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Regulation No. SR-406A

UNITED STATES OF AMERICA
CIVIL AERONAUTICS BOARD
WASHINGTON, D. C.

Effective: June 7, 1955
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SPECIAL CIVIL AIR REGULATION

APPLICATION OF TRANSPORT CATEGORY PERFORMANCE REQUIREMENTS
TO C-46 TYPE AIRPLANES

On June 30, 1954, the Civil Aeronautics Board adopted Special Civil Air Regulation SR-406, effective July 1, 1954, (19 F.R. 4106) which provides the basis for the modification and operation of C-46 type airplanes in passenger service. Since the adoption of SR-406, the Board has found that certain amendments to that regulation, of a substantive and clarifying nature, are necessary.

By October 1, 1955, the C-46 is required to be so modified as to comply with all of the requirements of Part 4b, effective July 20, 1950, except the flight requirements of §§ 4b.100 through 4b.190 and the birdproof windshield requirements of § 4b.352. However, in order to assure a sufficiently high minimum level of safety of C-46 airplanes in passenger service, this regulation amends the provisions of SR-406 to require compliance by October 1, 1955, with more modern powerplant fire protection requirements which, subsequent to July 20, 1950, were incorporated into Part 4b of the Civil Air Regulations by amendment.

On and after April 1, 1956, the C-46 is required to meet the performance operating limitations applicable to transport category airplanes. Although SR-406 contained an alternative which permitted the use of a drift-down procedure in lieu of literal compliance with the transport category one-engine-inoperative en route performance operating limitation, this has been deleted from this regulation since the Board has adopted amendments to Parts 40, 41, and 42 of the Civil Air Regulations which make substantially the same drift-down provisions available for all transport category airplanes.

Pending the coming into force on April 1, 1956, of the transport category performance operating limitations with respect to C-46 airplanes, this regulation permits the C-46 to be used in passenger service under the same provisions which were originally contained in Special Civil Air Regulation SR-391 and later incorporated in SR-406. These provisions are the current basis for the establishment of C-46 weights and are continued in this regulation to permit sufficient time for full compliance with all other provisions contained herein. They may be used, however, only by operators who have made a showing to the Administrator that genuine arrangements for such modifications have been initiated.

In SR-406, the Administrator was given certain discretionary authority in applying the requirements of Subparts C, D, and E of Part 4b where strict

compliance with these provisions was extremely difficult of accomplishment and would not contribute materially to the objective sought. This provision has been extended to include, along with the aforementioned subparts, §§ 4b.130 through 4b.190 of Subpart B and Subpart F of Part 4b. In exercising this discretion, it is intended that the Administrator will examine the service history of the C-46 and authorize deviation from these rules in instances in which a satisfactory level of safety has in fact been demonstrated.

In addition, certain changes to provisions of SR-406 are included in this regulation which are of a clarifying nature. Among the clarifications is the addition of § 4b.116 which identifies one of the conditions in which the propeller of the inoperative engine may be assumed to be in the feathered position if the airplane is equipped with either an approved automatic indication or an automatic feathering system. It is intended that performance credit for an automatic indication system be determined on the same basis as it is for an automatic feathering system, assuming that the manual feathering button is actuated immediately upon indication of the engine failure.

Since the adoption of SR-406, a number of inquiries have been received concerning future regulatory action by the Board which would affect the C-46 airplane in cargo operations. The Board is currently conducting a study of the overall problem of rules for airplanes in cargo operations. This study primarily concerns airplane operating weights and it is expected to include the C-46 as well as other cargo airplanes. Until this study is completed, the Board considers that no increases in the presently approved maximum weights for C-46 airplanes in cargo service should be authorized unless such increases are approved by showing compliance with all of the provisions of this Special Civil Air Regulation.

Interested persons have been afforded an opportunity to participate in the making of this regulation and due consideration has been given to all relevant matter presented.

In consideration of the foregoing, the Civil Aeronautics Board hereby makes and promulgates the following Special Civil Air Regulation, effective June 7, 1955:

1. Contrary provisions of the Civil Air Regulations notwithstanding (in particular the provisions of § 42.15 (b) of Part 42), C-46 airplanes may be used in passenger operations conducted under Part 42 of the Civil Air Regulations. Such airplanes shall be operated in accordance with § 42.15 (a) of Part 42 and the provisions of this special regulation.

