

## SCHEDULE 1

Regulation 8

### AEROPLANE PERFORMANCE

## CONTENTS

1. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group A or performance group B
  2. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group C
  3. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group D
  4. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group E
  5. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group F
  6. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group X
  7. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group Z – aeroplanes of which the specified maximum total weight authorised exceeds 5,700 kg or of which the specified maximum total weight authorised does not exceed 5,700 kg and the wing loading of the aeroplane exceeds 20lb per square foot or the stalling speed of the aeroplane in the landing configuration exceeds 60 knots
  8. Weight and performance of public transport aeroplanes specified as aeroplanes of performance group Z – of which the specified maximum total weight authorised does not exceed 5,700 kg and the wing loading of the aeroplane does not exceed 20lb per square foot or the stalling speed of the aeroplane in the landing configuration does not exceed 60 knots (or both)
- Signature  
Explanatory Note

#### **Weight and performance of public transport aeroplanes specified as aeroplanes of performance group A or performance group B**

1.—(1) For the purposes of article 44(6) an aeroplane registered in the United Kingdom, in respect of which there is in force under article 44(5) a permission specifying the aeroplane as being of performance group A or performance group B, shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (2), (3), (5), (9), (12), (15), (17), (18) and (19) are met.

(2) That weight shall not exceed the maximum take-off weight specified for the altitude and the air temperature at the aerodrome at which the take-off is to be made.

(3) Subject to sub-paragraph (4), the take-off run, take-off distance and the accelerate–stop distance respectively required for take-off, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;
- (c) the air temperature at the aerodrome;

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- (d) the condition of the surface of the runway from which the take-off will be made;
- (e) the slope of the surface of the aerodrome in the direction of take-off over the take-off run available, the take-off distance available and the accelerate-stop distance available, respectively; and
- (f) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

shall not exceed the take-off run, the take-off distance and the accelerate-stop distance available, respectively, at the aerodrome at which the take-off is to be made.

(4) In ascertaining the accelerate-stop distance available required pursuant to sub-paragraph (3), the point at which the pilot is assumed to decide to discontinue the take-off shall not be nearer to the start of the take-off run than the point at which, in ascertaining the take-off run required and the take-off distance required, he is assumed to decide to continue the take-off, in the event of power unit failure.

(5) Subject to sub-paragraphs (6), (7) and (8), the net take-off flight path of the aeroplane with one power unit inoperative, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;
- (c) the air temperature at the aerodrome;
- (d) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

which is plotted from a point 35 feet above the end of the take-off distance required at the aerodrome at which the take-off is to be made to a height of 1,500 feet above the aerodrome, shall show that the aeroplane will clear any obstacle in its path by a vertical interval of at least 35 feet.

(6) If it is intended that the aeroplane shall change its direction of flight by more than 15° before reaching 1,500 feet above the aerodrome the net take-off flight path of the aeroplane referred to in sub-paragraph (5) shall—

- (a) be plotted from a point 50 feet above the end of the take-off distance required at the aerodrome at which the take-off is to be made to a height of 1,500 feet above the aerodrome; and
- (b) show that the aeroplane will clear any obstacle in its path by a vertical interval of at least 50 feet during the change of direction.

(7) For the purpose of sub-paragraphs (5) and (6) an obstacle shall be deemed to be in the path of the aeroplane if the distance from the obstacle to the nearest point on the ground below the intended line of flight of the aeroplane does not exceed—

- (a) a distance of 60 metres plus half the wing span of the aeroplane plus one eighth of the distance from such point to the end of the take-off distance available measured along the intended line of flight of the aeroplane; or
- (b) 900 metres,

whichever is least.

(8) In assessing the ability of the aeroplane to satisfy sub-paragraphs (5) and (6), it shall not be assumed the aeroplane will make a change of direction of a radius less than the specified radius of steady turn.

(9) Subject to sub-paragraphs (10) and (11), the aeroplane shall —

- (a) in the meteorological conditions expected for the flight;

- (b) in the event of any one power unit becoming inoperative at any point on its route or on any planned diversion from it; and
- (c) with the other power unit or units operating within the specified maximum continuous power conditions,

be capable of continuing the flight, clearing obstacles within 10 nautical miles either side of the intended track by a vertical interval of at least 2,000 feet, to an aerodrome at which it can comply with sub-paragraph (19); and on arrival over such aerodrome the gradient of the specified net flight path with one power unit inoperative shall not be less than zero at 1,500 feet above the aerodrome.

(10) In assessing the ability of the aeroplane to satisfy sub-paragraph (9) it shall not be assumed to be capable of flying at an altitude exceeding the specified maximum permissible altitude for power unit restarting.

(11) If the operator of the aeroplane is satisfied, taking into account the navigation aids which can be made use of by the aeroplane on the route, that the commander of the aeroplane will be able to maintain his intended track on that route within a margin of 5 nautical miles, sub-paragraph (9) shall have effect as if 5 nautical miles were substituted for 10 nautical miles.

(12) Subject to sub-paragraphs (13) and (14), if the aeroplane has three or more power units, it shall—

- (a) in the meteorological conditions expected for the flight; and
- (b) in the event of any two power units becoming inoperative at any point:
  - (i) along the route ; or
  - (ii) on any planned diversion from the route which is more than 90 minutes flying time in still air, at the all power units operating economical cruise speed, from the nearest aerodrome at which it can comply with sub-paragraph (19),

be capable of continuing the flight with all other power units operating within the specified maximum continuous power conditions, clearing by a vertical interval of at least 2,000 feet obstacles within 10 nautical miles either side of the intended track to such an aerodrome; and on arrival over such an aerodrome the gradient of the specified net flight path with two power units inoperative shall not be less than zero at 1,500 feet above the aerodrome.

(13) In assessing the ability of the aeroplane to satisfy sub-paragraph (12) it shall not be assumed to be capable of flying at an altitude exceeding the specified maximum permissible altitude for power unit restarting.

(14) If the operator of the aeroplane is satisfied, taking into account the navigation aids which can be made use of by the aeroplane on the route, that the commander of the aeroplane will be able to maintain his intended track on that route within a margin of 5 nautical miles, sub-paragraph (12) shall have effect as if 5 nautical miles were substituted for 10 nautical miles.

