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PILOT TRAINING RESEARCH BEGUN ON UNCONVENTIONAL CRAFT

New Phase of Authority's Pilot Training Research Program To Provide Data on Which To Base Revised Regulations Governing Operation of Unconventional Airplanes

Contracts have been let by the Civil Aeronautics Authority for the training of 60 students in unconventional airplanes having so-called built in safety features under a special phase of its Pilot Training Research Program. Training of these students was begun in the latter part of May.

The object of the program is (1) to determine the average amount of training required in *unconventional* aircraft to attain the same degree in safety in operation as would be required in the operation of *conventional* aircraft to qualify for a private pilot's certificate; and (2) to determine how much additional training would then be needed by the pilot taught to fly *unconventional* craft to reach the same proficiency in the operation of *conventional* craft.

The Authority also will obtain from this study the necessary factual data on which to base new regulations governing the operation of such unconventional airplanes.

The special airplanes to be used in this program are the Stearman-Hammond and the Ercoupe. Both airplanes are of the two-control type—that is, elevator and aileron controls but no rudder control—and are equipped with tricycle landing gear. Both airplanes have unusually good control in a stall and will not spin. The Stearman-Hammond is a pusher type using a 150-horsepower engine and is equipped with flaps. The Ercoupe is a tractor type using a 65-horsepower engine and does not have flaps.

Method of Training

Three groups of 20 students each will be trained at the following flying schools: Baltimore School of Aeronautics, Curtiss-Wright Airport, Baltimore, Md.

Brinkerhoff Flying Service, College Park, Md.

Palo Alto Airport, Inc., Palo Alto, Calif.

Each student will be given a course of instruction in one of the special planes identical with the controlled course given in conventional airplanes in the Civilian Pilot Training Program except that there will be no specified minimum number of hours of training on the various maneuvers, and those maneuvers which cannot be executed in the special planes necessarily will be eliminated.

Each student will receive only that amount of dual and other instruction as the instructor considers sufficient to permit him to solo safely and to pass the regular private pilot's flight examination. He then will be given this examination by an inspector of the Authority. If he does not pass he will be given additional instruction in the special airplane: If he does pass he will be given further instruction in a conventional airplane. The same procedure will be followed in the training in the conventional airplane; that is, only such instruction as is considered necessary by the instructor and then an examination by an inspector of the Authority.

The flight instructors to be used in this program will be instructors who have already given instruction in the Civilian Pilot Training Program.

Selection of Students

The students chosen are as nearly as possible directly comparable with students who have been or are being trained in the college and noncollege phases of the regular Civilian Pilot Training Program. The Palo Alto group is comprised of some students

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CIVIL AERONAUTICS AUTHORITY:

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of Stanford University and San Jose College who were alternates in the college phase of the program, and some from the same colleges and with the same qualifications but without ground school training. The Baltimore and College Park groups include some of the unsuccessful competitors for training in the noncollege program, some from the noncompetitive students in the noncollege ground school courses, and some special cases.

In the choice of students from these sources various factors were given consideration, among them being (1) grades attained in competition or in school work, (2) education, (3) occupation, (4) age, and (5) availability for training. In choosing the students an effort was made to have the selected groups comparable with those trained in the Civilian Pilot Training Program and also representative of the average citizen. This required a diversification in educational histories, occupations, and ages—including some beyond the age

New List of Inspectors

A complete list of the regional managers and aeronautical inspectors of the Civil Aeronautics Authority, by regions, showing the headquarters of each, has been brought up to date as of April 15, 1940, by the General Inspection Section.

Those individuals desiring copies of the list may obtain them by addressing their request to the Correspondence Unit, Civil Aeronautics Authority, Washington, D. C.

limits of the Civilian Pilot Training Program. Consideration was necessarily given to availability for training because with only one special plane at each school its time must be completely utilized.

Requirements of Students

Each student was required to secure a student pilot's permit, for which the physical examination cost \$6. He was also required to take out personal insurance identical to that required of students in the regular Civilian Pilot Training Program which cost \$14. Each student was required to certify that he would take all of the instruction offered him, within the limits prescribed above, and that he would present himself for instruction at the place and times set for him within the limits specified by him in his application.

Certification of Students

Each student will be given a certificate stating the extent of his instruction and flight time and his ratings in the flight examinations given by a C. A. A. inspector. It is expected but not assured that all students participating in the research program will receive sufficient training to pass the private pilot's flight examination in both the conventional and special airplanes.

Whatever flight time remains available under the contract with the school after all students have been so qualified will be apportioned among the students to advance them as far as possible toward the attainment of the minimum flight time of 35 hours now required for a private pilot's certificate. It is hoped that sufficient time will remain available to bring the total time of all students to 35 hours.

New Amendments to Civil Air Regulations Adopted

To simplify and clarify the Civil Air Regulations and to bring such regulations into conformity with the Civil Aeronautics Act of 1938, the Civil Aeronautics Authority on May 10, announced the adoption of a group of amendments to Parts 00, 01, 02, 27, and 60, and sections 04.000 and 60.32 to become effective July 15, 1940.

Amendment No. 45 deals with registration, airworthiness, type, and production certificates and identification marks. Part 00 has been stricken and the contents transferred to Part 01. The contents of former Part 02 have been transferred to Part 60, and such of the provisions of former Part 01 which deal with type and production certificates have been transferred to the amended Part 02. Thus the new Part 01 includes the provisions for the registration and certification of individual aircraft; Part 02 includes the provisions dealing with type and production certificates; and Part 60 includes all of the regulations on identification of aircraft. Section 04.000 was amended to coincide with the other changes. This rear-

agement facilities reference to regulations affecting the flying public without unnecessary inclusion of regulations affecting only aircraft manufacturers.

Amendment No. 46 creates a new method for certification of air carrier dispatcher by substituting an entirely new Part 27 for the former Part 27.

Amendment No. 47 changes sections of Part 60 providing for the issuance of certificates of waiver of the air traffic rules.

The Authority on May 15 adopted two further amendments.

Amendment No. 48 is technical in nature, and changes provisions of Part 04 concerning the scope, tests, data, drawings, and technical requirements respecting airplane airworthiness.

Amendment No. 49 makes certain changes in provisions of Part 21 dealing with air line transport pilot privileges.

New Parts 01, 02, and 27 are being printed and will be available soon. Interested persons may obtain mimeographed copies of the amendments by addressing the Correspondence Unit, Civil Aeronautics Authority, Washington, D. C.

French Air Line to Make Experimental Trans-Atlantic Flights

The Civil Aeronautics Authority announced on May 12 that experimental flights from France to the United States and return will be inaugurated this summer by the French air line, Air France Trans-Atlantique, carrying French Government officials, freight, and mail. Special permission to make the flights was granted by the Authority on the basis that no commercial service was involved.

Operations will be started early in the summer and continued until November 1. One round trip every 3 weeks will be scheduled at first, to be increased later to one round trip every 2 weeks.

The French company plans to fly over both the southern route from Biscarosse via Lisbon, the Azores, and Bermuda to New York, and the northern route from Bordeaux via Ireland and Newfoundland to New York. The southern route will be flown with the ships used on the experimental flights last year—two Latococere flying boats, the *Lieutenant de Vaisseau Paris* and the *Ville de Sainte Pierre*, each powered with six 800-horsepower Hispano Suiza motors. On the northern crossings the company will use Farman landplanes, each powered by four 800-horsepower Hispano Suiza motors, of the same type as the ships which have been used on the regular service from Africa to South America between Dakar and Natal. The first schedules of the new service will be operated over the southern route. Company employees will be among the first official passengers carried.

LaGuardia Field, N. Y., will be used as the United States terminus, although authorization has been granted the company to land at Port Washington or Floyd Bennett as alternates, depending on the particular type of aircraft. No mail will be carried on east-bound flights.

