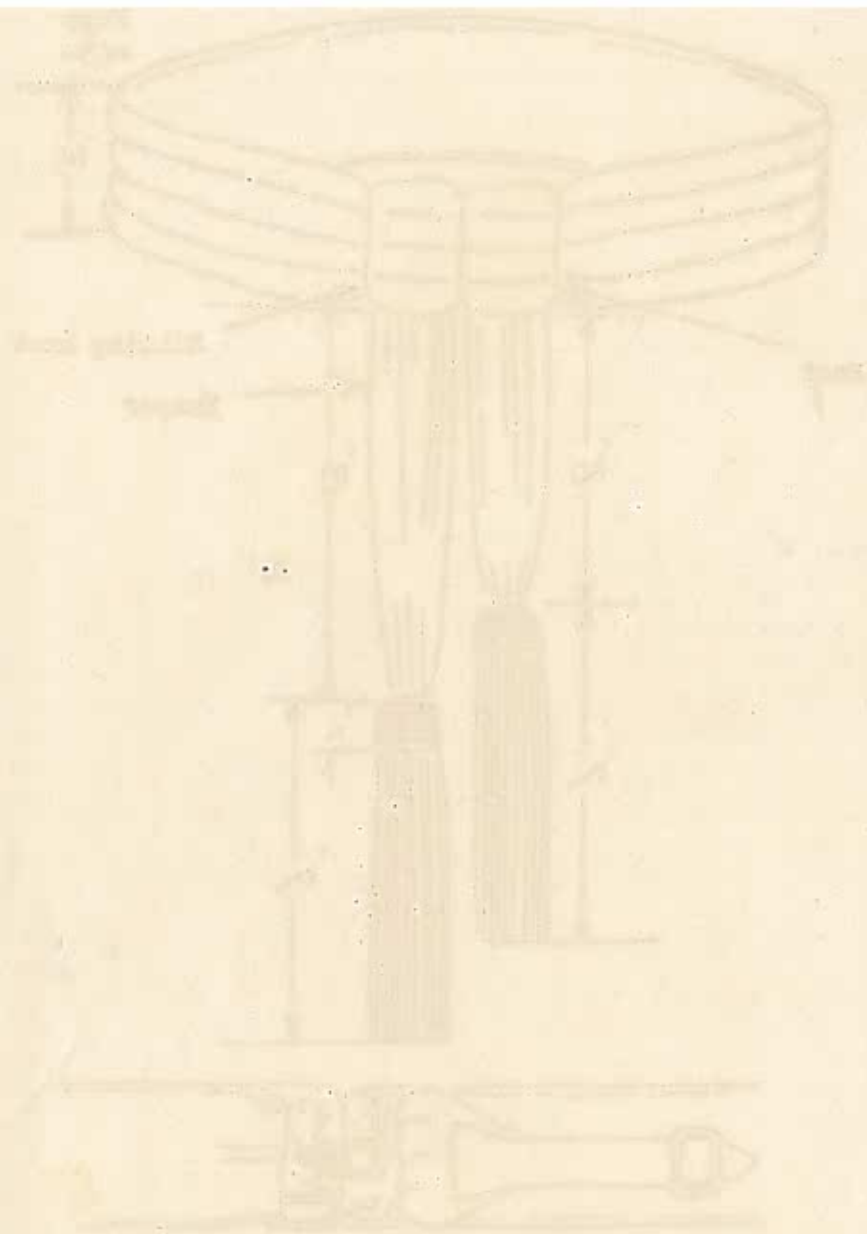
(A.G. 421 (7-28-38).)

By order of the Secretary of War:

MALIN CRAIG,  
Chief of Staff.

Official:

E. S. ADAMS,  
Major General,



Technical drawing of a shaft-hub connection. The drawing shows a shaft with a diameter of 1.5 inches and a hub with a diameter of 2.0 inches. The shaft is shown in a cross-section view, and the hub is shown in a side view. The drawing includes dimension lines and labels for the shaft diameter and hub diameter.

Technical drawing of a shaft-hub connection. The drawing shows a shaft with a diameter of 1.5 inches and a hub with a diameter of 2.0 inches. The shaft is shown in a cross-section view, and the hub is shown in a side view. The drawing includes dimension lines and labels for the shaft diameter and hub diameter.

WAR DEPARTMENT  
The Adjutant General's Office  
Washington

November 18, 1938.

AG 580.81  
(10-13-38) Misc. M-C.

Subject: Individual Navigation Flights.

To: Commanding Generals, All Corps Areas,  
Commanding General, GHQ Air Force, and  
Commanding Officers, All Exempted Stations.

1. In the future no individual navigation training flights will be authorized for flying personnel under your control which contemplate overnight stops at points not under military control.

2. The purpose of this restriction is to insure that there will be military personnel at all overnight stops on flights of this nature to properly protect equipment and furnish a means of control over airplanes and personnel when away from their home stations.

3. The term "military control" will be construed to include all points provided with Air Corps servicing personnel, stations which include a landing field within the reservation, and airdromes controlled by the Navy, Marine Corps and National Guard.

4. Exception to these instructions will be made by commanders authorized to approve individual navigation flights only in case of military necessity.

By order of the Secretary of War:

E. S. ADAMS,  
Major General,  
The Adjutant General.

Reproduced, The A.C.T.S., Maxwell Field, Ala.,  
December 5, 1938.

M.C. # 13017

1st Ind.

THE AIR CORPS TACTICAL SCHOOL, Maxwell Field, Montgomery, Alabama, December 5,  
1938. To: Operations Officer and all Air Corps Officers.

For your information and compliance.

By order of Colonel NETHERWOOD:

*D. B. Schannep*  
D. B. SCHANNAP,  
1st Lieut., Air Corps,  
Adjutant.



POST ENGINEERING DEPARTMENT, PARACHUTE ISSUE ROOM  
Maxwell Field, Ala.

Date 11-12 1938.

CLOTHING RECEIPT

(Refer to Eng. Memo. November 3, 1936)

- \_\_\_ 1 ea Helmet, flying, type \_\_\_\_\_ 1 ea Jacket, flying, type \_\_\_\_\_
- \_\_\_ 1 ea Goggles, flying, type \_\_\_\_\_ 1 ea Trousers, flying, type \_\_\_\_\_
- \_\_\_ 1 ea Parachute, No. 33-351 \_\_\_\_\_ 1 ea pr Gloves, flying, type \_\_\_\_\_
- \_\_\_ 1 ea Scarf, Salvage Silk 36-1314 \_\_\_\_\_ 1 ea pr Shoes, flying, type A-1 \_\_\_\_\_
- \_\_\_ 1 ea Suit, flying, type \_\_\_\_\_ 1 ea Bag, clothing, type B-1 \_\_\_\_\_
- \_\_\_ 1 ea Suit, mechanic, type \_\_\_\_\_ 1 ea Bag, flyers, kit, type A-3 \_\_\_\_\_

The above property is to be used for local flights, or flight where I return with the airplane to Maxwell Field. I will return it immediately to the Parachute Issue Room, and if I fail to return it the value of same may be deducted from my pay.

Issued by AS Received by G. M. Richardson Grade \_\_\_\_\_ Org. \_\_\_\_\_  
M.F. # 89, 12/5/36)otg

WAR DEPARTMENT MOBILIZATION PLAN

1. Mobilization for National Defense. Mobilization for national defense is the operation of assembling the manpower and other resources of the country to meet war conditions. It includes all procedure pertaining to such assembly. Maximum effectiveness in mobilization is attained when forces become available as needed and the means exist for preparing them for and maintaining them in the field with munitions and other necessities. This requires that the mobilization of materiel and industrial organization essential to war needs be so coordinated with military requirements as to produce the necessary supplies for the armed forces of the nation while still meeting the essential requirements for national life. Provisions for the mobilization of materiel and industrial organization are made the responsibility of the Assistant Secretary of War by the National Defense Act and are contained in the Industrial Mobilization Plan prepared under his supervision. Specifically, the processes of mobilization include -

a. The procuring, classifying, equipping, and assigning of individuals to organizations.

b. The organizing, equipping, supplying, and training of organizations.

c. The movements incidental to assembling individuals and organizations for mobilization.

2. War Department Mobilization Plan Defined. In the fortunate situation of the United States, without any dominating threat constantly directed against its borders, the War Department Mobilization Plan provides for mobilization for war, rather than one specific war. Several plans collectively considered constitute the War Department Mobilization Plan. They are the Protective Mobilization Plan and several Augmentation Mobilization Plans. Each unit of the Regular Army, the National Guard, and of the Organized Reserves to which personnel is assigned will have a mobilization plan based upon the mobilization plan of the next higher echelon. All mobilization plans will be maintained in such a state of readiness that they can be made operative without additional instructions or loss of time.

3. Mobilization Plans Prior to 1938.

a. Plans 1924, 1928. The War Department General Mobilization Plans of 1924 and 1928 were both based on the Six Field Army type organization, and provided for a mobilization of a maximum effort of a general defensive nature. Therefore, specific war plans for specific war situations required special mobilization plans, some of which required lesser

efforts than the General Mobilization Plan. The plan of 1924 centralized control of mobilization in the War Department, and based the rate of mobilization of units and personnel very largely upon supply considerations. The plan of 1928 decentralized practically all control over mobilization of units and personnel to Corps Area Commanders, and gave minimum consideration to supply matters.

b. Plan 1933. The War Department General Mobilization Plan (1933) was designed as a general plan to apply without modification to all specific war plans requiring a military effort greater than that which could be met by the Regular Army alone. The plan of 1933 retained the decentralization to Corps Area feature of the 1928 plan but adapted the troop basis thereof to a Four Field Army plan. The provisions of the 1928 special mobilization plans, other than those pertaining purely to processes of mobilization, were incorporated in logistical plans, which became Annexes to each specific Army Strategic Plan.

As the development of the 1933 plan progressed, the necessity for its early material revision became more and more apparent as the plan was found to be too complex and inflexible, and did not provide for the mobilization of all tangible military forces before proceeding to the creation of additional forces; and from the standpoint of procurement of materiel possibilities of the industry, that was not practical and realizable. Moreover, it began to be appreciated that all major war situations with which the nation might conceivably be confronted had one common requirement of providing military covering forces under the protection of which mobilization proceeded. It was also recognized that this covering force would have to be moderate in size and well balanced, and must of necessity consist of such troops as it was economically feasible or authorized to maintain in time of peace, plus such additional troops as might be mobilized on or immediately after M-Day.

4. General Features of the Protective Mobilization Plan (1938). The Protective Mobilization Plan, in conjunction with Mobilization Regulations, established basic policies and methods of procedure for putting into effect the initial military program for a future emergency.

a. General. The plan provided for raising the present Military Establishment, if, when, and as required, to a force of 1,000,000 enlisted men with the necessary complement of officers. Approximately 730,000 of this force will be assigned to military units in the field and 270,000 will be individuals available for Zone of Interior and assignment as required. The individuals will be required to replace losses, to raise certain units mobilized initially at peace strength to war strength, and to provide the enlisted personnel required for the organization of the installations and activities which will be required by Corps Area Commanders and the War Department in effecting a rapid and orderly mobilization of the force to be mobilized.

b. Augmentation Plans. An emergency may occur which will call for a larger force than the Protective Mobilization Plan or even the maximum national effort. To meet such a contingency, Augmentation Mobilization Plans prepared by the War Department make provision for the extension of the "Initial Military Program" by balanced increments as needed progressively. If two or more augmentation increments are ordered mobilized, their mobilization may be ordered to take place successively or concurrently, or the mobilization of a later increment may be so ordered as to make its mobilization partially concurrent with that of a previous increment. The method selected will depend upon the needs of the situation, the shelter and training facilities available, and the ability of industry to provide the required equipment and supplies. As none of the augmentation forces can be expected to begin their mobilization prior to 60M, sufficient time will exist for detailed instructions.

c. Initial Protective Force. A particular feature of the Protective Mobilization Plan provides for a "first line of defense" which is known as the Initial Protective Force (IPF), which is limited to those units (Regular Army and National Guard) which will have on M-Day or can have by 30M, the strength, organization, equipment and training essential to make them available for use in the field under the conditions that may be expected in the early days of mobilization.

d. Supply Requirements.

- (1) General. The importance of supply in a national emergency can hardly be overemphasized. By contrast, the United States policy, based on a small standing army, rests on the belief that it is unwise and economically impracticable to attempt to maintain in War Reserve all the items necessary for a war-time force. As stated by the War Department, Assistant Chief of Staff - G-4, "All munitions of war physically present within the Continental United States in depots, in hands of troops and in local storage at posts, camps and stations are considered as War Reserves. Commercial stocks that are immediately available are also considered as potential War Reserves. Munitions in Overseas Possessions of the United States are not included in the resources available for War Reserve \*\*\*."
- (2) War Reserves. The War Reserve objective is to obtain critical items of equipment, supply, and manufacturing aids, such as "jigs and dies" which, with stocks in depots and in hands of troops, will adequately maintain a balanced force in the field of not to exceed 1,000,000 (indicated by Congress) until the augmented production of war time can meet the requirements of such a force. Beyond the concrete objective of the War Reserve is the field of procurement planning, which will place the War Department

in a state of readiness to quickly, systematically and without waste, lost motion, or accumulations of excess items, equip a force of such ultimate size as may be deemed necessary by the President and the Congress of the United States.

- (3) Automatic Supply. One of the supply procedures prescribed for the Protective Mobilization Plan is automatic supply and is a departure from the usual peace-time methods. In order to equip the forces in the field in the early days of an emergency as soon as possible, it is believed that the peace-time system of filling shortages will be impracticable. Due to the rapid movement of units as soon as mobilized and trained, peace-time procedure would cause an overloading of depots with a mass of requisitions requesting shipment of supplies to points which might be vacated before the supplies arrived. The Protective Mobilization Plan prescribes that the supply needed for mobilization, with substitutes to be utilized where necessary, will be automatic without requisition. When directed by the War Department, the Chiefs of Supply Arms and Services will ship to each training center or similar establishment, without requisition, all shortages in equipment for active units which have been ordered to such place, and equipment for any inactive units which have been directed to begin their organization and training thereat. The commander of each training center will establish a park for the reception and issue of equipment received. These parks will not be depots but will be improvised for the purpose of receipt and issue.

e. Execution of the Protective Mobilization Plan. The prime responsibility for execution of the plan is centralized in the Chief of Staff. In carrying out his vast project, he is authorized to delegate authority to his immediate assistants, G-1, G-3, and G-4, and to decentralize to whatever extent is necessary to the Corps Area Commanders. When the basic plan is put into effect, each Corps Area becomes a small War Department, with the War Department General Staff announcing general policies and supervising the Corps Area activities. The Corps Area Commander is responsible for the procurement of personnel for the units and individuals for which their Corps Areas have been designated as Corps Areas of origin, as well as for the units and installations of their own Corps Area Service command. They are also responsible for feeding, clothing, sheltering, and providing medical attention for units and individuals while in their Corps Areas. They carry on all training activities except those retained under War Department control. The Chiefs of Arms and Services are personally responsible for the success of the exempted activities under their control.

f. Training. During mobilization, training is controlled and conducted in general by the same agencies and in accordance with the same doctrines, principles, and methods as in time of peace. Information concerning the character of training required and essential features to be stressed during mobilization training in the Zone of Interior will be announced from time to time by the War Department.

g. Mobilization Assignments and Procurement of Officer Personnel. Depending on the character of the particular emergency, all mobilization assignments made in peace time may become effective, or only those of certain categories. In order to allow for flexibility in the use of personnel, it may be desirable to utilize individuals during the early days of mobilization to perform duties which differ from their primary assignment. Flexibility is also gained through the assignment of officers to mobilization pools from which specific officers may be selected to perform duties for which they may be better adapted in view of the strategic situation then existing. The continued use of civilians is authorized, as well as the procurement of additional civilians where the use of military personnel is unnecessary, unauthorized or impracticable in the time available.

11-29-38

THE AIR CORPS TACTICAL SCHOOL,  
Maxwell Field, Montgomery, Alabama.

December 5, 1938.

OPERATIONS MEMORANDUM )  
NO. 7 ) FLYING TRAINING.

1. In view of the dictates of the recent letter from the Chief of the Air Corps, bearing subject: "Flying Proficiency," a copy of which was furnished all flying personnel, the flying training at this station is placed on a quarterly basis, effective this date.

2. The attention of the student personnel is invited to the fact that the scheduled school flying periods will not provide sufficient flying time to comply with either the War Department Training Directive or the quarterly training schedule made effective herewith. It will therefore be necessary for this personnel to do a certain amount of flying on their own time. Airplanes will always be available for this purpose.

