

minimum equipment list, as authorized by the operations specifications, constitutes an approved change to the type design without requiring recertification.

(5) The approved minimum equipment list provides for the operation of the aircraft with certain instruments and equipment in an inoperable condition.

(6) The aircraft records available to the pilot must include an entry describing the inoperable instruments and equipment.

(7) The aircraft is operated under all applicable conditions and limitations contained in the minimum equipment list and the operations specification authorizing the use of the list.

[Doc. No. 24856, 52 FR 20029, May 28, 1987, as amended by Amdt. 129-49, 76 FR 7490, Feb. 10, 2011; Docket FAA-2018-0119, Amdt. 129-53, 83 FR 9174, Mar. 5, 2018]

#### § 129.15 Flightcrew member certificates.

Each person acting as a flightcrew member must hold a certificate or license that shows the person's ability to perform duties in connection with the operation of the aircraft. The certificate or license must have been issued or rendered valid by:

(a) The State in which the aircraft is registered; or

(b) The State of the Operator, provided that the State of the Operator and the State of Registry have entered into an agreement under Article 83*bis* of the Convention on International Civil Aviation that covers the aircraft.

[Doc. No. FAA-2009-0140; 76 FR 7491, Feb. 10, 2011]

#### § 129.17 Aircraft communication and navigation equipment for operations under IFR or over the top.

(a) *Aircraft navigation equipment requirements—General.* No foreign air carrier may conduct operations under IFR or over the top unless—

(1) The en route navigation aids necessary for navigating the aircraft along the route (e.g., ATS routes, arrival and departure routes, and instrument approach procedures, including missed approach procedures if a missed approach routing is specified in the procedure) are available and suitable for

use by the aircraft navigation equipment required by this section;

(2) The aircraft used in those operations is equipped with at least the following—

(i) Except as provided in paragraph (c) of this section, two approved independent navigation systems suitable for navigating the aircraft along the route to be flown within the degree of accuracy required for ATC;

(ii) One marker beacon receiver providing visual and aural signals; and

(iii) One ILS receiver; and

(3) Any RNAV system used to meet the navigation equipment requirements of this section is authorized in the foreign air carrier's operations specifications.

(b) *Aircraft communication equipment requirements.* No foreign air carrier may operate an aircraft under IFR or over the top, unless it is equipped with—

(1) At least two independent communication systems necessary under normal operating conditions to fulfill the functions specified in § 121.347(a) of this chapter; and

(2) At least one of the communication systems required by paragraph (b)(1) of this section must have two-way voice communication capability.

(c) *Use of a single independent navigation system for operations under IFR or over the top.* Notwithstanding the requirements of paragraph (a)(2)(i) of this section, the aircraft may be equipped with a single independent navigation system suitable for navigating the aircraft along the route to be flown within the degree of accuracy required for ATC if:

(1) It can be shown that the aircraft is equipped with at least one other independent navigation system suitable, in the event of loss of the navigation capability of the single independent navigation system permitted by this paragraph at any point along the route, for proceeding safely to a suitable airport and completing an instrument approach; and

(2) The aircraft has sufficient fuel so that the flight may proceed safely to a suitable airport by use of the remaining navigation system, and complete an instrument approach and land.

(d) *VOR navigation equipment.* If VOR navigation equipment is required by