Flight Level Indicator Developed ¹

Instrument for Uniform Pressure Altitude Measurement Being Tested

An instrument, known as the "flight level indicator," which provides a method of furnishing uniform pressure altitude measurement to pilots in flight, has been developed by the Air Transport Section of the Technical Development Division and is now being tested in actual use by the Authority, the military and naval air services, and the industry.

At present the only accurate method by which a pilot can be sure that he is holding his assigned altitude is for him to continually reset a sensitive altimeter to correct for changes in barometric pressure. This means that his airplane must be equipped with a sensitive altimeter and a radio receiver, and that he must give considerable attention to constant readjustment. The new instrument, simple of construction and easy of operation in the cockpit, automatically provides him with uniform pressure altitude measurement. It was designed for use both on and off the airways, and during contact as well as instrument flight.

Basically, the flight level indicator is an aneroid barometer with altimeter mechanism. It weighs only 1.17 pounds, is the same size as a conventional altimeter, and is designed for mounting on the instrument panel. It is provided with a static connection for pressure and an electrical connection for illumination.

It comprises a dial marked with the cardinal points N., E., S., and W., and further subdivided in 10° intervals. By means of a rotating pointer attached to the aneroid mechanism, this dial indicates whether the airplane in which it is installed is flying at the proper level for its compass heading. (See fig. 1.) The pointer makes a complete revolution for every 2,000-foot change in altitude. There is an index marker on the outer edge of the dial which can be set manually to the desired compass course.

The instrument indicates flight levels by numbers on a subdial which is visible through an aperture below the center of the main dial. Flight levels are certain units of altitude above sea level at standard atmospheric pressure, providing a uniform basis for the control of altitudes at which aircraft should be flown under every specific set of circumstances. For the purpose of convenient reference they are spaced at 500 feet of nominal altitude. As altitude is increased or decreased the subdial rotates slowly and indicates, with the help of a reference index on the fixed dial, the number of the level, or the nearest level, on which the airplane is being flown. There are 32 flight levels, representing 16,000 feet of nominal altitude, in the range of the instrument.

Thus flight levels are automatically related to the appropriate magnetic compass bearings in accordance with the formula:

$$L = \frac{C + 90}{90} + 4n$$

where

L is the number of the flight level
 C is the magnetic compass bearing in degrees, and
 n is any whole number.

For example,

$$N = 0^\circ \quad \frac{0 + 90}{90} = \frac{90}{90} = \text{Level 1}$$

$$E = 90^\circ \quad \frac{90 + 90}{90} = \frac{180}{90} = \text{Level 2}$$

$$S = 180^\circ \quad \frac{180 + 90}{90} = \frac{270}{90} = \text{Level 3}$$

$$W = 270^\circ \quad \frac{270 + 90}{90} = \frac{360}{90} = \text{Level 4}$$

$$N = 0^\circ \quad \frac{0 + 90}{90} = 4n = 1 + 4 = \text{Level 5}$$

$$\text{or } 1 + 8 = \text{Level 9}$$

$$\text{or } 1 + 12 = \text{Level 13}$$

$$\text{or } 1 + 16 = \text{Level 17}$$

etc.

Thus, levels 1, 5, 9, etc., are to be used on north headings; 3, 7, 11, etc., on

south headings; 2, 6, 10, etc., on east headings; and 4, 8, 12, etc., on west headings. On intermediate headings intermediate levels are to be used. For example, on a heading of 60° a level of $\frac{1}{2}$ the way between levels 1 and 2, or between 5 and 6, etc., would be used.

Naturally, to be effective, all such instruments in all airplanes must indicate from a common zero, consequently there is no method of making barometric adjustments in flight. Common zero can be obtained by setting the pointers of all instruments at west (W.) under an existing standard atmospheric pressure of 29.92" hg. In this way the various flight levels of different airplanes will be exactly spaced even though the barometric pressure changes.

Although the entire series of flight levels may vary with respect to altitude measured from the earth, they remain exactly spaced in proper relation to one another. The instrument does not replace the ordinary adjustable altimeter which should be used, as always, for the determination of altitude above the ground.

The basic plan is that the pointer of the indicator always agrees with the magnetic heading. The compass is the reference point. In short, after taking off, all the pilot need do is climb to the desired flight level as indicated on the subdial, and then maintain the pointer in agreement with the magnetic compass heading. The index marker, set at the desired course, serves as a convenient reference point.

If a higher or lower altitude is desired after a barometric adjustment of the altimeter has been made, the new flight level can be determined by consulting the *FLIGHT LEVEL INDICATOR*, page 235



FIGURE 1.—The experimental flight level indicator developed by the Civil Aeronautics Authority.

¹ A report by Robert W. Knight, Chief, Air Transport Section, Civil Aeronautics Authority.

AIRWAYS AND AIRPORTS

New Seaplane Base Directory Being Prepared

Supplements to Bulletin No. 11 Ready

A new directory listing all seaplane bases and anchorages of record with the Civil Aeronautics Authority as of May 15, 1940, is now being prepared and will be ready for issuance early in June. This directory will bring up to date and make available in one volume the seaplane base information contained in the seven parts of Civil Aeronautics Bulletin No. 11, DIRECTORY OF AIRPORTS AND SEAPLANE BASES.

Supplements amending the DIRECTORY OF AIRPORTS AND SEAPLANE BASES are now ready for distribution. These include landplane airport data changes and bring the directory to date as of January 1, 1940.

The seaplane directory and the supplements to Bulletin No. 11 may be obtained free of charge from the Publications and Statistics Division, Civil Aeronautics Authority, Washington, D. C. Bulletin No. 11, DIRECTORY OF AIRPORTS AND SEAPLANE BASES is obtainable at 10 cents per part (each part corresponding to a Civil Aeronautics Authority field region) from the Superintendent of Documents, United States Government Printing Office, Washington, D. C.

Standard Design for Numbering and Marking Airport Runways and Landing Strips Described

A standardized method of numbering the ends of airport runways and landing strips has been recommended by the Airport Section of the Authority's Technical Development Division to facilitate clear and precise reference in the control of airport traffic.

The end of the runway or landing strip in the direction of true north or the nearest to the true north, in a counter-clockwise direction, shall be designated and marked No. 1, and the succeeding runway and landing strip ends shall be consecutively numbered in a counter-clockwise direction around the airport, in the order in which their bearings lie.

Where parallel runways exist, they shall be numbered consecutively and in the same sequence as single runways.

The base of the numeral shall be toward the end of the runway or border of the airport, as this arrangement will thus immediately indicate to the pilot the direction of the runway or landing strip.

In the case of paved runways, the numerals and circles may be painted on the surface with a good grade of traffic paint, using white or chrome yellow, selecting the color which offers the greatest contrast with the pavement.

The numerals on unpaved landing strips should be constructed of concrete, gravel or some suitable material em-

bed in the landing strip in such a manner that its top surface will be flush with the surrounding soil or turf and painted or whitewashed if necessary to provide satisfactory contrast with surrounding sod or soil.

The numerals should be 50 feet in height, and elongated on a scale of 2 to 1. The stroke should be 4 feet parallel with the height of the figure and graduated to 8 feet wide parallel with the base of the figure.

Around each number should be painted an elongated circle 60 feet wide (See RUNWAY MARKING page 233)

Airports of Entry

As of May 15, 1940, there were 60 airports and seaplane bases designated as airports of entry through which aircraft arriving in the United States from foreign countries may clear customs and immigration.