3. The training schedule, hereby placed in effect, divides the minimum requirements of the War Department Training Directive for flying into four equal divisions. Personnel on flying status will so arrange their flying that they will have to their credit, at the end of each quarterly period, sufficient flying training to meet the requirements of the progressive quarterly schedule set forth herewith:

a. Minimum of 21 hours of miscellaneous flying hours which will include at least eight hours and forty-five minutes (8:45) of navigation.

b. Minimum of two hours and thirty minutes (2:30) night flying.

c. Minimum of two hours and thirty minutes (2:30) instrument flying, under the hood.

d. Prior to January 1st, each pilot will have completed, at his option, either one of the following flights:

(1) One-thousand mile navigation flight to include a landing at a point not less than 350 miles distant from the point of origin, utilizing radio aids and facilities.

(2) One night navigation flight of not less than two hours duration, and to a point at least 100 miles distant from the point of origin.

e. In addition to the above schedule each pilot will be required to demonstrate his proficiency as to instrument flying once during the period July 1st to June 30th, as required by Air Corps Circular 50-1, or to satisfactorily pass the test in instrument flying in the modernized Link Trainer.

Operations Memorandum No. 7, Cont'd.

f. Air Corps Officers on observer status will comply with the above schedule except the requirement pertaining to instrument flying.

g. Officers of other branches who are on flying status will comply with the proportionate part of the above schedule, except the requirement pertaining to instrument flying, for the period for which they are on flying status (See Par. 2, Memorandum to All Personnel, this headquarters, dated November 2, 1938).

By order of Colonel NETHERWOOD:

OFFICIAL:

*Warren A. Maxwell*  
WARREN A. MAXWELL,  
Major, Air Corps,  
Operations Officer.

*Warren A. Maxwell*  
WARREN A. MAXWELL,  
Major, Air Corps,  
Operations Officer.

DISTRIBUTION: One to each officer; 1 to C; 1 to J; 1 to E; 1 to H; 1 to N; 1 to T; 1 to Line Maintenance; 1 to Airways; 1 to Dispatcher.



THE AIR CORPS TACTICAL SCHOOL  
Maxwell Field, Montgomery, Alabama

February 14, 1939.

Memorandum to all concerned:

The following extracts of Army Regulations 600-10 are reproduced for the information and compliance of all concerned:

E X T R A C T

" ARMY REGULATIONS  
No. 600-10

WAR DEPARTMENT,  
Washington, December 6, 1938.

PERSONNEL  
Military Discipline

\* \* \* \* \*

1. Definition.--Military discipline is that mental attitude and state of training which render obedience and proper conduct instinctive under all conditions. It is founded upon respect for, and loyalty to, properly constituted authority. While it is developed primarily by military drill, every feature of military life has its effect on military discipline. It is generally indicated in an individual or unit by smartness of appearance and action; by cleanliness and neatness of dress, equipment, or quarters; by respect for seniors, and by the prompt and cheerful execution by subordinates of both the letter and the spirit of the legal orders of their lawful superiors.

2. General.--a. Obedience to orders.--All persons in the military service are required to obey strictly and to execute promptly the lawful orders of their superiors.

b. Military authority, how exercised.--Military authority will be exercised with firmness, kindness, and justice. Punishment will conform to law and follow offenses as promptly as circumstances will permit. Resort to trial by court martial or to punishment under the one hundred and fourth article of war will not be had for trivial offenses, except when less drastic methods of administering discipline have been tried in the case of the individual concerned, but without result. Such offenses which have been promptly and properly corrected, when brought to the attention of the officer concerned, need not be noted on the officer's record, and will be considered as closed incidents.

c. Military courtesy.--Courtesy among military men is indispensable to discipline; respect to superiors will not be confined to obedience on duty, but will be extended on all occasions.

d. Deliberations conveying praise or censure.--Deliberations or discussions among military men conveying praise or censure, or any mark of approbation toward others in the military service, and all publications relating to private or personal transactions between officers are prohibited.

\* \* \* \* \*

6. Discussions of the military policy of the United States and of the War Department policies in furtherance thereof.--a. Public and private discussion on appropriate occasions by officers of the Army in support of the military policy of the United States as established by law, and of the policies of the War Department in furtherance thereof designed to secure the national defense, is authorized and desired.

b. The military policy of the United States is embodied in the National Defense Act, which perpetuates the historic organizations of the American Army, utilizes their traditions and personnel as the foundations upon which to build future organizations of similar character, provides for their orderly mobilization and training in their respective localities in time of war, and avoids the confusion and expense incident to the hasty assembly of untrained and unrelated personnel at extemporized and widely scattered camps.

c. The national defense is the ultimate mission of the Army, and a proper presentation to the public of the necessities in this regard, since it is essential to the accomplishment of this mission, becomes naturally and logically one of the important duties of the officers of the Army.

d. As the policies involved have been worked out with much care after a very full consideration of all the factors entering into the problem, it is desired, in order to avoid confusion, that they should be discussed from the standpoint of the War Department, unless special authority for a different presentation is obtained from The Adjutant General.

\* \* \* \* \*


By order of the Secretary of War:

OFFICIAL:

E. S. ADAMS,  
Major General,  
The Adjutant General."

MALIN CRAIG,  
Chief of Staff.

By order of Colonel NETHERWOOD:

  
W. W. WELSH,  
Major, Air Corps,  
Adjutant.

WAR DEPARTMENT  
Office of the Chief of the Air Corps  
Washington

March 31, 1939.

SUBJECT: Requests for Leave of Absence.

TO: Commanding Officers of All Air Corps Activities.

1. Due to the urgent need for the services of Air Corps officers on work incident to the Air Corps expansion program the Chief of the Air Corps has established a policy with regard to the granting of requests for leave of absence.
2. Requests of officers for leave of absence, graduating from the General and Special Service Schools, will be approved under exceptional circumstances only, and in the case of officers returning from foreign service, requests for leave will be approved for periods not to exceed one month and then they should only be requested when real need exists therefor.
3. In the cases of emergency, or when requests for leave are made upon the recommendation of Medical officers, such requests may be made to the officer's new station, where the request will be given every consideration by the Commanding Officer concerned. However, the general rule will be to avoid extended leaves of absence, particularly during the reorganizational period for the carrying out of the expansion program.
4. Commanding Officers should scrutinize requests for leaves of absence with great care prior to forwarding them approved. Not only is there a distinct shortage of key personnel incident to the program but a shortage of pilot personnel as well. Practically all stations and tactical units are now under-manned and this condition will grow decidedly worse before the new personnel provided in the expansion program becomes available.

H. H. Arnold,  
Major General, Air Corps,  
Chief of the Air Corps.

DISTRIBUTION:  
A-I, incl. & K.

Reproduced, The A.C.T.S., Maxwell Field, Ala.,  
April 19, 1939.

WAR DEPARTMENT +  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DH

January 6, 1938.

PERSONNEL ORDERS )  
NO. 4. )

EXTRACT

\* \* \*

3. Under authority contained in radiogram, The Adjutant General dated January 6, 1938, Captain CARL J. CRANE, Air Corps, will proceed, by military aircraft, on or about January 6, 1938, from Wright Field, Dayton, Ohio, via the best available air route, to New York, N. Y., on temporary duty for the purpose of conference with Sperry Gyroscope Company, Brooklyn, New York, Kollsman Instrument Company, Brooklyn, New York, and The Pioneer Instrument Company, Brooklyn, New York, regarding Air Corps Procurement matters and upon completion thereof return, by military aircraft, via the best available air route to his proper station, Wright Field, Dayton, Ohio.

The duties to be performed at New York, being exceptional, will require more than seventy-two (72) hours for their performance, therefore, a delay of not to exceed four (4) days at that place is authorized.

In lieu of subsistence a flat per diem of five dollars (\$5.00) is authorized for travel by air.

AC 50 P 88 - 0630 A 0705-8. The travel directed is necessary in the military service.

\* \* \*

By order of the Chief of the Materiel Division:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Ass't Executive.

Copies:  
Captain Crane  
Budget Office  
Operations  
R-1363.

V. Wm Cummings

No 11427

# Hotel St. George

BROOKLYN HEIGHTS, NEW YORK CITY

Room No. 424	Arrived 1/6/8
From Bill No.	To Bill No.

Capt. Carl J. Crane

Wright Field Dayton Ohio

address To BING AND BING, Inc., As Agents

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CHECK

April 1, 1939.

CIRCULAR )  
50-10 )

TRAINING

Ratings and Requirements for Attainment Thereof.

(This Circular replaces Air Corps Circular 50-10, dated August 16, 1938, and Circular 50-10A, dated November 4, 1938.)

1. GENERAL. - All Air Corps officers are either flying officers or nonflying officers; the number of the latter is restricted to ten per centum of the total commissioned strength of the Air Corps (Sec. 13a, Act, June 3, 1916, as amended by Sec. 2, Act, July 2, 1926, and Sec. 3, Act of June 16, 1936). Under the provisions of Army Regulations 95-60, the requirements for, and method of attainment of, the various aeronautical ratings for flying personnel are prescribed in the following paragraphs. Regular Army personnel not holding a military rating as pilot will be rated as such only upon successful completion of the regular course in heavier-than-air pilot training given at the Air Corps Advanced Flying School.

2. WHO MAY BE RATED. - The Chief of the Air Corps may give any aeronautical rating specified, and under conditions set forth, in paragraph 3 below, to an individual who is physically qualified for such rating (AR 40-110), and who belongs to one of the following classes:

a. Officers of the Regular Army commissioned in or detailed with the Air Corps.

b. Federally recognized officers of Air Corps Units of the National Guard of the United States.

c. Officers of the Air Corps Reserve.

d. Officers of the Specialists Reserve assigned to the Air Corps.

e. Warrant Officers of the Regular Army allocated to the Air Corps.

f. Enlisted men of the Air Corps of the Regular Army.

3. RATINGS AND REQUIREMENTS FOR THE ATTAINMENT THEREOF.

a. Command Pilot.

(1) Individuals who hold the rating of Military Airplane Pilot, Airplane Pilot or Senior Pilot, upon application to the Chief of the Air Corps, provided they have:

- (a) Not less than 20 years' service in, or detailed with, air components of the military or naval services of the United States, and who, according to the records of the War Department, are credited with 2000 hours or more of flying time in military or naval aircraft in accordance with (2) below.
  - (b) Not less than 15 years' service in, or detailed with, air components of the military or naval services of the United States, and who, according to the records of the War Department, are credited with 3000 hours or more of flying time in military or naval aircraft in accordance with (2) below.
- (2) In computing flying time in military aircraft: Time as pilot or as co-pilot will be credited at 100%. All time spent in heavier-than-air aircraft as other than pilot or co-pilot will be credited at 50%. All time spent in lighter-than-air aircraft will be credited at 25%.

b. Senior Pilot.

- (1) Individuals who hold the rating of Military Airplane Pilot on date of publication of this circular, if not eligible for the rating of Command Pilot.
- (2) Individuals who hold the rating of Airplane Pilot or Pilot, upon application to the Chief of the Air Corps, provided they have not less than ten years' service in, or detailed with, air components of the military service of the United States and who, according to the records of the War Department, have flown as pilot of military heavier-than-air aircraft for 1800 hours or more.

c. Pilot.

- (1) Individuals holding the rating of Airplane Pilot on date of publication of this circular, provided they are not eligible for the rating of Senior Pilot.
- (2) Graduates of the Air Corps Advanced Flying School, regular heavier-than-air pilots' course.
- (3) Officers of the Air Corps Reserve, federally recognized officers of Air Corps units of the National Guard of the United States and officers of the Specialists Reserve assigned to the Air Corps, who:
  - (a) Have flown as pilot of heavier-than-air aircraft, 300 hours or more, of which:

1. 100 hours or more were alone, i.e., no other pilot of heavier-than-air aircraft in the airplane.
  2. 100 hours or more were in airplanes powered with engines of 200 or more horsepower, at least 25 hours of which were alone.
  3. 50 hours or more were within the 12 months preceding date of application.
- (b) Demonstrate by a flight test as prescribed in paragraph 7 d below, their ability to operate safely and efficiently a tactical or basic training type airplane.
- (c) Successfully complete the written professional examination prescribed in Paragraph 7 e below.
- (d) Are recommended by a board of officers appointed either by a Corps Area Commander or the Chief of the Air Corps.

d. Combat Observer

- (1) Officers of the Regular Army Air Corps, Air Corps Reserve and Specialist Reserve assigned to the Air Corps, who hold the rating of Airplane Observer on date of publication of this Circular or who subsequently meet the following requirements: Those holding a military rating as Command Pilot, Senior Pilot, Pilot, or held the rating of Airship Pilot on July 2, 1926, who have served as commissioned officers and as pilot for a period of not less than one year with an observation unit of the Air Corps Regular Army, who have flown not less than 100 hours performing tactical training observation missions, at least 50 hours of which were as observer, and are certified by their commanding officers as competent to carry out tactical observation missions, as airplane observers, at the time of application.
- (2) Officers of the Regular Army Air Corps, federally recognized officers of Air Corps units of the National Guard of the United States, officers of the Air Corps Reserve and officers of the Specialists Reserve assigned to the Air Corps upon graduation from the prescribed course for Combat Observer at an Air Corps flying school, provided they hold the rating of Command Pilot, Senior Pilot or Pilot, or held the rating of Airship Pilot on July 2, 1926.
- (3) Federally recognized officers of Air Corps units of the National Guard of the United States, who hold the rating of Airplane Observer on date of publication of this Circular,



or who subsequently meet the following requirements:

- (a) Those holding a military rating as Command Pilot, Senior Pilot or Pilot, who have served as commissioned officers and as pilots for a period of three years with federally recognized National Guard squadron and who have flown not less than 100 hours performing tactical or training observation missions, at least 50 hours of which were as observer, and are certified by their commanding officers as competent to carry out tactical observation missions, as Combat Observers, at the time of application, will be given this rating without further examination.
- (b) Those who have flown not less than 75 hours as Observer performing tactical or training observation missions, viz: Artillery observation, visual and photographic reconnaissance and other missions of a similar nature, and who successfully complete the examination prescribed in Paragraph 8 below. Applicants who hold the National Guard rating of Junior Airplane Observer may be exempted from the entire examination prescribed in Paragraph 8 below, and if certified by their commanding officers as competent to carry out tactical observation missions, as Combat Observer at the time of application, will be given this rating without further examination.

e. Technical Observer. Officers of the Regular Army Air Corps, provided they hold the rating of Command Pilot, Senior Pilot or Pilot, or held the rating of Airship Pilot on July 2, 1926, upon application to the Chief of the Air Corps.

f. Senior Balloon Pilot. Individuals who have served ten years in, or detailed with, air components of the military services of the United States, who held the rating of Airship Pilot on July 2, 1926, and who, according to records of the War Department, have piloted military airships or military motorized balloons for 1800 hours or more.

g. Balloon Pilot. Individuals who held the rating of Airship Pilot on July 2, 1926, and who are not eligible for the rating of Senior Balloon Pilot.

h. Balloon Observer.

- (1) Individuals who held this rating on July 2, 1926.
- (2) Graduates of the prescribed course of instruction in balloon observation given by an agency authorized by the War Department, provided they hold any pilot rating, either heavier-than-air or lighter-than-air.

- (3) Commissioned officers holding any pilot rating, either heavier-than-air or lighter-than-air, who have served as commissioned officers in a balloon squadron for a period of not less than one year, who have flown not less than 50 hours as balloon observers and who are certified by the commanding officer of the balloon squadron concerned as being qualified to perform balloon observation missions.
- i. Aerial Navigator, Aerial Radio operator, Aerial Machine Gunner, Aerial Bomber, Aerial Photographer and Aerial Engineer.

Requirements for those ratings will be published at a later date.

4. Combat Observer ratings awarded federally recognized officers of Air Corps units of the National Guard of the United States, who are not rated pilots, will be recognized only during the tenure of their commissions as federally recognized officers of Air Corps units of the National Guard of the United States.

5. The examination of federally recognized officers of Air Corps units of the National Guard of the United States will be conducted in accordance with instructions issued by the Chief of the National Guard Bureau.

6. APPLICATIONS FOR AERONAUTICAL RATINGS.

a. Regular Army Personnel. - Applications will be forwarded, through channels, to the Chief of the Air Corps. Applications will contain sufficient evidence to show that the applicant is qualified for the rating requested.

b. Reserve Corps Personnel. - Applications for the rating of Pilot will be forwarded in accordance with Paragraph 7 a below.

c. National Guard Personnel. - Applications will be forwarded in accordance with instructions issued by the Chief of the National Guard Bureau.

d. Immediately upon graduation from the Air Corps Advanced Flying School, regular course of instruction in heavier-than-air aircraft, pilot training or combat observer training, individuals will be given appropriate ratings by the Chief of the Air Corps.

7. APPLICATION AND EXAMINATION OF RESERVE PERSONNEL FOR THE RATING OF PILOT.

a. Application.

- (1) Applications will be forwarded, through channels, to the Corps Area Commander. The Corps Area Commander forwards the application to a board of officers for action and authorizes the applicants to appear before such a board.

Applications may be referred by the Corps Area Commander to a board appointed by the Chief of the Air Corps at an exempted station.

