

SCHEDULE 4

Articles 16(9) and 19(2)

AIRCRAFT EQUIPMENT

1. Every aircraft of a description specified in the first column of the Table in paragraph 5 of this Schedule and which is registered in the United Kingdom shall be provided, when flying in the circumstances specified in the second column of the said Table, with adequate equipment, and for the purpose of this paragraph the expression “adequate equipment” shall mean, subject to paragraph 2, the scales of equipment respectively indicated in the third column of that Table.

2.—(1) If the aircraft is flying in a combination of such circumstances, the scales of equipment shall not on that account be required to be duplicated.

(2) The equipment carried in an aircraft as being necessary for the airworthiness of the aircraft shall be taken into account in determining whether this Schedule is complied with in respect of that aircraft.

3.—(1) For the purposes of the Table in paragraph 5, flying time in relation to a helicopter or gyroplane shall be calculated on the assumption that it is flying in still air at the speed specified in the relevant flight manual as the speed for compliance with regulations governing flights over water.

(2) In this Schedule “day” means the time from half an hour before sunrise until half an hour after sunset (both times exclusive), sunset and sunrise being determined at surface level.

4. The following items of equipment shall not be required to be of a type approved by EASA or the CAA—

- (a) the equipment referred to in Scale A (2);
- (b) first aid equipment and handbook, referred to in Scale A;
- (c) time-pieces, referred to in Scale F;
- (d) torches, referred to in Scales G, H, K and Z;
- (e) whistles, referred to in Scale H;
- (f) sea anchors, referred to in Scales J and K;
- (g) rocket signals, referred to in Scale J;
- (h) equipment for mooring, anchoring or manoeuvring aircraft on the water, referred to in Scale J;
- (i) paddles, referred to in Scale K;
- (j) food and water, referred to in Scales K, U and V;
- (k) first aid equipment, referred to in Scales K, U and V;
- (l) stoves, cooking utensils, snow shovels, ice saws, sleeping bags and Arctic suits, referred to in Scale V;
- (m) megaphones, referred to in Scale Y.

5. Table

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(1) Gliders	(a) (a) flying for purposes other than public transport or aerial work; and when flying by night	A(2)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(2) Aeroplanes	(b) (b) flying for the purpose of public transport or aerial work; and	A, B(1), (2), (3), (4), (5), (6) and (7), D and F(1)
	(i) when flying by night	C and G
	(ii) when carrying out aerobatic manoeuvres	B(8) and (9)
	(a) (a) flying for purposes other than public transport; and	A(1) and (2) and B(1), (2), (3), (4), (5) and (6)
	(i) when flying by night	C and D
	(ii) when flying under Instrument Flight Rules;	
	(aa) outside controlled airspace	D
	(bb) within Class A, B or C airspace	E with E(4) duplicated and F
	(cc) within Class D and E airspace	E and F
	(iii) when carrying out aerobatic manoeuvres	B(8) and (9)
	(b) flying for the purpose of public transport; and	A, B(1), (2), (3), (4), (5), (6) and (7), D and F(1)
	(i) when flying under Instrument Flight Rules except flights outside controlled airspace in the case of aeroplanes having a maximum total weight authorised not exceeding 1,150 kg	E with E(4) duplicated and F
	(ii) when flying by night; and in the case of aeroplanes of which the maximum total weight authorised exceeds 1,150 kg	C and G, E with E(4) duplicated and F
	(iii) when flying over water beyond gliding distance from land	H
(iv) on all flights on which in the event of any emergency occurring during the take-off or during the	H	

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	landing at the intended destination or any likely alternate destination it is reasonably possible that the aeroplane would be forced to land onto water;	
	(v) when flying over water;	
	(aa) in the case of aeroplanes capable of continuing the flight to an aerodrome with the critical power unit becoming inoperative, at a greater distance from land suitable for making an emergency landing than that corresponding to 120 minutes at cruising speed or 400 nautical miles, whichever is the lesser; or	H and K
	(bb) in the case of all other aeroplanes, at a greater distance from land suitable for making an emergency landing than that corresponding to 30 minutes at cruising speed or 100 nautical miles, whichever is the lesser	H and K
	(vi) having a certificate of airworthiness first issued (whether in the United Kingdom or elsewhere) before 1st January 2002	KK(1) or (2)
	(vii) having a certificate of airworthiness first issued (whether in the United Kingdom or elsewhere) on or after 1st January 2002	KK(2)
	(viii) on all flights which involve manoeuvres on water	H, J and K

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(ix) when flying at a height of 10,000 ft or more above mean sea level;	
	(aa) having a certificate of airworthiness first issued (whether in the United Kingdom or elsewhere) before 1st January 1989	L1 or L2
	(bb) having a certificate of airworthiness first issued (whether in the United Kingdom or elsewhere) on or after 1st January 1989	L2
	(x) on flights when the weather reports or forecasts available at the aerodrome at the time of departure indicate that conditions favouring ice formation are likely to be met	M
	(xi) when carrying out aerobatic manoeuvres	B(8) and (9)
	(xii) on all flights on which the aircraft carries a flight crew of more than one person	N
	(xiii) on all flights for the purpose of the public transport of passengers	Q and Y(1), (2) and (3)
	(xiv) on all flights by a pressurised aircraft	R
	(xv) when flying over substantially uninhabited land areas where, in the event of an emergency landing, tropical conditions are likely to be met	U
	(xvi) when flying over substantially uninhabited land or other areas where, in the event of an emergency landing, polar	V

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	conditions are likely to be met	
	(xvii) when flying at an altitude of more than 49,000 ft	W
(3) Turbine-jet aeroplanes having a maximum total weight authorised exceeding 5,700 kg or pressurised aircraft having a maximum total weight authorised exceeding 11,400 kg	when flying for the purpose of public transport	O
(4) Turbine-engined aeroplanes having a maximum total weight authorised exceeding 5,700 kg and piston-engined aeroplanes having a maximum total weight authorised exceeding 27,000 kg except for such aeroplanes falling within paragraphs (5) or (6);		
(a) (a) which are operated by an air transport undertaking; or	when flying on any flight	P
(b) (b) which are public transport aeroplanes in respect of which application has been made and not withdrawn or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, "A Conditions" or under a certificate of airworthiness in the Special Category described in Part B of Schedule 3	when flying on any flight	P
(5) Public transport aeroplanes in respect of which there is in force a certificate of airworthiness and public transport aeroplanes in respect of which an application has been made and not withdrawn or refused for a certificate of		

