

removal of the equipment for maintenance from another aircraft in the same operator's fleet.

[Doc. No. 6258, 29 FR 19205, Dec. 31, 1964, as amended by Amdt. 121-101, 37 FR 28499, Dec. 27, 1972; Amdt. 121-190, 52 FR 3391, Feb. 3, 1987]

**§ 121.347 Communication and navigation equipment for operations under VFR over routes navigated by pilotage.**

(a) No person may operate an airplane under VFR over routes that can be navigated by pilotage unless the airplane is equipped with the radio communication equipment necessary under normal operating conditions to fulfill the following:

(1) Communicate with at least one appropriate station from any point on the route;

(2) Communicate with appropriate air traffic control facilities from any point within Class B, Class C, or Class D airspace, or within a Class E surface area designated for an airport in which flights are intended; and

(3) Receive meteorological information from any point en route by either of two independent systems. One of the means provided to comply with this subparagraph may be used to comply with paragraphs (a)(1) and (2) of this section.

(b) No person may operate an airplane at night under VFR over routes that can be navigated by pilotage unless that airplane is equipped with—

(1) Radio communication equipment necessary under normal operating conditions to fulfill the functions specified in paragraph (a) of this section; and

(2) Navigation equipment suitable for the route to be flown.

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**§ 121.349 Communication and navigation equipment for operations under VFR over routes not navigated by pilotage or for operations under IFR or over the top.**

(a) *Navigation equipment requirements—General.* No person may conduct operations under VFR over routes that cannot be navigated by pilotage, or op-

erations conducted under IFR or over the top, unless—

(1) The en route navigation aids necessary for navigating the airplane 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 systems required by this section;

(2) The airplane used in those operations is equipped with at least—

(i) Except as provided in paragraph (c) of this section, two approved independent navigation systems suitable for navigating the airplane 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 certificate holder's operations specifications.

(b) *Communication equipment requirements.* No person may operate an airplane under VFR over routes that cannot be navigated by pilotage, and no person may operate an airplane under IFR or over the top, unless the airplane is equipped with—

(1) At least two independent communication systems necessary under normal operating conditions to fulfill the functions specified in § 121.347 (a); 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 VFR over routes that cannot be navigated by pilotage, or operations conducted under IFR or over the top.* Notwithstanding the requirements of paragraph (a)(2)(i) of this section, the airplane may be equipped with a single independent navigation system suitable for navigating the airplane along the route to be flown within the degree of accuracy required for ATC if:

(1) It can be shown that the airplane is equipped with at least one other