

## SCHEDULE 4

Articles 28(6) and 37(2)

## Aircraft equipment

1.—(1) Every aircraft of a description specified in the first column of the Table in paragraph 4 which must carry equipment specified in this Schedule must be provided, if flying in the circumstances specified in the second column of the said Table, with adequate equipment.

(2) For the purpose of this paragraph the expression ‘adequate equipment’ means, subject to subparagraphs (3) and (4), the scales of equipment respectively indicated in the third column of that Table.

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

(4) Equipment carried in an aircraft that is necessary for the airworthiness of the aircraft is to be taken into account in determining whether this Schedule is complied with for that aircraft.

2.—(1) For the purposes of the Table in paragraph 4 flying time in relation to a helicopter or gyroplane is to 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.

3. The following items of equipment are not 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(3);
- (c) time-pieces, referred to in Scale F;
- (d) torches, referred to in Scales G and K;
- (e) whistles and survivor locator lights, 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.

## 4. Table

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(1) Gliders	(a) flying for purposes other than public transport or aerial work; and 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) 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) flying by night	C and G
	(ii) carrying out aerobatic manoeuvres	B(8) and (9)
	(c) flying for purposes other than commercial air transport or public transport and	A(1) and (2) and B(1), (2), (3), (4), (5) and (6)
	(i) flying by night	C, D, G(2) and (3) and GG
	(ii) 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) carrying out aerobatic manoeuvres	B(8) and (9)
	(iv) flying at a height of 13,000 ft or more above mean sea level	L1 or L2
	(v) flying over water	
	(aa) beyond gliding distance from land suitable for an emergency landing	H
	(bb) at a distance of more than 10 minutes flying time at normal cruising speed away from land suitable for making an emergency landing	KK(1) or KK(2)
	(vi) flying over areas which have been designated by the State concerned as areas in which search and rescue would be especially difficult, and where	KK(2)
	(aa) in the event of an emergency landing, tropical conditions are likely to be met	U (except U(1))
	(bb) in the event of an emergency landing, polar conditions are likely to be met	V (except V(1))
	(vii) on all flights which involve manoeuvres on water	H, J and K(1), (2) and (3)
	(viii) with a certificate of airworthiness	A(3) and (5)

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(d) flying for the purpose of public transport and	A, B(1), (2), (3), (4), (5), (6) and (7), D and F(1)
	(i) flying under Instrument Flight Rules except flights outside controlled airspace in the case of aeroplanes having a maximum total weight authorised of not more than 1150kg	E with E(4) duplicated and F
	(ii) flying by night	
	(aa) in the case of aeroplanes which have a maximum total weight authorised not exceeding 1150kg	C and G
	(bb) in the case of aeroplanes which have a maximum total weight authorised exceeding 1150kg	C and G, E with E(4) duplicated and F
	(iii) 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 landing at the intended destination or any likely alternate destination it is reasonably possible that the aeroplane would be forced to land onto water	H
	(v) 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)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(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
	(ix) 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) 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) flying over substantially uninhabited land areas where, in the event of an emergency landing, tropical conditions are likely to be met	U
	(xvi) flying over substantially uninhabited land or other areas where, in the event of an emergency landing, polar conditions are likely to be met	V
	(xvii) flying at an altitude of more than 49,000ft	W
(3) Turbine-jet aeroplanes having a maximum total weight authorised of more than 5700kg or pressurised aircraft having a maximum total weight authorised of more than 11,400kg	flying for the purpose of public transport	O
(4) Turbine-engined aeroplanes having a maximum total weight		