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
airworthiness, and which fly under an EASA permit to fly, “A Conditions” or under a certificate of airworthiness in the Special Category described in Part B of Schedule 3 except for such aeroplanes falling within paragraph (6);		
(a) (a) which conform to a type first issued with a type certificate (whether in the United Kingdom or elsewhere) on or after 1st April 1971 and which have a maximum total weight authorised exceeding 5,700 kg but not exceeding 11,400 kg; or	when flying on any flight	S(1)
(b) (b) which conform to a type first issued with a type certificate (whether in the United Kingdom or elsewhere) on or after 1st April 1971 and which have a maximum total weight authorised exceeding 11,400 kg but not exceeding 27,000 kg; or	when flying on any flight	S(2)
(c) (c) which conform to a type first issued with a type certificate (whether in the United Kingdom or elsewhere) on or after 1st April 1971 and which have a maximum total weight authorised exceeding 27,000 kg but not exceeding 230,000 kg; or	when flying on any flight	S(3)
(d) (d) which conform to a type	when flying on any flight	S(3)

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
<p>first issued with a type certificate in the United Kingdom on or after 1st January 1970 and which have a maximum total weight authorised exceeding 230,000 kg</p> <p>(6) Public transport aeroplanes in respect of which there is in force a certificate of airworthiness and public transport aeroplanes in respect of which application has been made and not withdrawn or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, “A Conditions” or under a certificate of airworthiness in the Special Category described in Part B of Schedule 3;</p>		
<p>(a) (a) for which an individual certificate of airworthiness was first issued (whether in the United Kingdom or elsewhere) on or after 1st June 1990 and which have a maximum total weight authorised not exceeding 5,700 kg, are powered by 2 or more turbine engines and with a maximum approved passenger seating configuration of more than 9; or</p>	when flying on any flight	S(4)
<p>(b) (b) for which an individual certificate of airworthiness was first issued (whether in the United Kingdom or elsewhere) on or after 1st June 1990 and which have</p>	when flying on any flight	S(5)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
a maximum total weight authorised exceeding 5,700 kg but not exceeding 27,000 kg; or		
(c) (c) for which an individual certificate of airworthiness was first issued (whether in the United Kingdom or elsewhere) on or after 1st June 1990 and which have a maximum total weight authorised exceeding 27,000 kg	when flying on any flight	S(6)
(7) Aerial work and private aeroplanes for which an individual certificate of airworthiness was first issued (whether in the United Kingdom or elsewhere) on or after 1st June 1990 and which have a maximum total weight authorised exceeding 27,000 kg.	when flying on any flight	S(6)
(8) Public transport aeroplanes;		
(a) (a) which conform to a type first issued with a type certificate (whether in the United Kingdom or elsewhere) on or after 1st April 1971 and having a maximum total weight authorised exceeding 27,000 kg; or	when flying on any flight	T
(b) (b) which conform to a type first issued with a type certificate in the United Kingdom on or after 1st January 1970 and which have a maximum total	when flying on any flight	T



<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
weight authorised exceeding 230,000 kg and in respect of which there is in force a certificate of airworthiness; or		
(c) (c) having a maximum total weight authorised exceeding 27,000 kg which conform to a type first issued with a type certificate on or after 1st April 1971 (or 1st January 1970 in the case of an aeroplane having a maximum total weight authorised exceeding 230,000 kg) in respect of which application has been made and not withdrawn or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, “A Conditions” or under a certificate of airworthiness in the Special Category described in Part B of Schedule 3	when flying on any flight	T
(9) (9) Aeroplanes powered by one or more turbine jets or one or more turbine propeller engines and which have a maximum total weight authorised exceeding 15,000 kg or with a maximum approved passenger seating configuration of more than 30	when flying for the purpose of public transport	X(1)
(10) (10) Aeroplanes which are powered by one or more	when flying for the purpose of public transport except when flying under and in accordance	X(1)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
turbine jets or one or more turbine propeller engines and which have a maximum total weight authorised exceeding 5,700 kg but not exceeding 15,000 kg or with a maximum approved passenger seating configuration of more than 9 but not exceeding 30	with the terms of a police air operator's certificate	
(11) (11) Aeroplanes which are powered by one or more turbine jets or one or more turbine propeller engines and which have a maximum total weight authorised exceeding 5,700 kg or with a maximum approved passenger seating configuration of more than 9;		
(a) (a) in respect of which there is in force a certificate of airworthiness except any such aeroplanes as come within subparagraph (b); or	when flying for purposes other than public transport	X(1) or X(2)
(b) (b) in respect of which there is in force a certificate of airworthiness and which have equipment capable of giving warning to the pilot of the potentially hazardous proximity of ground or water installed before 1st April 2000	when flying for purposes other than public transport on or after 1st January 2007	X(1) or X(2)
(12) Aeroplanes;		

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(a) (a) powered by one or more turbo-jets and which have a maximum total weight authorised exceeding 22,700 kg; or	when flying by night for the purpose of the public transport of passengers	Z(1) and (2)
(b) (b) having a maximum total weight authorised exceeding 5,700 kg and which conform to a type for which a certificate of airworthiness was first applied for (whether in the United Kingdom or elsewhere) after 30th April 1972 but not including any aeroplane which in the opinion of the CAA is identical in all matters affecting the provision of emergency evacuation facilities to an aeroplane for which a certificate of airworthiness was first applied for before that date; or	when flying by night for the purpose of the public transport of passengers	Z(1) and (2)
(c) (c) with a maximum approved passenger seating configuration of more than 19; or	when flying by night for the purpose of the public transport of passengers	Z(1)
(d) (d) having a maximum total weight authorised exceeding 5,700 kg and which conform to a type for which a certificate of airworthiness was first applied for (whether in the United Kingdom or elsewhere) after 30th	when flying for the purpose of the public transport of passengers	Z(3)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
<p>April 1972 but not including any aeroplane which in the opinion of the CAA is identical in all matters affecting the provision of emergency evacuation facilities to an aeroplane for which a certificate of airworthiness was first applied for before that date; or</p>		
<p>(e) (e) powered by one or more turbo-jets and which have a maximum total weight authorised exceeding 22,700 kg; or</p>	<p>when flying for the purpose of the public transport of passengers</p>	Z(3)
<p>(f) (f) first issued with a type certificate (whether in the United Kingdom or elsewhere) on or after 1st January 1958 and with a maximum approved passenger seating configuration of more than 19</p>	<p>when flying for the purpose of the public transport of passengers</p>	Z(3)
<p>(13) Aeroplanes;</p>		
<p>(a) (a) powered by one or more turbine jets</p>	<p>when flying on any flight</p>	AA
<p>(b) (b) powered by one or more turbine propeller engines and having a maximum total weight authorised exceeding 5,700 kg and first issued with a certificate of airworthiness in the United Kingdom on or after 1st April 1989</p>	<p>when flying on any flight</p>	AA