(15) Subject to sub-paragraph (16), if the aeroplane—

- (a) has two power units and a maximum total weight authorised which exceeds 5,700 kg; and
- (b) is not limited by its certificate of airworthiness to the carriage of less than 20 passengers,

it shall, in the meteorological conditions expected for the flight, be not more than 60 minutes flying time, at the normal one engine inoperative cruise speed in still air, from the nearest aerodrome at which it can comply with sub-paragraph (19) at any point along the route or any planned diversion from it.

(16) Sub-paragraph (15) shall not apply to an aeroplane flying under, and in accordance with, the terms of a written permission granted by the CAA to the operator under this sub-paragraph.

(17) If the aeroplane has—

- (a) two power units and a maximum total weight authorised of 5,700kg or less; or

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(b) two power units and a maximum total weight authorised of more than 5,700kg but is limited by its certificate of airworthiness to the carriage of less than 20 passengers, it shall, in the meteorological conditions expected for the flight, be not more than 90 minutes flying time in still air, at the all power units operating economical cruise speed, from the nearest aerodrome at which it can comply with sub-paragraph (19).

(18) The landing weight of the aeroplane shall not exceed the maximum landing weight specified for the altitude and the expected air temperature for the estimated time of landing at the aerodrome of intended destination and at any alternate aerodrome.

(19) Subject to sub-paragraphs (20) and (21), the landing distances required for an aeroplane powered by turbine-jet, turbine propeller or piston engines, respectively specified as being appropriate to—

- (a) the aerodrome of intended destination; and
- (b) any alternate aerodrome,

shall not exceed the landing distance available on the most suitable runway for a landing in still air conditions and the landing distance available on the runway that may be required for landing because of the forecast wind conditions at the aerodrome of intended destination or any alternate aerodrome.

(20) If an alternate aerodrome is designated in the flight plan, the specified landing distance required may be that appropriate to that alternate aerodrome when assessing the ability of the aeroplane to satisfy sub-paragraph (19) at the aerodrome of intended destination.

(21) For the purposes of sub-paragraphs (19) and (20) the specified landing distance required shall be that specified as being appropriate to—

- (a) the landing weight;
- (b) the altitude of the aerodrome;
- (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome;
- (d) a level surface in the case of runways usable in both direction; or the average slope of the runway in the case of runways usable in only one direction; and
- (e) still air conditions in the case of the most suitable runway for a landing in still air conditions and not more than 50 per cent. of the forecast wind component opposite to the direction of landing or not less than 150 per cent. of the forecast wind component in the direction of landing in the case of the runway that may be required for landing because of the forecast wind conditions.

### **Weight and performance of public transport aeroplanes specified as aeroplanes of performance group C**

2.—(1) For the purposes of article 44(6), an aeroplane registered in the United Kingdom in respect of which there is in force under article 44(5) a permission specifying the aeroplane as being of performance group C shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (2), (3), (4), (8), (12), (14), (15) or, as an alternative to sub-paragraph (15), (17) are met.

(2) The weight of the aeroplane shall not exceed the maximum take-off weight specified for the altitude and the air temperature at the aerodrome at which the take-off is to be made.

(3) The take-off run required and the take-off distance required, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;

- (c) the air temperature at the aerodrome;
- (d) the average slope of the surface of the aerodrome in the direction of take-off over the accelerate-stop distance available; and
- (e) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

shall not exceed the take-off run available and the accelerate-stop distance available, respectively, at the aerodrome at which the take-off is to be made.

(4) Subject to sub-paragraphs (5), (6) and (7), the net take-off flight path of the aeroplane, with all power units operating, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude of the aerodrome;
- (c) the air temperature at the aerodrome;
- (d) not more than 50 per cent. of the reported wind component opposite to the direction of the take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

which is plotted from a point 50 feet above the end of the take-off distance required at the aerodrome at which the take-off is to be made to a height of 1,500 feet above the aerodrome, shall show that the aeroplane will clear any obstacle in its path by a vertical interval of not less than 35 feet.

(5) If it is intended that the aeroplane shall change its direction of flight by more than 15° before reaching 1,500 feet above the aerodrome the vertical interval referred to in sub-paragraph (4) shall be not less than 50 feet during the change of direction.

(6) For the purpose of sub-paragraph (4) an obstacle shall be deemed to be in the path of the aeroplane if the distance from the obstacle to the nearest point on the ground below the intended line of flight of the aeroplane does not exceed 75 metres.

(7) In assessing the ability of the aeroplane to satisfy sub-paragraph (4), it shall not be assumed the aeroplane will make a change of direction of a radius less than the specified radius of steady turn.

(8) Subject to sub-paragraphs (9), (10) and (11), if the aeroplane is intended to be flown for any period before reaching a height of 1,500 feet above the aerodrome from which the take-off is to be made in conditions which will not ensure that any obstacles can be located by means of visual observation, the net take-off flight path of the aeroplane, with one power unit inoperative, which is—

- (a) specified as being appropriate to the factors contained in paragraphs (a) to (d) of sub-paragraph (4); and
- (b) plotted from the point of the net take-off flight path, with all power units operating specified as being appropriate to those factors at which, in the meteorological conditions expected for the flight, the loss of visual reference would occur,

shall show that the aeroplane will clear by a vertical interval of not less than 35 feet any obstacle in its path.

(9) If it is intended that the aeroplane shall change its direction of flight by more than 15° before reaching 1,500 feet above the aerodrome the vertical interval referred to in sub-paragraph (8) shall not be less than 50 feet during the change of direction.

(10) For the purpose of sub-paragraph (8) an obstacle shall be deemed to be in the path of the aeroplane if the distance from the obstacle to the nearest point on the ground below the intended line of flight of the aeroplane does not exceed—

- (a) 75 metres plus one-eighth of the distance from such point to the end of the accelerate-stop distance available measured along the intended line of flight of the aeroplane; or

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(b) 900 metres,  
whichever is least.

(11) In assessing the ability of the aeroplane to satisfy sub-paragraph (8) it shall not be assumed the aeroplane will make a change of direction of a radius of less than the specified radius of steady turn.

