(*b*) If the flying machine has a maximum total weight authorised in its certificate of airworthiness exceeding 12,500 lb. the three lights shall all be flashing lights flashing together:

Provided that if the flying machine is showing in addition to the three lights a light as permitted by proviso (d) to paragraph (1) of Rule 70 for the purpose specified in sub-paragraph (ii) of that proviso, being a flashing light, the three lights may all be steady lights".

(*b*) in paragraph (5), for the word "in" where that word first occurs there shall be substituted the word "is".

W. G. Agnew.

EXPLANATORY NOTE

(*This Note is not part of the Order, but is intended to indicate its general purport.*)

This Order amends the Air Navigation Order, 1954—

(*a*) by extending the provisions of Article 22 of that Order, which relate to the number and description of the operating crew of aircraft, so as to apply also to the number and description of other persons having duties to perform in the aircraft, and

(*b*) by modifying the provisions of Rule 71 of the Rules of the Air in the Second Schedule to that Order which relate to the lights to be shown by certain flying machines registered in the United Kingdom.

1957 No. 627

The Air Navigation (General) (Second Amendment) Regulations, 1957

Made - - - -	*8th April,* 1957
Coming into Operation	*9th April,* 1957

The Minister of Transport and Civil Aviation, in exercise of the powers conferred upon him by the Air Navigation Order, 1954(a), as amended(b), and of all other powers enabling him in that behalf, hereby makes the following Regulations:—

Citation and Operation

1. These Regulations may be cited as the Air Navigation (General) (Second Amendment) Regulations, 1957, and shall come into operation on the ninth day of April, 1957.

(a) S.I. 1954/829 (1954 I, p. 259).
(b) S.I. 1956/82, 421, 1212, 1578, 1957/278 (1956 I, pp. 458, 460, 461, 464; 1957 I, p. 356).

Interpretation

2.—(1) In these Regulations, "the Order" means the Air Navigation Order, 1954, as amended, and "the Regulations" means the Air Navigation (General) Regulations, 1954(**a**), as amended by the Air Navigation (General) (Amendment) Regulations, 1956(**b**).

(2) The Interpretation Act, 1889(**c**) applies for the purposes of the interpretation of these Regulations as it applies for the purposes of the interpretation of an Act of Parliament.

3. The Regulations shall be amended in accordance with the following provisions of this Regulation, that is to say:—

(1) In Regulation 12, sub-paragraph (iv) of the A Conditions shall be omitted.

(2) In Regulation 24, with effect from the 1st day of August, 1957, the following shall be substituted for item (ix) in sub-paragraph (*a*) of paragraph (6)—

"(ix) for each person the dinghy is designed to carry:

8 ounces of glucose toffee tablets;

4 ounces of sweetened condensed milk in durable containers;

2 pints of fresh water in durable containers;

Provided that in any case in which it is not reasonably practicable owing to lack of stowage space in the dinghy to carry the quantities of condensed milk and water above prescribed, an equal quantity by weight of glucose toffee tablets may be substituted for the former and as large a quantity of fresh water as is reasonably practicable in the circumstances may be substituted for the latter. In no case however shall the quantity of water carried be less than is sufficient, when added to the amount of fresh water capable of being produced by means of the equipment specified in item (viii) of this sub-paragraph, to provide 2 pints of water for each person the dinghy is designed to carry;"

(3) With effect from the 1st day of August, 1957, there shall be substituted for Regulation 68 the following Regulation—

"*Carriage of a flight navigator*

68.—(1) A public transport aircraft when carrying out any flight described in the following paragraph of this Regulation shall carry a duly licensed flight navigator as a member of the operating crew in addition to the members thereof whose carriage in the circumstances of the flight is required, apart from this Regulation, by or under the Order.

(2) The requirements of the preceding paragraph shall apply to a public transport aircraft when carrying out any flight—

(*a*) the proposed route of which as planned prior to take-off exceeds a great circle distance of 500 nautical miles when measured along either—

(i) the route as intended to be flown if conditions permit, or

(ii) that route as it may be varied by any diversion planned prior to take-off as an alternative for adoption if necessary in the course of the flight,

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(**a**) S.I. 1954/925 (1954 I, p. 356). (**b**) S.I. 1956/126 (1956 I, p. 466).
(**c**) 52 & 53 Vict. c. 63.

from the point of take-off to, in case (i), the point of first intended landing or, in case (ii), the point of first landing specified for the purpose of any such diversion; and

(*b*) in the course of which the aircraft in following any route planned or varied as aforesaid will fly over any part of an area specified in the Schedule to the Regulations".

(4) With effect from the 1st day of August, 1957, the following Schedule shall be appended to the Regulations—

"SCHEDULE

Regulation 68

AREAS SPECIFIED IN CONNECTION WITH THE CARRIAGE OF FLIGHT NAVIGATORS AS MEMBERS OF THE OPERATING CREWS OF PUBLIC TRANSPORT AIRCRAFT

The following areas are hereby specified for the purposes of Regulation 68—

Area A—Arctic

All that area north of latitude 66° 33′ north, excluding any part thereof lying within 300 nautical miles of Norway.