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(14) Public transport aeroplanes	when flying for the purpose of the public transport of passengers	Y(4)
(15) Helicopters and Gyroplanes	<p>(a) (a) flying for purposes other than public transport; and</p> <p>(i) when flying by day under Visual Flight Rules with visual ground reference;</p> <p>(ii) when flying by day under Instrument Flight Rules or without visual ground reference;</p> <p>(aa) outside controlled airspace</p> <p>(bb) within controlled airspace</p> <p>(iii) when flying at night;</p> <p>(aa) with visual ground reference</p> <p>(bb) without visual ground reference outside controlled airspace</p> <p>(cc) without visual ground reference within controlled airspace</p> <p>(b) (b) flying for the purpose of public transport; and</p> <p>(i) when flying by day under Visual Flight Rules with visual ground reference</p> <p>(ii) when flying by day under Instrument Flight Rules or without visual ground reference</p> <p>(iii) when flying by night with visual ground reference;</p> <p>(aa) when flying with one pilot</p>	<p>A(1) and (2) and B(1), (2), (3), (4), (5) and (6)</p> <p>D</p> <p>E with E(2) duplicated</p> <p>E with both E(2) and E(4) duplicated and F with F(4) for all weights</p> <p>C, E, G(3) and G(5) and (6)</p> <p>C, E with E(2) duplicated, G(3), (5) and (6)</p> <p>C, E with both E(2) and E(4) duplicated, F with F(4) for all weights, G(3), (5) and (6)</p> <p>A, B(1), (2), (3), (4), (5), (6) and (7) and F(1) and F(4) for all weights</p> <p>D</p> <p>E with both E(2) and E(4) duplicated, F(2), F(3) and F(5)</p> <p>C, E with E(2) duplicated and either E(4) duplicated or a radio altimeter, F(2), (3), (5) and G</p>

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(bb) when flying in circumstances where two pilots are required	C, E, F(2), F(3), F(5) and G for each pilot's station
	(iv) when flying by night without visual ground reference	C, E with both E(2) and E(4) duplicated, F(2), (3), (5) and G
	(v) when flying over water;	
	(aa) in the case of a helicopter carrying out Performance Class 2 or 3 operations or a gyroplane classified in its certificate of airworthiness as being of performance group A2 or B when beyond auto-rotational gliding distance from land suitable for an emergency landing	E and H
	(bb) on all flights on which in the event of any emergency occurring during the take-off or during the landing at the intended destination or any likely alternate destination it is reasonably possible that the helicopter or gyroplane would be forced to land onto water	H
	(cc) in the case of a helicopter carrying out Performance Class 1 or 2 operations or a gyroplane classified in its certificate of airworthiness as being of performance group A2 when beyond 10 minutes flying time from land	E, H, K and T
	(dd) for more than a total of 3 minutes in any flight	EE

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(ee) in the case of a helicopter carrying out Performance Class 1 or 2 operations or a gyroplane classified in its certificate of airworthiness as being of performance group A2 which is intended to fly beyond 10 minutes flying time from land or which actually flies beyond 10 minutes flying time from land, on a flight which is either in support of or in connection with the offshore exploitation or exploration of mineral resources (including gas) or is on a flight under and in accordance with the terms of a police air operator's certificate, when in either case the weather reports or forecasts available to the commander of the aircraft indicate that the sea temperature will be less than plus 10°C during the flight or when any part of the flight is at night	I
	(vi) when flying on Performance Class 1 or 2 operations over water beyond 10 minutes flying time from land and not required to comply with sub-paragraph (ix)	KK(2)
	(vii) when flying on Performance Class 3 operations beyond auto-rotational or safe forced landing distance from land	KK(2)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(viii) when flying over land areas which have been designated by the State concerned as areas in which search and rescue would be especially difficult	KK(2)
	(ix) when flying on Performance Class 1 or 2 operations over water in a hostile environment at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed in support of or in connection with the offshore exploitation or exploration of mineral resources (including gas)	KK(3)
	(x) on all flights which involve manoeuvres on water	H, J and K
	(xi) when flying at a height of 10,000 ft or more above mean sea level;	
	(aa) having a certificate of airworthiness first issued (whether in the United Kingdom or elsewhere) before 1st January 1989	L1 or L2
	(bb) having a certificate of airworthiness first issued (whether in the United Kingdom or elsewhere) on or after 1st January 1989	L2
	(xii) on flights when the weather reports or forecasts available at the aerodrome at the time of departure indicate that conditions favouring ice formation are likely to be met	M
	(xiii) on all flights on which the aircraft carries a	N



<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	flight crew of more than one person	
	(xiv) on all flights for the purpose of the public transport of passengers	Y(1), (2) and (3)
	(xv) when flying over substantially uninhabited land areas where, in the event of an emergency landing, tropical conditions are likely to be met	U
	(xvi) when flying over substantially uninhabited land or other areas where, in the event of an emergency landing, polar conditions are likely to be met	V

(16) Helicopters and Gyroplanes;

- (a) (a) having when flying by night for the purpose of the public transport of passengers Z(1) and (2)
  - a maximum total weight authorised exceeding 5,700 kg and which conform to a type for which a certificate of airworthiness was first applied for (whether in the United Kingdom or elsewhere) after 30th April 1972 but not including any helicopter or gyroplane which in the opinion of the CAA is identical in all matters affecting the provision of emergency evacuation facilities to a helicopter or gyroplane for which a certificate of airworthiness was first applied for before that date; or

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(b) (b) with a maximum approved passenger seating configuration of more than 19; or	when flying by night for the purpose of the public transport of passengers	Z(1)
(c) (c) which are public transport helicopters or gyroplanes in respect of which there is in force a certificate of airworthiness and public transport helicopters or gyroplanes in respect of which application has been made and not withdrawn or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, A Conditions or under a certificate of airworthiness in the Special Category described in Part B of Schedule 3; and		
(i) which have a maximum total weight authorised exceeding 2,730 kg but not exceeding 7,000 kg or with a maximum approved passenger seating configuration of more than 9 or both	when flying on any flight	SS(1) or (3)
(ii) which have a maximum total weight authorised exceeding 7,000 kg	when flying on any flight	SS(2) or (3)

6. The scales of equipment indicated in the foregoing Table shall be as follows—

**Scale A**

(1) Spare fuses for all electrical circuits the fuses of which can be replaced in flight, consisting of 10 per cent of the number of each rating or three of each rating, whichever is the greater.

(2) Maps, charts, codes and other documents and navigational equipment necessary, in addition to any other equipment required under this Order, for the intended flight of the aircraft including any diversion which may reasonably be expected.

(3) First aid equipment of good quality, sufficient in quantity, having regard to the number of persons on board the aircraft, and including the following—

- (a) roller bandages;
- (b) triangular bandages;
- (c) adhesive plaster;
- (d) absorbent gauze or wound dressings;
- (e) cotton wool or wound dressings;
- (f) burn dressings;
- (g) safety pins;
- (h) haemostatic bandages or tourniquets;
- (i) scissors;
- (j) antiseptic;
- (k) analgesic and stimulant drugs;
- (l) splints, in the case of aeroplanes the maximum total weight authorised of which exceeds 5,700 kg;
- (m) a handbook on first aid.

(4) In the case of a flying machine used for the public transport of passengers in which, while the flying machine is at rest on the ground, the sill of any external door intended for the disembarkation of passengers, whether normally or in an emergency—

- (a) is more than 1.82 metres from the ground when the undercarriage of the machine is in the normal position for taxiing; or
- (b) would be more than 1.82 metres from the ground if the whole or any part of the undercarriage should collapse, break or fail to function;

apparatus readily available for use at each such door consisting of a device or devices which will enable passengers to reach the ground safely in an emergency while the flying machine is on the ground, and can be readily fixed in position for use.