(12) Subject to sub-paragraph (13), the aeroplane shall —

- (a) at any time after it reaches a height of 1,500 feet above the aerodrome from which the take-off is made;
- (b) in the event of any one power unit becoming inoperative at any point on its route or on any planned diversion from it;
- (c) with the other power unit or power units operating within the specified maximum continuous power conditions; and
- (d) in the meteorological conditions expected for the flight,

be capable of continuing the flight at altitudes not less than the relevant minimum altitude for safe flight stated in, or calculated from the information contained in, the operations manual relating to the aeroplane to a point 1,500 feet above an aerodrome at which a safe landing can be made; and after arrival at that point shall be capable of maintaining that height.

(13) In assessing the ability of the aeroplane to satisfy sub-paragraph (12) it shall not be assumed to be capable of flying at any point on its route at an altitude exceeding the performance ceiling, with all power units operating, specified as being appropriate to its estimated weight at that point.

(14) The landing weight of the aeroplane shall not exceed the maximum landing weight specified for the altitude and the expected air temperature for the estimated time of landing at the aerodrome of intended destination and at any alternate aerodrome.

(15) Subject to sub-paragraphs (16) and (17), the distance required by the aeroplane to land from a height of 50 feet above the threshold of the runway, otherwise than in accordance with specified data for short field landing, at—

- (a) the aerodrome of intended destination; and
- (b) any alternate aerodrome,

shall not exceed 70 per cent. of the landing distance available on the most suitable runway for a landing in still air conditions and 70 per cent. of the landing distance available on the runway that may be required for landing because of the forecast wind conditions.

(16) For the purposes of sub-paragraph (15) the distance required to land from a height of 50 feet above the threshold of the runway shall be taken to be that specified as being appropriate to—

- (a) the landing weight;
- (b) the altitude at the aerodrome;
- (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome;
- (d) the level surface in the case of runways usable in both directions or the average slope of the runway in the case of runways usable in only one direction;
- (e) still air conditions in the case of the most suitable runway for landing in still air conditions; and
- (f) not more than 50 per cent. of the forecast wind component opposite to the direction of landing or not less than 150 per cent. of the forecast wind component in the direction of landing in the case of the runway that may be required for landing because of the forecast wind conditions.

(17) As an alternative to sub-paragraph (15) but subject to sub-paragraphs (18), (19) and (20) the distance required by the aeroplane to land in accordance with specified data for short field landing, with all power units operating or with one power unit inoperative at—

- (a) the aerodrome of intended destination; and
- (b) any alternate aerodrome,

shall not exceed the landing distance available on the most suitable runway for a landing in still air conditions and the landing distance available on the runway that may be required for landing because of the forecast wind conditions.

(18) For the purposes of sub-paragraph (17) the distance required to land from the appropriate height shall be taken to be that specified as being appropriate to the factors set forth in paragraphs (a) to (e) of sub-paragraph (16) and, subject to sub-paragraph (19), the appropriate height shall be—

- (a) for a landing with all power units operating—any height between 30 and 50 feet above the threshold of the runway in the United Kingdom, and 50 feet above the threshold of the runway elsewhere; and
- (b) for a landing with one power unit inoperative—50 feet above the threshold of the runway in both the United Kingdom and elsewhere.

(19) If the specified distance required to land with one power unit inoperative from a height of 50 feet above the threshold of the runway at the aerodrome of intended destination exceeds the landing distance available, it shall be sufficient compliance with paragraph (b) of sub-paragraph (18) if an alternate aerodrome, which has available the specified landing distance required to land with one power unit inoperative from such a height, is designated in the flight plan.

(20) The distance required by the aeroplane to land shall be determined in accordance with sub-paragraph (15), and not in accordance with sub-paragraph (17), if either—

- (a) it is intended to land at night; or
- (b) it is intended to land when the cloud ceiling or ground visibility forecast for the estimated time of landing at the aerodrome of intended destination, and at any alternate aerodrome at which it is intended to land in accordance with specified data for short field landing with all power units operating, are less than 500 feet and one nautical mile respectively.

### **Weight and performance of public transport aeroplanes specified as aeroplanes of performance group D**

3.—(1) For the purposes of article 44(6) and subject to sub-paragraph (13), an aeroplane registered in the United Kingdom, in respect of which there is in force under article 44(5) a permission specifying the aeroplane as being of performance group D, shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (2), (3), (4), (8), (10) and (11) are met.

(2) That weight shall not exceed the maximum take-off weight specified for the altitude and air temperature at the aerodrome at which the take-off is to be made.

(3) The take-off run required and the take-off distance required specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude of the aerodrome;
- (c) the air temperature at the aerodrome;
- (d) the average slope of the surface of the aerodrome in the direction of take-off over the accelerate-stop distance available; and

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- (e) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

shall not exceed the take-off run available and the accelerate-stop distance available, respectively, at the aerodrome at which the take-off is to be made.

(4) Subject to sub-paragraphs (5), (6) and (7), the net take-off flight path with all power units operating, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;
- (c) the air temperature at the aerodrome; and
- (d) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

which is plotted from a point of 50 feet above the end of the take-off distance required at the aerodrome at which the take-off is to be made to the point at which the aeroplane reaches a height of 1,000 feet above the aerodrome, shall show that the aeroplane will clear any obstacle in its path by a vertical interval of not less than 35 feet.

(5) If it is intended that the aeroplane will change its direction of flight by more than 15° before reaching 1,000 feet above the aerodrome the vertical interval referred to in paragraph (4) shall be not less than 50 feet during the change of direction

(6) For the purpose of sub-paragraph (4) an obstacle shall be deemed to be in the path of the aeroplane if the distance from the obstacle to the nearest point on the ground below the intended line of flight of the aeroplane does not exceed 75 metres.

(7) In assessing the ability of the aeroplane to satisfy sub-paragraph (4) it shall not be assumed to make a change of direction of a radius less than the specified radius of steady turn.