- (2) Applications from individuals who are also applicants for commission in the Air Corps Reserve, (original appointment or transfer), are referred by the Corps Area Commander to a board of officers for action. Disposition of all papers and Board Proceedings should be made in accordance with Paragraph 7 b (2) below.
- (3) All applications will be submitted in duplicate and will have attached thereto, in duplicate, the following:
  - (a) Resume of the flying training and experience of the applicant.
  - (b) Statement of flying time in the form and as prescribed in Paragraph 7 f below.
  - (c) Date and result of last physical examination (Form 64, AGO).
  - (d) In case exemption from the professional examination prescribed in Paragraph 7 c below is claimed, a copy of all evidence used as a basis will be attached.

b. Examining Boards.

- (1) Each Corps Area Commander, or the Chief of the Air Corps in case of exempted stations, appoints one or more Boards of Officers to conduct flight tests and professional examinations of applicants. Such boards should consist of at least three officers, one of whom should be an Air Corps Regular Army heavier-than-air pilot. If practicable, the Regular Army member should have had experience as a flying instructor at the Air Corps Training Center.
- (2) Applicants for an aeronautical rating, who are applicants for a commission in the Air Corps Reserve, should be examined for the rating at the same time they are examined for an original appointment or transfer in accordance with AR 140-5 and AR 140-23. Where practicable, the same board should conduct both examinations. Where the examination herein prescribed differs from that given in accordance with AR 140-23, the examination herein prescribed should be given for the rating. Subjects which are duplicated in the two separate examinations need be given but once, provided the same board gives both. The board proceedings for rating will accompany, but will not be included in, the board proceedings for appointment, and all papers should be

forwarded to the Corps Area Commander. Attention is invited to the fact that the administrative action of appointment and rating are concurrent.

c. Action of Examining Boards.

- (1) (a) A report will be made on letter-size paper, in duplicate, for each applicant examined. Both copies will be properly assembled and fastened together with a Star paper fastener or some similar device. Questions and answers to the professional examination need only be included in the original copy of the proceedings. This report will contain or have attached thereto the following:
1. Copy of orders appointing the examining board.
  2. Authority for the applicant to appear before the board.
  3. Statement by the board, of the flying time of the applicant, in the form and as prescribed in Paragraph 7 f below.
  4. The time required for the flight test, the type of airplane used, the grade given on each maneuver and a statement whether or not the board considers the applicant qualified to operate safely and efficiently a tactical or basic training type airplane.
  5. The original question sheets used in the professional examination, with answers thereto, in the handwriting of the applicant properly graded by the Regular Army member of the board. If exemptions are granted, a statement by the board as to the reasons, together with copies of evidence used as a basis.
  6. Resume of the flying training and experience of the applicant.
  7. Physical examination, Form 64, AGO, dated within the six months preceding date of the proceedings.
- (b) This report will be forwarded, through channels, to the Chief of the Air Corps, except as indicated in Paragraph 7 b (2) above.

d. Flight Test.

- (1) The following flight test will be given each applicant. This test will be given by an Air Corps Regular Army Officer who holds a military rating as Command Pilot, Senior Pilot or Pilot and who is a member of the board. He will conduct the test as safety pilot and will ride in the airplane throughout the test and the transition flights. The test will be conducted in either a basic training or tactical type airplane.
- (2) Prior to the flight test the applicant will be given a transition flight or flights in the type airplane in which the flight test is to be given, to allow him to become reasonably familiar with its flight characteristics. A total of two hours' time may be allowed for these flights.
- (3) Each maneuver will be graded "Qualified" - either "YES" or "NO" and the applicant must qualify in each maneuver. This test should definitely determine whether the applicant possesses sufficient flying ability to warrant the rating of Pilot and further training as a reserve pilot.
- (4) If at any time during the flight test the applicant shows dangerous tendencies or is lacking in flying technique, the test will be concluded and graded as "DISQUALIFIED".
- (5) The applicant will be continuously observed throughout the test, particular note being made as to his composure, alertness, attention to instruments and accessories. Obvious inability to maintain a satisfactory standard in any of the following phases on which he will be graded will cause disqualification:
  - (a) Relaxation.
  - (b) Flying Technique.
  - (c) Attention to Instruments.
  - (d) Judgment in the air.
- (6) Flight Test.
  - (a) Rectangular course. - Taxi to the point of take-off, take off, fly around a rectangular course, landing to be made at point of take-off. Four 90° turns will be made and a straight course flown between turns. The first turn will be level turn, the second a climbing turn, the third a level turn and the fourth a gliding turn with part power. In airplanes equipped with flaps, upon completion of the fourth turn, the flaps will be partially lowered and the approach for landing made with sufficient throttle to maintain proper airspeed. The maximum altitude to be gained

will be specified before each flight and the engine will be throttled to cruising speed at that altitude. Several courses will be flown and the applicant will be graded on the following phases:

- (1) Cockpit procedure.
  - (2) Handling aircraft on ground.
  - (3) Take-offs.
  - (4) Level turns.
  - (5) Climbing turns.
  - (6) Gliding turns with power.
  - (7) Straight and level flying.
  - (8) Approaches.
  - (9) Landings.
- (b) Stalls. (If authorized for the type of airplane being used.) Stalls and recovery therefrom will be executed in straight climbs and glides, climbing turns and moderate banks.
- (c) Spins. (If authorized for the type of airplane being used.) A spin, not exceeding two turns will be made.
- (d) Chandelles. Maximum climbing turns to the right and left with  $180^{\circ}$  change of direction.
- (e) Steep Banks. Fly in a steep bank of not less than  $50^{\circ}$  for at least two  $360^{\circ}$  turns to right and left without loss or gain of altitude.
- (f) Eights on Pylons. This maneuver should be performed without dangerous skidding, or slipping, and without loss or gain of altitude.
- (g)  $360^{\circ}$  Landings. - Fly into the wind at a specified altitude, cutting power over a designated mark and glide down with only sufficient throttle to protect engine in a triangular pattern making three distinct gliding turns and landing on a mark with or without use of power. Flaps may be used after completing last turn.
- (h) Forced Landings. - Forced landing will be simulated from various altitudes over varied terrain. Actual landing will not be made. Grade will be based on flying technique, and judgment in the selection of emergency landing areas.

e. Professional Examination.

- (1) Applicants will be given a written examination in the subjects listed below. Questions on each subject will be typewritten and the applicant furnished a copy for use in accomplishing each examination. The Commanding General, Air Corps Training Center, San Antonio, Texas, will furnish the necessary examination questions. The President of the Examining Board will communicate direct with the Commanding General of the Training Center. Request for questions will be accompanied by a copy of the orders appointing the Board. The President of the Board will be held responsible that all copies of questions, both new and old, are kept confidential, that no copies of any questions are allowed to fall into hands of unauthorized persons at any time, and that a set of questions will not be used again until a period of three months has elapsed. Applicants will not be allowed to retain copies of examination questions.
  - (a) Theory of Flight. Ten questions, embracing the fundamental principles of aerodynamics and the performance of aircraft.
  - (b) Air Navigation. Ten questions, to include course and distance computations, radius of action and interception problems, navigation instruments, aerial maps and aerial photo readings, etc.
  - (c) Meteorology. Ten questions, embracing the science of meteorology and the effect of weather upon the operation of aircraft, and weather forecasting.
  - (d) Airplane Engines. Ten questions, to include the theory of internal combustion engines, engine instruments, ignition, carburetion, valve and ignition timing, trouble shooting, etc.
  - (e) Air Rules and Flying Regulations. Ten questions, to include regulations, both civil and military, pertaining to flying. 70% will be considered as passing. A failure in any one subject will be disqualifying.
- (2) Applicants who have held a rating as pilot of heavier-than-air aircraft, granted by any of the military services of the United States, may be exempt from the entire professional examination but not the flight test.
- (3) Applicants who hold a Civil Aeronautics Authority rating, not below that of "Commercial Pilot" may be exempt from the entire professional examination, but not the flight test.

f. Evidence of Flying Time.

- (1) In submitting applications, sufficient flying time to qualify for the rating requested and as much other time as the applicant may desire, will be shown as follows:

Types of H/A air- craft Flown	H.P. of engines in aircraft	Flying Time (Hours and Minutes)			
		As Pilot	As Observer	*Alone	*As pilot during the preceding year
Total					

\*These hours will also be included in time "As Pilot".

- (2) Applicants, who appear before a board of officers for rating, will be prepared to present to the board, for examination, pilot books and other official records of flying time. Boards will accept, as authentic, only the time shown by these records, as certified to by authorized persons, (e.g., Operations Officers of military aviation activities, suitable agents of commercial aviation companies, operating managers of fields from which reported flying was carried on - if in privately owned aircraft -, and proper officials of recognized civil flying schools), otherwise unsupported statements of flying time by the applicant, sworn to before a notary public, are not considered sufficient evidence. In case credit is claimed for flying time not duly certified, as indicated above, or if there is a question as to the authenticity of any record presented, the board may submit records of such flying together with all possible supporting data, and recommendations to the Chief of the Air Corps for decision as to acceptability.

g. Applicants who fail to pass the flight test or the professional examination prescribed in Paragraphs 7 d and 7 e above, will not be authorized to appear before a board of officers for a rating until a period of six months has elapsed and 40 additional hours have been flown as pilot.

#### 8. PROFESSIONAL EXAMINATION FOR THE RATING OF COMBAT OBSERVER.

a. The following written and practical examinations will be given applicants applying for the rating of Combat Observer under the provisions of paragraph 3 d (4):

- (1) Organization of the Army. - Ten questions, to include the organization of a corps and division, and the organization of the Air Corps.
- (2) The employment of the Air Corps. - Ten questions, to include the functions of the Air Corps, classes of aviation and their employment.
- (3) Map Reading and Sketching. - Ten questions to include distances, visibility, coordinates, conventional signs and sketching.




- (4) Meteorology. - Ten questions, embracing the science of meteorology and the effect of weather upon the operation of aircraft, and weather forecasting.
- (5) Air Navigation. - Ten questions, to include course and distance computations, radius of action and interception problems, navigation instruments, aerial maps and aerial photo readings, etc.
- (6) Machine Guns and Their Accessories. - Ten questions, to include nomenclature, stripping, assembly, and malfunctions of aerial machine guns, of the flexible type, and machine gun sights.
- (7) Theory of Radio.- Ten questions, to include elementary electricity, magnetism, propagation and reception of electro-magnetic waves, necessary component parts for the operation of a radio sending and receiving set as used in an airplane.
- (8) Aerial Observation. - Examination will be in sufficient detail to insure that the applicant has a thorough knowledge of the subjects (a) to (e) inclusive:
  - (a) Reconnaissance.
  - (b) Artillery Adjustment.
  - (c) Infantry, Liaison and Contact.
  - (d) Cooperation with Cavalry.
  - (e) Aerial Photography and Interpretation of Aerial Photographs.
  - (f) Buzzer Practice. Applicant will be required to send and receive not less than ten (10) five-letter code words per minute.
- (9) Aerial Mission. - One definitely specified aerial mission to be performed to the satisfaction of the board.

b. Exemptions.

- (1) Examination in any subject may be waived upon presentation of a certificate showing satisfactory completion of a course at a Special Service School or of an extension course in that subject.
- (2) Applicants who hold a Civil Aeronautics Authority rating not below that of Commercial Pilot may be exempt from examination in the subjects "Meteorology" and "Air Navigation".

9. This Circular has been coordinated with, and approved by, the Chief of the National Guard Bureau.

By order of the Chief of the Air Corps:

  
Ira C. Eaker,  
Lieut. Colonel, Air Corps,  
Executive.

April 1, 1939.

CIRCULAR )  
50-12 )

TRAINING

Proficiency and Classification of Flying Personnel.

(This Circular rescinds Air Corps Circular 60-22, July 28, 1937.)

1. PURPOSES. - The purposes of this circular are to increase the efficiency of the Air Corps and to promote flying safety.
2. CLASSIFICATION OF RATED FLYING PERSONNEL. - Each command pilot, senior pilot, pilot, senior balloon pilot and balloon pilot, will be classified by the Chief of the Air Corps for administrative purposes, as "Limited" or "Unlimited".
  - a. Unlimited Group. This group will be composed of all rated "pilot" personnel who are considered by the Chief of the Air Corps as eligible to "pilot" any type of aircraft, on all types of missions and under any conditions for which flight may be ordered.
  - b. Limited Group. This group will be composed of all rated "pilot" personnel who, for any reason, physical or professional, as determined by the Chief of the Air Corps, should be restricted in performance of flying duties incidental to such ratings. Each member of this group will be considered as an individual case, based solely upon his own physical condition, professional capabilities and experience. The Chief of the Air Corps will inform each member of this group, by letter, of the restrictions imposed upon his performance of flying duty as "pilot".
3. EVALUATION BOARDS. - The initial evaluation of all Air Corps officers has been performed by the Evaluation Board of the Office, Chief of the Air Corps, and approved by the Chief of the Air Corps, and the ratings and assignments to groups, limited and unlimited, has been based on this evaluation. Professional and physical fitness are recognized as changeable conditions, necessitating frequent evaluation and reclassification.

In order to provide a system for the prompt and efficient reevaluation and reclassification of all flying personnel, flying evaluation boards will be appointed in each tactical unit and at each camp, post and station in the Air Corps, for the purpose of evaluating and classifying flying officers of that unit or command. A flight surgeon will be a member of each evaluation board. Each rated "pilot" will be evaluated by a board on Air Corps Form No. 7, which will be provided, employing a separate form for each individual. These forms will be prepared and forwarded as provided by Air Corps Circular 15-7. Annual reports for all rated flyers will be

V-8058, A. C.

submitted in time to reach the Office, Chief of the Air Corps, not later than September first of each year. A special report will be submitted at any time that change in classification of any individual becomes necessary.

When received in the Office, Chief of the Air Corps, flying evaluation board reports will be submitted to the Flying Evaluation Board, Office, Chief of the Air Corps, where final evaluation will be made.

4. AERONAUTICAL RATINGS - SIGNIFICANCE AND DUTIES PERTAINING THERETO:-

The qualifications for each aeronautical rating are prescribed in AR 95-60 and Air Corps Circular 50-10. The full significance of these ratings and an outline of duties pertaining thereto are as follows:

a. Command Pilot. (1) The rating of command pilot is the highest pilot rating and takes into full consideration the fact that flying ability is a compound of flying skill and flying experience. While there is a probability that pilot skill may somewhat diminish with age, there is also a realization that the additional experience acquired in years of flying compensates to a considerable extent for any depreciation in manipulative technique due to age. He is the judge, subject only to his status, "Limited", or "Unlimited", of the crew position he will occupy in the airplane, once he has been assigned to the crew of the airplane by competent authority. The correct and efficient performance of the mission to which the airplane is assigned is charged to him; its safety and the performance of the members of the crew are under his supervision.

(2) Pilot time may be credited to the individual only when he is functioning as command pilot, pilot or co-pilot. Command pilots are also authorized to perform duty as such in smaller airplanes when directing the operations of air units. Obviously, a single seater or two-seater airplane does not require the services of a command pilot for its direction, and a command pilot, although so rated, when flying in such planes individually, will not take credit as command pilot.

(3) In recording flying time in Form No. 1, all flying personnel will record only such time as was actually flown under a particular crew assignment. If a command pilot serves as pilot of an airplane, he will enter on Air Corps Form No. 1 his time as pilot for time spent at the controls as "pilot" and command pilot or co-pilot for all the time spent in respective capacities.

(4) An individual who holds the rating of command pilot, if classified in the unlimited group, is authorized to act as pilot or co-pilot of any type of aircraft with which he has demonstrated his familiarity on any type of mission assigned that type of aircraft by proper clearance. If classified in the limited group, he may perform duties required at any combat crew station (pilot, co-pilot, or otherwise), not affected by the imposed restrictions contained in his individual letter of limitation from the Office, Chief of the Air Corps.

b. Senior Pilot. The rating of senior pilot corresponds generally to the previous rating of military airplane pilot. An individual who possesses this rating, if classified in the unlimited group, is authorized to operate the controls as pilot, in any type of heavier-than-air aircraft with which he has demonstrated his familiarity. If classified in the "limited" group he is authorized to perform any flight not affected by the limitations imposed by the final action of the Flying Evaluation Board, subject to any limitations imposed by local authority, such as the requirements of transition training, flying experience required for certain types or for specific flights, etc.

c. Pilot. The rating of pilot corresponds generally to the previous rating of airplane pilot. It is generally applicable to recent graduates of the Air Corps flying schools, and to those who have not acquired sufficient flying time and experience to hold a higher rating. If classified in the "limited" group he is authorized to perform any flight not affected by the limitations imposed by the final action of the Flying Evaluation Board, subject to any limitations imposed by local authority, such as the requirements of transition training, flying experience required for certain types or for specific flights, etc.

d. Combat Observer. This rating corresponds in general to the previous rating of airplane observer. An individual performing flying duty under the rating of combat observer is expected to be capable of performing combat missions at a combat crew station, generally involving qualification in aerial photography, surveillance, contact and liaison missions and skill and experience in regulation of artillery fire and in aerial machine guns.

e. Technical Observer. The rating of technical observer, is designed to cover specific technical proficiencies which can neither be obtained nor practiced without regular and frequent flights in military aircraft. Technical observers must qualify and continue to demonstrate a definite proficiency for some one of the technical phases of flying. On each flight mission participated in, technical observers will perform a definite technical duty, which will be duly recorded, such as checking and criticizing types of formations, technical skill of combat crews, action of aircraft under various conditions of flight, as well as functioning of engines, instruments, armament, and photographic, electrical and all related auxiliary equipment. Such flights are necessary in order to meet professional standards.

f. Senior Balloon Pilot. Individuals possessing this rating and who are in the unlimited group are qualified to act as pilot in all military types of motorized, free, or captive balloons, as well as non-rigid military airships, with which they have demonstrated their familiarity. Such pilots in the limited group are so qualified except for the specific limitations specified in their individual letters from the Chief of the Air Corps, announcing such limitations. The senior balloon pilot rating is given in recognition of long and active experience in lighter-than-air aircraft.

g. Balloon Pilot. This rating corresponds to the previous rating of airship pilot and personnel so rated are eligible to operate motorized free and captive balloons and military airships, with which they have demonstrated their familiarity.

h. Balloon Observer. Individuals possessing this rating are qualified to operate military free or captive balloons and to serve as observers in any type of military observation balloon, or airship.

