

CHAPTER 75 EVALUATE FAR PART 135 (NINE OR LESS) WEIGHT AND BALANCE CONTROL PROCEDURES

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance:* 3328

B. *Avionics:* 5328

3. OBJECTIVE. This chapter provides guidance for accepting or approving weight and balance control procedures.

5. GENERAL

A. FAR § 135.23(b) requires nine-or-less operator/applicants to develop their own weight and balance procedures. The operator/applicant has the option of using the procedures developed by the manufacturer, available in the approved Aircraft Flight Manual or Pilot Operating Handbook. Under these circumstances, the Aviation Safety Inspector's (ASI's) responsibilities are to ensure that the aircraft continue to be operated in accordance with these procedures.

B. It is the operator/applicant's privilege to revise these procedures or develop procedures tailored to the specific needs of the operation. Under these circumstances, it is the ASI's responsibility to evaluate the procedures to ensure regulatory compliance and suitability to the operation.

7. MANUFACTURER-DEVELOPED PROGRAM

A. If an operator/applicant decides to use the manufacturer's weight and balance program, it is the operator/applicant's responsibility to ensure that the program will meet the needs of the proposed/current operation.

B. To ensure an operator/applicant's compliance with a manufacturer's weight and balance program, an ASI will have to verify that the operation or proposed operation will not conflict with the program.

9. OPERATOR/APPLICANT-DEVELOPED PROGRAM

A. The operator/applicant can submit any method or procedure by which it can show that all aircraft are properly loaded and will not exceed authorized weight and balance limitations during all operations.

(1) These procedures can be provided in the operator's manual or they may be an independently controlled document that includes all instructions and procedures for maintenance, operations, and baggage handling personnel.

(2) The weight and balance document must include company procedures and instructions for completing forms used in aircraft weight control and aircraft loading. Mathematical justification for loading provisions or schedules should be included in the submitted information.

B. *Program Acceptance.* The weight and balance procedures, including loading schedules and charts, are accepted by the Principal Maintenance Inspector.

C. *Unusual or Complex Programs.* If the operator/applicant proposes an unusual or complex weight and balance program, or that program is substantially different from the Approved Airplane Flight Manual or Pilot Operating Handbook, assistance from regional specialists should be requested.

NOTE: The use of actual weights is mandatory for FAR Part 135 reciprocating powered aircraft of nine or less passengers seats.

D. *Load Schedules.* The load schedule must include a manageable system for aircraft loading under all loading situations, including alternate procedures for nonstandard weight persons or groups. The operator's procedures must provide all necessary information (charts, graphs, tables, etc.), with related instructions for the loading.

E. *Approval Requirements.* There may be instances when an operator/applicant requests approval to operate an aircraft

with an increase in gross weight and/or change in center of gravity range. This constitutes a major design

change, and requires the approval of FAA engineering, per FAR § 21.113.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. Prerequisites

- Knowledge of the regulatory requirements of FAR Part 135
- Successful completion of Airworthiness Inspector's Indoctrination Course for General Aviation and Air Carrier Inspections, or previous equivalent
- Previous experience with FAR Part 135 (nine or less) weight and balance procedures

A. *Coordination.* This task requires close coordination between Maintenance and Operation Aviation Safety Inspectors (ASIs).

3. REFERENCES, FORMS, AND JOB AIDS

A. References

- FAR Parts 21, 23, 43, and 91
- CAR Part 3
- Advisory Circular 43.13-1, Acceptable Methods, Techniques, and Practices Aircraft Inspection and Repair, as amended
- Advisory Circular 91-23, Pilot's Weight and Balance Handbook, as amended
- Approved Flight Manuals
- Pilot Operating Handbook or Weight and Balance Manuals
- Type Data Sheets and Aircraft Specifications

- Supplemental Type Certificates
- Aircraft Equipment Lists
- Aircraft Weight and Balance Records

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Review Operator/Applicant's Data.* Review the following:

- (1) Type of equipment
- (2) Data to ensure that multiengine aircraft were weighed within the preceding 36 calendar months (Ref. FAR § 135.185)
- (3) Operator/applicant's proposed/current method of recordkeeping
- (4) Specific weight and balance information pertaining to operator's/applicant's aircraft to include:
 - (a) Type certificate data sheets for basic weight and balance data for individual aircraft
 - (b) Existing alteration records (FAA Form 337) that could affect the accuracy of approved weight and balance data
 - (c) Equipment list, to confirm that list matches installed equipment. Verify that list correlates with actual location on aircraft.
 - (d) Past records in sufficient detail to determine the validity of current weight and balance information, if applicable

NOTE: If aircraft weight and balance records are unavailable or inaccurate, the only acceptable method of determining the actual weight and balance is to weigh the aircraft.

(5) Previous inspection reports, correspondence, and other documents in the office files to determine if there are any open items or if any areas were identified that require special attention

B. Review Manufacturer's Program

(1) Verify that the weight and balance information in the Aircraft Flight Manual/Rotorcraft Flight Manual includes current weight and balance information such as:

- Empty weight and center of gravity
- Loading graphs
- Center of gravity envelopes
- Loading schedules
- Index tables

NOTE: The manual may refer to a weight and balance plotter. If so, ensure that this device is available.

(2) Ensure that the manufacturer's procedures cover all aspects of the operator/applicant's intended operation.

(3) Review load manifest requirements for multi-engine aircraft (Ref. FAR § 135.63(c)).

C. Review Weight and Balance Revisions

(1) Determine who is responsible for updating weight and balance information.

NOTE: The operator/applicant is ultimately responsible for the current status of weight and balance after any major repair or alteration, or equipment change.

(2) Ensure that revised weight and balance information has been entered in the Aircraft Flight Manual/

Rotorcraft Flight Manual, or applicable aircraft weight and balance record, following any major change that may affect the weight and balance.

D. Inspect Equipment and Facilities

(1) If the operator/applicant has aircraft weighing equipment available, inspect calibration records to ensure that scale(s) calibration is traceable to the National Institute of Standards and Technology.

(2) Ensure that operator/applicant has a draft free area or hangar in which the aircraft can be weighed.

(3) Ensure that loaded aircraft are still within manufacturer specified center of gravity limits.

E. *Evaluate Weight and Balance Training.* Ensure that operator/applicant's flight training curriculum reflects the basic weight and balance procedures. The curriculum must also include any special weight and balance considerations for special use aircraft, e.g., all cargo.

F. *Analyze Results.* Upon completion of the evaluation, analyze the results and determine whether the aircraft and/or program meet all requirements.

G. *Meet With Operator/Applicant.* Discuss discrepancies with the operator/applicant and advise what areas need corrective action.

7. TASK OUTCOMES

A. File PTRS Transmittal Form

B. *Successful completion of this task will result in accepting the weight and balance manual procedures or revision.*

C. *Document the Task.* File all supporting paperwork in the operator/applicant's office file.

9. FUTURE ACTIVITIES. Normal surveillance.

