

## SCHEDULES

### SCHEDULE 5

Articles 44(5) and 77(3)

#### EQUIPMENT FOR [F1NON-PART-21] AIRCRAFT ON NON-COMMERCIAL AND COMMERCIAL OPERATIONS AND MARKING OF BREAK-IN AREAS

- F1** Word in Sch. 5 heading substituted (31.12.2020) by [The Aviation Safety \(Amendment etc.\) \(EU Exit\) Regulations 2019 \(S.I. 2019/645\)](#), reg. 1, **Sch. 1 para. 80** (with Sch. 3) (as amended by [S.I. 2019/1098](#), regs. 1(3), 12); 2020 c. 1, Sch. 5 para. 1(1)

#### **Instruments and equipment — general**

1.—(1) Instruments and equipment required by this Schedule must be approved in accordance with the applicable airworthiness requirements if they are—

- (a) used by the flight crew to control the flight path;
- (b) used to comply with paragraph 15 or 16; or
- (c) installed in the [F2aircraft].

(2) When required by this Schedule, an equipment approval is not needed for—

- (a) independent portable lights;
- (b) an accurate time piece;
- (c) survival and signalling equipment;
- [F3(ca) oxygen supplies;]
- (d) sea anchor and equipment for mooring; and
- (e) a child restraint device.

(3) As regards instruments and equipment not required by this Schedule, including any equipment that is not otherwise required by this Order but carried on a flight, the failure or malfunction of such instruments and equipment shall not affect the airworthiness of the aircraft.

(4) Instruments and equipment must be readily operable or accessible from the station where the flight crew member that needs to use it is seated.

(5) All required emergency equipment must be easily accessible for immediate use.

- F2** Word in Sch. 5 para. 1(1)(c) substituted (14.12.2017) by [The Air Navigation \(Amendment\) Order 2017 \(S.I. 2017/1112\)](#), arts. 1, **43(a)**

- F3** Sch. 5 para. 1(2)(ca) inserted (14.12.2017) by [The Air Navigation \(Amendment\) Order 2017 \(S.I. 2017/1112\)](#), arts. 1, **43(b)**

#### **Operating lights**

2. Flying machines operated at night must be equipped with—

- (a) an anti-collision light system;

- (b) navigation/position lights;
- (c) a landing light;
- (d) lighting supplied from the aeroplane's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the flying machine; and
- (e) an independent portable light for each crew member.

### **Seats, seat safety belts, restraint systems and child restraint devices**

3.—(1) Unless sub-paragraph (2) applies, flying machines must be equipped with—

- (a) a seat or berth for each person on board who is aged 24 months or more;
- (b) a seat belt on each passenger seat and restraining belts for each berth;
- (c) a child restraint device for each person on board younger than 24 months; and
- (d) a seat belt with upper torso restraint system on each flight crew seat, having a single point release.

(2) The CAA may permit a flying machine not to be equipped with one or more of the items of equipment in sub-paragraph (1).

### **Supplemental oxygen — pressurised flying machines**

4.—(1) Pressurised flying machines operated at flight altitudes for which an oxygen supply is required in accordance with sub-paragraph (2) must be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.

(2) Pressurised flying machines operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10,000 feet must carry enough breathing oxygen to supply—

- (a) all crew members and—
  - (i) 100% of the passengers for any period when the cabin pressure altitude exceeds 15,000 feet, but in no case less than 10 minutes' supply;
  - (ii) at least 30% of the passengers, for any period when, in the event of loss of pressurisation and taking into account the circumstances of the flight, the pressure altitude in the passenger compartment will be between 14,000 feet and 15,000 feet; and
  - (iii) at least 10% of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10,000 feet and 14,000 feet; and
- (b) all the occupants of the passenger compartment for no less than 10 minutes, in the case of aeroplanes operated at pressure altitudes above 25,000 feet, or operated below that altitude but under conditions that will not allow them to descend safely to a pressure altitude of 13,000 feet within 4 minutes.