Airports of entry are designated by the Treasury Department after consultation with representatives of other interested Federal agencies and due consideration as to the necessity for such designation. Some are designated without time limit, while others are given temporary designation for the period of 1 year, as shown in the tables below:

Without time limit

Location	Name	Location	Name
Ajo, Ariz.	Municipal airport.	Nogales, Ariz.	Nogales Municipal Airport.
Albany, N. Y.	Municipal field.	Ogdensburg, N. Y.	Ogdensburg Harbor.
Brownsville, Tex.	Municipal airport.	Pembina, N. Dak.	Fort Pembina Airport.
Buffalo, N. Y.	Do.	Portal, N. Dak.	Portal Airport.
Caribou, Maine.	Caribou Municipal Airport.	Port Angeles, Wash.	Port Angeles Airport.
Cleveland, Ohio.	Cleveland Municipal Airport.	Port Townsend, Wash.	Port Townsend Airport.
Detroit, Mich.	Detroit Municipal Airport.	Put-in-Bay, Ohio.	Put-in-Bay Airport.
Do.	Ford Airport.	Rochester, N. Y.	Rochester Municipal Airport.
Do.	Wayne County Airport.	Rouses Point, N. Y.	Rouses Point Seaplane Base.
Douglas, Ariz.	Douglas Airport.	San Diego, Calif.	San Diego Municipal Airport (Lindbergh Field).
Duluth, Minn.	Duluth Municipal Airport.	San Juan, P. R.	Isla Grande Airport.
Do.	Duluth Boat Club Seaplane Base.	Seattle, Wash.	Boeing Municipal Airport.
Eagle Pass, Tex.	Eagle Pass Airport.	Do.	Lake Union.
El Paso, Tex.	Municipal airport.	Skagway, Alaska.	Skagway Municipal Airport.
Fairbanks, Alaska.	Weeks Municipal Airfield.	Swanton, Vt.	Missisquoi Airport.
Juneau, Alaska.	Juneau Airport.	West Palm Beach, Fla.	Roosevelt Flying Service Base (Currie Common Park).
Ketchikan, Alaska.	Ketchikan Airport.	Wrangell, Alaska.	Wrangell Seaplane Base.
Key West, Fla.	Meacham Field.		
Laredo, Tex.	Laredo Airdrome.		
Miami, Fla.	Pan-American Field (or 36th St.).		
Do.	Dinner Key Seaplane Base.		

Temporary (1 year)

Location	Name	Date designated
Akron, Ohio*	Municipal Airport	Apr. 8, 1929
Bangor, Maine	Bangor Municipal Airport	June 26, 1939
Bellingham, Wash.	Graham Airport	Apr. 18, 1940
Buffalo, N. Y.	Buffalo Marine Airport	July 29, 1939
Burlington, Vt.	Burlington Municipal Airport	June 29, 1939
Calxico, Calif.	Calxico Municipal Airport	Jan. 10, 1940
Cape Vincent, N. Y.	Cape Vincent Harbor	Apr. 25, 1940
Clayton, N. Y.	Clayton Seaplane Base	Oct. 13, 1939
Crosby, N. Dak.	Crosby Municipal Airport	June 28, 1939
Fort Yukon, Alaska	Fort Yukon Airfield	July 6, 1929
Great Falls, Mont.	Great Falls Municipal Airport	June 2, 1939
Havre, Mont.	Havre Municipal Airport	Do.
Malone, N. Y.	Malone Airport	Apr. 18, 1940
Miami, Fla.	Chalks Flying Service Airport	Sept. 17, 1939
Niagara Falls, N. Y.	Niagara Falls Municipal Airport	July 2, 1939
Plattsburg, N. Y.	Plattsburg Municipal Airport	June 2, 1939
Sandusky, Ohio	John G. Hinde Airport	June 1, 1939
Sault Ste. Marie, Mich.	Sault Ste. Marie Airport	Aug. 4, 1939
Spokane, Wash.	Spokane Municipal Airport (Felts Field)	June 2, 1939
Warroad, Minn.	Warroad Seaplane Base	Sept. 2, 1939
Watertown, N. Y.	Watertown Municipal Airport	June 2, 1939
Wellesley Island, N. Y.	(Wellesley Farms Airport.) (Wellesley Island Seaplane Base.)	May 1, 1939

*Designated a temporary airport of entry without time limit, but not an airport of entry for aliens.

PRIVATE FLYING

Aircraft Subject to Seizure for Satisfaction of Penalties

Owners of aircraft who lease, rent, or lend their planes to other pilots will, hereafter, be liable to having those planes attached by the Government as security for payment of penalties imposed on the flyers for violation of safety regulations, the Civil Aeronautics Authority announced on May 19, following settlement of a test case in Fort Worth, Tex. The importance of the decision as a definite step forward in the safety program was emphasized by the Authority in its warning to owners to exercise caution.

The case in question concerned the violation of the Authority regulation forbidding an unlicensed pilot to fly an aircraft on a civil airway. The violator was O. L. Holden of Fort Worth, who borrowed a plane belonging to Henry L. Wood of the same city. Mr. Holden was advised that he had committed a violation and that he was subject to a penalty of \$1,000, but if he so desired he could make an offer to compromise the amount. Mr. Holden did not submit an offer and, on January 16, 1940, the

Authority referred the case to the Attorney General, requesting that judicial proceedings be instituted against him (C. A. A. order No. 334).

Action was thereupon begun in the United States District Court for the Northern District of Texas and involved a libel of the aircraft that had been used, making it subject to lien. The case came to trial on April 23 and Mr. Holden admitted that the charge against him was correct. The court, as a result of its findings, assessed a fine of \$100 on Mr. Holden and ordered the United States marshal to sell the plane for satisfaction of the judgment unless the penalty was paid.

Certificated Aircraft and Pilots Continue Gains

The accompanying chart shows the remarkable growth in the number of certificated aircraft and pilots in the United States during 1937, 1938, 1939, and the first 4 months of 1940.

The number of pilots has increased 128 percent since the beginning of 1937. On May 1, 1940, there were 33,740

pilots holding various grades of Civil Aeronautics Authority certificates, as compared with 25,050 on May 1, 1939, and 14,805 on January 1, 1937.

These figures do not include student pilots, among whom are the participants in the Authority's Civilian Pilot Training Program. This program, scheduled for completion by June 30, 1940, will add in excess of 9,000 new private pilots to the above total.

On May 1, 1940, there were 12,829 certificated aircraft as compared with 10,724 on May 1, 1939, and 9,072 on January 1, 1937.

Air Traffic Restricted at Fair

The Authority on May 15 adopted Regulation Serial No. 74, effective immediately, concerning restriction of air traffic over the New York World's Fair grounds and vicinity. It provides that:

1. No aircraft shall be flown at any altitude within the boundaries of the site of the New York World's Fair, located at Flushing, Long Island, N. Y.; and

2. Exclusive of taking off from or landing upon an established landing area, aircraft operated within 3 miles of the nearest boundary of said fair grounds shall be flown at an altitude of not less than 2,000 feet above the ground or water and in a counterclockwise circle around and outside of the boundaries of the fair grounds.

The Authority found such action necessary in order to protect adequately persons and property on the Fair Grounds and to promote safety in air commerce.

Runway Marking

(Continued from page 232)

by 120 feet long, with a width of stroke of 4 feet on the long sides, graduated to 8 feet on the short ends. On unpaved areas or on large areas of paving other than runways, a pointer 50 feet long and 4 feet wide should be attached to the circle in such a manner as to indicate the direction in which landings or take-offs should be made.