5. FLYING PROFICIENCY.

a. The maintenance of technical flying experience and pilot skill and technique of all individuals possessing flying ratings is of paramount importance and will be given first consideration among the duties assigned.

b. Commanding officers are directly charged with responsibility for issuing the necessary orders and performing the necessary supervision to assure regular and frequent flying duty for all individuals holding flying ratings under their commands.

c. Commanding officers will be responsible for assurance that an individual is thoroughly qualified to "pilot" and has sufficiently demonstrated his familiarity with any type of airplane before permitting him to fly it as "pilot". Instructions will be issued at a later date concerning the minimum requirements for demonstration of each familiarity.

d. Performance of Flying Duties.

(1) Minimum annual flying requirements, in compliance with War Department instructions.

(a) Command pilot, senior pilots, pilots, combat observers and technical observers, performing duties at stations appropriate to the rating under which they are operating:

1. 100 hours of flying, of which not less than 40 hours shall be accomplished during each six months beginning January first and July first
2. 35 hours of navigation, of which not less than 15 hours shall be performed each six months beginning January first and July first.
3. One navigation flight of at least 1000 miles, which will include at least one landing at a point not less than 350 miles from the point of origin. (A Department Commander may eliminate this requirement if it is considered unduly hazardous or impracticable under the conditions existing in his Department. If this is done, he will substitute

other reasonable navigation requirements and advise the Chief of the Air Corps of the action taken.)

4. 10 hours of night flying of which not less than five hours will be accomplished each fiscal six months.
5. One night navigation flight of not less than two hours' duration and to a point at least 100 miles from the origin.
6. 10 hours of instrument flying.
  - (a) Not less than five hours each fiscal six months of which not less than two and one-half hours will be "hooded".
  - (b) The definitions of instrument flight and of hooded flight and the conditions and restrictions pertaining thereto are contained in Air Corps Circular 60-26.
  - (c) Each pilot will be required to demonstrate his proficiency as to instrument flying once each fiscal year as required by Air Corps Circular 50-1, or to satisfactorily pass the test in instrument flying in a modernized link trainer.
  - (d) Combat observers and technical observers will, command pilots may, fulfill instrument flying requirements by performing the duties of the rating, under which they were operating, in an aircraft whose "pilot" is flying by instrument in accordance with any of the provisions of paragraph 6.


(b) Senior Balloon Pilot, Balloon Pilot and Balloon Observer.

1. Each individual, possessing one or more of these ratings and assigned to duty with a tactical balloon squadron will fly 100 hours as Balloon Observer or as "pilot" of lighter-than-air aircraft, which will include at least two free balloon flights each of which will be of not less than two hours' duration.
2. Individuals who possess one or more of these ratings and who are on duty where lighter-than-air aircraft are not available, will comply with the minimum flying requirements for, and under a co-existent rating of Combat Observer or Technical Observer.

(2) Means for determination of compliance with minimum flying requirements.

- (a) Air Corps Form No. 5, Individual Flight Record, will be used by the Flying Evaluation Board, Office, Chief of the Air Corps, as a basis for administrative determination of each individual's compliance with minimum annual flying requirements. Therefore, the certificate on the reverse of Form No. 5 for the month of June, each year, will indicate the individual's compliance or non-compliance with the proficiency requirements and will refer to any waiver that may have been granted as provided in sub-paragraph (3) hereunder.
- (b) In cases where an officer's status changes during the year, he will be considered to have complied with the provisions of this directive if he has met the complete requirements of either status, or if he has complied with the proportionate amounts of the requirements of this circular, while in each status.
- (3) In the event that circumstances prevent compliance with the requirements prescribed above, an application for a waiver of any part of the prescribed requirements will be submitted, through channels, to the Chief of the Air Corps. In all cases, approval must be received prior to the termination of the fiscal period involved in order to constitute a proper exemption from the performance of such flying requirements.
- (4) Flying proficiency depends upon regular and frequent performance of flying duties, whereas the majority of the minimum annual flying requirements could be performed within a period of two months, it is not the intention of this circular that the flying duties performed by an individual shall be neglected for relatively long periods of time. Any extended period of disproportionate flying inactivity or failure to comply with minimum flying requirements will be subjected to careful consideration by the Flying Evaluation Board.

By order of the Chief of the Air Corps:

  
Ira C. Eaker,  
Lieut. Colonel, Air Corps,  
Executive.

WAR DEPARTMENT  
Office of the Chief of the Air Corps  
Washington

April 1, 1939.

PERSONNEL ORDERS )  
NO. 76 )


EXTRACT

63. The following named Air Corps officers, are, under the provisions of Army Regulations 95-60, War Department, 1939, and paragraph 3 b., Circular 50-10, Office of the Chief of the Air Corps, dated April 1, 1939, rated Senior Pilots, effective April 1, 1939:

✓ Captain Carl J. Crane  
Captain Demas T. Crow  
Captain John C. Crosthwaite  
Captain Raymond E. Culbertson  
Captain Maurice F. Daly  
Captain James L. Daniel, Jr.  
Captain Ward J. Davies  
Captain Charles H. Deerwester  
Captain Joseph C. A. Denniston  
Captain Leo W. DeRosier  
Captain Fay O. Dice  
Captain Henry W. Dorr  
Captain Robert W. Douglass, Jr.  
Captain Lawrence H. Douthit  
Captain John H. Dulligan  
Captain Harvey F. Dyer  
Captain William O. Eareckson  
Captain Robert Lewis Easton  
Captain John F. Egan  
Captain David J. Ellinger  
Captain James A. Ellison  
Captain Howard E. Engler  
Captain George J. Eppright  
Captain Wilbur Erickson  
Captain Frank F. Everest, Jr.  
Captain Ford L. Fair.

By order of the Chief of the Air Corps:

OFFICIAL:

  
G. L. Usher,  
Lieut. Colonel, Air Corps,  
Chief, Personnel Division.

Ira C. Eaker,  
Lieut. Colonel, Air Corps,  
Executive.



WAR DEPARTMENT  
Office of the Chief of the Air Corps  
Washington

April 1, 1939.

PERSONNEL ORDERS )  
NO. 76 )

EXTRACT


43. The following named Air Corps officers, are, under the provisions of Army Regulations 95-60, War Department, 1939, and paragraph 3 d., Circular 50-10, Office of the Chief of the Air Corps, dated April 1, 1939, rated Combat Observers, effective April 1, 1939:

Captain Cecil E. Archer  
Captain Frederick A. Bacher, Jr.  
Captain Herbert K. Baisley  
Captain Earl W. Barnes  
Captain Charles A. Bassett  
Captain Henry R. Baxter  
Captain Thurston H. Baxter  
Captain Oscar L. Beal  
Captain Donald W. Benner  
Captain Clifford P. Bradley  
Captain Ralph O. Brownfield  
Captain Walter G. Bryte, Jr.  
Captain Joseph A. Bulger  
Captain Arthur L. Bump, Jr.  
Captain Charles P. Cabell  
Captain Charles H. Caldwell  
Captain Lawrence J. Carr  
Captain F. Edgar Cheatle  
Captain Benjamin W. Chidlaw  
Captain Ray H. Clark  
Captain Richard E. Cobb  
Captain Orval R. Cook  
Captain Narcisse L. Cote  
Captain Howard H. Couch  
Captain Cornelius W. Cousland  
Captain Laurence C. Craigie  
✓ Captain Carl J. Crane.

By order of the Chief of the Air Corps:

Ira C. Eaker,  
Lieut. Colonel, Air Corps,  
Executive.

OFFICIAL:

  
G. L. Usher,  
Lieut. Colonel, Air Corps,  
Chief, Personnel Division.

W-2900, A. C.

WAR DEPARTMENT  
Office of the Chief of the Air Corps  
Washington

April 3, 1939.

SUBJECT: Institution of Abbreviated Courses at the Air Corps Tactical School.

TO: Commanding Officers, All Air Corps Stations and Activities.

1. The necessity for giving all Air Corps officers an opportunity to attend the Air Corps Tactical School for the purpose of increasing their professional qualifications and furthering uniformity of doctrine has been a constant concern of this office. Assuming only normal increases in personnel, at least 20 years would be required with existing facilities and the present system of instruction to give the course to all officers who have applied for it and to reduce the age limit at entrance to the desired maximum of 32 years. The contemplated increases in the expansion program create a still greater demand for trained officer personnel for assignment to command and staff duties in the new tactical units, that must be met within the next two years.

2. To meet this situation the Air Corps Tactical School will train three classes of approximately 100 officers each during the school year 1939-1940. Each class will last 12 weeks and the first class will start on June 1, 1939.

3. Although curtailment of the number of hours of instruction devoted to various subjects will be necessary, the general character of the course will be the same as that formerly given in nine months, and no instruction essential to the Air Corps officer will be omitted.

4. Officers will be placed on temporary duty during the period that they are attending the school, and will be unaccompanied by members of their families. Upon completion of the course, officers will be returned to their permanent stations, consequently no replacements will be furnished during their absence.

5. During this emergency the abbreviated course will constitute the regular officers course at the Tactical School. Graduates will receive the usual certificate and no distinction will be applied between individuals that have successfully completed either the long or the short courses.

6. Only officers who are on record as desiring the Tactical School Course will be selected. Officers, 32 years of age or older, desirous of this course, who have not previously stated such desire, may submit requests immediately. Lists are now being prepared and orders for the class entering on June 1, 1939 will be issued within the near future. The lists for the second and third classes will be issued as promptly as possible.

H. H. Arnold,  
Major General, Air Corps,  
Chief of the Air Corps.

DISTRIBUTION:  
A-I, incl.

Reproduced, The A.C.T.S., Maxwell Field, Ala.,  
April 19, 1939.

Maxwell Field,  
Montgomery, Alabama  
March 30, 1939

Subject: Leave of Absence

To: The Adjutant General (Thru channels)

1. Request that I be granted leave of absence for one month and 10 days, effective on or about May 15, 1939, with permission to visit foreign countries.
2. A purpose of this leave of absence is recreation. Another purpose is to remain vicinity of Montgomery, Alabama for a time after completion of present school detail in order to assist move of my family to new station. Three of my children are in school and must remain in Montgomery until about June 1st.
3. I am not a member of a General or Special Courts Martial.
4. My address while on leave of absence will be care of the Commanding Officer, Maxwell Field, Alabama.
5. I have sufficient accrued leave to cover this request.

2865

*Carl J. Crane*  
Carl J. Crane,  
Captain, Air Corps

*Dir. 701 Crane, Carl J. (3-30-39)*

Maxwell Field,  
Montgomery, Alabama  
March 30, 1959

Subject: Leave of Absence

To: The Adjutant General (Thru channels)

1. Request that I be granted leave of absence for one month and 10 days, effective on or about May 15, 1959, with permission to visit foreign countries.
2. A purpose of this leave of absence is recreation. Another purpose is to remain vicinity of Montgomery, Alabama for a time after completion of present school detail in order to assist move of my family to new station. Three of my children are in school and must remain in Montgomery until about June 1st.
3. I am not a member of a General or Special Courts Martial.
4. My address while on leave of absence will be care of the Commanding Officer, Maxwell Field, Alabama.
5. I have sufficient accrued leave to cover this request.

Carl J. Crane,  
Captain, Air Corps

201-Crane, Carl J. (Off.)

1st Ind.

(C)

The Air Corps Tactical School, Maxwell Field, Montgomery, Alabama.  
March 30, 1939. To: The Chief of the Air Corps, Washington, D. C.

Approved, provided the course of instruction at the Air Corps  
Tactical School is completed prior to the date mentioned in basic letter.

For the Commanding Officer:

AHX 6000 - APR 1, 1939

*D. B. Schannep*  
D. B. SCHANNAP,  
1st Lieut., Air Corps,  
Adjutant.

201  
2nd Ind.

(1-A)

War Department, Office of the Chief of the Air Corps, Washington, D.C.,  
April 11, 1939 - To: The Adjutant General.

Not favorably considered, due to the urgent need for the services  
of Air Corps officers on work incident to the Air Corps expansion program.  
The Chief of Air Corps has established a policy of approving requests for  
extended leaves of absence only under exceptional circumstances, for officers  
graduating from schools.

4 A G O  
APR 12 1939  
Received



For the Chief of the Air Corps:

*L. S. Smith*  
L. S. Smith,  
Captain, Air Corps,  
Executive

A.G. 201-Crane, C.J. (3-30-39)

3rd Ind.

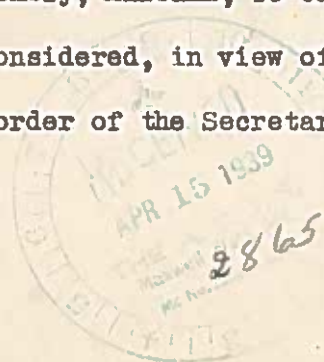
RML-JH-451.

War Department, A. G. O., April 13, 1939 - Thru The Commanding Officer,  
Maxwell Field, Montgomery, Alabama, To Captain Carl J. Crane, Air Corps.

Not favorably considered, in view of the preceding indorsement.

By order of the Secretary of War:

*J. M. Lowry*  
Adjutant General.



201-Grane, C. J. (Off)

4th Ind.

C-ob.

THE AIR CORPS TACTICAL SCHOOL, Maxwell Field, Montgomery, Ala., April 15, 1939.  
To: Captain Carl J. Grane, Air Corps.

*LAD*  
L. A. D.

WAR DEPARTMENT  
The Adjutant General's Office  
Washington

AG 353 (1-25-39)  
Misc. M-C.

April 8, 1939.

SUBJECT: Air Corps Training, 1939-1940.

TO: Commanding Generals of the Four Armies,  
Commanding Generals, all Corps Areas and Departments,  
Commanding General, GHQ Air Force,  
Commandants, General and Special Service Schools,  
Superintendent, U. S. Military Academy,  
Chiefs of all Arms, Services and Bureaus of the  
War Department and the  
Executive for Reserve Affairs.

1. This directive, containing special instructions pertaining to Air Corps units of all commands, supplements the War Department Training Directive, 1939-1940 dated December 28, 1938, which prescribed general training throughout the Army.

2. The constant and rapid development in aircraft and equipment makes it advisable to maintain a certain fluidity in tactical doctrine. As a result, our air forces, and particularly the GHQ Air Force, must serve as important agencies of development and test in the field of tactics and technique. Appropriate recommendations based on their training experiences will be submitted from time to time by all commanders to the next higher echelon.

3. In addition to the individual skill required of pilots, a high degree of air discipline is essential. The periodic assignment of recent graduates of the Air Corps Training Center to flying units increases the importance of close and constant supervision of the flying training of individual pilots by unit commanders.

4. Training to maintain individual flying skill will not be relaxed. Not only is such skill a fundamental requirement for successful air operations but it is essential for the protection of personnel and the conservation of costly equipment.

5. Continued emphasis will be placed on navigational training to the end that the tactical objective may be reached at the designated time, in daylight or darkness, despite the handicap of adverse weather conditions. This training, indispensable to bombardment and reconnaissance aviation, is also important for other types of lesser range. Basic training will insure a thorough knowledge of the rules and procedures prescribed by the Civil Aeronautics Authority for the use of Federal aids to air navigation.



6. The required technical and administrative ground personnel will be trained to render efficient and coordinated service so essential for the success of flying missions by combat echelons. In view of the present limited capacity and output of the Air Corps Technical School, individual training and development of Air Corps technical specialists remains an important responsibility of unit commanders.