(8) Subject to sub-paragraph (9), the aeroplane shall—

- (a) at any time after it reaches a height of 1,000 feet above the aerodrome from which the take-off is to be made;
- (b) in the meteorological conditions expected for the flight;
- (c) in the event of any one power unit becoming inoperative at any point on its route or on any planned diversion from it; and
- (d) with the other power unit or power units, if any, operating within the maximum specified continuous power conditions,

be capable of continuing the flight at altitudes not less than the relevant minimum altitudes for safe flight stated in, or calculated from the information contained in, the operations manual relating to the aeroplane to a point 1,000 feet above a place at which a safe landing can be made.

(9) In assessing the ability of the aeroplane to satisfy sub-paragraph (8) it shall not be assumed to be capable of flying at any point on its route at an altitude exceeding the performance ceiling with all power units operating specified as being appropriate to its estimated weight at that point.

(10) The landing weight of the aeroplane shall not exceed the maximum landing weight specified for the altitude and the expected air temperature for the estimated time of landing at the aerodrome of intended destination and at any alternate aerodrome.

(11) Subject to sub-paragraph (12), the distance required by the aeroplane to land from a height of 50 feet above the threshold of the runway at—

- (a) the aerodrome of intended destination; and
- (b) any alternate aerodrome,

shall not exceed 70 per cent. of the landing distance available on the most suitable runway for a landing in still air conditions and 70 per cent. of the landing distance available on the runway that may be required for landing because of the forecast wind conditions.

(12) For the purposes of sub-paragraph (11) the distance required to land from a height of 50 feet above the threshold of the runway shall be taken to be that specified as being appropriate to—

- (a) the landing weight;
- (b) the altitude at the aerodrome;
- (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome;
- (d) a level surface in the case of runways usable in both directions or the average slope of the runway in the case of runways usable in only one direction; and
- (e) still air conditions in the case of the most suitable runway for a landing in still air conditions and not more than 50 per cent. of the forecast wind component opposite to the direction of landing or not less than 150 per cent. of the forecast wind component in the direction of landing in the case of the runway that may be required for the landing because of the forecast wind conditions.

(13) An aeroplane specified by a permission granted under article 44(5) as an aeroplane of performance group D shall not fly for the purpose of public transport—

- (a) at night; or
- (b) when the cloud ceiling or visibility prevailing at the aerodrome of departure or forecast for the estimated time of landing at the aerodrome of intended destination or at any alternate aerodrome are less than 1,000 feet and one nautical mile respectively.

#### **Weight and performance of public transport aeroplanes specified as aeroplanes of performance group E**

4.—(1) For the purposes of article 44(6) and subject to sub-paragraph (11), an aeroplane registered in the United Kingdom, in respect of which there is in force under article 44(5) a permission specifying the aeroplane as being of performance group E, shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (2), (3), (5), (8) and (9) are met.

(2) The weight for the altitude and the air temperature at the aerodrome at which the take-off is to be made shall not exceed the maximum take-off weight specified as being appropriate to—

- (a) the weight at which the aeroplane is capable of a rate of climb of 700 feet per minute if it has retractable landing gear and of 500 feet per minute if it has fixed landing gear, in the en route configuration and with all power units operating within the specified maximum continuous power conditions; and
- (b) the weight at which the aeroplane is capable, with one power unit inoperative, of a rate of climb of 150 feet per minute in the en route configuration and if it is necessary for it to be flown solely by reference to instruments for any period before reaching the minimum altitude for safe flight on the first stage of the route to be flown, as stated in, or calculated from, the information contained in the operations manual relating to the aeroplane.

(3) Subject to sub-paragraph (4), with all power units operating within the maximum take-off power conditions specified and when multiplied by a factor of 1.33 the distance required by the aeroplane to attain a height of 50 feet shall not exceed the accelerate-stop distance available at the aerodrome at which the take-off is to be made.

(4) For the purposes of sub-paragraph (3) the distance required by the aeroplane to attain a height of 50 feet shall be that appropriate to—

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- (a) the weight of the aeroplane at the commencement of the take-off run;
  - (b) the altitude at the aerodrome;
  - (c) the air temperature at the aerodrome; and
  - (d) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off.
- (5) Subject to sub-paragraphs (6) and (7), the aeroplane shall—
- (a) after the aeroplane reaches a height of 1,000 feet above the aerodrome from which take-off is to be made;
  - (b) in the meteorological conditions expected for the flight; and
  - (c) in the event of any one power unit becoming inoperative at any point on its route or on any planned diversion from such route, and with the other power unit or units, if any, operating within the specified maximum continuous power conditions,
- be capable of continuing the flight at altitudes not less than the relevant minimum altitude for safe flight stated in, or calculated from the information contained in, the operations manual relating to the aeroplane to a point 1,000 feet above a place at which a safe landing can be made.
- (6) In assessing the ability of the aeroplane to satisfy sub-paragraph (5) it shall not be assumed to be capable of flying at any point on its route, or on any planned diversion from such route, at an altitude exceeding that at which it is capable of a rate of climb, with all power units operating within the maximum continuous power conditions specified, of 150 feet per minute.
- (7) For the purposes of sub-paragraph (5) if it is necessary for the aircraft to be flown solely by reference to instruments, it shall be assumed to be capable, with one power unit inoperative, of a rate of climb of 100 feet per minute.
- (8) The landing weights of the aeroplane for the altitude and the expected air temperature for the estimated time of landing at the aerodrome of intended destination and at any alternate aerodrome shall not exceed the following maximum landing weights—
- (a) those specified at which the aeroplane is capable, in the en route configuration and with all power units operating within the specified maximum continuous power conditions, of a rate of climb of 700 feet per minute if it has retractable landing gear and of 500 feet per minute if it has fixed landing gear; and
  - (b) those specified at which the aeroplane is capable, in the en route configuration and if it is necessary for it to be flown solely by reference to instruments for any period after leaving the minimum altitude for safe flight on the last stage of the route to be flown, as stated in, or calculated from the information contained in, the operations manual relating to the aeroplane, and with one power unit inoperative, of a rate of climb of 150 feet per minute.
- (9) Subject to sub-paragraph (10), the landing distance required shall not exceed 70 per cent. of the landing distance available on the most suitable runway for a landing in still air conditions at the aerodrome of intended destination and at any alternate aerodrome.
- (10) For the purposes of sub-paragraph (9) the distance required to land from a height of 50 feet above the threshold of the runway shall be taken to be that specified as being appropriate to—
- (a) the landing weight;
  - (b) the altitude at the aerodrome; and
  - (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome.
- (11) An aeroplane specified by a permission granted under article 44(5) as an aeroplane of performance group E shall not fly for the purpose of public transport—

- (a) at night; or
- (b) when the cloud ceiling or visibility prevailing at the aerodrome of departure or forecast for the estimated time of landing at the aerodrome of intended destination or at any alternate aerodrome are less than 1,000 feet and one nautical mile respectively,

unless the aeroplane is capable, in the en route configuration and with one power unit inoperative, of a rate of climb of 150 feet per minute.