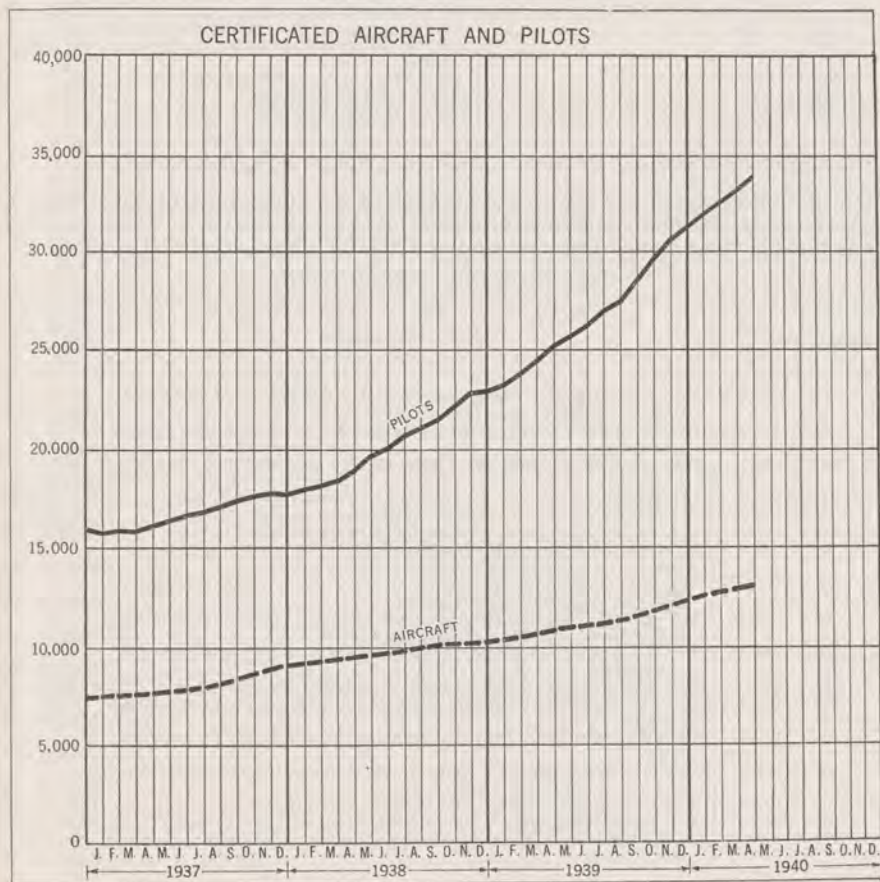
Runways should be marked by means of longitudinal stripes, which may be inlaid in the runways, or painted on the runway surface. Runway marking is of material assistance to a pilot in defining the runways during night flights.

The paint should be a good grade of highway marking paint, white or chrome yellow on a dark surfaced runway, and Federal or chrome yellow on a light surfaced runway. The specifications issued by the National Bureau of Standards are recommended.

Reflecting paints may be used for the marking of strips on runways. It is of

(See RUNWAY MARKING, page 234)

Growth of the number of certificated aircraft and pilots during 1937, 1938, 1939, and the first 4 months of 1940.



MANUFACTURING AND PRODUCTION

CERTIFICATES

New Type Approvals

[Approval numbers and dates of assignment in parenthesis]

Type Certificates

AIRCRAFT

Porterfield, CP-65, 2-place closed land monoplane. Engine, Continental A-65-8 (720, May 14, 1940).

Boeing, SA-307B, 38-place closed land monoplane. Engines, 4 Wright Cyclones GR-1820G-105A (726, May 4, 1940).

Douglas DC5-G102A, 26-place closed land monoplane. Engines, 2 Wright Cyclones GR-1820G-102A (727, May 4, 1940).

APPLIANCES

General Airmotive, low pressure wheel, model 6:00 MBM, 6.00-6. Approved static load per wheel 1,000 pounds (134, May 2, 1940).

Lockheed, safety belt, model 59818. Approved for one person (135, May 2, 1940).

Repair Stations Issued Certificates and Ratings

Pacific Scientific Co., Inc., room 160, 1206 Maple Ave., Los Angeles, Calif., approved April 16, 1940, for repair of instruments.

Southwest Airmotive Co., Love Field, Dallas, Tex., approved March 27, 1940, for repair of welded steel tube structure; wooden structure; fabric covering; wood-covered fuselages, wings, and control surfaces and box and laminated spars; steel fittings; aluminum alloy structure; aluminum alloy fittings; assembly; aluminum alloy propeller blades and/or steel hubs; wooden propellers; engines; and instruments.

Changes in List of Repair Stations Issued Certificates and Ratings

Delete from Aero Industries Technical Institute, Inc., Los Angeles, Calif., "for assembly."

Delete "Airport Management, Inc., 620 East Valley, Alhambra, Calif."

Delete from Raymond E. Breazeale, Natchitoches, La., "for repair of fabric covering" and change address to "municipal airport."

Delete from Lockheed Aircraft Corporation, Burbank, Calif., "for repair of fabric covering and engines."

Delete "North Beach Air Service, Inc., hangar No. 8, Floyd Bennett Field, Brooklyn, N. Y."

Delete "Ong Aircraft Corporation, municipal airport, Kansas City, Mo."

Delete from Pacific Airmotive, South San Francisco, Calif., "for repair of wooden structure, excluding box and laminated spars, and wood-covered fuselages, wings, and control surfaces."

Change name of Pacific Airmotive, Division of Bendix Aviation, Ltd., to "Pacific Airmotive, Division of Airplane Manufacturing & Supply Co., Union Air Terminal, Burbank, Calif."

Delete "Shushan Airport repair station, New Orleans, La."

Delete "Springfield Aviation Service, Springfield, Mass."

Runway Marking

(Continued from page 233)

little practical value, however, to use reflecting paint on the circle and number.

For individuals having a direct interest in the marking of runways there is a limited supply of sketches illustrating the "Standard system of marking and numbering runways," and the "Details of runway numbers." These may be obtained by addressing a request to the Correspondence Unit, Civil Aeronautics Authority, Washington, D. C.

Proposed Revision of Safety Belt Regulations Issued

Proposed revisions of the portions of the Civil Air Regulations dealing with safety belt requirements were contained in Report No. 16, issued by the Certificate and Inspection Division of the Civil Aeronautics Authority.

The study contained in the report has been supplemented by action leading to the expiration of approvals previously issued certain types of safety belts which experience has demonstrated to be unsatisfactory. Further, a retirement

program has been initiated wherein the unsatisfactory belts installed in aircraft engaged in scheduled air carrier operations will be replaced by other safety belts of an approved type.

A brief questionnaire has been included at the end of the report. Co-operation in filling out and returning this form to the Aircraft Airworthiness Section will be appreciated. Persons having a direct interest may obtain copies of Report No. 16, entitled "Safety Belt Regulations," by addressing a request to the Correspondence Unit, Civil Aeronautics Authority, Washington, D. C.

Aircraft Radio Equipment Approved for Scheduled Air Carrier Use

During the month of April the following units of aircraft radio equipment were approved by the Authority for scheduled air carrier use and issued type certificates.

Certificate number	Manufacturer	Unit	Date
293	T. L. Siebenthaler Manufacturing Co.	Type 79 dual tuning unit.....	Apr. 18
423	Bendix Aviation, Ltd.	Model 3710 control panel.....	Apr. 11
424	do	Model 3714 sensitivity control box.....	Do.
462	Bendix Radio Corporation	MR-22C antenna coupler.....	Apr. 23
463	do	MR-39A dual audio unit.....	Do.
464	do	MS-6D radio control panel.....	Do.
(*)	Lear Avia, Inc.	835-A loop rotator.....	Apr. 26
345	do	ADF-8 automatic direction finder receiver.....	Do.
346	do	ADF-8 automatic direction finder control panel.....	Do.
347	do	ADF-8 loop and quadrantal corrector.....	Do.
348	do	1034-A azimuth indicator.....	Do.
349	do	785-A "II" coupling unit.....	Do.

*No. 350 tentatively assigned. Certificate number will be changed during the month of May.

In the following list are shown the authorized modifications to type certificates approving aircraft radio equipment for scheduled air carrier use. These modifications include those issued from December 22, 1938, through April 1940.