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
authorised of more than 5700kg and piston-engined aeroplanes having a maximum total weight authorised of more than 27,000kg except for such aeroplanes falling within paragraphs (5) or (6);		
(a) which are operated by an the holder of a national air operator's certificate; or an EU-OPS air operator certificate; or	flying on any flight	P
(b) which are public transport aeroplanes for which application has been made and not withdrawn or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, the A Conditions or under a certificate of airworthiness in the Special Category described in Part B of Schedule 2	flying on any flight	P
(5) Public transport aeroplanes for which there is in force a certificate of airworthiness and public transport aeroplanes for which an application has been made and not withdrawn or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, the A Conditions or under a certificate of airworthiness in the Special Category described in Part B of Schedule 2 except for such aeroplanes falling within paragraph (6);		
(a) which conform to a type first issued	flying on any flight	S(1)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
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 of more than 5700kg but of not more than 11,400kg; or		
(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 of more than 11,400kg but not more than 27,000kg; or	flying on any flight	S(2)
(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 of more than 27,000kg but not more than 230,000kg; or	flying on any flight	S(3)
(d) 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 weight authorised of more than 230,000kg	flying on any flight	S(3)
(6) Public transport aeroplanes for which there is in force a certificate of airworthiness and public transport aeroplanes for which application has been made and not withdrawn		

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, the A Conditions or under a certificate of airworthiness in the Special Category described in Part B of Schedule 2		
(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 of not more than 5700kg, are powered by two or more turbine engines and with a maximum approved passenger seating configuration of more than 9; or	flying on any flight	S(4)
(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 a maximum total weight authorised of more than 5700kg but not more than 27,000kg; or	flying on any flight	S(5)
(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 of more than 27,000kg	flying on any flight	S(6)

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(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 of more than 27,000kg	flying on any flight	S(6)
(8) Public transport aeroplanes		
(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 of more than 27,000kg; or	flying on any flight	T
(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 weight authorised of more than 230,000kg and for which there is in force a certificate of airworthiness; or	flying on any flight	T
(c) having a maximum total weight authorised of more than 27,000kg 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 of more than 230,000kg) for	flying on any flight	T



<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
which application has been made and not withdrawn or refused for a certificate of airworthiness, and which fly under an EASA permit to fly, the A Conditions or under a certificate of airworthiness in the Special Category described in Part B of Schedule 2		
(9) Aeroplanes powered by one or more turbine jets or one or more turbine propeller engines and which have a maximum total weight authorised of more than 15,000kg or with a maximum approved passenger seating configuration of more than 30	flying for the purpose of public transport	X(1)
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 of more than 5700kg but not more than 15,000kg or with a maximum approved passenger seating configuration of more than 9 but not more than 30	flying for the purpose of public transport except when flying under and in accordance with the terms of a police air operator's certificate	X(1)
(10) 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 of more than 5700kg or with a maximum approved passenger seating configuration of more than 9 for which there is in force a certificate of airworthiness	flying for purposes other than commercial air transport or public transport	X(1) or X(2)
(11) Aeroplanes		

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
(a) powered by one or more turbo-jets and which have a maximum total weight authorised of more than 22,700kg; or	flying by night for the purpose of the public transport of passengers	Z(1) and (2)
(b) having a maximum total weight authorised of more than 5700kg 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	flying by night for the purpose of the public transport of passengers	Z(1) and (2)
(c) with a maximum approved passenger seating configuration of more than 19; or	flying by night for the purpose of the public transport of passengers	Z(1)
(d) having a maximum total weight authorised of more than 5700kg 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	flying for the purpose of the public transport of passengers	Z(3)

Description of Aircraft	Circumstances of Flight	Scale of Equipment Required
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		
(e) powered by one or more turbo-jets and which have a maximum total weight authorised of more than 22,700kg; or	flying for the purpose of the public transport of Z(3) passengers	
(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	flying for the purpose of the public transport of Z(3) passengers	
(2) Aeroplanes;		
(a) powered by one or more turbine jets	flying on any flight other than commercial air AA transport	
(b) powered by one or more turbine propeller engines and having a maximum total weight authorised of more than 5700kg and first issued with a certificate of airworthiness in the United Kingdom on or after 1st April 1989	flying on any flight other than commercial air AA transport	
(12) Public transport aeroplanes	flying for the purpose of the public transport of Y(4) passengers	
(13) Helicopters and Gyroplanes	(c) flying for purposes other than public transport and	A(1), (2), (3) and (5) and B(1), (2), (3), (4), (5) and (6)
	(i) flying by day under Visual Flight Rules	
	(aa) with the surface in sight	D