### **Weight and performance of public transport aeroplanes specified as aeroplanes of performance group F**

5.—(1) For the purposes of article 44(6) and subject to sub-paragraph (9), an aeroplane registered in the United Kingdom in respect of which there is in force a permission granted under article 44(5) specifying the aeroplane as being of performance group F, shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (2), (3), (4), (6) and (7) are met.

(2) That weight shall not exceed the maximum take-off weight specified for the altitude and the air temperature at the aerodrome at which the take-off is to be made.

(3) The take-off distance required, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;
- (c) the air temperature at the aerodrome;
- (d) the average slope of the surface of the aerodrome in the direction of take-off over the take-off run available; and
- (e) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

shall not exceed the take-off run available at the aerodrome at which the take-off is to be made.

(4) Subject to sub-paragraph (5), the aeroplane shall—

- (a) after the aeroplane reaches a height of 1,000 feet above the aerodrome from which take-off is to be made;
- (b) in the meteorological conditions expected for the flight; and
- (c) in the event of any one power unit becoming inoperative at any point on its route or on any planned diversion from it, and with the other power unit or power units, if any, operating within the specified maximum continuous power conditions,

be capable of continuing the flight at altitudes not less than the relevant minimum altitude for safe flight stated in, or calculated from the information contained in, the operations manual relating to the aeroplane to a point 1,000 feet above, in the case of an aeroplane having one power unit, a place at which a safe landing can be made and, in the case of an aeroplane having two or more power units, an aerodrome at which it can comply with sub-paragraph (7).

(5) In assessing the ability of the aeroplane to satisfy sub-paragraph (4)—

- (a) the aeroplane shall not be assumed to be capable of flying, at any point on its route or on any planned diversion from it, at an altitude exceeding that at which it is capable of a gradient of climb of 2 per cent, with all power units operating within specified maximum continuous power conditions; and
- (b) the aeroplane shall be required to be capable of a gradient of climb of 1 per cent at the relevant minimum safe altitude, with one power unit inoperative and with the other power unit or power units operating within the specified maximum continuous power conditions,

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over those parts of the route or any planned diversion where, in the meteorological conditions expected for the flight, it is expected that the aeroplane will be out of sight of the surface due to cloud cover at or below the relevant minimum safe altitude.

(6) The landing weight of the aeroplane shall not exceed the maximum landing weight specified for the altitude and the expected air temperature for the estimated time of landing at the aerodrome of intended destination and at any alternate aerodrome.

(7) Subject to sub-paragraph (8), the landing distance required shall not exceed the landing distance available on the most suitable runway for a landing in still air conditions at the aerodrome of intended destination or at any alternate aerodrome, as the case may be.

(8) For the purposes of sub-paragraph (7) the landing distance required shall be that specified as being appropriate to—

- (a) the landing weight;
- (b) the altitude at the aerodrome;
- (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome;
- (d) a runway with a level surface; and
- (e) still air conditions.

(9) An aeroplane with one power-unit specified by a permission granted under article 44(5) as an aeroplane of performance group F shall not fly for the purpose of public transport—

- (a) at night; or
- (b) when the cloud ceiling or visibility prevailing at the aerodrome of departure or forecast for the estimated time of landing at the aerodrome of intended destination or at any alternate aerodrome are less than 1,000 feet and one nautical mile respectively.

### **Weight and performance of public transport aeroplanes specified as aeroplanes of performance group X**

6.—(1) For the purposes of article 44(6), an aeroplane in respect of which there is in force under article 44(5) a permission specifying the aeroplane as being of performance group X shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (2), (3), (4), (7), (9), (11), (12), (14) and (15) are met.

(2) That weight shall not exceed the maximum take-off weight specified for the altitude at the aerodrome at which the take-off is to be made, or for the altitude and the air temperature at such aerodrome, as the case may be.

(3) The minimum effective take-off runway length required, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;
- (c) the air temperature at the time of take-off;
- (d) the condition of the surface of the runway from which the take-off will be made;
- (e) the overall slope of the take-off run available; and
- (f) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

shall not exceed the take-off run available at the aerodrome at which the take-off is to be made.

(4) Subject to sub-paragraphs (5) and (6), the take-off flight path with one power unit inoperative, specified as being appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome; and
- (c) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off,

which is plotted from a point 50 feet above the end of the specified minimum effective take-off runway length required at the aerodrome at which the take-off is to be made, shall show that the aeroplane will clear any obstacle in its path by a vertical interval of not less than the greater of 50 feet or 35 feet plus one-hundredth of the distance from the point on the ground below the intended line of flight of the aeroplane nearest to the obstacle to the end of the take-off distance available, measured along the intended line of flight of the aeroplane.

(5) For the purpose of sub-paragraph (4) an obstacle shall be deemed to be in the path of the aeroplane if the distance from the obstacle to the nearest point on the ground below the intended line of flight does not exceed—

- (a) a distance of 60 metres plus half the wing span of the aeroplane plus one-eighth of the distance from such point to the end of the take-off distance available measured along the intended line of flight; or
- (b) 900 metres,

whichever is least.

(6) In assessing the ability of the aeroplane to satisfy sub-paragraph (4), it shall not be assumed to make a change of direction of a radius less than the radius of steady turn corresponding to an angle of bank of 15°.

