NATIONAL HEADQUARTERS
CIVIL AIR PATROL
500 FIFTH AVENUE
NEW YORK 18, NEW YORK

GM-122

10 March 1944

Subject: Weight and Balance Data -- AAF Liaison Type Aircraft

To: All Wing, Group and Squadron Commanders

1. Attached hereto are true copies of AAF Regulation No. 55-3 Weight and Balance Control of Heavier-Than-Air Aircraft, 10 June 1943, and AAF letter 55-5, Compliance with AAF Regulation 55-3, "Weight and Balance Control of Heavier-Than-Air Aircraft."

2. Unit Commanders will examine Handbook of Weight and Balance Data, AN 01-1-40, carried in each AAF Liaison Type aircraft allocated to CAP to make sure that strict compliance with AAF Regulation 55-3 has been accomplished.

3. It is the understanding of this Headquarters that the Airplane Weighing Forms referred to in paragraph 2, have been accomplished for each such airplane. If, however, such Forms have not been accomplished for every aircraft, Unit Commanders will solicit the aid of the Weight and Balance Officer at the nearest Army Air Base so that proper steps may be taken for compliance.

By direction of National Commander JOHNSON:

Howard S. Sterne

HOWARD S. STERNE
Major, Air Corps
Asst. Operations Officer

Att:
AAF Reg 55-3
AAF Ltr 55-5

RECORDS MANAGEMENT DIVISION
CAP-USAF

HEADQUARTERS, ARMY AIR FORCES
WASHINGTON

55-5

AAF Letter 55-5 23 February 1944

SUBJECT: Compliance with AAF Regulation 55-3, "Weight and Balance Control of Heavier-Than-Air Aircraft"

TO: Commanding Generals,
All Air Forces
All Independent AAF Commands,
AAF Tactical Center
Commanding Officers,
All AAF Bases
All Exempted AAF Stations
All AAF Installations
(In Continental United States)

(This Letter supersedes AAF Letter 55-5, 29 December 1943, subject as above.)

1. Information has come to this Headquarters that various units, commands, and other organizations of the AAF have not been complying with AAF Reg 55-3, Weight and Balance Control of Heavier-Than-Air Aircraft.

2. This Headquarters has been informed of numerous violations of this Regulation and of the flagrant disregard of its enforcement. Instances have arisen wherein pilots have attempted to secure a compliance with the regulation but have been cut off abruptly by operations officers. The Commanding General, AAF is the only one vested with the authority to grant a waiver in the enforcement of this regulation, and this authority has not been delegated to anyone else. The enforcement is a command responsibility and will be immediately regarded as such.

3. Organizations not having adequate aircraft-weighing equipment are granted an exception to paragraph 2 for a period of forty-five (45) days from the above date. This period of time is considered ample for acquiring or locating adequate available aircraft-weighing facilities.

4. Nonavailability of adequate aircraft-weighing equipment will be reported to the Assistant Chief of Air Staff, Operations, Commitments, and Requirements, Requirements Division, so that corrective action may be suggested to remedy this situation.

By command of General ARNOLD:

OFFICIAL:

BARNEY M. GILES
Major General, United States Army
Chief of Air Staff

THOMAS A. FITZPATRICK
Colonel, AGD
Air Adjutant General

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Thomas E Barnes

THOMAS E. BARNES
1st Lt., Air Corps
Adjutant, Natl. Hq., CAP

RECORDS MANAGEMENT DIVISION
CAP-USAF

WAR DEPARTMENT
A.A.F. REGULATION) HEADQUARTERS ARMY AIR FORCES
NO. 55-3) WASHINGTON, JUNE 10, 1943
OPERATIONS

Weight and Balance Control of Heavier-Than-Air Aircraft

(This Regulation supersedes AAF Regulation No. 55-3, January 18, 1943.)

1. Aircraft Classification. For the purpose of this Regulation, aircraft will be divided into classifications, as follows:

a. Class 1 includes any aircraft the design and construction of which is such that no loading arrangement likely to be employed in the tactical operation of the aircraft will result in its center of gravity being moved beyond the longitudinal, vertical, or lateral limits recommended by the aircraft manufacturer and approved by the Government.

b. Class 2 includes any aircraft the design and construction of which is such that it may be loaded readily in a manner which will result in its center of gravity falling beyond the longitudinal, vertical, or lateral limits recommended by the aircraft manufacturer and approved by the Government.

c. Aircraft classification will be determined by the Engineering Division, Materiel Command, Wright Field, Dayton, Ohio at the time the airplane goes into production.

2. Weight and Balance Officers. The commanding officer of each base or group operating aircraft will appoint a weight and balance officer to control the weight and balance of the aircraft under the jurisdiction of that particular base or group. A weight and balance officer will be appointed by the resident representative at each aircraft manufacturers' final assembly plant and at each modification center. These officers will have engineering training and experience or will be graduates of the Technical Training Command Weight and Balance School. The weight and balance officer will have authority to prevent airplanes from being flown until he has approved the loading.

3. Weight and Balance Control System. All aircraft will be provided with weight and balance control as outlined in the Handbook of Weight and Balance Data, AN 01-1-40. Class 2 aircraft will have the handbook supplemented by the approved balance computer.