Area B—Antarctic

All that area south of latitude 50° south.

Area C—Sahara

All that area enclosed by rhumb lines joining successively the following points:—

32° north latitude	03° west longitude
24° " "	14° " "
14° " "	14° " "
18° " "	28° east "
24° " "	28° " "
28° " "	23° " "
32° " "	03° west "

Area D—Arabian Desert

All that area enclosed by rhumb lines joining successively the following points:—

30° north latitude	38° east longitude
16° " "	46° " "
20° " "	52° " "
29° " "	43° " "
30° " "	38° " "

Area E—South America (Central)

All that area enclosed by rhumb lines joining successively the following points:—

05° north latitude	75° west longitude
04° " "	60° " "
10° south "	40° " "
30° " "	60° " "
30° " "	70° " "
18° " "	69° " "
14° " "	75° " "
05° " "	80° " "
05° north "	75° " "

Area F—South America (Patagonia)

All that area enclosed by rhumb lines joining successively the following points:—

50°	south	latitude	75°	west	longitude
40°	,,	,,	75°	,,	,,
40°	,,	,,	62°	,,	,,
50°	,,	,,	65°	,,	,,
50°	,,	,,	75°	,,	,,

Area G—Pacific Ocean

All that area enclosed by rhumb lines joining successively the following points:—

50°	south	latitude	75°	west	longitude
20°	,,	,,	73°	,,	,,
05°	,,	,,	85°	,,	,,
05°	north	,,	80°	,,	,,
15°	,,	,,	105°	,,	,,
30°	,,	,,	125°	,,	,,
55°	,,	,,	140°	,,	,,
67°	,,	,,	180°	,,	,,
60°	,,	,,	180°	,,	,,
20°	,,	,,	128°	east	,,
04°	,,	,,	128°	,,	,,
00°	,,	,,	160°	,,	,,
50°	south	,,	160°	,,	,,
50°	,,	,,	75°	west	,,

excluding any part thereof lying within 300 nautical miles of New Zealand.

Area H—Australia

All that area enclosed by rhumb lines joining successively the following points:—

18°	south	latitude	123°	east	longitude
26°	,,	,,	118°	,,	,,
30°	,,	,,	118°	,,	,,
30°	,,	,,	145°	,,	,,
26°	,,	,,	145°	,,	,,
21°	,,	,,	140°	,,	,,
18°	,,	,,	123°	,,	,,

Area I—Indian Ocean

All that area enclosed by rhumb lines joining successively the following points:—

50°	south	latitude	110°	east	longitude
20°	,,	,,	110°	,,	,,
13°	,,	,,	120°	,,	,,
10°	,,	,,	100°	,,	,,
18°	north	,,	89°	,,	,,
00°	,,	,,	80°	,,	,,
24°	,,	,,	65°	,,	,,
05°	south	,,	43°	,,	,,
20°	,,	,,	60°	,,	,,
25°	,,	,,	60°	,,	,,
30°	,,	,,	35°	,,	,,
50°	,,	,,	35°	,,	,,
50°	,,	,,	110°	,,	,,

Area J—Atlantic Ocean

All that area enclosed by rhumb lines joining successively the following points:—

50°	south	latitude	15°	east	longitude
05°	,,	,,	10°	,,	,,
02°	north	,,	05°	,,	,,
02°	,,	,,	10°	west	,,
15°	,,	,,	25°	,,	,,
55°	,,	,,	15°	,,	,,
67°	,,	,,	40°	,,	,,
67°	,,	,,	60°	,,	,,
45°	,,	,,	45°	,,	,,
40°	,,	,,	63°	,,	,,
19°	,,	,,	63°	,,	,,
05°	south	,,	30°	,,	,,
50°	,,	,,	55°	,,	,,
50°	,,	,,	15°	east	,,

(5) In Regulation 195, with effect from the 1st day of May, 1957, paragraph (4) shall be omitted.

(6) In Regulation 197:—

(i) the figure "1" shall be substituted for the figure "2" as the number of the Colour Perception Standard specified in sub-paragraphs (*a*) to (*l*) respectively;

(ii) there shall be substituted as the number of the Hearing Standard specified—

in sub-paragraphs (*a*), (*e*), (*f*), (*g*) and (*h*) respectively, the figure "2" for the figure "4"; in sub-paragraphs (*b*), (*k*) and (*l*) respectively, the figure "1" for the figure "3"; and in sub-paragraphs (*i*) and (*j*) respectively, the figure "2" for the figure "3";

(iii) the figure "3" shall be substituted for the figure "2" as the number of the Visual Standard specified in sub-paragraph (*l*).

(7) The following Regulations shall be substituted for Regulations 202 to 213:—

VISUAL REQUIREMENTS

202. Visual acuity for distance shall be measured by means of a series of optotypes of Snellen or Landholt, illuminated at not less than 10 nor more than 15 foot candles and placed at a distance of 20 feet from the applicant.

203. (i) Each eye of the applicant will be tested separately. The use of contact lenses will not be permitted during the test, and the expression "correcting glasses" shall not for the purpose of the following three Regulations include contact lenses.