7. A thorough working knowledge of the maintenance and operation of the equipment in use and of certain technical subjects affecting flying is essential. The ground training of pilots during their first two years of service will include the following subjects:

- Ground and air rules
- Airplanes and Engine Maintenance.
- Communications
- Aircraft Armament
- Aircraft Instruments
- Air Navigation
- Meteorology
- Chemical Warfare
- Technical Administration.

Instructional material will be furnished by the Chief of the Air Corps upon request.

8. a. Unit schools will be established in tactical units for the conduct of courses in squadron command, and group and squadron staff duties.

b. All Air Corps officers below the grade of Lieutenant Colonel, who are not graduates of the Air Corps Tactical School, will pursue such courses.

c. As far as practicable officers who are graduates of the Air Corps Tactical School will be used as instructors.

9. Each tactical squadron of the Air Corps, less detached flights, will be required to operate as a squadron for a period of at least two weeks from other than its home airdrome in the conduct of field exercises. During these exercises logistical considerations and security measures included in the preparation of, movement to, and operations from new bases will be emphasized.

10. The extreme vulnerability of aircraft on the ground makes security a problem of great importance. At the same time, dispersion of small units on separate airdromes, as a measure of security, becomes increasingly difficult, as the characteristics of aircraft demand larger fields with prepared runways. The increased importance of camouflage, the use of cover, and dispersion on airdromes must receive the careful attention of all commanders. Protective measures against chemical agents will be emphasized.

11. The employment of the GHQ Air Force in joint operations with Naval forces, offers a means of obtaining valuable training. The Commanding General, GHQ Air Force, and Wing Commanders are authorized to communicate directly with the Commandants of the various Naval Districts, or corresponding Naval Commanders, with a view to arranging such joint technical training as may be practicable and desirable. However, arrangements for any joint minor exercise dealing with problems of coastal frontier defense or involving the use of Army personnel or installations not under the command of the Commanding General, GHQ Air Force, will be made through the Commanding General of the Army who is responsible for the coastal frontier in which the exercise is to be held.

12. Commanding Officers of Air Corps units which include photographic activities are reminded that in addition to meeting its own needs, the Air Corps is responsible for meeting the aerial photographic requirements of the other arms and services of the War Department. With this in view, especial attention will be devoted to maintaining the efficiency of photographic activities at the highest state.

13. The following pertains particularly to Bombardment, Reconnaissance, Attack and Pursuit aviation:

a. Every effort will be made to increase proficiency in aerial gunnery and bombing. Within the limits of available equipment, pursuit units will emphasize machine gun firing at aerial targets at altitudes at which pursuit is expected to operate during war.

b. Proficiency in accurate location of targets known to be in a general sea area, and the technique necessary for delivery of attack by single airplanes or bombardment units is essential.

c. The importance of air operations in conjunction with ground forces will not be overlooked. The element of coordination involved in joint operations with ground forces must receive the careful attention of all air force commanders. The development of team play with the supporting and supported ground troops is of vital importance.

d. Advantage will be taken of every practicable opportunity for tactical cooperation of air forces with other arms. To this end direct correspondence between Army and Corps Area Commanders and the Commanding General, GHQ Air Force, is authorized. Immediately after performance of any cooperative missions the Commanding General, GHQ Air Force, will make brief report of the mission to The Adjutant General, including date of mission, unit with which cooperating, number and type of planes participating, and such pertinent remarks as are desired.

e. Each Wing Commander will conduct joint training exercises involving all units of his command at least once during each training year.

14. The following pertains particularly to Corps and Army Aviation:

a. Corps Area and Department Commanders will provide for the frequent and thorough cooperative training of observation aviation with the other elements of the combat team of which it must form an integral part.

b. A fundamental knowledge of organization, tactics and technique of the ground arms is essential to qualify aerial observers to perform properly their missions. Commanders of Observation units will give the necessary instruction to the officers of their commands.

c. Training in two way radio communication between aircraft and ground units will be emphasized. Every effort will be made to increase proficiency in obtaining accurate information and in its rapid transmission to the headquarters of the appropriate unit.

d. Use of the limited allowance of artillery ammunition for Corps and Army observation aviation units will be carefully supervised to improve proficiency in aerial observation of artillery fire.

e. Emphasis will be placed on machine gun firing at aerial targets with flexible machine guns in order to obtain the maximum proficiency with the ammunition training allowance.

f. All pilots will be trained in flying the various types of photographic missions.

15. a. The Chief of the Air Corps will forward to The Adjutant General three copies of the training program of the GHQ Air Force.

b. Corps Area and Department Commanders will forward to The Adjutant General three copies of training programs of wings, groups and separate squadrons under their command.

By order of the Secretary of War:

E. S. ADAMS,  
Major General,  
The Adjutant General.

Reproduced, The A.C.T.S., Maxwell Field, Ala.,  
April 17, 1939.

M.C. # 3356

1st Ind.

THE AIR CORPS TACTICAL SCHOOL, Maxwell Field, Montgomery, Alabama, April 17, 1939.  
To: To all Air Corps Organizations & Depts., and Air Corps Officers.

For necessary action.

By order of Col WEAVER:

*L. A. Dayton*  
L. A. DAYTON  
Maj AC  
Adj

WAR DEPARTMENT  
The Adjutant General's Office  
Washington

April 29, 1939.

AG 580.81 (4-1-39) Misc. M-C

Subject: Itineraries of Navigation Training Flights.

To: Commanding Generals of All Corps Areas; the Commanding General, GHQ Air Force, Langley Field, Virginia; the Chief, National Guard Bureau; and Commanding Officers, All Exempted Stations.

1. The following letters of the War Department, subject: "Individual Navigation Flights", November 18, 1938, AG 580.81 (10-13-38) Misc. M-C, and February 7, 1939, AG 580.81 (12-23-38) Misc. M-C; and letter, subject: "Itineraries of Voluntary Navigation Training Flights", December 21, 1937, AG 580.81 (12-10-37) Misc. M-C, are rescinded; and the below stated instructions are substituted therefor.

2. In the future, requests for permission to make navigation training flights shall be approved only where the proposed landings en route, or at destination, are made at recognized airports or landing fields, a description of which indicates that they are suitable for the type of equipment to be used.

3. For the determination of the existence and condition of non-military airports and landing fields, the information published in Airway Bulletin No. 2 of the Bureau of Air Commerce, which is to be superseded by a similar pamphlet published by the Civil Aeronautics Authority, will be used as a guide.

4. All supervisory personnel are directed to exercise extreme care in the preliminary supervision of individual navigation training flights. Preference will be given to the use of flying fields under "military control," as indicated in paragraph 58, AR 95-15. However, consideration of the facilities available at civil airports, weather conditions which may be expected along the route, the state of training and the experience of the individual, and all factors bearing upon the safety of personnel and the protection of Government property, shall govern the decision of supervisory personnel as to whether civil airports may be used.

5. The term "military control" shall be construed to include all points provided with Air Corps servicing personnel, stations which include a landing field within the reservation, and airdromes at which the Navy, Marine Corps, National Guard, or Coast Guard maintain servicing facilities.

By order of the Secretary of War:

(Signed) E. S. Adams,  
Major General,  
The Adjutant General.

Note: The regulations referred to in paragraph 1, above, restricted delays and overnight stops on navigation training flights to points under military control. Under the instructions contained in paragraph 4 of the above letter, requests for navigation training flights to stations not under military control will be submitted when it is determined that government personnel and property will be properly protected.

## WHITE POINT

Maxwell Field Recreation Center

### General Information

DATE OF OPENING: May 1st, 1939.

LOCATION: White Point is located on beautiful Choctawhatchee Bay, near Valparaiso, Florida. It is about twelve miles from Eglin Field and one hundred and sixty-five miles from Maxwell Field.

GENERAL DESCRIPTION: The camp consists of fifteen cottages and one lodge, which is made up of five three-room cottages, ten two-room cottages, and one lodge consisting of five rooms and two baths; likewise a central dining room and several other buildings. Each cottage is complete within itself containing beds and furniture and a complete bath room with either tub or shower, heating facilities for hot water and an ice box. There are no cooking facilities in the cottages. All of the houses face the beach and in front of each house are bathing facilities. There are a number of garages in the rear of the houses for the storing of private automobiles.

MESSING FACILITIES: The general mess, located at a central point with respect to all of the cottages, will offer an excellent fare for the occupants of the cabins. It is the desire of the Maxwell Field Officers' Club to present an excellent table for those staying at White Point.

RESERVATIONS: All reservations will be handled here at Maxwell Field through the office of the Maxwell Field Officers' Club. A blank reservation form will be issued at an early date and made available for use shortly. However, reservations can be made at this date with the Maxwell Field Officers' Club if in writing. No reservations will be taken over the telephone. The general period allotted for a reservation will be two weeks, or less, however, if cabins are available then a longer reservation can be obtained but the initial reservation will not be made for a period longer than two weeks.

PRIORITY FOR RESERVATIONS: Members of the Maxwell Field Officers' Club will be given priority on reservations. A circular bulletin will be sent to other Posts and reservations will be taken from other Stations after the Maxwell Field Officer personnel has had ample opportunity to make their reservations. The cottages cannot be held open an indefinite date for the Maxwell Field Officer personnel unless they make reservations within a reasonable length of time prior to going down there.

RATES TO MAXWELL FIELD PERSONNEL: Two-room cottages complete with beds, furniture, linen, wood for stove, ice box, and ice furnished by the Club, \$7.00 per week, which allows four beds and linen for same.

Three-room cottages, same as above, which allows six beds and linen, \$9.00 per week.

Lodge - Three rooms and bath, \$8.00 per week; two rooms and bath, \$6.00 per week; the entire lodge, five rooms and two baths, \$13.00 per week.

Auto Trailer rental space - 75¢ per day.

DAILY RATES ON COTTAGES: Two room cottage - \$1.50 per day. Three room cottage - \$2.00 per day.

RATES PER ONE HALF WEEK: Two room cottage - \$3.50. Three room cottage - \$4.50.  
NOTE: The maximum per one half week will be four days.

MESS RATES: \$9.00 per week per person. \$4.50 per week for children seven years of age and under.

DAILY MESS RATES: \$1.50 per person, or 50¢ per meal.

The Maxwell Field Officers' Club is making considerable improvements at White Point. All houses are being cleaned and renovated. They will have in addition to a general setup of furniture, folding cots and camp stools along with a complete set of cleaning equipment to maintain each cottage. Occupants of the cottages are responsible for the cleanliness of their cottages. There will be boats to rent as well as beach umbrellas. Also there will be a large picnic area, including barbecue pits and necessary tables installed for general use.

It is urgently requested that early reservations be made in order to take care of the Maxwell Field personnel. Every effort is going to be made to make the stay most enjoyable while there. Suggestions to be made while staying at White Point will be appreciated by the Maxwell Field Officers' Club.

Capt. Carl J. Crane, AC .....

Reference <sup>13</sup> for ..... or prompt return  
to A. C. C., W. P. with new address.

SPECIAL ORDERS }  
No. 103 }

WAR DEPARTMENT,  
WASHINGTON, 3 May, 1939.

1. Leave of absence is granted to each of the following-named officers, effective on or about the date specified:

Colonel *Oliver L. Spaulding*, Field Artillery, one month and twelve days, 18 May, 1939.

Colonel *H. R. Warner McCabe* (Field Artillery), General Staff Corps, one day, 3 May, 1939.

Lieutenant Colonel *James R. N. Weaver*, Infantry, twenty days, 17 June, 1939, with permission to visit foreign countries.

Lieutenant Colonel *Stephen J. Idzorek* (Major), Air Corps, three months and twenty-eight days, 3 July, 1939.

Lieutenant Colonel *Robert W. Crawford* (Corps of Engineers), General Staff Corps, twenty days, 19 May, 1939.

Major *Frank M. Smith*, Adjutant General's Department, four days, 9 May, 1939.

Major *John W. O'Daniel*, Infantry, fifteen days, 20 June, 1939.

Major *John L. McKee*, Infantry, two months, 1 July, 1939.

Major *Willard W. Scott*, Coast Artillery Corps, two months and eight days, 26 June, 1939.

Captain *William O. Collins* (Infantry), Quartermaster Corps, one month and sixteen days, 15 June, 1939, with permission to visit foreign countries.

Captain *James P. Cooney*, Medical Corps, one month and fifteen days, 15 June, 1939.

Captain *John F. Bohlender*, Medical Corps, one month and eleven days, 20 June, 1939.

First Lieutenant *Laurence N. Buck*, Infantry, one month, 16 June, 1939.

Second Lieutenant *Leland R. Drake*, Coast Artillery Corps, one month and nine days, 3 July, 1939, with permission to visit foreign countries.

Second Lieutenant *Linwood E. Funchess*, Corps of Engineers, twenty-eight days, 12 August, 1939.

(A. G. 210.711.) (3 May, 39.)

2. Par. 3, S. O., 19, W. D., 1939, relieving Brigadier General *Daniel I. Sultan*, United States Army, from command of Fort Logan, Colorado, and assigning him to the command of the 22d Infantry Brigade, Schofield Barracks, Territory of Hawaii, is revoked. (A. G. 210.311.) (3 May, 39.)

3. Lieutenant Colonel *Lloyd E. Jones*, Field Artillery, is relieved from assignment and duty with the Historical Section, the Army War College, Fort Humphreys, D. C., effective on or about 1 September, 1939, is then detailed, by direction of the President, at the University of Missouri (section 40b, National Defense Act), will proceed to Columbia, Missouri, and report by letter to the commanding general, Seventh Corps Area, for instructions. The travel directed is necessary in the military service. FD 400 P 7-0620, 7-0601, 5-0284, 5-1378, 5-0110, 6-0700, 6-0730 A 1605-0. If the travel is performed by privately owned automobile detached service for four days is authorized. (A. G. 210.64, R. O. T. C.) (30 Mar. 39.)

4. By direction of the President, Lieutenant Colonel *Gregory Hoisington*, Infantry, is relieved from his present assignment and duty at the Johns Hopkins





HEADQUARTERS  
EIGHT FIELD  
DAYTON, OHIO

21

May 27, 1939.

PERSONNEL ORDERS }  
NO. 114 }

MEMORANDUM

6. Effective this date, Captain CARL J. CRANE, Air Corps, in addition to his other duties, is detailed Assistant Operations Officer.

By order of Colonel Kennedy:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

OFFICIAL:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

Copies:  
Capt. Crane  
Operations Officer  
Chief, Sup. Eng'g Section  
Files:

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

III

..... May 17, ..... 19 39.

PERSONNEL ORDERS )  
NO. 116 )

EXTRACT

\* \* \*  
5. Effective this date, Captain CARL J. CRANE, Air Corps, in addition to his other duties, is detailed to the Flying Branch.  
\* \* \*

By order of the Chief of the Materiel Division:

Copies:  
Capt. Crane  
Chief, Flying Branch  
Files.

A. W. BROCK, Jr.,  
Major, Air Corps,  
Ass't Executive.

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DEI

..... May 16, ..... 19 39.

PERSONNEL ORDERS )  
NO. 117 )

EXTRACT

2. Having reported to this station, May 17, 1939,  
pursuant to paragraph 13, Special Orders No. 103, War Department, May 3, 1939,  
Captain CARL J. CRANE, Air Corps, is assigned to the Experimental Engineering  
Section and will report to the Chief thereof for duty.

By order of the Chief of the Materiel Division:

Copies:  
Capt. Crane  
Chief, Eng'g Section  
Files.

A. W. BROCK, Jr.,  
Major, Air Corps,  
Ass't Executive.

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, O.  
OFFICE, CHIEF, EXP. ENG. SECTION

JPR:lmf  
May 18, 1939

EXPERIMENTAL ENGINEERING SEC. OFFICE MEMORANDUM NO. 39-64.

SUBJECT: Officer Assignment -  
Major JAMES A. WOODRUFF, Air Corps,  
Captain CARL J. CRANE, Air Corps.

1. Having reported to this Section, May 16, 1939, pursuant to paragraph 1, Personnel Orders No. 115, Wright Field, dated May 16, 1939, Major JAMES A. WOODRUFF, Air Corps, is assigned to the Research and Development Branch and will report to the Chief thereof for duty.

2. Having reported to this Section, May 18, 1939, pursuant to paragraph 2, Personnel Orders No. 117, Wright Field, dated May 18, 1939, Captain CARL J. CRANE, Air Corps, is assigned to the Research and Development Branch and will report to the Chief thereof for duty.

*J. P. Richter*  
J. P. RICHTER,  
Major, Air Corps,  
Chief, Experimental  
Engineering Section.

Distribution:

Major Woodruff  
Captain Crane  
Adjutant (3)  
Executive  
O.C.A.C.  
All Branches, Exp. Eng. Sec.  
Prod. Eng. Sec.  
Contract Sec.  
F.S.S.  
Inspection Sec.  
S.C.A.R.L.  
Flying Br.  
Signal Officer  
Museum  
Files

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

DE

..... May 19, 1939 .....