### **Scale AA**

(1) Subject to sub-paragraph (2), an altitude alerting system capable of alerting the pilot upon approaching a preselected altitude in either ascent or descent, by a sequence of visual and aural signals in sufficient time to establish level flight at that preselected altitude and when deviating above or below that preselected altitude, by a visual and an aural signal.

(2) If the system becomes unserviceable, the aircraft may fly or continue to fly, until it first lands at a place at which it is reasonably practicable for the system to be repaired or replaced.

### **Scale B**

(1) If the maximum total weight authorised of the aircraft is 2,730 kg or less, for every pilot's seat and for any seat situated alongside a pilot's seat, either a safety belt with one diagonal shoulder strap or a safety harness, or with the permission of the CAA, a safety belt without a diagonal shoulder strap which permission may be granted if the CAA is satisfied that it is not reasonably practicable to fit a safety belt with one diagonal shoulder strap or a safety harness.

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(2) If the maximum total weight authorised of the aircraft exceeds 2,730 kg, either a safety harness for every pilot's seat and for any seat situated alongside a pilot's seat, or with the permission of the CAA, a safety belt with one diagonal shoulder strap which permission may be granted if the CAA is satisfied that it is not reasonably practicable to fit a safety harness.

(3) For every seat in use (not being a seat referred to in paragraphs (1), (2), (5) and (6)) a safety belt with or without one diagonal shoulder strap or a safety harness.

(4) In addition, and to be attached to or secured by the equipment required in paragraph (3) above, a child restraint device for every child under the age of two years on board.

(5) On all flights for the public transport of passengers by aircraft, for each seat for use by cabin crew who are required to be carried under this Order, a safety harness.

(6) On all flights in aeroplanes in respect of which a certificate of airworthiness was first issued (whether in the United Kingdom or elsewhere) on or after 1st February 1989, the maximum total weight authorised of which does not exceed 5,700 kg but with a maximum approved passenger seating configuration of more than 9, (otherwise than in seats referred to under paragraph (1) or (2)), a safety belt with one diagonal shoulder strap or a safety harness for each seat intended for use by a passenger.

(7) If the commander cannot, from his own seat, see all the passengers' seats in the aircraft, a means of indicating to the passengers that seat belts should be fastened.

(8) Subject to paragraph (9), a safety harness for every seat in use.

(9) In the case of an aircraft carrying out aerobatic manoeuvres consisting only of erect spinning, the CAA may permit a safety belt with one diagonal shoulder strap to be fitted if it is satisfied that such restraint is sufficient for the carrying out of erect spinning in that aircraft and that it is not reasonably practicable to fit a safety harness in that aircraft.

### **Scale C**

(1) Equipment for displaying the lights required by the Rules of the Air Regulations 1996.

(2) Electrical equipment, supplied from the main source of supply in the aircraft, to provide sufficient illumination to enable the flight crew properly to carry out their duties during flight.

(3) Unless the aircraft is equipped with radio, devices for making the visual signal specified in the Rules of the Air Regulations 1996 as indicating a request for permission to land.

### **Scale D**

(1) In the case of a helicopter or gyroplane, a slip indicator.

(2) In the case of any other flying machine either—

(a) a turn indicator and a slip indicator; or

(b) a gyroscopic bank and pitch indicator and a gyroscopic direction indicator.

(3) A sensitive pressure altimeter adjustable for any sea level barometric pressure which the weather report or forecasts available to the commander of the aircraft indicate is likely to be encountered during the intended flight.

### **Scale E**

(1) In the case of—

(a) a helicopter or gyroplane, a slip indicator;

- (b) any other flying machine, a slip indicator and either a turn indicator or, at the option of the operator, an additional gyroscopic bank and pitch indicator.
- (2) A gyroscopic bank and pitch indicator.
- (3) A gyroscopic direction indicator.
- (4) A sensitive pressure altimeter adjustable for any sea level barometric pressure which the weather report or forecasts available to the commander of the aircraft indicate is likely to be encountered during the intended flight.

#### **Scale EE**

- (1) Subject to paragraph (2), a radio altimeter with an audio voice warning operating below a preset height and a visual warning capable of operating at a height selectable by the pilot.
- (2) A helicopter flying under and in accordance with the terms of a police air operator's certificate may instead be equipped with a radio altimeter with an audio warning and a visual warning each capable of operating at a height selectable by the pilot.

#### **Scale F**

- (1) A timepiece indicating the time in hours, minutes and seconds.
- (2) A means of indicating whether the power supply to the gyroscopic instrument is adequate.
- (3) A rate of climb and descent indicator.
- (4) A means of indicating in the flight crew compartment the outside air temperature calibrated in degrees celsius.
- (5) If the maximum total weight authorised of the aircraft exceeds 5,700 kg two air speed indicators.

#### **Scale G**

- (1) In the case of an aircraft other than a helicopter or gyroplane landing lights consisting of 2 single filament lamps, or one dual filament lamp with separately energised filaments.
- (2) An electrical lighting system to provide illumination in every passenger compartment.
- (3) Either—
  - (a) one electric torch for each member of the crew of the aircraft; or
  - (b) one electric torch—
    - (i) for each member of the flight crew of the aircraft; and
    - (ii) affixed adjacent to each floor level exit intended for the disembarkation of passengers whether normally or in an emergency, provided that such torches shall—
      - (aa) be readily accessible for use by the crew of the aircraft at all times; and
      - (bb) number in total not less than the minimum number of members of the cabin crew required to be carried with a full passenger complement.
- (4) In the case of an aircraft other than a helicopter or gyroplane of which the maximum total weight authorised exceeds 5,700 kg, means of observing the existence and build up of ice on the aircraft.
- (5) In the case of a helicopter carrying out Performance Class 1 or 2 operations or a gyroplane in respect of which there is in force a certificate of airworthiness designating the gyroplane as being of performance group A, either—

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- (a) 2 landing lights both of which are adjustable so as to illuminate the ground in front of and below the helicopter or gyroplane and one of which is adjustable so as to illuminate the ground on either side of the helicopter or gyroplane; or
  - (b) one landing light or, if the maximum total weight authorised of the helicopter or gyroplane exceeds 5,700 kg, one dual filament landing light with separately energised filaments, or 2 single filament lights, each of which is adjustable so as to illuminate the ground in front of and below the helicopter or gyroplane, and 2 parachute flares.
- (6) In the case of a helicopter carrying out Performance Class 3 operations or a gyroplane in respect of which there is in force a certificate of airworthiness designating the gyroplane as being of performance group B, either—
- (a) one landing light and 2 parachute flares; or
  - (b) if the maximum total weight authorised of the helicopter or gyroplane exceeds 5,700 kg, either one dual filament landing light with separately energised filaments or 2 single filament landing lights, and 2 parachute flares.