(ii) Applicants will not be permitted during the test to attempt to improve visual acuity by partially closing the eyelids so as to produce a stenopaeic effect.

204. *Visual Standard No.* 1.—The applicant must have:

(*a*) a visual acuity for distance of at least 6/9 in each eye, with or without correcting glasses;

Provided that if this degree of visual acuity is obtained only by means of correcting glasses, the degree of vision in each eye without glasses shall not be less than 6/18 and correcting glasses

equivalent to those used during the test shall be worn at all times when the applicant is exercising the privileges of any licence issued to him which requires this Standard to be attained;

(*b*) a near visual acuity which enables him with each eye, and either without correcting glasses or with such correcitng glasses as it is his normal custom to wear, to read No. 3. on the Jaeger chart at a distance of 12 inches;

(*c*) not more than + 2·25 diopters of hypermetropia;

(*d*) normal fields of vision.

205. *Visual Standard No.* 2.—The applicant must have:

(*a*) a visual acuity for distance of at least 6/12 in each eye with or without correcting glasses;

Provided that if this degree of visual acuity is obtained only by means of correcting glasses, the degree of vision in each eye without glasses shall not be less than 6/30 and correcting glasses equivalent to those used during the test shall be worn at all times when the applicant is exercising the privileges of any licence issued to him which requires this Standard to be attained;

(*b*) a near visual acuity which enables him, with each eye and either without correcting glasses or with such correcting glasses as it is his normal custom to wear, to read No. 3. on the Jaeger chart at a distance of 12 inches;

(*c*) normal fields of vision.

206. *Visual Standard No.* 3.—The applicant must have:

(*a*) a visual acuity for distance of at least 6/12 in each eye, with or without correcting glasses;

Provided that if this degree of visual acuity is obtained only by means of correcting glasses, the degree of vision in each eye without glasses shall not be less than 6/60 and correcting glasses equivalent to those used during the test shall be worn at all times when the applicant is exercising the privileges of any licence issued to him which requires this Standard to be attained;

(*b*) a near visual acuity which enables him, with each eye and either without correcting glasses or with such correcting glasses as it is his normal custom to wear, to read No. 3. on the Jaeger chart at a distance of 12 inches;

(*c*) normal fields of vision.

Colour Perception Requirements

207. Colour perception sense shall be measured either by means of pseudo-isochromatic plates or of a suitable colour perception lantern. Tests by the latter method shall be carried out in a completely darkened room.

208. Colour Perception Standard No. 1.—The applicant must be able readily and accurately either to read the pseudo-isochromatic plates or to identify the colours signal red, signal green, and white, when displayed by means of the colour perception lantern.

Hearing Requirements

209. The applicant must be free from any hearing defect likely to interfere with the efficient exercise by him of the privileges of the licence for which he is being examined.

210. Auditory acuity shall be measured by the following methods, either or both of which shall be employed according to the requirements of the relevant Hearing Standard—

(i) by means of a standard pure tone audiometer in a room in which the intensity of the background noise does not exceed 50 decibels;

(ii) by a test of the applicant's ability to hear normal speech.

211. *Hearing Standard No.* 1.—In neither ear shall the applicant's hearing loss when measured in the manner specified in sub-paragraph (i) of Regulation 210 exceed 25 decibels at frequencies 500, 1000, and 2000 cycles per second and 40 decibels at a frequency of 3000 cycles per second.

212. *Hearing Standard No.* 2.—The applicant must be able, using both ears simultaneously and standing with his back to the examiner, to hear accurately and readily conversation carried on by the examiner in normal tones at a distance of 8 feet from him in a room in which the intensity of the background noise does not exceed 50 decibels."

(8) In the Note contained in paragraph (*f*) of Regulations 199, 200 and 201 respectively, the words and numbers "Regulations 202 to 206" shall be substituted for the words and numbers "Regulations 202 to 205", and the words and figures "Regulation 207 and 208" for the words and figures "Regulations 206 to 208"; and in the Note contained in paragraph (*g*) of each of the said Regulations, the words and numbers "Regulations 210 to 212" shall be substituted for the words and figures "Regulations 209 to 213".

Given under the Official Seal of the Minister of Transport and Civil Aviation this eighth day of April, 1957.

(L.S.)

E. A. Armstrong,
An Under Secretary of the
Ministry of Transport and Civil Aviation.

EXPLANATORY NOTE

(This Note is not part of the Regulations but is intended to indicate their general purport.)

These Regulations amend the Air Navigation (General) Regulations, 1954, by removing from the "A Conditions" under which aircraft may fly within the United Kingdom unregistered or without a certificate of airworthiness the condition confining flights by such aircraft to a limited distance from the aerodrome of departure; imposing, with effect from the 1st August, 1957, revised requirements specifying the food and water to be carried in dinghies forming part of the safety equipment of public transport aeroplanes, and the types of flight upon which public transport aircraft are required to carry a flight navigator as an additional member of the operating crew; and imposing revised Visual, Colour Perception, and Hearing Standards to be applied to applicants for the grant or renewal of aircrew licences. A small amendment is also made to take account of the provisions of the Air Navigation (Fifth Amendment) Order, 1957, relating to flying hours.