(7) Subject to sub-paragraph (8), the weight of the aeroplane shall be such that—

- (a) at any point on the route or any planned diversion from the route, having regard to the fuel and oil expected to be consumed up to that point; and
- (b) with one power unit inoperative and the other power unit or units operating within the specified maximum continuous power conditions,

the aeroplane will be capable of a rate of climb of at least  $K(V_{so}/100)^2$  feet per minute at an altitude not less than the minimum altitude for safe flight stated in or calculated from the information contained in the operations manual relating to the aeroplane, where  $V_{so}$  (the power off stalling speed of the aircraft) is in knots and  $K$  has the value of  $797-1060/N$ ,  $N$  being the number of power units installed.

(8) As an alternative to sub-paragraph (7) and subject to sub-paragraph (9), the aeroplane may be flown at an altitude from which, in the event of failure of one power unit, it is capable of reaching an aerodrome where a landing can be made in accordance with sub-paragraph (15).

(9) Subject to sub-paragraph (10), if the aeroplane is flown pursuant to sub-paragraph (8) the weight of the aeroplane shall be such that, with the remaining power unit or units operating within the specified maximum continuous power conditions, it is capable of maintaining a minimum altitude on the route to such aerodrome of 2,000 feet above all obstacles within 10 nautical miles on either side of the intended track.

(10) If the operator of the aeroplane is satisfied, taking into account the navigation aids which can be made use of by the aeroplane on the route, that the commander of the aeroplane will be able to maintain his intended track on that route within a margin of 5 nautical miles, sub-paragraph (9) shall have effect as if 5 nautical miles were substituted for 10 nautical miles and sub-paragraph (11) shall apply.

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(11) If sub-paragraph (10) applies—

- (a) the rate of climb, specified for the appropriate weight and altitude, used in calculating the flight path shall be reduced by an amount equal to  $K(V_{so}/100)^2$  feet per minute ( $V_{so}$  being the power off stalling speed of the aircraft);
- (b) the aeroplane shall comply with the climb requirements of sub-paragraph (7) at 1,000 feet above the chosen aerodrome;
- (c) account shall be taken of the effect of wind and temperature on the flight path; and
- (d) the weight of the aeroplane may be assumed to be progressively reduced by normal consumption of fuel and oil.

(12) Subject to sub-paragraph (13), if—

- (a) any two power units of an aeroplane having four power units shall become inoperative at any point along the route or along any planned diversion from the route; and
- (b) that point is more than 90 minutes flying time (assuming all power units were to be operating) from the nearest aerodrome at which a landing can be made in compliance with sub-paragraph (15), relating to an alternate aerodrome,

the aeroplane shall be capable of continuing the flight at an altitude of not less than 1,000 feet above ground level to a point above that aerodrome.

(13) In assessing the ability of the aeroplane to satisfy sub-paragraph (12) it shall be assumed that the remaining, operative power units will operate within the specified maximum continuous power conditions, and account shall be taken of the temperature and wind conditions expected for the flight.

(14) The landing weight of the aeroplane shall not exceed the maximum landing weight specified for the altitude at the aerodrome of intended destination and at any alternate aerodrome.

(15) Subject to sub-paragraph (16), the required landing runway lengths, respectively specified as being appropriate to—

- (a) the aerodrome of intended destination; and
- (b) the alternate aerodrome,

shall not exceed the landing distances available on the most suitable runway for landing in still air conditions and the landing distances available on the runway that may be required for landing because of the forecast wind conditions at the aerodrome of intended destination or at any alternate aerodrome.

(16) For the purpose of sub-paragraph (15) the required landing runway lengths shall be taken to be those specified as being appropriate to—

- (a) the landing weight;
- (b) the altitude at the aerodrome;
- (c) still air conditions in the case of the most suitable runway for a landing in still air conditions; and
- (d) not more than 50 per cent. of the forecast wind component opposite to the direction of landing or not less than 150 per cent. of the forecast wind component in the direction of landing in the case of the runway that may be required for landing because of the forecast wind conditions.

**Weight and performance of public transport aeroplanes specified as aeroplanes of performance group Z – aeroplanes of which the specified maximum total weight authorised exceeds 5,700 kg or of which the specified maximum total weight authorised does not exceed**

**5,700 kg and the wing loading of the aeroplane exceeds 20lb per square foot or the stalling speed of the aeroplane in the landing configuration exceeds 60 knots**

7.—(1) For the purposes of article 44(6), an aeroplane registered in the United Kingdom, in respect of which there is in force under article 44(5) a permission specifying the aeroplane as being of performance group Z and which comes within sub-paragraph (2), shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (3), (4), (5), (6), (8), (12), (14), (15), (16), (17), (18) and (19) are met.

(2) An aeroplane comes within this sub-paragraph if—

- (a) its specified maximum total weight authorised exceeds 5,700 kg; or
- (b) its specified maximum total weight authorised does not exceed 5,700 kg; and either—
  - (i) the wing loading of the aeroplane exceeds 20 lb per square foot; or
  - (ii) the stalling speed of the aeroplane in the landing configuration exceeds 60 knots.

(3) One of the following requirements shall be met by the aeroplane—

- (a) the wing loading of the aeroplane shall not exceed 20 lb per square foot; or
- (b) the stalling speed of the aeroplane in the landing configuration shall not exceed 60 knots; or
- (c) the aeroplane shall be capable of a gradient of climb of at least 1 in 200 at an altitude of 5,000 feet in the specified international standard atmosphere, with any one of its power units inoperative and the remaining power unit or units operating within the specified maximum continuous power conditions.

(4) The weight of the aeroplane at the commencement of the take-off run shall not exceed the maximum take-off weight, if any, specified for the altitude and the air temperature at the aerodrome at which the take-off is to be made.

(5) The distance required by the aeroplane to attain a height of 50 feet, with all power units operating within the specified maximum take-off power conditions shall not exceed the take-off run available at the aerodrome at which the take-off is to be made.

(6) The distance required by the aeroplane to attain a height of 50 feet with all power units operating within the specified maximum take-off power conditions, when multiplied by a factor of either 1.33 for aeroplanes having two power units or by a factor of 1.18 for aeroplanes having four power units, shall not exceed the accelerate-stop distance available at the aerodrome at which the take-off is to be made.