PERSONNEL ORDERS )  
NO. 116 )

EXTRACT

\* \* \*  
6. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937. Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about May 20, 1939) on a navigation training flight to Maxwell Field, Montgomery, Alabama, and return (on or about May 21, 1939) to his proper station, Wright Field, Dayton, Ohio.

7. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #44, War Department, July 8, 1937, Major EDWARD M. ROBBINS, Air Corps, is authorized to proceed (on or about May 19, 1939) on a navigation training flight to Nashville, Tennessee, and return (on or about May 19, 1939) to his proper station, Wright Field, Dayton, Ohio.

\* \* \*  
By order of Colonel Kennedy:

OFFICIAL:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

Copies:  
Major Robbins  
Capt. Crane  
Operations  
Files.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

III

..... May 24, 1939.

PERSONNEL ORDERS )  
NO. 120 )

EXTRACT

\* \* \*  
1. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, First Lieutenant HOLLINGSWORTH F. GREGORY, Air Corps, is authorized to proceed (on or about May 24, 1939) on a navigation training flight to Clarksdale, Mississippi, and return (on or about May 27, 1939) to his proper station, Wright Field, Dayton, Ohio.

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular 44, War Department, July 8, 1937, Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about May 24, 1939) on a navigation training flight to Selfridge Field, Mt. Clemens, Michigan, via Detroit City Airport, Detroit, Michigan, and return (on or about May 24, 1939) to his proper station, Wright Field, Dayton, Ohio.

\* \* \*  
By order of Colonel Kennedy:

OFFICIAL:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

Copies:  
Lt. Gregory  
Capt. Crane  
Operations  
Budget Office  
Files.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

DH

..... May 29, 1939 .....

PERSONNEL ORDERS )  
NO. 124 )

EXTRACT

\* \* \*  
1. Under the provisions of Army Regulations 95-15, as amended by Section 111, Circular No. 44, War Department, July 8, 1937, Captain ALFRED R. MAXWELL, Air Corps, is authorized to proceed (on or about May 30, 1939) on a navigation training flight to Indianapolis, Indiana, and return (on or about May 30, 1939) to his proper station, Wright Field, Dayton, Ohio.

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #44, War Department, July 8, 1937, Captain HOWARD G. BUNKER, Air Corps, is authorized to proceed (on or about May 30, 1939) on a navigation training flight to Maxwell Field, Alabama, and return (on or about May 30, 1939) to his proper station, Wright Field, Dayton, Ohio. Captain CARL J. CRANE, Air Corps, is authorized to accompany Captain Bunker on this flight.

\* \* \*  
By order of Colonel Kennedy:

OFFICIAL:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

A. W. BROCK, Jr.,  
Major, Air Corps,  
Adjutant.

Copies:  
Capt. Maxwell  
Capt. Bunker  
Capt. Crane  
Operations  
Files.

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, O.  
EXPERIMENTAL ENGINEERING SECTION  
Office, Chief, Research & Development Branch

FOC:lmf  
May 25, 1939

RESEARCH & DEVELOPMENT BRANCH OFFICE MEMO. NO. 39-1.

SUBJECT: Officer Assignment.

1. Effective this date the following named officers are assigned to the projects as indicated below:

1st Lieut. John W. Sessums, Jr. - Office Chief of Branch.  
Major E. P. Gaines - Foreign Development and N.A.C.A. Liaison.  
Major J. A. Woodruff - Equipment Projects.  
Captain Oscar T. Carlson - Power Plant Projects.  
Captain Carl J. Crane - Flight Research Projects.  
1st Lieut. H. F. Gregory - Aircraft Projects.

2. Effective this date the following named officers are, in addition to their other duties, temporarily assigned to the projects indicated below:

Captain John G. Moore - Armament Projects.  
1st Lieut. Howard M. McCoy - Propeller Projects.

3. Effective this date the following named officer is made available, temporarily, for instruction in the project office indicated below:

1st Lieut. Edward M. Gavin - Service Engineering Projects.

4. Effective this date the following named officers are, in addition to their other duties, assigned to the project offices indicated below:

Major Frank F. Reed, O. D. - Ordnance Projects.  
Major C. M. Cummings - Radio Projects.

Distribution:  
Officers concerned  
All Branches, Exp. Eng. Sec.  
Adjutant (12)  
Executive  
Prod. Eng. Sec.  
S.C.A.R.L.  
Flying Br.  
Files

*F. O. Carroll*  
F. O. CARROLL,  
Major, Air Corps,  
Chief, Research & Development Branch.



THE AIR CORPS TACTICAL SCHOOL  
Office of the Quartermaster  
Maxwell Field, Montgomery, Alabama

File No. 524.2

Date \_\_\_\_\_

SUBJECT: Transportation of Officers' Household Goods

TO:

1. In compliance with existing regulations, there are forwarded herewith the following blank forms for accomplishment (as per instructions thereon) by each officer concerned, viz:-

Request for Transportation, Authorized Baggage  
QMC Form No. 219 (Certificate of Personal Property Shipped)  
QMC Form No. 434 (Shipping Ticket) Waiver only  
Date for Movement via Van

2. The following procedure should be observed in connection with papers to be furnished:

Data for movement via van (if desired), to be signed in duplicate Request for transportation of professional books and household goods should be signed in triplicate. To be signed if other than van movement.

Shipping Ticket (QMC Form 434) to be signed in triplicate, also the waiver thereon.

Certificate of personal property shipped (QMC Form 219) should be signed as follows:-

REQUIRED WHEN SHIPMENT IS MADE BY:

3	copies	Commercial Van.
3	"	Freight (all rail)
4	"	Water or Rail and Water within the Continental limits of the United States.
5	"	Water or Rail and Water outside the Continental limits of the United States.

Each officer shall furnish seven (7) copies or true copies of War Department Orders authorizing change of station.

3. The date set by each officer requesting transportation of household goods, etc., must be strictly adhered to. No change in the date of movement of goods will be made except at the convenience of the Government.

4. When movement is to be made by commercial van the Government furnishes neither services nor materials.

5. All of the above papers must be submitted to this office not later than \_\_\_\_\_, in order that priority list of shipments be made up. Requests for movement of officers' household goods, with papers listed above, submitted after \_\_\_\_\_, will be listed for shipment on dates best suited for the convenience of the Government.

GEORGE S. DEADERICK,  
Captain, QMC, Quartermaster.

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DH

June 16, 1939.

PERSONNEL ORDERS )  
NO. 141 )

## EXTRACT

3. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #11, War Department dated July 8, 1937, Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about June 16, 1939) on anavigation training flight to Kelly Field, Texas, and return (on or about June 18, 1939) to his proper station, Wright Field, Dayton, Ohio.

Left W.F. 6-16 @ 3:00 <sup>CST</sup> EST.  
Ar K.F. 12:05 A.M. <sup>CST</sup> 6-17

Left K.F. 6:40 A.M. 6-18 (CST)  
Ar W.F. @ 30 PM 6-18 (EST)  
Lost 1/2 hr. while flying ceiling  
at W.F. about 150-400 feet.

By order of the Chief of the Materiel Division:

A. W. BROCK, Jr.,  
Major, Air Corps,  
Asst Adm. Executive.

Copies:  
Capt. Crane  
Operations  
Files.

WAR DEPARTMENT  
Office of the Chief of the Air Corps  
Washington

June 28, 1939.

June 28, 1939

PERSONNEL ORDERS )  
NO. 151 )

EXTRACT

1. Captain Carl J. Crane, Air Corps, is appointed as member of a Board of Officers appointed by paragraph 2, Personnel Orders No. 147, dated June 24, 1939, for the purpose of conducting a service test of Radio Set SCR 253-TI and Radio Set SCR 254-TI, vice Major Charles M. Cummings, Air Corps, relieved.

By order of the Chief of the Air Corps:  
by order of the Chief of the Air Corps

Ira C. Baker, Lt. Col., Air Corps,  
Executive.

OFFICIAL:

G. O. Niergarth,  
Major, Air Corps,  
Asst. Chief, Personnel Division.

Command  
June 29  
Received July 1st

Command Pilot Rating.

CJC:mr  
July 6, 1939

The Chief of the Air Corps.

1. In accordance with Circular 50-10, Office, Chief of the Air Corps, dated April 1, 1939, in reference to Paragraph 3-a(1)(b), it is requested that I be rated as "Command Pilot".
2. Upon July 4, 1939, I have completed fifteen (15) years commissioned service in the Air Corps and have a total of three thousand, eight hundred sixty-eight hours and forty-five minutes (3,868.45) total pilot time to date, as shown by the Individual Flight Record, Form No. 5, of this station, the extract of true copy which is enclosed herewith.

CARL J. CRANE,  
Captain, Air Corps.

1 Encl;  
Individual Flight Record.

*F. L. Res.*

**A TRUE COPY**  
**INDIVIDUAL FLIGHT RECORD**

HEAVIER THAN AIR

NAME Crane, G. J. MONTH(S) June 1939, 19\_\_\_\_  
 RANK Capt., A. C. GROUP \_\_\_\_\_  
 AERO. RATINGS AP. 1928, AO. 1934, SP & CO. 4-1-39 ORGANIZATION—Assigned Material Division  
 TRANSFERRED FROM \_\_\_\_\_ ORG.—Attached for flying Wright Field, Ohio  
 TO \_\_\_\_\_ DATE \_\_\_\_\_ STATION Wright Field, Ohio

1	2	3	4					5	6	7	8	
Date	Duty*	Mission Symbol	PILOT TIME BY AIRPLANE TYPE					Aircraft Model Symbol	No. of Land- ings	Other Than Pilot	REMARKS	
			Attack	Bomb.	Obs.	Pursuit	Cargo					
TOTALS									9 Total pilot time	10 Total other than pilot	11 Pilot time nonmilitary airplanes	12
This report												
Previous reports this F. Y.												
Totals this fiscal year			57:10	53:50	78:25	41:25	16:15	16:40	240:45	22:33		
Totals previous years			9:10	188:55	1378:00	663:55	510:10	1157:50	3623:00	544:55		
Totals to date			46:20	182:45	1453:25	705:20	326:25	1154:30	3868:45	567:30		

\*DUTY SYMBOLS  
 P—Pilot B—Bomber R—Radio operator  
 CP—Copilot OB—Observer PH—Photographer  
 N—Navigator E—Engineer O—Other crew  
 C—Commander G—Gunner X—Passenger

NOTE.—When the airplane is assigned to an organization other than that to which the individual is assigned or attached for flying, show the airplane organization under Remarks, column 8.

DATE	AS PILOT						8	OTHER THAN PILOT			
	NAVIGATION		INSTRUMENT		NIGHT			NAVIGATION		NIGHT	
	1,000-mile flight completed	TOTAL Hours	UNDER HOOD Hours	OTHER Hours	NAVIGATION Hours	OTHER Hours		1,000-mile flight completed	TOTAL Hours	NAVIGATION Hours	OTHER Hours
1	2	3	4	5	6	7	8	9	10	11	12
<b>Totals this report</b>											
<b>Previous reports this F. Y.</b>	18	191:50	11:10	2:05	27:05	1:00					
<b>Totals this fiscal year</b>	18	191:50	11:10	2:05	27:05	1:00					

I certify that I have made frequent checks of the method of preparation of flight records, and have assured myself that the information contained on this form is an accurate summary of the individual's flying time, and that the symbols used correctly record the type of missions flown, and

Signed \_\_\_\_\_

*Charles W. O'Connor*  
**Charles W. O'Connor, Capt., A.C.**  
**Operations Officer.**

Date \_\_\_\_\_

DUPLICATE

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION

Wright Field, Dayton, Ohio.  
July 18, 1939.

N O T I C E

SUBJECT: Commemoration Exercises Thirtieth Anniversary  
of Receipt of First Military Airplane.

1. The 30th anniversary of the first military airplane will be celebrated throughout the United States on August 2, 1939. Wright Field has been selected by the War Department as the focal point for this celebration. It is expected that a number of high government officials and other distinguished guests will be here to participate in the ceremonies. The general public will be invited to be present from 10:00 A.M. to 3:00 P.M.
2. Plans for the program at Wright Field include:
  - a. 10:00 A.M. - Reception of honor guests by the Chief of the Materiel Division and Staff.
  - b. 11:00 A.M. - Inspection of laboratories by honor guests.
  - c. 12:30 P. M. - Luncheon
  - d. 2:00 P.M. - Demonstration flying.
3. It is desired that all personnel whose services are requested by the arrangement committees, be made available, and that full cooperation be given the committees in making this celebration an unqualified success.
4. It is requested that personnel assigned to Wright Field who hold Reserve commissions and who possess regulation O.D. cotton uniforms, wear the uniform as prescribed for all officers in Notice dated July 17, 1939.
5. The following committees are designated to assist in arrangements:
  - a. Officer in Charge: Colonel Kennedy.
  - b. Publicity: Lt. Bowman.  
Handle all publicity. Arrange for press room with necessary equipment. Broadcast (program features). Identification of visitors (badges, arm bands, car stickers, etc.). Provide placards for planes on ground exhibit. Furnish Operations list of press representatives for airplane rides (subject to approval of AGO).
  - c. Special Flight Projects: Captain Irvine.

d. Luncheon and Concessions: Major Kane.  
All arrangements for luncheon except the program of speeches, broadcasts, etc. Print tickets for free admission not to exceed 75 distinguished guests and distribute same at the time of official greeting and staff meeting with General Brett. Arrange for collection of luncheon price from paying guests. Provide special table for honored guests and place cards if deemed advisable

e. Airplane Exhibits and Flying: Major Unstead.  
Appropriate exhibit of airplanes on the flying line. Coordination of all flying activities. Arrangements for press rides (list to be provided by Publicity Director). It is understood that the Office, Chief of the Air Corps is requesting GHQ to provide passenger accommodations for these press representatives in local demonstration flights.

f. Transportation, Parking, Traffic and Security: Major Russell;

g. Guides and Visits to Representative Laboratories: - Major Jones.  
Arrange for necessary guides and laboratory visits for special guests. Provide guides where desirable to handle general public. The general public will be permitted to visit the flying line and the museum.

h. Decorations: Mr. Robert Fitzgerald.  
Arrange for bunting, flags, and other desirable decorations at prominent places on the Post and in the luncheon hall.

i. Communications: Captain Graul.  
Provide necessary lines and facilities for broadcast; telegraph and telephone services in press room.

j. Broadcast - Coordination and Arrangements for Radio  
Technical Facilities: Captain Meyer.  
Work with National Broadcast personnel in arranging technical details. Provide public address system on flying line.

k. Announcers for Public Address System: Captain Maxwell,  
Lieutenant Hale, Mr. Cleary.

l. Construction: Major Hutchins.  
Provide tables for press, any necessary construction and labor in connection with luncheon, labor and construction necessary for decoration, adequate toilet facilities for estimated crowd of 10,000 people, and information booth on flying line. Other construction and labor as needed.

m. Accommodations for Visiting Army Personnel: Lieutenant Price.  
Four squadrons of GHQ airplanes with crews expected August 1. Will probably depart August 2. GHQ has been asked for complete details, including officer personnel by name, and enlisted personnel by number.

n. Information: Mr. Robert Maher.  
Provide information booth and personnel at a prominent place on flying line. No telephone available there, so messenger service should be arranged for.



- o. Invitation and Reception: Colonel Berman, Colonel Miller,  
Colonel Mitchell.

Issue invitations to special guests as directed by Office, Chief of  
the Air Corps. Greet special guests and assign officer guides.

- p. Parking of Visiting Aircraft, Transportation of Pilots:  
C. O. Fairfield Air Depot.

6. Committee members designated in paragraph 5 above will meet in  
the Officer's dining room at 1:30 p.m. on July 20, 1939.

By order of the Chief of the Materiel Division:

FRANK M. KENNEDY,  
Colonel, Air Corps,  
Administrative Executive.

Distribution:  
All officers,  
All Reserve Officers,  
Patterson Field 25.  
OCAC 3.

CORRECTED COPY

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

EMS

July 28, 1939.

PERSONNEL ORDERS )  
NO. 173 )

EXTRACT

\* \* \*  
7, The following-named officers and civilian employees will report to the Adjutant's Office at 9:00 A.M., August 2, 1939, for duty as escorts to the Visiting Military Attaches.

Major Howard Z. Bogert, Air Corps  
Captain Carl J. Crane, Air Corps  
Mr. Sgt. David Samiran, R-27076-Hq. & Hq. Sq. 10th Tr. Gp.  
Mr. Fred A. Cullman, Aircraft Radio Laboratory

Major Bogert will report to the Adjutant and the Chief, Experimental Engineering Section for special instructions.

\* \* \*  
By order of Colonel Kennedy:

L. T. MILLER,  
Lt. Colonel, Air Corps,  
Adjutant.

OFFICIAL:

L. T. MILLER,  
Lt. Colonel, Air Corps,  
Adjutant.

Copies:

Major Bogert  
Captain Crane  
Mr. Sgt. Samiran  
Mr. Cullman  
Chief, Experimental Section  
Files.