2. C-46 type airplanes when used for the carriage of passengers for remuneration or hire in accordance with paragraph 4 of this regulation shall not be operated at weights exceeding those which it is demonstrated to the Administrator will allow compliance with the performance requirements of Part 4b, except that in determining the maximum take-off weight, such weight shall be limited only to a value at which the airplane has a rate of climb equal to $0.035 V_{S1}^2$ in the take-off configuration at sea level with the landing gear retracted but with the propeller of the inoperative engine feathered rather than windmilling.

3. Provisionally, pending a determination by the Administrator of the weights at which C-46 airplanes will meet the standards prescribed by paragraph 2 of this regulation, the maximum take-off weight of such airplanes, when used in the manner herein referred to, shall not exceed 44,300 pounds: Provided, That in the case of C-46 airplanes equipped with Hamilton Standard propellers with blades Model Number 6491A-9 or approved equivalent which have been clipped in accordance with specifications approved by the Administrator, such provisional maximum weight shall be increased by 1,000 pounds until such time as the Administrator shall have determined by suitable tests another value to correspond to the additional efficiency obtainable by the use of such propellers, and thereafter by such other value.

4. The Administrator of Civil Aeronautics shall authorize continued operation of C-46 airplanes in passenger service in accordance with paragraphs 2 and 3 of this regulation until April 1, 1956, if he finds that the applicant for such authorization has made and continues to make genuine efforts to arrange for and accomplish compliance with paragraph 5 of this regulation.

5. On and after October 1, 1955, C-46 airplanes in passenger service shall comply with the provisions of Part 4b as in effect on July 20, 1950, except as otherwise provided hereinafter:

a. Upon application by an air carrier filed prior to October 1, 1955, the Administrator may further authorize such air carrier to operate without full compliance with the requirements of paragraph 5 where the Administrator finds that the air carrier has made a diligent effort to meet these requirements by October 1, 1955, and that the air carrier has shown that it will comply with such requirements at the earliest possible time.

b. The provisions of §§ 4b.0 through 4b.19 of Part 4b, effective May 18, 1954, shall be complied with.

c. The provisions of §§ 4b.100 through 4b.190 need not be complied with.

d. The birdproof windshield requirements of § 4b.352 need not be complied with.

e. The provisions of §§ 4b.480 through 4b.490 effective May 16, 1953, shall be complied with in lieu of §§ 4b.480 through 4b.489 effective July 20, 1950, with the exception of subparagraph 4b.484 (a) (1) which shall be applicable as effective July 20, 1950, and paragraph 4b.487 (e) which has no counterpart in the 1950 regulations.

6. On and after April 1, 1956, C-46 airplanes in passenger service shall be recertificated in the transport category in accordance with paragraph 5 of this regulation, and shall comply with the provisions of §§ 4b.100 through 4b.190 with the following exception: In determining the take-off path in accordance with § 4b.116 and the one-engine-inoperative

climb in accordance with § 4b.120 (a) and (b), the propeller of the inoperative engine may be assumed to be feathered if there is installed either an approved means for automatically indicating when the particular engine has failed or an approved means for automatically feathering the propeller of the inoperative engine.

7. In applying the provisions of paragraphs 5 and 6 of this regulation, where literal compliance with the requirements of §§ 4b.130 through 4b.190 of Subpart B and Subparts C, D, E, and F of Part 4b is extremely difficult to accomplish, and where the Administrator finds that service experience with the C-46 type airplane so justifies, the Administrator may authorize deviations from specific details of these requirements, taking into account the effect of design changes.

8. On or after April 1, 1956, C-46 airplanes in passenger service shall be operated in accordance with the performance operating limitations applicable to transport category airplanes.

9. C-46 airplanes which comply with the provisions of paragraphs 5 and 6 of this regulation may be used in passenger operations conducted under the provisions of Parts 40 and 41 provided they are operated in accordance with paragraph 8.

10. This Special Civil Air Regulation supersedes Special Civil Air Regulation SR-406.

(Sec. 205 (a), 52 Stat. 984; 49 U.S.C. 425 (a). Interpret or apply secs. 601, 603, 604, 52 Stat. 1007, 1009, 1010, as amended; 49 U.S.C. 551, 553, 554)

By the Civil Aeronautics Board:

/s/ M. C. Mulligan

M. C. Mulligan
Secretary

(SEAL)