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(bb) when the surface is not in sight	E
	(ii) flying by day under Instrument Flight Rules	
	(aa) with the surface in sight	E
	(bb) when the surface is not in sight outside controlled airspace	E with E(2) duplicated
	(cc) when the surface is not in sight within controlled airspace	E with both E(2) and E(4) duplicated and F
	(iii) flying by night;	
	(aa) with the surface in sight	C, E, G(3), (5) and (6)
	(bb) when the surface is not in sight outside controlled airspace	C, E with E(2) duplicated, G(3), (5) and (6)
	(cc) when the surface is not in sight within controlled airspace	C, E with both E(2) and E(4) duplicated, F, G(3), (5) and (6)
	(iv) flying at a height of 13,000 ft or more above mean sea level	L1 or L2
	(v) flying over water	
	(aa) beyond autorotational gliding distance from land suitable for an emergency landing	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) at a distance of more than 10 minutes flying time at normal cruising speed away from land suitable for making an emergency landing	KK(1) or KK(2)
	(vi) flying over areas which have been designated by the State concerned as areas in which	KK(2)

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	search and rescue would be especially difficult, and where	
	(aa) in the event of an emergency landing, tropical conditions are likely to be met	U (except U(1))
	(bb) in the event of an emergency landing, polar conditions are likely to be met	V (except V(1))
	(d) flying for the purpose of public transport and	A, B(1), (2), (3), (4), (5), (6) and (7) and F(1) and F(4)
	(i) flying by day under Visual Flight Rules	
	(aa) with the surface in sight	D
	(bb) when the surface is not in sight	E
	(ii) flying by day under Instrument Flight Rules	
	(aa) with the surface in sight	E
	(bb) when the surface is not in sight	E with both E(2) and E(4) duplicated, F(2), (3) and (5)
	(iii) flying by night with the surface in sight	
	(aa) in circumstances where one pilot is required	C, E with E(2) duplicated and either E(4) duplicated or a radio altimeter, F(2), (3), (5) and G
	(bb) in circumstances where two pilots are required	C, E, F(2), (3), and (5) and G for each pilot's station
	(iv) flying by night when the surface is not in sight	C, E with both E(2) and E(4) duplicated, F(2), (3), (5) and G

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(v) 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 three minutes in any flight	EE
	(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) 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)

<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(vii) flying on Performance Class 3 operations beyond auto-rotational or safe forced landing distance from land	KK(2)
	(viii) 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) flying on Performance Class 1 or 2 operations over water in a hostile environment at a distance from land corresponding to more than ten 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) flying at a height of 10,000ft 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 flight crew of more than one person	N
	(xiv) on all flights for the purpose of the public transport of passengers	Y(1), (2) and (3)
	(xv) flying over substantially uninhabited land areas where, in the event of an emergency landing, tropical conditions are likely to be met	U
	(xvi) flying over substantially uninhabited land or other areas where, in the event of an emergency landing, polar conditions are likely to be met	V

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<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
	(xvii) with a maximum approved passenger seating configuration of more than nine and operating in a hostile environment	SS(8)
(14) Helicopters and Gyroplanes;		1
(a) having a maximum total weight authorised of more than 5700kg 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	flying by night for the purpose of the public transport of passengers	Z(1) and (2)
(b) with a maximum approved passenger seating configuration of more than 19; or	flying by night for the purpose of the public transport of passengers	Z(1)
(c) which are public transport helicopters or gyroplanes for which there is in force a certificate of airworthiness and public transport helicopters or gyroplanes for which application has been made and not withdrawn or refused for a certificate of airworthiness, and		



<i>Description of Aircraft</i>	<i>Circumstances of Flight</i>	<i>Scale of Equipment Required</i>
which fly under an EASA permit to fly, the A Conditions or under a certificate of airworthiness in the Special Category described in Part B of Schedule 2; and		
(i) which have a maximum total weight authorised of more than 2730kg but not more than 7000kg or with a maximum approved passenger seating configuration of more than 9 or both	flying on any flight	SS(1) or SS(3)
(ii) which have a maximum total weight authorised of more than 7000kg	flying on any flight	SS(2) or SS(3)

**5.** The scales of equipment indicated in the Table at paragraph 4 are 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;

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- (l) splints, in the case of aeroplanes the maximum total weight authorised of which exceeds 5700kg; and
- (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.
- (5) A hand fire extinguisher for each enclosed passenger and crew compartment, so installed that at least one extinguisher is conveniently located for use by a member of the flight crew.