BENDIX RADIO CORPORATION

Type certificate	Data sheet	Unit and modification	Modification authorized
18	18-A	MR 30-A antenna change-over switch. Change relay butt end design to improve operation.....	Dec. 22, 1938
44	128-A	RA-6A receiver. Change oscillator coil design to eliminate radiation interference.....	Apr. 8, 1939
44	128-B	RA-6A receiver. Improve IF sensitivity and stability. Modify oscillator circuit.....	Oct. 3, 1939
45	129-A	MR-36A shock mount. Change finish "grey wrinkle" to "etch".....	Feb. 18, 1939
46	130-A	MR-44A shock mount. Change finish "grey wrinkle" to "etch".....	Do.
47	131-A	MR-46A shock mount. Change finish "grey wrinkle" to "etch".....	Do.
80	223-A	MN-28A remote control. Disable sensitivity and light controls and provide for external controls.....	Feb. 28, 1939
81	178-A	MN-20A rotatable loop. Eliminate relative movement between loop and loop rotating mechanism.....	Apr. 2, 1940
83	226-A	MN-26A and MN-26B radio compass receiver. Lower audio output power for use with dual output amplifier.....	Feb. 28, 1939
86	248-A	TA-2J aircraft transmitter. Provide alternate source of supply for antenna relay.....	Mar. 30, 1940
99	254-A	MN-22A azimuth control. Increase reliability dial illumination.....	Feb. 28, 1940
100	174-A	TA-2G transmitter. Provide alternate source of supply for antenna relay.....	Mar. 30, 1940
101	170-A	TA-2H transmitter. Provide alternate source of supply for antenna relay.....	Do.
103	119-A	MP-10E power supply. Remove relay-change Cannon plug connections.....	Oct. 30, 1939
104	120-A	MT-34C remote control. Add jack and jack support.....	Dec. 11, 1939
105	173-A	MT-56B shock mount. Change finish "grey wrinkle" to "etch".....	Feb. 18, 1939
117	161-A	RA-6B receiver. Change oscillator coil design to eliminate radiation interference.....	Apr. 8, 1939

THOS. L. SIEBENTHALER MANUFACTURING CO.

Type certificate	Data sheet	Unit and modification	Modification authorized
5	5-A	W-1-A loop. Improve loop winding and loop mount.	June 5, 1939
	5-B	W-1-A loop. Modify loop mounting for UAL loop drive.	Feb. 10, 1940

LEAR DEVELOPMENTS, INC.

333	197-A	UT-6 transmitter. Minor circuit changes and increase size of Lord shocks.	June 14, 1939
335	221-A	T-30-AB transmitter. Provide additional antenna loading taps.	Dec. 12, 1939
344	246-A	ADF-7 automatic direction finder. Change frequency range of band 2.	Apr. 2, 1940
344	246-B	ADF-7 automatic direction finder. Substitute MVC for AVC on certain frequency bands, and minor modifications.	Apr. 8, 1940

R. C. A. MANUFACTURING CO., INC.

215	106-A	AVT-15 transmitter. Add improved jack and filter condensers.	Aug. 28, 1939
216	154-A	AVT-15A transmitter. Add improved jack and filter condensers.	Do.
227	205-A	AVR-15 aircraft receiver. Change oscillator tube cathode bias resistor.	June 20, 1939
228	206-A	AVR-15A aircraft receiver. Change oscillator tube cathode bias resistor.	Do.
232	216-A	MK-1 automatic radio direction finder receiver. Increase audio gain at 1,020 cycles by change of certain components.	Oct. 18, 1939
232	216-B	MK-1 automatic radio direction finder receiver. Improve operation on loop "sense" antenna.	Dec. 1, 1939
235	228-A	AVR-20 aircraft receiver. Make provision for 6-volt primary input circuit.	Nov. 24, 1939

COLLINS RADIO CO.

281	212-A	17F-5 transmitter. Modify electrical components and mechanical features to improve reliability and functional operation.	Dec. 19, 1939
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UNITED AIR LINES TRANSPORT CORPORATION

19	66-A	ES-251 loop gear box. Improve contacts and provide lubrication means.	May 18, 1939
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WESTERN ELECTRIC CO.

1	1-A	29-A azimuth control. Improve scale and provide illumination.	Feb. 9, 1940
2	2-A	50-A antenna mounting. Revise coupling nut to improve mounting—improve transmission line connector.	Do.
62	20-A	14-B receiver. Improve selectivity.	July 8, 1939
62	20-B	14-B receiver. Improve selectivity.	Aug. 31, 1939
62	20-C	14-B receiver. Provide additional tube for dual audio output.	Oct. 30, 1939
62	20-D	14-B receiver. Change source of supply for resistor requirements.	Feb. 13, 1940
63	21-A	13-C radio transmitter. Miscellaneous electrical and mechanical changes to increase reliability.	Feb. 12, 1940
67	30-A	KS-7588 power unit. Replace standard plug with Cannon plug.	Sept. 12, 1939
73	32-A	1-C control unit. Improve dial and provide illumination.	Feb. 23, 1940
78	36-A	719-A drive unit. Modify to provide dual drive.	Feb. 10, 1940
141	121-A	27-A marker receiver. Provide dual audio output.	Aug. 30, 1939
141	121-B	27-A marker receiver. Add separate cathode resistor to decrease cross-talk.	Oct. 3, 1939
141	121-C	27-A marker receiver. Addition and change of components to improve stability.	Jan. 12, 1940
153	47-A	17-A radio receiver. Mechanical and circuit changes to improve reliability and functional flexibility.	Feb. 10, 1940
156	50-A	705-B switch. Change mechanical construction to improve reliability.	Feb. 15, 1940
240	138-A	7-A receiver mounting. Bond Lord shock mounts.	Mar. 19, 1940
241	218-A	27-A radio transmitter. Improve power supply filter and frequency interlock switch.	Feb. 23, 1940

STANDARD PIEZO CO.

310	141-A	S-5-A crystal holder. Extend frequency range to 10 mc.	Apr. 6, 1939
311	142-A	S-5-B crystal holder. Extend frequency range to 10 mc.	Do.
312	143-A	S-5-C crystal holder. Extend frequency range to 10 mc.	Do.
313	144-A	S-5-D crystal holder. Extend frequency range to 10 mc.	Do.
314	145-A	CS-5-A crystal unit. Extend frequency range to 10 mc.	Do.
315	146-A	CS-5-B crystal unit. Extend frequency range to 10 mc.	Do.
316	147-A	CS-5-C crystal unit. Extend frequency range to 10 mc.	Do.
317	148-A	CS-5-D crystal unit. Extend frequency range to 10 mc.	Do.

AMERICAN AIRLINES, INC.

410	233-A	ATR receiver mount. Increase weight of Lord mounts from 8 to 10 pounds.	Apr. 24, 1940
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Flight Level Indicator

(continued from page 231)

level would be automatically chosen by climbing or descending until the pointer of the flight level indicator made one complete revolution (2,000 feet, or 4 levels), or multiples thereof, and again agreed with the magnetic compass bearing. The pointer turns clockwise as the airplane gains altitude and counter clockwise as it loses altitude, just as the altimeter itself.

As at present westerly headings would be even altitudes and easterly headings would be odd altitudes. However, a northerly heading would be 500 feet above the nearest level for a westerly heading and 500 feet below the nearest one for an easterly heading. A north-westerly heading would be midway between the nearest level to the west and the nearest one to the north or 250 feet.

For purposes of illustration theoretically 36 aircraft with heading 10° apart could cross at a given vertical point simultaneously within an altitude range of 2,000 feet and miss each other by more than 55 feet.