#### **Scale H**

(1) Subject to paragraph (2), for each person on board, a lifejacket equipped with a whistle and waterproof torch.

(2) Lifejackets constructed and carried solely for use by children under three years of age need not be equipped with a whistle.

#### **Scale I**

A survival suit for each member of the crew.

#### **Scale J**

(1) Additional flotation equipment, capable of supporting one-fifth of the number of persons on board, and provided in a place of stowage accessible from outside the flying machine.

(2) Parachute distress rocket signals capable of making, from the surface of the water, the pyrotechnical signal of distress specified in the Rules of the Air Regulations 1996 and complying with Part III of Schedule 15 to the Merchant Shipping (Life-Saving Appliances) Regulations 1980<sup>(1)</sup>.

(3) A sea anchor and other equipment necessary to facilitate mooring, anchoring or manoeuvring the flying machine on water, appropriate to its size, weight and handling characteristics.

#### **Scale K**

(1) In the case of—

- (a) a flying machine, other than a helicopter or gyroplane carrying 20 or more persons, liferafts sufficient to accommodate all persons on board;
- (b) a helicopter or gyroplane carrying 20 or more persons, a minimum of 2 liferafts sufficient together to accommodate all persons on board.

(2) Each liferaft shall contain the following equipment—

- (a) means for maintaining buoyancy;
- (b) a sea anchor;

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(1) [S.I. 1980/538](#).

- (c) life-lines, and means of attaching one liferaft to another;
- (d) paddles or other means of propulsion;
- (e) means of protecting the occupants from the elements;
- (f) a waterproof torch;
- (g) marine type pyrotechnical distress signals;
- (h) means of making sea water drinkable, unless the full quantity of fresh water is carried as specified in sub-paragraph (i);
- (i) for each 4 or proportion of 4 persons the liferaft is designed to carry—
  - (i) 100 grammes of glucose toffee tablets; and
  - (ii) 1/2 litre of fresh water in durable containers or in any case in which it is not reasonably practicable to carry the quantity of water above specified, as large a quantity of fresh water as is reasonably practicable in the circumstances; provided that in no case 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 sub-paragraph (h) to provide 1/2 litre of water for each 4 or proportion of 4 persons the liferaft is designed to carry; and
- (j) first aid equipment.

(3) Items (2)(f) to (j) inclusive shall be contained in a pack.

(4) The number of survival beacon radio apparatus carried when the aircraft is carrying the number of liferafts specified in column 1 of the following Table shall be not less than the number specified in, or calculated in accordance with, column 2.

Column 1	Column 2
Not more than 8 liferafts	2 survival beacon radio apparatus
For every additional 4 or proportion of 4 liferafts	1 additional survival beacon radio apparatus

**Scale KK**

(1) A survival emergency locator transmitter capable of operating in accordance with the relevant provisions of Annex 10 to the Chicago Convention, Volume III (Fifth Edition July 1995) and of transmitting on 121.5 MHz and 406 MHz.

(2) An automatic emergency locator transmitter capable of operating in accordance with the relevant provisions of Annex 10 to the Chicago Convention, Volume III (Fifth Edition July 1995) and transmitting on 121.5 MHz and 406 MHz.

(3) An automatically deployable emergency locator transmitter capable of operating in accordance with the relevant provisions of Annex 10 to the Chicago Convention, Volume III (Fifth Edition July 1995) and transmitting on 121.5 MHz and 406 MHz.

**Scale L1**

**Part I**

(1) In every flying machine which is provided with means for maintaining a pressure greater than 700 hectopascals throughout the flight in the flight crew compartment and in the compartments in which the passengers are carried—

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- (a) a supply of oxygen sufficient, in the event of failure to maintain such pressure, occurring in the circumstances specified in columns 1 and 2 of the Table set out in Part II, for continuous use, during the periods specified in column 3 of the said Table, by the persons for whom oxygen is to be provided in accordance with column 4 of that Table; and
- (b) in addition, in every case where the flying machine flies above flight level 350, a supply of oxygen in a portable container sufficient for the simultaneous first aid treatment of 2 passengers;

together with suitable and sufficient apparatus to enable such persons to use the oxygen.

(2) In any other flying machine—

- (a) a supply of oxygen sufficient for continuous use by all the crew other than the flight crew, and if passengers are carried, by 10% of the number of passengers, for any period exceeding 30 minutes during which the flying machine flies above flight level 100 but not above flight level 130 and the flight crew shall be supplied with oxygen sufficient for continuous use for any period during which the flying machine flies above flight level 100; and
- (b) a supply of oxygen sufficient for continuous use by all persons on board for the whole time during which the flying machine flies above flight level 130;

together with suitable and sufficient apparatus to enable such persons to use the oxygen.

(3) The quantity of oxygen required for the purpose of complying with paragraphs (1) and (2) of this Part shall be computed in accordance with the information and instructions relating thereto specified in the operations manual relating to the aircraft under paragraph 1(f) of Part A of Schedule 9.



**Part II**

<i>Column 1 Vertical displacement of the flying machine in relation to flight levels</i>	<i>Column 2 Capability of flying machine to descend (where relevant)</i>	<i>Column 3 Period of supply of oxygen</i>	<i>Column 4 Persons for whom oxygen is to be provided</i>
Above flight level 100	—	30 minutes or the period specified at A hereunder whichever is the greater	In addition to any passengers for whom oxygen is provided as specified below, all the crew
Above flight level 100 but not above flight level 300	Flying machine is either flying at or below flight level 150 or is capable of descending and continuing to destination as specified at X hereunder	30 minutes or the period specified at A hereunder whichever is the greater	10% of number of passengers
	Flying machine is flying above flight level 150 and is not so capable	10 minutes or the period specified at B hereunder whichever is the greater and in addition 30 minutes or the period specified at C hereunder whichever is the greater	10% of number of passengers
Above flight level 300 but not above flight level 350	Flying machine is capable of descending and continuing to destination as specified at Y hereunder	30 minutes or the period specified at A hereunder whichever is the greater	15% of number of passengers
	Flying machine is not so capable	10 minutes or the period specified at B hereunder whichever is the greater and in addition 30 minutes or the period specified at C hereunder whichever is the greater	15% of passengers
Above flight level 350		10 minutes or the period specified at B hereunder whichever is the greater	All passengers
		and in addition 30 minutes or the period specified at C hereunder whichever is the greater	15% of number of passengers

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**A.** The whole period during which, after a failure to maintain a pressure greater than 700 hectopascals in the control compartment and in the compartments in which passengers are carried has occurred, the flying machine flies above flight level 100.

**B.** The whole period during which, after a failure to maintain such pressure has occurred, the flying machine flies above flight level 150.

**C.** The whole period during which, after a failure to maintain such pressure has occurred, the flying machine flies above flight level 100, but not above flight level 150.