#### *Scale AA*

- (1) Subject to paragraph (2), an altitude alerting system capable of alerting the pilot on 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 2730kg 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 for 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.
- (2) If the maximum total weight authorised of the aircraft exceeds 2730kg, 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) or (6), 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 for 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 is not more than 5700kg and with a maximum approved passenger seating configuration of 9 or less, (otherwise than for 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 the commander's own seat, see all the passenger 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 Section 8 of the Rules of the Air Regulations 2007<sup>(1)</sup>.
- (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 Rule 61 of the Rules of the Air Regulations 2007 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*

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(1) [S.I. 2007/734](#) to which there are amendments not relevant to this provision.

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- (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 5700kg, two air speed indicators.

*Scale G*

- (1) In the case of an aircraft other than a helicopter or gyroplane, landing lights consisting of two 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 must—
      - (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 which has a maximum total weight authorised exceeding 5700kg, 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 for which there is in force a certificate of airworthiness designating the gyroplane as being of performance group A(2), either—
  - (a) two 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 5700kg, one dual filament landing light with separately energised filaments, or two single filament lights, each of which is adjustable so as to illuminate the ground in front of and below the helicopter or gyroplane, and two parachute flares.
- (6) In the case of a helicopter carrying out Performance Class 3 operations or a gyroplane for which there is in force a certificate of airworthiness designating the gyroplane as being of performance group B—
  - (a) one landing light and two parachute flares;
  - (b) if the maximum total weight authorised of the helicopter or gyroplane exceeds 5700kg, either one dual filament landing light with separately energised filaments or two single filament landing lights, and two parachute flares; or

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(2) A gyroplane is designated as performance group A or B according to its ability to continue a flight in the event of engine failure.

- (c) if the maximum total weight authorised of the helicopter or gyroplane is 5700kg or less and the flight is for a purpose other than public transport—
  - (i) two landing lights, one of which is adjustable in flight so as to illuminate the ground in front of, below and on either side of the helicopter; or
  - (ii) two landing lights in addition to the helicopter standard equipment, which must be adjusted so as to illuminate the ground in front of the helicopter.

*Scale GG*

A landing light.

*Scale H*

- (1) Subject to paragraph (2), for each person on board, a lifejacket equipped with a whistle and survivor locator light.
- (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 Rule 61 of the Rules of the Air Regulations 2007 and complying with Part III of Schedule 15 to the Merchant Shipping (Life-Saving Appliances) Regulations 1980(3).
- (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 two liferafts sufficient together to accommodate all persons on board.
- (2) Each liferaft must contain the following equipment—
  - (a) means of maintaining buoyancy;
  - (b) a sea anchor;
  - (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 four or proportion of four persons the liferaft is designed to carry—

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(3) [SI 1980/538](#).

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- (i) 100 grammes of glucose toffee tablets; and
  - (ii) (aa) subject to sub-paragraph (bb), ½ 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;
  - (bb) in no case must 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 ½ litre of water for each four or proportion of four persons the liferaft is designed to carry; and
  - (j) first aid equipment.
- (3) Items (2)(f) to (j) inclusive must 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 must be not less than the number specified in, or calculated in accordance with, Column 2.

<i>Column 1</i>	<i>Column 2</i>
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 which complies with paragraph (4).
- (2) An automatic emergency locator transmitter which complies with paragraph (4).
- (3) An automatically deployable emergency locator transmitter which complies with paragraph (4).
- (4) The transmitter must be capable of operating in accordance with the relevant provisions of Annex 10 to the Chicago Convention, Volume III (Second Edition July 2007)(4) and transmitting on 121.5 MHz and 406 MHz.