(3) Pressurised flying machines operated at flight altitudes above 25,000 feet must, in addition, be equipped with a device to provide a warning indication to the flight crew of any loss of pressurisation.

### **Supplemental oxygen — non-pressurised flying machines**

5.—(1) Non-pressurised flying machines operated at flight altitudes for which an oxygen supply is required in accordance with sub-paragraph (2) must be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.

(2) Non-pressurised flying machines operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10,000 feet must carry enough breathing oxygen to supply—

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- (a) all crew members and at least 10% of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10,000 feet and 13,000 feet; and
- (b) all crew members and passengers for any period that the pressure altitude in the passenger compartment will be above 13,000 feet.

**Hand fire extinguishers**

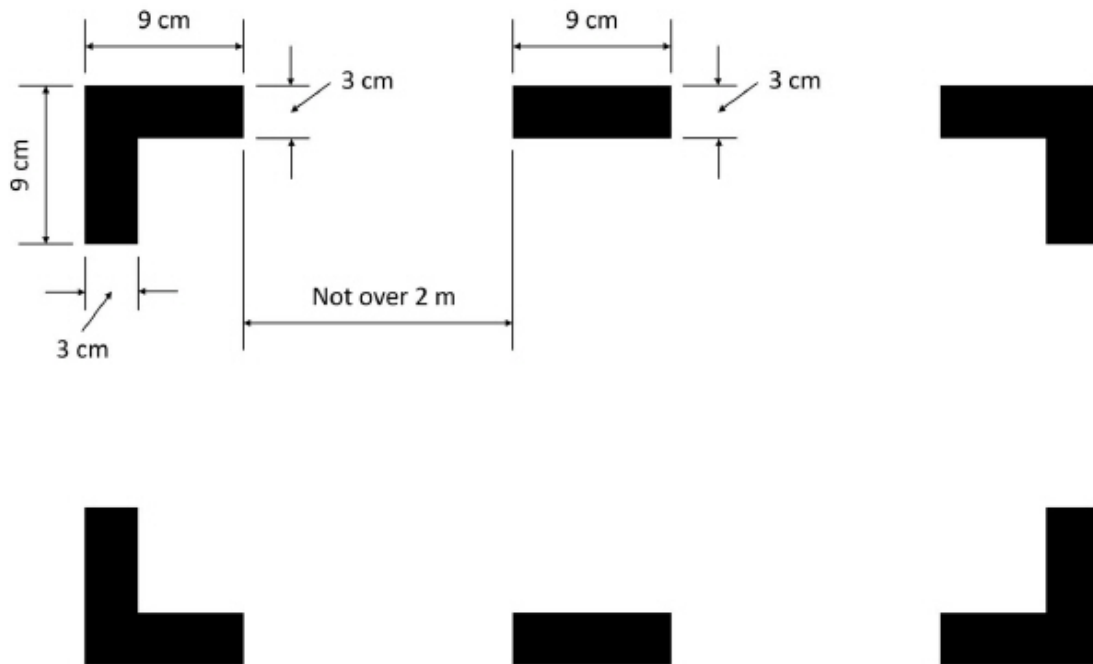
6.—(1) Subject to sub-paragraph (2), flying machines must be equipped with at least one hand fire extinguisher—

- (a) in the flight crew compartment; and
- (b) in each passenger compartment that is separate from the flight crew compartment, except if the compartment is readily accessible to the flight crew.

(2) Sub-paragraph (1) does not apply to a flying machine with a maximum take-off mass of 1,200kg or less.

**Marking of break-in areas**

7.—(1) If areas of the aircraft's fuselage suitable for break-in by rescue crews in an emergency are marked, such areas must be marked in accordance with the following diagram.



(2) The colour of the markings must be red or yellow and, if necessary, must be outlined in white to contrast with the background.

(3) If the corner markings are more than 2 metres apart, intermediate lines measuring 9 centimetres by 3 centimetres must be inserted so that there is no more than 2 metres between adjacent markings.