**X.** The flying machine is capable, at the time when a failure to maintain such pressure occurs, of descending in accordance with the emergency descent procedure specified in the relevant flight manual and without flying below the minimum altitudes for safe flight specified in the operations manual relating to the aircraft, to flight level 150 within 6 minutes, and of continuing at or below that flight level to its place of intended destination or any other place at which a safe landing can be made.

**Y.** The flying machine is capable, at the time when a failure to maintain such pressure occurs, of descending in accordance with the emergency descent procedure specified in the relevant flight manual and without flying below the minimum altitudes for safe flight specified in the operations manual relating to the aircraft, to flight level 150 within 4 minutes, and of continuing at or below that flight level to its place of intended destination or any other place at which a safe landing can be made.

**Scale L2**

(1) A supply of oxygen and the associated equipment to meet the requirements set out in Part I in the case of unpressurised aircraft and Part II in the case of pressurised aircraft.

(2) The duration for the purposes of this Scale shall be whichever is the greater of—

(a) that calculated in accordance with the operations manual prior to the commencement of the flight, being the period or periods which it is reasonably anticipated that the aircraft will be flown in the circumstances of the intended flight at a height where the said requirements apply and in calculating the said duration account shall be taken of—

(i) in the case of pressurised aircraft, the possibility of depressurisation when flying above flight level 100;

(ii) the possibility of failure of one or more of the aircraft engines;

(iii) restrictions due to required minimum safe altitude;

(iv) fuel requirement; and

(v) the performance of the aircraft; or

(b) the period or periods during which the aircraft is actually flown in the circumstances specified in the said Parts.

**Part I**

Unpressurised aircraft

(1) When flying at or below flight level 100—

Nil.

(2) When flying above flight level 100 but not exceeding flight level 120—

<i>Supply for</i>	<i>Duration</i>
(a) (a) Members of the flight crew	Any period during which the aircraft flies above flight level 100

<i>Supply for</i>	<i>Duration</i>
(b) (b) Members of the cabin crew and 10% of passengers	For any continuous period exceeding 30 minutes during which the aircraft flies above flight level 100 but not exceeding flight level 120, the duration shall be the period by which 30 minutes is exceeded

(3) When flying above flight level 120—

<i>Supply for</i>	<i>Duration</i>
(a) (a) Members of the flight crew	Any period during which the aircraft flies above flight level 120
(b) (b) Members of the cabin crew and all passengers	Any period during which the aircraft flies above flight level 120

**Part II**

Pressurised aircraft

(1) When flying at or below flight level 100—

Nil.

(2) When flying above flight level 100 but not exceeding flight level 250—

<i>Supply for</i>	<i>Duration</i>
(a) (a) Members of the flight crew	30 minutes or whenever the cabin pressure altitude exceeds 10,000 ft, whichever is the greater
(b) (b) Members of the cabin crew and 10% of passengers	<ul style="list-style-type: none"> <li>(i) When the aircraft is capable of descending and continuing to its destination as specified at A hereunder, 30 minutes or whenever the cabin pressure altitude exceeds 10,000 ft, whichever is the greater</li> <li>(ii) When the aircraft is not so capable, whenever the cabin pressure altitude is greater than 10,000 ft but does not exceed 12,000 ft</li> </ul>
(c) (c) Members of the cabin crew and all passengers	<ul style="list-style-type: none"> <li>(i) When the aircraft is capable of descending and continuing to its destination as specified at A hereunder, no requirement other than that at (2)(b)(aa) of this Part of this Scale</li> <li>(ii) When the aircraft is not so capable and the cabin pressure altitude exceeds 12,000 ft, the duration shall be the period when the cabin pressure altitude exceeds 12,000 ft or 10 minutes, whichever is the greater</li> </ul>

(3) When flying above flight level 250—

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<i>Supply for</i>	<i>Duration</i>
(a) (a) Members of the flight crew	2 hours or whenever the cabin pressure altitude exceeds 10,000 ft, whichever is the greater
(b) (b) Members of the cabin crew	Whenever the cabin pressure altitude exceeds 10,000 ft, and a portable supply for 15 minutes
(c) (c) 10% of passengers	Whenever the cabin pressure altitude exceeds 10,000 ft but does not exceed 12,000 ft
(d) (d) 30% of passengers	Whenever the cabin pressure altitude exceeds 12,000 ft but does not exceed 15,000 ft
(e) (e) All passengers	If the cabin pressure altitude exceeds 15,000 ft, the duration shall be the period when the cabin pressure altitude exceeds 15,000 ft or 10 minutes, whichever is the greater
(f) (f) 2% of passengers or 2 passengers, whichever is the greater, being a supply of first aid oxygen which must be available for simultaneous first aid treatment of 2% or 2 passengers wherever they are seated in the aircraft	Whenever, after decompression, the cabin pressure altitude exceeds 8,000 ft

**A.** The flying machine is capable, at the time when a failure to maintain cabin pressurisation occurs, of descending in accordance with the emergency descent procedure specified in the relevant flight manual and without flying below the minimum altitudes for safe flight specified in the operations manual relating to the aircraft, to flight level 120 within 5 minutes and of continuing at or below that flight level to its place of intended destination or any other place at which a safe landing can be made.

**Scale M**

Equipment to prevent the impairment through ice formation of the functioning of the controls, means of propulsion, lifting surfaces, windows or equipment of the aircraft so as to endanger the safety of the aircraft.

**Scale N**

An intercommunication system for use by all members of the flight crew and including microphones, not of a hand-held type, for use by the pilot and flight engineer (if any).

**Scale O**

(1) Subject to paragraph (2), a radar set capable of giving warning to the pilot in command of the aircraft and to the co-pilot of the presence of cumulo-nimbus clouds and other potentially hazardous weather conditions.

(2) A flight may commence if the set is unserviceable or continue if the set becomes unserviceable thereafter—

- (a) so as to give the warning only to one pilot, so long as the aircraft is flying only to the place at which it first becomes reasonably practicable for the set to be repaired; or

- (b) when the weather report or forecasts available to the commander of the aircraft indicate that cumulo-nimbus clouds or other potentially hazardous weather conditions, which can be detected by the set when in working order, are unlikely to be encountered on the intended route or any planned diversion therefrom or the commander has satisfied himself that any such weather conditions will be encountered in daylight and can be seen and avoided, and the aircraft is in either case operated throughout the flight in accordance with any relevant instructions given in the operations manual.

### **Scale P**

(1) Subject to paragraphs (2) and (5), a flight data recorder which is capable of recording, by reference to a time-scale, the following data—

- (a) indicated airspeed;
- (b) indicated altitude;
- (c) vertical acceleration;
- (d) magnetic heading;
- (e) pitch attitude, if the equipment provided in the aeroplane is of such a nature as to enable this item to be recorded;
- (f) engine power, if the equipment provided in the aeroplane is of such a nature as to enable this item to be recorded;
- (g) flap position;
- (h) roll attitude, if the equipment provided in the aeroplane is of such a nature as to enable this item to be recorded.