*Scale L1 Part 1*

- (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—
  - (a) in the event of a failure to maintain such pressure occurring in the circumstances specified in columns 1 and 2 of the Table set out in Part 2, a supply of oxygen sufficient for continuous use during the periods specified in column 3 of the Table, by the persons for whom oxygen is to be provided in accordance with column 4 of the Table; and
  - (b) 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 two 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

(4) Annex 10 is published by the International Civil Aviation Organisation. For availability see Explanatory Note.

any period of more than 30 minutes during which the flying machine flies above flight level 100 but not above flight level 130; and the flight crew must 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 is to be computed in accordance with the information and instructions specified in the operations manual relating to the aircraft under paragraph 1(h) of Part A of Schedule 8.

*Scale L1 Part 2*

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

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Vertical displacement of the flying machine in relation to flight levels</i>	<i>Capability of flying machine to descend (where relevant)</i>	<i>Period of supply of oxygen</i>	<i>Persons for whom oxygen is to be provided</i>
Above flight level 300 but not above flight level 350	Flying machine is capable of descending and continuing to destination as specified at Y below	30 minutes or the period specified at A below whichever is the greater	15% of number of passengers
Above flight level 300 but not above flight level 350	Flying machine is not capable of descending and continuing to destination as specified at Y below	10 minutes or the period specified at B below whichever is the greater; and 30 minutes or the period specified at C below whichever is the greater	All passengers  15% of passengers
Above flight level 350	—	10 minutes or the period specified at B below whichever is the greater; and 30 minutes or the period specified at C below whichever is the greater	All passengers  15% of number of passengers
<p>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.</p> <p>B. The whole period during which, after a failure to maintain such pressure has occurred, the flying machine flies above flight level 150.</p> <p>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.</p> <p>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 flight manual and without flying below the minimum altitudes for safe flight specified in the operations manual, to flight level 150 within six 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.</p> <p>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 flight manual and without flying below the minimum altitudes for safe flight specified in the operations manual, to flight level 150 within four 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.</p>			

Scale L2



- (1) A supply of oxygen and the associated equipment to meet the requirements set out in Part 1 of this Scale in the case of unpressurised aircraft and Part 2 of this Scale in the case of pressurised aircraft.
- (2) The duration for the purposes of this Scale is whichever is the greater of—
  - (a) that calculated in accordance with the operations manual before 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 duration, account must 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 those Parts.

*Part 1 Unpressurised aircraft*

- (1) When flying at or below flight level 100, nil.
- (2) When flying above flight level 100 but not above flight level 120—

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

- (3) When flying above flight level 120—

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

*Part 2 Pressurised aircraft*

- (1) When flying at or below flight level 100, nil.
- (2) When flying above flight level 100 but not above flight level 250—

<i>Supply for</i>	<i>Duration</i>
(a) Members of the flight crew	30 minutes or whenever the cabin pressure altitude exceeds 10,000 ft, whichever is the greater

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<i>Supply for</i>	<i>Duration</i>
(b) Members of the cabin crew and 10% of passengers	<p>(i) When the aircraft is capable of descending and continuing to its destination as specified at A below, 30 minutes or whenever the cabin pressure altitude exceeds 10,000 ft, whichever is the greater</p> <p>(ii) When the aircraft is not so capable, whenever the cabin pressure altitude is greater than 10,000 ft but is not more than 12,000 ft</p>
(c) Members of the cabin crew and all passengers	<p>(i) When the aircraft is capable of descending and continuing to its destination as specified at A below, no requirement other than that at (2)(b)(i) of this Part of this Scale</p> <p>(ii) When the aircraft is not so capable and the cabin pressure altitude exceeds 12,000 ft, the duration is the period when the cabin pressure altitude exceeds 12,000 ft or 10 minutes, whichever is the greater</p>

(3) When flying above flight level 250—

<i>Supply for</i>	<i>Duration</i>
(a) Members of the flight crew	2 hours or whenever the cabin pressure altitude exceeds 10,000 ft, whichever is the greater
(b) Members of the cabin crew	Whenever the cabin pressure altitude exceeds 10,000 ft, and a portable supply for 15 minutes
(c) 10% of passengers	Whenever the cabin pressure altitude exceeds 10,000 ft but is not more than 12,000 ft
(d) 30% of passengers	Whenever the cabin pressure altitude exceeds 12,000 ft but is not more than 15,000 ft
(e) All passengers	If the cabin pressure altitude exceeds 15,000 ft, the duration is the period when the cabin pressure altitude exceeds 15,000 ft or 10 minutes, whichever is the greater
(e) 2% of passengers or two passengers, whichever is the greater, being a supply of first aid oxygen which must be available for	Whenever, after decompression, the cabin pressure altitude exceeds 8000 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 five 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.	