Dayton, Ohio  
July 28, 1939

(Lunch at 12:15 P.M.)

N O T I C E

SUBJECT: Instruction - Special tour for Military Air Attaches.

1. Officer in Charge - Major Howard Z. Bogert, Air Corps,  
Assistant - Captain Carl J. Crane, Air Corps.  
Sgt. David Samiran  
Mr. Leo Jacobson (Radio Lab.)

2. Starting at 10:00 A. M., the tour will include itinerary to the exhibits listed:

<u>LOCATION</u>	<u>ITEMS EXHIBITED</u>	<u>TIME</u>
① Power Plant Lab.	Fuel Systems Cooling systems Pumps Carburetors Engines	.10 min.
④ Armament Shops (near Propeller Stand)	Machine guns Bomb Racks Bombs	.07 min.
③ Alighting Gear Lab.	Inertia Brake Testing Machine (demonstration)	.06 min.
<i>Prop. Lab.</i> ⑤ Wind Tunnel	Model in 5 ft. tunnel	.05 min.
⑥ Structures (static) Test Lab.	P-36A Wing illustrating test methods; BC-1 airplane showing patch method of proof loading vibration equipment used in flutter and vibration study	.08 min.
⑦ Radio Lab.	Marker Beacon Absolute Altimeter Compass Drift Indicator Standard Aircraft Radio Lab. test apparatus	.10 min.

<u>LOCATION</u>	<u>ITEMS EXHIBITED</u>	<u>TIME</u>
Photographic Lab.	High altitude telephoto equipment Mapping cameras Night photography Color photography Laboratory equipment	.08 min.
⑤ Propeller Test Lab. (Torque Stand Bldg.)	Miscellaneous experimental propellers; Propeller mounted on whirl rig	.06 min.
⑧ Propeller Shop (Wood Shop of Shops Br.)	Electric propellers Hydraulic propellers Hollow steel blades Propeller balancing stand	.05 min.
Materials Lab.	Miscellaneous Tests	.04 mins.
Equipment Lab.	Parachutes and clothing Engine instruments Navigation instruments Flight instruments Electrical equipment Test equipment.	.10 min.
Total time		1.10 mins.

*Hear/Holloman's  
Office*

Note: Time given is that which will actually be required at each exhibit and does not include time required to walk from one laboratory to another.

2. Return to Chief Engineers' Office for informal discussion of problems.

3. Officers will remain with the guest Attaches during their entire visit on the post. If practicable, it is desired to have the officers and interpreters have luncheon with the Attaches; however space is limited, so determine this when the guests are escorted to the dining room.

By order of Colonel Kennedy:

L. T. MILLER,  
Lt. Col., Air Corps,  
Adjutant.

Distribution:  
Officers and civilians concerned  
Lt. Col. Mitchell  
Major Jones

July 28, 1939.

N O T I C E

SUBJECT: Official Transportation Pool - August 2, 1939.

1. The Quartermaster will pool official government transportation on August 2, 1939. When a car is required for official business, call or phone 582 or 583.

By order of Colonel Kennedy:

L. T. MILLER,  
Lt. Col., Air Corps,  
Adjutant.

OPERATIONS ORDER NO. 9  
RECORD FLIGHT PROJECTS

AUGUST 1, 1939

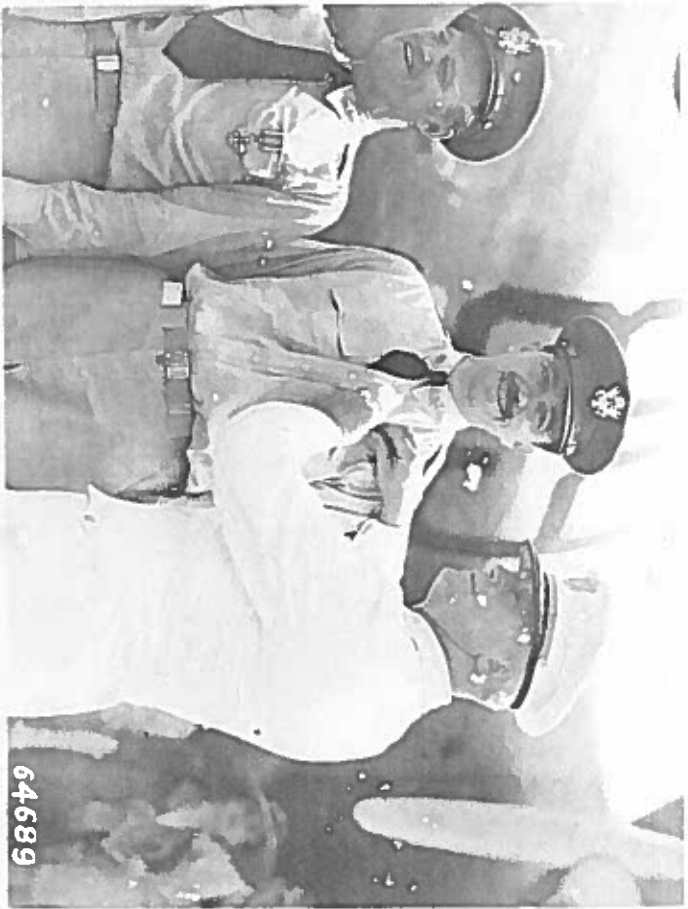
FOR: ALL CONCERNED

1. Captain C. S. Irvine, Air Corps, pilot, Captain P. H. Robey, Air Corps, co-pilot and Captain C. J. Crane, Air Corps, Navigator, in YB-17A Air Corps No. 37-369, will depart Patterson Field this date on Record Flight Project No. 2 and return to Patterson Field upon completion of same.

A. R. MAXWELL,  
Captain, Air Corps,  
Ass't Record Project Officer.

*We made a  
would record  
for open  
H. soon carried*

*foreunner of  
Flyer, Fortness  
that won World War II*  
EJ  
3.3.61



64689

13

original in 0.1



64689

13

original in 0.1



Return to

CARL J. CRANE  
COLONEL USAF RET  
ELOTES, TEXAS 78023

Gen J. H. Arnold

resents DFC

to Capt. S. V. Hallomson  
and Capt. Carl J. Crane

at Wright Field - Aug 2, 1939  
for

Development & Flight of  
world first fully automatic landing, Crane &

Hallomson also won Mackay Trophy for 1937

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION

Wright Field, Dayton, Ohio.  
August 5, 1939.

MEMORANDUM FOR - All Materiel Division Personnel.

SUBJECT - Commendation.

1. With the highly successful accomplishment of the demonstration in connection with the thirtieth birthday party by the Air Corps, I desire to take this opportunity to express to each and everyone of you my sincere appreciation for the work which you have individually and collectively accomplished.

2. It was amply demonstrated that it is a matter of pride with the Materiel Division that anything they do must be done exceptionally well. This birthday party again demonstrated the ability of the Materiel Division to adapt itself to any problem with which it might be confronted and to bring to a highly successful conclusion the work in hand.

3. The undersigned as Chief of the Materiel Division received from all sides well merited compliments as to the arrangements which had been made for this celebration.

4. I extend to you my sincere thanks and appreciation for the work which you have done.

*DFC awarded at 30th BD Party*

GEO. H. BRETT,  
Brig. General, Air Corps,  
Chief of Division.

Distribution:  
Addressees.  
Bulletin Boards.

CITATION FOR DISTINGUISHED FLYING CROSS

Carl J. Crane, captain, Air Corps, United States Army. For extraordinary achievement while participating in aerial flights in originating and developing the airplane automatic landing system which made possible the first complete automatic airplane landing in history. The initiative displayed by Captain Crane in the difficult stages of the early development of the system overcame the discouragement caused by the necessity for replanning and redesigning as original plans and designs proved impracticable. During the two years required for development of this system, Captain Crane, with utter disregard of his personal safety, acted as pilot on innumerable test flights connected therewith, and when, finally on August 23, 1937, the first experimental automatic landing flights were made, he served as observer in the airplane used for this purpose. The engineering acumen, initiative, and resourcefulness displayed by Captain Crane, and his courage in performing many test flights with highly experimental equipment, were the principal factors which made the ultimate success of the automatic landing system possible.

awarded  
2 August 1937

DELIVER TO

Date

.....Attention

.....Coordination

.....Immediate Action

.....Signature

.....Comment

.....Information

.....Preparation of Reply

.....Necessary Action

.....Compliance

.....Note and File

.....Note and Return

.....Information for Reply

.....Conference

.....Captain Carl J. Crane.....

*W. T. Miller*

.....W. T. MILLER.....

.....Lt. Col., Air Corps,.....

.....Adjutant......

.....Fold Here for Return.....

FROM  
TO

.....Inter-Office Mailing Slip.....

Wright Field, Dayton, Ohio,  
August 1, 1939.

SUBJECT: Certificate for  
Distinguished Flying Cross.

TO: The Adjutant General,  
Washington, D. C.

1. This will acknowledge receipt of the Certificate for Distinguished Flying Cross awarded to me.

2. Returned herewith is the signed receipt as requested by letter from the Adjutant General, dated July 27, 1939.

CARL J. CRANE,  
Captain, Air Corps.

Encl:  
Receipt.

1st Ind.

(2-0)

War Department, Office of the Chief of the Air Corps, Washington,  
D.C., July 26, 1939. - To Captain Carl J. Crane, Air Corps, Wright  
Field, Dayton, Ohio (Thru Chief, Materiel Division, A.C., Wright  
Field, Dayton, Ohio.)

1. For his information.

By order of the Chief of Air Corps:

L. S. Smith,  
Captain, Air Corps,  
Executive.



1st Ind.

(2-0)

War Department, Office of the Chief of the Air Corps, Washington,  
D.C., July 26, 1939. - To Captain Carl J. Crane, Air Corps, Wright  
Field, Dayton, Ohio (Thru Chief, Material Division, A.C., Wright  
Field, Dayton, Ohio.)

1. For his information.

By order of the Chief of Air Corps:

L. S. Smith,  
Captain, Air Corps,  
Executive.



WAR DEPARTMENT  
THE ADJUTANT GENERAL'S OFFICE

WASHINGTON

IN REPLY  
REFER TO AG 201 Crane, Carl J.  
(7-27-39) WW

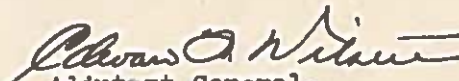
SUBJECT: Certificate for Distinguished  
Flying Cross.

July 27, 1939.

To: Captain Carl J. Crane, Air Corps,  
Wright Field,  
Dayton, Ohio.

1. There is inclosed herewith a certificate pertaining to the award to you of the Distinguished Flying Cross.
2. Receipt therefor will be acknowledged on the inclosed form and returned to this office.

By order of the Secretary of War:

  
Adjutant General.

2 Incls.  
Cert. & receipt.



Mat. Div. A. C. 590-Wright Field 7-4-34-200M

DELIVER TO

Date

*Lt. Crane*

Attention

Coordination

Immediate Action

Signature

Comment

Information

Preparation of Reply

Necessary Action

Compliance

Note and File

Note and Return

Information for Reply

*Copy of this letter  
will be filed  
with your  
Efficiency Report*

Fold Here for Return

D. B. HOWARD,  
Lt. Colonel, A. C. S.

FROM  
TO

ADJUSTMENT-Office Mailing Slip

4

1st Ind.

(2-C)

201  
War Department, Office of the Chief of the Air Corps, Washington, D.C., July 26, 1939. - To Captain Carl J. Crane, Air Corps, Wright Field, Dayton, Ohio (Thru Chief, Materiel Division, A.C., Wright Field, Dayton, Ohio.)

1. For his information.

By order of the Chief of Air Corps:

*L. S. Smith*  
L. S. Smith,  
Captain, Air Corps,  
Executive.

2nd Ind.

War Dept., Wright Field, Dayton, Ohio. July 31, 1939. - To: Captain Carl J. Crane, Air Corps, Wright Field, Dayton, Ohio.

*F. M. K.*  
F. M. K.



WAR DEPARTMENT  
THE ADJUTANT GENERAL'S OFFICE  
WASHINGTON

JES/1-214

IN REPLY  
REFER TOAG 201 Crane, Carl J.  
(5-5-39) WW

July 20, 1939.

SUBJECT: Distinguished Flying Cross.

THRU: The Chief of the Air Corps,  
Washington, D. C.

To: Captain Carl J. Crane, Air Corps,  
Wright Field,  
Dayton, Ohio.

1. The War Department takes pleasure in informing you that, by direction of the President, under the provisions of the Act of Congress approved July 2, 1926 (Bul. No. 8, W. D., 1926), the Distinguished Flying Cross has been awarded you by the War Department in recognition of the extraordinary achievement displayed by you in connection with the design, development and flight testing of the first completely automatic airplane landing system.

2. The Distinguished Flying Cross will be forwarded to the Chief, Materiel Division, Air Corps, Wright Field, Dayton, Ohio, for presentation to you with suitable ceremony.

3. You will be furnished, at a later date, with an engraved certificate pertaining to this award.

By order of the Secretary of War:

*Alvan D. W. W. W.*  
Adjutant General.

April 5, 1935.

**SUBJECT:** Award of Distinguished Flying Cross  
**TO :** The Adjutant General of the Army,  
Washington, D. C.  
**THRU :** Commanding General, 8th Corps Area,  
Fort Sam Houston, Texas.

1. Under A R 600-45, Paragraph 16 a and b, the undersigned has authority to make recommendation for the Distinguished Flying Cross; therefore I do recommend that such Crosses be awarded

Major William G. Ocker, Air Corps  
1st Lieut. Carl J. Crane, Air Corps

for initiative, perseverance, and courage in pioneering the development of "blind" flying, - now termed "instrument" flying. This type of flying has revolutionized the art of aviation, both military and civil, and laid the foundation for the later development of so-called "blind landing", for which Captain A. F. Hegeberger, Air Corps, has already been awarded the Distinguished Flying Cross.

2. In the course of this development, it was necessary for these officers to engage in extraordinary flights within a cockpit which was completely covered so that they depended solely upon the flight instruments to make the flights successful.

3. These officers practiced for months before they obtained the necessary proficiency and knowledge which enabled them on June 24, 1930 to successfully complete a blind cross-country flight from Brooks Field, San Antonio, Texas to Wright Field, Dayton, Ohio, and return, as attested by the certified flight records attached.

4. In compliance with Paragraph 16 (4) AR 600-45, it is of record that the exact status of the officers at the time referred to was:

Captain William G. Ocker, Air Corps, - on duty  
in command of 46th School Squadron, Air Corps;  
and

1st Lieutenant Carl J. Crane, Air Corps, -  
on duty as instructor at Primary Flying  
School, Brooks Field, Texas.

5. The entire service of these officers to date has  
been honorable.

6. The period of time covered by this extraordinary  
flying service is quite extensive, and generally embraces the  
period from July, 1927 to 1934.

E. L. HOFFMAN,  
Lt. Col., A. C.,  
Commanding.

Incls.

A TRUE COPY

*J. C. Kennedy*  
J. C. Kennedy,  
Capt., A. C.,  
Adjutant.





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## Carl J. Crane

Place of Birth: Texas, San Antonio

Home of record: San Antonio Texas

### AWARDS AND CITATIONS



#### Distinguished Flying Cross

[See more recipients of this award](#)

*Awarded for actions during the Peace Time Awards*

The President of the United States of America, authorized by Act of Congress, July 2, 1926, takes pleasure in presenting the Distinguished Flying Cross to Captain (Air Corps) Carl J. Crane, U.S. Army Air Corps, for extraordinary achievement while participating in aerial flights in originating and developing the airplane automatic landing system which made possible the first complete automatic airplane landing in history. The initiative displayed by Captain Crane in the difficult stages of the early development of the system overcame the discouragement caused by the necessity for re-planning and redesigning as original plans and designs proved impracticable. During the two years required for development of this system, Captain Crane, with utter disregard of his personal safety, acted as Pilot on innumerable test flights connected therewith, and when, finally on 23 August 1937, the first experimental automatic landing flights were made, he served as observer in the airplane used for this purpose. The engineering acumen, initiative, and resourcefulness displayed by Captain Crane, and his courage in performing many test flights with highly experimental equipment, were the principle factors which made the ultimate success of the automatic landing system possible.

**General Orders:** War Department: American Decorations, 1940 (Supplement IV-1940)

**Action Date:** August 23, 1937

**Service:** Army Air Forces

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

EMS

..... August 8, ..... 1939 .....

PERSONNEL ORDERS )  
NO. 164 )

EXTRACT

10. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, Major STANLEY M. UNSTAD, Air Corps, is authorized to proceed (on or about August 8, 1939) on a navigation training flight to San Antonio, Texas and return (on or about August 9, 1939) to his proper station, Wright Field, Dayton, Ohio.

11. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about August 11, 1939) on a navigation training flight to Kelly Field, San Antonio, Texas and return (on or about August 13, 1939) to his proper station, Wright Field, Dayton, Ohio.