(2) Subject to paragraph (5), any aeroplane having a maximum total weight authorised not exceeding 11,400 kg may be provided with—

- (a) a flight data recorder capable of recording the data described in paragraph (1)(a) to (1)(h); or
- (b) a 4 channel cockpit voice recorder.

(3) Subject to paragraph (5), in addition, on all flights by turbine-powered aeroplanes having a maximum total weight authorised exceeding 11,400 kg, a 4 channel cockpit voice recorder.

(4) The flight data recorder and cockpit voice recorder referred to above shall be so constructed that the record would be likely to be preserved in the event of an accident to the aeroplane.

(5) An aeroplane shall not be required to carry the said equipment if, before take off, the equipment is found to be unserviceable and the aircraft flies in accordance with arrangements approved by the CAA.

### **Scale Q**

If the maximum total weight authorised of the aeroplane exceeds 5,700 kg and it was first registered, whether in the United Kingdom or elsewhere, on or after 1st June 1965, a door between the flight crew compartment and any adjacent compartment to which passengers have access, which door shall be fitted with a lock or bolt capable of being worked from the flight crew compartment.

### **Scale R**

(1) In respect of—

- (a) aeroplanes having a maximum total weight authorised exceeding 5,700 kg, equipment sufficient to protect the eyes, nose and mouth of all members of the flight crew required to

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be carried by virtue of article 25 for a period of not less than 15 minutes and, in addition, where the minimum flight crew required as aforesaid is more than one and a member of the cabin crew is not required to be carried by virtue of article 25, portable equipment sufficient to protect the eyes, nose and mouth of one member of the flight crew for a period of not less than 15 minutes;

- (b) aeroplanes having a maximum total weight authorised not exceeding 5,700 kg, either the equipment specified in sub-paragraph (1)(a) or, in the case of such aeroplanes restricted by virtue of the operator's operations manual to flight at or below flight level 250 and capable of descending as specified at paragraph (4) such equipment sufficient to protect the eyes only.

(2) In respect of—

- (a) aeroplanes having a maximum total weight authorised exceeding 5,700 kg, portable equipment to protect the eyes, nose and mouth of all members of the cabin crew required to be carried by virtue of article 25 for a period of not less than 15 minutes;
- (b) aeroplanes having a maximum total weight authorised not exceeding 5,700 kg, subject to paragraph (3), the equipment specified in sub-paragraph (2)(a).

(3) Sub-paragraph (2)(b) shall not apply to such aeroplanes restricted by virtue of the operator's operations manual to flight at or below flight level 250 and capable of descending as specified at paragraph (4).

(4) The aeroplane is capable of descending in accordance with the emergency descent procedure specified in the relevant flight manual and without flying below the minimum altitudes for safe flight specified in the operations manual relating to the aeroplane, to flight level 100 within 4 minutes and of continuing at or below that flight level to its place of intended destination or any other place at which a safe landing can be made.

## **Scale S**

(1) Subject to paragraphs (7) and (8), either a 4 channel cockpit voice recorder or a flight data recorder capable of recording by reference to a time scale the data required to determine the following matters accurately in respect of the aeroplane: the flight path, attitude and the basic lift, thrust and drag forces acting upon it.

(2) Subject to paragraphs (7) and (8), a 4 channel cockpit voice recorder and a flight data recorder capable of recording by reference to a time scale the data required to determine the following matters accurately in respect of the aeroplane: the information specified in paragraph (1) together with use of VHF transmitters.

(3) Subject to paragraphs (7) and (8), a 4 channel cockpit voice recorder and a flight data recorder capable of recording by reference to a time scale the data required to determine the following matters accurately in respect of the aeroplane: the flight path, attitude, the basic lift, thrust and drag forces acting upon it, the selection of high lift devices (if any) and airbrakes (if any), the position of primary flying control and pitch trim surfaces, outside air temperature, instrument landing deviations, use of automatic flight control systems, use of VHF transmitters, radio altitude (if any), the level or availability of essential AC electricity supply and cockpit warnings relating to engine fire and engine shut-down, cabin pressurisation, presence of smoke and hydraulic/pneumatic power supply.

(4) Subject to paragraphs (7) and (8), either a cockpit voice recorder and a flight data recorder or a combined cockpit voice recorder/flight data recorder capable in either case of recording by reference to a time scale the data required to determine the following matters accurately in respect of the aeroplane—

- (a) the flight path;
- (b) speed;

- (c) attitude;
- (d) engine power;
- (e) outside air temperature;
- (f) configuration of lift and drag devices;
- (g) use of VHF transmitters; and
- (h) use of automatic flight control systems.

(5) Subject to paragraphs (7) and (8), a cockpit voice recorder and a flight data recorder capable of recording by reference to a time scale the data required to determine the following matters accurately in respect of the aeroplane—

- (a) the flight path;
- (b) speed;
- (c) attitude;
- (d) engine power;
- (e) outside air temperature;
- (f) configuration of lift and drag devices;
- (g) use of VHF transmitters; and
- (h) use of automatic flight control systems.

(6) Subject to paragraphs (7) and (8), a cockpit voice recorder and a flight data recorder capable of recording by reference to a time scale the data required to determine the following matters accurately in respect of the aeroplane—

- (a) the flight path;
- (b) speed;
- (c) attitude;
- (d) engine power;
- (e) outside air temperature;
- (f) instrument landing system deviations;
- (g) marker beacon passage;
- (h) radio altitude;
- (i) configuration of the landing gear and lift and drag devices;
- (j) position of primary flying controls;
- (k) pitch trim position;
- (l) use of automatic flight control systems;
- (m) use of VHF transmitters;
- (n) ground speed/drift angle or latitude/longitude if the navigational equipment provided in the aeroplane is of such a nature as to enable this information to be recorded with reasonable practicability;
- (o) cockpit warnings relating to ground proximity; and
- (p) the master warning system.

(7) An aircraft shall not be required to carry the equipment specified in paragraphs (1) to (6) if, before take-off, the equipment is found to be unserviceable and the aircraft flies in accordance with arrangements approved by the CAA.

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(8) The cockpit voice recorder or flight data recorder or combined cockpit voice recorder/flight data recorder, as the case may be, shall be so constructed that the record would be likely to be preserved in the event of an accident.

### **Scale SS**

(1) Subject to paragraphs (4) and (5), a 4 channel cockpit voice recorder capable of recording and retaining the data recorded during at least the last 30 minutes of its operation and a flight data recorder capable of recording and retaining the data recorded during at least the last 8 hours of its operation being the data required to determine by reference to a time scale the following matters accurately in respect of the helicopter or gyroplane—

- (a) flight path;
- (b) speed;
- (c) attitude;
- (d) engine power;
- (e) main rotor speed;
- (f) outside air temperature;
- (g) position of pilot's primary flight controls;
- (h) use of VHF transmitters;
- (i) use of automatic flight controls (if any);
- (j) use of stability augmentation system (if any);
- (k) cockpit warnings relating to the master warning system; and
- (l) selection of hydraulic system and cockpit warnings of failure of essential hydraulic systems.