<i>Supply for</i>	<i>Duration</i>
simultaneous first aid treatment of 2% or two passengers wherever they are seated in the aircraft	
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 five 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 paragraphs (2) and (3), 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 in flight so as to give the warning only to one pilot, if the aircraft is flying only to the place at which it first becomes reasonably practicable for the set to be repaired.
- (3) A flight may commence if the set is unserviceable or continue if the set becomes unserviceable in flight if—
  - (a) 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 from the route; or
  - (b) the commander is satisfied that any such weather conditions will be encountered in daylight and can be seen and avoided; and
  - (c) the aircraft is 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; and

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- (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 of not more than 11,400kg may be provided with—
  - (a) a flight data recorder capable of recording the data specified in paragraph (1); or
  - (b) a four channel cockpit voice recorder.
- (3) Subject to paragraph (5), in addition, on all flights by turbine-powered aeroplanes having a maximum total weight authorised of more than 11,400kg, a four channel cockpit voice recorder.
- (4) The flight data recorder and cockpit voice recorder referred to above must be so constructed that the record would be likely to be preserved in the event of an accident to the aeroplane.
- (5) An aeroplane is not required to carry the equipment specified in paragraphs (1), (2) and (3) 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 5700kg 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 must be fitted with a lock or bolt capable of being worked from the flight crew compartment.

#### *Scale R*

- (1) For aeroplanes having a maximum total weight authorised of more than 5700kg—
  - (a) equipment sufficient to protect the eyes, nose and mouth of all members of the flight crew required to be carried by Part 5 for a period of not less than 15 minutes; and
  - (b) if under Part 5 the minimum flight crew required to be carried is more than one and a member of the cabin crew is not required to be carried, 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.
- (2) For aeroplanes having a maximum total weight authorised of not more than 5700kg—
  - (a) either the equipment specified in paragraph (1); or
  - (b) in the case of such aeroplanes which are restricted by virtue of the operator's operations manual to flight at or below flight level 250 and are capable of descending as specified at paragraph (5), such equipment sufficient to protect the eyes only.
- (3) For—
  - (a) aeroplanes having a maximum total weight authorised of more than 5700kg, portable equipment to protect the eyes, nose and mouth of all members of the cabin crew required to be carried by Part 5 for a period of not less than 15 minutes;
  - (b) aeroplanes having a maximum total weight authorised of not more than 5700kg, subject to paragraph (4), the equipment specified in sub-paragraph (3)(a).
- (4) Sub-paragraph (3)(b) does not apply to such aeroplanes which are restricted by virtue of the operator's operations manual to flight at or below flight level 250 and are capable of descending as specified at paragraph (5).
- (5) 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 four 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 paragraph (8), either a four channel cockpit voice recorder or a flight data recorder which complies with paragraph (7) and 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) attitude; and
  - (c) the basic lift, thrust and drag forces acting on it.
- (2) Subject to paragraph (8), a four channel cockpit voice recorder and a flight data recorder which comply with paragraph (7) and 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 information specified in paragraph (1); and
  - (b) use of VHF transmitters.
- (3) Subject to paragraph (8), a four channel cockpit voice recorder and a flight data recorder which comply with paragraph (7) and 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) attitude;
  - (c) the basic lift, thrust and drag forces acting on it;
  - (d) the selection of high lift devices (if any) and airbrakes (if any);
  - (e) the position of primary flying control and pitch trim surfaces;
  - (f) outside air temperature;
  - (g) instrument landing deviations;
  - (h) use of automatic flight control systems;
  - (i) use of VHF transmitters;
  - (j) radio altitude (if any); and
  - (k) 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 paragraph (8), either a cockpit voice recorder and a flight data recorder or a combined cockpit voice recorder/flight data recorder which comply with paragraph (7) and 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

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- (h) use of automatic flight control systems.
- (5) Subject to paragraph (8), a cockpit voice recorder and a flight data recorder which comply with paragraph (7) and 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 paragraph (8), a cockpit voice recorder and a flight data recorder which comply with paragraph (7) and 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) Any cockpit voice recorder, flight data recorder or combined cockpit voice recorder/flight data recorder required to be carried by paragraphs (1) to (6) must be so constructed that the record would be likely to be preserved in the event of an accident.
- (8) An aircraft is not 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.