(7) For the purposes of sub-paragraphs (5) and (6) the distance required by the aeroplane to attain a height of 50 feet shall be that appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;
- (c) the air temperature at the aerodrome;
- (d) the condition of the surface of the runway from which the take-off will be made;
- (e) the slope of the surface of the aerodrome in the direction of take-off over the take-off run available and the accelerate-stop distance available, respectively; and
- (f) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off.

(8) Subject to sub-paragraphs (9), (10) and (11), the take-off flight path of the aeroplane shall show that—

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- (a) with one power unit inoperative and the remaining power unit or units operating within the specified maximum take-off power conditions referred to in sub-paragraph (9); and
- (b) with the take off path plotted from a point 50 feet above the end of the appropriate factored distance required for take-off under sub-paragraph (6) at the aerodrome at which the take-off is to be made,

the aeroplane will clear any obstacle in its path by a vertical interval of at least 35 feet except that if it is intended that an aeroplane shall change its direction by more than 15° the vertical interval shall be not less than 50 feet during the change of direction.

(9) The specified maximum take-off power conditions referred to in sub-paragraph (8)(a) are those appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;
- (c) the air temperature at the aerodrome; and
- (d) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off.

(10) For the purpose of sub-paragraph (8) an obstacle shall be deemed to be in the path of the aeroplane if the distance from the obstacle to the nearest point on the ground below the intended line of flight does not exceed—

- (a) a distance of 60 metres plus half the wing span of the aeroplane, plus one-eighth of the distance from such point to the end of the take-off distance available, measured along the intended line of flight; or
- (b) 900 metres,

whichever is least.

(11) In assessing the ability of the aeroplane to satisfy sub-paragraph (8), it shall not be assumed the aeroplane will make a change of direction of a radius less than a radius of steady turn corresponding to an angle of bank of 15°.

(12) Subject to sub-paragraph (13), the aeroplane shall—

- (a) in the meteorological conditions expected for the flight;
- (b) in the event of any one power unit becoming inoperative at any point on its route or on any planned diversion from it; and
- (c) with the other power unit or units, if any, operating within the specified maximum continuous power conditions,

be capable of continuing the flight, clearing obstacles within 10 nautical miles either side of the intended track, by a vertical interval of at least 1,000 feet when the gradient of the flight path is not less than zero, or 2,000 feet when the gradient of the flight path is less than zero, to an aerodrome at which it can comply with sub-paragraph (17), and on arrival over such aerodrome the flight path shall be capable of having a gradient of not less than zero at 1,500 feet above the aerodrome.

(13) For the purpose of sub-paragraph (12) the gradient of climb of the aeroplane shall be taken to be one per cent. less than that specified.

(14) In the meteorological conditions expected for the flight and at any point on its route or on any planned diversion from it the aeroplane shall be capable of climbing at a gradient of at least 1 in 50, with all power units operating within the maximum continuous power conditions specified at the following altitudes—

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- (a) the minimum altitudes for safe flight on each stage of the route to be flown or of any planned diversion from it specified in, or calculated from the information contained in, the operations manual relating to the aeroplane; and
- (b) the minimum altitudes necessary for compliance with sub-paragraphs (12) and (15), as appropriate.

(15) If, on the route to be flown or on any planned diversion from it—

- (a) the aeroplane will be engaged in a flight over water;
- (b) the aeroplane may, at any point during such flight, be more than 90 minutes flying time in still air from the nearest shore; and
- (c) two power units become inoperative during such time and with the other power units, if any, operating within the specified maximum continuous power conditions,

the aeroplane shall be capable of continuing the flight, having regard to the meteorological conditions expected for the flight, clearing all obstacles within 10 nautical miles either side of the intended track by a vertical interval of at least 1,000 feet and reaching an aerodrome at which a safe landing can be made.

(16) The landing weight of the aeroplane shall not exceed the maximum landing weight, if any, specified for the altitude and the expected air temperature for the estimated time of landing at the aerodrome of intended destination and at any alternate aerodrome.

(17) Subject to sub-paragraph (18), the distance required by the aeroplane to land at the aerodrome of intended destination from a height of 50 feet above the threshold of the runway shall not exceed 60 per cent. of the landing distance available on—

- (a) the most suitable runway for a landing in still air conditions; and
- (b) the runway that may be required for landing because of the forecast wind conditions.

(18) If an alternate aerodrome is designated in the flight plan, the landing distance required under sub-paragraph (17) at the aerodrome of intended destination shall not exceed 70 per cent. of that available on the relevant runway.

(19) The distance required by the aeroplane to land from a height of 50 feet above the threshold of the runway at any alternate aerodrome shall not exceed 70 per cent. of the landing distance available on—

- (a) the most suitable runway for a landing in still air conditions; and
- (b) the runway that may be required for landing because of the forecast wind conditions.

(20) For the purpose of sub-paragraphs (17) and (19) the distance required to land from a height of 50 feet above the threshold of the runway shall be taken to be that appropriate to—

- (a) the landing weight;
- (b) the altitude at the aerodrome;
- (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome;
- (d) a level surface in the case of runways usable in both directions;
- (e) the average slope of the runway in the case of runways usable in only one direction;
- (f) still air conditions in the case of the most suitable runway for a landing in still air conditions; and
- (g) not more than 50 per cent. of the forecast wind component opposite to the direction of landing or not less than 150 per cent. of the forecast wind component in the direction of landing in the case of the runway that may be required for landing because of the forecast wind conditions.

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**Weight and performance of public transport aeroplanes specified as aeroplanes of performance group Z – of which the specified maximum total weight authorised does not exceed 5,700 kg and the wing loading of the aeroplane does not exceed 20lb per square foot or the stalling speed of the aeroplane in the landing configuration does not exceed 60 knots (or both)**

8.—(1) For the purposes of article 44(6), an aeroplane registered in the United Kingdom, in respect of which there is in force under article 44(5) a permission specifying the aeroplane as being of performance group Z and which comes within sub-paragraph (2), shall not fly for the purpose of public transport unless the weight of the aeroplane at the commencement of the take-off run is such that the requirements of sub-paragraphs (3), (4), (5), (6), (7), (9), (11), (12), (14), (15) and (16) are met.