**Flight over water**

8.—(1) Where—

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- (a) a flying machine flies beyond autorotational or gliding distance from land suitable for an emergency landing;
- (b) a flying machine takes off or lands at an aerodrome or operating site where, in the opinion of the pilot in command, the take-off or approach path is so disposed over water that there would be a likelihood of a ditching in the event of an emergency; or
- (c) a seaplane operates over water,

it must be equipped with a life-jacket for each person on board, or equivalent individual floatation device for each person on board younger than 24 months, which must be worn or stowed in a position that is readily accessible from the seat or berth of the person for whose use it is provided.

(2) Seaplanes operated over water must be equipped with—

- (a) one anchor;
- (b) one sea anchor (drogue), when necessary to assist in manoeuvring; and
- (c) where applicable, equipment for making the sound signals prescribed in COLREGS.

(3) In sub-paragraph (2), “COLREGS” means the International Regulations for Preventing Collisions at Sea 1972 (as amended from time to time) having effect under article 1 of the Convention on the International Regulations for Preventing Collisions at Sea 1972 <sup>M1</sup>.

**Marginal Citations**

**M1** Treaty Series No. 77 (1977); Cmnd 6962.

**Operations under Visual Flight Rules — flight and navigational instruments and associated equipment – aeroplanes**

**9.**—(1) Aeroplanes operated under Visual Flight Rules by day must be equipped with a means of measuring and displaying the—

- (a) magnetic heading;
- (b) time, in hours, minutes and seconds;
- (c) pressure altitude;
- (d) indicated airspeed; and
- (e) Mach number, whenever speed limitations are expressed in terms of Mach number.

(2) Aeroplanes operated under visual meteorological conditions at night must, in addition to the requirements of sub-paragraph (1), be equipped with—

- (a) a means of measuring and displaying—
  - (i) turn and slip; or
  - (ii) attitude and stabilised heading; and
- (b) where gyroscopic instruments are installed, a means of indicating when the supply of power to those instruments is not adequate.

**Operations under Instrument Flight Rules — flight and navigational instruments and associated equipment – aeroplanes**

**10.** Aeroplanes operated under Instrument Flight Rules must be equipped with a means of—

- (a) measuring and displaying the—
  - (i) magnetic heading;

- (ii) time in hours, minutes and seconds;
  - (iii) pressure altitude;
  - (iv) indicated airspeed;
  - (v) vertical speed;
  - (vi) turn and slip;
  - (vii) attitude;
  - (viii) stabilised heading;
  - (ix) outside air temperature; and
  - (x) Mach number, whenever speed limitations are expressed in terms of Mach number;
- (b) where gyroscopic instruments are installed, indicating when the supply of power to those instruments is not adequate; and
- (c) preventing malfunction of the airspeed indicating system required in paragraph (a)(iv) due to condensation or icing.

**Operations under Visual Flight Rules — flight and navigational instruments and associated equipment – helicopters and gyroplanes**

**11.**—(1) Helicopters and gyroplanes operated under Visual Flight Rules by day must be equipped with a means of measuring and displaying the—

- (a) magnetic heading;
- (b) time, in hours, minutes and seconds;
- (c) pressure altitude;
- (d) indicated airspeed; and
- (e) slip.

(2) Helicopters and gyroplanes operated under visual meteorological conditions at night or where flight visibility below cloud is less than 1,500 metres must, in addition to the requirements of subparagraph (1), be equipped with—

- (a) a means of measuring and displaying attitude and stabilised heading; and
- (b) where gyroscopic instruments are installed, a means of indicating when the supply of power to those instruments is not adequate.