(2) Subject to paragraphs (4) and (5), a 4 channel cockpit voice recorder capable of recording and retaining the data recorded during at least the last 30 minutes of its operation and a flight data recorder capable of recording and retaining the data recorded during at least the last 8 hours of its operation being the data required to determine by reference to a time scale the information specified in paragraph (1) together with the following matters accurately in respect of the helicopter or gyroplane—

- (a) landing gear configuration;
- (b) indicated sling load force if an indicator is provided in the helicopter or gyroplane of such a nature as to enable this information to be recorded with reasonable practicability;
- (c) radio altitude;
- (d) instrument landing system deviations;
- (e) marker beacon passage;
- (f) ground speed/drift angle or latitude/longitude if the navigational equipment provided in the helicopter or gyroplane is of such a nature as to enable this information to be recorded with reasonable practicability; and
- (g) main gear box oil temperature and pressure.

(3) Subject to paragraphs (4) and (5)—

- (a) a combined cockpit voice recorder/flight data recorder which meets the following requirements—



- (i) in the case of a helicopter or gyroplane which is otherwise required to carry a flight data recorder specified at paragraph (1) the flight data recorder shall be capable of recording the data specified therein and retaining it for the duration therein specified;
  - (ii) in the case of a helicopter or gyroplane which is otherwise required to carry a flight data recorder specified at paragraph (2) the flight data recorder shall be capable of recording the data specified therein and retaining it for the duration therein specified;
  - (iii) the cockpit voice recorder shall be capable of recording and retaining at least the last hour of cockpit voice recording information on not less than three separate channels;
- (b) in any case when a combined cockpit voice recorder/flight data recorder specified at paragraph (3)(a) is required to be carried by or under this Order, the flight data recorder shall be capable of retaining—
- (i) as protected data the data recorded during at least the last 5 hours of its operation or the maximum duration of the flight, whichever is the greater; and
  - (ii) additional data as unprotected data for a period which together with the period for which protected data is required to be retained amounts to a total of 8 hours; provided that the flight data recorder need not be capable of retaining the said additional data if additional data is retained which relates to the period immediately preceding the period to which the required protected data relates or for such other period or periods as the CAA may permit under article 62 and the additional data is retained in accordance with arrangements approved by the CAA.

(4) A helicopter or gyroplane shall not be required to carry the equipment specified in paragraphs (1) to (3) if, before take-off, the equipment is found to be unserviceable and the aircraft flies in accordance with arrangements approved by the CAA.

(5) With the exception of flight data which it is expressly stated above may be unprotected, the cockpit voice recorder, flight data recorder or combined cockpit voice recorder/flight data recorder, as the case may be, shall be so constructed and installed that the record (herein referred to as “protected data”) would be likely to be preserved in the event of an accident and each cockpit voice recorder, flight data recorder or combined cockpit voice recorder/flight data recorder required to be carried on the helicopter or gyroplane shall have attached an automatically activated underwater sonar location device or an emergency locator radio transmitter.

#### **Scale T**

An underwater sonar location device except in respect of those helicopters or gyroplanes which are required to carry equipment in accordance with Scale SS.

#### **Scale U**

- (1) 1 survival beacon radio apparatus.
- (2) Marine type pyrotechnical distress signals.
- (3) For each 4 or proportion of 4 persons on board, 100 grammes of glucose toffee tablets.
- (4) For each 4 or proportion of 4 persons on board, 1/2 litre of fresh water in durable containers.
- (5) First aid equipment.

#### **Scale V**

- (1) 1 survival beacon radio apparatus.
- (2) Marine type pyrotechnical distress signals.

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- (3) For each 4 or proportion of 4 persons on board, 100 grammes of glucose toffee tablets.
- (4) For each 4 or proportion of 4 persons on board, 1/2 litre of fresh water in durable containers.
- (5) First aid equipment.
- (6) For every 75 or proportion of 75 persons on board, 1 stove suitable for use with aircraft fuel.
- (7) 1 cooking utensil, in which snow or ice can be melted.
- (8) 2 snow shovels.
- (9) 2 ice saws.
- (10) Single or multiple sleeping-bags, sufficient for the use of one-third of all persons on board.
- (11) 1 arctic suit for each member of the crew of the aircraft.

#### **Scale W**

(1) Subject to paragraph (2), cosmic radiation detection equipment calibrated in millirems per hour and capable of indicating the action and alert levels of radiation dose rate.

(2) An aircraft shall not be required to carry the said equipment if before take-off the equipment is found to be unserviceable and it is not reasonably practicable to repair or replace it at the aerodrome of departure and the radiation forecast available to the commander of the aircraft indicates that hazardous radiation conditions are unlikely to be encountered by the aircraft on its intended route or any planned diversion therefrom.

#### **Scale X**

(1) Subject to paragraph (3), a Terrain Awareness and Warning System known as Class A, being equipment capable of giving warning to the pilot of the potentially hazardous proximity of ground or water, including excessive closure rate to terrain, flight into terrain when not in landing configuration, excessive downward deviation from an instrument landing system glideslope, a predictive terrain hazard warning function and a visual display.

(2) Subject to paragraph (3), a Terrain Awareness and Warning System known as Class B, being equipment capable of giving warning to the pilot of the potentially hazardous proximity of ground or water, including a predictive terrain hazard warning function.

(3) If the equipment becomes unserviceable, the aircraft may fly or continue to fly until it first lands at a place at which it is reasonably practicable for the equipment to be repaired or replaced.

#### **Scale Y**

(1) If the aircraft may in accordance with its certificate of airworthiness carry more than 19 and less than 100 passengers, one portable battery-powered megaphone capable of conveying instructions to all persons in the passenger compartment and readily available for use by a member of the crew.

(2) If the aircraft may in accordance with its certificate of airworthiness carry more than 99 and less than 200 passengers, 2 portable battery-powered megaphones together capable of conveying instructions to all persons in the passenger compartment and each readily available for use by a member of the crew.

(3) If the aircraft may in accordance with its certificate of airworthiness carry more than 199 passengers, 3 portable battery-powered megaphones together capable of conveying instructions to all persons in the passenger compartment and each readily available for use by a member of the crew.

(4) If the aircraft may in accordance with its certificate of airworthiness carry more than 19 passengers—

- (a) a public address system; and
- (b) an interphone system of communication between members of the flight crew and the cabin crew.

**Scale Z**

(1) An emergency lighting system to provide illumination in the passenger compartment sufficient to facilitate the evacuation of the aircraft notwithstanding the failure of the lighting systems specified in paragraph (2) of Scale G.

(2) An emergency lighting system to provide illumination outside the aircraft sufficient to facilitate the evacuation of the aircraft.

(3) An emergency floor path lighting system in the passenger compartment sufficient to facilitate the evacuation of the aircraft notwithstanding the failure of the lighting systems specified in paragraph (2) of Scale G; provided that if the equipment becomes unserviceable the aircraft may fly or continue to fly in accordance with arrangements approved by the CAA.