By order of the Chief of the Materiel Division:

L. T. MILLER,  
Lt. Colonel, Air Corps,  
Asst. Adm. Executive.

Copies:  
Major Unstead  
Capt. Crane  
Operations  
Files.

WAR DEPARTMENT  
Office of the Chief of the Air Corps  
Washington

August 16, 1939

PERSONNEL ORDERS )  
NO. 191 )

EXTRACT

2. The following named Air Corps officers are, under the provisions of Army Regulations 95-60, War Department, 1939, and paragraph 3 a., Circular 50-10, Office of the Chief of the Air Corps, dated April 1, 1939, rated Command Pilots, effective August 12, 1939.

Captain Carl J. Crane  
Captain Edmund C. Langhead  
Captain Edmund C. Lynch

By order of the Chief of the Air Corps:

Ira C. Baker  
Lt.Col., Air Corps  
Executive

OFFICIAL:

D.R. Goodrich  
Major, Air Corps  
Asst.Chief, Personnel Division



DE

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO.

August 24, 1939.

PERSONNEL ORDERS )  
NO. 198 )

1. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #44, War Department, July 8, 1937, Captain GEORGE J. EPPRIGHT, Air Corps, is authorized to proceed (on or about August 26, 1939) on a navigation training flight to Austin, Texas, and return (on or about August 28, 1939) to his proper station, Wright Field, Dayton, Ohio.

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #44, War Department dated July 8, 1937, Captain JOHN G. MOORE, Air Corps, is authorized to proceed (on or about August 26, 1939) on a navigation training flight to Pueblo, Colorado and return (on or about August 27, 1939) to his proper station, Wright Field, Dayton, Ohio.

3. Under authority contained in radiogram, The Adjutant General, dated August 23, 1939, Major CHARLES M. CUMMINGS, Air Corps, Major STANLEY M. UMSTEAD, Air Corps, Captain CARL J. CRANE, Air Corps, Captain PEARL H. ROBIEY, Air Corps, Lieutenant Colonel CADMUS J. BAKER, Medical Corps, and Private First Class LEVI B. PRICE, R-1543812, First Transport Squadron, will proceed by military aircraft on or about August 24, 1939, from Wright Field, Dayton, Ohio, via the best available air route, to Miami, Florida; thence to France Field, Canal Zone, on temporary duty, purpose, experimental navigation flight and upon completion thereof return, by military aircraft via the best available air route, to their proper station, Wright Field, Dayton, Ohio.

This flight will not land or pass over any foreign countries.

In lieu of subsistence a flat per diem of six dollars (\$6.00) is authorized for travel by air for both officers and enlisted man.

Travel by air for all officers is chargeable to AC 50 P 88 - 0630 A 0705-0. The travel by air for the enlisted man is chargeable to FD 1463 P 191 - 0623 A 0410-0.

The travel directed is necessary in the military service.

4. Pursuant to authority The Secretary of War dated October 27, 1926, Textile Technologist CHARLES J. CLEARY, will proceed, by air, from Wright Field, Dayton, Ohio, to Akron, Ohio, on temporary duty for a period of approximately one (1) day, purpose, conference with Firestone Tire & Rubber Company, reference 96" tire and upon completion of this duty return, by air, to his proper station, Wright Field, Dayton, Ohio. In lieu of subsistence he will be allowed a flat per diem of five dollars (\$5.00) while en route and on this temporary duty, in accordance with the provisions of existing laws and regulations. The per diem allowances involved are proper charges to War Department Procurement Authority FD 1463 P 211 - 0600 A 0410-0. The travel directed is necessary in the military service.

5. Pursuant to authority The Secretary of War dated October 27, 1926, Junior Armorer WILLIAM E. MERRILL, will proceed, by air, from Wright Field, Dayton, Ohio, to Barksdale Field, Shreveport, La., on temporary duty for a period of approximately three (3) days, purpose, to check installation and adjustment of automatic flight control equipment installed in B-18A airplanes at that station and to furnish instructions and information regarding this matter to personnel at Barksdale Field who will be responsible for the continued maintenance of this equipment and upon completion of this duty return, by air, to his proper station, Wright Field, Dayton, Ohio. In lieu of subsistence he will be allowed a flat per diem of five dollars (\$5.00) while en route and on this temporary duty, in accordance with the provisions of existing laws and regulations. The per diem allowances involved are proper charges to War Department, Procurement Authority FD 1463 P 211 - 0600 A 0410-0. The travel directed is necessary in the military service.

6. Pursuant to authority The Secretary of War dated October 27, 1926, Aeronautical Engineer JONATHAN R. ALSTIN, will proceed from Wright Field, Dayton, Ohio, to Buffalo, New York, on temporary duty for a period of approximately seven (7) days, purpose, for acceptance engineering inspection of the first article YFM-1 Airplane, Contract AG-11122, and upon completion of this duty return to his proper station, Wright Field, Dayton, Ohio. In lieu of subsistence he will be allowed a flat per diem of five dollars (\$5.00) while en route and on this temporary duty, in accordance with the provisions of existing laws and regulations. Transportation will be obtained from the nearest Quartermaster. The travel expense and per diem allowances involved are proper charges to War Department Procurement Authority FD 1463 P 211 - 0600 A 0410-0. The travel directed is necessary in the military service.

7. Under authority contained in radiograms, The Chief of the Air Corps, dated August 24, 1939, the following-named employees will proceed by Government-owned airplane, from their proper station, Wright Field, Dayton, Ohio, on temporary duty for a period of approximately five (5) days, to Miami, Florida; thence to San Juan, Porto Rico; thence to France Field, Canal Zone, for the purpose of accompanying in a professional and mechanical capacity a flight making a study of the relative merits of navigation procedure and return, by Government-owned airplane, to their proper station, Wright Field, Dayton, Ohio.

Associate Mechanical Engineer SAMUEL M. BURKA  
Senior Aircraft Mechanic ROY O. GROOMS.

In lieu of subsistence they will be allowed a flat per diem of five dollars (\$5.00) while en route and on this temporary duty, in accordance with the provisions of existing rules and regulations, while in the United States and six dollars (\$6.00) while outside the continental limits of the United States. The per diem allowances involved are proper charges to War Department Procurement Authority FD 1463 P 211 - 0600 A 0410-0. The travel directed is necessary in the military service.

8. Pursuant to authority The Secretary of War dated October 27, 1926, Principal Airplane Inspector VILBERT AMOS, will proceed, by his personally-owned automobile, from his temporary duty station, Troy, Ohio, to Wichita, Kansas, on temporary duty for a period of approximately sixty (60) days, purpose, inspection of P-2 airplanes on contract 12395 and C-45 airplanes on Contract 13015 with Beech Aircraft Corporation and upon completion of this duty return, by his personally-owned automobile, to his temporary duty station, Troy, Ohio.

11-10  
TELETYPE MESSAGE

DATE: October 2, 1939

FROM: Materiel Division, Air Corps,  
Wright, Field, Dayton, Ohio.

ATTENTION: PATENTS SECTION

MT-9 REFERENCE TELETYPE MESSAGE 0-6 THIS DATE, CAPTAIN CRANE WILL MEET  
MR. SMITH IN CLEVELAND TOMORROW MORNING AS REQUESTED

PATENT LIAISON BRANCH

COPY

TELETYPE MESSAGE

PATENT LIAISON BRANCH

0-6 TESTIMONY TO BE TAKEN BY CARLSON IN INTERFERENCE 75,519 TUESDAY  
OCTOBER 3 AT 300 EAST 131ST STREET CLEVELAND OHIO 10:30 A.M.  
SMITH DESIRES THAT CAPTAIN CRANE MEET HIM AT HOTEL CLEVELAND  
BEFORE 9:00 TOMORROW MORNING. CONTACT CRANE IMMEDIATELY  
RESPECTING HIS APPEARANCE THERE

FRITCH

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

DE

.....October 2,.....19 39.

PERSONNEL ORDERS )  
NO. 223 )

## EXTRACT

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about October 3, 1939) on a navigation training flight to Cleveland, Ohio, and return (on or about October 3, 1939) to his proper station, Wright Field, Dayton, Ohio.

3. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular #44, War Department, July 8, 1937, Captain JOHN G. MOORE, Air Corps, is authorized to proceed (on or about October 2, 1939) on a navigation training flight to Oscoda, Michigan, and return (on or about October 2, 1939) to his proper station, Wright Field, Dayton, Ohio.

By order of Colonel Kennedy:

OFFICIAL:

L. T. MILLER,  
Lt. Col., Air Corps,  
Adjutant.

L. T. MILLER,  
Lt. Col., Air Corps,  
Adjutant.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

October 25, 1939

PERSONNEL ORDERS )  
NO. 248 )

EXTRACT

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about October 27, 1939) on a navigation training flight to New Orleans, Louisiana, and return (on or about October 29, 1939) to his proper station, Wright Field, Dayton, Ohio.

*Went to Nashville Tenn only.*  
*ep*

By order of Lt. Colonel Miller:

JOHN W. SESSUMS, Jr.,  
~~Lt. T. MILLER~~  
Captain, ~~Lt. Col.~~, Air Corps,  
Adjutant.

OFFICIAL: JOHN W. SESSUMS, Jr.,  
~~Lt. T. MILLER~~  
Captain, ~~Lt. Col.~~, Air Corps,  
Adjutant.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

DH

November 16, 1939.

PERSONNEL ORDERS )  
NO. 266 )

1. Captain CARL J. CRANE, Air Corps, now sick in quarters,  
is this date transferred to Station Hospital, Patterson Field, Fairfield,  
Ohio.

By order of Lt. Colonel Miller:

JOHN W. SESSUMS, Jr.,  
Captain, Air Corps,  
Adjutant.

OFFICIAL:

JOHN W. SESSUMS, Jr.,  
Captain, Air Corps,  
Adjutant

Copies:  
Capt. Crane  
Surgeon's Office  
Sta. Hosp., Patterson Fld.  
Files.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

MS

November 4, 1939

PERSONNEL ORDERS )  
NO. 257 )

EXTRACT

1. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, First Lieutenant RICHARD J. O'KEEFE, Air Corps, is authorized to proceed (on or about November 4, 1939) on a navigation training flight to Nashville, Tennessee; Chanute Field, Illinois and Selfridge Field, Michigan, and return (on or about November 4, 1939) to his proper station, Wright Field, Dayton, Ohio.

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about November 4, 1939) on a navigation training flight to Memphis, Tennessee, and return (on or about November 4, 1939) to his proper station, Wright Field, Dayton, Ohio.

To Rainville + return

By order of Lt. Colonel Miller:

OFFICIAL: JOHN W. SHERMAN, JR.  
L. T. MILLER,  
Captain, Lt. Col., Air Corps,  
Adjutant.

JOHN W. SHERMAN, JR.  
L. T. MILLER,  
Captain, Lt. Col., Air Corps,  
Adjutant.

## Request for Permission to Make Navigation Training Flights

CJC:LC

Wright Field, December 9, 1939 193.....

Permission is requested to make cross-country flight. I have read the instructions contained in cross-country envelope and am fully conversant with the duties pertaining to rendering accident reports and all other reports and duties pertaining to cross-country flights.

Date of flight.....12/12/39.....Date of return .....12/12/39.....

Aircraft desired .....A-17A (with hood).....

Destination .....Louisville, Kentucky.....

Distance from home station .....135 miles.....

Address while absent .....

The duties to be performed in connection with this flight are:

**Air navigation training.**

Passengers: .....CARL J. CRANE, Capt., Air Corps.....  
(PILOT)

..... UNIT CHIEF .....

..... BRANCH CHIEF .....

Mechanic: ..... SECTION CHIEF F. O. CARROLL, Major, Air Corps,  
Chief, Exp. Engr. Section.

1st. Ind.

Chief Flying Branch, Wright Field, Dayton, Ohio,..... 193.....—To  
 Commanding Officer, Wright Field, Dayton, Ohio.

Forwarded, recommending { approval  
 { disapproval

Approved ..... 193.....

INSTRUCTIONS—Request will be initiated by the pilot, coordinated by the Unit, Branch and Section Chiefs and routed by the latter to the Chief of Flying Branch who will accomplish the first indorsement to the Commanding Officer after having assigned the plane by number. This form should be initiated sufficiently in advance to permit of its reaching the Commanding Officer 24 hours before flight is to start. The pilot will receive orders directing the flight before the departure. Unit, Branch and Section Chiefs under whom a "passenger" is serving will comment with reference to passenger as well as the pilot. (Original only required.)



HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

MS

December 12, 1939

PERSONNEL ORDERS )  
NO. 287 )

EXTRACT

2. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, Captain CARL J. CRANE, Air Corps, is authorized to proceed (on or about December 12, 1939) on a navigation training flight to Louisville, Kentucky, and return (on or about December 12, 1939) to his proper station, Wright Field, Dayton, Ohio.

LV WF 3:25 PM  
\* AR W 4:40  
LV WF 5:25  
AR W 6:25

By order of Lt. Colonel Miller:

OFFICIAL:

JOHN W. SESSOMS, JR.  
L. T. MILLER,  
Lt. Col., Air Corps,  
Adjutant.

JOHN W. SESSOMS, JR.  
L. T. MILLER,  
Capt., Lt. Col., Air Corps,  
Adjutant.

HEADQUARTERS  
WRIGHT FIELD  
DAYTON, OHIO

13

December 13, 1939

PERSONNEL ORDERS )  
NO. 288 )

EXTRACT

\* \* \*  
6. Under the provisions of Army Regulations 95-15, as amended by Section III, Circular No. 44, War Department, July 8, 1937, Major WILLIAM T. KENNEDY, Air Corps, is authorized to proceed (on or about December 15, 1939) on a navigation training flight to New Orleans, Louisiana, and return (on or about December 17, 1939) to his proper station, Wright Field, Dayton, Ohio. Major JESSE A. MADANASZ, Air Corps, and Captain CARL J. CRANE, Air Corps, are authorized to accompany Major Kennedy on this flight.

By order of Lt. Colonel Miller:

OFFICIAL:

L. T. MILLER, JR.  
Captain, Lt. Col., Air Corps,  
Adjutant.

L. T. MILLER, JR.  
Captain, Lt. Col., Air Corps,  
Adjutant.

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DH

December 26, 1939.

PERSONNEL ORDERS )  
NO. 299 )

1. Under authority contained in radiogram, The Adjutant General, dated December 22, 1939, Major GEORGE C. KENNEY, Air Corps, Major FRANKLIN O. CARROLL, Air Corps, Major GRANDISON GARDNER, Air Corps, Captain LEONARD F. HARMAN, Air Corps, Captain CARL J. CRANE, Air Corps, Captain DONALD L. PUTT, Air Corps, and Captain PAUL E. SHAMAHAN, Air Corps, will proceed, by military aircraft, on or about December 26, 1939, from Wright Field, Dayton, Ohio, to Washington, D. C., reporting to The Adjutant General, on temporary duty in the Office, Chief of the Air Corps for discussion of means of defending Bombardment airplanes, and upon completion thereof return, by military aircraft, via the best available air route, to their proper station, Wright Field, Dayton, Ohio.

In lieu of subsistence a flat per diem of six dollars (\$6.00) is authorized for travel by air.

AC 50 P 88 - 0630 A 0705-0. The travel directed is necessary in the military service.

By order of the Chief of the Materiel Division:

*Did not go*

Copies:  
Officers concerned  
Budget Office  
Operations  
Files.

ROY H. LYNN,  
Captain, Air Corps,  
Asst. Adm. Executive.

WAR DEPARTMENT  
AIR CORPS  
MATERIEL DIVISION  
WRIGHT FIELD, DAYTON, OHIO

DH

December 26, 1939.

PERSONNEL ORDERS )  
NO. 299 )

1. Under authority contained in radiogram, The Adjutant General, dated December 22, 1939, Major GEORGE C. KENNEY, Air Corps, Major FRANKLIN O. CARROLL, Air Corps, Major GRANDISON GARDNER, Air Corps, Captain LEONARD F. HARMAN, Air Corps, Captain CARL J. CRANE, Air Corps, Captain DONALD L. PUTT, Air Corps, and Captain PAUL E. SHANAHAN, Air Corps, will proceed, by military aircraft, on or about December 26, 1939, from Wright Field, Dayton, Ohio, to Washington, D. C., reporting to The Adjutant General, on temporary duty in the Office, Chief of the Air Corps for discussion of means of defending Bombardment airplanes, and upon completion thereof return, by military aircraft, via the best available air route, to their proper station, Wright Field, Dayton, Ohio.

In lieu of subsistence a flat per diem of six dollars (\$6.00) is authorized for travel by air.

AC 50 P 88 - 0630 A 0705-0. The travel directed is necessary in the military service.

By order of the Chief of the Materiel Division:

ROY H. LYNN,  
Captain, Air Corps,  
Asst. Adm. Executive.

Copies:  
Officers concerned  
Budget Office  
Operations  
Files.