**Operations under Instrument Flight Rules — flight and navigational instruments and associated equipment – helicopters and gyroplanes**

**12.** Helicopters and gyroplanes operated under Instrument Flight Rules must be equipped with a means of—

- (a) measuring and displaying the—
  - (i) magnetic heading;
  - (ii) time in hours, minutes and seconds;
  - (iii) pressure altitude;
  - (iv) indicated airspeed;
  - (v) vertical speed;
  - (vi) slip;
  - (vii) attitude;

- (viii) stabilised heading; and
- (ix) outside air temperature;
- (b) where gyroscopic instruments are installed, indicating when the supply of power to those instruments is not adequate;
- (c) preventing malfunction of the airspeed indicating system required in paragraph (a)(iv) due to condensation or icing; and
- (d) as a standby instrument, an additional means of measuring and displaying attitude.

### **Additional equipment for single pilot operations under Instrument Flight Rules – helicopters and gyroplanes**

**13.** Helicopters and gyroplanes operated under Instrument Flight Rules with a single pilot must be equipped with an autopilot with at least altitude hold and heading mode.

### **Terrain awareness warning system**

**14.—(1)** Turbine-powered aeroplanes certified for a maximum passenger seating configuration of more than nine must be equipped with a terrain awareness warning system that meets the requirements for—

- (a) class A equipment, in the case of aeroplanes for which the individual certificate of airworthiness was first issued after 1st January 2011; or
- (b) class B equipment, in the case of aeroplanes for which the individual certificate of airworthiness was first issued on or before 1st January 2011.

(2) In this paragraph—

“class A equipment” means 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; and

“class B equipment” means equipment capable of giving warning to the pilot of the potentially hazardous proximity of ground or water, including a predictive terrain hazard warning function.

### **Radio communication equipment**

**15.—(1)** Where required by the notified airspace being flown aircraft must be equipped with radio communication equipment capable of conducting two-way communication with those aeronautical stations and on those frequencies to meet airspace requirements.

(2) The radio communication equipment mentioned in sub-paragraph (1) must provide for communication on the aeronautical emergency frequency 121.5MHz.

(3) When more than one communication equipment unit is required, each must be independent of the others to the extent that a failure in any one will not result in failure of any other.

### **Navigation equipment**

**16.—(1)** Aircraft operated over routes that cannot be navigated by reference to visual landmarks must be equipped with any navigation equipment necessary to enable them to proceed in accordance with—

- (a) the air traffic service flight plan, if applicable; and
- (b) the applicable notified airspace requirements.

(2) Aircraft must have sufficient navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will allow safe navigation in accordance with sub-paragraph (1), or an appropriate contingency action, to be completed safely.

(3) Aircraft operated on flights in which it is intended to land in instrument meteorological conditions must be equipped with suitable equipment capable of providing—

- (a) guidance to a point from which a visual landing can be performed; and
- (b) such guidance for each aerodrome at which it is intended to land in instrument meteorological conditions and for any designated destination alternate aerodromes.

### **Transponder**

17.—(1) Where required by the notified airspace being flown, aircraft must be equipped with a secondary surveillance radar transponder.

(2) In sub-paragraph (1), “secondary surveillance radar transponder” means such type of radio equipment as may be notified as being capable of—

- (a) replying to an interrogation from secondary surveillance radar units on the surface; and
- (b) being operated in accordance with such instructions as may be given to the aircraft by the appropriate air traffic control unit.

### **Airborne collision avoidance system II**

18. Aeroplanes powered by one or more turbine jets or turbine propeller engines and having either—

- (a) a maximum take-off mass of more than 5,700kg; or
- (b) a maximum approved passenger seating configuration of more than 19,

must be equipped with ACAS II in accordance with the Airborne Collision Avoidance Regulation.

### **[<sup>F4</sup>Maps and charts**

19. Maps, charts, codes and other documents necessary for the intended flight of the aircraft, including any diversion which may reasonably be expected from the aerodrome of intended landing, must be carried on the aircraft.]

**F4** Sch. 5 para. 19 inserted (14.12.2017) by The Air Navigation (Amendment) Order 2017 (S.I. 2017/1112), arts. 1, 43(c)

**Changes to legislation:**

There are currently no known outstanding effects for the The Air Navigation Order 2016, SCHEDULE 5.