4. Weight and Balance Control Records:

a. A complete and detailed weight and balance record will be maintained covering the status of each airplane from the date of original manufacture until it is salvaged. Aircraft manufactured and delivered prior to the date of this Regulation, and for which weight and balance information has not been prepared as specified herein, will be weighed and the appropriate weight and balance information entered immediately on

the appropriate handbook forms and maintained in accordance with the provisions set forth in this Regulation. Approved balance computers and blank copies of the Handbook of Weight and Balance Data will be obtained by requisition (AAF Form No. 102) on Headquarters, Air Service Command, Patterson Field, Fairfield, Ohio, Attention: Publications Distribution Branch. In the case of the approved balance computer, the requisition will state the serial number and model of the airplane in which the instrument will be installed, or the purpose for which the computer is to be used.

b. It will be the responsibility of the prime manufacturing contractor to indicate the status of each airplane at time of delivery from the factory by completing the appropriate forms for weight and balance control as follows:

(1) The Handbook of Weight and Balance Data will be compiled complete as applicable to each aircraft and will be placed in the data case of each airplane prior to delivery. In the case of Class 2 aircraft, the airplane serial number, model designation, basic weight, and basic index values will be inscribed on the carrying case identification card on the computer. The entire assembly, including the approved balance computer, will be mounted securely in the pilot's compartment adjacent to the data case.

(2) One copy of Charts A, C, and E of the Handbook of Weight and Balance Data, completed for each airplane actually weighed, together with a list of airplanes by serial number for which that weighing is considered to be representative, will be submitted to the Aircraft Laboratory, Engineering Division, Materiel Command, Wright Field.

c. Modification centers, repair depots, or other agencies making changes or alterations to the airplane structure or equipment affecting the basic weight and balance will continue or begin the weight and balance record as follows:

(1) Recalculate the weight and balance or reweigh the airplane after all the changes have been completed. If a copy of the Handbook of Weight and Balance Data is not in the airplane (having been lost or not furnished) the airplane will be weighed. Proper entries will be made in the Handbook of Weight and Balance Data to bring the status record of weight and balance up to date.

(2) One completed copy of charts A, B, and C and the weighing form of the Handbook of Weight and Balance Data will be submitted by organizations within the continental limits of the United States to the Aircraft Laboratory, Engineering Division, Materiel Command, Wright Field, Dayton, Ohio for each airplane at the time of weighing. Additional blank charts and weighing forms may be obtained from the Commanding General, Headquarters, Air Service Command, Fairfield, Ohio.

d. It will be the responsibility of the weight and balance officer under whose jurisdiction an airplane's weight and balance control passes from one assignment to another, to continue or to begin the weight and balance record as follows:

(1) Compile all records required in the Handbook of Weight and Balance Data and keep the weight and balance status of the airplane up to date. In the event the Handbook of Weight and Balance Data belonging to any airplane becomes lost, or is so mutilated as to be unfit for further use, or all space in the charts is used up, the weight and balance officer in charge will obtain a new handbook in blank form, reweigh the airplane if necessary, and start the record of weight and balance control again. When a new handbook is prepared to replace a completed handbook, all charts B on which entries have been made will be transferred to and retained in the new handbook for historical record purposes. All aircraft will be reweighed and their basic weight and balance will be ascertained at least once each year.

(2) All weight and balance officers within the continental United States will forward to the Aircraft Laboratory, Engineering Division, Material Command, Wright Field, one copy of all charts of the Handbook of Weight and Balance Data on which new entries are made at the time of weighing, together with a copy of the Weighing Form. When an airplane leaves the United States, the weight and balance officer at the port of embarkation will forward to the same address one copy of Form F of the Handbook of Weight and Balance Data completed for each and every airplane at take-off in accordance with the instructions contained in the Handbook.

(3) Duties of weight and balance officers will include training pilots in the use of the balance computer and the loading graphs.

(4) It will be the responsibility of the weight and balance officer to have all scales under his jurisdiction certified by a competent inspector of weights and measures or calibrated by the scale manufacturer's service representative once every six months.

e. It will be the responsibility of the person performing the balance calculation to ascertain by inspection that the airplane is actually loaded in accordance with the balance calculation.

f. In case a new Form F is not required for a take-off, certification will be made on the flight clearance, AAF Form No. 23, or the local clearance form to the effect that the weight and balance status of the airplane is identical with that shown on Form F filed at (insert) field on (insert date) at (insert hour).

5. Centralized Control of Weight and Balance Data:

a. The Materiel Command, Wright Field, Dayton, Ohio, being the contracting agency for the procurement of AAF aircraft, will be the only AAF organization to request weight data or the services of weight engineers from any AAF contractor.

b. All AAF organizations will make all requests for weight data or weight engineering assistance to the Materiel Command, Wright Field, Dayton, Ohio, through the proper channels and not to any AAF contractor.

c. Any training films or literature or publications, including textbooks or any school courses, on the subject of weight and balance for training of AAF personnel and sponsored by any AAF organization or AAF contractor will be submitted through the Training Aids Division, Army Air Forces, to the Materiel Command for coordination and approval prior to publication.

6. No pilot will knowingly accept and operate any aircraft without satisfactory evidence of correct gross weight and balance. This is a matter of safety of personnel and equipment and will be strictly enforced.

7. Strict compliance with this Regulation is required of all AAF service activities.

By command of General ARNOLD:

OFFICIAL: SEAL

GEORGE E. STRATEMEYER
Major General, U. S. Army
Chief of Air Staff

FRED C. MILNER
Colonel, A. G. D.
Air Adjutant General

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A TRUE COPY.

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