#### *Scale SS*

- (1) A four 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 eight 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) (a) A four channel cockpit voice recorder capable of recording and retaining the data recorded during at least the last 30 minutes of its operation; and
- (b) 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 accurately determine by reference to a time scale the information specified in paragraph (1) together with the following matters in respect of the helicopter or gyroplane—
- (i) landing gear configuration;
  - (ii) 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;
  - (iii) radio altitude;
  - (iv) instrument landing system deviations;
  - (v) marker beacon passage;
  - (vi) 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
  - (vii) main gear box oil temperature and pressure.
- (3) Subject to paragraphs (4) and (7), a combined cockpit voice recorder/flight data recorder which meets the following requirements—
- (a) 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 must be capable of recording the data specified in paragraph (1) and retaining it for the duration specified in paragraph (1);
  - (b) 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 must be capable of recording the data specified in paragraph (2) and retaining it for the duration specified in paragraph (2); and

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- (c) the cockpit voice recorder must be capable of recording and retaining at least the last hour of cockpit voice recording information on not less than three separate channels.
- (4) (a) Subject to sub-paragraph (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 must be capable of retaining—
  - (i) as protected data the data recorded during at least the last five 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 eight hours.
- (b) The flight data recorder need not be capable of retaining the additional data specified in sub-paragraph (b) if—
  - (i) other 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 155(4)(b); and
  - (ii) the other additional data is retained 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 required to be carried on the helicopter or gyroplane must be so constructed and installed that the data recorded (in this Scale referred to as ‘protected data’) would be likely to be preserved in the event of an accident.
- (6) Each cockpit voice recorder, flight data recorder or combined cockpit voice recorder/flight data recorder required to be carried on the helicopter or gyroplane must have attached an automatically activated underwater sonar location device or an emergency locator radio transmitter.
- (7) A helicopter or gyroplane is not 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.
- (8) A vibration health monitoring system capable of monitoring the vibration of critical helicopter rotor and rotor drive system components.

#### *Scale T*

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

#### *Scale U*

- (1) One survival beacon radio apparatus.
- (2) Marine type pyrotechnical distress signals.
- (3) For each four or proportion of four persons on board, 100 grammes of glucose toffee tablets.
- (4) For each four or proportion of four persons on board, ½ litre of fresh water in durable containers.
- (5) First aid equipment.

#### *Scale V*

- (1) One survival beacon radio apparatus.



- (2) Marine type pyrotechnical distress signals.
- (3) For each four or proportion of four persons on board, 100 grammes of glucose toffee tablets.
- (4) For each four or proportion of four persons on board, ½ 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) One cooking utensil, in which snow or ice can be melted.
- (8) Two snow shovels.
- (9) Two ice saws.
- (10) Single or multiple sleeping-bags, sufficient for the use of one-third of all persons on board.
- (11) One 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 is not required to carry the equipment if—
  - (a) 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
  - (b) 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 from that route.

*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 carry more than 19 and less than 100 passengers in accordance with its certificate of airworthiness, 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 carry more than 99 and less than 200 passengers in accordance with its certificate of airworthiness, two 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.

**Status:** This is the original version (as it was originally made).

- (3) If the aircraft may carry more than 199 passengers in accordance with its certificate of airworthiness, three 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 carry more than 19 passengers in accordance with its certificate of airworthiness—
  - (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) Subject to paragraph (4), 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.
- (4) If the equipment specified in paragraph (3) becomes unserviceable the aircraft may fly or continue to fly in accordance with arrangements approved by the CAA.