There would still be a remote possibility of collision caused by an overtaking aircraft flying exactly the same course and level as the one ahead, but forward visibility is usually sufficient to preclude such an occurrence, and airway traffic control is alert to this problem. Aircraft flying in opposite directions regardless of course would have a separation vertically of at least 1,000, 3,000, or 5,000 feet, etc.

Along the airways, flight levels would be assigned by airway traffic control and included in flight plans, with holding altitudes prescribed in terms of flight level numbers. The use of the instruments would only be applicable for air space at reasonable distances from airports, except at higher altitudes, because of climbing and descending aircraft in those vicinities.

The flight level indicator may be used as a check of the regular sensitive altimeter by setting the barometric scale on the regular altimeter at 29.92 and reading the indicated altitude. Multiply the flight level observed from the subdial on the flight level indicator by 500 to obtain the altitude in feet. The reading of the altimeter should correspond to this computed altitude.

The flight level indicator can be adapted to the automatic pilot as a means of automatically controlling the altitude. By installing the instrument as a part of the gyro pilot system the knob and the index marker would be interconnected with it in such a way that the marker is set at the desired course (and hence the desired altitude of flight level) and the automatic pilot will bring the airplane to that level and keep it there.

From the test reports presently available it appears that the flight level indicator by providing simple and uniform pressure altitude measurement insures the accurate vertical spacing of aircraft in relation to each other regardless of variations in atmospheric pressure or the individual adjustments of conventional altimeters.

CIVIL AERONAUTICS AUTHORITY

OFFICIAL



ACTIONS

OPINIONS, ORDERS AND REGULATIONS

FOR THE PERIOD MAY 1-15, 1940

NOTE ON THE ARRANGEMENT OF THESE PAGES

This part of the JOURNAL in each issue presents a current record of the official actions taken by the Civil Aeronautics Authority. Digests of all orders and regulations are carried in outer columns under the title "Abstracts." Persons having specific interest in any of these orders may obtain complete verbatim copies by writing to the Director of Statistics and Information, Civil Aeronautics Authority, Washington, D. C.

The large inner columns, set in different type, carry verbatim all opinions accompanying Authority actions. The type and format used will be utilized in the preparation of bound volumes of opinions of the Authority which will be issued at appropriate intervals. After the first volume is completed, the temporary page numbers now used will be replaced by the actual volume and page number which the text will carry in the bound volumes.

ABSTRACTS

ORDERS

Order No. 447: Commercial pilot certificate of Theodore T. Brown suspended for 60 days.

The Authority on May 3 suspended for a period of 60 days and thereafter until the holder thereof shall have demonstrated to the satisfaction of a designated representative of the Authority that he is thoroughly familiar with Parts 01 and 60 of the Civil Air Regulations and the local field traffic rules for Los Angeles Municipal Airport, Union

C. A. A. OPINIONS

C. A. A. Opinions—Vol. I Temporary Page No. CLIX

IN THE MATTER OF THEODORE T. BROWN, HOLDER OF
COMMERCIAL PILOT CERTIFICATE NO. 5168

Decided May 3, 1940

APPEARANCES:

Walter M. Rheinschild, counsel for the respondent.

S. G. Tipton, counsel for the Civil Aeronautics Authority.

OPINION

BY THE AUTHORITY:

The Authority on August 25, 1939, issued an order (order No. 609-39) temporarily suspending for a period of 30 days commercial pilot certificate No. 5168 issued to Theodore T. Brown of Beverly Hills, Calif. (hereinafter referred to as "respondent")¹ and directing him to appear before an examiner of the Authority and show cause why his pilot certificate should not be further suspended or revoked. This action was based upon certain allegations contained in the "show cause order" from which there appeared probable cause to believe that the respondent was not qualified to perform the duties of a commercial pilot.

Pursuant to notice a hearing was held in the matter before an examiner of the Authority at Los Angeles on September 21, 1939. The examiner subsequently filed his report recommending the revocation of the respondent's pilot certificate which was duly served upon the respondent.

In the order to show cause the respondent was charged with the violation of a number of the provisions of the Civil Air Regulations and of the local traffic rules for the Los Angeles Municipal Airport. These charges will be discussed hereinafter.

In the "show cause order" it is alleged that the respondent on two occasions during the afternoon of March 15, 1939, took off in instrument weather from the Los Angeles Municipal Airport, Inglewood, Calif., although he did not hold an instrument rating and the aircraft flown were not equipped for instrument flight.² The examiner found

¹ By subsequent order this certificate was suspended for an additional 30 days.

² Secs. 60.50, 60.51, and 60.444 of the Civil Air Regulations provide, in effect, that unless a pilot holds an instrument rating or an air line pilot certificate and the aircraft is equipped for instrument operation, no flight may be made unless the ceiling is at least 800 feet and the visibility at least 1 mile.

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that the respondent had committed these violations. However, after consideration of all the evidence, it appears that the respondent was not guilty of the violations charged because the weather at the time of both flights was not below the minimum specified for contact flight, that is, a ceiling of 800 feet and visibility of 1 mile. The evidence in the record is to the effect that the ceiling was well above 800 feet at the time of both flights and that while the visibility to the west was less than 1 mile, the visibility to the north, south, and east was in excess of 1 mile. In view of the fact that section 98.121 of the regulations defines visibility to be "the greatest distance toward the horizon at which conspicuous objects can be seen and identified," we find that the visibility was in excess of 1 mile and that the respondent did not commit the violations with which he was charged.

The "show cause order" also charges the respondent with taking off on the second of these two flights after having received a red light signal from the control tower. A take-off under these circumstances is prohibited by section 63.72.1 of the Los Angeles Municipal Code, the pertinent part of which is as follows:

Red light.—Stop and remain stationary. Every pilot or other person operating an aircraft at the Los Angeles Municipal Airport shall, upon receiving a red light signal while on the ground, stop the plane he is operating and cause same to remain stationary until he shall have received either a green light, permitting him to take off, or a white light, permitting him to taxi.

Green light.—Clear for take-off. No pilot or other person operating an aircraft at the Los Angeles Municipal Airport between the hours of 9:00 o'clock a. m. and sunset shall take off until he shall have received a green light signal or such other signal as may be provided herein."

In support of this charge, witness Frank W. Marian testified that between 2:28 p. m. and 2:43 p. m. on March 15, 1939, while performing his official duties as air traffic control tower operator at the municipal airport, he gave the red light signal to the respondent, who had taxied aircraft NC 16523 into position for a take-off from the airport, and that the respondent took off against the red light. The respondent, testifying in his own behalf, stated that in order to clear the airport before bad weather set in, he took off at about the time stated by the witness Marian without receiving a green light from the tower. However, he denied having received a red light signal before his take-off.

Thus we have a direct conflict in the evidence as to whether the respondent took off after having received a red light signal from the

ABSTRACTS

(Continued)

Air Terminal, and Grand Central Air Terminal, commercial pilot certificate No. 5168, held by Theodore T. Brown, Beverly Hills, Calif. (For full text of opinion and order, see p. 236.)

Order No. 498: Interlocking relationships approved.

The Authority on May 3 approved interlocking relationships of Shreve M. Archer and Northwest Airlines, Inc., and Great Northern Railway Co.

Order No. 499: Solo pilot certificate of Daniel A. Monan revoked.

The Authority on May 7 revoked solo pilot certificate No. 66064, held by Daniel A. Monan, LaGrange, Ga., for piloting an aircraft on a civil airway carrying a person other than a certificated instructor actually giving instruction, and other violations of the Civil Air Regulations. (Previous orders Nos. 457 and 495.)

Order No. 500: Compagnie Air France Transatlantique exempted from provisions of section 402 (a).

The Authority on May 7 exempted Compagnie Air France Transatlantique from the provisions of section 402 (a) of the Civil Aeronautics Act with respect to the transportation of French mail on west-bound crossings on weekly round trip experimental flights proposed to be made by said company between the Republic of France and the United States during the period from May 10 to November 1, 1940.

