DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION
WASHINGTON

December 19, 1947

SAFETY REGULATION RELEASE NO. 272

SUBJECT: Approval of Control Units Associated With Radio Equipment Used in Scheduled Air Carrier Operation; Supplement to Civil Aeronautics Manual 16, Section .100.

In order to simplify the process of approval of control units associated with radio equipment used in scheduled air carrier operation, the procedure described herein is effective as of the above date.

Civil Aeronautics Manual 16, Section 16.100 which interprets the corresponding section of Civil Air Regulations Part 16, Aircraft Radio Equipment Airworthiness, states in general that any unit of an aircraft radio installation associated with the functional operation of the radio equipment is required to be type certificated, but exempts from type certification certain minor and accessory items such as fixed antennas, junction boxes, wiring conduits, etc., which are approved as a part of the aircraft radio-electrical installation.

Modern practices in the design of aircraft radio equipment and aircraft radio systems have introduced new factors into the determination of airworthiness for these items. With the increasing complexity and integration of radio systems, airworthiness of units whose primary purpose is the control and correlation of functions of major radio units now depends to a greater extent upon their installation and application within the aircraft system and upon the nature of the operation for which the aircraft is intended.

Accordingly, the control items identified below are removed from the category of type certificated equipment indicated by Civil Aeronautics Manual 16 and will hereafter be approved as a part of the radio-electrical installation of the aircraft. In determination of airworthiness for these items, the same standards of design, material, and workmanship should apply as apply to type certificated units. At the discretion of the representative of the Administrator conducting the examination for approval of original installations or modifications thereof including non-certificated items, tests may be conducted upon the units in question if deemed necessary to establish their airworthiness.

Airworthiness of radio equipment when considered as a part of the aircraft installation is required by Section 04.55 of Civil Air Regulation Part 04(b). That section will in the future be supplemented by manual material.

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At present the applicable tests prescribed in Civil Aeronautics Manual 16 may be used as a guide in the evaluation of installations of control units.

Types of Controls Affected by this Release

Control units, panels, boxes and items of similar function which do not contain electronic tubes or other components whose performance may be critically affected by conditions encountered in flight, and whose circuit components consist primarily of switches, jacks, potentiometers, connectors and other similar simple electrical-mechanical devices will not be type certificated.

Control units containing electronic tubes or other components of a nature critical in themselves or in their circuit application will be type certificated as formerly. Azimuth indicating devices, calibrated tuning controls, cross pointer meters and similar units, because of the greater precision of construction and greater accuracy of indication required in the interest of safety will continue to be type certificated. However, such units may be mounted upon non-certificated control panels provided no essential changes of the type certificated units occur other than in their method of mounting. In such cases the original type certificates of the remounted units are considered to remain valid. The name-plates of the units should remain attached or should be re-attached in identifying locations. If shock mounting is incorporated in the units to be remounted, that feature should be retained in its original form. As an example, a type certificated mechanical tuning control ("coffee grinder" type) might be removed from its dust cover and remounted upon a non-certificated composite control panel if the original degree of protection is provided.

If a question arises as to whether a specific unit falls in the category of non-certificated units, the Regional Office of the Civil Aeronautics Administration should be consulted.

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