(2) An aeroplane comes within this sub-paragraph if its specified maximum total weight authorised does not exceed 5,700 kg and either—

- (a) the wing loading of the aeroplane does not exceed 20 lb per square foot; or
- (b) the stalling speed of the aeroplane in the landing configuration does not exceed 60 knots (or both).

(3) One of the following requirements shall be met by the aeroplane—

- (a) the wing loading of the aeroplane shall not exceed 20 lb per square foot; or
- (b) the stalling speed of the aeroplane in the landing configuration shall not exceed 60 knots; or
- (c) the aeroplane shall be capable of a gradient of climb of at least 1 in 200 at an altitude of 5,000 feet in the specified international standard atmosphere, with any one of its power units inoperative and the remaining power unit or units operating within the specified maximum continuous power conditions.

(4) The weight of the aeroplane at the commencement of the take-off run shall not exceed the maximum take-off weight, if any, specified for the altitude and the air temperature at the aerodrome at which the take-off is to be made.

(5) If the aeroplane is engaged—

- (a) on a flight at night; or
- (b) when the cloud ceiling or visibility prevailing at the aerodrome of departure or forecast for the estimated time of landing at the aerodrome of intended destination or at any alternate aerodrome are less than 1,000 feet and one nautical mile respectively,

it shall be capable of climbing at a gradient of at least 1 in 200 at an altitude of 2,500 feet in the specified international standard atmosphere with any one of its power units inoperative and with the remaining power unit or units, if any, operating within the specified maximum continuous power conditions.

(6) The distance required by the aeroplane to attain a height of 50 feet, with all power units operating within the specified maximum take-off power conditions, shall not exceed the take-off run available at the aerodrome at which the take-off is to be made.

(7) The distance required by the aeroplane to attain a height of 50 feet, with all power units operating within the specified maximum take-off power conditions, when multiplied by a factor of 1.33, shall not exceed the accelerate-stop distance available at the aerodrome at which the take-off is to be made.

(8) For the purposes of sub-paragraphs (6) and (7) the distance required by the aeroplane to attain a height of 50 feet shall be that appropriate to—

- (a) the weight of the aeroplane at the commencement of the take-off run;
- (b) the altitude at the aerodrome;

- (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome or, if greater, the air temperature at the aerodrome less 15° centigrade;
  - (d) the slope of the surface of the aerodrome in the direction of take-off over the take-off run available and the accelerate-stop distance available respectively; and
  - (e) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off.
- (9) Subject to sub-paragraph (10), the take-off flight path of the aeroplane, with all power units operating within the specified maximum take-off power conditions, appropriate to—
- (a) the weight of the aeroplane at the commencement of the take-off run;
  - (b) the altitude at the aerodrome;
  - (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome, or, if greater, the air temperature at the aerodrome less 15° centigrade;
  - (d) not more than 50 per cent. of the reported wind component opposite to the direction of take-off or not less than 150 per cent. of the reported wind component in the direction of take-off; and
  - (e) plotted from a point 50 feet above the end of the factored distance required for take-off under sub-paragraph (8), at the aerodrome at which the take-off is to be made,
- shall show that the aeroplane will clear any obstacle lying within 60 metres plus half the wing span of the aeroplane on either side of its path by a vertical interval of at least 35 feet.
- (10) In assessing the ability of the aeroplane to satisfy sub-paragraph (9) it shall not be assumed to make a change of direction of a radius less than a radius of steady turn corresponding to an angle of bank of 15°.
- (11) The aeroplane shall be capable of continuing the flight so as to reach a point above a place at which a safe landing can be made at a suitable height for such landing—
- (a) in the meteorological conditions expected for the flight;
  - (b) in the event of any power unit becoming inoperative at any point on its route or on any planned diversion from it; and
  - (c) with the other power unit or units, if any, operating within the specified maximum continuous power conditions.
- (12) The aeroplane shall be capable of climbing at a gradient of at least 1 in 50, with all power units operating within the specified maximum continuous power conditions at the altitudes referred to in paragraph (13), in the meteorological conditions expected for the flight and at any point on its route or on any planned diversion.
- (13) For the purpose of paragraph (12) the altitudes are—
- (a) the minimum altitudes for safe flight on each stage of the route to be flown or on any planned diversion from it specified in, or calculated from, the information contained in the operations manual relating to the aeroplane; and
  - (b) the minimum altitudes necessary for compliance with paragraph (11).
- (14) If on the route to be flown or any planned diversion from it the aeroplane will—
- (a) be engaged on a flight over water;
  - (b) during which, at any point, it may be more than 30 minutes flying time in still air from the nearest shore; and

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- (c) in the event of one power unit becoming inoperative during such time and with the other power unit or units, if any, operating within the specified maximum continuous power conditions,

the aeroplane shall be capable of climbing at a gradient of at least 1 in 200 at an altitude of 5,000 feet in the specified international standard atmosphere.

(15) The landing weight of the aeroplane shall not exceed the maximum landing weight, if any, specified for the altitude and the expected air temperature for the estimated time of landing at the aerodrome of intended destination and at any alternate aerodrome.

(16) The distance required by the aeroplane to land at the aerodrome of intended destination and at any alternate aerodrome from a height of 50 feet above the threshold of the runway shall not exceed 70 per cent. or, if a visual approach and landing will be possible in the meteorological conditions forecast for the estimated time of landing, 80 per cent. of the landing distance available on—

- (a) the most suitable runway for a landing in still air conditions; and
- (b) the runway that may be required for landing because of the forecast wind conditions.

(17) For the purposes of sub-paragraph (16) the distance required to land from a height of 50 feet above the threshold of the runway shall be taken to be that appropriate to—

- (a) the landing weight;
- (b) the altitude at the aerodrome;
- (c) the temperature in the specified international standard atmosphere appropriate to the altitude at the aerodrome;
- (d) a level surface in the case of runways usable in both directions or the average slope of the runway in the case of runways usable in only one direction; and either
- (e) still air conditions in the case of the most suitable runway for a landing in still air conditions; or
- (f) not more than 50 per cent. of the forecast wind component opposite to the direction of landing or not less than 150 per cent. of the forecast wind component in the direction of landing in the case of the runway that may be required for landing because of the forecast wind conditions.