Order No. 501: Violations referred to the Attorney General for judicial action.

The Authority on May 10 referred to the Attorney General for judicial action the following cases involving violations of the Civil Air Regulations:

John P. Holland, Blytheville, Ark.—For piloting an uncertificated, unregistered aircraft bearing an invalid identification mark on a civil airway without being possessed of a valid pilot certificate, and other violations; and

Kenneth W. Tyler, Portland, Oreg.—For piloting an aircraft on a civil airway without being possessed of a valid pilot certificate, and other violations.

Order No. 502: Violation referred to the Attorney General for judicial action.

The Authority on May 10 referred to the Attorney General for judicial action the following case involving a violation of the Civil Air Regulations:

ABSTRACTS

(Continued)

James M. Harwell, Grand Saline, Tex.—For piloting an aircraft on a civil airway without being possessed of a pilot certificate.

Order No. 503: Private pilot certificate of Harry M. Lustig suspended for 30 days.

The Authority on May 10 suspended for a period of 30 days from April 21 private pilot certificate No. 42758, held by Harry M. Lustig, Denver, Colo., for piloting an aircraft on a civil airway carrying a person not possessed of a pilot certificate valid for the operation involved who occupied a control seat of said aircraft without the dual controls thereof having been made inoperative, and other violations of the Civil Air Regulations.

Order No. 504: Private pilot certificate of J. Don Jones suspended for 30 days.

The Authority on May 10 suspended for a period of 30 days private pilot certificate No. 45122, held by J. Don Jones, Wenatchee, Wash., for piloting an aircraft carrying a person who occupied a control seat of said aircraft when the dual controls thereof had not been made inoperative when neither respondent nor the person carried was possessed of a pilot certificate valid for the operation involved, and other violations of the Civil Air Regulations.

Order No. 505: Student pilot certificate of Joseph H. Tamblin revoked.

The Authority on May 10 revoked student pilot certificate No. 77356, held by Joseph H. Tamblin, Reno, Nev., for piloting an aircraft carrying a person other than a certificated instructor actually giving instruction, and other violations of the Civil Air Regulations.

Order No. 506: Offers accepted in compromise of civil penalties for violations.

The Authority on May 10 accepted the following offers in compromise of civil penalties incurred for violations of the Civil Aeronautics Act and the Civil Air Regulations:

Elbert B. Anding, New York City, N. Y.—For piloting an aircraft on and across various civil airways although said aircraft had been involved in an accident and had not been re-rated as to airworthiness—\$50; and

Arthur W. Berry, Anchorage, Alaska—For piloting an aircraft on a flight outside an area within a 25-mile radius of

airport traffic control tower. The examiner found that the respondent did take off against the red light signal. The witness Marian appears to be an unbiased witness. He made a notation with respect to the alleged violation at the time of its occurrence and reported it to an inspector of the Authority shortly thereafter. We find nothing in the record to justify us in setting aside the judgment of the examiner, who,

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after hearing the two witnesses and observing their manner, placed higher credibility on the testimony of the airport traffic control tower operator than upon that of the respondent who necessarily was an interested witness. Therefore, we hold this charge to be sustained by the evidence.

The respondent was also charged in the "show cause order" with operating experimental aircraft NX 14843 for other than experimental purposes in violation of the terms of the airworthiness certificate and of section 610 (a) of the Civil Aeronautics Act.³ The respondent admitted that until April 5, 1939, he was part owner of the airplane, a Rose Parrakeet which previously had been certificated as fully airworthy on the basis of the installation of a 40-horsepower motor. However, it appears from the record that beginning January 19, 1938, two Menasco 50-horsepower engines were alternately installed in the ship for experimental purposes and that during these periods the airplane was certificated as an experimental aircraft. At the hearing it was stipulated that the words "for experimental purposes only" were stamped on the face of the airworthiness certificate.

As to the respondent's use of this aircraft, there was uncontradicted evidence that the respondent permitted it to be flown by John S. Wagner, a test pilot and the holder of a commercial certificate, Ralph T. English, a solo pilot, and Bernard Schoenknecht, a student pilot. The testimony of Wagner and Schoenknecht indicated that each of the flights in which they were involved was made, at least in part, for experimental purposes. On the other hand, the testimony of witness English was to the effect that in return for his services in rebuilding certain batteries for the respondent, the respondent had permitted him to make the flights in question and that such flights had been for purely pleasure purposes. Therefore we find that the respondent authorized the use of aircraft NX 14843 for other than experimental purposes in violation of its airworthiness certificate and of section 610 (a) of the Civil Aeronautics Act of 1938.

The "show cause order" also charges the respondent with failing to maintain in accordance with sections 01.730 and 01.731 of the Civil Air Regulations⁴ the engine log book for the Rose Parrakeet, NX 14843, and the aircraft log book for aircraft NC 16523, both of which

³ "Sec. 610. (a) It shall be unlawful—

"(1) For any person to operate in air commerce any civil aircraft for which there is not currently in effect an airworthiness certificate, or in violation of the terms of any such certificate * * *"

⁴ "Sec. 01.730 *Aircraft log.* The registered owner of a certificated aircraft shall maintain an aircraft log book therefor and shall be responsible for recording in such logbook current reports of line and periodic inspections, the flight time of the aircraft, rigging changes in the aircraft, and damage, repairs, and alterations of the aircraft structure and of the propeller.

"Sec. 01.731 *Engine log.* The registered owner of a certificated aircraft shall maintain an engine log book for each engine installed therein and shall be responsible for recording in such log book current reports of line and periodic inspections, the duration of the running time of the engine both on the ground and in the air, changes in the engine installation, and of the overhaul and alteration of, and damage to, the engine."

were owned by him. Copies of the log books in question were introduced in evidence and an examination of them reveals that the provisions of the regulations prescribing the contents of log books were not strictly complied with. However, while it is clear from the record that the respondent was the owner of the aircraft in question, no showing was made that he was the *registered* owner of the aircraft. Consequently the responsibility of the respondent under the regulations for the maintenance of the log books is not clear and we hold that these charges are not sustained.

The show cause order further alleged that by reason of the violations which had been reported against the respondent, certain of the Authority's inspectors at Inglewood, Calif., refused to renew his commercial pilot certificate and referred his application to the Washington office for appropriate instruction, and pending action thereon, the respondent, without the knowledge of these inspectors, proceeded to San Francisco, Calif., and secured the renewal of his certificate from one of the Authority's inspectors who did not know of the previous refusal or the reasons therefor. This charge is sustained by the respondent's own admission.

Thus it appears that the respondent was guilty of violating the traffic regulations of the Los Angeles Municipal Airport and of misusing an experimental aircraft. Strict compliance with the traffic rules at any airport is indispensable if a high standard of safety is to be maintained, but it becomes even more important in the case of airports such as Los Angeles Municipal Airport on which the traffic is heavy and a large amount of student instruction is conducted. A violation of these rules not only endangers the life of the pilot involved, but renders him a potential hazard to the flying public.

The respondent's misuse of the Rose Parrakeet is equally as serious an offense. Careful investigation is made by the Authority of the structure and flying characteristics of all aircraft before they are certificated as airworthy for general commercial operations, and if after such certification the aircraft is altered in any substantial respect, it is clearly necessary in the interest of safety that it be withdrawn from such operations until the airworthiness of the altered aircraft is fully demonstrated to the Authority. The respondent did not follow these principles while the Rose Parrakeet was in an experimental status. He permitted a student pilot with little flying experience to operate the aircraft on many occasions and, in effect, rented the aircraft to a solo pilot for purely pleasure flights.

In addition, the action of the respondent in connection with the renewal of his pilot certificate on August 3, 1939, indicates an inclination on his part to evade measures of the Authority with which he is out of sympathy.

