

- (c.) Submit proof of recent reasonable flying experience on the class of machine for which the license is required, or, failing such proof, undergo practical tests.

With regard to (b) above the requirements are as follows:—

(1.) PRACTICAL TESTS:—

In each practical test the candidate must be alone in the flying-machine.

(a.) The tests for altitude and gliding flight and for skill are the same as those required for a private pilot's flying-certificate. Candidates already in possession of the latter certificate are not required to pass these tests again.

(b.) *Test of Endurance.*—A cross-country or oversea flight of at least 200 miles, and the final landing shall be made at the point of departure. This flight shall be carried out by the same aircraft within eight hours; and includes two obligatory landings during which the machine must come to rest, which shall not be at the point of departure, but which shall be fixed by the judges. At the time of departure the candidate shall be informed of his course and furnished with a map. The judges shall decide if the course has been correctly followed.

(2.) TECHNICAL EXAMINATION:—

After satisfactory practical tests have been passed, candidates will submit themselves when summoned to examination on (a) Flying-machines, (b) engines, (c) navigation.

(a.) *Flying-machines: Aeroplanes and Seaplanes.*—Theoretical abstract knowledge of the resistance of the air in connection with planes, rudders, elevators, and propellers; functions of the different parts of the machine and of their controls. Assembling of aeroplanes, propellers, under-carriages, rudders, elevators, and their controls. Practical tests on rigging.

(b.) *Engines.*—General knowledge of internal-combustion engines and their various functions, valve-gear, carburation, ignition, exhaust. Characteristics of aero engines, and a general idea of their construction, adjustment, and assembling. Causes of the faulty running of engines. Fuel and oils. Description of the details of the aero engines used. Adjustments, lubrication, upkeep, disassembling and assembling of the principal parts; causes of breakdown. Use of throttle and other controls. Practical tests in running repairs.

(c.) *Navigation.*—Knowledge of rules for aerial traffic in the vicinity of aerodromes. Practical knowledge of the special conditions of aerial traffic. Map-reading, use of compass, location of position.

*Remarks.*

The practical tests shall be carried out within a maximum period of one month. They may be carried out in any order, and each may be attempted twice. They shall be witnessed by at least two properly accredited examiners, who will hand over the official reports to the proper authorities.

The official reports will give full details of the flights, especially of the landings. The candidates shall furnish, before each test, proof of identity, which the examiners have the right to demand.

A barograph shall be carried on all practical tests; and the graph, signed by the two examiners, shall be attached to their report.

MEDICAL REQUIREMENTS.

Every applicant, before obtaining a license as pilot of aircraft engaged in public transport, will present himself for examination by specially qualified men appointed by or acting under the authority of the Air Board.

Medical supervision, both for the selection and the maintenance of efficiency, shall be based upon the following requirements of mental and physical fitness:—

- (a.) Good family and personal history, with particular reference to nervous stability. Absence of mental, moral, or physical defect which will interfere with flying-efficiency.
- (b.) Minimum age for pilots engaged in public transport shall be nineteen years.
- (c.) General surgical examination: The applicant must neither suffer from any wound, injury, or operation, nor possess any abnormality, congenital or otherwise, which will interfere with the efficient and safe handling of aircraft.
- (d.) General medical examination: The applicant must not suffer from any disease or disability which renders him liable suddenly to become incompetent in the management of aircraft. He must possess heart, lungs, kidneys, and nervous system capable of withstanding the effects of altitude and also the effect of prolonged flight.
- (e.) Eye-examination: The applicant must possess a degree of visual acuity compatible with the efficient performance of his duties. No pilot shall have more than two dioptries of latent hypermetropia;

muscle-balance must be good and commensurate with the refraction. He must have a good field of vision in each eye, and must possess normal colour-perception.

- (f.) Ear-examination: The middle ear must be healthy. The applicant must possess a degree of auditory acuity compatible with the efficient performance of his duties.
- (g.) The vestibular mechanism must be intact, and neither unduly hypersensitive nor hyposensitive.
- (h.) Nose and throat examination: The applicant must possess free nasal air-entry on either side, and not suffer from serious acute or chronic affections of the upper respiratory tract.

The successful applicant will receive a medical certificate of acceptance, which must be produced before the license can be issued.

In order to ensure the maintenance of efficiency every applicant shall be re-examined periodically, at least every six months, and the findings attached to his original record. In case of illness or accident, also, a pilot shall be re-examined and pronounced fit before resuming aerial duties. The date and result of each re-examination shall be recorded on the applicant's flying-certificate.

No applicant who before the 1st May, 1919, has given proof of his flying ability shall, so long as he retains such ability, be necessarily disqualified because he fails to fulfil all of the above requirements.

Applications for medical examination should be made to the Secretary, Air Board.

GENERAL.

Holders of licenses may be required from time to time to undergo further medical examination carried out under the control of the Air Board.

Licenses shall remain valid for the following periods: Pilot's license, six months; other licenses, twelve months; and shall not be valid unless endorsed by the Air Board at these intervals.

The fee to be charged in respect of each license issued and in respect to each such endorsement as aforesaid shall be five shillings (5s.).

In the event of any applicant being required to undergo such practical test as is specified in paragraphs above a further fee of one guinea (£1 1s.) will be charged.

PERSONS COMPETENT TO UNDERTAKE PERIODICAL INSPECTION AND OVERHAUL AND EXAMINATION BEFORE EACH FLIGHT OF AIRCRAFT.

12. A person desirous of being licensed as a competent person (hereinafter referred to as a "ground engineer") to undertake the inspection of periodic overhauls of aircraft required to be certified as airworthy, or as a competent person to examine such aircraft before each flight, will be required to undergo an examination conducted under the control of the Air Board. At this examination the candidate will be required to submit proof—(a) That he is not less than twenty-one years of age; (b) that he has served at least two years as a mechanic or engineer on internal-combustion engines, or a like period on aircraft construction or maintenance, or a period of not under three years on joint aero-engine and aircraft construction or maintenance.

13. A candidate may apply to be licensed as a ground engineer to overhaul and inspect *all* flying-machines and [or] engines after overhaul and each day before flight; or may apply for a license limited to the inspection of *any* named type or types of flying machine or engine, either after overhaul and [or] each day before flight.

14. Candidates will be required to submit proof of knowledge—

- (a.) For engines: Of the general principles of internal-combustion engines applied to aircraft, including the general principles of ignition, carburation, lubrication, and cooling; knowledge of the inspection, testing, and adjustments necessary for the installation and functioning of the complete power unit in the aircraft; and the capacity to supervise or inspect running repairs and [or] overhaul of particular engines.
- (b.) For flying-machines: The general principles of construction, rigging, trueing-up, and adjustment of flying-machines; a detailed knowledge of construction, adjustments, maintenance, and final inspection of the flying-machine's components; and the capacity to supervise or inspect running repairs and [or] the overhaul of specified types of flying-machines.

15. The examination may be in part written and in part oral. Candidates may be required to give practical proof of knowledge.