In a proceeding such as this one, it is the policy of the Authority to take such action in view of the qualifications and characteristics of the particular airman involved as will promote safety in air commerce. In this respect, it is pertinent to note that there was no evidence indicating that, from a technical standpoint, the respondent is not entirely qualified to hold a commercial pilot certificate. Although the respondent's disregard for measures promulgated in the interest of safety

his point of take-off in violation of the terms of his student pilot certificate—\$25.

Order No. 507: Not released by press date.

Order No. 508: Casey authorized to fly aircraft bearing Australian identification over United States.

The Authority on May 10 granted application of Richard Gardiner Casey for permission to fly a Fairchild 24 aircraft, bearing Australian identification marks, within the territory of the United States, subject to certain terms and conditions.

Unnumbered Order: Date of effectuation set for revisions of Civil Air Regulations.

The Authority on May 10 adopted an order without serial number prescribing July 15, 1940, as the effective date of the amendments to Parts 00, 01, 02, 27, and 60 and sections 04.000 and 60.32 of the Civil Air Regulations. (See regulations 70 to 72, inclusive, following this abstract of orders.)

Order No. 509: Offers accepted in compromise of civil penalties for violations.

The Authority on May 15 accepted the following offers in compromise of civil penalties incurred for violations of the Civil Aeronautics Act and the Civil Air Regulations:

Frank Cordova, Mineola, Long Island, N. Y.—For entering a controlled area while on an instrument flight without first establishing communication with such station and other violations—\$50; and

Lester Dethloff, East Cleveland, Ohio.—For permitting his registered aircraft to be flown on a civil airway by a person other than one possessed of a pilot certificate valid for the operation involved—\$50.

Order No. 510: Offer accepted in compromise of civil penalties for violations.

The Authority on May 15 accepted the following offer in compromise of civil penalties incurred for violations of the Civil Aeronautics Act and the Civil Air Regulations.

Ralph E. Morrison, Helena, Mont.—For piloting an aircraft on a civil airway after sunset when said aircraft was not equipped with navigation lights and other violations—\$50.

ABSTRACTS

(Continued)

Order No. 511: Offers accepted in compromise of civil penalties for violations.

The Authority on May 15 accepted the following offers in compromise of civil penalties incurred for violations of the Civil Aeronautics Act and the Civil Air Regulations.

George Lambros, Jr., Passaic, N. J.—For piloting an aircraft on a civil airway at an altitude less than 1,000 feet over a congested part of New York City—\$25; and

William Gilmore Simms, Jr., Summerton, S. Car.—For piloting an aircraft on a civil airway after sundown although said aircraft was not equipped with navigation lights—\$25.

Order No. 512: Private pilot certificate of William Kubida suspended for 90 days.

The Authority on May 15 suspended for a period of 90 days private pilot certificate No. 57439 held by William Kubida, Maplewood, N. J., for piloting an aircraft acrobatically carrying a passenger although neither he nor the passenger was equipped with a parachute, and other violations of the Civil Air Regulations.

Order No. 513: Proceeding of Transcontinental and Western Air consolidated.

The Authority on May 15 consolidated application of Transcontinental & Western Air, Inc., for a certificate of public convenience and necessity (Amarillo-Houston and Abilene-Dallas) with the applications of Continental Air Lines, Inc., Braniff Airways, Inc., Es-sair, Inc., and A. J. Burke.

Order No. 514: Missouri Central granted permission to withdraw application.

The Authority on May 15 granted request of Missouri Central Airlines, Inc., for withdrawal of its application for a certificate of public convenience and necessity authorizing air transportation between St. Louis, Mo., and Washington, D. C.

REGULATIONS

Regulation No. 68: Adopted amendment No. 2 of section 228.3 of the Economic Regulations.

The Authority on May 10 adopted amendment No. 2 of section 228.3 of the Economic Regulations modifying the provisions with respect to the requirement that air carriers carry inspection personnel of the Authority without charge when engaged in the conduct of official duties.

is a serious deficiency, it is one, nevertheless, which may be remedied in this case by a suspension of the respondent's pilot certificate and a requirement that he acquire a thorough knowledge of pertinent regulations and field traffic rules.

Consequently, the public interest will be adequately served by the suspension of the respondent's commercial pilot certificate for 60 days (in addition to the 60-day suspension already imposed upon the respondent during these proceedings) and thereafter until he shall have passed a written examination upon Parts 01 and 60 of the Civil Air Regulations and the local field traffic rules for the three principal airports in the vicinity of Los Angeles, Calif.

ORDER

The Civil Aeronautics Authority, acting pursuant to the Civil Aeronautics Act of 1938, particularly sections 205 (a) and 609 thereof, and finding that the interest of the public so requires, orders that commercial pilot certificate No. 5168, held by Theodore T. Brown of Beverly Hills, Calif., be suspended for the period of 60 days from the date hereof and thereafter until he shall have demonstrated to the satisfaction of a designated representative of the Authority, through a written examination given in accordance with section 20.5 of the Civil Air Regulations, that he is thoroughly familiar with Parts 01 and 60 of the Civil Air Regulations and the local field traffic rules for Los Angeles Municipal Airport, Union Air Terminal, and Grand Central Air Terminal.

Hinckley, Branch, Ryan, Mason, and Warner, Members of the Authority, concurred in the above opinion and order.

Regulation No. 69: Adopted amendment No. 44 of the CAR.

The Authority on May 10 adopted amendment No. 44 of the Civil Air Regulations amending section 24.36 providing for reexamination for mechanic certificate or rating.

(Serial numbers and amendment numbers have been assigned the following revisions, Nos. 70 to 72, inclusive, which have been previously adopted by the Authority to become effective July 15, 1940. For a description of the major changes effected by these revisions of the Civil Air Regulations see p. 230 of this JOURNAL.)

Regulation No. 70: Adopted amendment No. 45 of the CAR.

The Authority on November 3, 1939, adopted amendment No. 45 of the Civil Air Regulations providing for registration, airworthiness, type, and production certificates and identification marks.

(Parts 00 and 01 are stricken and new Part 01—Aircraft Registration and Airworthiness Certificates—is inserted in lieu thereof.)

(Old Part 02 is stricken and new Part 02—Type and Production Certificates—is inserted in lieu thereof.)

(Section 60.32 of Part 60 is amended.)
(Section 04.000 of Part 04 is amended.)

Regulation No. 71: Adopted amendment No. 46 of the CAR.

The Authority on December 22, 1939, adopted amendment No. 46 of the Civil Air Regulations creating a new method for certification of air carrier dispatchers. (Part 27—Aircraft Dispatchers Certificates.)

Regulation No. 72: Adopted amendment No. 47 of the CAR.

The Authority on December 22, 1939, adopted amendment No. 47 of the Civil Air Regulations providing for the issuance of certificates of waiver of the air traffic rules in connection with air meets or when the public safety, the safety of those engaged in aeronautics, or the encouragement and development of civil aeronautics requires a nonobservance of the air traffic rules or any part thereof. (Part 60 amended.)

Regulation No. 73: Adopted amendment No. 48 of the CAR.

The Authority on May 15 adopted amendment No. 48 of the Civil Air Regulations, effective July 1, 1940, concerning the scope, tests, data, drawings and technical requirements respecting airplane airworthiness. (Part 04 amended.)

Regulation No. 74: Restriction of air traffic over New York World's Fair grounds.

The Authority on May 15 adopted a regulation restricting air traffic over the New York World's Fair grounds and vicinity.

Regulation No. 75: Adopted amendment No. 49 of the CAR.

The Authority on May 15 adopted amendment No. 49 of the Civil Air Regulations modifying airline transport pilot privileges. (Sections 21.350 and 21.351 of Part 21 amended.)